March 23, 2020

Ohio Power Siting Board
Docketing Division
180 East Broad Street, 11th Floor
Columbus, Ohio 43215-3793
Attn: Grant Zeto

RE: **Case Nos. 17-1152-EL-BGN Hillcrest Solar I, LLC**

Notice of Compliance with Certificate Condition #6 – Before commencement of construction activities in any affected areas, Hillcrest shall obtain and comply with all necessary permits and authorizations. Hillcrest shall provide copies of such permits and authorizations to Staff within seven days prior to the applicable construction activities. Hillcrest shall provide a schedule for construction activities and acquisition of corresponding permits for each activity at the preconstruction conference.

Dear Mr. Zeto

Hillcrest Solar I, LLC ("Hillcrest Solar") is certified to construct a solar-powered electric generation facility in Brown County, Ohio in accordance with the orders issued by the Ohio Power Siting Board ("OPSB") in the above-referenced cases.

Attached please find a copy of the U.S. Army Corps of Engineers (USACE) and Ohio Environmental Protection Agency (OEPA) Nationwide and General Permits regarding compliance with Certificate Condition #6 of the Opinion, Order and Certificate issued on February 15, 2018 in Case No. 17-1152-EL-BGN.

We are available, at your convenience, to answer any questions you may have.

Sincerely,

Julia Mancinelli, Senior Manager - Environment

Attachment: USACE Nationwide Permits & OEPA NPDES General Permit

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January 24, 2020

Kyle Moore
U.S. Army Corps of Engineers
Huntington District / Cincinnati Field Office
10557 McKelvey Road
Cincinnati, OH 45240

Subject: Hillcrest Solar Project
Notification of Self-Certification under 2017 Nationwide 12 and 14 Permit Program

Dear Mr. Moore:

On the behalf of Hillcrest Solar I, LLC, Cardno is submitting this letter of Notification of Self-Certification under the Nationwide Permit (NWP) #12 (Utility Lines) and #14 (Roads) for the Hillcrest Solar Project (Project).

The Project is a proposed 200 megawatt (MW) photovoltaic (PV) solar project within an area of approximately 2,100 acres (Project Area) located near the village of Mt. Orab in Brown County. The Project obtained a Certificate of Environmental Compatibility and Public Need (CECPN) from the Ohio Power Siting Board (OPSB) on February 15, 2018 (OPSB Case Number: 17-1152-EL-BGN) and Order on Certificate on February 21, 2019 (OPSB Case Number 18-1267-EL-BGA). The Project's Storm Water Pollution Prevention Plan was accepted by the Brown County Soil & Water Conservation District and December 27, 2019 and the Ohio Environmental Protection Agency through the issuance of the Notice of Intent approval on January 10, 2020. The Project will include installation and operation of PV solar panels mounted on metal racking, inverters to convert DC to AC, transformers to increase electric voltage, a network of buried cables to collect the power, a collection substation, a buried transmission line, access roads, pyranometers to measure the solar resource, and operations and maintenance (O&M) facility. The Project will require up to 1,877 acre footprint for permanent infrastructure and up to 26 miles of new access roads for construction, operations, and maintenance (Figure 1).

Construction activities are expected to start in January 2020 and continue for 12-14 months until January 2021 to March 2021. Activities will include clearing, grubbing, grading and excavation to install access roads (temporary and permanent), solar array foundations, inverters, transformer, substation, O&M facility and equipment storage areas (temporary laydowns); below ground trenching and/or horizontal directional drilling (e.g. under streams) to install cables to collect the power and a buried transmission line. Most of these activities will occur in tilled agricultural fields, but some wooded, fallow, and grassland areas will be disturbed.

Cardno conducted surface water delineation under the U.S. Army Corps of Engineers (USACE) 1987 Wetlands Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0). The final wetland and waterway report (June 2017) is included with this letter as Appendix A. A follow up delineation was conducted for two additional areas (January 2020) and is included with this letter as Appendix B.

Based on guidance from the USACE (Kyle Moore, Huntington District, Jan 2020), we have assumed all wetlands and waters in the project area to be jurisdictional under USACE rules. As a result, all impacts to wetlands and waters will fall under USACE Nationwide Permit (NWP) 12 (Utility Lines) and NWP 14 (Roads). No wetlands will be considered isolated and no OEPA isolated wetland permits will be applied for.

Based on our wetlands and waterways delineations, permanent impacts to wetlands and waterways will remain below the Preconstruction Notification (PCN) thresholds for NWP 12 and NWP 14 (i.e. 0.10 acres or 300 linear feet) in all cases except one impact associated with the proposed interconnection location. The final design for the interconnection location has not been finalized, but preliminary design estimates that impact will be below 0.50 acres. Once the design is finalized, we will apply for a permit under NWP 12 for these impacts and provide additional details on the impact with the permit application.

All proposed crossings are to wetland and waterways which qualify for Section 401 Water Quality Certification under NWP 12, except for a single crossing to Sterling Run. Sterling Run is a Class III stream under the Primary Headwater Habitat Classification System with a Headwater Habitat Evaluation Index score of 59. The cables to collect power will cross Sterling Run at one location by a horizontal directional drilling (HDD) which will pass under the stream. Because the HDD crossing will avoid impact to the stream, no Section 401 Water Quality Certification beyond the NWP 12 requirement is required. The project will observe the National Pollutant Discharge Elimination System best management practices along all wetland and waterways crossings and will adhere to the approved Storm Water Pollution Prevention Plan.

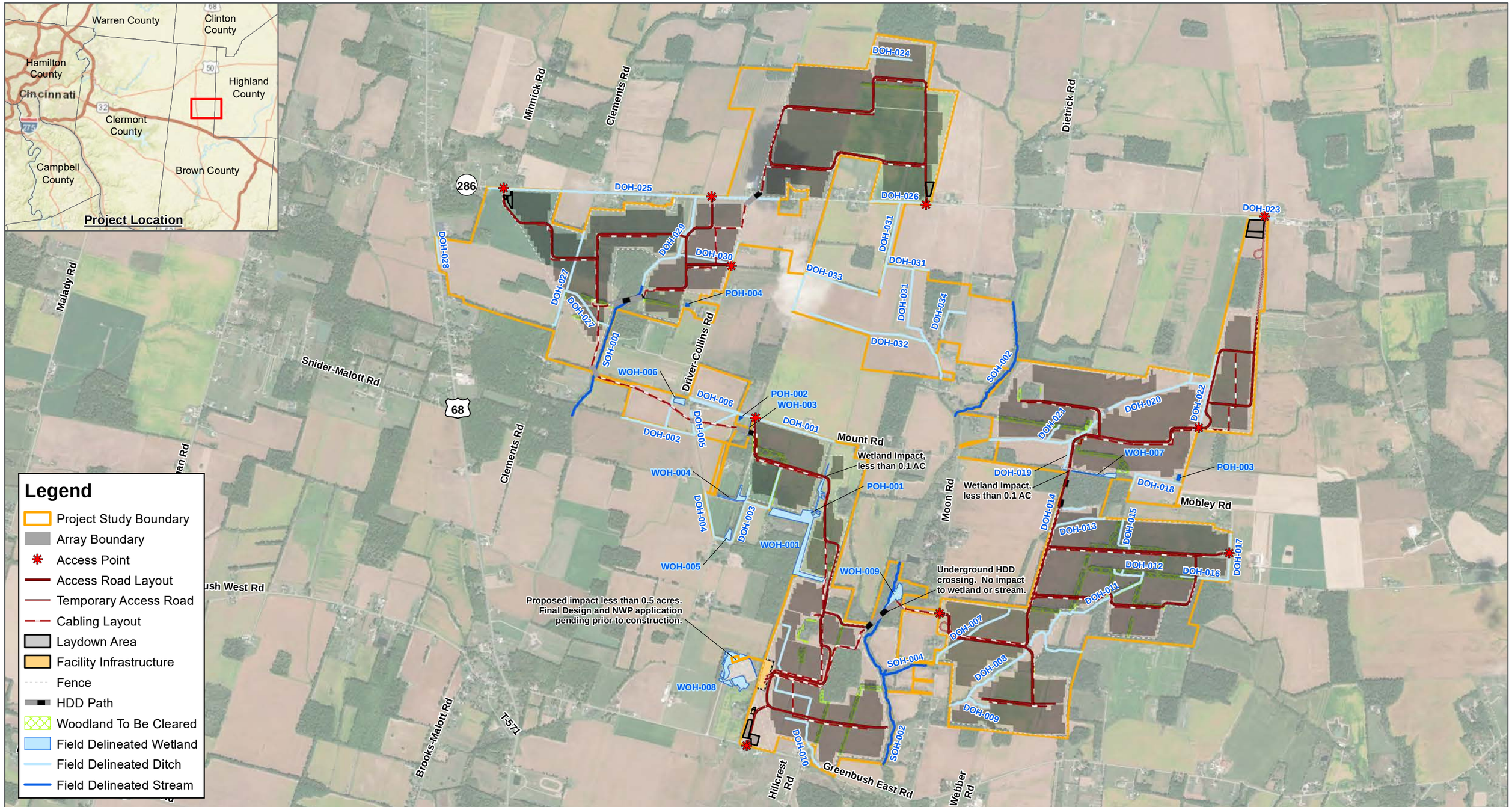
If you have any questions or concerns, you may contact me directly. We greatly appreciate your expedited review of this important project.

Sincerely,

Bruce Moreira
Project Manager
Cardno
Phone: 971-284-3373
Email: bruce.moreira@cardno.com

c.c. Julia Mancinelli, Innergex Renewable Energy Inc.

Encl: Figure 1. USACE PCN Map
Wetland and Waterbody Delineation Report dated June 2017
Regulated Water Delineation Report dated January 17, 2020



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0 1,000 2,000 3,000 4,000 Feet

0 200 400 600 800 1,000 1,200 Meters

Figure 1 - USACE PCN Map

Hillcrest Solar Project
Brown County, Ohio

Cardno

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Date Created: 1/24/2020 Date Revised: 1/24/2020 File Path: S:\GIS\Innergex\Hillcrest_Solar\MXD\Figure 1 - USACE PCN Map.mxd
GIS Analyst: Peter.Marsey

Appendix A : 2017 Wetland Report

Appendix B: 2020 Wetland Report

DECISION DOCUMENT
NATIONWIDE PERMIT 12

This document discusses the factors considered by the Corps of Engineers (Corps) during the issuance process for this Nationwide Permit (NWP). This document contains: (1) the public interest review required by Corps regulations at 33 CFR 320.4(a)(1) and (2); (2) a discussion of the environmental considerations necessary to comply with the National Environmental Policy Act; and (3) the impact analysis specified in Subparts C through F of the 404(b)(1) Guidelines (40 CFR Part 230). This evaluation of the NWP includes a discussion of compliance with applicable laws, consideration of public comments, an alternatives analysis, and a general assessment of individual and cumulative effects, including the general potential effects on each of the public interest factors specified at 33 CFR 320.4(a).

1.0 Text of the Nationwide Permit

Utility Line Activities. Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project.

Utility lines: This NWP authorizes discharges of dredged or fill material into waters of the United States and structures or work in navigable waters for crossings of those waters associated with the construction, maintenance, or repair of utility lines, including outfall and intake structures. There must be no change in pre-construction contours of waters of the United States. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and internet, radio, and television communication. The term "utility line" does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one

single and complete project, does not result in the loss of greater than 1/2-acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for overhead utility line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP authorizes, to the extent that Department of the Army authorization is required, temporary structures, fills, and work necessary for the remediation of inadvertent returns of drilling fluids to waters of the United States through sub-soil fissures or fractures that might occur during horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines. These remediation activities must be done as soon as practicable, to restore the affected waterbody. District engineers may add special conditions to this NWP to require a remediation plan for addressing inadvertent returns of drilling fluids to waters of the United States during horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After construction, temporary fills must be removed in their entirety

and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: Where the utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, a copy of the NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

Note 2: For utility line activities crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Utility line activities must comply with 33 CFR 330.6(d).

Note 3: Utility lines consisting of aerial electric power transmission lines crossing navigable waters of the United States (which are defined at 33 CFR part 329) must comply with the applicable minimum clearances specified in 33 CFR 322.5(i).

Note 4: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, in accordance with the requirements for temporary fills.

Note 5: Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

Note 6: This NWP authorizes utility line maintenance and repair activities that do not qualify for the Clean Water Act section 404(f) exemption for maintenance of currently serviceable fills or fill structures.

Note 7: For overhead utility lines authorized by this NWP, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

Note 8: For NWP 12 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

1.1 Requirements

General conditions of the NWPs are in the Federal Register notice announcing the issuance of this NWP. Pre-construction notification requirements, additional conditions, limitations, and restrictions are in 33 CFR part 330.

1.2 Statutory Authorities

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)
- Section 404 of the Clean Water Act (33 U.S.C. 1344)

1.3 Compliance with Related Laws (33 CFR 320.3)

1.3.1 General

NWPs are a type of general permit designed to authorize certain activities that have no more than minimal individual and cumulative adverse environmental effects and generally comply with the related laws cited in 33 CFR 320.3. Activities that result in more than minimal individual and cumulative adverse environmental effects cannot be authorized by NWPs. Individual review of each activity authorized by an NWP will not normally be performed, except when pre-construction notification to the Corps is required or when an applicant requests verification that an activity complies with an NWP. Potential adverse impacts and compliance with the laws cited in 33 CFR 320.3 are controlled by the terms and conditions of each NWP, regional and case-specific conditions, and the review process that is undertaken prior to the issuance of NWPs.

The evaluation of this NWP, and related documentation, considers compliance with each of the following laws, where applicable: Sections 401, 402, and 404 of the Clean Water Act; Section 307(c) of the Coastal Zone Management Act of 1972, as amended; Section 302 of

the Marine Protection, Research and Sanctuaries Act of 1972, as amended; the National Environmental Policy Act of 1969; the Fish and Wildlife Act of 1956; the Migratory Marine Game-Fish Act; the Fish and Wildlife Coordination Act, the Federal Power Act of 1920, as amended; the National Historic Preservation Act of 1966; the Interstate Land Sales Full Disclosure Act; the Endangered Species Act; the Deepwater Port Act of 1974; the Marine Mammal Protection Act of 1972; Section 7(a) of the Wild and Scenic Rivers Act; the Ocean Thermal Energy Act of 1980; the National Fishing Enhancement Act of 1984; the Magnuson-Stevens Fishery and Conservation and Management Act, the Bald and Golden Eagle Protection Act; and the Migratory Bird Treaty Act. In addition, compliance of the NWP with other Federal requirements, such as Executive Orders and Federal regulations addressing issues such as floodplains, essential fish habitat, and critical resource waters is considered.

1.3.2 Terms and Conditions

Many NWPs have pre-construction notification requirements that trigger case-by-case review of certain activities. Two NWP general conditions require case-by-case review of all activities that may adversely affect Federally-listed endangered or threatened species or historic properties (i.e., general conditions 18 and 20, respectively). General condition 16 restricts the use of NWPs for activities that are located in Federally-designated wild and scenic rivers. None of the NWPs authorize the construction of artificial reefs. General condition 28 prohibits the use of an NWP with other NWPs, except when the acreage loss of waters of the United States does not exceed the highest specified acreage limit of the NWPs used to authorize the single and complete project.

In some cases, activities authorized by an NWP may require other federal, state, or local authorizations. Examples of such cases include, but are not limited to: activities that are in marine sanctuaries or affect marine sanctuaries or marine mammals; the ownership, construction, location, and operation of ocean thermal conversion facilities or deep water ports beyond the territorial seas; activities that result in discharges of dredged or fill material into waters of the United States and require Clean Water Act Section 401 water quality certification; or activities in a state operating under a coastal zone management program approved by the Secretary of Commerce under the Coastal Zone Management Act. In such cases, a provision of the NWPs states that an NWP does not obviate the need to obtain other authorizations required by law. [33 CFR 330.4(b)(2)]

Additional safeguards include provisions that allow the Chief of Engineers, division engineers, and/or district engineers to: assert discretionary authority and require an individual permit for a specific activity; modify NWPs for specific activities by adding special conditions on a case-by-case basis; add conditions on a regional or nationwide basis to certain NWPs; or take action to suspend or revoke an NWP or NWP authorization for activities within a region or state. Regional conditions are imposed to protect important regional concerns and resources. [33 CFR 330.4(e) and 330.5]

1.3.3 Review Process

The analyses in this document and the coordination that was undertaken prior to the issuance of the NWP fulfill the requirements of the National Environmental Policy Act (NEPA), the Fish and Wildlife Coordination Act, and other acts promulgated to protect the quality of the environment.

All NWPs that authorize activities that may result in discharges into waters of the United States require water quality certification. NWPs that authorize activities within, or affecting land or water uses within a state that has a Federally-approved coastal zone management program, must also be certified as consistent with the state's program. The procedures to ensure that the NWPs comply with these laws are described in 33 CFR 330.4(c) and (d), respectively.

1.4 Public Comment and Response

For a summary of the public comments received in response to the June 1, 2016, Federal Register notice, refer to the preamble in the Federal Register notice announcing the reissuance of this NWP. The substantive comments received in response to the June 1, 2016, Federal Register notice were used to improve the NWP by changing NWP terms and limits, pre-construction notification requirements, and/or NWP general conditions, as necessary.

We proposed to clarify that this NWP authorizes discharges of dredged or fill material into waters of the United States and structures or work in navigable waters of the United States for crossings of those waters associated with the construction, maintenance, repair, and removal of utility lines. In addition, we proposed to modify the definition of "utility line" to make it clear that utility lines can also include optic cables and other lines that communicate through the internet. We also proposed to add a paragraph to this NWP to authorize, to the extent that DA authorization is required, discharges of dredged or fill material into waters subject to section 404 of the Clean Water Act and structures and work in waters subject to section 10 of the Rivers and Harbors Act of 1899, necessary to remediate inadvertent returns of drilling fluids that can occur during horizontal directional drilling operations to install utility lines under jurisdictional waters and wetlands. Other proposed changes to NWP 12 are discussed in more detail in the preamble to the June 1, 2016, proposal (see 81 FR 35198 – 35199).

Several commenters expressed their support for the proposed modifications to NWP 12. Some of these commenters agreed with the clarification that, for utility lines authorized by NWP 12, the Corps is only authorizing regulated activities to cross waters of the United States, including navigable waters. Several commenters said that utility lines crossing multiple waterbodies should require individual permits, instead of authorizing each separate and distant crossing by NWP. In contrast, several commenters said they support the use of NWP 12 to authorize separate and distant crossings of waters of the United States. One commenter suggested clarifying that "crossing" only refers to regulated activities, and to not activities such as horizontal directional drilling and aerial crossings of jurisdictional waters. Several commenters said this NWP does not authorize activities that are similar in nature. A

couple of these commenters asserted that this NWP does not authorize activities that are similar in nature because pipelines can carry a variety of types of fluids, some of which are harmful and some of which are benign. Other commenters made the "not similar in nature" objection, stating that pipelines that carry fluids such as oil are different than pipelines that carry water or sewage, which are different than utility lines that carry electricity.

We are retaining the long-standing practice articulated in the NWP regulations at 33 CFR 330.2(i), in which each separate and distant crossings of waters of the United States is authorized by NWP. The utility line activities authorized by NWP 12 are similar in nature because they involve linear pipes, cables, or wires to transport physical substances or electromagnetic energy from a point of origin to a terminal point. For the purposes of this NWP, the term "crossing" refers to regulated activities. However, it should be noted that installing utility lines under a navigable water of the United States subject to section 10 of the Rivers and Harbors Act of 1899 via horizontal directional drilling, as well as aerial crossings of those navigable waters, require authorization under section 10 of the Rivers and Harbors Act of 1899. The substations, tower foundations, roads, and temporary fills that are also authorized by NWP 12 (when those activities require Department of the Army (DA) authorization) are integral to the fulfilling the purpose of utility lines, and thus fall within the "categories of activities that are similar in nature" requirement for general permits stated in section 404(e) of the Clean Water Act.

Many commenters objected to the reissuance of NWP 12, stating that it authorizes oil and gas pipelines that should be subject to the individual permit process instead. Many commenters said that these activities should be subject to a public review process. Many of these commenters cited the risk of oil spills as a reason why oil pipelines should be evaluated under the Corps' individual permit process. Many commenters based their concerns on their views that the Corps is the only federal agency that regulates oil pipelines.

The Corps does not regulate oil and gas pipelines, or other types of pipelines, per se. For utility lines, including oil and gas pipelines, our legal authority is limited to regulating discharges of dredged or fill material into waters of the United States and structures or work in navigable waters of the United States, under section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act of 1899, respectively. We do not have the authority to regulate the operation of oil and gas pipelines, and we do not have the authority to address spills or leaks from oil and gas pipelines. General condition 14, proper maintenance, requires that NWP activities, including NWP 12 activities, be properly maintained to ensure public safety. The proper maintenance required by general condition 14 also ensures compliance with the other NWP general conditions, many of which are designed to protect the environment, as well as any regional conditions imposed by the division engineer and activity-specific conditions imposed by the district engineer. In addition, we do not have the legal authority to regulate the construction, maintenance, or repair of upland segments of pipelines or other types of utility lines. For example, for a recent oil pipeline (e.g., the Flanagan South pipeline), the segments of the oil pipeline that were subject to the Corps' jurisdiction (i.e., the crossings of waters of the United States, including navigable waters of the United States, that were authorized by the 2012 NWP 12) was only 2.3% of the total length of the pipeline; the remaining 97.7% of the oil pipeline was constructed in upland areas outside of the Corps' jurisdiction. Interstate natural gas

pipelines are regulated by the Federal Energy Regulatory Commission. The Federal Energy Regulatory Commission also regulates some electric transmission projects.

There are other federal laws that address the operation of pipelines and spills and leaks of substances from pipelines. Those laws are administered by other federal agencies. Under the Natural Gas Pipeline Safety Act of 1968, the Department of Transportation (DOT) regulates pipeline transportation of natural gas and other gases. The DOT also regulates the transportation and storage of liquefied natural gas. Under the Hazardous Liquid Pipeline Safety Act, the DOT regulates pipeline transportation of hazardous liquids including crude oil, petroleum products, anhydrous ammonia, and carbon dioxide. The DOT administers its pipeline regulations through the Office of Pipeline Safety (OPS), which is in its Pipelines and Hazardous Materials Safety Administration (PHMSA). Specific to oil pipelines, the PHMSA is responsible for reviewing oil spill response plans for onshore oil pipelines.

Oil spills are also addressed through the Oil Pollution Act of 1990, which is administered by the U.S. Environmental Protection Agency and the U.S. Coast Guard. Under the Oil Pollution Act of 1990, EPA is responsible for addressing oil spills occurring in inland waters and the U.S. Coast Guard is responsible for addressing oil spills in coastal waters and deepwater ports. The U.S. EPA has issued regulations governing its oil spill prevention program, and requires oil spill prevention, control, and countermeasures, and facility response plans (see 40 CFR part 300 and 40 CFR part 112). Oil spill prevention, control, and countermeasures are intended to ensure that oil facilities prevent discharges of oil into navigable waters or adjoining shorelines. Their facility response plan regulations require certain facilities to submit response plans to address worst case oil discharges or threats of a discharge. The U.S. Coast Guard has the authority to ensure the effective cleanup of oil spills in coastal waters and require actions that prevent further discharges of oil from the source of the oil spill. Activities regulated under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act that are determined by the U.S. EPA or U.S. Coast Guard to be necessary to respond to discharges or releases of oil or hazardous substances may be authorized by NWP 20.

Many commenters based their objections to the reissuance of NWP 12 on the inability for public involvement to occur during the Corps' NWP verification process for specific pipelines. Many commenters said the Corps' authorization process should be modified to prevent the segmentation of pipelines and that the Corps should fully evaluate the environmental impacts of individual fossil fuel pipelines, including the burning of those fossil fuels. Many commenters cited climate change as a reason why oil and gas pipelines should be evaluated under the individual permit process instead of the Corps using NWP to authorize crossings of waters of the United States.

The purpose of the NWPs, as well as regional general permits, is to provide a streamlined authorization process for activities that result in no more than minimal individual and cumulative adverse environmental effects. When section 404(e) of the Clean Water Act became law in 1977, lawmakers endorsed the general permit concept that was developed by the Corps in its 1975 and 1977 regulations (see 40 FR 31335 and 42 FR 37140, 37145 respectively). For the issuance or reissuance of NWPs and other general permits, the public involvement process occurs during the development of the general permit. If public notices

were required to authorize specific activities after the NWP or other general permit was issued, it would not provide the streamlined process intended by Congress. Individual pipelines may be able to operate independently to transport substances from a point of origin to a terminal point, even though they may be part of a larger network of pipelines. The Corps may authorize these independent pipelines, if all crossings of waters of the United States involving regulated activities qualify for NWP authorization.

The Corps does not have the legal authority to regulate the burning of fossil fuels that are transported by pipelines where the Corps authorized crossings of waters of the United States by NWP 12, other general permits, or individual permits. Therefore, in its environmental documentation the Corps is not required to fully evaluate the burning of fossil fuels, except to respond to specific comments submitted in response to a proposed rule (in the case of these NWPs) or comments submitted in response to a public notice for an individual permit application.

Activities authorized by NWP 12 are currently playing, and will continue to play, and important role in helping the nation achieve goals regarding the increased reliance on clean energy projects to meet the energy needs of its populace, to help reduce emissions of greenhouse gases that contribute to climate change. Clean energy projects include the construction, operation, and maintenance of more efficient and cleaner fossil-fuel energy generation facilities, nuclear power plants, and renewable energy generation projects that use solar and wind energy. Natural gas and electricity transmission and distribution systems will also need to be constructed or upgraded to bring clean energy to consumers.

The utility line activities authorized by NWP 12 will continue to be needed by society, including the goods and services transported by those utility lines. In areas of increasing temperatures, there will be increased demand for air conditioning and the energy needed to run air conditioners. Some areas of the country will receive less precipitation, and their water needs may need to be fulfilled through the construction and operation of utility lines that carry water to those areas that need additional water.

One commenter said that for any oil pipeline that affects aboriginal, historic treaty or reservation lands of an Indian tribe, the terms of NWP 12 should require consultation with all affected tribes and that any permit decision protect the full range of tribal rights under federal law. Two commenters stated that all NWP 12 activities should require pre-construction notification to ensure that consultation occurs with tribes on any utility line that may affect protected tribal resources, tribal rights, or Indian lands. One of these commenters said that general condition 17 in effect delegates the Corps' tribal trust responsibility to project proponents, and that the vast majority of impacts to waters of the United States can occur without notification to the Corps.

Activities authorized by NWP 12 must comply with general condition 17, tribal rights, and general condition 20, historic properties. We have modified general condition 17 to more effectively address the Corps' responsibilities regarding tribal rights (including treaty rights), protected tribal resources, and tribal lands. For the 2017 NWPs, district engineers have been consulting with tribes to identify regional conditions that will facilitate compliance with general conditions 17 and 20. As a result of this consultation, district

engineers can establish coordination procedures to identify utility line activities that require government-to-government consultation to protect tribal trust resources and tribal treaty rights. These consultations will be done in accordance with the Corps' tribal policy principles. Further information on the Corps' tribal policy principles is available at: http://www.usace.army.mil/Missions/Civil-Works/Tribal-Nations/ . In fulfilling its trust responsibilities to tribes, the Corps follows the Department of Defense American Indian and Alaska Native Policy. The Corps' tribal trust responsibilities apply to the activities regulated by the Corps, and do not extend to associated activities that the Corps does not have the authority to regulate, such as activities in upland areas outside of the Corps' legal control and responsibility.

The consultation between Corps districts and tribes that has been conducted for these NWPs can result in additional procedures or regional conditions to protect tribal trust resources. District engineers will work to establish procedures with interested tribes to coordinate on specific NWP 12 activities to assist the Corps in executing its tribal trust responsibilities, or add mitigation requirements that the district engineer determines are necessary to ensure that the verified NWP activity results in no more than minimal individual and cumulative adverse environmental effects. Division engineers will, as necessary, impose regional conditions on this NWP, including requiring more activities to require pre-construction notification, to ensure that these activities do not cause more than minimal adverse effects on tribal rights, protected tribal resources, or tribal lands. When a Corps district receives a pre-construction notification that triggers a need to consult with one or more tribes, that consultation will be completed before the district engineer makes his or her decision on whether to issue the NWP verification. Regional conditions and coordination procedures can help ensure compliance with general condition 17. The Corps does not, and cannot, delegate its tribal trust responsibilities to permit applicants.

One commenter said that NWP 12 should prohibit construction in waters of the United States until all other federal and state permits are issued for pipelines. One commenter suggested adding language that allows temporary impacts for repair of a utility line parallel a bank, which is not a "crossing." Several commenters stated that this NWP should not authorize activities in regions in Appalachia because it is not possible to mitigate impacts in those mountainous areas. Two commenters said this NWP should require the use of best management practices to control release of sediments during construction.

Paragraph 2 of Section E, "Further Information," states that the NWPs do not remove the need to obtain other required federal, state, or local authorizations as required by law. The NWPs have a 45-day review period (with some exceptions), so district engineers cannot wait for all other federal, state, or local authorizations to be issued. Otherwise, the proposed NWP activity would be authorized after the 45-day period passed with no response from the Corps. The default NWP authorization would not have any activity-specific conditions, such as mitigation requirements, to ensure that the adverse environmental effects are no more than minimal. This NWP authorizes temporary fills to construct a utility line. Concerns about the use of this NWP in Appalachia are more appropriately addressed by the appropriate division engineer, who has the authority to modify, suspend, or revoke the NWP in a specific region. General condition 12 requires the use of soil and erosion controls to ensure that sediments associated with an NWP activity are not released downstream.

Several commenters suggested changing the acreage limit from 1/2-acre to 1 acre. Some commenters said the 1/2-acre limit is too high, and some commenters stated that the 1/2-acre limit is appropriate. A number of commenters recommended imposing an acreage limit that would place a cap on losses of waters of the United States for the entire utility line. A few commenters recommended reducing the 1/2-acre limit to 1/4-acre. One commenter said the 1/2-acre limit should apply to the entire utility line, not to each separate and distant crossing. One commenter recommended establishing an acreage limit based on a county or state. Another commenter suggested applying the acreage limit to a waterbody. One commenter stated that this NWP should not authorize waivers of the 1/2-acre limit. Two commenters said that stream impacts should be limited to 300 linear feet, especially in headwater streams.

We are retaining the 1/2-acre limit for this NWP because we believe it is an appropriate limit for authorizing most utility line activities that have no more than minimal individual and cumulative adverse environmental effects. Division engineers can modify this NWP on a regional level to reduce the acreage limit if necessary to ensure that no more than minimal adverse environmental effects occur in that region. We do not agree that the acreage limit should apply to the entire utility line because the separate and distant crossings of waters of the United States are usually at separate waterbodies scattered along the length of the utility line, and are often in different watersheds especially for utility lines that run through multiple counties, states, or Corps districts. For utility lines that cross the same waterbody (e.g., a river or stream) at separate and distant locations, the distance between those crossings will usually dissipate the direct and indirect adverse environmental effects so that the cumulative adverse environmental effects are no more than minimal. If the district engineer determines after reviewing the PCN that the cumulative adverse environmental effects are more than minimal, after considering a mitigation proposal provided by the project proponent, he or she will exercise discretionary authority and require an individual permit.

The 1/2-acre limit cannot be waived. We do not believe it is necessary to impose a 300 linear foot limit for the loss of stream bed because most utility line crossings are constructed perpendicular, or nearly perpendicular, to the stream. In addition, most utility line crossings consist of temporary impacts. This NWP requires PCNs for proposed utility lines constructed parallel to, or along, a stream bed, and the district engineer will evaluate the adverse environmental effects and determine whether NWP authorization is appropriate.

Several commenters said this NWP does not authorize oil pipelines. One commenter said that the requirement that utility lines result in “no change in pre-construction contours” will not prevent changes in habitats or physical features in some streams, and utility lines may become exposed over time. One commenter objected to the requirement that there must be no change in pre-construction contours, because it is a new requirement and would require the permittee to complete a pre- and post- construction survey. One commenter said this NWP should not authorize mechanized landclearing in forested wetlands or scrub-shrub wetlands. Two commenters supported the addition of “internet” to the list of examples of utility lines. One commenter recommended removal of the reference to “telegraph lines” from the list of types of utility lines covered by this NWP.

This NWP authorizes crossings of waters of the United States that are part of utility lines used to transport any "gaseous, liquid, liquescent, or slurry substance" which includes oil. We acknowledge that the construction and maintenance of utility lines in jurisdictional waters and wetlands will result in some changes to the structure of waters and wetlands and to the ecological functions and services provided by those waters and wetlands. There is often conversion of wetland types within utility line rights-of-way and those conversions often need to be permanently maintained while the utility line is operational. Periodic maintenance may be necessary to respond to erosion exposing utility lines that were buried when they were constructed. The requirement to ensure that there are no changes in pre-construction contours of waters of the United States does not mandate pre- and post-construction surveys. Compliance with this requirement can usually be accomplished by examining the nearby landscape to determine if there has been a change in pre-construction contours. The NWP requires PCNs for mechanized landclearing in the utility line right-of-way so that district engineers can evaluate those proposed activities and determine whether they qualify for NWP authorization and whether compensatory mitigation is necessary to ensure no more than minimal adverse environmental effects in accordance with general condition 23, mitigation. We have retained the internet as a form of communication that may be transmitted by utility lines. We do not see the need to remove "telegraph messages" from the type of communications that may be conveyed by utility lines because there may be some use of telegraph messages by historic societies or other entities. Some of the existing utility lines that previously conveyed telegraph messages may now carry other forms of communication.

One commenter recommended modifying NWP 12 to authorize activities associated with wireless communication facilities, because these facilities could be considered substations. Two commenters said that NWP 12 should not authorize the construction or expansion of utility line substations because these facilities should not be located in waters of the United States. Several commenters said that utility line substations and access roads should not be limited to non-tidal waters of the United States to allow them to be constructed in all waters of the United States.

The substations authorized by this NWP must be associated with utility lines. With wireless telecommunication facilities, there are no utility lines connecting the various facilities because they transmit their information via electromagnetic waves traveling through the atmosphere. The construction of wireless communication facilities that involves discharges of dredged or fill material into waters of the United States may be authorized by NWP 39 or other NWPs. For some utility lines, it may not be practicable or feasible to locate a substation outside of waters of the United States. As long as the construction or expansion of the proposed utility line substation results in no more than minimal adverse environmental effects, it can be authorized by this NWP. We believe that it is necessary to limit the construction of utility line substations and access roads to non-tidal wetlands (except for non-tidal wetlands adjacent to tidal waters) to ensure that NWP 12 only authorizes activities that result in no more than minimal adverse environmental effects. Conducting those activities in tidal waters and wetlands, and in non-tidal wetlands adjacent to tidal waters is more likely to result in more than minimal adverse environmental effects.

One commenter expressed opposition to moving the provisions authorizing access roads to

NWPs 14 and 33. One commenter said that this NWP should not authorize access roads, because those roads can cause fragmentation of the landscape.

We did not propose to move the provisions authorizing the construction of utility line access roads to NWPs 14 and 33. We have retained the access road provision in this NWP. The Corps only regulates those portions of access roads that require DA authorization because they involve regulated activities in jurisdictional waters and wetlands. The Corps does not regulate access roads constructed in upland areas that, in many areas of the country, are more likely to result in substantial habitat fragmentation. In those areas of the country where much of the landscape is comprised of wetlands, utility line access roads are more likely to exceed the 1/2-acre limit and thus require individual permits. District engineers will review PCNs with proposed access roads and determine whether the proposed activities will have more than minimal adverse environmental effects on wetland functions, including habitat connectivity.

In the June 1, 2016, proposed rule, we proposed to add a paragraph to NWP 12 to authorize, to the extent that DA authorization is required, discharges of dredged or fill material into waters of the United States, and structures and work in navigable waters, necessary to remediate inadvertent returns of drilling fluids that can occur during horizontal directional drilling operations to install utility lines below jurisdictional waters and wetlands. An inadvertent return occurs when drilling fluids are released through fractures in the bedrock and flow to the surface, and possibly into a river, stream, wetland, or other type of waterbody. For NWP 12 activities where there is the possibility of such inadvertent returns, district engineers may add conditions to the NWP 12 verification requiring activity-specific remediation plans to address these situations, should they occur during the installation or maintenance of the utility line.

The fluids used for directional drilling operations consist of a water-bentonite slurry and is not a material that can be considered "fill material" under 33 CFR 323.2(e). This water-bentonite mixture is not a toxic or hazardous substance, but it can adversely affect aquatic organisms if released into bodies of water. Because these drilling fluids are not fill material, inadvertent returns of these drilling fluids are not regulated under section 404 of the Clean Water Act. However, activities necessary to contain and clean up these drilling fluids may require DA authorization (e.g., temporary fills in waters of the United States, or fills to repair a fracture in a stream bed).

Several commenters expressed support for adding the paragraph on remediation of inadvertent returns of drilling fluids from directional drilling activities. A few commenters said that the term "frac-out" should not be used when referring to inadvertent returns of drilling fluids during horizontal directional drilling operations. A commenter recommended replacing the term "sub-soil" with "subsurface." One commenter objected to the proposed addition, stating that these inadvertent returns of drilling fluids occur too frequently. One commenter asked for a definition of "inadvertent return" and said the NWP should explain that inadvertent returns of drilling fluids during horizontal directional drilling activities may require a Clean Water Act section 402 permit. One commenter requested clarification that activities which remediate inadvertent returns of drilling fluids minimize environmental impacts. One commenter agreed that inadvertent returns of drilling fluids that occur during

horizontal directional drilling activities are not discharges of dredged or fill material into waters of the United States. One commenter said that for horizontal directional drilling activities, the NWP should require entry and exit 50 feet from the stream bank, and sufficient depths prevent inadvertent returns of drilling fluids. One commenter said that the NWP should require upland containment of drilling fluids. One commenter requested that this paragraph distinguish between horizontal directional drilling for the purposes of utility line installation or replacement, and directional drilling for oil and gas extraction.

Horizontal directional drilling for utility line installation and replacement is an important technique for avoiding and minimizing adverse effects to jurisdictional waters and wetlands during the construction of utility lines. We believe that modifying NWP 12 to authorize remediation activities that involve discharges of dredged or fill material into waters of the United States and/or structures or work in navigable waters of the United States and are necessary to address these inadvertent returns to protect the aquatic environment is a prudent course of action. We have removed the term "frac-out" from the text of this NWP, and replaced the term "mud" with "fluid." We have also replaced the term "sub-soil" with "subsurface" because horizontal directional drilling activities usually occur well below the soil. District engineers may add conditions to NWP verifications to require activity-specific remediation plans to address potential inadvertent returns that might occur during the construction of the utility line.

If the horizontal directional drilling activities require DA authorization, the district engineer may add conditions to the NWP authorization to specify entry and exit points for the drilling equipment. If the drilling fluids return to the surface and are not considered to be discharges of dredged or fill material regulated under section 404 of the Clean Water Act, then the Corps cannot require those drilling fluids to be contained in an upland area. The text of this paragraph of NWP 12 specifically refers to horizontal directional drilling for utility line installation or replacement, but we have revised the text of this paragraph to specify that these activities are being "conducted for the purpose of installing or replacing utility lines."

Several commenters said that for utility lines involving horizontal directional drilling, the PCN should require drilling plans and site-specific spill detection and remediation measures. One commenter stated that mitigation should be required for the remediation of inadvertent returns of drilling fluids. Two commenters recommended adding a requirement that remediation of inadvertent returns of drilling fluids must be based on contingency plans submitted in advance of conducting horizontal directional drilling. One commenter said that PCNs should be required for these remediation activities and agency coordination should be conducted. Another commenter said that water quality certification agencies should be involved in the review and approval of these remediation plans.

If the horizontal directional drilling involves activities that require authorization under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, the PCN should describe those activities and their environmental effects. The PCN should also describe mitigation measures that will be used to ensure compliance with the terms and conditions of the NWP. We believe that remediating the inadvertent returns of drilling fluids and restoring, to the maximum extent practicable, the affected jurisdictional waters and wetlands is sufficient mitigation. District engineers can add conditions to the NWP

authorization to require contingency plans for utility line activities that require DA authorization. We do not agree that it is necessary to require PCNs for inadvertent returns of drilling fluids or to conduct agency coordination. Through this provision of NWP 12, we are trying to encourage timely remediation of these inadvertent returns of drilling fluids to protect the aquatic environment. States can determine whether water quality certification is required for activities conducted to remediate inadvertent returns of drilling fluids. States can require water quality certification for any discharge into jurisdictional waters and wetlands, not just discharges of dredged or fill material.

Several commenters said they support the addition of temporary mats to minimize impacts of utility line activities. Two commenters requested clarification that not all uses of temporary mats in jurisdictional waters and wetlands results in a regulated activity. One commenter recommended adding language to this paragraph to include other measures that distribute the weight of construction equipment to minimize soil disturbance. Another commenter stated that this paragraph should require best management practices, such as low pressure equipment, wide tires, and varying travel paths, to minimize the adverse environmental effects of NWP 12 activities. One commenter suggested inserting the word "promptly" between the words "be removed" to require the prompt removal of all temporary fills.

District engineers will determine on a case-by-case basis whether the use of timber mats in jurisdictional waters and wetlands requires DA authorization. We believe that the proposed language in this paragraph allows for a variety of temporary structures, fills, and work necessary to construct, maintain, or repair a utility line, substation, foundation for overhead utility lines, or access road. We do not believe it is necessary to provide, for NWP 12 activities, a comprehensive list of techniques to minimize soil disturbance and minimize the impacts of construction equipment. We also do not agree with the proposed addition of "promptly" because it may be more protective of the environment to keep temporary fills in place until post-construction restoration activities or permanent fills have had time to stabilize.

One commenter stated that the PCN thresholds for NWP 12 should not be changed. One commenter said that PCNs should be required for all NWP 12 activities. Several commenters suggested increasing the 1/10-acre PCN threshold (item 5 in the "Notification" paragraph) to 1/2-acre. One commenter asked the Corps to remove the PCN requirement for the maintenance of aerial crossings of section 10 waters that do not include installation of new structures. One commenter opposed replacing the current PCN thresholds with a single 1/10-acre PCN threshold. One commenter requested clarification of the PCN threshold for proposed NWP 12 activities that run parallel to a stream bed (item 4 in the "Notification" paragraph). One commenter said that PCNs should be required for utility line crossings of streams inhabited by species listed under the Endangered Species Act.

We have not made any changes to the PCN thresholds for this NWP. We do not agree that PCNs should be required for all activities authorized by this NWP because the current PCN thresholds have been effective in identifying proposed NWP 12 activities that should be reviewed by district engineers on a case-by-case basis to ensure that they result in only minimal individual and cumulative adverse environmental effects. In addition, paragraph

(b)(4) of general condition 32 requires that NWP 12 PCNs (and PCNs for other NWPs) also include information on other crossings of waters of the United States for the linear project that will use NWP 12 authorizations but do not require PCNs. This requirement is also explained in Note 8 of NWP 12.

All NWP 12 activities that require authorization under section 10 of the Rivers and Harbors Act of 1899 require PCNs to ensure that these utility lines will have no more than minimal adverse effects on navigation. This includes the maintenance of aerial crossings of navigable waters. We agree that the current PCN thresholds should be maintained instead of simplifying the PCN thresholds to a single PCN threshold for the loss of greater than 1/10-acre of waters of the United States. Item 4 of the "Notification" paragraph requires pre-construction notification for utility lines placed in jurisdictional waters and wetlands if the proposed utility line runs parallel to, or along, a stream bed. These activities require PCNs to allow district engineers to evaluate potential impacts to the stream. General condition 18, endangered species, requires PCNs for all NWP activities to be conducted by non-federal permittees that might affect listed species or critical habitat (see paragraph (c) of general condition 18).

Several commenters expressed agreement with adding the proposed Note 2, and some of those commenters requested clarification of the use of the term "independent utility" in the proposed note. Several commenters objected to the proposed Note 2, stating that only the crossings of waters of the United States that do not qualify for NWP authorization should be evaluated through the individual permit process, allowing the remaining crossings to be authorized by NWP 12. Several commenters said that the second sentence of Note 2 should be removed. Several commenters requested clarification that the phrase "independent utility" in 33 CFR 330.6(d) does not affect the current practice for linear projects found in 33 CFR 330.2(i) and in the NWP definition of "single and complete linear project" in which separate and distant crossings of waters of the United States can qualify for separate NWP authorization. Several commenters asked for thresholds for determining when utility line crossings are "separate and distant."

Note 2 is based on the NWP regulations that were published in the Federal Register on November 22, 1991 (56 FR 59110), and represent long-standing practices in the NWP program. Those regulations include the definition of "single and complete project" at 33 CFR 330.2(i) and the provision on combining NWPs with individual permits at 33 CFR 330.6(d). We have removed the phrase "with independent utility" from the second sentence of Note 2. We believe that the second sentence, with this modification, needs to be retained to remind users of NWP 12 of the requirements in the regulations at 33 CFR 330.6(d). This will help ensure that the project proponent submits the appropriate request for authorization, specifically an individual permit application or NWP PCN.

If one or more crossings of waters of the United States for a proposed utility line do not qualify for authorization by NWP, then the utility line would require an individual permit because of 33 CFR 330.6(d). An exception would be if a regional general permit is available to authorize the crossing or crossings that do not qualify for NWP authorization. In these circumstances, the project proponent also has the option of relocating or redesigning the crossings of waters of the United States that does not qualify for NWP authorization so

that all of the utility line crossings could qualify for NWP authorization.

There is no conflict between 33 CFR 330.6(d) and 33 CFR 330.2(i). In addition, these regulations do not conflict with the NWP definition of "single and complete linear project" in Section F of these NWPs. It should be noted that both 33 CFR 330.2(i) and the NWP definition of "single and complete linear project" do not discuss the concept of "independent utility." We cannot establish national thresholds for determining when crossings of waters of the United States are "separate and distant" because a variety of factors should be considered by district engineers when making those decisions, such as topography, geology, hydrology, soils, and the characteristics of wetlands, streams, and other aquatic resources. Corps districts may establish local guidelines for identifying "separate and distant" crossings.

One commenter said that Note 2 uses the phrase "utility lines with independent utility" and observes that the definition of "independent utility" in the "Definitions" section of the NWPs states that independent utility is a test for "a single and complete non-linear project." This commenter said that this inconsistent wording causes confusion. One commenter stated that the difference between "stand-alone" activities and "segments" is unclear. One commenter recommended removing the second sentence of Note 2. One commenter requested a definition of "stand-alone linear project."

As stated above, we have removed the phrase "with independent utility" from the second sentence of Note 2. District engineers will apply the concept of independent utility in 33 CFR 330.6(d) to determine when NWP authorizations can be combined with individual permit authorizations, or whether an individual permit is required for the regulated activities. Therefore, there is no need to further explain the concept of "stand-alone" activities or "stand-alone linear project." Note 2 covers linear projects, not single and complete non-linear projects, so Note 2 should not be applied to non-linear projects. There are separate definitions of "single and complete linear project" and "single and complete non-linear project" in the Definitions section of these NWPs because these are different concepts for the NWP program.

Several commenters opposed Note 2, stating that it would allow utility line proponents to break up large utility lines into separate projects and prevent them from being evaluated under the individual permit process. One commenter requested clarification whether the permittee can identify to the district engineer the origin and terminal point for each utility line that has independent utility (i.e., each stand-alone utility line).

The purpose of Note 2 is to prevent the situations the commenters opposing the proposed note are concerned about, to ensure that utility lines with one or more crossings that do not qualify for NWP authorization are evaluated under the individual permit process. To assist district engineers in applying 33 CFR 330.6(d), in an individual permit application or a PCN, the project proponent can identify the point of origin and terminal point of the utility line that could function independently of a larger overall utility line project.

The objective of Note 2 is to improve consistency in implementation of the NWP program, especially the application of 33 CFR 330.6(d). Project proponents usually design their

utility lines to reduce their impacts to waters of the United States to qualify for NWP authorization. That avoidance and minimization is a benefit of the NWP program. In addition, most of the crossings of waters of the United States for utility lines result in temporary impacts to those jurisdictional waters and wetlands. The use of the term "separate and distant" in Note 2 is the same as its use in 33 CFR 330.2(i) and the definition of "single and complete linear project" in the "Definitions" section of the NWPs (Section F).

A few commenters asserted that proposed Note 2 does not comply with NEPA or the National Historic Preservation Act (NHPA) because the Corps should view an entire oil pipeline as a single and complete project. These commenters objected to the Corps' practice of authorizing each separate and distant crossing by NWP.

The Advisory Council on Historic Preservation's regulations for implementing NHPA section 106 define the term "undertaking" as: "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval." (See 36 CFR 800.16(y).) It should be noted that the Advisory Council's definition of "undertaking" refers not only to projects, but also to activities. Their definition of "undertaking" recognizes that federal agencies may not regulate or permit entire projects, and that a federal agency might only have the authority to authorize an activity or a number of activities that is a component or are components of a larger overall project.

For oil pipelines and other utility lines, the activities that are subject to the Corps' regulatory authorities and require DA authorization are crossings of jurisdictional waters and wetlands, as well as utility line substations, foundations for overhead utility lines, and access roads, that involve discharges of dredged or fill material into waters of the United States or structures or work in navigable waters of the United States. Segments of an oil pipeline or other utility line in upland areas outside of the Corps' jurisdiction, or attendant features constructed in upland areas, do not require DA authorization and therefore are not, for the purposes of the Corps' compliance with section 106 of the NHPA, "undertakings." The Corps does not have direct or indirect jurisdiction over pipeline segments in upland areas. The Corps does not regulate oil pipelines, or other utility lines per se; we only regulate those components of oil pipelines or other utility lines, that involve activities regulated under our authorities (i.e., section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act of 1899).

The activities regulated by the Corps, as well as the Corps' analysis of direct and indirect effects caused by those regulated activities, are the same regardless of whether the Corps processes an individual permit application or uses NWPs or other general permits to authorize the regulated activities. Likewise, for the consideration of cumulative effects, the incremental contribution of regulated activities to cumulative effects is the same regardless of the type of DA authorization. That incremental contribution consists of the direct and indirect effects of the activities that require DA authorization.

One commenter supported the addition of Note 3. One commenter requested that this Note clarify that the term "navigable waters of the United States" refers to the waters defined at

33 CFR part 329. We have added a reference to 33 CFR part 329 to Note 3.

One commenter agreed with the proposed addition of Note 6. Several commenters said the word "that" should be added before the phrase "do not qualify." One commenter stated that the phrase "or another applicable 404(f) exemption" should be added to Note 6 because a project proponent may use other Clean Water Act section 404(f) exemptions, such as the exemptions for ditch maintenance and the construction of temporary sedimentation basins. One commenter requested confirmation that the Clean Water Act section 404(f) exemptions that are applicable to currently serviceable structures used for transportation have not been changed. Another commenter requested examples of activities that do not qualify for the Clean Water Act section 404(f) exemptions, such as mechanized landclearing outside previously authorized right-of-ways.

We have added the word "that" after "activities" to correct the error in the proposed Note 6. Note 6 does not preclude project proponents from utilizing other Clean Water Act section 404(f) exemptions that are applicable to activities that may be related to utility lines. Note 6 refers to the maintenance exemption because NWP 12 explicitly refers to maintenance activities, which may require Clean Water Act section 404 authorization if the maintenance activity does not qualify for the section 404(f) maintenance exemption. Note 6 does not affect the application of the maintenance exemption to fill structures used for transportation. It is beyond the scope of Note 6 to discuss activities related to utility lines that do not qualify for any of the Clean Water Act section 404(f) exemptions.

One commenter pointed out that Note 8 was not discussed in the preamble of the June 1, 2016, proposed rule. One commenter asked the Corps to explain why it proposed to add Note 8. Another commenter requested clarification of whether Note 8 would affect utility lines that have stormwater outfalls.

The lack of discussion of Note 8 in the preamble to the proposed rule was an error. As stated on page 35197 of the proposed rule, we solicited comments on all of the NWPs, general conditions, definitions, and all NWP application procedures presented in the proposed rule. The purpose of Note 8 is to remind users of the NWPs that if a utility line includes crossings of waters of the United States that are authorized by NWP but do not require PCNs, and one or more crossings of waters of the United States requires pre-construction notification, then the PCN must include those non-PCN crossings, in accordance with the requirements of paragraph (b)(4) of general condition 32 . The requirements in Note 8 may apply to outfalls for utility lines and outfalls for stormwater management facilities, depending on the case-specific characteristics of the utility line, outfall, and stormwater management facility.

Several commenters said that Corps districts should be prohibited from suspending or revoking NWP 12 and using RGPs for utility lines that cross state or district boundaries. One commenter recommended that NWP 12 include prescriptive national standard best management practices (BMPs) and provide notifications to stakeholders when pipelines, cables, and utility lines are proposed to be constructed in marine transportation routes. These notifications would also be provided to the U.S. Coast Guard and the National Marine Fisheries Service. A few commenters said that the mitigation process for NWP 12 is not in

compliance with the National Environmental Policy Act (NEPA) because the public is not provided with an opportunity to comment on requests for NWP verifications. A few commenters also stated that reliance on a district engineer's compensatory mitigation requirement for an NWP 12 verification is inadequate to support a finding of no significant impact under an environmental assessment prepared to satisfy NEPA requirements.

For utility lines that cross Corps district boundaries, each Corps district may process the NWP 12 PCNs for crossings located in its district, or the Corps districts may designate a lead district to provide a single response to the NWP 12 PCNs. If a Corps district has had NWP 12 suspended or revoked by the division engineer to use a regional general permit or state programmatic general permit instead of NWP 12, it can use that regional or programmatic general permit to authorize utility line activities. We believe that it would be more appropriate to have district engineers determine which BMPs should be applied to the construction, maintenance, or repair of utility lines in their geographic areas of responsibility, as those BMPs may vary by region and utility sector. If the U.S. Coast Guard has a role in regulating utility lines in marine transportation routes, the U.S. Coast Guard can take its own actions under its authorities to ensure compliance with its requirements. We will continue to provide NWP verifications to the National Ocean Service for the charting of utility lines in navigable waters of the United States.

The decision document for this NWP includes an environmental assessment with a mitigated finding of no significant impact. Mitigation measures are discussed throughout the combined decision document, which includes the environmental assessment, public interest review, and 404(b)(1) Guidelines analysis. Other mitigation measures may be required by district engineers through conditions added to activity-specific NWP verifications. The mitigation measures discussed in the national decision documents include the NWP general conditions, which help ensure that NWP activities result in no more than minimal adverse environmental effects.

The draft decision document for NWP 12 was made available for public review and comment concurrent with the proposed rule that was published in the Federal Register on June 1, 2016. The decision document describes, in general terms, mitigation that helps ensure that NWP 12 activities result in no more than minimal adverse environmental effects. Mitigation requirements, including compensatory mitigation requirements, will be determined by district engineers for activity-specific NWP verifications. Compliance with NEPA is accomplished when the NWP is issued by Corps Headquarters, with its decision document. Individual NWP 12 verifications do not require NEPA documentation, nor do they require an opportunity for public comment. The public comment process occurs during the rulemaking procedures to issue or reissue an NWP. A public notice and comment process for NWP verifications would not be consistent with the Congressional intent of section 404(e) of the Clean Water Act, which envisions a streamlined authorization process for activities that result in no more than minimal individual and cumulative adverse environmental effects.

One commenter said that utility lines constructed parallel to the stream gradient should have the minimum number of crossings, and those crossings should intersect the stream as close to 90 degrees to the stream centerline as possible. That commenter also stated that trench

plugs should be no more than 200 feet apart, and plugs must be used on either side of the stream crossing. One commenter recommended adding a permit condition to prevent utility lines from creating new drainage paths away from a waterbody.

Paragraph (a) of general condition 23, mitigation, requires permittees to avoid and minimize adverse effects to waters of the United States to the maximum extent practicable on the project site. For the purposes of NWP 12, this means that the project proponent should design the utility line to minimize the number of crossings of waters of the United States. The use of trench plugs will be determined on a case-by-case basis by district engineers when processing NWP 12 PCNs or voluntary requests for NWP verification. District engineers may also impose activity-specific conditions on NWP 12 authorizations to minimize draining of waters of the United States.

One commenter said that compensatory mitigation should be required for the permanent conversion of forested wetlands to scrub-shrub wetlands for utility line rights-of-way. Two commenters stated that this NWP should not authorize sidecasting of excavated material into waters of the United States because the sidecast material will be dispersed by currents or rainfall. One commenter requested clarification of a statement made in the preamble to the proposed rule that some excavation activities do not require Clean Water Act section 404 authorization. Two commenters said that if Corps districts consider separate and distant crossings of waters of the United States to qualify for separate NWP authorization, how are cumulative impacts considered in accordance with Section D, District Engineer's Decision?

District engineers have the discretion to require compensatory mitigation for the permanent conversion of forested wetlands to scrub-shrub wetlands, if that permanent conversion is conducted as a result of activities that require DA authorization (see paragraph (i) of general condition 23, mitigation). General condition 12, soil erosion and sediment controls, requires permittees to stabilize exposed soils and fills at the earliest practicable date, to minimize dispersion by currents, rainfall, or other erosive forces. Excavation activities require Clean Water Act section 404 authorization if they result in regulated discharges of dredged or fill material into waters of the United States (see the definitions at 33 CFR 323.2).

Paragraph 1 of Section D, District Engineer's Decision, requires district engineers to consider the cumulative effects of all crossings of waters of the United States for a single and complete linear project that is authorized by NWP, including those crossings that require DA authorization but do not otherwise require pre-construction notification. A complete PCN requires the project proponent to identify, in addition to the NWP 12 activities that require PCNs, the NWP 12 activities that do not require PCNs (see paragraph (b)(4) of general condition 32 and Note 8). The information regarding the cumulative effects of all of the utility line activities authorized by NWP 12 will be considered by the district engineer in his or her decision-making process for an NWP 12 verification.

A number of commenters asserted that the issuance of NWP 12 requires an environmental impact statement. A few commenters stated that the cumulative effects analysis for NWP 12 in the draft decision document was insufficient. A few commenters said that the cumulative effects analysis for NWP 12 in the draft decision document was properly done. One

commenter indicated that the Corps improperly deferred the requirement to do a NEPA cumulative effects analysis to the district engineer's NWP verification decision. One commenter opined that the Corps defers its NEPA review for later stages in the permitting process and that NWP 12 provides no guarantee that the Corps district will conduct a NEPA analysis for the NWP verification. One commenter said that Corps districts should prepare supplemental environmental impact statements for NWP 12 verifications. One commenter stated that the decision document should discuss NWP 12 activities and their effects on climate change. Many commenters remarked that the Corps should not issue permits for pipelines because the burning of fossil fuels contributes greenhouse gases that cause climate change.

For the issuance or reissuance of an NWP, including NWP 12, the Corps complies with NEPA when Corps Headquarters issues or reissues the NWP with its decision document. The decision document issued by Corps Headquarters includes an environmental assessment and a finding of no significant impact, which concludes the NEPA process. The finding of no significant impact is reached because of the terms and conditions of the NWP and the mitigation measures (e.g., general conditions and other mitigation measures) for NWP 12 activities that are discussed throughout the decision document. Therefore, an environmental impact statement is not required for the issuance or reissuance of NWP 12. When a district engineer issues an NWP 12 verification, he or she is confirming that the proposed NWP 12 activity complies with the terms and conditions of the NWP, including any regional and activity-specific conditions, and will result in no more than minimal individual and cumulative adverse environmental effects. If the district engineer requires activity-specific mitigation measures, he or she will require those mitigation measures through conditions added to the NWP authorization.

To issue an NWP verification the district engineer does not need to prepare a NEPA document because the requirements for NEPA were fulfilled when Corps Headquarters issued the national decision document for the NWP. Since NEPA compliance is achieved by Corps Headquarters through the preparation of a combined decision document that includes an environmental assessment and finding of no significant impact, Corps districts do not need to prepare supplemental environmental impact statements for NWP verifications. If a proposed NWP activity will result in more than minimal individual and cumulative adverse environmental effects after considering the mitigation proposal submitted by the prospective permittee, the district engineer will assert discretionary authority and require an individual permit if the adverse environmental effects will be more than minimal. During the individual permit process, the district engineer will prepare the appropriate NEPA documentation.

The NEPA cumulative effects analysis in the NWP 12 decision document was prepared in accordance with the Council of Environmental Quality's definition of "cumulative impact" at 40 CFR 1508.7, and utilizes concepts presented in CEQ's 1997 and 2005 guidance on conducting cumulative impact analyses. The NEPA cumulative effects analysis examines cumulative effects on various resources of concern, including wetlands, rivers and streams, coastal areas, and endangered and threatened species. Our NEPA cumulative effects analysis examines past, present, and reasonably foreseeable future actions that affect those

resources of concern, including federal, non-federal, and private actions. Because the decision document is national in scope it is a general cumulative effects analysis.

We also conducted a cumulative effects analysis in accordance with the 404(b)(1) Guidelines because this NWP authorizes discharges of dredged or fill material into waters of the United States. The Corps does not defer the NEPA cumulative effects analysis to the NWP verification stage of the authorization process. Corps Headquarters conducts the required NEPA analyses when it issues or reissues the NWP. The final national decision document includes a discussion of NWP 12 activities and climate change. Activities authorized by NWP will result in small incremental contributions to greenhouse gas emissions during construction periods, if the equipment used to construct the crossings of waters of the United States, utility line substations, footings for overhead utility lines, or access roads in waters of the United States consumes fossil fuels. The Corps does not have the authority to regulate the burning of fossil fuels that may be transported by utility lines. The Corps does not have the legal authority to regulate emissions of greenhouse gases during the operation and maintenance of the utility line activities, if those operations and maintenance activities do not involve activities that require DA authorization.

A number of commenters said the draft decision document for NWP 12 is inadequate, especially in its evaluation of the risks and impacts of oil spills, gas pipeline leaks, and inadvertent returns of drilling fluids from horizontal directional drilling activities. One commenter stated that with respect to the discussion of Subpart G (Evaluation and Testing) in the draft decision document, that voluntary compliance is rarely as effective as monitored compliance. Another commenter objected to the statement that "this NWP will encourage applicants to design their projects within the scope of the NWP" because the commenter believes that the NWP encourages massive cross-country pipeline projects. One commenter said the decision document must address impacts to forested wetlands caused by NWP 12 activities.

The decision document for NWP 12 treats oil spills and gas pipeline leaks as reasonably foreseeable future actions in the NEPA cumulative impact analysis section. The decision document also discusses the potential for inadvertent returns of drilling fluids to occur during horizontal directional drilling activities used to install or replace utility lines. As discussed above, the Corps does not regulate the operation of oil or gas pipelines, or leaks that might occur. In addition, the Corps does not regulate inadvertent returns of drilling fluids that might occur as a result of subsurface fractures during horizontal directional drilling activities. Oil spills and gas leaks are addressed by other federal agencies under other federal laws.

As discussed in the proposed rule, it is our position that inadvertent returns of drilling fluids from horizontal directional drilling are not discharges regulated under section 404 of the Clean Water Act, under the current definitions of "discharge of dredged material" and "discharge of fill material" at 33 CFR 323.2. We have added provisions to NWP 12 to authorize discharges of dredged or fill material into waters of the United States and/or structure or work in navigable waters of the United States to remediate inadvertent returns of

drilling fluids if they occur, to minimize the adverse environmental effects of those inadvertent returns of drilling fluids.

For those NWP 12 activities that do not require PCNs, voluntary compliance is an appropriate means of compliance. District engineers will take appropriate action if they discover cases of non-compliance with the terms and conditions of NWP 12. For utility lines, this NWP only authorizes crossings of waters of the United States that involve activities regulated under the Corps' authorities. It does not authorize segments of utility lines constructed in uplands because those segments do not require DA authorization. It does not authorize the entire utility line unless the entire utility line is constructed in jurisdictional waters and wetlands and involves activities that require DA authorization. For the crossings of waters of the United States authorized by NWP 12, the terms and conditions of this NWP encourage the project proponent to minimize adverse effects to jurisdictional waters and wetlands to qualify for NWP authorization, instead of having to apply for an individual permit.

For utility lines that cross state and/or Corps district boundaries, district engineers will consider the cumulative impacts of those NWP 12 activities when determining whether to issue NWP 12 verifications. The national decision document for NWP 12 discusses, in general terms, the impacts that NWP 12 activities have on wetlands of all types, including forested wetlands. For some utility lines, forested wetlands may be permanently converted to scrub-shrub or emergent wetlands to construct a right-of-way.

A few commenters said this NWP should not authorize utility lines in drinking water source areas. One commenter stated that this NWP should not authorize pipelines under rivers or near the ocean because those pipelines could leak and threaten water supplies. Many commenters said that the Corps should consider the environmental effects of the entire pipeline, including potential impacts to water supplies, to not just the specific activities authorized by NWP 12 or other DA permits.

General condition 7, water supply intakes, prohibits NWP activities in proximity of public water supply intakes except under specific circumstances. General condition 14, proper maintenance, requires NWP activities to be maintained to ensure public safety. For NWP 12 activities, this includes maintaining the utility line so that it does not leak. The Corps does not regulate the operation and maintenance of pipelines, if those activities do not include activities that require DA authorization. As discussed above, there are other federal agencies that have legal responsibility for addressing the operation of pipelines and responding to leaks or spills that may occur. Concerns regarding pipeline leaks or spills should be brought to the attention of those federal agencies.

One commenter expressed concern regarding the effects of dispersants on public health and the environment. One commenter said that in the draft decision document the projected amount of compensatory mitigation required for NWP 12 activities is far less than the projected authorized impacts, and that difference results in inadequate mitigation. One commenter said that the draft NWP 12 decision document fails to acknowledge that water quality standards will be violated in some cases.

The Corps does not have the legal authority to regulate the use of dispersants. Other federal or state agencies may have that responsibility. Many of the activities authorized by NWP 12 result in temporary impacts to jurisdictional waters and wetlands, and often district engineers do not require compensatory mitigation to offset those temporary impacts because those waters and wetlands continue to provide ecological functions and services. The estimated impacts in the draft decision document include both permanent and temporary impacts to jurisdictional waters and wetlands. For discharges into waters of the United States, general condition 25 requires certification that an NWP activity complies with applicable water quality standards unless a waiver of the Clean Water Act section 401 water quality certification requirement occurs. The district engineer has discretion to take action to ensure compliance with the water quality certification issued by the state, tribe, or U.S. EPA. The section 401 certifying authority also has the authority to enforce the terms and conditions of its water quality certification.

2.0 Alternatives

This evaluation includes an analysis of alternatives based on the requirements of NEPA, which requires a more expansive review than the Clean Water Act Section 404(b)(1) Guidelines. The alternatives discussed below are based on an analysis of the potential environmental impacts and impacts to the Corps, Federal, Tribal, and state resource agencies, general public, and prospective permittees. Since the consideration of off-site alternatives under the 404(b)(1) Guidelines does not apply to specific projects authorized by general permits, the alternatives analysis discussed below consists of a general NEPA alternatives analysis for the NWP.

2.1 No Action Alternative (No Nationwide Permit)

The no action alternative would not achieve one of the goals of the Corps Nationwide Permit Program, which is to reduce the regulatory burden on applicants for activities that result in no more than minimal individual and cumulative adverse environmental effects. The no action alternative would also reduce the Corps ability to pursue the current level of review for other activities that have greater adverse environmental effects, including activities that require individual permits as a result of the Corps exercising its discretionary authority under the NWP program. The no action alternative would also reduce the Corps ability to conduct compliance actions.

If this NWP is not available, substantial additional resources would be required for the Corps to evaluate these minor activities through the individual permit process, and for the public and Federal, Tribal, and state resource agencies to review and comment on the large number of public notices for these activities. In a considerable majority of cases, when the Corps publishes public notices for proposed activities that result in only minimal individual and cumulative adverse environmental effects, the Corps typically does not receive responses to these public notices from either the public or Federal, Tribal, and state resource

agencies. Another important benefit of the NWP program that would not be achieved through the no action alternative is the incentive for project proponents to design their projects so that those activities meet the terms and conditions of an NWP. The Corps believes the NWPs have significantly reduced adverse effects to the aquatic environment because most applicants modify their projects to comply with the NWPs and avoid the delays and costs typically associated with the individual permit process.

In the absence of this NWP, Department of the Army (DA) authorization in the form of another general permit (i.e., regional or programmatic general permits, where available) or individual permits would be required. Corps district offices may develop regional general permits if an NWP is not available, but this is an impractical and inefficient method for activities with no more than minimal individual and cumulative adverse environmental effects that are conducted across the Nation. Not all districts would develop these regional general permits for a variety of reasons. The regulated public, especially those companies that conduct activities in more than one Corps district, would be adversely affected by the widespread use of regional general permits because of the greater potential for lack of consistency and predictability in the authorization of similar activities with no more than minimal individual and cumulative adverse environmental effects. These companies would incur greater costs in their efforts to comply with different regional general permit requirements between Corps districts. Nevertheless, in some states Corps districts have issued programmatic general permits to take the place of this and other NWPs. However, this approach only works in states with regulatory programs comparable to the Corps Regulatory Program.

2.2 National Modification Alternatives

Since the Corps Nationwide Permit program began in 1977, the Corps has continuously strived to develop NWPs that only authorize activities that result in no more than minimal individual and cumulative adverse environmental effects. Every five years the Corps reevaluates the NWPs during the reissuance process, and may modify an NWP to address concerns for the aquatic environment. Utilizing collected data and institutional knowledge concerning activities authorized by the Corps regulatory program, the Corps reevaluates the potential impacts of activities authorized by NWPs. The Corps also uses substantive public comments on proposed NWPs to assess the expected impacts. This NWP was developed to authorize the construction, maintenance, repair, and removal of utility lines and associated facilities, provided those activities and facilities have no more than minimal individual and cumulative adverse environmental effects. The Corps has considered suggested changes to the terms and conditions of this NWP, as well as modifying or adding NWP general conditions, as discussed in the preamble of the Federal Register notice announcing the reissuance of this NWP.

In the June 1, 2016, Federal Register notice, the Corps requested comments on the proposed reissuance of this NWP. As discussed above, The Corps proposed to modify this NWP to clarify that the NWP authorizes regulated activities for utility line crossings of waters of the United States, and that the Corps does not regulate entire utility lines. The Corps also

proposed to modify the definition of "utility line" to make it clear that it includes optic cables. In addition, the Corps proposed to add a paragraph authorizing regulated activities necessary to remediate inadvertent returns of drilling muds that can occur during directional drilling operations to install utility lines below jurisdictional waters and wetlands. The Corps also proposed to add three new notes to this NWP to clarify the use of this NWP.

2.3 Regional Modification Alternatives

An important aspect for the NWPs is the emphasis on regional conditions to address differences in aquatic resource functions, services, and values across the nation. All Corps divisions and districts are expected to add regional conditions to the NWPs to enhance protection of the aquatic environment and address local concerns. Division engineers can also revoke an NWP if the use of that NWP results in more than minimal individual and cumulative adverse environmental effects, especially in high value or rare wetlands and other waters. When an NWP is issued or reissued by the Corps, division engineers issue supplemental decision documents that evaluate potential impacts of the NWP at a regional level, and include regional cumulative effects assessments.

Corps divisions and districts also monitor and analyze the cumulative adverse effects of the NWPs, and if warranted, further restrict or prohibit the use of the NWPs to ensure that the NWPs do not authorize activities that result in more than minimal individual and cumulative adverse environmental effects. To the extent practicable, division and district engineers will use regulatory automated information systems and institutional knowledge about the typical adverse effects of activities authorized by NWPs, as well as substantive public comments, to assess the individual and cumulative adverse environmental effects resulting from regulated activities.

2.4 Case-specific On-site Alternatives

Although the terms and conditions for this NWP have been established at the national level to authorize most activities that have no more than minimal individual and cumulative adverse environmental effects, division and district engineers have the authority to impose case-specific special conditions on an NWP authorization to ensure that the authorized activities will result in only minimal individual and cumulative adverse environmental effects.

General condition 23 requires the permittee to minimize and avoid impacts to waters of the United States to the maximum extent practicable on the project site. Off-site alternatives cannot be considered for activities authorized by NWPs. During the evaluation of a pre-construction notification, the district engineer may determine that additional avoidance and minimization is practicable. The district engineer may also condition the NWP authorization to require compensatory mitigation to offset losses of waters of the United States and ensure that the net adverse effects on the aquatic environment are no more than minimal. As another example, the NWP authorization can be conditioned to prohibit the

permittee from conducting the activity during specific times of the year to protect spawning fish and shellfish. If the proposed activity will result in more than minimal adverse environmental effects, then the district engineer will exercise discretionary authority and require an individual permit. Discretionary authority can be asserted where there are concerns for the aquatic environment, including high value aquatic habitats. The individual permit review process requires a project-specific alternatives analysis, including the consideration of off-site alternatives, and a public interest review.

3.0 Affected Environment

This environmental assessment is national in scope because the NWP may be used across the country, unless the NWP is revoked or suspended by a division or district engineer under the procedures in 33 CFR 330.5(c) and (d), respectively. The affected environment consists of terrestrial and aquatic ecosystems in the United States, as they have been directly and indirectly affected by past and present federal, non-federal, and private activities. The past and present activities include activities authorized by the various NWPs issued from 1977 to 2012, activities authorized by other types of Department of the Army (DA) permits, as well as other federal, tribal, state, and private activities that are not regulated by the Corps. Aquatic ecosystems are also influenced by past and present activities in uplands, because those land use/land cover changes in uplands and other activities in uplands have indirect effects on aquatic ecosystems (e.g., MEA 2005b, Reid 1993). Due to the large geographic scale of the affected environment (i.e., the entire United States), as well as the many past and present human activities that have shaped the affected environment, it is only practical to describe the affected environment in general terms. In addition, it is not possible to describe the environmental conditions for specific sites where the NWPs may be used to authorize eligible activities.

The total land area in the United States is approximately 2,264,000,000 acres, and the total land area in the contiguous United States is approximately 1,894,000,000 acres (Nickerson et al. 2011). Land uses in 48 states of the contiguous United States as of 2007 is provided in Table 3.1 (Nickerson et al. 2011). Of the land area in the entire United States, approximately 60 percent (1,350,000,000 acres) is privately owned (Nickerson et al. 2011). In the contiguous United States, approximately 67 percent of the land is privately owned, 31 percent is held by the United States government, and two percent is owned by state or local governments (Dale et al. 2000). Developed non-federal lands comprise 4.4 percent of the total land area of the contiguous United States (Dale et al. 2000).

Table 3.1. Major land uses in the United States (Nickerson et al. 2011).

Land Use	Acres	Percent of Total
Agriculture	1,161,000,000	51.3
Forest land	544,000,000	24.0
Transportation use	27,000,000	1.2
Recreation and wildlife areas	252,000,000	11.1
National defense areas	23,000,000	1.0
Urban land	61,000,000	2.7
Miscellaneous use	197,000,000	8.7
Total land area	2,264,000,000	100.0

3.1 Quantity of Aquatic Ecosystems in the United States

There are approximately 283.1 million acres of wetlands in the United States; 107.7 million acres are in the conterminous United States and the remaining 175.4 million acres are in Alaska (Mitsch and Hernandez 2013). Wetlands occupy less than 9 percent of the global land area (Zedler and Kercher 2005). According to Dahl (2011), wetlands and deepwater habitats cover approximately 8 percent of the land area in the conterminous United States. Rivers and streams comprise approximately 0.52 percent of the total land area of the continental United States (Butman and Raymond 2011). Therefore, the wetlands, streams, rivers, and other aquatic habitats that are potentially waters of the United States and subject to regulation by the Corps under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 comprise a minor proportion of the land area of the United States. The remaining land area of the United States (more than 92 percent, depending on the proportion of wetlands, streams, rivers, and other aquatic habitats that are subject to regulation under those two statutes) is outside the Corps regulatory authority.

