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DRAFT FINDING OF NO SIGNIFICANT IMPACT AND ENVIRONMENTAL ASSESSMENT

Buffalo Confined Disposal Facility #4 Perimeter Dike Repair

Operations and Maintenance

Buffalo Harbor, Erie County New York

June 2024

U.S. Army Corps of Engineers
Buffalo District
478 Main Street
Buffalo, New York 14202

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DRAFT FINDING OF NO SIGNIFICANT IMPACT
BUFFALO CDF #4 PERIMETER DIKE REPAIR
BUFFALO HARBOR, ERIE COUNTY, NEW YORK

The U.S. Army Corps of Engineers (USACE) Buffalo District has assessed the environmental impacts of the subject project in accordance with the National Environmental Policy Act (NEPA) of 1969 and has determined a Finding of No Significant Impact (FONSI). The attached draft environmental assessment (EA) dated June 13, 2024, addresses the USACE repairs to the Buffalo Confined Disposal Facility (CDF) #4 Perimeter Dike located in the City of Buffalo, Erie County, New York. The CDF #4 Perimeter Dike repair would ensure the continued containment of contaminated sediment.

PURPOSE

The purpose of the attached EA is to provide sufficient information on the potential effects of the proposed action to determine if it constitutes a major federal action significantly affecting the quality of the human environment, thereby necessitating the development of an environmental impact statement (EIS). It has been prepared by the USACE in accordance with NEPA, the Council on Environmental Quality (CEQ) implementing regulations (40 CFR 1500-1508), and 33 CFR 230. The EA assesses the anticipated environmental and socioeconomic impacts that may result from completion of the CDF #4 Perimeter Dike repair and includes a discussion of the need for the action, the affected environment (existing conditions), a description of the proposed action and alternatives considered including the "No Action" alternative, anticipated environmental impacts that may result from the proposed action, and other related environmental compliance requirements, including a list of the agencies, interested groups, and individuals consulted.

BACKGROUND

The Buffalo Harbor CDF #4 was constructed to safely dispose of contaminated sediments that are removed from the federal navigation channels at the Buffalo Harbor project and surrounding areas during routine maintenance dredging operations. Buffalo CDF #4 was completed in June 1977 by building a stone perimeter dike from the Lake Erie shoreline south of the Outer Harbor South Entrance Channel to the lakeside end of the South Entrance Arm Breakwater.

Confined Disposal Facility #4 has an estimated capacity of 6.9 million cubic yards and is currently about half filled. The 3,713-foot-long perimeter dike is composed of multiple stone layers. A filter stone layer extends from the lake bottom upward to elevation -2.5 feet Low Water Datum (LWD)[1] and a single continuous row of steel sheet pile extends downward from

1 Low Water Datum (LWD) for Lake Erie is 569.2 feet above mean sea level at Rimouski, Quebec, Canada

the dike crest at +15 feet LWD through the filter stone to elevation -9 feet LWD.

Since completion of its construction, the structural integrity of CDF #4 has deteriorated. Storms have caused extensive damage to CDF #4 requiring a comprehensive repair of the stone dike wall on the western side of the structure. Vertical displacement of the steel sheet pile cutoff wall led to completion of remedial grouting in 2010. Deterioration and displacement of the stone armoring structure has also occurred, posing a risk to long-term containment of the sediments, and leading to the proposed second phase of repair.

RECOMMENDED PLAN

The proposed repair for the Buffalo Harbor CDF #4 Perimeter Dike consists of a rubblemound overlay with a new crest elevation of 589.2 feet International Great Lakes Datum 1985 (IGLD85) (+20.0 feet Low Water Datum (LWD)) which is +5.0 feet higher than what is presented in the as-builts from 2011 (+15.0 feet LWD) from Station -4+00 to Station 29+50. The new crest elevation is necessary for structural stability of the rubblemound overlay and reduction of wave overtopping during significant storm and seiche events. The repair plan is broken down into five legs with different priorities (options). The armor stone for each leg will range from 8.6-19 tons. Underlayer stone for each leg will range from 1,140-3,800 pounds, while the stability berm stone will consist of New York State Department of Transportation (NYSDOT) 733-2102 stone filling (light).

ALTERNATIVES CONSIDERED

A total of four project alternatives were evaluated, including the no action alternative, proposed action alterantive, recharging the stone dike alternative, and the prelimiary design alternative. The no action alternative is not recommended as it would not meet project objectives of repairing the CDF to ensure the continued containment of contaminated sediments. The preliminary design alternative was also not selected due to engineering and cost considerations, and the recharging the stone dike alterantive was not selected as it would not reduce wave overtopping of the CDF. An assessment of the potential effects of the project alternatives is presented in the EA while a summary assessment of the potential effects of the recommended plan is listed in the table below:

Public Interest Factor	No Action Alternative	Proposed Alternative: Buffalo CDF #4 Perimeter Dike Repair
Physical and Natural Environmental Considerations		
Air Quality	No effect	Temporary minor short-term adverse effect (caused by construction equipment emissions)
Water Quality	Adverse effect (if sediment escapes)	Temporary minor short-term adverse effect (due to turbidity caused by construction equipment)
Climate	No effect	No effect
Greenhouse Gases and Climate Change	No effect	No adverse effect
Substrate and Benthos	Adverse effect (if sediment escapes)	Temporary minor short-term adverse effect (caused by smothering)
Fisheries	Adverse effect (if sediment escapes)	Short-term: minor adverse effect Long-term: minor beneficial effect
Wildlife	No effect	Temporary minor effect (caused by construction activity)
Aquatic Vegetation	No effect	Minor adverse (short-term) No adverse effect (long-term)
Wetlands	No effect	No adverse effect
Federally Listed Threatened and Endangered Species	No effect	No adverse effect
Wild and Scenic Rivers	No effect	No effect
Socio-Economic Environmental Considerations		
Demographics	No effect	No effect
Environmental Justice	No effect	No effect
Land Use and Development	No effect	No effect
Recreation, Noise and Aesthetics	Minor adverse effect	Short-term: minor adverse (increase in noise levels during construction) Long-term: minor beneficial
Public Facilities/Water and Service Facilities	No effect	No adverse effect
Cultural Resources	No effect	No adverse effect
Health and Safety	Adverse effect	Short-term: minor adverse effect Long-term: beneficial effect

Note: Impacts were assessed as major adverse, minor adverse, resource unaffected (no effect), resource unaffected through mitigation, minor beneficial, or major beneficial impacts. Additionally, impacts could be temporary, permanent, or not applicable.

CONSULTATION AND COMPLIANCE WITH OTHER LAWS AND REGULATIONS

Project coordination was initiated with agencies and interests via the scoping process. A NEPA scoping document was posted for a 30-calendar day comment period on August 16, 2023. All scoping comments have been resolved and no significant adverse impacts have been identified (Appendix A).

There are no listed historic properties or properties determined as being eligible for listing in the National Register of Historic Places that would be affected by this project. Following a literature review and field survey, the USACE determined that the proposed project would have no effect on historic properties and no further cultural resource investigation is recommended prior to implementation of the proposed project. In a letter dated December 13, 2023, the New York State Historic Preservation Office (NYSHPO) concurred with this determination (Appendix B).

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, the USACE has determined that the recommended plan will likely have no effect on federally listed species or designated critical habitat. This determination was sent to the U.S. Fish and Wildlife on December 11, 2023. In a letter dated January 3, 2024, the U.S. Fish and Wildlife Service (USFWS) concurred with this determination (Appendix C).

Pursuant to the Clean Water Act of 1972, as amended, project coordination was initiated with agencies and interests including the U.S. Environmental Protection Agency and the New York State Department of Environmental Conservation (NYSDEC) via the NEPA scoping document in 2023. The project would result in a Section 404 discharge. Therefore, a Section 401 State Water Quality Certification (WQC) will be required and was requested on March 20, 2024.

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

Date

LYLE R. MILLIMAN
LTC, EN
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DRAFT ENVIRONMENTAL ASSESSMENT
BUFFALO CDF #4 PERIMETER DIKE REPAIR
CITY OF BUFFALO, ERIE COUNTY, NEW YORK

FIGURES

TABLES

APPENDICES

1 PURPOSE AND AUTHORITY

1.1 PURPOSE

The purpose of this environmental assessment (EA) is to provide sufficient information on the potential effects of the proposed action to determine if it may constitute a major federal action which could significantly affect the quality of the human environment, thereby necessitating the development of an environmental impact statement (EIS). This EA has been prepared by the U.S. Army Corps of Engineers (USACE) Buffalo District in accordance with the National Environmental Policy Act of 1969, as amended (NEPA), the Council on Environmental Quality (CEQ) implementing regulations (40 CFR 1500-1508), and 33 CFR 230.

This EA has been completed to assess the anticipated environmental and socioeconomic impacts that may result from repairs to the Buffalo Confined Disposal Facility (CDF) #4 Perimeter Dike. This EA includes a discussion of the need for the action, the affected environment (existing conditions), a description of the proposed action, and alternatives that were considered. Also included are the no action alternative, anticipated environmental impacts that may result from the proposed action, and a summary of other related environmental compliance requirements, including a list of the agencies, interested groups, and individuals consulted.

1.2 AUTHORITY

Buffalo Harbor was initially adopted by the Rivers and Harbors Act of 1826 with subsequent authorizations in 1866, 1874, 1896, 1899, 1900, 1902, 1907, 1909, 1910, 1912, 1919, 1927, 1930, 1935, 1945, 1960, 1962, 1986, and the 1986, 1988, and 2007 Water Resources Development Acts. The construction, operation and maintenance of diked disposal and storage areas for the containment of dredged materials is authorized under Section 123 of the Rivers and Harbors Act of 1970 (Public Law 91-611).

2 NEED FOR THE PROPOSED ACTION

2.1 INTRODUCTION

Buffalo Harbor is located in the City of Buffalo, Erie County, New York. The harbor sits at the mouth of the Buffalo River, which flows from the east and discharges into Lake Erie at the head of the Niagara River. The Buffalo Harbor and River areas include a series of authorized federal navigation channels designed and maintained so deep-draft commercial vessels can safely navigate. The outer harbor is about 4.5 miles long and 1,600 feet wide, formed by breakwaters that total over 24,500 feet in length. The harbor runs approximately parallel to the Lake Erie

shoreline extending from Stony Point to the head of the Niagara River, with the entrances near the north and south ends.

2.2 BACKGROUND

Buffalo CDF #4 is located at the southern end of Buffalo Harbor adjacent to the South Entrance Channel (Figure 1). Buffalo CDF #4 was constructed to safely dispose of and store contaminated sediments that are removed from the federal navigation channels at the Buffalo Harbor project and surrounding areas during routine maintenance dredging operations. Buffalo CDF #4 was completed in June 1977 by building a stone perimeter dike from the Lake Erie shoreline south of the Outer Harbor South Entrance Channel to the lakeside end of the South Entrance Arm Breakwater (Figure 2). Confined Disposal Facility #4 has an estimated capacity of 6.9 million cubic yards and is currently about half filled. The 3,713-foot-long perimeter dike is composed of multiple stone layers. A filter stone layer extends from the lake bottom upward to elevation -2.5 feet LWD and a single continuous row of steel sheet pile extends downward from the dike crest at +15 feet LWD through the filter stone to elevation -9 feet LWD.

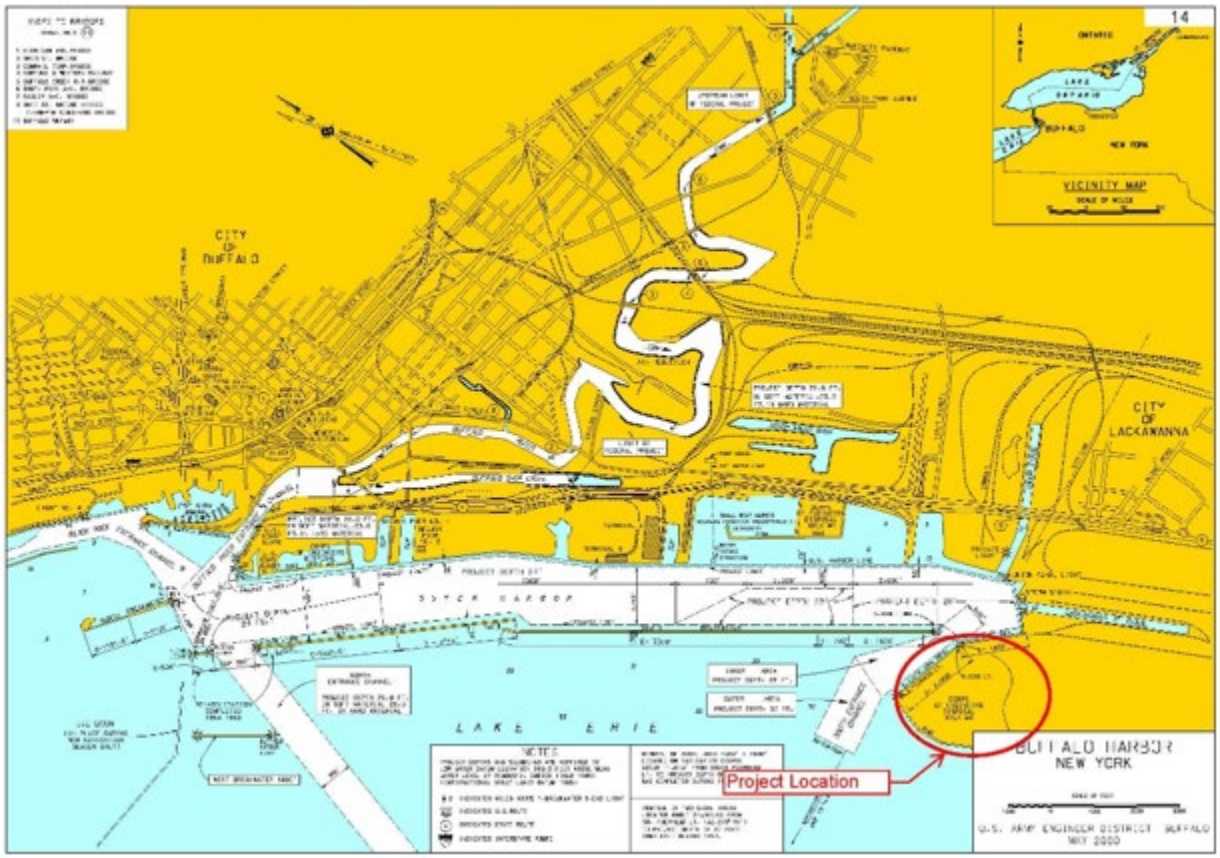

Figure 1: Buffalo CDF #4 Location.

Figure 2: Buffalo CDF #4 West Perimeter Dike Location.

Prior to 1967, polluted dredged material from annual maintenance dredging and permit work in the Port of Buffalo were disposed by bottom dumping from scows and hopper dredges in an established open-lake disposal area. The main pollution source at the Port of Buffalo is the Buffalo River. Polluted wastes traveled both upstream and downstream from the Buffalo Harbor, contaminating the Black Rock Channel and Tonawanda Harbor. In 1967, along with a comprehensive study of the effects of disposal of dredged materials in the Great Lakes, pilot projects for diked enclosure of polluted dredging were initiated at the Port of Buffalo. The Buffalo CDF #4 was one of those projects, constructed in 1973 to contain dredged material from the Buffalo River, Buffalo Harbor, Black Rock Channel and Tonawanda Harbor.

Buffalo CDF #4 is designed to be a filtering dike. The structure has a steel sheet pile wall at its centerline with filtering stone underneath. The lakeside dike allows the dredged water to flow into the lake by gravity flow through the containment structure. The diluted dredging is held in the CDF #4 long enough for solids to settle and as the dredging water makes its way into the lake debris, buoyant material and other solids are screened.

2.3 NEED FOR ACTION

Since completion of its construction, the structural integrity of CDF #4 has deteriorated. Storms have caused extensive damage to CDF #4 requiring a comprehensive repair of the stone dike wall on the western side of the structure. Vertical displacement of the steel sheet pile cutoff wall led to completion of remedial grouting in 2010. Deterioration and displacement of the stone armoring structure has also occurred, posing a risk to long-term containment of the sediments, and leading to the proposed second phase of repair.

3 PROPOSED ACTION AND ALTERNATIVES CONSIDERED

3.1 PROPOSED ACTION

The proposed repair for the Buffalo Harbor CDF #4 Perimeter Dike consists of a rubblemound overlay with a new crest elevation of 589.2 feet International Great Lakes Datum 1985 (IGLD85) (+20.0 feet Low Water Datum (LWD)) which is +5.0 feet higher than what is presented in the as-builts from 2011 (+15.0 feet LWD) from Station -4+00 to Station 29+50 (Figure 3). The new crest elevation is necessary for structural stability of the rubblemound overlay and reduction of wave overtopping during significant storm and seiche events.

The repair plan is broken down into five legs with different priorities (options). The armor stone for each leg will range from 8.6-19 tons. Underlayer stone for each leg will range from 1,140-3,800 pounds, while the stability berm stone will consist of New York State Department of Transportation (NYSDOT) 733-2102 stone filling (light). Table 1 breaks down the stone tonnage for each repair. Leg 1 (Option E) spans 400 feet, beginning at Station -4+00.00 and ending at Station 0+00.00. Leg 2 (Option D) spans 650 feet, beginning at Station 0+00.00 and ending at Station 6+50.00. Leg 3 (Option A) spans 575 feet, beginning at Station 6+50.00 and ending at 12+25.00. Leg 4, which is the base of the repairs, spans 650 feet, beginning at Station 12+25.00 and ending at 18+75.00. Leg 5 has two options: Leg 5 Option B would begin at Station 18+75.00 and end at 23+50.00. This repair would span 475 feet. Leg 5 Option C would span 600 feet, beginning at Station 23+50.00 and ending at Station 29+50.00.

The repair plan also includes a rubblemound wrap-around (tie-in) of the South Entrance Arm Breakwater of the structure (Station 28+50) and a tie-in at Station -4+00 and at existing crest elevation of +15.0 feet LWD. The proposed repairs do not require excavation, and the new structure will rest on the existing structure while the added stability berm comprised of NYSDOT 733-2102 stone filling (light) will rest on the existing lakebed (Figure 4). The added stability berm will extend approximately 60 feet lakeward of the existing toe, or 190 feet lakeward from the existing baseline of the structure.

Table 1: Repair tonnage per segment.

Priority	Segment	Station	Length of Leg (feet)	Armor Stone Tonnage	Underlayer Stone Tonnage	Stability Berm Tonnage
Option E	Leg 1	-4+00 - 0+00	400	6,142	572	0.0
Option D	Leg 2	0+00 - 6+50	650	24,587	1,165	0.0
Option A	Leg 3	6+50 - 12+25	575	24,024	3,280	11,054
Base	Leg 4	12+25 - 18+75	650	25,089	2,365	23,658
Option B	Leg 5	18+75 - 23+50	475	19,250	2,420	19,261
Option C	Leg 5	23+50 - 29+50	600	23,101	4,085	25,528

The following figures provide plan view cross section drawings of the proposed repairs:

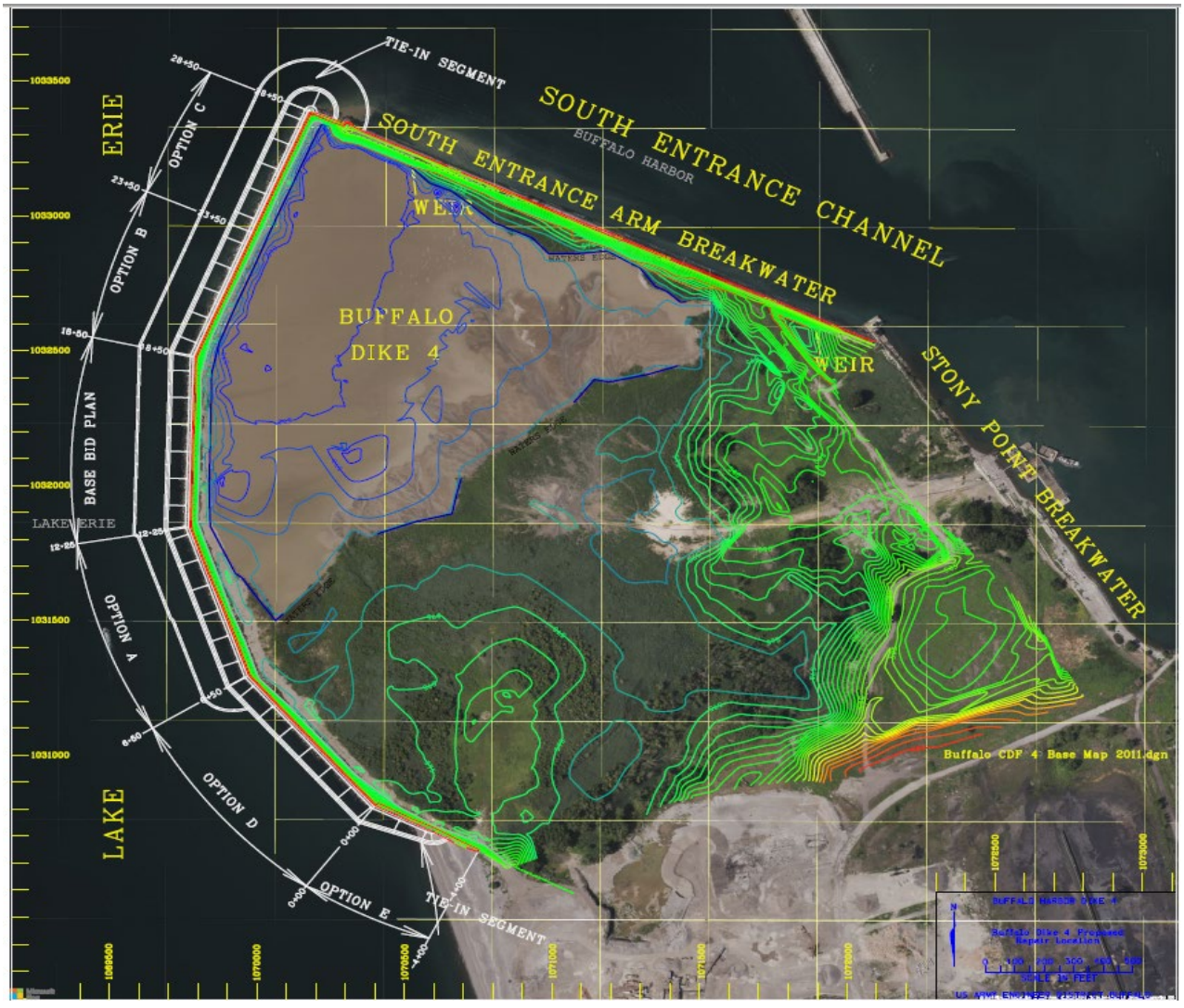

Figure 3: Buffalo CDF #4 repair legs.

