



Section 401 Water Quality Certification Application Completion and Submittal Instructions

Division of Surface Water 401 Water Quality Certification and
Isolated Wetland Permitting Unit

Who Must Use This Application?

This application must be completed whenever a proposed activity requires an individual 401 water quality certification (WQC) from Ohio EPA. A 401 WQC from the State is required to obtain a Federal Section 404 permit (404 permit) from the U.S. Army Corps of Engineers (USACE) or any other federal permits or licenses for projects that will result in a discharge of dredged or fill material to any waters of the United States.

To determine whether you need to submit this application to Ohio EPA, contact the USACE District Office with jurisdiction over your project (<http://www.usace.army.mil/locations.aspx>) or other federal agencies reviewing your application for a federal permit to discharge dredged or fill material to waters of the State. You can also contact an Ohio EPA Section 401/wetlands coordinator at (614) 644-2001.

How Should I Organize my Application Package?

In order to ensure the most efficient and consistent review of 401 WQC applications, Ohio EPA requires every application be completed and submitted in a uniform manner. All 401 WQC applications are required to be submitted using the form dated December 2016, associated impact tables and *following the same organizational structure as outlined below*:

Ohio EPA requires the application packet be organized in the following systematic manner. Each “item” is required to be separated by a divider with a labeled tab. For example, the tabs should be labeled “Application Form”, “Impact Tables”, etc., not “Item 1”, “Item 2”.

- Item 1: Two-page 401 WQC application form
- Item 2: Stream and/or Wetland and/or Lake Impact Tables
- Item 3: Waters Delineation Report (including Site Photographs)
 - Ohio Rapid Assessment Method (ORAM) forms (ten-page form)
 - Qualitative Habitat Evaluation Index (QHEI) forms
 - Appropriate biological sampling information
- Item 4: Correspondence
 - Item 4a – US Army Corps of Engineers Jurisdictional Determination
 - Item 4b – US Army Corps of Engineers Public Notice or Provisional Nationwide Permit
 - Item 4c – Ohio Department of Natural Resources - Natural Heritage Database request
 - Item 4d - United States Fish & Wildlife Service – Threatened and Endangered Species Coordination
- Item 5: Proposed Project Antidegradation Analysis
- Item 6: Proposed Project Mapping
- Item 7: Proposed Mitigation Plan

Ohio EPA *will not consider your application complete and proceed with a technical review* unless the above listed format is followed. This format is prescribed on the form provided by the Director of the Environmental Protection Agency and is required pursuant to Ohio Revised Code (ORC) [6111.30\(A\)](#).

How quickly will Ohio EPA review and take an action on my application?

Ohio EPA has 15 business days to conduct an administrative completeness review. A technical review period of 180 calendar days commences on the date Ohio EPA sends notification to the applicant that the application is considered to be administratively complete. Ohio EPA must take an action on a 401 WQC application within 365 days of the date of the USACE public notice. If an application is administratively incomplete for more than one year, Ohio EPA may issue a Denial or request that the applicant withdraw the application.

How and where should I submit my 401 WQC application package?

It is preferred that the applicant submits one hard copy (signed) and one electronic copy of the complete application package. Otherwise, the applicant may submit four hard copies of the complete application package, one of which must be the original signed version.

Ohio EPA requires the electronic submittal contain a separate PDF file for each item discussed above. Please name each PDF file following the format above (*e.g.* Item 1: Two-page 401WQC application form, Item 2: Stream and/or Wetland and/or Lake Impact Tables, etc.). Additionally, if the PDF file is very large or contains many forms (>50pp and/or >10Mb), it is suggested that a separate PDF (*e.g.* ORAM forms appendix, USACE Wetland Determination data forms appendix, etc.) be created.

Please submit the completed application package and fees to:

Ohio EPA
Division of Surface Water
ATTN: 401/IWP/Mitigation Section Manager

Mailing Address

P.O. Box 1049
Columbus, OH 43216-1049

Street Address

50 W. Town Street
Suite 700
Columbus, OH 43215

Item 1: 401 Water Quality Certification Application Form

Section 1: Applicant and Agent Information

1.1 Applicant Information

Applicant Company, Contact Name and Title: Provide the full, legal company name of the Applicant or responsible party. If the Applicant is an individual and not a company, indicate that a company name is not applicable. The Applicant will be the entity or individual to whom the permit will be issued, if approved. If the Applicant is an agency, company, corporation or other organization, a contact name (First, Middle Initial, Last) of the main representative of the company and his or her title must be provided. This is the individual who will be signing the application.

Applicant Technical Point of Contact (POC): Provide a technical point of contact if different than the Applicant listed above. It may be someone else within the company that has the authority to act in the applicant's behalf regarding the processing of this 401 WQC application. The technical point of contact is not the applicant's consultant.

Applicant Contact Information: Telephone number, email address, and the company's mailing address (not the project address) including the street, city, state and zip code must be provided. Ohio EPA cannot accept a P.O. Box as the mailing address as some correspondence is sent through certified mail.

1.2 Consultant/Agent Information (if applicable)

Consultant/Agent Company, Contact Name and Title: The agent's role is to oversee the processing of the 401 WQC application and to make the day-to-day decisions regarding the application. It is not a requirement to have an agent. If you choose to be represented by an agent, provide the agent's information in Section 1 of the application form. If you choose to not be represented by an agent, please leave this section blank.

Consultant/Agent POC: Provide a technical point of contact if different than the contact listed above. Ohio EPA will direct all communications, letters, phone calls and e-mails to this person.

Consultant/Agency Contact Information: Telephone number, email address, and the company's mailing address (not the project address) including the street, city, state and zip code must be provided. Ohio EPA cannot accept a P.O. Box as the mailing address as some correspondence is sent through certified mail.

