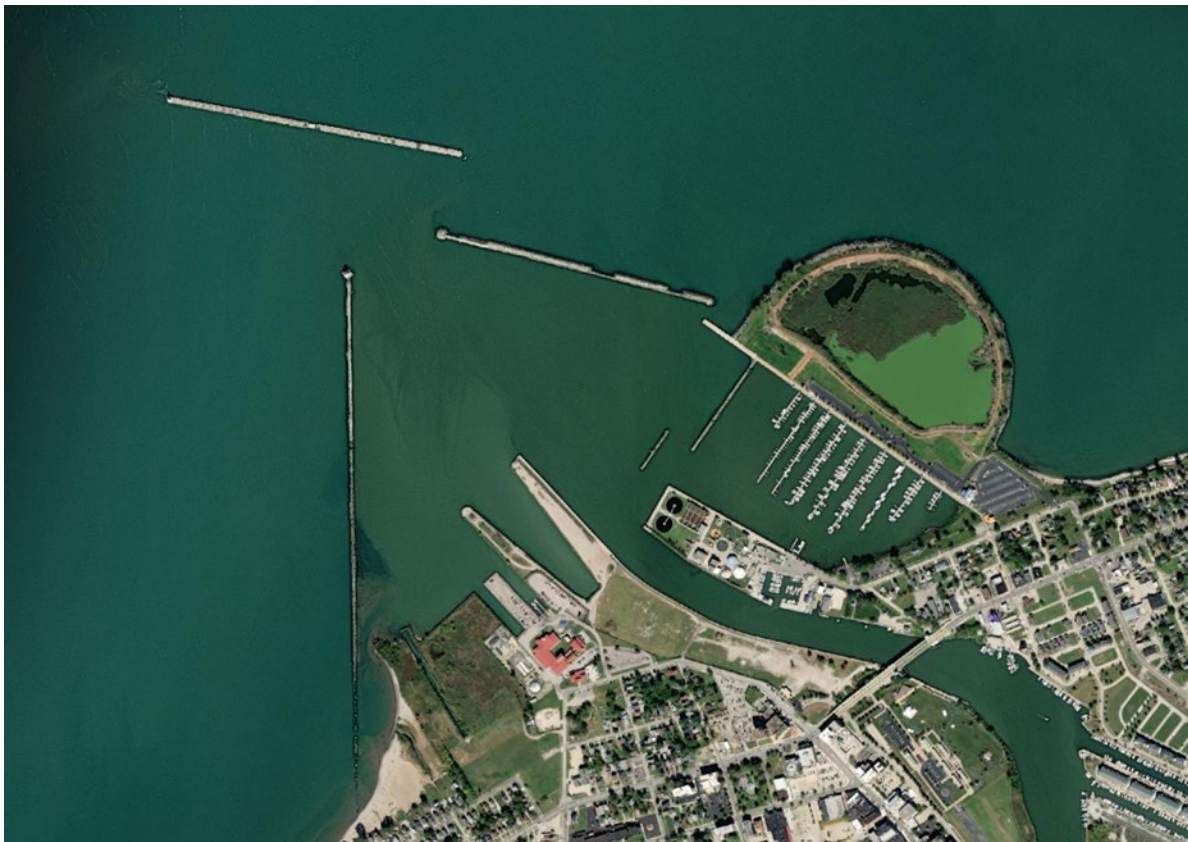


FINDING OF NO SIGNIFICANT IMPACT AND ENVIRONMENTAL ASSESSMENT

**U.S. ARMY CORPS OF ENGINEERS
OPERATIONS AND MAINTENANCE**

LORAIN WEST BREAKWATER

**LORAIN HARBOR
LORAIN COUNTY, OHIO**



**DEPARTMENT OF THE ARMY
Buffalo District, U.S. Army Corps of Engineers
478 Main Street
Buffalo New York, 14202**

February 2024

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DRAFT FINDING OF NO SIGNIFICANT IMPACT

U.S. ARMY CORPS OF ENGINEERS OPERATIONS AND MAINTENANCE

LORAIN WEST BREAKWATER

LORAIN HARBOR LORAIN COUNTY, OHIO

The U.S. Army Corps of Engineers (USACE), Buffalo District has assessed the environmental impacts of the subject project in accordance with the National Environmental Policy Act (NEPA) of 1969 and has determined a Finding of No Significant Impact (FONSI). The attached draft Environmental Assessment (EA) dated February 5, 2024 addresses the USACE repair of the Lorain West Breakwater (LWBW) located at the City of Lorain, Lorain County, Ohio, at the mouth of the Black River on Lake Erie. The repair of the LWBW would facilitate continued safe navigation that would benefit the associated commercial and recreational users of Lorain Harbor.

PURPOSE

An EA was completed in support of this FONSI. Its purpose is to provide sufficient information on the potential environmental effects of the USACE proposed repair of the LWBW. Analysis of the potential effects aids in determining whether the proposed project is a major federal action which would significantly affect the quality of the human environment. The attached EA facilitates compliance with NEPA and includes discussion of the need for the action, the affected environment, a description of the proposed action and alternatives, its environmental impacts, environmental compliance, and a list of agencies, interested groups, and individuals consulted.

BACKGROUND

Lorain Harbor is a deep-draft commercial harbor located along the southern shore of Lake Erie at the mouth of the Black River, approximately 28 miles west of Cleveland, Ohio. It encompasses both an outer and an inner harbor. The outer harbor is formed by a system of converging breakwaters in Lake Erie while the entrance channel to the Black River is protected by two parallel piers at the mouth of the river. The lower three miles of the river constitutes the inner harbor, with federally maintained river channel widths varying from 200 to 500 feet. Two turning basins are provided along the river, one located approximately midway in the federal channel and the other located at the upstream end of the channel.

The Lorain Harbor confined disposal facility (CDF) was constructed in 1977 and is an in-lake facility attached to land in Lorain, Ohio. The CDF is located on the lake side of the east breakwater. It is 58 acres in size and has a total capacity of 1,850,000 cubic yards. The CDF has an approximate remaining capacity of 170,000 cubic yards. The federal navigation channel at Lorain Harbor is designed to accommodate commercial and recreational navigation and is maintained by USACE. The harbor consists of a lake approach channel protected by an outer breakwater, a 60-acre outer harbor area on Lake Erie protected by east and west breakwaters, followed by 2.6 miles of river channel through the mouth of the Black River.

ALTERNATIVES CONSIDERED

There were two alternatives evaluated; the proposed action and the “no action” plan. The no action alternative is not recommended as it would not meet project objectives of continuing to have a functional breakwater to protect Lorain Harbor. An assessment of the potential effects of both project alternatives is presented in the EA while a summary assessment of the potential effects of the recommended plan is listed in the table below:

Public Interest	Insignificant effects	Insignificant effects as a result of mitigation	Resource unaffected by action
Air quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Greenhouse Gases and Climate Change	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Plankton & Benthos	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vegetation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fisheries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wetlands	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wildlife	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Threatened and Endangered Species	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wild and Scenic Rivers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Water and Associated Land Use	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Public Facilities and Services/Water and Service Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Noise	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Aesthetic Values	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cultural resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental justice	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Displacement of People/Displacement of Farms	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Public Health and Safety	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community and Regional Growth; Business and Industry/Labor Force; Employment and Income; Community Cohesion	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Leisure Opportunities/Recreational Resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Consultation and Compliance with Other Laws and Regulations

Pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended, the USACE has determined that the proposed project would likely have no effect on federally listed species or designated critical habitat. Coordination in this regard was initiated with the U.S. Department of the Interior – Fish and Wildlife Service (USFWS), and the Ohio Department of Natural Resources Fish and Wildlife Division on October 20, 2023. The following federally listed endangered (E), threatened (T), and candidate (C) species, and species proposed as endangered (PE) are documented as being present in Lorain County: piping plover (*Charadrius melodus*) (E); red knot (*Calidris canutus rufa*) (T); monarch butterfly (*Danaus plexippus*) (C); Indiana bat (*Myotis sodalis*) (E); and tricolored bat (*Perimyotis subflavus*) (PE). However, no habitat in the project impact area is currently designated or proposed “critical habitat” in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Therefore, no effect is expected to any federally threatened, endangered, or candidate species as a result of the project. A letter was sent to the Ohio USFWS Field office on November 2, 2023, requesting concurrence with our effects determination. In an email response the same day, the USFWS stated that they do “not provide concurrence with ‘no effect’ determinations.” When a “no effect” determination is made, consultation with the USFWS is not necessary.”

The project’s impact on cultural resources has been evaluated in accordance with Engineer Regulation (ER) 1105-2-50 and 36 CFR 800. The USACE has consulted with the National Park Service, Ohio Historic Preservation Office (OHPO), and several potentially interested Indian Nations that have ancestral homelands in the area of the proposed project. No responses were received from either OHPO or the Indian Nations following release of the scoping information on October 20, 2023. There are no known historic properties or cultural resources in the project’s area of potential effect. An effects determination was submitted on November 1, 2023, for OHPO confirmation that no historic properties or cultural resources would be affected by project construction (Appendix B). In a letter dated November 16, 2023, the OHPO agreed with USACE’s determination stating that the proposed project will have no effect on historic/cultural resources.

Pursuant to the Clean Water Act (CWA) of 1972, as amended, project coordination was initiated with agencies and interests including the US Environmental Protection Agency and the Ohio Environmental Protection Agency via the scoping and public notice in 2023. The project would result in a CWA Section 404 discharge, therefore a CWA Section 401 state water quality certification (WQC) will be required. The USACE is continuing to work with the State of Ohio to complete its review of the application for WQC.

All applicable environmental laws have been considered and coordination with appropriate agencies and officials has been completed or is currently in progress.

All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on the EA, the reviews by other federal, state, and local agencies, tribes, input of the public, and the review by my staff, it is my determination that the recommended plan would not cause significant adverse effects on the quality of the human environment. Therefore, preparation of an Environmental Impact Statement is not required. Those who may have information that may alter this assessment and lead to a reversal of this decision should notify me within 30 days. If no comments that would alter this finding are received within the 30-day review period, or, after such comments have been addressed, this FONSI would be signed and filed with the project documentation.

Date: _____

Colby K. Krug
Lieutenant Colonel, U.S. Army
District Commander

ENVIRONMENTAL ASSESSMENT

U.S. ARMY CORPS OF ENGINEERS
OPERATIONS AND MAINTENANCE

LORAIN WEST BREAKWATER

LORAIN HARBOR
LORAIN COUNTY, OHIO

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1.0 PURPOSE AND AUTHORITY

1.1 PURPOSE

The purpose of this Environmental Assessment (EA) is to supplement previous environmental documentation on the operation and maintenance of the Lorain West Breakwater (LWBW), including the *Lorain Harbor Breakwaters (Final Environmental Statement, Lorain Harbor, Lorain County, Ohio (Maintenance)(1974))*, and to provide sufficient information on the potential environmental effects of the subject action, as proposed by the U.S. Army Corps of Engineers (USACE). This EA facilitates compliance with the National Environmental Policy Act (NEPA) of 1969 and includes discussion of the need for the action, its environmental impacts, environmental compliance, and a list of agencies, interested groups, and individuals consulted. A NEPA scoping document was distributed to applicable state and federal agencies, local officials, and Indian nations on October 20, 2023.

1.2 AUTHORITY

The existing federal navigation project was authorized by the River and Harbor Acts of 1899, 1907, 1910, 1917, 1930, 1935, 1945, 1960, and 1986. The confined disposal facility was authorized by Section 123 of the Rivers & Harbors Act of 1970 (Public Law [PL] 91-611).

2.0 NEED FOR THE PROPOSED ACTION

2.1 INTRODUCTION

Lorain Harbor is a deep draft commercial harbor located along the southern shore of Lake Erie at the mouth of the Black River in Lorain County, Ohio, approximately 28 miles west of Cleveland, Ohio. It encompasses both an outer and an inner harbor. The outer harbor is formed by a system of converging breakwaters in Lake Erie while the entrance channel to the Black River is protected by two parallel piers at the mouth of the river. The lower three miles of the river constitute the inner harbor with federally maintained river channel widths varying from 200 to 500 feet. Two turning basins are provided along the river: one located approximately midway in the federal channel and the other located at the upstream end of the channel.

The Lorain Harbor confined disposal facility (CDF) was constructed in 1977 and is an in-lake facility attached to land in Lorain, Ohio. The CDF is located on the lake side of the east breakwater shore. It is 58 acres in size and has a total capacity of 1,850,000 cubic yards. The CDF has an approximate remaining capacity of 170,000 cubic yards. In addition to open-water placement and potential other upland placement options, the CDF remains an option for the placement of sediment that does not meet open water placement standards in Lake Erie. The federal navigation channel at Lorain Harbor is designed to accommodate commercial and recreational navigation and is maintained by USACE. The harbor consists of a lake approach channel protected by an outer breakwater, a 60-acre outer harbor area on Lake Erie protected by east and west breakwaters, followed by 2.6 miles of river channel through the mouth of the Black River. A map of Lorain Harbor is provided in Figure 1.

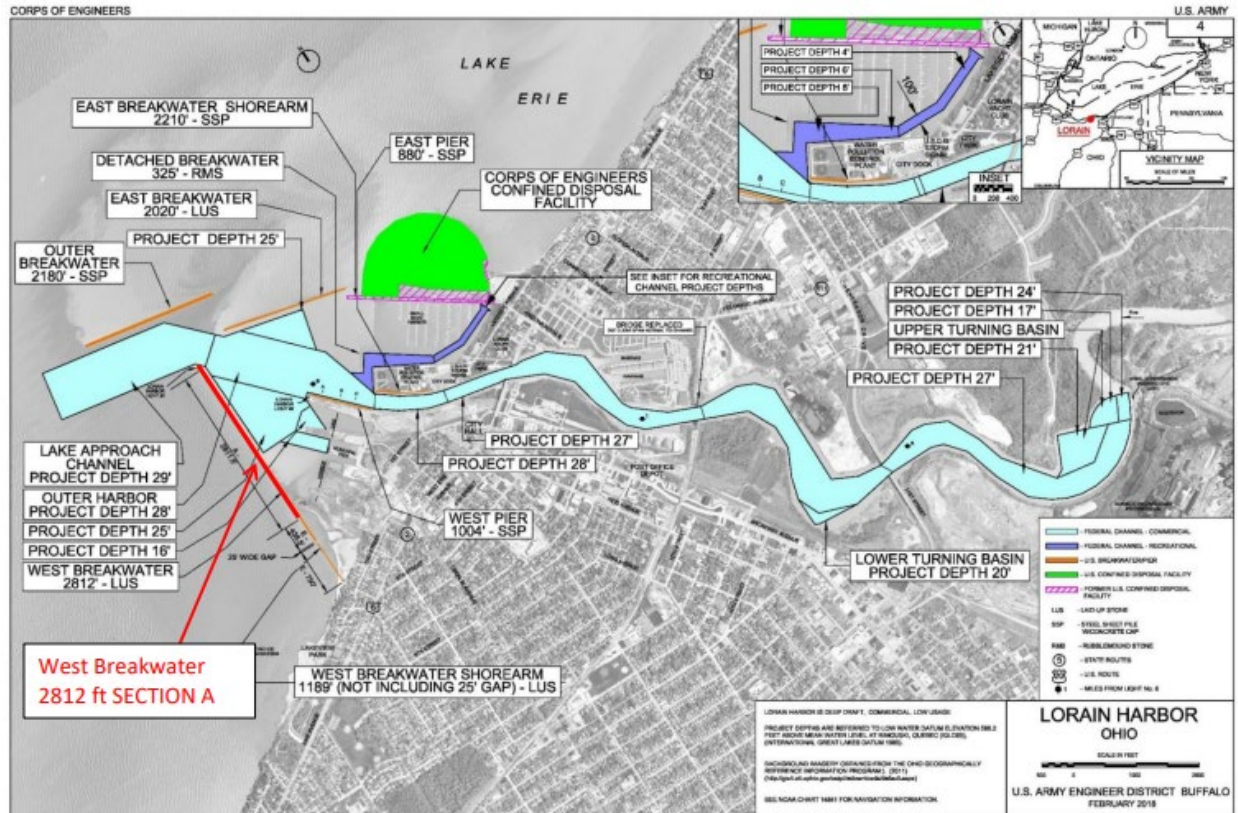


Figure 1: Lorain Harbor Overview

3.0 PROPOSED ACTION AND ALTERNATIVES CONSIDERED

3.1 PROPOSED ACTION

The LWBW repair consists of a rubble-mound overlay along the lakeside of the existing structure up to the design crest elevation of +10.2 feet above low water datum (LWD). The project repair reach extends from Station 0+00 to Station 26+50 (Figure 2). The first 750 feet of the repair from the lighthouse to Station 8+00 includes a bedding stone stability berm from the lakebed to elevation -22 feet LWD. A rock stability berm extends approximately 40 feet beyond the toe of the new rubble mound overlay repair section. The stability berm is warranted due to the potential for soft lakebed sediments (with low load-bearing capacity) at the project footprint from Station 0+00 to 8+00. Without this stability berm, the weight of the newly placed rubble-mound overlay may continue to slump lakeward as it continues to settle into the soft sediment. The remainder of the reach, from Station 8+00 to 27+50, is potentially resting on existing displaced stone and should therefore not require a stability berm. However, additional stone may be placed at the repair footprint during construction to displace any soft sediments. Typical repair cross sections are presented in Figures 3-6. Lastly, the leeside area (behind the breakwater) between Station 27+50 to 29+12 is shoaled in and set far from the federal channel. Therefore, the repair was not extended past Station 27+50. The current repair was designed to have minimal impact on the lake bed at Lorain Harbor. Environmental impacts are minimized in the design. The repair is designed for a 50-year design life and will withstand current and future wave conditions.