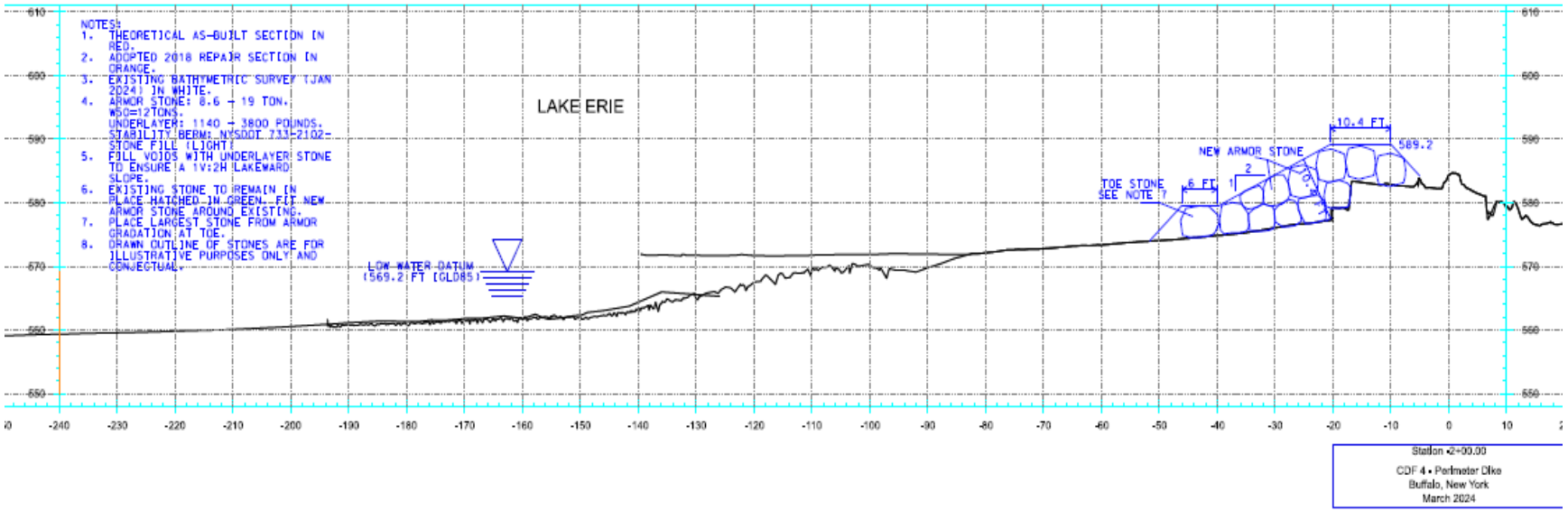

Figure 4: Plan view cross-section Station -2+00.

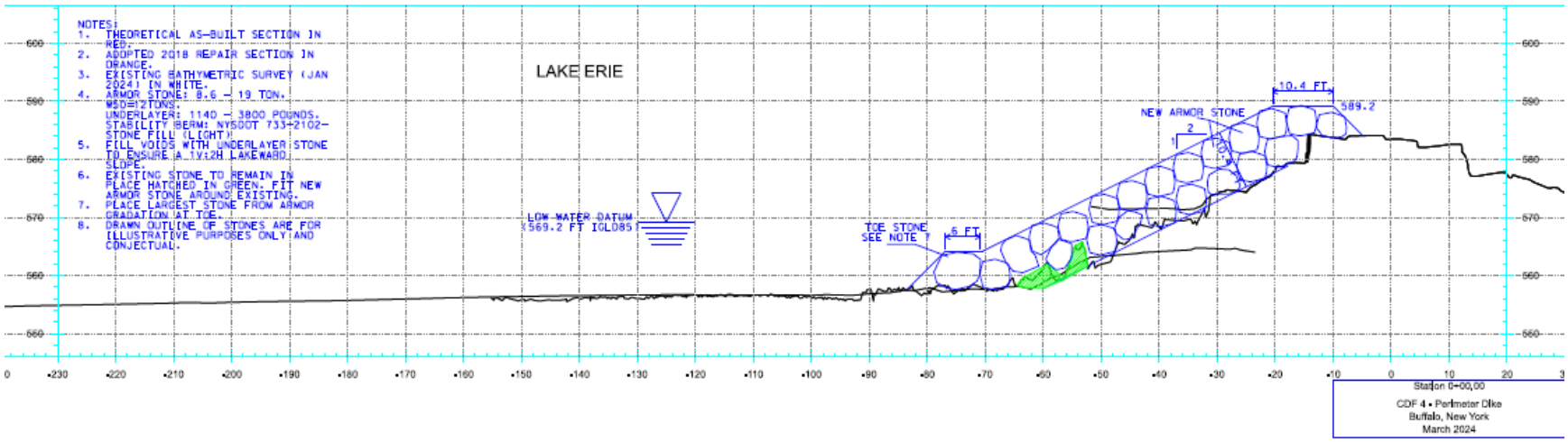

Figure 5: Plan view cross-section Station 0+00.

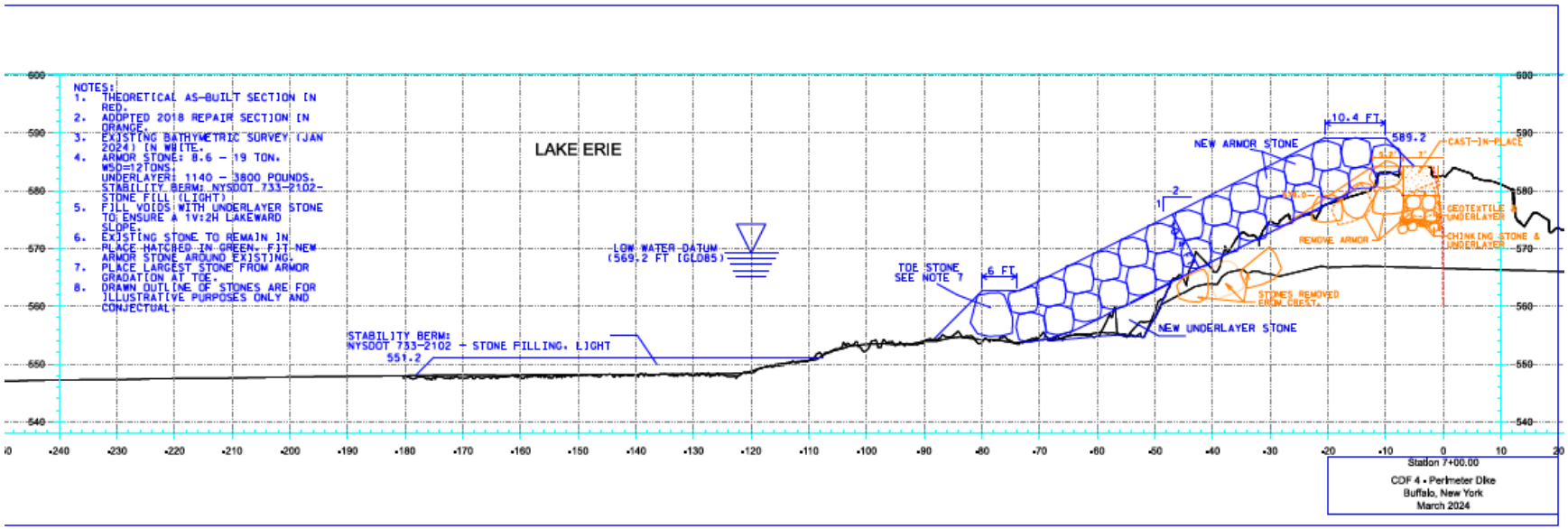

Figure 6: Plan view cross section Station 7+00.

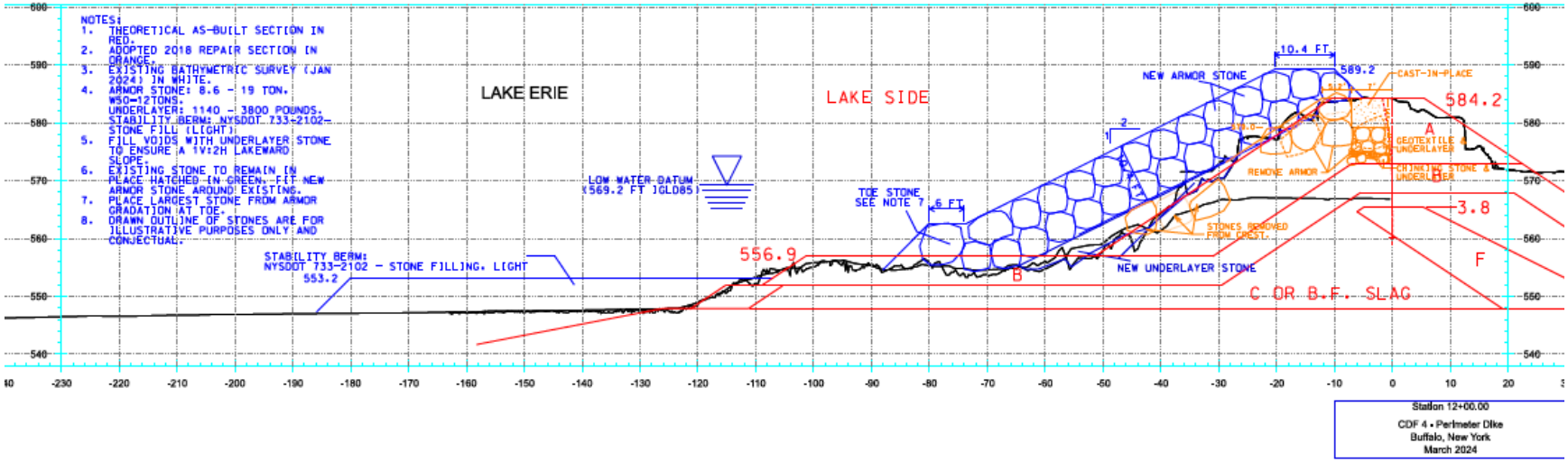

Figure 7: Plan view cross section Station 12+00.

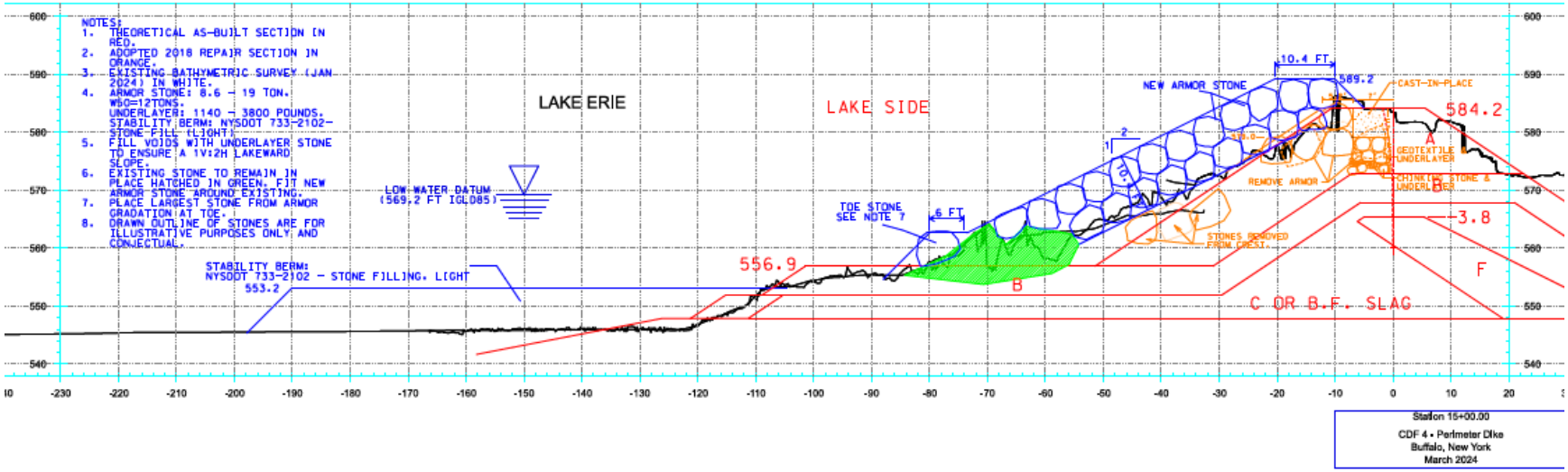

Figure 8: Plan view cross section Station 15+00.

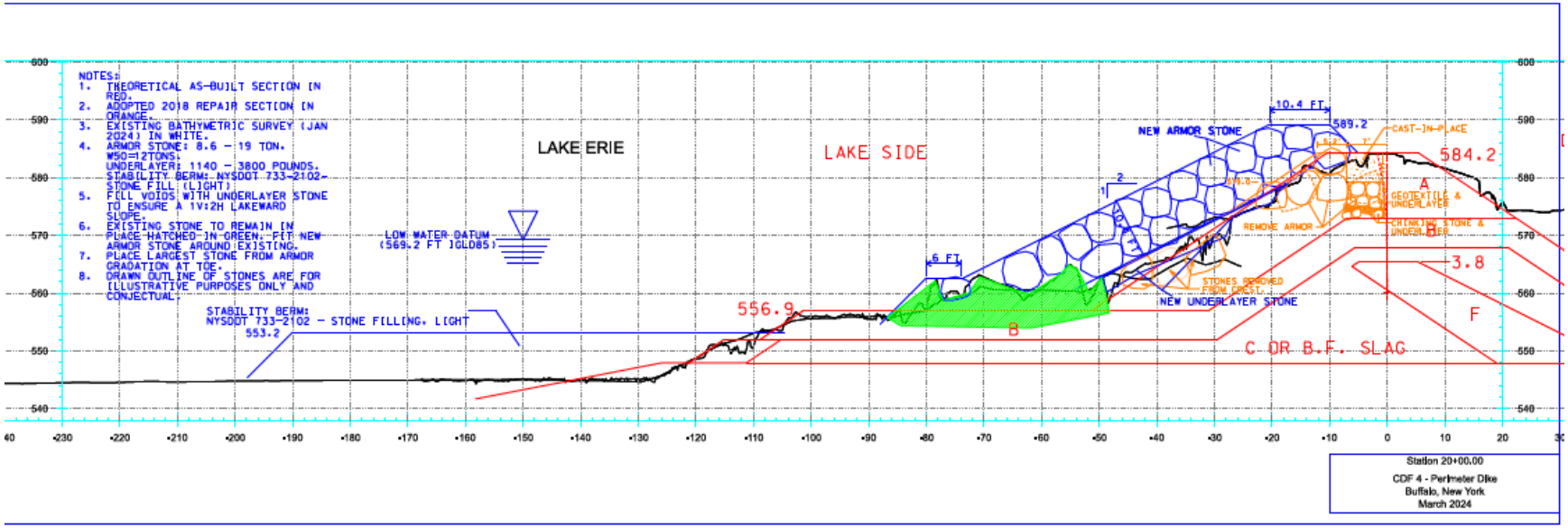

Figure 9: Plan view cross section Station 20+00.

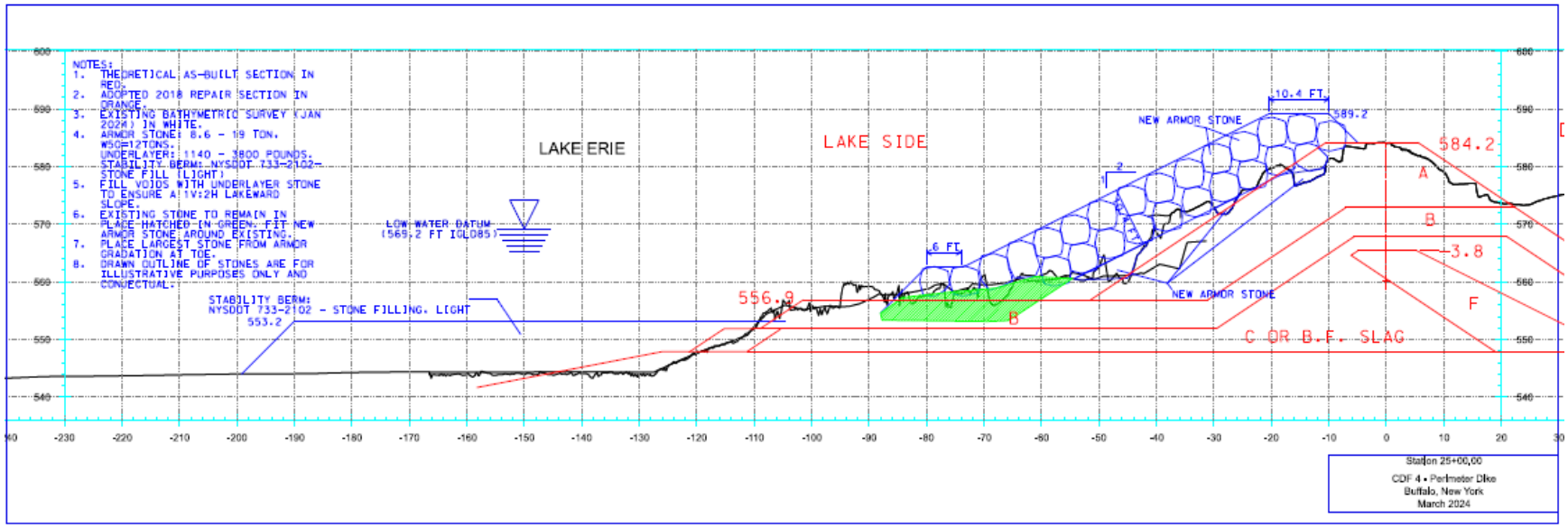

Figure 10: Plan view cross section Station 25+00.

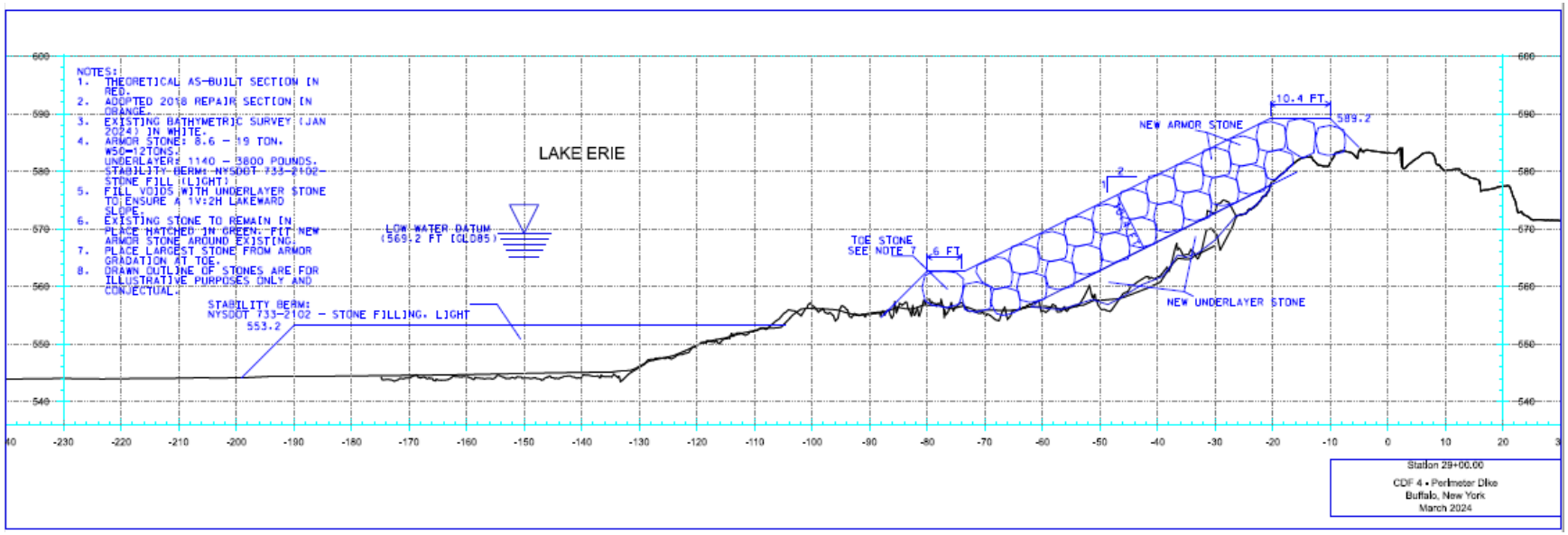

Figure 11: Plan view cross section Station 29+00.

3.2 ALTERNATIVES TO THE PROPOSED ACTION

The following alternatives were considered for this project:

Alternative 1: No Action

A "No Action" Alternative (without project conditions) is a requirement of NEPA, and it further serves as a baseline for comparison for other alternatives. With this alternative, the USACE would take no action to repair the Buffalo CDF #4 Perimeter Dike. Without the repairs, storms would continue to displace the vertical steel sheet pile and further comprise the dike. In addition, the armor stone would continue to deteriorate. This would lead to the potential discharge of contaminated sediment into the open waters of the Buffalo Harbor. The No Action Alternative has not been selected as it would not meet project objectives.

Alternative 2: Recharging the Stone Dike

This alternative repair for the Buffalo CDF #4 Perimeter Dike consisted of recharging or repairing the stone along the perimeter dike. Under this alternative, the perimeter dike would not be raised and there would be no work to the stability berm. This alternative was not selected as it would not reduce the current wave overtopping and inundation of the CDF, which poses a risk to the long-term containment of the sediments.

Alternative 3: Preliminary Design

This alternative repair for the Buffalo Harbor CDF #4 Perimeter Dike consisted of a rubblemound overlay with a new crest elevation of 589.2 feet IGLD85 (+20.0 LWD), five feet higher than what is presented in the as-builts from 2011 (+15.0 feet LWD) from Station -4+00 to Station 28+50. The new crest elevation is necessary for structural stability of the rubblemound overlay and reduction of wave overtopping during significant storm and seiche events. The repair plan also includes a rubblemound wrap-around (tie-in) of the South Entrance Arm Breakwater of the structure and a tie-in at Station 4+00 at existing crest elevation of +15.0 feet LWD. This repair would not require excavation and the new structure would rest on a stability berm comprised of bedding stone which will rest on the existing lakebed. The proposed stability berm will extend 150 feet lakeward of the existing toe (Figure 12).

This alternative was not chosen due to engineering and cost considerations, as this design has a more extensive stability berm which would extend 300 feet from the baseline of the existing structure.