Dahl (1990) estimated that approximately 53 percent of the wetlands in the conterminous United States were lost in the 200-year period from the 1780s to 1980s, while Alaska lost less than one percent of its wetlands and Hawaii lost approximately 12 percent of its original wetland acreage. In the 1780s, there were approximately 221 million acres of wetlands in the conterminous United States (Dahl 1990). California lost the largest percentage of its wetlands (91 percent), whereas Florida lost the largest acreage (9.3 million acres) (Dahl 1990). During that 200-year period, 22 states lost more than 50 percent of their wetland acreage, and 10 states have lost more than 70 percent of their original wetland acreage (Dahl 1990).

Frayer et al. (1983) evaluated wetland status and trends in the United States during the period of the mid-1950s to the mid-1970s. During that 20-year period, approximately 7.9 million acres of wetlands (4.2 percent) were lost in the conterminous United States. Much of the loss of estuarine emergent wetlands was due to changes to estuarine subtidal deepwater habitat, and some loss of estuarine emergent wetlands was due to urban development. For palustrine vegetated wetlands, nearly all of the losses of those wetlands were due to

agricultural activities (e.g., conversion to agricultural production).

The U.S. Fish and Wildlife Service also examined the status and trends of wetlands in the United States during the period of the mid-1970s to the 1980s, and found that there was a net loss of more than 2.6 million acres of wetlands (2.5 percent) during that time period (Dahl and Johnson 1991). Freshwater wetlands comprised 98 percent of those wetland losses (Dahl and Johnson 1991). During that time period, losses of estuarine wetlands were estimated to be 71,000 acres, with most of that loss due to changes of emergent estuarine wetlands to open waters caused by shifting sediments (Dahl and Johnson 1991). Conversions of wetlands to agricultural use were responsible for 54 percent of the wetland losses, and conversion to other land uses resulted in the loss of 41 percent of wetlands (Dahl and Johnson 1991). Urban development was responsible for five percent of the wetland loss (Dahl and Johnson 1991). The annual rate of wetland loss has decreased substantially since the 1970s (Dahl 2011), when wetland regulation became more prevalent (Brinson and Malvárez 2002).

Between 2004 and 2009, there was no statistically significant difference in wetland acreage in the conterminous United States (Dahl 2011). According to the 2011 wetland status and trends report, during the period of 2004 to 2009 urban development accounted for 11 percent of wetland losses (61,630 acres), rural development resulted in 12 percent of wetland losses (66,940 acres), silviculture accounted for 56 percent of wetland losses (307,340 acres), and wetland conversion to deepwater habitats caused 21 percent of the loss in wetland area (115,960 acres) (Dahl 2011). Some of the losses occurred to wetlands that are not subject to Clean Water Act jurisdiction and some losses are due to activities not regulated under Section 404 of the Clean Water Act, such as unregulated drainage activities, exempt forestry activities, or water withdrawals. From 2004 to 2009, approximately 100,020 acres of wetlands were gained as a result of wetland restoration and conservation programs on agricultural land (Dahl 2011). Another source of wetland gain is conversion of other uplands to wetlands, resulting in a gain of 389,600 acres during the period of 2004 to 2009 (Dahl 2011). Inventories of wetlands, streams, and other aquatic resources are incomplete because the techniques used for those studies cannot identify some of those resources (e.g., Dahl (2011) for wetlands; Meyer and Wallace (2001) for streams).

Losses of vegetated estuarine wetlands due to the direct effects of human activities have decreased significantly due to the requirements of Section 404 of the Clean Water Act and other laws and regulations (Dahl 2011). During the period of 2004 to 2009, less than one percent of estuarine emergent wetlands were lost as a direct result of human activities, while other factors such as sea level rise, land subsidence, storm events, erosion, and other ocean processes caused substantial losses of estuarine wetlands (Dahl 2011). The indirect effects of other human activities, such as oil and gas development, water extraction, development of the upper portions of watersheds, and levees, have also resulted in coastal wetland losses (Dahl 2011). Eutrophication of coastal waters can also cause losses of emergent estuarine wetlands, through changes in growth patterns of marsh plants and decreases in the stability of the wetland substrate, which changes those marshes to mud flats (Deegan et al. 2012).

The Emergency Wetlands Resources Act of 1986 (Public Law 99-645) requires the USFWS

to submit wetland status and trends reports to Congress (Dahl 2011). The latest status and trends report, which covers the period of 2004 to 2009, is summarized in Table 3.2. The USFWS status and trends report only provides information on acreage of the various aquatic habitat categories and does not assess the quality or condition of those aquatic habitats (Dahl 2011).

Table 3.2. Estimated aquatic resource acreages in the conterminous United States in 2009 (Dahl 2011).

Aquatic Habitat Category	Estimated Area in 2009 (acres)
Marine intertidal	227,800
Estuarine intertidal non-vegetated	1,017,700
Estuarine intertidal vegetated	4,539,700
All intertidal waters and wetlands	5,785,200
Freshwater ponds	6,709,300
Freshwater vegetated	97,565,300
• Freshwater emergent wetlands	27,430,500
• Freshwater shrub wetlands	18,511,500
• Freshwater forested wetlands	51,623,300
All freshwater wetlands	104,274,600
Lacustrine deepwater habitats	16,859,600
Riverine deepwater habitats	7,510,500
Estuarine subtidal habitats	18,776,500
All wetlands and deepwater habitats	153,206,400

The acreage of lacustrine deepwater habitats does not include the open waters of Great Lakes (Dahl 2011).

The Federal Geographic Data Committee has established the Cowardin system developed by the U.S. Fish and Wildlife Service (USFWS) (Cowardin et al. 1979) as the national standard for wetland mapping, monitoring, and data reporting (Dahl 2011) (see Federal Geographic Data Committee (2013)). The Cowardin system is a hierarchical system which describes various wetland and deepwater habitats, using structural characteristics such as vegetation, substrate, and water regime as defining characteristics. Wetlands are defined by plant communities, soils, or inundation or flooding frequency. Deepwater habitats are permanently flooded areas located below the wetland boundary. In rivers and lakes, deepwater habitats are usually more than two meters deep. The Cowardin et al. (1979) definition of “wetland” differs from the definition used by the Corps and U.S. EPA for the purposes of implementing Section 404 of the Clean Water Act. The Corps-U.S. EPA regulations defines wetlands as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated

soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." [33 CFR 328.3(c)(4); 40 CFR 230.3(o)(3)(iv)] The Cowardin et al. (1979) requires only one factor (i.e., wetland vegetation, soils, hydrology) to be present for an area to be a wetland, while the Corps-U.S. EPA wetland definition requires all three factors to be present under normal circumstances (Tiner 1997b, Mitsch and Gosselink 2015). The NWI produced by applying the Cowardin et al. (1979) definition is the only national scale wetland inventory available. There is no national inventory of wetland acreage based on the Corps-U.S. EPA wetland definition at 33 CFR 328.3(c)(4).

There are five major systems in the Cowardin classification scheme: marine, estuarine, riverine, lacustrine, and palustrine (Cowardin et al. 1979). The marine system consists of open ocean on the continental shelf and its high energy coastlines. The estuarine system consists of tidal deepwater habitats and adjacent tidal wetlands that are usually partially enclosed by land, but may have open connections to open ocean waters. The riverine system generally consists of all wetland and deepwater habitats located within a river channel. The lacustrine system generally consists of wetland and deepwater habitats located within a topographic depression or dammed river channel, with a total area greater than 20 acres. The palustrine system generally includes all non-tidal wetlands and wetlands located in tidal areas with salinities less than 0.5 parts per thousand; it also includes ponds less than 20 acres in size. Approximately 95 percent of wetlands in the conterminous United States are freshwater wetlands, and the remaining 5 percent are estuarine or marine wetlands (Dahl 2011).

According to Hall et al. (1994), there are more than 204 million acres of wetlands and deepwater habitats in the State of Alaska, including approximately 174.7 million acres of wetlands. Wetlands and deepwater habitats comprise approximately 50.7 percent of the surface area in Alaska (Hall et al. 1994).

The National Resources Inventory (NRI) is a statistical survey conducted by the Natural Resources Conservation Service (NRCS) (USDA 2015) of natural resources on non-federal land in the United States. The NRCS defines non-federal land as privately owned lands, tribal and trust lands, and lands under the control of local and state governments. Acreages of palustrine and estuarine wetlands and the land uses those wetlands are subjected to are summarized in Table 3.3. The 2012 NRI estimates that there are 111,220,800 acres of palustrine and estuarine wetlands on non-Federal land and water areas in the United States (USDA 2015). The 2012 NRI estimates that there are 49,518,700 acres of open waters on non-Federal land in the United States, including lacustrine, riverine, and marine habitats, as well as estuarine deepwater habitats.

Table 3.3. The 2012 National Resources Inventory acreages for palustrine and estuarine wetlands on non-federal land, by land cover/use category (USDA 2015).

National Resources Inventory Land Cover/Use Category	Area of Palustrine and Estuarine Wetlands (acres)
cropland, pastureland, and Conservation Reserve Program land	17,800,000
forest land	65,800,000
rangeland	8,000,000
other rural land	14,700,000
developed land	1,400,000
water area	3,600,000
Total	111,300,000

The land cover/use categories used by the 2012 NRI are defined below (USDA 2015). Croplands are areas used to produce crops grown for harvest. Pastureland is land managed for livestock grazing, through the production of introduced forage plants. Conservation Reserve Program land is under a Conservation Reserve Program contract. Forest land is comprised of at least 10 percent single stem woody plant species that will be at least 13 feet tall at maturity. Rangeland is land on which plant cover consists mostly of native grasses, herbaceous plants, or shrubs suitable for grazing or browsing, and introduced forage plant species. Other rural land consists of farmsteads and other farm structures, field windbreaks, marshland, and barren land. Developed land is comprised of large urban and built-up areas (i.e., urban and built-up areas 10 acres or more in size), small built-up areas (i.e., developed lands 0.25 to 10 acres in size), and rural transportation land (e.g., roads, railroads, and associated rights-of-way outside urban and built-up areas). Water areas are comprised of waterbodies and streams that are permanent open waters.

The wetlands data from the Fish and Wildlife Service's Status and Trends study and the Natural Resources Conservation Service's National Resources Inventory should not be compared, because they use different methods and analyses to produce their results (Dahl 2011).

Leopold, Wolman, and Miller (1964) estimated that there are approximately 3,250,000 miles of river and stream channels in the United States. This estimate is based on an analysis of 1:24,000 scale topographic maps. Their estimate does not include many small streams. Many small streams, especially headwater streams, are not mapped on 1:24,000 scale U.S. Geological Survey (USGS) topographic maps (Leopold 1994) or included in other inventories (Meyer and Wallace 2001), including the National Hydrography Dataset (Elmore et al. 2013). Many small streams and rivers are not identified through maps produced by aerial photography or satellite imagery because of inadequate image resolution or trees or other vegetation obscuring the visibility of those streams from above (Benstead

and Leigh 2012). In a study of stream mapping in the southeastern United States, only 20 percent of the stream network was mapped on 1:24,000 scale topographic maps, and nearly none of the observed intermittent or ephemeral streams were indicated on those maps (Hansen 2001). Another study in Massachusetts showed that those types of topographic maps exclude over 27 percent of stream miles in a watershed (Brooks and Colburn 2011). For a 1:24,000 scale topographic map, the smallest tributary found by using 10-foot contour interval has a drainage area of 0.7 square mile and length of 1,500 feet, and smaller stream channels are common throughout the United States (Leopold 1994). Benstead and Leigh (2012) found that the density of stream channels (length of stream channels per unit area) identified by digital elevation models was three times greater than the drainage density calculated by using USGS maps. Elmore et al. (2013) made similar findings in watersheds in the mid-Atlantic, where they determined that the stream density was 2.5 times greater than the stream density calculated with the National Hydrography Dataset. Due to the difficulty in mapping small streams, there are no accurate estimates of the total number of river or stream miles in the conterminous United States that might be considered as "waters of the United States."

The quantity of the Nation's aquatic resources presented by studies that estimate the length or number of stream channels (see above) or the acreage of wetlands (USFWS status and trends studies, National Wetland Inventory (NWI), and Natural Resources Inventory (NRI) are underestimates, because those inventories do not include many small wetlands and streams. The USFWS status and trends study does not include Alaska, Hawaii, or the territories. The underestimate of national wetland acreage by the USFWS status and trends study and the NWI is primarily the result of the minimum size of wetlands detected through remote sensing techniques and the difficulty of identifying certain wetland types through those remote sensing techniques. The remote sensing approaches used by the USFWS for its NWI maps and its status and trends reports result in errors of omission that exclude wetlands that are difficult to identify through photointerpretation (Tiner 1997a). These errors of omission are due to wetland type and the size of target mapping units (Tiner 1997a). Therefore, it is important to understand the limitations of the source data when describing the environmental baseline for wetlands using maps and studies produced by remote sensing, especially in terms of wetland quantity.

Factors affecting the accuracy of wetland maps made by remote sensing include: the degree of difficulty in identifying a wetland, map scale, the quality and scale of the source information (e.g., aerial or satellite photos), the environmental conditions when the source information was obtained, the time of year source information was obtained, the mapping equipment, and the skills of the people producing the maps (Tiner 1999). The map scale usually affects the target mapping unit, which is the minimum wetland size that can be consistently mapped (Tiner 1997b). In general, wetland types that are difficult to identify through field investigations are likely to be underrepresented in maps made by remote sensing (Tiner 1999). Wetlands difficult to identify through remote sensing include forested wetlands, small wetlands, narrow wetlands, mowed wetlands, farmed wetlands, wetlands with hydrology at the drier end of the wetland hydrology continuum, and significantly drained wetlands (Tiner 1999). In the most recent wetland status and trends report published by the U.S. Fish and Wildlife Service, the target minimum wetland mapping unit was 1 acre,

although some easily identified wetlands as small as 0.1 acre were identified in that effort (Dahl 2011). The National Wetland Inventory identifies wetlands regardless of their jurisdictional status under the Clean Water Act (Tiner 1997b).

Activities authorized by NWPs will adversely affect a smaller proportion of the Nation's wetland base than indicated by the wetlands acreage estimates provided in the most recent status and trends report, or the NWI maps for a particular region.

Not all wetlands, streams, and other types of aquatic resources are subject to federal jurisdiction under the Clean Water Act (Mitsch and Gosselink 2015). Two U.S. Supreme Court decisions have identified limits to Clean Water Act jurisdiction. In 2001, in *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers* (531 U.S. 159) the U.S. Supreme Court held that the use of isolated, non-navigable, intrastate waters by migratory birds is not, by itself a sufficient basis for exercising federal regulatory authority under the Clean Water Act (see 80 FR 37056). In the Supreme Court's 2006 decision in *Rapanos* v. *United States,* (547 U.S. 715), one justice stated that waters and wetlands regulated under the Clean Water Act must have a "significant nexus" to downstream traditional navigable waters. Four justices (the plurality) concluded that Clean Water Act jurisdiction applies only to relatively permanent waters connected to traditional navigable waters and to wetlands that have a continuous surface connection to those relatively permanent waters. The remaining justices in *Rapanos* stated that Clean Water Act jurisdiction applies to waters and wetlands that meet either the significant nexus test or the Plurality's test.

There are 94,133 miles of shoreline in the United States (NOAA 1975). Of that shoreline, 88,633 miles are tidal shoreline and 5,500 miles are shoreline along the Great Lakes and rivers that connect those lakes to the Atlantic Ocean. More recently, Gittman et al. (2015) estimated that there are 99,524 miles of tidal shoreline in the conterminous United States.

3.2 Quality of Aquatic Ecosystems in the United States

The USFWS status and trends study does not assess the condition or quality of wetlands and deepwater habitats (Dahl 2011). Information on water quality in waters and wetlands, as well as the causes of water quality impairment, is collected by the U.S. EPA under sections 305(b) and 303(d) of the Clean Water Act. Table 3.4 provides U.S. EPA's most recent national summary of water quality in the Nation's waters and wetlands.

Table 3.4. National summary of water quality data (U.S. EPA 2015).

Category of water	Total waters	Total waters assessed	Percent of waters assessed	Good waters	Threatened waters	Impaired waters
Rivers and streams	3,533,205 miles	1,046,621 miles	29.6	476,765 miles	7,657 miles	562,198 miles
Lakes, reservoirs and ponds	41,666,049 acres	17,904,395 acres	43.0	5,658,789 acres	145,572 acres	12,100,034 acres
Bays and estuaries	87,791 square miles	33,402 square miles	38.0	7,291 square miles	0 square miles	26,111 square miles
Coastal shoreline	58,618 miles	8,162 miles	13.9	900 miles	0 miles	7,262 miles
Ocean and near coastal waters	54,120 square miles	1,674 square miles	3.1	616 square miles	0 square miles	1,058 square miles
Wetlands	107,700,000 acres	1,112,438 acres	1.0	573,947 acres	0 acres	538,492 acres
Great Lakes shoreline	5,202 miles	4,431 miles	85.2	78 miles	0 miles	4,353 miles
Great Lakes open waters	60,546 square miles	53,332 square miles	88.1	62 square miles	0 square miles	53,270 square miles

Waters and wetlands classified by states as “good” meets all their designated uses. Waters classified as “threatened” currently support all of their designated uses, but if pollution control measures are not taken one or more of those uses may become impaired in the future. A water or wetland is classified by the state as “impaired” if any one of its designated uses is not met. The definitions of good, threatened, and impaired are applied by states to describe the quality of their waters (the above definitions were found in the metadata in U.S. EPA (2015)). Designated uses include the “protection and propagation of fish, shellfish and wildlife,” “recreation in and on the water,” the use of waters for “public water supplies, propagation of fish, shellfish, wildlife, recreation in and on the water,” and “agricultural, industrial and other purposes including navigation.” (40 CFR 130.3). These designated uses are assessed by states in a variety of ways, by examining various physical, chemical and biological characteristics, so it is not possible to use the categories of “good,” “threatened,” and “impaired” to infer the level of ecological functions and services these waters perform.

According to the latest U.S. EPA national summary (U.S. EPA 2015), 54 percent of assessed rivers and streams, 68 percent of assessed lakes, reservoirs, and ponds, 78 percent of assessed bays and estuaries, 89 percent of assessed coastal shoreline, 63 percent of assessed ocean and near coastal waters, and 48 percent of assessed wetlands are impaired.

For rivers and streams, 34 causes of impairment were identified, and the top 10 causes were pathogens, sediment, nutrients, mercury, organic enrichment/oxygen depletion, polychlorinated biphenyls, metals (other than mercury), temperature, habitat alterations, and

flow alteration(s). The primary sources of impairment for the assessed rivers and streams were agriculture, unknown sources, atmospheric deposition, urban-related runoff/stormwater, hydromodification, municipal discharges/sewage, natural/wildlife, unspecified point source, habitat alterations not directly related to hydromodification, and resource extraction.

Thirty-one causes of impairment were identified for bays and estuaries. The top 10 causes of impairment for these waters is: mercury, polychlorinated biphenyls, pathogens, organic enrichment/oxygen depletion, dioxins, other causes, fish consumption advisories, metals (other than mercury), noxious aquatic plants, and pesticides. For bays and estuaries, the top 10 sources of impairment were atmospheric deposition, unknown sources, municipal discharges/sewage, other sources, industrial, natural/wildlife, urban-related runoff/stormwater, spills/dumping, unspecified non-point sources, and agriculture.

Coastal shorelines were impaired by 15 identified causes, the top 10 of which were: mercury, pathogens, organic enrichment/oxygen depletion, turbidity, pH/acidity/caustic conditions, nutrients, temperature, oil and grease, algal growth, and causes unknown/impaired biota. The top 10 sources of impairment of coastal shorelines are "unknown," atmospheric deposition, municipal discharges/sewage, urban-related runoff/ stormwater, hydromodification, unspecified non-point sources, agriculture, recreational boating and marinas, industrial, and spills/dumping.

For wetlands, 26 causes of impairment were identified, and the top 10 causes were organic enrichment/oxygen depletion, mercury, pathogens, metals (excluding mercury), toxic inorganics, temperature, sediment, algal growth, flow alterations, and turbidity. The primary sources for wetland impairment were "unknown," agriculture, atmospheric deposition, industrial, municipal discharges/sewage, recreational boating and marinas, resource extraction, natural/wildlife, hydromodification, and unspecified point sources.

Water quality standards are established by states, with review and approval by the U.S. EPA (see Section 303(c) of the Clean Water Act and the implementing regulations at 40 CFR part 131). Under Section 401 of the Clean Water Act States review proposed discharges to determine compliance with applicable water quality standards.

Most causes and sources of impairment are not due to activities regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Inputs of sediments into aquatic ecosystems can result from erosion occurring within a watershed (Beechie et al. 2013, Gosselink and Lee 1989). As water moves through a watershed it carries sediments and pollutants to streams (e.g., Allan 2004, Dudgeon et al. 2005, Paul and Meyer 2001) and wetlands (e.g., Zedler and Kercher 2005, Wright et al. 2006). Non-point sources of pollution (i.e., pollutants carried in runoff from farms, roads, and urban areas) are largely uncontrolled (Brown and Froemke 2012) because the Clean Water Act only requires permits for point sources discharges of pollutants (i.e., discharges of dredged or fill material regulated under section 404 and point source discharges of other pollutants regulated under section 402).

The indirect effects of changes in upland land use (which are highly likely not to be subject to federal control and responsibility, at least in terms of the Corps Regulatory Program), including the construction and expansion of upland developments, have substantial adverse effects on the quality (i.e. the ability to perform hydrologic, biogeochemical, and habitat functions) of jurisdictional waters and wetlands because those upland activities alter watershed-scale processes. Those watershed-scale processes include water movement and storage, erosion and sediment transport, and the transport of nutrients and other pollutants.

Habitat alterations as a cause or source of impairment may be the result of activities regulated under section 404 and section 10 because they involve discharges of dredged or fill material into jurisdictional waters or structures or work in navigable waters, but habitat alterations may also occur as a result of activities not regulated under those two statutes, such as the removal of vegetation from upland riparian areas. Hydrologic modifications may or may not be regulated under section 404 or section 10, depending on whether those hydrologic modifications are the result of discharges of dredged or fill material into waters of the United States regulated under Section 404 of the Clean Water Act or structures or work in navigable waters of the United States regulated under Section 10 of the Rivers and Harbors Act of 1899. When states, tribes, or the U.S. EPA establish total daily maximum loads (TMDLs) for pollutants and other impairments for specific waters, there may be variations in how these TMDLs are defined (see 40 CFR part 130).

As discussed below, many anthropogenic activities and natural processes affect the ability of jurisdictional waters and wetlands to perform ecological functions. Stream and river functions are affected by activities occurring in their watersheds, including the indirect effects of land uses changes (Beechie et al. 2013, Allan 2004, Paul and Meyer 2001). Booth at al. (2004) found riparian land use in residential areas also strongly affects stream condition because many landowners clear vegetation up to the edge of the stream bank. The removal of vegetation from upland riparian areas and other activities in those non-jurisdictional areas do not require DA authorization. Wetland functions are also affected by indirect effects of land use activities in the land area that drains to the wetland (Zedler and Kercher 2005, Wright et al. 2006). Human activities within a watershed or catchment that have direct or indirect adverse effects on rivers, streams, wetlands, and other aquatic ecosystems are not limited to discharges of dredged or fill material into waters of the United States or structures or work in a navigable waters. Human activities in uplands have substantial indirect effects on the structure and function of aquatic ecosystems, including streams and wetlands, and their ability to sustain populations of listed species. It is extremely difficult to distinguish between degradation of water quality caused by upland activities and degradation of water quality caused by the filling or alteration of wetlands (Gosselink and Lee 1989).

Most causes and sources of impairment are not due to activities regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Habitat alterations as a cause or source of impairment may be the result of activities regulated under section 404 and section 10 because they involve discharges of dredged or fill material or structures or work in navigable waters, but habitat alterations may also occur as a result of activities not regulated under those two statutes, such as the removal of vegetation from

upland riparian areas. Hydrologic modifications may or may not be regulated under section 404 or section 10.

The U.S. Environmental Protection Agency (U.S. EPA) has undertaken the National Wetland Condition Assessment (NWCA), which is a statistical survey of wetland condition in the United States (U.S. EPA 2016). The NWCA assesses the ambient conditions of wetlands at the national and regional scales. The national scale encompasses the conterminous United States. The regional scale consists of four aggregated ecoregions: Coastal Plains, Eastern Mountains and Upper Midwest, Interior Plains, and West. In May 2016, U.S. EPA issued a final report on the results of its 2011 NWCA (U.S. EPA 2016).

The 2011 NWCA determined that, across the conterminous United States, 48 percent of wetland area (39.8 million acres) is in good condition, 20 percent of the wetland area (12.4 million acres) is in fair condition, and 32 percent (19.9 million acres) is in poor condition (U.S. EPA 2016). The 2011 NWCA also examined indicators of stress for the wetlands that were evaluated. The most prevalent physical stressors were vegetation removal, surface hardening via conversion to pavement or soil compaction, and ditching (U.S. EPA 2016). In terms of chemical stressors, most wetlands were subject to low exposure to heavy metals and soil phosphorous, but substantial percentages of wetland area in the West and Eastern Mountains and Upper Midwest ecoregions were found to have moderate stressor levels for heavy metals (U.S. EPA 2016). For soil phosphorous concentrations, stressor levels were high for 13 percent of the wetland area in the Eastern Mountains and Upper Midwest ecoregion (U.S. EPA 2016). Across the conterminous United States, for biological stressors indicated by non-native plants, 61 percent of the wetland area exhibited low stressor levels (U.S. EPA 2016). When examined on an ecoregion basis, the Eastern Mountains and Upper Midwest and Coastal Plains ecoregions had high percentages of wetland area with low non-native plant stressor levels, but the West and Interior Plains ecoregions had small percentages of areas with low non-native plant stressor levels (U.S. EPA 2016).

3.3 Aquatic resource functions and services

Functions are the physical, chemical, and biological processes that occur in ecosystems (33 CFR 332.2). Wetland functions occur through interactions of their physical, chemical, and biological features (Smith et al. 1995). Wetland functions depend on a number of factors, such as the movement of water through the wetland, landscape position, surrounding land uses, vegetation density within the wetland, geology, soils, water source, and wetland size (NRC 1995). In its evaluation of wetland compensatory mitigation in the Clean Water Act Section 404 permit program, the National Research Council (2001) recognized five general categories of wetland functions:

- Hydrologic functions
- Water quality improvement
- Vegetation support
- Habitat support for animals
- Soil functions

Hydrologic functions include short- and long-term water storage and the maintenance of wetland hydrology (NRC 1995). Water quality improvement functions encompass the transformation or cycling of nutrients, the retention, transformation, or removal of pollutants, and the retention of sediments (NRC 1995). Vegetation support functions include the maintenance of plant communities, which support various species of animals as well as economically important plants. Wetland soils support diverse communities of bacteria and fungi which are critical for biogeochemical processes, including nutrient cycling and pollutant removal and transformation (NRC 2001). Wetland soils also provide rooting media for plants, as well as nutrients and water for those plants. These various functions generally interact with each other, to influence overall wetland functioning, or ecological integrity (Smith et al. 1995; Fennessy et al. 2007). As discussed earlier in this report, the Corps regulations at 33 CFR 320.4(b) list wetland functions that are important for the public interest review during evaluations of applications for DA permits, and for the issuance of general permits.

Not all wetlands perform the same functions, nor do they provide functions to the same degree (Smith et al. 1995). Therefore, it is necessary to account for individual and regional variation when evaluating wetlands and the functions and services they provide. The types and levels of functions performed by a wetland are dependent on its hydrologic regime, the plant species inhabiting the wetland, soil type, and the surrounding landscape, including the degree of human disturbance of the landscape (Smith et al. 1995).

Streams also provide a variety of functions, which differ from wetland functions. Streams also provide hydrologic functions, nutrient cycling functions, food web support, and corridors for movement of aquatic organisms (Allan and Castillo 2007). When considering stream functions, the stream channel should not be examined in isolation. The riparian corridor next to the stream channel is an integral part of the stream ecosystem and has critical roles in stream functions (NRC 2002). Riparian areas provide many of the same general functions as wetlands (NRC 1995, 2002). Fischenich (2006) conducted a review of stream and riparian corridor functions, and through a committee, identified five broad categories of stream functions:

- Stream system dynamics
- Hydrologic balance
- Sediment processes and character
- Biological support
- Chemical processes and landscape pathways

Stream system dynamics refers to the processes that affect the development and maintenance of the stream channel and riparian area over time, as well as energy management by the stream and riparian area. Hydrologic balance includes surface water storage processes, the exchange of surface and subsurface water, and the movement of water through the stream corridor. Sediment processes and character functions relate to processes for establishing and maintaining stream substrate and structure. Biological support functions include the biological communities inhabiting streams and their riparian areas. Chemical processes and pathway functions influence water and soil quality, as well as the chemical processes and nutrient cycles that occur in streams and their riparian areas. Rivers

and streams function perform functions to different degrees, depending on watershed condition, the severity of direct and indirect impacts to streams caused by human activities, and their interactions with other environmental components, such as their riparian areas (Allan 2004, Gergel et al. 2002).

Ecosystem services are the benefits that humans derive from ecosystem functions (33 CFR 332.2). The Millennium Ecosystem Assessment (2005b) describes four categories of ecosystem services: provisioning services, regulating services, cultural services, and supporting services. For wetlands and open waters, provisioning services include the production of food (e.g., fish, fruits, game), fresh water storage, food and fiber production, production of chemicals that can be used for medicine and other purposes, and supporting genetic diversity for resistance to disease. Regulating services relating to open waters and wetlands consist of climate regulation, control of hydrologic flows, water quality through the removal, retention, and recovery of nutrients and pollutants, erosion control, mitigating natural hazards such as floods, and providing habitat for pollinators. Cultural services that come from wetlands and open waters include spiritual and religious values, recreational opportunities, aesthetics, and education. Wetlands and open waters contribute supporting services such as soil formation, sediment retention, and nutrient cycling.

Examples of services provided by wetland functions include flood damage reduction, maintenance of populations of economically important fish and wildlife species, maintenance of water quality (NRC 1995, MEA 2005b) and the production of populations of wetland plant species that are economically important commodities, such as timber, fiber, and fuel (MEA 2005b). Wetlands can also provide important climate regulation and storm protection services (MEA 2005b).

Stream functions also result in ecosystem services that benefit society. Streams and their riparian areas store water, which can reduce downstream flooding and subsequent flood damage (NRC 2002, MEA 2005b). These ecosystems also maintain populations of economically important fish, wildlife, and plant species, including valuable fisheries (MEA 2005b, NRC 2002). The nutrient cycling and pollutant removal functions help maintain or improve water quality for surface waters (NRC 2002, MEA 2005b). Streams and riparian areas also provide important recreational opportunities. Rivers and streams also provide water for agricultural, industrial, and residential use (MEA 2005b).

Freshwater ecosystems provide services such as water for drinking, household uses, manufacturing, thermoelectric power generation, irrigation, and aquaculture; production of finfish, waterfowl, and shellfish; and non-extractive services, such as flood control, transportation, recreation (e.g., swimming and boating), pollution dilution, hydroelectric generation, wildlife habitat, soil fertilization, and enhancement of property values (Postel and Carpenter 1997).

Marine ecosystems provide a number of ecosystem services, including fish production; materials cycling (e.g., nitrogen, carbon, oxygen, phosphorous, and sulfur); transformation, detoxification, and sequestration of pollutants and wastes produced by humans; support of ocean-based recreation, tourism, and retirement industries; and coastal land development

and valuation, including aesthetics related to living near the ocean (Peterson and Lubchenco 1997).

Activities authorized by this NWP will provide a wide variety of goods and services that are valued by society. For example, utility lines are important components of urban and rural infrastructure. They convey a variety of substances or products to people, such as water, fuel, and electricity. Utility lines are also essential for communication, including telephone lines, internet connections, and cable television. Utility lines are also important for the removal of wastes from residences, as well as commercial and institutional facilities.

4.0 Environmental Consequences

4.1 General Evaluation Criteria

This document contains a general assessment of the foreseeable effects of the individual activities authorized by this NWP and the anticipated cumulative effects of those activities. In the assessment of these individual and cumulative effects, the terms and limits of the NWP, pre-construction notification requirements, and the standard NWP general conditions are considered. The supplemental documentation provided by division engineers will address how regional conditions affect the individual and cumulative effects of the NWP.

The following evaluation comprises the NEPA analysis, the public interest review specified in 33 CFR 320.4(a)(1) and (2), and the impact analysis specified in Subparts C through F of the 404(b)(1) Guidelines (40 CFR Part 230).

The issuance of an NWP is based on a general assessment of the effects on public interest and environmental factors that are likely to occur as a result of using this NWP to authorize activities in waters of the United States. As such, this assessment must be speculative or predictive in general terms. Since NWPs authorize activities across the nation, projects eligible for NWP authorization may be constructed in a wide variety of environmental settings. Therefore, it is difficult to predict all of the indirect impacts that may be associated with each activity authorized by an NWP. For example, the NWP that authorizes 25 cubic yard discharges of dredged or fill material into waters of the United States may be used to fulfill a variety of project purposes, and the indirect effects will vary depending on the specific activity and the environmental characteristics of the site in which the activity takes place. Indication that a factor is not relevant to a particular NWP does not necessarily mean that the NWP would never have an effect on that factor, but that it is a factor not readily identified with the authorized activity. Factors may be relevant, but the adverse effects on the aquatic environment are negligible, such as the impacts of a boat ramp on water level fluctuations or flood hazards. Only the reasonably foreseeable direct, indirect, and cumulative effects are included in the environmental assessment for this NWP. Division and district engineers will impose, as necessary, additional conditions on the NWP authorization or exercise discretionary authority to address locally important factors or to ensure that the authorized activity results in no more than minimal individual and

cumulative adverse environmental effects. In any case, adverse effects will be controlled by the terms, conditions, and additional provisions of the NWP. For example, Section 7 Endangered Species Act consultation will be required for all activities that may affect endangered or threatened species or critical habitat (see 33 CFR 330.4(f) and NWP general condition 18).

4.2 Impact Analysis

This NWP authorizes the construction, maintenance, repair, or removal of utility lines and associated facilities in waters of the United States. The acreage limit for this NWP is 1/2 acre.

Pre-construction notification is required if: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. The pre-construction notification requirement allows district engineers to review proposed activities on a case-by-case basis to ensure that the individual and cumulative adverse environmental effects of those activities are no more than minimal. If the district engineer determines that the adverse environmental effects of a particular project are more than minimal after considering mitigation, then discretionary authority will be asserted and the applicant will be notified that another form of DA authorization, such as a regional general permit or individual permit, is required (see 33 CFR 330.4(e) and 330.5).

When making minimal effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type(s) of resource(s) that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. These criteria are listed in the NWPs in Section D, “District Engineer’s Decision.” If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

Additional conditions can be placed on proposed activities on a regional or case-by-case

basis to ensure that the activities have no more than minimal individual and cumulative adverse environmental effects. Regional conditioning of this NWP will be used to account for differences in aquatic resource functions, services, and values across the country, ensure that the NWP authorizes only those activities with no more than minimal individual and cumulative adverse environmental effects, and allow each Corps district to prioritize its workload based on where its efforts will best serve to protect the aquatic environment and other appropriate resources. Regional conditions can prohibit the use of an NWP in certain waters (e.g., high value waters or specific types of wetlands or waters), lower pre-construction notification thresholds, or require pre-construction notification for some or all NWP activities in certain watersheds or types of waters. Specific NWPs can also be revoked on a geographic or watershed basis where the individual and cumulative adverse environmental effects resulting from the use of those NWPs are more than minimal.

In high value waters, division and district engineers can: 1) prohibit the use of the NWP in those waters and require an individual permit or regional general permit; 2) decrease the acreage limit for the NWP; 3) lower the pre-construction notification threshold of the NWP to require pre-construction notification for NWP activities with smaller impacts in those waters; 4) require pre-construction notification for some or all NWP activities in those waters; 5) add regional conditions to the NWP to ensure that the individual and cumulative adverse environmental effects are no more than minimal; or 6) for those NWP activities that require pre-construction notification, add special conditions to NWP authorizations, such as compensatory mitigation requirements, to ensure that the adverse environmental effects are no more than minimal. NWPs can authorize activities in high value waters as long as the individual and cumulative adverse environmental effects are no more than minimal.

The construction and use of fills for temporary access for construction may be authorized by NWP 33 or regional general permits issued by division or district engineers. The related activity must meet the terms and conditions of the specified permit(s). If the discharge is dependent on portions of a larger project that require an individual permit, this NWP will not apply. [See 33 CFR 330.6(c) and (d)]

4.3 Cumulative Effects

4.3.1 General Analysis

The Council on Environmental Quality's (CEQ's) NEPA regulations define cumulative effects as: "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." [40 CFR 1508.7.] Therefore, the NEPA cumulative effects analysis for an NWP is not limited to activities authorized by the NWP, other NWPs, or other DA permits (individual permits and regional general permits). The NEPA cumulative effects analysis must also include other Federal and non-Federal activities that affect the Nation's wetlands, streams, and other aquatic resources, as well as other resources

(e.g., terrestrial ecosystems, air) that may be directly or indirectly affected by the proposed action and other actions. According to guidance issued by CEQ (1997), a NEPA cumulative effects analysis should focus on specific categories of resources (i.e., resources of concern) identified during the review process as having significant cumulative effects concerns. These cumulative effects analyses also require identification of the disturbances and stressors that cause degradation of those resources, including those caused by actions unrelated to the proposed action. A NEPA cumulative effects analysis does not need to analyze issues that have little relevance to the proposed action or the decision the agency will have to make (CEQ 1997).

The geographic scope of this cumulative effects analysis is the United States and its territories, where the NWP may be used to authorize specific activities that require DA authorization. The temporal scope of the cumulative effects analysis includes past federal, non-federal, and private actions that continue to affect the Nation's wetlands, streams, and other aquatic resources (including activities authorized by previously issued NWPs, regional general permits, and DA individual permits) as well as present and reasonably foreseeable future federal, non-federal, and private actions that are affecting, or will affect, wetlands, streams, and other aquatic resources. The present effects of past federal, non-federal, and private actions on wetlands, streams, and other aquatic resources are included in the affected environment, which is described in section 3.0. The affected environment described in section 3.0 also includes present effects of past actions, including activities authorized by NWPs issued from 1977 to 2012 and constructed by permittees, which are captured in national information on the quantity and quality of wetlands, streams, and other aquatic resources.

In addition to the activities authorized by this NWP, there are many categories of activities that contribute to cumulative effects on wetlands, streams, and other aquatic resources in the United States, and alter the quantity of those resources, the functions they perform, and the ecosystem services they provide. Activities authorized by past versions of NWP 12, as well as other NWPs, individual permits, letters of permission, and regional general permits have resulted in direct and indirect impacts to wetlands, streams, and other aquatic resources. Those activities may have legacy effects that have added to the cumulative effects and affected the quantity of those resources and the functions they provide. Discharges of dredged or fill material that do not require DA permits because they are exempt from section 404 permit requirements can also adversely affect the quantity of the Nation's wetlands, streams, and other aquatic resources and the functions and services they provide. Discharges of dredged or fill material that convert wetlands, streams, and other aquatic resources to upland areas result in permanent losses of aquatic resource functions and services. Temporary fills and fills that do not convert waters or wetlands to dry land may cause short-term or partial losses of aquatic resource functions and services. During construction of utility lines, where horizontal directional drilling is used to install or replace the utility line, there is a possibility of inadvertent returns of drilling fluids that could adversely affect wetlands, streams, and other aquatic resources. Those inadvertent returns of drilling fluids are not considered discharges of dredged or fill material that require Clean Water Act section 404 authorization. Activities necessary to remediate these inadvertent returns of drilling fluids may involve activities that require Department of the Army authorization, and

those activities may be authorized by NWP 12.

Humans have long had substantial impacts on ecosystems and the ecological functions and services they provide (Ellis et al. 2010). Around the beginning of the 19th century, the degree of impacts of human activities on the Earth's ecosystems began to exceed the degree of impacts to ecosystems caused by natural disturbances and variability (Steffen et al. 2007). All of the Earth's ecosystems have been affected either directly or indirectly by human activities (Vitousek et al. 1997). Over 75 percent of the ice-free land on Earth has been altered by human occupation and use (Ellis and Ramankutty 2008). Approximately 33 percent of the Earth's ice-free land consists of lands heavily used by people: urban areas, villages, lands used to produce crops, and occupied rangelands (Ellis and Ramankutty 2008). For marine ecosystems, Halpern et al. (2008) determined that there are no marine waters that are unaffected by human activities, and that 41 percent of the area of ocean waters are affected by multiple anthropogenic stressors (e.g., land use activities that generate pollution that go to coastal waters, marine habitat destruction or modification, and the extraction of resources). The marine waters most highly impacted by human activities are continental shelf and slope areas, which are affected by both land-based and ocean-based activities (Halpern et al. 2008). Human population density is a good indicator of the relative effect that people have had on local ecosystems, with lower population densities causing smaller impacts to ecosystems and higher population densities having larger impacts on ecosystems (Ellis and Ramankutty 2008). Human activities such as urbanization, agriculture, and forestry alter ecosystem structure and function by changing their interactions with other ecosystems, their biogeochemical cycles, and their species composition (Vitousek et al. 1997). Changes in land use reduce the ability of ecosystems to produce ecosystem services, such as food production, reducing infectious diseases, and regulating climate and air quality (Foley et al. 2005).

Recent changes in climate have had substantial impacts on natural ecosystems and human communities (IPCC 2014). Climate change, both natural and anthropogenic, is a major driving force for changes in ecosystem structure, function, and dynamics (Millar and Brubaker 2006). However, there are other significant drivers of change to aquatic and terrestrial ecosystems. In addition to climate change, aquatic and terrestrial ecosystems are also adversely affected by land use and land cover changes, natural resource extraction (including water withdrawals), pollution, species introductions, and removals of species (Staudt et al. 2013, Bodkin 2012, MEA 2005d) and changes in nutrient cycling (Julius et al. 2013).

Cumulative effects to wetlands, streams, and other aquatic resources in the United States are not limited to the effects caused by activities regulated and authorized by the Corps under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Other federal, non-federal, and private activities also contribute to the cumulative effects to wetlands, streams, and other aquatic resources, by changing the quantity of those resources and the functions they provide. Wetlands, streams, and other aquatic resources and the functions and services they provide are directly and indirectly affected by changes in land use and land cover, alien species introductions, overexploitation of species, pollution, eutrophication due to excess nutrients, resource extraction including water withdrawals,

climate change, and various natural disturbances (MEA 2005b). Freshwater ecosystems such as lakes, rivers, and streams are altered by changes to water flow, climate change, land use changes, additions of chemicals, resource extraction, and aquatic invasive species (Carpenter et al. 2011). Cumulative effects to wetlands, streams, and other aquatic resources are the result of landscape-level processes (Gosselink and Lee 1989). As discussed in more detail below, cumulative effects to aquatic resources are caused by a variety of activities (including activities that occur entirely in uplands) that take place within a landscape unit, such as the watershed for a river or stream (e.g., Allan 2004, Paul and Meyer 2001, Leopold 1968) or the contributing drainage area for a wetland (e.g., Wright et al. 2006, Brinson and Malvárez 2002, Zedler and Kercher 2005).

Cumulative effects also include environmental effects caused by reasonably foreseeable future actions that may take place after the permitted activity is completed. Such effects may include direct and indirect environmental effects caused by the operation and maintenance of the facility constructed on the discharge of dredged or fill material into waters of the United States or the structures or work in navigable waters of the United States. For NWP 12, this includes activities associated with the operation and maintenance of the utility lines, substations, and access roads constructed or expanded as a result of activities authorized by this NWP. Utility line activities and associated will also contribute to other cumulative effects to aquatic and terrestrial environments and to the atmosphere, during their construction, maintenance, and operation. During the operation of utility lines, substances carried by those utility lines may leak into surrounding areas. For oil pipelines, operators are required to comply with the Pipeline and Hazardous Materials Safety Administration's safety requirements, and have plans for addressing the risk of oil spills. Oil spills are also addressed through the Oil Pollution Act of 1990, which is administered by the U.S. Environmental Protection Agency and the U.S. Coast Guard. The U.S. EPA is responsible for oil spills in inland waters and the U.S. Coast Guard is responsible for oil spills in coastal waters and deepwater ports. For natural gas pipelines, there may be gas leaks during the operation of those pipelines. Sewer lines may develop breaks or leaks that discharge sewage into nearby waters and wetlands. Pipelines carrying other types of substances must comply with other applicable federal and state laws and regulations during their operations. For example, the Federal Energy Regulatory Commission regulates the interstate transmission of electricity, natural gas, and oil, and issues licenses for interstate natural gas pipelines. For utility lines that carry oil or natural gas, reasonably foreseeable future actions also include the burning of the fossil fuels, which produce carbon dioxide that contribute to greenhouse gas emissions. The Corps does not have the authority to control the burning of fossil fuels or the adverse environmental effects that are caused by burning those fossil fuels to produce energy.

The construction of utility lines and their rights-of-way will fragment terrestrial and aquatic ecosystems. Utility line substations may leak transformer fluids, or the liquids or gases carried by the utility lines those substations support. A variety of pollutants might be released into the environment during the operation and maintenance of these facilities. Those pollutants may be discharged through either point sources or non-point sources and reach jurisdictional waters and wetlands. Point-source discharges would likely require National Pollutant Discharge Elimination System Permits under Section 402 of the Clean

Water Act, which is administered by U.S. EPA or by states with approved programs. Pollutants may also be discharged through spills and other accidents. Operations and maintenance activities may also other direct and indirect effects on wetlands, streams, and other aquatic resources. The Corps does not have the authority to regulate operations and maintenance activities that: (1) do not involved discharges of dredged or fill material into waters of the United States; (2) involve activities exempt from Clean Water Act Section 404 permit requirements under section 404(f); and (3) do not involve structures or work requiring DA authorization under Sections 9 or 10 of the Rivers and Harbors Act of 1899. Operations and maintenance activities regulated by the Corps are considered during the permit evaluation process.

In a specific watershed, division or district engineers may determine that the cumulative adverse environmental effects of activities authorized by this NWP are more than minimal. Division and district engineers will conduct more detailed assessments for geographic areas that are determined to be potentially subject to more than minimal cumulative adverse environmental effects. Division and district engineers have the authority to require individual permits in watersheds or other geographic areas where the cumulative adverse environmental effects are determined to be more than minimal, or add conditions to the NWP either on a case-by-case or regional basis to require mitigation measures to ensure that the cumulative adverse environmental effects of these activities are no more than minimal. When a division or district engineer determines, using local or regional information, that a watershed or other geographic area is subject to more than minimal cumulative adverse environmental effects due to the use of this NWP, he or she will use the revocation and modification procedure at 33 CFR 330.5. In reaching the final decision, the division or district engineer will compile information on the cumulative adverse effects and supplement this document.

The Corps expects that the convenience and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP rather than request individual permits for projects which could result in greater adverse impacts to the aquatic environment. The minimization encouraged by the issuance of this NWP, as well as compensatory mitigation that may be required for specific activities authorized by this NWP, will help reduce cumulative effects to the Nation's wetlands, streams, and other aquatic resources.

Cumulative effects to specific categories of resources (i.e., resources of concern in accordance with CEQ's (1997) guidance) are discussed in more detail below. As discussed above, in addition to activities regulated under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899, there are many categories of activities that contribute to cumulative effects to the human environment. The activities authorized by this NWP during the 5-year period it will be in effect will result in no more than minimal incremental contributions to cumulative effects to these resource categories.

4.3.2 Cumulative Effects to Aquatic Ecosystems

The ecological condition of rivers and streams is dependent on the state of their watersheds

(NRC 1992), because they are affected by activities that occur in those watersheds, including agriculture, urban development, deforestation, mining, water removal, flow alteration, and invasive species (Palmer et al. 2010). Land use changes affect rivers and streams through increased sedimentation, larger inputs of nutrients (e.g., nitrogen, phosphorous) and pollutants (e.g., heavy metals, synthetic chemicals, toxic organics), altered stream hydrology, the alteration or removal of riparian vegetation, and the reduction or elimination of inputs of large woody debris (Allan 2004). Agriculture is the primary cause of stream impairment, followed by urbanization (Foley et al. 2005, Paul and Meyer 2001). Agricultural land use adversely affects stream water quality, habitat, and biological communities (Allan 2004). Urbanization causes changes to stream hydrology (e.g., higher flood peaks, lower base flows), sediment supply and transport, water chemistry, and aquatic organisms (Paul and Meyer 2001). Leopold (1968) found that land use changes affect the hydrology of an area by altering stream flow patterns, total runoff, water quality, and stream structure. Changes in peak flow patterns and runoff affect stream channel stability. Stream water quality is adversely affected by increased inputs of sediments, nutrients, and pollutants, many of which come from non-point sources (Paul and Meyer 2001, Allan and Castillo 2007).

The construction and operation of water-powered mills in the 17th to 19th centuries substantially altered the structure and function of streams in the eastern United States (Walter and Merritts 2008) and those effects have persisted to the present time. In urbanized and agricultural watersheds, the number of small streams has been substantially reduced, in part by activities that occurred between the 19th and mid-20th centuries (Meyer and Wallace 2001). Activities that affect the quantity and quality of small streams include residential, commercial, and industrial development, mining, agricultural activities, forestry activities, and road construction (Meyer and Wallace 2001), even if those activities are located entirely in uplands.

Activities that affect wetland quantity and quality include: land use changes that alter local hydrology (including water withdrawal), clearing and draining wetlands, constructing levees that sever hydrologic connections between rivers and floodplain wetlands, constructing other obstructions to water flow (e.g., dams, locks), constructing water diversions, inputs of nutrients and contaminants, and fire suppression (Brinson and Malvárez 2002). Wetland loss and degradation is caused by hydrologic modifications of watersheds, drainage activities, logging, agricultural runoff, urban development, conversion to agriculture, aquifer depletion, river management, (e.g., channelization, navigation improvements, dams, weirs), oil and gas development activities, levee construction, peat mining, and wetland management activities (Mitsch and Hernandez 2013). Upland development adversely affects wetlands and reduces wetland functionality because those activities change surface water flows and alter wetland hydrology, contribute stormwater and associated sediments, nutrients, and pollutants, cause increases in invasive plant species abundance, and decrease the diversity of native plants and animals (Wright et al. 2006). Many of the remaining wetlands in the United States are degraded (Zedler and Kercher 2005). Wetland degradation and losses are caused by changes in water movement and volume within a watershed or contributing drainage area, altered sediment transport, drainage, inputs of nutrients from non-point sources, water diversions, fill activities, excavation activities, invasion by non-native species, land subsidence, and

pollutants (Zedler and Kercher 2005). According to Mitsch and Gosselink (2015), categories of activities that alter wetlands include: wetland conversion through drainage, dredging, and filling; hydrologic modifications that change wetland hydrology and hydrodynamics; highway construction and its effects on wetland hydrology; peat mining; waterfowl and wildlife management; agriculture and aquaculture activities; water quality enhancement activities; and flood control and stormwater protection.

There is also little national-level information on the ecological condition of the Nation's wetlands, streams, and other aquatic resources, or the amounts of functions they provide, although reviews have acknowledged that most of these resources are degraded (Zedler and Kercher 2005, Allan 2004) or impaired (U.S. EPA 2015) because of various activities, disturbances, and other stressors. These data deficiencies make it more difficult to characterize the affected environment to assess cumulative effects, and the relative contribution of the activities authorized by this NWP to those cumulative effects.

As discussed in section 3.0 of this document there is a wide variety of causes and sources of impairment of the Nation's rivers, streams, wetlands, lakes, estuarine waters, and marine waters (U.S. EPA 2015), which also contribute to cumulative effects to these aquatic resources. Many of those causes of impairment are point and non-point sources of pollutants that are not regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Two common causes of impairment for rivers and streams, habitat alterations and flow alterations, may be due in part to activities regulated by the Corps under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899. Habitat and flow alterations may also be the caused by activities that do not involve discharges of dredged or fill material or structures or work in navigable waters. For wetlands, impairment due to habitat alterations, flow alterations, and hydrology modifications may involve activities regulated under section 404, but these causes of impairment may also be due to unregulated activities, such as changes in upland land use that affects the movement of water through a watershed or contributing drainage area or the removal of vegetation.

Many of the activities discussed in this cumulative effects section that affect wetlands, streams, and other aquatic resources are not subject to regulation under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899.

Estimates of the original acreage of wetlands in the United States vary widely because of the use of different definitions and how those estimates were made (Harris and Gosselink 1990). Dahl (1990) estimates that approximately 53 percent of the wetlands in the conterminous United States were lost in the 200-year period covering the 1780s to 1980s. Much of the wetland loss occurred in the mid-19th century as a result of indirect effects of beaver trapping and the removal of river snags, which substantially reduced the amount of land across the country that was inundated because of beaver dams and river obstructions (Harris and Gosselink 1990). The annual rate of wetland loss has decreased substantially since the 1970s (Dahl 2011), when wetland regulation became more prevalent (Brinson and Malvárez 2002). Between 2004 and 2009, there was no statistically significant difference in wetland acreage in the conterminous United States (Dahl 2011). According to the 2011 wetland

status and trends report, during the period of 2004 to 2009 urban development accounted for 11 percent of wetland losses (61,630 acres), rural development resulted in 12 percent of wetland losses (66,940 acres), silviculture accounted for 56 percent of wetland losses (307,340 acres), and wetland conversion to deepwater habitats caused 21 percent of the loss in wetland area (115,960 acres) (Dahl 2011). Some of the losses occurred to wetlands that are not subject to Clean Water Act jurisdiction and some losses are due to activities not regulated under Section 404 of the Clean Water Act, such as unregulated drainage activities, exempt forestry activities, or water withdrawals. From 2004 to 2009, approximately 100,020 acres of wetlands were gained as a result of wetland restoration and conservation programs on agricultural land (Dahl 2011). Another source of wetland gain is conversion of other uplands to wetlands (389,600 acres during 2004 to 2009) (Dahl 2011). Inventories of wetlands, streams, and other aquatic resources are incomplete, especially at national or regional scales, because the techniques used for those inventories cannot identify all of those resources, especially small wetlands and streams (e.g., Dahl (2011) for wetlands; Meyer and Wallace (2001) for streams).

As discussed in section 3.0, national scale inventories of wetlands, streams, and other types of aquatic resources underestimate the quantity of those resources, and only general information is available on their ability to perform ecological functions and services. Therefore, it is not appropriate to make decisions concerning the significance of cumulative effects by calculating the relative proportion of the aquatic resources baseline impacted by a particular action, or a series of actions subject to a particular federal program. In addition, such an approach does not take into account the many categories of other activities that have direct and indirect effects on aquatic resources that are regulated under other federal, states, or local programs or are not regulated by any entity. Under the Council on Environmental Quality's NEPA definition at 40 CFR 1508.7, a cumulative effects analysis should instead examine the relative contribution that a proposed action will have on cumulative effects to one or more categories of natural resources (i.e., "the incremental impact of the action" and whether that incremental impact is significant or not significant).

For aquatic ecosystems, climate change affects water quality, biogeochemical cycling, and water storage (Julius et al. 2013). Climate change will also affect the abundance and distribution of wetlands across the United States, as well as the functions they provide (Mitsch and Gosselink 2015). Climate change results in increases in stream temperatures, more waterbodies with anoxic conditions, degradation of water quality, and increases in flood and drought frequencies (Julius et al. 2013). The increasing carbon dioxide concentration in the atmosphere also changes the pH of the oceans, resulting in ocean acidification (RS and NAS 2014), which adversely affects corals and some other marine organisms.

Compensatory mitigation required by district engineers for specific activities authorized by this NWP will help reduce the contribution of those activities to the cumulative effects on the Nation's wetlands, streams, and other aquatic resources, by providing ecological functions to partially or fully replace some or all of the aquatic resource functions lost as a result of those activities. Compensatory mitigation requirements for the NWPs are described in general condition 23 and compensatory mitigation projects must also comply with the

applicable provisions of 33 CFR part 332. District engineers will establish compensatory mitigation requirements on a case-by-case basis, after evaluating pre-construction notifications. Compensatory mitigation requirements for individual NWP activities will be specified through permit conditions added to NWP authorizations. When compensatory mitigation is required, the permittee is required to submit a mitigation plan prepared in accordance with the requirements of 33 CFR 332.4(c). Credits from approved mitigation banks or in-lieu fee programs may also be used to satisfy compensatory mitigation requirements for NWP authorizations. Monitoring is required to demonstrate whether the permittee-responsible mitigation project, mitigation bank, or in-lieu fee project is meeting its objectives and providing the intended aquatic resource structure and functions. If the compensatory mitigation project is not meeting its objectives, adaptive management will be required. Adaptive management may involve taking actions, such as site modifications, remediation, or design changes, to ensure the compensatory mitigation project meets its objectives (see 33 CFR 332.7(c)).

The estimated contribution of activities authorized by this NWP to the cumulative effects to wetlands, streams, and other aquatic resources in the United States during the five year period that the NWP would be in effect, in terms of the estimated number of time this NWP would be used until it expires and the projected impacts and compensatory mitigation, is provided in section 7.2.2. It is not practical or feasible to provide quantitative data on the multitude of other contributors to cumulative effects to these resources, including the federal, non-federal, and private activities that are not regulated by the Corps that will also occur during the five year period this NWP is in effect. National-level data on these many categories of activities that are not regulated by the Corps but contribute to cumulative effects are either not collected for the nation or they are not accessible. The activities authorized by this NWP will result in a minor incremental contribution to the cumulative effects to wetlands, streams, and other aquatic resources in the United States because, as discussed in this section, they are one category of many categories of activities that affect those aquatic resources. The causes of cumulative effects discussed in this section include past, present, and reasonably foreseeable future federal, non-federal, and private activities. For the national-scale cumulative effects analysis presented in this section, it is not possible to quantify the relative contributions of all of the various activities that affect the quantity of wetlands, streams, and other aquatic resources and the functions and services they provide, because such data are not available at the national scale.

As discussed above, there are many categories of activities not regulated by the Corps under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899 that contribute to cumulative effects to wetland, streams, and other aquatic resources. During the 5-year period this NWP is in effect, the activities it authorizes will result in only a no more than minimal incremental contribution to cumulative effects to wetlands, streams, and other aquatic ecosystems.

4.3.3 Cumulative Effects to Coastal Areas

In the United States, approximately 39 percent of its population lives in counties that are next to coastal waters, the territorial seas, or the Great Lakes (NOAA 2013). Those counties

comprise less than 10 percent of the land area of the United States (NOAA 2013). Coastal waters are also affected by a wide variety of activities. The major drivers of changes to coastal areas are: development activities that alter coastal forests, wetlands, and coral reef habitats for aquaculture and the construction of urban areas, industrial facilities, and resort and port developments (MEA 2005d). Dredging, reclamation, shore protection and other structures (e.g., causeways and bridges), and some types of fishing activities also cause substantial changes to coastal areas (MEA 2005d). Nitrogen pollution to coastal zones change coral reef communities (MEA 2005d). Adverse effects to coastal waters are caused by habitat modifications, point source pollution, non-point source pollution, changes to hydrology and hydrodynamics, exploitation of coastal resources, introduction of non-native species, global climate change, shoreline erosion, and pathogens and toxins (NRC 1994).

Substantial alterations of coastal hydrology and hydrodynamics are caused by land use changes in watersheds draining to coastal waters, the channelization or damming of streams and rivers, water consumption, and water diversions (NRC 1994). Approximately 52 percent of the population of the United States lives in coastal watersheds (NOAA 2013). Eutrophication of coastal waters is caused by nutrients contributed by waste treatment systems, non-point sources, and the atmosphere, and may cause hypoxia or anoxia in coastal waters (NRC 1994). Changes in water movement through watersheds may also alter sediment delivery to coastal areas, which affects the sustainability of wetlands and intertidal habitats and the functions they provide (NRC 1994). Most inland waters in the United States drain to coastal areas, and therefore activities that occur in inland watersheds affect coastal waters (NRC 1994). Inland land uses, such as agriculture, urban development, and forestry, adversely affect coastal waters by diverting fresh water from estuaries and by acting as sources of nutrients and pollutants to coastal waters (MEA 2005d).

Coastal wetlands have been substantially altered by urban development and changes to the watersheds that drain to those wetlands (Mitsch and Hernandez 2013). Coastal habitat modifications are the result of dredging or filling coastal waters, inputs of sediment via non-point sources, changes in water quality, or alteration of coastal hydrodynamics (NRC 1994). Coastal development activities, including those that occur in uplands, affect marine and estuarine habitats (MEA 2005b). The introduction of non-native species may change the functions and structure of coastal wetlands and other habitats (MEA 2005b). Fishing activities may also modify coastal habitats by changing habitat structure and the biological communities that inhabit those areas (NRC 1994).

As discussed above, there are many categories of activities not regulated by the Corps under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899 that contribute to cumulative effects to coastal areas. During the 5-year period this NWP is in effect, the activities it authorizes will result in only a no more than minimal incremental contribution to cumulative effects to coastal areas.

4.3.4 Cumulative Effects to Endangered and Threatened Species

The status of species as threatened or endangered is also due to cumulative effects (NRC 1986, Odum 1982), and activities authorized by Department of the Army permits are a

minor contributor to the cumulative effects to endangered and threatened species. Land use and land cover changes are the main cause of the loss of biodiversity (Vitousek et al. 1997). The decline of a species that leads to its status as endangered or threatened is usually caused by multiple factors rather than a single factor (Wilcove et al. 1998, Venter et al. 2006, Czech and Krausman 1997, Richter et al. 1997). It is difficult to determine the relative contribution of each cause of species decline or endangerment (Czech and Krausman 1997). For example, for fish species, the number of factors affecting their status ranged from 1 to 15, with an average of 4.5 threats. Over 40 percent of fish species were endangered or threatened as a result of 5 or more factors, and less than 7 percent of fish species were identified as imperiled because of a single factor. During the past few hundred years, human activities have increased species extinction rates by around 1,000 times the Earth's background extinction rates (MEA 2005c).

The main causes of the decline of species to endangered or threatened status are habitat loss and degradation, introduction of species, overexploitation, disease, and climate change (MEA 2005d). Habitat degradation also includes changes in habitat quality caused by habitat fragmentation and pollution. Habitat fragmentation can occur in rivers, and is characterized by disruption of a river's natural flow regime by dams, inter-basin water transfers, or water withdrawals and affects 90 percent of the world's river water volume (MEA 2005d). Invasive alien species are a major cause of species endangerment in freshwater habitats (MEA 2005d). Losses of biological diversity are directly caused by habitat modifications, including land use changes, alteration of river and stream flows, water withdrawals from rivers, losses of coral reefs, and alteration of the sea bed caused by trawling (MEA 2005c). Other direct causes of losses of biodiversity include pollution, invasive species, species overexploitation, climate change, and disease (MEA 2005c). There are often multiple factors interacting with each other to reduce biodiversity, instead of single factors working alone (MEA 2005c).

Wilcove et al. (1998) evaluated five categories of threats to species in the United States, and conducted further analyses on the types of habitat destruction that caused species to be listed as endangered or threatened under the Endangered Species Act. The five categories of threats were habitat destruction, alien species, overharvest, pollution, and disease. Wilcove et al. (1998) focused on species under the jurisdiction of the U.S. Fish and Wildlife Service. More than half of the endangered and threatened species under the jurisdiction of the NMFS were listed after this study was published. Wilcove et al. (1998) found information on the threats to 1,880 species, out of a total of 2,490 species that were categorized as imperiled at that time. Habitat destruction and degradation was the most comment threat, a factor for 85 percent of the imperiled species analyzed. The second most common threat was competition with non-native species, or predation by those species. For aquatic animal species, pollution was the second most common cause of endangerment, after habitat loss (Wilcove et al. 1998).

To more closely examine the causes of habitat loss, Wilcove et al. (1998) analyzed U.S. Fish and Wildlife endangered species listing documents and identified 14 categories of habitat loss or degradation: agriculture; livestock grazing; mining and oil and gas extraction; logging; infrastructure development; road construction and maintenance; military activities;

outdoor recreation; use of off-road vehicles; water development projects (e.g., water diversions, flood control facilities; drainage projects; aquaculture; navigation); dams, impoundments, and other water barriers; pollutants (e.g., sediment and mining pollutants); residential and commercial developments; and disruption of fire ecology. Many species were subject to more than one cause of endangerment (Wilcove et al. 1998). Agriculture was the leading cause of habitat destruction, affecting 38 percent of endangered species, followed by residential and commercial development (35 percent), water development (30 percent), and infrastructure development (17 percent). Habitat destruction caused by water development affected 91 percent of listed fish species and 99 percent of listed mussel species.

Richter et al. (1997) studied the factors that endanger freshwater animals. The most significant threats to those species are habitat destruction, habitat fragmentation, pollution, and exotic species. Richter et al. (1997) also looked at the stressors that are impeding the recovery of aquatic species at risk of extinction and found that changes in stream bed substrate composition (e.g., siltation), hydrologic alteration, interactions with other species, nutrient inputs, and habitat destruction were the most common factors. The major sources of stressors to aquatic species are agricultural land use, urban land use, energy generation industries (especially hydroelectric power), and exotic species (Richter et al. 1997). Agricultural activity was identified as having significant adverse effects on aquatic species through non-point source pollution (sediment and nutrients), interactions with exotic species, and water impoundments (Richter et al. 1997). Water impoundments cause changes in hydrology, as well as habitat destruction and fragmentation. Urban land use resulted in much less non-point source pollution than agricultural activities (Richter et al. 1997).

Note that in these studies on species threats and endangerment, the categories of human activities are discussed in general terms, and may include activities in uplands as well as activities in jurisdictional and non-jurisdictional waters and wetlands. Climate change will also alter species distributions, and extinction may occur for those species that cannot adjust to the changes in climate (Starzmoski 2013).

As discussed above, there are many categories of activities not regulated by the Corps under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899 that contribute to cumulative effects to endangered and threatened species and their designated critical habitats. During the 5-year period this NWP is in effect, the activities it authorizes will result in only a no more than minimal incremental contribution to cumulative effects to endangered and threatened species and their habitats.

4.4 Climate Change

Climate change represents one of the greatest challenges our country faces with profound and wide-ranging implications for the health and welfare of Americans, economic growth, the environment, and international security. Evidence of the warming of climate system is unequivocal and the emission of greenhouse gases from human activities is the primary driver of these changes (IPCC 2014). Already, the United States is experiencing the impacts

of climate change and these impacts will continue to intensify as warming intensifies. It will have far-reaching impacts on natural ecosystems and human communities. These effects include sea level rise, ocean warming, increases in precipitation in some areas and decreases in precipitation in other areas, decreases in sea ice, more extreme weather and climate events including more floods and droughts, increasing land surface temperatures, increasing ocean temperatures, and changes in plant and animal communities (IPCC 2014). Climate change also affects human health in some geographic area by increasing exposure to ground-level ozone and/or particulate matter air pollution (Luber et al. 2014). Climate change also increases the frequency of extreme heat events that threaten public health and increases risk of exposure to vector-borne diseases (Luber et al. 2014). Climate impacts affect the health, economic well-being, and welfare of Americans across the country, and especially children, the elderly, and others who are particularly vulnerable to specific impacts. Climate change can affect ecosystems and species through a number of mechanisms, such as direct effects on species, populations, and ecosystems; compounding the effects of other stressors; and the direct and indirect effects of climate change mitigation or adaptation actions (Staudt et al. 2013). Other stressors include land use and land cover changes, natural resource extraction (including water withdrawals), pollution, species introductions, and removals of species (Staudt et al. 2013, Bodkin 2012, MEA 2005d) and changes in nutrient cycling (Julius et al. 2013).

5.0 Public Interest Review

5.1 Public Interest Review Factors (33 CFR 320.4(a)(1))

For each of the 20 public interest review factors, the extent of the Corps consideration of expected impacts resulting from the use of this NWP is discussed, as well as the reasonably foreseeable cumulative adverse effects that are expected to occur. The Corps decision-making process involves consideration of the benefits and detriments that may result from the activities authorized by this NWP.

(a) Conservation: The activities authorized by this NWP may modify the natural resource characteristics of the project area. Compensatory mitigation, if required for activities authorized by this NWP, will result in the restoration, enhancement, establishment, or preservation of aquatic habitats that will offset losses to conservation values. The adverse effects of activities authorized by this NWP on conservation will be minor.

(b) Economics: Utility line activities will have positive impacts on the local economy. During construction, these activities will generate jobs and revenue for local contractors as well as revenue to building supply companies that sell construction materials. Utility lines provide energy, potable water, telecommunications, and other services to residences and schools, as well as factories, offices, stores, and other places of business, to allow those facilities to operate.

(c) Aesthetics: Utility line activities will alter the visual character of some waters of the United States. The extent and perception of these changes will vary, depending on the size and configuration of the activity, the nature of the surrounding area, and the public uses of the area. Utility line activities authorized by this NWP can also modify other aesthetic characteristics, such as air quality and the amount of noise. The increased human use of the project area and surrounding land will also alter local aesthetic values.

(d) General environmental concerns: Activities authorized by this NWP will affect general environmental concerns, such as water, air, noise, and land pollution. The authorized activities will also affect the physical, chemical, and biological characteristics of the environment. The adverse effects of the activities authorized by this NWP on general environmental concerns will be minor. Adverse effects to the chemical composition of the aquatic environment will be controlled by general condition 6, which states that the material used for construction must be free from toxic pollutants in toxic amounts. General condition 23 requires mitigation to minimize adverse effects to the aquatic environment through avoidance and minimization at the project site. Compensatory mitigation may be required by district engineers to ensure that the net adverse environmental effects are no more than minimal. Specific environmental concerns are addressed in other sections of this document.

(e) Wetlands: The construction, maintenance, repair, or removal of utility lines and associated facilities may result in the loss or alteration of wetlands. For the construction or maintenance of utility lines impacts to wetlands will be temporary, unless the site contains forested wetlands. The construction of utility line rights-of-way through forested wetlands will often result in the conversion of forested wetlands to scrub-shrub or emergent wetlands. Those conversions are usually permanent to maintain the utility line in good, operational order. The conversion of wetlands to other types of wetlands may result in the loss of certain wetland functions, or the reduction in the level of wetland functions being performed by the converted wetland. District engineers have the authority to require mitigation to offset losses of wetland functions caused by regulated activities (see paragraph (i) of general condition 23, mitigation). The construction of utility line substations will result in the permanent loss of wetlands. Wetlands may also be converted to other uses and habitat types. Forested wetlands will not be allowed to grow back in the utility line right-of-way so that the utility line will not be damaged and can be easily maintained. Only shrubs and herbaceous plants will be allowed to grow in the right-of-way. Some wetlands may be temporarily impacted by the activity when used as temporary staging areas. These wetlands will be restored, unless the district engineer authorizes another use for the area, but the plant community may be different, especially if the site was originally forested.

Wetlands provide habitat, including foraging, nesting, spawning, rearing, and resting sites for aquatic and terrestrial species. The loss or alteration of wetlands may alter natural drainage patterns. Wetlands reduce erosion by stabilizing the substrate. Wetlands also act as storage areas for stormwater and flood waters. Wetlands may act as groundwater discharge or recharge areas. The loss of wetland vegetation will adversely affect water quality because these plants trap sediments, pollutants, and nutrients and transform chemical compounds. Wetland vegetation also provides habitat for microorganisms that remove nutrients and pollutants from water. Wetlands, through the accumulation of organic matter,

act as sinks for some nutrients and other chemical compounds, reducing the amounts of these substances in the water.

General condition 23 requires avoidance and minimization of impacts to waters of the United States, including wetlands, at the project site. Compensatory mitigation may be required to offset losses of waters of the United States so that the net adverse environmental effects are no more than minimal. General condition 22 prohibits the use of this NWP to discharge dredged or fill material in designated critical resource waters and adjacent wetlands, which may include high value wetlands. Division engineers can regionally condition this NWP to restrict or prohibit its use in high value wetlands. District engineers will also exercise discretionary authority to require an individual permit if high value wetlands will be affected by the activity and the activity will result in more than minimal adverse environmental effects. District engineers may also add case-specific special conditions to the NWP authorization to reduce impacts to wetlands or require compensatory mitigation to offset losses of wetlands.

(f) Historic properties: General condition 20 states that in cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act have been satisfied.

(g) Fish and wildlife values: This NWP authorizes certain utility line activities in all waters of the United States. Discharges of dredged or fill material into waters of the United States for the construction of utility line substations is limited to non-tidal waters, excluding non-tidal waters adjacent to tidal waters. Waters of the United States provide habitat to many species of fish and wildlife. Activities authorized by this NWP may alter the habitat characteristics of streams, wetlands, and other waters of the United States, decreasing the quantity and quality of fish and wildlife habitat. The construction of utility line right-of-ways may fragment existing habitat and increase the amount of edge habitat in the area, causing changes in local species composition. Wetland, riparian, and estuarine vegetation provides food and habitat for many species, including foraging areas, resting areas, corridors for wildlife movement, and nesting and breeding grounds. Open waters provide habitat for fish and other aquatic organisms. Fish and other motile animals will avoid the project site during construction and maintenance. Woody riparian vegetation shades streams, which reduces water temperature fluctuations and provides habitat for fish and other aquatic animals. Riparian and estuarine vegetation provides organic matter that is consumed by fish and aquatic invertebrates. Woody riparian vegetation creates habitat diversity in streams when trees and large shrubs fall into the channel, forming snags that provide habitat and shade for fish. The morphology of a stream channel may be altered by activities authorized by this NWP, which can affect fish populations. However, pre-construction notification is required for certain activities authorized by this NWP, which provides district engineers with opportunities to review those activities, assess potential impacts on fish and wildlife values, and ensure that the authorized activity results in no more than minimal adverse environmental effects. Compensatory mitigation may be required by district engineers to restore, enhance, establish, and/or preserve wetlands to offset losses of waters of the United States. Stream rehabilitation, enhancement, and preservation activities may be required as

compensatory mitigation for impacts to streams. The establishment and maintenance of riparian areas next to open and flowing waters may also be required as compensatory mitigation. These methods of compensatory mitigation will provide fish and wildlife habitat values.

General condition 2 will reduce adverse effects to fish and other aquatic species by prohibiting activities that substantially disrupt the necessary life cycle movements of indigenous aquatic species, unless the primary purpose of the activity is to impound water. Compliance with general conditions 3 and 5 will ensure that the authorized activity has only minimal adverse effects on spawning areas and shellfish beds, respectively. The authorized activity cannot have more than minimal adverse effects on breeding areas for migratory birds, due to the requirements of general condition 4.

For an NWP activity, compliance with the Bald and Golden Eagle Protection Act (16 U.S.C. 668(a)-(d)), the Migratory Bird Treaty Act (16 U.S.C. 703; 16 U.S.C. 712), and the Marine Mammal Protection Act (16 U.S.C. 1361 et seq.) is the responsibility of the project proponent. General condition 19 states that the permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

Consultation pursuant to the essential fish habitat provisions of the Magnuson-Stevens Fishery Conservation and Management Act will occur as necessary for proposed NWP activities that may adversely affect essential fish habitat. Consultation may occur on a case-by-case or programmatic basis. Division and district engineers can impose regional and special conditions to ensure that activities authorized by this NWP will result in only minimal adverse effects on essential fish habitat.

(h) Flood hazards: The activities authorized by this NWP may affect the flood-holding capacity of the 100-year floodplain, including surface water flow velocities. Changes in the flood-holding capacity of the 100-year floodplain may impact human health, safety, and welfare. Compliance with general condition 9 will reduce flood hazards. This general condition requires the permittee to maintain, to the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters, except under certain circumstances. General condition 10 requires the activity to comply with applicable FEMA-approved state or local floodplain management requirements. Much of the land area within 100-year floodplains is upland, and outside of the Corps scope of review.

(i) Floodplain values: Activities authorized by this NWP may adversely affect the flood-holding capacity of the floodplain, as well as other floodplain values. The fish and wildlife habitat values of floodplains will be adversely affected by activities authorized by this NWP, by modifying or eliminating areas used for nesting, foraging, resting, and reproduction. The water quality functions of floodplains may also be adversely affected by these activities. Modification of the floodplain may also adversely affect other hydrological processes, such as groundwater recharge.