Section 2: Project Information

2.1 Project Overview

Project Name: Title the project with an obvious project (site) name. The Project Name will be used when entering the project into the Ohio EPA database, as well as in all correspondence referencing the project. Be sure this title is consistent with other agency applications for the same project and consistent on all drawings and reports submitted as part of this 401 WQC application.

Pre-Application Coordination: Indicate if Pre-Application Coordination with Ohio EPA has occurred. If you checked YES, please select the primary 401 reviewer who handled your project during the Pre-Application stage. Indicate the date of the pre-application meeting or site visit.

Brief Project Description/ Purpose: Provide a brief technically accurate narrative description of the proposed project purpose, entire activity and total impacts, including areas outside of jurisdictional and non-jurisdictional waters.

Project Construction Timeframe: Provide the estimated start and end dates for the proposed project. This information will be used to determine how long the permit should be valid.

Is any portion of the project complete now? Is this an After-The-Fact permit? Select **yes** or **no** to indicate whether or not any portion of the project has already been started or completed. This is not limited to activities within waters of the state. It includes tree cutting, clearing and grading in upland areas. Briefly explain the activities that have been started or completed. If waters have been impacted prior to receiving a permit, check **yes** that this is an After-The-Fact permit.

2.2 Project Location

Provide specific information relating to the location of your proposed project.

Coordinates: Indicate the location on land for the center point of your project in degrees, minutes, seconds. If you need assistance determining the project's coordinates, you can use <http://www.findlatitudeandlongitude.com/> or <http://www.google.com/earth/index.html>.

Project Address: Provide the street address of the project location. If the proposed project does not have a physical street address, be as descriptive as possible in the street address line. For example, “Walhonding Road 1.3 miles west of the intersection of State Route 93 and Walhonding Road”.

12 Digit Hydrologic Unit Code (HUC): Provide the 12-digit Hydrologic Unit Code (HUC). To determine your 12-digit, HUC code, you can use: Ohio EPA’s Interactive Map for the Water Quality Assessment Units for the 2014 Integrated Report at <http://www.wapp.epa.ohio.gov/gis/mapportal/IR2014.html>

Watershed Name: If you know the stream name, the watershed name is referred to as “River Basin” at <http://www.wapp.epa.ohio.gov/dsw/ir2012/search.html> To use the project location zip code to identify the watershed, use U.S. EPA’s Surf Your Watershed webpage: <http://cfpub.epa.gov/surf/locate/index.cfm>. To use a map to identify the watershed, use the USGS Science in Your Watershed map: http://water.usgs.gov/wsc/map_index.html.

Corps District: Indicate which U.S. Army Corps of Engineer District has jurisdiction over your project. Use the map on the following webpage to determine the appropriate district: <http://www.lrb.usace.army.mil/Missions/Regulatory.aspx>

2.3 Proposed Impacts to “waters of the state”

Indicate each proposed type of impact that may occur on your project area. For example, a dredging project with open lake disposal should check both “dredge” and “fill”. If the impact that is being proposed is not listed, select other.

2.4 Other permits issued or required

Indicate each type of permit that is required for your project. This includes all state and/or federal permits that apply to your project.

Section 3: Fees

3.1 Fee Requirements

ORC Section **3745.114(A)** requires payment of appropriate fees when the 401 WQC application is submitted. The check should accompany the application. State agencies and the US Army Corps of Engineers applying for a 401 WQC are exempt from paying application fees. Indicate whether you are exempt from paying fees. If you are exempt, skip Section 3 and proceed to Section 4. If you are not exempt, complete Section 3.

3.1.1 Application Fee: A \$200.00 application fee that must be paid **in full** for **ALL** 401 WQC applications, required to submit fees, at the time of submittal.

3.1.2 Water Quality Certification Impact Review Fees: An application review fee amount is calculated based on the proposed impacts. **One-half of all review fees** must be paid for **ALL** 401 WQC applications at the time of submittal. The remainder of the review fees will be due at the time of final issuance of the certification.

All fee totals should auto-populate once the stream, wetland and/or lake impact totals are input. Press TAB after the impact numbers are entered.

- **Wetlands Impact Review Fee:** \$500.00 per acre, with impacts rounded to the nearest hundredth of an acre.
- **Streams Impact Review Fee:** Calculated based on the hydrological flow regime of each stream proposed for impact. If for some reason the USACE jurisdictional determination letter does not indicate the hydrological classification of an impacted stream, Ohio EPA will make the final determination.
 - **Ephemeral:** \$5.00 per linear foot of impact;

- **Intermittent:** \$10.00 per linear foot of impact;
- **Perennial:** \$15.00 per linear foot of impact.
- **Lakes Impact Review Fee:** \$3.00 per cubic yard of dredged or fill material to be moved.

3.1.3 Exceptions to Fee Requirements:

- ORC Section [3745.114\(B\)](#) places a fee cap of \$25,000.00 on **ALL** 401 WQC applications.
- If the applicant is a county, as governed by Title III of the Ohio Revised Code; a township, as governed by Title V of the Ohio Revised Code; or municipal corporation, as governed under Title VII of the Ohio Revised Code, the fee cap is \$5,000.00. Please submit documentation confirming that you meet the Title II, Title IV or Title V criteria.
- Fees do not apply to projects that are authorized by Ohio EPA's certification of the nationwide permits. Provisional nationwide permits that require individual 401 WQCs are still subject to fees.

3.1.4 Fee Submission: Checks, cashier checks or money orders are currently the only acceptable methods of payment. The check or money order must be made payable to "Treasurer, State of Ohio."

Section 4: Submitted Documentation

[ORC 6111.30](#) and [OAC 3745-32-03](#) requires all 401 WQC applications to contain ten items before the application can be considered administratively complete. Indicate on the 401 WQC form each item that is included in the application packet.

