U.S. Department of Transportation
Port Infrastructure Development Program (PIDP) Proposal

Proposal Title: The Port of Marquette, MI: Protecting Critical Infrastructure and Improving Efficiency

Applicant Organization: City of Marquette

Contact Name: L. Karen Kovacs

Title: City Manager

Contact E-mail: kkovacs@marquettemi.gov

Mailing Address: 300 W. Baraga Avenue, Marquette, Michigan 49855

Telephone Number: (906) 228-0435

Proposal Partners: Cleveland-Cliffs Inc. (Cliffs), Lake Superior & Ishpeming Railroad (LSI) and the Superior Watershed Partnership (SWP)

Funding Requested: $1,617,750

Matching Funds: Non-Federal sources: $750,000; 31.6%

Total Project Cost: $2,367,750

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I. PROJECT DESCRIPTION

The City of Marquette, Michigan (largest city in the Upper Peninsula; population 20,822), in cooperation with Cleveland-Cliffs Inc. (Cliffs), the Lake Superior & Ishpeming Railroad (LSI), and the Superior Watershed Partnership (SWP), is pleased to submit this proposal to the Department of Transportation Port Infrastructure Development Program (PIDP).

Marquette is located on the south shore of Lake Superior and includes Presque Isle Harbor and the LSI Ore Dock, which is one of the busiest Great Lakes shipping ports in both the US and Canada. The Port of Marquette (Port) was authorized by Rivers and Harbors Acts of June 3, 1896; June 13, 1902; August 30, 1935; and July 14, 1960. The Port is almost entirely used for iron ore (taconite) shipping that supports the economy of Great Lakes mining and U.S. steel manufacturing industries with an annual capacity of 9.5 million tons, generating over $6 billion per year. In addition, the Port provides over 31,000 jobs that produce over $433 million per year in personal income in transportation and commodity related industries. The LSI Ore Dock is 1,250 feet long, 60 feet wide and 75 feet above the water level.

The south side of this critical Port is currently operating under capacity, as a result of coastal erosion and sedimentation caused by severe storm events. Specifically, a record breaking October 2017 storm produced 28.8-foot waves (historic record) and hurricane-force wind gusts (77 mph; also a historic record), that resulted in two drownings and millions of dollars in shoreline damage. Additionally, two back-to-back storms in 2019 decimated beaches along Marquette's shoreline, pushing sediment north and shifting the outflow of the Dead River into Lake Superior, creating a massive sediment plume and the erosion of the LSI Ore Dock—critical infrastructure to the Port. The erosion of this critical port infrastructure and the plume threaten the efficiency of the transportation of goods by blocking shipments/unloading off the south side of the LSI Ore Dock (with a lost shipping capacity of $15,689,000). Severe storms also impacted the sole access road to the Port—Lakeshore Boulevard—resulting in road closures and hundreds of thousands of dollars in additional damages. The City of Marquette provided funding for critical engineering solutions that controlled some coastal erosion and the source of sedimentation along Lakeshore Boulevard, however dredging the massive sediment plume, completing shoreline stabilization, and improving Port access infrastructure remains an urgent matter. Without these proposed mitigation efforts, sediment encroachment and erosion around the LSI Ore Dock threaten capacity of Port operations being reduced to 50% over 3 years, resulting in a $15.7 million dollar loss in iron ore revenue—an economic pillar of the Great Lakes region.

To address port infrastructure impacts the proposed project will accomplish the following:

- Improve critical port infrastructure (access infrastructure, unloading dock/pier stabilization)
- Dredge encroaching sediment to protect port infrastructure (approximately 77,000 cubic yards)
- Beneficial reuse of dredged materials on shore to enhance costal restoration/resiliency and protect port road infrastructure

As noted above, the accumulated sand/silt is obstructing the Dead River outflow and diverting the current towards the LSI Ore Dock. Port authorities are concerned as the diverted flow not only jeopardizes port infrastructure and impacts the ability of ore freighters to dock, but it amplifies the danger of paddlers and other boaters being pulled toward dangerous interactions with large freighters.

The removal of the sediment plume will restore the natural outflow of the Dead River into Lake Superior and compliment larger-scale coastal resiliency improvement efforts that are currently underway immediately south of the proposed project site. Sediment that is dredged from the LSI Ore Dock will be tested, and if compatible, will be deposited along Marquette's shoreline for beneficial reuse in shoreline stabilization efforts—mitigating the impacts of future severe storm events that target the cause of these critical port infrastructure issues.

In 2020, project partners consulted the Detroit District U.S. Army Corps of Engineers (USACE) regarding the proposed dredging/infrastructure protection project. USACE supported the related benefits to the adjacent federally authorized navigation channel for Presque Isle Harbor and encouraged the City of Marquette to apply for this Port Infrastructure grant. The project is not dependent on, or affected by, U.S. Army Corps of Engineers (USACE) investment but will provide related benefits to the adjacent federally authorized navigation channel for Presque Isle Harbor.

II. PROJECT LOCATION

The proposed project will support infrastructure improvements to Presque Isle Harbor and the LSI Ore Dock, dredging a sediment plume located immediately adjacent to Lake Superior in Marquette County, Michigan (46.577979, -87.388961). As the largest city in Michigan's rural Upper Peninsula (U.P. population 311,000; Marquette population 20,822), Marquette is considered an "urban cluster with population less than 50,000." This Great Lakes port project located in a qualified opportunity zone will support infrastructure improvements critical to the continued operation of the port at Presque Isle Harbor. A project location map is included in Appendix A.