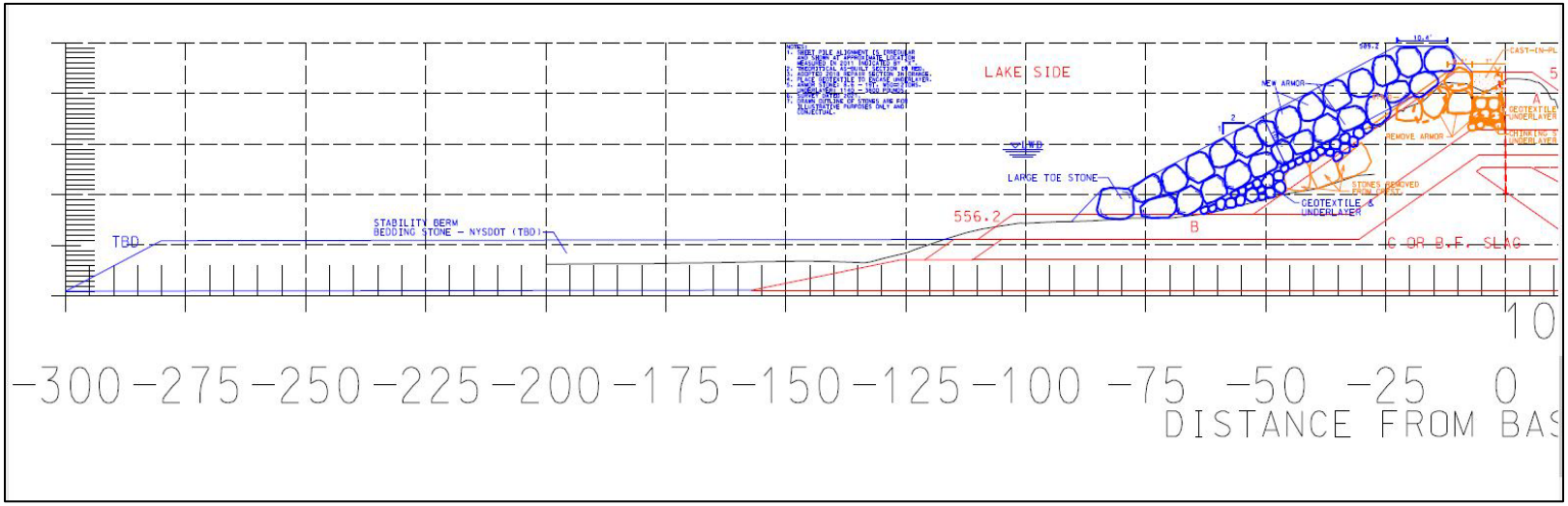

Figure 12: Alternative 3 stability berm cross section.

4 EXISTING CONDITIONS AND IMPACTS

To characterize the affected environment of the proposed project site and to assess the potential environmental impacts of the proposed action, information has been obtained from existing data, literature and through coordination with federal, state, and local agencies. The assessment of environmental and socioeconomic effects of the proposed action was based on an evaluation of the impacts that are anticipated from the repairs to the Buffalo CDF #4 Perimeter Dike. The anticipated effects of the proposed project and associated activities were determined from project documentation, agency coordination, analysis of construction activities necessary to implement the project, and foreseeable effects of the proposed project.

For some environmental considerations, the no action as well as the proposed action would result in no effect to the environmental resource under consideration and would reflect a continuation of existing conditions. This is described where appropriate. A summary of the anticipated effects expected to result from the no action and preferred alternatives is provided below (Table 2). Alternatives 2 and 3 were not evaluated in this section because it was already dismissed from consideration for engineering and cost reasons.

Agencies, interest groups, and the public that have been contacted during preparation of this EA are listed in Section 6.0. A scoping information document was distributed to these individuals on January 10, 2024. No comments for the NEPA scoping document were received. This EA will be made available for a 30-day public/agency review.

Table 2: Public interest factors

Public Interest Factor	No Action Alternative	Proposed Alternative: Buffalo CDF #4 Perimeter Dike Repair
Physical and Natural Environmental Considerations		
Air Quality	No effect	Temporary minor short-term adverse effect (caused by construction equipment emissions)
Water Quality	Adverse effect (if sediment escapes)	Temporary minor short-term adverse effect (due to turbidity caused by construction equipment)
Climate	No effect	No effect
Greenhouse Gases and Climate Change	No effect	No adverse effect
Substrate and Benthos	Adverse effect (if sediment escapes)	Temporary minor short-term adverse effect (caused by smothering)
Fisheries	Adverse effect (if sediment escapes)	Short-term: minor adverse effect Long-term: minor beneficial effect
Wildlife	No effect	Temporary minor effect (caused by

Public Interest Factor	No Action Alternative	Proposed Alternative: Buffalo CDF #4 Perimeter Dike Repair
		construction activity)
Aquatic Vegetation	No effect	Minor adverse (short-term) No adverse effect (long-term)
Wetlands	No effect	No adverse effect
Federally Listed Threatened and Endangered Species	No effect	No adverse effect
Wild and Scenic Rivers	No effect	No effect
Socio-Economic Environmental Considerations		
Demographics	No effect	No effect
Environmental Justice	No effect	No effect
Land Use and Development	No effect	No effect
Recreation, Noise and Aesthetics	Minor adverse effect	Short-term: minor adverse (increase in noise levels during construction) Long-term: minor beneficial
Public Facilities/Water and Service Facilities	No effect	No adverse effect
Cultural Resources	No effect	No adverse effect
Health and Safety	Adverse effect	Short-term: minor adverse effect Long-term: beneficial effect

Note: Impacts were assessed as major adverse, minor adverse, resource unaffected (no effect), resource unaffected through mitigation, minor beneficial, or major beneficial impacts. Additionally, impacts could be temporary, permanent, or not applicable.

4.1 PHYSICAL/NATURAL ENVIRONMENT

The section below describes the existing conditions and the potential impacts associated with the no action alternative and the proposed action alternative. All of the other action alternatives considered and dismissed within Section 3.2 would be expected to have similar environmental impacts as the proposed plan.

4.1.1 Air Quality

Existing Conditions - The U.S. Environmental Protection Agency (USEPA) has developed maximum allowable concentrations of pollutant discharges into the air, referred to as National Ambient Air Quality Standards (NAAQS). Monitoring parameters include ozone, PM 2.5 particulates, PM 10 particulates, SO2, carbon monoxide, lead, and nitrogen dioxide. Each state has developed ambient air quality pollution control standards that may either be the same, or more restrictive, than the USEPA standards.

A review of the USEPA AIRdata database indicates that no areas in the vicinity of the proposed project area have been found to be in “non-attainment” with the NAAQS for pollutants

considered harmful to public health and the environment (USEPA, 2023). These pollutants include carbon monoxide, nitrogen dioxide, ozone, lead, particulate matter, and sulfur dioxide. Therefore, ambient air quality in the project area for these parameters was recorded as being in attainment with the NAAQS.

No Action Alternative - Since this alternative involves no repairs or maintenance to the existing structure, there would be no project-related dust or exhaust emissions from construction equipment that could contribute to the degradation of air quality.

Proposed Action Alternative - The operation of construction equipment would result in an increase in air emissions (e.g., suspended particulates, nitrogen dioxide, carbon monoxide, lead, etc.) into the local atmosphere. Air quality impacts in this regard would be minor, adverse, and short-term. This increased output is not expected to result in any violations or interfere with the ability of the Buffalo Air Quality Control Region to maintain state air quality standards.

4.1.2 Water Quality

Existing Conditions - Buffalo Harbor is located within the Niagara River/Lake Erie watershed. This watershed is one of 17 major watersheds in New York and is part of the larger Great Lakes Basin. The Buffalo Niagara Waterkeeper "works to improve water quality through volunteer citizen science and cleanup programs, water quality monitoring, restoration projects through Western New York, and educational outreach" (Buffalo Niagara Waterkeeper, 2023). In 2023, Waterkeeper sampled 22 sites within the Niagara River/Lake Erie watershed. This sampling showed water quality issues within the Lake Erie/Northern Outer Harbor. Fish consumption is impaired due to PCB contamination from historic industrial discharges and inactive hazardous waste sites.

Just five miles north of CDF #4 is the Black Rock Canal. The Buffalo Niagara Waterkeeper's 2020 Water Quality report categorized the Black Rock Canal as "Class C fresh surface waters." The best usage of Class C fresh surface waters is for fishing. The report states, "these waters shall be suitable for fish, shellfish, and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes." In addition, the report stated that fish consumption is impaired in the Black Rock Canal due to a "New York State Department of Health, health advisory for the Niagara River where stormwater runoff, habitat modification, and combined sewer overflows impact the canal" (Buffalo Niagara Waterkeeper, 2020).

The Niagara River/Lake Erie Basin Waterbody Inventory and Priority Waterbodies List states that various sections of the Niagara River and Lake Erie are categorized as "impaired". In the Upper Niagara River (Main Stem; 24.8-mile section above Niagara Falls), fish consumption and aquatic life are known or suspected to be impaired, respectively. Known causes of fish consumption impairment are from historic industrial discharge of polychlorinated biphenyls (PCBs) that contaminate sediments through habitat modification or through runoff into

waterways. Polycyclic aromatic hydrocarbons (PAHs) are organic contaminants formed from the incomplete combustion of coal and gasoline. Pesticides and PAHs, especially the environmentally persistent hexachlorobenzene, are suspected to impair or stress fish and other aquatic life in the river. Priority organics, mainly PCBs, are also responsible for the impairment of the 2.2-mile section of the Black Rock Canal. Contamination from PCBs is known to impact fish along the northeast shoreline of Lake Erie, including the Buffalo Inner and Outer Harbors, which is attributed to historic industrial discharges that contaminated lake sediment (NYSDEC, 2023).

No Action Alternative - There is a need to raise the crest of the Buffalo CDF #4 Perimeter Dike to reduce overtopping during seiche/storm surge events. Deterioration and displacement of the stone armoring structure pose a risk to the long-term containment of the sediments. Overtopping of the structure has the potential to cause the CDF to completely fill with water and contaminated sediment laden water to spill out of the CDF. This, in turn, would adversely impact the water quality in Lake Erie in the vicinity of the CDF.

Proposed Action Alternative - Construction activities associated with project implementation would result in localized turbidity. Water quality impacts in this regard would be minor, adverse, and short-term. There is a possibility of accidental spills of fuel, oil, and/or grease into the water during application and monitoring activities. The eventual contractor would be required to prepare a spill control plan and to implement appropriate measures in the event of a release. Such discharges, should they occur, are expected to be short-term and relatively low magnitude. There is a water intake (lake intake tunnel) south of the repair footprint. No impacts to the water intake are expected as a result of the repairs. The Buffalo Water Authority will be notified if an incident arises that will affect water quality near the water intake.

4.1.3 Climate

Existing Condition - New York State has a continental climate with warm and humid summers and cold and wet winters. Two types of air masses significantly affect New York State's weather, a warm and humid air mass from the southwest and a cold and dry air mass from the northwest (Weather Atlas, 2023). Buffalo, New York experiences a fairly humid, continental type climate with strong influence from Lake Erie and Lake Ontario. The warm season lasts approximately 3.7 months with an average daily high temperature above 70 degrees Fahrenheit, while the cold season lasts approximately 3.3 months with an average daily high temperature below 40 degrees Fahrenheit (Weather Spark, 2023).

No Action Alternative - There would be no effect to climate as a result of the no action alternative.

Proposed Action Alternative - The proposed action would result in no effect to climate in the project area. Additional discussion is provided below in Section 4.1.4 Greenhouse Gases and Climate Change.

4.1.4 Greenhouse Gases and Climate Change

Existing Conditions - Greenhouse gases (GHGs) are components of the atmosphere that trap heat relatively near the surface of the earth and, therefore, contribute to the greenhouse effect and climate change. Most GHGs occur naturally in the atmosphere but increases in the concentration can result from human activities such as burning fossil fuels that add carbon dioxide (CO_2), methane, nitrous oxides, and other greenhouse (or heat-trapping) gases to the atmosphere. As this occurs, it is difficult to reliably predict increases or decreases in regional rainfall (Intergovernmental Panel on Climate Change (IPCC), 2007; USEPA 2012).

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

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

In the Great Lakes region, the U.S. states bordering the Great Lakes have seen an overall increase in annually averaged temperature of 1.4°F for the period 1985-2016. These trends are higher than the overall change of 1.2°F over the contiguous United States (and found globally) (USGCRP, 2018). There is a generally positive trend in annual precipitation for U.S. states bordering the Great Lakes present-day (1986–2016) relative to 1901–1960, but with strong local variations in the trend across the states (Vose et al., 2014). There is a 10 percent increase in annual precipitation in the Great Lakes Basin. Heavy rainfall is increasing in intensity and frequency across the United States and globally and is expected to continue to increase (Karl and Knight, 1998; O'Gorman and Schneider, 2009). The largest observed changes in extreme precipitation in the United States have occurred in the Midwest and Northeast. Changes in climate are increasing the likelihood for these types of severe events. The amount of precipitation coming in extreme events has already increased over the last five decades in the

Great Lakes region (USGCRP, 2018), and is projected to increase further over the coming decades. The amount of precipitation occurring in storms with a five-year return period is projected to increase by 18.7 percent by 2085 for the higher scenario and 10.8 percent for the lower scenario (20.8 percent and 11.3 percent, respectively, for the Great Lakes Basin) (Environmental Law and Policy Center, 2019). The amount of precipitation in such extreme storms is projected to increase by seven to eight percent by the 2030s and by nine to 12 percent by the 2050s. The precipitation from what are currently considered to be 1 in 50 and 1 in 100-year storms are projected to increase similarly, meaning that very large amounts of precipitation are expected from these once-unusual events.

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

Proposed Action Alternative - Implementation of the proposed action would be expected to result in no long-term adverse effects to GHGs or climate change. Short-term emissions are expected during construction due to the operation of construction equipment. Implementation of the proposed alternative is not expected to result in substantial GHGs as emissions would be expected to be within the standard range for construction of a project of this type. As previously stated, a review of the USEPA AIRdata database indicates that no areas in the vicinity of the proposed project area have been found to be in "non-attainment" with the NAAQS for pollutants considered harmful to public health and the environment.

4.1.5 Substrate and Benthos

Existing Conditions - In 2021, the USACE sampled and tested sediment in Buffalo Harbor to evaluate the sediment quality within the authorized channels of the Buffalo Harbor federal navigation project. Sediments within the federal navigation channels are periodically sampled, tested and evaluated to determine whether there has been any change with respect to the contaminant determination per Clean Water Act (CWA) Section 404(b)(1) Guidelines (40 CFR 230.11[d]. Historically, due to past industrial uses of the harbor, sediments that have been dredged from the harbor have not met CWA Section 404(b)(1) guidelines for open-water placement. As a result, these sediments have been placed in a series of CDFs along the Buffalo Harbor waterfront since 1967 (USACE, 2022). The results of the lab analysis of the sediment collected showed that the harbor sediments were mainly fine grained, consisting of between 85 to 90 percent silt and clay, and 10 to 15 percent fine sand. Sediment from the reference lake area were also mainly fine-grained, consisting of between 60 to 70 percent silt and clay, and 30 to 40 percent fine sand. Sediment within the ECHDC Slip is similarly mainly fine grained, while the Union Ship Canal had coarser material.

Several recent dredging efforts have been conducted to remove impaired sediment from the Buffalo Harbor River Channel and City Ship Canal, with placement into CDF #4. In 2012, USACE dredged approximately 450,000 cubic yards of backlog impaired sediment from the River Channel and City Ship Canal federal navigation channels with Great Lakes Restoration Initiative (GLRI) funding. From 2014 to 2015, approximately 480,000 cubic yards of additional

impaired sediment were dredged from areas outside the federal navigation channels by the USEPA. The purpose of these dredging efforts was to support the restoration of the Buffalo River AOC, including the removal of beneficial use impairments linked to sediment-related contaminants. Historic sediment contaminants of concern in the Buffalo River AOC include various metals (arsenic, chromium, copper, lead, and mercury), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and pesticides (dichlorodiphenyltrichloroethane [DDT] and gamma chlordane). The indicator contaminants which guided remediation activities were lead, mercury, total PAHs and total PCBs (Environ, 2011).

Near the CDF, the substrate is a mix of armor stone that has slumped away from the stone armoring structure and includes cobbles, gravel, and sand. Live and spent dreissenid shells cover most hard surfaces, and little rooted submerged vegetation is present.

No Action Alternative - Since this alternative involves no construction, no significant change in the existing planktonic and benthic community would occur in the short-term. However, if the CDF Perimeter Dike is not repaired, and contaminated sediment was released from the CDF, an adverse impact would be anticipated on the benthic and planktonic in the vicinity of the CDF.

Proposed Action Alternative - Placement of the large armor stone, rubblemound overlay, and the associated resettling of suspended sediments could initially smother some benthic organisms in the vicinity of the project area. Recolonization of these areas by benthos from the surrounding bottom substrate typically occurs rapidly following completion of construction and resettling of sediment. Any impacts would be minor, adverse, and short-term. In addition, the CDF repair would have no impact on the substate characterization of the Buffalo Harbor.

4.1.6 Fisheries

Existing Conditions - Buffalo Harbor supports a major urban fishery of regional significance. Although no critical spawning or nursery areas have been documented in this area, a relatively diverse and productive fish community attracts recreational anglers from throughout the Buffalo metropolitan area. This area is also designated as a Significant Coastal Fish and Wildlife Habitat. Predominant fish species occurring in the harbor include rock bass (*Ambloplites rupestris*), white bass (*Morone chrysops*), smallmouth bass (*Micropterus dolomieu*), yellow perch (*Perca flavescens*), walleye (*Sander vitreus*), northern pike (*Esox Lucius*), muskellunge (*Esox masquinongy*), brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), and coho salmon (*Oncorhynchus kisutch*). Among the most popular fishing spots are near Donnelly's Wall, and the "fish market", located just outside of the southern portion of Bird Island Pier (NYSDOS, 2023).

No Action Alternative - Since this alternative involves no construction, fisheries would likely not be significantly altered in the short-term. However, deterioration and displacement of the stone armoring structure pose a risk to the long-term containment of the contaminated sediment.

Overtopping of the structure has the potential to cause the CDF to completely fill with water and allow contaminated sediment laden water to spill out of the CDF. This in turn, could lead to an adverse impact on the Buffalo Harbor fishery.

Proposed Action Alternative - Placement of armor stone and rubblemound overlay to repair the CDF would not significantly affect any fishery resources in the long-term. During the repairs, there would be an increase in turbidity. However, these impacts would be minor, adverse, and short-term. In the long-term, the repairs to the CDF #4 Perimeter Dike could have a positive impact to fish species as the armor stone and rubblemound would be expected to provide minor improvements to fish habitat by providing increased interstitial space allowing for feeding and resting habitat for aquatic organisms.

4.1.7 Wildlife

Existing Conditions - The Niagara River sub-basin, which includes the Buffalo Harbor, plays a key role in the migratory cycles of many Great Lakes and global species (Buffalo Niagara Riverkeeper, 2015). Because of its mostly isolated nature surrounded by water on all sides, the main wildlife component of interest at the project site is avifauna. Globally, significant numbers of Bonaparte's gull (*Chroicocephalus Philadelphia*), common tern (*Sterna hirundo*), and lesser scaup (*Aythya affinis*) overwinter here due to the availability of open water year-round in the Niagara River. The islands and shoreline areas support breeding colonies of black-crowned night heron (*Nycticorax nycticorax*), great egret (*Ardea alba*), and great blue heron (*Ardea herodias*), as well as nesting osprey (*Pandion haliaetus*), bald eagle (*Haliaeetus leucocephalus*), and peregrine falcon (*Falco peregrinus*).

The Buffalo Harbor area is generally representative of an older urban waterfront environment. Wildlife habitats in the area have been lost or degraded as a result of land development, dredging, storm protection projects, discharges of domestic and industrial wastes, and inflow of polluted upland runoff. Nonetheless, Buffalo Harbor supports some valuable wildlife resources. The main species associated with the Significant Coastal Fish and Wildlife habitat is the common tern.

No Action Alternative - Since this project involves no construction, no immediate impacts to wildlife or wildlife habitat would occur.

Proposed Action Alternative - Disruption and disturbance by equipment during operations would result in the short-term avoidance of the project area by some bird species. However, some bird species, such as gulls, may be attracted to the project area during construction. Bird species are expected to resume their normal patterns following completion of the project. Wildlife impacts in this regard would be minor, adverse and short-term. Any adverse effects that may occur to these species during construction would be mitigated by adhering to the environmental exclusion windows coordinated with the NYSDEC, as applicable.

4.1.8 Aquatic Vegetation

Existing Conditions - The Buffalo CDF #4 is located in an open-water, storm driven environment. Factors such as wave and ice action, boat traffic, turbidity, and water depths contribute to the almost total lack of vegetated habitat in the lake adjacent to the project area for establishment and growth of submerged aquatic plants.

No Action Alternative - Since there would be no repairs to the perimeter dike under this alternative, there would be no effect to aquatic vegetation.

Proposed Action Alternative - Placement of the armor stone and rubblemound overlay would not significantly affect any submerged aquatic vegetation. Temporary increases in turbidity and suspended solids generated by the filling activity may cause localized minor decreases in primary production and photosynthesis through reduced light penetration into the water column. This disturbance would likely only affect algae populations. Due to the lack of aquatic vegetation at the project site, impacts are expected to be negligible. There would be no long-term impacts anticipated as a result of the proposed action.

4.1.9 Wetlands

Existing Conditions - The project area is located in the open-waters of Lake Erie. No regulated wetlands exist within the footprint of the proposed project. Additionally, there are no regulated state or federally designated freshwater wetlands found directly adjacent to the project area.

No Action Alternative & Proposed Action Alternative - Since no wetlands are present within the project area, no effect would occur.

4.1.10 Federally Listed Threatened and Endangered Species

Existing Conditions - Review of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) online database indicates that the northern long-eared bat (*Myotis septentrionalis*) and monarch butterfly (*Danaus plexippus*), a proposed federally listed candidate species, is listed as being present in the project area. However, the proposed project site does not include any federal designated or proposed critical habitat.

No Action Alternative - The no action alternative would result in no impact to federally listed endangered or threatened species or critical habitat because there would be no federal action.

Proposed Action Alternative - There is one proposed federally listed endangered species (northern long-eared bat) and one candidate species (monarch butterfly) listed as being present in the proposed project location. There is currently no designated or proposed “critical habitat” within the project area in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Due to the proposed project repairs consisting of open-water habitat, there would be no clearing of trees or other impacts to habitat used by the northern long-eared bat. Additionally, the monarch butterfly may inhabit the area but is reliant on their obligate milkweed host plant for feeding and breeding, which are not present at the project site. Thus, this project would have no effect on the monarch butterfly or any other listed or eligible threatened or endangered species. A letter was sent to the NYS USFWS Field office on December 11, 2023, documenting the effects determination. In a letter dated January 3, 2024, the USFWS concurred with this determination (Appendix C).