The statute also requires the agency to notify the applicant within 15 business days as to whether the application is complete. If the Agency fails to notify the applicant within the 15 business days regarding completeness of the application, the application is considered administratively complete.

The purpose of this checklist is to remind the applicant what items are required, and to demonstrate that those items are included with the application for the application to be considered administratively complete. For those tabs where an item is not required to be submitted, please include a one-page "negative declaration" stating that the item is not required for an administratively complete application.

Section 5: Applicant and Agent Signature

Statement of Authorization: To designate and authorize a primary consultant/agent to act on your behalf in the processing of this 401 WQC application, print your name and sign and date on the appropriate lines. By signing this document, you are certifying that the consultant/agent named in Section 1 is authorized to act in your behalf in the processing of the 401 WQC application, and may furnish supplemental information in support of the application.

Regardless of whether or not you designate a consultant/agent, you MUST sign the 401 WQC application in Section 5: Print your name and sign and date on the appropriate line. If you have designated a consultant/agent, then this person must also print their name and sign and date on the appropriate line. These signatures certify that the information that is contained in the application is true, complete and accurate. Failure to have the necessary signatures in this portion of the application will result in the application being considered administratively incomplete.

Item 2: Stream, Wetland, and Lake Impact Tables

Provide all impact tables that apply to the project. The provided tables should include all water resources on-site, whether they are proposed for impact or not. For example, if the project proposes impacts to three wetlands on-site and

has been minimized to avoid all on-site streams and two other wetlands, the stream impact tables should be included, and the wetland table should include all five wetlands.

If your project proposes impacts to more streams, wetlands or other water body resources than lines available in the appropriate impact tables, provide additional impact tables. You will have to sum the auto-populated totals from each table to provide an overall impact total. Please do so in a document attached to the appropriate impact tables.

Stream Impact Tables

Section 1: Streams On-site and Proposed Impacts

1.1 General Information

Stream ID: Each stream on-site shall be identified and listed individually in the table – whether it is proposed to be impacted or not.

Jurisdictional?: Indicate whether the stream is jurisdictional by selecting “yes” for jurisdictional and “no” for not jurisdictional.

Flow: Select the appropriate type of stream flow: ephemeral, intermittent or perennial.

Aquatic Life Use Designation in Ohio Administrative Code (OAC) 3745-1-07: Select the stream’s aquatic life use designation for all streams that have been assigned a designated use. If a stream has not been assigned a use, then select “undesignated”. Use designations are defined in paragraph (B) of OAC 3745-1-07:

<http://www.epa.ohio.gov/portals/35/rules/01-07.pdf>

Existing Aquatic Life Use: If the streams on-site are not designated in OAC **3745-1**, provide data sufficient to determine the existing use of the streams on-site.

Length On-site: Provide the total length in linear feet (lf) of each stream on-site. Provide the length in linear feet (lf).

1.2 Proposed Impacts

Impact Length: Provide the linear feet of proposed impacts associated with each stream on the project site. After the impact numbers are entered in the appropriate blank, use the TAB button to properly input the numbers. If one stream has more than one type of impact, separate each type of impact by utilizing a new line in the impact tables. Only fill out the stream length on the first entry for each stream. For example:

Stream ID	Jurisdictional?	Flow	Aquatic Life Use Designation in 3745-1	Existing Use?	Length Onsite (linear ft.)	Proposed Impacts	
						Impact Length (linear ft.)	Impact Type
Stream A	YES	Perennial	MWH	MWH	1000.00	300	Culvert/Pipe
Stream A	YES	Perennial	MWH	MWH		200	Bank Stabilization
Click here to enter text.	Choose an item.	Choose an item.	Choose an item.	Choose an item.			Choose an item.

Impact Type: Indicate the impact type. If the type of impact proposed is not listed, select “other”.

Section 2: Proposed Stream Mitigation

Indicate each type of stream mitigation that is proposed and complete the appropriate information for each type.

2.1 Stream Mitigation Bank

If you propose to use an approved stream mitigation bank to satisfy some or all of your mitigation requirements, complete this section. Indicate which bank is being proposed and the number of stream and buffer credits reserved. Also indicate if proof of reservation is included in the application.

2.2 In-Lieu Fee Program

Indicate if you are proposing to compensate for unavoidable impacts to streams through payment to an approved in-lieu fee (ILF) program. Select the ILF sponsor to which you are proposing to make a payment to satisfy your compensatory mitigation requirements. Provide the number of stream credits reserved. Additionally, if appropriate, provide the number of upland stream buffer credits reserved. Indicate if proof of reservation has been included with the mitigation plan.

2.3 On-site Permittee Responsible Mitigation

If your stream mitigation project involves an on-site permittee-responsible mitigation project to satisfy some or all of your mitigation requirements, complete this section. On-site mitigation means any mitigation project located within one-mile and in the same 8-digit HUC of the impact site. Select the type of stream mitigation project, *i.e.* restoration, preservation, enhancement or “other”.

Restoration/Creation: Indicate the performance goal and the linear footage of the stream to be created or restored.

Preservation: Indicate the designated use or existing use of the stream proposed for preservation, the linear feet of stream channel and the width of the buffers to be preserved in perpetuity.

Enhancement: Indicate linear feet, the designated use or existing use of the stream proposed for enhancement, the performance goal of the enhanced stream and the type of enhancement activities.

Other: If the stream mitigation project doesn't fall within one of the previous categories, indicate the type of stream mitigation project proposed in the mitigation plan.