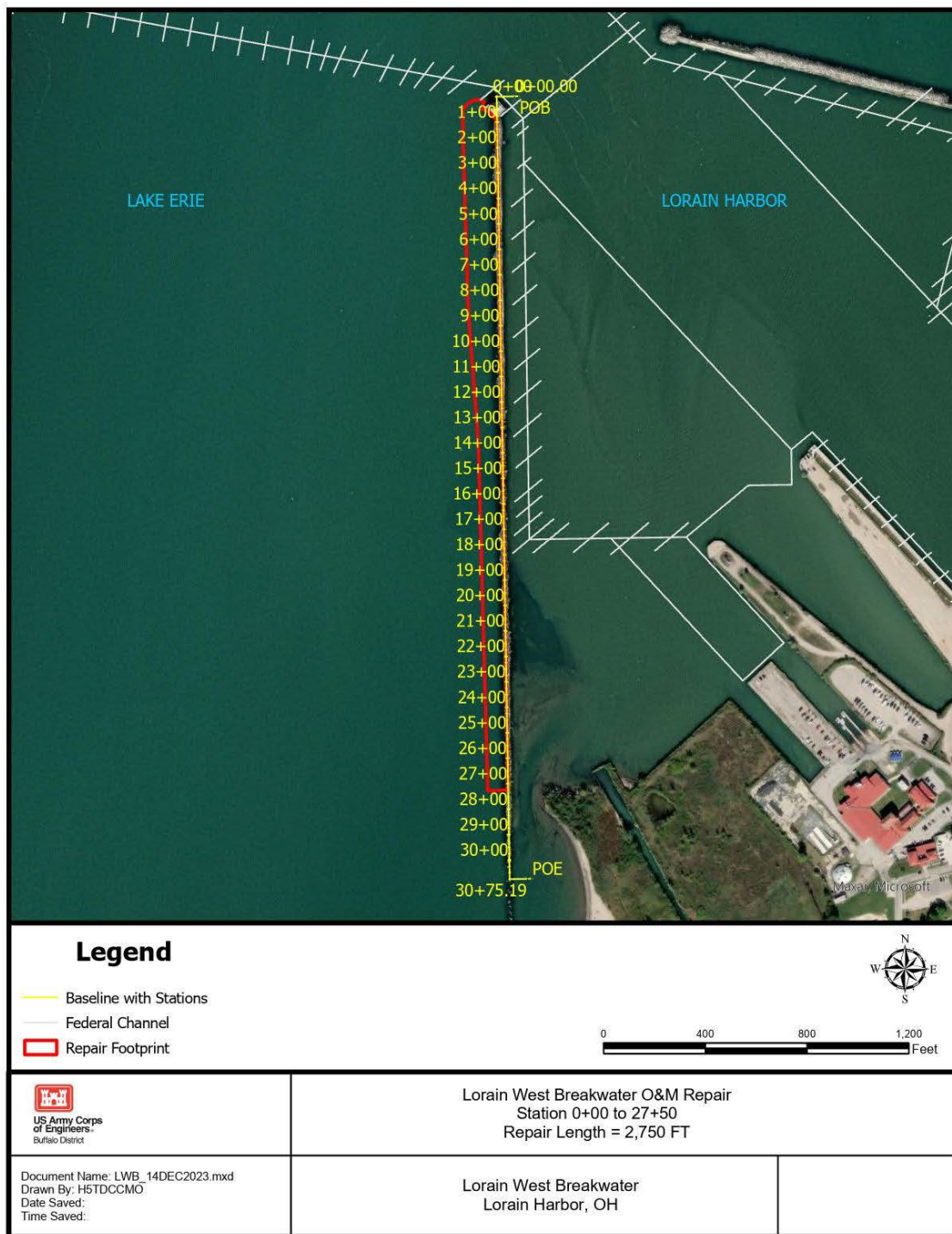


Figure 2: Lorain West Breakwater Proposed Repair Footprint

The acreage of the proposed project to be filled/excavated at the LWBW is six acres (Figure 2). There will be lake bottom excavation in areas where the rubble-mound will be placed between Stations 21+50 to 27+50 to key in the toe stones. Table 1 provides a breakdown of the total amount of stone to be placed in the bedding layer, underlayer and armor layer of the proposed project.

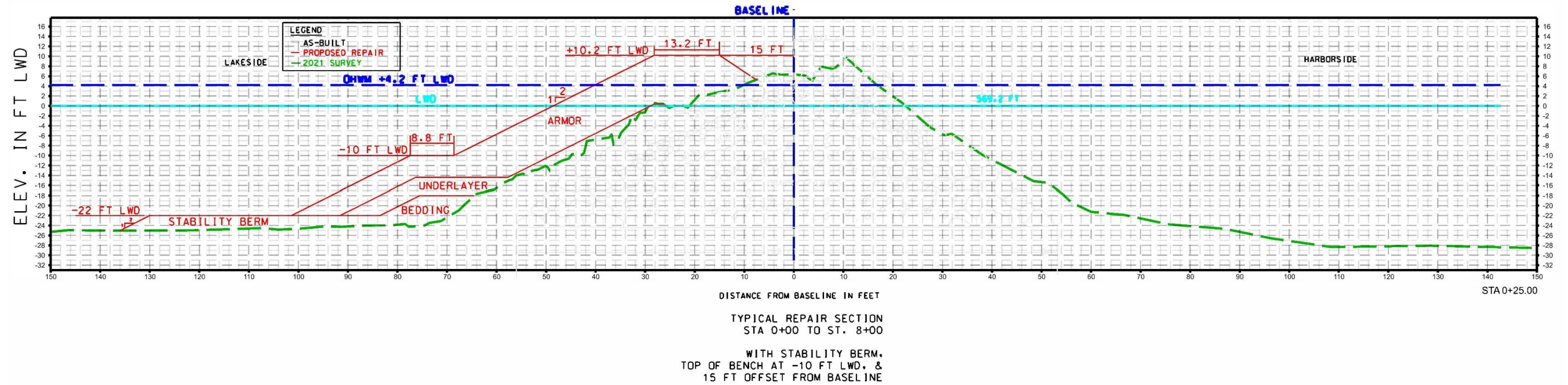
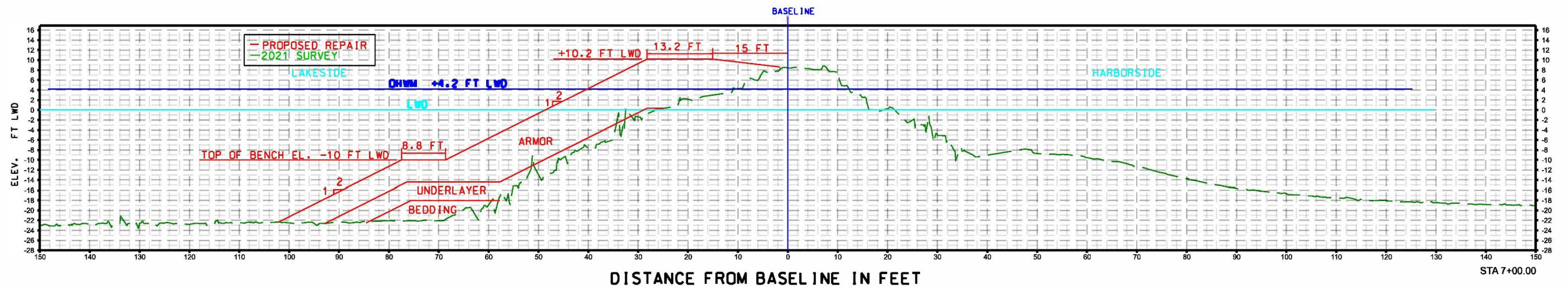


Figure 3: Typical Repair Section Station 0+00 to Station 8+00



TYPICAL REPAIR SECTION
STATION 8+00 TO STA. 14+50

Figure 4: Typical Repair Section Station 8+00 to Station 14+50

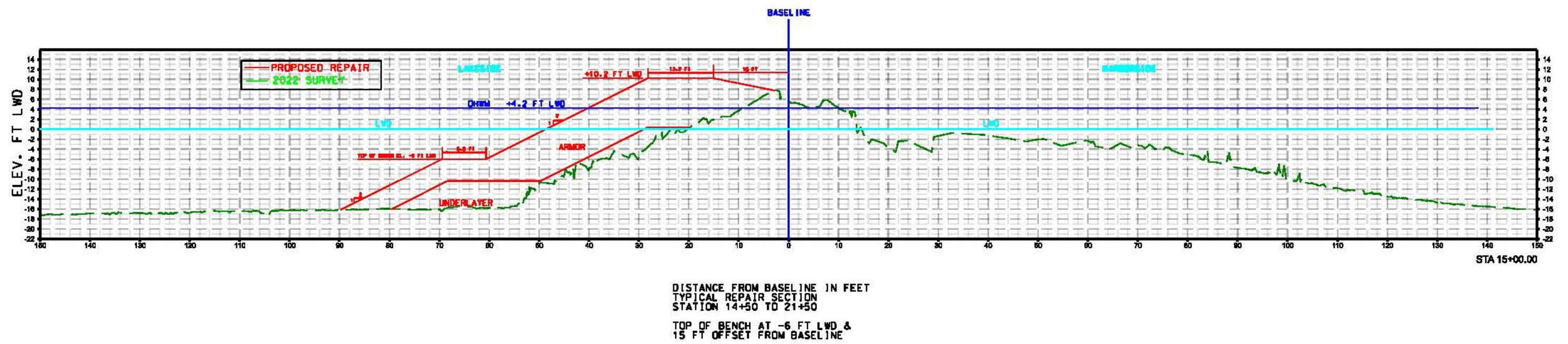


Figure 5: Typical Repair Section Station 14+50 to Station 21+50

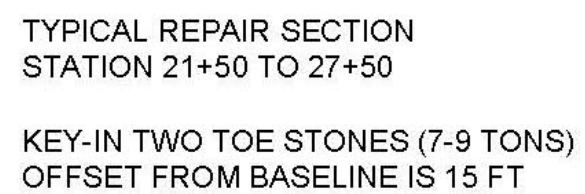


Figure 6: Typical Repair Section Station 21+50 to Station 27+50

Table 1: Proposed placement of stone in bedding layer, underlayer, and armor layer of LWBW

Start Station	End Station	Length	Bedding Volume (CY)(1)	Underlayer Volume (CY)(1)	Armor Volume (CY)(1)
0+00	8+00	800	5612	3660	15151
8+00	14+50	650	580	2570	10030
14+50	21+50	700	0	3100	6420
21+50	27+50	600	0	2805	9650
Totals		2750	6192	12135	41251

Notes: (1) includes void space in structure

3.2 ALTERNATIVES TO THE PROPOSED ACTION

Only the No Action plan was considered to the proposed repair of the LWBW. There are no other action alternatives that would be engineeringly feasible or effective in repairing this section of the breakwater to fulfill its original purpose. The USACE is required to consider the option of “No Action” as one of the alternatives in order to comply with the requirements of NEPA. Under this alternative, it is assumed that no measures would be implemented to repair the damaged sections of the LWBW. Damages and further degradation of the breakwater would therefore continue, eventually allowing wave action to pass through, or over the breakwater, subjecting the Lorain Harbor to damaging wind and storm-driven wave and ice action.

4.0 EXISTING CONDITIONS AND IMPACTS

4.1 PHYSICAL/NATURAL ENVIRONMENT

4.1.1 *Air Quality*

Existing Conditions – The Clean Air Act (CAA) designates six pollutants as “criteria pollutants” for which National Ambient Air Quality Standards (NAAQS) have been promulgated to protect public health and welfare. The six criteria pollutants are particulate matter (PM₁₀ and PM_{2.5}), carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), lead (Pb), and ozone (O₃). Areas that do not meet NAAQSs are designated as being in “non-attainment” for that criteria pollutant. Air quality data for the State of Ohio is collected and published annually by the U.S. Environmental Protection Agency (USEPA). One ambient air quality monitoring station is located within Lorain County. Based on the NAAQS, Lorain County is designated as a non-attainment area for 8-hour Ozone (USEPA, 2023a). Existing air quality conditions have been estimated from measurements conducted at air quality monitoring stations within Lorain County. Table 2 shows recent monitored concentrations of criteria pollutants.

Table 2: Air quality statistics report, Lorain County (2022).

CO 1-hr 2 nd Max	CO 8-hr 2 nd Max	NO ₂ 98 th Percentile	O ₃ 1-hr 2 nd Max	O ₃ 8-hr 4 th Max	SO ₂ 99 th Percentile	SO ₂ 24- hr 2 nd Max	PM _{2.5} 98 th Percentile	PM _{2.5} Weighte d Mean	PM ₁₀ 24-hr 2 nd Max	PM ₁₀ Annual Mean	Lead Max 3-mo Avg
-	-	-	.07	0.063	-	-	-	-	-	-	-

Source: U.S. EPA AirData <http://www.epa.gov/airdata>, Generated: October 18, 2023

No Action Alternative – Since this alternative involves no construction, air quality in the vicinity of Lorain Harbor would continue to be similar to existing conditions. There would be no project-related dust or exhaust emissions from construction equipment that could contribute to the degradation of air quality.

Proposed Action – The operation of construction equipment would result in only short-term increased emissions of pollutants (e.g., suspended particulates, nitrogen dioxide, and carbon monoxide) into the local atmosphere. The release of these pollutants is not expected to result in any long- or short-term exceedance violations of state air quality standards. Lorain County is in attainment based for all pollutants except Ozone (USEPA, 2023a). An emissions calculation for both Nox and VOCs and a Record of Non-Applicability (RONA) was completed (Appendix A). General Conformity under the Clean Air Act, Section 176 has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. This rule states that if the total direct and indirect emission from this project/action are estimated at less than 100 tons for Ozone per year and are below the conformity threshold value established at 40 CFR 93.153(b) of 100 tons/year of Ozone, and if the project/action are not considered regionally significant, then the project/action are in General Conformity and a RONA is appropriate. The completed project would have no long-term impact on air quality within the vicinity of the project.

Repair of the LWBW would be completed using a floating plant or Derrick Boat with the stone likely being brought to the site by water via tug and barge, or by land-based equipment (dump trucks) to a staging area.

Emissions generated during the repair would originate from the Derrick boat, tugs, and other machinery that would be used to transport the material to the repair site. As a result, emissions generated with the proposed alternative would not be expected to substantially increase.

4.1.2 Water Quality

Existing Conditions – Ohio water quality standards consist of designated aquatic life and non-aquatic life uses, as well as chemical, biological and physical criteria designed to represent measurable properties of the environment that are consistent with goals specified by each use designation. The mainstem of the Black River and conjoining tributaries have been

designated warm-water habitat, which defines the “typical” warm water assemblages of aquatic organisms for Ohio rivers and streams. Additionally, the mouth of the Black River to Gulf Road is designated as seasonal salmonid habitat, meaning that it can support the passage of salmonids from October to May and are water bodies large enough to support recreational fishing. Finally, Lake Erie is designated as being exceptional warm-water habitat, a state resource water, a source of public-agricultural-industrial water supply and is used for recreational boating.

The Black River was once nicknamed the “river of fish tumors” due to its long history of industrial, agricultural, and urban uses, which led to poor water quality, loss of biodiversity, habitat degradation, and sedimentation. Environmental impacts became severe enough for the river to be designated by USEPA as an Area of Concern (AOC) in 1987.

Historically, the City of Lorain relied on the river for bringing materials to and from its industrial center. The river was used as a mode of commerce and was degraded by discharges from industrial operations and wastewater, which contributed to heavy metal and polycyclic aromatic hydrocarbon (PAH) contamination. Other events that played a role in the river’s impairments include:

- Municipal discharges
- Bank erosion
- Commercial and residential development
- Atmospheric deposition of contaminants
- Hazardous waste disposal sites
- Urban stormwater runoff and combined sewer overflows
- Agricultural runoff from the upper watershed

Improvements in the Black River AOC have resulted in the removal of four beneficial use impairments (BUIs). The removal of the BUIs within the Black River AOC show an upward trend in water quality and environmental quality.

