

**U.S. ARMY CORPS OF ENGINEERS
APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
33 CFR 325. The proponent agency is CECW-CO-R.**

OMB APPROVAL NO. 0710-0003
EXPIRES: 28 FEBRUARY 2013

Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

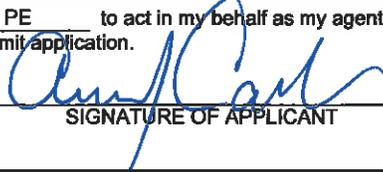
1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME First - Anthony Middle - J. Last - Carson, Jr. Company - City Manager, City of Painesville E-mail Address - acarson@painesville.com	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - Carl Middle - M. Last - Seifried Company - Burgess & Niple, Inc. E-mail Address - carl.seifried@burgessniple.com
6. APPLICANT'S ADDRESS: Address- 7 Richmond Street City - Painesville State - OH Zip - 44077 Country - USA	9. AGENT'S ADDRESS: Address- 100 West Erie Street City - Painesville State - OH Zip - 44077 Country - USA
7. APPLICANT'S PHONE NOs. w/AREA CODE a. Residence b. Business c. Fax 440-392-5880	10. AGENTS PHONE NOs. w/AREA CODE a. Residence b. Business c. Fax 440-354-9700 x 3123

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Carl M. Seifried, PE to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.


SIGNATURE OF APPLICANT

12-31-14
DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions) City of Painesville New Raw Water Intake	
13. NAME OF WATERBODY, IF KNOWN (if applicable) Lake Erie	14. PROJECT STREET ADDRESS (if applicable) Address 9565 Headlands Road
15. LOCATION OF PROJECT Latitude: °N 41o 45' 11.77" Longitude: °W 81o 17' 43.58"	City - Mentor State- OH Zip- 44060
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID 16D1190000070 Municipality Mentor Section - Township - Range -	

17. DIRECTIONS TO THE SITE

From Buffalo, NY, take I-90 West approximately 160 miles to Ohio State Route (SR) 44 (Exit 200). Turn right (north) onto SR 44 and proceed north on SR 44 approximately 4 miles to Ohio SR 2. Bear left (west) onto SR 2/44 West toward Grand River. Exit right to follow SR 44 at Heisley Road. Turn right (north) onto Heisley Road (SR 44). Follow Heisley Road (SR44) approximately 2.5 miles to Headlands Road at the entrance to Headlands Beach State Park. Turn left on Headlands Road, go about 0.5 mile and arrive at the Painesville Water Treatment Plant (9565 Headlands Road, Mentor, OH 44060).

18. Nature of Activity (Description of project, include all features)

The City of Painesville is proposing to construct a new raw water intake in Lake Erie. The intake structure will extend approximately 4,000 ft. offshore into the lake. The intake structure will consist of joined segments of 36-inch prestressed concrete cylinder pipe (PCCP) with a timber intake crib structure at the offshore end. The intake structure will terminate underground at the raw water pump station at the Painesville Water Treatment plant (WTP) at the onshore end. All finished elements of the structure will be submerged or buried. The first approximately 2,300 ft. of the intake piping are proposed to be installed using micro tunneling in order to avoid disturbing beach and dune environments, and to avoid potential construction difficulties in turbulent nearshore zones. The new intake structure will be capable of delivering up to 10 million gallons per day (MGD) of raw water to the WTP and the citizens of Painesville, Grand River, and portions of Painesville and Concord Townships. (See also Project Narrative in Attachment 1).

