



Draft Environmental Assessment

City of Euclid Erosion Mitigation Project

City of Euclid, Cuyahoga County, Ohio

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Prepared by

CDM Smith

10560 Arrowhead Drive

Fairfax, VA 22030

Prepared for

FEMA Region V, Project # PDMC-PJ-05-OH-2017-007

536 South Clark Street, Sixth Floor

Chicago, IL 60605



FEMA

List of Acronyms, Chemical Formulas, and Abbreviations

| | | | |
|-----------------|---|-----------------|---|
| ACS | American Community Survey | OEPA | Ohio Environmental Protection Agency |
| APE | Area of Potential Effects | OHI | Ohio Historic Inventory |
| BFE | Base Flood Elevation | OHWM | ordinary high-water mark |
| BMP | Best Management Practice | Ohio Rev. Code | Ohio Revised Code |
| CAA | Clean Air Act | OSHA | Occupational Safety and Health Administration |
| CEQ | Council on Environmental Quality | Pb | Lead |
| C.F.R. | Code of Federal Regulations | PDM | Pre-Disaster Mitigation |
| CO | Carbon Monoxide | PM | Particulate Matter |
| CWA | Clean Water Act | ROW | Right-of-way |
| CY | Cubic Yard | SHPO | State Historic Preservation Office |
| CZMA | Coastal Zone Management Act | SO ₂ | Sulfur Dioxide |
| DBH | Diameter Breast Height | SWP3 | stormwater pollution prevention plan |
| EA | Environmental Assessment | Uc | Urban Land – Allis Complex |
| EO | Executive Order | UeA | Urban Land – Elnora Complex |
| EPA | U.S. Environmental Protection Agency | USACE | U.S. Army Corps of Engineers |
| ESA | Endangered Species Act | U.S.C. | U.S. Code |
| FEMA | Federal Emergency Management Agency | USDA | U.S. Department of Agriculture |
| FIRM | Flood Insurance Rate Map | USFWS | U.S. Department of the Interior Fish and Wildlife Service |
| FONSI | Finding of No Significant Impact | VOC | Volatile Organic Compound |
| GIS | Geographic Information System | | |
| NAAQS | National Ambient Air Quality Standards | | |
| NAVD 88 | North American Vertical Datum 1988 | | |
| NEPA | National Environmental Policy Act | | |
| NGVD 29 | National Geodetic Vertical Datum of 1929 | | |
| NHPA | National Historic Preservation Act | | |
| NO ₂ | Nitrogen Dioxide | | |
| NO _x | Nitrogen Oxide | | |
| NPDES | National Pollutant Discharge Elimination System | | |
| NRCS | Natural Resources Conservation Service | | |
| NRHP | National Register of Historic Places | | |
| NWI | National Wetlands Inventory | | |
| O ₃ | Ozone | | |
| OAC | Ohio Administrative Code | | |
| OCMP | Ohio Coastal Management Program | | |
| ODNR | Ohio Department of Natural Resources | | |
| ODOT | Ohio Department of Transportation | | |
| OEMA | Ohio Emergency Management Agency | | |

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1. BACKGROUND

1.1 Project Authority

The City of Euclid, Ohio, the subrecipient, proposes to construct protections along a section of the Lake Erie shoreline to reduce hazards associated with shoreline erosion. The subrecipient has applied to the Federal Emergency Management Agency (FEMA) through the Ohio Emergency Management Agency (OEMA) for a grant of \$2,670,712 under the Pre-Disaster Mitigation (PDM) grant program (Project Number PDMC-PJ-05-OH-2017-007). The PDM Program is authorized under Section 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S. Code (U.S.C.) § 5133. The PDM Program assists communities in implementing hazard mitigation measures as part of a sustained pre-disaster hazard mitigation program. The goal of the program is to reduce the overall risk of future hazard events to people and property and reduce reliance on federal funding in the case of future disasters.

This environmental assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969; the President's Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations [C.F.R.] Parts 1500 to 1508); U.S. Department of Homeland Security Instruction 023-01; and FEMA Instruction 108-01-1, NEPA implementing procedures. FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this EA is to meet FEMA's responsibilities under NEPA and to analyze the potential environmental impacts of the proposed project. FEMA will use the findings in this draft EA to determine whether to prepare an environmental impact statement for the proposed project or to issue a finding of no significant impact (FONSI).

In accordance with federal laws and FEMA regulations, the EA process for a proposed federal action must include an evaluation of alternatives and a discussion of the potential environmental impacts. As part of this NEPA review, the requirements of other environmental laws and executive orders are addressed.

1.2 Project Location

The proposed project is located within the city limits of the City of Euclid, Cuyahoga County, Ohio. The City of Euclid is an inner ring suburb of Cleveland in northeast Ohio. The City of Euclid is located along the southern shores of Lake Erie approximately 13 miles northeast of Cleveland (see **Figure 1 of Appendix A**). The city comprises 10.3 square miles, including 4 miles of southern Lake Erie waterfront. The City of Euclid has a population of approximately 48,920 people (U.S. Census Bureau 2010)¹.

¹ See Section 7 of this EA for a complete listing of source documents, which are identified by entity and year of publication.

The project area includes 1,100 feet of southern Lake Erie shoreline and adjacent properties as shown in **Figure 2 of Appendix A**. The shoreline improvements would be constructed on city-owned property at 24451 Lakeshore Boulevard, a 50-year-old easement on private property at 15 East 242nd Street, and four other city-owned properties southeast of the shoreline as shown in **Figure 3 of Appendix A**. The property at 15 East 242nd Street contains a house and garage that has been split into two rental units.

1.3 Purpose and Need

The objectives of the PDM Program are to provide assistance to eligible state, territory, and local governments, along with federally recognized tribal governments, to help implement sustained pre-disaster natural hazard mitigation programs. The purpose of the proposed project is to reduce the potential for future erosion-related damages to structures near the lakeshore.

Unlike typical beaches along the shores of Lake Erie, which are relatively narrow, the project area shoreline historically had relatively wide beaches. Since 1949, the beaches have gradually eroded until they no longer exist. To date, almost all the historic beaches in the project area have been lost, a total of approximately 4 acres. This disappearance has resulted in the loss of critical aquatic and terrestrial habitats and has created a hazardous living situation for thousands of residents who live at the shoreline near the project area. With a documented loss of solid ground each year due to erosion, shoreline structures are positioned increasingly closer to the edge of the bluff, compromising their integrity and increasing the likelihood of damage and loss. Due to wind and wave conditions and the disappearance of the historic beaches, the existing bluff is unstable and continues to erode. Over time, ad hoc attempts to stabilize the shoreline in the project area have been made using concrete rubble.

According to the subrecipient, the top of the bluff will erode an additional 25 feet before it stabilizes. The erosion risks are likely to cause future damage to a parking structure and residential property within the next 5 to 12 years. These risks illustrate a need for immediate action to mitigate ongoing erosion along the shoreline in the project area. The proposed erosion mitigation project would benefit nearly 3,000 residents who live in the residential structures next to the shoreline and eliminate the need for these residents to find housing elsewhere.

The lakeward wall of the Harbor Crest apartment building's 492-stall parking structure was approximately 38 feet from the top of the bluff in 2017. City engineers estimate the footing for the parking structure extends up to 7 feet lakeward of the face of the parking structure, leaving approximately 31 feet between the top of the bluff and the face of the foundation footing. The International Building Code recommends that foundation clearances from slopes should be at least 40 feet from the edge of bluffs. The city expects that the parking structure will fail by 2023 when the bluff has eroded to 50 percent of the required setback. Structural engineering analyses project that the failure would impact the entire structure at once.

The ongoing erosion also threatens the two apartment units on parcel number 64405001, noted in **Figure 3 of Appendix A**. This property, with a street address of 15 East 242nd Street, was located approximately 54 feet from the existing top of the bluff in 2017. The face of the footing

for the garage structure's foundation was estimated to be 2 feet lakeward of the building face, resulting in a setback of 52 feet. The subrecipient projects that by 2029 the bluff would recede to the point where the structure foundation is no longer adequately supported, and failure would occur. Additionally, the subrecipient projects that the bluff would erode to a point where the parking structure for the residential apartments located on parcel 64406002, commonly called the Harbor Crest apartment complex, would significantly fail by the year 2023. Although the project area extends beyond these properties, these two properties contain the most vulnerable structures.

1.4 Existing Facility

The shoreline segment proposed for PDM Program funding is part of a larger project led by the subrecipient. In November 2009, the city completed the *Euclid Waterfront Improvements Plan* (City of Euclid 2009b), which recommended shoreline stabilization measures and development of a fishing pier, a 2,900-foot pedestrian trail, public access points, parking, and other amenities. The plan is shown in the rendering provided in **Figure 4** of **Appendix A**. The subrecipient has begun construction on the 1,800-foot western segment of the project, which is not part of the proposed project. The 1,100-foot eastern segment of the waterfront improvements project is the segment analyzed in this EA, which is generally east of East 238th Street (**Appendix A, Figure 4**). The project analyzed in this EA only includes the shoreline stabilization measures shown in **Figure 4** and does not include the proposals for a future marina and upland amenities (in the location of the easternmost red arrow on **Figure 4**).

There are no existing shoreline stabilization facilities currently in place. There have been ad hoc attempts to reduce erosion with concrete rubble. Much of this material has been placed without engineering or permits, and it is failing (**Appendix A, Figure 5**).

2. ALTERNATIVES ANALYSIS

The applicant is required to provide alternatives to the proposed project and describe the environmental impacts of each alternative as provided below. This section describes the No Action alternative, the Proposed Action, and alternatives that were considered but dismissed. NEPA requires FEMA to include an evaluation of the No Action alternative, which is the future condition without the project.

2.1 Alternative 1 – No Action

Under the No Action alternative, the 1,100-foot shoreline mitigation project would not be constructed. No construction activities would take place to stabilize the existing slope along the extent of the eastern segment of the shoreline shown in **Figure 2** of **Appendix A**. The No Action alternative assumes the 1,100-foot segment under study would continue to erode at a rate of 3 feet per year as it does now.

As part of the No Action alternative, the EA assumes that the City of Euclid will complete the 1,800-foot western segment as described in the *2009 Waterfront Improvements Plan*. The

subrecipient has confirmed that the western segment has independent utility and the improvements would provide bluff stabilization and a public multipurpose trail along that portion of the shoreline. The concept of independent utility means a project is usable and a reasonable expenditure even if no additional improvements are made. The subrecipient began construction of the western segment in October 2018, and it is expected to be completed in October 2019.

2.2 Action Alternative 2 – Euclid Erosion Mitigation Project (Proposed Action)

The Proposed Action is a part of the larger waterfront project but has independent utility from the other elements of the *Euclid Waterfront Improvements Plan* described in Section 1.4. The Proposed Action would stabilize 1,100 feet of Lake Erie shoreline that is currently eroding. Plan view drawings for the improvements that would be constructed under the Proposed Action are provided in **Appendix F**.

The project would reduce erosion hazards by removing nonorganic fill, excavating unstable soil on the bluff, and implementing a combination of bluff stabilization measures. The project would armor the shoreline with a revetment, construct bluff/toe protections and breakwaters, and place cobble and sand beach fill at the shoreline edge to create a feeder beach. The contours of the shoreline would be graded into a gradual incline. A dense fibrous mat of native plants would be planted along the bluff, replacing the invasive species currently found at the site and providing a natural method for holding the land in place. A paved emergency responder access path, which will also serve as a multiuse trail, would be constructed at mid-slope.

Specific elements of the Proposed Action include the following:

- Site preparation, earthwork, and implementation of temporary construction-related erosion control measures.
- Construction of a revetment of armor and filter stone for bluff toe and shoreline protection. A revetment is a sloped structure consisting of large, heavy stone in two layers (armor and filter stone), which will be used to anchor the base of the bluff. Armor stone is larger stone used as the outer layers of the revetment directly exposed to wave action.
- Placement of cobble and sand fill to create a feeder beach to enhance shoreline stability while supporting nearshore and upland habitat. The feeder beach is a shoreline stabilization technique in which fill material is introduced at the updrift end of the shoreline area intended to receive the cobble and sand fill. The feeder beach uses natural transport mechanisms (e.g., currents) to distribute the fill along the rest of the shoreline project area over time.
- Breakwaters and submerged structures consisting of armor stone, filter stone, and core stone. The breakwater is a structure built of rock positioned a short distance from the shore and extending out from the shoreline. The purpose of a breakwater is to deflect the force of incoming waves to protect the shoreline. Core stone is smaller stone used as the base of the breakwater to provide a stable base for the armor stone.

- Bluff stabilization and restoration measures using compacted soils that would be aerated and revegetated with native vegetation with thick root systems to hold soil in place.
- Storm sewer curb and gutter system, leading storm runoff to rebuilt outfalls in the project area that would be constructed along the access path.
- Removal of concrete rubble and miscellaneous debris from in front of the property at 15 East 242nd Street.
- Multiuse access path that accommodates emergency responders located mid-slope along the bluff.

The proposed mitigation project requires a means of emergency access for first responders. The path would be designed and built in accordance with emergency vehicle and equipment needs for access to the shoreline. The City of Euclid police and fire departments require a fully paved concrete or asphalt path for emergency response, general safety, and routine patrol purposes along the shoreline. As partial mitigation for this project, the subrecipient has negotiated access easements with the property owners along the entire length of the project to ensure that the Lake Erie shoreline enhancements will provide public access to Lake Erie in perpetuity.

In addition to the permanent limits of the project, four city-owned parcels (parcel numbers 64406007, 64406008, 64406009, and 64406010) will serve as the construction staging area and are evaluated in this EA for potential impacts. These properties are shown in **Figure 3** of **Appendix A**.

Methods of construction would be determined by the contractor selected by the subrecipient. Construction of the adjacent shoreline segments west of the project area has been land-based; however, greater water depths in the project area under study may allow some materials to be hauled and placed by barge using Lake Erie. The subrecipient reports that the specific construction equipment used would not be known until the contractor is selected; however, probable equipment includes:

- Mass excavators
- Dump trucks
- Front end loaders
- Dozers
- Diesel pumps
- Skid steers

The subrecipient anticipates a construction duration of 16 to 19 months, but the actual time frame would depend on final procurement of funds.

Construction of the Proposed Action requires excavation and fill in Lake Erie and at the bluff. The sources of fill must follow conditions set forth by the U.S. Army Corps of Engineers (USACE) and Ohio Environmental Protection Agency (OEPA) in granting permit approvals to construct the project in accordance with the Clean Water Act (CWA) (see correspondence in **Appendix C**). The specific sources of fill material would be determined by the selected contractor and approved by

the subrecipient in accordance with the permit approvals. OEPA and USACE have issued permits for construction of the Proposed Action. The permits are valid for a period of 5 years (through 2023).

The primary source of fill placed in upland areas would be acceptable excavated material from on-site cut areas, including concrete rubble. The minimum size and weight of the concrete rubble would be in the range of 100 to 500 pounds per piece or 12 to 18 inches in diameter. The concrete rubble would be free of exposed rebar, debris, soil, and fines to prevent water quality impacts. Other fill materials would consist of suitable material free from toxic contaminants.

Lakeward of the natural shoreline, fill materials would be clean granular material purchased from an approved quarry or other source. Only clean fill material that is free of fines, oil and grease, debris, wood, general refuse, plaster, broken asphalt, or other potential pollutants would be used to prevent water quality impacts and potential contamination.

To implement the feeder beach, the subrecipient would place 5,710 cubic yards (CY) of sand prefill in the nearshore area in less than 3 feet of water. To mimic natural conditions, the subrecipient would place the sand prefill over a period of 3 years. The sand prefill would be from an upland source and meet the gradation requirements in the Ohio Department of Transportation (ODOT) specification for fine aggregates (703.02). The upland source of the sand fill would be coordinated with USACE prior to placement in accordance with the conditions described in the agency's permit approval letter (see **Appendix C**).

The selected contractor would place dredged material not suitable for reuse as fill to a disposal site in an upland area. The subrecipient would ensure that return water from the unsuitable dredged material would be contained to prevent reentry into waters of the United States. The subrecipient must obtain written approval from USACE for the location of the disposal site.

All best management practices (BMPs) for stormwater management would be designed and implemented in accordance with the most current edition of the Ohio Department of Natural Resources (ODNR) *Rainwater and Land Development Manual* (ODNR Division of Soil and Water Conservation 2006) or specifications in the National Pollutant Discharge Elimination System (NPDES) permit.

2.3 Alternatives Considered and Eliminated from Further Consideration

In August 2014, the City of Euclid completed a preliminary development scheme featuring different arrangements of breakwaters, headlands, islands, revetments, cobble/gravel beach, and sand beach intended to help stabilize and protect the shoreline and bluff along the project site. Following the preliminary efforts, the City of Euclid commissioned a three-dimensional physical model in 2016 that was used to evaluate erosion control measures. The intent of the model was to test the performance of different structures, with design optimizations progressed through an iterative process.

The physical model created a scale representation of the foreshore and shoreline within the project area. The model was used to test alternative configurations and potential shoreline erosion solutions to identify the most feasible approach. The model was designed and constructed at a geometric scale of 1:27.5 in the Large Area Wave Basin facility located in Ottawa, Canada. The facility is operated by the National Research Council Canada – Coastal and River Engineering Portfolio. Beach sediment at the shoreline was modeled using both coarse and fine sand. The model was fitted with two portable wave machines to generate waves and equipped with instrumentation to measure wave conditions, wave-induced nearshore currents, and changes in the shape of the model beach.

The modeling study assessed the potential impact of new structures on the hydrodynamic conditions and sedimentary processes and was used to optimize the design and layout of the structures. The modeling program consisted of 92 unique tests divided into 18 distinct test series. The test series serve as alternatives for purposes of the EA. During each test series, the model shoreline and structures were exposed to a sequence of wave conditions and water levels while measurements and observations were made. The hydrologic parameters specified for each test and test series were determined by the subrecipient's consultant engineers. The parameters included wave heights, peak periods, direction, and water levels. The tests also analyzed each alternative structure's response to storms of varying returns periods (1-, 10-, 50-, and 100-year).

A summary of each alternative test series is provided in **Table 1**. In general, a new test series began whenever the model setup was modified substantially (e.g., a change in the protection structures or wave direction) or whenever the primary focus or objective of the testing changed (i.e., assessment of hydrodynamic conditions, shoreline response, or structure stability). The testing focused on assessing how new structures would affect wave conditions and currents near the shore, structure stability, and sediment transport processes. The design was further modified after each test to improve design performance and provide more effective shoreline protection. Complete results of the analyses are provided in a technical report titled *3D Physical Model Study of a Shoreline Improvement Scheme for Euclid, Ohio, USA* (National Research Council Canada 2016). The study's abstract is provided in **Appendix G**.

Based on the iterative alternative analysis process, the Proposed Action was found to provide the optimal protection of the shoreline and landward properties. Of the 18 alternative test series completed, the Proposed Action was found to offer the most effective and feasible combination of erosion control measures that met the purpose and need. Therefore, alternative shoreline stabilization configurations other than the Proposed Action were eliminated from further analysis.

Table 1: Project Alternative Summary (Test Series)

| Test Series | Wave Direction | Water Levels | Duration | Summary |
|-------------|----------------|-------------------------|----------|--|
| | °N | (feet NGVD 29) | (hours) | |
| ExCon | 312 | 572.3 576.6 | 24 | Tests on the existing shoreline conditions (no new structures/beach) |
| A | 312 | 572.3 | 25 | Constructed preliminary proposed shoreline development scheme |
| B | 312 | 572.3 | 4 | Modified western and central tombolo headlands Reduced the elevation on portions of the offshore breakwaters Realigned feeder beach breakwater |
| C | 312 | 572.3 | 6 | Removed the eastern two offshore breakwaters Investigated a perched feeder beach on the updrift (west) side |
| D | 312 | 572.3 | 6 | Removed final offshore breakwater Installed a flow diverting structure at the fishing pier (FP) |
| E | 312 | 572.3 | 3 | Shifted central tombola shoreward Modified flow diverting structure at the fishing pier (FP2) |
| F | 312 | 572.3 | 9 | Installed habitat islands (HI) Modified flow diverting structure at the fishing pier (FP3) |
| G | 312 | 572.3 | 16 | Installed new habitat islands (HI2) and nearshore headlands Overlaid habitat mix fill beach with fine beach sediment |
| H | 312 | 572.3 | 3 | Removed habitat islands |
| I | 312 | 572.3 | 7 | Removed eastern tombolo and headland |
| J | 312 | 572.3 | 3 | Shortened eastern nearshore headland Constructed geotube flow-diverting structure at fishing pier (FP4) |
| K | 312 | 572.3 | 9 | Constructed offshore crescent-shaped islands Slightly modified geotube flow-diverting structure at fishing pier |
| L | 312 | 572.3 | 7 | Shifted central tombolo headland shoreward Shifted two eastern nearshore headlands to the east Modified geotube flow-diverting structure at fishing pier (FP5) |
| M | 312 | 569.7 572.3 574.5 | 14 | Slight modification to geotube flow-diverting structure at fishing pier |
| N | 312 | 574.5 576.6 | 18 | Rotated eastern crescent-shaped island |
| O | 312 | 572.3 576.6 | 31 | Constructed marina breakwater Reset feeder beach Reset western beach with habitat mix |
| P | 360 | 572.3 576.6 | 28 | Rotated wave machines to 0 degrees (north) Reset feeder beach |
| Q | 360 | 572.3 576.6 | 13 | Replaced armor on outer roundhead of marina breakwater with 2.5 tons stone |

Source: National Research Council Canada 2016.

NGVD 29: National Geodetic Vertical Datum of 1929

3. AFFECTED ENVIRONMENT AND CONSEQUENCES

Preliminary Screening of Assessment Categories

Based on a preliminary screening of resources and the project's geographic location, the following resources do not require a detailed assessment.

- *Coastal Barrier Resources.* The Coastal Barrier Resources Act is not applicable because the project is not within or near a Coastal Barrier System unit (U.S Fish and Wildlife Service [USFWS] 2018a).
- *Prime and Unique Farmland.* The Farmland Policy Protection Act is not applicable because the project area is located in the U.S. Census-designated urbanized area of Cleveland, Ohio.
- *Seismic Risks.* Executive Order (EO) 12699, Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction, does not apply because there is low seismic risk in the project area based on seismic hazard maps developed by the U.S. Geological Survey.
- *Sole Source Aquifers.* According to OEPA, there are no sole source aquifers that would be regulated by the Safe Drinking Water Act of 1974 in the vicinity of the project area (OEPA 2018a).

3.1 Physical Environment

3.1.1 Geology, Soils, and Topography

Topography in the project area consists of a steep bluff, which rises approximately 30 to 40 feet from the shoreline to a series of flat residential properties at elevations from 570 to 600 feet above mean sea level. The existing bluff is unstable throughout much of the project area due to the steepness of the slope, eroded soil surface, and absence of adequate toe protection. In response to the shoreline recession, historical dumping of random material/unpermitted fill has taken place in an attempt to armor the bluff. Visual analysis of the shoreline completed by the subrecipient from February 2014 to April 2017 shows an estimated bluff loss of 10 feet at the top of the bluff during the 3-year period. This resulted in a recession rate of approximately 3 feet per year. A similar analysis comparing topographic surveys from April 2009 to May 2017 estimated up to 16 feet of bluff loss during that 8-year period (approximately 2 feet per year). The subrecipient expects the rate of recession to be even higher now, at 4 feet per year, since the placement of unpermitted fill is no longer occurring.

Soils in the project area consist of Urban Land type soils and were identified using the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2018). The NRCS reports that about 38 percent of the project area is composed of Elnora complex (UeA) soils and 45 percent consists of Allis complex (Uc) soils (see **Figure 6 of Appendix A**). The remainder of the project area is open water (17 percent). The Elnora complex is characterized by deep, moderately well-drained soils with high permeability and nearly level

elevation that often occur along beach ridges (USDA 2017). Soils of the Allis complex are moderately deep and poorly drained, with a negligible to medium potential for surface runoff, and occur in till and lake plains (USDA 2011). NRCS notes that decreased permeability of urban soils can lead to increased surface runoff and erosion (USDA 2005).

Bedrock geology was characterized using a 2006 geological map developed by ODNR (ODNR Division of Geological Survey. 2006). Underlying bedrock in the project area consists of sedimentary rocks, including shale, siltstone, and sandstone. The bedrock formed during the Devonian period (385 to 359 million years ago) and is primarily marine to marginal marine in origin. During this period, clear seas dominating Ohio became stagnate, which resulted in an accumulation of muddy, organic material that formed a thick layer of black shale, known as the Ohio shale. There are no seismic concerns in the project area.

Alternative 1 – No Action:

Under the No Action alternative, no erosion mitigation measures would be implemented on the 1,100-foot segment of the shoreline. As a result, there would be long-term, adverse impacts, and the subrecipient estimates that the bluff would continue to erode an additional 25 feet before stabilizing (City of Euclid 2014).

Under the No Action alternative, the bluff would erode to the point where there would be a functional loss of the parking structure at the Harbor Crest apartment complex by the year 2022. Continued erosion would undermine the parking structure, resulting in a complete failure of the structure by 2023. At the 15 East 242nd Street property, erosion would cause the loss of the driveway and the use of two apartment units by 2027. By the year 2029, the bluff recession would cause the loss of the structure on the 15 East 242nd Street property.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would have long-term benefits on soils and topography by stabilizing the bluff and reducing erosion. The Proposed Action would regrade the bluff slope to a stable profile. This improvement would maintain adequate separation between structural foundations and the bluff. The contours of the shoreline would be graded into a gradual incline at a 1 vertical to 2 horizontal ratio (1:2). Lakebed materials would be removed to accommodate the feeder beach and revetment at the toe of the stabilized bluff. Following construction, exposed, compacted soils on the bluff would be aerated and revegetated with native vegetation with thick root systems to hold soil in place.

The Proposed Action would have short-term impacts from the excavation of lakebed and nonorganic fill to create the revetment, breakwater, and feeder beach. The primary source of fill placed in upland areas will be acceptable excavated material from the on-site cut areas. To stabilize the eroding bluff, the Proposed Action would remove approximately 5,248 CY of construction debris and excavate 5,459 CY of soil for use on-site. In addition, 5,529 CY of soil would be excavated and disposed off-site while 1,000 CY of topsoil and 80,000 square feet of seed would be hauled in for the bluff stabilization and restoration measures.

Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, all removed material will be disposed of off-site according to OEPA's Non-hazardous Waste Rules and Laws (Ohio Administrative Code [OAC] Chapter 3745).

3.1.2 Water Resources and Water Quality

Water resources include surface water, groundwater, stormwater, and drinking water (wetlands are discussed in Section 3.2.2). The project area is partially within Lake Erie, which is considered both a water of the United States and water of the State of Ohio under federal and state laws.

The CWA of 1977, 33 U.S.C. § 1251 et seq., regulates discharge of pollutants into water, with various sections falling under the jurisdiction of USACE and the U.S. Environmental Protection Agency (EPA). Section 404 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into waters of the United States and traditional navigable waterways. USACE regulation of activities within navigable waters is also authorized under the Rivers and Harbors Act of 1899, 33 U.S.C. § 403 et seq. Under the NPDES, EPA regulates both point and nonpoint pollutant sources, including stormwater and stormwater runoff. Activities affecting waters of Lake Erie would be regulated under both the CWA and the Rivers and Harbors Act. Lake Erie is considered a water of the state and regulated under Ohio law (Ohio Revised Code [Ohio Rev. Code] § 1501.30). Besides Lake Erie, no other water resources were identified in the project area based on a review of the National Wetlands Inventory (NWI), aerial photography, and topographic maps.

The project area is located in the Central Basin of Lake Erie. Lake Erie is the smallest and shallowest of the Great Lakes, with an average depth of approximately 62 feet and surface area of 9,900 square miles (Cleveland Water Department 2018). The Lake Erie watershed serves 11.6 million people, approximately one-third of the total population within the entire Great Lakes basin (EPA 2016). The watershed is largely agricultural, industrial, and urbanized and receives a large amount of effluent from sewage treatment plants and sediment loading from surrounding land uses (EPA 2016). Lake Erie borders three states (Ohio, Pennsylvania, and Michigan) and the province of Ontario in Canada.

EPA defines "water quality" as "the condition of a water body as it relates to purposes such as recreation, scenic enjoyment, aquatic habitat, and human health." Water quality is regulated by both the CWA and Ohio law (Ohio Rev. Code § 6111). OEPA produces an annual report on water quality in compliance with Section 305 of the CWA, which is the basis for the analysis of water quality. OEPA reports that the Central Basin is impaired and does not meet water quality standards for the following beneficial uses: human health, recreation, aquatic life, and public drinking water supply (OEPA 2018c). Sources of impairments in the Central Basin include stormwater runoff and sedimentation. Stormwater runoff from the project area flows north into Lake Erie (Northeast Ohio Areawide Coordinating Agency 2018).

Cleveland Water provides drinking water to the City of Euclid. Drinking water is drawn from Lake Erie approximately 3 miles from the project area (Cleveland Water Department 2018). Groundwater underlying the project area is contained within sandstone bedrock aquifers that are composed of cemented rock layers and interbedded with siltstone and shale (OEPA 2018a).

Alternative 1 – No Action:

Under the No Action alternative, bluff erosion and sedimentation would continue, causing long-term, adverse impacts to water quality in Lake Erie as a result of sedimentation and pollutants from runoff. No impact on, or withdrawal of, groundwater would be anticipated under the No Action alternative.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would have long-term benefits on water quality through the stabilization of the bluff, reduction in sedimentation from erosion, and use of nonerodable and nonhazardous materials for fill. Discharge of pollutants, including sediments, would be reduced through the construction of a storm sewer curb and gutter system discharging to rebuilt outfalls. This would route stormwater runoff through appropriate catch basins and outfall locations. The newly stabilized bluff would be planted with native vegetation to absorb and treat stormwater runoff from the bluff. These treatments, combined with reduced bluff grades, would substantially reduce the annual total suspended sediment and nutrient load into Lake Erie from the project area. No impact on, or withdrawal of, groundwater would be anticipated under the Proposed Action.

To stabilize the bluff and provide additional shoreline protection, the Proposed Action would require the placement of fill in Lake Erie below the ordinary high water mark (OHWM). The fill would be used to construct the revetment, access path, breakwater, and feeder beach at the eastern end of the project area. Fill estimates for these measures are summarized in **Table 2**.

Table 2: Dredge and Fill Estimates for Waters of the United States

| Item | Dredge or Fill Estimate (CY) |
|----------------|------------------------------|
| Armor Stone | 1,794 |
| Filter Stone | 1,264 |
| Core Stone | 2,572 |
| Rubble Removal | 4,471 |
| Fill | 1,347 |
| Sand Fill | 5,710 |
| Revetment | 6,265 |
| Total | 23,423 |

Source: Stangland 2018.

To avoid water quality impacts, only clean fill material that is free of fines, oil and grease, debris, wood, general refuse, plaster, broken asphalt, or other potential pollutants would be used. Use of clean fill material would prevent long-term water quality impacts and contamination from

hazardous materials. Placement of clean sand fill would also benefit the nearshore environment and littoral system. These benefits include retention of sediment.

All dredged material not determined suitable for reuse as fill would be placed at a disposal site in an upland area. At the disposal site, the return water (water that could return to surface water or groundwater from the dredged material) would be contained to prevent reentry and sedimentation into waters of the United States.

There could be minor, short-term impacts to water quality during construction. During construction, soil is highly vulnerable to erosion by wind and water. Eroded soil endangers water resources by reducing water quality and causing the siltation of habitat for aquatic species. Clearing and grading during construction would cause the temporary loss of native vegetation and exposure of soil to the elements. Short-term impacts on water resources and water quality from construction runoff would be minimized through BMPs specified by USACE and OEPA.

To address potential water resource and water quality impacts, the subrecipient developed and obtained permits to construct 2,900 feet of waterfront improvements, including the Proposed Action, in accordance with Sections 401 and 404 of the CWA. USACE approved the Section 404 permit on May 1, 2018. OEPA approved the Section 401 Water Quality Certification on November 30, 2017. Agency correspondence related to the permits is provided in **Appendix C**.

Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts. These conditions measures were provided in OEPA and USACE correspondence found in **Appendix C**. These measures include:

- Straw bales will not be used as a form of erosion and sediment control (**Appendix C**, OEPA Permit Approval 2017, BMP No. 3).
- Materials used for fill or bank protection will consist of suitable material free from toxic contaminants in other than trace quantities. Broken asphalt is specifically excluded from use as fill or bank protection (**Appendix C**, OEPA Permit Approval 2017, BMP No. 6).
- Concrete rubble, if used, will be a minimum size/weight of concrete in the range of 100 to 500 pounds per piece or 12 to 18 inches in diameter; free of exposed rebar; and free of all debris, soil, and fines (**Appendix C**, OEPA Permit Approval 2017, BMP No. 7).
- Chemically treated lumber, which may include but is not limited to chromated copper arsenate- and creosote-treated lumber will not be used in structures that come into contact with waters of the state (**Appendix C**, OEPA Permit Approval 2017, BMP No. 8).
- All temporary fill material will be removed to an area that has no waters of the state at the completion of construction activities, and the lake bottom will be restored to preconstruction elevations to the maximum extent practicable (**Appendix C**, OEPA Permit Approval 2017, BMP No. 10).

- The subrecipient will dredge and sidecast downdrift to the east, in less than 3 feet of water, all sand gravel material that would be covered by the footprint of the authorized project (**Appendix C**, USACE Permit Approval 2018, Special Condition No. 7).
- All dredged material not determined suitable for reuse as base material or backfill will be placed within an upland area, and all return water will be contained to prevent reentry into waters of the United States. The upland placement area will be coordinated with USACE, and no material will be placed into the upland area before receiving written approval from USACE (**Appendix C**, USACE Permit Approval 2018, Special Condition No. 9).
- Only clean fill material that is free of fines, oil and grease, debris, wood, general refuse, plaster, broken asphalt, or other potential pollutants will be used (**Appendix C**, USACE Permit Approval 2018, Condition No. 14).

Because the project would disturb an area greater than 1 acre, construction and post-construction stormwater discharges would be subject to state permitting requirements. The subrecipient's contractor must obtain an NPDES permit for construction-related erosion and sediment control in accordance with *Ohio EPA Permit No. OHC000005*, which authorizes stormwater runoff discharges associated with construction activities. Compliance with the permit requires development of a stormwater pollution prevention plan (SWP3). The SWP3 must provide measures that would be used to avoid, minimize, or mitigate water resource and water quality impacts during construction, including:

- Preservation methods for natural conditions
- Erosion, runoff, and sediment control practices
- Post-construction stormwater management requirements
- Surface water protection measures
- Other controls for nonsediment pollutants, contaminated sediment, vehicle traffic, trenches, and groundwater

3.1.3 Floodplain Management (Executive Order 11988)

EO 11988, *Floodplain Management*, requires federal agencies to minimize occupancy and modification of the floodplain. Specifically, EO 11988 prohibits federal agencies from funding construction in the 100-year floodplain unless there are no practicable alternatives. FEMA's regulations for complying with EO 11988 are promulgated in 44 C.F.R Part 9. A summary of the eight-step decision-making process to ensure compliance with EO 11988 is provided in **Appendix B**.

The design flood or 1-percent-annual-chance (100-year) floodplain elevation at this location on Lake Erie is 576 feet North American Vertical Datum of 1988 (NAVD 88) as noted in the *Flood Insurance Study for Cuyahoga County, Ohio and Incorporated Areas* (FEMA 2010). The same study shows the 500-year Base Flood Elevation (BFE) as 576.7 feet NAVD 88. The project area is partially within the coastal 100-year floodplain of Lake Erie as shown on Flood Insurance Rate Map (FIRM) panel # 39035C0082E for the City of Euclid, Ohio, and in **Figure 7 of Appendix A**.

The coastal floodplain in the project area has buffered inland areas from the effects of storm waves and acted as natural levees against coastal flooding. However, these functions have been degraded by continued erosion. The existing natural floodplain functions are degraded as sediments from the eroding bluff contribute to water quality impacts. The nonpermitted armoring at the base of the bluff does not provide suitable habitat for fish or wildlife nor does it permit recreational uses of the shoreline.

Alternative 1 – No Action:

Under the No Action alternative, there would be no construction, thus, no direct modification of the floodplain. However, there would be long-term, adverse impacts from continued nonauthorized fill with inappropriate materials and continued erosion that degrades the condition and functions of the floodplain.

Alternative 2 – Euclid Erosion Mitigation Project:

In the long-term, the natural floodplain functions of the project area would benefit from stabilization of the bluff and reduction in erosion, sedimentation, and untreated stormwater runoff. The Proposed Action would also create a gentler slope and a narrow beach and would introduce more natural materials (i.e., sand, cobble) at the shoreline edge, benefiting habitat functions and providing for some recreational uses.

Although the Proposed Action would place fill in the floodplain of Lake Erie, there would be no long-term impact on the BFE. The amount of fill that would be placed in the floodplain is slightly greater than amount of fill that would be placed in waters of the United States as presented in Section 3.1.2, **Table 2**. The BFE is roughly 1 foot higher than the OHWM (574.4 feet NVGD 29). The City of Euclid floodplain administrator determined that a hydrologic and hydraulic engineering analysis was not required because the project area is in a coastal floodplain with no identified floodway. The city's local floodplain administrator approved a floodplain permit for the project on June 5, 2018, which is provided in **Appendix C**.

Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts:

- The subrecipient will adhere to the City of Euclid floodplain development ordinance, which outlines mitigation measures for construction in the floodplain (City of Euclid Code of Ordinances 1703.044).
- Construction staging and access for the Proposed Action will occur outside the mapped floodplain to the extent practical.

3.1.4 Air Quality

The Clean Air Act (CAA), 42 U.S.C. § 7401 et seq., requires EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The CAA established two types of national air quality standards. Primary standards

set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. Current criteria pollutants are carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), lead (Pb), particulate matter (PM), and sulfur dioxide (SO₂).

Federally funded actions in nonattainment and maintenance areas are subject to EPA conformity regulations, 40 C.F.R. Parts 51 and 93. The air conformity analysis process ensures that emissions of air pollutants from planned federally funded activities would not affect the state's ability to achieve the CAA goal of meeting the NAAQS. Section 176(c) of the CAA requires that federally funded projects must not cause any violations of the NAAQS, increase the frequency or severity of NAAQS violations, or delay timely attainment of the NAAQS or any interim milestone. The emissions from construction activities are subject to air conformity review.

Under the general conformity regulations, a determination for federal actions is required for each criteria pollutant or precursor in nonattainment or maintenance areas where the action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at rates equal to or exceeding the prescribed *de minimis* rates for that pollutant. The prescribed annual rates are 50 tons of volatile organic compounds (VOCs) and 100 tons of nitrogen oxides (NO_x) (ozone precursors) and 100 tons of PM_{2.5}, SO₂, or NO_x (PM_{2.5} and precursors).

An area is classified as nonattainment when it does not meet NAAQS standards (OEPA 2018d). According to OEPA's NAAQS attainment map, the entire state of Ohio is located in an attainment area for CO, NO₂, Pb, PM₁₀, and 24-hour PM_{2.5}. The project area is located in the state-designated Cleveland area for air quality purposes. The EPA reports that Cuyahoga County is nonattainment for PM_{2.5} and O₃ (OEPA 2018b).

Alternative 1 – No Action:

No construction activities would occur under the No Action alternative. Therefore, no short- or long-term impacts on air quality are anticipated.

Alternative 2 – Euclid Erosion Mitigation Project:

No long-term adverse impacts on air quality and no air permit would be anticipated if the Proposed Action is constructed. The Proposed Action would not create any long-term air quality issues or be a source of new emissions.

The Proposed Action may have short-term impacts on air quality due to the use of construction equipment with diesel and gasoline engines. During the construction phase, exposed soil could temporarily increase airborne particulate matter into the project area. Emissions from construction equipment could have minor, temporary effects on the levels of some pollutants, including CO, VOCs, NO₂, O₃, and PM. Emissions would be temporary and localized, and only minor, adverse impacts on air quality in the project area would occur. Based on a review of the proposed construction schedule and equipment that would be used, these impacts would fall below *de minimis* thresholds established by EPA in 40 C.F.R. § 93.153.

Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts:

- To reduce the emission of criteria pollutants, construction equipment engine idling will be minimized to the extent practicable and engines will be kept properly maintained.
- Open construction areas will be minimized and watered as needed to minimize particulates such as fugitive dust.

3.1.5 Coastal Zone Management

The Coastal Zone Management Act (CZMA), 16 U.S.C. § 1451 et seq., enacted in 1972, was established to preserve, protect, develop, and where possible, restore or enhance the resources of the nation's coastal zone. Section 307 of the CZMA requires federal actions, within or outside of the coastal zone, to be consistent with the enforceable policies of a state's federally approved coastal management program (National Oceanic and Atmospheric Administration 2018). The ODNR Office of Coastal Management is responsible for managing the Ohio Coastal Management Program (OCMP). The OCMP contains 41 management policies related to the following resources in the coastal zone:

- Coastal erosion and flooding
- Water quality
- Ecologically sensitive resources
- Ports and shore area development
- Recreation and cultural resources
- Fish and wildlife management
- Environmental quality
- Energy and mineral resources
- Water diversions and withdrawals from Lake Erie

In Ohio, the coastal zone includes the shoreline of Lake Erie, including portions of Cuyahoga County. The coastal zone around the project area is shown in **Figure 8 of Appendix A**.

Alternative 1 – No Action:

Under the No Action alternative, no erosion mitigation measures would be implemented, and the shoreline would continue to erode. Continued erosion of the shoreline would have long-term, adverse impacts on coastal resources and would not be consistent with OCMP Policy 6, which relates to protection of water quality, and Policies 1 through 5, which relate to coastal erosion and flooding.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would have long-term benefits on the coastal zone in and near the project area and would be consistent with the goals of the OCMP by stabilizing the bluff and improving

stormwater management, public access to the shoreline, and terrestrial and aquatic habitat. The Proposed Action would be consistent with the following OCMP policies:

- Minimize threats to human safety and property due to Lake Erie-related erosion while protecting coastal functions (Policies 1 through 5).
- Reduce sediment, nutrients, and other pollutants and otherwise improve the water quality of Lake Erie and its tributaries (Policy 8).
- Provide lakeshore recreational opportunities and public access and encourage tourism along Lake Erie (Policy 21).
- Protect the visual and aesthetic amenities of Lake Erie and shoreline (Policy 33).

The special conditions of the USACE 404 permit note that the proposed project is in compliance with CZMA requirements and that ODNR has concurred that the project is consistent with Ohio Coastal Zone Management policies (**Appendix C**). FEMA concurs with the USACE findings.

As part of the permit review process, the City of Euclid requested a consistency determination with the OCMP from ODNR. ODNR deemed the project consistent with the OCMP on March 5, 2018, with the approval of a Shore Structure Permit (Ohio Rev. Code § 1506.40) and Submerged Lands Lease (Ohio Rev. Code §§ 1506.10 and 1506.11) (see ODNR correspondence in **Appendix C**). The Submerged Land Lease authorizes the local municipality to use the lakebed for permanent offshore facilities such as breakwaters. The Shore Structure Permit authorizes construction of the revetments, breakwaters, and an emergency responder path and placement of fill.

Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, all beach and sand gravel excavated or that would be covered by structures will be sidecast lakeward prior to construction to prevent its removal from the littoral system (**Appendix C**, ODNR Office of Coastal Management 2018, Condition No. 7).

3.2 Biological Environment

3.2.1 Terrestrial and Aquatic Environment

The project area includes both terrestrial and aquatic habitat. The subrecipient completed a field survey of the existing terrestrial and aquatic environment of the project area in October 2013 (City of Euclid 2015b), which is the basis for the analysis. The survey included a tree inventory, an analysis of shoreline and nearshore conditions, and sampling of littoral sediments. The nearshore environment was defined as the area extending from a depth of 3 feet in Lake Erie to the toe of the bluff.

The nearshore and shoreline areas within the project area are covered in rubble composed of natural and man-made materials, including cobble, sand, pebbles, driftwood, weathered concrete, bricks, and rebar. These areas provide minimal habitat for wildlife. The beaches have

been eroding since 1949, and almost all the historic beaches (totaling approximately 4 acres) have been lost. The loss of beaches due to erosion has resulted in the disappearance of terrestrial and aquatic habitats.

The tree inventory identified and classified trees greater than 6 inches diameter breast height (DBH). The inventory divided trees into three categories: species that are not native to Ohio, such as black locust (*Robinia pseudoacacia*); native early successional species, such as Eastern cottonwood (*Populus deltoides*); and native hardwood species, such as red oak (*Quercus rubra*) and sugar maple (*Acer saccharum*). The inventory found that sugar maples dominated the eastern segment of the project area, and the central portion was generally dominated by non-native species.

Information on the littoral sediment was collected from a depth of approximately 10 feet to the shore in the project area. The littoral zone consists of solid rock lakebed, primarily shale substrate, covered by a thin layer of sediment. The shale substrate is not hospitable to aquatic species or supportive of invertebrate life. Therefore, aquatic species likely only temporarily inhabit the aquatic environment within the project area (City of Euclid 2016).

EO 13112, Invasive Species, requires federal agencies to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health impacts caused by invasive species. The survey found that the project area contains invasive grass species, such as phragmites (*Phragmites australis*), and tree species, such as black locust and Norway maple (*Acer platanoides*).

Alternative 1 – No Action:

Under the No Action alternative, there would be long-term, adverse impacts to the terrestrial and aquatic environment. The bluff would continue to erode, maintaining the deteriorated aquatic and terrestrial environment and threatening mature tree stands in the upland environment. Continued erosion of the bluff would likely cause additional loss of trees on the slope, which in turn would destabilize additional sections of the bluff. Although the addition of trees to the lake could provide beneficial large, woody debris for fish and invertebrate habitat, this benefit would be outweighed by the negative impact on water quality of additional sediment in Lake Erie.

In the upland area, habitat would continue to be undesirable to wildlife because the areas would not be revegetated with native plant species. Invasive species would also continue to grow in the project area uncontrolled. Therefore, the No Action alternative would continue to adversely impact terrestrial and aquatic environments in the project area that would worsen over time as the bluff continues to erode.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would have long-term benefits to terrestrial and aquatic habitat. The Proposed Action would reintroduce cobble and sand materials to the beach and nearshore environments, which encourages fish spawning. The cobble fill, sand beach fill, and proposed

rock revetment would provide perching and hunting platforms for wading birds, such as great blue herons (*Ardea herodias*) and great egrets (*Ardea alba*). The fill would create interstitial spaces for juvenile fish to seek refuge along the otherwise barren shore, crevices for benthic macroinvertebrates, and cover for prey and sport fish. The stabilization of the bluff and the proposed revegetation with native plant species would provide habitat for upland birds and mammals (City of Euclid 2016). The Proposed Action would remove and replace existing invasive vegetation with native trees and grasses. Under the Proposed Action, invasive plant or animal species would not be expected to spread within the project area.

In the short-term, there may be some minor adverse impacts as fill materials could be placed over existing fish and aquatic invertebrate habitat. However, the impacts would be short-term and minor because more diverse habitats would develop following construction. The adverse conditions created by inappropriate substrate materials would be removed, and erosion and sedimentation would cease to impact the nearshore environment.

Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts:

- Trees removed from temporary impact areas to facilitate construction will be replaced with appropriate tree species native to Ohio (**Appendix C**, OEPA Permit Approval 2017, BMP No. 9).
- No in-water work will be performed between April 15 and June 30 to protect spawning activities of indigenous fish species (**Appendix C**, OEPA Permit Approval 2017, Wildlife Protection No. 1; USACE Permit Approval 2018, Special Condition No. 2).
- If native mussels and/or mussel beds not previously identified are encountered at any time during construction or dredging activities, work must cease immediately and the ODNR Division of Wildlife must be contacted for further evaluation (**Appendix C**, OEPA Permit Approval 2017, Wildlife Protection BMP No. 2).
- The subrecipient will follow a littoral monitoring plan established in coordination with USACE (**Appendix C**, USACE Permit Approval 2018, Special Condition No. 6).

3.2.2 Wetlands (Executive Order 11990)

EO 11990, Protection of Wetlands, requires federal agencies to take action to minimize the loss of wetlands. FEMA regulation 44 C.F.R. Part 9, Floodplain Management and Protection of Wetlands, sets forth the policy, procedures, and responsibilities to implement and enforce EO 11990. EO 11990 prohibits FEMA from funding activities in a wetland unless no practicable alternatives are available. The NEPA compliance process requires federal agencies to consider direct and indirect impacts to wetlands, which may result from federally funded actions.

USACE and EPA define wetlands as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal

circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (40 C.F.R. 122.2).

The NWI was reviewed to identify any potential wetlands in the project area (USFWS 2018c). The NWI classifies Lake Erie as a Lacustrine System, which includes both wetlands and deepwater lake habitats. The NWI map is provided in **Figure 9 of Appendix A**. The field survey completed in 2016 found that no wetland conditions exist in the project area that would meet the USACE definition. The bottom of Lake Erie in the project area is composed of smooth shale, cobble, and concrete rubble and does not support wetland vegetation nor is there any wetland vegetation along the shoreline. In issuing their permit approvals, USACE and OEPA concurred with this determination in 2017 and 2018.

Alternative 1 – No Action:

Under the No Action alternative, there would be no short- or long-term impact on wetlands as there would be no construction and there are no wetlands present within the project area.

Alternative 2 – Euclid Erosion Mitigation Project:

Under the Proposed Action, there would be no short- or long-term impacts on wetlands because there are no wetlands present. Therefore, the Proposed Action would be consistent with EO 11990.

3.2.3 Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973, 16 U.S.C. § 1531, provides a framework for the conservation of endangered and threatened species and their habitats. Federal agencies are required to ensure that actions they fund, authorize, or carry out are not likely to jeopardize the continued existence of any listed species (including plant species) or result in the destruction or adverse modification of designated critical habitats for such species.

In 2016, the subrecipient contacted USFWS and ODNR Division of Wildlife to determine if any threatened and endangered species could occur in or near the project area. The USFWS determined that there was no federally designated critical habitat within the project area. However, the agency did identify the potential for several listed species to occur in or near the project area, including the Indiana bat (*Myotis sodalists*), Northern long-eared bat (*Myotis septentrionalis*), and the Kirtland’s warbler (*Setophaga kirtlandii*). ODNR determined that there were not any known unique ecological sites or animal assemblages within a 1-mile radius of the project area. Correspondence with USFWS and ODNR is provided in **Appendix C**.

Alternative 1 – No Action:

The No Action alternative would not directly impact state or federally listed threatened or endangered species because there would be no construction. However, continued bluff recession could result in the continued loss of forest, which may provide habitat for listed species. The continued bluff erosion may also prevent the development of forested habitat that could provide suitable habitat for those listed species.

Alternative 2 – Euclid Erosion Mitigation Project:

In 2017, USACE evaluated the potential for listed species to occur in or near the project area and to be affected by the proposed project pursuant to Section 7 of the ESA during their Section 404 permit review. USACE concluded that the project may affect, but was not likely to adversely affect, listed species. USACE provided conditions to avoid potential adverse effects to the three federally listed species that may occur in or near the project area. On October 23, 2018, FEMA requested concurrence from USFWS on a determination consistent with the USACE findings to ensure that FEMA would be in compliance with the ESA. On October 31, 2018, USFWS concurred with FEMA's determination that the project may affect, but is not likely to adversely affect, listed species (see **Appendix C**).

Mitigation Measures

In consultation with USFWS, FEMA requires the three avoidance and minimization measures listed below to avoid impacts on listed species. If the Proposed Action is the selected alternative, conditions would be implemented by the subrecipient to avoid impacts on listed species:

- To reduce any potential adverse effects on the federally endangered Indiana bat, trees with woody stems greater than 5 inches DBH must not be cut between April 1 and September 30 of any year (**Appendix C**, USACE Permit Approval 2018, Special Condition No. 3).
- To reduce any potential adverse effects on the federally threatened Northern long-eared bat, trees with woody stems greater than 3 inches DBH must not be cut between April 1 and September 30 of any year (**Appendix C**, USACE Permit Approval 2018, Special Condition No. 4).
- To avoid and minimize any potential adverse effects to the Kirtland's warbler, clearing, removal, and/or modification of any scrub/shrub or forested habitat will not occur between April 22 to June 1 and August 15 to October 15 of any year. The subrecipient is responsible for ensuring all contractors executing any shrub- or tree-clearing activities are aware of these work restriction time frames required to avoid and minimize effects to the warbler (**Appendix C**, USACE Permit Approval 2018, Special Condition No. 5).

3.2.4 Migratory Birds

A migratory bird is any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle. The Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703–711), provides protection for migratory birds and their nests, eggs, and body parts from harm, sale, or other injurious actions. All native birds, including common species such as American robin (*Turdus migratorius*) and American crow (*Corvus brachyrhynchos*) are protected by the Migratory Bird Treaty Act. The project area would support migratory birds. Additionally, the Bald and Golden Eagle Protection Act prohibits the take, possession, sale, or other harmful action of any golden (*Aquila chrysaetos*) or bald eagle (*Haliaeetus leucocephalus*), alive or dead, including any part, nest, or egg (16 U.S.C. § 668(a)). A search of the Information for Planning and Consultation on October 2018 identified migratory

bird species, including the bald eagle, which may be present in the project area, depending on the season (USFWS 2018b).

Alternative 1 – No Action:

The No Action alternative would not directly impact migratory birds because there would be no construction. However, the bluff would continue to erode, which could result in a long-term, adverse impact from loss of the few existing mature stands of hardwoods that could provide habitat for migratory birds.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would have long-term benefits for migratory bird species. By stabilizing the existing bluff, the Proposed Action would protect migratory bird habitat, particularly the hardwood trees located farther upland, and possibly expand forested habitat by establishing new areas of hardwood (City of Euclid 2015b). The stabilization of the shoreline, revegetation of the bluff slopes, and establishment of narrow beach areas could also benefit a variety of migratory birds that favor nearshore and shoreline habitats. Under the Proposed Action, the removal of some existing tree canopy along the edge of the bluff may have negligible, short-term impacts on migratory bird species.

3.3 Hazardous Materials

Hazardous materials are any items or agents (biological, chemical, radiological, and/or physical) that have the potential to cause harm to humans, animals, or the environment either by itself or through interaction with other factors. Sites within or adjacent to the project area, regulated by federal hazardous materials laws, were identified using the EPA Envirofacts and NEPAssist websites (EPA 2018a, EPA 2018b).

NEPAssist and Envirofacts identified four regulated sites within a 0.2-mile radius of the project area as summarized in **Table 3**. Three sites were regulated through programs under the CAA, and one site is regulated under the EPA Brownfields Program. None of these sites are within the project area. NEPAssist did not identify any sites in the project area or vicinity listed in the toxic release inventory, water dischargers (NPDES), or Superfund (National Priorities List) facilities databases (EPA 2018a, 2018b).

Table 3: Regulated Sites in the Project Vicinity

| Site No. | Site Name | Address | Regulation | Notes |
|----------|---------------------------|---|-------------------------|---|
| 1 | Former St. Roberts Campus | 23802 Lakeshore Boulevard, Euclid, OH 44123 | EPA Brownfields Program | Purchased by subrecipient in 2011. Cleanup completed in 2013 with Brownfield Revolving Loan Fund Grant. |
| 2 | Lakeshore Foods | 24200 Lakeshore Boulevard, Euclid, OH 44123 | Clean Air Act | Single air pollution facility with the potential for uncontrolled emissions. |
| 3 | Sunoco Gas Station | 24200 Lakeshore Boulevard, Euclid, OH 44123 | Clean Air Act | Single air pollution facility with the potential for uncontrolled emissions. |
| 4 | Regal Cleaners | 23930 Lakeshore Boulevard, Euclid, OH 44123 | Clean Air Act | Closed |

Source: EPA 2018b.

Alternative 1 – No Action:

No construction would occur under the No Action alternative; therefore, there would be no impacts related to hazardous materials either from the use of construction equipment or from the exposure of unknown contaminated materials through ground-disturbing activities. If there are any unknown contaminated materials along the shoreline, they may be exposed as bluff erosion continues, leading to contamination of the shoreline and Lake Erie.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would not cause long-term, adverse impacts through the addition of hazardous facilities, operations, or chemicals to the project area or increase the risk of hazardous materials-related impacts on the environment. The four identified facilities are unlikely to be impacted by the project due to their compliance status and distance from the project area. All the sites are located approximately 300 to 1,100 feet southwest of the project area.

The Proposed Action would involve the use of construction equipment, and there is a minor risk of leaks of oils, fuels, and lubricants from the use of such equipment. The use of equipment in good condition for a short duration of time would reduce any potential effects to an insignificant level. There is a potential of exposure during construction of unknown contaminated materials as a result of excavation and removal of soil and construction debris from the project area. Any hazardous materials discovered, generated, or used during construction of the Proposed Action would be disposed of and handled by the subrecipient in accordance with applicable local, state, and federal regulations. With the implementation of the BMPs listed below, the Proposed Action would have negligible, short-term effects related to hazardous materials.

Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts:

- Any hazardous and contaminated materials discovered, generated, or used during construction of the Proposed Action will be disposed of and handled by the subrecipient in accordance with applicable federal, state, and local regulations.
- Construction equipment will be kept in good working order. Any equipment to be used over, in, or within 100 feet of water will be inspected daily for fuel and fluid leaks. Any leaks will be promptly contained and cleaned up, and the equipment will be repaired.
- In the event of an inadvertent spill, the subrecipient must immediately call the OEPA Spill Hotline at 1-800-282-9378 and the OEPA Section 401/Stormwater Manager at 614-644-2001 (**Appendix C**, OEPA Permit Approval 2017, Terms and Conditions E).

3.4 Socioeconomics

3.4.1 Zoning and Land Use

The City of Euclid is responsible for development and enforcement of the city's zoning code, official zoning map (City of Euclid 2015a), and master land use plan. The zoning code and map specify the permitted land uses within the project area and were reviewed for this analysis. The 2018 *City of Euclid Master Plan* was used to evaluate the project's consistency with local plans. The project area is located in the "Downtown & Lakefront" section of Euclid as described in the master plan. In addition to the master plan, the *Euclid Waterfront Improvements Plan* was reviewed (City of Euclid 2009b). These plans provide land use goals and objectives for the shoreline area under study. Cuyahoga County, Ohio, maintains a spatial database for land use in the county, which was used to analyze existing land uses in the project area (Cuyahoga County 2018).

Existing land uses in the project area are shown in **Figure 10** of **Appendix A** and currently consist of undeveloped shoreline and upland and residential land uses. Cuyahoga County designates existing land uses in the project area as Conservation Lands and Residential. Adjacent land uses include higher density residential apartment buildings and single-family houses southwest of the project area. These existing land uses conform with the designated zoning for the project area.

Properties in the project area are zoned residential as shown in **Figure 11** of **Appendix A**. The southern portion of the proposed construction staging area is zoned U2 (Two Family House); the remainder of the staging area is zoned U1 (Single Family House). Properties along the shoreline are zoned U1 and U3 (Apartment House).

Alternative 1 – No Action:

The No Action alternative would not impact existing zoning for properties in the project area nor would there be any immediate changes to existing land uses. However, the unmitigated erosion would prevent conservation of the shoreline area, and eventually, the bluff recession would

result in the loss of housing in the residential zones. The No Action alternative is not consistent with the *City of Euclid Master Plan (2018)* and *Euclid Waterfront Improvements Plan (2009b)*. Land use goals and objectives presented in these plans for the project area call for improved conservation and public access to the shoreline.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would not impact existing zoning in the project area. No changes to the existing zoning would be necessary, and the Proposed Action is consistent with the existing residential zoning ordinances (U1, U2, and U3). The zoning code allows for conservation, park, and recreational activities in residential zones. Land uses in the project area would change from passive conservation to active conservation of the shoreline with public access elements. The Proposed Action is consistent with the *City of Euclid Master Plan (2018)* and *Euclid Waterfront Improvements Plan (2009b)*.

3.4.2 Visual Resources

Existing visual resources in the project area include the Lake Erie shoreline, trees, and other vegetation. Views of the area are largely limited to those living in the residential buildings along the shoreline, boaters using this section of Lake Erie, and visitors to the shoreline. Generally, the existing shoreline is covered in rubble, including driftwood, bricks, rebar, and concrete materials. Attempts to stabilize shoreline using concrete rubble have resulted in a high degree of visual contrast between the residential and natural features of the landscape and the concrete rubble as shown in the photographs provided in **Figure 5 of Appendix A**. The existing viewsheds are degraded by the eroding slope, bluff recession, and concrete construction debris and rubble that line the shoreline.

Alternative 1 – No Action:

Under the No Action alternative, the bluff would continue to erode, which would cause a long-term, adverse impact to visual resources. The subrecipient anticipates that the length of eroding shoreline would increase, additional areas would lose existing tree cover, and trees and sediment would be deposited into the lake. In addition, it is likely that unregulated efforts to control erosion through the placement of construction debris and rubble would continue, leading to high visual contrast between natural and residential features and the industrial/derelict nature of the unregulated erosion control measures along the shoreline.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would result in both temporary and permanent changes to visual resources, which would provide long-term benefits. The contours of the shoreline would be graded into a gradual incline, and concrete debris and rubble would be removed. Native plants would be planted along the bluff, replacing the invasive species currently found in the project area. Besides erosion mitigation, the Proposed Action would provide a multiuse emergency responder path along the shoreline. Visual renderings of the Proposed Action are provided in **Figure 4 of Appendix A**.

Construction equipment, excavation, tree removal, and other activities would temporarily impact visual resources during construction by increasing the contrast between the existing residential and natural features and the temporary construction activities.

3.4.3 Noise

The Noise Control Act of 1972 defines “noise” as undesirable sound. Noise is regulated at the federal level by the Noise Control Act of 1972, 42 U.S.C. § 4901 et seq. Noise standards developed by EPA (1974) provide a basis for state and local governments’ judgments in setting local noise standards. The City of Euclid has established a noise ordinance (City of Euclid Code of Ordinances §§ 545.10–545.13) that limits the production of excessive noise during evening hours on the weekdays and weekends. The ordinance specifies allowable noise levels in designated zones (e.g., residential zones).

Noise-sensitive land uses in the project area include the two residential apartment buildings (Harbor Crest and Waters Edge) and residences at East 242nd Street.

Alternative 1 – No Action:

The No Action alternative would not change ambient noise levels in the project area. There would be no short- or long-term changes in noise levels.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would not increase long-term noise levels in the project area once construction is complete. The subrecipient designed the vertical elevation of the path in collaboration with residents to minimize noise impacts to upland residential areas.

The Proposed Action would cause short-term, temporary changes in the ambient noise levels in the area associated with construction activities. Short-term impacts related to construction activities would include trucks hauling materials to the site and the operation of equipment such as mass excavators for dredge and fill activities. Moderate traffic noise would also be expected from construction vehicles and haul trucks arriving and departing from the project area.

Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, the subrecipient would minimize noise impacts by limiting construction activities to regular business hours consistent with the local noise ordinance (City of Euclid, Code of Ordinances Chapter 545.10).

3.4.4 Public Services and Utilities

The City of Euclid is served by municipal (city-run) police and fire departments and a municipal (public) school district. The closest hospital is over 2 miles southwest of the project area. No police, fire, public school, or municipal facilities are located within or adjacent to the project area.

The City of Euclid Public Service Department provides stormwater, sewer, refuse collection, and wastewater treatment services to the project area. Cleveland Electric (FirstEnergy) provides electricity services, and Columbia Gas of Ohio is the natural gas supplier. The City of Cleveland Division of Water provides water to the City of Euclid.

Existing stormwater infrastructure in the project area includes a municipal stormwater outlet pipe discharging over a rock revetment near the eastern limit of the project area.