No Action Alternative – There would be a negative adverse impact on water quality in the vicinity of the project site as the result of the no action alternative since federal inaction would allow the further deterioration of the LWBW from storm events. Eventually, this could lead to the erosion of sediment and shoaling within the harbor.

Proposed Action – Construction activities associated with the implementation of the project would result in localized turbidity. The fill material would consist of clean, locally sourced stone. Water quality impacts in this regard would be minor, adverse, and only short-term. There also is a possibility of accidental spills of fuel, oil, and/or grease into the water during application and monitoring activities. The eventual contractor would be required to prepare a spill control plan and to implement appropriate measures in the event of a release. Such discharges, should they occur, are expected to be short-term and relatively low magnitude.

No long-term adverse impacts to water quality are expected.

4.1.3 *Greenhouse Gases and Climate Change*

Existing Conditions – Greenhouse gases (GHGs) are components of the atmosphere that trap heat relatively near the surface of the earth and, therefore, contribute to the greenhouse effect and climate change. Most GHGs occur naturally in the atmosphere but increases in the concentration can result from human activities such as burning fossil fuels. Global temperatures could rise at an unnatural rate as a result of human activities, such as those that add carbon dioxide (CO₂), methane, nitrous oxides, and other greenhouse (or heat-trapping) gases to the atmosphere. Worldwide, communities are increasingly experiencing unfamiliar precipitation patterns, including extreme precipitation events (IPCC, 2021). The Council on Environmental Quality (CEQ) recently released draft guidance on when and how federal agencies should consider GHG emissions and climate change in NEPA analyses (CEQ, 2023a).

On September 22, 2009, the USEPA issued a final rule for mandatory GHG reporting from large emissions sources in the United States. The purpose of the rule is to collect comprehensive and accurate data on CO₂ and other GHG emissions that can be used to inform future policy decisions. In general, the threshold for reporting is 25,000 metric tons or more of CO₂ equivalent year. For 2012, over 8,000 facilities and suppliers reported to the greenhouse gas reporting program. Among these reporters, 7,809 facilities in nine industry sectors reported direct emissions to the atmosphere, with emissions totaling 3.13 billion metric tons CO₂ equivalent (CO₂e), or about half of total U.S. greenhouse gas emissions. GHGs are not currently regulated under the Clean Air Act.

Global climate change may already be affecting both the climate of the Great Lakes region and the physical behavior of the Great Lakes themselves (Environmental Law and Policy Center 2019). The regional weather extremes in temperature and precipitation are intensifying. In recent decades, a number of changes in the climate of the Great Lakes region have been documented, including a significant warming trend, an increase in extreme summertime precipitation, changing lake levels, and changing trends in lake-effect snows. Warm, wet winters are producing extensive early-season flooding, which threatens people and infrastructures. Further changes in climate projected over the coming decades are likely to add significantly to the vulnerabilities and risks to the Great Lakes. Additionally, changes to lake temperature and stratification would affect water quality, lake ecology, and wildlife.

In the Great Lakes region, the U.S. states bordering the Great Lakes have seen an overall increase in annually averaged temperature of 1.4 degrees Fahrenheit for the period 1985-2016. These trends are higher than the overall change of 1.2 degrees Fahrenheit over the contiguous United States (and found globally) United States Global Change Research Program (USGCRP 2018). There is a generally positive trend in annual precipitation for U.S. states bordering the Great Lakes present-day (1986–2016) relative to 1901–1960, but with strong local variations in the trend across the states (Vose et al. 2014). There is a 10 percent increase in annual precipitation in the Great Lakes Basin. Heavy rainfall is increasing in intensity and frequency across the United States and globally and is expected to continue to increase (Karl and Knight

1998). The largest observed changes in extreme precipitation in the United States have occurred in the Midwest and Northeast. Changes in climate are increasing the likelihood for these types of severe events. The amount of precipitation coming in extreme events has already increased over the last five decades in the Great Lakes region (USGCRP 2018) and is projected to increase further over the coming decades. The amount of precipitation occurring in storms with a five-year return period is projected to increase by 18.7 percent by 2085 for the higher scenario and 10.8 percent for the lower scenario (20.8 percent and 11.3 percent, respectively, for the Great Lakes Basin) (Environmental Law and Policy Center 2019). The amount of precipitation in such extreme storms is projected to increase by seven to eight percent by the 2030s and by nine to 12 percent by the 2050s. The precipitation from what are currently considered to be one in 50 and one in 100-year storms are projected to increase similarly, meaning that very large amounts of precipitation are expected from these once-unusual events.

Trends in lake surface temperature are quite notable, with interactions between the lake surface temperature and the stability of the lake temperature profile helping to amplify the surface temperature trends. Trends in ice cover are also robust, with large decreases since the beginning of record in 1973, despite some reversals in this trend from some recent cold winters. Precipitation, evaporation, and runoff show more mixed results, with precipitation and evaporation generally increasing, with specific locations as exceptions, and runoff differing significantly among the individual lakes. The trend in Net Basin Supply also differs from lake to lake. Records of lake level over several decades show that trends are small, and variability is high. Newer model-based projections of lake level (since 2011) foresee a central tendency toward small drops in lake levels to the end of the 21st century, with appreciable probability of small rises in lake levels, in contrast to the large drops projected using the older, now-defunct methodology. Modeling of future lake levels is continually being updated and improved. Currently, the strongest evidence indicates increasing variability in lake level fluctuations.

No Action Alternative – The no action alternative would have no impacts to climate change or greenhouse gases since there would be no federal action.

Proposed Action – The proposed action is not expected to have any long-term adverse impacts to climate change or greenhouse gases. The operation of the boats and construction equipment would result in only short-term increased emissions of pollutants (suspended particulates, nitrogen dioxide, carbon monoxide) into the local atmosphere. The release of these pollutants is not expected to result in any long or short-term effects on greenhouse gases or climate change.

4.1.4 *Plankton and Benthos*

Existing Conditions –

Plankton

Aquatic areas in Lake Erie are utilized as habitat by a variety of plankton. Such organisms

may consist of floating or weakly swimming plant and animal life in the water column, often microscopic in size, which contribute to the food chain in the lake's ecosystem. The following is a brief summary listing of algae, protozoan/zooplankton phyla common to the nearshore waters of Lake Erie: blue-green algae (Cyanophyta), fire algae (Pyrrhophyta), cryptomonads (Cryptophyta), red algae (Rhodophyta), euglenoids (Euglenophyta), protozoa, coelenterata, rotifera, and arthropoda.

Lake Erie has been susceptible to harmful algal blooms since the early 1960s. In response to algal blooms in Lake Erie during the 1960s, the U.S. and Canada signed the 1972 Great Lakes Water Quality Agreement that led to a coordinated effort to reduce phosphorus inputs to the Great Lakes. Between the late 1960s and early 1980s, there was an approximate 60 percent reduction in phosphorus loading to Lake Erie. Lake Erie phosphorus levels were reduced as a result (Panek et al., 2003). Lower phosphorus concentrations reduced the amount of algae (Nicholls et al., 1977), including an 89 percent decline of the blue-green alga (*Aphanizomenon flos-aquae*) between 1970 and 1983-1985 (Makarawicz and Bertram, 1991).

Zebra mussels arrived in the Great Lakes in the mid to late 1980s. The mussels are filter feeders capable of removing much of the planktonic algae (phytoplankton) from the water. Colonization of Lake Erie by zebra mussels resulted in several years of improved water clarity and dramatic food web changes, especially a shift in algal production from phytoplankton to bottom-dwelling algae and plants. In the 1990s, however, large late-summer algal blooms began to reappear in the western Lake Erie basin. Blooms occurred sporadically in the late 1990s but have increased in frequency since at least 1992 (USEPA, 2009).

Benthos

The Ohio Environmental Protection Agency (OEPA) characterized the macroinvertebrate communities in the lacustrine areas of the Black River in 2012 (OEPA, 2016). The lower reaches of the Black River were found to contain a macroinvertebrate community that is dominated by aquatic worms, midges, zebra mussels, and aquatic snails. The Invertebrate Community Index scores for the lower Black River were low, ranging between 14 and 16. Additionally, the area was given a narrative evaluation of "poor."

No Action Alternative – Since this alternative involves no construction, no significant change in the existing planktonic and benthic community would occur in the short-term. In the long-term, breakwater armor stone would continue to slough off and slide onto the lakebed. This would potentially change the benthic and planktonic community structure in the area.

Proposed Action – Placement of the large stone units and the associated resettling of suspended sediments could initially smother some benthic organisms in the vicinity of the project area. Recolonization of these areas by benthos from the surrounding bottom substrate typically occurs rapidly following completion of construction and resettling of sediment. Such impacts would be minor, adverse, and short-term.

4.1.5 Vegetation

Existing Conditions – The lacustrine zone of the lower Black River contains several submerged aquatic macrophyte beds. Commonly encountered species in the area include water lily (*Nymphaea odorata*), spatterdock (*Nuphar advena*), water-celery (*Vallisneria spiralis*) and water milfoil (*Myriophyllum* spp.). However, these species were not noted in any of the nearshore study areas nor in the area of the LWBW.

No Action Alternative – If no action were taken to repair the LWBW, stone and fill from the breakwater would continue to fall onto the lake bed, thereby creating the possibility for aquatic plant establishment and growth, due to the shallower water depths created by the stone. This would change, and possibly improve, the aquatic habitat in this area over the long-term, though wave action would make establishment of vegetation difficult in this area. On the other hand, the reduced effectiveness of the breakwater to stop wave energy off the lake may create inhospitable conditions for aquatic plant growth within the harbor. Since this alternative involves no construction, no disturbance of existing vegetation would be anticipated.

Proposed Action – Placement of fill material to construct the armor stone overlay and stabilization berm would not significantly affect any submerged aquatic vegetation. Temporary increases in turbidity and suspended solids generated by the filling activity may cause localized minor decreases in primary production and photosynthesis through reduced light penetration into the water column. However, this disturbance would likely only affect algae populations and be short-term. Impacts to aquatic vegetation are expected to be negligible.

4.1.6 Fisheries

Existing Conditions – Fish species noted through surveys in and around the Black River and Lorain Harbor are noted in Table 3. Three fish species of special concern in Ohio have been listed in the Black River lacustrine. These are the Great Lakes muskellunge (*Esox masquinongy*), blacknose shiner (*Notropis heterolepis*), and lake sturgeon (*Acipenser fulvescens*).

Fish sampling conducted in the lower Black River by OEPA in the summer/fall of 2012 documented a fair to good fish community as measured by the Fish Index of Biotic Integrity (OEPA, 2016). Additionally, the Ohio Department of Natural Resources (ODNR) has conducted fish sampling in the lower Black River and within the vicinity of the harbor. They have noted 52 separate species in the area dating from the early 1980s until 2012 (Table 3).

Table 3: Fish Species Present in the Lower Black River and in the vicinity of Lorain Harbor (ODNR, 2016).

Common Name			
Spotted Sucker	Pumpkinseed Sunfish	Brown Bullhead	Bluntnose Minnow
Quillback	Yellow Perch	White Perch	Rainbow Smelt
Freshwater Drum	Logperch	Channel Catfish	Black Crappie
Common Carp	Brook Silverside	White Crappie	Golden Shiner
Gizzard Shad	Bigmouth Buffalo x Smallmouth Buffalo	Round Goby	Stonecat Madtom
Walleye	Silver Redhorse	Green Sunfish	Black Redhorse
Largemouth Bass	Black Bullhead	Spottail Shiner	White Sucker
Smallmouth Bass	Longear Sunfish	Yellow Bullhead	Sand Shiner
Rock Bass	Longnose Gar	Golden Redhorse	Northern Hog Sucker
White Bass	Alewife	Mimic Shiner	Central Stoneroller
Shorthead Redhorse	Rainbow Trout	Goldfish	Channel Darter
Emerald Shiner	Orangespotted Sunfish	Smallmouth Buffalo	Mottled Sculpin
Bluegill Sunfish	Northern Pike	Common Carp x Goldfish	Longnose Dace

*Based on data collected by ODNR between 1980 and 2012

Historic Aquatic Habitat

Most Great Lakes fish species use several aquatic habitats for spawning, survival of eggs and fry, and growth of juvenile and adult fish. Because fish require different physical habitat conditions as they grow and reproduce, connected habitats are essential to their survival and reproduction. Historically, the coastal areas in the vicinity of Lorain Harbor were rich with coastal marshes while the river mouth and nearshore areas contained variable substrates and depths, caused by shoals. These shoals and coastal wetlands would have provided a diversity of habitat for a variety of fish and other aquatic life. This presence of shoals at the river mouth are reflected by an 1880 historic account of the Black River which states:

“At the outlet of the [Black] river was a bar with a depth of only 3 feet upon it, while the channel passing out turned abruptly wester ward.”

-From History of Lorain Harbor, Ohio. December 1941 (USACE)

Construction of the federal navigation channel along with industrial, residential, and commercial development in the area has significantly altered the coastal landscape resulting in destruction of most of these historic habitats.

No Action Alternative – Since this alternative involves no construction, fisheries would not be significantly altered in the short-term. Without maintenance repair, stone and fill material

from the breakwater would continue to slide into the lake and settle on the lakebed. This would likely improve habitat for some fish species over the long-term, mainly through the formation of shoals and enabling the establishment of submerged aquatic vegetation. This may, however, degrade habitat for other fish species, mainly those species that prefer deep water habitat. Without the proposed project on the breakwater, storm driven wave and ice action would continue to breach the breakwater and would alter the bottom conditions in Lorain Harbor. Waters would also be more turbid and would generally be more inhospitable to fish species finding refuge behind the breakwater.

Proposed Action – Placement of fill material to construct the armor stone overlay would not significantly affect any fisheries resources. To mitigate possible impacts to native fish species (i.e., salmonids), in-water construction activities would be timed, through coordination with the ODNR, to ensure fish spawning populations are not affected. Impacts to fisheries would therefore be minor, adverse, and short-term.

4.1.7 *Wetlands*

Existing Conditions – Wetlands are almost entirely absent from the Lake Erie shoreline in the study area. The nearest coastal wetland community is located at the Pipe Creek Wilderness Area, approximately 25 miles west of Lorain Harbor. The existing shorelines along Lake Erie and within the inner harbor are relatively uniform with very little habitat variability, and almost no natural vegetation communities. The project area is located within Lake Erie in open water. No wetlands exist within the project area. Additionally, there are no state or federally designated freshwater wetlands found directly adjacent to the project.

No Action & Proposed Action Alternatives – The no action alternative would have no impacts to wetlands since there would be no federal action.

4.1.8 *Wildlife*

Existing Conditions – The following section provides a general list of wildlife species found in the vicinity of Lorain Harbor. Relative to migratory bird populations, Lorain Harbor is located on both the Atlantic and the Mississippi flyways, with over three million ducks and geese using this corridor annually. Many migratory bird species use the area surrounding the harbor, including a great blue heron rookery at the upstream portion of the federal channel. Other species that have been seen in the area are listed in Table 4 (Black River Audubon Society, 2020).

Table 4: Migratory bird species within the project area.

Common Name			
American black duck	Carolina wren	Horned grebe	Red-tailed hawk
American coot	Cedar waxwing	House finch	Ring-billed gull
American crow	Common goldeneye	House sparrow	Rock pigeon
American goldfinch	Common loon	Lesser black-backed gull	Ruddy duck
American kestrel	Cooper's hawk	Lesser scaup	Sandhill crane
American robin	Dark-eyed junco	Mallard	Sharp-shinned hawk
American tree sparrow	Double-crested cormorant	Mourning dove	Short-eared owl
Bald eagle	Downy woodpecker	Northern cardinal	Song sparrow
Barred owl	Eastern bluebird	Northern flicker	Tufted titmouse
Belted kingfisher	European starling	Northern mockingbird	White-breasted nuthatch
Black-capped chickadee	Field sparrow	Northern shoveler	White-crowned sparrow
Blue jay	Golden-crowned kinglet	Pileated woodpecker	White-throated sparrow
Brown creeper	Great black-backed gull	Red-bellied woodpecker	Wild turkey
Bufflehead	Hairy woodpecker	Red-breasted merganser	Winter wren
Canada goose	Herring gull	Red-shouldered hawk	

***Data taken from the Black River Audubon Society's 2019 bird survey**

Bobcat (*Lynx rufus*) and black bear (*Ursus americanus*), both state-listed species, were documented in Lorain County in 2000. Smaller mammals likely to use the surrounding area include opossum (*Didelphis virginiana*), eastern cottontail rabbit (*Sylvilagus floridanus*), eastern chipmunk (*Tamias striatus*), woodchuck (*Marmota monax*), eastern gray squirrel (*Sciurus gireus*), red fox (*Vulpes fulva*), striped skunk (*Mephitis mephitis*) and raccoon (*Procyon lotor*). In addition, a variety of reptile and amphibian species are likely present in the vicinity of the Lorain Harbor, including snapping turtle (*Chelydra serpentina*), green frog (*Rana clamitans*) and eastern milk snake (*Lampropeltis triangulum*).