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The new intake structure will parallel an existing 36-inch intake structure that was constructed in 1957. The existing intake pipe was originally designed to extend 3,600 feet (ft) offshore, but due to age and damage over time, it is effectively now supplying water from only 1,200 ft. offshore. An older, 24-inch intake structure dating from 1913, and also extending approximately 1,200 ft offshore, is currently serving as a standby intake source. Together, these two existing intake structures are only capable of delivering up to 7.5 MGD. The new intake structure is needed to replace the aging and deteriorated existing structures, and in order to enable the City to respond to anticipated future water demands. The new intake structure will be less subject to nearshore currents and wave action, and will result in significantly improved incoming raw water quality. The proposed new intake location will also be less vulnerable to harmful algae blooms, which tend to be concentrated in nearshore zones. Once the new intake structure is completed and brought on line, the existing 36-inch intake will be placed on standby status, and the older 24- inch structure will be abandoned and removed from service.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

Permanent Discharges:

- 1. Riser pipes and intake crib rock ballast and rock armor protection

Temporary Discharges:

- 1. Intake pipe installation (open trench portion)
- 2. Temporarily sidecast sand and clay
- 3. Temporary cofferdam at micro tunnel retrieval pit (See also Project Narrative in Attachment 1)

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type	Type	Type
Amount in Cubic Yards	Amount in Cubic Yards	Amount in Cubic Yards

(See Table 2 in Project Narrative Att.1)

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres (See Table 2 in Project Narrative, Attachment 1)

or

Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

The first approximately 2,300 ft of the intake structure (from WTP to beyond nearshore zone) will be installed using micro tunneling to avoid impacts to beach and dune environments, and to minimize turbidity impacts in turbulent nearshore zones. Turbidity curtains will also be used on either side of open trench excavation. A mussel habitat survey completed in August 2014 indicates no native mussel populations or suitable habitat exist in the project area. All finished elements of the project will be buried (pipe segments/backfill) or submerged (intake crib/risers). (See also Project Narrative in Attachment 1).

24. Is Any Portion of the Work Already Complete? Yes No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- 9601 Headlands Road (State of Ohio Headlands Beach State Park)

City - Mentor State - OH Zip - 44060

b. Address- No assigned address (Lake Road Mentor Company c/o Robert A. Irwin)

City - State - Zip -

c. Address- 9455 Headlands Road (Irvin, Constance Pelton)

City - Mentor State - OH Zip - 44060

d. Address-

City - State - Zip -

e. Address-

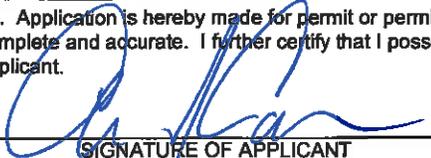
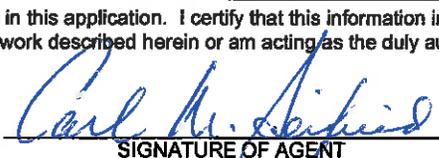
City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
Ohio EPA/DDAGW	Plan Approval	Not assigned	Pending	Pending	NA

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT DATE 12-31-14 SIGNATURE OF AGENT DATE 12-31-14

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

ATTACHMENT 1
Project Narrative

ATTACHMENT 1

CITY OF PAINESVILLE NEW RAW WATER INTAKE NATIONWIDE PERMIT NO. 12 (UTILITY LINE ACTIVITIES) PRECONSTRUCTION NOTIFICATION PROJECT NARRATIVE

1.0 PROJECT DESCRIPTION

1.1 General

The City of Painesville is proposing to construct a new raw water intake in Lake Erie. The intake structure will extend approximately 500 linear feet (lf) onshore, and 4,000 lf offshore into the lake for a total length of approximately 4,500 lf. The new intake structure will be capable of delivering up to 10 million gallons per day (MGD) of raw water to the Painesville Water Treatment Plant (WTP), located at 9565 Headlands Road, Mentor OH 44060. The Painesville WTP serves the City of Painesville, Grand River, and portions of Painesville and Concord Townships.

The new intake structure will parallel an existing 36-inch intake structure that was constructed in 1957. This existing intake structure was originally designed to extend approximately 3,600 ft. offshore, but due to age and damage over time, it is effectively now supplying water from only 1,200 ft. offshore. An older, 24-inch intake structure dating from 1913, also extends approximately 1,200 ft offshore, but has been rendered effectively unusable by sand deposition and zebra mussel colonization.

A site location map is provided in **Attachment 2**.

Photographs depicting existing conditions in the project area are provided in **Attachment 3**.

Proposed project plan sheets are provided in **Attachment 4**.

