ENVIRONMENTAL ASSESSMENT
GRAND HAVEN NORTH PIER
WAVE ATTENUATION STRUCTURE, SECTION B
GRAND HAVEN HARBOR, GRAND HAVEN
OTTAWA COUNTY, MICHIGAN

November 2019

U.S. Army Engineer District, Detroit
Corps of Engineers, CELRE-PLE
477 Michigan Ave.
Detroit, Michigan 48226-2550

PRELIMINARY STATEMENT OF FINDINGS/ FINDING OF NO SIGNIFICANT IMPACT[1]

Proposed Action: The U.S. Army Corps of Engineers (USACE), Detroit District, under its operations and maintenance authority, proposes to construct a rock wave attenuation structure within Section B of the North Pier, Grand Haven Harbor, Grand Haven, Ottawa County, Michigan (Figure1). The purpose of the project is to reduce wave reflection and refraction within the harbor during certain wind events to increase small craft safety during ingress/egress from the harbor entrance to Lake Michigan. Other project alternatives considered include no action and construction of a wave attenuation structure within a revetment section of the main river channel. The selected action is to construct a wave attenuation structure within Section B of the North Pier.

Environmental Effects: Environmental review indicates that implementing the proposed action would not result in significant adverse environmental effects, would not result in significant cumulative or long-term adverse environmental effects, would cause no or insignificant minor adverse impacts to the waters of the U.S. and associated natural resources, will not result in filling of special aquatic sites or wetlands, will not permanently adversely affect boating, access or other waterfront uses, would not significantly impact navigation, water quality, aquatic resources, aesthetics, scenic and recreational values, critical dunes, federally-listed endangered or threatened species and their habitat, nor be injurious to the public interest. Adverse effects would be minor, limited primarily to short-term noise and air emissions from equipment operation, minor disruption of local aquatic species and loss of any benthic (bottom dwelling) organisms in the immediate work area. Construction of Section B to a rock wave attenuation structure will permanently alter the visual appearance of that portion of the north pier as viewed from water or land. There will be impacts to historic and cultural resources as the project meets the criteria of “adverse effect” as defined under Section 106 of the National Historic Preservation Act. A Memorandum of Agreement (amended 2019) has been developed in consultation with the SHPO to mitigate the adverse effect.

Determinations: The proposed action has been reviewed pursuant to the following Acts and Executive Orders: Fish and Wildlife Act of 1956; Fish and Wildlife Coordination Act of 1958; National Historic Preservation Act of 1966; National Environmental Policy Act of 1969; Clean Air Act of 1970; Farmland Protection Policy Act (Subtitle I of Title XV of the Agriculture and Food Act of 1981); Executive Order 11593, Protection and Enhancement of the Cultural Environment, May 1971; Coastal Zone Management Act of 1972; Endangered Species Act of 1973; Clean Water Act of 1977; Executive Order 11988, Floodplain Management, May 1977; and Executive Order 11990, Wetland Protection, May 1977; Executive Order 12898 Environmental Justice, February 1994; Executive Order 13653, Preparing the United States for the Impacts of Climate Change, November 2013. The proposed action has been found to be in compliance with these Acts and Executive Orders.

[1] Preliminary determinations in a combined Statement of Findings on the Section 404(b)(1) Evaluation and Finding of No Significant Impact for the Environmental Assessment. Final determinations pending evaluation of all public review comments and receipt of State water quality certification.

The proposed action is within the State of Michigan's coastal zone. The proposed action has been evaluated and have been found to be "consistent to the maximum extent practicable" (as defined in 16 USC 1456, Coastal Zone Management Act, approved 1978) with the enforceable policies of the State of Michigan Coastal Management Program; this determination was provided to the State of Michigan on July 19, 2019.

The project complies with the Federal Executive Order on Floodplain Management (E.O. 11988) because there is no practicable alternative construction in the floodplain, the project would not induce floodplain development, and the project would not impact flood stages.

Pursuant to the Clean Water Act (CWA), a Section 404(b)(1) evaluation of the environmental effects of the fill material into the waters of the United States has been prepared and is an attachment to this document. The Section 404(b)(1) Evaluation concludes that the proposed action is in compliance with Section 404 of the Clean Water Act. Pursuant to Section 401 of the Clean Water Act, the State of Michigan certified that the project complies with State water quality standards.

Finding and Conclusion: The EA and Section 404(b)(1) evaluation, along with a review of comments received during public review, show that the proposed construction of a rock wave attenuation structure within Section B of the North Pier, Grand Haven Harbor, Grand Haven, Ottawa County, Michigan does not constitute a major Federal action significantly affecting the quality of the human environment; therefore, an Environmental Impact Statement will not be prepared.

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Date

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Gregory E. Turner
Lieutenant Colonel, U.S. Army
District Engineer

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Introduction, Authority, Purpose and Need

The U.S. Army Corps of Engineers (USACE), Detroit District, under its operations and maintenance authority, proposes to construct a rock wave attenuation structure within Section B of the North Pier, Grand Haven Harbor, Grand Haven, Ottawa County, Michigan. The purpose of the project is to reduce wave reflection and refraction within the harbor during certain wind events to increase small craft safety during ingress/egress from the harbor entrance to Lake Michigan. It is anticipated that the work would be initiated and completed in fiscal year 2021 or 2022 or as soon as funding is appropriated.