2.4 Off-Site Permittee Responsible Mitigation

If your stream mitigation project involves an off-site permittee-responsible mitigation project to satisfy some or all of your mitigation requirements, complete this section. Off-site mitigation means any mitigation project located greater than one-mile from the impact, but within the same 8-digit HUC of the impact site. Ohio EPA only considers mitigation outside of the 8-digit HUC if the applicant can effectively demonstrate that there is a significant ecological reason that the mitigation location should be outside of the watershed. The applicant must also effectively demonstrate that the proposed mitigation will result in a substantially greater ecological benefit.

Restoration/Creation: Indicate the performance goal and the linear footage of the stream to be created or restored.

Preservation: Indicate the designated use or existing use of the stream proposed for preservation, the linear feet of stream channel and the width of the buffers to be preserved in perpetuity.

Enhancement: Indicate linear feet, the designated use or existing use of the stream proposed for enhancement, the performance goal of the enhanced stream and the type of enhancement activities.

Other: If the stream mitigation project does not fall within one of the previous categories, indicate the type of stream mitigation project proposed in the mitigation plan.

Wetland Impact Tables

Section 1: Wetlands On-site and Proposed Impacts

1.1 General Information

Wetland ID: Each wetland on-site needs to be identified and listed individually regardless of whether the wetland is proposed to be impacted. All wetlands on-site need to be listed in the table.

ORAM Score: Provide the ORAM score in the space provided. If the ORAM has been reviewed by Ohio EPA, provide the score verified by Ohio EPA.

Category: The wetland category will auto-populate, based on the ORAM score provided. For wetlands that have an ORAM score in a gray zone, the wetland will be assigned to the higher of the two categories.

Category Verified by Ohio EPA? Indicate whether the final wetland category has been verified by Ohio EPA.

Ohio EPA Staff Who Verified? Indicate the name of the 401 Staff from Ohio EPA who verified the wetland categorization.

Acreage On-site: Provide the total acreage of each wetland on-site.

1.2 Proposed Impacts

Impact Acreage and Type: Enter the total amount of impacts (in acres rounded to the nearest hundredth) and impact type (fill, etc.). Differentiate forested and non-forested wetlands impacts. The impact totals will auto-populate.

Section 2: Proposed Wetland Mitigation

Indicate each type of wetland mitigation that is proposed and complete the appropriate information for each type.

2.1 Wetland Mitigation Bank

If you propose to use an approved mitigation bank to satisfy some or all of your mitigation requirements, complete this section. Indicate the number and type of forested, non-forested and buffer credits reserved.

Compensatory mitigation for impacts to category 2 wetlands must be provided by an approved mitigation bank whose service area includes the project site. For impacts to category 1 wetlands, you may use any approved mitigation bank that is located within the USACE district in which the project is located. Please check with Ohio EPA and the IRT regarding any available category 3 wetland mitigation bank credits. If an applicant can demonstrate to Ohio EPA and the IRT the presence of category 3 wetlands through Ohio EPA approved methods, then Ohio EPA may consider the proposal.

2.2 In-Lieu Fee Program

Indicate if you are proposing to compensate for unavoidable impacts to wetlands through payment to an approved in-lieu fee (ILF) program. Select the sponsor to which you are proposing to make a payment to satisfy your compensatory mitigation requirements. Provide the number of credits reserved. Indicate if proof of reservation has been included with the mitigation plan.

2.3 On-site Permittee Responsible Mitigation

If your wetland mitigation project involves an on-site permittee-responsible mitigation project to satisfy some or all of your mitigation requirements, complete this section. Select the type of wetland mitigation project this is, *i.e.* restoration, preservation, enhancement or "other".

Restoration/Creation: Indicate the wetland type and the acreage to be created or restored.

Preservation: Indicate the wetland type and acreage proposed for preservation.

Enhancement: Indicate the wetland type and acreage proposed for enhancement.

2.4 Off-Site Permittee Responsible Mitigation

If your wetland mitigation project involves an off-site permittee-responsible mitigation project to satisfy some or all of your mitigation requirements, complete this section. Ohio EPA only considers mitigation outside of the 8-digit HUC, if the applicant can effectively demonstrate that there is a significant ecological reason that the mitigation location should be outside of the watershed. The applicant must also effectively demonstrate that the proposed mitigation will result in a substantially greater ecological benefit.

Restoration/Creation: Indicate the wetland type and the acreage to be created or restored.

Preservation: Indicate the wetland type and acreage proposed for preservation.

Enhancement: Indicate the wetland type and acreage proposed for enhancement.

Lake Impact Tables

1.1 General Information

Lake ID: Each lake on site shall be identified and listed individually in the table – whether it is proposed to be impacted or not.

Coastal Erosion Area: If the proposed impact is on Lake Erie, indicate whether the area proposed for impact is within the Coastal Erosion Area by selecting “yes” or “no” as appropriate. If the project does not occur on Lake Erie, select “NA”. The following interactive map is maintained by the Ohio Department of Natural Resources and intended to illustrate coastal erosion areas on Lake Erie: <https://gis.ohiodnr.gov/website/dgs/cea/>

Impact Type: Indicate the impact type. If the type of impact proposed is not listed, select “other”.

1.2 Proposed Impacts

Cubic Yards of Dredged Material: Provide the amount of dredged material to be removed below the ordinary high water mark (OHWM) in cubic yards (CY). Separate out the impacts by water body resource and/or impact type.

Cubic Yards of Fill Material: Provide the amount of fill to be placed below the OWHM in CY. Separate out the impacts by water body resource and/or impact type.

Lakeward Extent (linear ft.): Indicate the amount of linear feet out into the water body/lake that will be impacted by the project. If this does not apply, leave it blank.

Shoreline Impacted (linear ft.): Provide the linear footage of the shoreline of the water body/lake that will be impacted by the project. If this does not apply, leave it blank.

1.3 Dredging Projects

Placement of Dredged Material: If the project is a dredging project, indicate where the dredged material will be placed after it is dredged.