1.2 Project Purpose

The new intake structure is needed to replace the aging and deteriorated existing intake structures, and enable the City of Painesville to respond to anticipated future water demands. The new intake structure will be less subject to nearshore currents, wave action, and sand intrusion, and will result in significantly improved incoming raw water quality. This will in turn reduce chemical usage, filter runs, and filter backwashing at the WTP. The proposed new intake location will also be less vulnerable to harmful algae blooms, which tend to be concentrated in the shallower nearshore zones. Once the new intake structure is completed

and brought on line, the existing 36-inch intake will be placed on standby status, and the older 24-inch structure will be permanently removed from service.

1.3 Preferred Alternative

The new intake structure will consist of joined segments of 36-inch prestressed concrete cylinder pipe (PCCP) with a timber intake crib structure at the offshore end. All finished elements of the structure will be submerged or buried. The top of the intake crib (550.50 ft. IGLD85) will be submerged approximately 21 ft. below the historic mean lake water level of 571.33 ft. IGLD85, and approximately 18 ft. below the historic minimum water level of 568.18 ft. IGLD85. The intake crib will not pose a hazard to navigation, and will not require installation of marker buoys or other warning devices. Marker buoys will be placed at the first two offshore riser pipes on the new water intake, and at the riser pipe now serving as an intake for the existing 36-inch intake, as these elements are expected to be submerged at depths < 15 ft. below the historic minimum water level of 568.18. All other elements will be buried or submerged at depths > 15 ft. below historic low water levels. The onshore terminus of the new intake pipe will be underground at the raw water pump station at the Painesville WTP.

The first approximately 2,300 ft. of the intake piping (from the WTP to STA 22+86) is proposed to be installed using micro tunneling. Directional drilling was ruled out as an installation method due to operating pressures and the lack of sufficient resistant soil cover to prevent potential “blowouts”. Micro tunneling of the initial pipe segments is a feasible installation method, and will entirely avoid disturbance of sensitive beach and dune environments, minimize turbidity impacts from the project, and avoid potential construction difficulties in the turbulent nearshore zone. A temporary cofferdam will need to be constructed at the lakeward end of the micro tunneled portion of the project (STA 22+86) to allow for exit and retrieval of micro tunneling equipment. The cofferdam will be constructed of concrete caissons, sheet piling, and limestone backfill. The concrete caissons will remain in place, but will be buried approximately 12 ft. below the existing lake bottom. Limestone backfill will be reused in project construction. Sheet piling will be removed from the project area via barge.

The remaining offshore portions of the pipe that cannot feasibly be installed using micro tunneling are proposed to be completed using open trench excavation from a barge mounted dredge. Sand cover will be temporarily laid back to a suitable angle of repose to expose the clay lake bottom along the proposed pipe alignment. Material sidelaying will be limited to a maximum width of 100 ft. on either side of the proposed project centerline and confined within turbidity curtains. Proposed average trench width is 20 ft. to allow for placement of the pipe and manual fastening of pipe segments by divers. Limestone backfill will be placed beneath and on top of the pipe. Sidecast clay will be used to cap the excavation and seal the pipe from sand intrusion. Excess clay and sidecast sand cover will then be distributed back over the work area to approximate preconstruction contours.

The new intake crib will be seated on a heavy rock backfill under the crib to prevent undermining of sand beneath the new structure. The new intake structure will be equipped

with feedlines for potassium permanganate to discourage colonization by zebra mussels. Crib timbers will also be sheathed in copper to discourage zebra mussel colonization. Compressed air and electric feeds will also be incorporated into the structure to prevent ice buildup. Large rock will also be placed in and around the crib structure to protect the crib from wave action.

1.4 Construction Schedule

Construction of the proposed new intake will require a total of two construction seasons to complete. Proposed construction periods are May 2016 through October 2016, and May 2017 through October 2017.

2.0 AFFECTED AQUATIC RESOURCES

The proposed project will extend approximately 4,000 feet (ft) offshore into Lake Erie. No wetlands or indicators of wetland conditions were identified in the project area. No streams, ponds, ditches or other surface waters resources were identified in the project area.