Staff from both the USACE Grand Haven Area Office and the Detroit District Operations and Maintenance Branch have received calls from disgruntled boaters that recreational boating is very difficult when swells roll up the channel under westerly winds. Under certain wind conditions, even USACE staff do not traverse the navigation channel into Lake Michigan. The US Coast Guard (USCG) Station at Grand Haven has received complaints regarding difficulty in entering and exiting the entrance channel but do not log the complaints. OIC MCPO McKay of the USCG Station Grand Haven is aware of the swells that run up the river. Based upon his boating experience on both ocean and inland waters, he was of the opinion that a rock wave attenuation structure would likely help improve small craft vessel ingress/egress into Lake Michigan under certain wind conditions (Personal communications, June 24, 2019).

The Michigan Department of Natural Resources (MDNR) Fishery staff are aware of the need for the wave attenuation structure as they have worked loading gear in the Municipal Marina with 3 foot swells (Jay Wesley, personal communications, June 19, 2019). The wave surge was sufficiently damaging to moored vessels that North Shore Marina (located on the north revetment just north of the USACE Area Office) commissioned a wave attenuation study through Dr. Meadows at the University of Michigan, College of Naval Architecture and Marine Engineering. Based on the study results, and upon issuance of applicable state and Federal permits, the river frontage of the North Shore Marina was rock lined, a rock pier constructed and the entrance channel was relocated further upstream. Based upon the actions taken, the wave climate within the upland marina basin was reduced to an acceptable level (Personal communication, marina manager, June 25, 2019).

Wave attenuators are typically 200-400 feet in length depending on channel width and configuration and are more effective for longer period waves. Energy on the landward side of a wave attenuation structure is roughly 40% of that on the lakeward side and energy

reduction is linear up to approximately 500 feet of pocket length. Wave attenuators on both sides of the channel of similar total length may provide an additional 5%-10% wave energy reduction under certain wave conditions.

Project Vicinity and Site Description

Grand Haven Harbor is located in Ottawa County on the western shore of Michigan's Lower Peninsula (Figure 1). The Federal channel connects Lake Michigan to the Grand River. The Grand River is 260 miles in length and the watershed is the second largest drainage in Michigan after the Saginaw River watershed.

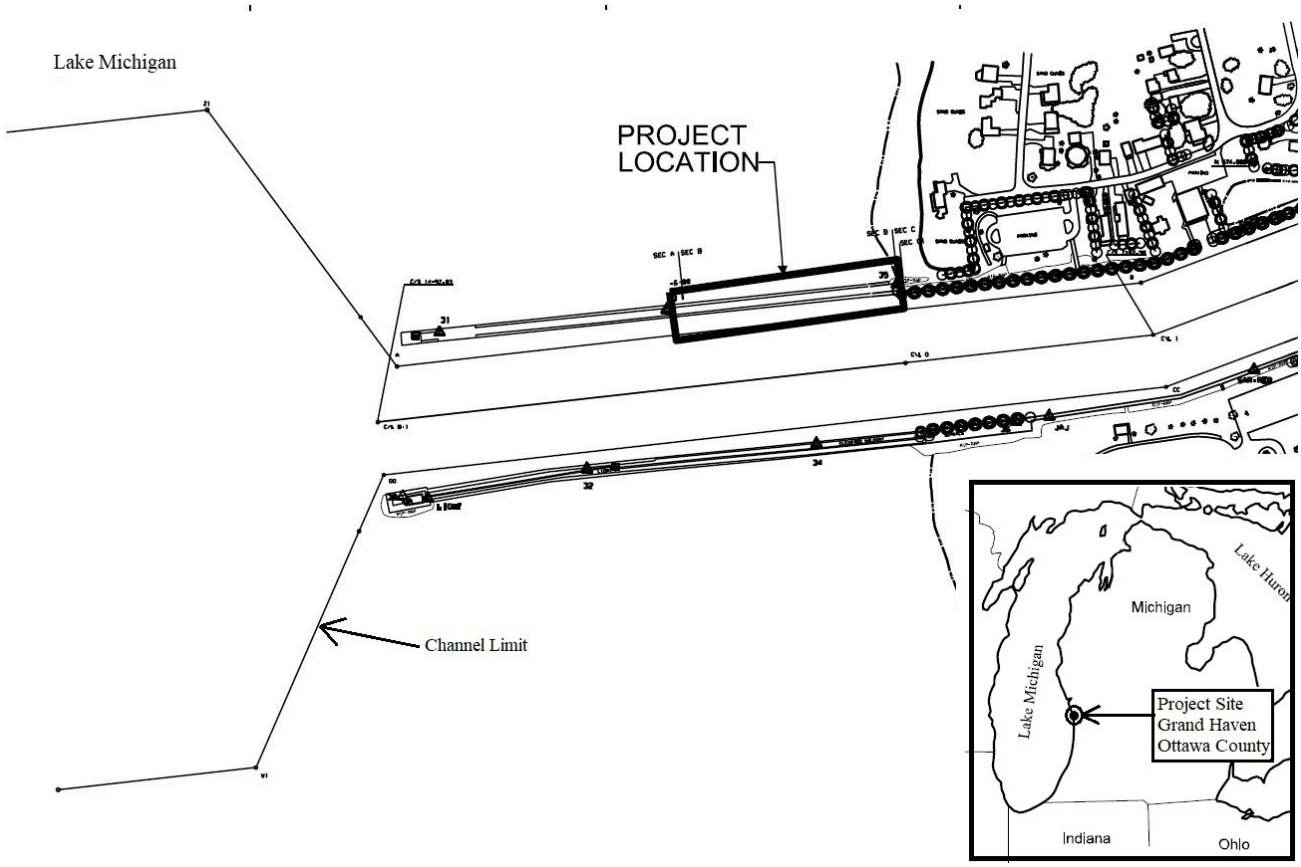

Figure 1. Project Location.