Item 3 – Investigation Report of Waters of the U.S. (Delineation Report)

Include a copy of the investigation/delineation report of the waters of the United States in support of the 404 permit application. This report includes a wetland delineation on the site consistent with the protocols established in the USACE 1987 Wetland Delineation Manual and appropriate regional supplement. The delineation should also identify streams

and other water resources on the site. Additionally, this should be the same report submitted to and approved by the USACE, with any updates.

- U.S. Army Corps of Engineers 1987 edition of the Corps of Engineers Wetlands Delineation Manual:
<http://el.ercd.usace.army.mil/elpubs/pdf/wlman87.pdf>
- U.S. Army Corps of Engineers Regional Supplements to Corps Delineation Manual web page:
http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/reg_supp.aspx

At a minimum, the delineation report must include:

Wetland Delineation Map: Include either a topographic map or aerial photo with the locations, boundaries and wetlands identification names, numbers or letters super-imposed. NOTE: If the project site is included in more than one delineation report OR the delineation boundaries are larger than the project site, please clearly mark the portion of the delineation map that applies to this project.

National Wetland Inventory (NWI) Map: Include a copy of the applicable portion(s) of the NWI map(s) with the property boundaries for the proposed project identified. Also include a key identifying each potential wetland type, narrative description for any abbreviations used and, where potential wetlands on the NWI map overlap with wetlands mapped in the delineation report, label with the same wetland identification, number or letters used in the delineation report.

National Resource Conservation Service County (NRCS) Soil Survey Map: Include a copy of the NRCS County Soils Map(s) identifying hydric soils within the property boundaries of the proposed project.

Individual Wetland Delineation Sampling Points, Data Sheets and Summary Table: Include a topographic map or aerial photo showing the locations and sample point identification numbers for all sampling sites used as a basis for the wetland delineation findings and completed wetland delineation data sheets with sample point identification numbers for all wetland sampling points.

High Resolution Photographs: Include a minimum of four high resolution color photographs taken while facing each of the four cardinal directions of each wetland identified in the waters delineation report, a minimum of three high resolution color photographs taken while facing upstream, downstream, and one close up which clearly depicts the substrate composition and size for each stream identified in the waters delineation report, and a minimum of three high resolution color photographs for all other waters of the state identified in the waters delineation report. Photographs must accurately depict the quality of the water of the state and may not include a majority of dying or dead vegetation and 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 water of the state will be required to be retaken once seasonal conditions are appropriate. Photographs shall be clearly labeled with the name, direction, and date. Also, include a topographic map or aerial photograph marking the location where each stream and/or wetland photo was taken, using the same photo identification or stream identification that is used elsewhere in this application.

ORAM form(s): Include a completed 10-page ORAM form (including background information, scoring boundary worksheet, narrative rating, quantitative rating, and wetland categorization worksheets) for each wetland for which a separate scoring boundary has been established on the project site and noted in the wetland impact table. All forms must be filled out completely using the format provided by Ohio EPA. Failure to do so could result in a determination that the habitat assessment is incomplete and no further review will be conducted by Ohio EPA until the correct/complete information is provided.

Stream Assessment(s)/Data Sufficient to Determine Existing Aquatic Life Use: Provide the available data for all of the streams on-site, including streams proposed to be impacted. Enough information must be submitted for Ohio EPA staff to determine the appropriate existing use of a stream.

Item 4 – Correspondence

Item 4a. US Army Corps of Engineers Jurisdictional Determination

ORC [6111.30\(A\)\(1\)](#) requires that a 401 WQC application include a copy of the letter from USACE documenting its jurisdiction over the wetlands, streams or other waters of the state that are the subject of the 401 WQC application. Be sure that this letter has not expired. The JD can either be an Approved JD or a Preliminary JD.

Item 4b. US Army Corps of Engineers Public Notice or Provisional Nationwide Permit

ORC [6111.30\(A\)\(10\)](#) requires that a 401 WQC application include a copy of the USACE Public Notice regarding the Section 404 permit application concerning the proposed project OR the provisional nationwide permit for the project.

Item 4c. Ohio Department of Natural Resources - Natural Heritage Database request AND Item 4d. United States Fish & Wildlife Service – Threatened and Endangered Species Coordination

ORC [6111.30\(A\)\(7\)](#) requires that a 401 WQC application include “adequate documentation confirming that the applicant has requested comments from the Department of Natural Resources and the United States Fish and Wildlife Service regarding threatened and endangered species, including the presence or absence of critical habitat.”

Item 4c. Provide at least one of the following for the application to be considered administratively complete.

- A letter with an accompanying map showing the boundaries of the project property and requesting available rare, threatened and endangered species and critical habitat data for this area has been submitted to the U.S. Fish and Wildlife (USFWS). The USFWS can be consulted by phone at 614-416-8993, or by mail at 4625 Morse Road, Suite 104, Columbus, Ohio 43230.
- If responses to the above request have been received from USFWS, provide those comments and responses and indicate if:
 - The potential for rare, threatened and endangered species and/or critical habitat to occur in or near the proposed project property has been confirmed.
 - A habitat survey has been requested by the USFWS.
 - If yes, has the habitat survey been completed?

Item 4d. Provide at least one of the following for the application to be considered administratively complete.

- A letter with accompanying map(s) showing the boundaries of the project property and requesting available rare, threatened and endangered species and critical habitat data for this area that were submitted to ODNR, Division of Wildlife. ODNR, Division of Wildlife can be contacted by phone at 614-265-6818 or by mail at 2045 Morse Rd., Bldg. G-3 Columbus, OH 43229. The form to request data from the Natural Heritage Database can be found at:
<http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/species%20and%20habitats/natural%20heritage%20data%20request%20form.pdf>
- If responses to the above request have been received from ODNR, provide those comments and responses and indicate if:
 - The potential for rare, threatened and endangered species and/or critical habitat to occur in or near the proposed project property has been confirmed.
 - A habitat survey has been requested by ODNR.
 - If yes, has the habitat survey been completed?