Information regarding affected aquatic resources is summarized in **Table 1** below. Additional resource information is provided in **Attachment 5**.

Table 1
Affected Aquatic Resources Summary
Painesville New Raw Water Intake

Resource Name	Resource Classification	Regulatory Classification	Use Designation(s)	Ordinary High Water Mark (OHWM)
Lake Erie	Lacustrine/Limnetic/ Unconsolidated Bottom	Traditionally Navigable Water (TNW)	Exceptional Warmwater Habitat (EWH) Superior High Quality Water (SHQW) Public Water Supply (PWS) Industrial Water Supply (IWS) Bathing Waters (BW)	573.4 ft amsl *

* As established by USACE based on International Great Lakes Datum (IGLD) 1985.

3.0 JURISDICTIONAL IMPACTS

Anticipated Section 404 jurisdictional fill impacts associated with the project are summarized in **Table 2** on the following page.

Table 2
Jurisdictional Impacts
Painesville New Raw Water Intake

Impact Description	Estimated Length in "Waters of the U.S." (LF)	Estimated Surface Area in "Waters of the U.S." (AC/SF)	Discharge Type	Material(s)	Estimated Volume Below OHWM (CY)
PERMANENT IMPACTS					
Intake Crib and Rock Armoring (71 ft. L x 85 ft. W)	71	0.14/6,035	Permanent	<ul style="list-style-type: none"> • Ballast Rock • Rock Armoring 	303 601
Four 48" Diam. Risers with Plugs, Extending 2 Ft. Above Lake Bottom)	16	0.0001/50	Permanent	<ul style="list-style-type: none"> • PCCP Pipe 	8
TOTALS - PERMANENT IMPACTS	87	0.14/6,085			912
TEMPORARY IMPACTS					
Open Trench Intake Pipe Installation (STA. 23+01 to STA. 45+50.5)	2,249.5	1.05/45,766	Temporary	<ul style="list-style-type: none"> • PCCP Pipe • Limestone Backfill 	1,046 9,673
Cofferdam Installation at Micro Tunnel Equipment Retrieval Pit (33' Outside Diam., Center STA 22+86)	33	0.02/855	Temporary	<ul style="list-style-type: none"> • Limestone Backfill • Concrete Caissons 	142 167
Material Sidecasting (S. Edge of Cofferdam STA. 22+71 to End STA. 45+50.5) 100 ft. Each Side of Pipe Trench Centerline w/in Silt Curtains Used for Containment.	**2,279.5	**10.5/455,900	Temporary	<ul style="list-style-type: none"> • Sand • Clay 	34,990 7,055
TOTALS - TEMPORARY IMPACTS	2,279.5	10.5/455,900			53,073

** These impacts will occur in the same area as intake pipe installation (i.e. they are overlapping impacts, not additional). Greatest temporary impact dimensions are reflected in totals. Temporarily sidecast materials will be returned to the project area and leveled to approximate preconstruction contours following pipe installation.

4.0 IMPACTS TO THREATENED AND ENDANGERED SPECIES

4.1 General

Early coordination requests were sent to the U.S. Fish & Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) soliciting any information or comments they may have regarding potential adverse impacts to rare, threatened or endangered species that may result from the project. Responses have been received from both agencies, and are summarized below. Copies of early coordination correspondence are provided in **Attachment 6**.

4.2 Federally Protected Species

A total of seven (7) federally protected species are listed for Lake County, Ohio. USFWS comments regarding the potential of the proposed project to adversely impact each of these species are summarized below.

Piping Plover (*Charadrius melodus*), Endangered – Designated Critical Habitat for this species exists along the beachfront at Headlands Dunes State Nature Preserve. The Preserve is located at the east end of Headlands Beach State Park, approximately 0.5 mile from the WTP. USFWS has also documented sightings of this species in beachfront areas within Headlands Beach State Park. A map showing these locations is provided in **Attachment 6**.