Alternatives and Proposed Action

<u>Alternative 1) No Federal Action</u>. No Action means that the USACE would not conduct any actions to reduce the wave climate within the harbor. This alternative was eliminated from further consideration except as a baseline from which to compare the potential environmental effects of the proposed action.

Alternative 2) Construction of a wave attenuation structure within the federal navigation pier. This alternative conducted under navigation servitude provides for wave attenuation within the federal channel farthest lakeward, maintains access for structure inspection as required in the operations safety manual, causes no significant impacts to the open waters of Lake Michigan, and results in minimum impacts to the lake bed and no impacts to the surrounding uplands.

Alternative 3) Construction of a wave attenuation structure within a revetment section of the main river channel. This alternative was not pursued further as this alternative would require acquisition of real property adjacent the federal navigation channel to construct the wave attenuation structure without extending the rock toe into the federal channel, is farther from the channel entrance to Lake Michigan resulting in less wave attenuation and could only be completed at significant additional costs for the acquisition of private lands.

Proposed Action. The recommend project alternative and the proposed action is Alternative 2, construct a wave attenuation structure within the federal navigation pier. This alternative best addresses the project's purpose and need.

Construction Sequence and Miscellaneous Project Details. The USACE Hydraulics and Hydrology staff determined that the appropriate location for the rock wave attenuation structure is within Section B of the north pier from Stations 9+00 closest to the shoreline to Station 15+83, resulting in a wave attenuation structure approximately 600 feet in length (Figure 2). Stone will be removed from the north side of the structure along the "H" pile drive line. The proposed work includes the removal of the southerly steel sheet pile (SSP) wall in Section B, driving new SSP to construct two transition access ramps approximately 40 feet in length on the east and west ends of the rock wave attenuation structure, placing "H" piles required to support the reinforced concrete cap parallel to and approximately 16 feet north of the existing northerly SSP wall alignment in Section B and constructing the toe of the wave attenuation structure with a length of approximately 600 feet adjacent to the federal channel limits (Figure 3).

The rock wave attenuation structure is comprised of 27,000 cubic yards (CYD) of rock of varying sizes which will be placed on both sides of the remaining SSP wall and will slope on a 1V:2H slope on the Great Lakes bottomlands to the top of the new wave attenuation structure. All of the excavated material that is not reused will be disposed consistent with state requirements. The existing toe stone will remain in place and the new wave attenuation structure will be built upon the existing rock base. The new structure will be capped with a reinforced concrete walkway supported by the "H" piles to provide a flat surface for inspections and maintenance access. It is anticipated that all work would occur from the water.

Figure 2 Grand Haven Harbor Federal Navigation Entrance Channel

The existing Section B footprint with toe stone is approximately 0.9 acres with 0.5 acres of the pier structure located above the OHWM. The Section B wave attenuation structure will be reconstructed on the lakebed and the total project will occupy approximately 1.3 acres of lakebed with a net increase of rock and fill on approximately 0.4 acres of bottomlands. Approximately 0.4 acres of the reconstructed Section B will be at an elevation above the OHWM, resulting in an overall net decrease of 0.1 acres of structure located above the OHWM.