No Action Alternative – Since this alternative would not involve any construction, no immediate impacts to wildlife or wildlife habitat would occur. However, without the proposed project to stabilize the breakwater, eventually storm driven wave and ice action would begin to breach the breakwater. Formerly protected waters behind the breakwall would be therefore eventually become less hospitable to wildlife species (particularly avian species) finding refuge behind the breakwater.

Proposed Action – Disruption and disturbance by equipment during construction operations would result in the short-term avoidance of the project area by some bird species. However, some bird species, such as gulls, may be attracted to the project area during construction for foraging purposes. Bird species are expected to resume their normal patterns following completion of the project. Wildlife impacts in this regard would be minor, adverse, and short-term.

4.1.9 Threatened and Endangered Species

Existing Conditions – The U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation website (USFWS 2023) indicates that the project lies within range of the following federally listed endangered (E), threatened (T), candidate (C) species, as well as the range of proposed endangered (PE): piping plover (*Charadrius melodus*) (E); red knot (*Calidris canutus rufa*) (T); monarch butterfly (*Danaus plexippus*)(C); Indiana bat (*Myotis sodalis*) (E); and tricolored bat (*Perimyotis subflavus*) (PE) (Appendix B).

No Action Alternative - The no action alternative would have no impacts to threatened and endangered species since there would be no federal action.

Proposed Action – All federal agencies shall seek to conserve federal T&E species. The purpose of the Endangered Species Act of 1973 is to provide a means whereby the ecosystems upon which threatened and endangered species depend may be conserved or protected, and to provide a program for the conservation of such T&E species. The proposed projects lie within the range of the federal T&E species listed below.

Following each species is the USACE determination of effect that any of these four project alternatives would be anticipated to have on them:

- Piping plover – Endangered. Piping plover habitat encompasses wide, flat, and open sandy beaches along Lake Erie with very little grass or other vegetation.

USACE Effects Determination: The proposed project is not located in the vicinity of any suitable habitat or designated critical habitat for this species. Therefore, the proposed project would have no effect on the piping plover or its designated critical habitat.

- Red knot – Threatened. Suitable habitat consists of dry tundra areas with sparsely vegetated hillsides for breeding, and intertidal, marine habitats, especially near coastal inlets, estuaries, and bays. Further, red knots need to encounter these favorable habitat, food, and weather conditions within narrow seasonal windows as the birds travel along migratory stopovers between wintering and breeding areas.

USACE Effects Determination: The proposed project area does not contain suitable habitat for this species. Therefore, the proposed project would have no effect on the red knot.

- Monarch butterfly – Candidate. Milkweed and other flowering plants are needed for monarch habitat. Adult monarchs feed on the nectar of many flowers during breeding and migration, but they can only lay eggs on milkweed plants. For overwintering monarchs, habitat with a specific microclimate is needed for protection from the elements, as well as moderate temperatures to avoid freezing. These conditions vary between populations. For the eastern North American population, most monarchs overwinter in Oyamel fir tree roosts located in mountainous regions in central Mexico at an elevation of 2,400 to 3,600 meters. Monarchs living west of the Rocky Mountain range in North America primarily overwinter in California at sites along the Pacific Coast, roosting in eucalyptus, Monterey pines and Monterey cypress trees.

USACE Effects Determination: The proposed project area does not contain suitable habitat or flowering plants for this species. Therefore, the proposed project would have no effect on the monarch butterfly.

- Indiana bat – Threatened. The Indiana bat annual life cycle includes four major phases: 1) winter hibernation, 2) spring migration, 3) a summer maternity period, and 4) fall migration/swarming. In general, this species hibernates from October through April, depending upon local weather conditions. They form large, single-layer clusters on cave ceilings in densities ranging from 300-500 bats/square foot.

After hibernation ends in late March or early April, they migrate to summer roosts. Summering bats typically day roost under exfoliating bark of trees in riparian, bottomland, and upland forests. Roost trees are most often snags. However, live shaggy bark trees such as hickory, ash, oak, elm, pine, hemlock, and others, are also used. It appears that roost trees are chosen based on structure, rather than species.

The bats forage in forested stream corridors, upland and bottomland forests, and over impounded bodies of water. They tend to avoid vast open spaces, so wooded corridors linking roosting sites with foraging areas are important in areas where forests are fragmented. Indiana bats generally do not show preference to particular tree species, but rather prefer to roost in trees that provide suitable roosting features, such as crevices and exfoliating bark.

USACE Effects Determination: The proposed project area does not contain suitable habitat for this species. Therefore, the proposed project would have no effect on the Indiana bat.

- Tricolored bat – Proposed Endangered. During the spring, summer and fall - collectively referred to as the non-hibernating seasons - tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. In the southern and northern portions of the range, tricolored bats will also roost in Spanish moss (*Tillandsia usneoides*) and *Usnea trichodea* lichen, respectively. In addition, tricolored bats have been observed roosting during summer among pine needles, Eastern red cedar (*Juniperus virginiana*), within artificial roosts like barns, beneath porch roofs, bridges, concrete

bunkers, and rarely within caves. Female tricolored bats exhibit high site fidelity, returning year after year to the same summer roosting locations. Female tricolored bats form maternity colonies and switch roost trees regularly. Males roost singly.

During the winter, tricolored bats hibernate in caves and mines, which means that they reduce their metabolic rates, body temperatures and heart rate. In the southern United States, where caves are sparse, tricolored bats often hibernate in road-associated culverts as well as sometimes in tree cavities and abandoned water wells. Tricolored bats exhibit high site fidelity with many individuals returning year after year to the same hibernaculum.

USACE Effects Determination: The proposed project area does not contain suitable habitat for this species. Therefore, the proposed project would have no effect on the Tricolored bat.

Given the project type, location, and on-site habitat, the project would result in no effect to these species. The project was coordinated with the USFWS on October 20, 2023, through the scoping process. In an email dated November 2, 2023, USFWS stated that “the USFWS does not provide “concurrence” with "no effect" determinations. When a ‘no effect’ determination is made, consultation with the USFWS is not necessary” (Appendix B).

4.1.10 *Wild and Scenic Rivers*

Existing Conditions - The Nationwide Rivers Inventory (NRI) is a list of more than 3,400 free-flowing river segments that are believed to possess one or more “outstanding remarkable” natural or cultural value features judged to be of more than local or regional importance. Both the west and east Branches of the Black River are listed on the NRI (National Park Service 2023). However, the Black River within the study area is not designated as a Wild and Scenic River.

No Action Alternative - The no action alternative would have no impacts to wild and scenic rivers since there would be no federal action—

Proposed Action - No portions of project area have been designated as a wild, scenic, or recreational river. Therefore, this Act is not applicable to the proposed project.

4.2 SOCIO-ECONOMIC ENVIRONMENT

4.2.1 *Water and Associated Land Uses*

Existing Conditions – The existing conditions within the project are comprised of open-water. No other land-uses are within the project area other than the LWBW.

No Action Alternative - The no action alternative would have no impacts to water or associated land use since there would be no federal action.

Proposed Action - The water and associated land use immediately adjacent to the project area would remain unchanged with the implementation of the proposed and potential project.

4.2.2 Public Facilities and Services/Water and Service Facilities

Existing Conditions - The proposed project area is adjacent to the City of Lorain harbor development areas. The city is serviced with water, sewer, gas, electric, telephone, police, fire, emergency (rescue) medical, transportation, and sanitation developments. Area public utilities and services are generally good and readily available. No public facilities are within any of the alternative project areas. The City of Lorain potable water system uses water drawn from an intake in Lake Erie. For purposes of source water assessments in Ohio, all lake surface waters are susceptible to contamination. The city's potable water intake is approximately 1,800 feet northwest of the city within Lake Erie. Water intake and treatment facilities are shown in Figure 20.

There are two wastewater treatment plants (WWTPs) that service the City of Lorain: the Black River and the Philip Q. Maiorana (PQM) wastewater treatment plants. The Black River WWTP treats wastewater from the Lorain area as well as the Sheffield Lake area. It is located on the east bank and at the mouth of the Black River and is the older of the two WWTP's in Lorain. The Black River WWTP has a design flow of 15 million gallons per day (MGD) and has exceeded 35 MGD during rain events due to ground and surface water infiltration into the sanitary sewer system. Typical average flow treated is in excess of 12 MGD. The PQM WWTP was constructed and put into service in 1988 due to the City of Lorain's potential west side growth and is located on the corner of West Erie and Oak Point Roads. The design flow for the plant is 5.4 MGD. When combined with the Black River WWTP's flow, both WWTPs can treat over 20 MGD. During rain events the PQM plant can handle approximately 18 MGD. When combined with the Black River WWTP, the total amount being processed by these plants together is approximately 55 MGD. None of these water or sewer facilities are within any of the alternative project areas.

No Action Alternative - The no action alternative would have no impacts to public facilities and services or water and service facilities since there would be no federal action.

Proposed Action - The proposed repair includes a rubble-mound overlay along the lakeside of the west breakwater up to crest elevation of +10.2 feet above LWD. Due to funding constraints, repair reaches along the breakwater had to be prioritized based on effectiveness to dissipate wave energy at the harbor entrance and the federal navigation channel. Hence, the highest priority for repair is at the lighthouse (Station 2+00) and the head of the structure (to approximately Station 5+50) because it is impacted by the largest incident waves and diffracts wave energy at the harbor entrance. The second and third priorities are reaches (approximately Station 5+50 to 18+00) because they are directly adjacent to the federal channel. The lowest priority reach is from Station 18+00 to approximately 28+50 because there is no direct benefit to navigation. It is noted there is an existing water intake pipe underneath the west breakwater (near Station 23+00) (Figure 7). If available funding supports inclusion of Station 22+00 where the water intake pipe is, the repair cross section will be adapted to avoid any excavation in that area. Given these considerations, the implementation

of the proposed project would have no impacts to public facilities and services or water and service facilities within the project area.

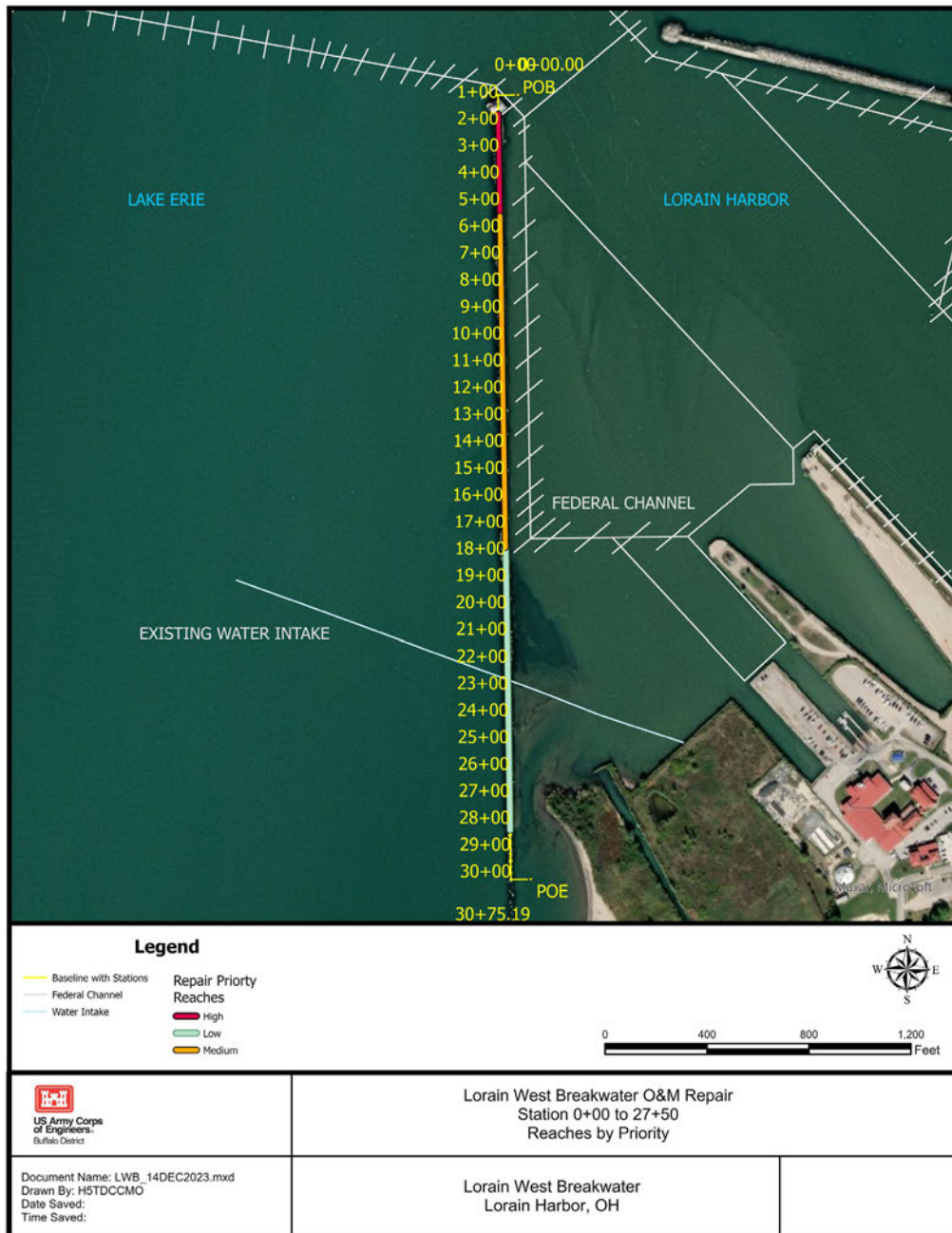


Figure 7: USACE priority repair reaches of the LWBW.

4.2.3 Noise

Existing Conditions - No significant noise problems or sources were noted in the immediate project area. No sensitive noise receptors (e.g., hospitals, schools) are located within the general vicinity of the project area.

No Action Alternative - The no action alternative would have no impacts to noise since there would be no federal action.

Proposed Action - Construction equipment would be observed in the project area and activities would result in a short-term minor increase in local noise levels. Noise generated by the construction operation would not exceed ambient noise levels in the harbor area.

4.2.4 Aesthetics Value

Existing Conditions - The areas adjacent to the LWBW consist of open-water. The current condition of the breakwater could be considered aesthetically poor due to its current state of disrepair.

No Action Alternative - The no action alternative would have adverse impacts to aesthetics since there would be no federal action and the LWBW would continue to deteriorate.

Proposed Action - The presence of recreational boats in this area of the lake is normal and thus the presence of vessels performing this work would not detract from the aesthetic quality of the area. Construction equipment would be observed in the project area and activities may result in a short-term decrease in aesthetics in the project area. Once construction is completed and the breakwater is repaired this would result in a long-term increase in aesthetics of the breakwater.

4.2.5 Cultural Resources

Existing Conditions - On October 20, 2023, scoping information was distributed to several Indian Nations that have ancestral homelands within the project area, as well as to other federal, state, and local agencies including the Ohio Historic Preservation Office (OHPO). There are no known historic properties or cultural resources in the area of potential effect (APE) (Figure 2).

No Action Alternative - The no action alternative would have no impacts to cultural resources since there would be no federal action.

Proposed Action - There are no known historic properties or cultural resources within the APE. An effects determination was submitted the OHPO on November 1, 2023, for confirmation that no historic properties or cultural resources would be affected by project construction (Appendix B). In a letter dated November 16, 2023, the OHPO agreed with USACE's determination stating that the proposed project will have no effect on historic/cultural resources.

4.2.6 *Environmental Justice*

Background – Executive Order (EO) 12898, issued by President Clinton on February 11, 1994, requires that impacts on minority or low-income populations be accounted for when preparing environmental and socioeconomic analyses of projects or programs that are proposed, funded, or licensed by federal agencies (59 Fed. Reg. 7629 (1994)). This EO provides the most direct mandate pertaining to Environmental Justice (EJ) analysis under the National Environmental Policy Act (NEPA). More recent EOs and policy memoranda require expanded integration of EJ priorities into the USACE Civil Works Mission, including how project teams integrate EJ considerations in planning studies. However, this newer policy guidance is less explicit about changes to evaluations performed under NEPA.