Item 5 – Proposed Project Antidegradation Analysis

In a narrative document, present the proposed project’s antidegradation analysis. The entire 401 WQC application review process is driven and organized by the relative impacts of project implementation on Ohio’s water quality. Pursuant to ORC [6111.30](#), OAC [3745-32-03](#), [3745-1-05](#), and [3745-1-54](#) the analysis required in an application is defined (and presented for public and inter-agency review) by their relative impacts to the quantity and quality of pre-construction water resources. The analysis shall be prepared in accordance with [40 C.F.R. Part 230](#), OAC [3745-32-03](#), [3745-1-05](#), and [3745-1-54](#).

1.1 Project Purpose and Description of the Project

Provide a narrative description of the proposed project and a statement of the project purpose. The project purpose will drive the alternatives analysis, so it is important that this statement is specific enough to define the project needs but not too restrictive to preclude all other alternatives. Provide the proposed or actual start date and the anticipated completion date and the proposed schedule for implementing mitigation. Also provide a brief description of any related activities to be developed as the result of the proposed project.

1.2 Analysis of Practicable Alternatives and Demonstration of Avoidance, Minimization, and Mitigation

To address requirements of the [40 C.F.R. Part 230](#), you must submit an analysis of off-site and on-site alternatives that were considered during the project planning process that would not require impacts to aquatic resources or would result in impacts to other aquatic resources. Generally, the alternatives analysis can be grouped into 4 steps:

1. Define project purpose
2. Make a water dependency determination
3. Identify alternatives
4. Assess practicable alternatives to identify a least environmentally damaging practicable alternative

More details and help with preparing the alternatives analysis can be found in the alternatives analysis guidance document found on the “Water Quality Certifications” tab, “Application Materials” dropdown on the DSW 401 webpage at: <http://www.epa.ohio.gov/dsw/401/permitting.aspx>. An applicant must demonstrate that their project is necessary to meet a demonstrated “public need” as that term is defined in OAC [3745-1-50](#) for any project proposing impacts to category 3 wetlands. Pursuant to OAC [3745-1-54\(D\)\(1\)\(a\)](#), the applicant is required to demonstrate avoidance and minimization by maintaining and protecting the designated use and demonstrating that there is not a practicable alternative which would have less adverse impact on the wetland ecosystem. Additionally, applicants must demonstrate that storm water and water quality controls will be installed to ensure that peak post-development rates of surface water runoff from the impacted wetland site do not exceed the peak pre-development rates of runoff from the on-site wetlands, **for all categories of wetlands**. Water quality improvement measures shall be incorporated into the design of the storm water control measures to the maximum extent practicable.

1.2.1 Avoidance

Provide a narrative description of the avoidance considerations for the project. Demonstrate avoidance of impacts to waters through the process outlined in outlined in OAC [3745-1-54](#).

Examples of items to consider:

- How could you implement your project without affecting water resources?
- How could the project be re-designed to fit the site without affecting water resources?
- How could the project be made smaller and still meet your needs?
- What other sites were considered?
- What geographical area was searched for alternative sites?
- How did you determine whether other non-wetland sites are available for development in the area?

- What are the consequences of not building the project?
- Are there logistical (location, access, transportation, etc.) reasons that limit the alternatives considered?
- Are there technological limitations for the alternatives considered?
- Are there other reasons certain alternatives are not feasible?

1.2.2 Minimization

OAC [3745-1-54](#)(D)(1)(b) and (c) require the applicant to demonstrate minimization of impacts to category 2 and category 3 wetlands through an evaluation of the following criteria:

- The spatial requirements of the project;
- The location of existing structural or natural features that may dictate the placement or configuration of the proposed project;
- The overall and basic purpose of the project and how the purpose relates to the placement, configuration or density of the project;
- The sensitivity of the site design to the natural features of the site, including topography, hydrology and existing flora and fauna; and
- Direct and indirect impacts.

When evaluating these criteria, the applicant shall discuss the overall project design including, but not limited to, the square footage of building and structures, number of homes, number of parking spaces and other factors that would determine the project's overall footprint, how the project is related to sensitive environmental features, and how the project footprint has, or may be altered to avoid and minimize impacts to category 2 and category 3 wetlands.

Modify the project to minimize unavoidable impacts to waters. Describe, in detail, how the project has been modified to minimize impacts to water resources on-site. It is often the case that "minimization" means the reduction in the size or area of the impacts from what the applicant would prefer. However, "minimization" may also mean impacts to a lower quality resource when higher quality waters are located on-site; use of best available technologies and designs that are implemented specifically to address water quality on-site; use of native vegetation or bio-engineering techniques for stabilization; structural selections that are low impact (e.g. a three-sided boxed culvert for a road crossing is less damaging than a pipe); or, any measure taken to maintain and/or improve lost water functions on-site that goes above and beyond the post-construction best management practices required.

Examples of items to consider:

- How could the footprint of the project be minimized to lessen impacts to water resources?
- How will water quality be maintained after project completion in order to serve beneficial uses and pre-construction hydrologic functions of waters within the project area?
- How can road widths be minimized?
- How can structure size be reduced or structure location be changed?