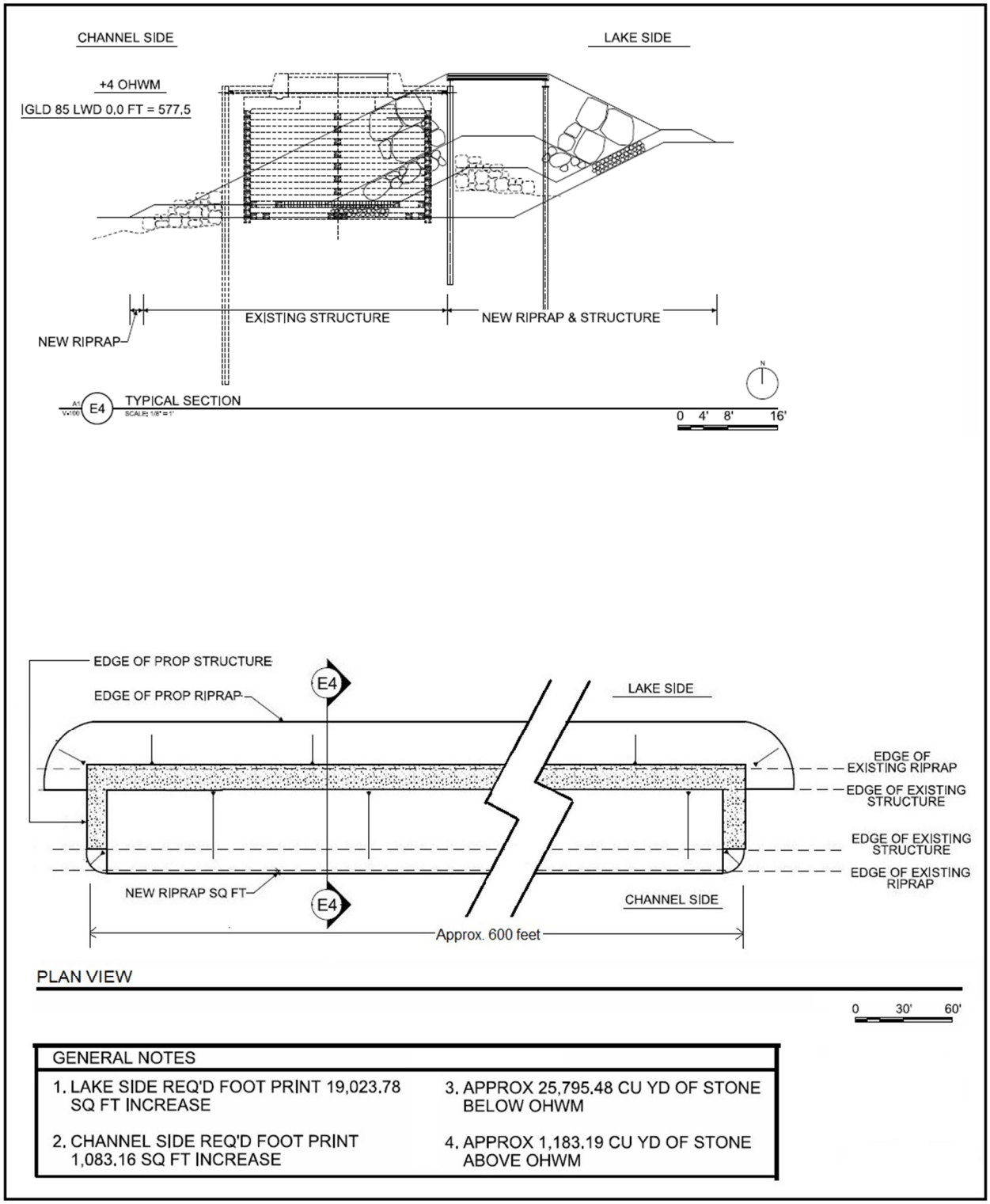

Figure 3. Cross Section and Plan View of Proposed Construction.

All construction activities will be in accordance with Federal and State regulations and local ordinances. Work activities would include appropriate precautionary measures to prevent erosion and sedimentation or other undesirable environmental effects. The proposed action may require the construction of temporary structures. The type and location of temporary structures and/or construction materials cannot be determined at this time, since they would be incidental to the work being performed. Examples are work and storage areas, access roads, office facilities, and mooring facilities, such as pilings. Temporary structures or fill material would be at USACE-approved locations within project boundaries or rights-of-way, outside of any wetlands, areas containing Federal or state protected species or their critical habitat, or properties listed on or eligible for listing on the National Register of Historic Places or state-listed properties or state designated critical dunes. Temporary activities will include appropriate precautionary measures to prevent erosion and sedimentation or other undesirable environmental impacts. These construction aids would be removed when no longer needed and their sites would be restored to pre-project conditions upon project completion.

Some variation in design details may occur as a result of unanticipated design improvements, site conditions, or cost-saving measures. Any variations that result in a significant change to the project design or environmental impacts would be further evaluated under the National Environmental Policy Act.

National Environmental Policy Act Review

Maintenance of the piers and revetments was addressed in the December 1978 EA, Maintenance of Existing Structures Grand Haven Harbor, Ottawa County, Michigan. The in-kind, in-place maintenance within the footprint of the federal project is categorically excluded from NEPA under 33 CFR Part 230, which includes, “Activities at completed Corps projects which carry out the authorized project purposes. Examples include routine operation and maintenance actions, general administration, equipment purchases, custodial actions, erosion control, painting, repair, rehabilitation, replacement of existing structures and facilities such as buildings, roads, levees, groins and utilities, and installation of new buildings utilities, or roadways in developed areas.”

The proposed wave attenuation structure is located outside of and adjacent to the federal pier, is not covered in existing NEPA documents nor by a USACE categorical exclusion. Therefore, the proposed construction of the wave attenuation structure is addressed in the following sections of this Environmental Assessment.

Affected Environment and Environmental Consequences

Review of the proposed action indicates that constructing a rock wave attenuation structure in Section B of the north breakwater would not result in significant adverse environmental effects. Nor would the project be expected to result in any significant cumulative or long-term adverse environmental effects. Adverse effects would be minor, limited primarily to construction noise and equipment emissions during construction. The

sandy bottomlands of Lake Michigan would be covered with rock replacing the sandy material with hard substrate suitable for colonization by invertebrates. Implementing the proposed Federal action would reduce wave reflection and refraction within the harbor to increase small craft safety during ingress/egress from the harbor entrance to Lake Michigan.

Floodplains. The project area is located within the floodplain of Lake Michigan. However, the activities comply with the Federal Executive Order on Floodplain Management (E.O. 11988) because there is no practicable alternative to this work in the floodplain. The project would have no adverse effects on the floodplain nor would it promote development in the floodplain or cause a harmful interference to flood flows.

Hazardous, Toxic and Radioactive Waste (HTRW). There are no known hazardous, toxic or radiological wastes (HTRW) at the proposed work area. No known HTRW sites are present in the immediate vicinity of the project area.

Sediment Quality. The proposed work area is within the bottomlands of Lake Michigan. Sediments within the outer harbor Federal navigation channel area are greater than 90% very fine sands or larger grain size. If any dredging of the sandy bottomlands is required to set the mattress stone, the excavated material will be deposited uplands. The rock that is moved to clear the northern SSP drive line will be reused as armor stone.

Water Quality. Implementation of the proposed action would have no adverse effect on water quality as the proposed fill consists of clean rock and SSP meeting the EGLE promulgated water quality standards. Water quality certification under Section 401 of the Clean Water Act is being requested from the State of Michigan and would be obtained or a waiver issued before construction activities commence.

Prime Farmland. There are no prime farmlands or any farmlands located at the project area and thus no impacts to prime farmland.

Wetlands. There are no wetlands at the proposed work site, thus implementing the project would have no effect on wetlands.

Groundwater and Drinking Water Supply. The proposed work would have no effect on groundwater, wells or domestic water supply.