Alternative 1 – No Action:

The No Action alternative could result in long-term impacts to storm sewer infrastructure because of continued erosion. No other public services, facilities, or utilities would be affected.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would improve storm sewer infrastructure in the project area, which would provide long-term benefits. A stormwater curb and gutter system is proposed along the multiuse emergency responder path as part of the project to direct runoff to rebuilt outfalls, improving stormwater collection and management.

The paved access path would be designed and built in accordance with emergency vehicle and equipment needs for access to the shoreline. The City of Euclid police and fire departments require a fully paved concrete or asphalt path for emergency response, general safety, and routine patrol purposes along the shoreline.

There would be no other impacts on public services and utilities from the Proposed Action.

3.4.5 Traffic and Circulation

Data on roads and transit services were obtained from ODOT and Greater Cleveland Regional Transit Authority. The project area is located off Lakeshore Boulevard, an arterial roadway with an Average Annual Daily Traffic volume of 5,571 vehicles (ODOT 2018). Several residential streets are located along the waterfront, including East 233rd Street, Lake Edge Drive, Luikart Drive, East 238th Street, and access drives that serve the apartment complexes. Two service roads are located on city-owned properties east of the Harbor Crest apartment complex.

The project area is served by the Greater Cleveland Regional Transit Authority's bus route 94. The nearest bus stop to the project area is the intersection of Lakeshore Boulevard with East 246th Street, at the southeast corner of the Harbor Crest apartments parking lot (Greater Cleveland Regional Transit Authority 2018).

The only existing public access to the shoreline is Sims Park about 1,000 feet west of the project area. The park provides parking for automobiles and pedestrian trails that lead to an existing pier. Sidewalks are provided on both sides of Lakeshore Boulevard; however, no other residential streets have sidewalks.

Alternative 1 – No Action:

Under the No Action alternative, the western segment of the waterfront improvements would be constructed, which would result in a minor, long-term increase in automobile traffic in the area from those using the new access path to the shoreline.

Other pedestrian access points would be constructed to access the shoreline path, including points at Sims Park, Lake Edge Drive, Luikart Drive, and the Water's Edge apartment complex. These access points are located between 500 and 1,500 feet west of the project area.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would construct a multiuse emergency responder path along the shoreline, which also would provide access for pedestrians, bicyclists, and maintenance crews. This path would connect to the western segment currently under construction. In the project area, the main access point to the shoreline would be from a new parking lot and trails built in the area identified for construction staging. The parking area would provide approximately 30 spaces. The parking area is not part of the Proposed Action but is shown in the plans (**Appendix F**).

The Proposed Action would result in a minor, long-term increase in automobile traffic volumes on nearby roadways. Trip generation for the project was qualitatively evaluated using Institute of Transportation Engineers trip generation rates for public parks (Institute of Transportation Engineers 2017). The overall Phase II shoreline improvements project would generate approximately 13 trips per day (16.6 acres x 0.78 daily trips per acre = 12.948 daily trips). No traffic mitigation measures are required as the project is not expected to have long-term impacts on roadway traffic in the area.

During construction, the Proposed Action would result in a minor, temporary increase in traffic as materials and equipment are mobilized to the site. Construction vehicles would access the project area at the proposed staging area via Lakeshore Boulevard.

3.4.6 Environmental Justice (Executive Order 12898)

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires agencies to identify and address disproportionately high and adverse human health or environmental effects their activities may have on minority or low-income populations. To provide context for this report, a demographic analysis was undertaken. EJSCREEN, a screening and mapping tool developed by EPA, was used to identify low-income and minority populations in the project area based on the 2012–2016 American Community Survey (ACS) developed by the U.S. Census Bureau (EPA 2018c).

The project area is located within a single census block group (ID# 390351522012) in the City of Euclid. According to the ACS, the total population of the block group was 2,174 persons in 2016; 51 percent of the block group population was low-income, and 82 percent of the population was minority. The percentage of minority populations in this block group is higher than 95 percent of communities within the State of Ohio, and the percentage of low-income populations in this

block group is higher than 78 percent of communities in the State of Ohio. Populations in and near the project area qualify as both low-income and minority using the CEQ definition (CEQ 1997). Racial composition in the project area is summarized in **Table 4**.

Table 4: Project Area Minority Population

| Race | Population | Percent |
|---|--------------|--------------|
| Black | 1,675 | 77.0 |
| White | 386 | 17.8 |
| Asian | 46 | 2.1 |
| Other race | 39 | 1.8 |
| Two or more races | 28 | 1.3 |
| Native Hawaiian or other Pacific Islander | 0 | 0.0 |
| American Indian or Alaskan Native | 0 | 0.0 |
| Total | 2,174 | 100.0 |

Source: EPA 2018c..

Alternative 1 – No Action:

Under the No Action alternative, the shoreline would continue to erode, causing structural risks to the Harbor Crest apartment complex where low-income and minority populations may live.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would not have any disproportionately high and adverse effects on minority or low-income populations. The Proposed Action would reduce the risk of erosion damage to residences, which may be occupied by low-income or minority populations. The Proposed Action would provide a multiuse emergency responder path along the lakefront and expand public access and safety along the historically, highly privatized, Lake Erie shoreline. Minority and low-income populations would benefit from improved access to the shoreline and new recreational opportunities.

3.4.7 Safety and Security

EO 13045, *Protection of Children From Environmental Health Risks and Safety Risks*, directs federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children to ensure their policies, programs, activities, and standards address those risks. The EO broadly defines environmental health and safety risks as products or substances that a child is likely to come in contact with or ingest through the air, soil, water, or food. EJSCREEN was used to identify the percentage of children who live in the project area; the data are based on the 2011–2015 ACS. According to the ACS, 7 percent of the population was under the age of 5 (152 children) in 2015, and about 16 percent of the population was under 18 (348 children).

The project area has no known safety and security issues except for the continued erosion of the shoreline because there is no public access to the shoreline currently.

Alternative 1 – No Action:

The No Action alternative would potentially have an impact on safety of the individuals in the area because the shoreline erosion would be left unmitigated. Continued erosion would cause the structural loss of the Harbor Crest parking garage and two apartment units at 15 East 242nd Street. The residents of Harbor Crest could potentially be displaced due to the loss of the parking structure, which would affect structural stability of the apartment buildings.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would reduce or eliminate ongoing erosion of the shoreline, which in turn would reduce the risk to people (including children) who live and work in the project area. There are no safety risks that would disproportionately affect children. The paved path would provide emergency access for first responders to the shoreline.

The paved path would provide a long-term benefit to emergency responders who require access to the shoreline. The City of Euclid police and fire departments require a fully paved concrete or asphalt path for emergency response, general safety, and routine patrol purposes along the shoreline. The path would be designed to accommodate emergency vehicles and equipment. The City of Euclid would assume responsibility for operating, maintaining, and patrolling the project area.

Standard construction-related safety risks would occur for construction workers at the project site. During construction, site safety from construction equipment would be ensured by the contractors performing the work.

Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts:

- To minimize risks to safety and human health, construction activities will be performed using qualified personnel trained to use required equipment properly.
- The construction site will be secured from public access.
- All construction activities will be conducted in accordance with the standards specified in Occupational Safety and Health Administration (OSHA) regulations.

3.5 Historic and Cultural Resources

Prior to engaging in any undertaking, FEMA must consider the potential effects on cultural resources of actions it proposes to fund and provide the Advisory Council of Historic Preservation a reasonable opportunity to comment if there would be an adverse effect. This obligation is defined by Section 106 of the National Historic Preservation Act (NHPA) of 1966, 16 U.S.C. § 470f, as amended and implemented by 36 C.F.R. Part 800. Cultural resources are defined as prehistoric or historic archaeology sites, historic standing structures, historic districts, objects, artifacts, cultural properties of historic or traditional significance—referred to as Traditional Cultural Properties—that may have religious or cultural significance to federally recognized

Indian Tribes (Tribes), or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons.

Cultural resources listed, eligible for listing, or potentially eligible for listing on the National Register of Historic Places (NRHP) are subject to protection from adverse impacts resulting from an undertaking. To be considered eligible, a cultural resource must meet one or more of the criteria that would make that resource eligible for inclusion in the NRHP. Eligibility criteria for listing a property in the NRHP are detailed in 36 C.F.R. Part 60. Sites not yet evaluated may be considered potentially eligible for inclusion in the NRHP and are afforded the same regulatory consideration as nominated properties. The Ohio State Historic Preservation Office (SHPO) within the Ohio History Center maintains the Ohio Historic Inventory (OHI).

Pursuant to 36 C.F.R. 800.4(a)(1), the area of potential effects (APE) is defined as the geographic area(s) within which the undertaking may directly or indirectly affect cultural resources. Within the APE, impacts on cultural resources are evaluated for both historic structures (above-ground cultural resources) and archaeology (below-ground cultural resources).

In addition to the NHPA, FEMA must also comply with other federal laws that relate to historic and cultural resources:

- American Indian Religious Freedom Act of 1978, 42 U.S.C. § 1996, which provides for the protection and preservation of American Indian sites, possessions, and ceremonial and traditional rites.
- Archaeological Resources Protection Act of 1979, 16 U.S.C. §§ 470aa–470 mm, which provides for the protection of archaeological resources on public lands and Indian lands.
- Native American Graves Protection and Repatriation Act, 25 U.S.C. §§ 3001–3013, in cases where Native American cultural items are found.

3.5.1 Historic Structures and Archaeological Resources

To comply with the NHPA, FEMA has adopted the findings of USACE that the agency used to approve the Section 404 permit in May 2018. The process that USACE followed is described here.

USACE began its consultation with the SHPO through a public notice issued on December 2, 2016 (**Appendix H**). The APE under USACE review encompassed the entire shoreline stabilization area, including both the area currently under construction and the area that is the subject of this Proposed Action. Therefore, the APE considered by USACE sufficiently encompasses the area under evaluation by FEMA.

The subrecipient completed a literature review for the entire 16.6-acre Phase IV Waterfront Improvements project area in August 2016 (Ohio Valley Archaeology, Inc. 2016). This literature review identified one historic property, the Albert W. Henn Mansion. This property is listed in both the OHI (CUY-8066-22) and NRHP (ID# 00000422). The Albert W. Henn Mansion is located approximately 2,000 feet southwest of the project area at 23131 Lakeshore Boulevard.

The 2016 literature review evaluated the potential for archaeological resources within the project area. It determined that the landscape within the project area had been severely altered and the potential for prehistoric or historic-era archeological sites was minimal. A Phase I archaeological review was not recommended.

In its review, USACE did not identify any properties listed in, or eligible for listing in, the National Register of Historic Places in the APE. USACE did identify three historic properties that may experience indirect viewshed effects: the Albert W. Henn Mansion, the Water's Edge apartment complex, and the Coastline Rental Property. Only the Albert W. Henn Mansion is listed in the OHI (CUY-8066-22) and NRHP (ID# 00000422). No other historic properties, including archeological sites, were identified by USACE.

Alternative 1 – No Action:

The No Action alternative would have no effect on historic structures or archaeological resources.

Alternative 2 – Euclid Erosion Mitigation Project:

Based on the information obtained from the subrecipient and the SHPO's online GIS Viewer, USACE determined that the project would have no direct effects on any listed property, and any indirect viewshed effects would result in no adverse effect. In the SHPO's Section 106 determination letter, dated January 30, 2017, the SHPO concurred with USACE's findings, stating that "no historic properties will be adversely affected by the proposed project." SHPO and related correspondence are provided in **Appendix C**.

FEMA contacted the SHPO on September 21, 2018, to confirm it would be adopting these findings in accordance with 36 C.F.R. 800.2(a)(2). FEMA's correspondence with the SHPO is found in **Appendix C**.

The Proposed Action would have no direct or indirect effects on historic structures. The Proposed Action would have no effect on archaeological resources because the potential for archaeological resources is low. The following project conditions provide additional protection to archaeological sites:

- The subrecipient will monitor ground disturbance during the construction phase; should human skeletal remains, or historic or archaeological materials be discovered during construction, all ground-disturbing activities on the project site shall cease and the applicant will notify the coroner's office (in the case of human remains), FEMA, and the Ohio SHPO.
- The subrecipient's contractor is expected to use fill from a commercial source or regularly maintained stockpile. If this is not the case, the subrecipient will inform FEMA of the fill source so required agency consultations can be completed. FEMA approval will be required prior to beginning ground-disturbing activities. Failure to adhere to this condition may jeopardize funding.

3.5.2 Tribal Coordination and Religious Sites

On November 6, 2000, President Clinton signed EO 13175, Consultation and Coordination with Indian Tribal Governments. The EO directs federal agencies “to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications, to strengthen the United States government-to-government relationships with Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes....”

Requests for evaluation of the presence or absence of known archaeological and Indian religious sites within the proposed project area were submitted to all federally recognized tribal nations with potential interests in Cuyahoga County. On October 18, 2018, FEMA initiated consultation with the following tribal organizations:

- Delaware Tribe of Indians, Bartlesville, Oklahoma
- Forest County Potawatomi Community of Wisconsin, Crandon, Wisconsin
- Hannahville Indian Community, Wilson, Michigan
- Ottawa Tribe of Oklahoma, Miami, Oklahoma
- Seneca Nation of Indians, Salamanca, New York
- Wyandotte Nation, Wyandotte, Oklahoma

FEMA sent a letter to each tribe with details about the project location and proposed activity. FEMA requested comments from each tribal government within 30 days of the date of the letter. FEMA did not receive any responses regarding the Proposed Action. Correspondence is provided in **Appendix D**.

Alternative 1 – No Action:

The No Action alternative would have no effect on known archaeological or Indian religious sites.

Alternative 2 – Euclid Erosion Mitigation Project:

The Proposed Action would have no effect on known archaeological or Indian religious sites.

Mitigation Measures

If any human or archaeological remains are encountered during the project, work will stop immediately and FEMA and the SHPO will be notified. Project conditions cited in Section 3.5.1 provide additional protection to sites of potential interest to tribal organizations.

3.6 Comparison of Alternatives

Table 5 summarizes the potential impacts of each alternative on the resource areas discussed in Section 3.

Table 5: Summary of Environmental Impacts

| Affected Environment | No Action Impacts | Proposed Action Impacts | Best Management Practices and Mitigation Measures |
|--|---|--|--|
| Geology, Soils, and Topography | <ul style="list-style-type: none"> Long-term, adverse impacts from continued bluff erosion. | <ul style="list-style-type: none"> Short-term impacts from excavation of lakebed and nonorganic fill to create the revetment, breakwater, and feeder beach. Long-term benefits from stabilizing bluff and reducing erosion. | <ul style="list-style-type: none"> All removed material will be disposed of off-site according to OEPA's Non-hazardous Waste Rules and Laws (OAC Chapter 3745). |
| Water Resources and Water Quality | <ul style="list-style-type: none"> Long-term, adverse water quality impact from continued erosion and sedimentation to Lake Erie. | <ul style="list-style-type: none"> No short-term impact on water quality due to BMPs. Long-term benefits to water quality from bluff stabilization and improved stormwater management. | <ul style="list-style-type: none"> See Section 6.2 for water resources and water quality mitigation measures and BMPs. (Note: not included in this table due to length of conditions list). |
| Floodplain Management | <ul style="list-style-type: none"> Long-term, adverse impact from continued nonauthorized fill with inappropriate materials and continued erosion degrading the condition of the floodplain. | <ul style="list-style-type: none"> No long-term impact on BFE. Long-term benefits from the improvement of natural floodplain functions through stabilization of the bluff, reduction in erosion, sedimentation, and untreated stormwater runoff. | <ul style="list-style-type: none"> The subrecipient will adhere to the City of Euclid floodplain development ordinance, which outlines mitigation measures for construction in the floodplain (City of Euclid, Code of Ordinances 1703.044). Construction staging and access will occur outside the mapped floodplain to the extent practical. |

| Affected Environment | No Action Impacts | Proposed Action Impacts | Best Management Practices and Mitigation Measures |
|--|---|--|--|
| Air Quality | <ul style="list-style-type: none"> No impact. | <ul style="list-style-type: none"> No long-term impact. Minor, short-term impacts from construction equipment and exposed soils. | <ul style="list-style-type: none"> To reduce the emission of criteria pollutants, construction equipment engine idling will be minimized to the extent practicable and engines will be kept properly maintained. Open construction areas will be minimized and watered as needed to minimize particulates such as fugitive dust. |
| Coastal Zone Management | <ul style="list-style-type: none"> Inconsistent with goals of the OCMP. Continued shoreline erosion would have long-term, adverse impacts on coastal resources. | <ul style="list-style-type: none"> Consistent with goals of OCMP. Long-term benefits to coastal resources through stabilization of the bluff, improvement of stormwater management, public access to the shoreline, and improved terrestrial and aquatic habitat. | <ul style="list-style-type: none"> All beach and sand gravel excavated or that would be covered will be sidecast lakeward prior to construction to prevent its removal from the littoral system (Appendix C, ODNR Office of Coastal Management 2018, Condition No. 7). |
| Terrestrial and Aquatic Environment | <ul style="list-style-type: none"> Long-term, adverse impacts from continued bluff erosion, a deteriorated aquatic and terrestrial environment, and threats to mature tree stands in the upland environment. Uncontrolled invasive species. | <ul style="list-style-type: none"> Long-term benefits to terrestrial and aquatic habitats. Short-term, adverse impacts from excavation of Lake Erie substrates and vegetation removal. Restoration of native vegetation and removal of invasive species would benefit habitat in the long-term. | <ul style="list-style-type: none"> Trees removed from temporary impact areas to facilitate construction will be replaced with appropriate tree species native to Ohio (Appendix C, OEPA Permit Approval 2017, BMP No. 9). No in-water work will be performed between April 15 and June 30 to protect spawning activities of indigenous fish species (Appendix C, OEPA Permit Approval 2017, Wildlife Protection No. 1; USACE Permit Approval 2018, Special Condition No. 2). If native mussels and/or mussel beds not previously identified |

| Affected Environment | No Action Impacts | Proposed Action Impacts | Best Management Practices and Mitigation Measures |
|--|---|---|--|
| | | | <p>are encountered at any time during construction or dredging activities, work must cease immediately and the ODNR Division of Wildlife must be contacted for further evaluation (Appendix C, OEPA Permit Approval 2017, Wildlife Protection BMP No. 2).</p> <ul style="list-style-type: none"> • The subrecipient will follow a littoral monitoring plan established in coordination with USACE (Appendix C, USACE Permit Approval 2018, Special Condition No. 6). |
| Wetlands | <ul style="list-style-type: none"> • No impact on wetlands. | <ul style="list-style-type: none"> • No impacts on wetlands. | <ul style="list-style-type: none"> • None |
| Threatened and Endangered Species | <ul style="list-style-type: none"> • Continued bluff recession would degrade terrestrial habitat, including trees, which could be used by listed bat species for roosting, resulting in an adverse effect. | <ul style="list-style-type: none"> • The Proposed Action may affect, but would not be likely to adversely affect, threatened and endangered species. | <ul style="list-style-type: none"> • To reduce any potential adverse effects on the federally endangered Indiana bat, trees with woody stems greater than 5 inches DBH must not be cut between April 1 and September 30 of any year (Appendix C, USACE Permit Approval 2018, Special Condition No. 3). • To reduce any potential adverse effects on the federally threatened northern long-eared bat, trees with woody stems greater than 3 inches DBH must not be cut between April 1 and September 30 of any year (Appendix C, USACE Permit Approval 2018, Special Condition No. 4). • To avoid and minimize any potential adverse effects to the Kirtland's warbler, the clearing, removal, and/or modification of any scrub/shrub or forested habitat will not occur between April 22 and June 1 and August 15 to October 15 of any year. |

| Affected Environment | No Action Impacts | Proposed Action Impacts | Best Management Practices and Mitigation Measures |
|----------------------------|--|--|--|
| | | | <p>The subrecipient is responsible for ensuring all contractors executing any shrub- or tree-clearing activities are aware of these work restriction time frames to avoid and minimize effects to the warbler (Appendix C, USACE Permit Approval 2018, Special Condition No. 5).</p> |
| Migratory Birds | <ul style="list-style-type: none"> • Long-term, adverse impact from continued bluff recession could result in the loss of trees and long-term degradation of terrestrial habitats. | <ul style="list-style-type: none"> • Negligible, short-term impacts from the removal of existing trees along the bluff. • Long-term benefits to migratory birds from the protection and reestablishment of hardwood trees. | <ul style="list-style-type: none"> • None |
| Hazardous Materials | <ul style="list-style-type: none"> • No impact related to construction. • Unknown contaminated materials may be exposed due to bluff erosion, leading to contamination of Lake Erie. | <ul style="list-style-type: none"> • No long-term, adverse impacts through the addition of hazardous facilities, operations, or chemicals. • Minor, short-term impacts from construction equipment and potential leaks of oils, fuels, and lubricants. | <ul style="list-style-type: none"> • Any hazardous materials discovered, generated, or used during construction of the Proposed Action will be disposed of and handled by the subrecipient in accordance with applicable local, state, and federal regulations. • Construction equipment will be kept in good working order. Any equipment to be used over, in, or within 100 feet of water will be inspected daily for fuel and fluid leaks. Any leaks will be promptly contained and cleaned up, and the equipment will be repaired. • In the event of an inadvertent spill, the subrecipient must immediately call the OEPA Spill Hotline at 1-800-282-9378 and the OEPA Section 401/Stormwater Manager at |

| Affected Environment | No Action Impacts | Proposed Action Impacts | Best Management Practices and Mitigation Measures |
|-------------------------------------|---|--|---|
| | | | 614-644-2001 (Appendix C , OEPA Permit Approval 2017, Terms and Conditions E). |
| Zoning and Land Use | <ul style="list-style-type: none"> • No impact on zoning and land use. • Inconsistent with the <i>City of Euclid Master Plan</i> (2018) and <i>Euclid Waterfront Improvements Plan</i> (2009b). | <ul style="list-style-type: none"> • No impact on zoning and land use. • Consistent with the <i>City of Euclid Master Plan</i> (2018) and <i>Euclid Waterfront Improvements Plan</i> (2009b). | <ul style="list-style-type: none"> • None |
| Visual Resources | <ul style="list-style-type: none"> • Long-term, adverse impact from the continued shoreline erosion, resulting in loss of trees and vegetation. • High visual contrast due to unpermitted fill and bank stabilization measures. | <ul style="list-style-type: none"> • Long-term benefits to visual resources from bluff grading, concrete and rubble removal, and replanting of native vegetation. • Short-term visual impacts during construction. | <ul style="list-style-type: none"> • None |
| Noise | <ul style="list-style-type: none"> • No impact. | <ul style="list-style-type: none"> • No long-term impact. • Moderate, short-term noise impacts associated with construction. | <ul style="list-style-type: none"> • To minimize noise impacts, construction activities will be limited to regular business hours consistent with the local noise ordinance. |
| Public Service and Utilities | <ul style="list-style-type: none"> • Potential impacts on storm sewer infrastructure due to erosion. | <ul style="list-style-type: none"> • Long-term benefits from improved storm sewer infrastructure. | <ul style="list-style-type: none"> • None |
| Traffic and Circulation | <ul style="list-style-type: none"> • Minor long-term increase in automobile traffic. | <ul style="list-style-type: none"> • Minor, long-term increase in automobile traffic. | <ul style="list-style-type: none"> • None |

| Affected Environment | No Action Impacts | Proposed Action Impacts | Best Management Practices and Mitigation Measures |
|---|---|---|--|
| | | <ul style="list-style-type: none"> • Minor, temporary traffic impact during construction. | |
| Environmental Justice | <ul style="list-style-type: none"> • Shoreline erosion poses long-term risks to minority and low-income populations living in the census block group where the project is located. | <ul style="list-style-type: none"> • No disproportionately high and adverse effects on minority or low-income populations. • Creation of public access to the lakefront. • Reduction in risk to residences from erosion. | <ul style="list-style-type: none"> • None |
| Safety and Security | <ul style="list-style-type: none"> • Potential erosion-related safety concerns for project area residents. | <ul style="list-style-type: none"> • Reduction in risk to residences from erosion. • Long-term benefit from improved shoreline access for emergency responders. • Standard, construction-related safety risks. | <ul style="list-style-type: none"> • To minimize risks to safety and human health, construction activities will be performed by qualified personnel trained to use required equipment properly. • The construction site will be secured from public access. • All construction activities will be conducted in accordance with the standards specified in OSHA regulations. |
| Historic Structures and Archaeological Resources | <ul style="list-style-type: none"> • No effect. | <ul style="list-style-type: none"> • No direct effects and no adverse indirect effects. | <ul style="list-style-type: none"> • The subrecipient will monitor ground disturbance during the construction phase; should human skeletal remains, or historic or archaeological materials be discovered during construction, all ground-disturbing activities on the project site will cease and the subrecipient will notify the coroner's office (in the case of human remains), FEMA, and the Ohio SHPO. |

| Affected Environment | No Action Impacts | Proposed Action Impacts | Best Management Practices and Mitigation Measures |
|-----------------------------------|--|--|--|
| | | | <ul style="list-style-type: none"> The subrecipient’s contractor is expected to use fill from a commercial source or regularly maintained stockpile. If this is not the case, the subrecipient will inform FEMA of the fill source so required agency consultations can be completed. FEMA approval will be required prior to beginning ground-disturbing activities. |
| Tribal and Religious Sites | <ul style="list-style-type: none"> No effect. | <ul style="list-style-type: none"> No effect. | <ul style="list-style-type: none"> If any human or archaeological remains are encountered during the project, work will stop immediately and FEMA and the SHPO will be notified. |

4. CUMULATIVE IMPACTS

This section addresses the potential cumulative impacts associated with the implementation of the Proposed Action. Cumulative impacts are defined in CEQ regulations for implementing NEPA (40 C.F.R. § 1508.7) as:

“the impacts of a proposed action when combined with impacts of past, present, or reasonably foreseeable future actions undertaken by any agency or person.”

CEQ regulations require an assessment of cumulative effects during the decision-making process for federal projects. Cumulative impacts can result from individually minor but collectively significant actions. For the purpose of the cumulative impact analysis, the project area was expanded to include the entirety of the waterfront improvements planning area shown in **Figure 4** and **Figure 12**.

The Proposed Action is part of a larger planning effort undertaken in the lakefront area of the City of Euclid over the past 10 years and documented in the *Euclid Waterfront Improvements Plan* (City of Euclid 2009b) and the *City of Euclid Master Plan* (2018). The city is implementing the *Euclid Waterfront Improvements Plan* in three phases. These three phases and a fourth proposed improvement are summarized as follows:

- **Phase I** constructed a fishing pier and public access trails at Sims Park and was completed in 2013.
- **Phase II** would construct shoreline restoration and bluff stabilization measures along 2,900 feet of Lake Erie shoreline, including the 1,100-foot segment under study. The 1,800-foot western segment is currently under construction. Phase II would construct a parking area and trails in the area that would be used for construction staging for the Proposed Action.
- **Phase III** proposes to develop a marina in the eastern portion of the project area as shown in **Figure 12**. The marina is not part of the Proposed Action; however, it is proposed in the same location. The marina may create 150 or more boat slips (City of Euclid 2009a). Docks, breakwaters, parking, and supporting facilities would be needed to implement the marina. Support facilities could include a marina administration/reception building, restrooms and showers, fuel and sanitary pump-out facilities, and utility hookups for water and electric service at the docks.
- The *City of Euclid Master Plan* (2018) identifies an approximate 6.5-acre site at the end of East 233rd Street adjacent to the shoreline for redevelopment. The subrecipient did not identify any specific development proposal or funding source; however, the action is reasonably foreseeable. The proposed redevelopment location is shown in **Figure 12** and includes the connection of the trails proposed both east and west of the parcel. The site is currently forested and undeveloped open space in private ownership.

4.1 Soils and Topography

Full implementation of Phase II of the *Euclid Waterfront Improvements Plan* (City of Euclid 2009b) would stabilize the bluff along the entire 2,900 feet of the shoreline. Bluff stabilization measures for both segments would be similar in design as described in Section 2.2. Bluff stabilization and restoration measures would be constructed using compacted soils that would be aerated and revegetated with native vegetation with thick root systems to hold soil in place. A revetment consisting of armor stone, filter stone, and core stone would be constructed at the toe of the bluff.

During Phase III, construction of the marina may affect soils and topography in the upland areas. Additional parking will be needed for the marina, which may require grading. Development of the East 233rd Street site would also require grading and site preparation for apartment buildings and retail space.

4.2 Water Quality

For Phases I and II, the subrecipient obtained a Section 401 Water Quality Certification from OEPA to construct the fishing pier, revetments, breakwaters, and the feeder beach. As part of the Phase II improvements, a new bioretention cell would also be constructed south of the main breakwater near the east end of the project area. The bioretention cell is not part of the Proposed Action being considered in the EA. Approximately 2.5 acres of upland development would drain to the cell, including approximately 0.4 acres of impervious walkway and plaza areas, 0.1 acres of compacted aggregate trails, and approximately 2.0 acres of pervious areas.

The bioretention cell would be approximately 1,000 square feet in surface area with a detention volume of approximately 2,400 cubic feet. The cell would include a surface ponding area of approximately 1.5 feet over a 24-inch filter layer consisting of engineered soil and clear stone and would be planted with water-tolerant plantings selected to effectively absorb and transpire stormwater runoff. Additional stormwater treatment would be provided in upland areas (outside of the project area) so that the total water quality treatment volume complies with OEPA and Cuyahoga County Soil and Water Conservation District requirements.

In Phase III, construction of the marina combined with potential residential and retail development may have cumulative impacts on water quality from increased impervious surfaces due to the new development at East 233rd Street site, stormwater runoff, and marina development.

Besides the new impervious surface, water quality impacts from marinas can include pollutants discharged from boats, dissolved oxygen deficiencies from poorly flushed waterways, and pollutants generated by boat maintenance and fueling activities. These effects may be offset by the stormwater improvements implemented under the Proposed Action and must be permitted in accordance with the CWA. In Ohio, marinas are required to obtain a General Stormwater Permit from OEPA and develop and implement a SWP3 as part of the permit approval process.

4.3 Coastal Resources

For Phases I and II, the subrecipient obtained a Submerged Land Lease and Shore Structures permit from the ODNR to construct the fishing pier, revetments, breakwaters, and feeder beach. During Phase III, Lake Erie may be cumulatively impacted by additional breakwaters and dock facilities in Lake Erie. Development of the marina and East 233rd Street site must be conducted in accordance with Ohio's Coastal Management Program since both sites are located within Ohio's designated coastal zone.

4.4 Terrestrial and Aquatic Habitat

The subrecipient designed Phases I and II of the *Euclid Waterfront Improvements Plan*, (City of Euclid 2009b) with an objective of improving terrestrial and aquatic habitat along the entire 2,900-foot shoreline. Phase II would reintroduce cobble and sand materials to the beach and nearshore environments, which encourages fish spawning. The cobble fill, sand beach fill, and proposed rock revetment would provide perching and hunting platforms for wading birds such as great blue herons and great egrets. The fill would create interstitial spaces for juvenile fish to seek refuge along the otherwise barren shore, crevices for benthic macroinvertebrates, and cover for prey and sport fish. The stabilization of the bluff and the proposed revegetation with native plant species would provide habitat for upland birds and mammals.

Implementation of Phase II would also remove and replace existing invasive vegetation with native trees and grasses. The parking area proposed for Phase II may affect terrestrial habitat in the upland areas through the removal of trees and vegetation. However, the project would be constructed in accordance with the conditions set forth in the Section 401 Water Quality Certification and Section 404 permit to minimize adverse impacts on habitat.

If the marina is constructed in Phase III, it has the potential to disturb aquatic habitat; however, surveys completed by the subrecipient indicate existing aquatic habitat in the area is minimal due to the characteristics of the lakebed. Development of the East 233rd Street site has the potential to impact terrestrial habitat from the removal of trees and vegetation.