4.1.11 Wild and Scenic Rivers

Existing Conditions - The Nationwide Rivers Inventory is a list of more than 3,400 free-flowing river segments that are believed to possess one or more "outstanding remarkable" natural or cultural value features judged to be of more than local or regional importance. No portions of upper Niagara River have been designated as a wild, scenic, or recreational river (National Wild and Scenic Rivers System, 2023).

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

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

4.2 SOCIO-ECONOMIC ENVIRONMENT

4.2.1 Demographics

Existing Conditions - As of 2022, there were approximately 276,400 people residing in the City of Buffalo, New York. Between 2020 and 2022, the population is currently declining at a rate of 0.7 percent. The median household income from the years 2017 and 2021 was $42,186 with 27.6 percent of people in poverty. The cultural/racial makeup of the town was 47.8 percent white alone, 33.3 percent African American alone, 12.2 percent Hispanic or Latino, 6.7 percent Asian alone, 5.9 percent two or more races, and 0.4 percent American Indian alone. The population per square mile in 2020 was 6,893 with an average of 2.26 people per household (U.S. Census Bureau, 2023).

No Action and Proposed Action Alternative - Given the project type, scope, and location, the no action and proposed action would result in no effect to demographics.

4.2.2 Environmental Justice

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

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

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

Existing Conditions - The initial EJ analysis for the Buffalo CDF #4 Perimeter Dike Repair employed two web-tools: Climate Economic Justice Screening Tool (CEJST) and EJscreen.

The CEJST tool displays indicators of burdens in eight categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. These factors, combined with socioeconomic data, categorize census tracts as "economically disadvantaged communities" for the sake of administering the Justice 40 Initiative. This binary sorting of census tracts as either economically disadvantaged, or not, simplifies the analysis and makes it more replicable.

The EJScreen tool is the U.S. Environmental Protection Agency's EJ mapping and screening tool (epa.gov) that provides a nationally consistent dataset and approach for combining environmental and demographic socioeconomic indicators. The tool combines and displays 12 environmental indicators (e.g., air and water pollution), 7 socioeconomic indicators (e.g., race, income, employment, language, education and age), 12 EJ indexes, and 12 supplemental indexes.

Project Area

Based on population estimates for 2022 from the U.S. Census Bureau for the City of Buffalo, the minority race makeup of the city was 33.3 percent African American alone, 12.2 percent Hispanic or Latino, 6.7 percent Asian alone, 5.9 percent two or more races, and 0.4 percent American Indian alone (U.S. Census Bureau, 2023). Based on this data, the minority population of the City of Buffalo does exceed 50 percent. Therefore, the project area does include a minority population as defined by the CEQ.

The U.S. Census Bureau measures poverty by following the Office of Management and Budget's (OMB) Statistical Policy Directive 14, the Census Bureau uses "a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation using Consumer Price Index (CPI-U)." The median household income from 2017-2021 in the city of Buffalo was $42,186, with 27.6 percent of the city in poverty.

No Action Alternative - Given the project type, scope, and location, the no action alternative would not result in any disproportionate effects to low-income or minority populations and are expected to result in no effect to environmental justice.

Proposed Action Alternative - A desktop review using the Climate Economic Justice Screening Tool (CEJST) was used to determine if Buffalo CDF #4 is located in an area that is overburdened and underserved. The tool identifies disadvantaged census tracts across all 50 states. The tool uses datasets as indicators of burdens which are then organized into different categories. A community is highlighted as disadvantaged on the CEJST map if it is in a census tract that is "(1) at or above the threshold for one or more environmental, climate, or other burdens, and (2) at or above the threshold for an associated socioeconomic burden" (CEJST, 2023). The CEJST map revealed that the southern part of CDF #4 is within a disadvantaged community (Figure 13). The low-income, health, housing (lead paint), legacy pollution (proximity to risk management plan facilities), poverty and high school education thresholds were met.

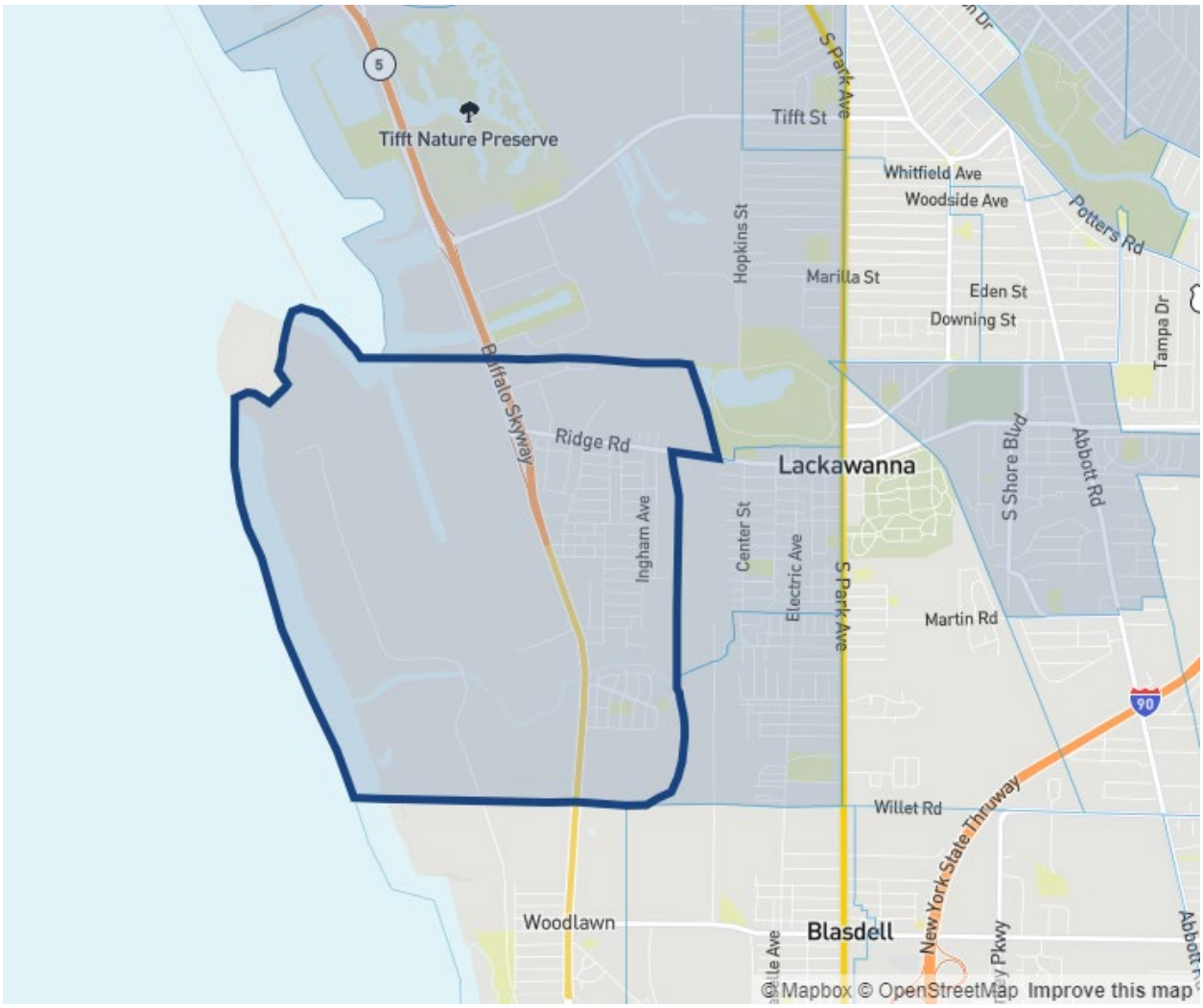

Figure 13: Geographic extent of communities considered during EJ analysis (Source: CEJST).

However, given the project type, scope, and location (open-water environment), the CDF repair would not result in any disproportionate effects on low-income or minority populations and is expected to have no adverse effect to environmental justice. There is likely to be a long-term beneficial impact since the repair work will help ensure the continued containment of contaminated sediment from entering Lake Erie.

4.2.3 Land Use and Development

Existing Conditions - The existing conditions surrounding CDF #4 is open-water. The CDF sits adjacent to the former Bethlehem Steel/ArcelorMittal Steel property. Current land-use around the harbor consists of mixed urban uses, including residential, recreational, commercial, and industrial areas. Land use within the Buffalo River watershed ranges from mainly forested/agricultural areas across the upper portion to densely developed urban areas across the lower portion.

No Action Alternative - There would be no repairs to CDF #4 as a result of the no action alternative. There would be no changes to the surrounding land use or development (open-water).

Proposed Action Alternative - The proposed action would result in no change in land use or development in the vicinity of the CDF. The CDF would continue to function as a containment facility for material not suitable for placement in the open-water.

4.2.4 Recreation, Noise and Aesthetics

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

The current condition of the CDF could be considered aesthetically unpleasing due to the fact some areas are in disrepair. No significant noise problems or sources are in the immediate project area. No sensitive noise receptors (i.e., hospitals, schools) are located within the general vicinity of the project area. The primary source of noise is generated by motorized vehicles such as boats, trains, automobiles, and trucks in the project area.

No Action Alternative - There would be no repairs to CDF #4 as a result of the no action alternative. This would lead to the continued deterioration and displacement of the stone armoring structure pose which may lead the CDF to be aesthetically unpleasing.

Proposed Action Alternative - Construction activities may temporarily disrupt some commercial and recreational vessel traffic due to restrictions within the vicinity of the construction operations (canal side). All construction equipment would be adequately marked and lighted to avoid any potential navigation hazards with recreational boating.

In addition, construction equipment would be observed in the project area and activities would result in a short-term decrease in aesthetics in the project area and a short-term increase in local noise levels. Noise generated by the construction operation would not exceed ambient noise levels in the harbor area. Once construction is complete and the CDF is repaired, this may result in a long-term increase in aesthetics of the CDF.

4.2.5 Public Facilities/Water and Service Facilities

Existing Conditions - Within the Buffalo area, the project vicinity is serviced with water, sewer, gas, electric, telephone, police, fire, emergency (rescue) medical, transportation, and sanitation developments. All the various utility agencies and companies that serve the City of Buffalo have facilities in, provide service to, or are tied to the Buffalo Harbor in some way. Beyond parkland

and recreational opportunities, the only major public facility/service located approximately six miles north of the CDF is the Buffalo sewage treatment plant and the Bird Island wastewater treatment plant which is permitted to discharge combined sewer overflows to the Niagara River.

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

Proposed Action Alternative - The Buffalo Water Authority will be notified if an incident arises that will affect water quality near the water intake. However, given the water intake is located over five miles north of the CDF, turbidity caused by the repair activities will likely not have an impact on water quality at the intake. No public facilities are located within the project footprint.

4.2.6 Cultural Resources

Existing Conditions - In broad terms, "cultural resources" include historic buildings and structures, historic districts, archaeological sites, Native American traditional places, and traditional ways of life. Cultural resources also include "historic properties," which, as defined by the National Historic Preservation Act (NHPA), include any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places (NRHP) (36 CFR 800.16).

Direct Area of Potential Effect

Potential effects to historic resources are evaluated based on an undertaking's defined area of potential effect (APE). The APE is defined as the geographic area within which an undertaking may directly or indirectly result in changes to the character or use of historic properties if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 CFR 800.16). The APE for direct impacts is limited to the footprint of the proposed project area(s). For the Buffalo CDF #4 Perimeter Dike repair, the direct APE has been defined to include the western perimeter dike that is to be repaired (station -4+00 to station 28+50) along with the stability berm that would extend 150 feet into the lake. Figures 3-11 illustrate the proposed repair footprint of the CDF.

Indirect Area of Potential Effect

The APE for indirect impacts (e.g., visual or auditory effects, etc.) extends beyond the proposed project footprint to encompass buildings and structures, etc. adjacent to the proposed project. Since historic properties may also be subject to visual and/or other potential indirect effects, the APE has been delineated to also include those areas within the viewshed of the project location (Figure 14).

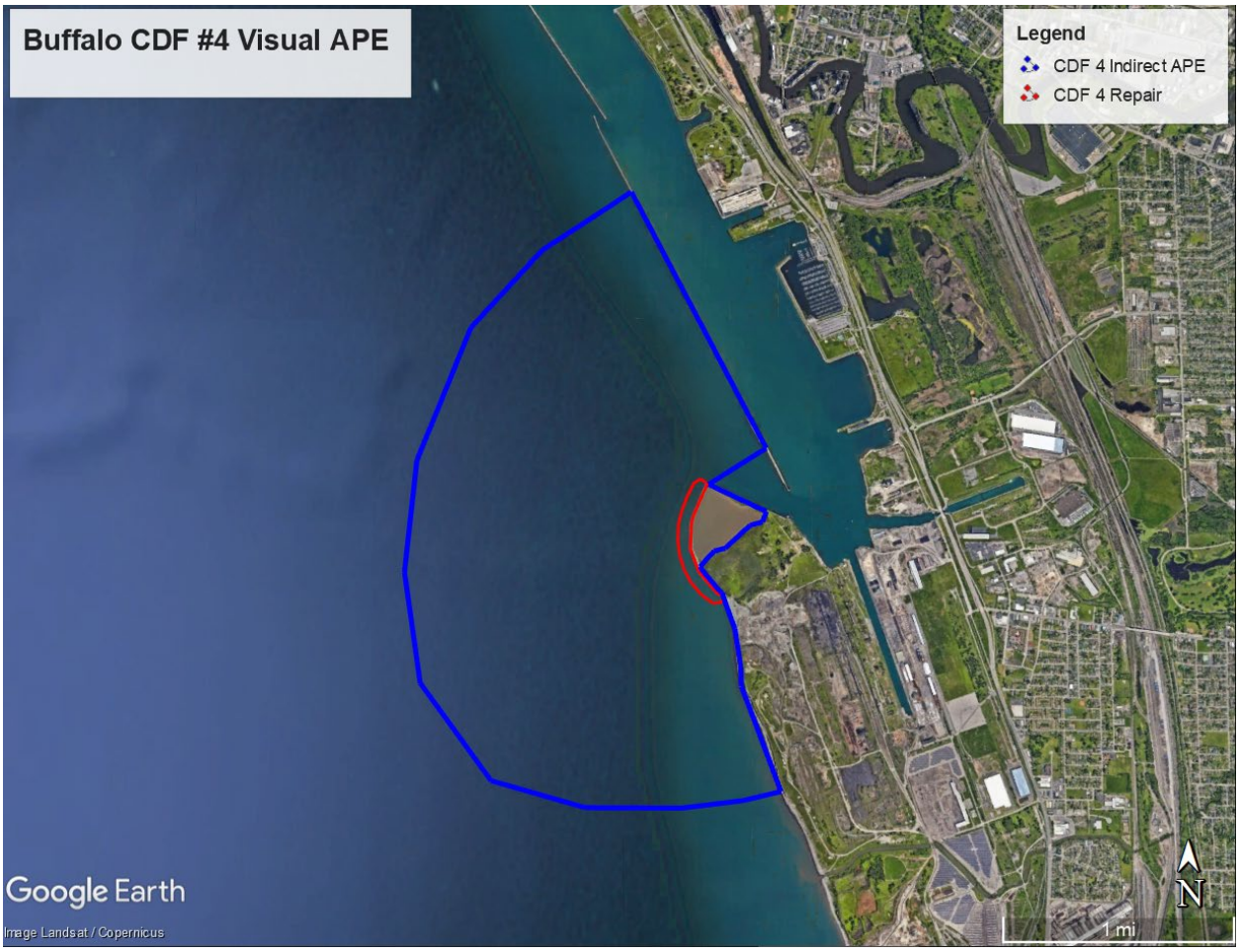

Figure 14: Buffalo CDF #4 Repair Indirect APE.

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

Proposed Action Alternative - The USACE has reviewed the NRHP as well as the New York State Cultural Resources Information System (CRIS) to identify known historic properties and archaeologically sensitive areas within the APE. Based on this review, there are no properties located within the APE that are listed or eligible for listing in the NRHP.

Consultation with the NYSHPO, historical societies, and tribal interests was initiated via the NEPA public scoping process and was continued through a request for comments on this EA. A NYSHPO Project Summary Form was also submitted via CRIS. A report effect finding was received on December 13, 2023 from NYSHPO which states, "Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking" (Appendix B).

4.2.7 Health and Safety

Existing Conditions - Since completion of its construction, the structural integrity of CDF #4 has deteriorated. Storms have caused extensive damage to CDF #4 requiring a comprehensive repair of the stone dike wall on the western side of the structure. Vertical displacement of the steel sheet pile cutoff wall led to completion of remedial grouting in 2010. Deterioration and displacement of the stone armoring structure has also occurred, posing a risk to long-term containment of the sediments, and leading to the proposed second phase of repair. Furthermore, there is a need to raise the crest of the Perimeter Dike to reduce overtopping during storm seiche/storm surge events which has the potential to cause the CDF to completely fill with water, and for sediment laden water to spill out of the CDF.

No Action Alternative - There would be no repairs to CDF #4 as a result of the no action alternative. This would lead to the continued degradation of the CDF. There is a need to raise the crest of the Buffalo CDF #4 Perimeter Dike to reduce overtopping that occurs during seiche/storm surge events. Deterioration and displacement of the stone armoring structure pose a risk to the long-term containment of the contaminated sediment. Overtopping of the structure has the potential to cause the CDF to completely fill with water and contaminated sediment laden water to spill out of the CDF. This in turn, could potentially adversely impact the health and safety in the vicinity of the CDF.

Proposed Action Alternative - The repairs to CDF #4 would facilitate the containment of contaminated sediment which would result in a long-term benefit of health and safety to those in the vicinity of the CDF. The concentration of heavy equipment in the project area during the repair could potentially pose a navigation and recreational hazard. However, standard USACE contract specifications require the maintenance of a safe, restricted work area during these periods. The contractor is required to prepare a detailed job hazard analysis of each major phase of work, including all anticipated hazards and specific actions which would be taken to prevent personal injury. The contractor is required to comply with Occupational Safety and Health Administration Standards.

4.2.8 Cumulative Impacts

A cumulative impact is defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future action regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR Part 1508.7). Such impacts can result from individually minor, but collectively significant actions taking place over a period of time. Evaluations of cumulative impacts include consideration of the proposed action with known past and present actions, as well as reasonably foreseeable future actions. In assessing cumulative effects, the key determinant of importance or significance is whether the incremental effect of the proposed action will alter the sustainability of resources when added to other present and reasonably foreseeable future actions.

Cumulative environmental effects for the proposed project were assessed in accordance with

guidance provided by the President's Council on Environmental Quality (CEQ) (USEPA, 1999). This guidance provides an eleven-step process for identifying and evaluating cumulative effects in NEPA analyses. The overall cumulative impact of the proposed project is considered to be environmentally, socially, and economically beneficial. In general, cumulative impacts resulting from implementation of the proposed alternative are expected to be beneficial to the Buffalo Harbor. The CDF #4 repairs would prevent overtopping of the structure and not allow contaminated sediment laden water to spill out of the CDF into the Buffalo Harbor.

Placement of fill material below the ordinary high water mark of Lake Erie, specifically for the construction of the stability berm, may have temporary adverse effects on the immediate habitat. Available evidence indicates that the aquatic ecosystem within the footprint of the stability berm is resilient, and that the disturbance created by constructing the stability berm will be absorbed and accommodated by the ecosystem because its structure and function has not fundamentally changed to a different state.

4.3 SUMMARY

The proposed action being evaluated addresses the Buffalo Harbor CDF #4 Perimeter Dike repair located in the City of Buffalo, New York. The proposed activity will repair the CDF with a rubblemound overlay and a new crest elevation of 589.2 feet IGLD85 (+20.0 feet LWD). The new crest elevation will provide necessary structural stability of the rubblemound overlay and will reduce the likelihood of wave overtopping during significant storm and seiche events. The repair plan would also include a rubblemound wrap-around (tie-in) of the South Entrance Arm Breakwater of the structure and a tie-in at Station -4+00 at existing crest elevation of +15.0 feet LWD. The proposed repairs do not require excavation, and the new structure will rest on a stability berm comprised of bedding stone which will rest on the existing lakebed. The CDF repairs would prevent overtopping of the structure and not allow contaminated sediment laden water to spill out of the CDF into the Buffalo Harbor.

This EA has been completed to assess the anticipated environmental and socioeconomic effects that may result from the Buffalo CDF #4 repair, in accordance with all environmental protection statutes, and EOs. Based on the analysis contained herein, the CDF repair would not result in any significant negative environmental impacts. This alternative is acceptable to the public, stakeholders, local, state, and federal agencies.

5 COMPLIANCE WITH ENVIRONMENTAL PROTECTION REQUIREMENTS

The following is a list of the applicable, relevant, and appropriate federal statutes, executive orders and memorandum that were considered for the proposed project, and a description of the project's compliance with each.

5.1 Abandoned Shipwreck Act of 1987 (43 USC 2101 – 2106); Archaeological and Historical Preservation Act of 1979 (16 USC 470 *et seq.*); National Historic Preservation Act of 1966 (54 USC 300101 *et seq.*); Executive Order 11593 (Protection and Enhancement of the Cultural Environment), May 13, 1971 – The proposed project's impact on cultural resources has been evaluated by USACE in accordance with ER 1105-2-50 and 36 CFR 800. Tribes, local governments, and adjacent property owners, etc. were notified by mail of the opportunity to review and provide comments on the NEPA scoping package, which was available on the USACE Buffalo District website from January 10, 2024, through February 12, 2024.

Given the results of the literature review and field survey, the USACE has determined that the proposed project would have no effect on historic properties and no further cultural resource investigation is recommended prior to implementation of the proposed project. The NYSHPO concurred with this assessment in a report effect finding received on December 13, 2023, that states "Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking" (Appendix B).

5.2 American Indian Religious Freedom Act (42 USC 1996); Native American Graves Protection and Repatriation Act (25 USC 3001 *et seq.*) – Coordination with multiple Tribal nations with expressed interest in Erie County, New York was initiated via the scoping process. No sacred sites or objects were identified through Tribal coordination. Therefore, it is not expected that any adverse effect would be incurred to religious rights as a result of the proposed project. No Native American grave sites or other sensitive sites are expected to be affected by the current project. This EA has been submitted to all Tribal nations who have expressed interest in Erie County, New York for final review and comment on this determination. No further comments have been received.