Aquatic Resources, Fish and Wildlife. The work area is located within the open waters of Lake Michigan. On occasion, sea gulls roost on the pier but a resting surface will remain. Any birds using the area will move to adjacent undisturbed lands or other sections of the pier. The impacts to wildlife are considered temporary and minor. Various fish and wildlife use the waters and adjacent habitat in the project vicinity. Work from the water using a barge would cause a minor temporary impact to fish through barge traffic and noise from construction activities. Fish would tend to avoid the area during construction activities and return after the disturbance is gone. The sandy bottomlands that are covered with new rock will remove existing benthic habitat. The sandy habitat will be replaced with the rock

wave attenuation structure which will provide habitat for colonization by numerous aquatic invertebrates that are a food source for fish.

Federally Listed Threatened and Endangered Species. The USACE reviewed the U.S. Fish and Wildlife Service (USFWS) County Distribution of Federally-Listed Threatened, Endangered, Proposed and Candidate Species (Revised October 2018) under the Endangered Species Act for Ottawa County, Michigan. The Federal T&E list includes the Indiana bat, (endangered), Northern long eared bat (threatened), Rufa red knot (threatened), Pitcher's Thistle (threatened), and the whooping crane (experimental population). Based on a review of this information and knowledge about the proposed work site, there is no habitat for any of the listed species. Therefore, the USACE has determined that the proposed project would have "no effect" on Federally-listed threatened or endangered species or critical habitats.

Exotic and Invasive Species. A variety of invasive exotic plant and animal species have entered the Great Lakes basin and have become established along the Lake Michigan shoreline, in some cases displacing native plant species, resulting in diminished wildlife habitat values. Some of the more aggressive invasive plant species include giant reed grass, reed canary grass, purple loosestrife, Eurasian milfoil, and glossy buckthorn. Rock revetments and piers provide habitat for the invasive exotic animal species including zebra and quagga mussels, round goby, Eurasian ruffe and the spiny water flea. The nearshore waters of Lake Michigan provide very limited suitable habitat for exotic plant or animal species with the shifting sandy environment. Exotic species have not been identified as significant species of concern on federal navigation structures. The proposed project would have little short-term, long-term or cumulative effects on exotic or invasive species.

Historic and Cultural Resources. The federal navigation structures are listed on the National Register of Historic Places and the project meets the criteria of "adverse effect" as defined under Section 106 of the National Historic Preservation Act. A Memorandum of Agreement (amended 2019) has been developed in consultation with the SHPO to mitigate the adverse effect. Recordation and signage will be required.

Air Quality. Ottawa County is in attainment for all applicable air quality standards. Effects on air quality would arise from emissions of construction equipment used to implement the proposed project. All equipment would be required to meet emission standards. The overall air quality impacts are expected to be minimal given the temporary short-term nature of the proposed project activities.

Noise and Traffic. Temporary and minor noise and vessel disturbances would occur from the presence and operation of heavy equipment from the barges and pumping of concrete for the pier cap. The disturbances would not be significant or long-term and are consistent with vessel traffic using the harbor.

Aesthetics and Recreation Values. Local residents as well as many visitors are attracted to the Grand Haven area. Implementing the project would result in the temporary closure of the north pier during construction but have minimal appreciable effects on recreational

users in the area. The channel will remain open to boat traffic and upon project completion, the pier will have a concrete cap to provide a flat walking surface for USACE staff to conduct required structure inspections. The federal navigation structures are not designed for public access and there are safety concerns during storm events. Project implementation would not result in significant adverse impacts to the recreational use of the immediate area. For those viewing the lake from the shoreline, the view from the harbor entrance could be temporarily obstructed during construction activities. Construction of Section B to a rock wave attenuation structure will permanently alter the visual appearance of that portion of the north pier as viewed from water or land.

Social Setting/Environmental Justice. The wave attenuation structure is located within Lake Michigan. No residential structures will be removed or compromised by completion of the proposed work. The wave attenuation structure will increase harbor safety during certain wind events for small craft. The work will have minimal to no long term impacts to individuals or families.

State Designated Critical Dunes. The Michigan Department of Environment, Great Lakes and Energy (EGLE) has designated most of the shoreline both north and south of the harbor as critical dunes under Part 353, Sand Dunes Protection and Management, of the Natural Resources and Environmental Protection Act (NREPA) ,1994 PA 451, as amended. The proposed rock wave attenuation structure located within Section B of the north pier is waterward of the ordinary high water mark (OHWM) and not within the designated critical dune which is at the shoreline and located landward of the OHWM. The vast majority if not all of the work will be conducted from the water and no work and storage or construction is anticipated to occur within the state designated critical dune area.

Climate Change. Global climate change is expected to lead to six major types of (physical) changes in the Great Lakes basin: 1) increased annual averages in air and surface water temperatures (with greater extremes in hottest temperatures), 2) increased duration of the stratified (thermocline) period, 3) changes in the direction and strength of wind and water currents, 4) flashier precipitation (increases in the intensity of storms and drier periods in between) and river flows, 5) greater variation in annual ice cover/greater water surface evaporation/larger lake effect snow events, and 6) greater variations in lake levels. Implementing the proposed project will not affect the local climate or have a measurable impact on the climate.