4.5 Traffic and Circulation

Besides the Proposed Action, a 30-space parking area would be constructed in Phase II and is expected to generate additional car, bicycle, and pedestrian traffic in the long term. During Phase II, the park is expected to generate approximately 13 daily trips as described in Section 3.4.5. The parking area would also create additional access points to the waterfront for pedestrians and bicyclists at the eastern end of the project area near the feeder beach.

The marina constructed in Phase III would generate additional daily automobile traffic and parking needs. Based on standard use rates for marinas (Florida Department of Transportation 2010), the marina could generate 400 daily car trips (assuming 150 boat slips) and about 29 trips in the evening peak hour. Future development of the East 233rd Street site would also generate additional traffic from new residential and retail uses.

4.6 Land Use and Development

No other land use or development is planned beyond the shoreline improvements described for Phases I and II. During Phase III, additional land may be needed to create parking for the marina.

The city envisions redevelopment for an area at the end of East 233rd Street for potential mid-rise residential buildings mixed with first-floor retail. This location takes advantage of the lakefront views and access to the shoreline. This type of residential development is generally consistent with existing land uses of low-density, single-family homes as well as higher density apartment buildings.

5. PUBLIC PARTICIPATION

The City of Euclid conducted an extensive public involvement process in the development of the *Euclid Waterfront Improvements Plan* (2009b) described below under “Subrecipient Outreach.” USACE also conducted a public involvement process in 2016 for their review of the Section 404 permit application and Section 106 consultation.

The City of Euclid, in conjunction with OEMA and FEMA, published a public notice for Hazard Mitigation Grant Program Application in the *Euclid Observer* in May 2018 (**Appendix H**). Interested parties and/or citizens were encouraged to comment on the project to FEMA.

This EA is available for agency and public review and comment for a period of 30 days. The public information process will include a public notice with information about the proposed action in the *Cleveland Plain Dealer* (**Appendix E**). This EA is available on FEMA’s website at <https://www.fema.gov/recent-environmental-documents-public-notice-region-v>. The EA will also be made available on the City of Euclid website under the “Announcements” tab at <http://www.cityofeuclid.com>. Interested parties may request an electronic copy of the EA from either of those websites.

A hard copy of the EA will be available for review at:

Euclid Public Library
631 East 222nd Street
Euclid, OH 44123

This EA reflects the evaluation and assessment of the federal government, the decision maker for the federal action; however, FEMA will take into consideration any substantive comments received during the public review period to inform the final decision regarding grant approval and project implementation. The public is invited to submit written comments by emailing duane.castaldi@fema.dhs.gov or by mail to:

Duane Castaldi, Regional Environmental Officer
Attn: City of Euclid EA Comments
FEMA Region V

536 South Clark Street, 6th Floor
 Chicago, IL 60605

If FEMA receives no substantive comments from the public and/or agency reviewers, this EA will be adopted as final and FEMA will issue a FONSI. If FEMA receives substantive comments, it will evaluate and address those comments as part of the FONSI documentation and may consider whether changes to the grant or project implementation are appropriate.

Subrecipient Outreach

The City of Euclid has led a multiyear planning process for the waterfront improvements project, which has involved residents and stakeholders since 2008. The purpose of this outreach was to gain feedback and help generate and evaluate ideas and alternatives for waterfront improvements. These efforts consisted of stakeholder interviews, steering committee meetings, regulatory agency review, public open houses, and community leader briefings.

City staff provided project updates to the City Council with each request to seek funding and other project support. Information about the City of Euclid *Phase IV Waterfront Improvements Plan* was provided on the City of Euclid’s website and a bulletin board located in the main lobby of City Hall.

6. MITIGATION MEASURES AND PERMITS

6.1 Permits

The City of Euclid has obtained state and federal permits for the Proposed Action, which are summarized in **Table 6**.

Table 6: Permit Summary

| Permit No. | Issuing Agency | Title | Applicable Regulation/Law | Date | Status |
|---------------------------|--------------------|--|----------------------------------|-------------------|-------------|
| LRB-2016-01419 | USACE | 404 Individual Permit | Clean Water Act | May 2018 | Approved |
| 165143 | OEPA | 401 Water Quality Certification | Clean Water Act | November 30, 2017 | Approved |
| 16-CUY-02 | ODNR | Coastal Use Permit | Coastal Zone Management Act | March 5, 2018 | Approved |
| 2018-001 | City of Euclid, OH | Flood Hazard Area Development Permit | Floodplain Development Ordinance | June 5, 2018 | Approved |
| OEPA Permit No. OHC000005 | OEPA | General Permit Authorization for Stormwater Discharges | Clean Water Act | TBD | Not started |

| | | | | | |
|--|--|---|--|--|--|
| | | Associated With Construction Activity Under the NPDES | | | |
|--|--|---|--|--|--|

6.2 Project Conditions

The subrecipient is responsible for compliance with federal, state, and local laws and regulations, including obtaining any necessary permits prior to beginning construction activities and adhering to any conditions laid out in these permits. Any substantive change to the scope of work will require reevaluation by FEMA for compliance with NEPA and any other laws or Executive Orders.

The subrecipient must adhere to the following conditions should the Proposed Action be implemented. Failure to comply with FEMA grant conditions may jeopardize federal funding. FEMA requires the following standard conditions for the Proposed Action:

- The subrecipient is responsible for obtaining and complying with all required local, state, and federal permits and approvals.
- If deviations from the proposed scope of work result in substantial design changes, the need for additional ground disturbance, additional removal of vegetation, or any other unanticipated changes to the physical environment, the subrecipient must contact FEMA so that the revised project scope can be evaluated for compliance with NEPA and other applicable environmental laws.

Soils

- All removed material will be disposed of off-site according to OEPA’s Non-hazardous Waste Rules and Laws (OAC Chapter 3745).

Water Resources and Water Quality

- Straw bales will not be used as a form of erosion and sediment control (**Appendix C**, OEPA Permit Approval 2017, BMP No. 3).
- Materials used for fill or bank protection will consist of suitable material free from toxic contaminants in other than trace quantities. Broken asphalt is specifically excluded from use as fill or bank protection (**Appendix C**, OEPA Permit Approval 2017, BMP No. 6).
- Concrete rubble, if used, will be a minimum size/weight of concrete in the range of 100 to 500 pounds per piece or 12 to 18 inches in diameter; free of exposed rebar; and free of all debris, soil, and fines (**Appendix C**, OEPA Permit Approval 2017, BMP No. 7).
- Chemically treated lumber, which may include but is not limited to chromated copper arsenate- and creosote-treated lumber, will not be used in structures that come into contact with waters of the state (**Appendix C**, OEPA Permit Approval 2017, BMP No. 8).
- All temporary fill material will be removed to an area that has no waters of the state at the completion of construction activities, and the lake bottom will be restored to

preconstruction elevations to the maximum extent practicable (**Appendix C**, OEPA Permit Approval 2017, BMP No. 10).

- The subrecipient will dredge and sidecast downdrift to the east, in less than 3 feet of water, all sand gravel material that would be covered by the footprint of the authorized project (**Appendix C**, USACE Permit Approval 2018, Special Condition No. 7).
- All dredged material not determined suitable for reuse as base material or backfill will be placed in an upland area, and all return water will be contained to prevent reentry into waters of the United States. The upland placement area will be coordinated with USACE, and no material will be placed into the upland area before receiving written approval from USACE (**Appendix C**, USACE Permit Approval 2018, Special Condition No. 9).
- Only clean fill material that is free of fines, oil and grease, debris, wood, general refuse, plaster, broken asphalt, or other potential pollutants will be used (**Appendix C**, USACE Permit Approval 2018 Condition No. 14).

Floodplain Development

- The subrecipient will adhere to the City of Euclid floodplain development ordinance, which outlines mitigation measures for construction in the floodplain (City of Euclid, Code of Ordinances 1703.044).
- Construction staging and access will occur outside the mapped floodplain.

Air Quality

- To reduce the emission of criteria pollutants, construction equipment engine idling will be minimized to the extent practicable and engines will be kept properly maintained.
- Open construction areas will be minimized and watered as needed to minimize particulates such as fugitive dust.

Coastal Zone Management

- All beach and sand gravel excavated or that would be covered by structures will be sidecast lakeward prior to construction to prevent its removal from the littoral system (**Appendix C**, ODNR Office of Coastal Management 2018, Condition No. 7).

Terrestrial and Aquatic Environment

- Trees removed from temporary impact areas to facilitate construction will be replaced with appropriate tree species native to Ohio (**Appendix C**, OEPA Permit Approval 2017, BMP No. 9).
- No in-water work will be performed between April 15 and June 30 to protect spawning activities of indigenous fish species (**Appendix C**, OEPA Permit Approval 2017, Wildlife Protection No. 1; USACE Permit Approval 2018, Special Condition No. 2).
- If native mussels and/or mussel beds not previously identified are encountered at any time during construction or dredging activities, work must cease immediately and the ODNR Division of Wildlife must be contacted for further evaluation (**Appendix C**, OEPA Permit Approval 2017, Wildlife Protection BMP No. 2).
- The subrecipient will follow a littoral monitoring plan established in coordination with USACE (**Appendix C**, USACE Permit Approval 2018, Special Condition No. 6).

Threatened and Endangered Species

- To reduce any potential adverse effects on the federally endangered Indiana bat, trees with woody stems greater than 5 inches DBH must not be cut between April 1 and September 30 of any year (**Appendix C**, USACE Permit Approval 2018, Special Condition No. 3).
- To reduce any potential adverse effects on the federally threatened Northern long-eared bat, trees with woody stems greater than 3 inches DBH must not be cut between April 1 and September 30 of any year (**Appendix C**, USACE Permit Approval 2018, Special Condition No. 4).
- To avoid and minimize any potential adverse effects to the Kirtland's warbler, the clearing, removal, and/or modification of any scrub/shrub or forested habitat will not occur between April 22 to June 1 and August 15 to October 15 of any year. The subrecipient is responsible for ensuring all contractors executing any shrub- or tree-clearing activities are aware of these work restriction time frames required to avoid and minimize effects to the warbler (**Appendix C**, USACE Permit Approval 2018, Special Condition No. 5).

Hazardous Materials

- Any hazardous materials discovered, generated, or used during construction of the Proposed Action will be disposed of and handled by the subrecipient in accordance with applicable federal, state, and local regulations.
- Construction equipment will be kept in good working order. Any equipment to be used over, in, or within 100 feet of water will be inspected daily for fuel and fluid leaks. Any leaks will be promptly contained and cleaned up, and the equipment will be repaired.
- In the event of an inadvertent spill, the subrecipient must immediately call the OEPA Spill Hotline at 1-800-282-9378 and the OEPA Section 401/Stormwater Manager at 614-644-2001 (**Appendix C**, OEPA Permit Approval 2017, Terms and Conditions E).

Noise

- To minimize noise impacts, construction activities will be limited to regular business hours consistent with the local noise ordinance (City of Euclid, Code of Ordinances 545.10).

Safety and Security

- To minimize risks to safety and human health, construction activities will be performed by qualified personnel trained to use required equipment properly.
- The construction site will be secured from public access.
- All construction activities will be conducted in accordance with the standards specified in OSHA regulations.

Historic Structures and Archaeological Resources

- The subrecipient will monitor ground disturbance during the construction phase; should human skeletal remains or historic or archaeological materials be discovered during construction, all ground-disturbing activities on the project site shall cease and the

applicant will notify the coroner's office (in the case of human remains), FEMA, and the Ohio SHPO.

- The subrecipient's contractor is expected to use fill from a commercial source or regularly maintained stockpile. If this is not the case, the subrecipient will inform FEMA of the fill source so required agency consultations can be completed. FEMA approval will be required prior to beginning ground-disturbing activities. Failure to adhere to this condition may jeopardize funding.

Tribal and Religious Sites

- If any human or archaeological remains are encountered during the project, work will stop immediately and FEMA and the SHPO will be notified.

7. CONSULTATIONS AND REFERENCES

The following agencies were consulted during the preparation of this EA:

Federal, State, and Local Agencies

City of Euclid

Federal Emergency Management Agency

Ohio Department of Natural Resources

Ohio Environmental Protection Agency

Ohio State Historic Preservation Office

U.S. Army Corps of Engineers

U.S. Fish and Wildlife Services

Tribes

Delaware Tribe of Indians, Bartlesville, Oklahoma

Forest County Potawatomi Community of Wisconsin, Crandon, Wisconsin

Hannahville Indian Community, Wilson, Michigan

Ottawa Tribe of Oklahoma, Miami, Oklahoma

Seneca Nation of Indians, Salamanca, New York

Wyandotte Nation, Wyandotte, Oklahoma

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8. LIST OF PREPARERS

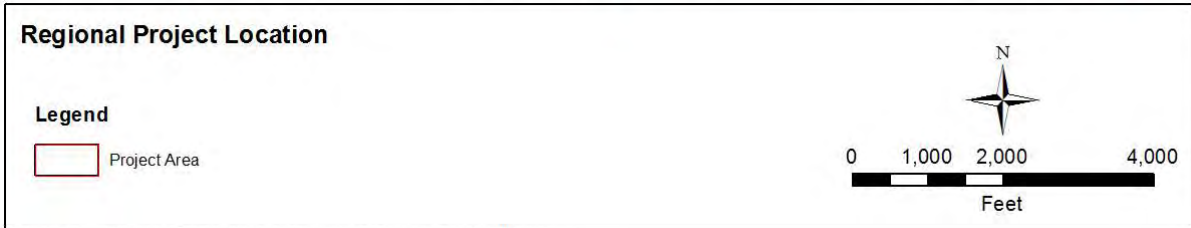
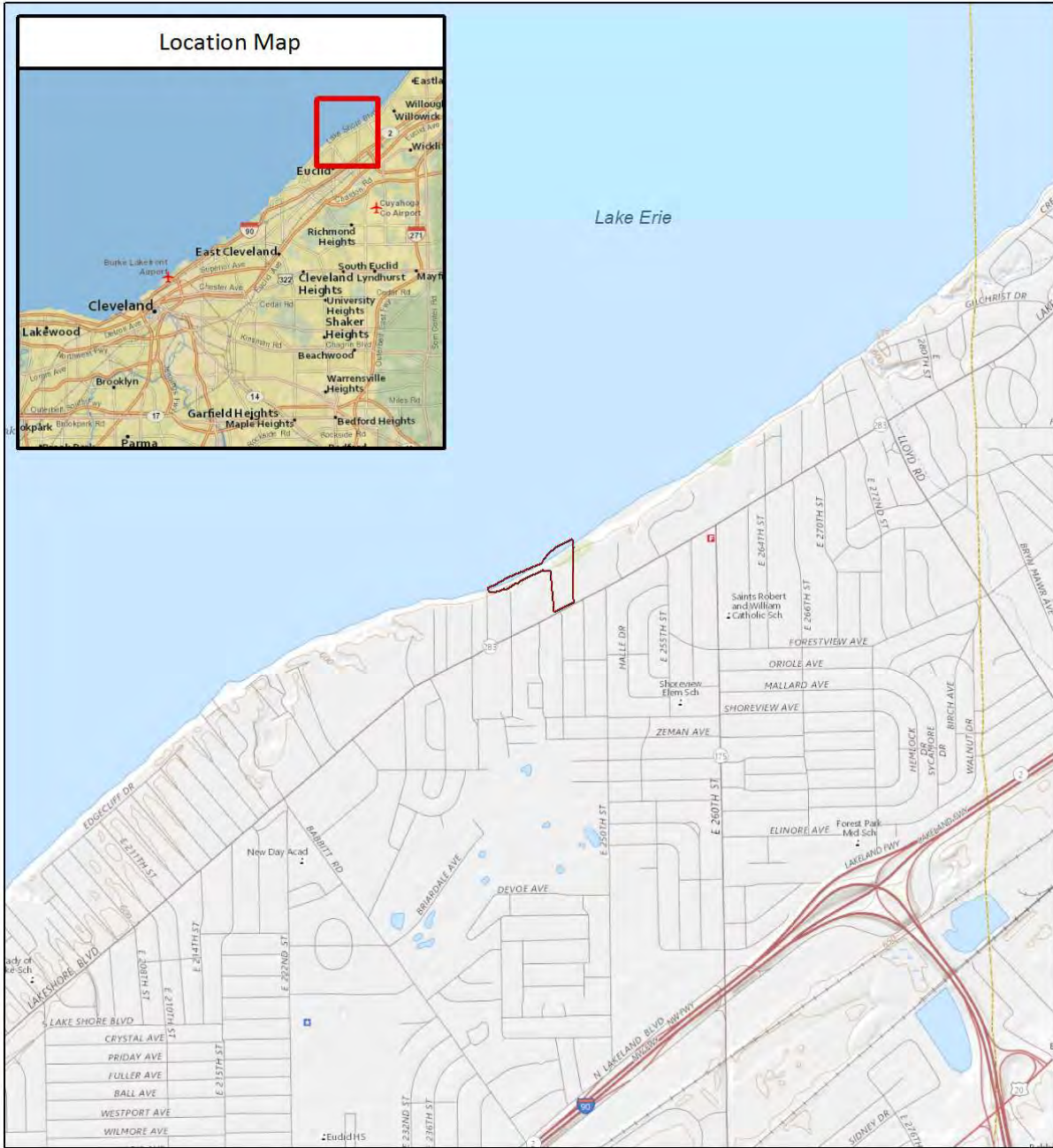
Federal Emergency Management Agency

| Reviewers | Role in Preparation |
|---------------------------------|---------------------|
| Duane Castaldi | Project Monitor |
| Nicholas Dorochoff | Technical Monitor |
| Pamela Broviak Jessica Eleff | Region V Staff |
| Maureen Cunningham | Regional Counsel |

CDM Smith

| Preparers | Experience and Expertise | Role in Preparation |
|----------------------|------------------------------|----------------------------|
| Emma Argiroff | Environmental Planner | NEPA Documentation |
| Malena Foster | GIS Specialist | GIS |
| Jennifer Graf | Senior Planner | NEPA Documentation/ Review |
| Alan Hachey, AICP | Technical Environmental Lead | Technical Lead |
| Claudia Lea | Project Manager | Project Manager |
| Tsui Li | Environmental Planner | NEPA Documentation |
| Kate Stenberg, Ph.D. | Quality Control | Quality Control |

Appendix A Maps and Figures



Sources: Project Areas: CDM Smith, 2018, Basemap: ESRI World Topographic Map.

Figure 1: Regional Project Location Map



Figure 2: Project Area

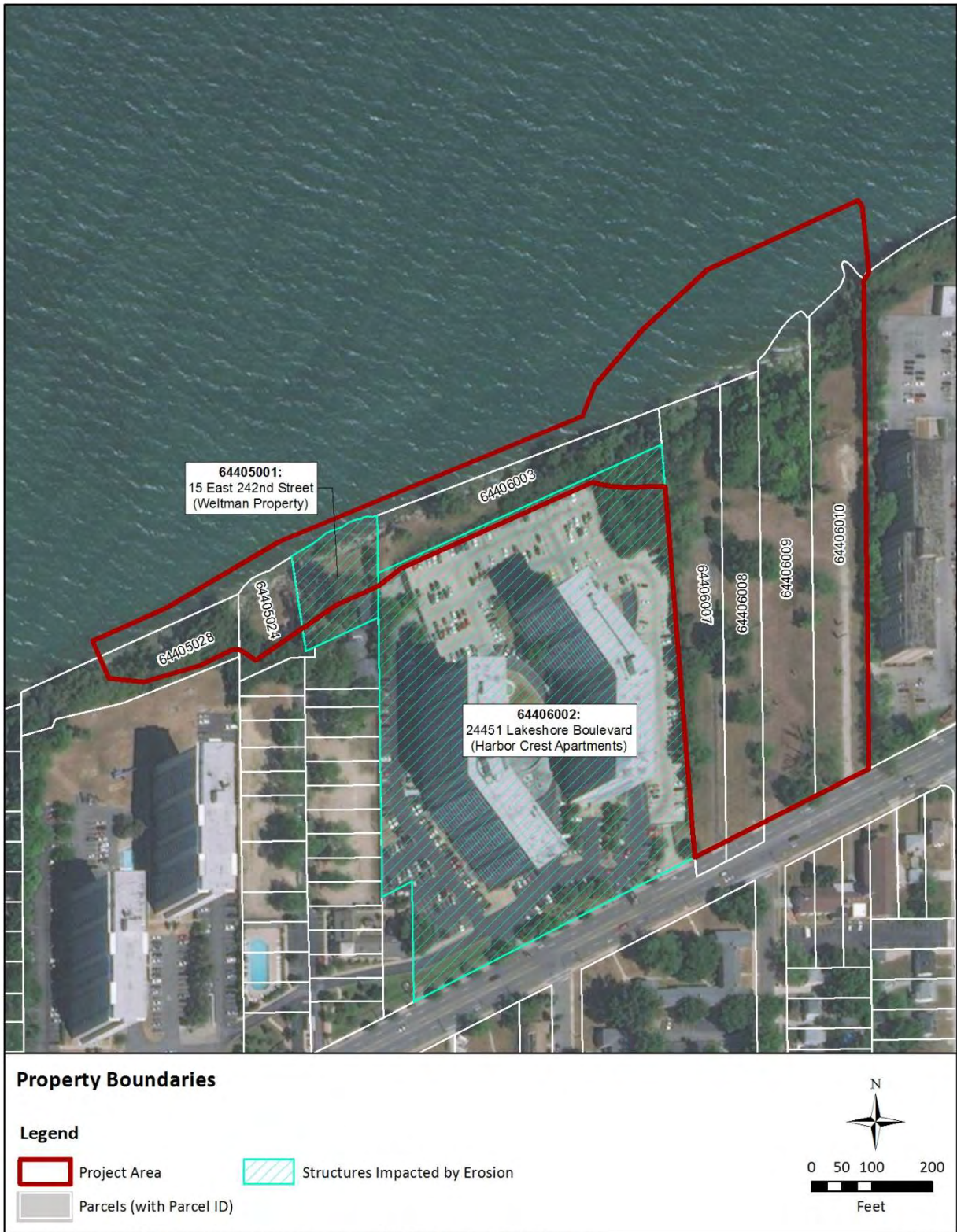


Figure 3: Property Boundaries

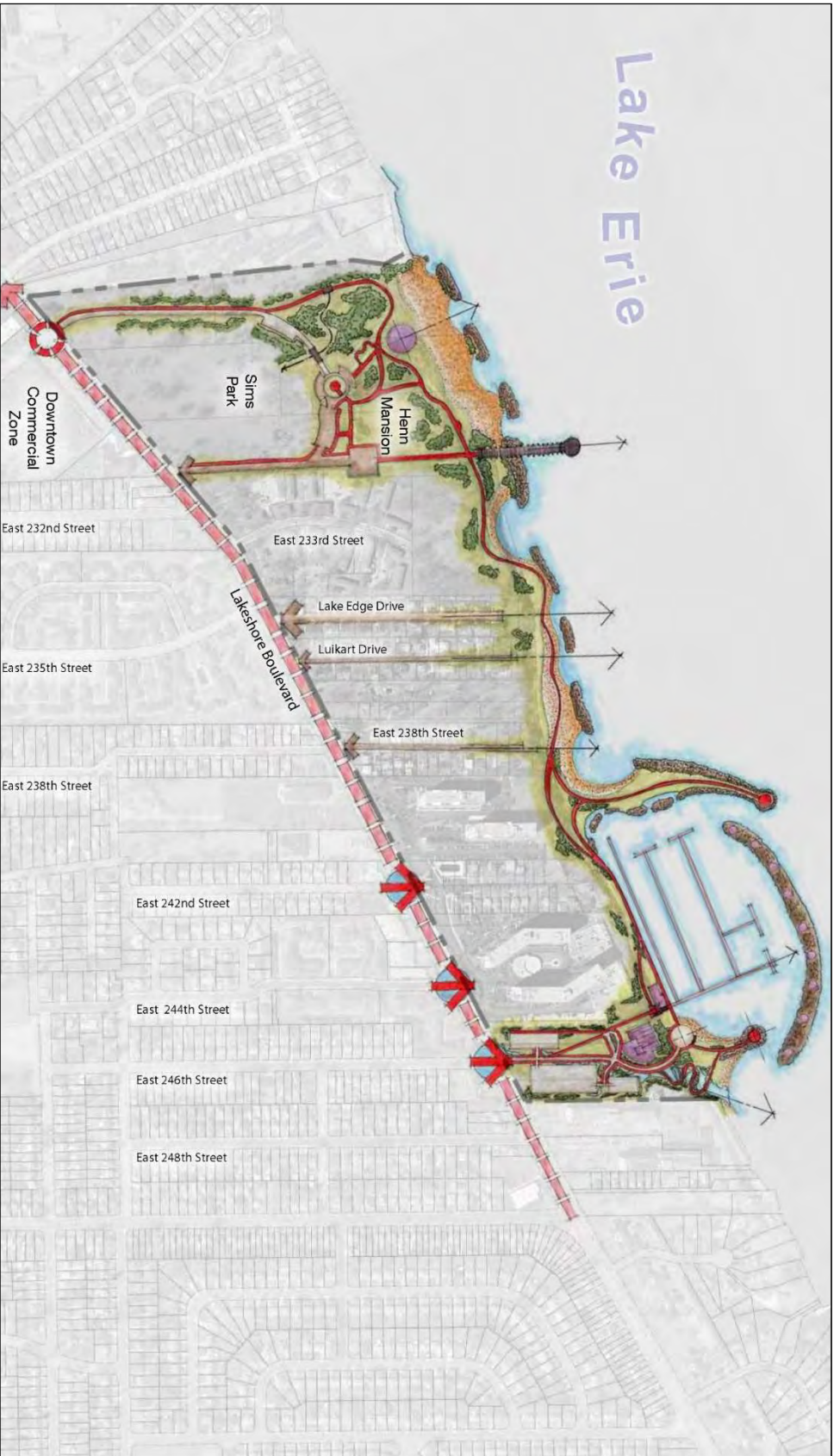


Figure 4: 2009 City of Euclid Waterfront Improvements Plan



Bluff with unpermitted rubble fill (August 2009)



Bluff Recession (March 2017)



Bluff with unpermitted rubble fill (August 2009)

Source: City of Euclid, 2017.



Bluff Recession (March 2017)

Figure 5: Shoreline Photographs



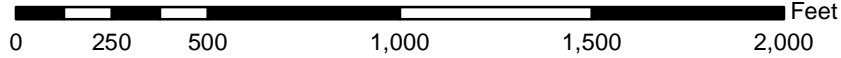
Figure 6: Project Area Soils Map

Figure 7: National Flood Hazard Layer FIRMette

National Flood Hazard Layer FIRMette



41°37'17.91"N



1:6,000

41°36'51.02"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- | | |
|---|--|
| <p>SPECIAL FLOOD HAZARD AREAS</p> | <ul style="list-style-type: none"> Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i> With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> Regulatory Floodway |
| <p>OTHER AREAS OF FLOOD HAZARD</p> | <ul style="list-style-type: none"> 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> Area with Flood Risk due to Levee <i>Zone D</i> |
| <p>OTHER AREAS</p> | <ul style="list-style-type: none"> NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> Effective LOMRs Area of Undetermined Flood Hazard <i>Zone D</i> |
| <p>GENERAL STRUCTURES</p> | <ul style="list-style-type: none"> Channel, Culvert, or Storm Sewer Levee, Dike, or Floodwall |
| <p>OTHER FEATURES</p> | <ul style="list-style-type: none"> Cross Sections with 1% Annual Chance Water Surface Elevation 20.2 17.5 Coastal Transect Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary Coastal Transect Baseline Profile Baseline Hydrographic Feature |
| <p>MAP PANELS</p> | <ul style="list-style-type: none"> Digital Data Available No Digital Data Available Unmapped |



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **1/2/2019 at 1:08:16 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

81°30'28.29"W



USGS The National Map: Orthoimagery. Data refreshed October, 2017.



Figure 8: Ohio Coastal Zone Boundary



Figure 9: National Wetlands Inventory Map



Figure 10: Existing Land Use



Figure 11: Existing Zoning

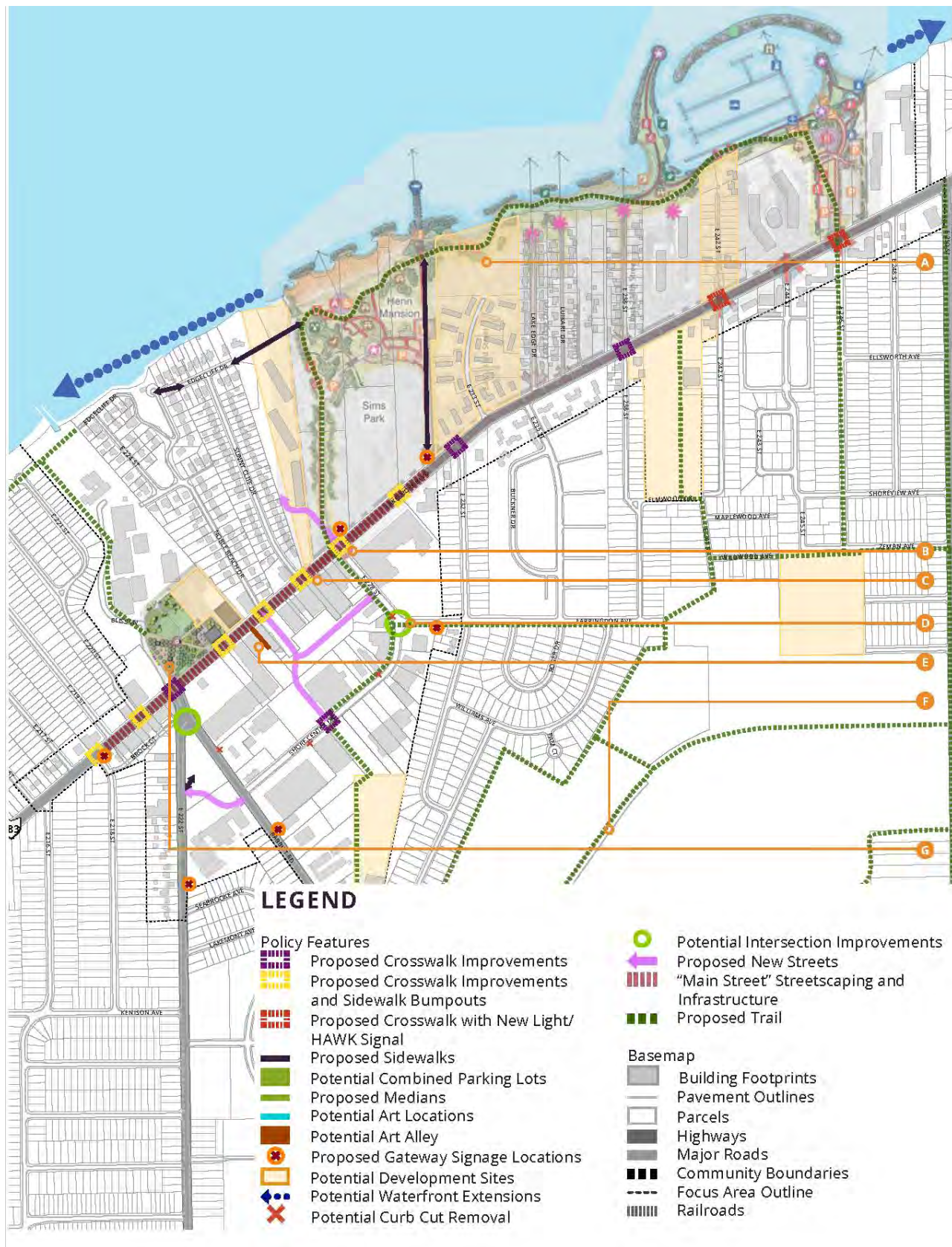


Figure 12: Redevelopment Zone (2018 Euclid Master Plan)

**Appendix B Floodplain Management Eight-Step
Documentation**

EXECUTIVE ORDER 11988
FLOODPLAIN MANAGEMENT – CHECKLIST (44 CFR Part 9)

TITLE: City of Euclid Erosion Mitigation Project

PROPOSED ACTION: Stabilization of 1,100 feet of the Lake Erie shoreline in Euclid, Ohio.