Executive Order 13985, issued by the Biden Administration on January 20, 2021, mandates all federal agencies to ensure their missions advance racial equity and support for underserved communities. As per the EO, “equity” means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment. “Underserved communities” refers to populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied opportunity to participate in aspects of economic, social, and civic life.

Executive Order 14008, issued by President Biden on January 27, 2021, places the climate crisis at the forefront of foreign policy and national security planning. It directs agencies to address the disproportionately adverse health, environmental, climate related, and cumulative burdens on disadvantaged communities, as well as the accompanying economic challenges of such impacts, and deliver the benefits of their investments to disadvantaged communities such as through the Justice40 Initiative. Under EO 14008, the White House directed the Council of Environmental Quality to develop the Climate and Economic Justice Screening Tool (CEJST).

Existing Conditions - The initial EJ analysis for the LWBW employed two web-tools: CEJST, and the USEPA EJScreen. The CEJST tool displays indicators of burdens in eight categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. These factors, combined with socioeconomic data, categorize census tracts as “economically disadvantaged communities” for the sake of administering the Justice 40 Initiative. This binary sorting of census tracts as either economically disadvantaged, or not, simplifies the analysis and makes it more replicable.

The EJScreen tool (epa.gov) is the USEPA’s EJ mapping and screening tool that provides a nationally consistent dataset and approach for combining environmental and demographic socioeconomic indicators. The tool combines and displays 12 environmental indicators (e.g., air and water pollution), 7 socioeconomic indicators (e.g., race, income, employment, language, education and age), 12 EJ indexes, and 12 supplemental indexes. Based on the USEPA’s Environmental Justice Viewer (USEPA 2023b) and CEJST (CEQ 2023) the areas adjacent to the proposed project have a high concentration of low-income population. Table 5

lists the census tracts of EJ with a meaningful nexus to the project footprint, as evidenced by the indicators and factors displayed through web-based data tools.

Table 5. Environmental Justice Screening of Indicators/Factors

Census Tract Identifier	Environmental Justice Screening of Indicators/Factors		Community Name(s)*
	CEJST	EJscreen	
39093022400	Low Income, Asthma, Diabetes, Heart disease, Lead paint, Low median income, High school education	Toxic releases to air, Traffic Proximity, Lead paint, Risk Management Plan Facility proximity, Underground storage tanks, Wastewater discharge, Low income, Less than a high school education, Low life expectancy, Heart disease, Asthma, 100 year floodplain, Broadband gaps, Lack of health insurance	Lorain
39093022200	Low Income, Low life expectancy, Poverty, High school education	Unemployment rate, Age over 64, Low life expectancy, Heart disease, Asthma, Flood risk, 100-year floodplain	Lorain

No Action Alternative - The no action alternative would have no impacts on environmental justice since there would be no federal action. However, federal inaction to repair the structure could have an adverse impact on EJ through its continued deterioration and impacts to the harbor.

Proposed Action - Based upon the above analysis, the extent of project impacts does coincide with communities of EJ concern. The proposed action would not result in disproportionately high or adverse human health or environmental effects on communities identified during the EJ analysis due to the relatively low impact of the proposed federal action.

4.2.7 Displacement of People/Displacement of Farms

Existing Conditions - The proposed project location resides entirely in open water. Therefore, no displacement of people or farms would be required.

No Action Alternative - Since this alternative involves no construction to preserve the LWBW, Lorain Harbor would be subject to storm driven wave and ice action, thereby exposing the harbor to increased shoreline erosion and limiting safe navigation within the harbor. If the Lorain Harbor was not maintained, interests dependent on harbor facilities would be adversely impacted and could eventually be displaced to areas that better provide for their needs (e.g., cost of goods). Such impacts would be significant, adverse and long-term.

Proposed Action - Maintenance of the LWBW within Lorain Harbor and safe navigation channels would facilitate continued harbor and associated community facilities and activities. No displacement of people/farms would be anticipated as a result of the proposed project.

4.2.8 *Public Health and Safety*

Existing Conditions - With the current state of deterioration and potential new damage from storms, the LWBW may soon pose a threat to public health and safety. The breaks in the LWBW already allow waves to pass through the structure and create wave action along the shoreline and at the mouth of the Black River.

No Action Alternative - Since this alternative involves no construction or placement of fill material, no immediate effects to human health would occur. The overall value of the harbor as a water resource to commercial navigation and recreational use would progressively deteriorate to a point at which vessels could not safely navigate the harbor. Such impacts would be significant, adverse, and long-term.

Proposed Action - Maintenance repair of the breakwater would facilitate continued safe navigation within Lorain Harbor. The concentration of heavy equipment in the project area during maintenance operations could potentially pose a navigation and recreational hazard. However, standard USACE contract specifications require the maintenance of a safe, restricted work area during these periods. The contractor is required to prepare a detailed job hazard analysis of each major phase of work, including all anticipated hazards and specific actions which would be taken to prevent personal injury. The contractor is required to comply with Occupational Safety and Health Administration Standards.

4.2.9 *Community and Regional Growth; Business and Industry/Labor Force; Employment and Income; Community Cohesion*

Existing Conditions - Community cohesion is a result of a number of social and economic factors. Many area residents and entities have resided in the area for a long time. General community pride/cohesion is relatively strong, and the river has played an important part in this development.

No Action Alternative - Since this alternative involves no construction to stabilize the LWBW, Lorain Harbor become increasingly vulnerable to storm driven wave and ice action. This would negatively affect safe navigation within the Harbor. Eventually, wave action and erosion would reduce harbor use to some degree. Consequently, individuals and enterprises dependent on this mode of transportation for their livelihood would suffer economically. A number of primary and secondary enterprises would also be impacted. In turn, associated deep-draft harbor community and regional benefits would be diminished. Business, industry, employment, and income would be adversely affected. Associated land use dilapidation or redevelopment would likely occur in the long term. Industrial and commercial processes, transportation interfaces, and public facilities, services and utilities would also be altered. Several community sustenance and cohesion factors would be disrupted. Such impacts would be significant, adverse and long-term.

Proposed Action - Maintenance of the LWBW would facilitate continued Lorain Harbor and associated community facilities and activities (including associated public facilities and services) and would help to preserve the area's potential for desirable community and regional growth. Construction activities associated with placing stone would result in a short-term increase in business/employment/income opportunities, specifically in the construction trades. The maintenance of a functional harbor in Lorain would help to preserve existing business/employment/income opportunities associated with shipping and cargo handling. Construction activities would not adversely affect any public services or facilities.

4.2.9 *Leisure Opportunities/Recreational Resources*

Existing Conditions - Water related recreational developments/activities in Lorain Harbor include those associated with fishing and general boating. Fishing is popular both from the shoreline and boats. Recreational boating is a significant activity in Lorain Harbor and within Lake Erie. Numerous marinas and associated facilities are located along the shore Lake Erie.

No Action Alternative - Since this alternative involves no construction, Lorain Harbor would eventually no longer offer safe and protected navigation. Recreational navigation and associated enterprises would eventually be significantly adversely affected due to the lack of safe navigation.

Proposed Action - Maintenance of the safe navigation of Lorain Harbor would facilitate continued harbor operations for recreational watercraft and associated facilities. Construction activities may temporarily disrupt some commercial and recreational vessel traffic due to restrictions within the vicinity of the construction operations. All construction equipment would be adequately marked and lighted to avoid any potential navigation hazards with recreational boating.

5.0 COMPLIANCE WITH ENVIRONMENTAL PROTECTION REQUIREMENTS

In order to characterize the affected environment of the project area and to assess the environmental impacts of the proposed action, information has been obtained from existing literature and coordination with tribes and federal, state, and local agencies. Agencies, interested groups, and public that have been contacted during this process are listed in Section 6.0. Scoping information was distributed to these individuals on October 20, 2023. Comments received from scoping are included in Appendix B. The following is a list of the applicable, relevant, and appropriate federal statutes, EOs and memorandum that were considered for the proposed project, and a description of the project's compliance with each.

5.1 Archaeological and Historical Preservation Act of 1979 (16 USC 470 *et seq.*); National Historic Preservation Act of 1966 (16 USC 470 *et seq.*); Executive Order 11593 (Protection and Enhancement of the Cultural Environment), May 13, 1979 – The proposed project's potential for impacting cultural resources has been evaluated in accordance with Engineer Regulation (ER) 1105-2-50 and 36 CFR 800. There are no known historic properties or cultural resources in the

APE. An effects determination was submitted to OHPO on November 1, 2023, for confirmation that no historic properties or cultural resources would be affected by project construction (Appendix B). In a letter dated November 16, 2023, the OHPO agreed with USACE's determination stating that the proposed project will have no effect on historic/cultural resources.

5.2 American Indian Religious Freedom Act (42 USC 1996); Native American Graves Protection and Repatriation Act (25 USC 3001 *et seq.*) – The scoping information was sent to several potentially interested Indian Nations that have ancestral homelands within the project area. It was submitted to the Nations or Tribes listed in section 6.1.2 for review and comment, although no response was received. No sacred sites or objects were identified through previous tribal consultation. It is not expected that any adverse effect would be incurred to religious rights as a result of the proposed project. No Native American grave sites or other sensitive sites are expected to be affected by the project.

5.3 Clean Air Act, as Amended, 42 USC 7401 – 7671g - Project coordination was initiated with the USEPA and the OEPA in 2023. No comments were received in regard to this proposed project. As indicated in this EA, no significant adverse impacts to air quality would be expected due to proposed repair work at the LWBW. In addition, review copies of this EA will be sent to the Regional Administrator of the USEPA requesting comments in compliance with the Clean Air Act.

5.4 Clean Water Act, as Amended (Federal Water Pollution Control Act Amendments of 1972); 33 USC 1251 *et seq.* – Project coordination was initiated with agencies and interests including the USEPA and the OEPA via the scoping and 404 Public Notice on October 20, 2023. The project would result in a Section 404 discharge. Therefore, a Section 401 state water quality certification (WQC) (Protection of Waters Permit) will be required. A pre-application for this was submitted to the OEPA Division of Surface Water in May 2023. The full application was submitted on September 14, 2023. In a letter dated December 19, 2023, the application was administratively complete. A public notice will be published in the regional newspaper by January 5, 2024. In accordance with Section 401 of the Act, the USACE will continue to work with OEPA to receive a WQC from the state prior to construction.

5.5 Coastal Zone Management Act of 1972, as Amended, 16 USC 1451 - 1464 - The project is an ongoing federal activity that was initiated prior to the Ohio Coastal Management Program and does not involve changes to the specific purpose of the project. The ODNR does not require CZMA federal consistency review when the repair is limited to maintaining/rebuilding the structure. Therefore, the repair to the LWBW has been determined to be in compliance with this act.

5.6 Coastal Barrier Resources Act of 1982, 16 USC 3501

After reviewing the Coastal Barrier Resources System mapper, no portion of the project falls within a CBRS system unit.

5.7 Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA), as Amended; 42 USC 9601-9675 – Project coordination was initiated with agencies and interests including the USEPA via the scoping process in 2023. No comments were received in this regard. The proposed project involves placement of clean cut-stone into an area that has been

previously disturbed by wave action. Therefore, the proposed project is in compliance with this Act.

5.8 Endangered Species Act of 1973, as Amended; 16 USC 1531 et seq. – Coordination in this regard was initiated with the USFWS, and the ODNR Fish and Wildlife Division on October 20, 2023. As discussed in paragraph 4.1.9, the following are federally listed endangered (E), threatened (T), candidate (C), and proposed endangered (PE) species: piping plover (*Charadrius melodus*) (E); red knot (*Calidris canutus rufa*) (T); monarch butterfly (*Danaus plexippus*)(C); Indiana bat (*Myotis sodalis*) (E); and tricolored bat (*Perimyotis subflavus*) (PE) are documented as being present in Lorain County. However, no habitat in the project impact area is currently designated or proposed “critical habitat” in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Therefore, no effect is expected to any federally threatened or endangered species as a result of the project. A letter was sent to the Ohio USFWS Field office on November 2, 2023, requesting concurrence with our effects determination. In an email response dated November 2, 2023, USFWS stated that “the USFWS does not provide concurrence with "no effect" determinations. When a "no effect" determination is made, consultation with the USFWS is not necessary” (Appendix B).

5.9 Farmland Protection Policy Act (Subtitle I of Title XV of the Agriculture and Food Act of 1981), 7 USC 4201 et seq.; Executive Memorandum – Analysis of Prime and Unique Farmlands, CEQ Memorandum, August 30, 1976, January 4, 1979 – Coordination was initiated with the U.S. Department of Agriculture – Farm Service Agency and NRCS via the project scoping letter in 2023. No comments were received in this regard. Since the proposed project is wholly within Lake Erie it would not affect prime and unique farmlands in any manner, the recommended action is in compliance with this act.

5.10 Federal Water Project Recreation Act, as Amended; 16 USC 4601-12 – 4601-22, 662 - In planning the proposed project, full consideration has been given to opportunities afforded by the project for outdoor recreation and fish and wildlife enhancement. Review copies of this EA would be provided to the U.S. Department of the Interior in regard to recreation and fish and wildlife activities for conformance with the comprehensive nationwide outdoor recreation plan formulated by the Secretary of the Interior.

5.11 Fish and Wildlife Coordination Act (Fish and Wildlife Conservation and Water Resource Developments-Coordination), 16 USC 661 et seq. – Coordination with the USFWS was initiated through the scoping process in 2023. No correspondence was received from USFWS-Ohio Field Office with regards to this Act. Therefore, the project is in compliance with this Act.

5.12 Flood Control Act of 1944, 16 USC 460d et seq., 33 USC 701 et seq. - In planning the proposed project, full consideration has been given to opportunities afforded by the project for outdoor recreation. Coordination was initiated with agencies and interests including the U.S. Department of the Interior, the Federal Emergency Management Agency (FEMA), the NRCS, and the ODNR in this regard in 2023. No comments were received from any of these agencies in regard to this Act. The proposed LWBW repairs would have no effect on any resources associated within this Act.

5.13 Land and Water Conservation Fund Act of 1965; 16 USC 4601-4 *et seq.* – Project coordination was initiated with agencies and interests including the U.S. Department of the Interior via the scoping process in 2023. No comments were received in regards to this Act. The proposed LWBW repairs would not result in property that was acquired or developed with assistance from this fund is present in the project area or would be affected by the project.

5.14 National Environmental Policy Act of 1969, as amended; 42 USC 4321 - 4347 - Project coordination was initiated with agencies and interests via the scoping process. The EA and FONSI have been prepared in accordance with the CEQ's "Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act," 40 CFR 1500-1506; and Corps of Engineers Regulation ER 200-2-2, "Environmental Quality: Policy and Procedures for Implementing NEPA." Additionally, in accordance with CEQ's revised NEPA implementing regulations effective July 2023, this report has been prepared to address reasonable alternatives, climate change, greenhouse gases, and cumulative effects as appropriate. With the circulation of this draft EA and FONSI, the proposed project is in partial compliance with the Act. Full compliance would be attained once the public review period has been concluded, no significant adverse impacts are identified, and the FONSI is signed.

5.15 Resource Conservation and Recovery Act of 1976, 42 USC 6901 *et seq.* – The proposed project would not involve the generation, treatment, storage, or disposal of any hazardous wastes, and no potential hazardous waste sites have been identified in the project vicinity. Therefore, the project is in compliance with this Act.

5.16 River and Harbor and Flood Control Act of 1970 (P.L. 91-611) – Corps of Engineers planning actions have fulfilled the requirements of the Act. All 17 points identified in Section 122 of the Act (P.L. 91-611) have been evaluated in this EA.

5.17 Toxic Substances Control Act, 15 USC 2601-2671 *et seq.* – Project coordination was initiated with agencies and interests including the USEPA via the scoping process in 2023. No comments were received in regards to this Act. The proposed project would not involve any PCB, asbestos, radon, or lead-based paint activities. Therefore, the project is in compliance with this act.

5.19 Wild and Scenic Rivers Act, as amended; 16 USC 1271, *et seq.* – No portions of Lake Erie or the Lorain Harbor have been designated as a wild, scenic, or recreational river, therefore this Act is not applicable to the proposed project.

5.20 Executive Order 11988, Flood Plain Management, May 24, 1977 – The USACE has concluded that there is no practicable alternative to the proposed action, which would occur within the base (100-year) flood plain of Lake Erie, and that the recommended action is in compliance with the Order.

5.21 Executive Order 11990, Protection of Wetlands, May 24, 1977 – Not applicable because no wetlands are present.

5.22 Executive Order 12114, Environmental Affects Abroad of Major Federal Actions – Not applicable to this action. This project is not a major federal action that would affect both the United States and Canada.

5.23 Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994; Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government January 20, 2021 – Project coordination was initiated with agencies and interests including the USEPA via the scoping process in 2023. No comments were received in regards to this Executive Order. As noted in section 4.2.6 the proposed project would not result in disproportionately high or adverse human health or environmental effects on minority or low-income populations.