Coastal Zone. The proposed project work area is within the Michigan Coastal Zone. The USACE has analyzed the proposed project with respect to the enforceable policies of the State of Michigan Coastal Management Program, specifically with respect to Part 31, Water Resource Protection, Part 325, Great lakes Submerged Lands, Part 353, Sand Dune Protection and Management and Part 761 Aboriginal Records and Antiquities of the Natural Resource Environmental Protection Act, 1994 PA 451, as amended. The USACE has determined that the proposed project would be undertaken in a manner which is consistent to the maximum extent practicable (as defined in 16 U.S.C. 1456, Coastal Zone Management Act) with the enforceable policies of the approved State of Michigan Coastal

Management Program. The USACE's determination of consistency with those policies has been mailed to the State Federal Consistency Coordinator for review on July 19, 2019.

Cumulative Effects. Cumulative effects are defined as the aggregate effects of the past, present, and reasonably foreseeable future actions. The current condition within Lake Michigan at Grand Haven Harbor is a result from past activities and practices and no measurable changes to the overall condition of either of these systems is expected due to project implementation. Since the proposed action provides for safer small craft use within the harbor for ingress/egress and the construction will maintain a suitable concrete walkway cap, the overall effects are minimal and beneficial to the Grand Haven Harbor area. There are no reasonably foreseeable future actions within the project area or in the neighboring vicinity that would result in effects that differ from those already identified within this supplemental EA or that would increase the magnitude of the environmental effects.

Future Actions. No additional actions are anticipated at this time except the normal outer and inner harbor maintenance dredging. Impacts associated with dredging were discussed in the maintenance dredging EA.

Other Resources. Implementation of the proposed project would not have a significant adverse impact on the Grand Haven area, community cohesion, desirable community growth, tax revenues, property values, public facilities, public services, regional growth, employment, the labor force or man-made resources, nor would the project cause displacement of people. Failure to implement the project maintains the existing safety risk to small craft using the harbor during certain wind events.

Early Project Coordination

Preliminary information on the proposed action was provided on May 15, 2019 to the U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, the Michigan Department of Natural Resources, and Michigan Department of Environment, Great Lakes and Energy for their review and consideration. Coordination pursuant to Section 106 of the National Historic Preservation Act with the Michigan State Historic Preservation Office and various Native American Tribes and groups is ongoing.

The resource agencies that responded with comments or concerns are listed below. This EA reflects/addresses the agency coordination concerns that were relayed to the USACE in early project coordination.

US Fish and Wildlife Service (USFWS). The USACE early project coordination determined "no effect" on federally listed threatened or endangered species. The USFWS did not respond.

US Environmental Protection Agency (USEPA). The USEPA comments (June 26, 2019) comments centered on more detail for the alternatives, Section 106 impacts under the National Register of Historic Places, include a full size set of plans with readable

stationing, include comments from Michigan DNR and EGLE, verify work will be completed from the water, cumulative impacts, public outreach, T&E species, any permits required and other agency coordination.

Michigan Department of Environment, Great Lakes and Energy (EGLE). EGLE comments (electronic mail, June 18, 2019) centered on need and further justification for the wave attenuation structure, readable dimensions on the drawings and any impacts to the state designated critical dunes, if applicable.

Michigan Department of Natural Resources (MDNR). MDNR comments (electronic mail, June 18, 2019) centered on public access during construction and after construction and impacts to recreational fishermen when completed.

Conclusions and Determinations

This EA has been prepared in accordance with NEPA; the Council on Environmental Quality, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR Parts 1500-1508); and the Corps of Engineers, Policy and Procedure for Implementing NEPA (33 CFR Part 230).

The proposed action has been reviewed pursuant to the following Acts and Executive Orders: Fish and Wildlife Act of 1956; Fish and Wildlife Coordination Act of 1958; National Historic Preservation Act of 1966; National Environmental Policy Act of 1969; Clean Air Act of 1970; Farmland Protection Policy Act (Subtitle I of Title XV of the Agriculture and Food Act of 1981); Executive Order 11593, Protection and Enhancement of the Cultural Environment, May 1971; Coastal Zone Management Act of 1972; Endangered Species Act of 1973; Clean Water Act of 1977; Executive Order 11988, Floodplain Management, May 1977; and Executive Order 11990, Wetland Protection, May 1977; Executive Order 12898 Environmental Justice, February 1994; Executive Order 13653, Preparing the United States for the Impacts of Climate Change, November 2013. The proposed action has been found to be in compliance with these Acts and Executive Orders.

The decision to construct a rock, wave attenuation structure under navigation servitude within the north pier has been based on an evaluation of the probable impact, including cumulative impacts of the proposed activity on the natural resources and public interest. That decision reflects the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from implementing the proposed action has been balanced against its reasonably foreseeable detriments. Factors which may be relevant to the proposed action have been considered including the cumulative factors thereof; among those are aesthetics, general environmental concerns, wetlands, cultural and historic properties, fish and wildlife values, floodplain values, land use, navigation, recreation, water quality, and, in general, the needs and welfare of the people.

Environmental review indicates that implementing the proposed action would not result in significant adverse environmental effects, would not result in significant cumulative or long-term adverse environmental effects, would cause no or insignificant minor adverse impacts to the waters of the U.S. and associated natural resources, will not result in filling of special aquatic sites or wetlands, will not permanently adversely affect boating, access or other waterfront uses, would not significantly impact navigation, water quality, aquatic resources, aesthetics, scenic and recreational values, critical dunes, federally-listed endangered or threatened species and their habitat, nor be injurious to the public interest.

Adverse effects would be minor, limited primarily to short-term noise and air emissions from equipment operation, minor disruption of local aquatic species and loss of any benthic (bottom dwelling) organisms in the immediate work area. Construction of Section B to a rock wave attenuation structure will alter the visual appearance of the north pier as viewed from water or land. There will be impacts to historic and cultural resources as the project meets the criteria of “adverse effect” as defined under Section 106 of the National Historic Preservation Act. A Memorandum of Agreement (amended 2019) has been developed in consultation with the SHPO to mitigate the adverse effect.