APPLICABILITY: Actions which have the potential to affect floodplains or their occupants, or which are subject to potential harm by location in floodplains.

YES **NO**

The proposed action could potentially adversely affect the floodplain.

YES **NO**

The proposed action could potentially be adversely affected by the floodplain.

Remarks: Project contains mitigation measures to avoid impacts to the structure from future flooding events.

IF ANSWER IS NO, REVIEW IS COMPLETED, OTHERWISE CONTINUE WITH REVIEW.

Mark the review steps required per applicability: 1 2 3 4 5 6 7 8

CRITICAL ACTION:

YES

Review against 500 Year floodplain

NO

Review against 100 Year floodplain

SCOPE OF WORK

The Proposed Action would stabilize 1,100 feet of Lake Erie shoreline that is currently eroding. The project would reduce erosion hazards by removing non-organic fill, excavating unstable soil on the bluff and replacing it with a combination of bluff stabilization measures. The Proposed Action would armor the shoreline with a revetment, construct bluff/toe protections and breakwaters, and place cobble and sand beach fill at the shoreline edge to create a feeder beach. These elements of the project would be located in the floodplain.

Outside of the floodplain, the contours of the shoreline bluff would be graded into a gradual incline. A dense fibrous mat of native plants would be planted along the bluff replacing the invasive species currently found at the site and provide a natural method for holding the land in place. A paved 10-foot wide, emergency responder path, which will also serve as a multi-use trail, would be constructed along the top of the bluff. The Proposed Action would be constructed on City-owned property at 24451 Lakeshore Boulevard, a 50-year old easement across private property at 15 East 242nd Street, and four other City-owned properties southeast of the shoreline.

STEP NO. 1 Determine whether the proposed action is located in the 100-year floodplain (500-year floodplain for critical actions);

Flood Hazard data available

YES NO

The project is located within an "AE" zone area of 100-yr flooding, per Flood Insurance Rate Map (FIRM) panel # 39035C0082E, dated December 3, 2010.

IF ANY OF THE ANSWERS ARE YES, CONTINUE WITH THE FOLLOWING STEPS, OTHERWISE REVIEW IS COMPLETE.

STEP NO. 2 Notify the public at the earliest possible time of the intent to carry out an action in a floodplain, and involve the affected and interested public in the decision-making process.

Notice was provided as part of a disaster cumulative notice.

Project-Specific Notice:

The initial public notice was published in the May 2018 issue of the *Euclid Observer* (monthly newspaper)

STEP NO. 3 Identify and evaluate practicable alternatives to locating the proposed action in a floodplain (including alternatives sites, actions and the "no action" option). If a practicable alternative exists outside the floodplain, FEMA must locate the action at the alternative site.

Alternative Options

YES NO

Is there a practicable alternative site location outside of the 100-Year floodplain?

The subrecipient evaluated the potential impact of new erosion mitigation structures using a three-dimensional physical scale model of the shoreline. The model simulated the hydrodynamic conditions and sedimentary processes to help optimize the design and layout of erosion mitigation structures in the floodplain. The modeling program consisted of 92 unique tests divided into 18 distinct test series, which served as alternatives for analysis purposes. During each test series, the model shoreline and structures were exposed to a sequence of wave conditions and water levels, while measurements and observations were made. Based on this iterative alternative analysis process, the Proposed Action was found to provide the optimal protection of the shoreline and landward properties. Of the 18 alternative test series completed, the Proposed Action was found to provide the most effective and feasible combination of erosion control measures. The No Action Alternative is not practicable because the shoreline bluff would continue to erode, placing adjacent structures at continuing risk of failure and impacting the water quality of Lake Erie. The No Action Alternative is not consistent with the Ohio Coastal Management Program, which has established polices for the control of shoreline erosion on Lake Erie.

IF ANY ANSWER IS YES, THEN FEMA SHALL TAKE THAT ACTION AND THE REVIEW IS CONCLUDED.

STEP NO. 4 Identify the potential direct and indirect impacts associated with the occupancy or modification of floodplains and the potential direct and indirect support of floodplain development that could result from the proposed action. 44CFR Part 9.10

- YES NO Is the Proposed Action based on incomplete information?
- YES NO Is the proposed action in compliance with the NFIP?
- YES NO Does the proposed action increase the risk of flood loss?
- YES NO Will the proposed action result in an increased base discharge or increase the flood hazard potential to other properties or structures?
- YES NO Does the proposed action minimize the impact of floods on human health, safety and welfare?
- YES NO Will the proposed action induce future growth and development, which will potentially adversely affect the floodplain?
- YES NO Does the proposed action involve dredging and/or filling of a floodplain?
- YES NO Will the proposed action result in the discharge of pollutants into the floodplain?
- YES NO Does the proposed action avoid long and short-term adverse impacts associated with the occupancy and modification of floodplains?
- YES NO Will the proposed action result in any indirect impacts that will affect the natural values and functions of floodplains?

NOTE: If wetlands are near or potentially affected, refer review to the Environmental Section.

- YES NO Will the proposed action forego an opportunity to restore the natural and beneficial values served by floodplains?
- YES NO Does the proposed action restore and/or preserve the natural and beneficial values served by floodplains?
- YES NO Will the proposed action result in an increase to the useful life of a structure or facility?

The coastal floodplain in the project area has buffered inland areas from the effects of storm waves and acted as natural levees against coastal flooding. These functions have been degraded by continued erosion. This project would restore these functions through the creation of a feeder beach and stabilization of the bluff. Direct floodplain impacts would include excavation and placement of armor stone, filter stone, and core stone to construct a revetment and breakwater. Cobble and sand beach fill would also be placed in the floodplain to create a feeder beach at the eastern end of the project area.

To address potential floodplain, water, and coastal resource impacts, the subrecipient will implement a variety of best management practices and mitigation measures. In addition, the subrecipient has obtained permits to construct the Proposed Action in accordance with the National Flood Insurance Act, Clean Water Act, and Coastal Zone Management Act including: 1) Floodplain development permit from the local floodplain administrator, City of Euclid, Ohio; 2) Section 401 Water Quality Certification and 404 permit from the OEPA and US Army Corps of Engineers, respectively, in accordance with the CWA; 3) Shore structure and submerged land lease permit from the Ohio Department of Natural Resources in accordance with Ohio Coastal Management Program. Correspondence related to the permit approvals are provided in Appendix B of the Environmental

Assessment. Compliance with all applicable permit conditions will be a condition of the grant and will avoid and minimize potential impacts.

STEP NO. 5 Minimize the potential adverse impacts to or within floodplains identified under Step 4, and restore and preserve the natural and beneficial values served by floodplains.

- YES** **NO** Were flood hazard reduction techniques (see technical bulletins) applied to the proposed action to minimize the flood impacts if site location is in the 100-Year floodplain?
- YES** **NO** Were avoidance and minimization measures applied to the proposed action to minimize the short and long term impacts on the 100-Year floodplain?
- YES** **NO** Were measures implemented to restore and preserve the natural and beneficial values of the floodplain.

The project is intended to restore natural and beneficial values of the floodplain—creation of a beach and a sloped bluff will restore floodplain habitat and reduce erosion and sedimentation. Several changes were made to the initial design to minimize environmental impacts and in consultation with the US Army Corps of Engineers. Primary modifications to the initial design in the project area were to modify bluff stability measures by cutting landward rather than filling lakeward.

STEP NO. 6 Reevaluate the proposed action to determine first, if it is still practicable in light of its exposure to flood hazards, the extent to which it will aggravate the hazards to others, and its potential to disrupt floodplain values and second, if alternatives preliminarily rejected at Step 3 are practicable in light of the information gained in Steps 4 and 5. FEMA shall not act in a floodplain unless it is the only practicable location.

- YES** **NO** The action is still practicable at a floodplain site in light of the exposure to flood risk and ensuing disruption of natural values.
- YES** **NO** The floodplain site is the only practicable alternative.
- YES** **NO** There is no potential for limiting the action to increase the practicability of previously rejected non floodplain sites and alternative actions.
- YES** **NO** The action in a floodplain clearly outweighs the requirement of E.O. 11988.

STEP NO. 7 Prepare and provide the public with a finding and public explanation of any final decision that the floodplain is the only practicable alternative.

- Notice was provided as part of a disaster cumulative notice.
- Project-Specific Notice.

Public notice will be published to solicit comment on the Draft Environmental Assessment for this project, to be published in a February issue of the Cleveland Plan Dealer.

After providing the final notice, FEMA shall, without good cause shown, wait at least 15 days before carrying out the proposed action.

STEP NO. 8 Review the implementation and post - implementation phases of the proposed action to ensure that the requirements stated in Section 9.11 are fully implemented. Oversight responsibility shall be integrated into existing processes.

| |
|---|
| The proposed project will be conducted in accordance with applicable floodplain management requirements. Conditions identified in Step 5 will be implemented. |
|---|

Appendix C Agency Correspondence



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

Ohio EPA NOV 30 17
Entered Directors Journal

Certified Mail

**Re: Euclid Phase IV Shoreline
Permit - Intermediate
Approval
401 Wetlands
Cuyahoga
DSW401165143**

91 7199 9991 7036 6197 9608

November 30, 2017

I certify this to be a true and accurate copy of the official documents as filed in the records of the Ohio Environmental Protection Agency.

Mayor Kirsten Holzheimer Gail
City of Euclid
585 East 222nd Street
Euclid, Ohio, 44123

By: *[Signature]* Date: 11/30/17

Subject: Euclid Phase IV Shoreline
Cuyahoga County / City of Euclid
Grant of a Section 401 Water Quality Certification
Corps Public Notice No. 2016-01419
Ohio EPA ID No. 165143

Dear Stakeholders:

I hereby authorize the above referenced project under the following authorities and it is subject to the following modifications and/or conditions:

Section 401 Water Quality Certification

Pursuant to Section 401 of the Federal Water Pollution Control Act, Public Law 95-217, I hereby certify that the above-referenced project will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act. This authorization is specifically limited to a Section 401 Water Quality Certification (here after referred to as "certification") with respect to water pollution and does not relieve the Certification Holder of further Certifications or Permits as may be necessary under the law. I have determined that a lowering of water quality in the Lake Erie watershed (HUC 04120200) authorized by this certification is necessary. I have made this determination based upon the consideration of all public comments, if submitted, and the technical, social, and economic considerations concerning this application and its impact on waters of the state.

PART I ON-SITE WATER RESOURCES AND IMPACTS

A. Watershed Setting

Pursuant to OAC rule 3745-1-31, Lake Erie (04120200) is designated exceptional warmwater habitat, superior high-quality water, public water supply, agricultural water supply, industrial water supply and bathing waters.

According to Ohio EPA's *Ohio 2016 Integrated Water Quality Monitoring and Assessment Report*, the Lake Erie Central Basin Shoreline is impaired for human health, recreation, aquatic life and public drinking water supply.

B. Project Description

This authorization is for grading the shoreline, placing habitat structures and breakwaters offshore, and providing pedestrian access along the lakefront via a public walking path. The intent of the design is to protect property from erosion, enhance wildlife habitat, and provide waterfront access and recreational use for the community.

C. Impacts

1. Streams - Impacts to streams are not authorized under this certification.
2. Wetlands - Impacts to wetlands are not authorized under this certification
3. Lakes -

| | |
|---|----------|
| Total approximate shoreline length on site: | 2,990 LF |
| Total approximate shoreline length impacted: | 2,990 LF |
| Total approximate lakeward extent of impacts: | 180 FT |

| Impact Type | Cubic Yards Fill (Total) | Cubic Yards Fill (Below OHW) |
|----------------|--------------------------|------------------------------|
| Groin | 2,661 | 2,272 |
| Seawall | 2,561 | 0 |
| Revetment | 24,712 | 10,740 |
| Open Lake Fill | 35,173 | 17,118 |
| Sand Fill | 7,240 | 5,710 |
| Dredging | 13,516 | 7,665 |

| Impact Type | Cubic Yards Fill (Total) | Cubic Yards Fill (Below OHW) |
|--------------------|-------------------------------------|---|
| Breakwater | 10,434 | 6,969 |
| Other | 776 | 395 |
| TOTALS | 97,074 | 50,868 |

PART II TERMS & CONDITIONS

- A. This certification shall remain valid and in effect as long as the 404 Permit issued by the U.S. Army Corps of Engineers for this project is in effect.
- B. Terms and conditions outlined in this section apply to project and mitigation construction as described in this certification.
- C. The Certification Holder shall notify Ohio EPA, in writing, and in accordance with *Part IV (NOTIFICATIONS TO OHIO EPA)* of this certification, upon the start and completion of site development and mitigation construction.
- D. A copy of this certification shall remain on-site for the duration of the project and mitigation construction activities.
- E. In the event of an inadvertent spill, the Certification Holder must immediately call the Ohio EPA Spill Hotline at 1-800-282-9378, as well as the Ohio EPA Section 401/Stormwater Manager (614-644-2001).
- F. Unpermitted impacts to surface water resources and/or their buffers occurring as a result of this project must be reported within 24 hours of occurrence to Ohio EPA, Division of Surface Water, Section 401/Stormwater Manager (614-644-2001), for further evaluation.
- G. Pesticide application(s) for the control of plants and animals shall be applied in accordance with rule 3745-1-01 of the Ohio Administrative Code, and may require a pesticide applicator license from the Ohio Department of Agriculture.
- H. Any authorized representative of the director shall be allowed to inspect the authorized activity at reasonable times to ensure that it is being or has been accomplished in accordance with the terms and conditions of this certification.
- I. In the event that there is a conflict between the certification application, including the mitigation plan, and the conditions within this certification, the condition shall prevail unless Ohio EPA agrees, in writing, that the certification application or other provision prevails.

- J. The Certification Holder shall provide electronic maps of the development area and the mitigation area to Ohio EPA 401 WQC and Isolated Wetland Permitting Section within 30 days of the date of this certification. JPEG, TIFF, PDF or BMP files are acceptable. When sending the electronic files, include the Ohio EPA ID Number and the Army Corps of Engineers Number (if applicable). If possible, these electronic maps shall be GIS shape files or Geodatabase files. If this is not possible, the electronic maps shall be in another electronic format readable in GIS (GIF, TIF, etc). The electronic files shall be sent to the following e-mail address: EPA.401Webmail@epa.ohio.gov

If the files are too large to send by e-mail, a disk containing the electronic files shall be mailed to the following address:

Ohio Environmental Protection Agency
Division of Surface Water
Attn: 401/Stormwater Manager
50 West Town Street, Suite 700
PO Box 1049
Columbus, OH 43216-1049

- K. This proposal may require other permits from Ohio EPA. For information concerning application procedures, contact the Ohio EPA District Office as follows:

Ohio Environmental Protection Agency
Northeast District Office
2110 East Aurora Road
Twinsburg, Ohio 44087
330-963-1200

Additional information regarding environmental permitting assistance at Ohio EPA can be found at http://www.epa.ohio.gov/dir/permit_assistance.aspx

- L. Best Management Practices (BMPs)
1. All water resources and their buffers which are to be avoided, shall be clearly indicated on site drawings demarcated in the field and protected with suitable materials (e.g., silt fencing) prior to site disturbance. These materials shall remain in place and be maintained throughout the construction process.
 2. All BMPs for storm water management shall be designed and implemented in accordance with the most current edition of the Ohio Department of Natural Resources Rainwater and Land Development Manual, unless otherwise required by the National Pollutant Discharge Elimination System (NPDES) general permit for storm water discharges

associated with construction activities (construction general permit), if required.

A copy of the Rainwater and Land Development Manual is available at:
http://epa.ohio.gov/Portals/35/storm/technical_assistance/RLD_11-6-14All.pdf

A copy of the NPDES construction general permit is available on the "Construction Activities" tab at:
http://www.epa.ohio.gov/dsw/storm/construction_index.aspx

3. Straw bales shall not be used as a form of erosion/sediment control.
4. If grass filter strips are employed, they shall be established adjacent to all avoided/relocated and un-culverted waters of the state, including wetlands and existing buffer areas. Filter strips shall be vegetated with non-invasive species native to Ohio and shall be designed and implemented in accordance with the most current edition of the Rainwater and Land Development Manual.
5. Temporary fill shall consist of suitable non-erodible material and shall be stabilized to prevent erosion.
6. Materials used for fill or bank protection shall consist of suitable material free from toxic contaminants in other than trace quantities. Broken asphalt is specifically excluded from use as fill or bank protection.
7. Concrete rubble, if used, shall be a minimum size/weight of concrete in the range of 100-500 lbs. per piece or 12 inches to 18 inches in diameter; free of exposed re-bar; and, free of all debris, soil and fines.
8. Chemically treated lumber which may include, but is not limited to, chromated copper arsenate and creosote treated lumber shall not be used in structures that come into contact with waters of the state.
9. Trees removed from temporary impact areas to facilitate construction shall be replaced with appropriate tree species native to Ohio.
10. All temporary fill material must be removed to an area that has no waters of the state at the completion of construction activities and the lake bottom restored to pre-construction elevations to the maximum extent practicable.

M. Wildlife Protection

1. No in-water work shall take place during the environmental window of April 15 through June 30 unless specifically approved by the Ohio Department of Natural Resources, Division of Wildlife, in writing, with a copy provided to Ohio EPA prior to undertaking any in-water work during the environmental window.
2. If native mussels and/or mussel beds, not previously identified, are encountered at any time during construction or dredging activities, work must cease immediately and the Ohio Department of Natural Resources' Division of Wildlife must be contacted for further evaluation.

PART III MITIGATION

A. Description of Required Mitigation

1. As partial mitigation for this project, lakeward portions of the project are ecologically beneficial.
2. As partial mitigation for this project, the certification holder has negotiated access easements with the property owners along the entire length of the project to ensure that the Lake Erie shoreline enhancements will provide public access to Lake Erie in perpetuity.
3. As partial mitigation for this project, the certification holder has committed to removing stray concrete rubble currently in the lake, and in the general vicinity of the project.

B. Timing of Mitigation Requirements

1. Mitigation construction shall be initiated concurrently with the lake impacts and shall be completed concurrently with the completion of the project.

C. Reporting

1. Annual Update Reports

A construction and project update report shall be submitted to Ohio EPA by December 31 of each year following the date of this certification and until construction is complete. Each update report shall contain, at a minimum, the following information:

- a. The status of the filling activities at the development site including dates filling was started and completed, or are expected to be started and completed. If filling activities have not been completed,

a drawing shall be provided, which shows the locations of portions of the project that are not yet completed. If filling activities have been completed, then as-built drawings shall be submitted, which show where fill was placed.

- b. Construction start date, completion date, or expected start and completion date;
- c. A discussion of the extent to which the project has been completed according to the timelines specified in this certification;
- d. Current contact information for all responsible parties including phone number, e-mail, and mailing addresses. For the purposes of this condition, responsible parties include, but may not be limited to the Certification Holder, consultant, etc.
- e. As-built drawings sized 11" by 17" (to scale) of each of the construction areas, once construction is complete.

D. Monitoring Requirements – Lake Erie

- 1. Temporary measures of stabilization are required if the season does not permit vegetation growth and shall be designed and implemented in accordance with the "Soil Stabilization" guidelines as described in the most current edition of the Rainwater and Land Development Manual unless otherwise approved, in writing, by Ohio EPA.

E. Contingency Plans

If the mitigation areas are not performing as proposed by the end of the fifth year of post construction monitoring, the monitoring period may be extended and/or the Certification Holder may be required to revise the existing mitigation or seek out new or additional mitigation areas.

Ohio EPA may reduce or increase the number of years for which monitoring is required to be conducted based on the effectiveness of the mitigation.

PART IV NOTIFICATIONS TO OHIO EPA

All notifications, correspondence, and reports regarding this certification shall reference the following information:

Certification Holder Name: City of Euclid
Project Name: Euclid Phase IVB Shoreline Improvements
Ohio EPA ID No.: 165143

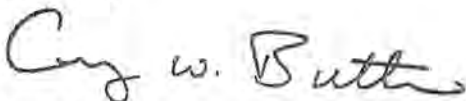
and shall be sent to:

Ohio Environmental Protection Agency
Division of Surface Water, 401/IWP Unit
Lazarus Government Center
50 West Town Street
P.O. Box 1049
Columbus, Ohio 43216-1049

You are hereby notified that this action of the director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within 30 days after notice of the director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the director within three days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
30 East Broad Street, 4th Floor
Columbus, Ohio 43215

Sincerely,



Craig W. Butler
Director

cc: Keith Sendziak, Department of the Army, Buffalo District, Corps of Engineers
Peter Swenson, U.S. EPA, Region 5
Steve Holland, ODNR, Office of Coastal Zone Management
Dan Everson, U.S. Fish & Wildlife Service
John Kessler, ODNR, Office of Real Estate
Dave Snyder, Ohio Historical Preservation Office
Joe Loucek, Ohio EPA-NEDO, DSW, Section 401/IWP
Jeff DE Shon, Ohio EPA, DSW, EAS
Andrea Kilbourne, Ohio EPA, DSW, Mitigation Coordinator
Jason Stangland, SmithGroupJJR, 44 East Mifflin Street, Suite 500, Madison, WI
53703

Ohio EPA has developed a customer service survey to get feedback from regulated entities that have contacted Ohio EPA for regulatory assistance, or worked with the Agency to obtain a permit, license or other authorization. Ohio EPA's goal is to provide our customers with the best possible customer service, and your feedback is important to us in meeting this goal.

Please take a few minutes to complete this survey and share your experience with us at

<http://www.surveymonkey.com/s/ohioepacustomersurvey>



DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

PLEASE SIGN AND SUBMIT
THE COMPLETION FORM
ATTACHED TO THIS PERMIT

May 1, 2018

Regulatory Branch

SUBJECT: Transmittal of Validated Department of the Army Permit No. LRB-2016-01419

Mayor Kirsten Holzheimer Gail
City of Euclid
585 East 222nd Street
Euclid, Ohio 44123

Dear Honorable Gail:

This letter concerns the city of Euclid's proposal to discharge fill material below the ordinary high water mark (OHWM) (573.4 feet International Great Lakes Datum 1985) of Lake Erie in association with construction of shoreline improvements to include armor stone revetment, steel bin walls, near-shore armor stone breakwaters, beach creation, armor stone groin, L-shaped armor stone pier/breakwater, concrete pedestrian pathway, and sand prefill along approximately 2,990 linear feet of shoreline in the city of Euclid, Cuyahoga County, Ohio.

Enclosed is the validated DA permit which you have accepted the terms and conditions thereof.

Please note that our office must be informed of the commencement and completion of the authorized work. Forms for this purpose are enclosed. Also enclosed is a laminated first page of the permit describing the proposed work which must be conspicuously displayed at the site of work.

Revised plans must be submitted to our office if material changes in the location or plans of the work are necessary because of unforeseen or altered conditions, or otherwise. These revised plans must receive the approval required by law before construction is started.

Questions pertaining to this matter should be directed to Keith C. Sendziak, who may be contacted by calling 716-879-4339, by writing to the following address: U.S. Army Corps of Engineers, 1776 Niagara Street, Buffalo, New York 14207, or by e-mail at: keith.c.sendziak@usace.army.mil

Sincerely,


for Diane C. Kozlowski
Chief, Regulatory Branch

Enclosures

PERMITTEE: City of Euclid

PERMIT NUMBER: 2016-01419

EFFECTIVE DATE: May 1, 2018

NOTE: The term you and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

PROJECT DESCRIPTION: THE CITY OF EUCLID, 585 EAST 222ND STREET, EUCLID, OHIO 44123 IS HEREBY AUTHORIZED BY THE SECRETARY OF THE ARMY TO PERFORM THE FOLLOWING WORK BELOW THE ORDINARY HIGH WATER MARK (573.4 FEET INTERNATIONAL GREAT LAKES DATUM) OF LAKE ERIE: DREDGE APPROXIMATELY 7,665 CUBIC YARDS (CY) OF MATERIAL AND DISCHARGE APPROXIMATELY 10,406 CY OF ARMOR STONE, 9,706 CY OF FILTER STONE, 2,572 CY OF CORE STONE, 14,810 CY OF COBBLE BEACH, 5,710 CY OF COARSE SAND, AND NO LESS THAN 5,400 CY OF SAND PREFILL AS MINIMIZATION MITIGATION FOR A TOTAL OF 48,604 CY OF FILL MATERIAL IN ASSOCIATION WITH SHORELINE IMPROVEMENTS, IN ACCORDANCE WITH THE GENERAL AND SPECIAL CONDITIONS, AND THE PLANS AND DRAWINGS AND ANY ADDITIONAL SPECIAL CONDITIONS ATTACHED HERETO WHICH ARE INCORPORATED IN AND MADE A PART OF THIS PERMIT.

PROJECT LOCATION: THE PROJECT IS LOCATED ALONG AND WITHIN APPROXIMATELY 2,990 LINEAR FEET OF LAKE ERIE, WITHIN THE CITY OF EUCLID, CUYAHOGA COUNTY, OHIO.

IMPORTANT

This form must be completed and mailed to the District Commander at: Regulatory Branch, U.S. Army Corps of Engineers, 1776 Niagara Street, Buffalo, New York 14207 prior to commencement of any work authorized by Department of the Army Permit No. 2016-01419 (Standard Permit)

Date:

City of Euclid
Cuyahoga County
Ohio

Mr. David Leput
Regulatory Branch
U.S. Army Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207

Dear Mr. Leput:

You are hereby notified that the work authorized under Department of the Army Permit No. 2016-01419, issued to the city of Euclid, to make shoreline improvements along approximately 2,990 linear feet of Lake Erie will be started on or about -
_____ (Month/Day/Year)

The first work to be undertaken is as follows: _____

In commencing the work, I accept and agree to comply with the terms and conditions of the permit.

By: _____ (Authorized Signature) _____ (Title)

Permittee Telephone Number: _____

Date:

File Closed: 05/01/2018

IMPORTANT

This form must be completed and mailed to the District Commander at: **Regulatory Branch, U.S. Army Corps of Engineers, 1776 Niagara Street, Buffalo, New York 14207** Immediately upon completion of work authorized by Department of the Army Permit No. **2016-01419**
(Standard Permit)

Date:

**City of Euclid
Cuyahoga County
Ohio**

Mr. David Leput
Regulatory Branch
U.S. Army Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207

Dear Mr. Leput:

You are hereby notified that the work authorized under Department of the Army Permit No. 2016-01419, issued to the city of Euclid, to make shoreline improvements along approximately 2,990 linear feet of Lake Erie was (completed/discontinued) on _____ (Month/Day/Year).

If Discontinued:

The work is _____ percent complete. The following remains to be done before all work authorized by this permit shall have been completed: _____

By: _____ (Authorized Signature) _____ (Title) Date: _____

Permittee Telephone Number: _____

File Closed: 05/01/2018

PERMIT CONDITIONS

GENERAL CONDITIONS:

1. The time limit for completing the work authorized ends on May 1, 2021. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you must make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity, or should you desire to abandon it without a good faith transfer, you may obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archaeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.
7. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

FURTHER INFORMATION:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as this specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Krist H Gail, Mayor
(PERMITTEE)

4-23-2018
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

for Mark W Scialumina
Adam J. Czekanski, Lieutenant Colonel, Corps of Engineers
(DISTRICT COMMANDER)

5/1/2018
(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below. A copy of this signed permit and statement shall be forwarded to the Buffalo District at the following address:

U.S. Army Corps of Engineers
Buffalo District
Regulatory Branch
1776 Niagara Street
Buffalo, New York 14207

(TRANSFEREE)

(DATE)

SPECIAL CONDITIONS:

1. The permittee must notify the Regulatory Branch, in writing, one day prior to the date the activities authorized in Waters of the United States, including wetlands, are scheduled to begin. Notification shall either be by: 1) e-mail sent to david.w.leput2@usace.army.mil AND LRB.Regulatory@usace.army.mil; or 2) mailed to the following address: Mr. David Leput, U.S. Army Corps of Engineers, Buffalo District, 1776 Niagara Street, Buffalo New York 14207-3199.
2. No in water work shall be performed between April 15 and June 30 in order to protect spawning activities of indigenous fish species.
3. To reduce any potential adverse effects on the federally endangered Indiana bat (*Myotis sodalis*), trees (woody stems greater than 5 inches Diameter at Breast Height) must not be cut between April 1 and September 30, of any year.
4. To reduce any potential adverse effects on the federally threatened Northern long-eared bat (*Myotis septentrionalis*), trees (woody stems greater than 3 inches Diameter at Breast Height) must not be cut between April 1 and September 30, of any year.
5. The proposed project lies within the range of the Kirtland's warbler (*Setophaga kirtlandii*), a federally-listed endangered species under the Endangered Species Act. To avoid and minimize any potential adverse effects to the warbler, the clearing, removal, and/or modification of any scrub/shrub or forested habitat shall not occur between April 22nd to June 1st and August 15th to October 15th of any year. The permittee is responsible for ensuring all contractors executing any shrub or tree clearing activities are aware of these work restriction timeframes required to avoid and minimize effects to the warbler.
6. The littoral monitoring plan titled "Long-Term Monitoring, By-Pass, and Re-nourishment Plan" and dated November 1, 2017, is hereby incorporated into and made a part of this permit as Appendix A. Based on results of the littoral monitoring plan, the Corps of Engineers shall determine the permittee's corrective action measures.
7. The permittee must dredge and sidecast down drift to the east, in less than 3 feet of water, all sand gravel material that would be covered by the footprint of the authorized project.
8. The permittee must place no less than 5,400 CY of sand prefill in the nearshore area in less than three feet of water. To mimic natural conditions, the permittee shall place this material in three separate installments of 1,800 CY, the first being by the end of the calendar year that work authorized under this permit commences. For years two and three the permittee shall place this material no later than the last calendar day of each year. The sand prefill shall be from an upland source and meet the gradation requirements identified below which corresponds to ODOT specification 703.02. The upland source shall be coordinated with Keith Sendziak of this office prior to placement. Within 15 days of the placement of the sand prefill, the permittee shall provide color photographs

and contractor receipts of the volume of sand prefill and its location on a plan sheet to: Mr. Harold Keppner, Chief, Monitoring and Enforcement Section, U.S. Army Corps of Engineers, 1776 Niagara Street, Buffalo, New York 14207-3199.

| Sieve Size | Total Percent Passing |
|------------|-----------------------|
| 3/8 inch | 100 |
| No. 4 | 80 to 100 |
| No. 8 | 60 to 100 |
| No. 16 | 35 to 85 |
| No. 30 | 10 to 70 |
| No. 50 | 0 to 35 |
| No. 100 | 0 to 10 |
| No. 200 | 0 to 2 |

9. All dredged material not determined suitable for reuse as base material or backfill within the authorized project shall be placed within an upland area, and all return water shall be contained to prevent re-entry into a water of the United States. The upland placement area shall be coordinated with the Corps of Engineers, and no material shall be placed into the upland area before receiving written approval from this office.
10. This permit was issued on your certification that the project is consistent with the Ohio Coastal Management Program policies pursuant to 1506.03 of the Ohio Revised Code. The Ohio Department of Natural Resources concurs in this certification, provided you comply with any special conditions imposed by that agency. Noncompliance with any limitations or conditions stated in the certification may be a basis for suspension, revocation, or modification of this permit.
11. The Water Quality Certification issued for this project by the State of Ohio is part of this Department of the Army permit pursuant to Section 401(d) of the Clean Water Act. Noncompliance with any limitations or requirements stated in the certification may be a basis for suspension, revocation or modification of this permit
12. At the request of an authorized representative of the Buffalo District, U.S. Army Corps of Engineers, the permittee must allow access to the project site to determine compliance with the conditions of this permit.
13. Should human remains be encountered during any phase of the proposed project, such person or persons encountering the human remains must immediately cease work in the vicinity of the discovery and must not disturb or remove the remains, must protect the exposed portions of the remains from inclement weather and vandalism, and immediately notify the permittee. Continuing work on the project may result in adverse effects to the remains, which may be contrary to the National Historic Preservation Act. After discovery, the permittee must immediately notify (within 24 hours) Keith Sendziak (716) 879-4339 and the Ohio State Historic Preservation Office (OHPO), 1982 Velma Avenue,

Columbus, Ohio 43211-2497, (614) 298-2000. If the human remains are not subject to a criminal investigation by local, state, or Federal authorities, the OHPO's Policy Statement on Treatment of Human Remains (1977) will be used as guidance.