Compensatory mitigation may be required for activities authorized by this NWP, which will offset losses of waters of the United States and provide water quality functions and wildlife habitat. General condition 23 requires avoidance and minimization of impacts to waters of the United States to the maximum extent practicable at the project site, which will reduce losses of floodplain values. The requirements of general condition 23 will minimize adverse effects to floodplain values, such as flood storage capacity, wildlife habitat, fish spawning areas, and nutrient cycling for aquatic ecosystems. Compliance with general condition 10 will ensure that authorized activities in 100-year floodplains will not cause more than no more than minimal adverse effects on flood storage and conveyance.

(j) Land use: Activities authorized by this NWP will often change the land use from natural to developed. The installation of utility lines may induce more development in the vicinity of the project. Since the primary responsibility for land use decisions is held by state, local, and Tribal governments, the Corps scope of review is limited to significant issues of overriding national importance, such as navigation and water quality (see 33 CFR 320.4(j)(2)).

(k) Navigation: Activities authorized by this NWP must comply with general condition 1, which states that no activity may cause more than minimal adverse effects on navigation. This NWP requires pre-construction notification for all activities in section 10 waters, which will allow the district engineer to review the pre-construction notification and determine if the proposed activity will adversely affect navigation.

(l) Shore erosion and accretion: The activities authorized by this NWP will have minor direct effects on shore erosion and accretion processes, since the NWP does not authorize the construction of utility line substations in tidal waters. The construction of utility lines and foundations for overhead utility line towers, poles, and anchors, will have only minimal adverse effects on shore erosion and accretion. However, NWP 13, regional general permits, or individual permits may be used to authorize bank stabilization projects associated with utility line activities, which may affect shore erosion and accretion.

(m) Recreation: Activities authorized by this NWP may change the recreational uses of the area. Certain recreational activities, such as bird watching, hunting, and fishing may no longer be available in the area. Some utility line activities may eliminate certain recreational uses of the area.

(n) Water supply and conservation: Activities authorized by this NWP may adversely affect both surface water and groundwater supplies. Activities authorized by this NWP can also affect the quality of water supplies by adding pollutants to surface waters and groundwater, but many causes of water pollution, such as discharges regulated under Section 402 of the Clean Water Act, are outside the Corps scope of review. Some water pollution concerns can be addressed through the water quality management measures that may be required for activities authorized by this NWP. The quantity and quality of local water supplies may be enhanced through the construction of water treatment facilities. Division and district engineers can prohibit the use of this NWP in watersheds for public water supplies, if it is in

the public interest to do so. General condition 7 prohibits discharges in the vicinity of public water supply intakes. Compensatory mitigation may be required for activities authorized by this NWP, which may help improve the quality of surface waters.

(o) Water quality: Utility line activities in wetlands and open waters may have adverse effects on water quality. These activities can result in increases in sediments and pollutants in the water. The loss of wetland and riparian vegetation will adversely affect water quality because these plants trap sediments, pollutants, and nutrients and transform chemical compounds. Wetland and riparian vegetation also provides habitat for microorganisms that remove nutrients and pollutants from water. Wetlands, through the accumulation of organic matter, act as sinks for some nutrients and other chemical compounds, reducing the amounts of these substances in the water column. Wetlands and riparian areas also decrease the velocity of flood waters, removing suspended sediments from the water column and reducing turbidity. Riparian vegetation also serves an important role in the water quality of streams by shading the water from the intense heat of the sun. Compensatory mitigation may be required for activities authorized by this NWP, to ensure that the activity does not have more than minimal adverse environmental effects, including water quality. Wetlands and riparian areas restored, established, enhanced, or preserved as compensatory mitigation may provide local water quality benefits.

During the construction, maintenance, and repair of utility lines and related activities, small amounts of oil and grease from construction equipment may be discharged into the waterway. Because most of the construction will occur during a relatively short period of time, the frequency and concentration of these discharges are not expected to have more than minimal adverse effects on overall water quality.

This NWP may require Section 401 water quality certification, since it authorizes discharges of dredged or fill material into waters of the United States. Most water quality concerns are addressed by the State or Tribal Section 401 agency. In accordance with general condition 23, the permittee may be required to implement water quality management measures to minimize the degradation of water quality. Water quality management measures may involve the installation of stormwater management facilities to trap pollutants and the establishment and maintenance of riparian areas next to waters of the United States. Riparian areas help protect downstream water quality and enhance aquatic habitat.

(p) Energy needs: The utility line activities authorized by this NWP may induce higher rates of energy consumption in the area by making electricity, natural gas, and petroleum products more readily available to consumers. Additional power plants or oil refineries may be needed to meet increases in energy demand, but these issues are beyond the Corps scope of review. This NWP may be used to authorize the expansion of existing infrastructure to provide energy to new developments.

(q) Safety: The utility line activities authorized by this NWP will be subject to Federal, state, and local safety laws and regulations. Therefore, this NWP will not adversely affect the safety of the project area. Operators of oil pipelines are required to comply with the Pipeline and Hazardous Materials Safety Administration's safety requirements, and have plans for

addressing the risk of oil spills. Pipelines carrying other types of substances must comply with other applicable federal and state laws and regulations during their operations. For example, the Federal Energy Regulatory Commission regulates the interstate transmission of electricity, natural gas, and oil, and issues licenses for interstate natural gas pipelines.

(r) Food and fiber production: Activities authorized by this NWP may adversely affect food and fiber production, especially when utility line activities are constructed on agricultural land. Utility line activities usually require easements, which may take some agricultural land out of production. These activities may reduce the amount of available farmland in the nation, unless that land is replaced by converting other land, such as forest, to agricultural land. The loss of farmland is more appropriately addressed through the land use planning and zoning authority held by state and local governments. Food production may be increased by activities authorized by this NWP. For example, this NWP can authorize the construction or expansion of utility lines that provide energy, water, and other services to commercial food production facilities, such as bakeries, canneries, and meat processing plants.

(s) Mineral needs: Activities authorized by this NWP may increase demand for aggregates and stone, which may be used to construct utility lines, substations, and foundations for overhead utility line towers. Utility lines authorized by this NWP may increase the demand for other building materials, such as steel, aluminum, and copper, which are made from mineral ores.

(t) Considerations of property ownership: The NWP complies with 33 CFR 320.4(g), which states that an inherent aspect of property ownership is a right to reasonable private use. The NWP provides expedited DA authorization for utility line activities, provided those activities comply with the terms and conditions of the NWP and result in no more than minimal adverse environmental effects.

5.2 Additional Public Interest Review Factors (33 CFR 320.4(a)(2))

5.2.1 Relative extent of the public and private need for the proposed structure or work

This NWP authorizes the construction, maintenance, repair, and removal of utility lines and associated facilities, provided those activities have no more than minimal individual and cumulative adverse environmental effects. These activities satisfy public and private needs for the conveyance of a variety of substances, as well as communications and information transfer. The need for this NWP is based upon the number of these activities that occur annually with only minimal individual and cumulative environmental adverse effects.

5.2.2 Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work

Most situations in which there are unresolved conflicts concerning resource use arise when

environmentally sensitive areas are involved (e.g., special aquatic sites, including wetlands) or where there are competing uses of a resource. The nature and scope of the activity, when planned and constructed in accordance with the terms and conditions of this NWP, reduce the likelihood of such conflict. In the event that there is a conflict, the NWP contains provisions that are capable of resolving the matter (see section 1.2 of this document).

General condition 23 requires permittees to avoid and minimize adverse effects to waters of the United States to the maximum extent practicable on the project site. Consideration of off-site alternative locations is not required for activities that are authorized by general permits. General permits authorize activities that have only minimal individual and cumulative adverse effects on the environment and the overall public interest. The district engineer will exercise discretionary authority and require an individual permit if the proposed activity will result in more than minimal adverse environmental effects on the project site. The consideration of off-site alternatives can be required during the individual permit process.

5.2.3 The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited

The nature and scope of the activities authorized by the NWP will most likely restrict the extent of the beneficial and detrimental effects to the area immediately surrounding the utility line activity. Activities authorized by this NWP will result in no more than minimal individual and cumulative adverse environmental effects.

The terms, conditions, and provisions of the NWP were developed to ensure that individual and cumulative adverse environmental effects are no more than minimal. Specifically, NWPs do not obviate the need for the permittee to obtain other Federal, state, or local authorizations required by law. The NWPs do not grant any property rights or exclusive privileges (see 33 CFR 330.4(b) for further information). Additional conditions, limitations, restrictions, and provisions for discretionary authority, as well as the ability to add activity-specific or regional conditions to this NWP, will provide further safeguards to the aquatic environment and the overall public interest. There are also provisions to allow suspension, modification, or revocation of the NWP.

6.0 Endangered Species Act

The Corps' current regulations and procedures for the NWPs result in compliance with Section 7 of the Endangered Species Act (ESA) and ensure that activities authorized by this NWP will not jeopardize the continued existence or any listed threatened and endangered species or result in the destruction or adverse modification of critical habitat. Current local procedures in Corps districts are effective in ensuring compliance with ESA. Those local procedures include regional programmatic consultations and the development of Standard Local Operating Procedures for Endangered Species (SLOPES). The issuance or reissuance of an NWP, as governed by NWP general condition 18 (which applies to every NWP and

which relates to endangered and threatened species and critical habitat) and 33 CFR 330.4(f), results in "no effect" to listed species or critical habitat, because no activity that "may affect" listed species or critical habitat is authorized by NWP unless ESA Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS) has been completed. Activities that do not comply with general condition 18 or other applicable general or regional conditions are not authorized by any NWP, and thus fall outside of the NWP Program. Unauthorized activities are subject to the prohibitions of Section 9 of the ESA.

Each activity authorized by an NWP is subject to general condition 18, which states that "[n]o activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species." In addition, general condition 18 explicitly states that the NWP does not authorize "take" of threatened or endangered species, which will ensure that permittees do not mistake the NWP authorization as a Federal authorization to take threatened or endangered species. General condition 18 also requires a non-federal permittee to submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat. This general condition also states that, in such cases, non-federal permittees shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized.

Under the current Corps regulations (33 CFR 325.2(b)(5)), the district engineer must review all permit applications for potential impacts on threatened and endangered species or critical habitat. For the NWP program, this review occurs when the district engineer evaluates the pre-construction notification or request for verification. Nationwide permit general condition 18 requires a non-federal applicant to submit a pre-construction notification to the Corps if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat. Based on the evaluation of all available information, the district engineer will initiate consultation with the USFWS or NMFS, as appropriate, if he or she determines that the proposed activity may affect any threatened and endangered species or critical habitat. Consultation may occur during the NWP authorization process or the district engineer may exercise discretionary authority to require an individual permit for the proposed activity and initiate section 7 consultation during the individual permit process. If ESA Section 7 consultation is conducted during the NWP authorization process without the district engineer exercising discretionary authority, then the applicant will be notified that he or she cannot proceed with the proposed NWP activity until section 7 consultation is completed.

If the district engineer determines that the proposed NWP activity will have no effect on any threatened or endangered species or critical habitat, then the district engineer will notify the applicant that he or she may proceed under the NWP authorization as long as the activity complies with all other applicable terms and conditions of the NWP, including applicable regional conditions. When the Corps makes a "no effect" determination, that determination

is documented in the record for the NWP verification.

In cases where the Corps makes a “may affect” determination, formal or informal Section 7 consultation is conducted before the activity is authorized by NWP. A non-federal permit applicant cannot begin work until notified by the Corps that the proposed NWP activity will have “no effect” on listed species or critical habitat, or until ESA Section 7 consultation has been completed (see also 33 CFR 330.4(f)). Federal permittees are responsible for complying with ESA section 7(a)(2) and should follow their own procedures for complying with those requirements (see 33 CFR 330.4(f)(1)). Therefore, permittees cannot rely on complying with the terms of an NWP without considering ESA-listed species and critical habitat, and they must comply with the NWP conditions to ensure that they do not violate the ESA. General condition 18 also states that district engineers may add activity-specific conditions to the NWPs to address ESA issues as a result of formal or informal consultation with the USFWS or NMFS.

Each year, the Corps conducts thousands of ESA section 7 consultations with the FWS and NMFS for activities authorized by NWPs. These section 7 consultations are tracked in ORM2. During the period of March 19, 2012, to September 30, 2016, Corps districts conducted 1,402 formal consultations and 9,302 informal consultations for NWP activities under ESA section 7. During that time period, the Corps also used regional programmatic consultations for 9,829 NWP verifications to comply with ESA section 7. Therefore, each year NWP activities are covered by an average of more than 4,500 formal, informal, and programmatic ESA section 7 consultations with the FWS and/or NMFS. In a study on ESA section 7 consultations tracked by the USFWS, Malcom and Li (2015) found that during the period of 2008 to 2015, the Corps conducted the most formal and informal section 7 consultations, far exceeding the numbers of section 7 consultations conducted by other federal agencies.

Section 7 consultations are often conducted on a case-by-case basis for activities proposed to be authorized by NWP that may affect listed species or critical habitat, in accordance with the USFWS’s and NMFS’s interagency regulations at 50 CFR part 402. Instead of activity-specific section 7 consultations, compliance with ESA may also be achieved through formal or informal regional programmatic consultations. Compliance with ESA Section 7 may also be facilitated through the adoption of NWP regional conditions. In some Corps districts SLOPES have been developed through consultation with the appropriate regional offices of the USFWS and NMFS to make the process of complying with section 7 more efficient.

Corps districts have, in most cases, established informal or formal procedures with local offices of the USFWS and NMFS, through which the agencies share information regarding threatened and endangered species and their critical habitat. This information helps district engineers determine if a proposed NWP activity may affect listed species or their critical habitat and, when a “may effect” determination is made, initiate ESA section 7 consultation. Corps districts may utilize maps or databases that identify locations of populations of threatened and endangered species and their critical habitat. Where necessary, regional conditions are added to one or more NWPs to require pre-construction notification for NWP activities that occur in known locations of threatened and endangered species or critical

habitat. For activities that require agency coordination during the pre-construction notification process, the USFWS and NMFS will review the proposed activities for potential impacts to threatened and endangered species and their critical habitat. Any information provided by local maps and databases and any comments received during the pre-construction notification review process will be used by the district engineer to make a "no effect" or "may affect" determination for the pre-construction notification.

Based on the safeguards discussed in this section, especially general condition 18 and the NWP regulations at 33 CFR 330.4(f), the Corps has determined that the activities authorized by this NWP will not jeopardize the continued existence of any listed threatened or endangered species or result in the destruction or adverse modification of designated critical habitat. Although the Corps continues to believe that these procedures ensure compliance with the ESA, the Corps has taken some steps to provide further assurance. Corps district offices meet with local representatives of the USFWS and NMFS to establish or modify existing procedures such as regional conditions, where necessary, to ensure that the Corps has the latest information regarding the existence and location of any threatened or endangered species or their critical habitat. Corps districts can also establish, through local procedures or other means, additional safeguards that ensure compliance with the ESA. Through ESA Section 7 formal or informal consultations, or through other coordination with the USFWS and NMFS, the Corps establishes procedures to ensure that the NWP is not likely to jeopardize any threatened and endangered species or result in the destruction or adverse modification of designated critical habitat. Such procedures may result in the development of regional conditions added to the NWP by the division engineer, or in conditions to be added to a specific NWP authorization by the district engineer.

If informal section 7 consultation is conducted, and the USFWS and/or NMFS issues a written concurrence that the proposed activity may affect, but is not likely to adversely affect, listed species or designated critical habitat, the district engineer will add conditions (e.g., minimization measures) to the NWP authorization that are necessary to avoid the likelihood of adverse effects to listed species or designated critical habitat. If the USFWS and/or NMFS does not issue a written concurrence that the proposed NWP activity "may affect, but is not likely to adversely affect" listed species or critical habitat, the Corps will initiate formal section 7 consultation if it changes its determination to "may affect, likely to adversely affect."

If formal section 7 consultation is conducted and a biological opinion is issued, the district engineer will add a condition to the NWP authorization to incorporate the appropriate elements of the incidental take statement of the biological opinion into the NWP authorization, if the biological opinion concludes that the activity is not likely to jeopardize the continued existence of listed species or adversely modify or destroy critical habitat. If the biological opinion concludes that the proposed activity is likely to jeopardize the continued existence of listed species or adversely modify or destroy critical habitat, the proposed activity cannot be authorized by NWP and the district engineer will instruct the applicant to apply for an individual permit. The incidental take statement includes reasonable and prudent measures such as mitigation, monitoring, and reporting requirements that minimize incidental take. The appropriate elements of the incidental take statement are

dependent on those activities in the biological opinion over which the Corps has control and responsibility (i.e., the discharges of dredged or fill material into waters of the United States and/or structures or work in navigable waters and their direct and indirect effects on listed species or critical habitat). The appropriate elements of the incidental take statement are those reasonable and prudent measures that the Corps has the authority to enforce under its permitting authorities. Incorporation of the appropriate elements of the incidental take statement into the NWP authorization by a binding, enforceable permit condition provides an exemption from the take prohibitions in ESA Section 9 (see Section 7(o)(2) of the ESA).

The Corps can modify this NWP at any time that it is deemed necessary to protect listed species or their critical habitat, either through: 1) national general conditions or national-level modifications, suspensions, or revocations of the NWPs; 2) regional conditions or regional modifications, suspensions, or revocations of NWPs; or 3) activity-specific permit conditions (modifications) or activity-specific suspensions or revocations of NWP authorizations. Therefore, although the Corps has issued the NWPs, the Corps can address any ESA issue, if one should arise. The NWP regulations also allow the Corps to suspend the use of some or all of the NWPs immediately, if necessary, while considering the need for permit conditions, modifications, or revocations. These procedures are provided at 33 CFR 330.5.

7.0 Clean Water Act Section 404(b)(1) Guidelines Analysis

The 404(b)(1) Guidelines compliance criteria for general permits are provided at 40 CFR 230.7. This 404(b)(1) Guidelines compliance analysis includes analyses of the direct, secondary, and cumulative effects on the aquatic environment caused by discharges of dredged or fill material authorized by this NWP.

7.1 Evaluation Process (40 CFR 230.7(b))

7.1.1 Alternatives (40 CFR 230.10(a))

General condition 23 requires permittees to avoid and minimize discharges of dredged or fill material into waters of the United States to the maximum extent practicable on the project site. The consideration of off-site alternatives is not directly applicable to general permits (see 40 CFR 230.7(b)(1)).

7.1.2 Prohibitions (40 CFR 230.10(b))

This NWP authorizes discharges of dredged or fill material into waters of the United States, which require water quality certification. Water quality certification requirements will be met in accordance with the procedures at 33 CFR 330.4(c).

No toxic discharges will be authorized by this NWP. General condition 6 states that the material must be free from toxic pollutants in toxic amounts.

This NWP does not authorize activities that jeopardize the continued existence of any listed threatened or endangered species or result in the destruction or adverse modification of critical habitat. Reviews of pre-construction notifications, regional conditions, and local operating procedures for endangered species will ensure compliance with the Endangered Species Act. Refer to general condition 18 and to 33 CFR 330.4(f) for information and procedures.

This NWP will not authorize the violation of any requirement to protect any marine sanctuary. Refer to section 7.2.3(j)(1) of this document for further information.

7.1.3 Findings of Significant Degradation (40 CFR 230.10(c))

Potential impact analysis (Subparts C through F): The potential impact analysis specified in Subparts C through F is discussed in section 7.2.3 of this document. Mitigation required by the district engineer will ensure that the adverse effects on the aquatic environment are no more than minimal.

Evaluation and testing (Subpart G): Because the terms and conditions of the NWP specify the types of discharges that are authorized, as well as those that are prohibited, individual evaluation and testing for the presence of contaminants will normally not be required. If a situation warrants, provisions of the NWP allow division or district engineers to further specify authorized or prohibited discharges and/or require testing. General condition 6 requires that materials used for construction be free from toxic pollutants in toxic amounts.

Based upon Subparts B and G, after consideration of Subparts C through F, the discharges authorized by this NWP will not cause or contribute to significant degradation of waters of the United States.

7.1.4 Factual determinations (40 CFR 230.11)

The factual determinations required in 40 CFR 230.11 are discussed in section 7.2.3 of this document.

7.1.5 Appropriate and practicable steps to minimize potential adverse impacts (40 CFR 230.10(d))

As demonstrated by the information in this document, as well as the terms, conditions, and provisions of this NWP, actions to minimize adverse effects (Subpart H) have been thoroughly considered and incorporated into the NWP. General condition 23 requires permittees to avoid and minimize discharges of dredged or fill material into waters of the United States to the maximum extent practicable on the project site. Compensatory mitigation may be required by the district engineer to ensure that the net adverse effects on the aquatic environment are no more than minimal.

7.2 Evaluation Process (40 CFR 230.7(b))

7.2.1 Description of permitted activities (40 CFR 230.7(b)(2))

As indicated by the text of this NWP in section 1.0 of this document, and the discussion of potential impacts in section 4.0, the activities authorized by this NWP are sufficiently similar in nature and environmental impact to warrant authorization under a single general permit. Specifically, the purpose of the NWP is to authorize discharges of dredged or fill material into waters of the United States for the construction, maintenance, repair, or removal of utility lines and associated facilities. The nature and scope of the impacts are controlled by the terms and conditions of the NWP.

The activities authorized by this NWP are sufficiently similar in nature and environmental impact to warrant authorization by a general permit. The terms of the NWP authorize a specific category of activity (i.e., discharges of dredged or fill material for the construction, maintenance, repair, or removal of utility lines and associated facilities) in a specific category of waters (i.e., waters of the United States). The terms of the NWP do not authorize the construction of utility line substations in tidal waters or in non-tidal wetlands adjacent to tidal waters. The restrictions imposed by the terms and conditions of this NWP will result in the authorization of activities that have similar impacts on the aquatic environment, namely the replacement of aquatic habitats, such as certain categories of non-tidal wetlands, with utility line facilities. Most of the impacts relating to the construction, maintenance, repair, or removal of utility lines will be temporary.

If a situation arises in which the activity requires further review, or is more appropriately reviewed under the individual permit process, provisions of the NWPs allow division and/or district engineers to take such action.

7.2.2 Cumulative effects (40 CFR 230.7(b)(3))

The 404(b)(1) Guidelines at 40 CFR 230.11(a) define cumulative effects as "…the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material." For the issuance of general permits, such as this NWP, the 404(b)(1) Guidelines require the permitting authority to "set forth in writing an evaluation of the potential individual and cumulative impacts of the categories of activities to be regulated under the general permit." [40 CFR 230.7(b)] More specifically, the 404(b)(1) Guidelines cumulative effects assessment for the issuance or reissuance of a general permit is to include an evaluation of "the number of individual discharge activities likely to be regulated under a general permit until its expiration, including repetitions of individual discharge activities at a single location." [40 CFR 230.7(b)(3)] If a situation arises in which cumulative effects are likely to be more than minimal and the proposed activity requires further review, or is more appropriately reviewed under the individual permit process, provisions of the NWPs allow division and/or district engineers to take such action.

Based on reported use of this NWP during the period of March 19, 2012, to March 12, 2015,

the Corps estimates that this NWP will be used approximately 11,500 times per year on a national basis, resulting in impacts to approximately 1,700 acres of waters of the United States, including jurisdictional wetlands. The reported use includes pre-construction notifications submitted to Corps districts, as required by the terms and conditions of the NWP as well as regional conditions imposed by division engineers. The reported use also includes voluntary notifications to submitted to Corps districts where the applicants request written verification in cases when pre-construction notification is not required. The reported use does not include activities that do not require pre-construction notification and were not voluntarily reported to Corps districts. The Corps estimates that 2,500 NWP 12 activities will occur each year that do not require pre-construction notification, and that these activities will impact 50 acres of jurisdictional waters each year.

Based on reported use of this NWP during that time period, the Corps estimates that 9 percent of the NWP 12 verifications will require compensatory mitigation to offset the authorized impacts to waters of the United States and ensure that the authorized activities result in only minimal adverse effects on the aquatic environment. The verified activities that do not require compensatory mitigation will have been determined by Corps district engineers to result in no more than minimal individual and cumulative adverse effects on the aquatic environment without compensatory mitigation. During 2017-2022, the Corps expects little change to the percentage of NWP 12 verifications requiring compensatory mitigation, because there have been no substantial changes in the mitigation general condition or the NWP regulations for determining when compensatory mitigation is to be required for NWP activities. The Corps estimates that approximately 300 acres of compensatory mitigation will be required each year to offset authorized impacts. The demand for these types of activities could increase or decrease over the five-year duration of this NWP.

Based on these annual estimates, the Corps estimates that approximately 69,700 activities could be authorized over a five-year period until this NWP expires, resulting in impacts to approximately 8,900 acres of waters of the United States, including jurisdictional wetlands. Approximately 1,500 acres of compensatory mitigation would be required to offset those impacts. Compensatory mitigation is the restoration (re-establishment or rehabilitation), establishment, enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved. [33 CFR 332.2]

Wetland restoration, enhancement, and establishment projects can provide wetland functions, as long as the wetland compensatory mitigation project is placed in an appropriate landscape position, has appropriate hydrology for the desired wetland type, and the watershed condition will support the desired wetland type (NRC 2001). Site selection is critical to find a site with appropriate hydrologic conditions and soils to support a replacement wetland that will provide the desired wetland functions and services (Mitsch and Gosselink 2015). The ecological performance of wetland restoration, enhancement, and establishment is dependent on practitioner's understanding of wetland functions, allowing sufficient time for wetland functions to develop, and allowing natural processes of ecosystem development (self-design or self-organization) to take place, instead of over-

designing and over-engineering the replacement wetland (Mitsch and Gosselink (2015). Most studies of the ecological performance of compensatory mitigation projects have focused solely on the ecological attributes of the compensatory mitigation projects, and few studies have also evaluated the aquatic resources impacted by permitted activities (Kettlewell et al. 2008), so it is difficult to assess whether compensatory mitigation has fully or partially offset the lost functions provided by the aquatic resources that are impacted by permitted activities. In its review, the NRC (2001) concluded that some wetland types can be restored or established (e.g., non-tidal emergent wetlands, some forested and scrub-shrub wetlands, sea grasses, and coastal marshes), while other wetland types (e.g., vernal pools, bogs, and fens) are difficult to restore and should be avoided where possible. Restored riverine and tidal wetlands achieved wetland structure and function more rapidly than depressional wetlands (Moreno-Mateos et al. 2012). Because of its greater potential to provide wetland functions, restoration is the preferred compensatory mitigation mechanism (33 CFR 332.3(a)(2)). Bogs, fens, and springs are considered to be difficult-to-replace resources and compensatory mitigation should be provided through in-kind rehabilitation, enhancement, or preservation of these wetlands types (33 CFR 332.3(e)(3)).

In its review of outcomes of wetland compensatory mitigation activities, the NRC (2001) stated that wetland functions can be replaced by wetland restoration and establishment activities. They discussed five categories of wetland functions: hydrology, water quality, maintenance of plant communities, maintenance of animal communities, and soil functions. Wetland functions develop at different rates in wetland restoration and establishment projects (NRC 2001). It is difficult to restore or establish natural wetland hydrology, and water quality functions are likely to be different than the functions provided at wetland impact sites (NRC 2001). Reestablishing or establishing the desired plant community may be difficult because of invasive species colonizing the mitigation project site (NRC 2001). The committee also found that establishing and maintaining animal communities depends on the surrounding landscape. Soil functions can take a substantial amount of time to develop, because they are dependent on soil organic matter and other soil properties (NRC 2001). The NRC (2001) concluded that the ecological performance in replacing wetland functions depends on the particular function of interest, the restoration or establishment techniques used, and the extent of degradation of the compensatory mitigation project site and its watershed.

The ecological performance of wetland restoration and enhancement activities is affected by the amount of changes to hydrology and inputs of pollutants, nutrients, and sediments within the watershed or contributing drainage area (Wright et al. 2006). Wetland restoration is becoming more effective at replacing or improving wetland functions, especially in cases where monitoring and adaptive management are used to correct deficiencies in these efforts (Zedler and Kercher 2005). Wetland functions take time to develop after the restoration or enhancement activity takes place (Mitsch and Gosselink 2015, Gebo and Brooks 2012), and different functions develop at different rates (Moreno-Mateos 2012). Irreversible changes to landscapes, especially those that affect hydrology within contributing drainage areas or watersheds, cause wetland degradation and impede the ecological performance of wetland restoration efforts (Zedler and Kercher 2005). Gebo and Brooks (2012) evaluated wetland compensatory mitigation projects in Pennsylvania and compared them to reference standards

(i.e., the highest functioning wetlands in the study area) and natural reference wetlands that showed the range of variation due to human disturbances. They concluded that most of the wetland mitigation sites were functioning at levels within with the range of functionality of the reference wetlands in the region, and therefore were functioning at levels similar to some naturally occurring wetlands. The ecological performance of mitigation wetlands is affected by on the landscape context (e.g., urbanization) of the replacement wetland and varies with wetland type (e.g., riverine or depressional) (Gebo and Brooks 2012). Moreno-Mateos and others (2012) conducted a meta-analysis of wetland restoration studies and concluded that while wetland structure and function can be restored to a large degree, the ecological performance of wetland restoration projects is dependent on wetland size and local environmental setting. They found that wetland restoration projects that are larger in size and in less disturbed landscape settings achieve structure and function more quickly.

Streams are difficult-to-replace resources and compensatory mitigation should be provided through stream rehabilitation, enhancement, and preservation since those techniques are most likely to be ecologically successful (see 33 CFR 332.3(e)(3)). Stream rehabilitation is usually the most effective compensatory mitigation mechanism since restoring a stream to a historic state is not possible because of changes in land use and other activities in a watershed (Roni et al. 2008). Stream rehabilitation and enhancement projects, including the restoration and preservation of riparian areas, provide riverine functions (e.g., Allan and Castillo (2007) for rivers and streams, NRC (2002) for riparian areas). Improvements in ecological performance of stream restoration projects is dependent on the restoration method and how outcomes are assessed (Palmer et al. 2014). Non-structural and structural techniques can be used to rehabilitate and enhance streams, and restore riparian areas (NRC 1992). Non-structural practices include removing disturbances to allow recovery of stream and riparian area structure and function, reducing or eliminating activities that have altered stream flows to restore natural flows, preserving or restoring floodplains, and restoring and protecting riparian areas, including fencing those areas to exclude livestock and people (NRC 1992). Structural rehabilitation and enhancement techniques include dam removal, as well as channel, bank, and/or riparian area modifications to improve river and stream habitat (NRC 1992).

The restoration and enhancement of river and stream functions and services can be improved through a variety of techniques and in many cases combinations of these techniques are used (Roni et al. 2013). Examples of stream restoration and enhancement techniques include: dam removal and modification, culvert replacement or modification, fish passage structures when connectivity cannot be restored or improved by dam removal or culvert replacement, levee removal or setbacks, reconnecting floodplains and other riparian habitats, road removal, road modifications, reducing sediment and pollution inputs to streams, replacing impervious surfaces with pervious surfaces, restoring adequate in-stream or base flows, restoring riparian areas, fencing streams and their riparian areas to exclude livestock, improving in-stream habitat, recreating meanders, and replacing hard bank stabilization structures with bioengineering bank stabilization measures (Roni et al. 2013). Road improvements, riparian rehabilitation, reconnecting floodplains to their rivers, and installing in-stream habitat structures have had varying degrees of ecological performance in stream rehabilitation activities (Roni et al. 2008). The ecological performance of these stream

rehabilitation activities is strongly dependent on addressing impaired water quality and insufficient water quantity, since those factors usually limit the biological response to stream rehabilitation efforts (Roni et al. 2008). Ecologically successful stream rehabilitation and enhancement activities depend on addressing the factors that most strongly affect stream functions, especially water quality, water flow, and riparian quality, and not focusing solely on rehabilitating or enhancing the physical habitat of streams (Palmer et al. 2010). The ability to restore the ecological functions of streams is dependent on the condition of the watershed draining to the stream being restored because human land uses and other activities in the watershed affect how that stream functions (Palmer et al. 2014). Stream restoration projects should focus on restoring ecological processes, through activities such as dam removal, watershed best management practices, improving the riparian zone, and reforestation, instead of focusing on the manipulation the structure of the stream channel (Palmer et al. 2014).

For compensatory mitigation projects, restoration is the preferred mechanism (see 33 CFR 332.3(a)(2). In an analysis of 89 ecosystem restoration projects, Rey Banayas et al. (2009) concluded that restoration activities can increase biodiversity and the level of ecosystem services provided. However, such increases do not approach the amounts of biodiversity and ecosystem services performed by undisturbed reference sites. The ability to restore ecosystems to provide levels of functions and services similar to historic conditions or reference standard conditions is influenced by human impacts to watersheds and other types of landscapes (e.g., urbanization, agriculture) and to the processes that sustain those ecosystems (Zedler et al. 2012, Hobbs et al. 2014). Those changes need to be taken into account when establishing goals and objectives for restoration projects (Zedler et al. 2012), including compensatory mitigation projects. The ability to reverse ecosystem degradation to restore ecological functions and services is dependent on the degree of degradation of that ecosystem and the surrounding landscape, and whether that degradation is reversible (Hobbs et al. 2014).

As discussed in section 3.0, the status of waters and wetlands in the United States as reported under the provisions of Sections 303(d) and 305(b) of the Clean Water Act exhibits considerable variation, ranging from good to threatened to impaired. One of the criteria that district engineers consider when they evaluate proposed NWP activities is the “degree or magnitude to which the aquatic resources perform these functions” (see paragraph 1 of Section D, “District Engineer’s Decision.” The quality of the affected waters is considered by district engineers when making decisions on whether to require compensatory mitigation for proposed NWP activities to ensure no more than minimal adverse environmental effects (see 33 CFR 330.1(e)(3)), and amount of compensatory mitigation required (see 33 CFR 332.3(f)). The quality of the affected waters also factors into the determination of whether the required compensatory mitigation offsets the losses of aquatic functions caused by the NWP activity.

The compensatory mitigation required by district engineers in accordance with general condition 23 and activity-specific conditions will provide aquatic resource functions and services to offset some or all of the losses of aquatic resource functions caused by the activities authorized by this NWP, and reduce the contribution of those activities to the

cumulative effects on the Nation's wetlands, streams, and other aquatic resources. The required compensatory mitigation must be conducted in accordance with the applicable provisions of 33 CFR part 332, which requires development and implementation of approved mitigation plans, as well as monitoring to assess ecological success in accordance with ecological performance standards established for the compensatory mitigation project. The district engineer will evaluate monitoring reports to determine if the compensatory mitigation project has fulfilled its objectives and is ecological successful. [33 CFR 332.6] If the monitoring efforts indicate that the compensatory mitigation project is failing to meet its objectives, the district engineer may require additional measures, such as adaptive management or alternative compensatory mitigation, to address the compensatory mitigation project's deficiencies. [33 CFR 332.7(c)]

According to Dahl (2011), during the period of 2004 to 2009 approximately 489,620 acres of former upland were converted to wetlands as a result of wetland reestablishment and establishment activities. Efforts to reestablish or establish wetlands have increased wetland acreage in the United States.

The individual and cumulative adverse effects on the aquatic environment resulting from the activities authorized by this NWP will be no more than minimal. The Corps expects that the convenience and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP, including its limits, rather than request individual permits for projects that could result in greater adverse impacts to the aquatic environment. Division and district engineers will restrict or prohibit this NWP on a regional or case-specific basis if they determine that these activities will result in more than minimal individual and cumulative adverse effects on the aquatic environment.

7.2.3 Section 404(b)(1) Guidelines Impact Analysis, Subparts C through F

(a) Substrate: Discharges of dredged or fill material into waters of the United States will alter the substrate of those waters, usually replacing the aquatic area with dry land, and changing the physical, chemical, and biological characteristics of the substrate. The original substrate will be removed or covered by other material, such as concrete, asphalt, soil, gravel, etc. Temporary fills may be placed upon the substrate, but must be removed upon completion of the activity (see general condition 13). Higher rates of erosion may result during construction, but general condition 12 requires the use of appropriate measures to control soil erosion and sediment.

(b) Suspended particulates/turbidity: Depending on the method of construction, soil erosion and sediment control measures, equipment, composition of the bottom substrate, and wind and current conditions during construction, fill material placed in open waters will temporarily increase water turbidity. Pre-construction notification is required for certain activities authorized by this NWP, which allows the district engineer to review those activities and ensure that the individual and cumulative adverse effects on the aquatic environment are no more than minimal. Particulates will be resuspended in the water column during removal of temporary fills. The turbidity plume will normally be limited to the immediate vicinity of the disturbance and should dissipate shortly after each phase of the

construction activity. General condition 12 requires the permittee to stabilize exposed soils and other fills, which will reduce turbidity. In many localities, sediment and erosion control plans are required to minimize the entry of soil into the aquatic environment. NWP activities cannot create turbidity plumes that smother important spawning areas downstream (see general condition 3).

(c) Water: Utility line activities can affect some characteristics of water, such as water clarity, chemical content, dissolved gas concentrations, pH, and temperature. The construction of utility lines, and utility line substations can change the chemical and physical characteristics of the waterbody by introducing suspended or dissolved chemical compounds or sediments into the water. Changes in water quality can affect the species and quantities of organisms inhabiting the aquatic area. Water quality certification is required for most activities authorized by this NWP, which will ensure that the activity does not violate applicable water quality standards. Permittees may be required to implement water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality. Stormwater management facilities may be required to prevent or reduce the input of harmful chemical compounds into the waterbody. The district engineer may require the establishment and maintenance of riparian areas next to open waters, such as streams. Riparian areas help improve or maintain water quality, by removing nutrients, moderating water temperature changes, and trapping sediments.

(d) Current patterns and water circulation: Activities authorized by this NWP may adversely affect the movement of water in the aquatic environment. Certain utility line activities authorized by this NWP require pre-construction notification to the district engineer, to ensure that adverse effects to current patterns and water circulation are no more than minimal. General condition 9 requires the authorized activity to be designed to withstand expected high flows and to maintain the course, condition, capacity, and location of open waters to the maximum extent practicable. General condition 10 requires activities to comply with applicable FEMA-approved state or local floodplain management requirements, which will reduce adverse effects to surface water flows.

(e) Normal water level fluctuations: The activities authorized by this NWP will have negligible adverse effects on normal patterns of water level fluctuations due to tides and flooding. Most utility lines will have little effect on normal water level fluctuations because they occupy a small proportion of the land surface or are installed under the surface of the substrate. General condition 9 requires the permittee to maintain the pre-construction course, condition, capacity, and location of open waters, to the maximum extent practicable. To ensure that the NWP does not authorize activities that adversely affect normal flooding patterns, general condition 10 requires NWP activities to comply with applicable FEMA-approved state or local floodplain management requirements.

(f) Salinity gradients: The activities authorized by this NWP are unlikely to adversely affect salinity gradients, unless the utility line activity is associated with an outfall structure that will release freshwater into marine or estuarine waters, thereby reducing the salinity of those waters in the vicinity of the outfall structure. These adverse effects will be minimal.

(g) Threatened and endangered species: T The NWPs do not authorize activities that will jeopardize the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended. In addition, the NWPs do not authorize activities that will destroy or adversely modify critical habitat of those species. See 33 CFR 330.4(f) and paragraph (a) of general condition 18. For NWP activities, compliance with the Endangered Species Act is discussed in more detail in section 6.0 of this document.

(h) Fish, crustaceans, molluscs, and other aquatic organisms in the food web. Certain activities authorized by this NWP require pre-construction notification to the district engineer, which will allow review of those projects to ensure that adverse effects to fish and other aquatic organisms in the food web are no more than minimal. Fish and other motile animals will avoid the project site during construction. Sessile or slow-moving animals in the path of discharges, equipment, and building materials will be destroyed. Some aquatic animals may be smothered by the placement of fill material. Motile animals will return to those areas that are temporarily impacted by the activity and restored or allowed to revert back to preconstruction conditions. Aquatic animals will not return to sites of permanent fills. Benthic and sessile animals are expected to recolonize sites temporarily impacted by the activity, after those areas are restored. Activities that alter the riparian zone, especially floodplains, may adversely affect populations of fish and other aquatic animals, by altering stream flow, flooding patterns, and surface and groundwater hydrology.

Division and district engineers can place conditions on this NWP to prohibit discharges during important stages of the life cycles of certain aquatic organisms. Such time of year restrictions can prevent adverse effects to these aquatic organisms during reproduction and development periods. General conditions 3 and 5 address protection of spawning areas and shellfish beds, respectively. General condition 3 states that activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. In addition, general condition 3 also prohibits activities that result in the physical destruction of important spawning areas. General condition 5 prohibits activities in areas of concentrated shellfish populations. General condition 9 requires the maintenance of pre-construction course, condition, capacity, and location of open waters to the maximum extent practicable, which will help minimize adverse impacts to fish, shellfish, and other aquatic organisms in the food web.

(i) Other wildlife: Activities authorized by this NWP will result in adverse effects to other wildlife associated with aquatic ecosystems, such as resident and transient mammals, birds, reptiles, and amphibians, through the destruction of aquatic habitat, including breeding and nesting areas, escape cover, travel corridors, and preferred food sources. This NWP does not authorize activities that jeopardize the continued existence of Federally-listed endangered and threatened species or result in the destruction or adverse modification of critical habitat. Compensatory mitigation, including the establishment and maintenance of riparian areas next to open waters, may be required for activities authorized by this NWP, which will help offset losses of aquatic habitat for wildlife. General condition 4 states that activities in breeding areas for migratory birds must be avoided to the maximum extent practicable.

(j) Special aquatic sites: The potential impacts to specific special aquatic sites are discussed

below:

(1) Sanctuaries and refuges: The activities authorized by this NWP will have no more than minimal adverse effects on waters of the United States within sanctuaries or refuges designated by Federal or state laws or local ordinances. General condition 22 prohibits the use of this NWP to discharge dredged or fill material in NOAA-managed marine sanctuaries and marine monuments and National Estuarine Research Reserves. District engineers will exercise discretionary authority and require individual permits for specific projects in waters of the United States in sanctuaries and refuges if those activities will result in more than minimal adverse effects on the aquatic environment.

(2) Wetlands: The activities authorized by this NWP will have only minimal adverse effects on wetlands. District engineers will review pre-construction notifications for certain activities authorized by this NWP to ensure that the adverse effects on the aquatic environment are no more than minimal. For some NWP 12 activities, there will be losses of wetlands in cases where the authorized activity involves permanent fills in jurisdictional wetlands to convert those areas to dry land. There may also be permanent conversions of wetlands from forested to scrub-shrub or emergent wetlands in the utility line right-of-way. Division engineers can regionally condition this NWP to restrict or prohibit its use in certain high value wetlands. See paragraph (e) of section 5.1 for a more detailed discussion of impacts to wetlands.

(3) Mud flats: The activities authorized by this NWP will have minor adverse effects on mud flats. Small portions of mud flats may be destroyed by the installation of utility lines, but these adverse effects will be no more than minimal. Pre-construction notification is required for certain activities authorized by this NWP and the pre-construction notification must include a delineation of special aquatic sites, including mud flats.

(4) Vegetated shallows: The activities authorized by this NWP will have only minimal adverse effects on vegetated shallows in tidal waters, since only utility lines and foundations for overhead utility line towers, poles, and anchors can be constructed in tidal waters that may be inhabited by submerged aquatic vegetation. District engineers will receive pre-construction notifications for all utility line activities in section 10 waters to determine if those activities will result in only minimal adverse effects on the aquatic environment. Division engineers can regionally condition this NWP to restrict or prohibit its use in non-tidal vegetated shallows. For those NWP activities that require pre-construction notification, the district engineer will review the proposed activity and may exercise discretionary authority to require the project proponent to obtain an individual permit if the activity will result in more than minimal adverse effects on the aquatic environment.

(5) Coral reefs: The activities authorized by this NWP may affect coral reefs. The activities authorized by this NWP will have no more than minimal adverse effects on coral reefs. Pre-construction notification is required for all section 10 activities authorized by this NWP, so that the district engineer can review each proposed activity and ensure that it results in minimal adverse environmental effects. If the proposed activity will result in more

than minimal adverse effects on the aquatic environment, the district engineer will exercise discretionary authority to require the project proponent to obtain an individual permit.

(6) Riffle and pool complexes: The activities authorized by this NWP will have no more than minimal adverse effects on riffle and pool complexes. Division engineers can regionally condition this NWP to restrict or prohibit its use in riffle and pool complexes. Pre-construction notification is required for certain utility line activities authorized by this NWP, which will allow district engineers to review those proposed activities, and if he or she determines the adverse environmental effects are more than minimal, exercise discretionary authority to require the project proponent to obtain an individual permit.

(k) Municipal and private water supplies: See paragraph (n) of section 5.1 for a discussion of potential impacts to water supplies.

(l) Recreational and commercial fisheries, including essential fish habitat: The activities authorized by this NWP may adversely affect waters of the United States that act as habitat for populations of economically important fish and shellfish species. Division and district engineers can condition this NWP to prohibit discharges during important life cycle stages, such as spawning or development periods, of economically valuable fish and shellfish. All utility lines requiring section 10 authorization require submission of pre-construction notifications to the district engineer, which will allow review of each activity in navigable waters to ensure that adverse effects to economically important fish and shellfish are no more than minimal. Compliance with general conditions 3 and 5 will ensure that the authorized activity does not adversely affect important spawning areas or concentrated shellfish populations. As discussed in paragraph (g) of section 5.1, there are procedures to help ensure that individual and cumulative impacts to essential fish habitat are no more than minimal. For example, division and district engineers can impose regional and special conditions to ensure that activities authorized by this NWP will result in only minimal adverse effects on essential fish habitat.

(m) Water-related recreation: See paragraph (m) of section 5.1 above.

(n) Aesthetics: See paragraph (c) of section 5.1 above.

(o) Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: General condition 22 prohibits the use of this NWP to authorize discharges of dredged or fill material in designated critical resource waters and adjacent wetlands, which may be located in parks, national and historical monuments, national seashores, wilderness areas, and research sites. This NWP can be used to authorize activities in parks, national and historical monuments, national seashores, wilderness areas, and research sites if the manager or caretaker wants to conduct activities in waters of the United States and those activities result in no more than minimal adverse effects on the aquatic environment. Division engineers can regionally condition the NWP to prohibit its use in designated areas, such as national wildlife refuges or wilderness areas.

8.0 Determinations

8.1 Finding of No Significant Impact

Based on the information in this document, the Corps has determined that the issuance of this NWP will not have a significant impact on the quality of the human environment. Therefore, the preparation of an Environmental Impact Statement is not required.

8.2 Public Interest Determination

In accordance with the requirements of 33 CFR 320.4, the Corps has determined, based on the information in this document, that the issuance of this NWP is not contrary to the public interest.

8.3 Section 404(b)(1) Guidelines Compliance

This NWP has been evaluated for compliance with the 404(b)(1) Guidelines, including Subparts C through G. Based on the information in this document, the Corps has determined that the discharges authorized by this NWP comply with the 404(b)(1) Guidelines, with the inclusion of appropriate and practicable conditions, including mitigation, necessary to minimize adverse effects on affected aquatic ecosystems. The activities authorized by this NWP will result in no more than minimal individual and cumulative adverse effects on the aquatic environment.

8.4 Section 176(c) of the Clean Air Act General Conformity Rule Review

This NWP has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities authorized by this permit will not exceed *de minimis* levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot

be practicably controlled by the Corps. For these reasons, a conformity determination is not required for this NWP.

FOR THE COMMANDER

Dated: 21 Dec 2016

Donald E. Jackson
Major General, U.S. Army
Deputy Commanding General
for Civil and Emergency Operations

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DECISION DOCUMENT
NATIONWIDE PERMIT 14

This document discusses the factors considered by the Corps of Engineers (Corps) during the issuance process for this Nationwide Permit (NWP). This document contains: (1) the public interest review required by Corps regulations at 33 CFR 320.4(a)(1) and (2); (2) a discussion of the environmental considerations necessary to comply with the National Environmental Policy Act; and (3) the impact analysis specified in Subparts C through F of the 404(b)(1) Guidelines (40 CFR Part 230). This evaluation of the NWP includes a discussion of compliance with applicable laws, consideration of public comments, an alternatives analysis, and a general assessment of individual and cumulative effects, including the general potential effects on each of the public interest factors specified at 33 CFR 320.4(a).

1.0 Text of the Nationwide Permit

Linear Transportation Projects. Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).

Note 2: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

1.1 Requirements

General conditions of the NWPs are in the Federal Register notice announcing the issuance of this NWP. Pre-construction notification requirements, additional conditions, limitations, and restrictions are in 33 CFR part 330.

1.2 Statutory Authorities

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)
- Section 404 of the Clean Water Act (33 U.S.C. 1344)

1.3 Compliance with Related Laws (33 CFR 320.3)

1.3.1 General

NWPs are a type of general permit designed to authorize certain activities that have only minimal individual and cumulative adverse environmental effects and generally comply with the related laws cited in 33 CFR 320.3. Activities that result in more than minimal individual and cumulative adverse environmental effects cannot be authorized by NWPs. Individual review of each activity authorized by an NWP will not normally be performed, except when pre-construction notification to the Corps is required or when an applicant requests verification that an activity complies with an NWP. Potential adverse impacts and

compliance with the laws cited in 33 CFR 320.3 are controlled by the terms and conditions of each NWP, regional and case-specific conditions, and the review process that is undertaken prior to the issuance of NWPs.

The evaluation of this NWP, and related documentation, considers compliance with each of the following laws, where applicable: Sections 401, 402, and 404 of the Clean Water Act; Section 307(c) of the Coastal Zone Management Act of 1972, as amended; Section 302 of the Marine Protection, Research and Sanctuaries Act of 1972, as amended; the National Environmental Policy Act of 1969; the Fish and Wildlife Act of 1956; the Migratory Marine Game-Fish Act; the Fish and Wildlife Coordination Act, the Federal Power Act of 1920, as amended; the National Historic Preservation Act of 1966; the Interstate Land Sales Full Disclosure Act; the Endangered Species Act; the Deepwater Port Act of 1974; the Marine Mammal Protection Act of 1972; Section 7(a) of the Wild and Scenic Rivers Act; the Ocean Thermal Energy Act of 1980; the National Fishing Enhancement Act of 1984; the Magnuson-Stevens Fishery and Conservation and Management Act, the Bald and Golden Eagle Protection Act; and the Migratory Bird Treaty Act. In addition, compliance of the NWP with other Federal requirements, such as Executive Orders and Federal regulations addressing issues such as floodplains, essential fish habitat, and critical resource waters is considered.

1.3.2 Terms and Conditions

Many NWPs have pre-construction notification requirements that trigger case-by-case review of certain activities. Two NWP general conditions require case-by-case review of all activities that may adversely affect Federally-listed endangered or threatened species or historic properties (i.e., general conditions 18 and 20, respectively). General condition 16 restricts the use of NWPs for activities that are located in Federally-designated wild and scenic rivers. None of the NWPs authorize the construction of artificial reefs. General condition 28 prohibits the use of an NWP with other NWPs, except when the acreage loss of waters of the United States does not exceed the highest specified acreage limit of the NWPs used to authorize the single and complete project.

In some cases, activities authorized by an NWP may require other federal, state, or local authorizations. Examples of such cases include, but are not limited to: activities that are in marine sanctuaries or affect marine sanctuaries or marine mammals; the ownership, construction, location, and operation of ocean thermal conversion facilities or deep water ports beyond the territorial seas; activities that result in discharges of dredged or fill material into waters of the United States and require Clean Water Act Section 401 water quality certification; or activities in a state operating under a coastal zone management program approved by the Secretary of Commerce under the Coastal Zone Management Act. In such cases, a provision of the NWPs states that an NWP does not obviate the need to obtain other authorizations required by law. [33 CFR 330.4(b)(2)]

Additional safeguards include provisions that allow the Chief of Engineers, division engineers, and/or district engineers to: assert discretionary authority and require an individual permit for a specific activity; modify NWPs for specific activities by adding

special conditions on a case-by-case basis; add conditions on a regional or nationwide basis to certain NWPs; or take action to suspend or revoke an NWP or NWP authorization for activities within a region or state. Regional conditions are imposed to protect important regional concerns and resources. [33 CFR 330.4(e) and 330.5]

1.3.3 Review Process

The analyses in this document and the coordination that was undertaken prior to the issuance of the NWP fulfill the requirements of the National Environmental Policy Act (NEPA), the Fish and Wildlife Coordination Act, and other acts promulgated to protect the quality of the environment.

All NWPs that authorize activities that may result in discharges into waters of the United States require water quality certification. NWPs that authorize activities within, or affecting land or water uses within a state that has a Federally-approved coastal zone management program, must also be certified as consistent with the state's program. The procedures to ensure that the NWPs comply with these laws are described in 33 CFR 330.4(c) and (d), respectively.

1.4 Public Comment and Response

For a summary of the public comments received in response to the June 1, 2016, Federal Register notice, refer to the preamble in the Federal Register notice announcing the reissuance of this NWP. The substantive comments received in response to the June 1, 2016, Federal Register notice were used to improve the NWP by changing NWP terms and limits, pre-construction notification requirements, and/or NWP general conditions, as necessary.

We proposed to add a note to this NWP similar to proposed Note 2 in NWP 12 to explain that separate and distant crossings of waters of the United States for linear projects may qualify for separate authorization by NWP.

Several commenters objected to the proposed reissuance of this NWP and several commenters supported reissuing this NWP. One commenter said that this NWP does not authorize activities that are similar in nature. Another commenter stated that individual permits should be required for these linear transportation projects. One commenter said that this NWP should authorize parking lots.

The category of activities authorized by this NWP, that is activities necessary for the construction, expansion, modification, or improvement of linear transportation projects, is a category of activities that are similar in nature because they are limited for use in transportation. The activities in jurisdictional waters and wetlands authorized by this NWP typically result in no more than minimal adverse environmental effects and would generate little or no public comment if they were evaluated through the individual permit process. This NWP requires PCNs for activities that have the potential to result in more than minimal

adverse environmental effects, so that district engineers can review those activities on a case-by-case basis and, after considering any mitigation proposed by applicants, assert discretionary authority for those activities determined to result in more than minimal adverse environmental effects.

The paragraph preceding the "Notification" paragraph states that NWP 14 does not authorize parking lots. In the preamble to the final 2012 NWPs, which was published in the February 21, 2012, issue of the Federal Register, we stated that NWP 14 authorized parking lots (see 77 FR 10200). That statement was an error. The construction of parking lots that involve discharges of dredged or fill material into waters of the United States may be authorized by other NWPs, if it meets the terms and conditions of an applicable NWP.

Several commenters stated that the acreage limits for this NWP should not be changed. Several commenters suggested increasing the acreage limits of this NWP, and a few of these commenters recommended a one-acre limit for individual crossings of waters of the United States. One commenter said the acreage limit for losses of non-tidal waters should be increased to 3 acres. One commenter stated that the acreage limit should be decreased to 1/4-acre for both non-tidal waters and tidal waters, and another commenter said that the acreage limit should be 1/10-acre for losses of non-tidal and tidal waters. A number of commenters requested clarification in how the acreage limit is applied to each crossing of waters of the United States. One commenter recommended a stream impact limit of 1/10-acre. One commenter stated that the scientific rationale in the draft decision document is insufficient to justify the 1⁄2- and 1⁄3-acre limits.

In this NWP, we are retaining the 1/2-acre limit for losses of non-tidal waters of the United States and the 1/3-acre limit for losses of tidal waters of the United States. We believe these acreage limits, with the PCN requirements, are appropriate for ensuring that this NWP only authorizes activities that result in no more than minimal individual and cumulative adverse environmental effects. For those activities that require PCNs, district engineers will review those activities, and may impose conditions such as mitigation requirements, to provide assurance that the authorized activities will have no more than minimal individual and cumulative adverse environmental effects. In addition, division engineers have the authority to modify this NWP to reduce the acreage limits, if there are regional concerns for the environment that warrant changing the acreage limits. The acreage limit is applied to each single and complete crossing of waters of the United States (see the definition of "single and complete linear project" in the Definitions section of these NWPs). The acreage limits for this NWP and other NWPs are determined by our experience and judgment regarding regulated activities that typically result in no more than minimal individual and cumulative adverse environmental effects.

One commenter stated that use of this NWP for the expansion, modification, or improvement of previously authorized projects could result in cumulative impacts that exceed these acreage limits and that the impacts of previously authorized projects should count towards the acreage limit.

Division and district engineers will monitor the use of this NWP and if they determine that the activities authorized by this NWP may be resulting in more than minimal cumulative

adverse environmental effects, they will modify, suspend, or revoke this NWP. In cases where the expansion, modification, or improvement of an existing NWP 14 activity will result in additional losses of waters of the United States, the district engineers will determine whether the expansion, modification, or improvement is part of the original single and complete project. If it is, then the district engineer will combine the original loss with the proposed loss to determine if the acreage limit has been exceeded.

A number of commenters stated that this NWP should not authorize discharges into wetlands or other special aquatic sites. Two commenters suggested adding a linear foot limit to this NWP to ensure that it only authorizes activities with minimal adverse effects on the aquatic environment. One commenter recommended adding a 200 linear foot limit either for individual or cumulative impacts. Three commenters recommended a stream impact limit of 300 linear feet.

This NWP requires PCNs for all discharges into wetlands and other special aquatic sites. The PCN review process is an important tool for ensuring that NWP 14 only authorize activities with no more than minimal adverse environmental effects to special aquatic sites. We do not agree that a 200 or 300 linear foot limit is necessary for this NWP, because most linear transportation projects cross jurisdictional streams either perpendicular, or nearly perpendicular to the centerline of the stream. The 1/2-acre and 1/3-acre limits, plus the PCN requirements, are sufficient to ensure that this NWP only authorizes activities that have no more than minimal individual and cumulative adverse environmental effects.

One commenter objected to allowing the district engineer to waive any of the limits of this NWP. One commenter recommended modifying this NWP to allow district engineers to waive certain limits. One commenter said that district engineers should be able to waive the limits of this NWP if the proposed activity would take place in low quality waters or wetlands.

This NWP does not include any provisions that allow district engineers to waive the acreage limits of this NWP. None of the NWPs allow waivers of acreage limits. This NWP does not have a 300 linear foot limit for losses of stream bed that is similar to the waivable 300 linear foot limit in NWPs 29 and 39 and a number of other NWPs.

Two commenters recommended that the paragraph authorizing temporary structures and fills include the language regarding the use of temporary mats similar to the proposed changes for NWPs 3 and 12. We have added temporary mats to this paragraph of NWP 14 to be consistent with NWPs 3, 12, and 13.

Several commenters said that PCNs should be required for all activities authorized by this NWP. A number of commenters stated that the PCN thresholds should not be changed for this NWP. A few commenters suggested increasing the PCN threshold to 1/2-acre if the acreage limit is increased to one acre. One commenter said that PCNs should not be required for all discharges into wetlands; instead the PCN threshold for losses of wetlands should be 1/10-acre. Another commenter asserted that the second PCN threshold should be eliminated and that PCNs should only be required for discharges resulting in the loss of greater than 1/10-acre of special aquatic sites.

We are retaining the current PCN thresholds for this NWP. We believe these PCN thresholds are necessary for providing opportunities for district engineers to review proposed NWP 14 activities that have potential for resulting in more than minimal adverse environmental effects. In response to a PCN, the district engineer can issue an NWP verification, with or without permit conditions. The district engineer can also exercise discretionary authority to require an individual permit, if after considering the applicant's mitigation proposal, he or she determines that more than minimal adverse environmental effects will occur.

Several commenters supported the addition of Note 1 to explain that separate and distant crossings of waters of the United States for linear projects may qualify for separate authorization under NWP 14. Two commenters said that linear transportation projects should be reviewed in their entirety and not just at individual crossings. One commenter recommended deleting Note 1. One commenter objected to the addition of Note 1 because it could require more individual permits for railways. One commenter stated that the text of Note 1 does not clearly define when it is appropriate to combine this NWP with an individual permit. One commenter stated that an individual permit for the entire project is appropriate when the entire linear transportation project impacts more than 1/2-acre of jurisdictional waters and wetlands. Two commenters stated that an individual permit for the entire project is appropriate when one crossing does not qualify for authorization under NWP 14. One commenter said that the use of NWP 14 in combination with an individual permit should be at the discretion of the district engineer.

Consistent with Note 2 of NWP 12 and for the same reasons, we have modified Note 1 for NWP 14 by deleting the phrase "with independent utility" from the second sentence. The objective of the second sentence of this note is to serve as a reminder of 33 CFR 330.6(d), which addresses the combining of NWP authorizations with individual permit authorizations. Section 330.6(d) has been in effect since 1991, so the adoption of Note 1 should not result more individual permits for railways. District engineers will determine on a case-by-case basis when it is appropriate to combine for linear transportation projects NWP authorizations with individual permits, or whether all of the proposed activities require individual permit authorization.

Two commenters requested clarification regarding the difference between "stand-alone" projects and "segments" as described in the preamble to the June 1, 2016, proposed rule. Two commenters asked for a definition of independent utility and noted that the definition of "single and complete linear project" does not explicitly include the term "independent utility."

When evaluating individual permit applications and NWP PCNs, district engineers will use their judgment in applying 33 CFR 330.6(d) to determine when linear transportation projects can be authorized by combinations of NWPs and individual permits, or whether individual permits is required for all regulated activities for linear transportation projects that require DA authorization. The term "independent utility" is defined in the Definitions section of these NWPs (Section F). The definition of "single and complete linear project" does not include the term "independent utility" because each crossing of waters of the United States is needed for the single and complete linear project to fulfill its purpose of transporting

people, goods, and services from the point of origin to the terminal point.

One commenter remarked that Note 3 is not a substantive change. Two commenters expressed concern that the requirements in Note 3 would result in district engineers requiring compensatory mitigation for cumulative impacts. One commenter supported the addition of Note 3 to explain that the district engineer may require mitigation to ensure the authorized activity causes no more than minimal individual and cumulative adverse environmental effects. One commenter stated that mitigation always should be required because the district engineer has too much discretion. One commenter asked if Note 3 is for multiple crossings that do not have independent utility. Two commenters said that the impacts of separate and distant crossings of waterbodies should be considered separately when determining mitigation requirements, instead of combining the impacts of separate and distant crossings.

Note 3 is not a substantive change from prior NWPs, but it is a clarification. The addition of Note 3 does not impose any new compensatory mitigation requirements on this NWP. The purpose of Note 3 is to remind users of the NWPs that if a linear transportation project includes crossings of waters of the United States that are authorized by NWP but do not require PCNs, and one or more crossings of waters of the United States requires pre-construction notification, then the PCN must include those non-PCN crossings, in accordance with the requirements of paragraph (b)(4) of general condition 32. The district engineer requires information on those non-PCN NWP 14 activities to make his or her determination whether the proposed activity will result in no more than minimal cumulative adverse environmental effects. Under 33 CFR 330.1(e)(3), which was promulgated in 1991, the district engineer has had the authority to require compensatory mitigation to ensure that the cumulative adverse environmental effects caused by NWP activities are no more than minimal.

When it is feasible, project proponents usually design their NWP activities so that they do not trigger compensatory mitigation requirements. According to the Corps' NWP regulations at 33 CFR 330.1(e)(3), compensatory mitigation is only required if district engineer first determines that the proposed NWP activity would result in more than minimal individual and cumulative adverse environmental effects, and then offers the applicant the opportunity to propose mitigation, including compensatory mitigation, to reduce the adverse environmental effects so that they are no more than minimal. If the adverse environmental effects cannot be reduced so that they are no more than minimal, the district engineer will exercise discretionary authority and require an individual permit for the proposed activity.

Note 3 does not address whether individual crossings of waters of the United States authorized by NWP have independent utility. That question is more appropriately addressed through implementation of 33 CFR 330.6(d), and case-by-case decisions made by district engineers. When determining compensatory mitigation requirements for linear projects authorized by NWPs, district engineers have the discretion to require compensatory mitigation at a single site (e.g., an approved mitigation bank or a permittee-responsible mitigation project), or at multiple sites (e.g., mitigation bank credits from different mitigation banks whose service areas are crossed by the linear project).

One commenter recommended adding a condition to NWP 14 that prohibits its use when linear transportation projects are likely to result in land use changes that will negatively impact the environment. Two commenters requested clarification of the phrase "minimum necessary" which is used in the last sentence of the first paragraph of this NWP, for stream channel modifications. One commenter stated that the "minimum necessary" phrase is ambiguous and should be quantified. Another commenter expressed support for the use of that phrase in the NWP.

Land use decisions are made primarily by state, tribal, and local governments, through their zoning programs and their other land use authorities (see 33 CFR 320.4(j)(2)). The Corps does not have the authority to control land use changes that do not involve activities that require DA authorization. Application of the term "minimum necessary" is subject to the district engineer's discretion, and is highly dependent on site-specific and activity-specific circumstances. It is not possible to develop a quantifiable, defensible definition of the term "minimum necessary." It is a judgment call that must be made by the district engineer when evaluating a PCN and the proposed activity's compliance with the terms and conditions of this NWP.

One commenter asked for clarification regarding whether a linear transportation project with multiple separate and distant crossings of waters of the United States that require pre-construction notification can be provided to the Corps district in one PCN, or if individual PCNs are required for each crossing that requires notification. Several commenters requested that the Corps define what a separate and distant location is. A couple of these commenters asked whether there is a minimum distance for two crossings of waterbodies to be considered separate and distant. One commenter said that the text of NWP 14 uses the terms "separate and distinct" and "separate and distant."

A permit application or PCN for a linear transportation projects should include all crossings of waters of the United States that require DA authorization. Whether proposed crossings of waters of the United States are to be considered together or as separate and distant is to be determined by district engineers on a case-by-case basis, after evaluating site and regional characteristics (e.g., topography, geology, hydrology, climate). It is not possible to establish a specific distance that could be effectively applied across the country. Nowhere in the June 1, 2016, proposed rule is the term "separate and distinct" used. "Distant" is the key word in the phrase "separate and distant" because it is the distance between crossings of waters of the United States at reduces the potential for synergistic interactions among regulated activities and their impacts to occur. The greater the distance between crossings that are authorized by NWP 14, the more attenuated the adverse environmental effects of those crossings becomes, so that there is less likelihood of more than minimal adverse cumulative impacts occurring.

Three commenters recommended that the use of best management practices should be a specific requirement to minimize sediment loading and wetland disturbance. One commenter said that this NWP should require that riprap placed in the stream should be installed at grade with the existing stream substrate and mimic the existing contours of the stream channel. One commenter said that this NWP should prohibit the use of grout. One commenter stated that culvert bottoms should be installed in a manner to allow natural

substrate to become reestablished. One commenter said that culvert installation should not result in over-widening of the stream channel.

Several NWP general conditions require practices to minimize adverse effects to jurisdictional waters and wetlands. For example, general condition 12, soil erosion and sediment controls, requires appropriate measures to minimize sediment inputs to waters and wetlands. General condition 13, removal of temporary fills, requires the permittee to remove temporary fills and restore affected areas, which may include wetlands. We do not agree that riprap should be required in all cases to be placed at grade of a stream. The use of grout is more appropriately determined on a case-by-case basis, if the use of grout is a component of a regulated activity. The appropriate approach for culvert installation is also a case-by-case determination and highly dependent on the characteristics of the stream, including its geomorphology. The effects of culvert installation on stream widening are also most appropriately evaluated on a case-by-case basis by district engineers.

One commenter stated that NWP 14 should authorize the removal of road crossings and require the affected areas to be restored using natural channel design principles. One commenter said that this NWP should require the evaluation of practicable alternatives. One commenter expressed concern that NWP 14 activities could result in indirect adverse environmental effects in areas distant from linear transportation projects. One commenter stated that this NWP should not authorize energy projects.

We do not believe it is necessary to modify NWP 14 to authorize the removal of road crossings. If the road crossing is temporary, the NWP 14 authorization should include conditions that apply to the removal of the temporary road crossing after it has fulfilled its intended purpose. If the road crossing is permanent, the removal of the road may be authorized by NWP 3 if the removal activity requires DA authorization. We do not think it is appropriate to prescribe, at a national level, a particular approach to restoring streams that were adversely affected by NWP activities. There are a number of different techniques that can be used to restore streams, and the appropriate approach is dependent on the objectives of the restoration activity, the site characteristics, and numerous other factors. Activities authorized by NWP 14 can have indirect adverse environmental effects, and when PCNs are required for those activities, district engineers will evaluate both the direct and indirect adverse environmental effects when determining if NWP authorization is appropriate. This NWP does not authorize energy projects per se, but it may authorize road crossings and other linear transportation projects associated with an energy facility, including renewable energy generation facilities.

One commenter stated that federal and state natural resource agency coordination should be required for any stream losses that exceed 300 linear feet or 1/2-acre. One commenter said that this NWP should not authorize activities that jeopardize ESA-listed species. One commenter suggested modifying this NWP by adding a limit for cumulative effects to protect endangered species in estuaries. One commenter said that this NWP should require linear transportation projects to be designed to maintain aquatic organism passage. One commenter stated that this NWP should require advanced notice to tribes to avoid impacts on tribal treaty natural resources and cultural resources.

This NWP does not have a 300 linear foot limit for losses of stream beds. The 1/2-acre limit for losses of non-tidal waters cannot be waived or exceeded. The NWPs cannot be used to authorize activities that jeopardize the continued existence of ESA-listed species or adversely modify or destroy critical habitat of those species (see paragraph (a) of general condition 18, endangered species, and 33 CFR 330.4(f)). Division engineers can modify, suspend, or revoke this NWP on a regional basis to protect ESA-listed species in specific regions or waterbodies. General condition 2, aquatic life movements, requires NWP activities to be designed and constructed so that they do not substantially disrupt the necessary life cycle movements of indigenous aquatic species, unless the primary purpose of the NWP activity is to impound water. For the 2017 NWPs, Corps districts initiated consultation with tribes to determine whether to develop regional conditions or coordination procedures to protect tribal trust resources, including natural and cultural resources. District engineers can establish procedures to coordinate with tribes to help ensure compliance with general condition 17, so that no NWP activity will cause more than minimal adverse effects on reserved tribal rights, protected tribal resources, or tribal lands.

One commenter said that NWP 14 activities have the potential to cause significant direct and cumulative adverse environmental effects and that the reissuance of this NWP requires an environmental impact statement. Two commenters asked how the cumulative effect analysis for this NWP accounts for activities that do not require pre-construction notification.

The Corps complied with the requirements of NEPA by preparing an environmental assessment with a finding of no significant impact. The environmental assessment and finding of no significant impact are in the national decision document prepared for this NWP. Since NEPA compliance was accomplished through the preparation of an environmental assessment with a finding of no significant impact, an environmental impact statement is not required.

The decision document for this NWP that was prepared by Corps Headquarters analyzes, at a national level, the direct, indirect, and cumulative impacts caused by activities authorized by this NWP. The decision document includes a cumulative impact analysis prepared in accordance with the Council on Environmental Quality's NEPA definition of "cumulative impact" at 40 CFR 1508.7. We also prepared a cumulative effects assessment for the 404(b)(1) Guidelines compliance determination, as required by 40 CFR 230.7(b)(3). The cumulative effects analysis conducted for the 404(b)(1) Guidelines includes estimates of the number of non-PCN activities likely to occur during the five year period this NWP is in effect, as well as the estimated impacts of these non-PCN activities to jurisdictional waters and wetlands. Those estimated impacts include both temporary and permanent impacts.

2.0 Alternatives

This evaluation includes an analysis of alternatives based on the requirements of NEPA, which requires a more expansive review than the Clean Water Act Section 404(b)(1) Guidelines. The alternatives discussed below are based on an analysis of the potential environmental impacts and impacts to the Corps, Federal, Tribal, and state resource

agencies, general public, and prospective permittees. Since the consideration of off-site alternatives under the 404(b)(1) Guidelines does not apply to specific projects authorized by general permits, the alternatives analysis discussed below consists of a general NEPA alternatives analysis for the NWP.

2.1 No Action Alternative (No Nationwide Permit)

The no action alternative would not achieve one of the goals of the Corps Nationwide Permit Program, which is to reduce the regulatory burden on applicants for activities that result in only minimal individual and cumulative adverse environmental effects. The no action alternative would also reduce the Corps ability to pursue the current level of review for other activities that have greater adverse effects on the aquatic environment, including activities that require individual permits as a result of the Corps exercising its discretionary authority under the NWP program. The no action alternative would also reduce the Corps ability to conduct compliance actions.

If this NWP is not available, substantial additional resources would be required for the Corps to evaluate these minor activities through the individual permit process, and for the public and Federal, Tribal, and state resource agencies to review and comment on the large number of public notices for these activities. In a considerable majority of cases, when the Corps publishes public notices for proposed activities that result in only minimal adverse environmental effects, the Corps typically does not receive responses to these public notices from either the public or Federal, Tribal, and state resource agencies. Another important benefit of the NWP program that would not be achieved through the no action alternative is the incentive for project proponents to design their projects so that those activities meet the terms and conditions of an NWP. The Corps believes the NWPs have significantly reduced adverse effects to the aquatic environment because most applicants modify their projects to comply with the NWPs and avoid the delays and costs typically associated with the individual permit process.

In the absence of this NWP, Department of the Army (DA) authorization in the form of another general permit (i.e., regional or programmatic general permits, where available) or individual permits would be required. Corps district offices may develop regional general permits if an NWP is not available, but this is an impractical and inefficient method for activities with no more than minimal individual and cumulative adverse environmental effects that are conducted across the Nation. Not all districts would develop these regional general permits for a variety of reasons. The regulated public, especially those companies that conduct activities in more than one Corps district, would be adversely affected by the widespread use of regional general permits because of the greater potential for lack of consistency and predictability in the authorization of similar activities with no more than minimal individual and cumulative adverse environmental effects. These companies would incur greater costs in their efforts to comply with different regional general permit requirements between Corps districts. Nevertheless, in some states Corps districts have issued programmatic general permits to take the place of this and other NWPs. However, this approach only works in states with regulatory programs comparable to the Corps

Regulatory Program.

2.2 National Modification Alternatives

Since the Corps Nationwide Permit program began in 1977, the Corps has continuously strived to develop NWPs that only authorize activities that result in no more than minimal individual and cumulative adverse environmental effects. Every five years the Corps reevaluates the NWPs during the reissuance process, and may modify an NWP to address concerns for the aquatic environment. Utilizing collected data and institutional knowledge concerning activities authorized by the Corps regulatory program, the Corps reevaluates the potential impacts of activities authorized by NWPs. The Corps also uses substantive public comments on proposed NWPs to assess the expected impacts. This NWP was developed to authorize linear transportation projects that have minimal individual and cumulative adverse environmental effects. The Corps has considered suggested changes to the terms and conditions of this NWP, as well as modifying or adding NWP general conditions, as discussed in the preamble of the Federal Register notice announcing the reissuance of this NWP.

In the June 1, 2016, Federal Register notice, the Corps requested comments on the proposed reissuance of this NWP. The Corps proposed to modify this NWP to add a new note to explain that separate and distant crossings of waters of the United States for linear projects may qualify for separate authorization by NWP. The proposed new note also references 33 CFR 330.4(d), which may apply to some linear transportation projects.

2.3 Regional Modification Alternatives

An important aspect for the NWPs is the emphasis on regional conditions to address differences in aquatic resource functions, services, and values across the nation. All Corps divisions and districts are expected to add regional conditions to the NWPs to enhance protection of the aquatic environment and address local concerns. Division engineers can also revoke an NWP if the use of that NWP results in more than minimal individual and cumulative adverse environmental effects, especially in high value or unique wetlands and other waters. When an NWP is issued or reissued by the Corps, division engineers issue supplemental decision documents that evaluate potential impacts of the NWP at a regional level, and include regional cumulative effects assessments.

Corps divisions and districts also monitor and analyze the cumulative adverse effects of the NWPs, and if warranted, further restrict or prohibit the use of the NWPs to ensure that the NWPs do not authorize activities that result in more than minimal individual and cumulative adverse environmental effects. To the extent practicable, division and district engineers will use regulatory automated information systems and institutional knowledge about the typical adverse effects of activities authorized by NWPs, as well as substantive public comments, to assess the individual and cumulative adverse environmental effects resulting from regulated activities.

2.4 Case-specific On-site Alternatives

Although the terms and conditions for this NWP have been established at the national level to authorize most activities that have only minimal individual and cumulative adverse environmental effects, division and district engineers have the authority to impose case-specific special conditions on NWP authorizations to ensure that the authorized activities will result in no more than minimal individual and cumulative adverse environmental effects.