- Total Project Area: 11,120 linear feet, 1,110' wide (maximum) and 80' wide (minimum), 82.7 acres.
- Dredge Area (excavation): 1,740' long x 50' (minimum) to 500' (maximum) wide, 5'-18' deep. 14 acres. Includes approximately 75,000 cubic yards of material to be dredged from this area.
- Beneficial Reuse Area (fill): 8,000' long, 450' wide (maximum), and 80' wide (minimum), 25.7acres.

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

Project partners are seeking $1,617,750 in PIPD funding to complete proposed objectives. Project partners have pledged $750,000 (32%) in non-federal matching funds as detailed in the attached letter from Cleveland Cliffs Inc. A detailed project budget is outlined in the narrative and table below.

Administration: Administration: Includes project administration by the City of Marquette, including technical, engineering, and grant administration costs; $36,200 (PIDP Funds).

Architectural and engineering fees: Includes professional engineering costs, environmental reviews and permitting: $126,500 (PIDP Funds).

Other architectural and engineering fees/consulting: Superior Watershed Partnership and its Great Lakes Climate Corps field crews will provide technical assistance for project coastal stabilization and restoration components: $75,050 (PIDP Funds).

Site work: Includes costs for the deposit of dredge materials on shore; $215,000 (PIDP Funds).

Dredging: Includes costs to dredge encroaching sediment (approximately 75,000 cubic yards); $942,000 (PIDP Funds) + $750,000 (non-Federal Match) = $1,692,000.

Beneficial Re-use: Includes construction of a coastal restoration area: $223,000 (PIDP Funds).

Total PIPP Funds Requested: $1,617,750 (68.3%)

Total Non-Federal Match: $750,000 (31.6%)

Other Non-Federal Additional Cost: $0

Total Project: $2,367,750

NOTE: The attached SF-424C Line 17 will not allow more than two decimals, resulting in a federal assistance requested amount of $1,610,070 (lower than the requested amount of ($1,617,750).

Table 1. Project Budget

	Source of Funds			
Budget Category	**PIPD Funds**	**Non-Federal**	**Other Federal**	**Total Project Costs**
Administration	$ 36,200	$ -	$ -	$ 36,200
Land, structures, rights-of-way, appraisals	$ -	$ -	$ -	$ -
Relocation expenses and payments	$ -	$ -	$ -	$ -
Architectural and engineering fees	$ 126,500	$ -	$ -	$ 126,500
Other architectural and engineering fees/consulting	$ 75,050	$ -	$ -	$ 75,050
Project inspection fees	$ -	$ -	$ -	$ -
Site work	$ 215,000	$ -	$ -	$ 215,000
Dredging	$ 942,000	$ 750,000	$ -	$ 1,692,000
Beneficial Reuse of Dredged Materials	$ 223,000	$ -	$ -	$ 223,000
Equipment	$ -	$ -	$ -	$ -
Miscellaneous	$ -	$ -	$ -	$ -
TOTAL	**$ 1,617,750**	**$ 750,000**	**$ 0**	**$ 2,367,750**

IV. MERIT CRITERIA

A. Achieving Safety, Efficiency, or Reliability Improvements

Erosion related to an increase in the frequency and intensity of coastal storm events has resulted in a sediment plume that is threatening offshore access to the Port at Presque Isle Harbor. The proposed project will address this critical issue in order to ensure the continued safe operation of the harbor and the reliable transport of goods. Specifically, the project will: 1) improve critical port infrastructure (loading/unloading dock), 2) dredge encroaching sediment to protect port infrastructure, and 3) beneficially reuse dredged materials on shore to enhance coastal restoration and protect port road infrastructure. Benefits of the proposed project include improved reliability and usage of the south side of the LSI Ore Dock, thus ensuring the critical movement of goods throughout the Great Lakes region, by providing critical port access that is not blocked by the sediment plume. Beneficially reusing the dredged material south of the proposed project location, along the only access road to the Port (Lakeshore Boulevard), supports critical infrastructure that enables and ensures long-term economic vitality—and costal resiliency.

The removal of the sediment plume will also restore the natural outflow of the Dead River into Lake Superior, targeting transportation-related safety concerns. Michigan's Department of Natural Resources (DNR) notified the public of their concerns near the proposed project location, as the plume creates the dangerous possibility of paddlers and other recreational boaters of that area being pulled toward interaction with large shipping freighters. The Marquette Port project will improve the safety, efficiency, and reliability of iron ore shipments through this port and connecting Great Lakes ports.

B. Supporting Economic Vitality at the National and Regional Level

1. In 2017, with a shipping capacity of 9.5 million tons, the port at Presque Isle Harbor ranked 10th in tonnage among Great Lakes harbors and 58th among U.S. ports. It was also estimated that bulk commodities that pass through the harbor generate $6.03 billion annually in business revenue and support 31,371 direct, indirect, and induced jobs that produce over $433 million per year in personal income through transportation and commodity related industries. Without the proposed project, the south side of the LSI Ore Dock could be operating at 50% capacity, creating a revenue loss of nearly $15.7 million, due to lost shipping capacity of iron ore.

2. The proposed project's benefits and costs were calculated by the City of Marquette's engineer, resulting in a benefit-cost ratio (BCR) of 8.5. Complete details including input values and calculations relative to a no-build baseline are included in Appendix B below. Costs associated with the calculated BCR include: lost shipping capacity, dredging costs, park land, ecosystem services, new infrastructure maintenance costs, and new infrastructure construction costs. Lost shipping is valued at approximately $15.7 million over a three year period.

3. The proposed project will improve the economic advantage of the Port, contribute to freight transportation at the Port, and improve the competitive advantage of the Port by improving the critical access point of shipping/receiving at the south side of the LSI Ore Dock. This critical access point will be improved through the stabilization of the unloading dock, the dredging of the large sediment plume, and the beneficial reuse of dredged material in coastal resiliency and stabilization

efforts. Currently, the plume creates shipping/receiving delays and blockages of the transportation of critical goods. Removing this barrier improves the efficiency, reliability, and capacity of the Port, thus improving the competitive advantage.