The proposed action is within the State of Michigan’s coastal zone. The proposed action has been evaluated and have been found to be “consistent to the maximum extent practicable” (as defined in 16 USC 1456, Coastal Zone Management Act, approved 1978) with the enforceable policies of the State of Michigan Coastal Management Program; this determination was provided to the State of Michigan on July 19, 2019.

The project complies with the Federal Executive Order on Floodplain Management (E.O. 11988) because there is no practicable alternative construction in the floodplain, the project would not induce floodplain development, and the project would not impact flood stages.

Pursuant to the Clean Water Act (CWA), a Section 404(b)(1) evaluation of the environmental effects of the fill material into the waters of the United States has been prepared and is an attachment to this document. The Section 404(b)(1) Evaluation concludes that the proposed action is in compliance with Section 404 of the Clean Water Act. Water quality certification under Section 401 of the Clean Water Act is being requested from the State of Michigan and would be obtained or a waiver issued before construction activities commence.

This EA concludes that the proposed action of rock wave attenuation construction within Section B of the north pier: 1) would not have a significant cumulative or long – term adverse environmental impact; 2) would have benefits that outweigh the minor, temporary impacts that may result; and 3) does not constitute a major federal action significantly affecting the quality of the human environment.

Public Review

This EA is being made available for 30 days to provide opportunity for public review and comment. The EA is being distributed to the U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, the Michigan Department of Natural Resources, and Michigan Department of Environment, Great Lakes, and Energy, the Michigan State Historic Preservation Office, various Native American Tribes; other Federal, state, and local agencies; interested groups, and local property owners/individuals.

Following this period and a review of the comments received, the District Engineer (USACE) will make a final determination regarding the necessity of preparing an Environmental Impact Statement (EIS) for the proposed action. Based on the conclusions of this EA and 404(b)(1) Evaluation, it appears that preparation of an EIS will not be required. Therefore, a Preliminary Statement of Findings / Finding of No Significant Impact (SOF/FONSI) is included as the following section of this EA. If, after public review of this EA, the District Engineer determines that an EIS is not necessary, the Preliminary SOF/FONSI would be finalized and signed, and the proposed action would proceed.

ATTACHMENT

CLEAN WATER ACT
SECTION 404(b)(1) EVALUATION

CLEAN WATER ACT
SECTION 404(b)(1) EVALUATION

Of the Effects of Placing Fill Material into the Waters of the United States

GRAND HAVEN HARBOR, SECTION B, NORTH PIER
WAVE ATTENUATION STRUCTURE,
GRAND HAVEN, OTTAWA COUNTY, MICHIGAN

I. PROJECT DESCRIPTION

A. Location and Description. Grand Haven Harbor is located on the western shoreline of Michigan's lower peninsula. The federal channel connects the Grand River to Lake Michigan (Figure 1). The proposed action is to convert the existing steel sheet pile (SSP) Section B of the north pier to a rock rubblemound wave attenuation structure.

B. Authority and Purpose. Maintenance and repair of the Federal structures is conducted under the USACE operations and maintenance authority. The Grand Haven Harbor and Grand River was authorized by the River & Harbor Acts of 23 June 1866 and subsequent acts. The proposed work is designed to assist in reducing the wave climate within the federal entrance channel to assist in reducing human health and safety risks using small craft within the harbor.

C. Proposed Fill Material.

(1) Characteristics of Material. The south SSP wall in Section B will be removed, "H" piles will be placed parallel to and 16 feet north of the existing northerly SSP pier wall alignment and rock of varying sizes will be used to construct the wave attenuation structure approximately 600 feet in length. A concrete cap will be reinstalled for structure inspection purposes.

(2) Quantity and Source of Material. Approximately 27,000 cubic yards of various sized rock will be used to construct the wave attenuation structure with the rock placed on a 1V:2H slope. The rock will be acquired from one or more USACE approved commercial quarries.

D. Fill Site.

(1) Location and Size. The site of fill placement is immediately lakeward of the ordinary high water mark (581.5 feet, IGLD 1985 OHWM) of the Lake Michigan shoreline on the north pier at the Grand Haven Harbor entrance channel. The wave attenuation structure is located at the edge of the navigation channel. The structure will occupy about 1.3 acres of lakebed with a net increase of rock fill on 0.4 acres of

former bottomlands. About 0.4 acres of the wave attenuation structure will be above the OHWM resulting in a net overall decrease of 0.1 acres of structure located above the OHWM.

(2) Habitat Type. No wetlands exist at the site. The bottomlands placement area is sandy lakebed adjacent the existing breakwater. The lakebed consists of medium grained sand with a trace of silt. Aquatic habitat around the breakwater is limited largely to the shifting lakebed sands, scour stone and the SSP walls comprising the pier. The shifting bottomlands sands have minimal habitat value for benthic organisms and fish.

(3) Timing and Duration of Discharge. A specific date for the project has not been established; however, the plan is to construct during one construction season, likely in 2021 or 2022 as funds become appropriate.