General condition 23 requires the permittee to minimize and avoid impacts to waters of the United States to the maximum extent practicable on the project site. Off-site alternatives cannot be considered for activities authorized by NWPs. During the evaluation of a pre-construction notification, the district engineer may determine that additional avoidance and minimization is practicable. The district engineer may also condition the NWP authorization to require compensatory mitigation to offset losses of waters of the United States and ensure that the net adverse environmental effects are no more than minimal. As another example, the NWP authorization can be conditioned to prohibit the permittee from conducting the activity during specific times of the year to protect spawning fish and shellfish. If the proposed activity will result in more than minimal adverse environmental effects, then the district engineer will exercise discretionary authority and require an individual permit. Discretionary authority can be asserted where there are concerns for the aquatic environment, including high value aquatic habitats. The individual permit review process requires a project-specific alternatives analysis, including the consideration of off-site alternatives, and a public interest review.

3.0 Affected Environment

This environmental assessment is national in scope because the NWP may be used across the country, unless the NWP is revoked or suspended by a division or district engineer under the procedures in 33 CFR 330.5(c) and (d), respectively. The affected environment consists of terrestrial and aquatic ecosystems in the United States, as they have been directly and indirectly affected by past and present federal, non-federal, and private activities. The past and present activities include activities authorized by the various NWPs issued from 1977 to 2012, activities authorized by other types of Department of the Army (DA) permits, as well as other federal, tribal, state, and private activities that are not regulated by the Corps. Aquatic ecosystems are also influenced by past and present activities in uplands, because those land use/land cover changes in uplands and other activities in uplands have indirect effects on aquatic ecosystems (e.g., MEA 2005b, Reid 1993). Due to the large geographic scale of the affected environment (i.e., the entire United States), as well as the many past and present human activities that have shaped the affected environment, it is only practical to describe the affected environment in general terms. In addition, it is not possible to describe the environmental conditions for specific sites where the NWPs may be used to authorize eligible activities.

The total land area in the United States is approximately 2,264,000,000 acres, and the total land area in the contiguous United States is approximately 1,894,000,000 acres (Nickerson et al. 2011). Land uses in 48 states of the contiguous United States as of 2007 is provided in Table 3.1 (Nickerson et al. 2011). Of the land area in the entire United States, approximately 60 percent (1,350,000,000 acres) is privately owned (Nickerson et al. 2011). In the contiguous United States, approximately 67 percent of the land is privately owned, 31 percent is held by the United States government, and two percent is owned by state or local governments (Dale et al. 2000). Developed non-federal lands comprise 4.4 percent of the total land area of the contiguous United States (Dale et al. 2000).

Table 3.1. Major land uses in the United States (Nickerson et al. 2011).

Land Use	Acres	Percent of Total
Agriculture	1,161,000,000	51.3
Forest land	544,000,000	24.0
Transportation use	27,000,000	1.2
Recreation and wildlife areas	252,000,000	11.1
National defense areas	23,000,000	1.0
Urban land	61,000,000	2.7
Miscellaneous use	197,000,000	8.7
Total land area	2,264,000,000	100.0

3.1 Quantity of Aquatic Ecosystems in the United States

There are approximately 283.1 million acres of wetlands in the United States; 107.7 million acres are in the conterminous United States and the remaining 175.4 million acres are in Alaska (Mitsch and Hernandez 2013). Wetlands occupy less than 9 percent of the global land area (Zedler and Kercher 2005). According to Dahl (2011), wetlands and deepwater habitats cover approximately 8 percent of the land area in the conterminous United States. Rivers and streams comprise approximately 0.52 percent of the total land area of the continental United States (Butman and Raymond 2011). Therefore, the wetlands, streams, rivers, and other aquatic habitats that are potentially waters of the United States and subject to regulation by the Corps under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 comprise a minor proportion of the land area of the United States. The remaining land area of the United States (more than 92 percent, depending on the proportion of wetlands, streams, rivers, and other aquatic habitats that are subject to regulation under those two statutes) is outside the Corps regulatory authority.

Dahl (1990) estimated that approximately 53 percent of the wetlands in the conterminous United States were lost in the 200-year period from the 1780s to 1980s, while Alaska lost less than one percent of its wetlands and Hawaii lost approximately 12 percent of its original wetland acreage. In the 1780s, there were approximately 221 million acres of wetlands in the conterminous United States (Dahl 1990). California lost the largest percentage of its

wetlands (91 percent), whereas Florida lost the largest acreage (9.3 million acres) (Dahl 1990). During that 200-year period, 22 states lost more than 50 percent of their wetland acreage, and 10 states have lost more than 70 percent of their original wetland acreage (Dahl 1990).

Frayer et al. (1983) evaluated wetland status and trends in the United States during the period of the mid-1950s to the mid-1970s. During that 20-year period, approximately 7.9 million acres of wetlands (4.2 percent) were lost in the conterminous United States. Much of the loss of estuarine emergent wetlands was due to changes to estuarine subtidal deepwater habitat, and some loss of estuarine emergent wetlands was due to urban development. For palustrine vegetated wetlands, nearly all of the losses of those wetlands were due to agricultural activities (e.g., conversion to agricultural production).

The U.S. Fish and Wildlife Service also examined the status and trends of wetlands in the United States during the period of the mid-1970s to the 1980s, and found that there was a net loss of more than 2.6 million acres of wetlands (2.5 percent) during that time period (Dahl and Johnson 1991). Freshwater wetlands comprised 98 percent of those wetland losses (Dahl and Johnson 1991). During that time period, losses of estuarine wetlands were estimated to be 71,000 acres, with most of that loss due to changes of emergent estuarine wetlands to open waters caused by shifting sediments (Dahl and Johnson 1991). Conversions of wetlands to agricultural use were responsible for 54 percent of the wetland losses, and conversion to other land uses resulted in the loss of 41 percent of wetlands (Dahl and Johnson 1991). Urban development was responsible for five percent of the wetland loss (Dahl and Johnson 1991). The annual rate of wetland loss has decreased substantially since the 1970s (Dahl 2011), when wetland regulation became more prevalent (Brinson and Malvárez 2002).

Between 2004 and 2009, there was no statistically significant difference in wetland acreage in the conterminous United States (Dahl 2011). According to the 2011 wetland status and trends report, during the period of 2004 to 2009 urban development accounted for 11 percent of wetland losses (61,630 acres), rural development resulted in 12 percent of wetland losses (66,940 acres), silviculture accounted for 56 percent of wetland losses (307,340 acres), and wetland conversion to deepwater habitats caused 21 percent of the loss in wetland area (115,960 acres) (Dahl 2011). Some of the losses occurred to wetlands that are not subject to Clean Water Act jurisdiction and some losses are due to activities not regulated under Section 404 of the Clean Water Act, such as unregulated drainage activities, exempt forestry activities, or water withdrawals. From 2004 to 2009, approximately 100,020 acres of wetlands were gained as a result of wetland restoration and conservation programs on agricultural land (Dahl 2011). Another source of wetland gain is conversion of other uplands to wetlands, resulting in a gain of 389,600 acres during the period of 2004 to 2009 (Dahl 2011). Inventories of wetlands, streams, and other aquatic resources are incomplete because the techniques used for those studies cannot identify some of those resources (e.g., Dahl (2011) for wetlands; Meyer and Wallace (2001) for streams).

Losses of vegetated estuarine wetlands due to the direct effects of human activities have decreased significantly due to the requirements of Section 404 of the Clean Water Act and

other laws and regulations (Dahl 2011). During the period of 2004 to 2009, less than one percent of estuarine emergent wetlands were lost as a direct result of human activities, while other factors such as sea level rise, land subsidence, storm events, erosion, and other ocean processes caused substantial losses of estuarine wetlands (Dahl 2011). The indirect effects of other human activities, such as oil and gas development, water extraction, development of the upper portions of watersheds, and levees, have also resulted in coastal wetland losses (Dahl 2011). Eutrophication of coastal waters can also cause losses of emergent estuarine wetlands, through changes in growth patterns of marsh plants and decreases in the stability of the wetland substrate, which changes those marshes to mud flats (Deegan et al. 2012).

The Emergency Wetlands Resources Act of 1986 (Public Law 99-645) requires the USFWS to submit wetland status and trends reports to Congress (Dahl 2011). The latest status and trends report, which covers the period of 2004 to 2009, is summarized in Table 3.2. The USFWS status and trends report only provides information on acreage of the various aquatic habitat categories and does not assess the quality or condition of those aquatic habitats (Dahl 2011).

Table 3.2. Estimated aquatic resource acreages in the conterminous United States in 2009 (Dahl 2011).

Aquatic Habitat Category	Estimated Area in 2009 (acres)
Marine intertidal	227,800
Estuarine intertidal non-vegetated	1,017,700
Estuarine intertidal vegetated	4,539,700
All intertidal waters and wetlands	5,785,200
Freshwater ponds	6,709,300
Freshwater vegetated	97,565,300
• Freshwater emergent wetlands	27,430,500
• Freshwater shrub wetlands	18,511,500
• Freshwater forested wetlands	51,623,300
All freshwater wetlands	104,274,600
Lacustrine deepwater habitats	16,859,600
Riverine deepwater habitats	7,510,500
Estuarine subtidal habitats	18,776,500
All wetlands and deepwater habitats	153,206,400

The acreage of lacustrine deepwater habitats does not include the open waters of Great Lakes (Dahl 2011).

The Federal Geographic Data Committee has established the Cowardin system developed by the U.S. Fish and Wildlife Service (USFWS) (Cowardin et al. 1979) as the national standard for wetland mapping, monitoring, and data reporting (Dahl 2011) (see Federal Geographic Data Committee (2013)). The Cowardin system is a hierarchical system which describes

various wetland and deepwater habitats, using structural characteristics such as vegetation, substrate, and water regime as defining characteristics. Wetlands are defined by plant communities, soils, or inundation or flooding frequency. Deepwater habitats are permanently flooded areas located below the wetland boundary. In rivers and lakes, deepwater habitats are usually more than two meters deep. The Cowardin et al. (1979) definition of "wetland" differs from the definition used by the Corps and U.S. EPA for the purposes of implementing Section 404 of the Clean Water Act. The Corps-U.S. EPA regulations defines wetlands as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." [33 CFR 328.3(c)(4); 40 CFR 230.3(o)(3)(iv)] The Cowardin et al. (1979) requires only one factor (i.e., wetland vegetation, soils, hydrology) to be present for an area to be a wetland, while the Corps-U.S. EPA wetland definition requires all three factors to be present under normal circumstances (Tiner 1997b, Mitsch and Gosselink 2015). The NWI produced by applying the Cowardin et al. (1979) definition is the only national scale wetland inventory available. There is no national inventory of wetland acreage based on the Corps-U.S. EPA wetland definition at 33 CFR 328.3(c)(4).

There are five major systems in the Cowardin classification scheme: marine, estuarine, riverine, lacustrine, and palustrine (Cowardin et al. 1979). The marine system consists of open ocean on the continental shelf and its high energy coastlines. The estuarine system consists of tidal deepwater habitats and adjacent tidal wetlands that are usually partially enclosed by land, but may have open connections to open ocean waters. The riverine system generally consists of all wetland and deepwater habitats located within a river channel. The lacustrine system generally consists of wetland and deepwater habitats located within a topographic depression or dammed river channel, with a total area greater than 20 acres. The palustrine system generally includes all non-tidal wetlands and wetlands located in tidal areas with salinities less than 0.5 parts per thousand; it also includes ponds less than 20 acres in size. Approximately 95 percent of wetlands in the conterminous United States are freshwater wetlands, and the remaining 5 percent are estuarine or marine wetlands (Dahl 2011).

According to Hall et al. (1994), there are more than 204 million acres of wetlands and deepwater habitats in the State of Alaska, including approximately 174.7 million acres of wetlands. Wetlands and deepwater habitats comprise approximately 50.7 percent of the surface area in Alaska (Hall et al. 1994).

The National Resources Inventory (NRI) is a statistical survey conducted by the Natural Resources Conservation Service (NRCS) (USDA 2015) of natural resources on non-federal land in the United States. The NRCS defines non-federal land as privately owned lands, tribal and trust lands, and lands under the control of local and state governments. Acreages of palustrine and estuarine wetlands and the land uses those wetlands are subjected to are summarized in Table 3.3. The 2012 NRI estimates that there are 111,220,800 acres of palustrine and estuarine wetlands on non-Federal land and water areas in the United States (USDA 2015). The 2012 NRI estimates that there are 49,518,700 acres of open waters on

non-Federal land in the United States, including lacustrine, riverine, and marine habitats, as well as estuarine deepwater habitats.

Table 3.3. The 2012 National Resources Inventory acreages for palustrine and estuarine wetlands on non-federal land, by land cover/use category (USDA 2015).

National Resources Inventory Land Cover/Use Category	Area of Palustrine and Estuarine Wetlands (acres)
cropland, pastureland, and Conservation Reserve Program land	17,800,000
forest land	65,800,000
rangeland	8,000,000
other rural land	14,700,000
developed land	1,400,000
water area	3,600,000
Total	111,300,000

The land cover/use categories used by the 2012 NRI are defined below (USDA 2015). Croplands are areas used to produce crops grown for harvest. Pastureland is land managed for livestock grazing, through the production of introduced forage plants. Conservation Reserve Program land is under a Conservation Reserve Program contract. Forest land is comprised of at least 10 percent single stem woody plant species that will be at least 13 feet tall at maturity. Rangeland is land on which plant cover consists mostly of native grasses, herbaceous plants, or shrubs suitable for grazing or browsing, and introduced forage plant species. Other rural land consists of farmsteads and other farm structures, field windbreaks, marshland, and barren land. Developed land is comprised of large urban and built-up areas (i.e., urban and built-up areas 10 acres or more in size), small built-up areas (i.e., developed lands 0.25 to 10 acres in size), and rural transportation land (e.g., roads, railroads, and associated rights-of-way outside urban and built-up areas). Water areas are comprised of waterbodies and streams that are permanent open waters.

The wetlands data from the Fish and Wildlife Service's Status and Trends study and the Natural Resources Conservation Service's National Resources Inventory should not be compared, because they use different methods and analyses to produce their results (Dahl 2011).

Leopold, Wolman, and Miller (1964) estimated that there are approximately 3,250,000 miles of river and stream channels in the United States. This estimate is based on an analysis of 1:24,000 scale topographic maps. Their estimate does not include many small streams. Many small streams, especially headwater streams, are not mapped on 1:24,000 scale U.S. Geological Survey (USGS) topographic maps (Leopold 1994) or included in other inventories (Meyer and Wallace 2001), including the National Hydrography Dataset

(Elmore et al. 2013). Many small streams and rivers are not identified through maps produced by aerial photography or satellite imagery because of inadequate image resolution or trees or other vegetation obscuring the visibility of those streams from above (Benstead and Leigh 2012). In a study of stream mapping in the southeastern United States, only 20 percent of the stream network was mapped on 1:24,000 scale topographic maps, and nearly none of the observed intermittent or ephemeral streams were indicated on those maps (Hansen 2001). Another study in Massachusetts showed that those types of topographic maps exclude over 27 percent of stream miles in a watershed (Brooks and Colburn 2011). For a 1:24,000 scale topographic map, the smallest tributary found by using 10-foot contour interval has a drainage area of 0.7 square mile and length of 1,500 feet, and smaller stream channels are common throughout the United States (Leopold 1994). Benstead and Leigh (2012) found that the density of stream channels (length of stream channels per unit area) identified by digital elevation models was three times greater than the drainage density calculated by using USGS maps. Elmore et al. (2013) made similar findings in watersheds in the mid-Atlantic, where they determined that the stream density was 2.5 times greater than the stream density calculated with the National Hydrography Dataset. Due to the difficulty in mapping small streams, there are no accurate estimates of the total number of river or stream miles in the conterminous United States that might be considered as "waters of the United States."

The quantity of the Nation's aquatic resources presented by studies that estimate the length or number of stream channels (see above) or the acreage of wetlands (USFWS status and trends studies, National Wetland Inventory (NWI), and Natural Resources Inventory (NRI) are underestimates, because those inventories do not include many small wetlands and streams. The USFWS status and trends study does not include Alaska, Hawaii, or the territories. The underestimate of national wetland acreage by the USFWS status and trends study and the NWI is primarily the result of the minimum size of wetlands detected through remote sensing techniques and the difficulty of identifying certain wetland types through those remote sensing techniques. The remote sensing approaches used by the USFWS for its NWI maps and its status and trends reports result in errors of omission that exclude wetlands that are difficult to identify through photointerpretation (Tiner 1997a). These errors of omission are due to wetland type and the size of target mapping units (Tiner 1997a). Therefore, it is important to understand the limitations of the source data when describing the environmental baseline for wetlands using maps and studies produced by remote sensing, especially in terms of wetland quantity.

Factors affecting the accuracy of wetland maps made by remote sensing include: the degree of difficulty in identifying a wetland, map scale, the quality and scale of the source information (e.g., aerial or satellite photos), the environmental conditions when the source information was obtained, the time of year source information was obtained, the mapping equipment, and the skills of the people producing the maps (Tiner 1999). The map scale usually affects the target mapping unit, which is the minimum wetland size that can be consistently mapped (Tiner 1997b). In general, wetland types that are difficult to identify through field investigations are likely to be underrepresented in maps made by remote sensing (Tiner 1999). Wetlands difficult to identify through remote sensing include forested wetlands, small wetlands, narrow wetlands, mowed wetlands, farmed wetlands, wetlands

with hydrology at the drier end of the wetland hydrology continuum, and significantly drained wetlands (Tiner 1999). In the most recent wetland status and trends report published by the U.S. Fish and Wildlife Service, the target minimum wetland mapping unit was 1 acre, although some easily identified wetlands as small as 0.1 acre were identified in that effort (Dahl 2011). The National Wetland Inventory identifies wetlands regardless of their jurisdictional status under the Clean Water Act (Tiner 1997b).

Activities authorized by NWPs will adversely affect a smaller proportion of the Nation's wetland base than indicated by the wetlands acreage estimates provided in the most recent status and trends report, or the NWI maps for a particular region.

Not all wetlands, streams, and other types of aquatic resources are subject to federal jurisdiction under the Clean Water Act (Mitsch and Gosselink 2015). Two U.S. Supreme Court decisions have identified limits to Clean Water Act jurisdiction. In 2001, in *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers* (531 U.S. 159) the U.S. Supreme Court held that the use of isolated, non-navigable, intrastate waters by migratory birds is not, by itself a sufficient basis for exercising federal regulatory authority under the Clean Water Act (see 80 FR 37056). In the Supreme Court's 2006 decision in *Rapanos* v. *United States,* (547 U.S. 715), one justice stated that waters and wetlands regulated under the Clean Water Act must have a "significant nexus" to downstream traditional navigable waters. Four justices (the plurality) concluded that Clean Water Act jurisdiction applies only to relatively permanent waters connected to traditional navigable waters and to wetlands that have a continuous surface connection to those relatively permanent waters. The remaining justices in *Rapanos* stated that Clean Water Act jurisdiction applies to waters and wetlands that meet either the significant nexus test or the Plurality's test.

There are 94,133 miles of shoreline in the United States (NOAA 1975). Of that shoreline, 88,633 miles are tidal shoreline and 5,500 miles are shoreline along the Great Lakes and rivers that connect those lakes to the Atlantic Ocean. More recently, Gittman et al. (2015) estimated that there are 99,524 miles of tidal shoreline in the conterminous United States.

3.2 Quality of Aquatic Ecosystems in the United States

The USFWS status and trends study does not assess the condition or quality of wetlands and deepwater habitats (Dahl 2011). Information on water quality in waters and wetlands, as well as the causes of water quality impairment, is collected by the U.S. EPA under Sections 305(b) and 303(d) of the Clean Water Act. Table 3.4 provides U.S. EPA's most recent national summary of water quality in the Nation's waters and wetlands.

Table 3.4. National summary of water quality data (U.S. EPA 2015).

Category of water	Total waters	Total waters assessed	Percent of waters assessed	Good waters	Threatened waters	Impaired waters
Rivers and streams	3,533,205 miles	1,046,621 miles	29.6	476,765 miles	7,657 miles	562,198 miles
Lakes, reservoirs and ponds	41,666,049 acres	17,904,395 acres	43.0	5,658,789 acres	145,572 acres	12,100,034 acres
Bays and estuaries	87,791 square miles	33,402 square miles	38.0	7,291 square miles	0 square miles	26,111 square miles
Coastal shoreline	58,618 miles	8,162 miles	13.9	900 miles	0 miles	7,262 miles
Ocean and near coastal waters	54,120 square miles	1,674 square miles	3.1	616 square miles	0 square miles	1,058 square miles
Wetlands	107,700,000 acres	1,112,438 acres	1.0	573,947 acres	0 acres	538,492 acres
Great Lakes shoreline	5,202 miles	4,431 miles	85.2	78 miles	0 miles	4,353 miles
Great Lakes open waters	60,546 square miles	53,332 square miles	88.1	62 square miles	0 square miles	53,270 square miles

Waters and wetlands classified by states as “good” meets all their designated uses. Waters classified as “threatened” currently support all of their designated uses, but if pollution control measures are not taken one or more of those uses may become impaired in the future. A water or wetland is classified by the state as “impaired” if any one of its designated uses is not met. The definitions of good, threatened, and impaired are applied by states to describe the quality of their waters (the above definitions were found in the metadata in U.S. EPA (2015)). Designated uses include the “protection and propagation of fish, shellfish and wildlife,” “recreation in and on the water,” the use of waters for “public water supplies, propagation of fish, shellfish, wildlife, recreation in and on the water,” and “agricultural, industrial and other purposes including navigation.” (40 CFR 130.3). These designated uses are assessed by states in a variety of ways, by examining various physical, chemical and biological characteristics, so it is not possible to use the categories of “good,” “threatened,” and “impaired” to infer the level of ecological functions and services these waters perform.

According to the latest U.S. EPA national summary (U.S. EPA 2015), 54 percent of assessed rivers and streams, 68 percent of assessed lakes, reservoirs, and ponds, 78 percent of assessed bays and estuaries, 89 percent of assessed coastal shoreline, 63 percent of assessed ocean and near coastal waters, and 48 percent of assessed wetlands are impaired.

For rivers and streams, 34 causes of impairment were identified, and the top 10 causes were pathogens, sediment, nutrients, mercury, organic enrichment/oxygen depletion, polychlorinated biphenyls, metals (other than mercury), temperature, habitat alterations, and

flow alteration(s). The primary sources of impairment for the assessed rivers and streams were agriculture, unknown sources, atmospheric deposition, urban-related runoff/stormwater, hydromodification, municipal discharges/sewage, natural/wildlife, unspecified point source, habitat alterations not directly related to hydromodification, and resource extraction.

Thirty-one causes of impairment were identified for bays and estuaries. The top 10 causes of impairment for these waters is: mercury, polychlorinated biphenyls, pathogens, organic enrichment/oxygen depletion, dioxins, other causes, fish consumption advisories, metals (other than mercury), noxious aquatic plants, and pesticides. For bays and estuaries, the top 10 sources of impairment were atmospheric deposition, unknown sources, municipal discharges/sewage, other sources, industrial, natural/wildlife, urban-related runoff/stormwater, spills/dumping, unspecified non-point sources, and agriculture.

Coastal shorelines were impaired by 15 identified causes, the top 10 of which were: mercury, pathogens, organic enrichment/oxygen depletion, turbidity, pH/acidity/caustic conditions, nutrients, temperature, oil and grease, algal growth, and causes unknown/impaired biota. The top 10 sources of impairment of coastal shorelines are "unknown," atmospheric deposition, municipal discharges/sewage, urban-related runoff/ stormwater, hydromodification, unspecified non-point sources, agriculture, recreational boating and marinas, industrial, and spills/dumping.

For wetlands, 26 causes of impairment were identified, and the top 10 causes were organic enrichment/oxygen depletion, mercury, pathogens, metals (excluding mercury), toxic inorganics, temperature, sediment, algal growth, flow alterations, and turbidity. The primary sources for wetland impairment were "unknown," agriculture, atmospheric deposition, industrial, municipal discharges/sewage, recreational boating and marinas, resource extraction, natural/wildlife, hydromodification, and unspecified point sources.

Water quality standards are established by states, with review and approval by the U.S. EPA (see Section 303(c) of the Clean Water Act and the implementing regulations at 40 CFR part 131). Under Section 401 of the Clean Water Act States review proposed discharges to determine compliance with applicable water quality standards.

Most causes and sources of impairment are not due to activities regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Inputs of sediments into aquatic ecosystems can result from erosion occurring within a watershed (Beechie et al. 2013, Gosselink and Lee 1989). As water moves through a watershed it carries sediments and pollutants to streams (e.g., Allan 2004, Dudgeon et al. 2005, Paul and Meyer 2001) and wetlands (e.g., Zedler and Kercher 2005, Wright et al. 2006). Non-point sources of pollution (i.e., pollutants carried in runoff from farms, roads, and urban areas) are largely uncontrolled (Brown and Froemke 2012) because the Clean Water Act only requires permits for point sources discharges of pollutants (i.e., discharges of dredged or fill material regulated under section 404 and point source discharges of other pollutants regulated under section 402).

The indirect effects of changes in upland land use (which are highly likely not to be subject to federal control and responsibility, at least in terms of the Corps Regulatory Program), including the construction and expansion of upland developments, have substantial adverse effects on the quality (i.e. the ability to perform hydrologic, biogeochemical, and habitat functions) of jurisdictional waters and wetlands because those upland activities alter watershed-scale processes. Those watershed-scale processes include water movement and storage, erosion and sediment transport, and the transport of nutrients and other pollutants.

Habitat alterations as a cause or source of impairment may be the result of activities regulated under section 404 and section 10 because they involve discharges of dredged or fill material into jurisdictional waters or structures or work in navigable waters, but habitat alterations may also occur as a result of activities not regulated under those two statutes, such as the removal of vegetation from upland riparian areas. Hydrologic modifications may or may not be regulated under section 404 or section 10, depending on whether those hydrologic modifications are the result of discharges of dredged or fill material into waters of the United States regulated under Section 404 of the Clean Water Act or structures or work in navigable waters of the United States regulated under Section 10 of the Rivers and Harbors Act of 1899. When states, tribes, or the U.S. EPA establish total daily maximum loads (TMDLs) for pollutants and other impairments for specific waters, there may be variations in how these TMDLs are defined (see 40 CFR part 130).

As discussed below, many anthropogenic activities and natural processes affect the ability of jurisdictional waters and wetlands to perform ecological functions. Stream and river functions are affected by activities occurring in their watersheds, including the indirect effects of land uses changes (Beechie et al. 2013, Allan 2004, Paul and Meyer 2001). Booth at al. (2004) found riparian land use in residential areas also strongly affects stream condition because many landowners clear vegetation up to the edge of the stream bank. The removal of vegetation from upland riparian areas and other activities in those non-jurisdictional areas do not require DA authorization. Wetland functions are also affected by indirect effects of land use activities in the land area that drains to the wetland (Zedler and Kercher 2005, Wright et al. 2006). Human activities within a watershed or catchment that have direct or indirect adverse effects on rivers, streams, wetlands, and other aquatic ecosystems are not limited to discharges of dredged or fill material into waters of the United States or structures or work in a navigable waters. Human activities in uplands have substantial indirect effects on the structure and function of aquatic ecosystems, including streams and wetlands, and their ability to sustain populations of listed species. It is extremely difficult to distinguish between degradation of water quality caused by upland activities and degradation of water quality caused by the filling or alteration of wetlands (Gosselink and Lee 1989).

Most causes and sources of impairment are not due to activities regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Habitat alterations as a cause or source of impairment may be the result of activities regulated under section 404 and section 10 because they involve discharges of dredged or fill material or structures or work in navigable waters, but habitat alterations may also occur as a result of activities not regulated under those two statutes, such as the removal of vegetation from

upland riparian areas. Hydrologic modifications may or may not be regulated under section 404 or section 10.

The U.S. Environmental Protection Agency (U.S. EPA) has undertaken the National Wetland Condition Assessment (NWCA), which is a statistical survey of wetland condition in the United States (U.S. EPA 2016). The NWCA assesses the ambient conditions of wetlands at the national and regional scales. The national scale encompasses the conterminous United States. The regional scale consists of four aggregated ecoregions: Coastal Plains, Eastern Mountains and Upper Midwest, Interior Plains, and West. In May 2016, U.S. EPA issued a final report on the results of its 2011 NWCA (U.S. EPA 2016).

The 2011 NWCA determined that, across the conterminous United States, 48 percent of wetland area (39.8 million acres) is in good condition, 20 percent of the wetland area (12.4 million acres) is in fair condition, and 32 percent (19.9 million acres) is in poor condition (U.S. EPA 2016). The 2011 NWCA also examined indicators of stress for the wetlands that were evaluated. The most prevalent physical stressors were vegetation removal, surface hardening via conversion to pavement or soil compaction, and ditching (U.S. EPA 2016). In terms of chemical stressors, most wetlands were subject to low exposure to heavy metals and soil phosphorous, but substantial percentages of wetland area in the West and Eastern Mountains and Upper Midwest ecoregions were found to have moderate stressor levels for heavy metals (U.S. EPA 2016). For soil phosphorous concentrations, stressor levels were high for 13 percent of the wetland area in the Eastern Mountains and Upper Midwest ecoregion (U.S. EPA 2016). Across the conterminous United States, for biological stressors indicated by non-native plants, 61 percent of the wetland area exhibited low stressor levels (U.S. EPA 2016). When examined on an ecoregion basis, the Eastern Mountains and Upper Midwest and Coastal Plains ecoregions had high percentages of wetland area with low non-native plant stressor levels, but the West and Interior Plains ecoregions had small percentages of areas with low non-native plant stressor levels (U.S. EPA 2016).

3.3 Aquatic resource functions and services

Functions are the physical, chemical, and biological processes that occur in ecosystems (33 CFR 332.2). Wetland functions occur through interactions of their physical, chemical, and biological features (Smith et al. 1995). Wetland functions depend on a number of factors, such as the movement of water through the wetland, landscape position, surrounding land uses, vegetation density within the wetland, geology, soils, water source, and wetland size (NRC 1995). In its evaluation of wetland compensatory mitigation in the Clean Water Act Section 404 permit program, the National Research Council (2001) recognized five general categories of wetland functions:

- Hydrologic functions
- Water quality improvement
- Vegetation support
- Habitat support for animals
- Soil functions

Hydrologic functions include short- and long-term water storage and the maintenance of wetland hydrology (NRC 1995). Water quality improvement functions encompass the transformation or cycling of nutrients, the retention, transformation, or removal of pollutants, and the retention of sediments (NRC 1995). Vegetation support functions include the maintenance of plant communities, which support various species of animals as well as economically important plants. Wetland soils support diverse communities of bacteria and fungi which are critical for biogeochemical processes, including nutrient cycling and pollutant removal and transformation (NRC 2001). Wetland soils also provide rooting media for plants, as well as nutrients and water for those plants. These various functions generally interact with each other, to influence overall wetland functioning, or ecological integrity (Smith et al. 1995; Fennessy et al. 2007). As discussed earlier in this report, the Corps regulations at 33 CFR 320.4(b) list wetland functions that are important for the public interest review during evaluations of applications for DA permits, and for the issuance of general permits.

Not all wetlands perform the same functions, nor do they provide functions to the same degree (Smith et al. 1995). Therefore, it is necessary to account for individual and regional variation when evaluating wetlands and the functions and services they provide. The types and levels of functions performed by a wetland are dependent on its hydrologic regime, the plant species inhabiting the wetland, soil type, and the surrounding landscape, including the degree of human disturbance of the landscape (Smith et al. 1995).

Streams also provide a variety of functions, which differ from wetland functions. Streams also provide hydrologic functions, nutrient cycling functions, food web support, and corridors for movement of aquatic organisms (Allan and Castillo 2007). When considering stream functions, the stream channel should not be examined in isolation. The riparian corridor next to the stream channel is an integral part of the stream ecosystem and has critical roles in stream functions (NRC 2002). Riparian areas provide many of the same general functions as wetlands (NRC 1995, 2002). Fischenich (2006) conducted a review of stream and riparian corridor functions, and through a committee, identified five broad categories of stream functions:

- Stream system dynamics
- Hydrologic balance
- Sediment processes and character
- Biological support
- Chemical processes and landscape pathways

Stream system dynamics refers to the processes that affect the development and maintenance of the stream channel and riparian area over time, as well as energy management by the stream and riparian area. Hydrologic balance includes surface water storage processes, the exchange of surface and subsurface water, and the movement of water through the stream corridor. Sediment processes and character functions relate to processes for establishing and maintaining stream substrate and structure. Biological support functions include the biological communities inhabiting streams and their riparian areas. Chemical processes and pathway functions influence water and soil quality, as well as the chemical processes and nutrient cycles that occur in streams and their riparian areas. Rivers

and streams function perform functions to different degrees, depending on watershed condition, the severity of direct and indirect impacts to streams caused by human activities, and their interactions with other environmental components, such as their riparian areas (Allan 2004, Gergel et al. 2002).

Ecosystem services are the benefits that humans derive from ecosystem functions (33 CFR 332.2). The Millennium Ecosystem Assessment (2005b) describes four categories of ecosystem services: provisioning services, regulating services, cultural services, and supporting services. For wetlands and open waters, provisioning services include the production of food (e.g., fish, fruits, game), fresh water storage, food and fiber production, production of chemicals that can be used for medicine and other purposes, and supporting genetic diversity for resistance to disease. Regulating services relating to open waters and wetlands consist of climate regulation, control of hydrologic flows, water quality through the removal, retention, and recovery of nutrients and pollutants, erosion control, mitigating natural hazards such as floods, and providing habitat for pollinators. Cultural services that come from wetlands and open waters include spiritual and religious values, recreational opportunities, aesthetics, and education. Wetlands and open waters contribute supporting services such as soil formation, sediment retention, and nutrient cycling.

Examples of services provided by wetland functions include flood damage reduction, maintenance of populations of economically important fish and wildlife species, maintenance of water quality (NRC 1995, MEA 2005b) and the production of populations of wetland plant species that are economically important commodities, such as timber, fiber, and fuel (MEA 2005b). Wetlands can also provide important climate regulation and storm protection services (MEA 2005b).

Stream functions also result in ecosystem services that benefit society. Streams and their riparian areas store water, which can reduce downstream flooding and subsequent flood damage (NRC 2002, MEA 2005b). These ecosystems also maintain populations of economically important fish, wildlife, and plant species, including valuable fisheries (MEA 2005b, NRC 2002). The nutrient cycling and pollutant removal functions help maintain or improve water quality for surface waters (NRC 2002, MEA 2005b). Streams and riparian areas also provide important recreational opportunities. Rivers and streams also provide water for agricultural, industrial, and residential use (MEA 2005b).

Freshwater ecosystems provide services such as water for drinking, household uses, manufacturing, thermoelectric power generation, irrigation, and aquaculture; production of finfish, waterfowl, and shellfish; and non-extractive services, such as flood control, transportation, recreation (e.g., swimming and boating), pollution dilution, hydroelectric generation, wildlife habitat, soil fertilization, and enhancement of property values (Postel and Carpenter 1997).

Marine ecosystems provide a number of ecosystem services, including fish production; materials cycling (e.g., nitrogen, carbon, oxygen, phosphorous, and sulfur); transformation, detoxification, and sequestration of pollutants and wastes produced by humans; support of ocean-based recreation, tourism, and retirement industries; and coastal land development

and valuation, including aesthetics related to living near the ocean (Peterson and Lubchenco 1997).

This NWP authorizes discharges of dredged or fill material into waters of the United States and structures and work in navigable waters of the United States. These waters are included in the marine, estuarine, palustrine, lacustrine, and riverine systems of the Cowardin classification system.

Activities authorized by this NWP will provide a wide variety of services that are valued by society. For example, linear transportation projects provide routes to transport goods and services. These projects are also used to move people from one location to another. Linear transportation projects provide infrastructure that is essential for sustaining the national economy.

4.0 Environmental Consequences

4.1 General Evaluation Criteria

This document contains a general assessment of the foreseeable effects of the individual activities authorized by this NWP and the anticipated cumulative effects of those activities. In the assessment of these individual and cumulative effects, the terms and limits of the NWP, pre-construction notification requirements, and the standard NWP general conditions are considered. The supplemental documentation provided by division engineers will address how regional conditions affect the individual and cumulative effects of the NWP.

The following evaluation comprises the NEPA analysis, the public interest review specified in 33 CFR 320.4(a)(1) and (2), and the impact analysis specified in Subparts C through F of the 404(b)(1) Guidelines (40 CFR Part 230).

The issuance of an NWP is based on a general assessment of the effects on public interest and environmental factors that are likely to occur as a result of using this NWP to authorize activities in waters of the United States. As such, this assessment must be speculative or predictive in general terms. Since NWPs authorize activities across the nation, projects eligible for NWP authorization may be constructed in a wide variety of environmental settings. Therefore, it is difficult to predict all of the indirect impacts that may be associated with each activity authorized by an NWP. For example, the NWP that authorizes 25 cubic yard discharges of dredged or fill material into waters of the United States may be used to fulfill a variety of project purposes, and the indirect effects will vary depending on the specific activity and the environmental characteristics of the site in which the activity takes place. Indication that a factor is not relevant to a particular NWP does not necessarily mean that the NWP would never have an effect on that factor, but that it is a factor not readily identified with the authorized activity. Factors may be relevant, but the adverse effects on the aquatic environment are negligible, such as the impacts of a boat ramp on water level fluctuations or flood hazards. Only the reasonably foreseeable direct, indirect, and

cumulative effects are included in the environmental assessment for this NWP. Division and district engineers will impose, as necessary, additional conditions on the NWP authorization or exercise discretionary authority to address locally important factors or to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects. In any case, adverse effects will be controlled by the terms, conditions, and additional provisions of the NWP. For example, Section 7 Endangered Species Act consultation will be required for all activities that may affect endangered or threatened species or critical habitat (see 33 CFR 330.4(f) and NWP general condition 18).

4.2 Impact Analysis

This NWP authorizes the construction, expansion, modification, or improvement of linear transportation projects. The acreage limit for this NWP is 1/2 acre, if the linear transportation project is located in non-tidal waters. If the linear transportation project is located in tidal waters, acreage limit is 1/3 acre.

Pre-construction notification is required for NWP activities resulting in discharges of dredged or fill material into special aquatic sites or discharges resulting in the loss of greater than 1/10 acre of waters of the United States. The pre-construction notification requirement allows district engineers to review proposed activities on a case-by-case basis to ensure that the individual and cumulative adverse environmental effects of those activities are no more than minimal. If the district engineer determines that the adverse effects of a particular project are more than minimal after considering mitigation, then discretionary authority will be asserted and the applicant will be notified that another form of DA authorization, such as a regional general permit or individual permit, is required (see 33 CFR 330.4(e) and 330.5).

When making minimal effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type(s) of resource(s) that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. These criteria are listed in the NWPs in Section D, “District Engineer’s Decision.” If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

Additional conditions can be placed on proposed activities on a regional or case-by-case basis to ensure that the activities have no more than minimal individual and cumulative adverse environmental effects. Regional conditioning of this NWP will be used to account

for differences in aquatic resource functions, services, and values across the country, ensure that the NWP authorizes only those activities with no more than minimal individual and cumulative adverse environmental effects, and allow each Corps district to prioritize its workload based on where its efforts will best serve to protect the environment. Regional conditions can prohibit the use of an NWP in certain waters (e.g., high value waters or specific types of wetlands or waters), lower pre-construction notification thresholds, or require pre-construction notification for some or all NWP activities in certain watersheds or types of waters. Specific NWPs can also be revoked on a geographic or watershed basis where the individual and cumulative adverse environmental effects resulting from the use of those NWPs are more than minimal.

In high value waters, division and district engineers can: 1) prohibit the use of the NWP in those waters and require an individual permit or regional general permit; 2) decrease the acreage limit for the NWP; 3) lower the pre-construction notification threshold of the NWP to require pre-construction notification for activities with smaller impacts in those waters; 4) require pre-construction notification for some or all NWP activities in those waters; 5) add regional conditions to the NWP to ensure that the individual and cumulative adverse environmental effects are no more than minimal; or 6) for those NWP activities that require pre-construction notification, add special conditions to NWP authorizations, such as compensatory mitigation requirements, to ensure that the adverse environmental effects are no more than minimal. NWPs can authorize activities in high value waters as long as the individual and cumulative adverse environmental effects are no more than minimal.

The construction and use of fills for temporary access for construction may be authorized by NWP 33 or regional general permits issued by division or district engineers. The related activity must meet the terms and conditions of the specified permit(s). If the discharge is dependent on portions of a larger project that require an individual permit, this NWP will not apply. [See 33 CFR 330.6(c) and (d)]

4.3 Cumulative Effects

4.3.1 General Analysis

The Council on Environmental Quality's (CEQ's) NEPA regulations define cumulative effects as: "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." [40 CFR 1508.7.] Therefore, the NEPA cumulative effects analysis for an NWP is not limited to activities authorized by the NWP, other NWPs, or other DA permits (individual permits and regional general permits). The NEPA cumulative effects analysis must also include other Federal and non-Federal activities that affect the Nation's wetlands, streams, and other aquatic resources, as well as other resources (e.g., terrestrial ecosystems, air) that may be directly or indirectly affected by the proposed action and other actions. According to guidance issued by CEQ (1997), a NEPA cumulative

effects analysis should focus on specific categories of resources (i.e., resources of concern) identified during the review process as having significant cumulative effects concerns. These cumulative effects analyses also require identification of the disturbances and stressors that cause degradation of those resources, including those caused by actions unrelated to the proposed action. A NEPA cumulative effects analysis does not need to analyze issues that have little relevance to the proposed action or the decision the agency will have to make (CEQ 1997).

The geographic scope of this cumulative effects analysis is the United States and its territories, where the NWP may be used to authorize specific activities that require DA authorization. The temporal scope of the cumulative effects analysis includes past federal, non-federal, and private actions that continue to affect the Nation's wetlands, streams, and other aquatic resources (including activities authorized by previously issued NWPs, regional general permits, and DA individual permits) as well as present and reasonably foreseeable future federal, non-federal, and private actions that are affecting, or will affect, wetlands, streams, and other aquatic resources. The present effects of past federal, non-federal, and private actions on wetlands, streams, and other aquatic resources are included in the affected environment, which is described in section 3.0. The affected environment described in section 3.0 also includes present effects of past actions, including activities authorized by NWPs issued from 1977 to 2012 and constructed by permittees, which are captured in national information on the quantity and quality of wetlands, streams, and other aquatic resources.

In addition to the activities authorized by this NWP, there are many categories of activities that contribute to cumulative effects on wetlands, streams, and other aquatic resources in the United States, and alter the quantity of those resources, the functions they perform, and the ecosystem services they provide. Activities authorized by past versions of NWP 14, as well as other NWPs, individual permits, letters of permission, and regional general permits have resulted in direct and indirect impacts to wetlands, streams, and other aquatic resources. Those activities may have legacy effects that have added to the cumulative effects and affected the quantity of those resources and the functions they provide. Discharges of dredged or fill material that do not require DA permits because they are exempt from section 404 permit requirements can also adversely affect the quantity of the Nation's wetlands, streams, and other aquatic resources and the functions and services they provide. Discharges of dredged or fill material that convert wetlands, streams, and other aquatic resources to upland areas result in permanent losses of aquatic resource functions and services. Temporary fills and fills that do not convert waters or wetlands to dry land may cause short-term or partial losses of aquatic resource functions and services.

Humans have long had substantial impacts on ecosystems and the ecological functions and services they provide (Ellis et al. 2010). Around the beginning of the 19th century, the degree of impacts of human activities on the Earth's ecosystems began to exceed the degree of impacts to ecosystems caused by natural disturbances and variability (Steffen et al. 2007). All of the Earth's ecosystems have been affected either directly or indirectly by human activities (Vitousek et al. 1997). Over 75 percent of the ice-free land on Earth has been altered by human occupation and use (Ellis and Ramankutty 2008). Approximately 33

percent of the Earth's ice-free land consists of lands heavily used by people: urban areas, villages, lands used to produce crops, and occupied rangelands (Ellis and Ramankutty 2008). For marine ecosystems, Halpern et al. (2008) determined that there are no marine waters that are unaffected by human activities, and that 41 percent of the area of ocean waters are affected by multiple anthropogenic stressors (e.g., land use activities that generate pollution that go to coastal waters, marine habitat destruction or modification, and the extraction of resources). The marine waters most highly impacted by human activities are continental shelf and slope areas, which are affected by both land-based and ocean-based activities (Halpern et al. 2008). Human population density is a good indicator of the relative effect that people have had on local ecosystems, with lower population densities causing smaller impacts to ecosystems and higher population densities having larger impacts on ecosystems (Ellis and Ramankutty 2008). Human activities such as urbanization, agriculture, and forestry alter ecosystem structure and function by changing their interactions with other ecosystems, their biogeochemical cycles, and their species composition (Vitousek et al. 1997). Changes in land use reduce the ability of ecosystems to produce ecosystem services, such as food production, reducing infectious diseases, and regulating climate and air quality (Foley et al. 2005).

Recent changes in climate have had substantial impacts on natural ecosystems and human communities (IPCC 2014). Climate change, both natural and anthropogenic, is a major driving force for changes in ecosystem structure, function, and dynamics (Millar and Brubaker 2006). However, there are other significant drivers of change to aquatic and terrestrial ecosystems. In addition to climate change, aquatic and terrestrial ecosystems are also adversely affected by land use and land cover changes, natural resource extraction (including water withdrawals), pollution, species introductions, and removals of species (Staudt et al. 2013, Bodkin 2012, MEA 2005d) and changes in nutrient cycling (Julius et al. 2013).

Cumulative effects to wetlands, streams, and other aquatic resources in the United States are not limited to the effects caused by activities regulated and authorized by the Corps under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Other federal, non-federal, and private activities also contribute to the cumulative effects to wetlands, streams, and other aquatic resources, by changing the quantity of those resources and the functions they provide. Wetlands, streams, and other aquatic resources and the functions and services they provide are directly and indirectly affected by changes in land use and land cover, alien species introductions, overexploitation of species, pollution, eutrophication due to excess nutrients, resource extraction including water withdrawals, climate change, and various natural disturbances (MEA 2005b). Freshwater ecosystems such as lakes, rivers, and streams are altered by changes to water flow, climate change, land use changes, additions of chemicals, resource extraction, and aquatic invasive species (Carpenter et al. 2011). Cumulative effects to wetlands, streams, and other aquatic resources are the result of landscape-level processes (Gosselink and Lee 1989). As discussed in more detail below, cumulative effects to aquatic resources are caused by a variety of activities (including activities that occur entirely in uplands) that take place within a landscape unit, such as the watershed for a river or stream (e.g., Allan 2004, Paul and Meyer 2001, Leopold 1968) or the contributing drainage area for a wetland (e.g., Wright et al. 2006, Brinson and

Malvárez 2002, Zedler and Kercher 2005).

Cumulative effects also include environmental effects caused by reasonably foreseeable future actions that may take place after the permitted activity is completed. Such effects may include direct and indirect environmental effects caused by the operation and maintenance of the authorized structure or fill. For NWP 14, this includes activities associated with the operation and maintenance of the linear transportation projects authorized by this NWP. A variety of pollutants might be released into the environment during the operation and maintenance of these facilities. Those pollutants may be discharged through either point sources or non-point sources and reach jurisdictional waters and wetlands. Point-source discharges would likely require National Pollutant Discharge Elimination System Permits under Section 402 of the Clean Water Act, which is administered by U.S. EPA or by states with approved programs. Pollutants may also be discharged through spills and other accidents. Linear transportation projects often require stormwater management facilities to protect nearby waters from pollution in stormwater draining from these facilities. Operations and maintenance activities may also have other direct and indirect effects on wetlands, streams, and other aquatic resources. The Corps does not have the authority to regulate operations and maintenance activities that: (1) do not involved discharges of dredged or fill material into waters of the United States; (2) involve activities exempt from Clean Water Act Section 404 permit requirements under section 404(f); and (3) do not involve structures or work requiring DA authorization under Sections 9 or 10 of the Rivers and Harbors Act of 1899. Reasonably foreseeable future actions regulated by the Corps are considered during the evaluation process.

In a specific watershed, division or district engineers may determine that the cumulative adverse environmental effects of activities authorized by this NWP are more than minimal. Division and district engineers will conduct more detailed assessments for geographic areas that are determined to be potentially subject to more than minimal cumulative adverse environmental effects. Division and district engineers have the authority to require individual permits in watersheds or other geographic areas where the cumulative adverse environmental effects are determined to be more than minimal, or add conditions to the NWP either on a case-by-case or regional basis to require mitigation measures to ensure that the cumulative adverse environmental effects of these activities are no more than minimal. When a division or district engineer determines, using local or regional information, that a watershed or other geographic area is subject to more than minimal cumulative adverse environmental effects due to the use of this NWP, he or she will use the revocation and modification procedure at 33 CFR 330.5. In reaching the final decision, the division or district engineer will compile information on the cumulative adverse effects and supplement this document.

The Corps expects that the convenience and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP rather than request individual permits for projects which could result in greater adverse impacts to the aquatic environment. The minimization encouraged by the issuance of this NWP, as well as compensatory mitigation that may be required for specific activities authorized by this NWP, will help reduce cumulative effects to the Nation’s wetlands, streams, and other

aquatic resources.

Cumulative effects to specific categories of resources (i.e., resources of concern in accordance with CEQ's (1997) guidance) are discussed in more detail below. As discussed above, in addition to activities regulated under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899, there are many categories of activities that contribute to cumulative effects to the human environment. The activities authorized by this NWP during the 5-year period it will be in effect will result in no more than minimal incremental contributions to cumulative effects to these resource categories.

4.3.2 Cumulative Effects to Aquatic Ecosystems

The ecological condition of rivers and streams is dependent on the state of their watersheds (NRC 1992), because they are affected by activities that occur in those watersheds, including agriculture, urban development, deforestation, mining, water removal, flow alteration, and invasive species (Palmer et al. 2010). Land use changes affect rivers and streams through increased sedimentation, larger inputs of nutrients (e.g., nitrogen, phosphorous) and pollutants (e.g., heavy metals, synthetic chemicals, toxic organics), altered stream hydrology, the alteration or removal of riparian vegetation, and the reduction or elimination of inputs of large woody debris (Allan 2004). Agriculture is the primary cause of stream impairment, followed by urbanization (Foley et al. 2005, Paul and Meyer 2001). Agricultural land use adversely affects stream water quality, habitat, and biological communities (Allan 2004). Urbanization causes changes to stream hydrology (e.g., higher flood peaks, lower base flows), sediment supply and transport, water chemistry, and aquatic organisms (Paul and Meyer 2001). Leopold (1968) found that land use changes affect the hydrology of an area by altering stream flow patterns, total runoff, water quality, and stream structure. Changes in peak flow patterns and runoff affect stream channel stability. Stream water quality is adversely affected by increased inputs of sediments, nutrients, and pollutants, many of which come from non-point sources (Paul and Meyer 2001, Allan and Castillo 2007).

The construction and operation of water-powered mills in the 17th to 19th centuries substantially altered the structure and function of streams in the eastern United States (Walter and Merritts 2008) and those effects have persisted to the present time. In urbanized and agricultural watersheds, the number of small streams has been substantially reduced, in part by activities that occurred between the 19th and mid-20th centuries (Meyer and Wallace 2001). Activities that affect the quantity and quality of small streams include residential, commercial, and industrial development, mining, agricultural activities, forestry activities, and road construction (Meyer and Wallace 2001), even if those activities are located entirely in uplands.

Activities that affect wetland quantity and quality include: land use changes that alter local hydrology (including water withdrawal), clearing and draining wetlands, constructing levees that sever hydrologic connections between rivers and floodplain wetlands, constructing other obstructions to water flow (e.g., dams, locks), constructing water diversions, inputs of nutrients and contaminants, and fire suppression (Brinson and Malvárez 2002). Wetland loss

and degradation is caused by hydrologic modifications of watersheds, drainage activities, logging, agricultural runoff, urban development, conversion to agriculture, aquifer depletion, river management, (e.g., channelization, navigation improvements, dams, weirs), oil and gas development activities, levee construction, peat mining, and wetland management activities (Mitsch and Hernandez 2013). Upland development adversely affects wetlands and reduces wetland functionality because those activities change surface water flows and alter wetland hydrology, contribute stormwater and associated sediments, nutrients, and pollutants, cause increases in invasive plant species abundance, and decrease the diversity of native plants and animals (Wright et al. 2006). Many of the remaining wetlands in the United States are degraded (Zedler and Kercher 2005). Wetland degradation and losses are caused by changes in water movement and volume within a watershed or contributing drainage area, altered sediment transport, drainage, inputs of nutrients from non-point sources, water diversions, fill activities, excavation activities, invasion by non-native species, land subsidence, and pollutants (Zedler and Kercher 2005). According to Mitsch and Gosselink (2015), categories of activities that alter wetlands include: wetland conversion through drainage, dredging, and filling; hydrologic modifications that change wetland hydrology and hydrodynamics; highway construction and its effects on wetland hydrology; peat mining; waterfowl and wildlife management; agriculture and aquaculture activities; water quality enhancement activities; and flood control and stormwater protection.

There is also little national-level information on the ecological condition of the Nation's wetlands, streams, and other aquatic resources, or the amounts of functions they provide, although reviews have acknowledged that most of these resources are degraded (Zedler and Kercher 2005, Allan 2004) or impaired (U.S. EPA 2015) because of various activities, disturbances, and other stressors. These data deficiencies make it more difficult to characterize the affected environment to assess cumulative effects, and the relative contribution of the activities authorized by this NWP to those cumulative effects.

As discussed in section 3.0 of this document there is a wide variety of causes and sources of impairment of the Nation's rivers, streams, wetlands, lakes, estuarine waters, and marine waters (U.S. EPA 2015), which also contribute to cumulative effects to these aquatic resources. Many of those causes of impairment are point and non-point sources of pollutants that are not regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Two common causes of impairment for rivers and streams, habitat alterations and flow alterations, may be due in part to activities regulated by the Corps under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899. Habitat and flow alterations may also be the caused by activities that do not involve discharges of dredged or fill material or structures or work in navigable waters. For wetlands, impairment due to habitat alterations, flow alterations, and hydrology modifications may involve activities regulated under section 404, but these causes of impairment may also be due to unregulated activities, such as changes in upland land use that affects the movement of water through a watershed or contributing drainage area or the removal of vegetation.

Many of the activities discussed in this cumulative effects section that affect wetlands, streams, and other aquatic resources are not subject to regulation under Section 404 of the

Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899.

Estimates of the original acreage of wetlands in the United States vary widely because of the use of different definitions and how those estimates were made (Harris and Gosselink 1990). Dahl (1990) estimates that approximately 53 percent of the wetlands in the conterminous United States were lost in the 200-year period covering the 1780s to 1980s. Much of the wetland loss occurred in the mid-19th century as a result of indirect effects of beaver trapping and the removal of river snags, which substantially reduced the amount of land across the country that was inundated because of beaver dams and river obstructions (Harris and Gosselink 1990). The annual rate of wetland loss has decreased substantially since the 1970s (Dahl 2011), when wetland regulation became more prevalent (Brinson and Malvárez 2002). Between 2004 and 2009, there was no statistically significant difference in wetland acreage in the conterminous United States (Dahl 2011). According to the 2011 wetland status and trends report, during the period of 2004 to 2009 urban development accounted for 11 percent of wetland losses (61,630 acres), rural development resulted in 12 percent of wetland losses (66,940 acres), silviculture accounted for 56 percent of wetland losses (307,340 acres), and wetland conversion to deepwater habitats caused 21 percent of the loss in wetland area (115,960 acres) (Dahl 2011). Some of the losses occurred to wetlands that are not subject to Clean Water Act jurisdiction and some losses are due to activities not regulated under Section 404 of the Clean Water Act, such as unregulated drainage activities, exempt forestry activities, or water withdrawals. From 2004 to 2009, approximately 100,020 acres of wetlands were gained as a result of wetland restoration and conservation programs on agricultural land (Dahl 2011). Another source of wetland gain is conversion of other uplands to wetlands (389,600 acres during 2004 to 2009) (Dahl 2011). Inventories of wetlands, streams, and other aquatic resources are incomplete, especially at national or regional scales, because the techniques used for those inventories cannot identify all of those resources, especially small wetlands and streams (e.g., Dahl (2011) for wetlands; Meyer and Wallace (2001) for streams).

As discussed in section 3.0, national scale inventories of wetlands, streams, and other types of aquatic resources underestimate the quantity of those resources, and only general information is available on their ability to perform ecological functions and services. Therefore, it is not appropriate to make decisions concerning the significance of cumulative effects by calculating the relative proportion of the aquatic resources baseline impacted by a particular action, or a series of actions subject to a particular federal program. In addition, such an approach does not take into account the many categories of other activities that have direct and indirect effects on aquatic resources that are regulated under other federal, states, or local programs or are not regulated by any entity. Under the Council on Environmental Quality's NEPA definition at 40 CFR 1508.7, a cumulative effects analysis should instead examine the relative contribution that a proposed action will have on cumulative effects to one or more categories of natural resources (i.e., "the incremental impact of the action" and whether that incremental impact is significant or not significant).

For aquatic ecosystems, climate change affects water quality, biogeochemical cycling, and water storage (Julius et al. 2013). Climate change will also affect the abundance and distribution of wetlands across the United States, as well as the functions they provide

(Mitsch and Gosselink 2015). Climate change results in increases in stream temperatures, more waterbodies with anoxic conditions, degradation of water quality, and increases in flood and drought frequencies (Julius et al. 2013). The increasing carbon dioxide concentration in the atmosphere also changes the pH of the oceans, resulting in ocean acidification (RS and NAS 2014), which adversely affects corals and some other marine organisms.

Compensatory mitigation required by district engineers for specific activities authorized by this NWP will help reduce the contribution of those activities to the cumulative effects on the Nation's wetlands, streams, and other aquatic resources, by providing ecological functions to partially or fully replace some or all of the aquatic resource functions lost as a result of those activities. Compensatory mitigation requirements for the NWPs are described in general condition 23 and compensatory mitigation projects must also comply with the applicable provisions of 33 CFR part 332. District engineers will establish compensatory mitigation requirements on a case-by-case basis, after evaluating pre-construction notifications. Compensatory mitigation requirements for individual NWP activities will be specified through permit conditions added to NWP authorizations. When compensatory mitigation is required, the permittee is required to submit a mitigation plan prepared in accordance with the requirements of 33 CFR 332.4(c). Credits from approved mitigation banks or in-lieu fee programs may also be used to satisfy compensatory mitigation requirements for NWP authorizations. Monitoring is required to demonstrate whether the permittee-responsible mitigation project, mitigation bank, or in-lieu fee project is meeting its objectives and providing the intended aquatic resource structure and functions. If the compensatory mitigation project is not meeting its objectives, adaptive management will be required. Adaptive management may involve taking actions, such as site modifications, remediation, or design changes, to ensure the compensatory mitigation project meets its objectives (see 33 CFR 332.7(c)).

The estimated contribution of activities authorized by this NWP to the cumulative effects to wetlands, streams, and other aquatic resources in the United States during the five year period that the NWP would be in effect, in terms of the estimated number of time this NWP would be used until it expires and the projected impacts and compensatory mitigation, is provided in section 7.2.2. It is not practical or feasible to provide quantitative data on the multitude of other contributors to cumulative effects to these resources, including the federal, non-federal, and private activities that are not regulated by the Corps that will also occur during the five year period this NWP is in effect. National-level data on these many categories of activities that are not regulated by the Corps but contribute to cumulative effects are either not collected for the nation or they are not accessible. The activities authorized by this NWP will result in a minor incremental contribution to the cumulative effects to wetlands, streams, and other aquatic resources in the United States because, as discussed in this section, they are one category of many categories of activities that affect those aquatic resources. The causes of cumulative effects discussed in this section include past, present, and reasonably foreseeable future federal, non-federal, and private activities. For the national-scale cumulative effects analysis presented in this section, it is not possible to quantify the relative contributions of all of the various activities that affect the quantity of wetlands, streams, and other aquatic resources and the functions and services they provide,

because such data are not available at the national scale.

As discussed above, there are many categories of activities not regulated by the Corps under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899 that contribute to cumulative effects to wetland, streams, and other aquatic resources. During the 5-year period this NWP is in effect, the activities it authorizes will result in only a no more than minimal incremental contribution to cumulative effects to wetlands, streams, and other aquatic ecosystems.

4.3.3 Cumulative Effects to Coastal Areas

In the United States, approximately 39 percent of its population lives in counties that are next to coastal waters, the territorial seas, or the Great Lakes (NOAA 2013). Those counties comprise less than 10 percent of the land area of the United States (NOAA 2013). Coastal waters are also affected by a wide variety of activities. The major drivers of changes to coastal areas are: development activities that alter coastal forests, wetlands, and coral reef habitats for aquaculture and the construction of urban areas, industrial facilities, and resort and port developments (MEA 2005d). Dredging, reclamation, shore protection and other structures (e.g., causeways and bridges), and some types of fishing activities also cause substantial changes to coastal areas (MEA 2005d). Nitrogen pollution to coastal zones change coral reef communities (MEA 2005d). Adverse effects to coastal waters are caused by habitat modifications, point source pollution, non-point source pollution, changes to hydrology and hydrodynamics, exploitation of coastal resources, introduction of non-native species, global climate change, shoreline erosion, and pathogens and toxins (NRC 1994).

Substantial alterations of coastal hydrology and hydrodynamics are caused by land use changes in watersheds draining to coastal waters, the channelization or damming of streams and rivers, water consumption, and water diversions (NRC 1994). Approximately 52 percent of the population of the United States lives in coastal watersheds (NOAA 2013). Eutrophication of coastal waters is caused by nutrients contributed by waste treatment systems, non-point sources, and the atmosphere, and may cause hypoxia or anoxia in coastal waters (NRC 1994). Changes in water movement through watersheds may also alter sediment delivery to coastal areas, which affects the sustainability of wetlands and intertidal habitats and the functions they provide (NRC 1994). Most inland waters in the United States drain to coastal areas, and therefore activities that occur in inland watersheds affect coastal waters (NRC 1994). Inland land uses, such as agriculture, urban development, and forestry, adversely affect coastal waters by diverting fresh water from estuaries and by acting as sources of nutrients and pollutants to coastal waters (MEA 2005d).

Coastal wetlands have been substantially altered by urban development and changes to the watersheds that drain to those wetlands (Mitsch and Hernandez 2013). Coastal habitat modifications are the result of dredging or filling coastal waters, inputs of sediment via non-point sources, changes in water quality, or alteration of coastal hydrodynamics (NRC 1994). Coastal development activities, including those that occur in uplands, affect marine and estuarine habitats (MEA 2005b). The introduction of non-native species may change the functions and structure of coastal wetlands and other habitats (MEA 2005b). Fishing

activities may also modify coastal habitats by changing habitat structure and the biological communities that inhabit those areas (NRC 1994).

As discussed above, there are many categories of activities not regulated by the Corps under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899 that contribute to cumulative effects to coastal areas. During the 5-year period this NWP is in effect, the activities it authorizes will result in only a no more than minimal incremental contribution to cumulative effects to coastal areas.

4.3.4 Cumulative Effects to Endangered and Threatened Species

The status of species as threatened or endangered is also due to cumulative effects (NRC 1986, Odum 1982), and activities authorized by Department of the Army permits are a minor contributor to the cumulative effects to endangered and threatened species. Land use and land cover changes are the main cause of the loss of biodiversity (Vitousek et al. 1997). The decline of a species that leads to its status as endangered or threatened is usually caused by multiple factors rather than a single factor (Wilcove et al. 1998, Venter et al. 2006, Czech and Krausman 1997, Richter et al. 1997). It is difficult to determine the relative contribution of each cause of species decline or endangerment (Czech and Krausman 1997). For example, for fish species, the number of factors affecting their status ranged from 1 to 15, with an average of 4.5 threats. Over 40 percent of fish species were endangered or threatened as a result of 5 or more factors, and less than 7 percent of fish species were identified as imperiled because of a single factor. During the past few hundred years, human activities have increased species extinction rates by around 1,000 times the Earth's background extinction rates (MEA 2005c).

The main causes of the decline of species to endangered or threatened status are habitat loss and degradation, introduction of species, overexploitation, disease, and climate change (MEA 2005d). Habitat degradation also includes changes in habitat quality caused by habitat fragmentation and pollution. Habitat fragmentation can occur in rivers, and is characterized by disruption of a river's natural flow regime by dams, inter-basin water transfers, or water withdrawals and affects 90 percent of the world's river water volume (MEA 2005d). Invasive alien species are a major cause of species endangerment in freshwater habitats (MEA 2005d). Losses of biological diversity are directly caused by habitat modifications, including land use changes, alteration of river and stream flows, water withdrawals from rivers, losses of coral reefs, and alteration of the sea bed caused by trawling (MEA 2005c). Other direct causes of losses of biodiversity include pollution, invasive species, species overexploitation, climate change, and disease (MEA 2005c). There are often multiple factors interacting with each other to reduce biodiversity, instead of single factors working alone (MEA 2005c).

Wilcove et al. (1998) evaluated five categories of threats to species in the United States, and conducted further analyses on the types of habitat destruction that caused species to be listed as endangered or threatened under the Endangered Species Act. The five categories of threats were habitat destruction, alien species, overharvest, pollution, and disease. Wilcove et al. (1998) focused on species under the jurisdiction of the U.S. Fish and Wildlife Service.

More than half of the endangered and threatened species under the jurisdiction of the NMFS were listed after this study was published. Wilcove et al. (1998) found information on the threats to 1,880 species, out of a total of 2,490 species that were categorized as imperiled at that time. Habitat destruction and degradation was the most comment threat, a factor for 85 percent of the imperiled species analyzed. The second most common threat was competition with non-native species, or predation by those species. For aquatic animal species, pollution was the second most common cause of endangerment, after habitat loss (Wilcove et al. 1998).

To more closely examine the causes of habitat loss, Wilcove et al. (1998) analyzed U.S. Fish and Wildlife endangered species listing documents and identified 14 categories of habitat loss or degradation: agriculture; livestock grazing; mining and oil and gas extraction; logging; infrastructure development; road construction and maintenance; military activities; outdoor recreation; use of off-road vehicles; water development projects (e.g., water diversions, flood control facilities; drainage projects; aquaculture; navigation); dams, impoundments, and other water barriers; pollutants (e.g., sediment and mining pollutants); residential and commercial developments; and disruption of fire ecology. Many species were subject to more than one cause of endangerment (Wilcove et al. 1998). Agriculture was the leading cause of habitat destruction, affecting 38 percent of endangered species, followed by residential and commercial development (35 percent), water development (30 percent), and infrastructure development (17 percent). Habitat destruction caused by water development affected 91 percent of listed fish species and 99 percent of listed mussel species.

Richter et al. (1997) studied the factors that endanger freshwater animals. The most significant threats to those species are habitat destruction, habitat fragmentation, pollution, and exotic species. Richter et al. (1997) also looked at the stressors that are impeding the recovery of aquatic species at risk of extinction and found that changes in stream bed substrate composition (e.g., siltation), hydrologic alteration, interactions with other species, nutrient inputs, and habitat destruction were the most common factors. The major sources of stressors to aquatic species are agricultural land use, urban land use, energy generation industries (especially hydroelectric power), and exotic species (Richter et al. 1997). Agricultural activity was identified as having significant adverse effects on aquatic species through non-point source pollution (sediment and nutrients), interactions with exotic species, and water impoundments (Richter et al. 1997). Water impoundments cause changes in hydrology, as well as habitat destruction and fragmentation. Urban land use resulted in much less non-point source pollution than agricultural activities (Richter et al. 1997).

Note that in these studies on species threats and endangerment, the categories of human activities are discussed in general terms, and may include activities in uplands as well as activities in jurisdictional and non-jurisdictional waters and wetlands. Climate change will also alter species distributions, and extinction may occur for those species that cannot adjust to the changes in climate (Starzmoski 2013).

As discussed above, there are many categories of activities not regulated by the Corps under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899

that contribute to cumulative effects to endangered and threatened species and their designated critical habitats. During the 5-year period this NWP is in effect, the activities it authorizes will result in only a no more than minimal incremental contribution to cumulative effects to endangered and threatened species and their habitats.

4.4 Climate Change

Climate change represents one of the greatest challenges our country faces with profound and wide-ranging implications for the health and welfare of Americans, economic growth, the environment, and international security. Evidence of the warming of climate system is unequivocal and the emission of greenhouse gases from human activities is the primary driver of these changes (IPCC 2014). Already, the United States is experiencing the impacts of climate change and these impacts will continue to intensify as warming intensifies. It will have far-reaching impacts on natural ecosystems and human communities. These effects include sea level rise, ocean warming, increases in precipitation in some areas and decreases in precipitation in other areas, decreases in sea ice, more extreme weather and climate events including more floods and droughts, increasing land surface temperatures, increasing ocean temperatures, and changes in plant and animal communities (IPCC 2014). Climate change also affects human health in some geographic area by increasing exposure to ground-level ozone and/or particulate matter air pollution (Luber et al. 2014). Climate change also increases the frequency of extreme heat events that threaten public health and increases risk of exposure to vector-borne diseases (Luber et al. 2014). Climate impacts affect the health, economic well-being, and welfare of Americans across the country, and especially children, the elderly, and others who are particularly vulnerable to specific impacts. Climate change can affect ecosystems and species through a number of mechanisms, such as direct effects on species, populations, and ecosystems; compounding the effects of other stressors; and the direct and indirect effects of climate change mitigation or adaptation actions (Staudt et al. 2013). Other stressors include land use and land cover changes, natural resource extraction (including water withdrawals), pollution, species introductions, and removals of species (Staudt et al. 2013, Bodkin 2012, MEA 2005d) and changes in nutrient cycling (Julius et al. 2013).

5.0 Public Interest Review

5.1 Public Interest Review Factors (33 CFR 320.4(a)(1))

For each of the 20 public interest review factors, the extent of the Corps consideration of expected impacts resulting from the use of this NWP is discussed, as well as the reasonably foreseeable cumulative adverse effects that are expected to occur. The Corps decision making process involves consideration of the benefits and detriments that may result from the activities authorized by this NWP.

(a) Conservation: The activities authorized by this NWP may modify the natural resource

characteristics of the project area. Compensatory mitigation, if required for activities authorized by this NWP, will result in the restoration, enhancement, establishment, or preservation of aquatic habitats that will offset losses to conservation values. The adverse effects of activities authorized by this NWP on conservation will be minor.

(b) Economics: The construction of linear transportation projects will have positive impacts on the local economy. During construction, these activities will generate jobs and revenue for local contractors as well as revenue to building supply companies that sell construction materials. Linear transportation projects promote commerce by providing efficient routes of transportation for goods and services. These projects can change land values, by providing access to new areas for development.

(c) Aesthetics: Linear transportation projects will alter the visual character of some waters of the United States. The extent and perception of these changes will vary, depending on the size and configuration of the project, the nature of the surrounding area, and the public uses of the area. Linear transportation projects authorized by this NWP can also modify other aesthetic characteristics, such as air quality and the amount of noise. The increased human use of the project area and surrounding land will also alter local aesthetic values.

(d) General environmental concerns: Activities authorized by this NWP will affect general environmental concerns, such as water, air, noise, and land pollution. The authorized activities will also affect the physical, chemical, and biological characteristics of the environment. The adverse effects of the activities authorized by this NWP on general environmental concerns will be minor. Adverse effects to the chemical composition of the aquatic environment will be controlled by general condition 6, which states that the material used for construction must be free from toxic pollutants in toxic amounts. General condition 23 requires mitigation to minimize adverse effects to the aquatic environment through avoidance and minimization at the project site. Compensatory mitigation may be required by district engineers for activities authorized by this NWP to ensure that the net adverse environmental effects are no more than minimal. Specific environmental concerns are addressed in other sections of this document.

(e) Wetlands: Linear transportation projects authorized by this NWP may result in the loss or alteration of wetlands. In most cases, the affected wetlands will be permanently filled, especially where roads, culverts, revetment, and other permanent fills are located, resulting in the permanent loss of aquatic resource functions and services. Some wetlands may be temporarily impacted through the use of temporary staging areas and access roads. These wetlands will be restored, unless the district engineer authorizes another use for the area, but the plant community may be different especially if the site was originally forested. District engineers may require compensatory mitigation to offset the loss of wetlands and ensure that the adverse environmental effects are no more than minimal.

Wetlands provide habitat, including foraging, nesting, spawning, rearing, and resting sites for aquatic and terrestrial species. The loss or alteration of wetlands may alter natural drainage patterns. Wetlands reduce erosion by stabilizing the substrate. Wetlands also act as storage areas for stormwater and flood waters. Wetlands may act as groundwater

discharge or recharge areas. The loss of wetland vegetation will adversely affect water quality because these plants trap sediments, pollutants, and nutrients and transform chemical compounds. Wetland vegetation also provides habitat for microorganisms that remove nutrients and pollutants from water. Wetlands, through the accumulation of organic matter, act as sinks for some nutrients and other chemical compounds, reducing the amounts of these substances in the water.

General condition 23 requires avoidance and minimization of impacts to waters of the United States, including wetlands, at the project site. Compensatory mitigation may be required to offset losses of waters of the United States so that the net adverse environmental effects are no more than minimal. General condition 22 prohibits the use of this NWP to discharge dredged or fill material in designated critical resource waters and adjacent wetlands, which may include high value wetlands. Division engineers can regionally condition this NWP to restrict or prohibit the use of this NWP in high value wetlands. District engineers will also exercise discretionary authority to require an individual permit if the wetlands to be filled are high value and the activity will result in more than minimal adverse environmental effects. District engineers can also add case-specific special conditions to the NWP authorization to reduce impacts to wetlands or require compensatory mitigation to offset losses of wetlands.

(f) Historic properties: General condition 20 states that in cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act have been satisfied.

(g) Fish and wildlife values: This NWP authorizes activities in all waters of the United States, which provide habitat to many species of fish and wildlife. Activities authorized by this NWP may alter the habitat characteristics of streams and wetlands, decreasing the quantity and quality of fish and wildlife habitat. Wetland and riparian vegetation provides food and habitat for many species, including foraging areas, resting areas, corridors for wildlife movement, and nesting and breeding grounds. Open waters provide habitat for fish and other aquatic organisms. Fish and other motile animals will avoid the project site during construction. Woody riparian vegetation shades streams, which reduces water temperature fluctuations and provides habitat for fish and other aquatic animals. Riparian vegetation provides organic matter that is consumed by fish and aquatic invertebrates. Woody riparian vegetation creates habitat diversity in streams when trees and large shrubs fall into the channel, forming snags that provide habitat and shade for fish. The morphology of a stream channel may be altered by activities authorized by this NWP, which can affect fish populations. However, pre-construction notification is required for all discharges in special aquatic sites and for NWP 14 activities resulting in the loss of more than 1/10 acre of waters of the United States, which provides the district engineer with an opportunity to review certain activities and assess potential impacts on fish and wildlife values and ensure that the authorized activity results only in minimal adverse environmental effects. Compensatory mitigation may be required by district engineers to restore, enhance, establish, and/or preserve wetlands to offset losses of jurisdictional wetlands. Stream rehabilitation, enhancement, and preservation activities may be required as compensatory mitigation for

impacts to streams. The establishment and maintenance of riparian areas next to open and flowing waters may also be required as compensatory mitigation. These methods of compensatory mitigation will provide fish and wildlife habitat values.

General condition 2 will reduce the adverse effects to fish and other aquatic species by prohibiting activities that substantially disrupt the movement of indigenous aquatic species, unless the primary purpose of the activity is to impound water. Linear transportation projects authorized by this NWP cannot block fish passage in the waterbody. Compliance with general conditions 3 and 5 will ensure that the authorized activity has only minimal adverse effects on spawning areas and shellfish beds, respectively. The authorized activity cannot have more than minimal adverse effects on breeding areas for migratory birds, due to the requirements of general condition 4.