This species no longer breeds in Ohio. However, USFWS indicated the project area includes beach habitat that may be suitable as migration stopover habitat for this species. USFWS recommended these areas not be disturbed during anticipated spring and fall stopover periods, specifically between April 1 –May 31, and July 15 – October 31 each year.

To avoid potential adverse impacts to this species and others that may be present in sensitive beach and dune zones, the City of Painesville is proposing to install the first 2,300 ft. of the intake structure (WTP to STA 22+86) using micro tunneling. This will entirely avoid impacts to beach and dune zones within the project area, and complies with USFWS's recommended impact minimization measures for this species.

Rufa Red Knot (*Calidris canutus rufa*), Proposed Threatened – USFWS indicated potentially suitable migratory stopover habitat for this species also exists in beach zones within the proposed project area. USFWS indicated this species may stop over on a transient basis between April 1 and October 31 each year. USFWS recommended impacts to the sand beach zone in the project area be avoided during this period. Proposed installation of the first 2,300 ft. of the intake structure as described above will also avoid potential adverse impacts to this species.

Bald Eagle (*Haliaeetus leucocephalus*), Species of Concern – Although this species is no longer listed as federally threatened or endangered, Bald Eagles and their nests continue to be federally protected from disturbance under the Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act. A documented Bald Eagle nest location exists in Headland Dunes State Nature Preserve, approximately 0.3 mile east of the project area. No work is proposed within the 660 ft. restricted activity zone recommended by current National Bald Eagle Management Guidelines (NBEMG) for established nests. No potential eagle nesting or roosting trees are proposed to be cleared for the project. Therefore, USFWS does not expect any adverse impacts to this species, and no further coordination is required.

Kirtland's Warbler (*Setophaga kirtlandii*), Endangered - No suitable habitat (scrub/shrub and forested habitats) for this species will be affected by the project. USFWS expects no adverse impacts to this species.

Indiana bat (*Myotis sodalis*), Endangered – No suitable habitat for this species (caves, mines, forested corridors, dead snags, live trees with dead/dying branches, cavities, peeling bark) will be affected by the project. USFWS expects no adverse impacts to this species.

Northern long-eared bat (*Myotis septentrionalis*) Proposed Endangered – Habitat requirements for this species are similar to those of Indiana bat; therefore, USFWS expects no adverse impacts to this species.

Snuffbox mussel (*Epioblasma triquetra*), Endangered – This species generally inhabits swift current zones of smaller freshwater streams, but has been documented in Lake Erie and larger Ohio rivers. A Mussel Habitat Survey was conducted in the proposed project area by EnviroScience in August 2014. The survey did not find any evidence of native freshwater mussels or suitable habitat for them. USFWS concurred the project is not expected to result in adverse impacts to this species. A copy of the Mussel Habitat Survey report is included in **Attachment 6**.

Interjurisdictional Fisheries – USFWS recommended no in-water work occur in the lake between April 15 and June 30 to prevent adverse impacts to spawning fish species. These restrictions are also applied by ODNR to in-water activities in Lake Erie as a Regional Condition for Ohio Nationwide Permits.

The City is requesting a waiver from these in-water work restrictions, in order to be able to work under the more favorable conditions prevailing in the lake during May and June. The waiver request is further discussed in **Section 11.1** below.

4.3 State Listed Species and Natural Heritage Features

ODNR Division of Wildlife reported no documented occurrences of state listed species or significant natural heritage features within the proposed project area. The project area is located within one (1) mile of both Headlands Dunes State Nature Preserve and Mentor Marsh State

Nature Preserve. Therefore, ODNR reported several records of state listed species/features located within a one (1) mile search radius of the proposed project, including:

- Beach Dune Plant Community – Headlands Dunes State Nature Preserve
- Bald Eagle Nest – Headlands Dunes State Nature Preserve
- Baltic Rush (*Juncus balticus*) occurrence – Headlands Beach State Park
- Spotted Coral Root (*Corallorhiza maculata*) occurrence – Mentor Marsh State Nature Preserve
- American Reed Grass (*Phragmites australis ssp. americanus*) – Mentor Marsh State Nature Preserve

The proposed project will not affect any of these documented species or features. As discussed above, the first approximately 2,300 ft. of the proposed intake pipe will be installed using micro tunneling. Therefore, impacts to beach and dune habitats within the project area will be entirely avoided.