5.24 Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, January 11, 2001 – The proposed project is not expected to incur any significant adverse effects to migratory birds. As addressed in section 4.1.8: Any adverse effects that may occur to these species during construction would be mitigated by adhering to the environmental exclusion windows coordinated with the ODNR.

5.25 Executive Order 14008: Tackling the Climate Crisis at Home and Abroad. The USACE considered climate change impacts including greenhouse gas emissions during the formulation and evaluation of alternative plans. The proposed project is considered to be resilient to changing climate conditions and does not significantly contribute to greenhouse gas emissions.

6.0 AGENCIES/PUBLIC CONTACTED

6.1 Coordination - Copies of this EA will be sent to the following agencies and individuals for review and comment:

6.1.1 Federal

- Federal Emergency Management Agency
- Federal Maritime Commission
- International Joint Commission
- U.S. Coast Guard
- U.S. Center for Disease Control and Prevention
- U.S. Department of Agriculture:
 - Farm Service Agency
 - Forest Service
 - Natural Resource Conservation Service
- U.S. Department of Commerce:
 - National Oceanic and Atmospheric Administration
 - Ecology and Conservation Office
- U.S. Department of Energy

U.S. Department of Housing and Urban Development
U.S. Department of the Interior:
 Fish and Wildlife Service
 National Park Service
 Office of Environmental Project Review
U.S. Department of State
U.S. Department of Transportation:
 Federal Aviation Administration
 Federal Highway Administration
 Federal Railroad Administration
U.S. Environmental Protection Agency

6.1.2 Tribal

Bad River Band of Lake Superior Chippewa
Bay Mills Indian Community
Chippewa Cree Tribe
Citizen Potawatomi Nation
Delaware Nation
Forest County Potawatomi
Hannahville Indian Community
Keweenaw Bay Indian Community
Lac Courte Oreilles Band of Lake Superior Chippewa Indians
Little River Band of Ottawa Indians
Little Traverse Bay Bands of Odawa Indians
Match-e-be-nash-she-wish Band of Pottawatomi
Nottawapseppi Huron Band of the Potawatomi
Ottawa Tribe of Oklahoma
Peoria Tribe of Oklahoma
Pokagon Band of Potawatomi
Prairie Band Potawatomi Nation
Red Lake Band of Chippewa Indians
St. Croix Chippewa Indians of Wisconsin
Sokaogon Chippewa Community
Seneca-Cayuga Nation
Seneca Nation of Indians
Tonawanda Seneca Nation
Turtle Mountain Band of Chippewa Indians
Wyandotte Nation

6.1.3 State

Ohio Sea Grant
Ohio Department of Natural Resources
 Division of Real Estate & Land Management
 Office of Coastal Management
Ohio Department of Health
Ohio Department of Transportation

Ohio Environmental Protection Agency
Black River RAP Coordinator
Division of Surface Water
Northwest District Office
Ohio Historic Preservation Office

6.1.4 Regional/Local

Great Lakes Regional Office
Great Lakes Commission
Chapter President
Great Lakes Fishery Commission

6.1.5 Individuals/Organizations

Audubon Ohio
Beaver Park Marina
Beaver Park North, Inc.
City of Lorain
Community Development Department
Community Foundation of Greater Lorain
Copper Kettle Marina
Ducks Unlimited
Environment Ohio
Gene's Marine Sales & Service
Great Lakes Commission
Great Lakes Fishery Commission
Great Lakes Sport Fishing Council
International Joint Commission
Lake Carriers Association
League of Ohio Sportsmen
Lorain County Chamber of Commerce
Lorain County Community Alliance
Lorain County Historical Society
Lorain County Metro Parks
Lorain County Urban League
Lorain Historical Society
Lorain Port Authority
Lorain Public Library
Lorain Sailing & Yacht Club
Lorain Sailing & Yacht Club
Lower Lakes Marine Historical Society
National Wildlife Federation
Northeast Ohio Areawide Coordinating Agency
Ohio Environmental Council
Ohio Lake Erie Commission
Port of Lorain Foundation, Inc.
Spitzer Lakeside Marina
Spitzer Riverside Marina

The Great Lakes Historical Society
The Nature Conservancy
The Ohio Ornithological Society
Trout Unlimited - Ohio Council
US Great Lakes Shipping Association
Western Cuyahoga Audubon Society

7.0 REFERENCES

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APPENDIX A: RECORD OF NON-APPLICABILITY

Air Quality Analysis

RECORD OF NON-APPLICABILITY (RONA)

Emissions Calculations for:

Lorain West Breakwater Repair
Operations and Maintenance

Lorain, Ohio

GENERAL CONFORMITY - RECORD OF NON-APPLICABILITY

Project/Action Name: Lorain West Breakwater Repair
Operations and Maintenance
Lorain, Ohio

Project/Action Point of Contact: [REDACTED]
Biologist, Environmental Analysis Section
Phone: [REDACTED]

General Conformity under the Clean Air Act, Section 176 has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to this project/action because:

Total direct and indirect emission from this project/action are estimated at less than 100 tons for Ozone per year, and are below the conformity threshold value established at 40 CFR 93.153(b) of 100 tons/year of Ozone;

AND

The project/action is not considered regionally significant under 40 CFR 93.153(i).

Supporting documentation and emissions estimates are:

- (X) ATTACHED
- () APPEAR IN THE NEPA DOCUMENTATION
- () OTHER

SIGNED

Martin Wargo, Chief, Environmental Resources Section

Emissions Calculations for the Lorain West Breakwater Repair, Operations and Maintenance Project

General Conformity Review and Emission Inventory for the Lorain West Breakwater Repair, Operations and Maintenance Project (Lorain, OH)

Estimates from Biologist & Cost Engineer

14-Dec-23

Year 2025

1	2	3	4	5	6	7	8	9	10
Equipment/Engine Category	Project Emission Sources and Estimated Power					NOx Emission Estimates		VOC Emission Estimates	
	# of Engines	hp	LF	hrs/year	hp-hr	NOx EF (g/hp-hr)	NOx Emissions (tons)	VOC EF (g/hp-hr)	VOC Emissions (tons)
Dredging Operations									
Derrick	2	100	0.59	1116	131,688	9.200	1.34	1.300	0.19
Crew Boat	1	100	0.43	186	7,998	9.200	0.08	1.300	0.01
Survey Boat	1	100	0.43	48	2,064	9.200	0.02	1.300	0.00
Tug (50 Foot)*	2	2500	0.43	372	799,800	9.200	8.11	1.300	1.15
Truck 3/4 Ton 4x4	2	137	0.43	186	21,915	9.200	0.22	1.300	0.03
Air Compr. 250 CFM 100 PSI	1	80	0.43	1116	38,390	9.200	0.39	1.300	0.06
Material Delivery									
Semi-Truck	2	330	0.43	48	13,622	9.200	0.14	1.300	0.02
Tug (50 Foot)*	2	2500	0.43	372	799,800	9.200	8.11	1.300	1.15
Barge- Generator	2	100	0.43	112	9,632	9.200	0.10	1.300	0.01
Total Emissions						NOx Total	10.30	VOC Total	1.46

Horsepower Hours

hp-hr = # of engines*hp*LF*hrs/day*days of operation

Load Factors

Load Factor (LF) represents the average percentage of rated horsepower used during a source's operational profile. LFs used are from EPA (2010) Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling. US EPA, NR-005d.

Emission Factors

NOx Emissions Factor for Off-Road Construction Equipment is 9.20

g/hp-hr

VOC Emissions Factor for Off-Road Construction Equipment is 1.30

g/hp-hr

Emissions (g) = Power Demand (hp-hr) * Emission Factor
(g/hp-hr)

Emissions (tons) = Emissions (g) * (1 ton/907200 g)

* These hp numbers are over-estimations based on information from our floating plant director

General Conformity Review and Emission Inventory for the Lorain West Breakwater Repair, Operations and Maintenance Project (Lorain, OH)

Estimates from Biologist & Cost Engineer

14-Dec-23

Year 2025

1	2	3	4	5	6	7	8	9	10
Equipment/Engine Category	Project Emission Sources and Estimated Power					NOx Emission Estimates		VOC Emission Estimates	
	# of Engines	hp	LF	hrs/year	hp-hr	NOx EF (g/hp-hr)	NOx Emissions (tons)	VOC EF (g/hp-hr)	VOC Emissions (tons)
Dredging Operations									
Derrick	2	100	0.59	1116	131,688	9.200	1.34	1.300	0.19
Crew Boat	1	100	0.43	186	7,998	9.200	0.08	1.300	0.01
Survey Boat	1	100	0.43	48	2,064	9.200	0.02	1.300	0.00
Tug (50 Foot)*	2	2500	0.43	372	799,800	9.200	8.11	1.300	1.15
Truck 3/4 Ton 4x4	2	137	0.43	186	21,915	9.200	0.22	1.300	0.03
Air Compr. 250 CFM 100 PSI	1	80	0.43	1116	38,390	9.200	0.39	1.300	0.06
Material Delivery									
Semi-Truck	2	330	0.43	48	13,622	9.200	0.14	1.300	0.02
Tug (50 Foot)*	2	2500	0.43	372	799,800	9.200	8.11	1.300	1.15
Barge- Generator	2	100	0.43	112	9,632	9.200	0.10	1.300	0.01
Total Emissions						NOx Total	10.30	VOC Total	1.46

Horsepower Hours

hp-hr = # of engines*hp*LF*hrs/day*days of operation

Load Factors

Load Factor (LF) represents the average percentage of rated horsepower used during a source's operational profile. LFs used are from EPA (2010) Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling. US EPA, NR-005d.

Emission Factors

NOx Emissions Factor for Off-Road Construction Equipment is 9.20 g/hp-hr

VOC Emissions Factor for Off-Road Construction Equipment is 1.30 g/hp-hr

Emissions (g) = Power Demand (hp-hr) * Emission Factor
(g/hp-hr)

Emissions (tons) = Emissions (g) * (1 ton/907200 g)

* These hp numbers are over-estimations based on information from our floating plant director

APPENDIX B: CORRESPONDENCE



Ohio Department of Natural Resources

MIKE DeWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate
Tara Paciorek, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6661
Fax: (614) 267-4764

December 7, 2023

[REDACTED]
US Army Corps of Engineers, Buffalo District
1776 Niagara Street
Buffalo, New York 14207

Re: 23-1415_Lorain West Breakwater Repair

Project: The proposed project involves repairing the existing Lorain West Breakwater at Lorain harbor.

Location: The proposed project is located in the City of Lorain, Lorain County, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state, or federal agency nor relieve the applicant of the obligation to comply with any local, state, or federal laws or regulations.

Natural Heritage Database: The Natural Heritage Database has the following data within one mile of the project area:

Longnose Dace (*Rhinichthys cataractae*), SC

Conservation status abbreviations are as follows: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; U = state status under review; X = presumed extirpated in Ohio; FE = federally endangered, and FT = federally threatened. The review was performed on the specified project area as well as an additional one-mile radius. Records searched date from 1980. Features searched include locations of rare and endangered plants and animals determined to be of value to the conservation of their species, high quality plant communities, animal breeding assemblages, and outstanding geological features.

The species listed above is not recorded within the boundaries of the specified project area. However, please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for an area is not a statement that rare species or unique features are absent from that area.

Fish and Wildlife: The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that Best Management Practices be utilized to minimize erosion and sedimentation.

The entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "[OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING](#)". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "[RANGE-WIDE INDIANA BAT & NORTHERN LONG-EARED BAT SURVEY GUIDELINES](#)." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Eileen Wyza for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed fish species.

State Endangered

lake sturgeon (*Acipenser fulvescens*)
Ohio lamprey (*Ichthyomyzon bdellium*)
spotted gar (*Lepisosteus oculatus*)

State Threatened

American eel (*Anguilla rostrata*)
bigmouth shiner (*Notropis dorsalis*)
channel darter (*Percina copelandi*)

The DOW recommends no in-water work from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed, this project is not likely to impact these or other aquatic species.

The project is within the range of the Blanding's turtle (*Emydoidea blandingii*), a state threatened species. This species inhabits marshes, ponds, lakes, streams, wet meadows, and swampy forests. Although essentially aquatic, the Blanding's turtle will travel over land as it moves from one wetland to the next. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the spotted turtle (*Clemmys guttata*), a state threatened species. This species prefers fens, bogs and marshes, but also is known to inhabit wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US Fish & Wildlife Service.

Geological Survey: The Division of Geological Survey has the following comment.

The Division of Geological Survey approves this proposed project, which involves repairing the western breakwater of the Lorain Harbor near the mouth of the Black River. No repairs to the existing breakwater have been documented in over 30 years. The USACE plans to repair existing armor stone on the breakwater that has been lost or is no longer stable. Additionally, a portion of the proposed project area will be filled/excavated, and the dredged material will be repurposed as an enhancement to aquatic communities. The Division of Geological Survey suggests that excess sandy material encountered during excavation should be placed into the nearshore to nourish the littoral system; however, fine-grained dredged material should be disposed of in an open-lake disposal zone.

Coastal Management: The Office of Coastal Management has the following comment.

Pursuant to the Coastal Zone Management Act of 1972, as amended, and its corresponding federal regulations, the U.S. Army Corps of Engineers permit may not be issued until a Federal Consistency concurrence is issued by ODNR. Projects on Lake Erie may require the issuance of a Shore Structure Permit and Submerged Lands Lease from ODNR prior to receiving Federal Consistency concurrence. For additional information on Federal Consistency reviews, please visit the [Ohio Coastal Management Program Federal Consistency](#) webpage.

Water Resources: The Division of Water Resources has the following comment.

The [local floodplain administrator](#) should be contacted concerning the possible need for any floodplain permits or approvals for this project.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at [REDACTED] if you have questions about these comments or need additional information.

[REDACTED]
Environmental Services Administrator



In reply refer to
2023-LOR-59555

November 16, 2023

[REDACTED]
U.S. Army Corps of Engineers, Buffalo District
478 Main Street
Buffalo, NY

Dear [REDACTED]

RE: Lorain West Breakwater Repair, Lorain Harbor, Lorain County, Ohio

This is in response to the receipt of correspondence, on November 1, 2023, regarding the proposed breakwater improvements at the above location in Lorain County, Ohio. The comments of the Ohio Historic Preservation Office are submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

Based on the information submitted, it is my opinion that the proposed undertaking will have no effect on properties listed in or eligible for listing in the National Register of Historic Places. No further coordination is required unless the project changes or archaeological remains are discovered during the course of the project. In such a situation, this office should be contacted as per 36 CFR 800.13

Please be advised that this is a Section 106 decision. This review decision may not extend to other SHPO programs. If you have any questions, please contact me at (614) 298-2000, or by email at [REDACTED]. Please note the Ohio SHPO now accepts electronic-only submissions for state and/or federal review under Section 106 and ORC 149.53. Please send your submissions to section106@ohiohistory.org. Additionally, our office is currently experiencing network issues that do *not* allow consultants to access IForm. Ohio Archaeological Inventory and Ohio Historic Inventory forms can now be completed using SHPO's ArcGIS Survey 123. See <https://www.ohiohistory.org/preserving-ohio/survey-inventory/i-form/> for additional instructions. We have also updated our [Survey Report Submission Standards](#).

[REDACTED]
[REDACTED]
[REDACTED], Project Reviews Manager
Resource Protection and Review

From: [REDACTED]
To: [REDACTED]
Subject: [Non-DoD Source] Re: [EXTERNAL] Proposed Lorain West Breakwater Repair
Date: Thursday, November 2, 2023 11:02:44 AM

Hello,

The USFWS does not provide concurrence with "no effect" determinations. When a "no effect" determination is made, consultation with the USFWS is not necessary.

Sincerely,
Angie

From: [REDACTED]
Sent: Thursday, November 2, 2023 6:56 AM
To: [REDACTED]
Subject: [EXTERNAL] Proposed Lorain West Breakwater Repair

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Good Morning,

Please see attached Section 7 coordination form and the biological assessment for the proposed Lorain West Breakwater repair. While this is a no effects determination, we would like a response stating concurrence for our records. Thanks.