For an NWP activity, compliance with the Bald and Golden Eagle Protection Act (16 U.S.C. 668(a)-(d)), the Migratory Bird Treaty Act (16 U.S.C. 703; 16 U.S.C. 712), and the Marine Mammal Protection Act (16 U.S.C. 1361 et seq.) is the responsibility of the project proponent. General condition 19 states that the permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

Consultation pursuant to the essential fish habitat provisions of the Magnuson-Stevens Fishery Conservation and Management Act will occur as necessary for proposed NWP activities that may adversely affect essential fish habitat. Consultation may occur on a case-by-case or programmatic basis. Division and district engineers can impose regional and special conditions to ensure that activities authorized by this NWP will result in only minimal adverse effects on essential fish habitat.

(h) Flood hazards: The activities authorized by this NWP may affect the flood-holding capacity of the 100-year floodplain, as well as flooding patterns and surface water flow velocities. Changes in the flood-holding capacity of the 100-year floodplain may impact human health, safety, and welfare. To minimize these adverse effects, general condition 10 requires the permittee to construct the activity in accordance with applicable FEMA-approved state or local floodplain management requirements, to minimize adverse effects to flood flows in 100-year floodplains. Compliance with general condition 9 will also reduce flood hazards. This general condition requires the permittee to maintain, to the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters, except under certain circumstances. It is important to note that much of the land area within 100-year floodplains is upland and outside of the Corps scope of review.

(i) Floodplain values: Activities authorized by this NWP may adversely affect the flood-holding capacity of the floodplain, as well as other floodplain values. The fish and wildlife habitat values of floodplains will be adversely affected by activities authorized by this NWP, by modifying or eliminating areas used for nesting, foraging, resting, and reproduction. The water quality functions of floodplains may also be adversely affected by these activities.

Modification of the floodplain may also adversely affect other hydrological processes, such as groundwater recharge.

Compensatory mitigation may be required for activities authorized by this NWP, which will offset losses of waters of the United States and provide water quality functions and wildlife habitat. General condition 23 requires avoidance and minimization of impacts to waters of the United States to the maximum extent practicable at the project site, which will reduce losses of floodplain values. The mitigation requirements of general condition 23 will help ensure that the adverse effects of these activities on floodplain values are no more than minimal. General condition 10 requires the permittee to construct the activity in accordance with applicable FEMA-approved state or local floodplain management requirements to minimize adverse effects to flood flows in 100-year floodplains. The requirements in general condition 10 will minimize adverse effects to floodplain values, such as flood storage capacity, wildlife habitat, fish spawning areas, and nutrient cycling for aquatic ecosystems. Compliance with general condition 9 will also ensure that activities in 100-year floodplains will not cause more than minimal adverse effects on flood storage and conveyance.

(j) Land use: Activities authorized by this NWP will often change local land use from natural to developed, especially when linear transportation projects provide access to previously undeveloped areas. Linear transportation projects may induce further development on nearby parcels of land. Since the primary responsibility for land use decisions is held by state, local, and Tribal governments, the Corps scope of analysis is limited to significant issues of overriding national importance, such as navigation and water quality (see 33 CFR 320.4(j)(2)).

(k) Navigation: Activities authorized by this NWP will not adversely affect navigation, because these activities must comply with general condition 1. This NWP requires pre-construction notification for activities resulting in the loss of greater than 1/10 acre of waters of the United States and for discharges into special aquatic sites, which will allow district engineers to review certain activities and determine if those activities will have adverse effects on navigation.

(l) Shore erosion and accretion: The activities authorized by this NWP will have minor direct effects on shore erosion and accretion processes, since the NWP is limited to linear transportation projects. However, NWP 13, regional general permits, or individual permits may be used to authorize bank stabilization projects associated with linear transportation projects, which may affect shore erosion and accretion.

(m) Recreation: The construction of linear transportation projects will have negligible direct adverse effects on the recreational uses of the area. Activities authorized by this NWP may indirectly change the recreational uses of the area through induced development. Linear transportation projects may provide access to recreational activities which may not have been previously available because these sites were inaccessible.

(n) Water supply and conservation: Activities authorized by this NWP may adversely affect

both surface water and groundwater supplies. Linear transportation projects will increase the amount of impervious surface in the area, which may decrease replenishment of groundwater supplies. Use of linear transportation projects authorized by this NWP can also affect the quality of water supplies by adding pollutants to surface waters and groundwater, but many causes of water pollution, such as discharges regulated under Section 402 of the Clean Water Act, are outside of the Corps scope of analysis. Some water pollution concerns will be addressed through water quality management measures that may be required for activities authorized by this NWP. The quality of local water supplies may be protected by stormwater management practices. General condition 7 prohibits discharges in the vicinity of public water supply intakes. Compensatory mitigation may be required for activities authorized by this NWP, which will help improve the quality of surface waters.

(o) Water quality: Linear transportation projects constructed in wetlands and waterbodies may have adverse effects on water quality. These activities can result in increases in sediments and pollutants in the water. The loss of wetland and riparian vegetation will adversely affect water quality because these plants trap sediments, pollutants, and nutrients and transform chemical compounds. Wetland and riparian vegetation also provides habitat for microorganisms that remove nutrients and pollutants from water. Wetlands, through the accumulation of organic matter, act as sinks for some nutrients and other chemical compounds, reducing the amounts of these substances in the water column. Wetlands and riparian areas also decrease the velocity of flood waters, removing suspended sediments from the water column and reducing turbidity. Riparian vegetation also serves an important role in the water quality of streams by shading the water from the intense heat of the sun. Compensatory mitigation may be required for activities authorized by this NWP, to ensure that the activities do not have more than minimal adverse environmental effects, including water quality. Wetlands and riparian areas restored, established, enhanced, or preserved as compensatory mitigation will provide local water quality benefits.

During construction, small amounts of oil and grease from construction equipment may be discharged into the waterway. Because most of the construction will occur during a relatively short period of time, the frequency and concentration of these discharges are not expected to have more than minimal adverse effects on overall water quality.

This NWP requires section 401 water quality certification, since it authorizes discharges of dredged or fill material into waters of the United States. Most water quality concerns are addressed by the state or Tribal section 401 agency. In accordance with general condition 25, the permittee may be required to develop and implement water quality management measures that minimizes the degradation of the downstream aquatic environment, including water quality. Water quality management measures may involve the installation of stormwater management facilities to trap pollutants and the establishment and maintenance of riparian areas next to open waters. The establishment and maintenance of riparian areas may be required for activities authorized by the NWP, if there are streams or other open waters on the project site. The riparian areas will protect downstream water quality and enhance the aquatic habitat.

(p) Energy needs: The linear transportation projects authorized by this NWP will increase

energy consumption in the area during construction. Increases in energy consumption due to the use of the linear transportation project are outside of the Corps scope of review.

(q) Safety: The linear transportation projects authorized by this NWP will be subject to Federal, state, and local safety laws and regulations. Therefore, this NWP will not adversely affect the safety of the project area.

(r) Food and fiber production: Activities authorized by this NWP may adversely affect food and fiber production, especially where linear transportation projects are constructed on agricultural land. The construction of these projects may reduce the amount of farmland, unless that land is replaced by converting other land, such as forest, to agricultural land. The loss of farmland is more appropriately addressed through the land use planning and zoning authority held by state and local governments. Food production may also be increased by activities authorized by this NWP, by providing better routes to transport raw materials to food and fiber processing facilities. The delivery of food and fiber products will be improved by the construction or expansion of linear transportation projects.

(s) Mineral needs: Activities authorized by this NWP will increase demand for aggregates and stone, which are used to construct linear transportation projects. Activities authorized by this NWP will also increase the demand for other building materials, such as steel, aluminum, and copper, which are made from mineral ores.

(t) Considerations of property ownership: The NWP complies with 33 CFR 320.4(g), which states that an inherent aspect of property ownership is a right to reasonable private use. The NWP provides expedited DA authorization to construct linear transportation projects, provided those activities comply with the terms and conditions of the NWP and result in only minimal individual and cumulative adverse environmental effects.

5.2 Additional Public Interest Review Factors (33 CFR 320.4(a)(2))

5.2.1 Relative extent of the public and private need for the proposed structure or work

This NWP authorizes linear transportation projects that have only minimal individual and cumulative adverse environmental effects. These activities satisfy public and private needs for transporting people, services, and goods. The need for this NWP is based upon the number of these activities that occur annually with only minimal individual and cumulative adverse environmental effects.

5.2.2 Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work

Most situations in which there are unresolved conflicts concerning resource use arise when environmentally sensitive areas are involved (e.g., special aquatic sites, including wetlands) or where there are competing uses of a resource. The nature and scope of the activity, when planned and constructed in accordance with the terms and conditions of this NWP, reduce

the likelihood of such conflict. In the event that there is a conflict, the NWP contains provisions that are capable of resolving the matter (see section 1.2 of this document).

General condition 23 requires permittees to avoid and minimize adverse effects to waters of the United States to the maximum extent practicable on the project site. Consideration of off-site alternative locations is not required for activities that are authorized by general permits. General permits authorize activities that have only minimal individual and cumulative adverse effects on the environment and the overall public interest. The district engineer will exercise discretionary authority and require an individual permit if the proposed activity will result in more than minimal adverse environmental effects on the project site. The consideration of off-site alternatives can be required during the individual permit process.

5.2.3 The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited

The nature and scope of the activities authorized by the NWP will most likely restrict the extent of the beneficial and detrimental effects to the area immediately surrounding the linear transportation project. Activities authorized by this NWP will have only minimal individual and cumulative environmental adverse effects.

The terms, conditions, and provisions of the NWP were developed to ensure that individual and cumulative adverse environmental effects are no more than minimal. Specifically, NWPs do not obviate the need for the permittee to obtain other Federal, state, or local authorizations required by law. The NWPs do not grant any property rights or exclusive privileges (see 33 CFR 330.4(b) for further information). Additional conditions, limitations, restrictions, and provisions for discretionary authority, as well as the ability to add activity-specific or regional conditions to this NWP, will provide further safeguards to the aquatic environment and the overall public interest. There are also provisions to allow suspension, modification, or revocation of the NWP.

6.0 Endangered and Threatened Species

The Corps' current regulations and procedures for the NWPs result in compliance with Section 7 of the Endangered Species Act (ESA) and ensure that activities authorized by this NWP will not jeopardize the continued existence or any listed threatened and endangered species or result in the destruction or adverse modification of critical habitat. Current local procedures in Corps districts are effective in ensuring compliance with ESA. Those local procedures include regional programmatic consultations and the development of Standard Local Operating Procedures for Endangered Species (SLOPES). The issuance or reissuance of an NWP, as governed by NWP general condition 18 (which applies to every NWP and which relates to endangered and threatened species and critical habitat) and 33 CFR 330.4(f), results in "no effect" to listed species or critical habitat, because no activity that "may affect" listed species or critical habitat is authorized by NWP unless ESA Section 7

consultation with the U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS) has been completed. Activities that do not comply with general condition 18 or other applicable general or regional conditions are not authorized by any NWP, and thus fall outside of the NWP Program. Unauthorized activities are subject to the prohibitions of Section 9 of the ESA.

Each activity authorized by an NWP is subject to general condition 18, which states that "[n]o activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species." In addition, general condition 18 explicitly states that the NWP does not authorize "take" of threatened or endangered species, which will ensure that permittees do not mistake the NWP authorization as a Federal authorization to take threatened or endangered species. General condition 18 also requires a non-federal permittee to submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat. This general condition also states that, in such cases, non-federal permittees shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized.

Under the current Corps regulations (33 CFR 325.2(b)(5)), the district engineer must review all permit applications for potential impacts on threatened and endangered species or critical habitat. For the NWP program, this review occurs when the district engineer evaluates the pre-construction notification or request for verification. Nationwide permit general condition 18 requires a non-federal applicant to submit a pre-construction notification to the Corps if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat. Based on the evaluation of all available information, the district engineer will initiate consultation with the USFWS or NMFS, as appropriate, if he or she determines that the proposed activity may affect any threatened and endangered species or critical habitat. Consultation may occur during the NWP authorization process or the district engineer may exercise discretionary authority to require an individual permit for the proposed activity and initiate section 7 consultation during the individual permit process. If ESA Section 7 consultation is conducted during the NWP authorization process without the district engineer exercising discretionary authority, then the applicant will be notified that he or she cannot proceed with the proposed NWP activity until section 7 consultation is completed.

If the district engineer determines that the proposed NWP activity will have no effect on any threatened or endangered species or critical habitat, then the district engineer will notify the applicant that he or she may proceed under the NWP authorization as long as the activity complies with all other applicable terms and conditions of the NWP, including applicable regional conditions. When the Corps makes a "no effect" determination, that determination is documented in the record for the NWP verification.

In cases where the Corps makes a "may affect" determination, formal or informal section 7

consultation is conducted before the activity is authorized by NWP. A non-federal permit applicant cannot begin work until notified by the Corps that the proposed NWP activity will have "no effect" on listed species or critical habitat, or until ESA Section 7 consultation has been completed (see also 33 CFR 330.4(f)). Federal permittees are responsible for complying with ESA Section 7(a)(2) and should follow their own procedures for complying with those requirements (see 33 CFR 330.4(f)(1)). Therefore, permittees cannot rely on complying with the terms of an NWP without considering ESA-listed species and critical habitat, and they must comply with the NWP conditions to ensure that they do not violate the ESA. General condition 18 also states that district engineers may add activity-specific conditions to the NWPs to address ESA issues as a result of formal or informal consultation with the USFWS or NMFS.

Each year, the Corps conducts thousands of ESA section 7 consultations with the FWS and NMFS for activities authorized by NWPs. These section 7 consultations are tracked in ORM2. During the period of March 19, 2012, to September 30, 2016, Corps districts conducted 1,402 formal consultations and 9,302 informal consultations for NWP activities under ESA section 7. During that time period, the Corps also used regional programmatic consultations for 9,829 NWP verifications to comply with ESA section 7. Therefore, each year NWP activities are covered by an average of more than 4,500 formal, informal, and programmatic ESA section 7 consultations with the FWS and/or NMFS. In a study on ESA section 7 consultations tracked by the USFWS, Malcom and Li (2015) found that during the period of 2008 to 2015, the Corps conducted the most formal and informal section 7 consultations, far exceeding the numbers of section 7 consultations conducted by other federal agencies.

Section 7 consultations are often conducted on a case-by-case basis for activities proposed to be authorized by NWP that may affect listed species or critical habitat, in accordance with the USFWS's and NMFS's interagency regulations at 50 CFR part 402. Instead of activity-specific section 7 consultations, compliance with ESA may also be achieved through formal or informal regional programmatic consultations. Compliance with ESA Section 7 may also be facilitated through the adoption of NWP regional conditions. In some Corps districts SLOPES have been developed through consultation with the appropriate regional offices of the USFWS and NMFS to make the process of complying with section 7 more efficient.

Corps districts have, in most cases, established informal or formal procedures with local offices of the USFWS and NMFS, through which the agencies share information regarding threatened and endangered species and their critical habitat. This information helps district engineers determine if a proposed NWP activity may affect listed species or their critical habitat and, when a "may affect" determination is made, initiate ESA section 7 consultation. Corps districts may utilize maps or databases that identify locations of populations of threatened and endangered species and their critical habitat. Where necessary, regional conditions are added to one or more NWPs to require pre-construction notification for NWP activities that occur in known locations of threatened and endangered species or critical habitat. For activities that require agency coordination during the pre-construction notification process, the USFWS and NMFS will review the proposed activities for potential impacts to threatened and endangered species and their critical habitat. Any information

provided by local maps and databases and any comments received during the pre-construction notification review process will be used by the district engineer to make a "no effect" or "may affect" determination for the pre-construction notification.

Based on the safeguards discussed in this section, especially general condition 18 and the NWP regulations at 33 CFR 330.4(f), the Corps has determined that the activities authorized by this NWP will not jeopardize the continued existence of any listed threatened or endangered species or result in the destruction or adverse modification of designated critical habitat. Although the Corps continues to believe that these procedures ensure compliance with the ESA, the Corps has taken some steps to provide further assurance. Corps district offices meet with local representatives of the USFWS and NMFS to establish or modify existing procedures such as regional conditions, where necessary, to ensure that the Corps has the latest information regarding the existence and location of any threatened or endangered species or their critical habitat. Corps districts can also establish, through local procedures or other means, additional safeguards that ensure compliance with the ESA. Through ESA Section 7 formal or informal consultations, or through other coordination with the USFWS and NMFS, the Corps establishes procedures to ensure that the NWP is not likely to jeopardize any threatened and endangered species or result in the destruction or adverse modification of designated critical habitat. Such procedures may result in the development of regional conditions added to the NWP by the division engineer, or in conditions to be added to a specific NWP authorization by the district engineer.

If informal section 7 consultation is conducted, and the USFWS and/or NMFS issues a written concurrence that the proposed activity may affect, but is not likely to adversely affect, listed species or designated critical habitat, the district engineer will add conditions (e.g., minimization measures) to the NWP authorization that are necessary to avoid the likelihood of adverse effects to listed species or designated critical habitat. If the USFWS and/or NMFS does not issue a written concurrence that the proposed NWP activity "may affect, but is not likely to adversely affect" listed species or critical habitat, the Corps will initiate formal section 7 consultation if it changes its determination to "may affect, likely to adversely affect."

If formal section 7 consultation is conducted and a biological opinion is issued, the district engineer will add a condition to the NWP authorization to incorporate the appropriate elements of the incidental take statement of the biological opinion into the NWP authorization, if the biological opinion concludes that the activity is not likely to jeopardize the continued existence of listed species or adversely modify or destroy critical habitat. If the biological opinion concludes that the proposed activity is likely to jeopardize the continued existence of listed species or adversely modify or destroy critical habitat, the proposed activity cannot be authorized by NWP and the district engineer will instruct the applicant to apply for an individual permit. The incidental take statement includes reasonable and prudent measures such as mitigation, monitoring, and reporting requirements that minimize incidental take. The appropriate elements of the incidental take statement are dependent on those activities in the biological opinion over which the Corps has control and responsibility (i.e., the discharges of dredged or fill material into waters of the United States and/or structures or work in navigable waters and their direct and indirect effects on listed

species or critical habitat). The appropriate elements of the incidental take statement are those reasonable and prudent measures that the Corps has the authority to enforce under its permitting authorities. Incorporation of the appropriate elements of the incidental take statement into the NWP authorization by a binding, enforceable permit condition provides an exemption from the take prohibitions in ESA Section 9 (see Section 7(o)(2) of the ESA).

The Corps can modify this NWP at any time that it is deemed necessary to protect listed species or their critical habitat, either through: 1) national general conditions or national-level modifications, suspensions, or revocations of the NWPs; 2) regional conditions or regional modifications, suspensions, or revocations of NWPs; or 3) activity-specific permit conditions (modifications) or activity-specific suspensions or revocations of NWP authorizations. Therefore, although the Corps has issued the NWPs, the Corps can address any ESA issue, if one should arise. The NWP regulations also allow the Corps to suspend the use of some or all of the NWPs immediately, if necessary, while considering the need for permit conditions, modifications, or revocations. These procedures are provided at 33 CFR 330.5.

7.0 Clean Water Act Section 404(b)(1) Guidelines Analysis

The 404(b)(1) Guidelines compliance criteria for general permits are provided at 40 CFR 230.7. This 404(b)(1) Guidelines compliance analysis includes analyses of the direct, secondary, and cumulative effects on the aquatic environment caused by discharges of dredged or fill material authorized by this NWP.

7.1 Evaluation Process (40 CFR 230.7(b))

7.1.1 Alternatives (40 CFR 230.10(a))

General condition 23 requires permittees to avoid and minimize discharges of dredged or fill material into waters of the United States to the maximum extent practicable on the project site. The consideration of off-site alternatives is not directly applicable to general permits (see 40 CFR 230.7(b)(1)).

7.1.2 Prohibitions (40 CFR 230.10(b))

This NWP authorizes discharges of dredged or fill material into waters of the United States, which require water quality certification. Water quality certification requirements will be met in accordance with the procedures at 33 CFR 330.4(c).

No toxic discharges will be authorized by this NWP. General condition 6 states that the material must be free from toxic pollutants in toxic amounts.

This NWP does not authorize activities that jeopardize the continued existence of any listed threatened or endangered species or result in the destruction or adverse modification of

critical habitat. Reviews of pre-construction notifications, regional conditions, and local operating procedures for endangered species will ensure compliance with the Endangered Species Act. Refer to general condition 18 and to 33 CFR 330.4(f) for information and procedures.

This NWP will not authorize the violation of any requirement to protect any marine sanctuary. Refer to section 7.2.3(j)(1) of this document for further information.

7.1.3 Findings of Significant Degradation (40 CFR 230.10(c))

Potential impact analysis (Subparts C through F): The potential impact analysis specified in Subparts C through F is discussed in section 7.2.3 of this document. Mitigation required by the district engineer will ensure that the adverse effects on the aquatic environment are no more than minimal.

Evaluation and testing (Subpart G): Because the terms and conditions of the NWP specify the types of discharges that are authorized, as well as those that are prohibited, individual evaluation and testing for the presence of contaminants will normally not be required. If a situation warrants, provisions of the NWP allow division or district engineers to further specify authorized or prohibited discharges and/or require testing. General condition 6 requires that materials used for construction be free from toxic pollutants in toxic amounts.

Based upon Subparts B and G, after consideration of Subparts C through F, the discharges authorized by this NWP will not cause or contribute to significant degradation of waters of the United States.

7.1.4 Factual determinations (40 CFR 230.11)

The factual determinations required in 40 CFR 230.11 are discussed in section 7.2.3 of this document.

7.1.5 Appropriate and practicable steps to minimize potential adverse impacts (40 CFR 230.10(d))

As demonstrated by the information in this document, as well as the terms, conditions, and provisions of this NWP, actions to minimize adverse effects (Subpart H) have been thoroughly considered and incorporated into the NWP. General condition 23 requires permittees to avoid and minimize discharges of dredged or fill material into waters of the United States to the maximum extent practicable on the project site. Compensatory mitigation may be required by the district engineer to ensure that the net adverse effects on the aquatic environment are no more than minimal.

7.2 Evaluation Process (40 CFR 230.7(b))

7.2.1 Description of permitted activities (40 CFR 230.7(b)(2))

As indicated by the text of this NWP in section 1.0 of this document, and the discussion of potential impacts in section 4.0, the activities authorized by this NWP are sufficiently similar in nature and environmental impact to warrant authorization under a single general permit. Specifically, the purpose of the NWP is to authorize discharges of dredged or fill material for the construction, expansion, modification, or improvement of linear transportation projects. The nature and scope of the impacts are controlled by the terms and conditions of the NWP.

The activities authorized by this NWP are sufficiently similar in nature and environmental impact to warrant authorization by a general permit. The terms of the NWP authorize a specific category of activity (i.e., discharges of dredged or fill material for the construction, expansion, modification, or improvement of linear transportation projects in a specific category of waters (i.e., waters of the United States). The restrictions imposed by the terms and conditions of this NWP will result in the authorization of activities that have similar impacts on the aquatic environment, namely the replacement of aquatic habitats, such as tidal or non-tidal waters, with linear transportation projects.

If a situation arises in which the activity requires further review, or is more appropriately reviewed under the individual permit process, provisions of the NWPs allow division and/or district engineers to take such action.

7.2.2 Cumulative effects (40 CFR 230.7(b)(3))

The 404(b)(1) Guidelines at 40 CFR 230.11(a) define cumulative effects as "…the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material." For the issuance of general permits, such as this NWP, the 404(b)(1) Guidelines require the permitting authority to "set forth in writing an evaluation of the potential individual and cumulative impacts of the categories of activities to be regulated under the general permit." [40 CFR 230.7(b)] More specifically, the 404(b)(1) Guidelines cumulative effects assessment for the issuance or reissuance of a general permit is to include an evaluation of "the number of individual discharge activities likely to be regulated under a general permit until its expiration, including repetitions of individual discharge activities at a single location." [40 CFR 230.7(b)(3)] If a situation arises in which cumulative effects are likely to be more than minimal and the proposed activity requires further review, or is more appropriately reviewed under the individual permit process, provisions of the NWPs allow division and/or district engineers to take such action.

Based on reported use of this NWP during the period of March 19, 2012, to March 12, 2015, the Corps estimates that this NWP will be used approximately 5,800 times per year on a national basis, resulting in impacts to approximately 360 acres of waters of the United States, including jurisdictional wetlands. The reported use includes pre-construction notifications submitted to Corps districts, as required by the terms and conditions of the NWP as well as regional conditions imposed by division engineers. The reported use also includes voluntary notifications to submitted to Corps districts where the applicants request

written verification in cases when pre-construction notification is not required. The reported use does not include activities that do not require pre-construction notification and were not voluntarily reported to Corps districts. The Corps estimates that 200 NWP 14 activities will occur each year that do not require pre-construction notification, and that these activities will impact 10 acres of jurisdictional waters each year.

Based on reported use of this NWP during that time period, the Corps estimates that 13 percent of the NWP 14 verifications will require compensatory mitigation to offset the authorized impacts to waters of the United States and ensure that the authorized activities result in only minimal adverse effects on the aquatic environment. The verified activities that do not require compensatory mitigation will have been determined by Corps district engineers to result in no more than minimal individual and cumulative adverse effects on the aquatic environment without compensatory mitigation. During 2017-2022, the Corps expects little change to the percentage of NWP 14 verifications requiring compensatory mitigation, because there have been no substantial changes in the mitigation general condition or the NWP regulations. The Corps estimates that approximately 270 acres of compensatory mitigation will be required each year to offset the authorized impacts. The demand for these types of activities could increase or decrease over the five-year duration of this NWP.

Based on these annual estimates, the Corps estimates that approximately 30,000 activities could be authorized over a five year period until this NWP expires, resulting in impacts to approximately 1,850 acres of waters of the United States, including jurisdictional wetlands. Approximately 1,350 acres of compensatory mitigation would be required to offset those impacts. Compensatory mitigation is the restoration (re-establishment or rehabilitation), establishment, enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved. [33 CFR 332.2]

Wetland restoration, enhancement, and establishment projects can provide wetland functions, as long as the wetland compensatory mitigation project is placed in an appropriate landscape position, has appropriate hydrology for the desired wetland type, and the watershed condition will support the desired wetland type (NRC 2001). Site selection is critical to find a site with appropriate hydrologic conditions and soils to support a replacement wetland that will provide the desired wetland functions and services (Mitsch and Gosselink 2015). The ecological performance of wetland restoration, enhancement, and establishment is dependent on practitioner's understanding of wetland functions, allowing sufficient time for wetland functions to develop, and allowing natural processes of ecosystem development (self-design or self-organization) to take place, instead of over-designing and over-engineering the replacement wetland (Mitsch and Gosselink (2015). Most studies of the ecological performance of compensatory mitigation projects have focused solely on the ecological attributes of the compensatory mitigation projects, and few studies have also evaluated the aquatic resources impacted by permitted activities (Kettlewell et al. 2008), so it is difficult to assess whether compensatory mitigation has fully or partially offset the lost functions provided by the aquatic resources that are impacted by permitted activities. In its review, the NRC (2001) concluded that some wetland types can

be restored or established (e.g., non-tidal emergent wetlands, some forested and scrub-shrub wetlands, sea grasses, and coastal marshes), while other wetland types (e.g., vernal pools, bogs, and fens) are difficult to restore and should be avoided where possible. Restored riverine and tidal wetlands achieved wetland structure and function more rapidly than depressional wetlands (Moreno-Mateos et al. 2012). Because of its greater potential to provide wetland functions, restoration is the preferred compensatory mitigation mechanism (33 CFR 332.3(a)(2)). Bogs, fens, and springs are considered to be difficult-to-replace resources and compensatory mitigation should be provided through in-kind rehabilitation, enhancement, or preservation of these wetlands types (33 CFR 332.3(e)(3)).

In its review of outcomes of wetland compensatory mitigation activities, the NRC (2001) stated that wetland functions can be replaced by wetland restoration and establishment activities. They discussed five categories of wetland functions: hydrology, water quality, maintenance of plant communities, maintenance of animal communities, and soil functions. Wetland functions develop at different rates in wetland restoration and establishment projects (NRC 2001). It is difficult to restore or establish natural wetland hydrology, and water quality functions are likely to be different than the functions provided at wetland impact sites (NRC 2001). Reestablishing or establishing the desired plant community may be difficult because of invasive species colonizing the mitigation project site (NRC 2001). The committee also found that establishing and maintaining animal communities depends on the surrounding landscape. Soil functions can take a substantial amount of time to develop, because they are dependent on soil organic matter and other soil properties (NRC 2001). The NRC (2001) concluded that the ecological performance in replacing wetland functions depends on the particular function of interest, the restoration or establishment techniques used, and the extent of degradation of the compensatory mitigation project site and its watershed.

The ecological performance of wetland restoration and enhancement activities is affected by the amount of changes to hydrology and inputs of pollutants, nutrients, and sediments within the watershed or contributing drainage area (Wright et al. 2006). Wetland restoration is becoming more effective at replacing or improving wetland functions, especially in cases where monitoring and adaptive management are used to correct deficiencies in these efforts (Zedler and Kercher 2005). Wetland functions take time to develop after the restoration or enhancement activity takes place (Mitsch and Gosselink 2015, Gebo and Brooks 2012), and different functions develop at different rates (Moreno-Mateos 2012). Irreversible changes to landscapes, especially those that affect hydrology within contributing drainage areas or watersheds, cause wetland degradation and impede the ecological performance of wetland restoration efforts (Zedler and Kercher 2005). Gebo and Brooks (2012) evaluated wetland compensatory mitigation projects in Pennsylvania and compared them to reference standards (i.e., the highest functioning wetlands in the study area) and natural reference wetlands that showed the range of variation due to human disturbances. They concluded that most of the wetland mitigation sites were functioning at levels within with the range of functionality of the reference wetlands in the region, and therefore were functioning at levels similar to some naturally occurring wetlands. The ecological performance of mitigation wetlands is affected by on the landscape context (e.g., urbanization) of the replacement wetland and varies with wetland type (e.g., riverine or depressional) (Gebo and Brooks 2012). Moreno-Mateos and

others (2012) conducted a meta-analysis of wetland restoration studies and concluded that while wetland structure and function can be restored to a large degree, the ecological performance of wetland restoration projects is dependent on wetland size and local environmental setting. They found that wetland restoration projects that are larger in size and in less disturbed landscape settings achieve structure and function more quickly.

Streams are difficult-to-replace resources and compensatory mitigation should be provided through stream rehabilitation, enhancement, and preservation since those techniques are most likely to be ecologically successful (see 33 CFR 332.3(e)(3)). Stream rehabilitation is usually the most effective compensatory mitigation mechanism since restoring a stream to a historic state is not possible because of changes in land use and other activities in a watershed (Roni et al. 2008). Stream rehabilitation and enhancement projects, including the restoration and preservation of riparian areas, provide riverine functions (e.g., Allan and Castillo (2007) for rivers and streams, NRC (2002) for riparian areas). Improvements in ecological performance of stream restoration projects is dependent on the restoration method and how outcomes are assessed (Palmer et al. 2014). Non-structural and structural techniques can be used to rehabilitate and enhance streams, and restore riparian areas (NRC 1992). Non-structural practices include removing disturbances to allow recovery of stream and riparian area structure and function, reducing or eliminating activities that have altered stream flows to restore natural flows, preserving or restoring floodplains, and restoring and protecting riparian areas, including fencing those areas to exclude livestock and people (NRC 1992). Structural rehabilitation and enhancement techniques include dam removal, as well as channel, bank, and/or riparian area modifications to improve river and stream habitat (NRC 1992).

The restoration and enhancement of river and stream functions and services can be improved through a variety of techniques and in many cases combinations of these techniques are used (Roni et al. 2013). Examples of stream restoration and enhancement techniques include: dam removal and modification, culvert replacement or modification, fish passage structures when connectivity cannot be restored or improved by dam removal or culvert replacement, levee removal or setbacks, reconnecting floodplains and other riparian habitats, road removal, road modifications, reducing sediment and pollution inputs to streams, replacing impervious surfaces with pervious surfaces, restoring adequate in-stream or base flows, restoring riparian areas, fencing streams and their riparian areas to exclude livestock, improving in-stream habitat, recreating meanders, and replacing hard bank stabilization structures with bioengineering bank stabilization measures (Roni et al. 2013). Road improvements, riparian rehabilitation, reconnecting floodplains to their rivers, and installing in-stream habitat structures have had varying degrees of ecological performance in stream rehabilitation activities (Roni et al. 2008). The ecological performance of these stream rehabilitation activities is strongly dependent on addressing impaired water quality and insufficient water quantity, since those factors usually limit the biological response to stream rehabilitation efforts (Roni et al. 2008). Ecologically successful stream rehabilitation and enhancement activities depend on addressing the factors that most strongly affect stream functions, especially water quality, water flow, and riparian quality, and not focusing solely on rehabilitating or enhancing the physical habitat of streams (Palmer et al. 2010). The ability to restore the ecological functions of streams is dependent on the condition of the

watershed draining to the stream being restored because human land uses and other activities in the watershed affect how that stream functions (Palmer et al. 2014). Stream restoration projects should focus on restoring ecological processes, such as dam removal, watershed best management practices, improving the riparian zone, and reforestation, instead of focusing on the manipulation the structure of the stream channel (Palmer et al. 2014).

For compensatory mitigation projects, restoration is the preferred mechanism (see 33 CFR 332.3(a)(2). In an analysis of 89 ecosystem restoration projects, Rey Banayas et al. (2009) concluded that restoration activities can increase biodiversity and the level of ecosystem services provided. However, such increases do not approach the amounts of biodiversity and ecosystem services performed by undisturbed reference sites. The ability to restore ecosystems to provide levels of functions and services similar to historic conditions or reference standard conditions is influenced by human impacts to watersheds and other types of landscapes (e.g., urbanization, agriculture) and to the processes that sustain those ecosystems (Zedler et al. 2012, Hobbs et al. 2014). Those changes need to be taken into account when establishing goals and objectives for restoration projects (Zedler et al. 2012), including compensatory mitigation projects. The ability to reverse ecosystem degradation to restore ecological functions and services is dependent on the degree of degradation of that ecosystem and the surrounding landscape, and whether that degradation is reversible (Hobbs et al. 2014).

As discussed in section 3.0, the status of waters and wetlands in the United States as reported under the provisions of Sections 303(d) and 305(b) of the Clean Water Act exhibits considerable variation, ranging from good to threatened to impaired. One of the criteria that district engineers consider when they evaluate proposed NWP activities is the "degree or magnitude to which the aquatic resources perform these functions" (see paragraph 1 of Section D, "District Engineer's Decision." The quality of the affected waters is considered by district engineers when making decisions on whether to require compensatory mitigation for proposed NWP activities to ensure no more than minimal adverse environmental effects (see 33 CFR 330.1(e)(3)), and amount of compensatory mitigation required (see 33 CFR 332.3(f)). The quality of the affected waters also factors into the determination of whether the required compensatory mitigation offsets the losses of aquatic functions caused by the NWP activity.

The compensatory mitigation required by district engineers in accordance with general condition 23 and activity-specific conditions will provide aquatic resource functions and services to offset some or all of the losses of aquatic resource functions caused by the activities authorized by this NWP, and reduce the contribution of those activities to the cumulative effects on the Nation's wetlands, streams, and other aquatic resources. The required compensatory mitigation must be conducted in accordance with the applicable provisions of 33 CFR part 332, which requires development and implementation of approved mitigation plans, as well as monitoring to assess ecological success in accordance with ecological performance standards established for the compensatory mitigation project. The district engineer will evaluate monitoring reports to determine if the compensatory mitigation project has fulfilled its objectives and is ecological successful. [33 CFR 332.6] If the monitoring efforts indicate that the compensatory mitigation project is failing to meet its

objectives, the district engineer may require additional measures, such as adaptive management or alternative compensatory mitigation, to address the compensatory mitigation project's deficiencies. [33 CFR 332.7(c)]

According to Dahl (2011), during the period of 2004 to 2009 approximately 489,620 acres of former upland were converted to wetlands as a result of wetland reestablishment and establishment activities. Efforts to reestablish or establish wetlands have increased wetland acreage in the United States.

The individual and cumulative adverse effects on the aquatic environment resulting from the activities authorized by this NWP will be no more than minimal. The Corps expects that the convenience and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP, including its limits, rather than request individual permits for projects that could result in greater adverse impacts to the aquatic environment. Division and district engineers will restrict or prohibit this NWP on a regional or case-specific basis if they determine that these activities will result in more than minimal individual and cumulative adverse effects on the aquatic environment.

7.2.3 Section 404(b)(1) Guidelines Impact Analysis, Subparts C through F

(a) Substrate: Discharges of dredged or fill material into waters of the United States will alter the substrate of those waters, usually replacing the aquatic area with dry land, and changing the physical, chemical, and biological characteristics of the substrate. The original substrate will be removed or covered by other material, such as concrete, asphalt, soil, gravel, etc. Temporary fills may be placed upon the substrate, but must be removed upon completion of the activity (see general condition 13). Higher rates of erosion may result during construction, but general condition 12 requires the use of appropriate measures to control soil erosion and sediment.

(b) Suspended particulates/turbidity: Depending on the method of construction, soil erosion and sediment control measures, equipment, composition of the bottom substrate, and wind and current conditions during construction, fill material placed in open waters will temporarily increase water turbidity. Pre-construction notification is required for NWP 14 activities resulting in the loss of greater than 1/10 acre of waters of the United States and for all discharges into special aquatic sites, which will allow the district engineer to review those activities ensure that the adverse effects on the aquatic environment are no more than minimal. Particulates will be resuspended in the water column during removal of temporary fills. The turbidity plume will normally be limited to the immediate vicinity of the disturbance and should dissipate shortly after each phase of the construction activity. General condition 12 requires the permittee to stabilize exposed soils and other fills, which will reduce turbidity. In many localities, sediment and erosion control plans are required to minimize the entry of soil into the aquatic environment. NWP activities cannot create turbidity plumes that smother important spawning areas downstream (see general condition 3).

(c) Water: Linear transportation projects can affect some characteristics of water, such as

water clarity, chemical content, dissolved gas concentrations, pH, and temperature. The construction of linear transportation projects can change the chemical and physical characteristics of the waterbody by introducing suspended or dissolved chemical compounds or sediments into the water. Changes in water quality can affect the species and quantities of organisms inhabiting the aquatic area. Water quality certification is required for activities authorized by this NWP that involve discharges into waters of the United States, which will ensure that the activity does not violate applicable water quality standards. Permittees may be required to implement water quality management measures to ensure that the authorized activities do not result in more than minimal degradation of water quality. Stormwater management facilities may be required to prevent or reduce the input of harmful chemical compounds into the waterbody. The district engineer may require the establishment and maintenance of riparian areas next to open waters, such as streams. Riparian areas help improve or maintain water quality, by removing nutrients, moderating water temperature changes, and trapping sediments.

(d) Current patterns and water circulation: Activities authorized by this NWP may adversely affect the movement of water in the aquatic environment. Pre-construction notification is required for NWP 14 activities resulting in the loss of greater than 1/10 acre of waters of the United States or for discharges into special aquatic sites, which will allow the district engineer to review those activities to ensure that adverse effects to current patterns and water circulation are no more than minimal. General condition 9 requires the authorized activity to be designed to withstand expected high flows and to maintain the course, condition, capacity, and location of open waters to the maximum extent practicable. General condition 10 requires activities to comply with applicable FEMA-approved state or local floodplain management requirements, which will reduce adverse effects to surface water flows.

(e) Normal water level fluctuations: In the vicinity of the project, the activities authorized by this NWP may adversely affect normal patterns of water level fluctuations due to tides and flooding. To ensure that the NWP does not authorize activities that adversely affect normal flooding patterns, general condition 10 requires the permittee to construct the activity in accordance with applicable FEMA-approved state or local floodplain management requirements to minimize adverse effects to flood flows in 100-year floodplains. General condition 9 requires the permittee to maintain the pre-construction course, condition, capacity, and location of open waters, to the maximum extent practicable.

(f) Salinity gradients: In coastal areas, the activities authorized by this NWP will have minor adverse effects on salinity gradients where these linear transportation projects are constructed in estuarine or marine waters. Stormwater runoff from the authorized activities may temporarily reduce the salinity of the waterbody in the vicinity of the linear transportation project. In areas of the country where salt is spread on roads to melt ice, precipitation may wash those salts from the road into the waterbody, resulting in temporary increases in salinity.

(g) Threatened and endangered species: The NWPs do not authorize activities that will jeopardize the continued existence of species listed as endangered or threatened under the

Endangered Species Act of 1973, as amended. In addition, the NWPs do not authorize activities that will destroy or adversely modify critical habitat of those species. See 33 CFR 330.4(f) and paragraph (a) of general condition 18. For NWP activities, compliance with the Endangered Species Act is discussed in more detail in section 6.0 of this document.

(h) Fish, crustaceans, molluscs, and other aquatic organisms in the food web. Activities authorized by this NWP that result in the loss of greater than 1/10 acre of waters of the United States or discharges in special aquatic sites require pre-construction notification to the district engineer, which will allow review of certain activities to ensure that adverse effects to fish and other aquatic organisms in the food web are no more than minimal. Fish and other motile animals will avoid the project site during construction. Sessile or slow-moving animals in the path of discharges, equipment, and building materials will be destroyed. Some aquatic animals may be smothered by the placement of fill material. Motile animals will return to those areas that are temporarily impacted by the activity and restored or allowed to revert back to preconstruction conditions. Aquatic animals will not return to sites of permanent fills. Benthic and sessile animals are expected to recolonize sites temporarily impacted by the activity, after those areas are restored. Activities that alter the riparian zone, especially floodplains, may adversely affect populations of fish and other aquatic animals, by altering stream flow, habitat, flooding patterns, and surface and groundwater hydrology. Linear transportation projects in the vicinity of streams may alter habitat features by increasing surface water flow velocities, which can increase erosion and reduce the amount of habitat for aquatic organisms and destroy spawning areas.

Division and district engineers can place conditions on this NWP to prohibit discharges during important stages of the life cycles of certain aquatic organisms. Such time of year restrictions can prevent adverse effects to those aquatic organisms during reproduction and development periods. General conditions 3 and 5 address protection of spawning areas and shellfish beds, respectively. General condition 3 states that activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. In addition, general condition 3 also prohibits activities that result in the physical destruction of important spawning areas. General condition 5 prohibits activities in areas of concentrated shellfish populations. General condition 9 requires the maintenance of pre-construction course, condition, capacity, and location of open waters to the maximum extent practicable, which will help minimize adverse impacts to fish, shellfish, and other aquatic organisms in the food web.

(i) Other wildlife: Activities authorized by this NWP will result in adverse effects on other wildlife associated with aquatic ecosystems, such as resident and transient mammals, birds, reptiles, and amphibians, through the destruction of aquatic habitat, including breeding and nesting areas, escape cover, travel corridors, and preferred food sources. This NWP does not authorize activities that jeopardize the continued existence of Federally-listed endangered and threatened species or result in the destruction or adverse modification of critical habitat. Compensatory mitigation, including the establishment and maintenance of riparian areas, may be required for activities authorized by this NWP, which will help offset losses of aquatic habitat for wildlife. General condition 4 states that activities in breeding areas for migratory birds must be avoided to the maximum extent practicable. Linear

transportation projects may cause fragmentation of wildlife habitat, but most fragmentation is due to activities not regulated by the Corps, such as construction in uplands or clearing of vegetation that does not result in discharges of dredged or fill material into waters of the United States.

Activities authorized by this NWP will result in adverse effects on other wildlife associated with aquatic ecosystems, such as resident and transient mammals, birds, reptiles, and amphibians, through the destruction of aquatic habitat, including breeding and nesting areas, escape cover, travel corridors, and preferred food sources. Compensatory mitigation, including the establishment and maintenance of riparian areas next to open waters, may be required for activities authorized by this NWP, which will help offset losses of aquatic habitat for wildlife. General condition 4 states that activities in breeding areas for migratory birds must be avoided to the maximum extent practicable.

(j) Special aquatic sites: The potential impacts to specific special aquatic sites are discussed below:

(1) Sanctuaries and refuges: Pre-construction notification is required for all discharges of dredged or fill material into jurisdictional special aquatic sites, which will allow the district engineer to review these activities and ensure that they result in only minimal adverse effects on the aquatic environment. General condition 22 prohibits the use of this NWP to discharge dredged or fill material in NOAA-managed marine sanctuaries and marine monuments and National Estuarine Research Reserves. For those sanctuaries and refuges not listed above, division engineers can regionally condition the NWP to restrict or prohibit its use in those areas. District engineers will also exercise discretionary authority and require individual permits for specific projects in sanctuaries and refuges if those activities will result in more than minimal adverse effects on the aquatic environment.

(2) Wetlands: The activities authorized by this NWP will have only minimal adverse effects on wetlands. Pre-construction notification is required for all discharges of dredged or fill material into jurisdictional wetlands. Division engineers can regionally condition this NWP to restrict or prohibit its use in certain high value wetlands. See paragraph (e) of section 5.1 for a more detailed discussion of impacts to wetlands.

(3) Mud flats: The activities authorized by this NWP may adversely affect mud flats, but pre-construction notification is required for all discharges of dredged or fill material into jurisdictional special aquatic sites, which will allow district engineers to review these proposed activities and ensure that they result in only minimal adverse effects on the aquatic environment. If the mud flats are high value and the activity will result in more than minimal adverse effects on the aquatic environment, the district engineer will exercise discretionary authority to require the project proponent to obtain an individual permit.

(4) Vegetated shallows: The activities authorized by this NWP may affect vegetated shallows, but pre-construction notification is required for all discharges of dredged or fill material into jurisdictional special aquatic sites, which will allow district engineers to review these proposed activities and ensure that they result in only minimal adverse effects on the

aquatic environment. If the vegetated shallows are high value and the activity will result in more than minimal adverse effects on the aquatic environment, the district engineer will exercise discretionary authority to require the project proponent to obtain an individual permit.

(5) Coral reefs: The activities authorized by this NWP may affect coral reefs, but pre-construction notification is required for all discharges of dredged or fill material into jurisdictional special aquatic sites, which will allow district engineers to review these proposed activities and ensure that they result in no more than minimal adverse effects on the aquatic environment. If the coral reefs are high value and the activity will result in more than minimal adverse effects on the aquatic environment, the district engineer will exercise discretionary authority to require the project proponent to obtain an individual permit.

(6) Riffle and pool complexes: The activities authorized by this NWP may affect riffle and pool complexes, but pre-construction notification is required for all discharges of dredged or fill material into jurisdictional special aquatic sites, which will allow district engineers to review these activities and ensure that they result in no more than minimal adverse effects on the aquatic environment. If the riffle and pool complexes are high value and the activity will result in more than minimal adverse effects on the aquatic environment, the district engineer will exercise discretionary authority to require the project proponent to obtain an individual permit.

(k) Municipal and private water supplies: See paragraph (n) of section 5.1 for a discussion of potential impacts to water supplies.

(l) Recreational and commercial fisheries, including essential fish habitat: The activities authorized by this NWP may adversely affect waters of the United States that act as habitat for populations of economically important fish and shellfish species. Division and district engineers can condition this NWP to prohibit discharges during important life cycle stages, such as spawning or development periods, of economically valuable fish and shellfish. Discharges of dredged or fill material into jurisdictional special aquatic sites and discharges of dredged or fill material resulting in the loss of greater than 1/10 acres of waters of the United States require pre-construction notification to the district engineer, which will allow review of each activity in open waters to ensure that adverse effects to economically important fish and shellfish are no more than minimal. Compliance with general conditions 3 and 5 will ensure that the authorized activity does not adversely affect important spawning areas or concentrated shellfish populations. As discussed in paragraph (g) of section 5.1, there are procedures to help ensure that impacts to essential fish habitat are no more than minimal, individually or cumulatively. For example, division and district engineers can impose regional and special conditions to ensure that activities authorized by this NWP will result in only minimal adverse effects on essential fish habitat.

(m) Water-related recreation: See paragraph (m) of section 5.1 above.

(n) Aesthetics: See paragraph (c) of section 5.1 above.

(o) Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: General condition 22 prohibits the use of this NWP to authorize discharges of dredged or fill material in designated critical resource waters and adjacent wetlands, which may be located in parks, national and historical monuments, national seashores, wilderness areas, and research sites. This NWP can be used to authorize activities in parks, national and historical monuments, national seashores, wilderness areas, and research sites if the manager or caretaker wants to conduct activities in waters of the United States and those activities result in only minimal adverse effects on the aquatic environment. Division engineers can regionally condition the NWP to prohibit its use in designated areas, such as national wildlife refuges or wilderness areas.

8.0 Determinations

8.1 Finding of No Significant Impact

Based on the information in this document, the Corps has determined that the issuance of this NWP will not have a significant impact on the quality of the human environment. Therefore, the preparation of an Environmental Impact Statement is not required.

8.2 Public Interest Determination

In accordance with the requirements of 33 CFR 320.4, the Corps has determined, based on the information in this document, that the issuance of this NWP is not contrary to the public interest.

8.3 Section 404(b)(1) Guidelines Compliance

This NWP has been evaluated for compliance with the 404(b)(1) Guidelines, including Subparts C through G. Based on the information in this document, the Corps has determined that the discharges authorized by this NWP comply with the 404(b)(1) Guidelines, with the inclusion of appropriate and practicable conditions, including mitigation, necessary to minimize adverse effects on affected aquatic ecosystems. The activities authorized by this NWP will result in no more than minimal individual and cumulative adverse effects on the aquatic environment.

8.4 Section 176(c) of the Clean Air Act General Conformity Rule Review

This NWP has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities authorized by this permit will not exceed *de minimis* levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR 93.153. Any later indirect emissions

are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons, a conformity determination is not required for this NWP.

FOR THE COMMANDER

Dated: 21 Dec 2016

Donald E. Jackson
Major General, U.S. Army
Deputy Commanding General
for Civil and Emergency Operations

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Public Notice

U S Army Corps of Engineers
Huntington District
Buffalo District
Pittsburgh District

In reply refer to Public Notice No. LRH-2016-00006-OH

Issuance Date: March 21, 2017

Stream: **N/A**

Closing Date: March 18, 2022

Please address all comments and inquiries to:
U.S. Army Corps of Engineers, Huntington District
ATTN: CELRH-RD-N
502 8th Street
Huntington, WV 25701-2070
Phone: (304) 399-5210

NATIONWIDE PERMITS FOR THE STATE OF OHIO

CORPS OF ENGINEERS REGULATORY PROGRAM
REISSUANCE AND ISSUANCE OF NATIONWIDE PERMITS

WITH OHIO ENVIRONMENTAL PROTECTION AGENCY
401 WATER QUALITY CERTIFICATION
and
OHIO DEPARTMENT OF NATURAL RESOURCES CONSISTENCY
DETERMINATION UNDER THE COASTAL ZONE MANAGEMENT ACT

On January 6, 2017, the U.S. Army Corps of Engineers (Corps) published in the Federal Register (82 FR 1860) the final rule for the administration of its nationwide permit (NWP) program regulations under the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and the Marine Protection, Research and Sanctuaries Act. The rule became effective on March 19, 2017. These NWPs will expire on March 18, 2022.

An integral part of the Corps' regulatory program is the concept of NWPs for minor activities. NWPs are activity specific and are designed to relieve some of the administrative burdens associated with permit processing for both the applicant and the Federal government. The NWPs are issued by the Chief of Engineers and are intended to apply throughout the entire U.S. and its territories. The Corps Districts representing Ohio have imposed regional conditions on the NWPs that are applicable throughout the entire state. For convenience, all NWPs with the appropriate regional, general, and special conditions are attached.

The NWPs are not valid until the appropriate state agency certifies the discharge does not violate state water quality standards. The Ohio Environmental Protection Agency (OEPA) granted water quality certification and imposed general conditions on NWP 19, and specific conditions on NWP nos. 3, 4, 5, 6, 7, 12, 13, 14, 15, 16, 18, 20, 22, 23, 25, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 49, 51, and 53.

The OEPA denied water quality certification for NWP 17-*Hydropower Projects*, NWP 21- *Surface Coal Mining Activities*, NWP 44-*Mining Activities*, NWP 46-*Discharges in Ditches* **(revoked for use in Ohio)**, NWP 48-*Commercial Shellfish Aquaculture Activities*, NWP 50-*Underground Coal Mining Activities*, and NWP 52-*Water-Based Renewable Energy Generation Pilot Projects* **(revoked for use in Ohio)**. Discharges that are NOT included in OEPA's certification of the NWPs must obtain either individual water quality certification or a waiver from:

Ohio Environmental Protection Agency
Division of Surface Water
PO Box 1049
Columbus, Ohio 43216-1049
(614) 644-2001

In addition, any state with a federally-approved Coastal Zone Management Act (CZMA) plan must agree with the Corps determination that the activities authorized by NWPs which are within, or will affect any land or water uses or natural resources of the state's coastal zone, are consistent with the CZMA plan. The Ohio Department of Natural Resources (ODNR) concurred with the Corps Federal Consistency Determination on NWPs nos. 1, 2, 4, 5, 6, 8, 9, 10, 11, 16, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 39, 40, 41, 42, 43, 45, 48, 49, 50, 51, and 53, and imposed specific conditions on NWP nos. 3, 7, 12, 13, 14, 15, 17, 18, 36, and 54. Activities which are NOT included in ODNR's concurrence of the NWPs must obtain a project specific CZMA consistency determination from:

Ohio Department of Natural Resources
Office of Coastal Management
105 West Shoreline Drive
Sandusky, Ohio 44870
(419) 626-7980

Some NWP activities may proceed without notifying the Corps, as long as those activities comply with all applicable terms and conditions of the NWPs, including regional conditions imposed by division engineers. A non-reporting NWP may become a reporting NWP (requires the submittal of a Pre-Construction Notification [PCN] to the Corps in accordance with NWP General Condition 32 and Regional General Condition 6) if the activity has the potential to affect a historic property (See NWP General Condition 20), federally-listed endangered or threatened species or their habitat (See NWP General Condition 18), waters of special concern (Regional General Condition 5), National Wild and Scenic Rivers (See NWP General Condition 16 and Regional General Condition 6(d)) or waters listed in Regional General Condition 4 during the in-water restriction periods established by the ODNR. **Applicants must review the water quality certification general and NWP-specific terms and conditions and submit an application to the OEPA, at the address provided above, when an individual 401 Water Quality Certification is required.**

Many of the proposed NWPs require advance notification (PCN) to the district engineer before commencing those activities, to ensure that the activities authorized by those NWPs cause no more than minimal individual and cumulative adverse environmental effects. The notification must be made in writing as early as possible prior to commencing the proposed activity. The notification procedures are located under NWP General Condition 32 and Regional General Condition 6. The notification to the Corps can be made concurrently with the request for individual state water quality certification, if required. The district engineer may require an individual permit for any activity determined to have more than minimal adverse environmental effects, individually or cumulatively, on the aquatic environment or would be contrary to the public interest.

The NWPs provide a simplified, expeditious means of project authorization under the various authorities of the Corps. We encourage prospective permit applicants to consider the advantages of NWP authorization during the preliminary design of their projects. Assistance and further information regarding all aspects of the Corps regulatory program may be obtained by contacting:

BUFFALO DISTRICT

Address: U.S. Army Corps of Engineers, Buffalo District
1776 Niagara Street
Buffalo, New York 14207-3199
Phone: (716) 879-4330

HUNTINGTON DISTRICT

Address: U.S. Army Corps of Engineers, Huntington District
502 Eighth Street
Huntington, West Virginia 25701-2070
Phone: (304) 399-5210

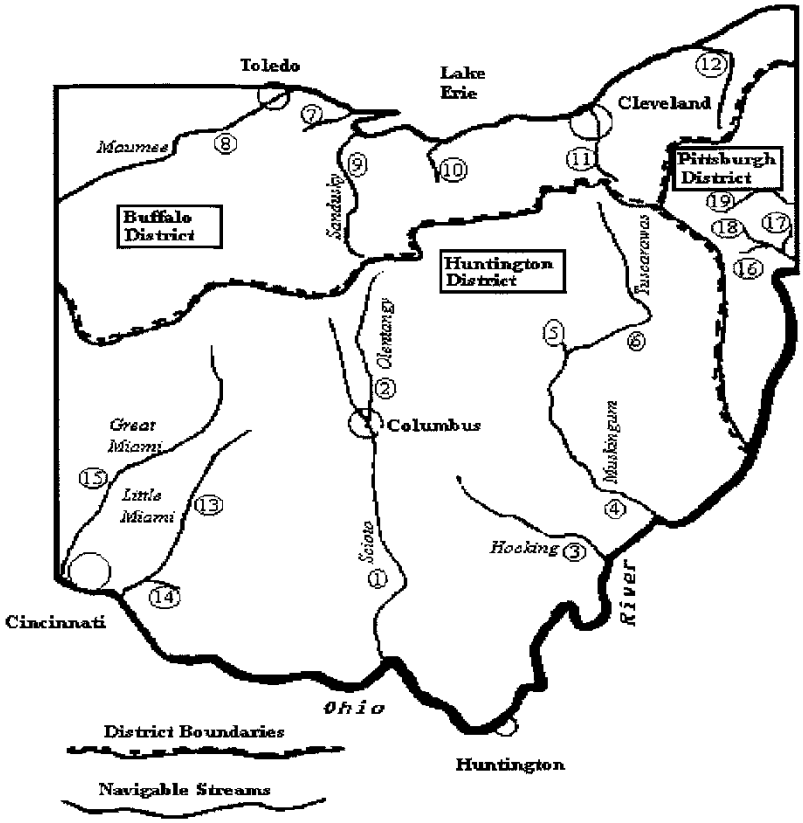
LOUISVILLE DISTRICT

Address: U.S. Army Corps of Engineers, Louisville District
Post Office Box 59
Louisville, Kentucky 40201-0059
Phone: (502) 315-6733

PITTSBURGH DISTRICT

Address: U.S. Army Corps of Engineers, Pittsburgh District
William S. Moorhead Federal Building
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222-4186
Phone: (412) 395-7155

Below is a map showing the district boundaries for the State of Ohio.



Navigable Limits of <u>Major Section 10 Streams in Ohio</u> (Due to the scale of this map, all Section 10 streams are <u>not</u> shown. Contact the proper District office for information.)

<u>Huntington District</u>

Scioto River……175.0 miles
Olentangy River……74.3 miles
Hocking River……79.0 miles
Muskingum River……112.5 miles
Walhonding River……8.8 miles
Tuscarawas River…… …...113.3 miles
Great Miami River……..117.0 miles
Little Miami River……90.7 miles
E. Fk. Little Miami River……6.4 miles

<u>Louisville District</u>

Ohio River below MP 438

<u>Buffalo District</u>

Portage River……...12.0 miles
Maumee River…….To Ind. St. Line
Sandusky River……...96.0 miles
Huron River……10.0 miles
Cuyahoga River……....41.1 miles
Grand River……..91.6 miles

<u>Pittsburgh District</u>

Little Beaver Creek……..15.7 miles
Middle Fk. L. B. Creek…17.3 miles
North Fk. L. B. Creek…..14.3 miles
Mahoning River……...41.0 miles

Note: The Huntington District processes all highway projects where the Ohio Department of Transportation is the applicant.

Index of Nationwide Permits, Conditions, District Engineer's Decision, Further Information, and Definitions

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A. **Special Note. For NWPs that do not require pre-construction notification to the Corps, it is an applicant's responsibility to review the Water Quality Certification general and NWP-specific terms and conditions and submit information to the OEPA as required by their water quality certification.** Many high quality waters in Ohio require an individual 401 or authorization. A project that meets the terms and conditions of a NWP with no Pre-Construction Notification to the Corps is only valid when accompanied by a blanket or individual 401 Water Quality Certification from the OEPA. No work in waters of the United States may commence until the required 401 water quality certification (or waiver) has been obtained from the OEPA. For a map of waters where projects will be required to have an individual 401 or authorization from Ohio EPA for the NWP to be valid, please select the Nationwide Permit tab located at www.epa.ohio.gov/dsw/401/permitting.aspx or contact the OEPA at:

Ohio Environmental Protection Agency, Division of Surface Water
Lazarus Government Center
50 West Town Street, Suite 700
Columbus, Ohio 43215
(614) 644-2001

B. Nationwide Permits Regional General Conditions (Applies to All Nationwide Permits):

1. Nationwide Permits shall not authorize any activity which negatively impacts bogs and/or fens.

2. No nationwide permit may be used in Lake Erie for purposes of diverting water from the Great Lakes.

3. Nationwide Permits shall not authorize any activity which has an adverse impact on littoral transport within Lake Erie.

4. **In-Water Work Exclusion Dates:** Any regulated work associated with a nationwide permit cannot take place during the restricted period of the following Ohio Department of Natural Resources (ODNR) In-Water Work Restrictions, unless the applicant receives advanced written approval from the ODNR and notifies the district engineer in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 and receives written approval from the Corps:

Location	**Restricted Period**
Percid streams a	3/15 - 6/30
Salmonid streams b	9/15 - 6/30
Other streams c	4/15 - 6/30

a. **Great Miami River** (dam south of New Baltimore to mouth), **Hocking River** (falls at White's Mill to mouth), **Little Miami River** (dam at Waynesville to mouth), **Maumee River** (split dam at Grand Rapids to mouth), **Maumee Bay**, **Muskingum River** (Devola Dam No.2 north of Marietta to mouth), **Ohio Brush Creek** (S.R. 32 bridge to mouth), **Ohio River** (entire reach), **Portage River** (entire reach), **Sandusky River** (first dam to mouth), **Sandusky Bay**, **Scioto River** (S.R. 207 bridge north of Chillicothe to mouth), **Toussaint River** (entire reach).

b. **Arcola Creek** (entire reach), **Ashtabula River** (Hadlock Rd. to mouth), **Ashtabula Harbor**, **Aurora Branch** (Chagrin River (RM 0.38 to mouth)), **Big Creek** (Grand River (Girdled Road to mouth)), **Black River** (entire reach), **Chagrin River** (Chagrin Falls to mouth), **Cold Creek** (entire reach), **Conneaut Creek** (entire reach), **Conneaut Harbor**, **Corporation Creek** (Chagrin River (entire reach)), **Cowles Creek** (entire reach), **Ellison Creek** (Grand River (entire reach)), **Euclid Creek** (entire reach), **Grand River** (dam at Harpersfield Covered Bridge Park to mouth), **Fairport Harbor**, **Gulley Brook** (Chagrin River (entire reach)), **Huron River** (East Branch-West Branch confluence to mouth) **Indian Creek** (entire reach), **Kellogg Creek** (Grand River (entire reach)), **Mill Creek** (Grand River (entire reach)), **Paine Creek** (Grand River (Paine Falls to mouth)), **Rocky River** (East Branch-West Branch confluence to mouth), **Smokey Run** (Conneaut Creek (entire reach)), **Turkey Creek** (entire reach), **Vermilion River** (dam at Wakeman upstream of the US 20 & SR 60 bridge to mouth), **Ward Creek** (Chagrin River (entire reach)), **Wheeler Creek** (entire reach), **Whitman Creek** (entire reach).

c. **Exceptional Warmwater Habitat, Cold Water Habitat, Warmwater Habitat,** or streams

with known occurrences of threatened and/or endangered (T&E) species. Includes **Lake Erie & bays** not listed above. Special conditions (such as occurrence of T &E species) may mandate local variation of restrictions.

Note 1: To determine the defined Aquatic Life Habitat designation for a stream and project segment, refer to: www.epa.ohio.gov/dsw/rules/3745_1.aspx

Note 2: This condition does not apply to Ohio Department of Transportation projects that are covered under the "Memorandum of Agreement Between The Ohio Department of Transportation, The Ohio Department of Natural Resources, and The United States Fish and Wildlife Service For Interagency Coordination For Projects Which Require Consultation Under the Endangered Species Act, Impact State Listed Species, and/or Modify Jurisdictional Waters 2016 Agreement Number: 19394".

5. **Waters of Special Concern:** PCN in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required for regulated activities in the following resources:

a. **Endangered Species and Threatened Species:** Due to the potential presence of federally threatened or endangered species or their habitats, Notification in accordance with Nationwide Permit General Condition 32, Regional General Condition 6 and General Condition 18 is required for any regulated activity in jurisdictional waters of the United States in Ohio that includes:

- the removal of trees providing suitable roosting, foraging, or traveling habitat for the federally-listed endangered Indiana bat and the federally-listed threatened northern long-eared bat. Suitable roosting, foraging, and traveling habitat is defined as forests, woodlots, fencerows comprised of trees, riparian forests, or other wooded corridors containing live trees and/or snags ≥3 inches diameter at breast height (dbh). Individual trees may be considered suitable habitat when they are ≥3 inches diameter at breast height (dbh) and have any exfoliating bark, cracks, crevices, hollows and/or cavities and are located within 1,000 feet (305 meters) of other forested/wooded habitat; or

- regulated work in the waterway or township of the corresponding counties listed in Appendix 1.

***Note 1:** Applicants must ensure they are referencing the latest version of Appendix 1 by contacting their nearest Corps district office and visiting the online resources identified in General Condition 18(f) of these NWPs, since federally-listed species are continuously listed, proposed for listing, and/or de-listed.

***Note 2:** As mentioned in General Condition 18-Endangered Species, Federal Agencies should follow their own procedures for complying with the requirements of the ESA. Federal applicants, including applicants that have received federal funding, must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

***Note 3:** Suitable summer habitat for the federally-listed endangered Indiana bat and the federally-listed threatened northern long-eared bat consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat.

***Note 4:** Appendix 1 is not applicable to the federally-listed endangered Indiana bat and the federally-listed threatened northern long-eared bat as both of these mammal species are known to occur throughout the State of Ohio. Appendix 1 column 1 is specific to federally-listed endangered, threatened, or proposed federally-listed endangered or threatened aquatic species (i.e. mussels and fish). Appendix 1 column 2 is specific to federally-listed endangered, threatened, or proposed federally-listed endangered or threatened semi-aquatic and terrestrial species (i.e. insects, birds, reptiles, amphibians).

b. **Critical Resource Waters:**

- In Ohio, two areas have been designated critical habitat for the piping plover (*Charadrius melodus*) and are defined as lands 0.62 mile inland from normal high water line. Unit OH-1 extends from the mouth of Sawmill Creek to the western property boundary of Sheldon Marsh State Natural Area, Erie County, encompassing approximately 2.0 miles. Unit OH-2 extends from the eastern boundary line of Headland Dunes Nature Preserve to the western boundary of the Nature Preserve and Headland Dunes State Park, Lake County, encompassing approximately 0.5 mile.

- In Ohio, three areas have been designated critical habitat for the rabbitsfoot mussel (*Quadrula cylindrica cylindrica*). Unit RF26 includes 17.5 rkm (10.9 rmi) of the Walhonding River from the convergence of the Kokosing and Mohican Rivers downstream to Ohio Highway 60 near Warsaw, Coshocton County, Ohio. Unit RF27 includes 33.3 rkm (20.7 rmi) of Little Darby Creek from Ohio Highway 161 near Chuckery, Union County, Ohio, downstream to U.S. Highway 40 near West Jefferson, Madison County, Ohio. Unit RF29 includes 7.7 rkm (4.8 rmi) of Fish Creek from the Indiana and Ohio State line northwest of Edgerton, Ohio, downstream to its confluence with the St. Joseph's River north of Edgerton, Williams County, Ohio.

- Old Woman Creek National Estuarine Research Preserve.

c. **Oak Openings:** Wetland activities conducted in the Oak Openings Region of Northwest Ohio located in Lucas, Henry, and Fulton counties. For a map of the Oak Openings Region,

visit http://metroparkstoledo.com/media/2340/oak-openings-metropark.pdf

6. **PCN Submittals:** In addition to the information required under Nationwide Permit General Condition 32, the following information must be provided with the PCN:

a. **Illustrations/Drawings:** The illustrations/drawings must clearly depict the project boundaries and include all elements and phases of the proposed work, latitude and longitude of the project site, and the county where the proposed work would occur. Three types of illustrations or drawings are required to properly depict the work proposed to be undertaken. These illustrations or drawings are identified as a Vicinity Map (i.e. a location map such as a USGS topographical map), a Plan View and a Typical Cross-Section. Each illustration or drawing should identify the project, the applicant, and the type of illustration (vicinity map, plan view or cross-section). In addition, each illustration or drawing should be identified with a figure or attachment number.

b. **United States Fish & Wildlife Service (USFWS):** Sufficient information must be provided in the PCN to determine the proposed activity's compliance with NWP General Condition 18. Prior to submitting PCN, it is recommended that the applicant contact the USFWS, Ohio Ecological Services Field Office by phone at (614) 416-8993, by e-mail at ohio@fws.gov, or by writing to 4625 Morse Road, Suite 104, Columbus, Ohio 43230. The USFWS can provide information to assist in complying with Nationwide Permit General Condition 18 pertaining to endangered species and Nationwide Permit General Condition 19 pertaining to migratory birds and bald and golden eagles. The USFWS can also provide project recommendations specific to Federal Candidate species. Federal Candidate species are those for which the USFWS has sufficient information to propose them as endangered or threatened under the Endangered Species Act, but for which a listing proposal is precluded by other higher priority listing activities. All relevant information obtained from the USFWS should be submitted with the Notification.

c. **Cultural Resources:** Sufficient information must be provided in the PCN to determine the proposed activity's compliance with NWP General Condition 20. The PCN should provide justified conclusions concerning whether or not the proposed activity could affect any historic properties listed, determined to be eligible, or which you have reason to believe may be eligible, for listing on the National Register of Historic Places (NRHP). This data will be used by the Corps to determine if the proposed activity has the potential to affect historic properties. Be advised that further effort may be required to take into account the effects the proposed activity may have on historic properties, as required by the National Historic Preservation Act of 1966. To ensure compliance with Nationwide Permit General Condition 20, the following basic project information is needed:

- A detailed description of the project site in its current condition (i.e. prior to construction activities) including information on the terrain and topography of the project site, the acreage of the project site, the proximity of the project site to major waterways, and any known disturbances within the project site. Photographs, keyed to mapping, are also needed which show the site conditions and all buildings or structures

both within the project site and on adjacent parcels;

- A detailed description of past land uses in the project site. Particular attention should be given to past activities pertinent to the potential for historic properties to exist in the project area. Photographs and maps supporting past land uses should be provided as available;

- A detailed description of the construction activities proposed to take place on the project site and a comparison of how the site will look after completion of the project compared to how it looked before the project;

- Information regarding any past cultural resource studies or coordination pertinent to the project area, if available; and

- Any other data the applicant deems pertinent.

The applicant is encouraged to consult with the Ohio State Historic Preservation Office (OSHPO) staff and professionals meeting the Professional Qualification Standards as set forth in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716) during this data gathering process. These professionals can assist with compiling the basic project information discussed above and should provide recommendations as to whether or not the proposed project has the potential to affect historic properties and if further effort is required or not required to identify historic properties or assess potential effects to historic properties. These professionals can also compile basic preliminary review information to submit to the district engineer. A preliminary resource review encompasses a search radius of two (2) miles, centered on the project area, and consists of the following resources:

- OSHPO United States Geological Survey (USGS) 7.5' series topographic maps;

- Ohio Archaeological Inventory (OAI) files;

- Ohio Historic Inventory files (OHI);

- OSHPO Cultural Resources Management (CRM)/contract archaeology files;

- NRHP files including Historic Districts; and

- County atlases, histories and historic USGS 15' series topographic map(s).

As an alternative to submitting the information described above, the applicant may choose to complete the OSHPO Section 106 Review Project Summary Form or request comments from the OSHPO and the District Engineer on specific requirements appropriate to the particular circumstances of the project. Similarly, the applicant may choose to hire someone meeting the Professional Qualification Standards as set forth in the Secretary of the Interior's

Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716) to conduct what they recommend to be appropriate historic property identification efforts (e.g. archaeological survey and/or historic structure inventories) to expedite the review process. Be advised, undertaking identification efforts prior to consideration of the potential of the proposed activity to affect historic properties by the Corps in not without risk. It is possible that previous efforts could be determined insufficient or even potentially unnecessary once reviewed by the Corps and other consulting parties.

Upon receipt and review of the information listed above, the Corps will evaluate the submittal. If Corps determines the proposed activity has the potential to cause effects to a historic property, the Corps will seek consulting parties. In consultation with those parties, the Corps will scope appropriate historic property identification efforts and take into account the effect of the proposed activity on historic properties.

d. **National Wild and Scenic Rivers:** Prior to submitting a PCN for work in a National Wild and Scenic River System, it is recommended that the applicant contact the National Park Service Regional Wild and Scenic Rivers Specialist, at the Midwest Regional Office, 601 Riverfront Drive, Omaha, Nebraska 68102, for assistance in complying with Nationwide Permit General Condition 17. Any determination provided by the National Park Service should be submitted with the PCN. The following are components of the National Wild and Scenic River System and require PCN to the Corps:

Big and Little Darby Creeks (National Wild and Scenic River System):

- Big Darby Creek from Champaign-Union County line downstream to the Conrail railroad trestle and from the confluence with the Little Darby Creek downstream to the Scioto River.
- Little Darby Creek from the Lafayette-Plain City Road bridge downstream to within 0.8 mile from the confluence with Big Darby Creek.
- Total designation is approximately 82 miles.

Little Beaver Creek (National Wild and Scenic River System):

- Little Beaver Creek main stem, from the confluence of West Fork with Middle Fork near Williamsport to mouth.
- North Fork from confluence of Brush Run and North Fork to confluence of North Fork with main stem at Fredericktown.
- Middle Fork from vicinity of Co. Rd. 901 (Elkton Road) bridge crossing to confluence of Middle Fork with West Fork near Williamsport.
- West Fork from vicinity of Co. Rd. 914 (Y-Camp Road) bridge crossing east to confluence of West Fork with Middle Fork near Williamsport.
- Total designation is 33 miles.

Little Miami (National Wild and Scenic River System)

- Little Miami River - St. Rt. 72 at Clifton to the Ohio River
- Caesar Creek: lower two miles of Caesars Creek.
- Total designation is 94 miles.

e. **Agency Coordination:** To assist in agency coordination, a complete compact disc (CD) copy shall be submitted for any PCN Package greater than 15 pages and/or includes maps, drawings, spreadsheets or other similar materials which are larger than 8.5 inches by 11 inches. All files saved on the CD shall be in .pdf format. A hard copy of any oversized maps, drawings, spreadsheets etc. in the PCN package shall be submitted and accompany the complete CD. An index or table of contents shall be provided and correspond with each file saved on the CD and/or within the PCN hard copy.