The documented Bald Eagle nest location is approximately 0.3 mile east of the proposed project area. This distance is well outside the recommended 660-ft radius restricted activity zone established by current NBEMG. Therefore, this feature will not be affected by the project.

5.0 IMPACTS TO HISTORIC PROPERTIES

A completed Section 106 Project Summary Form was submitted to the Ohio Historic Preservation Office (OHPO) in October 2014 for review in accordance with Section 106 of the National Historic Preservation Act (NHPA). OHPO replied in a letter dated December 19, 2014 that it does not expect the proposed project to result in adverse impacts to historic properties.

Copies of the Section 106 Project Summary Form and OHPO “no effect” determination letter are included in **Attachment 7**.

6.0 WATER QUALITY IMPACTS

The proposed project will not result in permanent adverse impacts to water quality or aquatic life, and will significantly enhance incoming water quality to the Painesville WTP. The project will result in temporary turbidity impacts associated with temporary sidelaying of sand overburden, pipe trench excavation, and backfilling activities. These temporary impacts are not expected to adversely affect local aquatic communities or high quality aquatic habitats. A Mussel Habitat Survey completed by EnviroScience, Inc. in August 2014 found no evidence of native mussels or suitable habitat for them in the proposed project area (See **Attachment 6**). Temporary turbidity impacts will be mitigated through the use of turbidity curtains. Turbidity curtains will be installed at the outer limits of the work zone to minimize dispersion of temporarily sidecast sands, silts and clays.

Sediments in the project area consist primarily of sand, with native silts and clays beneath. The project area is not located in an identified Area of Concern (AOC) for sediment contamination, and there are no known or potential sources of contaminated sediments in the project area. Sediments from periodic navigation dredging in nearby Fairport Harbor consist primarily of sand, and are eligible for open lake disposal.

7.0 FLOODPLAIN IMPACTS

The Painesville WTP is not located within a designated 100-year floodplain zone. Offshore portions of the project will extend into the 100-year floodplain zone mapped in the nearshore zone of Lake Erie. Finished elements of the project will all be submerged or buried, and will not impact flood elevations. A copy of the Flood Insurance Rate Map (FIRM) excerpt covering the proposed project area is included in **Attachment 8**.

8.0 COASTAL ZONE MANAGEMENT ACT (CZMA) CONSISTENCY

The proposed project is consistent with enforceable policies of the Ohio Coastal Zone Management Program (OCMP), as administered by ODNR. The City has applied for a Submerged Land Lease to encompass the permanent footprint of the new raw water intake, as well as the footprints of the two existing water intakes. A Shoreline Structure Permit is not required, as there will be no permanent aboveground or above water components to the project. A completed and signed OCMP Consistency Certification Statement is included as **Attachment 9**.

9.0 RIVERS AND HARBORS ACT SECTION 10 IMPACTS (NAVIGATION)

A review of lake water levels reported from the period 1918-2012, together with current 2012 values, is presented in **Table 3** below. Using historical mean, maximum, and minimum lake level values, submergence values for the top of the new intake crib screens (elev. 550.50 IGLD85) have been calculated.

Table 3
Lake Erie Historic Water Levels (Based on IGLD85 Standard)
Painesville New Raw Water Intake

	2012 IGLD85 (ft)	Historical Data 1918-2012 IGLD85 (ft)	Top of Proposed Intake Crib IGLD85 (ft)	Submergence of Intake Crib (ft)
Mean	571.50	571.33	550.50	20.83
Max	572.15	574.28	550.50	23.78
Min	571.00	568.18	550.50	17.68

The top of the new intake crib screens (550.50 IGLD85) will be submerged approximately 21 ft. below the historic mean water level elevation of 571.33 IGLD85, and approximately 18 ft. below the historic low water level of 568.18. This exceeds the recommended safe submergence depth of 15 ft. for clearance in non-commercial shipping lanes for Lake Erie. Therefore, the intake crib will not pose a potential hazard to navigation or boaters, and no marker buoy is required or proposed for the intake crib.