14. The permittee is authorized to discharge only clean fill material that is free of fines, oil and grease, debris, wood, general refuse, plaster, broken asphalt, or other potential pollutants.

FLOOD HAZARD AREA DEVELOPMENT PERMIT ADMINISTRATIVE CHECKLIST

NOTE: The following is to be completed by the local floodplain administrator. All references to elevations are in feet mean sea level (m.s.l.) according to the datum used on the effective Flood Insurance Rate Maps.

1. The proposed development is in:
- An identified floodway.
 - Does a hydrologic and hydraulic engineering analysis accompany the application Y/N
 - Does the analysis have a certification that flood heights will not be increased Y/N
 - Is the analysis certified by a Registered Professional Engineer Y/N
 - A flood hazard area where base flood elevations exist with no identified floodway.
 - Does a hydrologic and hydraulic engineering analysis accompany the application Y/N
 - Does the analysis have a certification that flood heights will be increased less than the height designated in the community's flood damage reduction regulations (in no case will this be more than one foot) Y/N
 - Is the analysis certified by a Registered Professional Engineer Y/N
 - An area within the floodplain fringe.
 - An approximate flood hazard area (Zone A).
 - Within the banks of a watercourse.
 - Does an analysis demonstrating that the flood carrying capacity has not been diminished accompany the application Y/N

N/A AS SITE IS IN COASTAL FLOODPLAIN

Base flood elevation (100-year) at proposed site 576.0 feet m.s.l.
 Data source FIRM
 Map effective date 12/3/2010 Community-Panel No. 39035C00826

2. Does proposed development meet NFIP and local "Use and Development Standards" of your regulations?
- Permitted Use.
 - Water and wastewater systems standards met.
 - Subdivision standards met (All public utilities and facilities safe from flooding, adequate drainage, flood elevations generated where applicable).
 - Residential/non-residential structures standards met. Lowest floor elevation _____ feet m.s.l.
 - Substantial improvement / substantial damage Y/N
 - Anchored properly (manufactured home affixed to permanent foundation) Y/N
 - Utilities protected against flooding Y/N
 - Construction materials below flood protection elevation resistant to flood damage Y/N
 - Lowest floor elevated to or above flood protection elevation (BFE + freeboard) Y/N
 - Has an enclosure below lowest floor (crawl space, walkout basement) Y/N
 - Enclosure have proper number and area of openings Y/N
 - Enclosure unfinished and only used for parking, materials storage or entry Y/N
 - Accessory structure standards met (square footage, use, foundation openings) Y/N
 - Recreational vehicle standards met.
 - Above ground gas or liquid storage tank anchored.
 - Flood carrying capacity maintained for floodway development, areas where FEMA has provided BFE data but no floodways, or for alterations of a watercourse.

3. Does proposed development trigger requirement to submit a Letter of Map Revision or Conditional Letter of Map Revision? Y/N

DECISION RECORD

4. The proposed development is in compliance with applicable floodplain standards. **FLOOD HAZARD AREA DEVELOPMENT PERMIT ISSUED ON _____.**

The proposed development is not in compliance with applicable floodplain standards. **FLOOD HAZARD AREA DEVELOPMENT PERMIT DENIED ON _____.** Reason(s): _____

The proposed development is exempt from the floodplain standards per Section _____ of the Flood Damage Prevention Ordinance (Resolution) No. _____.

Administrator's Signature: [Signature] Date: 6-5-2018

FLOOD HAZARD AREA DEVELOPMENT PERMIT

This permit is issued based on documentation that the information provided in the Flood Hazard Development Permit Application is in compliance with the CITY OF EUCLID (Community Name) Flood Damage Reduction Regulations.

Address or property location: 23131 LAKESHORE BLVD., EUCLID, OHIO

Description of development activity: FILLING/GRADING THE BANK OF A WATERCOURSE (LAKE ERIE); CREATING A PATH/TRAIL, BEACH, REVETMENT AND BREAKWATER CONSTRUCTION LAKEWARD OF THE LAKE ERIE OHNM.
The permittee understands and agrees that:

- An as-built Elevation Certificate will be submitted to the Floodplain Administrator after the first floor of a new, substantially improved, or substantially damaged, residential or non-residential structure is constructed;
- A final Letter of Map Revision will be obtained where a Conditional Letter of Map Revision was required as part of the permit application;
- The permit is issued on the representations made herein and on the application for permit;
- The permit may be revoked because of any breach of representation;
- Once a permit is revoked all work shall cease until the permit is reissued or a new permit is issued;
- The permit will not grant any right or privilege to erect any structure or use any premises described for any purposes or in any manner prohibited by the codes or regulations of the community;
- The permittee hereby gives consent to the Floodplain Administrator to enter and inspect activity covered under the provisions of the Floodplain Management Regulations;
- The permit form will be posted in a conspicuous place on the premises in plain view; and,
- The permit will expire if no work is commenced within one year of issuance.

Issued by: _____


Floodplain Administrator

Date: _____

6-5-2018

Permit Number: _____

2018-001



Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

March 5, 2018

City of Euclid
Mayor Kirsten Holzheimer Gail
585 East 222nd Street
Euclid, Ohio 44123

Re: 16-CUY-02 Permit to Construct Works to Control Erosion or Wave Action
23131 to 24801 Lakeshore Boulevard, Euclid, Cuyahoga County

Dear Mayor Holzheimer Gail:

The enclosed permit to construct works to control erosion or wave action has been issued by the Ohio Department of Natural Resources (ODNR). This permit authorizes construction of 3 segments of armor stone revetment, 2 steel binwall seawall segments, 7 near-shore armor stone breakwaters, an 80-foot long armor stone groin, a 310-foot-long L-shaped armor stone pier/breakwater and a concrete pedestrian pathway, and placement of 19,140 cubic yards of sand-gravel/cobble beach fill, 7,240 cubic yards of sand beach fill, and 5,400 cubic yards of mitigation sand along 2,900 linear feet of the Lake Erie shoreline in Euclid, Cuyahoga County.

Please note the conditions attached to this approval. In particular, please notify ODNR in writing of the anticipated date when construction will commence and the date when the project is expected to be completed. Based on the dates provided, staff from the Office of Coastal Management will contact you to schedule a field review during construction of the project.

The field review is an opportunity for you to meet with staff from the Office of Coastal Management to discuss any questions you may have regarding your project, including any potential modifications to the project that might arise due to unforeseen circumstances. Changes to the design or location of the works may have significant impacts on the resources of Lake Erie or on adjacent properties and therefore require ODNR's approval of such changes prior to construction. Additionally, the field review provides an opportunity for Office of Coastal Management staff to observe project construction and/or the condition of the completed project.

Please contact Jim Park at 419-609-4114 or 1-888-644-6267 if you have any questions or would like further assistance.

Sincerely,

A handwritten signature in blue ink, reading "Scudder D. Mackey".

Scudder D. Mackey, Ph.D.
Chief

Enclosures

ec: Deborah L. Beck, P.E., Office of Coastal Management
Steve Holland, Office of Coastal Management
Timothy Beck, Office of Coastal Management
John Kessler, P.E., ODNR Office of Real Estate
Jeffrey Boyles, Ohio EPA, Division of Surface Water
Harry Kallipolitis, Ohio EPA, Division of Surface Water
Keith Sendziak, U.S. Army Corps of Engineers, Permit No. 2016-01419
Dave Wolmutt, SmithGroupJJR
Jason Stangland, SmithGroupJJR
William M. Brose, P.E., SmithGroupJJR
Allison Lukacsy-Love, City of Euclid
cc: Dennis B. Angers, Normandy Towers East I & East II, LLC

OFFICE OF COASTAL MANAGEMENT

105 WEST SHORELINE DRIVE SANDUSKY, OH 44870 (419) 626-7980 / (888) 644-6267



**CONSTRUCTION PERMIT
FOR WORKS TO CONTROL EROSION OR WAVE ACTION
ALONG OR NEAR THE OHIO SHORELINE OF LAKE ERIE**



16-CUY-02

ISSUED BY: Ohio Department of Natural Resources
Office of Coastal Management
105 West Shoreline Drive
Sandusky, Ohio 44870-4132

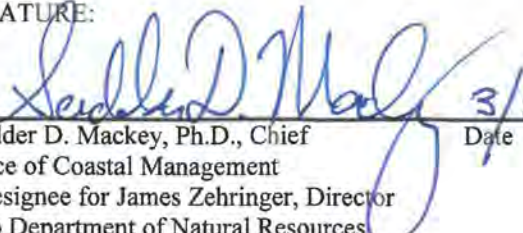
ISSUED TO: City of Euclid

LOCATION: Permanent Parcels 664-04-018, 664-03-019, 664-03-018,
664-03-058, 664-04-026, 664-05-060, 664-05-044, 664-05-043,
664-05-028, 664-05-024, 664-05-001, 664-06-003, 664-06-007,
664-06-008, 664-06-009, 664-06-010
Between 23131 and 24801 Lakeshore Boulevard
Euclid, Ohio 44123

Pursuant to Section 1506.40 of the Ohio Revised Code, authorization is granted for construction of 3 segments of armor stone revetment, 2 steel binwall seawall segments, 7 near-shore armor stone breakwaters, an 80-foot long armor stone groin, a 310-foot-long L-shaped armor stone pier/breakwater and a concrete pedestrian pathway, and placement of 19,140 cubic yards of sand-gravel/cobble beach fill, 7,240 cubic yards of sand beach fill, 5,400 cubic yards of mitigation sand along 2900 linear feet along the shore of Lake Erie, in accordance with the attached drawings and the following conditions:

1. This permit does not sanction any infringement of federal, state and local laws or regulations, nor does it exempt the necessity of securing any other authorizations or consent that may be required for the work herein authorized.
2. Issuance of this permit does not constitute any endorsement of the engineering design and integrity of the structure permitted, and the permittee shall not hold the State of Ohio liable for damages caused to the structure by natural or man-made forces.
3. This permit does not relieve the permittee of responsibility for any and all damages or for claims for damages that may occur to adjacent property by reason of the construction herein authorized.
4. Prior to construction of the project, the permittee shall notify the Ohio Department of Natural Resources, in writing, of the anticipated date when construction will commence and the date when the project is expected to be completed. The permittee shall also notify the Ohio Department of Natural Resources, in writing, when significant suspension of work occurs on the project.
5. Permittee shall obtain prior approval from the Ohio Department of Natural Resources for any proposed modifications to the project authorized herein. Revised drawings shall be submitted for all approved modifications.
6. This permit for the work herein authorized will expire 5 years from the date of the signature of the Director of the Ohio Department of Natural Resources. In addition, the permit portion authorizing the work described in the long-term monitoring, by-pass, and re-nourishment plan shall not expire without the approval of the Director of the Ohio Department of Natural Resources.
7. All beach sand and gravel excavated or that would be covered by the structures shall be sidecast lakeward prior to construction to prevent its removal from the littoral system.
8. A maintenance, monitoring and inspection plan must be developed and implemented within six months of the date when the construction of the project is completed.

SIGNATURE:


Scudder D. Mackey, Ph.D., Chief
Office of Coastal Management
as designee for James Zehringer, Director
Ohio Department of Natural Resources

3/5/2018
Date



Ohio Department of Natural Resources

JOHN R. KASICIL, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Ohio Division of Wildlife
Raymond W. Petering, Chief
2045 Morse Rd., Bldg. G
Columbus, OH 43229-6693
Phone: (614) 265-6300

July 18, 2016

Jessie Fink
SmithGroupJJR
44 E. Mifflin St.
Madison, WI 53703

Dear Ms. Fink,

After reviewing the Natural Heritage Database, I find the Division of Wildlife has no records of rare or endangered species in the Euclid Phase IVB Shoreline Improvements project area, including a one mile radius, in Euclid, Cuyahoga County, Ohio. We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges, parks or forests or other protected natural areas within a one mile radius of the project area.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. This letter only represents a review of rare species and natural features data within the Ohio Natural Heritage Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq.) and does 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.

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

A handwritten signature in blue ink that reads "Debbie Woischke".

Debbie Woischke
Ohio Natural Heritage Database Program

Jessie Fink

From: susan_zimmermann@fws.gov on behalf of Ohio, FW3 <ohio@fws.gov>
Sent: Monday, August 15, 2016 2:04 PM
To: Jessie Fink
Subject: Euclid Phase IVB Shoreline Improvements, Euclid OH, Cuyahoga Co.



UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994



TAILS #03E15000-2016-TA-1429 (JJR # 50116.012)

Dear Mr. Fink,

We have received your recent correspondence regarding potential impacts to federally listed species in the vicinity of the above referenced project. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. We recommend that proposed activities minimize water quality impacts, including fill in streams and wetlands. Best management practices should be utilized to minimize erosion and sedimentation.

FEDERALLY LISTED, PROPOSED, AND CANDIDATE SPECIES COMMENTS: Due to the project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees ≥ 3 inches diameter at breast height between October 1 and March 31) to avoid impacts to Indiana bats and northern long-eared bats, we do not anticipate adverse effects to any federally endangered, threatened, proposed or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the U.S. Fish and Wildlife Service (Service) should be initiated to assess any potential impacts.

If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the Endangered Species Act (ESA), between the Service and the federal action agency, is completed. We recommend that the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence.

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.), ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the

Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact John Kessler, Environmental Services Administrator, at (614) 265-6621 or at john.kessler@dnr.state.oh.us.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,

A handwritten signature in blue ink that reads "Dan Everson". The signature is written in a cursive style with a large, sweeping initial "D".

Dan Everson

Field Supervisor



FEMA

October 23, 2018

Mr. Scott Pruitt
Acting Field Supervisor, Ohio Ecological Services Office
U.S. Fish and Wildlife Service
4625 Morse Road, Suite 104
Columbus, OH 43230

Dear Mr. Pruitt:

This letter is to initiate informal consultation between the Federal Emergency Management Agency (FEMA) and your office under Section 7 of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) regarding a proposed shoreline erosion mitigation project in the City of Euclid, Cuyahoga County, Ohio. Attachment 1 illustrates the project area which is located at 41.616635 latitude and -81.512952 longitude. The project is proposed for funding under FEMA's Pre-Disaster Mitigation (PDM) grant program; Application Number: PDMC-PJ-05-OH-2017-007.

USFWS previously reviewed the project on August 15, 2016, in relation to permits needed to construct the project (Attachment 2). At that time USFWS determined that it did not anticipate any adverse effects to federally endangered, threatened, proposed or candidate species if the project is constructed. In addition, on July 18, 2016, the Ohio Department of Natural Resources (ODNR) determined that the agency had no records of rare or endangered species in the project area, including a one-mile radius (Attachment 3).

In 2017, the City of Euclid developed permit applications to construct the project in accordance with the Clean Water Act (CWA) and Coastal Zone Management Act (CZMA). The US Army Corps of Engineers Buffalo District (USACE) issued a CWA 404 permit for the project on May 1, 2018 (Permit No. LRB-2016-01419). The Ohio Environmental Protection Agency (OEPA) issued a 401 Water Quality Certification for the project on November 30, 2017 (Ohio EPA ID No. 165143). The ODNR approved a coastal use permit for the project on March 5, 2018 (Permit No. 16-CUY-02). The USACE approval contained conditions relating to three threatened and endangered species: Indiana bat (E), Northern long-eared bat (T) and Kirtland's warbler (E).

Based on the prior findings of the USFWS, ODNR and the conditions set forth in the permit approvals, FEMA is making a determination of no adverse effect to threatened and endangered species.

FEDERAL ACTIONS INCLUDED IN THIS CONSULTATION

The purpose of the project is to mitigate future damage to a parking structure associated with two apartment towers and a house by stabilizing a 1,100-foot portion of the Lake Erie shoreline that is currently eroding. The project would have a direct positive impact on nearly 3,000 residents who live in the residential structures next to the shoreline and would eliminate the need for these residents to find housing elsewhere. The project is also intended to benefit both upland and nearshore aquatic habitat through erosion control measures.

The project would reduce erosion hazards by removing non-organic fill, excavate unstable soil on the bluff and replace it with a combination of bluff stabilization measures. The project would armor the shoreline with a revetment, construct bluff/toe protections and breakwaters, and place cobble and sand beach fill at the shoreline edge to create a feeder beach. The contours of the shoreline would be graded into a gradual incline. A dense fibrous mat of native plants would be planted along the bluff replacing the invasive species currently found at the site and provide a natural method for holding the land in place. A paved, 10-foot wide, maintenance access path (multi-use trail) would also be constructed along the top of the bluff.

STATUS OF THREATENED AND ENDANGERED SPECIES

According to the USFWS Midwest Region web site, the hibernacula for the Indiana bat is caves and mines. The Indiana bat's maternity and foraging habitat are small stream corridors with well-developed riparian woods or upland forests. The hibernacula for the Northern long-eared bat is also caves and mines, and the bat swarms surrounding wooded areas in autumn. During late spring and summer, the Northern long-eared bat roosts and forages in upland forests.

Kirtland's warblers are known to migrate along the Lake Erie shoreline counties (Ashtabula, Cuyahoga, Erie, Lake, Lorain, Lucas, Ottawa, Sandusky counties) through Ohio in late April-May and late August-early October.

AVOIDANCE AND MINIMIZATION MEASURES

FEMA will place the following conditions on the grant funding approval, consistent with the permit approval and conditions issued by USACE:

- To reduce any potential adverse effects on the Indiana bat, trees (woody stems greater than 5 inches Diameter at Breast Height) will not be cut between April 1 and September 30, of any year.
- To reduce any potential adverse effects on the Northern long-eared bat, trees (woody stems greater than 3 inches Diameter at Breast Height) will not be cut between April 1 and September 30, of any year.
- To avoid and minimize any potential adverse effects to the Kirtland warbler, the clearing, removal, and/or modification of any scrub/shrub or forested habitat will not occur between April 22nd to June 1st and August 15th to October 15th of any year. The City of Euclid will be responsible for ensuring all contractors executing any shrub or tree clearing activities are aware of these work restriction timeframes required to avoid and minimize effects to the warbler.

DETERMINATION

In accordance with the ESA, FEMA has a responsibility to ensure that its actions will not likely result in adverse effects to threatened and endangered species. FEMA requests your concurrence with this effect determination and input on any additional conservation measures required to ensure accuracy of this determination. Thank you for your attention and assistance. Should you have any questions, please contact FEMA Region V Environmental Officer, Duane Castaldi, Duane.Castaldi@fema.dhs.gov or at 312-408-5549.

Sincerely,



Duane Castaldi
FEMA Region V
Regional Environmental Officer

Enclosures:

Attachment 1: Project Area Map

Attachment 2: USFWS Correspondence Email, August 15, 2016

Attachment 3: Ohio DNR Consultation Letter, July 18, 2016

Hachey, Alan S.

Subject: FW: USFWS Response Oct18 - Euclid EA

From: Castaldi, Duane <Duane.Castaldi@fema.dhs.gov>

Sent: Wednesday, October 31, 2018 11:55 AM

To: Hachey, Alan S. <hacheyas@cdmsmith.com>

Cc: Eleff, Jessica <jessica.eleff@fema.dhs.gov>

Subject: FW: City of Euclid Shoreline Mitigation Project, Cuyahoga County

From: susan_zimmermann@fws.gov [mailto:susan_zimmermann@fws.gov] **On Behalf Of** Ohio, FW3

Sent: Wednesday, October 31, 2018 10:53 AM

To: Castaldi, Duane <Duane.Castaldi@fema.dhs.gov>

Subject: City of Euclid Shoreline Mitigation Project, Cuyahoga County



UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994



TAILS# 03E15000-2019-I-0183

Dear Mr. Castaldi,

We have received your recent correspondence regarding the above-referenced project. You have requested concurrence with your determination of effects to federally listed species, pursuant to section 7(a)(2) of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) has reviewed your project description and concurs with your determination that the project, as proposed, is not likely to adversely affect any federally listed species. This is based on the commitment to cut all trees ≥ 3 inches dbh only between October 1 and March 31 to avoid adverse effects to the federally listed endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*) and to cut scrub/shrub habitat only between October 16-April 21 or June 2-August 14 to avoid adverse effects to the Kirtland's warbler (*Setophaga kirtlandii*).

This concludes consultation on this action as required by section 7(a)(2) of the ESA. Should, during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be reinitiated to assess whether the determinations are still valid.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Scott Pruitt". The signature is stylized and cursive.

Scott Pruitt
Acting Field Office Supervisor



In reply, please refer to:
2016-CUY-36900

January 30, 2017

Keith C. Sendziak, Biologist
U.S. Army Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207

Re: Euclid Phase IVB Shoreline Improvements, Euclid, Cuyahoga County, Ohio
Application No 2016-01419

Dear Mr. Sendziak:

This letter is in response to the Public Notice and associated documentation received on January 17, 2017, including a letter of support from the Friends of the Henn Mansion. Our comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated regulations at 36 CFR Part 800.

The City of Euclid proposes to complete shoreline improvements along Lake Erie including regarding the bluff and shoreline, bluff stabilization, constructing a walking path, and creating wildlife habitats. The proposed construction activities will occur between the Sims Park Fishing Pier at the west and the Normandy Towers Apartments at the east and requires a permit from the United States Army Corps of Engineers.

The Friends of the Henn Mansion have expressed support for the proposed project and do not foresee any direct or indirect adverse effects on the historic Henn Mansion (NR 00000422). Therefore, our office concurs with your finding that there will be no adverse effect on historic properties. No further coordination is required with this office, unless the project should change or historic properties are identified during construction, in which case you should contact us.

If you have any questions about this matter, please contact me at mogle@ohiohistory.org or (614) 298-2000. Thank you for your cooperation.

Sincerely,

A handwritten signature in cursive script that reads "Mary Ogle".

Mary Ogle, Project Reviews Manager
State Historic Preservation Office

Serial: 1066947

Cc: Allen Lewis, President, Friends of the Henn Mansion, 23131 Lake Shore Blvd., Euclid, Ohio 44123



FEMA

September 21, 2018

Diana Welling
Deputy State Historic Preservation Officer
Ohio Historic Preservation Office
800 East 17th Avenue
Columbus, Ohio 43211

Re: City of Euclid Shoreline Stabilization – PDMC-PJ-05-OH-2017-007
(OHPO # 2016-CUY-36900)

Dear Ms. Welling:

The City of Euclid is proposing a variety of shoreline improvements along Lake Erie to be funded by FEMA's Pre-Disaster Mitigation program. These improvements were recently permitted by the United States Army Corps of Engineers. The improvements include removing non-organic fill from the shoreline, armoring the shoreline with revetments and cobble fill to create a base for a trail, re-slope the contours of the bluff to a gradual incline, seed with native plantings, as well as installing a storm-water management gutter to handle upland runoff.

The public was notified of the intent to carry out this project through a variety of public notices throughout the USACE permitting process and again most recently with a notice posted in *The Euclid Observer* in May of 2018.

In the enclosed letter, dated January 30, 2017 and addressed to the USACE Buffalo District, your office concurred with the USACE Section 106 finding that no historic properties will be adversely affected by the proposed project. FEMA understands that the scope of the undertaking reviewed by USACE is identical to that being funded by FEMA. Pursuant to 36 CFR 800.2(a)(2), FEMA recognizes the USACE as the lead federal agency for this undertaking. Given the SHPO's concurrence, FEMA considers its responsibilities under Section 106 fulfilled and will fund the captioned project without further Section 106 review

If you have questions or comments please contact me at duane.castaldi@fema.dhs.gov or 312-408-5549.

Sincerely,

A handwritten signature in blue ink that reads "Duane Castaldi".

Duane Castaldi
Regional Environmental Officer
FEMA Region V

Enclosures

Appendix D Tribal Consultation



FEMA

October 18, 2018

Chester L. Brooks, Chief
Delaware Tribe of Indians
5100 Tuxedo Boulevard
Bartlesville, Oklahoma 74006-2838

Re: Shoreline Stabilization, Cuyahoga County, Ohio (PDMC-PJ-05-OH-2017-007)

Dear Chief Brooks:

In accordance with the National Historic Preservation Act and other legislation, the Federal Emergency Management Agency (FEMA) has determined that the captioned activity will constitute a federally-assisted undertaking, requiring a Section 106 Review under the National Historic Preservation Act of 1966, as amended.

The federal action involves various shoreline improvements along Lake Erie, including the removal of non-organic fill from the shoreline, armoring the shoreline with revetments and cobble fill to create a base for a trail, re-sloping the contours of the bluff to a gradual incline, seeding with native plants, as well as installing a storm-water management gutter to handle upland runoff. The project will be located along Lake Erie's shoreline in Euclid, Ohio between 242nd Street and 248th Street as noted on the enclosed map.

The Ohio State Historic Preservation Office has been consulted regarding the potential of this project to affect historic properties, and in a letter of January 30, 2017, has noted that available information suggests that no historic properties will be adversely affected by this undertaking.

FEMA recognizes the special and unique legal relationship that exists between the Federal Government and federally-recognized American Indian Tribes (Tribes). FEMA also recognizes that Tribes may attach religious and cultural significance to historic properties located on aboriginal, ancestral or ceded lands that are not contiguous with reservation lands. For this reason, FEMA consults with Tribes regarding the possible effects of FEMA-funded undertakings on cultural properties of historic or traditional significance, referred to as Traditional Cultural Properties (TCPs).

We invite your comments on the potential impacts these activities may have on lands traditionally used by or sacred to the Delaware Tribe of Indians or other Native American groups. We understand the sensitive nature of much of the information regarding TCPs and assure you in advance that any information you provide will be considered privileged and confidential. In order to safeguard cultural resources or TCPs of interest to Native Americans, we are contacting the following Tribes requesting information regarding their interests in the affected county:

- Delaware Tribe of Indians, Bartlesville, OK
- Forest County Potawatomi Community of Wisconsin, Crandon, WI
- Hannahville Indian Community, Wilson, MI
- Ottawa Tribe of Oklahoma, Miami, OK
- Seneca Nation of Indians, Salamanca, NY
- Wyandotte Nation, Wyandotte, OK

Receiving information from you regarding any areas of interest to the Delaware Tribe of Indians, or notice of Tribes other than those listed above that may have an interest in the designated counties would improve FEMA's efforts to protect resources that may exist in the areas noted on the enclosed maps.

If you have questions or information that will help us protect properties having cultural importance, do not hesitate to contact me at 312-408-5549 or duane.castaldi@fema.dhs.gov. We would appreciate a response by mail or email from your office within thirty (30) days. If we receive no response within that time, we will assume that this project has no impact to TCPs of interest to the Delaware Tribe of Indians and will move forward with the project.

Sincerely,



Duane Castaldi
Regional Environmental Officer
FEMA Region V

enclosures



FEMA

October 18, 2018

Michael LaRonge, Tribal Historic Preservation Officer
Forest County Potawatomi Community of Wisconsin
Natural Resources Department
5320 Wensaut Lane, PO Box 340
Crandon, Wisconsin 54520

Re: Shoreline Stabilization, Cuyahoga County, Ohio (PDMC-PJ-05-OH-2017-007)

Dear Mr. LaRonge:

In accordance with the National Historic Preservation Act and other legislation, the Federal Emergency Management Agency (FEMA) has determined that the captioned activity will constitute a federally-assisted undertaking, requiring a Section 106 Review under the National Historic Preservation Act of 1966, as amended.

The federal action involves various shoreline improvements along Lake Erie, including the removal of non-organic fill from the shoreline, armoring the shoreline with revetments and cobble fill to create a base for a trail, re-sloping the contours of the bluff to a gradual incline, seeding with native plants, as well as installing a storm-water management gutter to handle upland runoff. The project will be located along Lake Erie's shoreline in Euclid, Ohio between 242nd Street and 248th Street as noted on the enclosed map.

The Ohio State Historic Preservation Office has been consulted regarding the potential of this project to affect historic properties, and in a letter of January 30, 2017, has noted that available information suggests that no historic properties will be adversely affected by this undertaking.

FEMA recognizes the special and unique legal relationship that exists between the Federal Government and federally-recognized American Indian Tribes (Tribes). FEMA also recognizes that Tribes may attach religious and cultural significance to historic properties located on aboriginal, ancestral or ceded lands that are not contiguous with reservation lands. For this reason, FEMA consults with Tribes regarding the possible effects of FEMA-funded undertakings on cultural properties of historic or traditional significance, referred to as Traditional Cultural Properties (TCPs).

We invite your comments on the potential impacts these activities may have on lands traditionally used by or sacred to the Forest County Potawatomi Community of Wisconsin or other Native American groups. We understand the sensitive nature of much of the information regarding TCPs and assure you in advance that any information you provide will be considered privileged and confidential. In order to safeguard cultural resources or TCPs of interest to Native Americans, we are contacting the following Tribes requesting information regarding their interests in the affected county:

- Delaware Tribe of Indians, Bartlesville, OK
- Forest County Potawatomi Community of Wisconsin, Crandon, WI
- Hannahville Indian Community, Wilson, MI
- Ottawa Tribe of Oklahoma, Miami, OK
- Seneca Nation of Indians, Salamanca, NY
- Wyandotte Nation, Wyandotte, OK

Receiving information from you regarding any areas of interest to the Forest County Potawatomi Community of Wisconsin, or notice of Tribes other than those listed above that may have an interest in the designated counties would improve FEMA's efforts to protect resources that may exist in the areas noted on the enclosed maps.

If you have questions or information that will help us protect properties having cultural importance, do not hesitate to contact me at 312-408-5549 or duane.castaldi@fema.dhs.gov. We would appreciate a response by mail or email from your office within thirty (30) days. If we receive no response within that time, we will assume that this project has no impact to TCPs of interest to the Forest County Potawatomi Community of Wisconsin and will move forward with the project.

Sincerely,



Duane Castaldi
Regional Environmental Officer
FEMA Region V

enclosures



FEMA

October 18, 2018

Kenneth Meshigaud, Chairperson
Hannahville Indian Community
N14911 Hannahville B1 Road
Wilson, Michigan 49896-9728

Re: Shoreline Stabilization, Cuyahoga County, Ohio (PDMC-PJ-05-OH-2017-007)

Dear Chairperson Meshigaud:

In accordance with the National Historic Preservation Act and other legislation, the Federal Emergency Management Agency (FEMA) has determined that the captioned activity will constitute a federally-assisted undertaking, requiring a Section 106 Review under the National Historic Preservation Act of 1966, as amended.

The federal action involves various shoreline improvements along Lake Erie, including the removal of non-organic fill from the shoreline, armoring the shoreline with revetments and cobble fill to create a base for a trail, re-sloping the contours of the bluff to a gradual incline, seeding with native plants, as well as installing a storm-water management gutter to handle upland runoff. The project will be located along Lake Erie's shoreline in Euclid, Ohio between 242nd Street and 248th Street as noted on the enclosed map.

The Ohio State Historic Preservation Office has been consulted regarding the potential of this project to affect historic properties, and in a letter of January 30, 2017, has noted that available information suggests that no historic properties will be adversely affected by this undertaking.

FEMA recognizes the special and unique legal relationship that exists between the Federal Government and federally-recognized American Indian Tribes (Tribes). FEMA also recognizes that Tribes may attach religious and cultural significance to historic properties located on aboriginal, ancestral or ceded lands that are not contiguous with reservation lands. For this reason, FEMA consults with Tribes regarding the possible effects of FEMA-funded undertakings on cultural properties of historic or traditional significance, referred to as Traditional Cultural Properties (TCPs).