E. Description of Placement Methods. All construction work will occur from the water off of barges.

II. FACTUAL DETERMINATIONS.

A. Physical Substrate Determinations. The existing Section B footprint with toe stone is approximately 0.9 acres with 0.5 acres of the pier structure located above the OHWM. The existing southerly SSP wall and toe stone in Section B will be removed and “H” piles installed about 16 feet north of and parallel to the north SSP wall on sandy lakebed to reconstruct the pier. A total of approximately 27,000 CYD of rock will be placed in the former pier location to form the wave attenuation structure and on the north side of the new pier as armor stone. The SSP pier with rock would be reconstructed on the lakebed and the total project will occupy approximately 1.3 acres of lakebed with a net increase of rock and fill on approximately 0.4 acres of former bottomlands. Approximately 0.4 acres of the reconstructed Section B will be at an elevation above the OHWM, capped with a concrete walkway, resulting in an overall net decrease of 0.1 acres of structure located above the OHWM.

B. Water Circulation, Fluctuation, and Salinity Determinations. No adverse effects. The rock wave attenuation structure is designed to help attenuate wave energy within the harbor entrance channel. The wave attenuation structure would not affect water level fluctuations, circulation or salinity in Lake Michigan.

C. Suspended Particulate / Turbidity Determinations. No significant adverse effect. Project operations would cause temporary turbidity of the sandy lakebed during rock placement. Some minor amounts of granular concrete and rock fill material may enter the waters from demolition of the existing pier cap. Turbidity effects would dissipate over a short time period and distance from the work area and would not have significant, short term, cumulative or long term adverse effects.

D. Contaminant Determinations. Only clean steel sheet piling and steel “H” piles, clean rock and clean concrete pieces free of protruding rebar from demolition of the concrete cap would be placed in the water for rubblemound construction or fill materials between the newly placed SSP and the existing SSP wall. Any demolition debris from the repairs would be disposed into an approved disposal location.

E. Aquatic Ecosystem and Organism Determinations. No significant adverse effects. Construction would disrupt existing sandy, lakebed habitat and its use by fish. Fish would temporarily avoid the area because of the noise and activity. Benthic organisms in the immediate construction site would largely be destroyed by covering from the expanded rock footprint on the bottomlands but other invertebrates and periphyton would recolonize the rock substrate below the water line after the wave attenuation structure is completed. Impacts in general, would be negligible. No special actions are required to minimize impacts to the aquatic ecosystem during project construction to protect the waters of Lake Michigan.

. F. Federally Listed Species. No Federally listed "threatened" or "endangered" species are known to be present in the immediate pier vicinity, nor are any species proposed for listing. Therefore, the USACE has determined that the project would have “No Effect” on Federally listed threatened or endanger species.

G. Proposed Disposal Site Determination. No significant adverse impacts on municipal or private water supplies, recreational or commercial fisheries, water related recreation, aesthetics, parks, monuments, wilderness areas, research sites, or similar preserves are expected. During construction, the pier would be closed to recreational foot traffic but reopen when the construction activities are completed. The existing uses on the breakwater would remain after construction and the wave attenuation structure would maintain the viability of the harbor entrance channel for use by small craft under certain wave conditions.

H. Determination of Cumulative Effects on the Aquatic Ecosystem. No significant cumulative or secondary impacts are expected to occur from implementing the proposed action.

III. FINDINGS OF COMPLIANCE WITH THE RESTRICTIONS ON DISCHARGE.

A. Adaptation of the Section 404(b)(1) Guidelines to this Evaluation. No significant adaptations of the guidelines were made relative to this evaluation.

B. Evaluation of Alternatives. Alternatives considered were 1) No Action, 2) Construct the wave attenuation structure in Section B and 3) Construct a wave attenuation structure in the revetment. Alternative 1, No Action, is not recommended because it will not address the wave reduction safety issues in the harbor. Alternative 2, Construct the wave attenuation structure in Section B is the selected alternative because the location is farthest waterward to provide the maximum wave reduction in the harbor entrance channel. Alternative 3, Construct a wave attenuation structure

within the revetment requires acquisition of private property and provides less wave attenuation near the outer harbor entrance channel.

C. Compliance with State Water Quality Standards. This project is being coordinated with the State of Michigan under Section 401 of the Clean Water Act for issuance of the water quality certification or waiver thereof.

D. Compliance with Applicable Toxic Effluent Standard or Prohibition Under Section 307 of the Clean Water Act (CWA). Since the fill materials are uncontaminated, placement would not be in violation of the Toxic Effluent Standards of Section 307 of the CWA.

E. Compliance with the Endangered Species Act (ESA) of 1973. The project was evaluated for effects on Federally listed species. The USACE made the required "No Effect" determination for all species listed for Ottawa County.

F. Compliance with Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection Restoration and Sanctuary Act of 1972. Not applicable as the project site is in a freshwater system.

G. Evaluation of Extent Waters of the United States Would Be Degraded. The proposed fill placement consisting of rock would not result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreational and commercial fishing, plankton, fish, shellfish, wildlife, and special aquatic sites. Life stages of aquatic or other wildlife species would not be adversely affected. No significant adverse effects to the aquatic ecosystem in the areas of diversity, productivity, stability, recreation, aesthetic, and economic values would occur.

H. Appropriate and Practicable Steps taken to Minimize Potential Adverse Impacts of the Discharge on Aquatic Ecosystem. Appropriate steps taken to minimize the adverse effects on the aquatic ecosystem at the proposed site include the use of uncontaminated fill materials and project coordination with the U.S. Environmental Protection Agency (EPA), Michigan Department of Environment, Great Lakes and Energy, Michigan Department of Natural Resources, and the U.S. Fish and Wildlife Service.

I. Compliance with Section 404(b)(1) Guidelines. On the basis of the "Guidelines for Specification of Disposal Sites for Dredged or Fill Material" (40 CFR part 230), it has been determined that the proposed fill activity is in compliance with Section 404 of the 1977 Clean Water Act.