The first two offshore riser pipes on the new intake pipe (STA 14+86 and STA 22+86), will require marker buoys, as their tops will be submerged at depths < 15 ft. below the historic low water level of 568.18 IGLD85. A new marker buoy will also be placed at the riser now serving as an intake at the end of the functional portion of the existing 36 inch intake pipe. This intake will continue to serve as a backup intake source. The intake crib at the end of the older 24-inch intake will be demolished, and the old pipe plugged and abandoned.

10.0 MITIGATION

The City is employing a number of measures to avoid and minimize potential adverse impacts from the project. The first approximately 2,300 ft. of the project will be installed using micro tunneling, thereby entirely avoiding disturbance of sensitive beach and dune zones, as well as the nearshore zone of the lake. This will also avoid disturbance of beach dune vegetation and potential beach stopover habitat for migratory birds, and potential disturbance of undocumented archaeological sites.

Permanent jurisdictional project impacts resulting in “loss of waters of the U.S.” are limited to fill impacts associated with four (4) intermediate riser pipes, and installation of the intake crib at the lakeward terminus of the intake pipe. All other project elements will remain buried in the lake bed and recovered with temporarily sidecast sand cover. Total estimated extent of these permanent impacts is 0.14 acre (6,085 sf).

Bedding and backfill fills associated with open trench installation of the intake pipe will remain buried beneath the existing lake bottom. Temporarily sidecast sand cover and excavated clay will be redistributed over completed portions of the trench, and restored to approximate preconstruction contours. These impacts will not result in changes to the character of the lake bottom, bottom contours, substrates, habitat values, drift patterns, or other conditions in the project area following installation of the pipe. Therefore, these impacts are temporary, and will not result in “loss of waters of the U.S.” Other temporary impacts include construction of a temporary cofferdam at the lakeward end of the micro tunneled portion of the project (STA 22+86). With the exception of the concrete caissons forming the foundation of the temporary cofferdam, all cofferdam construction materials will either be reused in the project, or removed from the site. The concrete caissons will remain buried approximately 12 ft. below the existing lake bottom, and, like the buried intake pipe elements, will not result in changes to the contours or character of the lake or lake bottom.

No significant permanent adverse impacts to water quality, aquatic life or habitats, endangered species, historic properties, or human populations are anticipated as a result of the project. Total estimated “loss of waters of the U.S.” is limited to 0.14 acre. Therefore, no compensatory mitigation measures are necessary or proposed for the project. The project will result in beneficial impacts to the citizens of Painesville and other water supply recipients drawing source water from the Painesville WTP.

11.0 WAIVER REQUESTS

11.1 ODNR In-Water Work Work Dates

Regional Condition (RC) No. 4, applicable to all Ohio Nationwide Permits, imposes date restrictions on in-water work in Ohio waterways to minimize potential impacts to native fish populations during sensitive spawning and migration periods. RC No. 4 would normally prohibit in-water work in Lake Erie (except certain designated bay and harbor areas) between April 15 and June 30 each year.

The City of Painesville is requesting a partial waiver of these restricted dates in order to benefit from the calmer lake conditions which typically prevail in late spring/early summer. This longer work period, and more favorable work conditions, will greatly enhance the prospect of the project being completed within the proposed two-season timeframe (May through October of 2016 and 2017), thus minimizing the overall duration of project impacts.

11.2 Ohio EPA Project Length Limitations

Ohio EPA State Special Certification Condition No. 7 on use of NWP No. 12 requires an Individual Section 401 Water Quality Certification (WQC) for projects exceeding 1,500 lf in “waters of the U.S.”, unless waived under Ohio EPA General Limitation D.5. The proposed water intake project will necessarily exceed 1,500 lf in “waters of the U.S.”, but is not expected to result in adverse impacts to water quality or aquatic life. Therefore; the City is requesting a waiver from this condition in order to be able to complete permit authorization under the Nationwide Permit process. USACE has indicated it will take the lead in coordinating and obtaining a waiver from this limitation.