We invite your comments on the potential impacts these activities may have on lands traditionally used by or sacred to the Hannahville Indian Community or other Native American groups. We understand the sensitive nature of much of the information regarding TCPs and assure you in advance that any information you provide will be considered privileged and confidential. In order to safeguard cultural resources or TCPs of interest to Native Americans, we are contacting the following Tribes requesting information regarding their interests in the affected county:

- Delaware Tribe of Indians, Bartlesville, OK
- Forest County Potawatomi Community of Wisconsin, Crandon, WI
- Hannahville Indian Community, Wilson, MI
- Ottawa Tribe of Oklahoma, Miami, OK
- Seneca Nation of Indians, Salamanca, NY
- Wyandotte Nation, Wyandotte, OK

Receiving information from you regarding any areas of interest to the Hannahville Indian Community, or notice of Tribes other than those listed above that may have an interest in the designated counties would improve FEMA's efforts to protect resources that may exist in the areas noted on the enclosed maps.

If you have questions or information that will help us protect properties having cultural importance, do not hesitate to contact me at 312-408-5549 or duane.castaldi@fema.dhs.gov. We would appreciate a response by mail or email from your office within thirty (30) days. If we receive no response within that time, we will assume that this project has no impact to TCPs of interest to the Hannahville Indian Community and will move forward with the project.

Sincerely,



Duane Castaldi
Regional Environmental Officer
FEMA Region V

enclosures



FEMA

October 18, 2018

Rhonda Dixon, Tribal Historic Preservation Officer
Ottawa Tribe of Oklahoma
13 South 69A
Miami, Oklahoma 74354

Re: Shoreline Stabilization, Cuyahoga County, Ohio (PDMC-PJ-05-OH-2017-007)

Dear Ms. Dixon:

In accordance with the National Historic Preservation Act and other legislation, the Federal Emergency Management Agency (FEMA) has determined that the captioned activity will constitute a federally-assisted undertaking, requiring a Section 106 Review under the National Historic Preservation Act of 1966, as amended.

The federal action involves various shoreline improvements along Lake Erie, including the removal of non-organic fill from the shoreline, armoring the shoreline with revetments and cobble fill to create a base for a trail, re-sloping the contours of the bluff to a gradual incline, seeding with native plants, as well as installing a storm-water management gutter to handle upland runoff. The project will be located along Lake Erie's shoreline in Euclid, Ohio between 242nd Street and 248th Street as noted on the enclosed map.

The Ohio State Historic Preservation Office has been consulted regarding the potential of this project to affect historic properties, and in a letter of January 30, 2017, has noted that available information suggests that no historic properties will be adversely affected by this undertaking.

FEMA recognizes the special and unique legal relationship that exists between the Federal Government and federally-recognized American Indian Tribes (Tribes). FEMA also recognizes that Tribes may attach religious and cultural significance to historic properties located on aboriginal, ancestral or ceded lands that are not contiguous with reservation lands. For this reason, FEMA consults with Tribes regarding the possible effects of FEMA-funded undertakings on cultural properties of historic or traditional significance, referred to as Traditional Cultural Properties (TCPs).

We invite your comments on the potential impacts these activities may have on lands traditionally used by or sacred to the Ottawa Tribe of Oklahoma or other Native American groups. We understand the sensitive nature of much of the information regarding TCPs and assure you in advance that any information you provide will be considered privileged and confidential. In order to safeguard cultural resources or TCPs of interest to Native Americans, we are contacting the following Tribes requesting information regarding their interests in the affected county:

- Delaware Tribe of Indians, Bartlesville, OK
- Forest County Potawatomi Community of Wisconsin, Crandon, WI
- Hannahville Indian Community, Wilson, MI
- Ottawa Tribe of Oklahoma, Miami, OK
- Seneca Nation of Indians, Salamanca, NY
- Wyandotte Nation, Wyandotte, OK

Receiving information from you regarding any areas of interest to the Ottawa Tribe of Oklahoma, or notice of Tribes other than those listed above that may have an interest in the designated counties would improve FEMA's efforts to protect resources that may exist in the areas noted on the enclosed maps.

If you have questions or information that will help us protect properties having cultural importance, do not hesitate to contact me at 312-408-5549 or duane.castaldi@fema.dhs.gov. We would appreciate a response by mail or email from your office within thirty (30) days. If we receive no response within that time, we will assume that this project has no impact to TCPs of interest to the Ottawa Tribe of Oklahoma and will move forward with the project.

Sincerely,



Duane Castaldi
Regional Environmental Officer
FEMA Region V

enclosures



FEMA

October 18, 2018

Morris Abrams, Tribal Historic Preservation Officer
Seneca Nation of Indians
90 Ohi:Yoho Way
Salamanca, New York 14779

Re: Shoreline Stabilization, Cuyahoga County, Ohio (PDMC-PJ-05-OH-2017-007)

Dear Mr. Abrams:

In accordance with the National Historic Preservation Act and other legislation, the Federal Emergency Management Agency (FEMA) has determined that the captioned activity will constitute a federally-assisted undertaking, requiring a Section 106 Review under the National Historic Preservation Act of 1966, as amended.

The federal action involves various shoreline improvements along Lake Erie, including the removal of non-organic fill from the shoreline, armoring the shoreline with revetments and cobble fill to create a base for a trail, re-sloping the contours of the bluff to a gradual incline, seeding with native plants, as well as installing a storm-water management gutter to handle upland runoff. The project will be located along Lake Erie's shoreline in Euclid, Ohio between 242nd Street and 248th Street as noted on the enclosed map.

The Ohio State Historic Preservation Office has been consulted regarding the potential of this project to affect historic properties, and in a letter of January 30, 2017, has noted that available information suggests that no historic properties will be adversely affected by this undertaking.

FEMA recognizes the special and unique legal relationship that exists between the Federal Government and federally-recognized American Indian Tribes (Tribes). FEMA also recognizes that Tribes may attach religious and cultural significance to historic properties located on aboriginal, ancestral or ceded lands that are not contiguous with reservation lands. For this reason, FEMA consults with Tribes regarding the possible effects of FEMA-funded undertakings on cultural properties of historic or traditional significance, referred to as Traditional Cultural Properties (TCPs).

We invite your comments on the potential impacts these activities may have on lands traditionally used by or sacred to the Seneca Nation of Indians or other Native American groups. We understand the sensitive nature of much of the information regarding TCPs and assure you in advance that any information you provide will be considered privileged and confidential. In order to safeguard cultural resources or TCPs of interest to Native Americans, we are contacting the following Tribes requesting information regarding their interests in the affected county:

- Delaware Tribe of Indians, Bartlesville, OK
- Forest County Potawatomi Community of Wisconsin, Crandon, WI
- Hannahville Indian Community, Wilson, MI
- Ottawa Tribe of Oklahoma, Miami, OK
- Seneca Nation of Indians, Salamanca, NY
- Wyandotte Nation, Wyandotte, OK

Receiving information from you regarding any areas of interest to the Seneca Nation of Indians, or notice of Tribes other than those listed above that may have an interest in the designated counties would improve FEMA's efforts to protect resources that may exist in the areas noted on the enclosed maps.

If you have questions or information that will help us protect properties having cultural importance, do not hesitate to contact me at 312-408-5549 or duane.castaldi@fema.dhs.gov. We would appreciate a response by mail or email from your office within thirty (30) days. If we receive no response within that time, we will assume that this project has no impact to TCPs of interest to the Seneca Nation of Indians and will move forward with the project.

Sincerely,



Duane Castaldi
Regional Environmental Officer
FEMA Region V

enclosures



FEMA

October 18, 2018

Sherri Clemons, Tribal Historic Preservation Officer
Wyandotte Nation
64700 East Highway 60
Wyandotte, Oklahoma 74370

Re: Shoreline Stabilization, Cuyahoga County, Ohio (PDMC-PJ-05-OH-2017-007)

Dear Ms. Clemons:

In accordance with the National Historic Preservation Act and other legislation, the Federal Emergency Management Agency (FEMA) has determined that the captioned activity will constitute a federally-assisted undertaking, requiring a Section 106 Review under the National Historic Preservation Act of 1966, as amended.

The federal action involves various shoreline improvements along Lake Erie, including the removal of non-organic fill from the shoreline, armoring the shoreline with revetments and cobble fill to create a base for a trail, re-sloping the contours of the bluff to a gradual incline, seeding with native plants, as well as installing a storm-water management gutter to handle upland runoff. The project will be located along Lake Erie's shoreline in Euclid, Ohio between 242nd Street and 248th Street as noted on the enclosed map.

The Ohio State Historic Preservation Office has been consulted regarding the potential of this project to affect historic properties, and in a letter of January 30, 2017, has noted that available information suggests that no historic properties will be adversely affected by this undertaking.

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We invite your comments on the potential impacts these activities may have on lands traditionally used by or sacred to the Wyandotte Nation or other Native American groups. We understand the sensitive nature of much of the information regarding TCPs and assure you in advance that any information you provide will be considered privileged and confidential. In order to safeguard cultural resources or TCPs of interest to Native Americans, we are contacting the following Tribes requesting information regarding their interests in the affected county:

- Delaware Tribe of Indians, Bartlesville, OK
- Forest County Potawatomi Community of Wisconsin, Crandon, WI
- Hannahville Indian Community, Wilson, MI
- Ottawa Tribe of Oklahoma, Miami, OK
- Seneca Nation of Indians, Salamanca, NY
- Wyandotte Nation, Wyandotte, OK

Receiving information from you regarding any areas of interest to the Wyandotte Nation, or notice of Tribes other than those listed above that may have an interest in the designated counties would improve FEMA's efforts to protect resources that may exist in the areas noted on the enclosed maps.

If you have questions or information that will help us protect properties having cultural importance, do not hesitate to contact me at 312-408-5549 or duane.castaldi@fema.dhs.gov. We would appreciate a response by mail or email from your office within thirty (30) days. If we receive no response within that time, we will assume that this project has no impact to TCPs of interest to the Wyandotte Nation and will move forward with the project.

Sincerely,



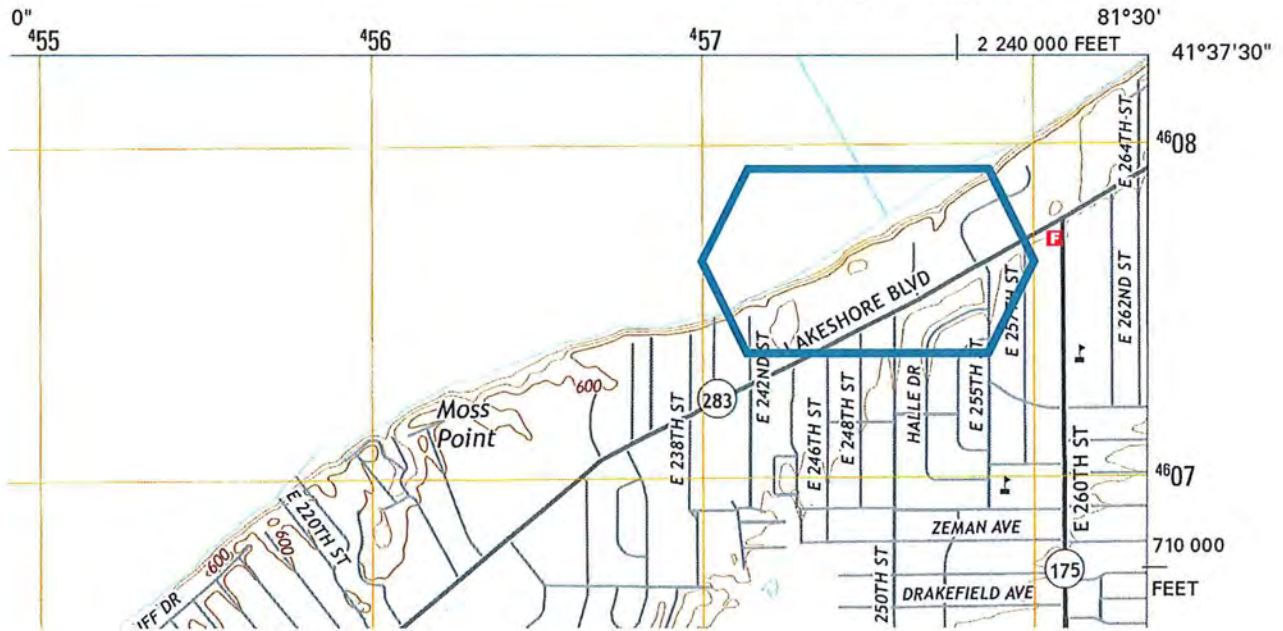
Duane Castaldi
Regional Environmental Officer
FEMA Region V

enclosures



Topographic Map Below identifies the general project area as depicted on the East Cleveland
Quadrangle. United States Geological Survey, 2016

EAST CLEVELAND QUADRANGLE
OHIO-CUYAHOGA CO.
7.5-MINUTE SERIES



Aerial Photograph Below Identifies General Project Area. Imagery from Google Map Data. 2018



Appendix E Public Notice

NOTE: To be published in the Cleveland Plain Dealer in March 2019.

**Federal Emergency Management Agency
PUBLIC NOTICE
Notice of Availability of the Draft Environmental Assessment
For City of Euclid Erosion Mitigation Project in Euclid, Ohio**

Environmental Assessment (EA) for the City of Euclid Erosion Mitigation Project (Application Number: PDMC-PJ-05-OH-2017-007).

Interested persons are hereby notified that the Federal Emergency Management Agency (FEMA)/Department of Homeland Security (DHS) is proposing to assist in the funding of a project located in the City of Euclid, Cuyahoga County, Ohio. In accordance with the National Environmental Policy Act (NEPA) of 1969 and the implementing regulations of FEMA, an EA is being prepared to assess the potential impacts of each of the proposed alternatives on the human and natural environment. This also provides public notice to invite public comments on the proposed project in accordance with Executive Order 11988, Floodplain Management, and Executive Order 11990, Protection of Wetlands. In addition, this notice and the draft EA provide information to the public on potential impacts to historic and cultural resources from the proposed undertaking, as outlined in the National Historic Preservation Act (NHPA) of 1966.

This EA is available for agency and public review and comment for a period of 30 days between [DATE] and [DATE]. The EA is available on FEMA's website at <https://www.fema.gov/recent-environmental-documents-public-notice-region-v>. The EA is also available on the City of Euclid website under the "Announcements" tab at <http://www.cityofeuclid.com>. Interested parties may request an electronic copy of the EA from either of those websites.

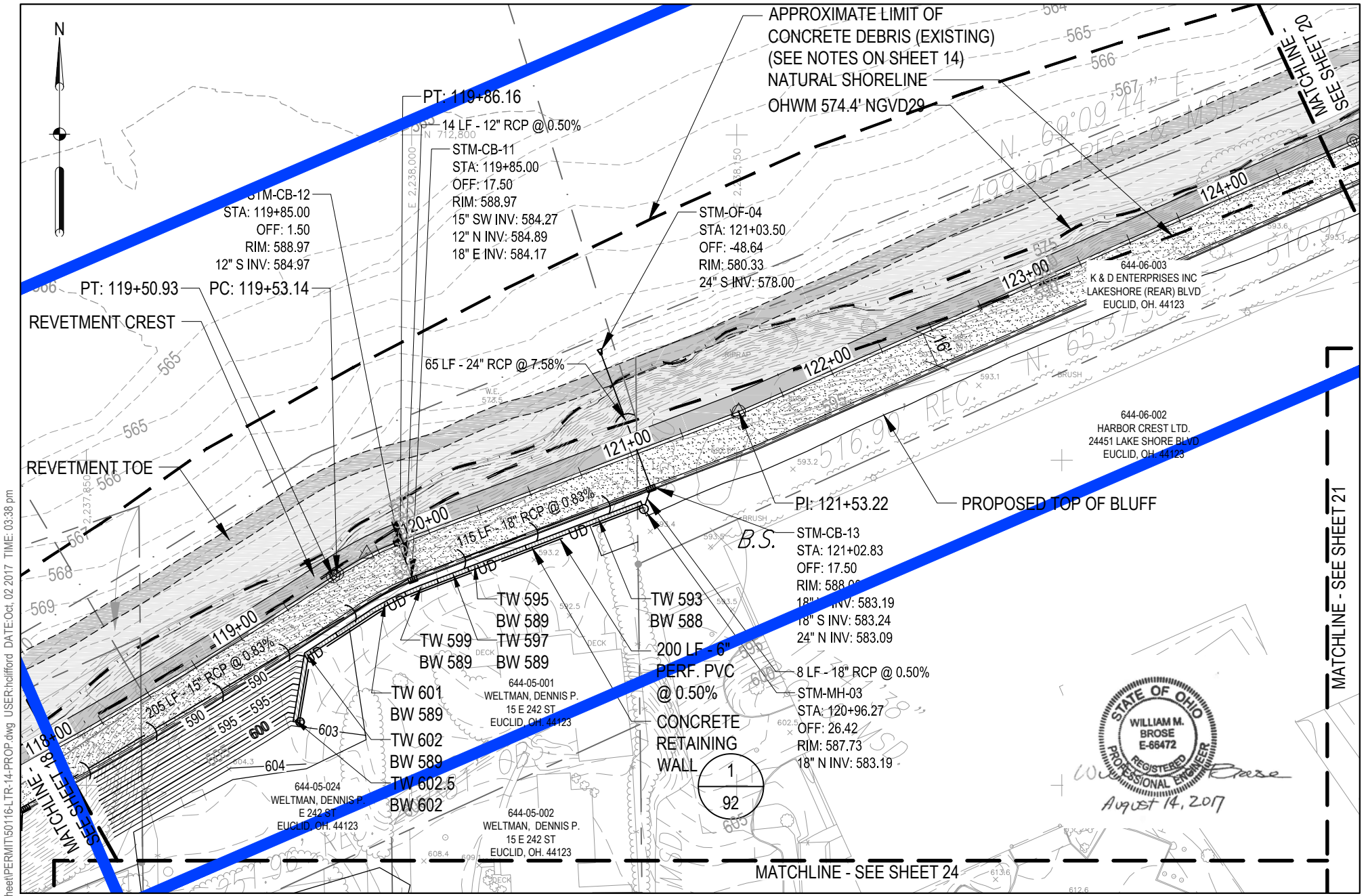
A hard copy of the EA is available for review at:

Euclid Public Library
631 East 222nd Street
Euclid, OH 44123

Written comments regarding this environmental action should be received no later than 5 p.m. on [DATE], by mail to Duane Castaldi, Regional Environmental Officer, FEMA Region V, 536 South Clark Street, 6th Floor, Chicago, IL 60605-1521, by email at Duane.Castaldi@fema.dhs.gov or phone (312) 408-5549. If no substantive comments are received by the above deadline, the draft EA and associated Finding of No Significant Impact (FONSI) will become final and be published by FEMA. Substantive comments will be addressed as appropriate in the final documents.

The public may request a copy of the final environmental documents from Duane Castaldi at the address listed above.

Appendix F Plan Set for the Proposed Action



FILE:P:\50116.012\CAD\C\sheet\PERMIT\50116-LTR-14-PROP.dwg USER:holliford DATE:Oct. 02 2017 TIME: 03:38 pm

SHORELINE IMPROVEMENTS (STA 118+00 TO 124+50)

DRAWING TITLE

SMITHGROUP JJR NOT FOR CONSTRUCTION

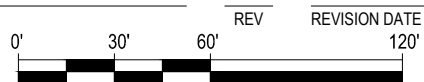
44 EAST MIFFLIN STREET SUITE 500 MADISON, WI 53703 608.251.1177 www.smithgroupjir.com

EUCLID PHASE IV B: SHORELINE IMPROVEMENTS

PROJECT NAME
23131 LAKESHORE BLVD, EUCLID, OH. 44123

PROJECT ADDRESS

SCALE: 1" = 60'



50116.012

PROJECT NUMBER
August 14, 2017

ISSUE DATE

19 OF 94

DRAWING NUMBER



NATURAL SHORELINE

OHWM 574.4' NGVD29

APPROXIMATE LIMIT OF
CONCRETE DEBRIS (EXISTING)
(SEE NOTES ON SHEET 14)

PT: 119+86.16

PC: 119+53.14

PT: 119+50.93

SEE SHEET 20
MATCHLINE

644-06-003
K & D ENTERPRISES INC
LAKESHORE (REAR) BLVD
EUCLID, OH. 44123

644-06-002
HARBOR CREST LTD.
24451 LAKE SHORE BLVD
EUCLID, OH. 44123

644-05-001
WELTMAN, DENNIS P.
15 E 242 ST
EUCLID, OH. 44123

644-05-024
WELTMAN, DENNIS P.
E 242 ST
EUCLID, OH. 44123

644-05-002
WELTMAN, DENNIS P.
15 E 242 ST
EUCLID, OH. 44123

120' TOTAL LENGTH (CONT.)
UNPROTECTED REVETMENT



August 14, 2017

NOTES:

1. APPROXIMATE DIMENSIONS SHOWN ARE FOR INFORMATIONAL PURPOSES FOR PERMITTING. FINAL CONSTRUCTION DOCUMENTS MAY DIFFER.
2. DISTANCES OFFSHORE ARE SHOWN FROM THE NATURAL SHORELINE.

SHORELINE IMPROVEMENTS (STA 118+00 TO 124+50) - DIMENSIONS

DRAWING TITLE

SMITHGROUP JJR

NOT FOR CONSTRUCTION

44 EAST MIFFLIN STREET SUITE 500 MADISON, WI 53703 608.251.1177 www.smithgroupj jr.com

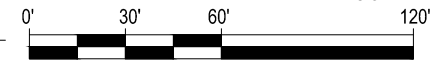
EUCLID PHASE IV B: SHORELINE IMPROVEMENTS

PROJECT NAME
23131 LAKESHORE BLVD, EUCLID, OH. 44123

PROJECT ADDRESS

SCALE: 1" = 60'

SCALE



REV REVISION DATE

50116.012

PROJECT NUMBER
August 14, 2017

ISSUE DATE

19.1 OF 94

DRAWING NUMBER

FILE:P:\50116.012\CAD\C\sheet\PERMIT\50116-LTR-14A-PROP.dwg USER:hclifford DATE:Oct. 02 2017 TIME: 03:39 pm

- 1
84 FEEDER BEACH BREAKWATER
- 1
83 FEEDER BEACH MAIN BREAKWATER WITH ACCESS
- 1
85 FEEDER BEACH BREAKWATER SPUR

APPROXIMATE LIMIT OF CONCRETE DEBRIS (EXISTING) (SEE NOTES ON SHEET 14)

PRE-FILL SAND VOLUMES:
 EAST FACING FEEDER BEACH BELOW OHWM = 5,530 CY
 EAST FACING FEEDER BEACH LAKEWARD OF NATURAL SHORELINE = 6,060 CY
 USACE MITIGATION SAND = 5,400 CY



August 14, 2017

SEE ENLARGEMENT - SHEET 26

MAINTENANCE TRUCK ACCESS

PUBLIC ACCESS DROP-OFF AND TURNAROUND

PRE-FILL SAND VOLUMES:
 WEST FACING FEEDER BEACH BELOW OHWM = 1,180 CY
 WEST FACING FEEDER BEACH LAKEWARD OF NATURAL SHORELINE = 1,180 CY

SHORELINE IMPROVEMENTS (STA 124+50 TO END)

EUCLID PHASE IV B: SHORELINE IMPROVEMENTS

PROJECT NAME
 23131 LAKESHORE BLVD, EUCLID, OH. 44123

PROJECT ADDRESS

SCALE: 1" = 60'

SCALE

50116.012
 PROJECT NUMBER
 August 14, 2017
 ISSUE DATE
 20 OF 94
 DRAWING NUMBER



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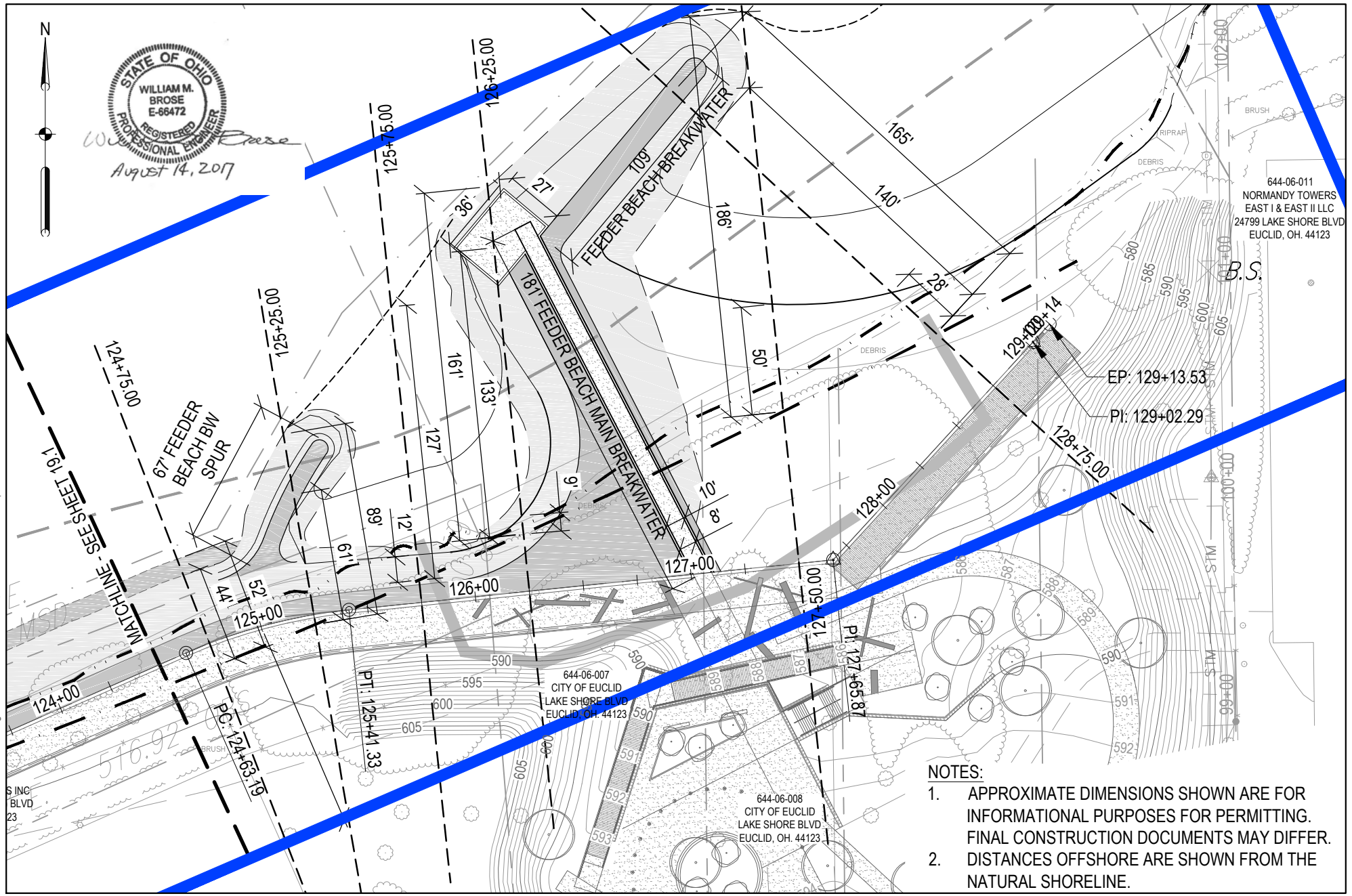
SMITHGROUP JJR

NOT FOR CONSTRUCTION

44 EAST MIFFLIN STREET SUITE 500 MADISON, WI 53703 608.251.1177 www.smithgroupj jr.com



August 14, 2017



644-06-011
NORMANDY TOWERS
EAST I & EAST II LLC
24799 LAKE SHORE BLVD
EUCLID, OH. 44123

EP: 129+13.53
PI: 129+02.29

644-06-007
CITY OF EUCLID
LAKE SHORE BLVD
EUCLID, OH. 44123

644-06-008
CITY OF EUCLID
LAKE SHORE BLVD
EUCLID, OH. 44123

NOTES:

1. APPROXIMATE DIMENSIONS SHOWN ARE FOR INFORMATIONAL PURPOSES FOR PERMITTING. FINAL CONSTRUCTION DOCUMENTS MAY DIFFER.
2. DISTANCES OFFSHORE ARE SHOWN FROM THE NATURAL SHORELINE.