1.2.3 Mitigation

Once avoidance and minimization for the project have been addressed, applicants must provide adequate mitigation for the loss of water resource size and function where impacts cannot be avoided. The purpose of compensatory mitigation is to replace those aquatic ecosystem functions that would be lost or impaired as a result of the project. Compensatory mitigation should be "in-kind" (meaning forested wetland for forested wetland, non-forested wetland for non-forested wetland and stream for stream). Location and ratios of proposed mitigation must be compliance with OAC [3745-1-54](#) and [33 C.F.R. Part 332](#) (or 40 C.F.R. Part 230). The goals of mitigation must be specific, measurable and attainable within a specified timeframe. Typically, the

objective is to provide a minimum of functional replacement, *i.e.* no net loss of functions, with an adequate margin of safety to reflect anticipated success. When submitting the 401 WQC application, be prepared to provide rationale for mitigation site selection and goals. The mitigation plan should be submitted as **Item 7** in the application package.

A specific, detailed mitigation plan is required for all application submittals in order for them to be considered complete. However, even if the required mitigation is submitted, doing so does not ensure approval of the project. Only after the completion of an alternatives analysis, including avoidance and minimization, can mitigation be factored into the review process. At this point, your mitigation plan must adequately demonstrate at least the minimum required mitigation. Submitting additional mitigation above and beyond the required minimum does not make a project approvable that otherwise was not. That is to say that additional mitigation is not a substitute for proper avoidance and minimization.

1.3 Magnitude of the Proposed Lowering of Water Quality

Describe in detail the direct impacts to streams and wetlands for the project. This discussion should include:

- The linear footage and types of streams that will be impacted (permanent and temporary impacts must be included);
- The acreage and type of wetlands that will be impacted (permanent and temporary impacts must be included);
- The loss of habitat within the affected segment of streams and wetlands;
- The potential impacts to aquatic biota, including fish and benthic macroinvertebrates. This should include a discussion regarding the extent to which the resources that will be adversely impacted are unique or rare within the locality or state;
- Discuss if the project will result in the elimination of aquatic life from the affected portion of the water body, or if the number of species will decline or composition of aquatic species will switch from pollution intolerant to pollution tolerant species. Ohio EPA may request biological monitoring on a case-by-case basis to evaluate this question;
- Discuss the effect of the impact on human health and welfare; and
- Discuss the effects of the impacts on the economic value of the water body for recreation, tourism and other commercial activities, aesthetics, or other use and enjoyment by humans.

1.4 Technical Feasibility and Cost Effectiveness

Discuss in detail the technical feasibility of the project including any required technology, resources necessary, and the availability of the required technology and resources. Then discuss the economic and operational feasibility of the project, *i.e.*, the cost effectiveness of implementing the project. Discussion points should be the one-time costs, such as the construction costs (wages, equipment, etc.), and the recurring costs, such as operation and maintenance costs (wages, supplies, etc.).

1.5 Social and Economic Considerations

Discuss in detail the condition of the local economy, the number and types of new direct and indirect jobs to be created and state and local/state tax revenue to be generated. This could include information regarding local unemployment rates, poverty rates, household income information, major employment sectors and employers in the county/area. Discuss how this proposed project would improve, have a negative impact or not affect the above factors.

1.6 Cumulative Impact

Describe the impacts proposed in context with other past, present and reasonably foreseeable future development in the watershed. Discuss the spatial and temporal aspects of both direct and indirect impacts to water resources within

the watershed. Ohio EPA recommends an applicant examine, to the extent possible, other impacts that have occurred or will occur on the resource(s) proposed for impact. If past impact(s) have occurred, what has been the known effect on the water resource? What was the magnitude and extent of past impact(s)? How will this proposed impact affect the waterbody, in addition to the past impacts?

1.7 Indirect (Secondary) Impacts

Describe indirect impacts associated with activities proposed on the project site. When considering indirect impacts to streams and wetlands, consider impacts outside of the area of direct impacts. For streams, this includes examining potential adverse impacts to physical habitat and aquatic species both upstream and downstream from the footprint of the project. Types of indirect impacts include but are not limited to, creating a barrier to the movement of aquatic organisms, elimination or reduction of riparian buffers or creating instability resulting in aggradation or degradation to the stream bed.

Items to consider:

- Indirect changes in streambed slope, cross sectional dimension or area, vegetation and/or surfacing;
- Changes in the drainage patterns;
- Potential impacts to on-site and downstream waterbodies, including groundwater;
- Temporary or permanent dewatering or water diversions; and
- Indirect impacts to wetlands include loss of buffer, elimination of wetlands functions and values described in OAC [3745-1-51](#) through the loss of buffers, changes in wetland hydrology, etc.

1.8 During Construction and Post-Construction Storm Water Management Plans

Describe the plans necessary to manage storm water runoff during construction and post-construction of the development. Provide details on all best management practices that are anticipated to be used, all sediment/detention/retention basins to be used, all storm water quality improvement features to be incorporated into the storm water plans, and all storm water discharge points. Discuss potential issues with energy dissipation and erosion controls. Submit conceptual plans if engineered drawings are not available. This submittal does not exempt the applicant from obtaining appropriate storm water permits.

Item 6 – Proposed Project Mapping

All mapping should contain:

- A north arrow;
- A legend;
- An accurate ruler-type scale bar; and
- Defined site boundaries.

All maps and drawings should be clearly readable. Hard copies of maps and drawings shall be no larger than 11" x 17" to allow for scanning into electronic form.

Section 1: Existing Conditions Map(s)

1.1 Topographic Map

Submit a scaled topographic map (7.5 minute map or smaller scale) containing the following information:

- Provide the name of map used;
- Super-impose the property boundaries for the proposed project;

- Be certain that all mapped water features, particularly streams, on the project site can be seen and are labeled with the same IDs used in the impacts tables in Section 3;
- Clearly show and label all post-construction contours and contour intervals; and
- Label the beginning and ending river or shoreline mile for the segments of the river(s) or shoreline within the property boundaries.

1.2 Aerial Photograph

Submit a scaled aerial photograph containing the following information:

- Identify the year (and month, if available) that the aerial photo was taken; and
- Include property and project boundaries, road names, municipal boundaries, any easement or right-of-way boundaries, direction of flow for water resources and enough of adjacent properties to see water resources that span **property boundaries**.