[REDACTED]

[REDACTED]
Biologist, Environmental Analysis Team
U.S. Army Corps of Engineers, Buffalo District

[REDACTED]
[REDACTED]



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ohio Ecological Services Field Office

4625 Morse Road, Suite 104

Columbus, OH 43230-8355

Phone: (614) 416-8993 Fax: (614) 416-8994



In Reply Refer To:

Project Code: 2023-0128839

Project Name: Lorain West Breakwater Repair

September 14, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ohio Ecological Services Field Office

4625 Morse Road, Suite 104

Columbus, OH 43230-8355

(614) 416-8993

PROJECT SUMMARY

Project Code: 2023-0128839
Project Name: Lorain West Breakwater Repair
Project Type: Breakwaters - Maintenance/Modification
Project Description: Repair of the Lorain West Breakwater with a rubblemound overlay. This rubblemound will extend between 80 and 100 feet lakeward from the original footprint.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@41.4744613,-82.19060232805238,14z>



Counties: Lorain County, Ohio

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Piping Plover <i>Charadrius melodus</i> Population: [Great Lakes watershed DPS] - Great Lakes, watershed in States of IL, IN, MI, MN, NY, OH, PA, and WI and Canada (Ont.) There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Endangered
Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Army Corps of Engineers

Name:

Address: 478 Main Street

City: Buffalo

State: NY

Zip: 14202

Email

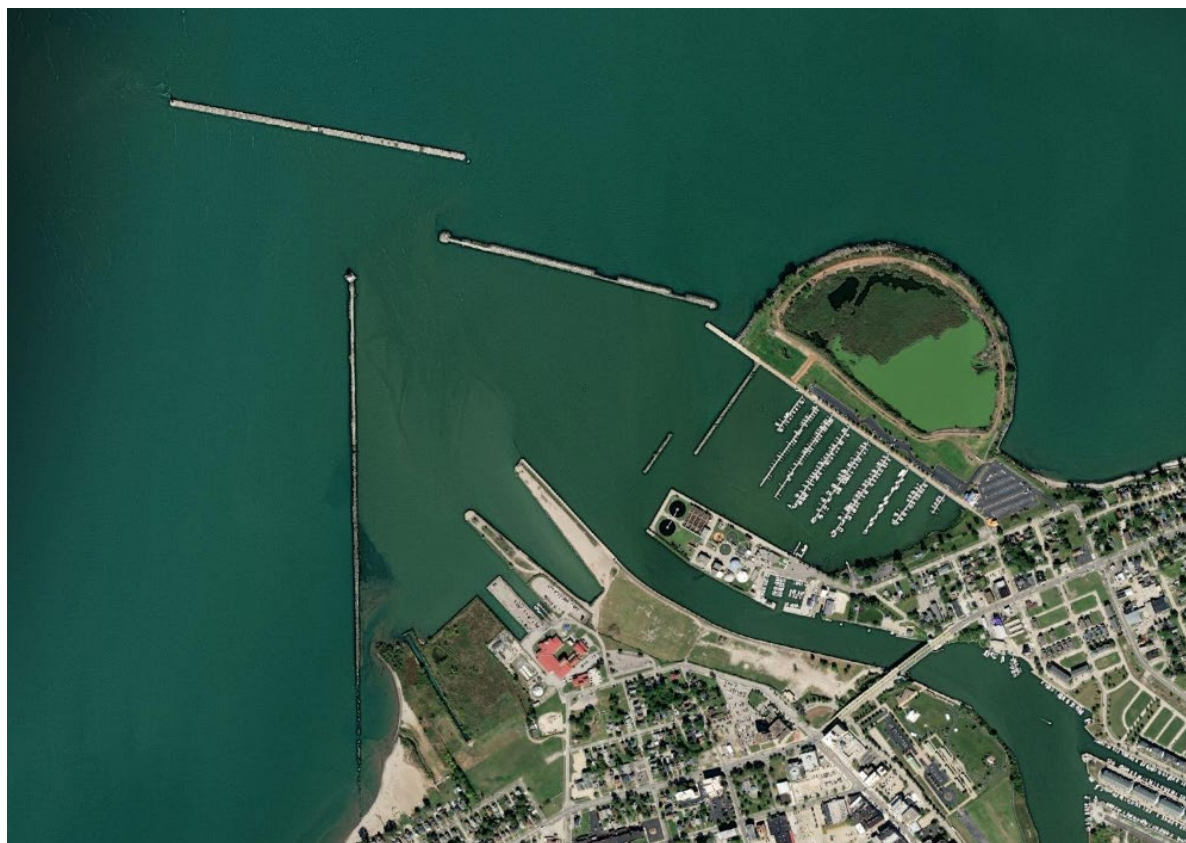
Phone:



US Army Corps
of Engineers®
Buffalo District
BUILDING STRONG®

Operation and Maintenance Lorain West Breakwater Repair

Scoping Information & Public Notice



Buffalo District, U.S. Army Corps of Engineers

478 Main Street

Buffalo New York, 14202

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1. Introduction

Implementation of the National Environmental Policy Act (NEPA) requires that federal agencies initiate “an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to the proposed action.” The purpose of this scoping information is to disseminate information regarding the U.S. Army Corps of Engineers (USACE) proposed breakwater repair project, and to elicit any concerns of potential affected parties. This information has been prepared as part of the formal scoping process pursuant to NEPA and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR Part 1500 et seq.).

Additionally, this scoping document serves as the public notice pursuant to Section 404(a) of the Clean Water Act (CWA). It is being administered in conformance with USACE regulation, "Practice and Procedure: Final Rule for Operation and Maintenance of Army Corps of Engineers Civil Works Projects involving the Discharge of Dredged Materials into Waters of the United States or Ocean Waters," 33 Code of Federal Regulations (CFR) 337.1. The purpose of this public notice is to specify what dredged/fill materials would be discharged into waters of the United States by implementation of the proposed action and advise all interested parties of the proposed project and to provide an opportunity to submit comments or request a public hearing.

The proposed federal repair project is located on the lakeward side of the Lorain West Breakwater (LWBW) within the Lorain Harbor. Lorain Harbor is a deep-draft commercial harbor located in Lorain County, Ohio. The harbor is situated on the south shore of Lake Erie at the mouth of the Black River, approximately 28 miles west of Cleveland, Ohio and it encompasses both an outer and inner harbor. The outer harbor is formed by a system of converging breakwaters in Lake Erie and includes an area of about 60 acres while the entrance channel to the Black River is protected by two parallel piers at the mouth of the river. The lower three miles of the river constitute the inner harbor with federally maintained river channel widths varying from 200 to 500 feet. Two turning basins are provided along the river: one located approximately midway in the federal project and the other located at the upstream end of the project. Construction of the harbor (with subsequent modifications) was authorized by various legislative acts between 1899 and 1965 (Figure 1).

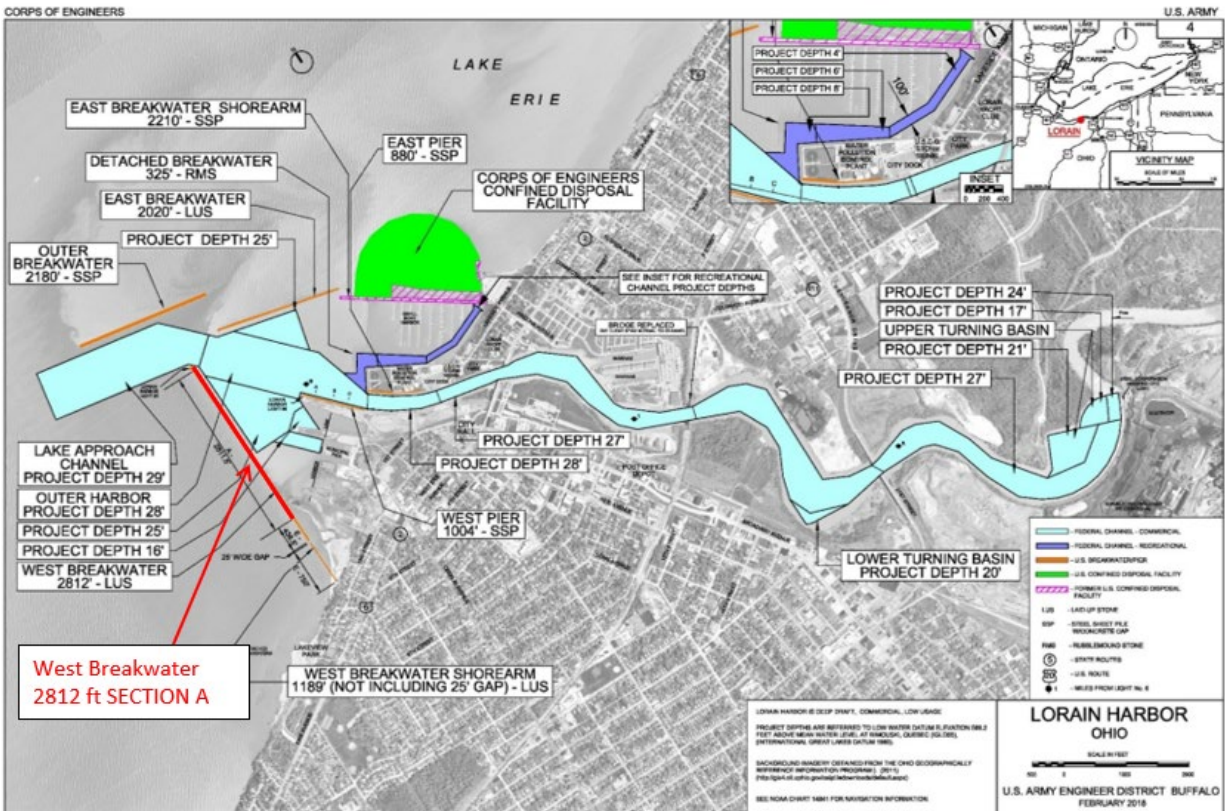


Figure 1 - Proposed Project Location

2. Need for Action

A breakwater inspection and survey performed at Lorain Harbor in August 2022 identified significant damage to the LWBW. The laid-up stone breakwater extends approximately 2,812 feet in length from the west pier/lighthouse toward the shoreline. The majority of the structure shows damage in the following forms: loss of crest elevation, armor stone displacement, loss of toe stone, fractured stone, loss of core stone, and a 70-foot wide breach in the crest near Station 12+50 (Figure 2). There is no record of repair to the West Breakwater in the last 30+ years. The LWBW in its existing state is compromised and has a reduced capability to protect the harbor from significant wave and storm events.

3. Proposed Project

The LWBW repair consists of a rubble-mound overlay along the lakeside of the existing structure up to the design crest elevation of +10.2 feet low water datum (LWD). The project repair reach extends from Station 0+00 to Station 26+50. The first 750 feet of the repair from the lighthouse to Station 7+50 includes a bedding stone stability berm from the lakebed to elevation -22 feet LWD. The stability berm extends approximately 40 feet beyond the toe of the new rubble mound overlay repair section. The wide stability berm is warranted due to the potential for soft lakebed sediments (with low bearing capacity) at the project footprint from

Station 0+00 to 7+50. The remainder of the reach from Station 7+50 to 26+50 is potentially resting on existing displaced stone. It will therefore not require a wide stability berm. However, additional stone may be placed at the repair footprint during construction to displace any soft sediments. Typical repair cross sections are presented in Figure 3 through Figure 6. Lastly, the leeside area (behind the breakwater) between Station 26+50 to 28+12 is shoaled in and set far from the federal channel. Therefore, the repair was not extended past Station 26+50.

The acreage of the proposed project to be filled/excavated at LWBW is six acres (Figure 2). There will be lake bottom excavation in areas where the rubblemound will be placed between Stations 21+00 to 26+50 to key in the toe stones. Table 1 provides a breakdown of the amount of stone to be placed in the bedding layer, underlayer and armor layer of the proposed project.

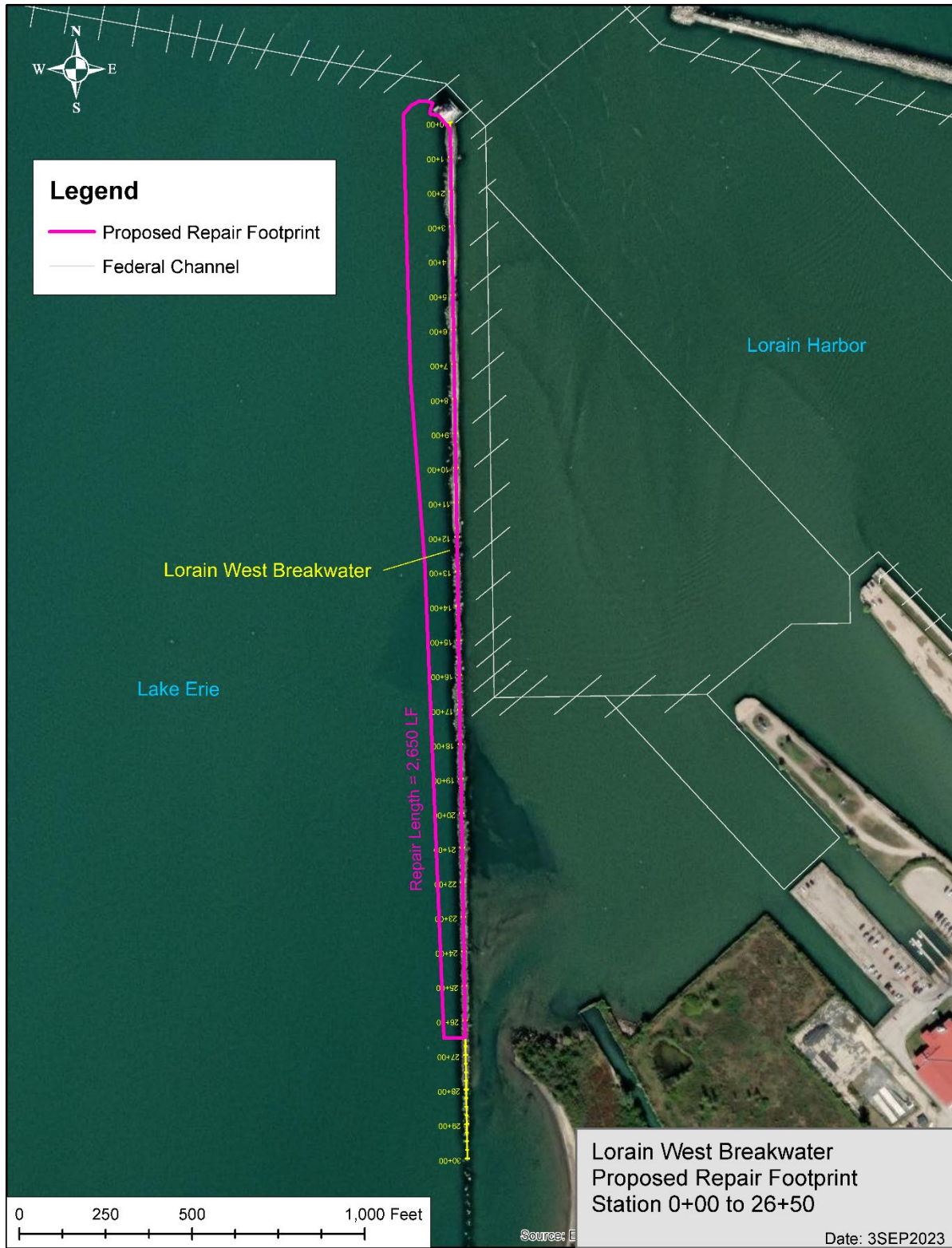


Figure 2 – Lorain West Breakwater Proposed Repair Footprint

Table 1 - Proposed placement of stone in bedding layer, underlayer, and armor layer of LWBW

Start Station	End Station	Length	Bedding Volume (CY)(1)	Underlayer Volume (CY)(1)	Armor Volume (CY)(1)
0+00	7+50	750	2995	4320	17722
7+50	14+00	650	1180	4248	14422
14+00	21+00	700	0	3456	14079
21+00	26+50	550	0	2676	10637
Totals		2650	4175	14700	56860