APPENDIX 1 TO REGIONAL GENERAL CONDITION 5 (a)		
County	**Waterway (aquatic species)**	**Township (semi-aquatic and terrestrial species)**
Adams	Ohio River, Scioto Brush Creek, South Fork Scioto Brush Creek	Sprigg
Ashtabula	Grand River, Pymatuning Creek	All townships
Athens	Ohio River	Alexander, Ames, Athens, Bern, Dover, Lee, Trimble, Waterloo, York
Brown	East Fork Little Miami River, Ohio River	Huntington
Butler	Great Miami River	
Champaign		Mad River, Salem, Urbana
Clark	Little Miami River	All townships
Clermont	East Fork Little Miami River, Little Miami River, Ohio	Miami, Pierce, Union
Clinton		Chester
Columbiana		Butler, Hanover
Coshocton	Killbuck Creek, Muskingum River, Walhonding River	
Crawford		Auburn, Bucyrus, Cranberry
Cuyahoga		Within 3 miles of the shore of Lake Erie in Brooklyn, Cleveland, Dover, East Cleveland, Euclid, Newburgh, Rockport, West Park
Darke	Stillwater River	
Defiance	St. Joseph River	Milford
Delaware	Mill Creek, Olentangy River	
Erie		Margaretta; within 3 miles of the shore of Lake Erie in Berlin, Huron, Perkins, Sandusky, and Vermillion
Fairfield		Walnut

APPENDIX 1 TO REGIONAL GENERAL CONDITION 5 (a)		
Fayette		Concord, Green, Jasper, Jefferson
Franklin	Big Darby Creek, Little Darby Creek, Scioto River	
Fulton	Swan Creek	
Gallia	Ohio River	
Greene	Little Miami River	Bath, Spring Valley
Hamilton	Great Miami River, Little Miami River, Ohio River	Colerain, Columbia, Crosby, Miami, Spencer, Sycamore, Symmes, Whitewater
Hancock	Blanchard River	
Hardin	Blanchard River	Blanchard, Hale, Jackson, Roundhead
Hocking		Benton, Green, Laurel, Marion, Starr, Ward, Washington
Holmes		All townships
Huron		New Haven, Richmond
Jackson		Liberty
Lake	Grand River	Within 3 miles of the shore of Lake Erie in Madison, Mentor, Painesville, Willoughby
Lawrence	Ohio River	Decatur, Rome, Union
Licking		Union
Logan	Great Miami River	Perry, Stokes, Zane
Lorain		Within 3 miles of the shore of Lake Erie in Amherst, Avon, Black River, Brownhelm, and Sheffield
Lucas	Swan Creek	All townships
Madison	Big Darby Creek, Little Darby Creek	
Mahoning		All townships
Marion	Tymochtee Creek	Big Island, Bowling Green, Grand, Montgomery, Salt Rock
Meigs	Ohio River	
Miami	Great Miami River, Stillwater River	
Montgomery	Great Miami River, Stillwater River	Mad River
Morgan	Muskingum River	Deerfield, Homer, Malta, Marion, Penn, Union
Muskingum	Muskingum River	
Ottawa		All townships

APPENDIX 1 TO REGIONAL GENERAL CONDITION 5 (a)		
Perry		Bearfield, Coal, Monroe, Pike, Pleasant, Salt Lick
Pickaway	Big Darby Creek, Scioto River	
Pike	Scioto River	
Portage		All townships
Preble		Gasper, Somers
Richland		Plymouth
Ross	Salt Creek, Scioto River	Colerain
Sandusky		All townships
Scioto	Ohio River, Scioto Brush Creek, Scioto River, South Fork Scioto Brush Creek	Nile, Rush, Union
Shelby	Great Miami River	
Summit		Tallmadge
Trumbull	Pymatuning Creek	All townships
Union	Big Darby Creek, Little Darby Creek, Mill Creek, Treacle Creek	
Vinton		Brown, Elk, Knox, Madison, Swan
Warren	Great Miami River, Little Miami River	Salem, Turtle Creek, Wayne
Washington	Muskingum River, Ohio River	
Wayne		All townships
Williams	Fish Creek, St. Joseph River	Bridgewater, Center, Florence, Jefferson, Madison, Northwest, St. Joseph, Superior
Wyandot	Tymochtee Creek	Marseilles, Mifflin, Pitt

C. **Nationwide Permit Terms and Specific Regional Conditions:**

1. ***Aids to Navigation***. The placement of aids to navigation and regulatory markers that are approved by and installed in accordance with the requirements of the U.S. Coast Guard (see 33 CFR, chapter I, subchapter C, part 66). (Authority: Section 10 of the Rivers and Harbors Act of 1899 (Section 10))

2. ***Structures in Artificial Canals***. Structures constructed in artificial canals within principally residential developments where the connection of the canal to a navigable water of the United

States has been previously authorized (see 33 CFR 322.5(g)). (Authority: Section 10)

Corps NWP 2 Specific Regional Condition:

> PCN in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required for any proposed structure exceeding 25% of the width of the existing canal.

3. ***Maintenance.*** (a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP also authorizes the removal of previously authorized structures or fills. Any stream channel modification is limited to the minimum necessary for the repair, rehabilitation, or replacement of the structure or fill; such modifications, including the removal of material from the stream channel, must be immediately adjacent to the project. This NWP also authorizes the removal of accumulated sediment and debris within, and in the immediate vicinity of, the structure or fill. This NWP also authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(b) This NWP also authorizes the removal of accumulated sediments and debris outside the immediate vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.). The removal of sediment is limited to the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend farther than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization.

(c) This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary

fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After conducting the maintenance activity, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

(d) This NWP does not authorize maintenance dredging for the primary purpose of navigation. This NWP does not authorize beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

Notification: For activities authorized by paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 32). The pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (Authorities: Section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act (Sections 10 and 404))

Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act section 404(f) exemption for maintenance.

Corps NWP 3 Specific Regional Conditions:

a. PCN in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required for the following activities:

    - The replacement of any permanent vertical bulkhead greater than one foot waterward of the original alignment. A vertical bulkhead is defined as any structure, or fill, with a vertical face. It may be constructed of timber, steel, concrete, etc.;
    - Activities in Section 10 waters that involve the discharge of greater than 10 cubic yards of dredged and/or fill material below the ordinary high water mark;
    - For temporary structures, work, and discharges (including cofferdams) necessary for access fills or dewatering of construction sites occurring in Section 10 waters when the primary activity is otherwise authorized by the Corps of Engineers. The PCN must include a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions;
    - All activities in the Ohio River and the Muskingum River; and
    - Any stream channel modification that exceeds a distance of 50 feet upstream and 50 feet downstream of the structure.

b. The placement of any new rip-rap when associated with an existing bridge or similar structure is limited to a total of 200 feet extending in either direction from the structure unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects..

c. For projects located along the shorelines of Lake Erie, Sandusky Bay, and Maumee Bay, all sand and gravel located below the proposed project, both below and above ordinary high water mark (573.4 feet IGLD 1985), will be excavated down to clay or bedrock, and side cast into the nearshore area either immediately waterward or downdrift of the project area. It will be at the discretion of the district engineer to determine whether the material located below the authorized structure needs to be relocated, where it should be relocated to, and the appropriate authorization, if needed, for the relocation. Verification of the placement of the excavated material within the nearshore area shall be documented through the submittal of dated photographs and an accompanying photo location map to the district engineer within 30 days of commencement of the project.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Temporary or permanent impacts to category 3 wetlands are limited to less than 0.1 acres for activities involving the repair, maintenance, replacement, or safety upgrades to existing infrastructure that meets the definition of public need. Ohio EPA will make the determination if a project meets public need during the ORAM verification process.

3. Temporary or permanent impacts to category 1 and category 2 wetlands are limited to 0.50 acres.

4. This certification does not authorize the replacement of existing structures that are open to the flow of water with structures that are not open to the flow of water.

5. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

6. Replacement vertical bulkheads shall not be placed more than an average of one foot waterward of the intersection of the ordinary high water mark of the waterbody and the existing shoreline.

7. Removal of accumulated sediment shall occur only once per year and shall be limited to low-flow conditions, except in cases of emergency situations that threaten life or property.

8. For projects which involve temporary impacts to wetlands: upon the cessation of earth moving activities, any hydric topsoil removed from a wetland shall be separated and saved for later placement as the topmost backfill layer when the wetland is restored to grade.

Ohio CZMA Federal Consistency Determination Condition:

For all activities located within or along the shore of Ohio's portion of Lake Erie, including Maumee Bay and Sandusky bay, all applicable authorizations under the Ohio Coastal Management Program must be obtained.

4. *Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities.* Fish and wildlife harvesting devices and activities such as pound nets, crab traps, crab dredging, eel pots, lobster traps, duck blinds, and clam and oyster digging, fish aggregating devices, and small fish attraction devices such as open water fish concentrators (sea kites, etc.). This NWP does not authorize artificial reefs or impoundments and semi-impoundments of waters of the United States for the culture or holding of motile species such as lobster, or the use of covered oyster trays or clam racks. (Authorities: Sections 10 and 404)

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

   a. category 3 wetlands;

   b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

   c. streams located in ineligible areas as depicted in the GIS NWPs Stream Eligibility Map, Appendix C;

   d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

   e. state wild and scenic rivers;

   f. national wild and scenic rivers; and

   g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

5. *Scientific Measurement Devices.* Devices, whose purpose is to measure and record scientific data, such as staff gages, tide and current gages, meteorological stations, water recording and biological observation devices, water quality testing and improvement devices, and similar structures. Small weirs and flumes constructed primarily to record water quantity and velocity are also authorized provided the discharge is limited to 25 cubic yards. Upon completion of the use of the device to measure and record scientific data, the measuring device and any other structures or fills associated with that device (e.g., foundations, anchors, buoys, lines, etc.) must be removed to the maximum extent practicable and the site restored to pre-construction elevations. (Authorities: Sections 10 and 404)

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. state wild and scenic rivers;

    d. national wild and scenic rivers; and

    e. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

6. *Survey Activities.* Survey activities, such as core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory-type bore holes, exploratory trenching, soil surveys, sampling, sample plots or transects for wetland delineations, and historic resources surveys. For the purposes of this NWP, the term "exploratory trenching" means mechanical land clearing of the upper soil profile to expose bedrock or substrate, for the purpose of mapping or sampling the exposed material. The area in which the exploratory trench is dug must be restored to its pre-construction elevation upon completion of the work and must not drain a water of the United States. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. This NWP authorizes the construction of temporary pads, provided the discharge does not exceed 1/10-acre in waters of the U.S. Discharges and structures associated with the recovery of historic resources are not authorized by this NWP. Drilling and the discharge of excavated material from test wells for oil and gas exploration are not authorized

by this NWP; the plugging of such wells is authorized. Fill placed for roads and other similar activities is not authorized by this NWP. The NWP does not authorize any permanent structures. The discharge of drilling mud and cuttings may require a permit under section 402 of the Clean Water Act. (Authorities: Sections 10 and 404)

Corps NWP 6 Specific Regional Condition:

Notification in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required for the discharge of greater than 25 cubic yards of dredged and/or fill material into streams.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts, other than the backfilling of exploratory-type bore holes less than or equal to 12 inches in diameter, are proposed on or in any of the following waters:

   a. category 3 wetlands;

   b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

   c. streams located in ineligible areas as depicted in the GIS NWPs Stream Eligibility Map, Appendix C;

   d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

   e. state wild and scenic rivers;

   f. national wild and scenic rivers; and

   g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

4. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

7. *Outfall Structures and Associated Intake Structures.* Activities related to the construction or modification of outfall structures and associated intake structures, where the effluent from the

outfall is authorized, conditionally authorized, or specifically exempted by, or otherwise in compliance with regulations issued under the National Pollutant Discharge Elimination System Program (section 402 of the Clean Water Act). The construction of intake structures is not authorized by this NWP, unless they are directly associated with an authorized outfall structure.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Except for maintenance activities authorized under this nationwide permit, individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWPs Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

Ohio CZMA Federal Consistency Determination Condition:

For all activities located within or along the shore of Ohio's portion of Lake Erie, including Maumee Bay and Sandusky bay, all applicable authorizations under the Ohio Coastal Management Program must be obtained.

8. *Oil and Gas Structures on the Outer Continental Shelf.* Structures for the exploration, production, and transportation of oil, gas, and minerals on the outer continental shelf within areas leased for such purposes by the Department of the Interior, Bureau of Ocean Energy Management. Such structures shall not be placed within the limits of any designated shipping safety fairway or traffic separation scheme, except temporary anchors that comply with the

fairway regulations in 33 CFR 322.5(l). The district engineer will review such proposals to ensure compliance with the provisions of the fairway regulations in 33 CFR 322.5(l). Any Corps review under this NWP will be limited to the effects on navigation and national security in accordance with 33 CFR 322.5(f), as well as 33 CFR 322.5(l) and 33 CFR part 334. Such structures will not be placed in established danger zones or restricted areas as designated in 33 CFR part 334, nor will such structures be permitted in EPA or Corps-designated dredged material disposal areas.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) (Authority: Section 10)

9. *Structures in Fleeting and Anchorage Areas.* Structures, buoys, floats, and other devices placed within anchorage or fleeting areas to facilitate moorage of vessels where such areas have been established for that purpose. (Authority: Section 10)

10. *Mooring Buoys.* Non-commercial, single-boat, mooring buoys. (Authority: Section 10)

11. *Temporary Recreational Structures.* Temporary buoys, markers, small floating docks, and similar structures placed for recreational use during specific events such as water skiing competitions and boat races or seasonal use, provided that such structures are removed within 30 days after use has been discontinued. At Corps of Engineers reservoirs, the reservoir managers must approve each buoy or marker individually. (Authority: Section 10)

12. *Utility Line Activities.* Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project.

Utility lines: This NWP authorizes discharges of dredged or fill material into waters of the United States and structures or work in navigable waters for crossings of those waters associated with the construction, maintenance, or repair of utility lines, including outfall and intake structures. There must be no change in pre-construction contours of waters of the United States. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and internet, radio, and television communication. The term "utility line" does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and

stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2-acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for overhead utility line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP authorizes, to the extent that Department of the Army authorization is required, temporary structures, fills, and work necessary for the remediation of inadvertent returns of drilling fluids to waters of the United States through sub-soil fissures or fractures that might occur during horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines. These remediation activities must be done as soon as practicable, to restore the affected waterbody. District engineers may add special conditions to this NWP to require a remediation plan for addressing inadvertent returns of drilling fluids to waters of the United States during horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable,

when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After construction, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: Where the utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, a copy of the NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

Note 2: For utility line activities crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Utility line activities must comply with 33 CFR 330.6(d).

Note 3: Utility lines consisting of aerial electric power transmission lines crossing navigable waters of the United States (which are defined at 33 CFR part 329) must comply with the applicable minimum clearances specified in 33 CFR 322.5(i).

Note 4: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, in accordance with the requirements for temporary fills.

Note 5: Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

Note 6: This NWP authorizes utility line maintenance and repair activities that do not qualify for the Clean Water Act section 404(f) exemption for maintenance of currently serviceable fills or fill structures.

Note 7: For overhead utility lines authorized by this NWP, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

Note 8: For NWP 12 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

Corps NWP 12 Specific Regional Conditions:

a. PCN in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required for all permanent conversion to scrub/shrub and forested wetlands and for greater than 1/10 acre of temporary discharge of dredged or fill material into all wetlands.

b. The PCN must include a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions.

c. Anti-seep collars or clay plugs must be utilized for trenching activities conducted in a wetland.

d. This nationwide permit does not authorize the placement of manholes in wetlands.

e. Excess material must be removed to upland areas immediately upon completion of construction.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Except for maintenance activities authorized under this nationwide permit, individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 1 or 2 wetlands when impacts exceed 0.50 acres;

b. streams located in ineligible areas as depicted in the GIS NWPs Stream Eligibility Map, Appendix C;

c. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

d. state wild and scenic rivers;

e. national wild and scenic rivers; and

f. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. Temporary or permanent impacts to category 3 wetlands are limited to less than 0.1 acres for activities involving the repair, maintenance, replacement, or safety upgrades to existing infrastructure that meets the definition of public need. Ohio EPA will make the determination if a project meets public need during the ORAM verification process.

4. Temporary or permanent impacts as a result of stream crossings shall not exceed a total of three per stream mile per stream.

5. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

6. All hydric soils up to 12 inches in depth within wetlands shall be stockpiled and replaced as the topmost backfill layer. Best management practices, such as silt fencing and soil stabilization, shall be implemented to reduce erosion and sediment run-off into adjacent wetlands.

7. Buried utility lines shall be installed at a 90-degree angle to the stream bank to the maximum extent practicable. When a 90-degree angle is not possible, the length of any buried utility line within any single water body shall not exceed twice the width of that water body at the location of the crossing.

8. The total width of any excavation, grading or mechanized clearing of vegetation and soil shall not exceed a maximum of 50 feet.

Ohio CZMA Federal Consistency Determination Condition:

For all activities located within or along the shore of Ohio's portion of Lake Erie, including Maumee Bay and Sandusky bay, all applicable authorizations under the Ohio Coastal Management Program must be obtained.

13. ***Bank Stabilization.*** Bank stabilization activities necessary for erosion control or prevention, such as vegetative stabilization, bioengineering, sills, rip rap, revetment, gabion baskets, stream barbs, and bulkheads, or combinations of bank stabilization techniques, provided the activity meets all of the following criteria:

(a) No material is placed in excess of the minimum needed for erosion protection;

(b) The activity is no more than 500 feet in length along the bank, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects (an exception is for bulkheads – the district engineer cannot issue a waiver for a bulkhead that is greater than 1,000 feet in length along the bank);

(c) The activity will not exceed an average of one cubic yard per running foot, as measured along the length of the treated bank, below the plane of the ordinary high water mark or the high tide line, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects;

(d) The activity does not involve discharges of dredged or fill material into special aquatic sites, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects;

(e) No material is of a type, or is placed in any location, or in any manner, that will impair surface water flow into or out of any waters of the United States;

(f) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored native trees and treetops may be used in low energy areas);

(g) Native plants appropriate for current site conditions, including salinity, must be used for bioengineering or vegetative bank stabilization;

(h) The activity is not a stream channelization activity; and

(i) The activity must be properly maintained, which may require repairing it after severe storms or erosion events. This NWP authorizes those maintenance and repair activities if they require authorization.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the bank stabilization activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After construction, temporary fills must be removed in their entirety and the affected

areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if the bank stabilization activity: (1) involves discharges into special aquatic sites; or (2) is in excess of 500 feet in length; or (3) will involve the discharge of greater than an average of one cubic yard per running foot as measured along the length of the treated bank, below the plane of the ordinary high water mark or the high tide line. (See general condition 32.) (Authorities: Sections 10 and 404)

Corps NWP 13 Specific Regional Conditions:

a. PCN in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required for the following activities:

   - All activities in the Ohio River and the Muskingum River;
   - All activities in Lake Erie, Sandusky Bay, and Maumee Bay that involve the discharge of greater than 10 cubic yards of dredge and/or fill material below the ordinary high water mark; and
   - The use of any vertical bulkhead. A vertical bulkhead is defined as any structure, or fill, with a vertical face. It may be constructed of timber, steel, concrete, etc.

b. For projects located along the shorelines of Lake Erie, Sandusky Bay, and Maumee Bay, all sand and gravel located below the proposed project, both below and above Ordinary High Water (OHW) mark (573.4 feet IGLD 1985), will be excavated down to clay or bedrock, and side cast into the nearshore area either immediately waterward or downdrift of the project area. Verification of the placement of the excavated material within the nearshore area shall be documented through the submittal of dated photographs and an accompanying photo location map to the district engineer within 30 days of commencement of the project.

c. For projects located along the shorelines of Lake Erie, Sandusky Bay, and Maumee Bay, a one-time sand prefill of two (2) cubic yards of sand per linear foot of shoreline stabilized shall be placed at an approved location in the nearshore area in less than three feet of water within 30 days of project commencement, unless the district engineer waives this requirement by making a written determination. Verification of the placement of the sand prefill material within the nearshore area shall be documented through the submittal of contractor's receipts, including the volume of sand prefill, dated photographs, and accompanying photo location map to the district engineer. The sand shall be from an upland source or other approved source and shall be similar in composition to the sand at the project site, free from organic material; limestone sand and top soil are excluded.

d. For bank stabilization projects located in Lake Erie, Sandusky Bay, and Maumee Bay, broken concrete shall not be used as suitable material, unless it is contained

within a structure.

e. Proper installation is required for the use of this NWP. This nationwide permit does not authorize material that is dumped from the top of bank resulting in uncontrolled spilling of material over the bank into the waterway.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. Bioengineering techniques shall be utilized, if practicable.

4. Material used for bank stabilization shall be free from toxic contaminants in other than trace quantities, free of exposed rebar, and free of asphalt, tires, and debris.

5. Material used for bank stabilization may consist of rock, stone, vegetative erosion control measures, broken concrete rubble, and clean soil.

6. Vertical bulkheads shall not be placed more than one foot waterward of the intersection of the ordinary high water mark of the water body and the existing shoreline. Toe stone shall be placed at the base of the vertical bulkhead except in areas where the original shoreline is composed of bedrock and slopes are predominantly greater than 75 percent or where the placement of toe stone will interfere with shipping activity. When required, toe stone shall

be placed at an average rate of one-third the total height of the exposed face of the vertical bulkhead at a 2:1 slope.

Ohio CZMA Federal Consistency Determination Condition:

For all activities located within or along the shore of Ohio's portion of Lake Erie, including Maumee Bay and Sandusky bay, all applicable authorizations under the Ohio Coastal Management Program must be obtained.

14. ***Linear Transportation Projects.*** Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).

Note 2: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

Corps NWP 14 Specific Regional Conditions:

a. PCN in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required all activities in Section 10 waters; and

b. Interior roadways for recreational facilities and residential, commercial, and institutional developments are not authorized by this nationwide permit.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Except for maintenance activities authorized under this nationwide permit, individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 1 and category 2 wetlands when impacts exceed 0.50 acres.

    b. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    c. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    d. state wild and scenic rivers;

    e. national wild and scenic rivers; and

    f. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. Temporary or permanent impacts to category 3 wetlands are limited to less than 0.1 acres for activities involving the repair, maintenance, replacement, or safety upgrades to existing infrastructure that meets the definition of public need. Ohio EPA will make the determination if a project meets public need during the ORAM verification process.

4. Temporary or permanent impacts as a result of stream crossings shall not exceed a total of three per stream mile per stream.

5. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

Ohio CZMA Federal Consistency Determination Condition:

For all activities located within or along the shore of Ohio's portion of Lake Erie, including Maumee Bay and Sandusky bay, all applicable authorizations under the Ohio Coastal Management Program must be obtained.

15. *U.S. Coast Guard Approved Bridges.* Discharges of dredged or fill material incidental to the construction of a bridge across navigable waters of the United States, including cofferdams, abutments, foundation seals, piers, and temporary construction and access fills, provided the construction of the bridge structure has been authorized by the U.S. Coast Guard under section 9 of the Rivers and Harbors Act of 1899 or other applicable laws. Causeways and approach fills are not included in this NWP and will require a separate section 404 permit. (Authority: Section 404 of the Clean Water Act (Section 404))

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

f. national wild and scenic rivers; and

g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

16. *Return Water From Upland Contained Disposal Areas.* Return water from an upland contained dredged material disposal area. The return water from a contained disposal area is administratively defined as a discharge of dredged material by 33 CFR 323.2(d), even though the disposal itself occurs in an area that has no waters of the United States and does not require a section 404 permit. This NWP satisfies the technical requirement for a section 404 permit for the return water where the quality of the return water is controlled by the state through the section 401 certification procedures. The dredging activity may require a section 404 permit (33 CFR 323.2(d)), and will require a section 10 permit if located in navigable waters of the United States. (Authority: Section 404)

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in the any of following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. This nationwide permit shall be limited to the authorization of the disposal of materials dredged from sites where there are no known areas of contaminated sediments, provided best management practices are used to minimize adverse impacts to water quality.

17. *Hydropower Projects.* Discharges of dredged or fill material associated with hydropower

projects having: (a) Less than 5000 kW of total generating capacity at existing reservoirs, where the project, including the fill, is licensed by the Federal Energy Regulatory Commission (FERC) under the Federal Power Act of 1920, as amended; or (b) a licensing exemption granted by the FERC pursuant to section 408 of the Energy Security Act of 1980 (16 U.S.C. 2705 and 2708) and section 30 of the Federal Power Act, as amended.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) (Authority: Section 404)

Individual state water quality certification is required for use of this nationwide permit.

Ohio CZMA Federal Consistency Determination Condition:

> For all activities located within or along the shore of Ohio's portion of Lake Erie, including Maumee Bay and Sandusky bay, all applicable authorizations under the Ohio Coastal Management Program must be obtained.

18. ***Minor Discharges.*** Minor discharges of dredged or fill material into all waters of the United States, provided the activity meets all of the following criteria:

(a) The quantity of discharged material and the volume of area excavated do not exceed 25 cubic yards below the plane of the ordinary high water mark or the high tide line;

(b) The discharge will not cause the loss of more than 1/10-acre of waters of the United States; and

(c) The discharge is not placed for the purpose of a stream diversion.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the discharge or the volume of area excavated exceeds 10 cubic yards below the plane of the ordinary high water mark or the high tide line, or (2) the discharge is in a special aquatic site, including wetlands. (See general condition 32.) (Authorities: Sections 10 and 404)

Corps NWP 18 Specific Regional Condition:

> For shore structure or bank stabilization projects located along the shorelines of Lake Erie, Sandusky Bay, and Maumee Bay, that will result in the permanent hardening or filling of the existing shoreline all sand and gravel located below the proposed project, both below and above Ordinary High Water (OHW) mark (573.4 feet IGLD 1985), will be excavated down to clay or bedrock, and side cast into the nearshore area either immediately waterward or downdrift of the project area. Verification of the placement of the excavated material within the nearshore area shall be documented through the submittal of dated photographs and an accompanying photo location map to the district engineer within 30 days of commencement of the project.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.1 acre;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. This nationwide permit shall not authorize disposal of dredged material into Lake Erie where that is the primary project purpose.

Ohio CZMA Federal Consistency Determination Condition:

For all activities located within or along the shore of Ohio's portion of Lake Erie, including Maumee Bay and Sandusky bay, all applicable authorizations under the Ohio Coastal Management Program must be obtained.

19. *Minor Dredging.* Dredging of no more than 25 cubic yards below the plane of the ordinary high water mark or the mean high water mark from navigable waters of the United States (i.e., section 10 waters). This NWP does not authorize the dredging or degradation through siltation of coral reefs, sites that support submerged aquatic vegetation (including sites where submerged aquatic vegetation is documented to exist but may not be present in a given year), anadromous fish spawning areas, or wetlands, or the connection of canals or other artificial waterways to navigable waters of the United States (see 33 CFR 322.5(g)). All dredged material must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization. (Authorities: Sections 10 and 404)

Corps NWP 19 Specific Regional Condition:

Dredging operations in Lake Erie, Sandusky Bay, and Maumee Bay, that recover material consisting of greater than 60% sand and/or gravel, shall be disposed of in the nearshore area, in water with sufficient depth as determined by the district engineer, and downdrift from the dredging location.

Ohio 401 Certification Special Limitations and Conditions:

Ohio state certification general limitations and conditions apply to this nationwide permit.

20. ***Response Operations for Oil and Hazardous Substances.*** Activities conducted in response to a discharge or release of oil or hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR part 300) including containment, cleanup, and mitigation efforts, provided that the activities are done under either: (1) the Spill Control and Countermeasure Plan required by 40 CFR 112.3; (2) the direction or oversight of the federal on-scene coordinator designated by 40 CFR part 300; or (3) any approved existing state, regional or local contingency plan provided that the Regional Response Team (if one exists in the area) concurs with the proposed response efforts. This NWP also authorizes activities required for the cleanup of oil releases in waters of the United States from electrical equipment that are governed by EPA's polychlorinated biphenyl spill response regulations at 40 CFR part 761. This NWP also authorizes the use of temporary structures and fills in waters of the U.S. for spill response training exercises. (Authorities: Sections 10 and 404)

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. This certification does not authorize impacts, temporary or permanent, to wetlands for the purpose of spill response training exercises.

21. ***Surface Coal Mining Activities.*** Discharges of dredged or fill material into waters of the United States associated with surface coal mining and reclamation operations, provided the following criteria are met:

(a) The activities are already authorized, or are currently being processed by states with approved programs under Title V of the Surface Mining Control and Reclamation Act of 1977 or as part of an integrated permit processing procedure by the Department of the Interior, Office of Surface Mining Reclamation and Enforcement;

(b) The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. The discharge must not cause the loss of more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in no more than minimal individual and cumulative adverse environmental effects. The loss of stream bed plus any other losses of jurisdictional wetlands and waters caused by the NWP activity cannot

exceed 1/2-acre. This NWP does not authorize discharges into tidal waters or non-tidal wetlands adjacent to tidal waters; and

(c) The discharge is not associated with the construction of valley fills. A "valley fill" is a fill structure that is typically constructed within valleys associated with steep, mountainous terrain, associated with surface coal mining activities.

Notification: The permittee must submit a pre-construction notification to the district engineer and receive written authorization prior to commencing the activity. (See general condition 32.) (Authorities: Sections 10 and 404)

Individual state water quality certification is required for use of this nationwide permit.

22. *Removal of Vessels.* Temporary structures or minor discharges of dredged or fill material required for the removal of wrecked, abandoned, or disabled vessels, or the removal of man-made obstructions to navigation. This NWP does not authorize maintenance dredging, shoal removal, or riverbank snagging.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the vessel is listed or eligible for listing in the National Register of Historic Places; or (2) the activity is conducted in a special aquatic site, including coral reefs and wetlands. (See general condition 32.) If condition 1 above is triggered, the permittee cannot commence the activity until informed by the district engineer that compliance with the "Historic Properties" general condition is completed. (Authorities: Sections 10 and 404)

Note 1: If a removed vessel is disposed of in waters of the United States, a permit from the U.S. EPA may be required (see 40 CFR 229.3). If a Department of the Army permit is required for vessel disposal in waters of the United States, separate authorization will be required.

Note 2: Compliance with general condition 18, Endangered Species, and general condition 20, Historic Properties, is required for all NWPs. The concern with historic properties is emphasized in the notification requirements for this NWP because of the possibility that shipwrecks may be historic properties.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

e. state wild and scenic rivers; and

f. national wild and scenic rivers.

23. ***Approved Categorical Exclusions.*** Activities undertaken, assisted, authorized, regulated, funded, or financed, in whole or in part, by another Federal agency or department where:

(a) That agency or department has determined, pursuant to the Council on Environmental Quality's implementing regulations for the National Environmental Policy Act (40 CFR part 1500 et seq.), that the activity is categorically excluded from the requirement to prepare an environmental impact statement or environmental assessment analysis, because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the human environment; and

(b) The Office of the Chief of Engineers (Attn: CECW-CO) has concurred with that agency's or department's determination that the activity is categorically excluded and approved the activity for authorization under NWP 23.

The Office of the Chief of Engineers may require additional conditions, including pre-construction notification, for authorization of an agency's categorical exclusions under this NWP.

Notification: Certain categorical exclusions approved for authorization under this NWP require the permittee to submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 32). The activities that require pre-construction notification are listed in the appropriate Regulatory Guidance Letters. (Authorities: Sections 10 and 404)

Note: The agency or department may submit an application for an activity believed to be categorically excluded to the Office of the Chief of Engineers (Attn: CECW-CO). Prior to approval for authorization under this NWP of any agency's activity, the Office of the Chief of Engineers will solicit public comment. As of the date of issuance of this NWP, agencies with approved categorical exclusions are: the Bureau of Reclamation, Federal Highway Administration, and U.S. Coast Guard. Activities approved for authorization under this NWP as of the date of this notice are found in Corps Regulatory Guidance Letter 05-07, which is available at: http://www.usace.army.mil/Portals/2/docs/civilworks/RGLS/rgl05-07.pdf . Any future approved categorical exclusions will be announced in Regulatory Guidance Letters and posted on this same web site.

Corps NWP 23 Specific Regional Conditions:

a. PCN in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required for use of this nationwide permit.

b. The PCN must include a copy of the Categorical Exclusion determination.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. This certification only authorizes activities described in 23 CFR Part 771.117 of the Federal Highway Administration regulations.

3. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in potentially eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

24. ***Indian Tribe or State Administered Section 404 Programs.*** Any activity permitted by a state or Indian Tribe administering its own section 404 permit program pursuant to 33 U.S.C. 1344(g)-(l) is permitted pursuant to section 10 of the Rivers and Harbors Act of 1899. (Authority: Section 10)

Note 1: As of the date of the promulgation of this NWP, only New Jersey and Michigan administer their own section 404 permit programs.

Note 2: Those activities that do not involve an Indian Tribe or State section 404 permit are not

included in this NWP, but certain structures will be exempted by Section 154 of Pub. L. 94-587, 90 Stat. 2917 (33 U.S.C. 591) (see 33 CFR 322.4(b)).

25. ***Structural Discharges.*** Discharges of material such as concrete, sand, rock, etc., into tightly sealed forms or cells where the material will be used as a structural member for standard pile supported structures, such as bridges, transmission line footings, and walkways, or for general navigation, such as mooring cells, including the excavation of bottom material from within the form prior to the discharge of concrete, sand, rock, etc. This NWP does not authorize filled structural members that would support buildings, building pads, homes, house pads, parking areas, storage areas and other such structures. The structure itself may require a separate section 10 permit if located in navigable waters of the United States. (Authority: Section 404)

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

26. [Reserved]

27. ***Aquatic Habitat Restoration, Establishment, and Enhancement Activities.*** Activities in waters of the United States associated with the restoration, enhancement, and establishment of tidal and non-tidal wetlands and riparian areas, the restoration and enhancement of non-tidal streams and other non-tidal open waters, and the rehabilitation or enhancement of tidal streams, tidal wetlands, and tidal open waters, provided those activities result in net increases in aquatic resource functions and services.

To be authorized by this NWP, the aquatic habitat restoration, enhancement, or establishment activity must be planned, designed, and implemented so that it results in aquatic habitat that resembles an ecological reference. An ecological reference may be based on the characteristics of an intact aquatic habitat or riparian area of the same type that exists in the region. An ecological reference may be based on a conceptual model developed from regional ecological knowledge of the target aquatic habitat type or riparian area.

To the extent that a Corps permit is required, activities authorized by this NWP include, but are not limited to: the removal of accumulated sediments; the installation, removal, and maintenance of small water control structures, dikes, and berms, as well as discharges of dredged or fill material to restore appropriate stream channel configurations after small water control structures, dikes, and berms, are removed; the installation of current deflectors; the enhancement, rehabilitation, or re-establishment of riffle and pool stream structure; the placement of in-stream habitat structures; modifications of the stream bed and/or banks to enhance, rehabilitate, or re-establish stream meanders; the removal of stream barriers, such as undersized culverts, fords, and grade control structures; the backfilling of artificial channels; the removal of existing drainage structures, such as drain tiles, and the filling, blocking, or reshaping of drainage ditches to restore wetland hydrology; the installation of structures or fills necessary to restore or enhance wetland or stream hydrology; the construction of small nesting islands; the construction of open water areas; the construction of oyster habitat over unvegetated bottom in tidal waters; shellfish seeding; activities needed to reestablish vegetation, including plowing or discing for seed bed preparation and the planting of appropriate wetland species; re-establishment of submerged aquatic vegetation in areas where those plant communities previously existed; re-establishment of tidal wetlands in tidal waters where those wetlands previously existed; mechanized land clearing to remove non-native invasive, exotic, or nuisance vegetation; and other related activities. Only native plant species should be planted at the site.

This NWP authorizes the relocation of non-tidal waters, including non-tidal wetlands and streams, on the project site provided there are net increases in aquatic resource functions and services.

Except for the relocation of non-tidal waters on the project site, this NWP does not authorize the conversion of a stream or natural wetlands to another aquatic habitat type (e.g., the conversion of a stream to wetland or vice versa) or uplands. Changes in wetland plant communities that occur when wetland hydrology is more fully restored during wetland rehabilitation activities are not considered a conversion to another aquatic habitat type. This NWP does not authorize stream channelization. This NWP does not authorize the relocation of tidal waters or the conversion of tidal waters, including tidal wetlands, to other aquatic uses, such as the conversion of tidal wetlands into open water impoundments.

Compensatory mitigation is not required for activities authorized by this NWP since these activities must result in net increases in aquatic resource functions and services.

Reversion. For enhancement, restoration, and establishment activities conducted: (1) In accordance with the terms and conditions of a binding stream or wetland enhancement or

restoration agreement, or a wetland establishment agreement, between the landowner and the U.S. Fish and Wildlife Service (FWS), the Natural Resources Conservation Service (NRCS), the Farm Service Agency (FSA), the National Marine Fisheries Service (NMFS), the National Ocean Service (NOS), U.S. Forest Service (USFS), or their designated state cooperating agencies; (2) as voluntary wetland restoration, enhancement, and establishment actions documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or (3) on reclaimed surface coal mine lands, in accordance with a Surface Mining Control and Reclamation Act permit issued by the Office of Surface Mining Reclamation and Enforcement (OSMRE) or the applicable state agency, this NWP also authorizes any future discharge of dredged or fill material associated with the reversion of the area to its documented prior condition and use (i.e., prior to the restoration, enhancement, or establishment activities). The reversion must occur within five years after expiration of a limited term wetland restoration or establishment agreement or permit, and is authorized in these circumstances even if the discharge occurs after this NWP expires. The five-year reversion limit does not apply to agreements without time limits reached between the landowner and the FWS, NRCS, FSA, NMFS, NOS, USFS, or an appropriate state cooperating agency. This NWP also authorizes discharges of dredged or fill material in waters of the United States for the reversion of wetlands that were restored, enhanced, or established on prior-converted cropland or on uplands, in accordance with a binding agreement between the landowner and NRCS, FSA, FWS, or their designated state cooperating agencies (even though the restoration, enhancement, or establishment activity did not require a section 404 permit). The prior condition will be documented in the original agreement or permit, and the determination of return to prior conditions will be made by the Federal agency or appropriate state agency executing the agreement or permit. Before conducting any reversion activity the permittee or the appropriate Federal or state agency must notify the district engineer and include the documentation of the prior condition. Once an area has reverted to its prior physical condition, it will be subject to whatever the Corps Regulatory requirements are applicable to that type of land at the time. The requirement that the activity results in a net increase in aquatic resource functions and services does not apply to reversion activities meeting the above conditions. Except for the activities described above, this NWP does not authorize any future discharge of dredged or fill material associated with the reversion of the area to its prior condition. In such cases a separate permit would be required for any reversion.

Reporting. For those activities that do not require pre-construction notification, the permittee must submit to the district engineer a copy of: (1) The binding stream enhancement or restoration agreement or wetland enhancement, restoration, or establishment agreement, or a project description, including project plans and location map; (2) the NRCS or USDA Technical Service Provider documentation for the voluntary stream enhancement or restoration action or wetland restoration, enhancement, or establishment action; or (3) the SMCRA permit issued by OSMRE or the applicable state agency. The report must also include information on baseline ecological conditions on the project site, such as a delineation of wetlands, streams, and/or other aquatic habitats. These documents must be submitted to the district engineer at least 30 days prior to commencing activities in waters of the United States authorized by this NWP.

Notification: The permittee must submit a pre-construction notification to the district engineer

prior to commencing any activity (see general condition 32), except for the following activities:

(1) Activities conducted on non-Federal public lands and private lands, in accordance with the terms and conditions of a binding stream enhancement or restoration agreement or wetland enhancement, restoration, or establishment agreement between the landowner and the FWS, NRCS, FSA, NMFS, NOS, USFS or their designated state cooperating agencies;

(2) Voluntary stream or wetland restoration or enhancement action, or wetland establishment action, documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or

(3) The reclamation of surface coal mine lands, in accordance with an SMCRA permit issued by the OSMRE or the applicable state agency.

However, the permittee must submit a copy of the appropriate documentation to the district engineer to fulfill the reporting requirement. (Authorities: Sections 10 and 404)

Note: This NWP can be used to authorize compensatory mitigation projects, including mitigation banks and in-lieu fee projects. However, this NWP does not authorize the reversion of an area used for a compensatory mitigation project to its prior condition, since compensatory mitigation is generally intended to be permanent.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. This certification does not authorize projects where the primary purpose of the project is not the restoration, enhancement and establishment of tidal and non-tidal wetlands and riparian areas and the restoration and enhancement of non-tidal streams and other non-tidal open waters.

3. Bank stabilization activities authorized under this nationwide permit must utilize bioengineering techniques.

4. This certification does not authorize impacts to more than 0.50 acres of category 2 forested wetlands associated with the construction of a wetland mitigation bank unless Ohio EPA is a signatory to an Interagency Review Team (IRT) instrument which addresses the impact.

5. Temporary and permanent impacts to category 3 wetlands are not authorized under this certification except for impacts to Lake Erie coastal wetlands[1], which are category 3 wetlands for the following reasons:

[1] "Lake Erie coastal wetland" means a wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation or along a tributary to Lake Erie that is accessible to fish.

a. the wetland scores less than 60 on the Quantitative Rating of the ORAM, is "hydrologically unrestricted" and contains a predominance of native species within vegetation communities (i.e., they are category 3 wetlands using the Narrative Rating of ORAM), but the wetland has been drained, farmed, or degraded and is unvegetated or sparsely vegetated with wetland annuals or is vegetated with one or several of the following species: *Butomus umbellatus, Lythrum salicaria, Myriophyllum spicatum, Najas minor, Phalaris arundinacea, Phragmites australis, Potamogeton crispus, and/*or *Typha angustifolia;* or

b. the wetland is diked and managed ("hydrologically restricted"), scores less than 60 on the Quantitative Rating of ORAM, is a category 3 wetland using the Narrative Rating of ORAM because of the presence of state or federally threatened or endangered species, and/or because of the documented presence of significant breeding or non-breeding bird concentration areas, and the proposed activities will not destroy, jeopardize or adversely affect, either directly or indirectly, *the continued existence of the threatened or endangered species.*

6. Impacts to Lake Erie coastal wetlands described above that are authorized under this NWP are as follows (no other impacts to category 3 wetlands except those described below that occur at Lake Erie coastal wetlands are authorized by this certification):

   a. *Tile alteration*. Removing, altering, disabling drain tile or replacing perforated drain tile with non-perforated drain tile.

   b. *De-leveling.* Re-grading for the purposes of microtopography to enhance hydrologic diversity, including the creation of shallow scrapes, channels, submerged islands and interconnected areas of deeper water is authorized. Final grade of any excavation, following topsoil replacement if applicable, shall not exceed 60-cm (approximately two feet). Replacement of the original excavated topsoil is required for all de-leveling activities except when the seed bank is dominated by invasive vegetation. In these cases, the area must be seeded by using a seed mix of native Ohio vegetation indigenous to the area/region where the project is located and appropriate for the hydrological regime present in the area. Excess spoils that are not able to be incorporated into the re-grading activities shall be deposited in adjacent non-wetland areas, used in other restoration activities listed in this paragraph or trucked to an upland area off-site.

   c. *Ditch plugs and ditch fills.* Ditch plugs and water control structures: Disabling surface drains by filling lengths, provided that the surface drains originate on the property of the project sponsors and have no base flow or installing water control structures (e.g., riser structures, flap gates, fixed weirs, trickle tubes). Ditch plugs may include an emergency spillway to safely route flows back into the ditch below the plug.

   d. *Earthen embankments*. Earthen fill structures that do not exceed 1.8 m (six feet) in height with side slopes of 3:1 or greater with less than 50 acre-feet of storage.

The embankments may include rock or vegetated overflow structures to pass base-flow as needed.

e. *Interior dikes.* Earthen fill structures constructed within the interior of an existing diked and managed wetland for the purpose of improving management of hydrology in the diked wetland in order to facilitate control of invasive plant species, exclude or control invasive animal species, improve habitat features, etc.

28. *Modifications of Existing Marinas.* Reconfiguration of existing docking facilities within an authorized marina area. No dredging, additional slips, dock spaces, or expansion of any kind within waters of the United States is authorized by this NWP. (Authority: Section 10)

29. *Residential Developments.* Discharges of dredged or fill material into non-tidal waters of the United States for the construction or expansion of a single residence, a multiple unit residential development, or a residential subdivision. This NWP authorizes the construction of building foundations and building pads and attendant features that are necessary for the use of the residence or residential development. Attendant features may include but are not limited to roads, parking lots, garages, yards, utility lines, storm water management facilities, septic fields, and recreation facilities such as playgrounds, playing fields, and golf courses (provided the golf course is an integral part of the residential development).

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. The discharge must not cause the loss of more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters. The loss of stream bed plus any other losses of jurisdictional wetlands and waters caused by the NWP activity cannot exceed 1/2-acre.

Subdivisions: For residential subdivisions, the aggregate total loss of waters of United States authorized by this NWP cannot exceed 1/2-acre. This includes any loss of waters of the United States associated with development of individual subdivision lots.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) (Authorities: Sections 10 and 404)

Corps NWP 29 Specific Regional Condition:

Whenever a multiple-lot subdivision is submitted to the Corps of Engineers for review, it must be designed such that preserved, restored or established wetlands included as part of a compensatory mitigation plan are not located on the resulting private individual lots.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

30. ***Moist Soil Management for Wildlife.*** Discharges of dredged or fill material into non-tidal waters of the United States and maintenance activities that are associated with moist soil management for wildlife for the purpose of continuing ongoing, site-specific, wildlife management activities where soil manipulation is used to manage habitat and feeding areas for wildlife. Such activities include, but are not limited to, plowing or discing to impede succession, preparing seed beds, or establishing fire breaks. Sufficient riparian areas must be maintained adjacent to all open water bodies, including streams, to preclude water quality degradation due to erosion and sedimentation. This NWP does not authorize the construction of new dikes, roads, water control structures, or similar features associated with the management areas. The activity must not result in a net loss of aquatic resource functions and services. This NWP does not authorize the conversion of wetlands to uplands, impoundments, or other open water bodies. (Authority: Section 404)

Note: The repair, maintenance, or replacement of existing water control structures or the repair or maintenance of dikes may be authorized by NWP 3. Some such activities may qualify for an exemption under section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Corps NWP 30 Specific Regional Condition:

PCN in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required for use of this nationwide permit unless the applicant is working under the leadership of a governmental wildlife resource agency such as the Natural Resource Conservation Service (NRCS), the United States Fish & Wildlife Service (USFWS), or the Ohio Department of Natural Resources.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

31. ***Maintenance of Existing Flood Control Facilities.*** Discharges of dredged or fill material resulting from activities associated with the maintenance of existing flood control facilities, including debris basins, retention/detention basins, levees, and channels that: (i) were previously authorized by the Corps by individual permit, general permit, or 33 CFR 330.3, or did not require a permit at the time they were constructed, or (ii) were constructed by the Corps and transferred to a non-Federal sponsor for operation and maintenance. Activities authorized by this NWP are limited to those resulting from maintenance activities that are conducted within the "maintenance baseline," as described in the definition below. Discharges of dredged or fill materials associated with maintenance activities in flood control facilities in any watercourse that have previously been determined to be within the maintenance baseline are authorized under this NWP. To the extent that a Corps permit is required, this NWP authorizes the removal of vegetation from levees associated with the flood control project. This NWP does not authorize the removal of sediment and associated vegetation from natural water courses except when these activities have been included in the maintenance baseline. All dredged and excavated material must be

deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization. Proper sediment controls must be used.

Maintenance Baseline: The maintenance baseline is a description of the physical characteristics (e.g., depth, width, length, location, configuration, or design flood capacity, etc.) of a flood control project within which maintenance activities are normally authorized by NWP 31, subject to any case-specific conditions required by the district engineer. The district engineer will approve the maintenance baseline based on the approved or constructed capacity of the flood control facility, whichever is smaller, including any areas where there are no constructed channels but which are part of the facility. The prospective permittee will provide documentation of the physical characteristics of the flood control facility (which will normally consist of as-built or approved drawings) and documentation of the approved and constructed design capacities of the flood control facility. If no evidence of the constructed capacity exists, the approved capacity will be used. The documentation will also include best management practices to ensure that the adverse environmental impacts caused by the maintenance activities are no more than minimal, especially in maintenance areas where there are no constructed channels. (The Corps may request maintenance records in areas where there has not been recent maintenance.) Revocation or modification of the final determination of the maintenance baseline can only be done in accordance with 33 CFR 330.5. Except in emergencies as described below, this NWP cannot be used until the district engineer approves the maintenance baseline and determines the need for mitigation and any regional or activity-specific conditions. Once determined, the maintenance baseline will remain valid for any subsequent reissuance of this NWP. This NWP does not authorize maintenance of a flood control facility that has been abandoned. A flood control facility will be considered abandoned if it has operated at a significantly reduced capacity without needed maintenance being accomplished in a timely manner. A flood control facility will not be considered abandoned if the prospective permittee is in the process of obtaining other authorizations or approvals required for maintenance activities and is experiencing delays in obtaining those authorizations or approvals.

Mitigation: The district engineer will determine any required mitigation one-time only for impacts associated with maintenance work at the same time that the maintenance baseline is approved. Such one-time mitigation will be required when necessary to ensure that adverse environmental effects are no more than minimal, both individually and cumulatively. Such mitigation will only be required once for any specific reach of a flood control project. However, if one-time mitigation is required for impacts associated with maintenance activities, the district engineer will not delay needed maintenance, provided the district engineer and the permittee establish a schedule for identification, approval, development, construction and completion of any such required mitigation. Once the one-time mitigation described above has been completed, or a determination made that mitigation is not required, no further mitigation will be required for maintenance activities within the maintenance baseline (see Note, below). In determining appropriate mitigation, the district engineer will give special consideration to natural water courses that have been included in the maintenance baseline and require mitigation and/or best management practices as appropriate.

Emergency Situations: In emergency situations, this NWP may be used to authorize maintenance activities in flood control facilities for which no maintenance baseline has been approved. Emergency situations are those which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship if action is not taken before a maintenance baseline can be approved. In such situations, the determination of mitigation requirements, if any, may be deferred until the emergency has been resolved. Once the emergency has ended, a maintenance baseline must be established expeditiously, and mitigation, including mitigation for maintenance conducted during the emergency, must be required as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer before any maintenance work is conducted (see general condition 32). The pre-construction notification may be for activity-specific maintenance or for maintenance of the entire flood control facility by submitting a five-year (or less) maintenance plan. The pre-construction notification must include a description of the maintenance baseline and the disposal site for dredged or excavated material. (Authorities: Sections 10 and 404)

Note: If the maintenance baseline was approved by the district engineer under a prior version of NWP 31, and the district engineer imposed the one-time compensatory mitigation requirement on maintenance for a specific reach of a flood control project authorized by that prior version of NWP 31, during the period this version of NWP 31 is in effect (March 19, 2017, to March 18, 2022) the district engineer will not require additional compensatory mitigation for maintenance activities authorized by this NWP in that specific reach of the flood control project.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. This certification shall only authorize projects constructed by the Corps and maintained by the Corps or transferred by the Corps to a local sponsor.

32. ***Completed Enforcement Actions.*** Any structure, work, or discharge of dredged or fill material remaining in place or undertaken for mitigation, restoration, or environmental benefit in compliance with either:

(i) The terms of a final written Corps non-judicial settlement agreement resolving a violation of Section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899; or the terms of an EPA 309(a) order on consent resolving a violation of section 404 of the Clean Water Act, provided that:

(a) The activities authorized by this NWP cannot adversely affect more than 5 acres of non-tidal waters or 1 acre of tidal waters;

(b) The settlement agreement provides for environmental benefits, to an equal or greater degree, than the environmental detriments caused by the unauthorized activity that is authorized by this NWP; and

(c) The district engineer issues a verification letter authorizing the activity subject to the terms and conditions of this NWP and the settlement agreement, including a specified completion date; or

(ii) The terms of a final Federal court decision, consent decree, or settlement agreement resulting from an enforcement action brought by the United States under section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899; or

(iii) The terms of a final court decision, consent decree, settlement agreement, or non-judicial settlement agreement resulting from a natural resource damage claim brought by a trustee or trustees for natural resources (as defined by the National Contingency Plan at 40 CFR subpart G) under Section 311 of the Clean Water Act, Section 107 of the Comprehensive Environmental Response, Compensation and Liability Act, Section 312 of the National Marine Sanctuaries Act, section 1002 of the Oil Pollution Act of 1990, or the Park System Resource Protection Act at 16 U.S.C. 19jj, to the extent that a Corps permit is required.

Compliance is a condition of the NWP itself; non-compliance of the terms and conditions of an NWP 32 authorization may result in an additional enforcement action (e.g., a Class I civil administrative penalty). Any authorization under this NWP is automatically revoked if the permittee does not comply with the terms of this NWP or the terms of the court decision, consent decree, or judicial/non-judicial settlement agreement. This NWP does not apply to any activities occurring after the date of the decision, decree, or agreement that are not for the purpose of mitigation, restoration, or environmental benefit. Before reaching any settlement agreement, the Corps will ensure compliance with the provisions of 33 CFR part 326 and 33 CFR 330.6(d)(2) and (e). (Authorities: Sections 10 and 404)

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. This certification does not authorize any project with impacts to category 3 wetlands; impacts to category 1 and category 2 wetlands that exceed three acres; or impacts to any stream in excess of 500 linear feet unless Ohio EPA has been informed, in writing, of each specific project that exceeds these criteria and based on this information, has not chosen to issue a State Administrative Order or Consent Order resulting from a State enforcement action.

33. ***Temporary Construction, Access and Dewatering.*** Temporary structures, work, and discharges, including cofferdams, necessary for construction activities or access fills or dewatering of construction sites, provided that the associated primary activity is authorized by the Corps of Engineers or the U.S. Coast Guard. This NWP also authorizes temporary structures, work, and discharges, including cofferdams, necessary for construction activities not otherwise subject to the Corps or U.S. Coast Guard permit requirements. Appropriate measures must be taken to maintain near normal downstream flows and to minimize flooding. Fill must consist of

materials, and be placed in a manner, that will not be eroded by expected high flows. The use of dredged material may be allowed if the district engineer determines that it will not cause more than minimal adverse environmental effects. Following completion of construction, temporary fill must be entirely removed to an area that has no waters of the United States, dredged material must be returned to its original location, and the affected areas must be restored to pre-construction elevations. The affected areas must also be revegetated, as appropriate. This permit does not authorize the use of cofferdams to dewater wetlands or other aquatic areas to change their use. Structures left in place after construction is completed require a separate section 10 permit if located in navigable waters of the United States. (See 33 CFR part 322.)

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if the activity is conducted in navigable waters of the United States (i.e., section 10 waters) (see general condition 32). The pre-construction notification must include a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions. (Authorities: Sections 10 and 404)

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

4. This certification does not authorize construction or maintenance or modification of marina basins;

5. This nationwide permit shall not authorize temporary construction access and dewatering associated with mining activities.

34. ***Cranberry Production Activities.*** Discharges of dredged or fill material for dikes, berms, pumps, water control structures or leveling of cranberry beds associated with expansion, enhancement, or modification activities at existing cranberry production operations. The cumulative total acreage of disturbance per cranberry production operation, including but not limited to, filling, flooding, ditching, or clearing, must not exceed 10 acres of waters of the United States, including wetlands. The activity must not result in a net loss of wetland acreage. This NWP does not authorize any discharge of dredged or fill material related to other cranberry production activities such as warehouses, processing facilities, or parking areas. For the purposes of this NWP, the cumulative total of 10 acres will be measured over the period that this NWP is valid.

Notification: The permittee must submit a pre-construction notification to the district engineer once during the period that this NWP is valid, and the NWP will then authorize discharges of dredge or fill material at an existing operation for the permit term, provided the 10-acre limit is not exceeded. (See general condition 32.) (Authority: Section 404)

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

35. ***Maintenance Dredging of Existing Basins.*** The removal of accumulated sediment for maintenance of existing marina basins, access channels to marinas or boat slips, and boat slips to previously authorized depths or controlling depths for ingress/egress, whichever is less. All dredged material must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization. Proper sediment controls must be used for the disposal site. (Authority: Section 10)

Corps NWP 35 Specific Regional Condition:

PCN in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required for use of this nationwide permit.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Temporary or permanent impacts to category 3 wetlands are not authorized under this certification.

3. Temporary or permanent impacts to category 1 and category 2 wetlands are limited to 0.50 acres.

36. ***Boat Ramps.*** Activities required for the construction of boat ramps, provided the activity meets all of the following criteria:

(a) The discharge into waters of the United States does not exceed 50 cubic yards of concrete, rock, crushed stone or gravel into forms, or in the form of pre-cast concrete planks or slabs, unless the district engineer waives the 50 cubic yard limit by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects;

(b) The boat ramp does not exceed 20 feet in width, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects;

(c) The base material is crushed stone, gravel or other suitable material;

(d) The excavation is limited to the area necessary for site preparation and all excavated material is removed to an area that has no waters of the United States; and,

(e) No material is placed in special aquatic sites, including wetlands.

The use of unsuitable material that is structurally unstable is not authorized. If dredging in navigable waters of the United States is necessary to provide access to the boat ramp, the dredging must be authorized by another NWP, a regional general permit, or an individual permit.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) The discharge into waters of the United States exceeds 50 cubic yards, or (2) the boat ramp exceeds 20 feet in width. (See general condition 32.) (Authorities: Sections 10 and 404)

NWP 36 Specific Regional Conditions:

a. PCN in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required discharges of dredged or fill material into wetlands, islands, island backchannels, embayments, and/or sites at the confluence of one stream with another.

b. PCN in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required for any boat ramp proposed to be located within the area between the upstream and downstream arrival points of any Corps of Engineers lock and dam, or within 1,500 feet of any emergency-mooring cell at any lock.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. This nationwide permit shall not authorize boat ramps where dredging is required to establish and maintain water depths necessary for boat launching.

Ohio CZMA Federal Consistency Determination Condition:

For all activities located within or along the shore of Ohio's portion of Lake Erie, including Maumee Bay and Sandusky bay, all applicable authorizations under the Ohio Coastal Management Program must be obtained.

37. *Emergency Watershed Protection and Rehabilitation.* Work done by or funded by:

(a) The Natural Resources Conservation Service for a situation requiring immediate action under its emergency Watershed Protection Program (7 CFR part 624);

(b) The U.S. Forest Service under its Burned-Area Emergency Rehabilitation Handbook (FSH 2509.13);

(c) The Department of the Interior for wildland fire management burned area emergency stabilization and rehabilitation (DOI Manual part 620, Ch. 3);

(d) The Office of Surface Mining, or states with approved programs, for abandoned mine land reclamation activities under Title IV of the Surface Mining Control and Reclamation Act (30 CFR subchapter R), where the activity does not involve coal extraction; or

(e) The Farm Service Agency under its Emergency Conservation Program (7 CFR part 701).

In general, the prospective permittee should wait until the district engineer issues an NWP verification or 45 calendar days have passed before proceeding with the watershed protection and rehabilitation activity. However, in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur, the emergency watershed protection and rehabilitation activity may proceed immediately and the district engineer will consider the information in the pre-construction notification and any comments received as a result of agency coordination to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

Notification: Except in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 32). (Authorities: Sections 10 and 404)

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Unless authorized under procedures established in Part One: General Conditions F.4., above, individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

38. ***Cleanup of Hazardous and Toxic Waste.*** Specific activities required to effect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority. Court ordered remedial action plans or related settlements are also authorized by this NWP. This NWP does not authorize the establishment of new disposal sites or the expansion of existing sites used for the disposal of hazardous or toxic waste.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) (Authorities: Sections 10 and 404)

Note: Activities undertaken entirely on a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site by authority of CERCLA as approved or required by EPA, are not required to obtain permits under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Except for emergency response actions required to address immediate threats to public health or the environment, an individual 401 WQC is required for use of this nationwide

permit when temporary or permanent impacts are proposed on or in any of the following waters:

a. category 3 wetlands;

b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

e. state wild and scenic rivers;

f. national wild and scenic rivers; and

g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. This certification shall only authorize projects that are performed, ordered or sponsored by state or federal government agency with established legal or regulatory authority.

39. ***Commercial and Institutional Developments.*** Discharges of dredged or fill material into non-tidal waters of the United States for the construction or expansion of commercial and institutional building foundations and building pads and attendant features that are necessary for the use and maintenance of the structures. Attendant features may include, but are not limited to, roads, parking lots, garages, yards, utility lines, storm water management facilities, wastewater treatment facilities, and recreation facilities such as playgrounds and playing fields. Examples of commercial developments include retail stores, industrial facilities, restaurants, business parks, and shopping centers. Examples of institutional developments include schools, fire stations, government office buildings, judicial buildings, public works buildings, libraries, hospitals, and places of worship. The construction of new golf courses and new ski areas is not authorized by this NWP.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. The discharge must not cause the loss of more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects. The loss of stream bed plus any other losses of jurisdictional wetlands and waters caused by the NWP activity cannot exceed 1/2-acre. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters.

Notification: The permittee must submit a pre-construction notification to the district

engineer prior to commencing the activity. (See general condition 32.) (Authorities: Sections 10 and 404)

Note: For any activity that involves the construction of a wind energy generating structure, solar tower, or overhead transmission line, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

Corps NWP 39 Specific Regional Condition:

> Whenever a multiple-lot subdivision is submitted to the Corps of Engineers for review, it must be designed such that preserved, restored or established wetlands included as part of a compensatory mitigation plan are not located on the resulting private individual lots.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

40. ***Agricultural Activities.*** Discharges of dredged or fill material into non-tidal waters of the United States for agricultural activities, including the construction of building pads for farm

buildings. Authorized activities include the installation, placement, or construction of drainage tiles, ditches, or levees; mechanized land clearing; land leveling; the relocation of existing serviceable drainage ditches constructed in waters of the United States; and similar activities.

This NWP also authorizes the construction of farm ponds in non-tidal waters of the United States, excluding perennial streams, provided the farm pond is used solely for agricultural purposes. This NWP does not authorize the construction of aquaculture ponds.

This NWP also authorizes discharges of dredged or fill material into non-tidal waters of the United States to relocate existing serviceable drainage ditches constructed in non-tidal streams.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. The discharge must not cause the loss of more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects. The loss of stream bed plus any other losses of jurisdictional wetlands and waters caused by the NWP activity cannot exceed 1/2-acre. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) (Authority: Section 404)

Note: Some discharges for agricultural activities may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4). This NWP authorizes the construction of farm ponds that do not qualify for the Clean Water Act section 404(f)(1)(C) exemption because of the recapture provision at section 404(f)(2).

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

e. state wild and scenic rivers;

f. national wild and scenic rivers; and

g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

4. This certification shall be used only once per farm. For the purposes of this condition, farm shall be defined to include all individual farm tracts, whether or not such tracts are contiguous, that are owned by the applicant.

5. This certification does not authorize the construction of farm ponds in streams or wetlands (i.e., non-tidal waters of the United States).

41. *Reshaping Existing Drainage Ditches.* Discharges of dredged or fill material into non-tidal waters of the United States, excluding non-tidal wetlands adjacent to tidal waters, to modify the cross-sectional configuration of currently serviceable drainage ditches constructed in waters of the United States, for the purpose of improving water quality by regrading the drainage ditch with gentler slopes, which can reduce erosion, increase growth of vegetation, and increase uptake of nutrients and other substances by vegetation. The reshaping of the ditch cannot increase drainage capacity beyond the original as-built capacity nor can it expand the area drained by the ditch as originally constructed (i.e., the capacity of the ditch must be the same as originally constructed and it cannot drain additional wetlands or other waters of the United States). Compensatory mitigation is not required because the work is designed to improve water quality.

This NWP does not authorize the relocation of drainage ditches constructed in waters of the United States; the location of the centerline of the reshaped drainage ditch must be approximately the same as the location of the centerline of the original drainage ditch. This NWP does not authorize stream channelization or stream relocation projects. (Authority: Section 404)

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

   a. category 3 wetlands;

   b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

e. state wild and scenic rivers;

f. national wild and scenic rivers; and

g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. This certification only authorizes impacts to existing maintained and channelized water conveyances that have been created or previously modified and maintained for the purpose of draining abutting existing agricultural land or existing roadways and meet the following criteria:

a. the ditch was man-made and is existing; or

b. the stream/ditch has existing entrenchment ratios that are less than 1.4 and the proposed dredging impacts do not reduce the sinuosity of the stream/ditch channel.

4. Prior to the commencement of the project, all drainage ditch reshaping projects must be certified in writing by either the Natural Resources Conservation Service or Soil and Water Conservation District or County Engineer in the county where the project occurs, or by a certified professional engineer, that the project complies with the above criteria. In order to be authorized under this paragraph, such certification shall be maintained by the person or entity engaged in the project and a copy shall be sent to: Ohio EPA, Division of Surface Water, Section 401 Unit, P.O. Box 1049, Columbus, Ohio 43216-1049.

42. *Recreational Facilities.* Discharges of dredged or fill material into non-tidal waters of the United States for the construction or expansion of recreational facilities. Examples of recreational facilities that may be authorized by this NWP include playing fields (e.g., football fields, baseball fields), basketball courts, tennis courts, hiking trails, bike paths, golf courses, ski areas, horse paths, nature centers, and campgrounds (excluding recreational vehicle parks). This NWP also authorizes the construction or expansion of small support facilities, such as maintenance and storage buildings and stables that are directly related to the recreational activity, but it does not authorize the construction of hotels, restaurants, racetracks, stadiums, arenas, or similar facilities.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. The discharge must not cause the loss of more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in no more than

minimal adverse environmental effects. The loss of stream bed plus any other losses of jurisdictional wetlands and waters caused by the NWP activity cannot exceed 1/2-acre. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) (Authority: Section 404)

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. This certification does not authorize the construction, modification or expansion of golf courses or ski areas.

43. ***Stormwater Management Facilities.*** Discharges of dredged or fill material into non-tidal waters of the United States for the construction of stormwater management facilities, including stormwater detention basins and retention basins and other stormwater management facilities; the construction of water control structures, outfall structures and emergency spillways; the construction of low impact development integrated management features such as bioretention facilities (e.g., rain gardens), vegetated filter strips, grassed swales, and infiltration trenches; and the construction of pollutant reduction green infrastructure features designed to reduce inputs of sediments, nutrients, and other pollutants into waters to meet reduction targets established under Total Daily Maximum Loads set under the Clean Water Act.

This NWP authorizes, to the extent that a section 404 permit is required, discharges of dredged or fill material into non-tidal waters of the United States for the maintenance of stormwater management facilities, low impact development integrated management features, and pollutant reduction green infrastructure features. The maintenance of stormwater management facilities, low impact development integrated management features, and pollutant reduction green infrastructure features that are not waters of the United States does not require a section 404 permit.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. The discharge must not cause the loss of more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters. The loss of stream bed plus any other losses of jurisdictional wetlands and waters caused by the NWP activity cannot exceed 1/2-acre. This NWP does not authorize discharges of dredged or fill material for the construction of new stormwater management facilities in perennial streams.

Notification: For discharges into non-tidal waters of the United States for the construction of new stormwater management facilities or pollutant reduction green infrastructure features, or the expansion of existing stormwater management facilities or pollutant reduction green infrastructure features, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) Maintenance activities do not require pre-construction notification if they are limited to restoring the original design capacities of the stormwater management facility or pollutant reduction green infrastructure feature. (Authority: Section 404)

Corps NWP 43 Specific Regional Condition:

Notification in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required for use of this nationwide permit.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

e. state wild and scenic rivers;

f. national wild and scenic rivers; and

g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

44. *Mining Activities.* Discharges of dredged or fill material into non-tidal waters of the United States for mining activities, except for coal mining activities, provided the activity meets all of the following criteria:

(a) For mining activities involving discharges of dredged or fill material into non-tidal wetlands, the discharge must not cause the loss of greater than 1/2-acre of non-tidal wetlands;

(b) For mining activities involving discharges of dredged or fill material in non-tidal open waters (e.g., rivers, streams, lakes, and ponds) the mined area, including permanent and temporary impacts due to discharges of dredged or fill material into jurisdictional waters, must not exceed 1/2-acre; and

(c) The acreage loss under paragraph (a) plus the acreage impact under paragraph (b) does not exceed 1/2-acre.

The discharge must not cause the loss of more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects.

The loss of stream bed plus any other losses of jurisdictional wetlands and waters caused by the NWP activity cannot exceed 1/2-acre.

This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) If reclamation is required by other statutes, then a copy of the final reclamation plan must be submitted with the pre-construction notification. (Authorities: Sections 10 and 404)

Individual state water quality certification is required for use of this nationwide permit.

45. ***Repair of Uplands Damaged by Discrete Events.*** This NWP authorizes discharges of dredged or fill material, including dredging or excavation, into all waters of the United States for activities associated with the restoration of upland areas damaged by storms, floods, or other discrete events. This NWP authorizes bank stabilization to protect the restored uplands. The restoration of the damaged areas, including any bank stabilization, must not exceed the contours, or ordinary high water mark, that existed before the damage occurred. The district engineer retains the right to determine the extent of the pre-existing conditions and the extent of any restoration work authorized by this NWP. The work must commence, or be under contract to commence, within two years of the date of damage, unless this condition is waived in writing by the district engineer. This NWP cannot be used to reclaim lands lost to normal erosion processes over an extended period.

This NWP does not authorize beach restoration or nourishment.

Minor dredging is limited to the amount necessary to restore the damaged upland area and should not significantly alter the pre-existing bottom contours of the waterbody.

Notification: The permittee must submit a pre-construction notification to the district engineer (see general condition 32) within 12 months of the date of the damage; for major storms, floods, or other discrete events, the district engineer may waive the 12-month limit for submitting a pre-construction notification if the permittee can demonstrate funding, contract, or other similar delays. The pre-construction notification must include documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration. (Authorities: Sections 10 and 404)

Note: The uplands themselves that are lost as a result of a storm, flood, or other discrete event can be replaced without a section 404 permit, if the uplands are restored to the ordinary high water mark (in non-tidal waters) or high tide line (in tidal waters). (See also 33 CFR 328.5.) This NWP authorizes discharges of dredged or fill material into waters of the United States associated with the restoration of uplands.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

e. state wild and scenic rivers;

f. national wild and scenic rivers; and

g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

46. ***Discharges in Ditches.*** Revoked

47. [Reserved]

48. ***Existing Commercial Shellfish Aquaculture Activities*****.** Discharges of dredged or fill material into waters of the United States or structures or work in navigable waters of the United States necessary for new and continuing commercial shellfish aquaculture operations in authorized project areas. For the purposes of this NWP, the project area is the area in which the operator is authorized to conduct commercial shellfish aquaculture activities, as identified through a lease or permit issued by an appropriate state or local government agency, a treaty, or any easement, lease, deed, contract, or other legally binding agreement that establishes an enforceable property interest for the operator. A "new commercial shellfish aquaculture operation" is an operation in a project area where commercial shellfish aquaculture activities have not been conducted during the past 100 years.

This NWP authorizes the installation of buoys, floats, racks, trays, nets, lines, tubes, containers, and other structures into navigable waters of the United States. This NWP also authorizes discharges of dredged or fill material into waters of the United States necessary for shellfish seeding, rearing, cultivating, transplanting, and harvesting activities. Rafts and other floating structures must be securely anchored and clearly marked.

This NWP does not authorize:

(a) The cultivation of a nonindigenous species unless that species has been previously cultivated in the waterbody;

(b) The cultivation of an aquatic nuisance species as defined in the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990;

(c) Attendant features such as docks, piers, boat ramps, stockpiles, or staging areas, or the deposition of shell material back into waters of the United States as waste; or

(d) Activities that directly affect more than 1/2-acre of submerged aquatic vegetation beds in project areas that have not been used for commercial shellfish aquaculture activities during the past 100 years.

Notification: The permittee must submit a pre-construction notification to the district engineer if: (1) the activity will include a species that has never been cultivated in the waterbody; or (2) the activity occurs in a project area that has not been used for commercial shellfish aquaculture activities during the past 100 years. If the operator will be conducting commercial shellfish aquaculture activities in multiple contiguous project areas, he or she can either submit one PCN for those contiguous project areas or submit a separate PCN for each project area. (See general condition 32.)

In addition to the information required by paragraph (b) of general condition 32, the pre-construction notification must also include the following information: (1) a map showing the boundaries of the project area(s), with latitude and longitude coordinates for each corner of each project area; (2) the name(s) of the species that will be cultivated during the period this NWP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area(s) (a detailed survey is not required). No more than one pre-construction notification per project area or group of contiguous project areas should be submitted for the commercial shellfish operation during the effective period of this NWP. The pre-construction notification should describe all species and culture activities the operator expects to undertake in the project area or group of contiguous project areas during the effective period of this NWP. If an operator intends to undertake unanticipated changes to the commercial shellfish aquaculture operation during the effective period of this NWP, and those changes require Department of the Army authorization, the operator must contact the district engineer to request a modification of the NWP verification; a new pre-construction notification does not need to be submitted. (Authorities: Sections 10 and 404)

Note 1: The permittee should notify the applicable U.S. Coast Guard office regarding the project.

Note 2: To prevent introduction of aquatic nuisance species, no material that has been taken from a different waterbody may be reused in the current project area, unless it has been treated in accordance with the applicable regional aquatic nuisance species management plan.

Note 3: The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 defines "aquatic nuisance species" as "a nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural, or recreational activities dependent on such waters."

Individual state water quality certification is required for use of this nationwide permit.

49. *Coal Remining Activities.* Discharges of dredged or fill material into non-tidal waters of the United States associated with the remining and reclamation of lands that were previously mined

for coal. The activities must already be authorized, or they must currently be in process as part of an integrated permit processing procedure, by the Department of the Interior Office of Surface Mining Reclamation and Enforcement, or by states with approved programs under Title IV or Title V of the Surface Mining Control and Reclamation Act of 1977 (SMCRA). Areas previously mined include reclaimed mine sites, abandoned mine land areas, or lands under bond forfeiture contracts.

As part of the project, the permittee may conduct new coal mining activities in conjunction with the remining activities when he or she clearly demonstrates to the district engineer that the overall mining plan will result in a net increase in aquatic resource functions. The Corps will consider the SMCRA agency's decision regarding the amount of currently undisturbed adjacent lands needed to facilitate the remining and reclamation of the previously mined area. The total area disturbed by new mining must not exceed 40 percent of the total acreage covered by both the remined area and the additional area necessary to carry out the reclamation of the previously mined area.

Notification: The permittee must submit a pre-construction notification and a document describing how the overall mining plan will result in a net increase in aquatic resource functions to the district engineer and receive written authorization prior to commencing the activity. (See general condition 32.) (Authorities: Sections 10 and 404)

Corps NWP 49 Specific Regional Condition:

The PCN shall include the information required in the Ohio Department of Natural Resources Division of Mineral Resource Management Policy Procedure Directive Regulatory 99-1 entitled Lands Eligible for Remining and dated November 18, 1999 or subsequent document.

Ohio 401 Certification Special Limitations and Conditions:

Water quality certification is provided for stream, wetland and open water impacts for surface coal mining within previously mined areas, conducted under a permit issued by the Ohio Department of Natural Resources, Division of Mineral Resources Management (DMRM) with the following conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. state wild and scenic rivers;

    c. national wild and scenic rivers; and

d. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. Impacts to previously-mined stream reaches (ephemeral, intermittent, or perennial) as a result of re-mining and subsequent reclamation will require no further mitigation.

50. ***Underground Coal Mining Activities.*** Discharges of dredged or fill material into non-tidal waters of the United States associated with underground coal mining and reclamation operations provided the activities are authorized, or are currently being processed as part of an integrated permit processing procedure, by the Department of the Interior, Office of Surface Mining Reclamation and Enforcement, or by states with approved programs under Title V of the Surface Mining Control and Reclamation Act of 1977.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. The discharge must not cause the loss of more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects. The loss of stream bed plus any other losses of jurisdictional wetlands and waters caused by the NWP activity cannot exceed 1/2-acre. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters. This NWP does not authorize coal preparation and processing activities outside of the mine site.

Notification: The permittee must submit a pre-construction notification to the district engineer and receive written authorization prior to commencing the activity. (See general condition 32.) If reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre-construction notification. (Authorities: Sections 10 and 404)

Note: Coal preparation and processing activities outside of the mine site may be authorized by NWP 21.

Individual state water quality certification is required for use of this nationwide permit.

51. ***Land-Based Renewable Energy Generation Facilities.*** Discharges of dredged or fill material into non-tidal waters of the United States for the construction, expansion, or modification of land-based renewable energy production facilities, including attendant features. Such facilities include infrastructure to collect solar (concentrating solar power and photovoltaic), wind, biomass, or geothermal energy. Attendant features may include, but are not limited to roads, parking lots, and stormwater management facilities within the land-based renewable energy generation facility.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. The discharge must not cause the loss of more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in no more than

minimal adverse environmental effects. The loss of stream bed plus any other losses of jurisdictional wetlands and waters caused by the NWP activity cannot exceed 1/2-acre. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if the discharge results in the loss of greater than 1/10-acre of waters of the United States. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: Utility lines constructed to transfer the energy from the land-based renewable energy generation facility to a distribution system, regional grid, or other facility are generally considered to be linear projects and each separate and distant crossing of a waterbody is eligible for treatment as a separate single and complete linear project. Those utility lines may be authorized by NWP 12 or another Department of the Army authorization.

Note 2: If the only activities associated with the construction, expansion, or modification of a land-based renewable energy generation facility that require Department of the Army authorization are discharges of dredged or fill material into waters of the United States to construct, maintain, repair, and/or remove utility lines and/or road crossings, then NWP 12 and/or NWP 14 shall be used if those activities meet the terms and conditions of NWPs 12 and 14, including any applicable regional conditions and any case-specific conditions imposed by the district engineer.