5.3 Clean Air Act, as Amended, (42 USC 7401 – 7671g) – Project coordination was initiated with the USEPA via the NEPA scoping process. No comments were received from USEPA. The proposed project location is not in non-compliance with any NAAQS (Section 4.1.1). The proposed project is not expected to violate any air quality standards. Only *de minimis* emissions are expected during construction activities. Therefore, the proposed project is in compliance with this Act.

5.4 Clean Water Act, as Amended (Federal Water Pollution Control Act Amendments of 1972); (33 USC 1251 et seq.) – Project coordination was initiated with agencies and interests including the USEPA and the NYSDEC via the scoping information document. The project would result in a Section 404 discharge. Therefore, a Section 401 State Water Quality Certification (WQC) will be required and was requested on March 20, 2024. The NYSDEC is in the process of reviewing the WQC application. Therefore, the proposed project is in partial compliance with this act.

5.5 Coastal Barrier Resources Act (16 U.S.C. § 3504) – This statute and its amendments prohibit most new federal expenditures that would otherwise encourage development or modification of coastal barriers. The laws only apply to areas that are within the defined John H. Chafee Coastal Barrier Resource System (CBRS). The "CBRS Validation Tool" is an automated on-line mapping tool administered by the U.S. Fish & Wildlife Service that indicates whether a location is within or outside of the CBRS. Based on this tool, the proposed project area is not located within or near any designated CBRS.

5.6 Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA), as Amended; (42 USC 9601-9675) – Project coordination was initiated with agencies and interests including the USEPA via the scoping process and continued with the request for comments on this EA. No comments have been received in this regard. The CDF repairs will not impact CERCLA designated sites or sites that are part of the National Priorities List (NPL).

5.7 Endangered Species Act of 1973, as Amended; (16 USC 1531 et seq.) – Coordination with the USFWS Cortland, New York Field Office regarding threatened and endangered species was initiated via email on December 11, 2023, and via the NEPA scoping document on January 10, 2024. The proposed project location does not provide suitable habitat for any federally listed endangered or threatened species protected under the Endangered Species Act. Additionally, there is no federally designated or proposed critical habitat within the project area. Therefore, the proposed action would result in no effect to any federally listed endangered or threatened species or critical habitat. A signed concurrence letter of this determination was received from the USFWS dated January 3, 2024. Therefore, the currently proposed project is in compliance with this Act.

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

5.9 Fish and Wildlife Coordination Act (Fish and Wildlife Conservation and Water Resource Developments-Coordination), (16 USC 661 et seq.) – Coordination with the USFWS was initiated via email on December 10, 2023, along with the scoping document in January 2024. The following comment was received in response to the coordination effort: “Lake Erie, in the vicinity of the project, supports the spawning of species such as muskellunge, walleye, smallmouth bass, and various minnows and shiners. Therefore, the Service recommends the applicant construct outside the sensitive fish spawning and nursery periods (March - July for most warmwater species).” A signed concurrence letter that this project will result in no effect to any federally designated threatened or endangered species was received from the USFWS dated

January 3, 2024. Therefore, the currently proposed project is in compliance with this Act.

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

5.11 Land and Water Conservation Fund Act of 1965; 16 USC 460l-4 et seq. – Project coordination was initiated with agencies and interests including the U.S. Department of the Interior via the scoping process in January 2024. No comments were received in regards to this Act. The proposed Buffalo CDF #4 repair would not result in property that was acquired or developed with assistance from this fund is present in the project area or would be affected by the project.

5.12 National Environmental Policy Act of 1969, as amended; (42 USC 4321 – 4347) – Project coordination was initiated with agencies and interests via the scoping process. A scoping document was posted for a 30-calendar day comment period on January 10, 2024. This EA/FONSI has been prepared in accordance with the Council on Environmental Quality's "Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act," 40 CFR 1500-1506. Additionally, in accordance with CEQ's revised NEPA implementing regulations effective September 14, 2020, this report has been prepared to address reasonable alternatives, climate change, greenhouse gases, and cumulative effects as appropriate. All scoping comments have been resolved and no significant adverse impacts have been identified. This EA will be circulated for public/agency review in accordance with the Act. Once review of the draft EA has been completed, any applicable comments resolved, and the FONSI is signed, the project will be in full compliance with the Act.

5.13 Resource Conservation and Recovery Act of 1976, (42 USC 6901 et seq.) – Project coordination was initiated with agencies and interests including the USEPA via the scoping process and continued with the request for comments on this EA. No comments have been received in this regard. No hazardous waste would be used or generated during the construction of the facility, and no potentially hazardous waste sites have been identified that would be impacted by the project.

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

5.15 Watershed Protection and Flood Prevention Act, (16 USC 1001, et seq.) – Project coordination was conducted among numerous agencies and individuals with interest in

watershed protection and flood prevention. No concerns were expressed in this regard. Given the nature and location of the undertaking, no significant impacts to watershed protection or flood prevention would be expected as a result of the currently proposed project.

5.16 Wild and Scenic Rivers Act, as amended; 16 USC 1271, et seq. – Not applicable. The proposed project is not located within a wild and scenic river.

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

5.18 Executive Order 11990, Protection of Wetlands, May 24, 1977 – Not applicable. The proposed project would not result in any effects to wetlands.

5.19 Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994 – Coordination was initiated with the USEPA via the NEPA scoping process. No comments regarding environmental justice were received. Given the nature of the undertaking, the currently proposed project would not generate any disproportionately high or adverse human health or environmental effects on predominantly low income or minority populations. Therefore, the proposed project is in compliance with the Order.

5.20 Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, January 11, 2001 – Coordination was initiated with the USFWS and the NYSDEC through the NEPA scoping process. No comments were received from USFWS or NYSDEC regarding the protection of migratory birds. The proposed project is not expected to incur any significant adverse effects to migratory birds. As addressed in section 4.1.7, any adverse effects that may occur to these species during construction would be mitigated by adhering to the environmental exclusion windows coordinated with the NYSDEC.

5.21 Executive Order 13653 Preparing the U.S. for the Impacts of Climate Change – This Order directs federal agencies to pursue new strategies to improve the Nation's preparedness and resilience to climate change. In compliance with this Order, the goal of the USACE 2013 Climate Change Adaption Plan is to develop practical, nationally consistent, legally justifiable, and cost-effective climate change actions, both structural and non-structural, and reduce any vulnerabilities and improve the resilience of water resource infrastructure at risk from climate change threats. With regard to the proposed project, the USACE has considered climate research predictions of more frequent storm events and extreme high and low water levels and determined that this project would be able to withstand such conditions. Therefore, this project has taken into account predictions of climate change and is compliance with EO 13653.

5.22 Executive Order 13045 Protection of Children – This order requires that, "consistent with

the agency's mission, each federal agency: (1) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (2) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." This EO defines "environmental health risks and safety risks" as risks to health or safety that are attributable to products or substances that the child is likely to come in contact with or ingest (such as the air we breathe, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we use or are exposed to). Given the project type, scope, and location (open-water), the no action and proposed action are not expected to result in any environmental health or safety risks that may disproportionately affect children.

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

6 AGENCIES / PUBLIC CONTACTED

Coordination - Notification of the posting of this EA for public/agency review and comment has been sent to the following agencies and individuals.

Federal

- Centers for Disease Control and Prevention
  National Center for Environmental Health
- Federal Aviation Administration
  Eastern Region
- Federal Emergency Management Administration
- Federal Highway Administration
- Federal Maritime Commission
  Office of Energy & Environment
- Federal Railroad Administration
  Region 1
- International Joint Commission
  Great Lakes Regional Office
- National Oceanic and Atmospheric Administration
- National Park Service
  Northeast Region
- U.S. Coast Guard
  Ninth Coast Guard District
- U.S. Department of Agriculture
  Farm Service Agency

Forest Service
Natural Resource Conservation Service
- U.S. Department of Energy
  Office of Environmental Guidance
  Office of NEPA Policy and Compliance
- U.S. Dept. of Housing & Urban Development
  Region 2
- U.S. Department of State OES/ENV
- U.S Department of the Interior
  Office of Environmental Policy & Compliance
  Office of Environmental Project Review
- U.S. Environmental Protection Agency
  Region 2
- U.S. Fish and Wildlife Service

Tribal Nations

- Delaware Nation
- Seneca-Cayuga Nation
- Seneca Nation of Indians
- Tonawanda Seneca Nation

State

- New York Natural Heritage Program-Information Services
- New York State Department of Environmental Conservation
  Region 9
  Division of Environmental Remediation
- New York Sea Grant
  New York State Department of State
  Consistency Review Unit
- New York State FSA Office
- New York State Museum
  Cultural Resource Survey Program
- New York State Office of Parks Recreation and Historic Preservation
- New York State Department of Transportation

Regional/Local

- Buffalo Audubon Society
- Buffalo Water Authority
- Buffalo Water Board
- Buffalo Yacht Club

- City of Buffalo
    - Department of Public Works
    - Parks and Recreation
    - Division of Real Estate
    - Division of Engineering
    - Preservation Board
    - Office of Strategic Planning
- Erie Canal Harbor Development Corporation
- Erie County Health Department
- Erie County Soil & Water Conservation District
- Erie and Niagara Counties Regional Planning Board
- Great Lakes Commission
- Great Lakes Fishery Commission
- Great Lakes Regional Office
- League of Women Voters
- Naval & Marine Corps
    - U.S. Navy Training Center
- Ontario County
- Ontario County Historical Society
- Ontario County Public Works Department
- St. Mary's Cemetery
- The Buffalo History Museum
- The Buffalo News

<u>Individuals/Organizations</u>

- Audubon Society of New York State
- Buffalo Niagara Waterkeeper
- Buffalo Place Inc.
- Canal Society of New York State
- Ducks Unlimited
- Frank Lloyd Wright Rowing Boathouse
- Great Lakes Fishery Commission
- Great Lakes Historical Society
- Great Lakes Sport Fishing Council
- Lake Carriers Association
- Lower Lakes Marine Historical Society
- Preservation Board Niagara
- Sierra Club
    - Atlantic Chapter Office
- The Campaign for Greater Buffalo History, Architecture and Culture
- The Industrial Heritage Committee, Inc.
- Trout Unlimited

- West Side Rowing Club

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Appendix A

NEPA Scoping

US Army Corps of Engineers®
Buffalo District

SCOPING INFORMATION

Buffalo Confined Disposal Facility 4 Perimeter Dike Repair Operations and Maintenance

City of Buffalo, Erie County, New York

U.S. Army Corps of Engineers
Buffalo District
478 Main Street
Buffalo, New York 14202

Table of Contents

1.0 INTRODUCTION

The National Environmental Policy Act (NEPA) directs federal agencies to initiate "an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to the proposed action." The U.S. Army Corps of Engineers (USACE) - Buffalo District has prepared this scoping information to elicit public and agency concerns, clearly define the environmental issues and alternatives that should be examined, and identify federal, state and local requirements that may need to be addressed in the study of the proposed Buffalo Confined Disposal Facility (CDF) #4 maintenance repair project at Buffalo Harbor, located on Lake Erie in Erie County, New York.

2.0 PURPOSE AND NEED FOR REPAIRS

2.1 Project Authority

Buffalo Harbor was initially adopted by the Rivers and Harbors Act of 1826 with subsequent authorizations in 1866, 1874, 1896, 1899, 1900, 1902, 1907, 1909, 1910, 1912, 1919, 1927, 1930, 1935, 1945, 1960, 1962, 1986, and the 1986, 1988, and 2007 Water Resources Development Acts. The Buffalo CDF #4 was authorized under Section 123 of Public Law 91-611.

2.2 Overview

Buffalo Harbor is in the city of Buffalo, Erie County, New York. The harbor is located at the mouth of the Buffalo River, which flows from the east and discharges into Lake Erie at the head of the Niagara River. Buffalo Harbor and River areas include a series of authorized federal navigation channels designed and maintained so that deep-draft commercial vessels can safely navigate. The outer harbor is about 4.5 miles long and 1,600 feet wide, formed by breakwaters that total over 24,500 feet in length. The harbor runs approximately parallel to the Lake Erie shoreline extending from Stony Point to the head of the Niagara River, with the entrances near the north and south ends.

Buffalo CDF #4 is located at the southern end of Buffalo Harbor, New York adjacent to the South Entrance Channel (Figure 1). Buffalo CDF #4 was constructed to safely dispose of and store contaminated sediments that are removed from the federal navigation channels at the Buffalo Harbor project and surrounding areas during routine maintenance dredging operations. CDF #4 was completed in June 1977 by building a stone perimeter dike (Figure 2) from the Lake Erie shoreline south of the Outer Harbor South Entrance Channel to the lakeside end of the South Entrance Arm Breakwater. CDF #4 has an estimated capacity of 6.9 million cubic yards and is currently about half filled. The 3,713-foot-long perimeter dike is composed of multiple stone layers. A filter stone layer extends from the lake bottom upward to elevation -2.5 feet LWD2

2 Low Water Datum (LWD) for Lake Erie is 569.2 feet above mean sea level at Rimouski, Quebec, Canada (International Great Lakes Datum 1985).

and a single continuous row of steel sheet pile extends downward from the dike crest at +15 feet LWD through the filter stone to elevation -9 feet LWD.

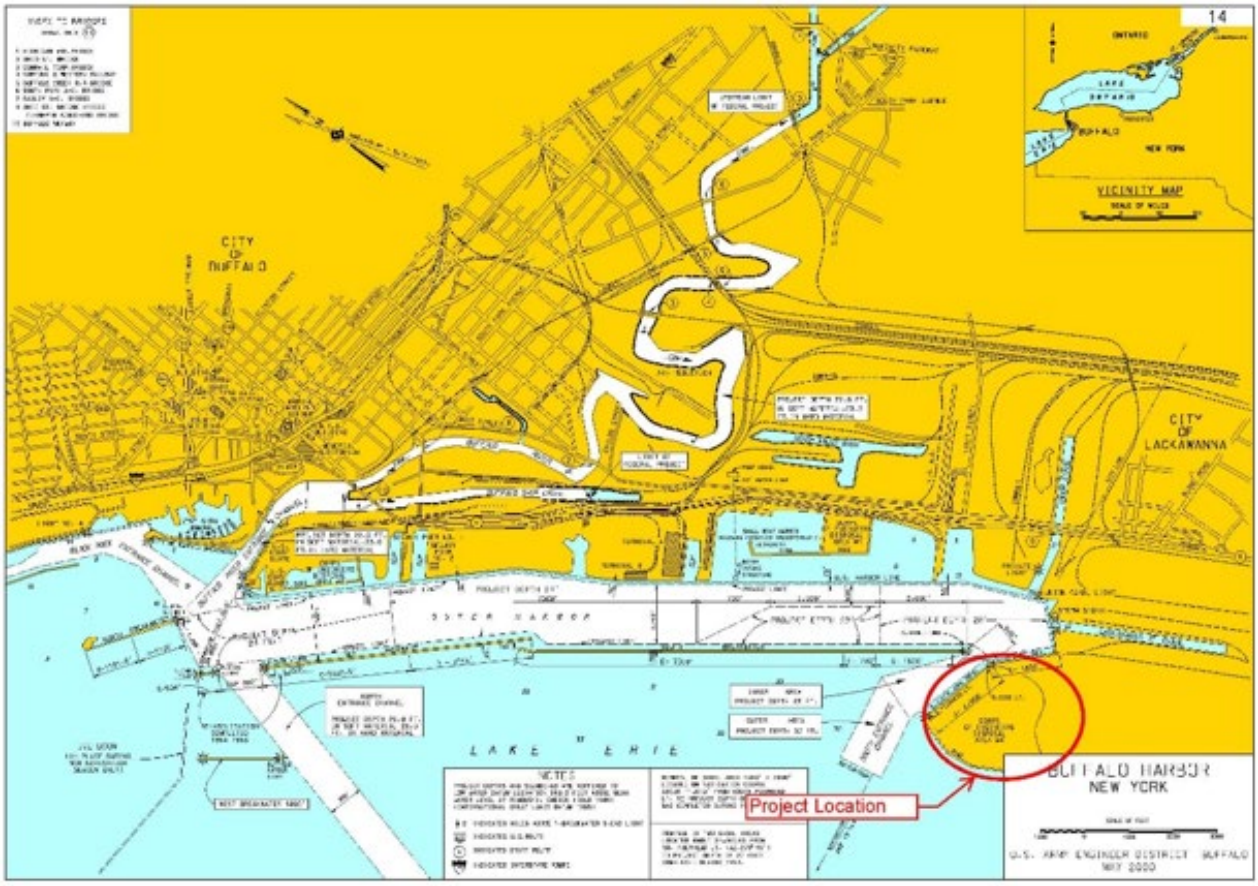

Figure 1: Buffalo CDF #4 repair location.

Figure 2: West perimeter dike location.

2.3 Need for Action

Since completion of its construction, the structural integrity of CDF #4 has deteriorated. Storms have caused extensive damage to CDF #4 requiring a comprehensive repair of the stone dike wall on the western side of the structure. Vertical displacement of the steel sheet pile cutoff wall led to completion of remedial grouting in 2010. Deterioration and displacement of the stone armoring structure (Figure 3) has also occurred, posing a risk to long-term containment of the sediments, and leading to the proposed second phase of repair. Furthermore, there is a need to raise the crest of the Perimeter Dike to reduce overtopping during storm seiche/storm surge events which has the potential to cause the CDF to completely fill with water, and for sediment laden water to spill out of the CDF.

2.4 Proposed Activity

The proposed repair for the Buffalo Harbor CDF #4 Perimeter Dike consists of a rubblemound overlay with a new crest elevation of 589.2 feet International Great Lakes Datum 1985 (IGLD85) (+20.0 feet Low Water Datum (LWD)) which is +5.0 feet higher than what is presented in the as-builts from 2011 (+15.0 ft LWD) from Station -4+00 to Station 28+50 (Figure 3). The new crest elevation is necessary for structural stability of the rubblemound

overlay and reduction of wave overtopping during significant storm and seiche events. The repair plan also includes a rubblemound wrap-around (tie-in) of the South Entrance Arm Breakwater of the structure and a tie-in at Station 4+00 at existing crest elevation of +15.0 feet LWD. The proposed repairs do not require excavation, and the new structure will rest on a stability berm comprised of bedding stone which will rest on the existing lakebed (Figure 4). The proposed stability berm will extend 150 feet lakeward of the existing toe (Figure 5).

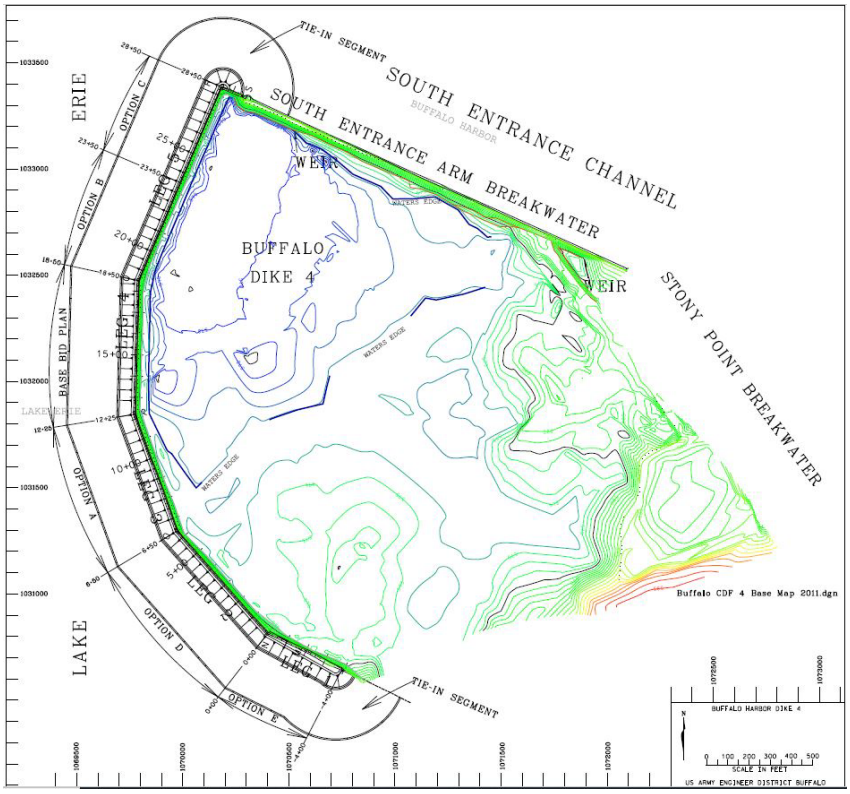

Figure 3: Proposed repair plan-view on existing Perimeter Dike.

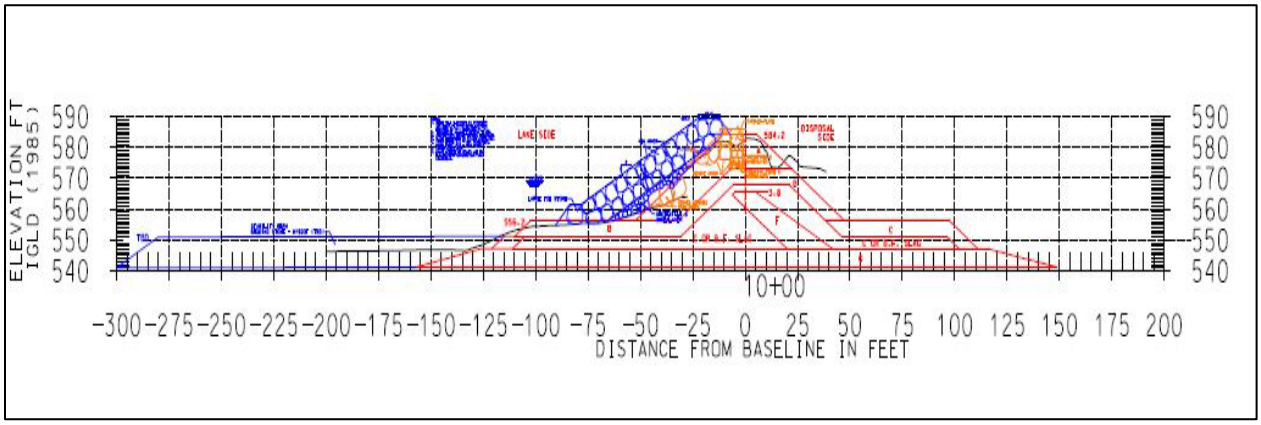

Figure 4: Cross-section of proposed repairs.