4. Increasing capacity and efficiency of Port operations, will add sustainable, local jobs to Marquette County—a designated Michigan rural county. Local hiring preferences will ensure the proposed project supports economic vitality at the local/regional level. Specifically, contract work will utilize the SWP's Great Lakes Climate Corps (GLCC) and local engineering experts. GLCC crews consist of young women and men, trained to implement a variety of high priority hands-on climate adaptation, restoration, and resiliency projects within three Great Lakes Watersheds.

C. Addressing Climate Change and Environmental Justice Impacts

Climate change is impacting the Great Lakes region with more frequent and intense storm events—such as the ones that resulted in the erosion of Marquette's shoreline and the sediment plume impacting the Port of Marquette. Marquette County's 2040 Draft Master Plan outlines the goal of a community resilient to climate change through mitigation, adaptation, and coordinated public policy; the proposed project directly aligns with that goal by focusing on climate adaption and mitigation measures through direct implementation of costal restoration, resiliency, and stabilization efforts. The proposed project also aligns with the Climate Change and Environmental Justice criterion, as outlined by the US DOT, through the proposed beneficial reuse of dredged materials in other climate adaptation and mitigation projects. Specifically, compatible dredged sedimentation will be beneficially reused along Marquette's southern shorelines, focusing on shoreline stabilization, reducing future dredging requirements at the Port. Shoreline stabilization efforts will be contracted by a local environmental 501c3 nonprofit, the Superior Watershed Partnership (SWP). The SWP has enacted climate adaptation projects for over 20 years, utilizing state and national climate plans for guidance. The Environmental Protection Agency's EJSCREEN Mapper tool (attached in appendix A) identifies the immediate population surrounding the project area with a demographic indicator of low income population at 37%.

D. Advancing Racial Equity and Reducing Barriers to Opportunity

Under Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities through the Federal Government (January 20, 2021) outlines advancing equity for all through planning, policies, and project investments. Underserved communities positively impacted by the Marquette Port project include persons who live in rural areas, as defined by Section 2. Definitions of the executive order; the proposed project area is in a designated rural area. The Marquette Port project aligns with this executive order by improving freight access to underserved communities, increasing access to goods for underserved communities, and creating sustainable job opportunities for underserved communities.

E. Leveraging Federal Funding to Attract non-Federal Sources of Infrastructure Investment

The proposed project will leverage a minimum of $750,000 in non-federal funding—31.6% match. Specific non-federal sources are outlined in the attached letter of support

from Cleveland-Cliffs Inc. (non-federal match is in the form of dredging and related infrastructure improvements.) The proposed project also compliments larger shoreline restoration/coastal resiliency efforts by the City of Marquette just south of the proposed project site (ongoing). This includes and is supported by funding from the National Fish and Wildlife Foundation ($2.5M).

V. PROJECT READINESS

A. Technical Capacity

The mitigation activity will be managed and completed by the City of Marquette in The mitigation activity will be managed and completed by the City of Marquette in cooperation with Cleveland-Cliffs Inc., other project partners, and licensed contractors. The City of Marquette is the sole owner of the shoreline property in the project area and has the authority to carry out the project. The Port of Marquette (Port) was authorized by Rivers and Harbors Acts of June 3, 1896; June 13, 1902; August 30, 1935; and July 14, 1960. Cleveland Cliffs Inc. (project partner) owns and operates the Port and its infrastructure. The city administers numerous local, state and federal grants including state-funded block grants for housing and public works projects each year and has been recognized with a Certificate of Achievement for Excellence in Financial Reporting by the Government Finance Officers Association.

The project team includes the following City staff/departments: Karen Kovacs, City Manager; Mary Schlict, Finance Director; Dennis Stachewicz, Director of Community Development; Mikael Kipela, City Engineer; Scott Cambensy, Director of Public Works; and Mark O'Neill, Director of Municipal Utilities. The Marquette City Department of Engineering will be the lead on project design and will coordinate closely with other departments. The department is composed of nine individuals (three civil engineers, one surveyor, three technicians/inspectors, on GIS technician, and one office staff person) and completes utility and street reconstruction and rehabilitation projects throughout the city each year.

Reconstruction projects include/have included initial topographic survey, design, contract document creation, bidding, construction management and inspection. In 2013, the City of Marquette completed a marina restoration project valued at $450,000; 11,000 cubic yards were dredged ($202,000). Rehabilitation projects include/have included: slip lining sewers, water and sewer service line replacement, sidewalk replacement, milling and overlaying street pavement, and pavement crack sealing. Both reconstruction and rehabilitation projects involve administering contracts with contractors. Over the past twenty years the cost of the above mentioned projects has averaged five million dollars per year.

In addition, the Superior Watershed Partnership (SWP) will provide technical assistance for project coastal stabilization and restoration components. Baird Engineering will provide technical oversight for port infrastructure, road infrastructure, dredging and related onshore infrastructure protection components.

1. **Project Schedule**. The proposed project schedule includes planning and implementation activities to be completed between November 1, 2021 and December 31, 2024 (3 years). The project schedule identifies project milestones including State and local planning and other Federal reviews and approvals, including obtaining permits in compliance with the Federal Clean Waters Act, Rivers and Harbors Act, and the Michigan Natural Resource and Environmental Protection Act (described below). The proposed schedule allows for sufficient time to complete all necessary activities to allow grant funds to be obligated sufficiently in advance of the statutory deadline of September 30, 2024. The project is expected to begin construction quickly upon obligation of grant funds and those funds will be spent expeditiously once the project starts, with all funds anticipated to be expended by December 2024.