Notes: (1) includes void space in structure

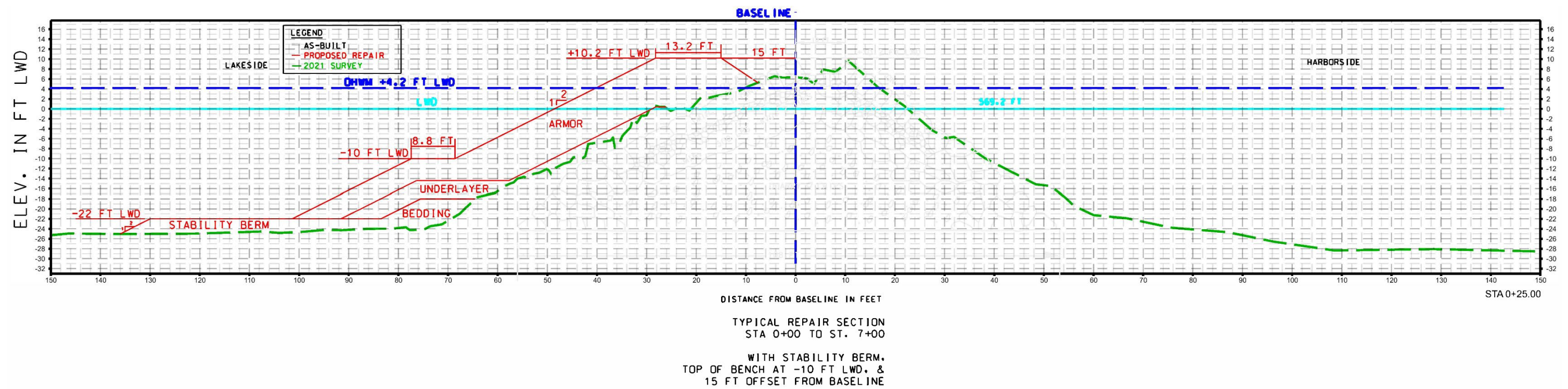
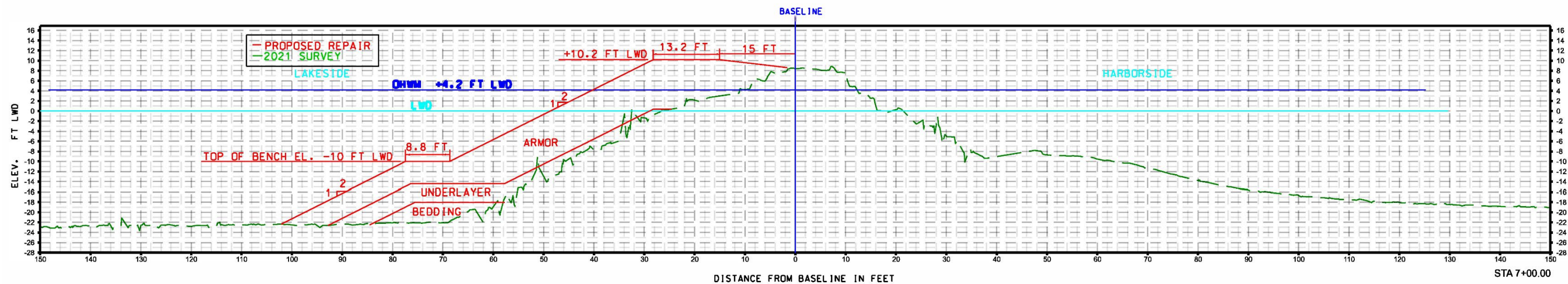


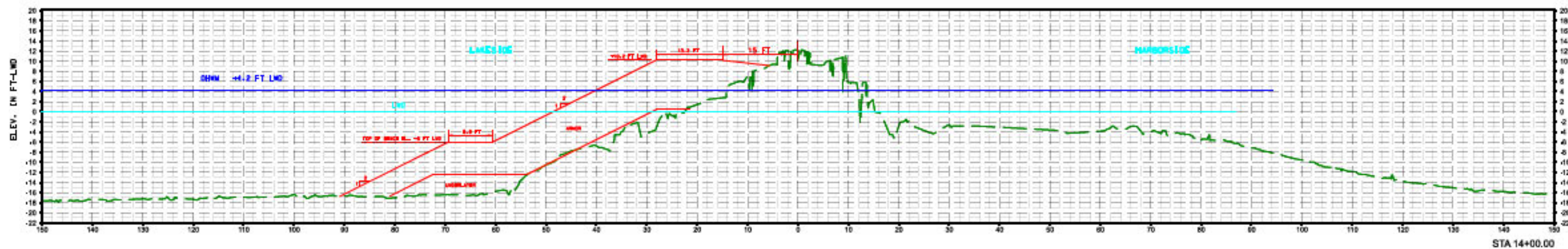
Figure 3 – Typical Repair Section STA 0+00 to Sta. 7+00



TYPICAL REPAIR SECTION
STATION 7+00 TO STA. 14+00

WITH STABILITY BERM.
TOP OF BENCH AT -10 FT LWD & 15 FT OFFSET FROM BASELINE

Figure 4 – Typical Repair Section STA 7+00 to Sta. 14+00



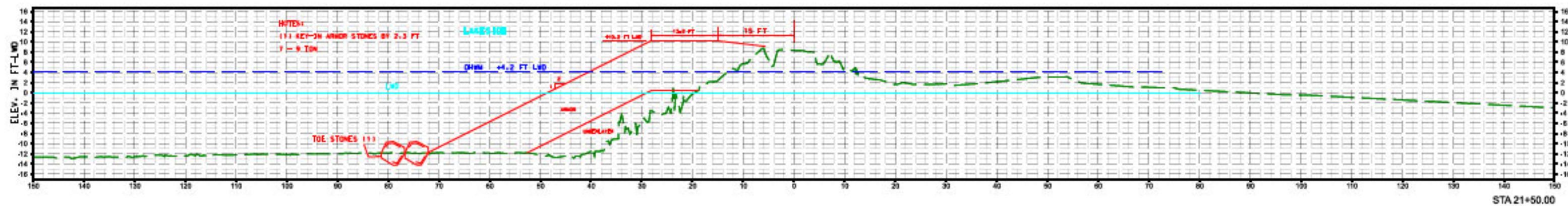
DISTANCE FROM BASELINE IN FEET

TYPICAL REPAIR SECTION

STA. 14+00 TO 21+00

TOE BENCH ELEV. -6 FT LWD

Figure 5 – Typical Repair Section STA 14+00 to Sta. 21+00



DISTANCE FROM BASELINE IN FEET

TYPICAL REPAIR SECTION
STA. 21+00 TO 26+50

Figure 6 – Typical Repair Section STA 21+00 to Sta. 26+50

4. Impact Assessment

Future conditions and anticipated potential effects of the proposed action will be assessed and compared to a no action alternative. The no action alternative represents the anticipated condition that may result from the USACE taking no action to complete the LWBW repair. The alternatives will be evaluated for several social, economic and environmental categories, including:

- Fish and Wildlife Resources
- Water Quality
- Dredged Material Management
- Geology and Soils
- Contaminated Materials
- Air Quality
- Noise
- Recreation
- Historic Properties
- Property Values and Tax Revenues
- Employment
- Community Cohesion and Growth
- Transportation
- Public Facilities and Services
- Aesthetics
- Environmental Justice

5. Public Participation and Interagency Coordination

Throughout the scoping and public notice process, stakeholders and interested parties are invited to provide comment and/or request a public hearing on the proposed action that will be evaluated as part of the Operations and Maintenance (O&M) support to the LWBW repair project. An environmental assessment will be completed to document the evaluation of any potential social, economic and environmental benefits and potential adverse impacts that may result from the proposed action.

The decision whether to perform dredging has been based on an evaluation of the probable impact, including cumulative impacts of the proposed activity on the public interest. That decision reflects the national concern for both protection and utilization of important resources. The benefit which is reasonably expected to accrue from the proposal has been balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal have been considered including the cumulative factors thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

This activity is being coordinated with the following agencies, as well as other appropriate federal, state and local agencies and organizations:

Ohio Department of Natural Resources

Ohio Environmental Protection Agency
Ohio Historic Preservation Office
U.S. Department of the Interior, Fish and Wildlife Service
U.S. Environmental Protection Agency

6. Compliance with Environmental Protection Statutes

The breakwater repair has been evaluated for compliance with all other applicable environmental protection statutes, executive orders, *etc.* including:

Clean Water Act, as amended (Federal Water Pollution Control Act Amendments of 1972) (33 USC 1251 et seq.). Pre-application documents for Section 401 water quality certification were submitted to the Ohio Environmental Protection Agency on May 5th, 2023. The final application was submitted on September 15th, 2023. Following this Section 404(a) public notice, a Section 404(b)(1) Evaluation will be completed for the proposed discharge of fill material into Lake Erie.

Coastal Zone Management Act of 1972, as amended (16 USC 1451 et seq.). The Act requires that federal activities be consistent with the enforceable policies of the State of Ohio Coastal Management Program. This project will be coordinated with the Ohio DNR for awareness, although Coastal Zone Consistency concurrence is not required for this repair project since it was originally constructed prior to the 1997 federal approval of the Ohio Coastal Management Program.

Endangered Species Act of 1973, as amended (16 USC 1531 et seq.). In accordance with Section 7 of this Act, USACE is requesting information from the U.S. Fish and Wildlife Service (USFWS) on any listed or proposed species or designated or proposed critical habitat that may be present in the project area. If this consultation with USFWS identifies any such species or critical habitat, then USACE will conduct a biological assessment to determine the proposed project's effect on these species or critical habitat.

The USFWS web sites and Information for Planning Consultation ([<https://ecos.fws.gov/ipac/>], accessed September 2023) have been reviewed to generate the following list of federally threatened and endangered species that are/or may be present at the project location:

- Indiana Bat (*Myotis sodalist*)
- Monarch Butterfly (*Danaus plexippus*)
- Piping Plover (*Charadrius melodus*)
- Red Knot (*Calidris canutus rufa*)
- Tricolored Bat (*Perimyotis subflavus*)

Fish and Wildlife Coordination Act (16 USC 661 et seq.). The USACE is coordinating this proposed project with the USFWS to identify any fish and wildlife concerns, identify relevant information on the proposed project area, obtain their views concerning the significance of fish and wildlife resources and anticipated project impacts, and identify any additional resources which need to be evaluated. Full consideration will be given to their comments and recommendations resulting from this coordination.

National Environmental Policy Act (NEPA). In accordance with the Council on Environmental Quality's "National Environmental Policy Act Implementing Regulations" (40 CFR 1500-1508) and Engineer Regulation 200-2-2 (Procedures for Implementing NEPA), the USACE will assess the potential environmental effects of the proposed action on the quality of the human environment. Using a systematic and interdisciplinary approach, an assessment will be made of the potential environmental impacts for the proposed action as judged by comparing the with-project and without-project conditions. The impact assessment process will determine if an Environmental Impact Statement is required, or if an Environmental Assessment and Finding of No Significant Impact is appropriate. This scoping information constitutes an initial request for public and agency input into this NEPA review process.

National Historic Preservation Act. Under Section 106 of this Act, this scoping information initiates USACE consultation with the National Park Service, the Ohio Historic Preservation Office, interested tribal nations, historic preservation organizations and others who are likely to have knowledge of, or concern with, historic properties that may be present within the area of potential effect (APE). A Section 106 consultation form will be submitted for the proposed project.

Other Coordination Requirements. In addition to the aforementioned federal statutes, the proposed project must also comply with other applicable or relevant and appropriate federal laws. The list below in Section 7 presents a list of potentially applicable environmental protection statutes, executive orders, etc. Therefore, an additional intent of this document is to disseminate pertinent project information to meet the applicable coordination/consultation requirements required under their provisions.

7. Federal Environmental Protection Laws, Executive Orders, and Policies

PUBLIC LAWS

- a. American Folklife Preservation Act, P.L. 94-201; 20 U.S.C. 2101, *et seq.*
- b. American Indian Religious Freedom Act, P.L. 95-341, 42 U.S.C. 1996, *et seq.*
- c. Anadromous Fish Conservation Act, P.L. 89-304; 16 U.S.C. 757, *et seq.*
- d. Antiquities Act of 1906, P.L. 59-209; 16 U.S.C. 431, *et seq.*
- e. Archaeological and Historic Preservation Act, P.L. 93-291; 16 U.S.C. 469, *et seq.* (Also known as the Reservoir Salvage Act of 1960, as amended; P.L. 93-291, as amended; the Moss-Bennett Act; and the Preservation of Historic and Archaeological Data Act of 1974.)

- f. Archaeological Resources Protection Act, P.L. 96-95 as amended, 16 U.S.C. 470aa, *et seq.*
- g. Bald Eagle Protection Act; 16 U.S.C. 668.
- h. Clean Air Act, as amended; P.L. 91-604; 42 U.S.C. 1857h-7, *et seq.*
- i. Clean Water Act, P.L. 92-500; 33 U.S.C. 1251, *et seq.* (Also known as the Federal Water Pollution Control Act; and P.L. 92-500, as amended.)
- j. Coastal Zone Management Act of 1972, as amended, P.L. 92-583; 16 U.S.C. 1451, *et seq.*
- k. Comprehensive Environmental Response, Compensation, and Liability Act, P.L. 96-510, 42 U.S.C. 9601, *et seq.*
- l. Endangered Species Act of 1973, as amended, P.L. 93-205; 16 U.S.C. 1531, *et seq.*
- m. Energy Independence and Security Act, P.L. 110-140, 42 U.S.C. 15821, *et seq.*
- n. Energy Policy Act, P.L. 109-58, 42 U.S.C. 13201, *et seq.*
- o. Estuary Protection Act, P.L. 90-454; 16 U.S.C. 1221, *et seq.*
- p. Farmland Protection Policy Act, P.L. 97-98, 7 U.S.C. 4201, *et seq.*
- q. Federal Environmental Pesticide Control Act, P.L. 92-516; 7 U.S.C. 136.
- r. Federal Water Project Recreation Act, as amended, P.L. 89-72; 16 U.S.C. 460-1(12), *et seq.*
- s. Fish and Wildlife Coordination Act of 1958, as amended, P.L. 85-624; 16 U.S.C. 661, *et seq.*
- t. Historic Sites Act of 1935, as amended, P.L. 74-292; 16 U.S.C. 461, *et seq.*
- u. Land and Water Conservation Fund Act, P.L. 88-578; 16 U.S.C. 460/-460/-11, *et seq.*
- v. Migratory Bird Conservation Act of 1928; 16 U.S.C. 715.
- w. Migratory Bird Treaty Act of 1918; 16 U.S.C. 703, *et seq.*
- x. National Environmental Policy Act of 1969, as amended, P.L. 91-190; 42 U.S.C. 4321, *et seq.*
- y. National Historic Preservation Act of 1966, as amended, P.L. 89-655; 16 U.S.C. 470a, *et seq.*
- z. Native American Graves Protection and Repatriation Act, P.L. 101-601, 25 U.S.C. 3001, *et seq.*
- aa. Native American Religious Freedom Act, P.L. 95-341; 42 U.S.C. 1996, *et seq.*
- bb. Noise Control Act, P.L. 92-574, 42 U.S.C. 4901, *et seq.*
- cc. Resource Conservation and Recovery Act of 1976, P.L. 94-580; 7 U.S.C. 1010, *et seq.*
- dd. River and Harbor Act of 1899, 33 U.S.C. 403, *et seq.* (also known as the Refuse Act of 1899)
- ee. Toxic Substances Control Act, P.L. 94-469; 15 U.S.C. 2601, *et seq.*
- ff. Watershed Protection and Flood Prevention Act, as amended, P.L. 83-566; 16 U.S.C. 1001, *et seq.*
- gg. Wild and Scenic Rivers Act, as amended, P.L. 90-542; 16 U.S.C. 1271, *et seq.*

b. EXECUTIVE ORDERS

- a. Executive Order 11593, *Protection and Enhancement of the Cultural Environment*, May 13, 1979
- b. Executive Order 11988, *Floodplain Management*, May 24, 1977
- c. Executive Order 11990, *Protection of Wetlands*, May 24, 1977
- d. Executive Order 11514, *Protection and Enhancement of Environmental Quality*, March 5, 1970, as amended by Executive Order 11991, May 24, 1977
- e. Executive Order 12088, *Federal Compliance with Pollution Control Standards*, October 13, 1978
- f. Executive Order 12372, *Intergovernmental Review of Federal Programs*, July 14, 1982
- g. Executive Order 12580, *Superfund Implementation*, January 23, 1987
- h. Executive Order 12856, *Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements*, August 3, 1993
- i. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, February 11, 1994
- j. Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, April 21, 1997
- k. Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, January 10, 2001
- l. Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, January 24, 2007
- m. Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, October 5, 2009

c. OTHER FEDERAL POLICIES

- a. Council on Environmental Quality Memorandum of August 11, 1980: Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act
- b. Council on Environmental Quality Memorandum of August 10, 1980: Interagency Consultation to Avoid or Mitigate Adverse Effects on Rivers in the National Inventory
Migratory Bird Treaties and other international agreements listed in the Endangered Species Act of 1973, as amended, Section 2(a)(4)

8. Point of Contact

Any interested parties and/or agencies desiring to express their views concerning this proposed LWBW repair project may do so by submitting their comments, in writing, no later than 30 days from the date of this notice. Any person who has an interest which may be affected by the proposed discharge of fill material may request a public hearing. The request must clearly set forth the interest which may be affected and the manner in which the interest may be affected by this activity. Interested parties are encouraged to contact USACE – Buffalo District with their comments regarding the proposed breakwater repair at Lorain Harbor and send your comments in writing within 30 days to the following e-mail address:

Lorain_Harbor_West_Breakwater_Repair@usace.army.mil

or via mail to:

U.S. Army Corps of Engineers, Buffalo
District Environmental Analysis Team
478 Main Street
Buffalo, NY 14202-3278
ATTN: Lorain West Breakwater