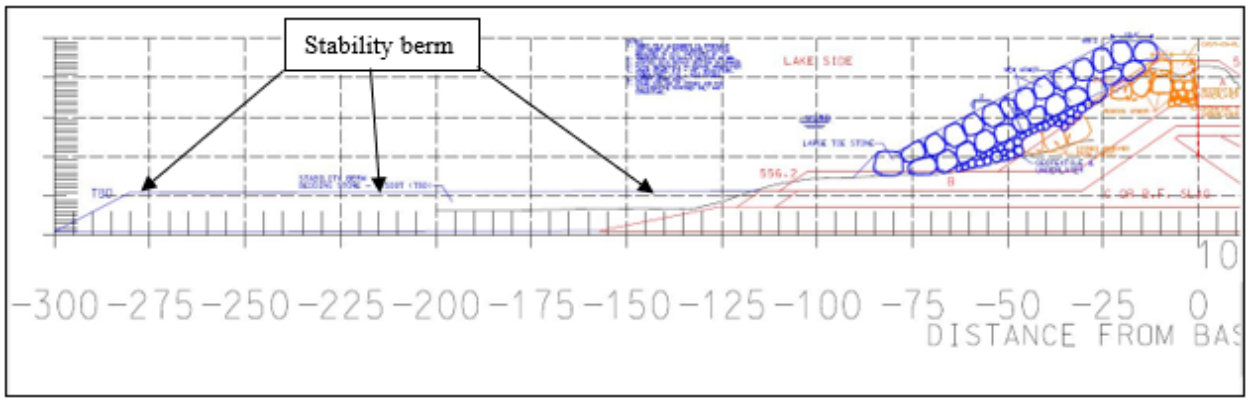

Figure 5: Cross-section of proposed stability berm.

3.0 ALTERNATIVE PLANS

3.1 Alternatives Considered

Based on the needs at the Buffalo CDF #4, alternatives considered include:

a. *No Action*: Under the "No Action" Plan, the federal government would do nothing to repair the Buffalo CDF #4 Perimeter Dike. Failure to repair the Perimeter Dike would result in the continued degradation and eventual failure of the Buffalo CDF perimeter structures, and loss of containment of the contaminated sediments stored in the CDF.
b. *Proposed Action*: Reference Section 2.4 Proposed Activity.

4.0 PUBLIC PARTICIPATION AND INTERAGENCY COORDINATION

Throughout the scoping process, stakeholders and interested parties are invited to provide comment on the Buffalo CDF #4 Perimeter Dike Repair project. Interested parties are welcome to contact USACE - Buffalo District to discuss their views and recommendations regarding this project.

5.0 IMPACT ASSESSMENT

Future conditions with the no-action alternative and potential impacts associated with the preferred alternative will be assessed in relation to several parameters including the following social, economic and environmental categories:

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

- Recreation
- Environmental Justice

6.0 COMPLIANCE WITH ENVIRONMENTAL PROTECTION STATUTES

Overall, the recommended repair project is not expected to result in any significant adverse environmental impacts. Table 1 presents a general assessment of the environmental impacts of the no-action and the proposed alternative. Table 2 presents a comprehensive list of environmental protection statutes, executive orders, etc. that were considered during planning and development of this project.

Some important Federal environmental protection statutes that will be addressed include:

- *National Environmental Policy Act (NEPA)*. In accordance with 33 Code of Federal Regulations (CFR) 203 (Procedures for Implementing NEPA), USACE-Buffalo District will assess the potential environmental effects of the project alternatives on the quality of the human environment. Using a systematic and interdisciplinary approach, an assessment will be made of the potential environmental impacts for each plan as determined by comparing the with- and without-project conditions. The impact assessment process will determine if an Environmental Impact Statement is required, or if an Environmental Assessment and Finding of No Significant Impact is appropriate.

- *Clean Water Act.* The recommended plan involves the placement of dredged or fill material into the waters of the United States; therefore, the USACE - Buffalo District will evaluate the discharge in accordance with the Clean Water Act Section 404(b)(1) Guidelines.

  Water quality and related information used in this evaluation will provide documentation to demonstrate that the recommended plan complies with this Act. A Section 404(a) Public Notice would be circulated and an opportunity to request a public hearing afforded to all potentially affected parties. Section 401 Water Quality Certification for the discharge would also be requested from the New York State Department of Environmental Conservation (NYSDEC).

- *Endangered Species Act*. According to the U.S. Fish and Wildlife Service (USFWS) species list (accessed January 2024) the project area is within range of the *Northern long-eared bat (Myotis septentrionalis). Due to the location and nature of the project, it is expected that the project will have no effect on threatened and endangered species.*

  In accordance with Section 7 of this Act, the USACE requested information from the USFWS on any listed or proposed species or designated or proposed critical habitat that may be present in the project area as well as concurrence that the proposed project will result in no effect to threatened or endangered species.

The USFWS concurred with this determination via a letter dated January 02, 2024.

- *Coastal Zone Management Act*. The Corps of Engineers will review the proposed project in accordance with the requirements of the New York State Coastal Management Program (NYCMP) and Final Environmental Impact Statement (March 1989). The proposed project would be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of the state. A Federal Consistency Determination will be prepared and forwarded to the New York State Department of State for their concurrence on this determination.

- *National Historic Preservation Act.* Under Section 106 of this Act, this scoping information packet also represents continuing consultation with the New York Historic Preservation Office and potentially interested Indian tribes and local historic preservation organizations. Due to the nature and location of the proposed work, no adverse effect on historic properties, or properties eligible for listing on the National Register of Historic Places, is expected. The USACE - Buffalo District has received concurrence from the New York State Historic Preservation Office via a letter dated December 13, 2023.

7.0 POINT OF CONTACT

Interested parties are encouraged to contact the USACE - Buffalo District with their comments and recommendations about the Buffalo CDF #4 Repair Project. Please review the study information and send your comments or recommendations in writing within 30 days to the following e-mail address:

Ryan.L.Gmerek@usace.army.mil

or via mail to:

U.S. Army Corps of Engineers, Buffalo District
ATTN: Environmental Analysis – Buffalo CDF #4
478 Main Street
Buffalo, NY 14202

Table 1: Impact Assessment: Buffalo CDF #4 Repair.

Impact/Resource	Preferred Alternative	No Action
Noise	Short-term localized increase due to the operation of construction equipment. No sensitive receptors in project area.	No effect.
Displacement of People	No effect.	No effect.
Aesthetic Values	Short-term degradation during repair operations. Long-term improvement due to the rehabilitation of damaged harbor structure.	The aesthetic quality of the deteriorating Buffalo CDF #4 would diminish.
Health & Safety	The harbor proper would continue to provide for safe navigation. The Corps of Engineers' contract specifications would require the maintenance of a safe, restricted work area during construction operations. The contractor would be required to comply with Occupational Safety and Health Administration Standards.	Public health and safety may be endangered due to the navigation hazards in the harbor created as a result of the lack of maintenance to Buffalo CDF #4.
Community Cohesion	No effect.	No effect.
Desirable Community Growth	The maintenance of a viable commercial harbor at Buffalo would preserve the areas potential for desirable community growth.	Community growth may be adversely impacted as a result of the deteriorating Buffalo CDF #4. Most notably, the transport of goods via commercial navigation may be adversely affected.
Tax Revenues	No effect.	No effect.
Property Values	No effect.	No effect.
Public Facilities & Services	Maintenance of the Buffalo CDF #4 would aid in maintaining the harbor as a public facility.	Buffalo Harbor would be adversely impacted as a result of the deteriorating Buffalo CDF #4.
Cultural Resources	No effect.	No effect.
Desirable Regional Growth	Buffalo CDF #4 repairs would preserve Buffalo Harbor and its importance as an inducement for regional growth.	Deterioration of the Buffalo CDF #4 would adversely affect viability of Buffalo Harbor and may inhibit desirable regional growth.

Employment/Labor Force	Short-term increase in employment opportunities during project implementation. Repair of the Buffalo CDF #4 helps preserve the viability of Buffalo Harbor and its associated employment opportunities, specifically in the marine trade.	No effect.
Business & Industrial Activities	Repair of the Buffalo CDF #4 would facilitate continued commercial navigation and maintenance of the economic viability of Buffalo Harbor and its dependent commercial activities.	Local businesses and industries would be adversely impacted as a result of the deteriorating Buffalo CDF #4 by impeding the safe flow of goods into the harbor via commercial navigation.
Displacement of Farms	No effect.	No effect.
Man-Made Resources	No effect.	No effect.
Natural Resources	Construction operations during the Buffalo CDF #4 repair would result in the consumption of an undetermined quantity of fuel.	No effect.
Air Quality	The operation of construction equipment during the Buffalo CDF #4 repair would result in temporary increased output of pollutants into the local atmosphere. This increased output is not expected to result in any long or short-term exceedance violations of the Clean Air Act.	No effect.
Water Quality	Some temporary degradation of local water quality would undoubtedly occur as a result of turbidity created by the deposition of stone materials during the repair; however, these short-term degradations would not be expected to be significant.	No effect.

Fish & Wildlife Resources	Disruption and disturbance by equipment during the repair would result in a short-term avoidance of the project area by local fish and bird species. Construction operations would have no significant adverse impacts on local fish and wildlife.	No effect.
Threatened or Endangered Species	No effect.	No effect.
Vegetation and Plankton	Temporary increases in turbidity and suspended solids generated during the stone placement and grouting (if utilized) during the CDF repair may cause minor, temporary decreases in algal and aquatic plant primary production and photosynthesis.	No effect.
Benthos	Destruction of existing benthic macroinvertebrates inhabiting the sediments adjacent to the CDF wall, as well as those residing on submerged stone of the CDF, would occur directly as a result of the burial with stone materials. After construction operations, lateral migrations of benthos from surrounding areas would help colonize the newly placed breakwater stone.	No effect.
Wetlands	No effect.	No effect.

Table 2: Federal Environmental Protection Laws, Orders, Policies.

1. PUBLIC LAWS

a. American Folklife Preservation Act, P.L. 94-201; 20 U.S.C. 2101, *et seq.*
b. Anadromous Fish Conservation Act, P.L. 89-304; 16 U.S.C. 757, *et seq.*
c. Antiquities Act of 1906, P.L. 59-209; 16 U.S.C. 431, *et seq.*
d. Archaeological and Historic Preservation Act, P.L. 93-291; 16 U.S.C. 469, *et seq.* (Also known as the Reservoir Salvage Act of 1960, as amended; P.L. 93-291, as amended; the Moss-Bennett Act; and the Preservation of Historic and Archaeological Data Act of 1974.)
e. Bald Eagle Protection Act; 16 U.S.C. 668.
f. Clean Air Act, as amended; P.L. 91-604; 42 U.S.C. 1857h-7, *et seq.*
g. Clean Water Act, P.L. 92-500; 33 U.S.C. 1251, *et seq.* (Also known as the Federal Water Pollution Control Act; and P.L. 92-500, as amended.)
h. Coastal Zone Management Act of 1972, as amended, P.L. 92-583; 16 U.S.C. 1451, *et seq.*
i. Endangered Species Act of 1973, as amended, P.L. 93-205; 16 U.S.C. 1531, *et seq.*
j. Estuary Protection Act, P.L. 90-454; 16 U.S.C. 1221, *et seq.*
k. Federal Environmental Pesticide Control Act, P.L. 92-516; 7 U.S.C. 136.
l. Federal Water Project Recreation Act, as amended, P.L. 89-72; 16 U.S.C. 460-1(12), *et seq.*
m. Fish and Wildlife Coordination Act of 1958, as amended, P.L. 85-624; 16 U.S.C. 661, *et seq.*
n. Historic Sites Act of 1935, as amended, P.L. 74-292; 16 U.S.C. 461, *et seq.*
o. Land and Water Conservation Fund Act, P.L. 88-578; 16 U.S.C. 460/-460/-11, *et seq.*
p. Migratory Bird Conservation Act of 1928; 16 U.S.C. 715.
q. Migratory Bird Treaty Act of 1918; 16 U.S.C. 703, *et seq.*
r. National Environmental Policy Act of 1969, as amended, P.L. 91-190; 42 U.S.C. 4321, *et seq.*
s. National Historic Preservation Act of 1966, as amended, P.L. 89-655; 16 U.S.C. 470a, *et seq.*
t. Native American Religious Freedom Act, P.L. 95-341; 42 U.S.C. 1996, *et seq.*
u. Resource Conservation and Recovery Act of 1976, P.L. 94-580; 7 U.S.C. 1010, *et seq.*
v. River and Harbor Act of 1899, 33 U.S.C. 403, *et seq.* (also known as the Refuse Act of 1899)
w. Toxic Substances Control Act, P.L. 94-469; 15 U.S.C. 2601, *et seq.*
x. Watershed Protection and Flood Prevention Act, as amended, P.L. 83-566; 16 U.S.C. 1001, *et seq.*
y. Wild and Scenic Rivers Act, as amended, P.L. 90-542; 16 U.S.C. 1271, *et seq.*

2. EXECUTIVE ORDERS

a. Executive Order 11593, Protection and Enhancement of the Cultural Environment. May 13, 1979 (36 FR 8921; May 15, 1971)
b. Executive Order 11988, Floodplain Management. May 24, 1977 (42 FR 26951; May 25, 1977)
c. Executive Order 11990, Protection of Wetlands. May 24, 1977 (42 FR 26961; May 25, 1977)
d. Executive Order 11514, Protection and Enhancement of Environmental Quality, March 5, 1970, as amended by Executive Order, 11991, May 24, 1977
e. Executive Order 12088, Federal Compliance with Pollution Control Standards, October 13, 1978
f. Executive Order 12372, Intergovernmental Review of Federal Programs, July 14, 1982
g. Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, August 3, 1993
h. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994
i. Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

3. OTHER FEDERAL POLICIES

a. Council on Environmental Quality Memorandum of August 11, 1980: Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act
b. Council on Environmental Quality Memorandum of August 10, 1980: Interagency Consultation to Avoid or Mitigate Adverse Effects on Rivers in the National Inventory

c. Migratory Bird Treaties and other international agreements listed in the Endangered Species Act of 1973, as amended, Section 2

Appendix B

National Historic Preservation Act

New York State
Parks, Recreation and
Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

December 13, 2023

Ryan Gmerek
Biologist
USACE
478 Main St
Buffalo, NY 14202

Re: USACE
Buffalo Confined Disposal Facility (CDF) #4 Perimeter Dike
Repair City of Buffalo, Erie County, NY
23PR10312

Dear Ryan Gmerek:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

R. Daniel Mackay

Deputy State Historic Preservation Officer Division
for Historic Preservation

rev: S. Snyder

Appendix C

Endangered Species Act

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS BUFFALO DISTRICT
478 MAIN STREET
BUFFALO, NY 14202-3278

To: U.S. Fish and Wildlife Service, New York Field Office **FAX:** 607-753-9699
Email: fw5es_nyfo@fws.gov

Request for review pursuant to:

X	**Section 7(a)(2) of the Endangered Species Act of 1973**
X	**Fish and Wildlife Coordination Act**

Permit Information:

	LOP/IP
	NWP/RP

Date: 11-DECEMBER-2023 **DA. No.:** N/A

Project Name: Buffalo Confined Disposal Facility #4 Perimeter Dike Repair

County: Erie County **LAT/LONG:** 42.832686, -78.875942

Corps Contact (name, e-mail & phone number): Ryan Gmerek (ryan.l.gmerek@usace.army.mil, 716-291-6969)

Date USFWS response due*: _1/11/2024_____
*(for LOPs and IPs – length of LOC/PN comment period; for NWP/RGP – 14 calendar days). Pursuant to 50 CFR 402.13, the Corps shall not issue a permit prior to USFWS concurrence, unless No Effect determination.

Listed species and/or designated critical habitat with potential to occur in proposed project area:

	American hart's-tongue fern – T
	Bog buck moth - E
	Bog turtle – T
	Chittenango ovate amber snail – T
	Clubshell - E
	Eastern massasauga - T
	Green floater mussel - PT
	Houghton'g goldenrod – T
	Indiana bat – E
	Leedy's roseroot – T

	Longsolid - T
	Northeastern Bulrush – E
X	Northern long-eared bat – E
	Northern riffleshell - E
	Piping plover – E
	Piping plover critical habitat
	Rayed bean – E
	Salamander mussel - PE
	Snuffbox mussel - E

The U.S. Army Corps of Engineers has determined the proposed project:

X	will result in no effect to	any federally designated threatened or endangered species.
	may affect	
	may affect, but is not likely to adversely affect	
	is likely to adversely affect	

X See attached for the rationale for the above-listed determination(s), project description and applicable permit conditions including any conservation measures that are part of the proposal

.

The U.S. Army Corps of Engineer's requests:

X	USFWS review and/or concurrence with our determination		Additional assistance to make our determination

The U.S. Fish and Wildlife Service:

X	Acknowledges no effect determination, no further ESA consultation/coordination required**
	Concurs with your determination, no further ESA consultation/coordination required**
X	See attached recommendations pursuant to FWCA
	Requests additional information or additional time for review
	Is taking no action pursuant to FWCA due to lack of staffing
	Has no objection pursuant to FWCA
	Will provide FWCA comments separately

USFWS Contact: Arianna Ramirez (arianna_ramirez@fws.gov)

Date: **Supervisor Approval/Date:**

**Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered. Until the proposed project is complete, we recommend that you or the applicant check our website every 90 days from the date of this letter to ensure that listed species presence/absence information for the proposed project is current.

USFWS Effects Determination Documentation

Buffalo Harbor is in the city of Buffalo, Erie County, New York. The harbor is located at the mouth of the Buffalo River, which flows from the east and discharges into Lake Erie at the head of the Niagara River. Buffalo Harbor and River areas include a series of authorized federal navigation channels designed and maintained so that deep-draft commercial vessels can safely navigate. The outer harbor is about 4.5 miles long and 1,600 feet wide, formed by breakwaters that total over 24,500 feet in length. The harbor runs approximately parallel to the Lake Erie shoreline extending from Stony Point to the head of the Niagara River, with the entrances near the north and south ends.

Buffalo confined disposal facility (CDF) #4 is located at the southern end of Buffalo Harbor, New York adjacent to the South Entrance Channel (Figure 1). Buffalo CDF #4 was constructed to safely dispose of and store contaminated sediments that are removed from the federal navigation channels at the Buffalo Harbor project and surrounding areas during routine maintenance dredging operations. CDF #4 was completed in June 1977 by building a stone perimeter dike (Figure 2) from the Lake Erie shoreline south of the Outer Harbor South Entrance Channel to the lakeside end of the South Entrance Arm Breakwater. CDF #4 has an estimated capacity of 6.9 million cubic yards and is currently about half filled. The 3,713-foot-long perimeter dike is composed of multiple stone layers. A filter stone layer extends from the lake bottom upward to elevation -2.5 feet LWD[1] and a single continuous row of steel sheet pile extends downward from the dike crest at +15 feet LWD through the filter stone to elevation -9 feet LWD.

Buffalo Harbor was initially adopted by the Rivers and Harbors Act of 1826 with subsequent authorizations in 1866, 1874, 1896, 1899, 1900, 1902, 1907, 1909, 1910, 1912, 1919, 1927, 1930, 1935, 1945, 1960, 1962, 1986, and the 1986, 1988, and 2007 Water Resources Development Acts. The Buffalo CDF #4 was authorized under Section 123 of Public Law 91-611.

Since completion of its construction, the structural integrity of CDF #4 has deteriorated. Storms have caused extensive damage to CDF #4 requiring a comprehensive repair of the stone dike wall on the western side of the structure. Vertical displacement of the steel sheet pile cutoff wall led to completion of remedial grouting in 2010. Deterioration and displacement of the stone armoring structure (Figure 3) has also occurred, posing a risk to long-term containment of the sediments, and leading to the proposed second phase of repair. Furthermore, there is a need to raise the crest of the Perimeter Dike to reduce overtopping during storm seiche/storm surge events which has the potential to cause the CDF to completely fill with water, and for sediment laden water to spill out of the CDF.

The proposed repair for the Buffalo Harbor CDF #4 Perimeter Dike consists of a rubblemound overlay with a new crest elevation of 589.2 feet International Great Lakes Datum 1985 (IGLD85) (+20.0 feet Low Water Datum (LWD)) which is +5.0 feet higher than what is presented in the as-builts from 2011 (+15.0 feet LWD) from Station -4+00 to Station 28+50 (Figure 3). The new crest elevation is necessary for structural stability of the rubblemound overlay and reduction of wave overtopping during significant storm and seiche events. The repair plan also includes a rubblemound wrap-around (tie-in) of the South Entrance Arm Breakwater of the structure and a tie-in at Station 4+00 at existing crest elevation of +15.0 feet LWD. The proposed repairs do not require excavation, and the new structure will rest on a stability berm comprised of bedding stone which will rest on the existing lakebed (Figure 4). The proposed stability berm will extend 150 feet lakeward of the existing toe (Figure 5).

[1] Low Water Datum (LWD) for Lake Erie is 569.2 feet above mean sea level at Rimouski, Quebec, Canada (International Great Lakes Datum 1985).

Review of the USFWS Information for Planning and Consultation (IPaC) online database indicates that the proposed project lies within the range of the endangered Northern Long-Eared bat (*Myotis septentrionalis*). The proposed project site does not include any federally designated or proposed critical habitat.

1. Northern Long-Eared bat (*Myotis septentrionalis* – endangered):
The Northern Long-Eared bat is a small-sized insectivorous bat widely distributed in the eastern United States and across Canada.

Summer Habitat (April-August): In general, they use a variety of structures for roosting habitat, such as live and dead trees with cracked and exfoliating bark, broken limbs, cavities, and also man-made structures. However, they more often roost in crevices or cavities of tress than under exfoliating bark. Maternity colonies (adult females) use cracks, cavities, and beneath the bark of dead and living trees. Males are solitary and do not roost with maternity colonies. The bat forages under the forest canopy, at small ponds or streams, along paths and roads, or at the forest edge.

Swarming Habitat (August-September): Prior to hibernation, the bat uses the habitat around and within the hibernacula.

Winter Habitat (October-March): The bat hibernates in caves or abandoned mines.

The proposed project will result in clearing of **0 acres** of tree habitat, which is considered to be potential Northern Long-Eared bat roosting and/or foraging habitat.

Based on the site conditions (open-water) and lack of suitable habitat within the project area, the USACE has determined that the project would result in no effect to the Northern Long-Eared bat or designated or proposed critical habitat.