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SHORELINE IMPROVEMENTS (STA 124+50 TO END) - DIMENSIONS

DRAWING TITLE

SMITHGROUP JJR

NOT FOR CONSTRUCTION

44 EAST MIFFLIN STREET SUITE 500 MADISON, WI 53703 608.251.1177 www.smithgroupjjr.com

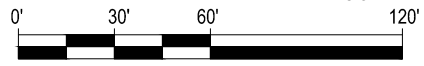
EUCLID PHASE IV B: SHORELINE IMPROVEMENTS

PROJECT NAME
23131 LAKESHORE BLVD, EUCLID, OH. 44123

PROJECT ADDRESS

SCALE: 1" = 60'

SCALE



REV REVISION DATE

50116.012

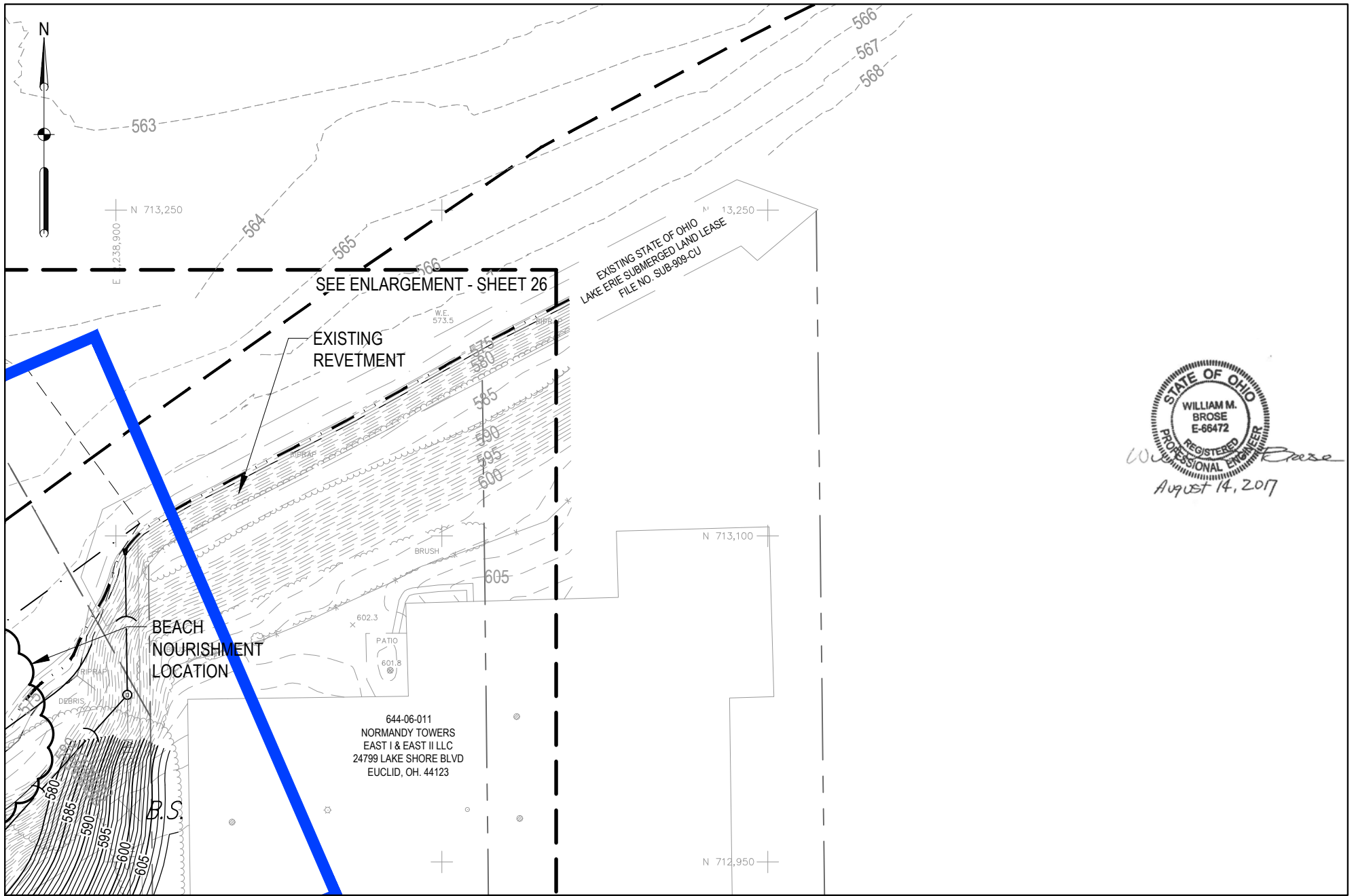
PROJECT NUMBER
August 14, 2017

ISSUE DATE

20.1 OF 94

DRAWING NUMBER

FILE:P:\50116.012\CAD\C\sheet\PERMIT\50116-LTR-14-PROP.dwg USER:hollford DATE:Oct. 02 2017 TIME: 03:45 pm



SHORELINE IMPROVEMENTS - ADJOINING EAST

DRAWING TITLE

SMITHGROUP JJR

NOT FOR CONSTRUCTION

44 EAST MIFFLIN STREET SUITE 500 MADISON, WI 53703 608.251.1177 www.smithgroupj jr.com

EUCLID PHASE IV B: SHORELINE IMPROVEMENTS

PROJECT NAME
23131 LAKESHORE BLVD, EUCLID, OH. 44123

PROJECT ADDRESS
SCALE: 1" = 60'

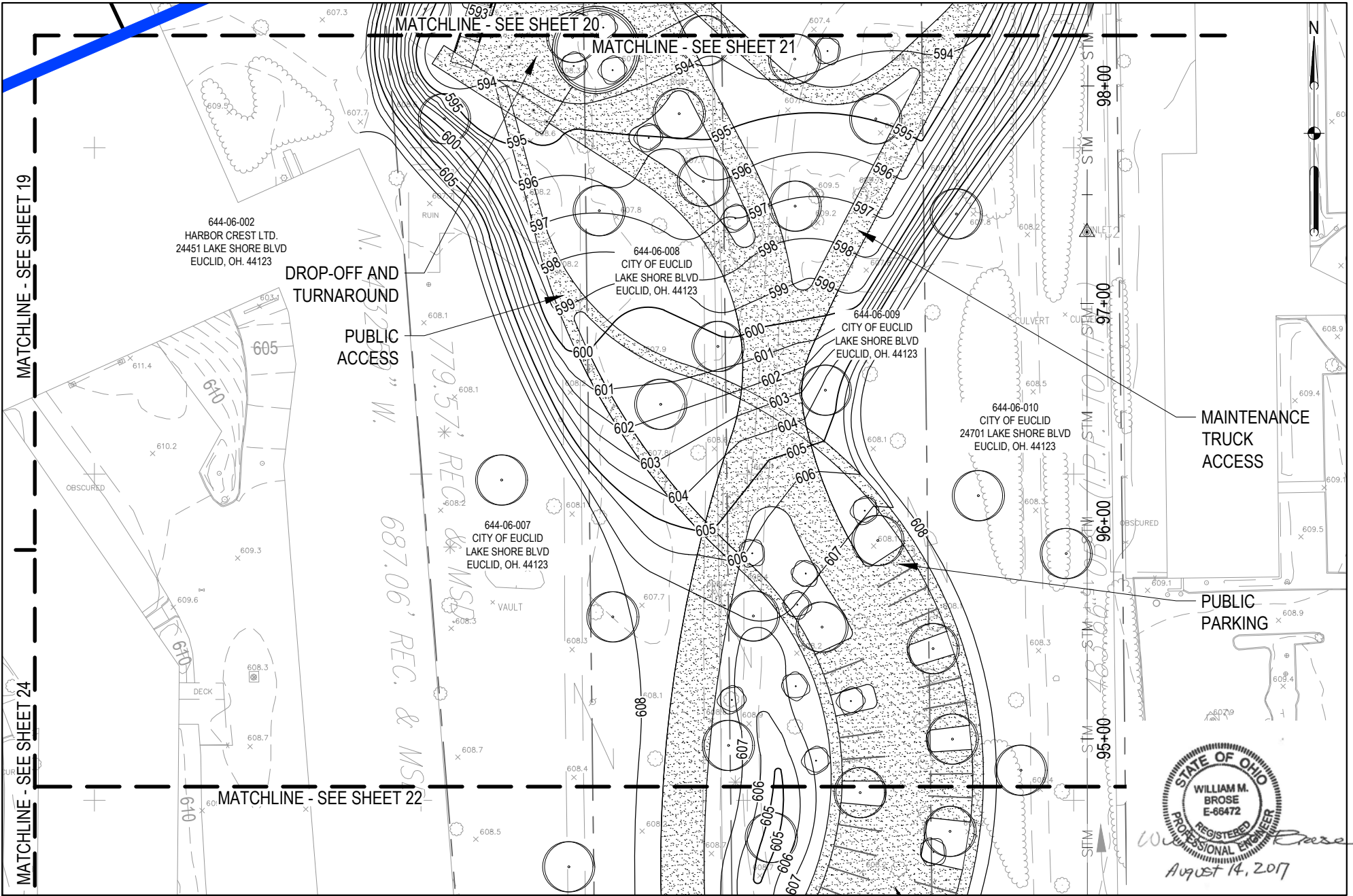
SCALE
0' 30' 60' 120'

50116.012

PROJECT NUMBER
August 14, 2017

ISSUE DATE

20.2 OF 94
DRAWING NUMBER



FILE:P:\50116.012\CAD\C\sheet\PERMIT\50116-LTR-14-PROP.dwg USER:hollford DATE:Oct, 02 2017 TIME: 03:45 pm

EAST GATEWAY IMPROVEMENTS - CENTRAL

DRAWING TITLE

SMITHGROUP JJR

NOT FOR CONSTRUCTION

44 EAST MIFFLIN STREET SUITE 500 MADISON, WI 53703 608.251.1177 www.smithgroupjir.com

EUCLID PHASE IV B: SHORELINE IMPROVEMENTS

PROJECT NAME
23131 LAKESHORE BLVD, EUCLID, OH. 44123

PROJECT ADDRESS

SCALE: 1" = 60'

SCALE



REV REVISION DATE

50116.012

PROJECT NUMBER
August 14, 2017

ISSUE DATE

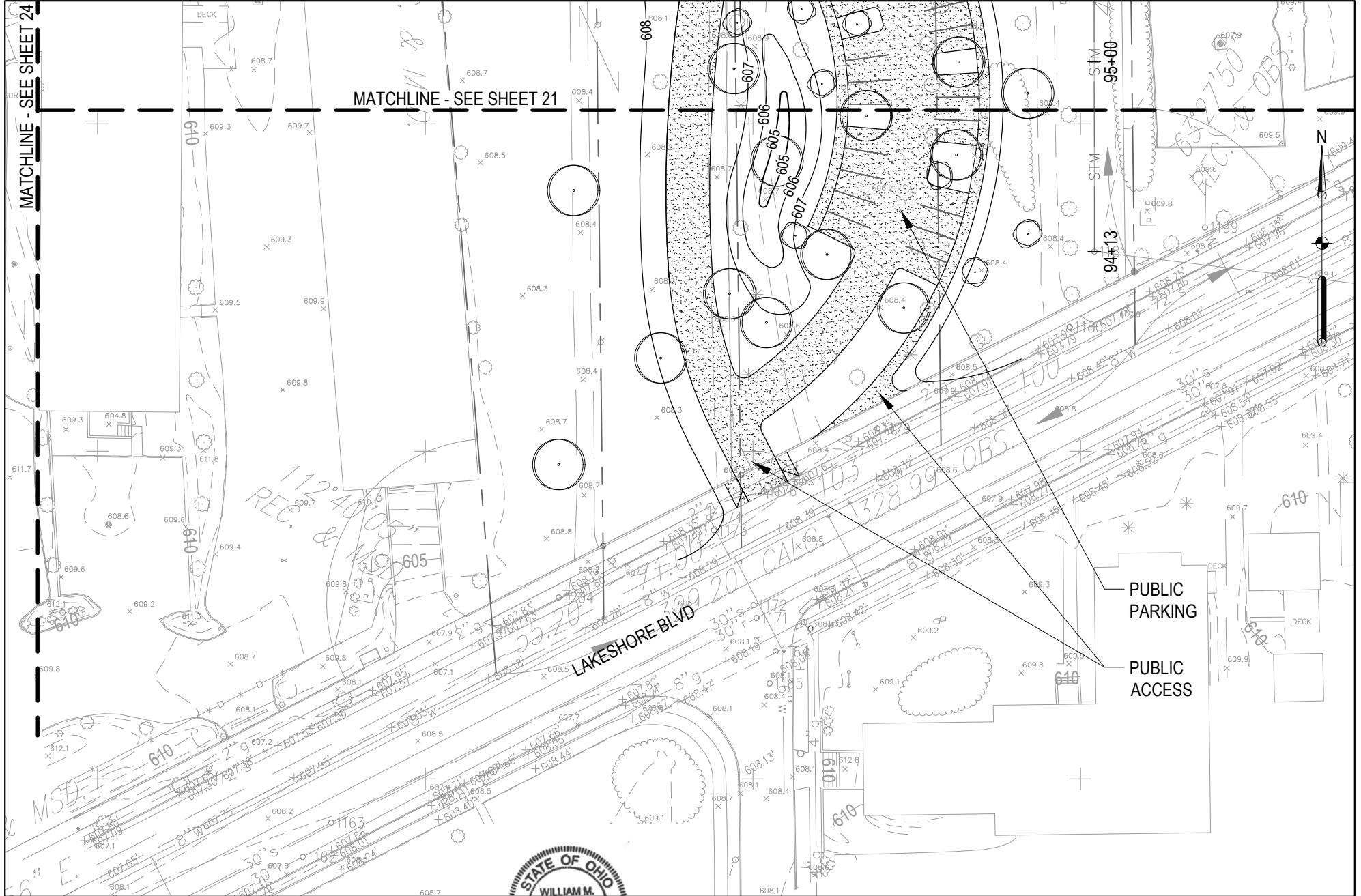
21 OF 94

DRAWING NUMBER



William M. Brose
August 14, 2017

FILE:P:\50116.012\CAD\C\sheet\PERMIT\50116-LTR-14-PROP.dwg USER:hollford DATE:Oct. 02 2017 TIME: 03:46 pm



EAST GATEWAY IMPROVEMENTS - SOUTH

DRAWING TITLE

SMITHGROUP JJR

NOT FOR CONSTRUCTION

44 EAST MIFFLIN STREET SUITE 500 MADISON, WI 53703 608.251.1177 www.smithgroupj jr.com



Case
 August 14, 2017

EUCLID PHASE IV B: SHORELINE IMPROVEMENTS

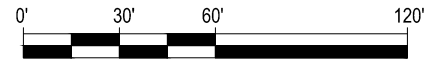
PROJECT NAME

23131 LAKESHORE BLVD, EUCLID, OH. 44123

PROJECT ADDRESS

SCALE: 1" = 60'

SCALE



REV

REVISION DATE

50116.012

PROJECT NUMBER

August 14, 2017

ISSUE DATE

22 OF 94

DRAWING NUMBER

Appendix G Abstract

***3D Physical Model Study of a Shoreline Improvement Scheme
for Euclid, Ohio, USA***



NATIONAL RESEARCH COUNCIL CANADA

3D Physical Model Study of a Shoreline Improvement Scheme for Euclid, Ohio, USA



Paul Knox, Alistair Rayner

Ocean, Coastal and River Engineering

NRC Technical Report: OCRE-TR-2016-012

April 2016



National Research
Council Canada

Conseil national
de recherches Canada

Canada

ABSTRACT

This report describes a mobile-bed physical model study conducted by the National Research Council's Ocean, Coastal and River Engineering portfolio (NRC-OCRE) in close collaboration with SmithGroupJJR (SGJJR) to support the detailed design of waterfront improvements along the shoreline at the city of Euclid, Ohio, USA.

A three-dimensional physical model of the foreshore and shoreline at the project site was designed and constructed at a geometric scale of 1:27.5 in the NRC-OCRE's Large Area Wave Basin (LAB) facility, located in Ottawa, Canada. The beach sediment was modelled using both coarse and fine sand that deformed naturally in response to wave forcing. The model was fitted with two portable wave machines to generate waves and equipped with instrumentation to measure wave conditions, wave-induced nearshore currents, and changes in the shape of the model beach. The model provided a reasonable simulation of the hydrodynamic and sedimentary processes at the site.

Over 90 tests were conducted to support the detailed design of shoreline protection features including revetments, breakwaters, islands, headlands and beaches fronting a walkway intended to span the entire project length. Tests were conducted to investigate structure stability and coastal processes at the site for existing conditions, without the shoreline improvement scheme, and for eighteen different model layouts. Much of the testing focused on assessing the impact of the new structures on wave conditions and currents near the shore, their stability, and their effect on sediment transport processes and the response of the beach, for various wave conditions and water levels.

These investigations generated a large quantity of valuable information concerning the potential impact of many different protection schemes and measures on the coastal processes at the Euclid shoreline. This information is being used by SGJJR to support the detailed design of the waterfront improvements, and obtain the necessary permits required for construction.



Appendix H

Initial Public Involvement

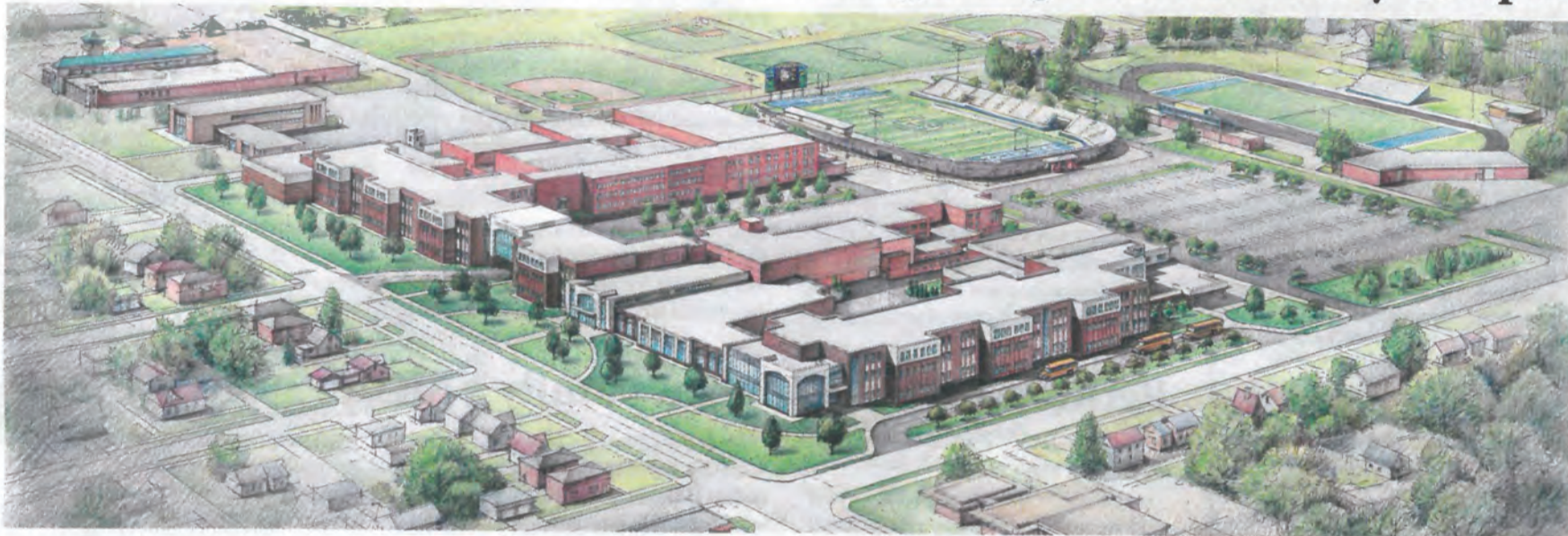
EUCLID OBSERVER

Proud Member of the Observer Media Family of Community-Owned and Written Newspapers & Websites

Volume 9 • Issue 5

May 2018

Euclid Breaks Ground On The Early Learning Village And Secondary Campus



Digging into the future

The sun was shining on our Euclid last month as students, administrators, city leaders, and residents broke ground on the Early Learning Village and Secondary Campus (Euclid High School and Middle School). What will be the first class of kindergarten students at the Early Learning Village, and the first class of freshmen in the new high school made the first “dig” into our future.

This building project is co-funded by the (state) Ohio Facilities Construction Commission and the plans include:

- Rebuilding parts Euclid High School (athletic facilities and auditorium remain

and are renovated)

- Building a new middle school on the present site of Euclid High School to operate as a secondary campus
- Building an Early Learning Village at the Forest Park site for preschool and kindergarten students
- Converting the Central Middle School site into a Cleveland Metroparks park for passive recreation

Thank you to our Euclid residents for supporting this vision not only for our children but for the future of our city. We look forward to continuing to provide excellent facilities and educational opportunities to our community.



Euclid emerges victorious with nearly 200 bags of trash collected by volunteers at ‘The Big Clean 2018’



Thanks to the hundreds of volunteers and dozens of sponsors who made ‘The Big Clean 2018’ a success! Euclid was the winner, collecting nearly 200 bags of litter.

by Allison Lukacsy-Love

Hundreds of Euclid and Collinwood residents took to the streets, parks, tree lawns, and highway ramps on Saturday, April 21st for ‘The Big Clean 2018’, the second annual cleanup competition between the two communities.

Euclid was once again victorious, collecting nearly 200 bags of trash in just a few hours.

Ward 3 Councilperson Taneika Hill is a returning participant to the now annual

event. “Most people would not be excited about spending a Saturday morning picking up trash,” she commented, “but I find a great deal of satisfaction participating and seeing so many members of my community come out to be the change they want to see.”

Councilperson Hill participated in the cleanup with fellow Council members Brian Moore (Ward 2), Christine McIntosh (Ward 5), and John Wojtila (Ward 6).

(continued on page 25)

Gertha Spear Proclamation at Hilltop Village



by Jillian Cobb

Hilltop Village is a senior living community right here in Euclid Ohio. If you are looking for a place for a family member, or even yourself, Hilltop offers many amenities that you or your loved one could benefit from. Situated in a picturesque setting at the top of a hill in Euclid, Hilltop Village is surrounded by lush landscape, trees & peaceful beauty.

As much as we enjoy our beautiful surroundings, our biggest joy is our residents

themselves. They are what keep our community thriving, and we consider them an extension of our family. We have been lucky to have many centenarians live within our community over the years and currently have two residents over 100 years old! One of those residents, Gertha Spear was presented with Proclamation from Mayor Kirsten Holzheimer Gail on April 27, 2018. When asked how she feels about receiving a Proclamation Gertha is “overjoyed”. Gertha has been a wonderful addition to our community and is known throughout for her positive spirit and infectious smile. Gertha has a deep love for our Lord, Jesus Christ and has lived her life by his command. She has spent the last 50 years of her life dedicated to helping Veterans right here in Cleveland Ohio at the Louis Stokes Cleveland VA Medical Center. Her gentle and kind spirit have no doubt help many Veterans along the way.

Gertha is just one of many that makes our world go around here at Hilltop Village. We encourage you to stop by and meet Gertha, and to tour our wonderful community. You and your family can rest assured that your loved one will truly be looked after at Hilltop Village. Call 216-261-8383 to schedule your personal tour today!

Community

Euclid High Schools Alumni Association - Making Connections



Hundreds of alumni gathered to pay their last respects to Euclid High School's E-Room.



Alumni from the 1980s gathered with current members of the Euclid High School football team to share experiences, as well as pizza and soda in the E-Room.

by Greg Fondran

At its core every alumni association is about making connections. Since 1991, the Euclid Public Schools Alumni Association (EPSAA) has been making connections, between alumni, current students and the Euclid Schools. At the end of April, the EPSAA participated in two significant "reunion" events that brought together hundreds of people to reconnect with friends, teammates, and most importantly, memories. On Friday night, April 27th, head Euclid football coach Jeff Rotsky, his coaching staff and about 100 members of the middle and high school football teams, met football alumni members from the 1970s through the 2010s. Sharing pizza, soda, and a few "war stories," it was a unique opportunity to connect current

student-athletes with those who donned the blue and gold uniform before them. As a celebration of the tradition of excellence in high school football, it was fitting to have a few Euclid Schools Sports Hall of Famers in the crowd, including Tom Wandersleben '77 (Michigan), Antoine "Tony" Fisher ('97, Notre Dame, Green Bay Packers, St. Louis Cardinals) and Tom Banc, former coach of some of the most successful teams and accomplished student-athletes Euclid has fielded in its 110 years of playing football.

The next day, during the E-Room Farewell event (the multi-purpose room will be torn down in June to make way for construction of a new, consolidated middle school), hundreds of eager alumni flooded the E-Room to take one last look at the place where homecoming dances, proms,

study halls and other memories were created. Alumni who hadn't connected with classmates in years ran into old friends and shared a story or two about the E-Room or time spent together at Euclid High School. Realizing the strength of pride and affection of Euclid's alumni for their alma mater, the event was conceived and planned by the Euclid Schools administration. Current students scooped out root beer floats and served popcorn from the concession stand (the one with the really cool Panther mosaic!). Nostalgic alumni reserved bricks from the future demolition of the E-Room and commemorative brick pavers were sold for future installation at the new football stadium. Looking toward the future, the EPSAA looks forward to planning and participating in similar reunion-like

events, where alumni can reconnect with the places and people who inhabit some of their most cherished memories.

The EPSAA is a 501(c)(4) non-profit organization that seeks to strengthen the ties between our Euclid alumni, the Euclid community, and our Euclid Schools. If you're a Euclid graduate, including the former Central and Shore High Schools, and want to learn more about the Association and its activities, visit our website at euclidschools.org/alumni.aspx. If you would like to get involved with the Association, particularly fundraising, reunion support, archiving memorabilia, and traditional and social media communications, please e-mail your interests to alumni@euclid-schools.org or call the office at (216) 797-7895.

Public Notice

The City of Euclid, in conjunction with the Ohio Emergency Management Agency (OEMA) and the Federal Emergency Management Agency (FEMA) has applied for a Unified Hazard Mitigation Program Project for shoreline stabilization and erosion mitigation as part of the Euclid Waterfront Improvements Plan.

Under the National Environmental Policy Act (NEPA), EO 11988 and EO 11990, public notice is required of any federal actions that affect floodplains or wetlands. All necessary permits will be obtained prior to construction and completion of the project.

The objectives of the Unified Hazard Mitigation Program are to prevent future losses of lives and property, to implement state or local Hazard Mitigation plans, to enable mitigation measures to be implemented during immediate recovery from disaster, and to provide funding for identified and approved hazard mitigation projects.

Public participation is encouraged. Interested parties and/or citizens are invited to comment on the project either in writing to:

**Duane Castaldi, Regional Environmental Officer
FEMA Region V
536 South Clark Street, 6th Floor
Chicago, IL 60605**

Or comments may be directed via e-mail to Mr. Castaldi:

Duane.Castaldi@fema.dhs.gov

HELP IS HIRING

DIRECT CARE WORKERS

Training Provided - No Prior Experience Necessary

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Public Notice

Applicant: City of Euclid
U.S. Army Corps
of Engineers
Buffalo District
CELRB-TD-R

Published: December 2, 2016
Expires: January 2, 2017

Application No: 2016-01419
Section: OH

All written comments should reference the above Application No. and be addressed to:
US Army Corps of Engineers, Buffalo District
Regulatory Branch (Attn:) Keith C. Sendziak
1776 Niagara Street
Buffalo, NY 14207

THE PURPOSE OF THIS PUBLIC NOTICE IS TO SOLICIT COMMENTS FROM THE PUBLIC REGARDING THE WORK DESCRIBED BELOW. NO DECISION HAS BEEN MADE AS TO WHETHER OR NOT A PERMIT WILL BE ISSUED AT THIS TIME.

Application for Permit under Authority of
Section 10 of the Rivers and Harbors Act of 1899 and
Section 404 of the Clean Water Act (33 U.S.C. 1344).

APPLICANT: City of Euclid

WATERWAY & LOCATION: Lake Erie, along Lakeshore Boulevard, in the City of Euclid, Cuyahoga County, Ohio

LATITUDE & LONGITUDE: Latitude North: 41.61779
Longitude West: -81.51649

EXISTING CONDITIONS: The permit area consists of undeveloped, semi-developed, and developed shoreline.

PROPOSED WORK: The applicant proposes the following work below the ordinary high water mark (OHWM) (573.4 feet International Great Lakes Datum) of Lake Erie: removing approximately 5,869 cubic yards (CY) of concrete rubble and dredging approximately 6,912 CY of shale and cobble; and, discharging fill material in the locations and quantities identified in the table below which correspond to the drawings depicted on Sheets 4-8 of 32, The discharge of fill material is associated with the following work: grading the shoreline / installing a revetment;

improving habitat; constructing offshore detached breakwaters; building a beach; and, providing pedestrian access along the lakefront via a walking path.

| Reach | Total Fill (cubic yards) | Armor Stone (CY) | Filter Stone (CY) | Cobble Beach (CY) | Earth Fill (CY) | Binwall Fill (CY) | Sand Fill (CY) |
|--------------------------------|--------------------------|------------------|-------------------|-------------------|-----------------|-------------------|----------------|
| Reach #1: STA 100+00 TO 100+75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reach #2: STA 100+75 TO 106+00 | 6,002 | 850 | 498 | 4,913 | 364 | 0 | 0 |
| Reach #3: STA 106+00 TO 107+50 | 3,166 | 56 | 34 | 2,436 | 117 | 147 | 0 |
| Reach #4: STA 107+50 TO 110+50 | 4,383 | 200 | 125 | 3,450 | 253 | 0 | 0 |
| Reach #5: STA 110+50 TO 112+75 | 3,518 | 11 | 7 | 3,149 | 12 | 0 | 0 |
| Reach #6: STA 112+75 TO 129+14 | 17,988 | 5,016 | 3,175 | 954 | 1,457 | 0 | 7,833 |
| TOTAL: | 35,056 | 6,134 | 3,838 | 14,902 | 2,203 | 147 | 7,833 |

Where suitable, excavated concrete rubble will be crushed onsite, recycled, and used for base material or backfill in upland areas. If deemed not cost-effective or material is unsuitable for fill, material will be disposed of at an approved upland disposal facility to be identified and approved by the Corps of Engineers. Disposal locations, placement methods, and protective measures provided shall comply with local, state, and Federal requirements.

PROJECT PURPOSE

Basic: Lake Erie shoreline improvements.

Overall: Shoreline improvements within the City of Euclid, to provide erosion protection, enhance wildlife habitat, and to provide waterfront access and recreational use.

Water Dependency Determination (*describe only if project affecting Special Aquatic Site*): The proposed project will not affect Special Aquatic Sites.

AVOIDANCE AND MINIMIZATION INFORMATION: The applicant has avoided and minimized impacts. Initially, the applicant proposed to dredge 13,598 CY of material and place 46,737 CY of fill material below the OHWM of Lake Erie, for a total of 9.4 acres of lakebed disturbance. Currently, the applicant proposes to dredge 12,781 CY of material and place 35,056 CY of fill material below the OHWM of Lake Erie, for a total of approximately 5 acres of lakebed disturbance. This results in a reduction of 4.4 acres of lakebed disturbance.

PROPOSED MITIGATION: For the following reasons the applicant states that the proposed project will be self-mitigating: 1) Placement of the proposed rock revetment and cobble beach materials will provide a perching and hunting platform for wading birds such as great blue

herons and great egrets; 2) Interstitial spaces within the large rocks and cobbles will provide refuge for juvenile fish along the otherwise barren shore; 3) The fill material will provide crevices for benthic macroinvertebrates; 4) Cover for prey fish and sport fish will be provided within the large rocks; and, 5) Bluff stabilization will replace areas of exposed eroded soil and invasive tree canopy with native plant communities.

The applicant has not provided the Corps with information describing the proposed project's effects on the littoral drift.

Location and details of the above described work are shown on the attached maps and drawings.

Comments or questions pertaining to the work described in this notice should be reference the Application Number and be directed to the attention of Keith C. Sendziak, who can be contacted at the above address, by calling (716) 879-4339, or by e-mail at: keith.c.sendziak@usace.army.mil A lack of response will be interpreted as meaning that there is no objection to the work as proposed.

The applicant has certified that the proposed activity complies with Ohio's approved Coastal Zone Management Program and will be conducted in a manner consistent with that program. Any comments on the consistency of the proposed activity with Ohio's Coastal Zone Management Program should be forwarded to:

Mr. John Kessler
Ohio Department of Natural Resources
Office of Real Estate
2045 Morse Rd.
Columbus, OH 43229-6605
phone: 614-265-6621
email: john.kessler@dnr.state.oh.us

The following authorization is required for this project:

Water Quality Certification (or waiver thereof) from the Ohio Environmental Protection Agency.

Based on preliminary findings, there do not appear to be any properties listed in, or eligible for listing in, the National Register of Historic Places within the permit area as shown on Sheet 1 of 32. However, there are several listed properties located within the viewshed of the permit area. These include the Albert W. Henn Mansion, the Waters Edge Apartments, and the Coastline Rental Property. The applicant has not performed, nor has the Corps requested a Phase I or architectural survey. Based on the information obtained from the applicant and the SHPO on-line GIS Viewer, and the nature and scope of the undertaking the Corps has determined that the proposed project will have no direct effects to any listed property, and any indirect viewshed effects will result in no adverse effect. The proposed project is consistent with the work typically expected along the Lake Erie shoreline. Therefore, the undertaking will not alter the characteristics of any historic property that qualified it for inclusion in the National Register.

This notice constitutes initiation of consultation with the Ohio Historic Preservation Office (SHPO) per Section 106 of the National Historic Preservation Act. All currently available historic resource information pertaining to this proposed project if any has been provided to the SHPO. Additional information concerning historic properties should be submitted to the Corps before the end of the comment period of this notice. The Corps will forward that information to the SHPO for their review.

Pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531), the Corps of Engineers is consulting, under separate cover, with the USFWS to evaluate any potential impacts to: rufa red knot, Kirtland's warbler, piping plover, Indiana bat, and northern long-eared bat and to ensure that the proposed activity is not likely to jeopardize their continued existence or result in the destruction or adverse modification of critical habitat.

This notice is promulgated in accordance with Title 33, Code of Federal Regulations, parts 320-330. Any interested party desiring to comment on the work described herein may do so by submitting their comments, in writing, so that they are received no later than 4:30 pm on the expiration date of this notice.

Comments submitted in response to this notice will be fully considered during the public interest review for this permit application. All written comments will be made a part of the administrative record which is available to the public under the Freedom of Information Act. The Administrative Record, or portions thereof may also be posted on a Corps of Engineers internet web site. Due to resource limitations, this office will normally not acknowledge the receipt of comments or respond to individual letters of comment.

Any individual may request a public hearing by submitting their written request, stating the specific reasons for holding a hearing, in the same manner and time period as other comments.

Public hearings for the purposes of the Corps permit program will be held when the District Commander determines he can obtain additional information, not available in written comments, that will aid him in the decision making process for this application. A Corps hearing is not a source of information for the general public, nor a forum for the resolution of issues or conflicting points of view (witnesses are not sworn and cross examination is prohibited). Hearings will not be held to obtain information on issues unrelated to the work requiring a permit, such as property ownership, neighbor disputes, or the behavior or actions of the public or applicant on upland property not regulated by the Department of the Army. Information obtained from a public hearing is given no greater weight than that obtained from written comments. Therefore, you should not fail to make timely written comments because a hearing might be held.

The decision to approve or deny this permit request will be based on an evaluation of the probable impact, including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among these are

conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain 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.

The Corps of Engineers is soliciting comments from the public; Federal, state and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

SIGNED

Diane C. Kozlowski
Chief, Regulatory Branch

NOTICE TO POSTMASTER: It is requested that this notice be posted continuously and conspicuously for 30 days from the date of issuance.