Table 2. Project schedule

	Nov-Dec 2021	**Jan-Mar 2022**	**Apr-Jun 2022**	**July-Sept 2022**	**Oct-Dec 2022**	**Jan-Mar 2023**	**Apr-Jun 2023**	**July-Sept 2023**	**Oct-Dec 2023**	**Jan-Mar 2024**	**Apr-Jun 2024**	**July-Sept 2024**	**Oct-Dec 2024**
Administration													
Coordinate partners	X	X	X	X	X	X	X	X	X	X	X	X	X
Continued Public Engagement	X	X	X	X	X	X	X	X	X	X	X	X	X
State and Local Planning	X	X	X										
Environmental Approvals													
Obtain all Federal, State, and Local Permits and Approvals	X	X	X	X									
Final Design and Approvals	X	X	X	X									
Obligation of Funds and Agreement				X									
Construction													
Bid Advertising			X	X									
Port Infrastructure Improvements (access infrastructure, dock stabilization)				X	X								
Dredge encroaching sediment from Harbor				X	X								

	Nov-Dec 2021	Jan-Mar 2022	Apr-Jun 2022	July-Sept 2022	Oct-Dec 2022	Jan-Mar 2023	Apr-Jun 2023	July-Sept 2023	Oct-Dec 2023	Jan-Mar 2024	Apr-Jun 2024	July-Sept 2024	Oct-Dec 2024
Deposit/re-use dredge materials on shore to stabilize erosion				X	X		X	X					
Conduct coastal resiliency and shoreline stabilization projects with community partners				X	X		X	X	X		X	X	X
Intermediate and Final Inspections					X				X				X
Project Closeout													X

2. **Assessment of Project Readiness Risks and Mitigation Strategies.** All required environmental approvals are outlined in section V below. Required approvals and appropriate lead time are included in the project schedule. It is not anticipated that obtaining necessary permits/approvals will affect project obligation. Further, the City of Marquette and project partners have undertaken and will continue to undertake strategies to mitigate any potential risks to project implementation and completion. Any uncertainties around environmental conditions will be addressed through environmental studies, early and frequent communication with the regulatory agencies, and the project team, which includes a diverse collaboration of partners. The project design will utilize coastal resiliency best practices including beneficial reuse of dredged materials for development of a "living shoreline" to restore and strengthen natural systems, improve the resiliency of the shoreline to more frequent and intense storms, and provide contiguous habitat along the Lake Superior shoreline. Additional best practices will be implemented to avoid the introduction and/or spread of invasive species, soil erosion and off-site sedimentation, and other non-point source pollution. The City and partners will continue to work closely with Michigan EGLE and USACE permitting staff to finalize engineered plans, and obtain NEPA clearance and permits for implementation.

B. Environmental Approvals

1. **Information about the NEPA status of the project.** Based on review of the Maritime Administration Manual Orders MAO 600-1, the City of Marquette and partners anticipate the project will qualify for a Categorical exclusion that does not require an environmental assessment or environmental impact statement as the proposed actions will not have a significant effect on the quality of the environment (individually or cumulatively).

   The actions proposed will not change the existing character of the Port equipment, facility, or structure but will ensure the safe and efficient operations

of the Port including the LSI Marquette Ore Dock shipping channel. If a Categorical exclusion cannot be issued and environmental documents are required, the City and its partners are prepared to develop an Environmental assessment/Finding of No Significant Impact.

2. **Environmental Permits and Reviews.** The City of Marquette and partners have initiated pre-application discussions with the Michigan Department of Environment, Great Lakes and Energy (EGLE) and the U.S. Army Corps of Engineers and will be required to obtain permits in compliance with the Federal Clean Water Act and Rivers and Harbors Act, and the Michigan Natural Resource and Environmental Protection Act (NREPA) prior to beginning construction on the project. The City will also coordinate with Marquette County to determine permitting needs under Part 91 of Michigan's NREPA. It is anticipated that all permits and necessary approvals will be obtained prior to construction on the timeline specified in the project schedule.

   It should also be noted that this project compliments larger shoreline restoration/coastal resiliency efforts by the City of Marquette just south of the proposed project site (ongoing). The City has obtained environmental clearances for this work from the Federal funders (NFWF/NOAA/FEMA) as well as local, state, and federal permits.

3. **State and Local Approvals.** The project will require state and local approvals under the authority of the Michigan Natural Resource and Environmental Protection Act (NREPA) administered by the Michigan EGLE and Part 91 of Michigan's NREPA administered by Marquette County. It is anticipated that all permits and necessary approvals will be obtained prior to construction on the timeline specified in the project schedule.

   Extensive public outreach has been conducted and the public is supportive of increasing the resiliency of the Lake Superior shoreline in the vicinity of the project area. Extensive planning around alternatives has resulted in a comprehensive approach that will not only protect and stabilize the shoreline and critical infrastructure (roads, utilities, etc.), but will restore coastal habitat, public green space, and public access to Lake Superior.

   The City of Marquette in cooperation with partners has recently invested (with public support) over $3 million in non-federal funding to implement coastal resiliency actions at the highest priority sites. During the fall of 2019, the shoreline experienced further damage, including shoreline areas that were previously not as impacted. This resulted in the need for emergency protection efforts and a need to address impacts to new sections of the shoreline sooner than anticipated (including the actions described in this proposal).

4. **Information on reviews, approvals, and permits by other agencies.** The proposed project does not require reviews, approvals, and permits by other entity other than state and local agencies.