Figures

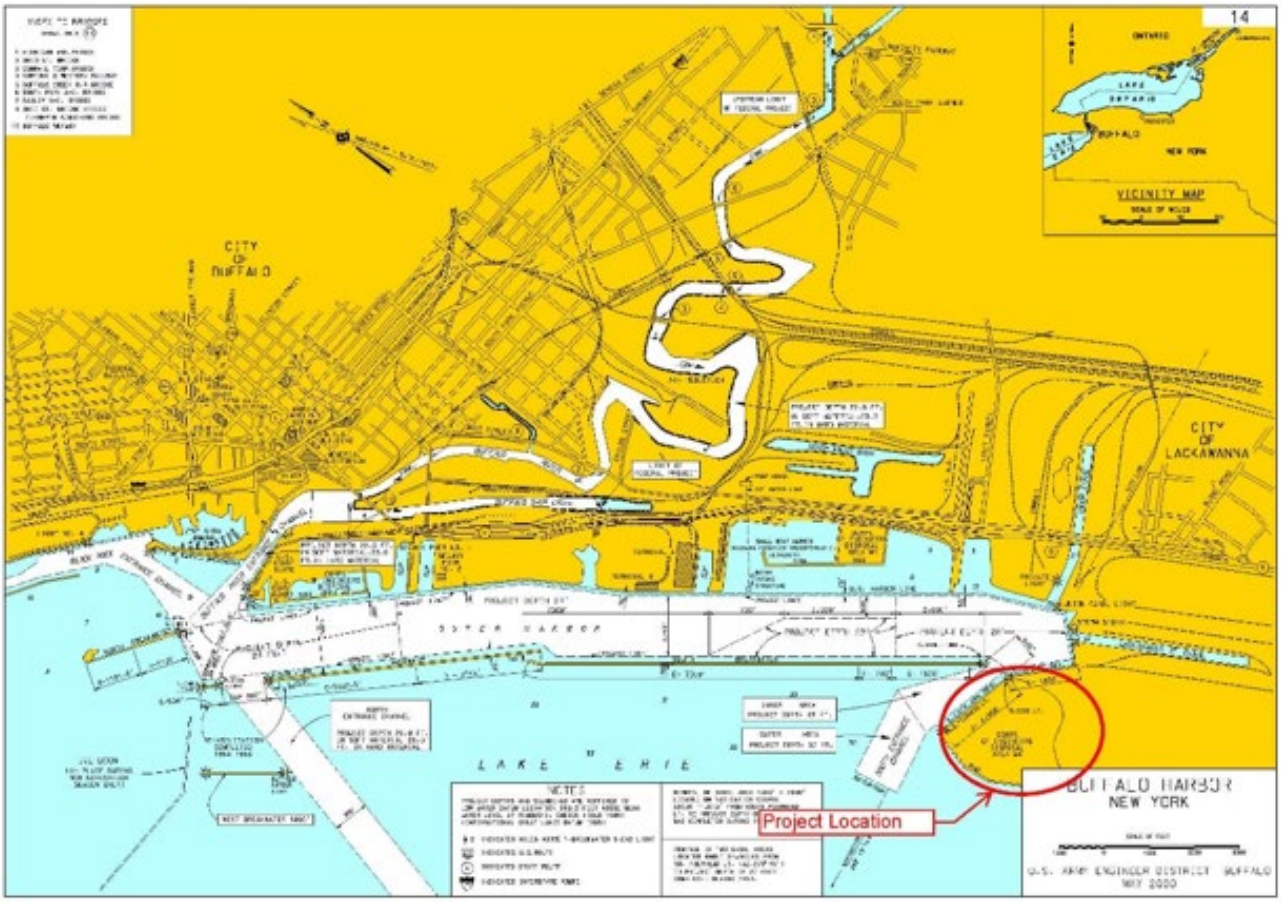

Figure 1: Buffalo CDF #4 repair location.

Figure 2: West perimeter dike location.

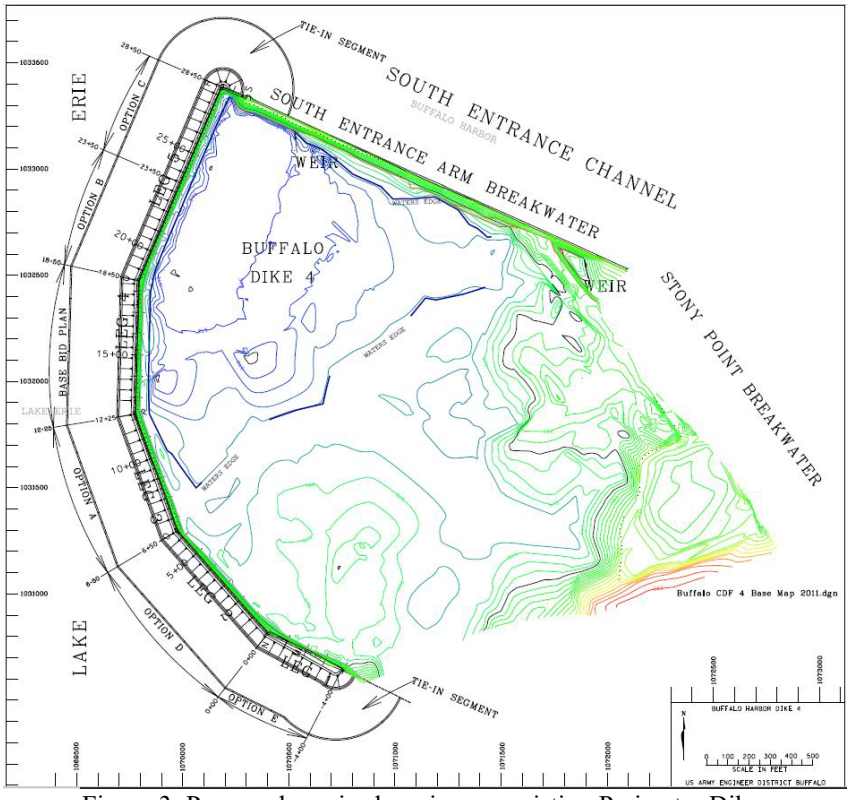

Figure 3: Proposed repair plan-view on existing Perimeter Dike.

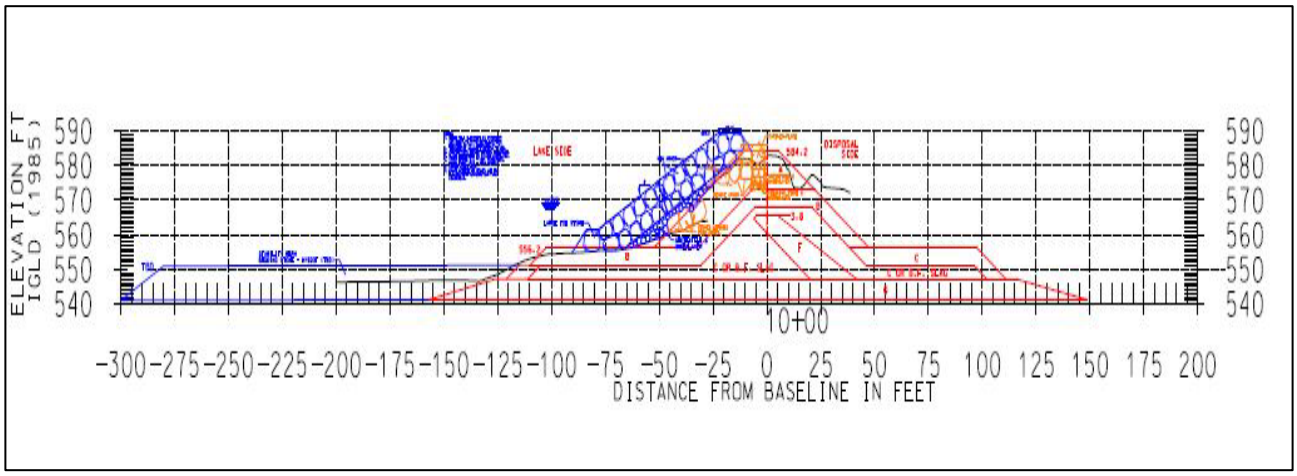

Figure 4: Proposed conceptual repair cross section.

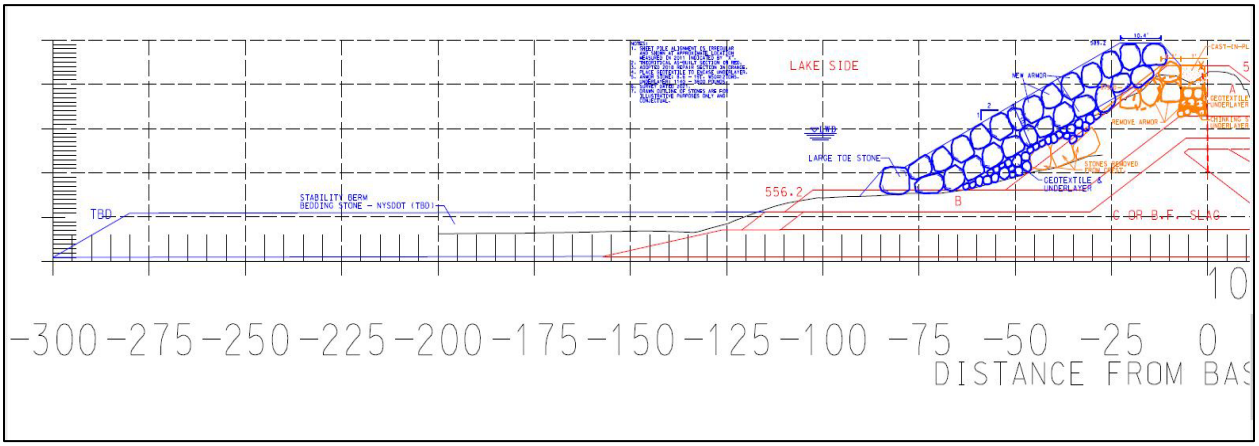

Figure 5: Proposed stability berm cross section.

Fish and Wildlife Coordination Act

The following comment is submitted by the U.S. Fish and Wildlife Service's New York Field Office pursuant to the Fish and Wildlife Coordination Act.

Lake Erie, in the vicinity of the project, supports the spawning of species such as muskellunge, walleye, smallmouth bass, and various minnows and shiners. Therefore, the Service recommends the applicant construct outside the sensitive fish spawning and nursery periods (March - July for most warmwater species).

Appendix D

Clean Water Act

US Army Corps of Engineers®

Public Notice

Issuing Office: CELRB-PML-E **Published: 03 APR 24**
Notice No: Buffalo Confined Disposal Facility #4 Repair **Expires: 03 MAY 24**

OPERATIONS AND MAINTENANCE

BUFFALO CONFINED DISPOSAL FACILITY #4
WEST PERIMETER DIKE REPAIR
CITY OF BUFFALO, ERIE COUNTY, NEW YORK

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

The USACE, Buffalo District plans to repair the Buffalo CDF #4 West Perimeter Dike in the City of Buffalo, Erie County, New York. Buffalo CDF #4 is located at the southern end of Buffalo Harbor adjacent to the South Entrance Channel (Figure 1). Buffalo CDF #4 was constructed to safely dispose of and store sediments that are removed from the federal navigation channels at the Buffalo Harbor project and surrounding areas during routine maintenance dredging operations. Buffalo CDF #4 was completed in June 1977 by building a stone perimeter dike from the Lake Erie shoreline south of the Outer Harbor South Entrance Channel to the lakeside end of the South Entrance Arm Breakwater. Confined Disposal Facility #4 has an estimated capacity of 6.9 million cubic yards and is currently about half filled. The 3,713-foot-long West Perimeter Dike is composed of multiple stone layers (Figures 2-3). A filter stone layer extends from the lake bottom upward to elevation -2.5 feet Low Water Datum (LWD) and a single continuous row of steel sheet pile extends downward from the dike crest at +15 feet LWD through the filter stone to elevation -9 feet LWD.

Since completion of its construction, the structural integrity of CDF #4 has deteriorated. Storms

have caused extensive damage to CDF #4 requiring a comprehensive repair of the stone dike wall on the western side of the structure. Vertical displacement of the steel sheet pile cutoff wall led to completion of remedial grouting in 2010. Deterioration and displacement of the stone armoring structure has also occurred posing a risk to long-term containment of the sediments and leading to the proposed second phase of repair.

The proposed repair for the Buffalo Harbor CDF #4 West Perimeter Dike consists of a rubblemound overlay with a new crest elevation of 589.2 feet International Great Lakes Datum 1985 (IGLD85) (+20.0 feet LWD), which is +5.0 feet higher than what is presented in the as-built design from 2011 (+15.0 feet LWD) from Station -4+00 to Station 29+50. The new crest elevation is necessary for structural stability of the rubblemound overlay and reduction of wave overtopping during significant storm and seiche events.

The repair plan is broken down into five legs with different priorities (options). The armor stone for each leg will range from 8.6-19 tons. Underlayer stone for each leg will range from 1,140-3,800 pounds, while the stability berm stone will consist of New York State Department of Transportation (NYSDOT) 733-2102 stone filling (light). Table 1 breaks down the stone tonnage for each repair. Leg 1 (Option E) spans 400 feet, beginning at Station -4+00.00 and ending at Station 0+00.00. Leg 2 (Option D) spans 650 feet, beginning at Station 0+00.00 and ending at Station 6+50.00. Leg 3 (Option A) spans 575 feet, beginning at Station 6+50.00 and ending at 12+25.00. Leg 4, which is the base of the repairs, spans 650 feet, beginning at Station 12+25.00 and ending at 18+75.00. Leg 5 has two options: Leg 5 Option B would begin at Station 18+75.00 and end at 23+50.00. This repair would span 475 feet. Leg 5 Option C would span 600 feet, beginning at Station 23+50.00 and ending at Station 29+50.00.

The repair plan also includes a rubblemound wrap-around (tie-in) of the South Entrance Arm Breakwater of the structure (Station 28+50) and a tie-in at Station -4+00 and at existing crest elevation of +15.0 feet LWD. The proposed repairs do not require excavation. The new structure will rest on the existing structure while the added stability berm comprised of NYSDOT 733-2102 stone filling (light) will rest on the existing lakebed. The added stability berm will extend approximately 60 feet lakeward of the existing toe, or 190 feet lakeward from the existing baseline of the structure.

Table 1: Repair tonnage per segment.

Priority	Segment	Station	Length of Leg (feet)	Armor Stone Tonnage	Underlayer Stone Tonnage	Stability Berm Tonnage
Option E	Leg 1	-4+00 - 0+00	400	6,142	572	0.0
Option D	Leg 2	0+00 - 6+50	650	24,587	1,165	0.0
Option A	Leg 3	6+50 - 12+25	575	24,024	3,280	11,054
Base	Leg 4	12+25 - 18+75	650	25,089	2,365	23,658
Option B	Leg 5	18+75 - 23+50	475	19,250	2,420	19,261
Option C	Leg 5	23+50 - 29+50	600	23,101	4,085	25,528

The proposed project may result in minor, localized, and short-term increased turbidity in Buffalo Harbor (Lake Erie) during project construction. To avoid and minimize impacts to the spawning, nursery, and feeding activities of indigenous fish species, the USACE would adhere to the in-water work restricted dates specified in the New York State Department of Environmental Conservation (NYSDEC) Clean Water Act Section 401 Water Quality Certification (WQC), as appropriate. Temporary effects to local fish populations and benthic organisms in the immediate project area could occur. Any such impacts are expected to be negligible. Local fish populations are expected to repopulate the area soon after construction is complete. In the long-term, the armor stone and stone filling would be expected to provide minor improvements to fish habitat by providing increased interstitial space between stones, which would provide feeding and resting habitat for aquatic organisms.

The proposed project is a maintenance activity with no more than minimal impacts to restore the West Perimeter Dike of the Buffalo Harbor CDF #4 and prevent contained sediment laden water from releasing into the Buffalo Harbor. The CDF repairs are tentatively scheduled to occur in the summer of 2025.

Overall, the proposed CDF #4 repair project is not expected to result in any significant adverse environmental impacts.

Pursuant to USACE regulations, WQC from the NYSDEC is required for discharges into the waters of the United States. Therefore, a copy of this public notice has been provided to NYSDEC requesting WQC, or waiver thereof, for the proposed CDF repairs.

There are no listed historic properties or properties determined as being eligible for listing in the National Register of Historic Places that would be affected by this project. Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, the USACE determined that the recommended plan has no effect on historic properties. Coordination with the New York State Historic Preservation Office (SHPO) has been completed. A response was received on December 13, 2023 from NYSHPO stating, “based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will

be affected by this undertaking."

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, the USACE determined that the recommended plan would have no effect on federally listed species or their designated critical habitat. A letter was sent to the NYS USFWS Field office on December 11, 2023, documenting the effects determination. In a letter dated January 3, 2024, the USFWS concurred with this determination.

This work would be undertaken in a manner consistent, to the maximum extent practicable, with the New York State Department of State (NYSDOS) Coastal Zone Management Program. A Coastal Management Program federal consistency determination has been submitted to the NYSDOS documenting this determination.

Any interested parties and/or agencies desiring to express their views concerning the proposed project may do so by filing their comments, in writing, no later than 30 days from the date of this notice. Any person who has an interest which may be affected by the proposed project may request a public hearing. The request must be submitted in writing to the undersigned within 30 days of the date of this public notice. The request must clearly set forth the interest which may be affected, and the manner in which the interest may be affected, by this activity.

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

New York State Department of Environmental Conservation
New York State Historic Preservation Office
New York State Department of State
U.S. Coast Guard
U.S. Department of the Interior, Fish and Wildlife Service
U.S. Environmental Protection Agency

Interested parties are encouraged to contact the USACE - Buffalo District with their comments regarding the proposed Buffalo CDF #4 repair project. Please review this public notice and send your comments in writing within 30 days to the following e-mail address:

BuffaloCDF4Repair@usace.army.mil

or via mail to:

U.S. Army Corps of Engineers - Buffalo District
Environmental Analysis Team
478 Main Street
Buffalo, NY 14202
ATTN: Environmental Analysis – Buffalo CDF #4 Repair

Figures

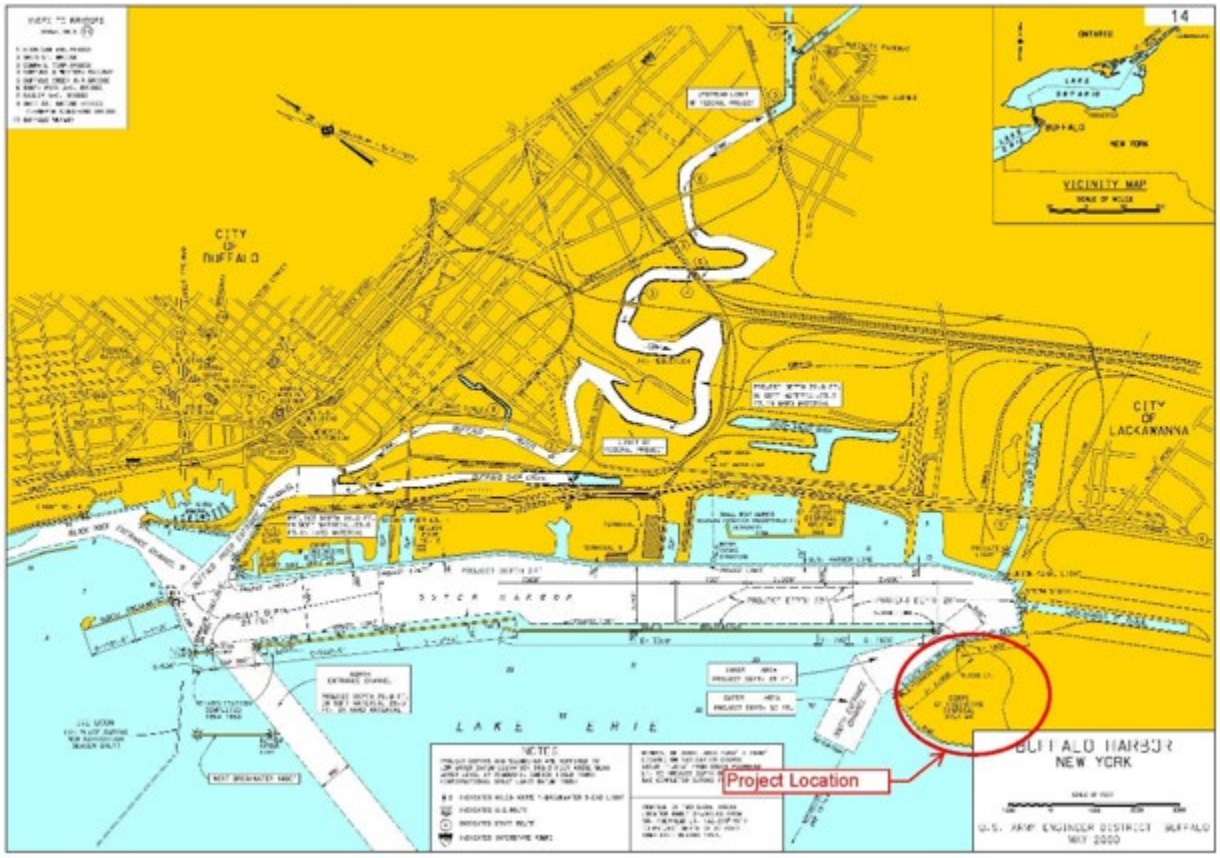

Figure 1: Buffalo CDF #4 location.

Figure 2: Buffalo CDF #4 West Perimeter Dike Location.