Note 3: For any activity that involves the construction of a wind energy generating structure, solar tower, or overhead transmission line, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

e. state wild and scenic rivers;

f. national wild and scenic rivers; and

g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

4. Temporary or permanent impacts as a result of stream crossings shall not exceed a total of three per stream mile per stream.

5. All hydric soils up to 12 inches in depth within wetlands shall be stockpiled and replaced as the topmost backfill layer. Best management practices, such as silt fencing and soil stabilization, shall be implemented to reduce erosion and sediment run-off into adjacent wetlands.

6. The stockpiling of side cast dredged material in excess of three months requires individual 401 WQC.

7. Buried utility lines shall be installed at a 90-degree angle to the stream bank to the maximum extent practicable. When a 90-degree angle is not possible, the length of any buried utility line within any single water body shall not exceed twice the width of that water body at the location of the crossing.

52. ***Water-Based Renewable Energy Generation Pilot Projects.*** Revoked

53. ***Removal of Low-Head Dams.*** Structures and work in navigable waters of the United States and discharges of dredged or fill material into waters of the United States associated with the removal of low-head dams.

For the purposes of this NWP, the term "low-head dam" is defined as a dam built across a stream to pass flows from upstream over all, or nearly all, of the width of the dam crest on a continual and uncontrolled basis. (During a drought, there might not be water flowing over the dam crest.) In general, a low-head dam does not have a separate spillway or spillway gates but it may have an uncontrolled spillway. The dam crest is the top of the dam from left abutment to right abutment, and if present, an uncontrolled spillway. A low-head dam provides little storage function.

The removed low-head dam structure must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization.

Because the removal of the low-head dam will result in a net increase in ecological functions and services provided by the stream, as a general rule compensatory mitigation is not required for activities authorized by this NWP. However, the district engineer may determine for a particular low-head dam removal activity that compensatory mitigation is necessary to ensure the authorized activity results in no more than minimal adverse environmental effects.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) (Authorities: Sections 10 and 404)

Note: This NWP does not authorize discharges of dredged or fill material into waters of the United States or structures or work in navigable waters to restore the stream in the vicinity of the low-head dam, including the former impoundment area. Nationwide permit 27 or other Department of the Army permits may authorize such activities. This NWP does not authorize discharges of dredged or fill material into waters of the United States or structures or work in navigable waters to stabilize stream banks. Bank stabilization activities may be authorized by NWP 13 or other Department of the Army permits.

Corps NWP 53 Specific Regional Conditions:

a. The PCN shall include the volume of sediments within the pool upstream of the dam that are to be released downstream and discussion of the steps taken to minimize the potential adverse effects on the downstream aquatic environment.

b. Sediments to be released from the pool upstream of the dam shall be consistent with Nationwide Permit General Condition 6.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

e. state wild and scenic rivers;

f. national wild and scenic rivers; and

g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

54. ***Living Shorelines.*** Structures and work in navigable waters of the United States and discharges of dredged or fill material into waters of the United States for the construction and maintenance of living shorelines to stabilize banks and shores in coastal waters, which includes the Great Lakes, along shores with small fetch and gentle slopes that are subject to low- to mid-energy waves. A living shoreline has a footprint that is made up mostly of native material. It incorporates vegetation or other living, natural "soft" elements alone or in combination with some type of harder shoreline structure (e.g., oyster or mussel reefs or rock sills) for added protection and stability. Living shorelines should maintain the natural continuity of the land-water interface, and retain or enhance shoreline ecological processes. Living shorelines must have a substantial biological component, either tidal or lacustrine fringe wetlands or oyster or mussel reef structures. The following conditions must be met:

(a) The structures and fill area, including sand fills, sills, breakwaters, or reefs, cannot extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes, unless the district engineer waives this criterion by making a written determination concluding that the activity will result in no more than minimal adverse environmental effects;

(b) The activity is no more than 500 feet in length along the bank, unless the district engineer waives this criterion by making a written determination concluding that the activity will result in no more than minimal adverse environmental effects;

(c) Coir logs, coir mats, stone, native oyster shell, native wood debris, and other structural materials must be adequately anchored, of sufficient weight, or installed in a manner that prevents relocation in most wave action or water flow conditions, except for extremely severe storms;

(d) For living shorelines consisting of tidal or lacustrine fringe wetlands, native plants appropriate for current site conditions, including salinity, must be used if the site is planted by the permittee;

(e) Discharges of dredged or fill material into waters of the United States, and oyster or mussel reef structures in navigable waters, must be the minimum necessary for the establishment and maintenance of the living shoreline;

(f) If sills, breakwaters, or other structures must be constructed to protect fringe wetlands for the living shoreline, those structures must be the minimum size necessary to protect those fringe wetlands;

(g) The activity must be designed, constructed, and maintained so that it has no more than minimal adverse effects on water movement between the waterbody and the shore and the movement of aquatic organisms between the waterbody and the shore; and

(h) The living shoreline must be properly maintained, which may require periodic repair of sills, breakwaters, or reefs, or replacing sand fills after severe storms or erosion events. Vegetation may be replanted to maintain the living shoreline. This NWP authorizes those maintenance and repair activities, including any minor deviations necessary to address changing environmental conditions.

This NWP does not authorize beach nourishment or land reclamation activities.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the construction of the living shoreline. (See general condition 32.) The pre-construction notification must include a delineation of special aquatic sites (see paragraph (b)(4) of general condition 32). Pre-construction notification is not required for maintenance and repair activities for living shorelines unless required by applicable NWP general conditions or regional conditions. (Authorities: Sections 10 and 404)

Note: In waters outside of coastal waters, nature-based bank stabilization techniques, such as bioengineering and vegetative stabilization, may be authorized by NWP 13.

Corps NWP 54 Specific Regional Conditions:

a. PCN in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 is required for projects located on waters of the U.S.

b. For projects located along the shorelines of Lake Erie, Sandusky Bay, and Maumee Bay, all sand and gravel located below the proposed project, both below and above Ordinary High Water (OHW) mark (573.4 feet IGLD 1985), will be excavated down to clay or bedrock, and side cast into the nearshore area either immediately waterward or downdrift of the project area. Verification of the placement of the excavated material within the nearshore area shall be documented through the submittal of dated photographs and an accompanying photo location map to the district engineer within 30 days of commencement of the project.

c. For projects located along the shorelines of Lake Erie, Sandusky Bay, and Maumee Bay, a one-time sand prefill of two (2) cubic yards of sand per linear foot of shoreline stabilized shall be placed at an approved location in the nearshore area in less than three feet of water within 30 days of project commencement, unless the district engineer waives this requirement by making a written determination. Verification of

the placement of the sand prefill material within the nearshore area shall be documented through the submittal of contractor's receipts, including the volume of sand prefill, dated photographs, and accompanying photo location map to the district engineer. The sand shall be from an upland source or other approved source and shall be similar in composition to the sand at the project site, free from organic material; limestone sand and top soil are excluded.

d. For projects located in Lake Erie, Sandusky Bay, and Maumee Bay, broken concrete shall not be used as suitable material, unless it is contained within a structure.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

Ohio CZMA Federal Consistency Determination Condition:

For all activities located within or along the shore of Ohio's portion of Lake Erie, including Maumee Bay and Sandusky bay, all applicable authorizations under the Ohio Coastal Management Program must be obtained.

D. **Nationwide Permit General Conditions**

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific

conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for a NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR §§ 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR § 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. **Navigation.** (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. **Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. **Migratory Bird Breeding Areas. A**ctivities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. **Shellfish Beds.** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. **Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. **Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. **Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. **Management of Water Flows.** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. **Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. **Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. **Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. **Removal of Temporary Fills.** Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. **Proper Maintenance.** Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. **Single and Complete Project.** The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. **Wild and Scenic Rivers.** (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. **Tribal Rights.** No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. **Endangered Species.** (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA

section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. **Migratory Birds and Bald and Golden Eagles.** The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. **Historic Properties**. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine

whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed.

(d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. **Discovery of Previously Unknown Remains and Artifacts.** If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. **Designated Critical Resource Waters.** Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. **Mitigation.** The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)).

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. **Safety of Impoundment Structures.** To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. **Water Quality.** Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. **Coastal Zone Management.** In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. **Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. **Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. **Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

_____

(Date)

30. **Compliance Certification.** Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required

permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. **Activities Affecting Structures or Works Built by the United States.** If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. **Pre-Construction Notification.** (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the

NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

E. **District Engineer's Decision**

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the individual crossings of waters of the United States to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51, 52, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects. For those NWPs that have a waivable 300 linear foot limit for losses of intermittent and ephemeral stream bed and a 1/2-acre limit (i.e., NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52), the loss of intermittent and ephemeral stream bed, plus any other losses of jurisdictional waters and wetlands, cannot exceed 1/2-acre.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-

specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters (e.g., streams). The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31, or to evaluate PCNs for activities authorized by NWPs 21, 49, and 50), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has

approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

F. **Further Information**

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

G. **General Limitations and Conditions for all Ohio EPA 401 Certified Nationwide Permits**

A. CULVERTS

For intermittent and perennial streams:

1. When practicable, bottomless or buried culverts are required when culvert size is greater than 36" in diameter. This condition does not apply if the culverts have a gradient of greater than 1% grade or installed on bedrock. A buried culvert means that the bottom 10% by dimension shall be buried below the existing stream bed elevation.

2. The culvert shall be designed and sized to accommodate bankfull discharge and match the existing depth of flow to facilitate the passage of aquatic organisms.

3. When practicable, culverts shall be installed at the existing streambed slope, to allow for the natural movement of bedload and aquatic organisms.

B. BEST MANAGEMENT PRACTICES

1. Unless subject to a more specific storm water National Pollutant Discharge Elimination System (NPDES) permit, all best management practices for storm water management shall be designed and implemented in accordance with the most current edition of the NPDES construction general permit available at: http://www.epa.ohio.gov/dsw/storm/index.aspx, or any watershed specific construction general permit.

2. Sediment and erosion control measures and best management practices must be designed, installed, and maintained in effective operating condition at all times during construction

activities as required by applicable NPDES permits. Proper maintenance ensures corrective measures will be implemented for failed controls within 48 hours of discovery.

3. For perennial and intermittent streams, in-stream sediment control measures shall not be utilized, with the exception of turbidity curtains parallel to the stream bank, for the purpose of sediment collection. All sediment and erosion control measures shall be entirely removed and the natural grade of the site restored once construction is completed.

4. All avoided water resources and associated buffers/riparian areas shall be demarcated in the field and protected with suitable materials (e.g., silt fencing, snow fencing, signage, etc.) prior to site disturbance. These materials shall remain in place and be maintained throughout the construction process and shall be entirely removed once construction is completed.

5. Disturbance and removal of vegetation from the project construction area is to be avoided where possible and minimized to the maximum extent practicable. Entry to surface waters shall be through a single point of access to the maximum extent practicable to minimize disturbance to riparian habitat. Unavoidable temporary impacts to forested riparian habitat shall be restored as soon as practicable after in-water work is complete using tree and shrub species native to the specific ecoregion where the project is located.

6. All dredged material placed at an upland site shall be controlled so that sediment runoff to adjacent surface waters is minimized to the maximum extent practicable.

7. Straw bales shall not be used as a form of sediment control unless used in conjunction with another structural control such as silt fencing. Straw bales may be utilized for purposes of erosion control such as ditch checks.

8. Heavy equipment shall not be placed below the ordinary high water mark of any surface water, except when no other alternative is practicable.

9. Temporary fill for purposes of access or staging shall consist of suitable non-erodible material and shall be maintained to minimize erosion.

10. Chromated copper arsenate (CCA) and creosote treated lumber shall not be used in structures that come into contact with waters of the state.

11. All dewatering activities must be conducted in such a manner that does NOT result in a violation of water quality standards.

12. All areas of final grade must be protected from erosion within seven days.

13. All disturbed areas which remain dormant in excess of fourteen days must be protected from erosion within seven days from the last earth disturbing activity.

14. In the event of authorized in-stream activities, provisions must be established to

redirect the stream flow around or through active areas of construction in a stabilized, non-erosive manner to the maximum extent possible.

C. MITIGATION

1. Compensatory mitigation is required for the discharge of dredged or fill material into wetlands for permanent impacts exceeding 0.10 acres.

2. When required, compensatory mitigation shall be provided in accordance with chapters 3745-1 and 3745-32 of the Ohio Administrative Code.

3. When compensatory mitigation will be provided wholly or in part at a mitigation bank or through an in-lieu fee program, credit purchase shall only be authorized at those banks or in-lieu fee programs approved by the Interagency Review Team (IRT) and have an active instrument signed by the director of Ohio EPA.

4. Compensatory mitigation for stream impacts, if required, shall be conducted in accordance with the requirements in the applicable Nationwide Permit.

D. DIRECTOR'S AUTHORIZATION

1. In accordance with the procedures outlined in Appendix A, Ohio EPA may grant coverage under this certification for any project that does not meet one or more of the terms and conditions for eligibility of this certification or where the district engineer has been granted authority to waive certain requirements. Coverage may be granted when Ohio EPA determines, consistent with the special limitations and conditions for each certification, and after considering comments received on the requested director's authorization, that a project will have such a minimal impact on water quality that an individual 401 WQC is not necessary provided all other terms and conditions of this certification have been met. If a director's authorization is not granted, an individual 401 WQC must be obtained. In no case may a director's authorization issued under this certification exceed an impact threshold authorized by the Corps' Nationwide Permit.

E. NOTIFICATION TO OHIO EPA

1. For any activity proposed to be authorized under NWPs 3, 4, 5, 6, 7, 12, 13, 14, 15, 16, 18, 22, 23, 25, 27, 29, 30, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 49, 51, 53, and 54, when a PCN is not required by the Corps, notification to Ohio EPA is required for impacts to the following resources:

a. category 3 wetlands;

b. ≥0.10 acres of wetland.

2. Notifications required by E.1 should contain all information required by Nationwide Permit General Condition 32(b) and (c), Regional General Condition 6, and Appendix

B.

3. For any activity proposed to be authorized under NWPs 4, 6, 7, 12, 13, 14, 15, 16, 18, 22, 23, 25, 29, 30, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 45, 51, 53, and 54, when a PCN is not required by the Corps, notification to Ohio EPA is required for impacts to streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map.

4. Notifications required by E.3 should contain all information required by Nationwide Permit General Condition 32(b) and (c), Regional General Condition 6, and Appendix C.

5. When notification to Ohio EPA is required by conditions E.1 and E.3 above, the applicant shall not begin the activity until either:

a. He or she is notified in writing by Ohio EPA that the activity may proceed under the 401 WQC for the NWP; or

b. 45 calendar days have passed from Ohio EPA's receipt of the notification and the applicant has not received written notice from Ohio EPA that additional information is necessary or that an individual 401 WQC is required.

F. MISCELLANEOUS

1. Authorization under this certification does not relieve the certification holder from the responsibility of obtaining any other federal, state or local permits, approvals or authorizations.

2. For purposes of this certification the Corps' definition of single and complete linear and non-linear projects shall be applied to all conditions regarding impacts, mitigation, and director's authorizations. If a project includes impacts that are ineligible under this certification, an applicant must apply for an individual 401 WQC or a director's authorization for those impacts to resources that do not meet one or more of the terms and conditions within this certification.

3. For purposes of this certification temporary impact means temporary activities which facilitate the nature of the activity or aid in the access, staging, or development of construction that are short term in nature and which are expected, upon removal of the temporary impact, to result in the surface water returning to conditions which support pre-impact biological function with minimal or no human intervention within 12 months following the completion of the temporary impact. Examples of temporary impacts include, but are not limited to access roads, work pads, staging areas, and stream crossings, including utility corridors. Activities that result in a wetland conversion (e.g. forested to non-forested) are not considered temporary impacts.

4. In the event that the issuance of a nationwide permit by the Corps requires individual 401 WQC for an activity that constitutes an emergency as defined in 33 CFR 325.2(e)(4), the limitation and/or condition requiring the individual 401 WQC is not applicable and the project may proceed upon approval by the Corps provided all other terms of this

certification, including mitigation, are met.

5. Representatives from Ohio EPA, Division of Surface Water will be allowed to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of this certification. This includes, but is not limited to, access to and copies of any records that must be kept under the conditions of this certification; and, authorization to sample and/or monitor any discharge activity or mitigation site. Ohio EPA will make a reasonable attempt to notify the applicant of its intention to inspect the site in advance of that inspection.

6. Impacts as referenced in this certification consist of waters of the state directly impacted by the placement of fill or dredged material.

7. In accordance with the procedures outlined in Appendix B, and where specifically required in the special limitations and conditions of this certification, an applicant proposing to impact a wetland shall perform a wetland characterization analysis consistent with the Ohio Rapid Assessment Method (ORAM) to demonstrate wetland category for all projects requiring a PCN to the Corps or notification to Ohio EPA.

8. In accordance with the procedures outlined in Appendix C, and where specifically required in the special limitations and conditions of this certification, an applicant proposing to impact a stream shall determine the eligibility of the stream proposed for impact for all projects requiring a PCN to the Corps or notification to Ohio EPA.

Appendix A
Director's Authorization Process

1. To apply for a director's authorization for coverage under this certification, the applicant must provide to Ohio EPA the following:

    a. A completed Director's Authorization Request Form available on the "Director's Authorization" tab located at: http://www.epa.ohio.gov/dsw/401/permitting.aspx;

    b. A copy of the pre-construction notification submitted to the Corps including all attachments;

    c. A copy of the provisional nationwide permit authorization letter issued by the Corps including all attachments and special conditions, if any;

    d. A copy of the mitigation plan as approved by the Corps, if applicable;

    e. A detailed description of the conditions within this certification that are not being met;

    f. A detailed description of any NWP terms and conditions, including impact limits that the Corps district engineer has waived for the project, if applicable;

g. A rationale of how the applicant believes the project will minimally impact water quality for those impacts to resources that do not meet one or more of the terms and conditions within this certification, including reason(s) why the resources are unable to be avoided;

h. Comments received from the Ohio Department of Natural Resources and United States Fish and Wildlife Service regarding threatened and endangered species or comments from an applicant that has been authorized by these entities to make threatened and endangered species determinations;

i. A one-time review fee of $2000 for the project;

j. A detailed description of how the project meets public need, as defined in OAC 3745-1-50, for impacts to category 3 wetlands;

k. Documentation as required under Appendix B and C;

l. Any other documentation as may be required under this certification.

2. Upon receipt of the director's authorization request containing items a. through o. outlined above, excluding item c., the director will post the materials on the Ohio EPA, DSW webpage and invite public comment on the request for 15 days. The director will review and consider the comments received during the public comment period before making a decision on the director's authorization.

Appendix B
ORAM Verification Process

The ORAM results shall be included with the pre-construction notification (PCN) or notification to Ohio EPA if a PCN is not required by the Corps.

For each wetland proposed for impact the applicant must provide the following information for review in accordance with the ORAM verification procedure:

a. Complete ORAM forms prepared in accordance with the current ORAM manual;

b. Wetland delineation prepared in accordance with the current method required by the Corps;

c. A minimum of four high resolution color photographs taken while facing each of the four cardinal directions of each wetland proposed for impact. Photographs must accurately depict the quality of the wetland and may not include a majority of dying or dead vegetation or excessive cover due to seasonal conditions that vegetation and substrates cannot be observed, such as leaf litter, snow, or ice. Photographs deemed to be insufficient of representing the wetland will be required to be retaken once seasonal conditions are

appropriate. Photographs shall be clearly labeled with the wetland name, direction, and date;

d. USGS topographical map, National Wetlands Inventory map, Soil Survey map and aerial images (both historical and current) which clearly outline the entire wetland boundary; and

e. Coordination letter from the Ohio Department of Natural Resources (ODNR), Natural Heritage Database indicating the presence or absence of state listed threatened or endangered species or comments from an applicant that has been authorized by ODNR to make threatened and endangered species determinations.

Appendix C
Stream Eligibility Determination Process

1. The stream eligibility results shall be included with the PCN or notification to Ohio EPA if a PCN is not required by the Corps. For each single and complete project with potential impacts to streams, where it is specifically required in the special limitations and conditions of this certification, the applicant shall determine if the streams proposed for impact are eligible for coverage under the 401 WQC for the Nationwide Permits using the following procedure:

   a. Navigate to the Ohio EPA 401 website at: http://www.epa.ohio.gov/dsw/401/permitting.aspx

   b. Click on the "Nationwide Permits" tab and then click on the "Stream Eligibility Web Map" link. To download the shapefile from the web map, click on the in the upper right hand corner of the webpage and select download. To draw project boundaries directly on the web map, click on the in the upper left hand corner of the webpage.

   c. Using a GIS program, overlay the project boundary, streams proposed for impact, current aerial imagery, and the stream eligibility layer. If the applicant does not have access to a GIS program, the project boundary should be drawn on the web map and a copy of the map can be printed from the webpage;

      i. If any stream proposed for impact within the project area falls within an ineligible area, impacts to that stream are not eligible for coverage under the 401 WQC for the Nationwide Permits, and the applicant shall apply for an individual 401 WQC or a director's authorization.

      ii. If any stream proposed for impact within the project area falls within a possibly eligible area, the applicant shall take pH values, when applicable, and perform a Qualitative Assessment Habitat Evaluation Index (QHEI) or Headwater Habitat Evaluation Index (HHEI) assessment for the stream. Using the flow charts provided below, the applicant shall determine if impacts to that stream are eligible for coverage under the 401 WQC for the Nationwide Permits or if an individual 401 WQC is required.

iii. If all streams proposed for impact within the project area are located within the eligible area, impacts to that stream are eligible for coverage under the 401 WQC for the Nationwide Permits and no further assessment is necessary.

d. The applicant shall submit the following information with the PCN or notification to Ohio EPA:

i. Color map(s), no smaller than 8”x10”, which clearly shows the project boundary, streams proposed for impact, current aerial imagery, and the stream eligibility GIS layer;

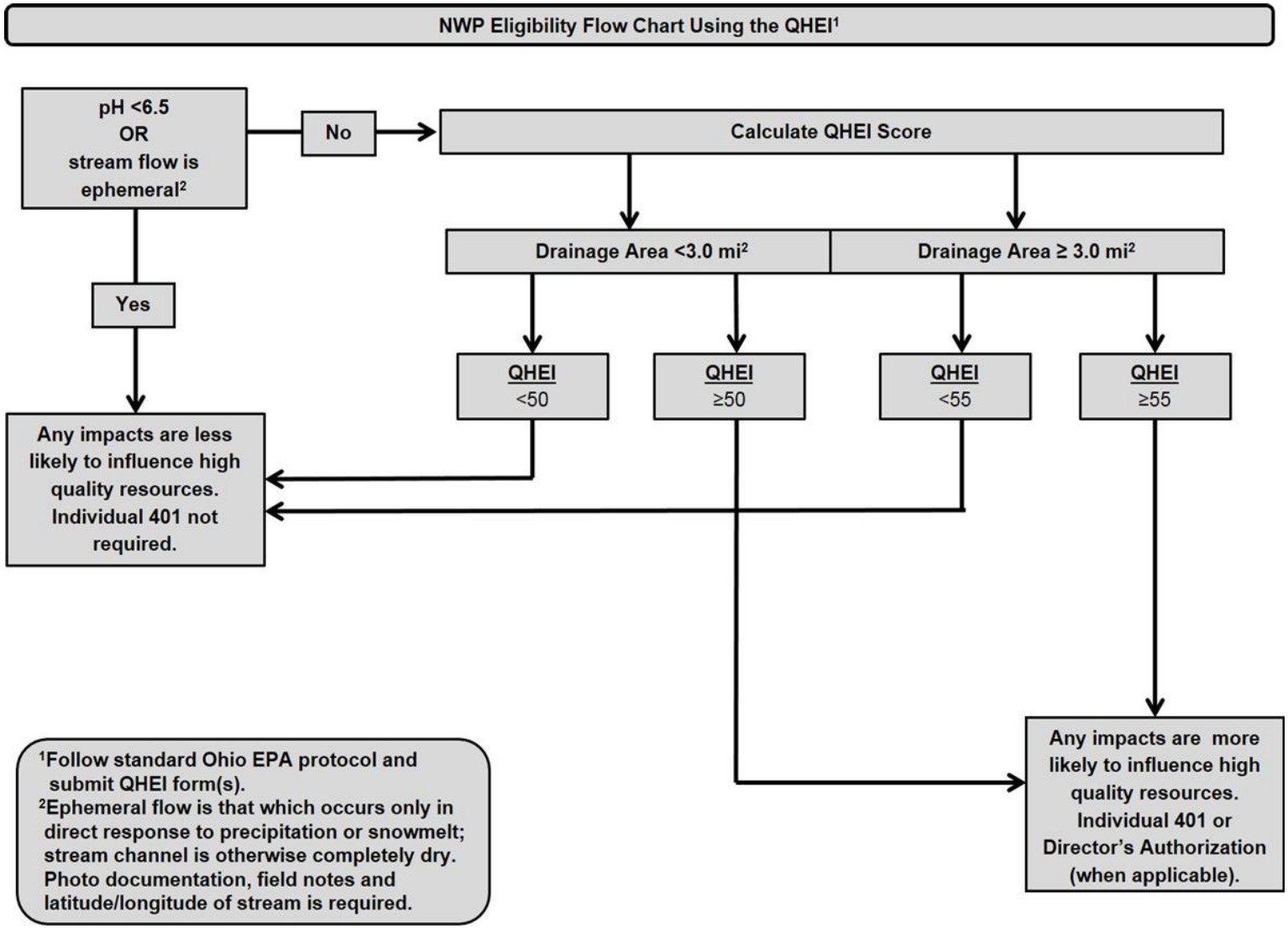
ii. For each stream located in possibly eligible areas;

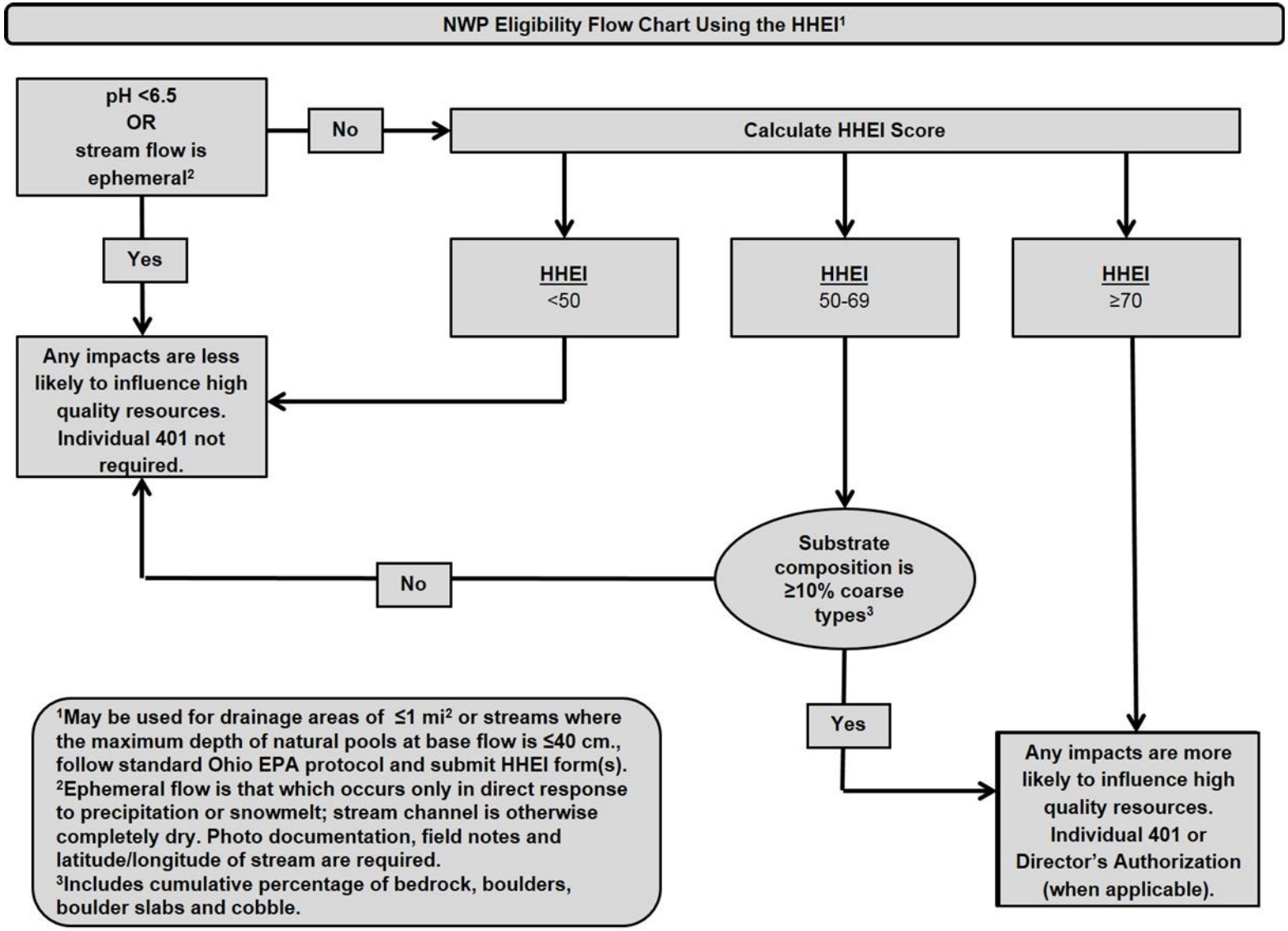
(1) A minimum of three high resolution color photographs taken of the proposed impact area, including one facing upstream, one facing downstream, and a close up which clearly depicts the substrate composition and size for each stream proposed for impact. Photographs must accurately depict the quality of the stream and may not include excessive cover due to seasonal conditions that substrates cannot be observed such as snow or ice. Photographs deemed to be insufficient of representing the stream will be required to be retaken once seasonal conditions are appropriate. Photographs shall be clearly labeled with the stream name, direction, and date;

(2) pH values for each stream proposed for impact taken within the proposed project area, where applicable;

(3) Complete QHEI or HHEI sheets prepared in accordance with the current manuals; and

(4) Statement of whether the streams proposed for impact within the project area are eligible for coverage under the 401 WQC for the Nationwide Permits or if an individual 401 WQC or a director’s authorization is required.


NWP Eligibility Flow Chart Using the QHEI[1]
pH <6.5 OR stream flow is ephemeral[2]
No
Calculate QHEI Score
Yes
Drainage Area <3.0 mi²
Drainage Area ≥ 3.0 mi²
QHEI <50
QHEI ≥50
QHEI <55
QHEI ≥55
Any impacts are less likely to influence high quality resources. Individual 401 not required.
Any impacts are more likely to influence high quality resources. Individual 401 or Director's Authorization (when applicable).
[1]Follow standard Ohio EPA protocol and submit QHEI form(s).
[2]Ephemeral flow is that which occurs only in direct response to precipitation or snowmelt; stream channel is otherwise completely dry. Photo documentation, field notes and latitude/longitude of stream is required.


NWP Eligibility Flow Chart Using the HHEI[1]
pH <6.5 OR stream flow is ephemeral[2]
No
Calculate HHEI Score
Yes
HHEI <50
HHEI 50-69
HHEI ≥70
Any impacts are less likely to influence high quality resources. Individual 401 not required.
Substrate composition is ≥10% coarse types[3]
No
Yes
Any impacts are more likely to influence high quality resources. Individual 401 or Director's Authorization (when applicable).
[1]May be used for drainage areas of ≤1 mi² or streams where the maximum depth of natural pools at base flow is ≤40 cm., follow standard Ohio EPA protocol and submit HHEI form(s).
[2]Ephemeral flow is that which occurs only in direct response to precipitation or snowmelt; stream channel is otherwise completely dry. Photo documentation, field notes and latitude/longitude of stream are required.
[3]Includes cumulative percentage of bedrock, boulders, boulder slabs and cobble.

H. **Definitions**

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual

data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the acres or linear feet of stream bed that are filled or excavated as a result of the regulated activity. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Protected tribal resources: Those natural resources and properties of traditional or customary religious or cultural importance, either on or off Indian lands, retained by, or reserved by or for, Indian tribes through treaties, statutes, judicial decisions, or executive orders, including tribal trust resources.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or

individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States. If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

HILLCREST SOLAR PROJECT

January 13, 2020

Ohio Power Siting Board
Docketing Division
180 East Broad Street, 11th Floor
Columbus, Ohio 43215-3793
Attn: Grant Zeto

RE: **Case Nos. 17-1152-EL-BGN - Hillcrest Solar I, LLC**

Notice of Compliance with Certificate Condition #6 – Before commencement of construction activities in any affected areas, Hillcrest shall obtain and comply with all necessary permits and authorizations. Hillcrest shall provide copies of such permits and authorizations to Staff within seven days prior to the applicable construction activities. Hillcrest shall provide a schedule of construction activities and acquisition of corresponding permits for each activity at the preconstruction conference.

Dear Mr. Zeto;

Hillcrest Solar I, LLC ("Hillcrest Solar") is certified to construct a solar-powered electric generation facility in Brown County, Ohio in accordance with the orders issued by the Ohio Power Siting Board ("OPSB") in the above-referenced cases.

Attached please find the OEPA Notice of Intent approval and the Brown County letter of acceptance of the Storm Water Pollution Prevention Plan regarding compliance with Certificate Condition #6 of the Opinion, Order and Certificate issued on February 15, 2018 in Case No. 17-1152-EL-BGN.

We are available, at your convenience, to answer any questions you may have.

Sincerely,

for: Julia Mancinelli, Senior Manager - Environment

Attachment: OEPA Notice of Intent and Brown County Letter of Acceptance

Innergex Renewable Energy Inc.

888 Dunsmuir Street, Suite 1100
Vancouver, British Columbia V6C 3K4
Canada
Tel. 604 633-9990 | Fax 604 633-9991
info@innergex.com | www.innergex.com

Head Office
1225 Saint-Charles Street West, 10th floor
Longueuil, Québec J4K 0B9
Canada
Tel. 450 928-2550 | Fax 450 928-2544
info@innergex.com | www.innergex.com

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

Jan 10, 2020

Hillcrest Solar I, LLC
Julia Mancinelli
4660 La Jolla Village Drive, Suite 680
San Diego, CA 92122

Re: Approval Under Ohio EPA National Pollutant Discharge Elimination System (NPDES) - Construction Site Stormwater General Permit - OHC000005

Dear Applicant,

Your NPDES Notice of Intent (NOI) application is approved for the following facility/site. Please use your Ohio EPA Facility Permit Number in all future correspondence.

Facility Name:	Hillcrest Solar Project
Facility Location:	4313 County Hwy 8-C
City:	Mount Orab
County:	Brown
Township:	
Ohio EPA Facility Permit Number:	1GC07498*AG
Permit Effective Date:	Jan 10, 2020

Please read and review the permit carefully. The permit contains requirements and prohibitions with which you must comply. Coverage under this permit will remain in effect until a renewal of the permit is issued by the Ohio EPA.

If more than one operator (defined in the permit) will be engaged at the site, each operator shall seek coverage under the general permit. Additional operator(s) shall submit a Co-Permittee NOI to be covered under this permit. There is no fee associated with the Co-Permittee NOI form.

Please be aware that this letter only authorizes discharges in accordance with the above referenced NPDES CGP. The placement to fill into regulated waters of the state may require a 401 Water Quality Certification and/or Isolated Wetlands Permit from Ohio EPA. Also, a Permit-To-Install (PTI) is required for the construction of sanitary or industrial wastewater collection, conveyance, storage, treatment, or disposal facility; unless a specific exemption by rule exists. Failure to obtain the required permits in advance is a violation of Ohio Revised Code 6111 and potentially subjects you to enforcement and civil penalties.

To view your electronic submissions and permits please Logon in to the Ohio EPA's eBusiness Center at http://ebiz.epa.ohio.gov.

If you need assistance or have questions please call (614) 644-2001 and ask for Construction Site Stormwater General Permit support or visit our website at http://www.epa.ohio.gov.

Sincerely,

Laurie A. Stevenson

Laurie A. Stevenson
Director

Brown County Soil and Water Conservation District

706 South Main Street
Georgetown, Ohio 45121
Phone: 937-378-4424
Fax: 937-378-6710

Board of Supervisors
Aubrey Bolender, Becky Cropper
Ken Morrison, Fred Scott, Harmon Sizemore

Associate Board
Ron Bulow, John Herbolt, Nathaniel Young

December 27, 2019

Julia Mancinelli
888 Dunsmuir Street, Suite 1100
Vancouver, BC V6C 3K4

Dear Julia,

After reviewing the Hillcrest Solar 1, LLC, Storm Water Pollution Prevention Plan, I find the plan acceptable. The Brown County SWCD board approved for me to give acceptance of the plan at their meeting held on December 17, 2019.

On Friday December 20, 2019, I did a site visit just to reacquaint myself with the Solar Farm development area. It was observed in a couple of places where construction crews had driven through the Township Road drainage ditch. These are a valuable source of drainage to the area and must always be maintained. There are many natural features on the landscape in the construction area that need to be maintained. If the contractors follow the SWP3, there should not be any negative impacts to those natural features.

I look forward to working with you and your company on any future projects. If you have any questions, feel free to reach out to me via phone or email.

Sincerely,

Chris Rogers
District Manager, Brown SWCD

Cc: Michelle Flanagan, OEPA
Aubrey Bolender, Chairman Brown SWCD

Issuance Date: April 23, 2018
Effective Date: April 23, 2018
Expiration Date: April 22, 2023

Ohio EPA APR 23 '18
Entered Directors Journal

OHIO ENVIRONMENTAL PROTECTION AGENCY

GENERAL PERMIT AUTHORIZATION FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the federal Water Pollution Control Act, as amended (33 U.S.C. Section 1251 et. seq. hereafter referred to as "the Act") and the Ohio Water Pollution Control Act [Ohio Revised Code ("ORC") Chapter 6111], dischargers of storm water from sites where construction activity is being conducted, as defined in Part I.B of this permit, are authorized by the Ohio Environmental Protection Agency, hereafter referred to as "Ohio EPA," to discharge from the outfalls at the sites and to the receiving surface waters of the state identified in their Notice of Intent ("NOI") application form on file with Ohio EPA in accordance with the conditions specified in Parts I through VII of this permit.

It has been determined that a lowering of water quality of various waters of the state associated with granting coverage under this permit is necessary to accommodate important social and economic development in the state of Ohio. In accordance with OAC 3745-1-05, this decision was reached only after examining a series of technical alternatives, reviewing social and economic issues related to the degradation, and considering all public and intergovernmental comments received concerning the proposal.

This permit is conditioned upon payment of applicable fees, submittal of a complete NOI application form, development (and submittal, if applicable) of a complete Storm Water Pollution Prevention Plan (SWP3) and written approval of coverage from the director of Ohio EPA in accordance with Ohio Administrative Code ("OAC") Rule 3745-38-02.

Craig W. Butler
Director

Total Pages: 60

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

By: Donna Wassler Date: 4-23-18

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PART I. COVERAGE UNDER THIS PERMIT

A. Permit Area.

This permit covers the entire State of Ohio. Appendices A and B of this permit contain additional watershed specific requirements for construction activities located partially or fully within the Big Darby Creek Watershed and portions of the Olentangy River Watershed. Projects within portions of the Olentangy River watershed shall seek coverage under this permit following the expiration of OHCO00002 (May 31, 2019).

B. Eligibility.

1. Construction activities covered. Except for storm water discharges identified under Part I.B.2, this permit may cover all new and existing discharges composed entirely of storm water discharges associated with construction activity that enter surface waters of the state or a storm drain leading to surface waters of the state.

   For the purposes of this permit, construction activities include any clearing, grading, excavating, grubbing and/or filling activities that disturb one or more acres. Discharges from trench dewatering are also covered by this permit as long as the dewatering activity is carried out in accordance with the practices outlined in Part III.G.2.g.iv of this permit.

   Construction activities disturbing one or more acres of total land or will disturb less than one acre of land but are part of a larger common plan of development or sale that will ultimately disturb one or more acres of land are eligible for coverage under this permit. The threshold acreage includes the entire area disturbed in the larger common plan of development or sale.

   This permit also authorizes storm water discharges from support activities (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) provided:

   a. The support activity is directly related to a construction site that is required to have NPDES permit coverage for discharges of storm water associated with construction activity;

   b. The support activity is not a commercial operation serving multiple unrelated construction projects and does not operate beyond the completion of the construction activity at the site it supports;

   c. Appropriate controls and measures are identified in a storm water pollution prevention plan (SWP3) covering the discharges from the support activity; and

   d. The support activity is on or contiguous with the property defined in the NOI (offsite borrow pits and soil disposal areas, which serve only one project, do not have to be contiguous with the construction site).

2. Limitations on coverage. The following storm water discharges associated with construction activity are not covered by this permit:

a. Storm water discharges that originate from the site after construction activities have ceased, including any temporary support activity, and the site has achieved final stabilization. Industrial post-construction storm water discharges may need to be covered by an NPDES permit;

b. Storm water discharges associated with construction activity that the director has shown to be or may reasonably expect to be contributing to a violation of a water quality standard; and

c. Storm water discharges authorized by an individual NPDES permit or another NPDES general permit.

3. Waivers. After March 10, 2003, sites whose larger common plan of development or sale have at least one, but less than five acres of land disturbance, which would otherwise require permit coverage for storm water discharges associated with construction activities, may request that the director waive their permit requirement. Entities wishing to request such a waiver must certify in writing that the construction activity meets one of the two waiver conditions:

a. Rainfall Erosivity Waiver. For a construction site to qualify for the rainfall erosivity waiver, the cumulative rainfall erosivity over the project duration must be five or less and the site must be stabilized with a least a 70 percent vegetative cover or other permanent, non-erosive cover. The rainfall erosivity must be calculated according to the method in U.S. EPA Fact Sheet 3.1 Construction Rainfall Erosivity Waiver dated January 2001 and be found at: http://epa.ohio.gov/portals/35/permits/USEPAfact3-1_s.pdf. If it is determined that a construction activity will take place during a time period where the rainfall erosivity factor is less than five, a written waiver certification must be submitted to Ohio EPA at least 21 days before construction activity is scheduled to begin. If the construction activity will extend beyond the dates specified in the waiver certification, the operator must either: (a) recalculate the waiver using the original start date with the new ending date (if the R factor is still less than five, a new waiver certification must be submitted) or (b) submit an NOI application form and fee for coverage under this general permit at least seven days prior to the end of the waiver period; or

b. TMDL (Total Maximum Daily Load) Waiver. Storm water controls are not needed based on a TMDL approved or established by U.S. EPA that addresses the pollutant(s) of concern or, for non-impaired waters that do not require TMDLs, and equivalent analysis that determines allocations for small construction sites for the pollutant(s) of concern or that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. The pollutant(s) of concern include sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the director of Ohio EPA that the construction activity will take place, and storm water discharges will occur, within the drainage area addressed by the TMDL or equivalent analysis. A written waiver certification must be submitted to Ohio EPA at least 21 days before the construction activity is scheduled to begin.

4. Prohibition on non-storm water discharges. All discharges covered by this permit must be composed entirely of storm water with the exception of the following: discharges from firefighting activities; fire hydrant flushings; potable water sources including waterline flushings; irrigation drainage; lawn watering; routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; uncontaminated ground water from trench or well point dewatering and foundation or footing drains where flows are not contaminated with process materials such as solvents. Dewatering activities must be done in compliance with Part II.C and Part III.G.2.g.iv of this permit. Discharges of material other than storm water or the authorized non-storm water discharges listed above must comply with an individual NPDES permit or an alternative NPDES general permit issued for the discharge.

   Except for flows from firefighting activities, sources of non-storm water listed above that are combined with storm water discharges associated with construction activity must be identified in the SWP3. The SWP3 must identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

5. Spills and unintended releases (Releases in excess of Reportable Quantities). This permit does not relieve the permittee of the reporting requirements of Title 40 of the Code of Federal Regulations ("CFR") Part 117 and 40 CFR Part 302. In the event of a spill or other unintended release, the discharge of hazardous substances in the storm water discharge(s) from a construction site must be minimized in accordance with the applicable storm water pollution prevention plan for the construction activity and in no case, during any 24-hour period, may the discharge(s) contain a hazardous substance equal to or in excess of reportable quantities.

   40 CFR Part 117 sets forth a determination of the reportable quantity for each substance designated as hazardous in 40 CFR Part 116. The regulation applies to quantities of designated substances equal to or greater than the reportable quantities, when discharged to surface waters of the state. 40 CFR Part 302 designates under section 102(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, those substances in the statutes referred to in section 101(14), identifies reportable quantities for these substances and sets forth the notification requirements for releases of these substances. This regulation also sets forth reportable quantities for hazardous substances designated under section 311(b)(2)(A) of the Clean Water Act (CWA).

C. Requiring an individual NPDES permit or an alternative NPDES general permit.

1. The director may require an alternative permit. The director may require any operator eligible for this permit to apply for and obtain either an individual NPDES permit or coverage under an alternative NPDES general permit in accordance with OAC Rule 3745-38-02. Any interested person may petition the director to take action under this paragraph.

The director will send written notification that an alternative NPDES permit is required. This notice shall include a brief statement of the reasons for this decision, an application form and a statement setting a deadline for the operator to file the application. If an operator fails to submit an application in a timely manner as required by the director under this paragraph, then coverage, if in effect, under this permit is automatically terminated at the end of the day specified for application submittal.

2. Operators may request an individual NPDES permit. Any owner or operator eligible for this permit may request to be excluded from the coverage of this permit by applying for an individual permit. The owner or operator shall submit an individual application with reasons supporting the request to the director in accordance with the requirements of 40 CFR 122.26. If the reasons adequately support the request, the director shall grant it by issuing an individual NPDES permit.

3. When an individual NPDES permit is issued to an owner or operator otherwise subject to this permit or the owner or operator is approved for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit or the date of approval for coverage under the alternative general permit, whichever the case may be.

D. Permit requirements when portions of a site are sold

If an operator obtains a permit for a development, and then the operator (permittee) sells off lots or parcels within that development, permit coverage must be continued on those lots until a Notice of Termination (NOT) in accordance with Part IV.B is submitted. For developments which require the use of centralized sediment and erosion controls (i.e., controls that address storm water runoff from one or more lots) for which the current permittee intends to terminate responsibilities under this permit for a lot after sale of the lot to a new owner and such termination will either prevent or impair the implementation of the controls and therefore jeopardize compliance with the terms and conditions of this permit, the permittee will be required to maintain responsibility for the implementation of those controls. For developments where this is not the case, it is the permittee's responsibility to temporarily stabilize all lots sold to individual lot owners unless an exception is approved in accordance with Part III.G.4. In cases where permit responsibilities for individual lot(s) will be terminated after sale of the lot, the permittee shall inform the individual lot owner of the obligations under this permit and ensure that the Individual Lot NOI application is submitted to Ohio EPA.

E. Authorization

1. Obtaining authorization to discharge. Operators that discharge storm water associated with construction activity must submit an NOI application form and Storm Water Pollution Prevention Plan (SWP3) if located within the Big Darby Creek watershed or portions of the Olentangy watershed in accordance with the requirements of Part I.F of this permit to obtain authorization to discharge under this general permit. As required under OAC Rule 3745-38-06(E), the director, in response to the NOI submission, will notify the applicant in writing that he/she has or has not been granted general permit coverage to discharge storm water associated with construction activity under the terms and conditions of this permit or that the applicant must apply for an individual NPDES permit or coverage under an alternate general NPDES permit as described in Part I.C.1.

2. No release from other requirements. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations. Other permit requirements commonly associated with construction activities include, but are not limited to, section 401 water quality certifications, isolated wetland permits, permits to install sanitary sewers or other devices that discharge or convey polluted water, permits to install drinking water lines, single lot sanitary system permits and disturbance of land which was used to operate a solid or hazardous waste facility (i.e., coverage under this NPDES general permit does not satisfy the requirements of OAC Rule 3745-27-13 or ORC Section 3734.02(H)). The issuance of this permit is subject to resolution of an antidegradation review. This permit does not relieve the permittee of other responsibilities associated with construction activities such as contacting the Ohio Department of Natural Resources, Division of Water, to ensure proper well installation and abandonment of wells.

F. Notice of Intent Requirements

1. Deadlines for notification.

   a. Initial coverage: Operators who intend to obtain initial coverage for a storm water discharge associated with construction activity under this general permit must submit a complete and accurate NOI application form, a completed Storm Water Pollution Prevention Plan (SWP3) for projects within the Big Darby Creek and portions of the Olentangy river watersheds and appropriate fee at least 21 days (or 45 days in the Big Darby Creek watershed and portions of the Olentangy watershed) prior to the commencement of construction activity. If more than one operator, as defined in Part VII of this general permit, will be engaged at a site, each operator shall seek coverage under this general permit prior to engaging in construction activities. Coverage under this permit is not effective until an approval letter granting coverage from the director of Ohio EPA is received by the applicant. Where one operator has already submitted an NOI prior to other operator(s) being identified, the additional operator shall request modification of coverage to become a co-permittee. In such instances, the co-permittees shall be covered under the same facility permit number. No additional permit fee is required.

   b. Individual lot transfer of coverage: Operators must each submit an individual lot notice of intent (Individual Lot NOI) application form (no fee required) to Ohio EPA at least seven days prior to the date that they intend to accept responsibility for permit requirements for their portion of the original permitted development from the previous permittee. Transfer of permit coverage is not granted until an approval letter from the director of Ohio EPA is received by the applicant.

2. Failure to notify. Operators who fail to notify the director of their intent to be covered and who discharge pollutants to surface waters of the state without an NPDES permit are in violation of ORC Chapter 6111. In such instances, Ohio EPA may bring an enforcement action for any discharges of storm water associated with construction activity.

3. How to submit an NOI. Operators seeking coverage under this permit must submit a complete and accurate Notice of Intent (NOI) application using Ohio EPA's electronic application form which is available through the Ohio EPA eBusiness Center at: **https://ebiz.epa.ohio.gov/**. Submission through the Ohio EPA eBusiness Center will

require establishing an Ohio EPA eBusiness Center account and obtaining a unique Personal Identification Number (PIN) for final submission of the NOI. Existing eBusiness Center account holders can access the NOI form through their existing account and submit using their existing PIN. Please see the following link for guidance: **http://epa.ohio.gov/dsw/ebs.aspx#170669803-streams-guidance**. Alternatively, if you are unable to access the NOI form through the agency eBusiness Center due to a demonstrated hardship, the NOI may be submitted on a paper NOI form provided by Ohio EPA. NOI information shall be typed on the form. Please contact Ohio EPA, Division of Surface Water at (614) 644-2001 if you wish to receive a paper NOI form.

4. Additional notification. NOIs and SWP3s are considered public documents and shall be made available to the public in accordance with Part III.C.2. The permittee shall make NOIs and SWP3s available upon request of the director of Ohio EPA, local agencies approving sediment and erosion control plans, grading plans or storm water management plans, local governmental officials, or operators of municipal separate storm sewer systems (MS4s) receiving drainage from the permitted site. Each operator that discharges to an NPDES permitted MS4 shall provide a copy of its Ohio EPA NOI submission to the MS4 in accordance with the MS4's requirements, if applicable.

5. Re-notification. Existing permittees having coverage under the previous generations of this general permit shall have continuing coverage under OHC000005 with the submittal of a timely renewal application. Within 180 days from the effective date of this permit, existing permittees shall submit the completed renewal application expressing their intent for continued coverage. In accordance with Ohio Administrative Code (OAC) 3745-38-02(E)(2)(a)(i), a renewal application fee will only apply to existing permittees having general permit coverage for 5 or more years as of the effective date of this general permit. Permit coverage will be terminated if Ohio EPA does not receive the renewal application within this 180-day period.

Part II. NON-NUMERIC EFFLUENT LIMITATIONS

You shall comply with the following non-numeric effluent limitations for discharges from your site and/or from construction support activities. Part III of this permit contains the specific design criteria to meet the objectives of the following non-numeric effluent limitations. You shall develop and implement the SWP3 in accordance with Part III of this permit to satisfy these non-numeric effluent limitations.

A. Erosion and Sediment Controls. You shall design, install and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls shall be designed, installed and maintained to:

1. Control storm water volume and velocity within the site to minimize soil and stream erosion;

2. Control storm water discharges, including both peak flowrates and total storm water volume, to minimize erosion at outlets and to minimize downstream channel and streambank erosion;

3. Minimize the amount of soil exposed during construction activity;

4. Minimize the disturbance of steep slopes;

5. Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls shall address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting storm water runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;

6. If feasible, provide and maintain a 50-foot undisturbed natural buffer around surface waters of the state, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration. If it is infeasible to provide and maintain an undisturbed 50-foot natural buffer, you shall comply with the stabilization requirements found in Part II.B for areas within 50 feet of a surface water; and

7. Minimize soil compaction and, unless infeasible, preserve topsoil.

B. **Soil Stabilization**. Stabilization of disturbed areas shall, at a minimum, be initiated in accordance with the time frames specified in the following tables.

Table 1: Permanent Stabilization

Area requiring permanent stabilization	Time frame to apply erosion controls
Any areas that will lie dormant for one year or more	Within seven days of the most recent disturbance
Any areas within 50 feet of a surface water of the state and at final grade	Within two days of reaching final grade
Other areas at final grade	Within seven days of reaching final grade within that area

Table 2: Temporary Stabilization

Area requiring temporary stabilization	Time frame to apply erosion controls
Any disturbed areas within 50 feet of a surface water of the state and not at final grade	Within two days of the most recent disturbance if the area will remain idle for more than 14 days
Any disturbed areas that will be dormant for more than 14 days but less than one year, and not within 50 feet of a surface water of the state	Within seven days of the most recent disturbance within the area For residential subdivisions, disturbed areas must be stabilized at least seven days prior to transfer of permit coverage for the individual lot(s).
Disturbed areas that will be idle over winter	Prior to the onset of winter weather

Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques must be employed. Permanent and temporary stabilization are defined in Part VII.

C. **Dewatering.** Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls.

D. **Pollution Prevention Measures.** Design, install, implement and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented and maintained to:

1. Minimize the discharge of pollutants from equipment and vehicle washing, wheel washwater, and other washwaters. Washwaters shall be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;

2. Minimize the exposure of construction materials, products, and wastes; landscape materials, fertilizers, pesticides, and herbicides; detergents, sanitary waste and other materials present on the site to precipitation and to storm water; and

3. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

E. **Prohibited Discharges.** The following discharges are prohibited:

1. Wastewater from washout of concrete, unless managed by an appropriate control;

2. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and

4. Soaps or solvents used in vehicle and equipment washing or all other waste water streams which could be subject to an individual NPDES permit (Part III.G.2.g).

F. **Surface Outlets**. When discharging from sediment basins utilize outlet structures that withdraw water from the surface, unless infeasible. (Note: Ohio EPA believes that the circumstances in which it is infeasible to design outlet structures in this manner are rare. Exceptions may include time periods with extended cold weather during winter months. If you have determined that it is infeasible to meet this requirement, you shall provide documentation in your SWP3 to support your determination.)

G. **Post-Construction Storm Water Management Controls**. So that receiving stream's physical, chemical and biological characteristics are protected, and stream functions are maintained, post-construction storm water practices shall provide long-term management of runoff quality and quantity.

PART III. STORM WATER POLLUTION PREVENTION PLAN (SWP3)

A. Storm Water Pollution Prevention Plans.

A SWP3 shall be developed for each site covered by this permit. For a multi-phase construction project, a separate NOI shall be submitted when a separate SWP3 will be prepared for

subsequent phases. SWP3s shall be prepared in accordance with sound engineering and/or conservation practices by a professional experienced in the design and implementation of standard erosion and sediment controls and storm water management practices addressing all phases of construction. The SWP3 shall clearly identify all activities which are required to be authorized under Section 401 and subject to an antidegradation review. The SWP3 shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with construction activities. The SWP3 shall be a comprehensive, stand-alone document, which is not complete unless it contains the information required by Part III.G of this permit. In addition, the SWP3 shall describe and ensure the implementation of best management practices (BMPs) that reduce the pollutants and impact of storm water discharges during construction and pollutants associated with the post-construction land use to ensure compliance with ORC Section 6111.04, OAC Chapter 3745-1 and the terms and conditions of this permit.

B. Timing.

An acceptable SWP3 shall be completed and submitted to the applicable regulated MS4 entity (for projects constructed entirely within a regulated MS4 area) prior to the timely submittal of an NOI. Projects within the Big Darby Creek and portions of the Olentangy watersheds must submit a SWP3 with the NOI. The SWP3 shall be updated in accordance with Part III.D. Submission of a SWP3 does not constitute review and approval on the part of Ohio EPA. Upon request and good cause shown, the director may waive the requirement to have a SWP3 completed at the time of NOI submission. If a waiver has been granted, the SWP3 must be completed prior to the initiation of construction activities. The SWP3 must be implemented upon initiation of construction activities.

In order to continue coverage from the previous generations of this permit, the permittee shall review and update the SWP3 to ensure that this permit's requirements are addressed within 180 days after the effective date of this permit. If it is infeasible for you to comply with a specific requirement in this permit because (1) the provision was not part of the permit you were previously covered under, and (2) because you are prevented from compliance due to the nature or location of earth disturbances that commenced prior to the effective date of this permit, you shall include documentation within your SWP3 of the reasons why it is infeasible for you to meet the specific requirement.

Examples of OHC000005 permit conditions that would be infeasible for permittees renewing coverage to comply with include:

- OHC000005 post-construction requirements, for projects that obtained NPDES construction storm water coverage and started construction activities prior to the effective date of this permit;

- OHC000005 post-construction requirements, for multi-phase development projects with an existing regional post-construction BMP issued under previous NPDES post-construction requirements. This only applies to construction sites authorized under Ohio EPA's Construction Storm Water Permits issued after April 20, 2003;

- OHC000005 post-construction requirements, for renewing or initial coverage and you have a SWP3 approved locally and you will start construction within 180 days of the effective date of this permit;

- Sediment settling pond design requirements, if the general permit coverage was obtained prior to April 21, 2013 and the sediment settling pond has been installed; or

- Case-by-case situations approved by the Director.

C. SWP3 Signature and Review.

1. Plan Signature and Retention On-Site. The SWP3 shall include the certification in Part V.H, be signed in accordance with Part V.G., and be retained on site during working hours.

2. Plan Availability

   a. On-site: The plan shall be made available immediately upon request of the director or his authorized representative and MS4 operators or their authorized representative during working hours. A copy of the NOI and letter granting permit coverage under this general permit also shall be made available at the site.

   b. By written request: The permittee must provide the most recent copy of the SWP3 within 7 days upon written request by any of the following:

      i. The director or the director's authorized representative;

      ii. A local agency approving sediment and erosion plans, grading plans or storm water management plans; or

      iii. In the case of a storm water discharge associated with construction activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the operator of the system.

   c. To the public: All NOIs, general permit approval for coverage letters, and SWP3s are considered reports that shall be available to the public in accordance with the Ohio Public Records law. The permittee shall make documents available to the public upon request or provide a copy at public expense, at cost, in a timely manner. However, the permittee may claim to Ohio EPA any portion of an SWP3 as confidential in accordance with Ohio law.

3. Plan Revision. The director or authorized representative may notify the permittee at any time that the SWP3 does not meet one or more of the minimum requirements of this part. Within 10 days after such notification from the director or authorized representative (or as otherwise provided in the notification), the permittee shall make the required changes to the SWP3 and shall submit to Ohio EPA the revised SWP3 or a written certification that the requested changes have been made.

D. Amendments.

The permittee shall amend the SWP3 whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the potential for the discharge of pollutants to surface waters of the state or if the SWP3 proves to be ineffective in achieving the

general objectives of controlling pollutants in storm water discharges associated with construction activity. Amendments to the SWP3 may be reviewed by Ohio EPA in the same manner as Part III.C.

E. Duty to inform contractors and subcontractors.

The permittee shall inform all contractors and subcontractors not otherwise defined as "operators" in Part VII of this general permit who will be involved in the implementation of the SWP3 of the terms and conditions of this general permit. The permittee shall maintain a written document containing the signatures of all contractors and subcontractors involved in the implementation of the SWP3 as proof acknowledging that they reviewed and understand the conditions and responsibilities of the SWP3. The written document shall be created, and signatures shall be obtained prior to commencement of earth disturbing activity on the construction site.

F. Total Maximum Daily Load (TMDL) allocations.

If a TMDL is approved for any waterbody into which the permittee's site discharges and requires specific BMPs for construction sites, the director may require the permittee to revise his/her SWP3. Specific conditions have been provided in Appendix A (for the Big Darby Creek Watershed) and Appendix B (for portions of the Olentangy river watershed).

G. SWP3 Requirements.

Operations that discharge storm water from construction activities are subject to the following requirements and the SWP3 shall include the following items:

1. Site description. Each SWP3 shall provide:

    a. A description of the nature and type of the construction activity (e.g., low density residential, shopping mall, highway, etc.);

    b. Total area of the site and the area of the site that is expected to be disturbed (i.e., grubbing, clearing, excavation, filling or grading, including off-site borrow areas);

    c. A measure of the impervious area and percent imperviousness created by the construction activity (existing, new and total impervious area after construction);

    d. Storm water calculations, including the volumetric runoff coefficients for both the pre-construction and post- construction site conditions, and resulting water quality volume; design details for post-construction storm water facilities and pretreatment practices such as contributing drainage areas, capacities, elevations, outlet details and drain times shall be included in the SWP3; and if applicable, explanation of the use of existing post-construction facilities. Ohio EPA recommends the use of data sheets (see Ohio's Rainwater and Land Development manual and Ohio EPA resources for examples);

    e. Existing data describing the soil and, if available, the quality of any discharge from the site;

f. A description of prior land uses at the site;

g. A description of the condition of any on-site streams (e.g. prior channelization, bed instability or headcuts, channels on public maintenance, or natural channels);

h. An implementation schedule which describes the sequence of major construction operations (i.e., designation of vegetative preservation areas, grubbing, excavating, grading, utilities, infrastructure installation and others) and the implementation of erosion, sediment and storm water management practices or facilities to be employed during each operation of the sequence;

i. The name and/or location of the immediate receiving stream or surface water(s) and the first subsequent named receiving water(s) and the areal extent and description of wetlands or other special aquatic sites at or near the site which will be disturbed, or which will receive discharges from disturbed areas of the project. For discharges to an MS4, the point of discharge to the MS4 and the location where the MS4 ultimately discharges to a stream or surface water of the state shall be indicated;

j. For subdivided developments, a detail drawing of individual parcels with their erosion, sediment or storm water control practices and/or a typical individual lot showing standard individual lot erosion and sediment control practices.

   A typical individual lot drawing does not remove the responsibility to designate specific erosion and sediment control practices in the SWP3 for critical areas such as steep slopes, stream banks, drainage ways and riparian zones;

k. Location and description of any storm water discharges associated with dedicated asphalt and dedicated concrete plants covered by this permit and the best management practices to address pollutants in these storm water discharges;

l. A cover page or title identifying the name and location of the site, the name and contact information of all construction site operators, the name and contact information for the person responsible for authorizing and amending the SWP3, preparation date, and the estimated dates that construction will start and be complete;

m. A log documenting grading and stabilization activities as well as amendments to the SWP3, which occur after construction activities commence; and

n. Site map showing:

   i. Limits of earth-disturbing activity of the site including associated off-site borrow or spoil areas that are not addressed by a separate NOI and associated SWP3;

   ii. Soils types for all areas of the site, including locations of unstable or highly erodible and/or known contaminated soils;

iii. Existing and proposed contours. A delineation of drainage watersheds expected during and after major grading activities as well as the size of each drainage watershed, in acres;

iv. The location of any delineated boundary for required riparian setbacks;

v. Conservation easements or areas designated as open space, preserved vegetation or otherwise protected from earth disturbing activities. A description of any associated temporary or permanent fencing or signage;

vi. Surface water locations including springs, wetlands, streams, lakes, water wells, etc., on or within 200 feet of the site, including the boundaries of wetlands or stream channels and first subsequent named receiving water(s) the permittee intends to fill or relocate for which the permittee is seeking approval from the Army Corps of Engineers and/or Ohio EPA;

vii. Existing and planned locations of buildings, roads, parking facilities and utilities;

viii. The location of all erosion and sediment control practices, including the location of areas likely to require temporary stabilization during site development;

ix. Sediment traps and basins noting their sediment storage and dewatering (detention) volume and contributing drainage area. Ohio EPA recommends the use of data sheets (see Ohio EPA's Rainwater and Land Development manual and website for examples) to provide data for all sediment traps and basins noting important inputs to design and resulting parameters such as their contributing drainage area, disturbed area, detention volume, sediment storage volume, practice surface area, dewatering time, outlet type and dimensions;

x. The location of permanent storm water management practices (new and existing) including pretreatment practices to be used to control pollutants in storm water after construction operations have been completed along with the location of existing and planned drainage features including catch basins, culverts, ditches, swales, surface inlets and outlet structures;

xi. Areas designated for the storage or disposal of solid, sanitary and toxic wastes, including dumpster areas, areas designated for cement truck washout, and vehicle fueling;

xii. The location of designated construction entrances where the vehicles will access the construction site; and

xiii. The location of any areas of proposed floodplain fill, floodplain excavation, stream restoration or known temporary or permanent stream crossings.

2. Controls. In accordance with Part II.A, the SWP3 shall contain a description of the controls appropriate for each construction operation covered by this permit and the operator(s) shall implement such controls. The SWP3 shall clearly describe for each major construction activity identified in Part III.G.1.h: (a) appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented; and (b) which contractor is responsible for implementation (e.g., contractor A will clear land and install perimeter controls and contractor B will maintain perimeter controls until final stabilization). The SWP3 shall identify the subcontractors engaged in activities that could impact storm water runoff. The SWP3 shall contain signatures from all of the identified subcontractors indicating that they have been informed and understand their roles and responsibilities in complying with the SWP3. Ohio EPA recommends that the primary site operator review the SWP3 with the primary contractor prior to commencement of construction activities and keep a SWP3 training log to demonstrate that this review has occurred.

   Ohio EPA recommends that the erosion, sediment, and storm water management practices used to satisfy the conditions of this permit should meet the standards and specifications in the most current edition of Ohio's Rainwater and Land Development (see definitions) manual or other standards acceptable to Ohio EPA. The controls shall include the following minimum components:

   a. Preservation Methods. The SWP3 shall make use of practices which preserve the existing natural condition as much as feasible. Such practices may include: preserving existing vegetation, vegetative buffer strips, and existing soil profile and topsoil; phasing of construction operations to minimize the amount of disturbed land at any one time; and designation of tree preservation areas or other protective clearing or grubbing practices. For all construction activities immediately adjacent to surface waters of the state, the permittee shall comply with the buffer non-numeric effluent limitation in Part II.A.6, as measured from the ordinary high water mark of the surface water.

   b. Erosion Control Practices. The SWP3 shall make use of erosion controls that provide cover over disturbed soils unless an exception is approved in accordance with Part III.G.4. A description of control practices designed to re-establish vegetation or suitable cover on disturbed areas after grading shall be included in the SWP3. The SWP3 shall provide specifications for stabilization of all disturbed areas of the site and provide guidance as to which method of stabilization will be employed for any time of the year. Such practices may include: temporary seeding, permanent seeding, mulching, matting, sod stabilization, vegetative buffer strips, phasing of construction operations, use of construction entrances and the use of alternative ground cover.

      i. **Stabilization.** Disturbed areas shall be stabilized in accordance with Table 1 (Permanent Stabilization) and Table 2 (Temporary Stabilization) in Part II.B of this permit.

      ii. **Permanent stabilization of conveyance channels**. Operators shall undertake special measures to stabilize channels and outfalls and prevent erosive flows. Measures may include seeding, dormant seeding (as defined in the most current edition of the Rainwater and Land

Development manual), mulching, erosion control matting, sodding, riprap, natural channel design with bioengineering techniques or rock check dams.

c. Runoff Control Practices. The SWP3 shall incorporate measures which control the flow of runoff from disturbed areas so as to prevent erosion from occurring. Such practices may include rock check dams, pipe slope drains, diversions to direct flow away from exposed soils and protective grading practices. These practices shall divert runoff away from disturbed areas and steep slopes where practicable. Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.

d. Sediment Control Practices. The plan shall include a description of structural practices that shall store runoff allowing sediments to settle and/or divert flows away from exposed soils or otherwise limit runoff from exposed areas. Structural practices shall be used to control erosion and trap sediment from a site remaining disturbed for more than 14 days. Such practices may include, among others: sediment settling ponds, sediment barriers, earth diversion dikes or channels which direct runoff to a sediment settling pond and storm drain inlet protection. All sediment control practices must be capable of ponding runoff in order to be considered functional. Earth diversion dikes or channels alone are not considered a sediment control practice unless those are used in conjunction with a sediment settling pond.

The SWP3 shall contain detail drawings for all structural practices.

i. **Timing.** Sediment control structures shall be functional throughout the course of earth disturbing activity. Sediment basins and perimeter sediment barriers shall be implemented prior to grading and within seven days from the start of grubbing. They shall continue to function until the upslope development area is stabilized with permanent cover. As construction progresses and the topography is altered, appropriate controls shall be constructed, or existing controls altered to address the changing drainage patterns.

ii. **Sediment settling ponds.** A sediment settling pond is required for any one of the following conditions:

- Concentrated or collected storm water runoff (e.g., storm sewer or ditch);
- Runoff from drainage areas, which exceed the design capacity of silt fence or other sediment barriers; or
- Runoff from drainage areas that exceed the design capacity of inlet protection.

The permittee may request approval from Ohio EPA to use alternative controls if the permittee can demonstrate the alternative controls are equivalent in effectiveness to a sediment settling pond.

In accordance with Part II.F, if feasible, sediment settling ponds shall be dewatered at the pond surface using a skimmer or equivalent device. The sediment settling pond volume consists of both a dewatering zone and a sediment storage zone. The volume of the dewatering zone shall be a minimum of 1800 cubic feet (ft^3) per acre of drainage (67 yd^3/acre) with a minimum 48-hour drain time. The volume of the sediment storage zone shall be calculated by one of the following methods:

Method 1: The volume of the sediment storage zone shall be 1000 ft^3 per disturbed acre within the watershed of the basin. OR

Method 2: The volume of the sediment storage zone shall be the volume necessary to store the sediment as calculated with RUSLE or a similar generally accepted erosion prediction model.

Accumulated sediment shall be removed from the sediment storage zone once it exceeds 50 percent of the minimum required sediment storage design capacity and prior to the conversion to the post-construction practice unless suitable storage is demonstrated based upon over-design. When determining the total contributing drainage area, off-site areas and areas which remain undisturbed by construction activity shall be included unless runoff from these areas is diverted away from the sediment settling pond and is not co-mingled with sediment-laden runoff. The depth of the dewatering zone shall be less than or equal to five feet. The configuration between inlets and the outlet of the basin shall provide at least two units of length for each one unit of width (≥ 2:1 length:width ratio); however, a length to width ratio of 4:1 is recommended. When designing sediment settling ponds, the permittee shall consider public safety, especially as it relates to children, as a design factor for the sediment basin and alternative sediment controls shall be used where site limitations would preclude a safe design. Combining multiple sediment and erosion control measures in order to maximize pollutant removal is encouraged.

iii. **Sediment Barriers and Diversions.** Sheet flow runoff from denuded areas shall be intercepted by sediment barriers or diversions to protect adjacent properties and water resources from sediment transported via sheet flow. Where intended to provide sediment control, silt fence shall be placed on a level contour downslope of the disturbed area. For most applications, standard silt fence may be substituted with a 12-inch diameter sediment barrier. The relationship between the maximum drainage area to sediment barrier for a particular slope range is shown in the following table:

Table 3 Sediment Barrier Maximum Drainage Area Based on Slope

Maximum drainage area (in acres) to 100 linear feet of sediment barrier	Range of slope for a particular drainage area (in percent)
0.5	< 2%
0.25	≥ 2% but < 20%
0.125	≥ 20% but < 50%

Placing sediment barriers in a parallel series does not extend the size of the drainage area. Storm water diversion practices shall be used to keep runoff away from disturbed areas and steep slopes where practicable. Diversion practices, which include swales, dikes or berms, may receive storm water runoff from areas up to 10 acres.

iv. **Inlet Protection.** Other erosion and sediment control practices shall minimize sediment laden water entering active storm drain systems. All inlets receiving runoff from drainage areas of one or more acres will require a sediment settling pond.

v. **Surface Waters of the State Protection.** If construction activities disturb areas adjacent to surface waters of the state, structural practices shall be designed and implemented on site to protect all adjacent surface waters of the state from the impacts of sediment runoff. No structural sediment controls (e.g., the installation of silt fence or a sediment settling pond) shall be used in a surface water of the state. For all construction activities immediately adjacent to surface waters of the state, the permittee shall comply with the buffer non-numeric effluent limitation in Part II.A.6, as measured from the ordinary high water mark of the surface water. Where impacts within this buffer area are unavoidable, due to the nature of the construction (e.g., stream crossings for roads or utilities), the project shall be designed such that the number of stream crossings and the width of the disturbance within the buffer area are minimized.

vi. **Modifying Controls**. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee shall replace or modify the control for site conditions.

e. Post-Construction Storm Water Management Requirements. So that receiving stream's physical, chemical and biological characteristics are protected, and stream functions are maintained, post-construction storm water practices shall provide long-term management of runoff quality and quantity. To meet the post-construction requirements of this permit, the SWP3 shall contain a description of the post-construction BMPs that will be installed during construction for the site and the rationale for their selection. The rationale shall address the anticipated impacts on the channel and floodplain morphology, hydrology, and water quality. Post-construction BMPs cannot be installed within a surface water of the state (e.g., wetland or stream) unless it is authorized by a CWA 401 water quality certification, CWA 404 permit, or Ohio EPA non-jurisdictional wetland/stream program approval. Note: local jurisdictions may have more stringent post-construction requirements.

Detail drawings and maintenance plans shall be provided for all post-construction BMPs in the SWP3. Maintenance plans shall be provided by the permittee to the post-construction operator of the site (including homeowner associations) upon completion of construction activities (prior to termination of permit coverage). Maintenance plans shall ensure that pollutants collected within structural post-construction practices are disposed of in accordance with local, state, and federal regulations. To ensure that storm water management systems function as

designed and constructed, the post-construction operation and maintenance plan shall be a stand-alone document which contains: (1) a designated entity for storm water inspection and maintenance responsibilities; (2) the routine and non-routine maintenance tasks to be undertaken; (3) a schedule for inspection and maintenance; (4) any necessary legally binding maintenance easements and agreements; (5) construction drawings or excerpts showing the plan view, profile and details of the outlet(s); (6) a map showing all access and maintenance easements; and (7) for table 4a/4b practices, provide relevant elevations and associated volumes that dictate when removal of accumulated sediments must occur. Permittees are responsible for assuring all post-construction practices meet plan specifications and intended post-construction conditions have been met (e.g., sediment removed from, and sediment storage restored to, permanent pools, sediment control outlets removed and replaced with permanent post-construction discharge structures, and all slopes and drainageways permanently stabilized), but are not responsible under this permit for operation and maintenance of post-construction practices once coverage under this permit is terminated.

Post-construction storm water BMPs that discharge pollutants from point sources once construction is completed may in themselves need authorization under a separate NPDES permit (one example is storm water discharges from regulated industrial sites).

Construction activities that do not include the installation of any impervious surface (e.g., park lands), abandoned mine land reclamation activities regulated by the Ohio Department of Natural Resources, stream and wetland restoration activities, and wetland mitigation activities are not required to comply with the conditions of Part III.G.2.e of this permit. Linear construction projects (e.g., pipeline or utility line installation) which do not result in the installation of additional impervious surface are not required to comply with the conditions of Part III.G.2.e of this permit. However, linear construction projects shall be designed to minimize the number of stream crossings and the width of disturbance, and to achieve final stabilization of the disturbed area as defined in Part VII.M.1.