5. **A description of whether the project is dependent on, or affected by, U.S. Army Corps of Engineers investment and the U.S. Army Corps of**

Engineers planned activities as it relates to the project. The project is not dependent on, or affected by, U.S. Army Corps of Engineers (USACE) investment but will provide related benefits to the adjacent federally authorized navigation channel for Presque Isle Harbor. Project partners consulted the U.S. Army Corps of Engineers (USACE) regarding the proposed dredging/infrastructure protection project. USACE supported the related benefits to the adjacent federally authorized navigation channel for Presque Isle Harbor and encouraged the City of Marquette to apply for this Port Infrastructure grant.

6. **Environmental studies or other documents.** Please see the attached additional information and photos in Appendix A.

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VI. DOMESTIC PREFERENCE

The proposed project will improve the efficiency of the Port and protect critical infrastructure through shoreline stabilization and coastal resiliency efforts. This will reduce dredging requirements in the Port by removing the large plume of sediment that is encroaching on the shipping channel for a beneficial use elsewhere, further reducing future dredging requirements at the port by impounding sediment to the south through the coastal resiliency efforts. All attempts will be made to source materials that are produced or manufactured domestically; work requiring contracts will favor local businesses and organizations. No acquisition of heavy equipment or exceptions to/waivers of the Buy American provisions are anticipated.

VII. DETERMINATIONS

Applicants should use this section of the application to summarize how their project and, if present, each independent project component, meets each of the following requirements.

Project Determination	**Guidance**
1. The project improves the safety, efficiency, or reliability of the movement of goods through a port or intermodal connection to the port.	The Marquette Port project will improve the safety, efficiency, and reliability of iron ore shipments through this port and connecting Great Lakes ports. Specifically, the project will: 1) improve critical port infrastructure, 2) dredge encroaching sediment to protect port infrastructure, and 3) deposit dredge materials on shore to enhance coastal restoration and protect port road infrastructure. Benefits of the proposed project include improved reliability and usage of the south side of the LSI Ore Dock (targeting the possibility of a permanent blockage of the Port as a result of the plume) and ensure the critical

	movement of goods throughout the Great Lakes region. The removal of the sediment plume will also restore the natural outflow of the Dead River into Lake Superior through dredging, targeting transportation-related safety. Michigan's Department of Natural Resources (DNR) notified the public of safety concerns near the project location, as the plume creates the dangerous possibility of paddlers and other recreational users of that area being pulled toward interactions with large shipping freighters.
2. The project is cost effective.	The project is cost effective, with a calculated BCR of 8.5; see the attached BCA.
3. The eligible applicant has the authority to carry out the project.	The City of Marquette is the sole owner of the shoreline property in the project area and has the authority to carry out the project. The Port of Marquette (Port) was authorized by Rivers and Harbors Acts of June 3, 1896; June 13, 1902; August 30, 1935; and July 14, 1960. Cleveland Cliffs Inc. (project partner) owns and operates the Port and its infrastructure.
4. The eligible applicant has sufficient funding available to meet the matching requirements.	Cleveland-Cliffs Inc. is providing non-federal match in the form of dredging and related infrastructure improvements. The dredged material will then be reused and deposited along compatible shoreline areas for coastal restoration.
5. The project will be completed without unreasonable delay.	The project will be completed on time and within budget. No unreasonable delays are anticipated.
6. The project cannot be easily and efficiently completed without Federal funding or financial assistance available to the project sponsor.	The proposed project is targeting the mitigation and adaptation of climate change impacts to a critical port access point. Without federal funding assistance, the project cannot move forward at full scale; instead, the project would consist of small-scale yearly dredging efforts—

	continuing the consistent threat of delay and/or total blockage of access to the south side of the Port.

VIII. PHOTOS AND GRAPHICS

Please refer to Appendix A.

Appendix A - ADDITIONAL INFORMATION FOR HISTORIC PRESERVATION REVIEW

Brief Project Description:
High Great Lakes water levels and recent storm events have created the following impacts to the Port of Marquette and related port infrastructure:

- Unprecedented stress to port infrastructure (access infrastructure, unloading dock erosion)
- Severe coastal erosion that has damaged shoreline to the south of the Port
- Created a massive sediment plume that is encroaching on the ore dock threatening port infrastructure and shipping

To address these port infrastructure impacts the proposed project will accomplish the following:

- Improve critical port infrastructure (access infrastructure, unloading dock stabilization)
- Dredge encroaching sediment to protect port infrastructure (approximately 75,000 cubic yards)
- Deposit dredge materials on shore to stabilize erosion and protect port road infrastructure

1. USGS Quad Map that clearly identifies the project location.

   Please see the attached USGS 7.5 minute series quadrangle map (1:24,000 scale). The project Area of Potential Effects (APE) including the entire length of the project and 1,000 feet inland (Michigan Coastal Zone Boundary) and 2,000 feet offshore.

2. Township, Range, Section.

   The proposed project is located in T48N, R25W, Section 2, Section 11, and Section 14.

3. Site planning showing limits of proposed excavation. Description of width, length, and depth of proposed ground distributing activity.

   Please see the attached site plan. Total project area, and dimensions of excavation and fill areas are provided below:

   - Total Project Area: 11,120 linear feet, 1,110’ wide (maximum) and 80’ wide (minimum), 82.7 acres.
   - Dredge Area (excavation): 1,740’ long x 50' (minimum) to 500’ (maximum) wide, 5’-18’ deep. 14 acres. Includes approximately 75,000 cubic yards of material to be dredged from this area.
   - Beneficial Reuse Area (fill): 8,000’ long, 450’ wide (maximum), and 80’ wide (minimum), 25.7acres.