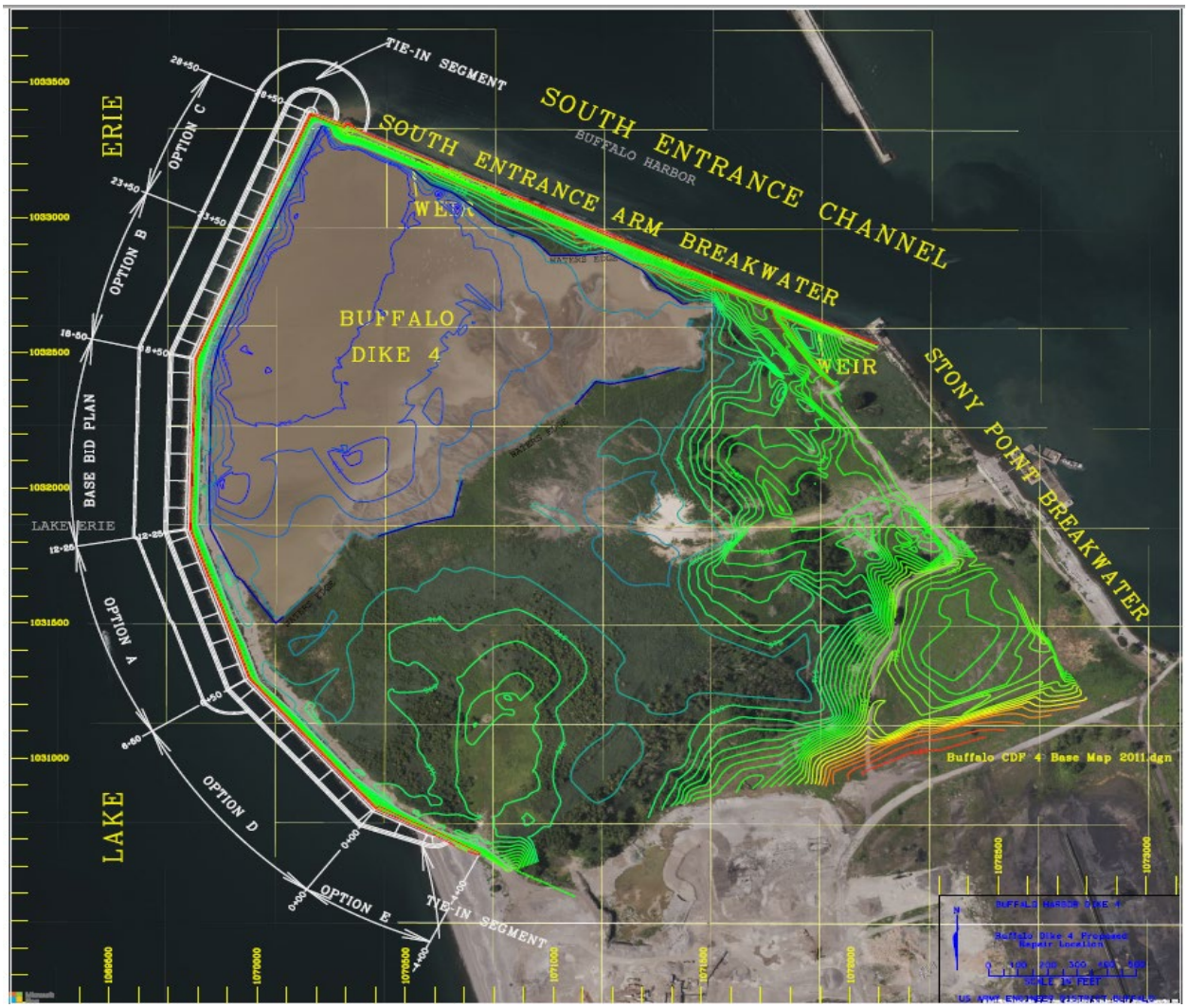

Figure 3: Buffalo CDF #4 repair legs.

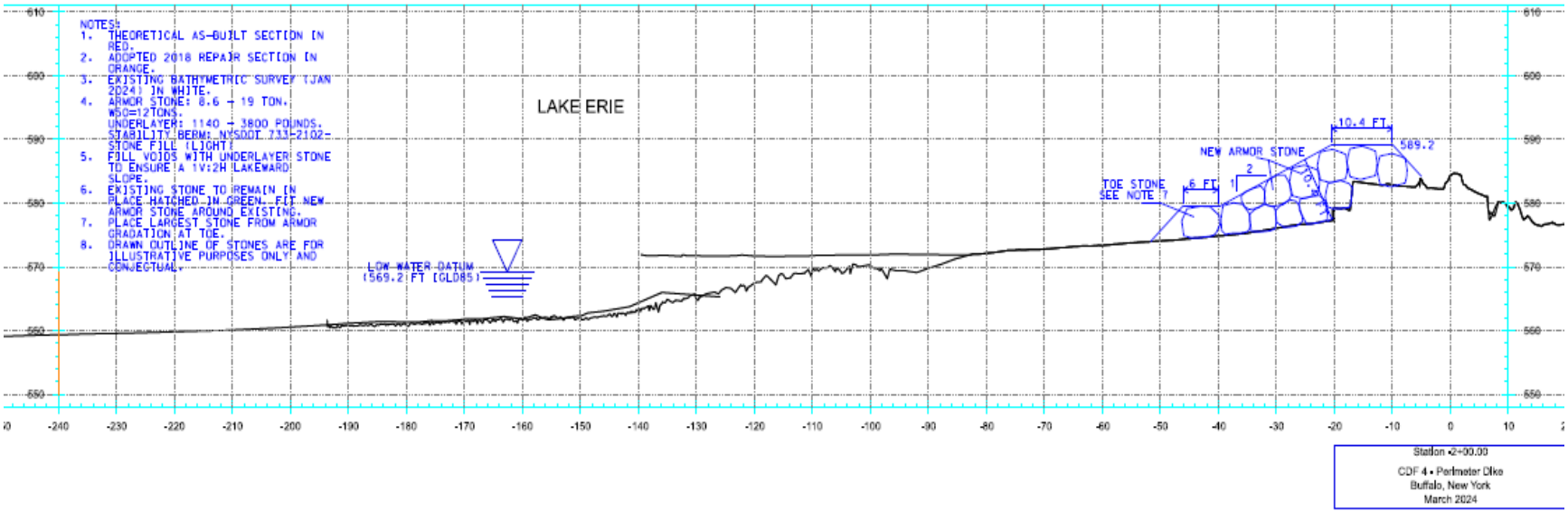

Figure 4: Plan view cross-section Station -2+00.

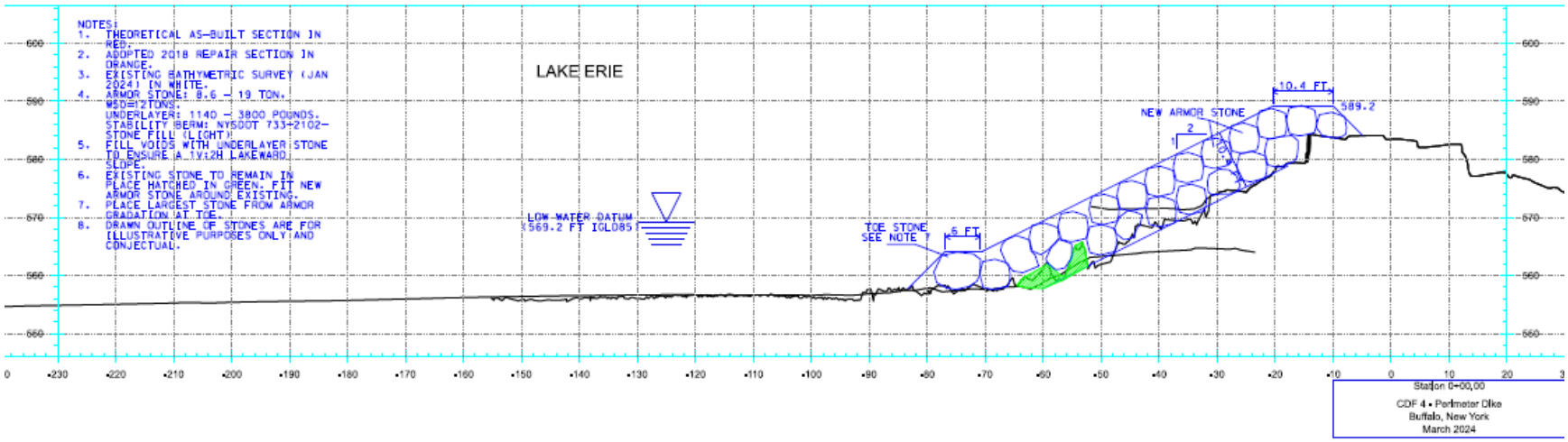

Figure 5: Plan view cross-section Station 0+00.

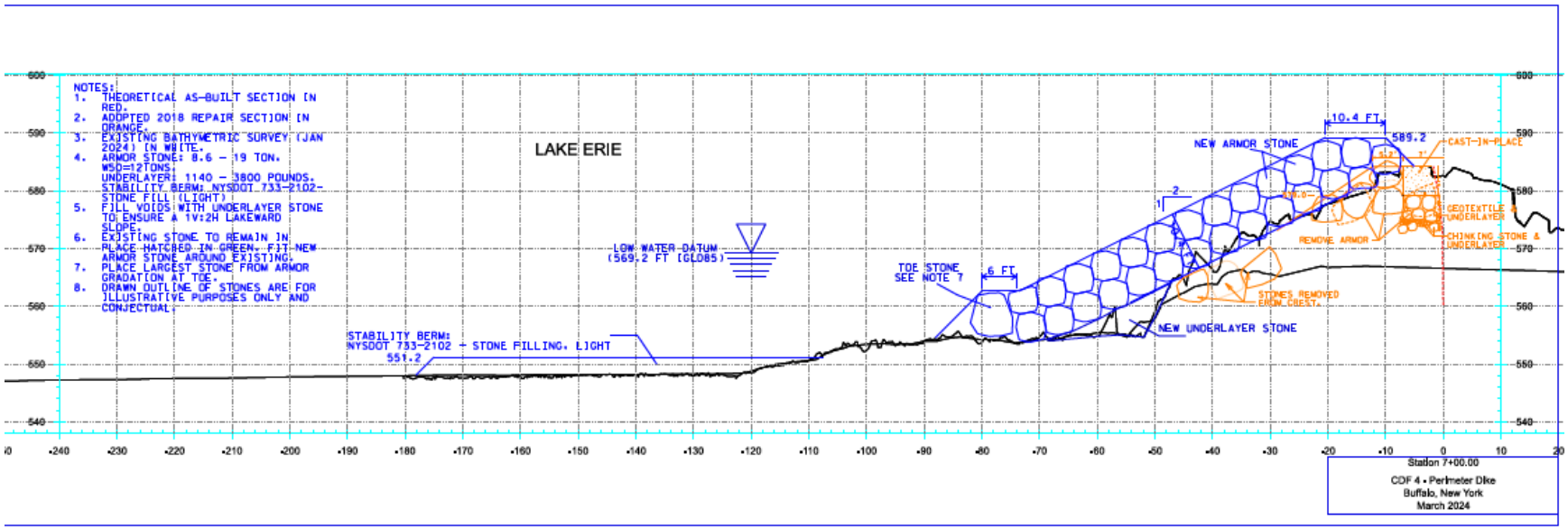

Figure 6: Plan view cross-section Station 7+00.

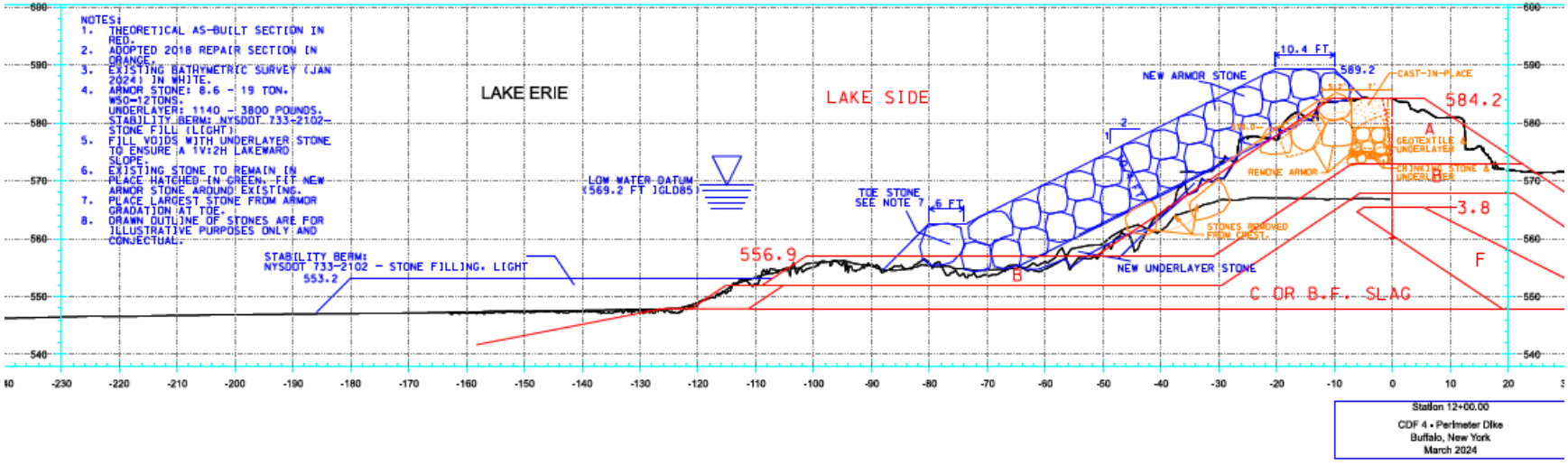

Figure 7: Plan view cross-section Station 12+00.

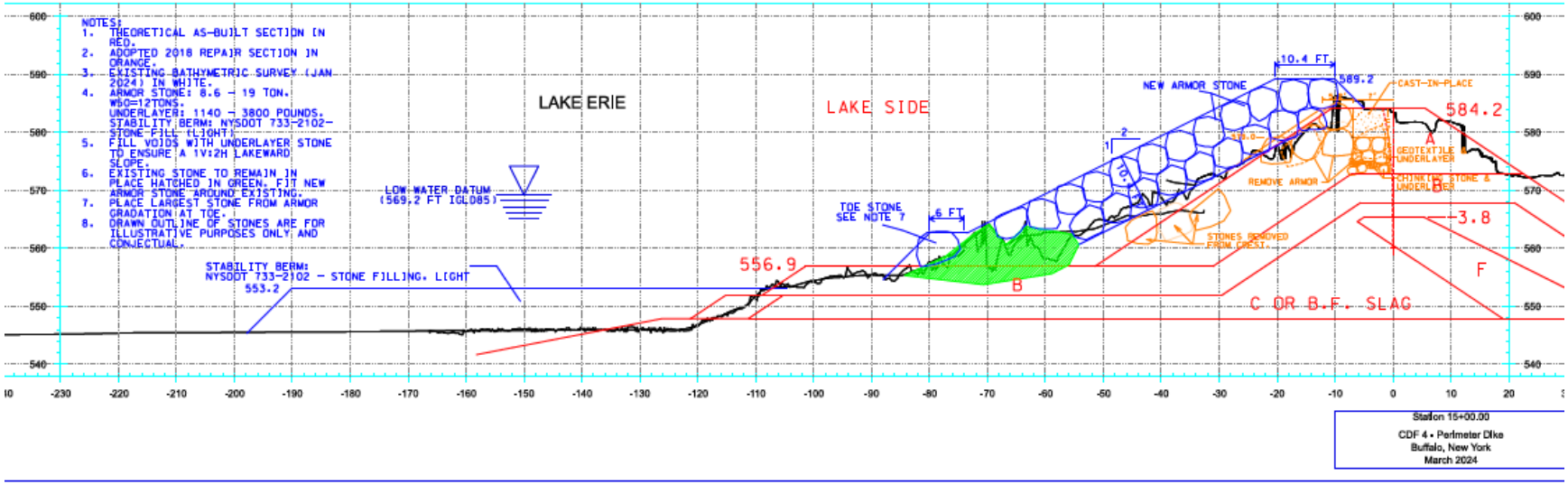

Figure 8: Plan view cross-section Station 15+00.

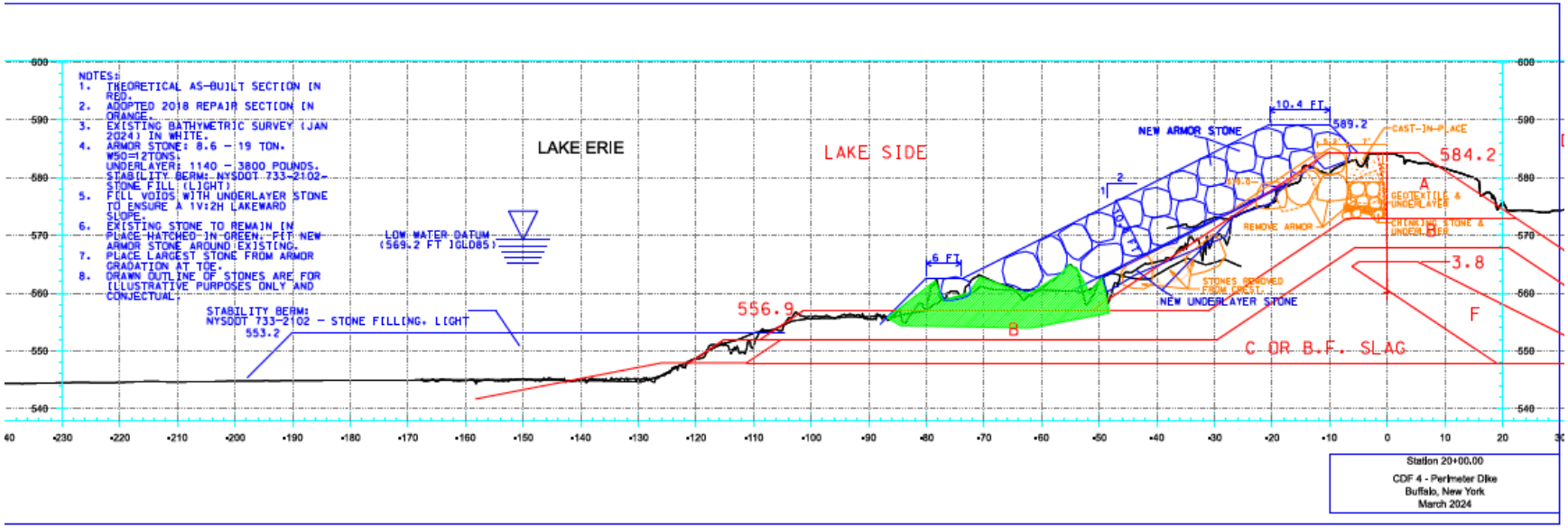

Figure 9: Plan view cross-section Station 20+00.

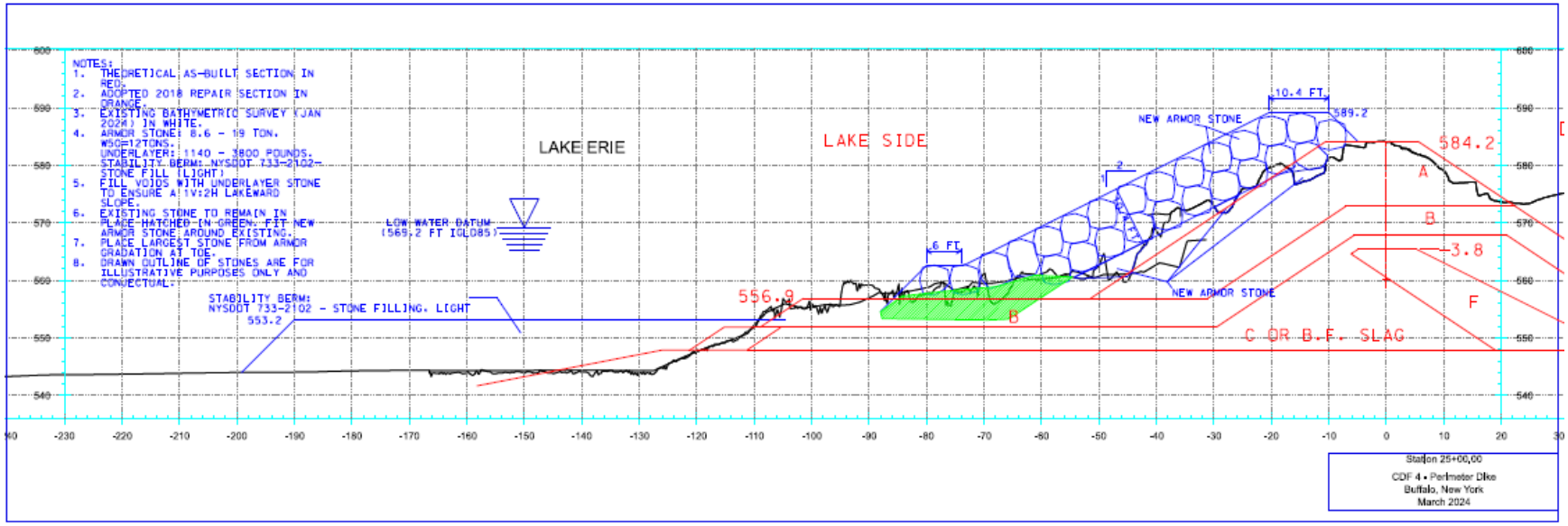

Figure 10: Plan view cross-section Station 25+00.

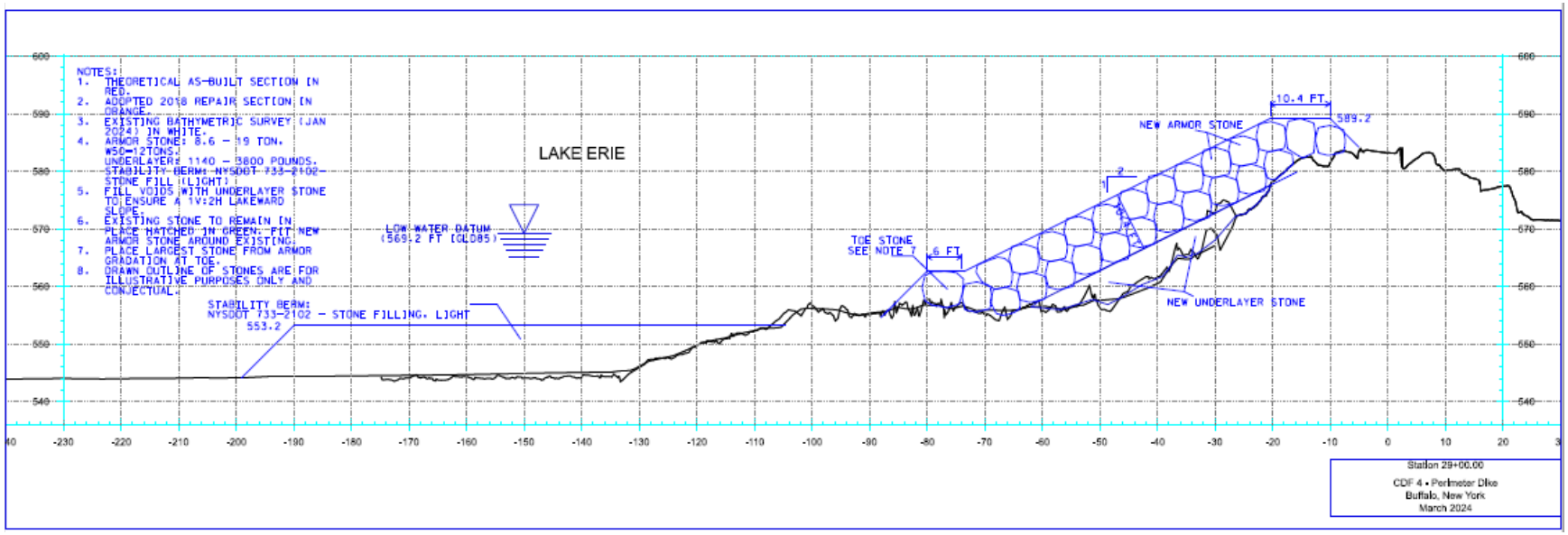

Figure 11: Plan view cross-section Station 29+00.