For all construction activities that will disturb two or more acres of land or will disturb less than two acres that are part of a larger common plan of development or sale which will disturb two or more acres of land, the post construction BMP(s) chosen shall be able to manage storm water runoff for protection of stream channels, stream stability, and water quality. The BMP(s) chosen must be compatible with site and soil conditions. Structural post-construction storm water treatment practices shall be incorporated into the permanent drainage system for the site. The BMP(s) chosen must be sized to treat the water quality volume (WQ_v) and ensure compliance with Ohio's Water Quality Standards in OAC Chapter 3745-1. The WQ_v shall be equivalent to the volume of runoff from a 0.90-inch rainfall and shall be determined using the following equations:

$$WQ_v = Rv * P * A / 12 \qquad \text{(Equation 1)}$$

where:
WQ_v = water quality volume in acre-feet
Rv = the volumetric runoff coefficient calculated using equation 2
P = 0.90 inch precipitation depth
A = area draining into the BMP in acres

$$Rv = 0.05 + 0.9i \qquad \text{(Equation 2)}$$

where i = fraction of post-construction impervious surface

An additional volume equal to 20 percent of the WQ_v shall be incorporated into the BMP for sediment storage. Ohio EPA recommends BMPs be designed according to the methodology described in the most current edition of the Rainwater and Land Development manual or in another design manual acceptable for use by Ohio EPA.

The BMPs listed in Tables 4a and 4b below are considered standard BMPs approved for general use. However, communities with a regulated MS4 may limit the use of some of these BMPs. BMPs shall be designed such that the drain time is long enough to provide treatment but short enough to provide storage for successive rainfall events and avoid the creation of nuisance conditions. The outlet structure for the post-construction BMP shall not discharge more than the first half of the WQv in less than one-third of the drain time. The WQv is the volume of storm water runoff that must be detained by a post-construction practice as specified by the most recent edition of the Rainwater and Land Development manual.

Post-construction practices shall be sized to treat 100% of the WQv associated with their contributing drainage area. If there is an existing post-construction BMP that treats runoff from the disturbed area and the BMP meets the post-construction requirements of this permit, no additional post-construction BMP will be required. A regional storm water BMP may be used to meet the post-construction requirement if: (1) the BMP meets the design requirements for treating the WQv; and (2) a legal agreement is established through which the regional BMP owner or operator agrees to provide this service in the long term. Design information for such facilities such as contributing drainage areas, capacities, elevations, outlet details and drain times shall be included in the SWP3.

Table 4a Extended Detention Post-Construction Practices with Minimum Drain Times

Extended Detention Practices	Minimum Drain Time of WQv
Wet Extended Detention Basin[1,2]	24 hours
Constructed Extended Detention Wetland[1,2]	24 hours
Dry Extended Detention Basin[1,3]	48 hours
Permeable Pavement – Extended Detention[1]	24 hours
Underground Storage – Extended Detention[1,4]	24 hours
Sand & Other Media Filtration - Extended Detention[1, 5]	24 hours

Notes:

1. The outlet structure shall not discharge more than the first half of the WQv in less than one-third of the drain time.
2. Provide a permanent pool with a minimum volume equal to the WQv and an extended detention volume above the permanent pool equal to 1.0 x WQv.
3. Dry basins must include a forebay and a micropool each sized at a minimum of 0.1 x WQv and a protected outlet, or include acceptable pretreatment and a protected outlet.
4. Underground storage must have pretreatment for removal of suspended sediments included in the design and documented in the SWP3. This pretreatment shall concentrate sediment in a location where it can be readily removed. For non-infiltrating, underground extended detention systems, pretreatment shall be 50% effective at capturing total suspended solids according to the testing protocol established in the Alternative Post-Construction BMP Testing Protocol.
5. The WQv ponding area shall completely empty between 24 and 72 hours.

Table 4b Infiltration Post-Construction Practices with Maximum Drain Times

Infiltration Practices	**Maximum Drain Time of WQv**
Bioretention Area/Cell[1,2]	24 hours
Infiltration Basin[2]	24 hours
Infiltration Trench[3]	48 hours
Permeable Pavement – Infiltration[3]	48 hours
Underground Storage – Infiltration[3,4]	48 hours

Notes:
1. Bioretention soil media shall have a permeability of approximately 1 – 4 in/hr. Meeting the soil media specifications in the Rainwater and Land Development manual is considered compliant with this requirement. Bioretention cells must have underdrains unless in-situ conditions allow for the WQv (surface ponding) plus the bioretention soil (to a depth of 24 inches) to drain completely within 48 hours.
2. Infiltrating practices with the WQv stored aboveground (bioretention, infiltration basin) shall fully drain the WQv within 24 hours to minimize nuisance effects of standing water and to promote vigorous communities of appropriate vegetation.
3. Subsurface practices designed to fully infiltrate the WQv (infiltration trench, permeable pavement with infiltration, underground storage with infiltration) shall empty within 48 hours to recover storage for subsequent storm events.
4. Underground storage systems with infiltration must have adequate pretreatment of suspended sediments included in the design and documented in the SWP3 in order to minimize clogging of the infiltrating surface. Pretreatment shall concentrate sediment in a location where it can be readily removed. Examples include media filters situated upstream of the storage or other suitable alternative approved by Ohio EPA. For infiltrating underground systems, pretreatment shall be 80% effective at capturing total suspended solids according to the testing protocol established in the Alternative Post-Construction BMP Testing Protocol.

<u>Small Construction Activities.</u> For all construction activities authorized under this permit which result in a disturbance less than 2 acres, a post-construction practice shall be used to treat storm water runoff for pollutants and to reduce adverse impacts on receiving waters. The applicant must provide a justification in the SWP3 why the use of table 4a and 4b practices are not feasible. The justification must address limiting factors which would prohibit the project going forward should table 4a and 4b practices be required. Please note that additional practices selected will require approval from the regulated MS4. The use of green infrastructure BMPs such as runoff reducing practices is also encouraged.

Transportation Projects. The construction of new roads and roadway improvement projects by public entities (i.e., the state, counties, townships, cities, or villages) may implement post-construction BMPs in compliance with the current version (as of the effective date of this permit) of the Ohio Department of Transportation's "Location and Design Manual, Volume Two Drainage Design" that has been accepted by Ohio EPA as an alternative to the conditions of this permit.

Offsite Mitigation of Post-Construction. Ohio EPA may authorize the offsite mitigation of the post-construction requirements of Part III.G.2.e of this permit on a case by case basis provided the permittee clearly demonstrates the BMPs listed in Tables 4a and 4b are not feasible and the following criteria are met: (1) a maintenance agreement or policy is established to ensure operations and treatment long-term; (2) the offsite location discharges to the same HUC-12 watershed unit; and (3) the mitigation ratio of the WQv is 1.5 to 1 or the WQv at the point of retrofit, whichever is greater. Requests for offsite mitigation must be received prior to receipt of the NOI application.

Previously Developed Areas - Ohio EPA encourages the redevelopment of previously graded, paved or built upon sites through a reduction of the WQv treatment requirement. For a previously developed area, one or a combination of the following two conditions shall be met:

- A 20 percent net reduction of the site's volumetric runoff coefficient through impervious area reduction with soil restoration or replacing impervious roof area with green roof area (for these purposes green roofs shall be considered pervious surface) or
- Treatment of 20 percent of the WQv for the previously developed area using a practice meeting Table 4a/4b criteria.

Where there is a combination of redeveloped areas and new development, a weighted approached shall be used with the following equation:

$$WQv = P * A * [(Rv_1*0.2) + (Rv_2 - Rv_1)] / 12 \qquad \text{(Equation 3)}$$

where

P = 0.90 inches
A = area draining into the BMP in acres
Rv_1 = volumetric runoff coefficient for existing conditions (current site impervious area)
Rv_2 = volumetric runoff coefficient for proposed conditions (post-construction site impervious area)

Post-construction practices shall be located to treat impervious areas most likely to generate the highest pollutant load, such as parking lots or roadways, rather than areas predicted to be cleaner such as rooftops.

Runoff Reduction Practices. The size of structural post-construction practices used to capture and treat the WQv can be reduced by incorporating runoff

reducing practices into the design of the site's drainage system. The approach to calculate and document runoff reduction is detailed in the Rainwater and Land Development Manual. BMP-specific runoff reduction volumes are set by specifications in the Rainwater and Land Development Manual for the following practices:

- Impervious surface disconnection
- Rainwater harvesting
- Bioretention
- Infiltration basin
- Infiltration trench
- Permeable pavement with infiltration
- Underground storage with infiltration
- Grass swale
- Sheet flow to filter strip
- Sheet flow to conservation area

A runoff reduction approach may be used to meet the groundwater recharge requirements in the Big Darby Creek Watershed. The runoff reduction practices used for groundwater recharge may be used to reduce the WQv requirement, see appendix A for details on groundwater recharge requirements.

In order to promote the implementation of green infrastructure, the Director may consider the use of runoff reducing practices to demonstrate compliance with Part III.G.2.e of this permit for areas of the site not draining into a common drainage system of the site, e.g., sheet flow from perimeter areas such as the rear yards of residential lots, low density development scenarios, or where the permittee can demonstrate that the intent of pollutant removal and stream protection, as required in Part III.G.2.e of this permit is being addressed through non-structural post-construction BMPs based upon review and approval by Ohio EPA.

<u>Use of Alternative Post-Construction BMPs.</u> This permit does not preclude the use of innovative or experimental post-construction storm water management technologies. Alternative post-construction BMPs shall previously have been tested to confirm storm water treatment efficacy equivalent to those BMPs listed in Tables 4a and 4b using the protocol described in this section. BMP testing may include laboratory testing, field testing, or both.

Permittees shall request approval from Ohio EPA to use alternative post-construction BMPs on a case-by-case basis. To use an alternative post-construction BMP, the permittee must demonstrate that use of a BMP listed in Tables 4a and 4b is not feasible and the proposed alternative post-construction BMP meets the minimum treatment criteria as described in this section. The permittee shall submit an application to Ohio EPA for any proposed alternative post-construction BMP. Where the development project is located within a regulated municipal separate storm sewer system (MS4) community, the use of an alternative practice requires pre-approval by the MS4 before submittal of the

Ohio EPA permit application. Ohio EPA requires that approvals for alternative post-construction BMPs are finalized before permittees submit an NOI for permit coverage.

In addition to meeting sediment removal criteria, the discharge rate from the proposed alternative practice shall be reduced to prevent stream bed erosion and protect the physical and biological stream integrity unless there will be negligible hydrological impact to the receiving surface water of the state. Discharge rate is considered to have a negligible impact if the permittee can demonstrate that one of the following three conditions exist:

i. The entire WQv is recharged to groundwater;
ii. The larger common plan of development or sale will create less than one acre of impervious surface;
iii. The storm water drainage system of the development discharges directly into a large river with drainage area equal to 100 square miles or larger upstream of the development site or to a lake where the development area is less than 5 percent of the watershed area, unless a TMDL has identified water quality problems into the receiving surface waters of the state.

If the conditions above that minimize the potential for hydrological impact to the receiving surface water of the state do not exist, then the alternative post-construction BMP must prevent stream erosion by reducing the flow rate from the WQ_V. In such cases, discharge of the WQ_V must be controlled. A second storm water BMP that provides extended detention of the WQv may be needed to meet the post-construction criteria.

<u>Alternative Post-Construction BMP Testing Protocol.</u> For laboratory testing, the alternative BMP shall be tested using sediment with a specific gravity of 2.65, a particle size distribution closely matching the distribution shown in Table 5, and total suspended sediment (TSS) concentrations within 10% of 200 mg/L (180 mg/L – 220 mg/L TSS). For an alternative BMP to be acceptable, the test results must demonstrate that the minimum treatment rate is 80% TSS removal at the design flow rate for the tested BMP.

Table 5 Particle Size Distribution for Testing Alternative Post-Construction BMPs

Particle Size (microns)	Percent Finer (%)
1,000	100
500	95
250	90
150	75
100	60
75	50
50	45
20	35
8	20
5	10
2	5

- For field testing, the alternative BMP shall be tested using storm water runoff

from the field, not altered by adding aggregate or subjecting to unusually high sediment loads such as those from unstabilized construction disturbance. The storm water runoff used for field testing shall be representative of runoff from the proposed installation site for the alternative BMP after all construction activities have ceased and the ground has been stabilized. The influent and effluent TSS concentrations of storm water runoff must be collected in the field. For an alternative BMP to be acceptable, the test results must demonstrate the minimum treatment rate is 80% TSS removal for influent concentrations equal to or greater than 100 mg/L TSS. If the influent concentration to the proposed alternative BMP is less than 100 mg/L TSS in the field, then the BMP must achieve an average effluent concentration less than or equal to 20 mg/L TSS.

- Testing of alternative post-construction BMPs shall be performed or overseen by a qualified independent, third-party testing organization;

- Testing shall demonstrate the maximum flow rate at which the alternative post-construction BMP can achieve the necessary treatment efficacy, including consideration for the potential of sediment resuspension;

- Testing shall demonstrate the maximum volume of sediment and floatables that can be collected in the alternative post-construction BMP before pollutants must be removed to maintain 80% treatment efficacy;

- Testing shall indicate the recommended maintenance frequency and maintenance protocol to ensure ongoing performance of the alternative post-construction BMP.

The alternative post-construction BMP testing protocol described in this section is similar to testing requirements specified by the New Jersey Department of Environmental Protection (NJDEP) for storm water Manufactured Treatment Devices (MTD) and therefore testing results certified by NJDEP shall be accepted by Ohio EPA. For examples of BMPs that have been tested using New Jersey Department of Environmental Protection's procedures, see the website: www.njstormwater.org.

Another nationally recognized storm water product testing procedure is the Technology Assessment Protocol – Ecology (TAPE) administered by the State of Washington, Department of Ecology. The TAPE testing procedure describes testing to achieve 80% TSS removal using a sediment mix with a particle size distribution with approximately 75% of the mass of the aggregate with particle diameters less than 45 microns. Overall, this particle size distribution is finer than the distribution in Table 5. Therefore, if TAPE testing results are available for a proposed alternative post-construction BMP, those results shall be accepted by Ohio EPA. The State of Washington, Department of Ecology website is https://ecology.wa.gov/.

Alternative BMPs that utilize treatment processes such as filtering or centrifugal separation, rather than a detention and settling volume, must be designed to ensure treatment of 90 percent of the average annual runoff

volume. For the design of these BMPs, the water quality flow rate (WQF) considered equivalent to the Water Quality Volume (WQv) shall be determined utilizing the Rational Method (Equation 4) with an intensity (i) appropriate for the water quality precipitation event. This intensity shall be calculated using the table given in Appendix C.

$$WQF = C * i * A \qquad \text{(Equation 4)}$$

Where

WQF = water quality flow rate in cubic feet per second (cfs)
C = rational method runoff coefficient
i = intensity (in/hr)
A = area draining to the BMP (acres)

Alternative post-construction BMPs may include, but are not limited to: vegetated swales, vegetated filter strips, hydrodynamic separators, high-flow media filters, cartridge filters, membrane filters, subsurface flow wetlands, multi-chamber treatment trains, road shoulder media filter drains, wetland channels, rain barrels, green roofs, and rain gardens. The Director may also consider non-structural post-construction approaches.

f. Surface Water Protection. If the project site contains any streams, rivers, lakes, wetlands or other surface waters, certain construction activities at the site may be regulated under the CWA and/or state isolated wetland permit requirements. Sections 404 and 401 of the Act regulate the discharge of dredged or fill material into surface waters and the impacts of such activities on water quality, respectively. Construction activities in surface waters which may be subject to CWA regulation and/or state isolated wetland permit requirements include, but are not limited to: sewer line crossings, grading, backfilling or culverting streams, filling wetlands, road and utility line construction, bridge installation and installation of flow control structures. If the project contains streams, rivers, lakes or wetlands or possible wetlands, the permittee shall contact the appropriate U.S. Army Corps of Engineers District Office. (CAUTION: Any area of seasonally wet hydric soil is a potential wetland - please consult the Soil Survey and list of hydric soils for your County, available at your county's Soil and Water Conservation District. If you have any questions about Section 401 water quality certification, please contact the Ohio Environmental Protection Agency, Section 401 Coordinator.)

U.S. Army Corps of Engineers (Section 404 regulation):

- Huntington, WV District (304) 399-5210 (Muskingum River, Hocking River, Scioto River, Little Miami River, and Great Miami River Basins)
- Buffalo, NY District (716) 879-4330 (Lake Erie Basin)
- Pittsburgh, PA District (412) 395-7155 (Mahoning River Basin)
- Louisville, KY District (502) 315-6686 (Ohio River)

Ohio EPA 401/404 and non-jurisdictional stream/wetland coordinator can be contacted at (614) 644-2001 (all of Ohio)

Concentrated storm water runoff from BMPs to natural wetlands shall be converted to diffuse flow before the runoff enters the wetlands. The flow should be released such that no erosion occurs downslope. Level spreaders may need to be placed in series, particularly on steep sloped sites, to ensure non-erosive velocities. Other structural BMPs may be used between storm water features and natural wetlands, in order to protect the natural hydrology, hydroperiod, and wetland flora. If the applicant proposes to discharge to natural wetlands, a hydrologic analysis shall be performed. The applicant shall attempt to match the pre-development hydroperiods and hydrodynamics that support the wetland. The applicant shall assess whether their construction activity will adversely impact the hydrologic flora and fauna of the wetland. Practices such as vegetative buffers, infiltration basins, conservation of forest cover, and the preservation of intermittent streams, depressions, and drainage corridors may be used to maintain wetland hydrology.

g. Other controls.

i. **Non-Sediment Pollutant Controls.** In accordance with Part II.E, no solid (other than sediment) or liquid waste, including building materials, shall be discharged in storm water runoff. The permittee must implement all necessary BMPs to prevent the discharge of non-sediment pollutants to the drainage system of the site or surface waters of the state or an MS4. Under no circumstance shall wastewater from the washout of concrete trucks, stucco, paint, form release oils, curing compounds, and other construction materials be discharged directly into a drainage channel, storm sewer or surface waters of the state. Also, no pollutants from vehicle fuel, oils, or other vehicle fluids can be discharged to surface waters of the state. No exposure of storm water to waste materials is recommended. The SWP3 must include methods to minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, and sanitary waste to precipitation, storm water runoff, and snow melt. In accordance with Part II.D.3, the SWP3 shall include measures to prevent and respond to chemical spills and leaks. You may also reference the existence of other plans (i.e., Spill Prevention Control and Countermeasure (SPCC) plans, spill control programs, Safety Response Plans, etc.) provided that such plan addresses conditions of this permit condition and a copy of such plan is maintained on site.

ii. **Off-site traffic.** Off-site vehicle tracking of sediments and dust generation shall be minimized. In accordance with Part II.D.1, the SWP3 shall include methods to minimize the discharge of pollutants from equipment and vehicle washing, wheel washwater, and other washwaters. No detergents may be used to wash vehicles. Washwaters shall be treated in a sediment basin or alternative control that provides equivalent treatment prior to discharge.

iii. **Compliance with other requirements.** The SWP3 shall be consistent with applicable State and/or local waste disposal, sanitary sewer or septic system regulations, including provisions prohibiting waste disposal by

open burning and shall provide for the proper disposal of contaminated soils to the extent these are located within the permitted area.

iv. **Trench and ground water control**. In accordance with Part II.C, there shall be no turbid discharges to surface waters of the state resulting from dewatering activities. If trench or ground water contains sediment, it shall pass through a sediment settling pond or other equally effective sediment control device, prior to being discharged from the construction site. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag or comparable practice. Ground water which does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care must be taken when discharging ground water to ensure that it does not become pollutant-laden by traversing over disturbed soils or other pollutant sources.

v. **Contaminated Sediment.** Where construction activities are to occur on sites with contamination from previous activities, operators shall be aware that concentrations of materials that meet other criteria (is not considered a Hazardous Waste, meeting VAP standards, etc.) may still result in storm water discharges in excess of Ohio Water Quality Standards. Such discharges are not authorized by this permit. Appropriate BMPs include, but are not limited to:

- The use of berms, trenches, and pits to collect contaminated runoff and prevent discharges;
- Pumping runoff into a sanitary sewer (with prior approval of the sanitary sewer operator) or into a container for transport to an appropriate treatment/disposal facility; and
- Covering areas of contamination with tarps or other methods that prevent storm water from coming into contact with the material.

Operators should consult with Ohio EPA Division of Surface Water prior to seeking permit coverage.

h. Maintenance. All temporary and permanent control practices shall be maintained and repaired as needed to ensure continued performance of their intended function. All sediment control practices must be maintained in a functional condition until all up-slope areas they control are permanently stabilized. The SWP3 shall be designed to minimize maintenance requirements. The applicant shall provide a description of maintenance procedures needed to ensure the continued performance of control practices.

i. Inspections. The permittee shall assign “qualified inspection personnel” to conduct inspections to ensure that the control practices are functional and to evaluate whether the SWP3 is adequate and properly implemented in accordance with the schedule proposed in Part III.G.1.h of this permit or whether additional control measures are required. At a minimum, procedures in a SWP3 shall provide that all controls on the site are inspected:

- after any storm event greater than one-half inch of rain per 24-hour period by the end of the next calendar day, excluding weekends and holidays unless work is scheduled; and
- once every seven calendar days.

The inspection frequency may be reduced to at least once every month for dormant sites if:

- the entire site is temporarily stabilized or
- runoff is unlikely due to weather conditions for extended periods of time (e.g., site is covered with snow, ice, or the ground is frozen).

The beginning and ending dates of any reduced inspection frequency shall be documented in the SWP3.
Once a definable area has achieved final stabilization, the area may be marked on the SWP3 and no further inspection requirements shall apply to that portion of the site.

Following each inspection, a checklist must be completed and signed by the qualified inspection personnel representative. At a minimum, the inspection report shall include:

i. the inspection date;
ii. names, titles, and qualifications of personnel making the inspection;
iii. weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a best estimate of the beginning of each storm event, duration of each storm event, approximate amount of rainfall for each storm event (in inches), and whether any discharges occurred;
iv. weather information and a description of any discharges occurring at the time of the inspection;
v. location(s) of discharges of sediment or other pollutants from the site;
vi. location(s) of BMPs that need to be maintained;
vii. location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;
viii. location(s) where additional BMPs are needed that did not exist at the time of inspection; and
ix. corrective action required including any changes to the SWP3 necessary and implementation dates.

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of or the potential for pollutants entering the drainage system. Erosion and sediment control measures identified in the SWP3 shall be observed to ensure that those are operating correctly. Discharge locations shall be inspected to ascertain whether erosion and sediment control measures are effective in preventing significant impacts to the receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site vehicle tracking.

The permittee shall maintain for three years following the submittal of a notice of termination form, a record summarizing the results of the inspection, names(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWP3 and a certification as to whether the facility is in compliance with the SWP3 and the permit and identify any incidents of non-compliance. The record and certification shall be signed in accordance with Part V.G. of this permit.

i. **When practices require repair or maintenance.** If the inspection reveals that a control practice is in need of repair or maintenance, with the exception of a sediment settling pond, it shall be repaired or maintained within 3 days of the inspection. Sediment settling ponds shall be repaired or maintained within 10 days of the inspection.

ii. **When practices fail to provide their intended function.** If the inspection reveals that a control practice fails to perform its intended function and that another, more appropriate control practice is required, the SWP3 shall be amended and the new control practice shall be installed within 10 days of the inspection.

iii. **When practices depicted on the SWP3 are not installed.** If the inspection reveals that a control practice has not been implemented in accordance with the schedule contained in Part III.G.1.h of this permit, the control practice shall be implemented within 10 days from the date of the inspection. If the inspection reveals that the planned control practice is not needed, the record shall contain a statement of explanation as to why the control practice is not needed.

3. Approved State or local plans. All dischargers regulated under this general permit must comply, except those exempted under state law, with the lawful requirements of municipalities, counties and other local agencies regarding discharges of storm water from construction activities. All erosion and sediment control plans and storm water management plans approved by local officials shall be retained with the SWP3 prepared in accordance with this permit. Applicable requirements for erosion and sediment control and storm water management approved by local officials are, upon submittal of a NOI form, incorporated by reference and enforceable under this permit even if they are not specifically included in an SWP3 required under this permit. When the project is located within the jurisdiction of a regulated municipal separate storm sewer system (MS4), the permittee shall certify that the SWP3 complies with the requirements of the storm water management program of the MS4 operator.

4. Exceptions. If specific site conditions prohibit the implementation of any of the erosion and sediment control practices contained in this permit or site-specific conditions are such that implementation of any erosion and sediment control practices contained in this permit will result in no environmental benefit, then the permittee shall provide justification for rejecting each practice based on site conditions. Exceptions from implementing the erosion and sediment control standards contained in this permit will be approved or denied on a case-by-case basis.

The permittee may request approval from Ohio EPA to use alternative methods to satisfy conditions in this permit if the permittee can demonstrate that the alternative methods are sufficient to protect the overall integrity of receiving streams and the watershed. Alternative methods will be approved or denied on a case-by-case basis.

PART IV. NOTICE OF TERMINATION REQUIREMENTS

A. Failure to notify.

The terms and conditions of this permit shall remain in effect until a signed Notice of Termination (NOT) form is submitted. Failure to submit an NOT constitutes a violation of this permit and may affect the ability of the permittee to obtain general permit coverage in the future.

B. When to submit an NOT.

1. Permittees wishing to terminate coverage under this permit shall submit an NOT form in accordance with Part V.G. of this permit. Compliance with this permit is required until an NOT form is submitted. The permittee's authorization to discharge under this permit terminates at midnight of the day the NOT form is submitted. Prior to submitting the NOT form, the permittee shall conduct a site inspection in accordance with Part III.G.2.i of this permit and have a maintenance plan in place to ensure all post-construction BMPs will be maintained in perpetuity.

2. All permittees shall submit an NOT form within 45 days of completing all permit requirements. Enforcement actions may be taken if a permittee submits an NOT form without meeting one or more of the following conditions:

    a. Final stabilization (see definition in Part VII) has been achieved on all portions of the site for which the permittee is responsible (including, if applicable, returning agricultural land to its pre-construction agricultural use);

    b. Another operator(s) has assumed control over all areas of the site that have not been finally stabilized;

    c. A maintenance plan is in place to ensure all post construction BMPs are adequately maintained in the long-term;

    d. For non-residential developments, all elements of the storm water pollution prevention plan have been completed, the disturbed soil at the identified facility have been stabilized and temporary erosion and sediment control measures have been removed at the appropriate time, or all storm water discharges associated with construction activity from the identified facility that are authorized by the above referenced NPDES general permit have otherwise been eliminated. (i)For residential developments only, temporary stabilization has been completed and the lot, which includes a home, has been transferred to the homeowner; (ii) final stabilization has been completed and the lot, which does not include a home, has been transferred to the property owner; (iii) no stabilization has been implemented on a lot, which includes a home, and the lot has been transferred to the homeowner; or

e. An exception has been granted under Part III.G.4.

C. How to submit an NOT.

To terminate permit coverage, the permitee shall submit a complete and accurate Notice of Termination (NOT) form using Ohio EPA's electronic application form which is available through the Ohio EPA eBusiness Center at: https://ebiz.epa.ohio.gov/. Submission through the Ohio EPA eBusiness Center will require establishing an Ohio EPA eBusiness Center account and obtaining a unique Personal Identification Number (PIN) for final submission of the NOT. Existing eBusiness Center account holders can access the NOT form through their existing account and submit using their existing PIN. Please see the following link for guidance: **http://epa.ohio.gov/dsw/ebs.aspx#170669803-streams-guidance**. Alternatively, if you are unable to access the NOT form through the agency eBusiness Center due to a demonstrated hardship, the NOT may be submitted on paper NOT forms provided by Ohio EPA. NOT information shall be typed on the form. Please contact Ohio EPA, Division of Surface Water at (614) 644-2001 if you wish to receive a paper NOT form.

PART V. STANDARD PERMIT CONDITIONS.

A. Duty to comply.

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of ORC Chapter 6111 and is grounds for enforcement action.

Ohio law imposes penalties and fines for persons who knowingly make false statements or knowingly swear or affirm the truth of a false statement previously made.

B. Continuation of an expired general permit.

An expired general permit continues in force and effect until a new general permit is issued.

C. Need to halt or reduce activity not a defense.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to mitigate.

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. Duty to provide information.

The permittee shall furnish to the director, within 10 days of written request, any information which the director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee

shall also furnish to the director upon request copies of records required to be kept by this permit.

F. Other information.

When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI, SWP3, NOT or in any other report to the director, he or she shall promptly submit such facts or information.

G. Signatory requirements.

All NOIs, NOTs, SWP3s, reports, certifications or information either submitted to the director or that this permit requires to be maintained by the permittee, shall be signed.

1. These items shall be signed as follows:

    a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

        i. A president, secretary, treasurer or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy or decision-making functions for the corporation; or

        ii. The manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

    b. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

    c. For a municipality, State, Federal or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA).

2. All reports required by the permits and other information requested by the director shall be signed by a person described in Part V.G.1 of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part V.G.1 of this permit and submitted to the director;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator of a well or well field, superintendent, position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

c. The written authorization is submitted to the director.

3. Changes to authorization. If an authorization under Part V.G.2 of this permit is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part V.G.2 of this permit must be submitted to the director prior to or together with any reports, information or applications to be signed by an authorized representative.

H. Certification.

Any person signing documents under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

I. Oil and hazardous substance liability.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under section 311 of the CWA or 40 CFR Part 112. 40 CFR Part 112 establishes procedures, methods and equipment and other requirements for equipment to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable surface waters of the state or adjoining shorelines.

J. Property rights.

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

K. Severability.

The provisions of this permit are severable and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

L. Transfers.

Ohio NPDES general permit coverage is transferable. Ohio EPA must be notified in writing sixty days prior to any proposed transfer of coverage under an Ohio NPDES general permit. The transferee must inform Ohio EPA it will assume the responsibilities of the original permittee transferor.

M. Environmental laws.

No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

N. Proper operation and maintenance.

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of SWP3s. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

O. Inspection and entry.

The permittee shall allow the director or an authorized representative of Ohio EPA, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment); and

4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

P. Duty to Reapply.

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

Q. Permit Actions.

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

R. Bypass.

The provisions of 40 CFR Section 122.41(m), relating to "Bypass," are specifically incorporated herein by reference in their entirety. For definition of "Bypass," see Part VII.C.

S. Upset.

The provisions of 40 CFR Section 122.41(n), relating to "Upset," are specifically incorporated herein by reference in their entirety. For definition of "Upset," see Part VII.GG.

T. Monitoring and Records.

The provisions of 40 CFR Section 122.41(j), relating to "Monitoring and Records," are specifically incorporated herein by reference in their entirety.

U. Reporting Requirements.

The provisions of 40 CFR Section 122.41(l), relating to "Reporting Requirements," are specifically incorporated herein by reference in their entirety.

PART VI. REOPENER CLAUSE

If there is evidence indicating potential or realized impacts on water quality due to any storm water discharge associated with construction activity covered by this permit, the permittee of such discharge may be required to obtain coverage under an individual permit or an alternative general permit in accordance with Part I.C of this permit or the permit may be modified to include different limitations and/or requirements.

Permit modification or revocation will be conducted according to ORC Chapter 6111.

PART VII. DEFINITIONS

A. "Act" means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, Pub. L. 97-117 and Pub. L. 100-4, 33 U.S.C. 1251 et. seq.

B. "Bankfull channel" means a channel flowing at channel capacity and conveying the bankfull discharge. Delineated by the highest water level that has been maintained for a sufficient period of time to leave evidence on the landscape, such as the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial or

the point at which the clearly scoured substrate of the stream ends and terrestrial vegetation begins.

C. "Bankfull discharge" means the streamflow that fills the main channel and just begins to spill onto the floodplain; it is the discharge most effective at moving sediment and forming the channel.

D. "Best management practices (BMPs)" means schedules of activities, prohibitions of practices, maintenance procedures and other management practices (both structural and non-structural) to prevent or reduce the pollution of surface waters of the state. BMP's also include treatment requirements, operating procedures and practices to control plant and/or construction site runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage.

E. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

F. "Channelized stream" means the definition set forth in Section 6111.01 (M) of the ORC.

G. "Commencement of construction" means the initial disturbance of soils associated with clearing, grubbing, grading, placement of fill, or excavating activities or other construction activities.

H. "Concentrated storm water runoff" means any storm water runoff which flows through a drainage pipe, ditch, diversion or other discrete conveyance channel.

I. "Director" means the director of the Ohio Environmental Protection Agency.

J. "Discharge" means the addition of any pollutant to the surface waters of the state from a point source.

K. "Disturbance" means any clearing, grading, excavating, filling, or other alteration of land surface where natural or man-made cover is destroyed in a manner that exposes the underlying soils.

L. "Drainage watershed" means for purposes of this permit the total contributing drainage area to a BMP, i.e., the "watershed" directed to the practice. This would also include any off-site drainage.

M. "Final stabilization" means that either:

1. All soil disturbing activities at the site are complete and a uniform perennial vegetative cover (e.g., evenly distributed, without large bare areas) with a density of at least 70 percent cover for the area has been established on all unpaved areas and areas not covered by permanent structures or equivalent stabilization measures (such as the use of mulches, rip-rap, gabions or geotextiles) have been employed. In addition, all temporary erosion and sediment control practices are removed and disposed of and all trapped sediment is permanently stabilized to prevent further erosion; or

2. For individual lots in residential construction by either:

   a. The homebuilder completing final stabilization as specified above or

   b. The homebuilder establishing temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for and benefits of, final stabilization. (Homeowners typically have an incentive to put in the landscaping functionally equivalent to final stabilization as quick as possible to keep mud out of their homes and off sidewalks and driveways.); or

3. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its pre-construction agricultural use. Areas disturbed that were previously used for agricultural activities, such as buffer strips immediately adjacent to surface waters of the state and which are not being returned to their pre-construction agricultural use, must meet the final stabilization criteria in (1) or (2) above.

N. "General contractor" – for the purposes of this permit, the primary individual or company solely accountable to perform a contract. The general contractor typically supervises activities, coordinates the use of subcontractors, and is authorized to direct workers at a site to carry out activities required by the permit.

O. "Individual lot NOI" means a Notice of Intent for an individual lot to be covered by this permit (see Part I of this permit).

P. "Larger common plan of development or sale"- means a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.

Q. "MS4" means municipal separate storm sewer system which means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) that are:

1. Owned or operated by the federal government, state, municipality, township, county, district(s) or other public body (created by or pursuant to state or federal law) including special district under state law such as a sewer district, flood control district or drainage districts or similar entity or a designated and approved management agency under section 208 of the act that discharges into surface waters of the state; and
2. Designed or used for collecting or conveying solely storm water,
3. Which is not a combined sewer and
4. Which is not a part of a publicly owned treatment works.

R. "National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and enforcing pretreatment requirements, under sections 307, 402, 318 and 405 of the CWA. The term includes an "approved program."

S. "Natural channel design" means an engineering technique that uses knowledge of the natural process of a stream to create a stable stream that will maintain its form and function over time.

T. "NOI" means notice of intent to be covered by this permit.

U. "NOT" means notice of termination.

V. "Operator" means any party associated with a construction project that meets either of the following two criteria:

1. The party has day-to-day operational control of all activities at a project which are necessary to ensure compliance with a SWP3 for the site and all permit conditions including the ability to authorize modifications to the SWP3, construction plans and site specification to ensure compliance with the General Permit, or

2. Property owner meets the definition of operator should the party which has day to day operational control require additional authorization from the owner for modifications to the SWP3, construction plans, and/or site specification to ensure compliance with the permit or refuses to accept all responsibilities as listed above (Part VII.V.1).

Subcontractors generally are not considered operators for the purposes of this permit. As set forth in Part I.F.1, there can be more than one operator at a site and under these circumstances, the operators shall be co-permittees.

W. "Ordinary high water mark" means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

X. "Owner or operator" means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

Y. "Permanent stabilization" means the establishment of permanent vegetation, decorative landscape mulching, matting, sod, rip rap and landscaping techniques to provide permanent erosion control on areas where construction operations are complete or where no further disturbance is expected for at least one year.

Z. "Percent imperviousness" means the impervious area created divided by the total area of the project site.

AA. "Point source" means any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or the floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

BB. "Qualified inspection personnel" means a person knowledgeable in the principles and practice of erosion and sediment controls, who possesses the skills to assess all conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity.

CC. "Rainwater and Land Development" is a manual describing construction and post-construction best management practices and associated specifications. A copy of the manual may be obtained by contacting the Ohio Department of Natural Resources, Division of Soil & Water Conservation.

DD. "Riparian area" means the transition area between flowing water and terrestrial (land) ecosystems composed of trees, shrubs and surrounding vegetation which serve to stabilize erodible soil, improve both surface and ground water quality, increase stream shading and enhance wildlife habitat.

EE. "Runoff coefficient" means the fraction of total rainfall that will appear at the conveyance as runoff.

FF. "Sediment settling pond" means a sediment trap, sediment basin or permanent basin that has been temporarily modified for sediment control, as described in the latest edition of the Rainwater and Land Development manual.

GG. "State isolated wetland permit requirements" means the requirements set forth in Sections 6111.02 through 6111.029 of the ORC.

HH. "Storm water" means storm water runoff, snow melt and surface runoff and drainage.

II. "Steep slopes" means slopes that are 15 percent or greater in grade. Where a local government or industry technical manual has defined what is to be considered a "steep slope," this permit's definition automatically adopts that definition.

JJ. "Stream edge" means the ordinary high water mark.

KK. "Subcontractor" – for the purposes of this permit, an individual or company that takes a portion of a contract from the general contractor or from another subcontractor.

LL. "Surface waters of the state" or "water bodies" means all streams, lakes, reservoirs, ponds, marshes, wetlands or other waterways which are situated wholly or partially within the boundaries of the state, except those private waters which do not combine or effect a junction with natural surface or underground waters. Waters defined as sewerage systems, treatment works or disposal systems in Section 6111.01 of the ORC are not included.

MM. "SWP3" means storm water pollution prevention plan.

NN. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment

facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

OO. "Temporary stabilization" means the establishment of temporary vegetation, mulching, geotextiles, sod, preservation of existing vegetation and other techniques capable of quickly establishing cover over disturbed areas to provide erosion control between construction operations.

PP. "Water Quality Volume (WQ_v)" means the volume of storm water runoff which must be captured and treated prior to discharge from the developed site after construction is complete.

Appendix A
Big Darby Creek Watershed

CONTENTS OF THIS APPENDIX

A.1 Permit Area
A.2 TMDL Conditions
A.3 Sediment Settling Ponds and Sampling
A.4 Riparian Setback Requirements
A.5 Riparian Setback Mitigation
A.6 Groundwater Recharge Requirements
A.7 Groundwater Recharge mitigation

Attachment A-A: Big Darby Creek Watershed Map

Attachment A-B: Stream Assessment and Restoration

A.1 Permit Area.

This appendix to Permit OHC00005 applies to the entire Big Darby Creek Watershed located within the State of Ohio. Please see Attachment A for permit area boundaries.

A.2 TMDL Conditions.

This general permit requires control measures/BMPs for construction sites that reflect recommendations set forth in the U.S. EPA approved Big Darby Creek TMDL.

A.3 Sediment Settling Ponds and Sampling

Sediment settling ponds additional conditions. The sediment settling pond shall be sized to provide a minimum sediment storage volume of 134 cubic yards of effective sediment storage per acre of drainage and maintain a target discharge performance standard of 45 mg/l Total Suspended Solids (TSS) up to a 0.75-inch rainfall event within a 24-hour period. Unless infeasible, sediment settling ponds must be dewatered at the pond surface using a skimmer or equivalent device. The depth of the sediment settling pond must be less than or equal to five feet. Sediment must be removed from the sediment settling pond when the design capacity has been reduced by 40 percent (This is typically reached when sediment occupies one-half of the basin depth).

Silt Fence and Diversions. For sites five or more acres in size, the use of sediment barriers as a primary sediment control is prohibited. Centralized sediment basins shall be used for sites 5 or more acres in size. Diversions shall direct all storm water runoff from the disturbed areas to the impoundment intended for sediment control. The sediment basins and associated diversions shall be implemented prior to the major earth disturbing activity.

The permittee shall sample in accordance with sampling procedures outlined in 40 CFR 136. Sampling shall occur as follows:

i. Occur at the outfall of each sediment settling pond associated with the site. Each associated outfall shall be identified by a three-digit number (001, 002, etc.);

ii. The applicable rainfall event for sampling to occur shall be a rainfall event of 0.25-inch to a 0.75-inch rainfall event to occur within a 24-hour period. Grab sampling shall be initiated at a site within 14 days, or the first applicable rainfall event thereafter, once upslope disturbance of each sampling location is initiated and shall continue on a quarterly basis. Quarterly periods shall be represented as January - March, April - June, July - September and October - December. Sampling results shall be retained on site and available for inspection.

If any sample is greater than the performance standard of 45 mg/l TSS, the permittee shall modify the SWP3 and install/implement new control practice(s) within 10 days to ensure the TSS performance standard is maintained. Within 3 days of improvement(s), or the first applicable rainfall event thereafter, the permittee shall resample to ensure SWP3 modifications maintain the TSS performance standard target.

For each sample taken, the permittee shall record the following information:

- the outfall and date of sampling;
- the person(s) who performed the sampling;
- the date the analyses were performed on those samples;
- the person(s) who performed the analyses;
- the analytical techniques or methods used; and
- the results of all analyses.

Both quarterly and sampling results following a discharge target exceedance shall be retained on site and available for inspection.

A.4 Riparian Setback Requirements.

The SWP3 shall clearly delineate the boundary of required stream setback distances. No construction activity shall occur, without appropriate mitigation, within the delineated setback boundary except activities associated with restoration or recovery of natural floodplain and channel form characteristics as described in Attachment B, storm water conveyances from permanent treatment practices and approvable utility crossings. Such conveyances must be designed to minimize the width of disturbance. If intrusion within the delineated setback boundary is necessary to accomplish the purposes of a project, then mitigation shall be required in accordance with Appendix A.5 of this permit. Streams requiring protection under this section are defined as perennial, intermittent or ephemeral streams with a defined bed, bank or channel. National Resources Conservation Service (NRCS) soil survey maps should be used as one reference and the presence of a stream requiring protection should also be confirmed in the field. Any required setback distances shall be clearly displayed in the field prior to any construction related activity.

Riparian setbacks distance shall be delineated based upon one of the following two methods:

i. The setback distance shall be sized as the greater of the following:

1. The regulatory 100-year floodplain based on FEMA mapping;

2. A minimum of 100 feet from the top of the streambank on each side; or

3. A distance calculated using the following equation:

$$W = 133DA^{0.43} \qquad \text{(Equation 1, Appendix A)}$$

where:
DA = drainage area (mi^2)
W = total width of riparian setback (ft)

W shall be centered over the meander pattern of the stream such that a line representing the setback width would evenly intersect equal elevation lines on either side of the stream.

If the DA remains relatively constant throughout the stretch of interest, then the DA of the downstream edge of the stretch should be used. Where there is a significant increase in the DA from the upstream edge to The downstream edge of the area of interest, the setback width shall increase accordingly.

ii. **Stream Restoration with 100 feet (each side) Riparian Setback**. Each stream segment within the proposed site boundaries can be assessed in accordance with Attachment B, Part 1. In the event the stream segment is classified as a “Previously Modified Low Gradient Headwater Stream”, the permittee has the option to restore the stream segment in accordance with Attachment B and include a 100-foot water quality setback distance from the top of the streambank on each side. In the event the stream segment exceeds the minimum criteria in Attachment B to be classified as a “Previously Modified Low Gradient Headwater Stream,” this Appendix A, Attachment B may be considered on a case-by-case basis.

No structural sediment controls (e.g., the installation of sediment barriers or a sediment settling pond) or structural post-construction controls shall be used in a surface water of the State or the delineated setback corridor.

Previously developed projects (as defined in Part III.G.2.e.) located within the delineated setback boundary are exempt from Riparian Setback Mitigation (A.5) provided the proposed project does not further intrude into the delineated setback boundary.

Linear transportation projects which are caused solely by correcting safety related issues, mandates of modern design requirements and/or resulting from other mitigation activities are exempt from Riparian Setback Mitigation (Appendix A, A.5) if less than one acre of total new right-of-way is associated with the project.

A.5 Riparian Setback Mitigation.

The mitigation required for intrusion into the riparian setback shall be determined by the horizontal distance the intrusion is from the stream. Up to three zones will be used in determining the required mitigation. Zone 1 extends from 0 to 25 feet from the stream edge. Zone 2 extends from 25 to 100 feet from the stream edge, and Zone 3 extends from 100 feet to the outer edge of the setback corridor. Intrusion into these zones will require the following mitigation within the same Watershed Assessment Unit (12-digit HUC scale):

i. Four times the total area disturbed in the stream and within Zone 1 of the site being developed shall be mitigated within Zone 1 of the mitigation location.

ii. Three times the area disturbed within Zone 2 of the site being developed shall be mitigated within Zones 1 and/or 2 of the mitigation location.

iii. Two times the area disturbed within Zone 3 of the site being developed shall be mitigated within any zone of the mitigation location.

In lieu of mitigation ratios found within in this section, linear transportation projects which result in total new right-of-way greater than one acre and less than two acres, which are caused solely by correcting safety related issues, mandates of modern design requirements and/or resulting from other mitigation activities, shall provide Riparian Setback Mitigation at a ratio of 1.5 to 1.

All mitigation shall, at a minimum, include conserved or restored setback zone and should be designed to maximize the ecological function of the mitigation. Including mitigation at the stream edge along with associated setback areas is one way to maximize ecological function. Mitigation shall be protected in perpetuity by binding conservation easements or environmental covenants which must be recorded within 6 months of receiving permit authorization. Granting of binding conservation easements or environmental covenants protected in perpetuity for land outside of disturbed area but within a required riparian setback counts towards required mitigation.

Mitigation may also be satisfied by approved pooled mitigation areas and in-lieu fee sponsored mitigation areas. Mitigation resulting from State or Federal environmental regulations may be adjusted in recognition of these requirements.

A.6 Groundwater Recharge Requirements.

The SWP3 shall ensure that the overall site post-development groundwater recharge equals or exceeds the pre-development groundwater recharge. The SWP3 shall describe the conservation development strategies, BMPs and other practices deemed necessary by the permittee to maintain or improve pre-development rates of groundwater recharge. Pre-development and post-development groundwater recharge shall be calculated using the following equation:

i. $Vre_x = A_x * Dre_x / 12$ (Equation 2, Appendix A)

where:
X = represents a land use and hydrologic soil group pair
Vre_x = volume of total annual recharge from land use-soil group X (in acre-ft)
Dre_x = depth of total annual recharge associated with land use-soil group X from Tables 1 or 2 (in inches)
A_x = area of land use-soil group X (in acres)

Table A-1 values should be used for land where the underlying geology indicates a potential for downward migration of groundwater. Table A-1 values represent the combined total groundwater recharge potential including groundwater contribution to stream baseflow and to the underlying bedrock aquifer. The potential for downward migration can be determined from a comparison of the potentiometric maps for the glacial and bedrock aquifers. Use Table A-2 when this potential is unlikely to exist. Detailed potentiometric maps for the Franklin county portion of the Darby watershed, and coarse potentiometric maps for the Darby watershed outside of Franklin County and hydrologic soil group data are available at: http://www.epa.state.oh.us/dsw/permits/GP_ConstructionSiteStormWater_Darby.aspx.

Table A-1 (Appendix A) Annual Average Expected Total Groundwater Recharge[3]

Land Use	Density (DU[1]/acre)	% Impervious	Recharge (inches) by Hydrologic Soil Group2			
			A	B	C	D
Woods / Forest	-	-	17.0	16.6	15.6	14.6
Brush	-	-	17.0	16.6	15.6	14.6
Meadow	-	-	17.0	16.5	15.4	14.4
Managed Wood	-	-	16.9	16.0	14.7	13.4
Pasture	-	-	16.5	15.9	14.4	13.0
Row Crop	-	-	15.8	14.2	11.9	8.1
Urban Grasses	-	-	15.7	15.7	14.2	12.7
Low Density Residential	0.5	12%	15.7	15.7	14.2	12.7
Low Density Residential	1	20%	14.8	14.8	13.7	12.2
Medium Density Residential	2	25%	11.5	11.5	11.5	11.5
Medium Density Residential	3	30%	11.2	11.2	11.2	11.2
Medium Density Residential	4	38%	9.6	9.6	9.6	9.6
High Density Residential	≥5	65%	7.3	7.3	7.3	7.3
Commercial & Road Right-of-Way[4]	-	90%	4.3	4.3	4.3	4.3

[1] DU = Dwelling Units
[2] Hydrologic soil group designations of A/D, B/D, and C/D should be considered as D soils for this application.
[3] These values apply when recharge of the aquifer is expected; recharge to the bedrock aquifer can be expected when the potentiometric head of the glacial aquifer is greater than the bedrock aquifer.
[4] The 4.3 infiltration value may only be used for an area as a whole (includes impervious and pervious areas) which includes a minimum of 10 percent pervious area. If all land uses (pervious and impervious) are tabulated separately, then impervious areas have 0 inches of recharge.

Table A-2 (Appendix A) Annual Average Expected Baseflow Recharge[3]

Land Use	Density (DU[1]/acre)	% Impervious	Recharge (inches) by Hydrologic Soil Group2			
			A	B	C	D
Woods / Forest	-	-	11.8	11.4	10.7	9.9
Brush	-	-	11.7	11.4	10.7	9..9
Meadow	-	-	11.8	11.3	10.6	9.8
Managed Wood	-	-	11.7	11.0	10.0	9.1
Pasture	-	-	11.3	11.0	9.9	8.9
Row Crop	-	-	11.1	10.1	9.0	6.2
Urban Grasses	-	-	11.2	11.2	10.3	9.3
Low Density Residential	0.5	12%	11.2	11.2	10.3	9.3
Low Density Residential	1	20%	9.5	9.5	9.0	8.6
Medium Density Residential	2	25%	7.8	7.8	7.8	7.8
Medium Density Residential	3	30%	7.6	7.6	7.6	7.6
Medium Density Residential	4	38%	6.5	6.5	6.5	6.5
High Density Residential	≥5	65%	5.0	5.0	5.0	5.0
Commercial & Road Right-of-Way[4]	-	90%	2.9	2.9	2.9	2.9

[1] DU = Dwelling Units
[2] Hydrologic soil group designations of A/D, B/D, and C/D should be considered as D soils for this application.
[3] These values apply when no recharge of the aquifer is expected.
[4] The 2.9 infiltration value may only be used for an area as a whole (includes impervious and pervious areas) which includes a minimum of 10 percent pervious area. If all land uses (pervious and impervious) are tabulated separately, then impervious areas have 0 inches of recharge.

Table A-3 (Appendix A) Land Use Definitions

Land Use	Definition
Woods / Forest	Areas dominated by trees. Woods are protected from grazing and litter and brush adequately cover the soil.
Brush	Brush, weeds, grass mixture where brush is the major element and more than 75% of the ground is covered.
Meadow	Continuous grass, protected from grazing, generally mowed for hay.
Managed Wood	Orchards, tree farms, and other areas planted or maintained for the production of fruits, nuts, berries, or ornamentals.
Pasture	Pasture, grassland, or range where at least 50% of the ground is covered and the area is not heavily grazed.
Row Crop	Areas used to produce crops, such as corn, soybeans, vegetables, tobacco, and cotton.
Urban Grasses	Vegetation (primarily grasses) planted in developed settings for recreation, erosion control, or aesthetic purposes. Examples include parks, lawns, golf courses, airport grasses, and industrial site grasses.
Residential	Areas with a mixture of constructed materials and vegetation; the average % imperviousness and number of dwelling units per acre to determine the appropriate density is specified.
Commercial	Includes infrastructure (e.g. roads, railroads, etc.) and all highly developed areas not classified as High Intensity Residential.

ii. The pre-development ground water recharge volume shall be calculated by determining the area of each land use-soil type pairing on the site of interest. The recharge associated with each such pairing multiplied by the area will give the pre-development volume of total groundwater

recharge. The same shall be done for the post-development land use-soil type pairings.

Any activity that is expected to produce storm water runoff with elevated concentrations of carcinogens, hydrocarbons, metals, or toxics is prohibited from infiltrating untreated storm water from the area affected by the activity. The groundwater recharge mitigation requirement for areas affected by such activities must be met by methods which do not present a risk of groundwater contamination. The following land uses and activities are typically deemed storm water hotspots:

Vehicle salvage yards and recycling facilities

- vehicle service and maintenance facilities (i.e. truck stops, gas stations)
- fleet storage areas (i.e. bus, truck)
- industrial sites subject to industrial storm water permitting requirements
- bulk terminals
- marinas
- facilities that generate or store hazardous materials
- other land uses and activities as designated by individual review

The following land uses and activities are not normally considered hotspots:

- residential streets and rural highways
- residential development
- institutional development
- commercial and office developments
- non-industrial rooftops
- pervious areas, except golf courses and nurseries

The applicant may use structural BMPs within drinking water source protection areas for community public water systems only to the extent that the structural BMP(s) does not cause contaminants in the recharge waters to impact the ground water quality at levels that would cause an exceedance of the drinking water Maximum Contaminant Levels (OAC Section 3745-81 and 3745-82). To obtain a map of drinking water source protection areas for community public water systems contact Ohio EPA's Division of Drinking and Ground Waters at (614) 644-2752.

Linear transportation projects which are caused solely by correcting safety related issues, mandates of modern design requirements and/or resulting from other mitigation activities are exempt from Groundwater Recharge Mitigation (Appendix B, A.7) if less than one acre of total new right-of-way is associated with the project.

Protection of open space (infiltration areas) shall be by binding conservation easements that identify a third-party management agency, such as a homeowners' association/condominium association, political jurisdiction or third-party land trust.

A.7 Groundwater Recharge Mitigation.

If the post-development recharge volume is less than the pre-development recharge volume, then mitigation will be required. Two options are available for most applications:

i. The preferred method is to convert additional land to land use with higher recharge potential. The difference in groundwater recharge between the existing and converted land use recharge is the amount which can be used as recharge credit. Off-site Groundwater Recharge Mitigation shall occur within the same Watershed Assessment Unit (12-digit HUC scale) as the permitted site and preferably up-gradient and within a 2-mile radius.

   Mitigation shall be protected in perpetuity by binding conservation easements or environmental covenants which must be recorded within 6 months of receiving permit authorization. Granting of binding conservation easements or environmental covenants protected in perpetuity for land outside of the disturbed area, but within a required riparian setback counts towards required mitigation.

   Mitigation may also be satisfied by approved pooled mitigation areas and in-lieu fee sponsored mitigation areas.

ii. On-site structural and non-structural practices may also be used to achieve groundwater mitigation requirements by retaining and infiltrating on-site a minimum volume of storm water runoff based on the area and hydrologic soil groups of disturbed soils. If these infiltrating practices are incorporated upstream of the water quality volume treatment practice, the volume of groundwater being infiltrated may be subtracted from the water quality volume for the purpose of meeting post-construction requirements. The on-site retention requirement is determined by the following formula:

$$V_{retention} = A_{HSG\text{-}A}*0.90 \text{ in} + A_{HSG\text{-}B}*0.75 \text{ in} + A_{HSG\text{-}C}*0.50 \text{ in} + A_{HSG\text{-}D}*0.25 \text{ in}$$

(Equation 3, Appendix A)

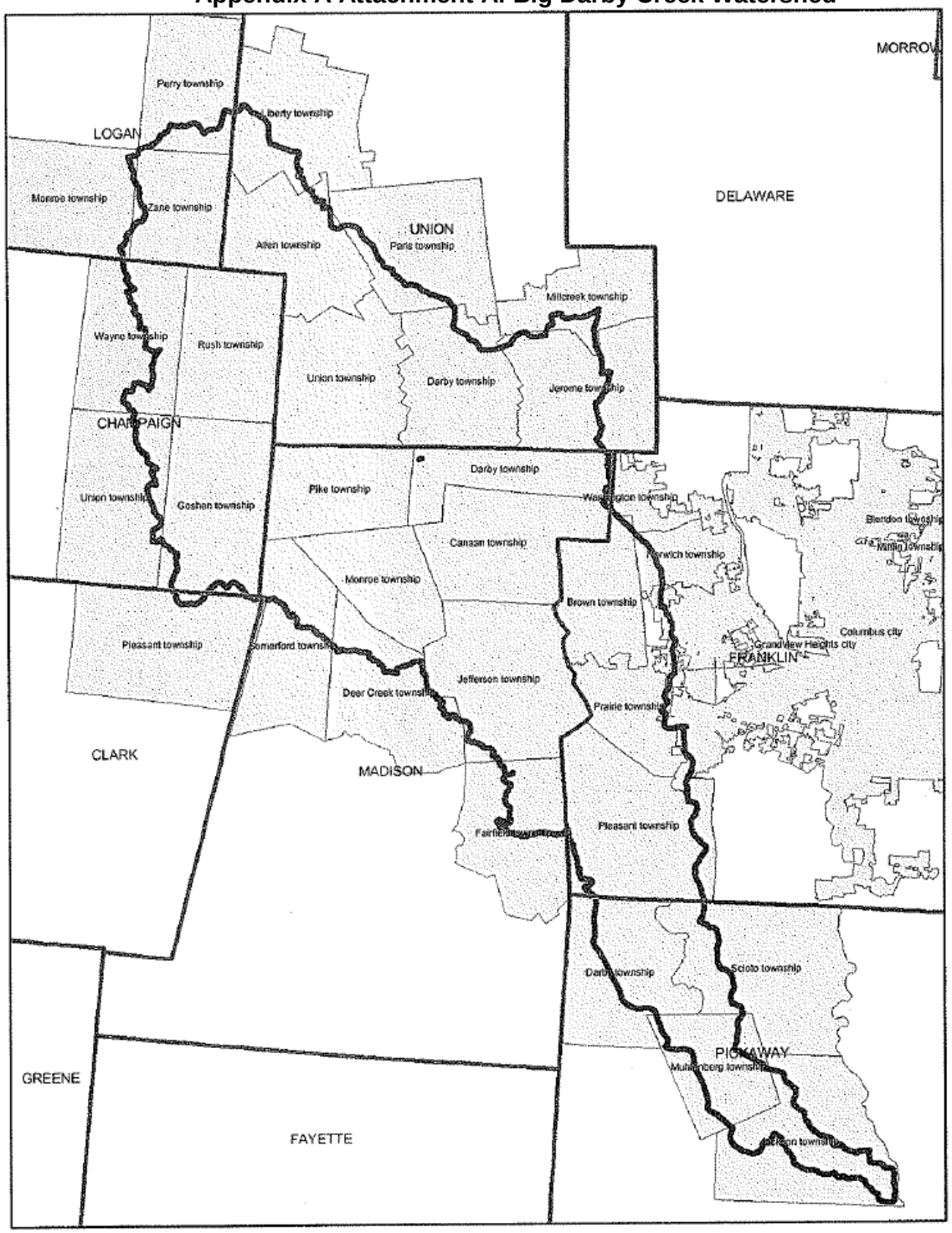
Where,
$V_{retention}$ = volume of runoff retained onsite using an approved infiltration practice
$A_{HSG\text{-}x}$ = area of each hydrologic soil group within the disturbed area

Table A-4: Hydrologic Soil Groups and On-site Retention Depth per Acre

Hydrologic Soil Group	HSG A	HSG B	HSG C	HSG D
Retention Depth (inches)	0.90	0.75	0.50	0.25

Retention volume ($V_{retention}$) provided by selected practices shall be determined using the runoff reduction method criteria as outlined in Part III.G.2.e, Ohio EPA's Runoff Reduction spreadsheet and supporting documentation in the Rainwater and Land Development manual. Hydrologic soil group (HSG) areas are to be determined by using the current version of SURRGO or Web Soil Survey soils information.

Appendix A Attachment A: Big Darby Creek Watershed



A more detailed map can be viewed at:
http://www.epa.state.oh.us/dsw/permits/GP_ConstructionSiteStormWater_Darby.aspx

Appendix A Attachment B

Part 1 Stream Assessment

This assessment will determine if a stream is considered a previously channelized, low-gradient headwater stream (a drainage ditch) which would be applicable for stream restoration in lieu of protecting a setback as per Appendix A. A.4.i and ii.

In the event the assessment of the stream, meets all the criteria listed below, restoration (provided 401/404 permits are authorized) as depicted in Part 2 of this attachment, may be a means of reducing the setback distance required by A.4.i. (Appendix A).

Previously Channelized Low-Gradient Headwater Streams (drainage ditches) shall for the purposes of this permit be defined as having all of the following characteristics:

- Less than 10 square miles of drainage area
- Low gradient and low stream power such that despite their straightened and entrenched condition incision (down-cutting) is not evident
- Entrenched, entrenchment ratio < 2.2
- Straight, sinuosity of the bankfull channel < 1.02

Part 2 Restoration

Restoration shall be accomplished by any natural channel design approach that will lead to a self-maintaining reach able to provide both local habitat and watershed services (e.g. self-purification and valley floodwater storage).

a. Construction of a floodplain, channel and habitat via natural channel design;
b. Floodplain excavation necessary to promote interaction between stream and floodplain;
c. Include a water quality setback of 100 feet from top of the streambank on each side.

The primary target regardless of design approach shall be the frequently flooded width, which shall be maximized, at 10 times the channel's self-forming width. Five times the self-forming channel width may still be acceptable particularly on portions of the site if greater widths are achieved elsewhere.

Appendix B
Olentangy River Watershed

CONTENTS OF THIS APPENDIX

B.1 Permit Area
B.2 TMDL Conditions
B.3 Riparian Setback Requirements
B.4 Riparian Setback Mitigation

Attachment B-A: Area of Applicability for the Olentangy Watershed (Map)

Attachment B-B: Stream Assessment and Restoration

B.1 Permit Area.

This appendix to Permit OHC00005 applies to specific portions of the Olentangy River Watershed located within the State of Ohio. The permit area includes the following 12-digit Hydrologic Unit Codes (HUC-12) within the Olentangy River Watershed:

12-Digit Hydrologic Unit Codes

12-Digit Hydrologic Unit Codes (HUC)	Narrative Description of Sub-Watershed
05060001 09 01	Shaw Creek
05060001 09 02	Headwaters Whetstone Creek
05060001 09 03	Claypool Run-Whetstone Creek
05060001 10 07	Delaware Run-Olentangy River
05060001 11 01	Deep Run-Olentangy River
05060001 11 02 (Only portion as depicted in Attachment A)	Rush Run-Olentangy River

Please see Attachment A (Appendix B) for permit area boundaries. An electronic version of Attachment A can be viewed at
http://epa.ohio.gov/dsw/permits/GP_ConstructionSiteStormWater_Olentangy.aspx

B.2 TMDL Conditions.

This general permit requires control measures/BMPs for construction sites that reflect recommendations set forth in the U.S. EPA approved Olentangy TMDL.

B.3 Riparian Setback Requirements.

The permittee shall comply with the riparian setback requirements of this permit or alternative riparian setback requirements established by a regulated MS4 and approved by Ohio EPA. The SWP3 shall clearly delineate the boundary of required stream setback distances. The stream setback shall consist of a streamside buffer and an outer buffer. No construction activity shall occur, without appropriate mitigation, within the streamside buffer except activities associated with storm water conveyances from permanent treatment practices, approvable utility crossings and restoration or recovery of floodplain and channel form characteristics as described in Attachment B. Storm water conveyances must be designed to minimize the width of disturbance.

Construction activities requiring mitigation for intrusions within the outer buffer for the Olentangy River mainstem and perennial streams are described in Appendix B.4.

If intrusion within the delineated setback boundary is necessary to accomplish the purposes of a project, then mitigation shall be required in accordance with Appendix B.3. of this permit. Streams requiring protection under this section have a defined bed and bank or channel and are defined as follows:

- The Olentangy River mainstem;
- Perennial streams have continuous flow on either the surface of the stream bed or under the surface of the stream bed;
- Intermittent streams flow for extended periods of time seasonally of a typical climate year; and
- Ephemeral streams are normally dry and only flow during and after precipitation runoff (episodic flow).

National Resources Conservation Service (NRCS) soil survey maps should be used as one reference and the presence of a stream requiring protection should also be confirmed in the field. Any required setback distances shall be clearly displayed in the field prior to any construction related activity.

Riparian setbacks shall be delineated based upon one of the following two methods:

i. The required setback distances shall vary with stream type as follows:

a. The setback distances associated with the mainstem of the Olentangy River shall consist of:

(1) A streamside buffer width of 100 feet as measured horizontally from the ordinary high water mark per side; and

(2) An outer buffer width sized to the regulatory 100-year floodplain based on FEMA mapping. No impervious surfaces shall be constructed without appropriate mitigation and moderate to substantial fill activities with no impervious surface may require appropriate mitigation pending an individual approval by Ohio EPA.

b. The setback distance associated with perennial streams, other than the Olentangy mainstem, shall consist of:

(1) A streamside buffer width of 80 feet per side measured horizontally from the ordinary high water mark; and

(2) An outer buffer width sized to the regulatory 100-year floodplain based on FEMA mapping. In the event the regulatory 100-year floodplain is not established, the outer buffer width shall be calculated using the following equation and measured horizontally from the ordinary high water mark. No impervious surfaces, structure, fill, or activity that would impair the floodplain or stream stabilizing ability of the outer buffer shall occur without appropriate mitigation:

$W = 143DA^{0.41}$ (Equation 1 Appendix B)

where:
DA = drainage area (mi^2)
W = total width of riparian setback (ft)

W shall be centered over the meander pattern of the stream such that a line representing the setback width would evenly intersect equal elevation lines on either side of the stream.

If the DA remains relatively constant throughout the stretch of interest, then the DA of the downstream edge of the stretch should be used. Where there is a significant increase in the DA from the upstream edge to the downstream edge of the area of interest, the setback width shall increase accordingly.

c. The setback distance associated with intermittent streams and ephemeral streams shall be a streamside buffer width of 30 feet per side measured horizontally from the centerline of the stream. No outer buffer is required for intermittent and ephemeral streams.

ii. Stream Restoration with 100 feet (each side) Riparian Setback. Each stream segment within the proposed site boundaries can be assessed in accordance with Attachment B. In the event the stream segment is classified as a "Previously Modified Low Gradient Headwater Stream", the permittee has the option to restore the stream segment in accordance with Attachment B and include a 100 feet water quality setback distance from the top of the streambank on each side. In the event the stream segment exceeds the minimum criteria in Attachment B to be classified as a "Previously Modified Low Gradient Headwater Stream", this may be considered on a case-by-case basis.

No structural sediment controls (e.g., the installation of sediment barriers or a sediment settling pond) or structural post-construction controls shall be used in a stream or the streamside buffer. Activities and controls that would not impair the floodplain or stream stabilizing ability of the outer buffer can be considered.

Redevelopment projects (i.e., developments on previously developed property) located within the delineated setback boundary is exempt from Riparian Setback Mitigation (B.3) provided the proposed project does not further intrude the delineated setback boundary.

B.4 Riparian Setback Mitigation.

The mitigation required for intrusion into the riparian setback of the **Olentangy River mainstem or perennial streams** shall be determined by the horizontal distance the intrusion is from the stream. Up to three zones will be used in determining the required mitigation. Zone 1 extends from 0 to 30 feet from the stream edge. Zone 2 extends

from 30 feet to the outer edge of the streamside buffer. Zone 3 extends from the outer edge of the streamside buffer to the outer edge of the outer buffer. Intrusion into these zones will require the following mitigation within the same Watershed Assessment Unit (12-digit HUC scale). Alternative mitigation, within the permit area, may be considered on a case-by-case basis:

1. Four (4) times the total area disturbed in the stream within Zone 1 of the site being developed shall be mitigated; or, two (2) times the total area disturbed in the stream within Zone 1 shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected by binding conservation easements or environmental covenants.

2. Three (3) times the area disturbed within Zone 2 of the site being developed shall be mitigated within Zones 1 and/or 2 of the mitigation location; or, one and one-half (1.5) times the total area disturbed within Zone 2 shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected in perpetuity by binding conservation easements or environmental covenants.

3. Two (2) times the area to be mitigated within Zone 3 of the site being developed shall be mitigated within any Zone of the mitigation location; or, one (1) times the total area to be mitigated within any zone shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected in perpetuity by binding conservation easements or environmental covenants.

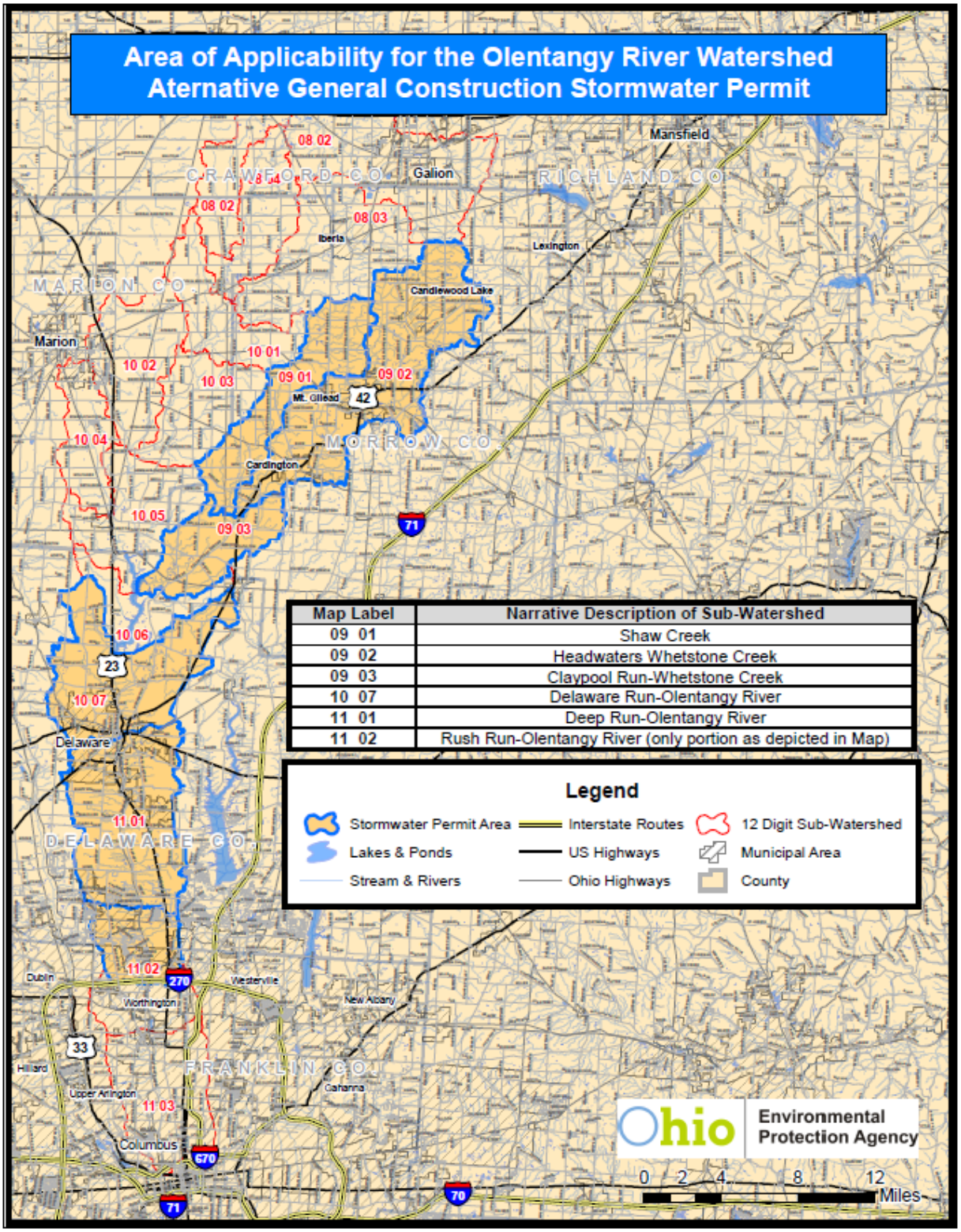
The mitigation required for intrusion into the riparian setback of an **intermittent stream** shall be four (4) times the total area disturbed within the riparian setback of the site being developed shall be mitigated; or two (2) times the total area disturbed within the riparian setback shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected in perpetuity by binding conservation easements or environmental covenants.

The mitigation required for intrusion into the streamside buffer of an **ephemeral stream** shall be two (2) times the total area disturbed within the riparian setback of the site being developed shall be mitigated; or one (1) times the total area disturbed within the riparian setback shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected in perpetuity by binding conservation easements or environmental covenants.

All mitigation shall, at a minimum, include conserved or restored setback zone, and should be designed to maximize the ecological function of the mitigation. Including mitigation at the stream edge along with associated setback areas is one way to maximize ecological function. Mitigation shall be protected in perpetuity by binding conservation easements or environmental covenants which must be recorded within 6 months of permit authorization. Granting of binding conservation easements or environmental covenants protected for land outside of disturbed area, but within a required riparian setback counts towards required mitigation.

Mitigation may also be satisfied by approved pooled mitigation areas and in-lieu fee sponsored mitigation areas. Mitigation resulting from State or Federal environmental regulations may be adjusted in recognition of these requirements.

Appendix B Attachment A Applicable Portions of the Olentangy Watershed



A more detailed map can be viewed at:
http://epa.ohio.gov/dsw/permits/GP_ConstructionSiteStormWater_Olentangy.aspx

Appendix B Attachment B

Part 1 Stream Assessment

This assessment will determine if a stream is considered a previously channelized, low-gradient headwater stream (a drainage ditch) which would be applicable for stream restoration in lieu of protecting an outer 'no build' setback as per Appendix B B.2i. and ii.

In the event the assessment of the stream meets all the criteria listed below, restoration as depicted in Part 2 of this attachment or natural channel design could be performed, provided 401/404 permits are authorized, and may be a means of reducing the setback distance required by B.2.i. (Appendix B).

Previously Modified, Low-Gradient Headwater Streams shall, for the purposes of this permit, be defined as having all of the following characteristics:

- Less than 10 square miles of drainage area;
- Low gradient and low stream power such that incision (down-cutting) is not evident;
- Entrenched such that the ratio of the frequently flooded width to the bankfull width is less than 2.2; and
- Straight with little or no sinuosity present such that the ratio of the bankfull channel length to the straight-line distance between two points is less than 1.02.

Part 2 Restoration

Restoration shall be accomplished by any natural channel design approach that will lead to a self-maintaining reach able to provide both local habitat and watershed services (e.g. self-purification and valley floodwater storage).

a. Construction of a floodplain, channel and habitat via natural channel design;
b. Floodplain excavation necessary to promote interaction between stream and floodplain;
c. Include a water quality setback of 100 feet from top of the streambank on each side.

The primary target shall be a frequently flooded width of 10 times the channel's self-forming width. Five times the self-forming channel width may be acceptable if sufficient elements of natural channel design are included in the restoration project.

Appendix C Rainfall Intensity for Calculation of Water Quality Flow (WQF)

DURATION t_c (minutes)	WATER QUALITY INTENSITY [i_{wq}] (inches/hour)	DURATION t_c (minutes)	WATER QUALITY INTENSITY [i_{wq}] (inches/hour)
5	2.37	33	0.95
6	2.26	34	0.93
7	2.15	35	0.92
8	2.04	36	0.90
9	1.94	37	0.88
10	1.85	38	0.86
11	1.76	39	0.85
12	1.68	40	0.83
13	1.62	41	0.82
14	1.56	42	0.80
15	1.51	43	0.78
16	1.46	44	0.77
17	1.41	45	0.76
18	1.37	46	0.75
19	1.33	47	0.74
20	1.29	48	0.73
21	1.26	49	0.72
22	1.22	50	0.71
23	1.19	51	0.69
24	1.16	52	0.68
25	1.13	53	0.67
26	1.10	54	0.66
27	1.07	55	0.66
28	1.05	56	0.65
29	1.03	57	0.64
30	1.01	58	0.64
31	0.99	59	0.63
32	0.97	60	0.62

Note: For t_c < 5 minutes, use i = 2.37 in/hr; for t_c > 60 minutes, use i = 0.62 in/hr. For all other t_c, use the appropriate value from this table.

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Summary: Notice Notice of Compliance with Condition No. 6 - Permit - USACE & OEPA Nationwide & General Permits electronically filed by Ms. Julia M Mancinelli on behalf of Hillcrest Solar I, LLC