4. Previous land use and disturbances.

Historically, the Lake Superior shoreline in the project area consisted primarily of industrial uses (factories and rail yards), Port operations, and utilities including the Presque Isle Power Plant. Today, the project area serves as the main route to the Port, public marina public parks, and public/open green spaces that provide recreational access to Lake Superior (please see attached photos).

There is a parcel (35 acres) located immediately south and west of the project site (known as the former Cliffs Dow Site) has been designated as a Michigan Part 201 Facility due to contaminated groundwater from past industrial uses. The City is currently working closely with Michigan EGLE and Great Lakes Coastal Engineers to ensure that the ongoing and proposed shoreline improvements will not result in impacts to the environment or public health from contamination at the site. More information related to this site (including studies and reports) will be provided upon request.

Previous land disturbances in the project area have included historic industry and rail lines/yards that road and non-motorized trail construction, maintenance dredging of nearshore areas, construction of new park buildings/facilities, loss/damage of natural shoreline habitat due to large Lake Superior storms, and mechanical removal of debris and sand from roads and paths following large storm events.

5. Current land use and conditions.

The proposed project area includes 11,120 linear feet of Lake Superior shoreline that consists of sand beach, dune grasses, and native tree species, and park facilities including a parking area, restroom facility, and picnic areas. This area has been highly impacted by storm damaged and coastal flooding in recent years (please see attached photos). The Lake Superior bottom lands in the project area consist primarily of sand with few small rock outcroppings and boulders.

Lakeshore Boulevard, municipal utilities (water, sewer, electric, etc.), and a multi-use trail parallel the shoreline and provide north/south access to the Port and public parks. There have been no artifacts found in the project area. There are small wetlands located on adjacent private property in the project area. These wetlands will not be impacted by the proposed project (please see attached photos).

6. List and date all properties 50 years of age or older located in the project area.

Buildings/structures located in the project area (listed from north to south) include, the LS&I Marquette Ore Dock and facilities (constructed in 1911) including a coal un-loading structure, the Presque Isle Power Plant (constructed in 1955), Clark Lambros Beach Park restroom facility (constructed in 2015), a City of Marquette sanitary sewer lift station building (age unknown), and a commercial building (constructed in 2014) and parking area. There are no other structures or buildings located in the project area.

7. Timing of Construction Activities: Construction is expected begin in 2022 and will be completed by December 2024.

8. Proposed Construction Materials: Proposed construction materials include sand, rock, and native plant species.

9. Construction Operation Practices: Construction is expected begin in 2022 and will be completed by December 2024. Some tasks may occur simultaneously but in general would consist of the following sequence:

    1. Improve critical port infrastructure (access infrastructure, ore dock stabilization)
    2. Dredge encroaching sediment to protect port infrastructure (approximately 75,000 cubic yards).
    3. Deposit dredge materials on shore to stabilize erosion and protect port road infrastructure- beneficial reuse

10. Site Access During/After Construction: Site access will be restricted during earth moving activities. Following construction, full public access will be restored.

11. Tree Clearing: There is no planned clearing of live tress included in the proposed project.

12. Best Management Practices to be implemented: The project design will utilize coastal resiliency best practices including beneficial reuse of dredged materials for development of a "living shoreline" to restore and strengthen natural systems, improve the resiliency of the shoreline to more frequent and intense storms, and provide contiguous habitat along the Lake Superior shoreline. Additional best practices will be implemented to avoid the introduction and/or spread of invasive species, soil erosion and off-site sedimentation, and other non-point source pollution. The City and partners will continue to work closely with Michigan EGLE and USACE permitting staff to finalize engineered plans, and obtain NEPA clearance and permits for implementation.

13. Direct, Indirect, and Cumulative Impacts: The project is not expected to result in any direct, indirect or cumulative impacts to coastal uses, essential fish habitat, historic properties including archeological resources or historic structures, or to the long-term conservation of fish, wildlife and other natural resources. A State Historic Preservation Office (SHPO) review and Phase I archeological study was previously conducted for the southern portion of the project area and determined that no historic properties or archeological sites or artifacts were present. If funded, a separate SHPO review of the proposed project site area will be conducted to verify that no known historic structures will be affected during construction. The project is not located in a Special Flood Hazard Area, as depicted on a National Flood Insurance Rate Map. The City of Marquette participates in the National Flood Insurance Program.

14. Project Site Map/Plan and Photographs: See attached.

15. Documentation of Endangered or Threatened Species; A review of potential threatened or endangered species or critical habitat was provided by The Nature Conservancy using the Michigan Natural Features Inventory National Heritage database. The table below lists the potential occurrences located within a one mile radius of the proposed project area.

Endangered or Threatened Species Observed within One Mile of the Project Area:

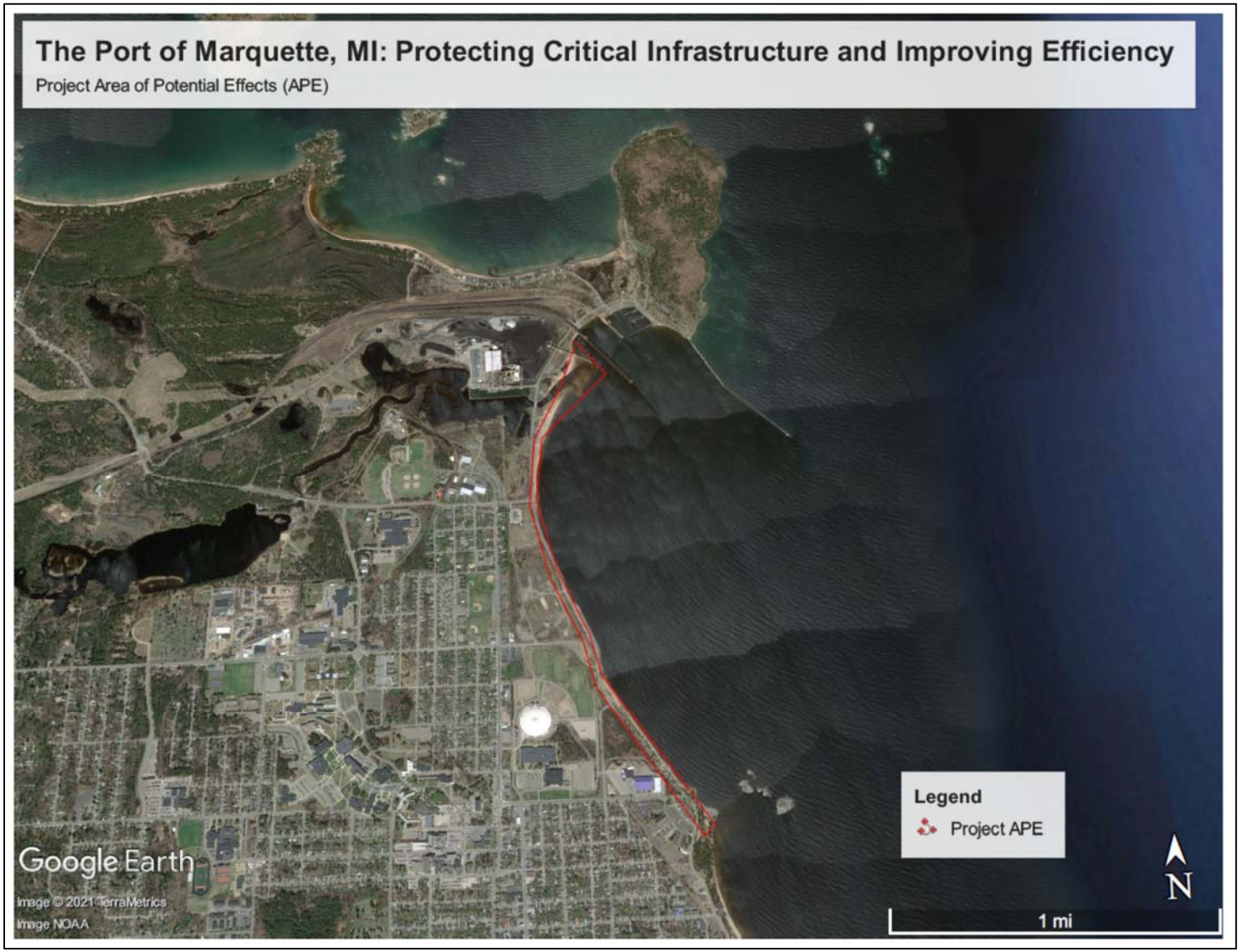
Scientific Name	Common Name	Federal Rank	State Rank
Falco peregrinus	Peregrine falcon*		E
Salix pellita	Satiny willow		SC
Drosera anglica	English sundew		SC
Carex atratiformis	Sedge		T
Rallus elegans	King rail		E
Myotis septentrionalis	Northern long-eared	LT	SC
Myotis lucifugus	Little brown bat		SC
Trisetum spicatum	Downy oat-grass		SC
Gymnocarpium	Limestone oak fern*		T
Pinguicula vulgaris	Butterwort*		SC
Corispermum	American bugseed*		SC
Juncus stygius	Moor rush		T
Amerorchis rotundifolia	Small round-leaved		E
Tanacetum huronense	Lake Huron tansy		T

*observed within the past 10 years

Determination of no adverse impacts from TNC: The proposal area was checked against the Michigan Natural Features Inventory database. The project area falls into the element occurrence range of Small Round Leaved Orchis (*Amerorchis rotundifolia*), King Rail (*Rallus elegans*), Satiny Willow (*Salix pellita*), Lake Huron Tansy (*Tanacetum huronense*), Moor Rush (*Juncus stygius*), Northern Long Eared Bat (*Myotis septentrionalis*), and Little Brown Bat (*Myotis lucifugus*). All of these element occurrence observations are more than thirty years old. Within one mile of the project area, there are other occurrences of Peregrine Falcon (*Falco peregrinus*), Engilsh sundew (*Drosera anglica*), Sedge (*Carex atratiformis*), Downy oat-grass (*Trisetum spicatum*), Limestone Oak Fern (*Gymnocarpium robertianum*), Butterwort (*Pinguicula vulgaris*), and American bugseed (*Corispermum americanum*). Some of these have been seen within the past ten years. In accordance with TNC staff recommendations, the MNFI Rare Plants and Animals List will be utilized to survey the project area for these species; however, it is unlikely that they are still present in the project area.

Citation: *Natural Heritage Biotics Database. Consolidated by: Michigan Natural Features Inventory. Distributed by MNFI and accessed on December 10, 2019 by Lisa Niemi and Emily Clegg at The Nature Conservancy.*

Project Area of Potential Effects (APE)



Project APE on USGS Topo


The Port of Marquette, MI: Protecting Critical Infrastructure and Improving Efficiency
Dead River
Sediment Deposition SIte
Sediment Transport Route
Coastal Restoration / Sediment Re-use Site
Coastal Erosion Location 2019 (Now Stabilized)
Potential Additional Sediment Re-use Site
Lake Superior
Marquette, MI
Lake Superior
Michigan
MICHIGAN
Critical Port Access Road
River Outlet to Harbor
Sediment Deposition Site
Road Protection/Coastal Resiliency Site
Coastal Erosion Location (2019)
0
1,000
2,000
4,000 Feet
SUPERIOR WATERSHED PARTNERSHIP

Photo 1. Looking north at the Port access road (Lakeshore Boulevard) during a storm.

Photo 2. Looking north at Lakeshore Boulevard and shoreline damage that occurred during the fall of 2019.

Photo 3. Addition shoreline damage that occurred during the fall of 2019 south of the project area.

Photo 4. Aerial photo looking north at the sediment plume encroaching on the Marquette Ore Dock.

Photo 5. Google Earth image of the same area prior to recent fall storms.

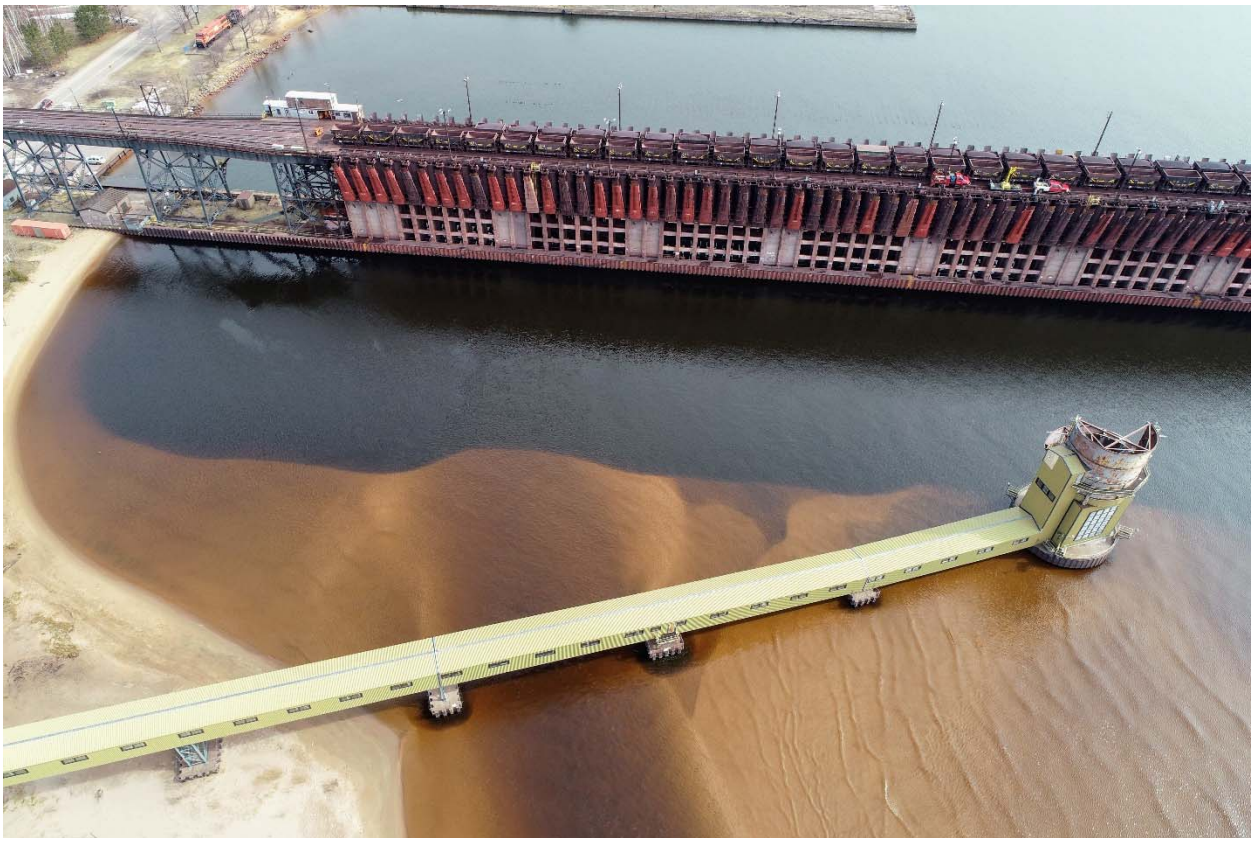


Photo 6. Aerial photo of the sediment plum encroaching on the Marquette Ore Dock slip.

Photo 7. Looking southeast from Hawley Street at a commercial building (built in 2014).

Photo 8. Looking north at the City municipal pump house building located near the northwest intersection of Hawley Street and Lakeshore Boulevard (date of construction is unknown).

Photo 9. Looking north at the Port access road (Lakeshore Boulevard) at the intersection with Hawley Street.

Photo 10. Looking south at Lakeshore Boulevard from the intersection with Hawley Street.

Photo 11. Looking south at shoreline damage adjacent to Lakeshore Boulevard. Note the road is very close to the lake in this area and is frequently overtopped by waves.

Photo 12. Looking north at the Lake Superior shoreline and Lakeshore Boulevard near Hawley Street.

Photo 13. Looking north at the natural sand/dune beach and public park.

Photo 14. Clark Lambros Beach Park restroom facility and parking area (constructed in 2015).

Photo 15. Looking north at the mouth of the Dead River.

Photo 16. Looking northeast at natural beach and parking area adjacent to the Marquette Ore Dock.

Photo 17. Looking northeast at the Marquette Ore Dock and coal unloading structure.

Photo 18. Looking north at the natural shoreline adjacent to the Marquette Ore Dock.

Photo 19. Looking north at the LS&I dock facilities and outbuildings (first construction in 1911).

Photo 20. Looking southeast at the LS&I Marquette Ore Dock and facilities including U.S. Customs station (year built unknown).

Photo 21. Aerial photo looking southwest at the coastal restoration/beneficial reuse area (July 2020). Phase I included road relocation to move the road inland. Phase II shoreline restoration to begin in 2022.