1.3 Vicinity Map

Submit a vicinity map that is separate and distinct from the topographic map. The purpose of the vicinity map is to identify and provide general boundaries for the major land uses within one mile of the project site. An appropriate base for a vicinity map is either an aerial photograph or a topographic map; a local street map is **not** considered a vicinity map. Identify all land use locations and boundaries that apply to the areas located in and within one mile of the project site.

1.4 Floodplain/Flood Control Map

During the Ohio EPA 401 WQC public notice and/or public hearing process, one of the most common issues raised is the potential for flooding to occur and/or increase as a result of implementing the proposed project. In addition, floodplain/flood control maps can be used to:

- Verify ORAM assessment scoring;
- Identify the potential for local, state or federal restrictions on placement of fill or structures within the floodplain;
- Identify areas where the designated floodplain boundaries and locations of wetlands overlap; and
- Identify where flood control fill/structures have been located within or adjacent to the floodplain in or near the project site.

Submit the most recent:

- Copy of the Federal Emergency Management Agency (FEMA) map showing the 100-year floodplain boundary (FIRM) with the project site boundaries identified; and
- If applicable, submit a copy of an aerial photograph showing local flood control structures such as dams, levees, floodwalls, etc., with the project site boundaries identified. Note: county soils maps often show levees. This map is not required, but is useful for projects involving dams, levees, floodwalls, etc.

1.5 Other Maps

Depending on the scope and size of the proposed project, additional maps and/or other technical drawings may be needed for Ohio EPA to adequately and efficiently review the application. Examples of other maps includes (but should not be limited to):

- Enlarged site layout to better define specific details;
- Monitoring well locations (usually as part of a demonstration of protection of avoided groundwater fed wetlands and streams);
- Soil Boring locations;
- Building location profiles;

- Site utilities;
- Drainage plans;
- Detention basin details – sections, plantings;
- Tree surveys; and
- Cut and fill exhibits.

Because each site is reviewed based on the existing resources and the specific details of your project, it is not practical to specify exactly what additional maps and drawings may be necessary in the review of your project. The more detail you provide up front, the more efficient the review will be.

Section 2: Project Mapping

2.1 Proposed Project

Drawing: Provide a drawing and/or map of the proposed project. Drawings must be super-imposed on a base map that includes a high resolution aerial photograph of the project site showing all water resource boundaries identified and labeled. The base map must show the following:

- A north arrow, legend and an accurate ruler-type scale bar;
- Site boundaries;
- Project (construction limits) boundaries;
- Final constructed design for the proposed alternative showing all buildings, structures, roads, etc.;
- All temporary sediment basins (including direction of storm water flow and discharge locations);
- All post-construction storm water management features such as detention/retention basins, etc. (indicate the direction of flow and discharge points for storm sewers, detention basins, etc.);
- All existing and proposed post-development easements, covenant areas or land use restrictions;
- All proposed impacts; and
- Any upland buffer areas that will remain post-construction clearly identified.

Cross Sections of Structures, Features and/or Details of the Project: Provide scaled cross-sectional drawings of structures, features and/or details of the project as appropriate. Be sure to describe in narrative form any features that are shown on the cross-sections.

Cross-sectional views of the proposed project should include:

- An accurate ruler-type scale bar for horizontal and vertical dimensions;
- Location of existing shoreline, wetland boundary or stream and water elevation;
- Dimensions of the activity or structure, and the distance it extends into the waterbody;
- Dredge and/or fill grades as appropriate;
- Existing and proposed (separate drawings) contours and elevations;
- Types and location of wetland and riparian vegetation present on the site; and
- Types and location of material used.

2.2 On-site alternatives

Include maps and drawing(s) for all on-site alternatives considered.

2.3 Off-site alternatives

Include maps and drawing(s) for all off-site alternatives considered.

Item 7 – Proposed Mitigation and Monitoring Plan

Compensatory mitigation should be considered a last resort and a final step in project planning after it has been determined that impacts are unavoidable and cannot be minimized. For wetlands, the requirements of compensatory mitigation are outlined in OAC rule [3745-1-54](#). The purpose of compensatory mitigation is to replace those aquatic ecosystem functions that would be lost or impaired as a result of an approved activity. Compensatory mitigation should be “in-kind,” occur as close to the site of the impact(s) as practicable and, in most instances, provide an ecological lift.

Pursuant to ORC [6111.30](#) and [33 C.F.R. Part 332](#), compensatory mitigation for impacts authorized under a 401 WQC must be considered in the following order:

- Purchasing credits at a mitigation bank approved in accordance with [33 C.F.R. 332.8](#);
- Participating in an in-lieu fee mitigation program approved in accordance with [33 C.F.R. 332.8](#); or
- Constructing individual permittee responsible mitigation projects.

Failure to adhere to this order will require adequate justification as to why a previous option was rejected.

Furthermore, failure to effectively demonstrate why a previous option was rejected may result in a delay on an action of the 401 WQC; or action to deny the 401 WQC.

The mitigation plan should act as **stand-alone document** and must contain all of the information listed below. Even though some of the required information may be present in the application, such items should be duplicated and included in the mitigation and monitoring plan as well.

Section 1: Mitigation Overview

Briefly describe the mitigation proposal for the project. Provide a clear discussion of how the amount of required mitigation was determined, indicating the amount of wetland and stream impacts and the mitigation ratio applied to each of those water resources. The mitigation ratios for wetland impacts must comply with the ratios listed in OAC rule [3745-1-54\(F\)\(1\)](#) and as adjusted for enhancement and preservation pursuant to OAC Rules [3745-1-54\(E\)\(4\)\(c\)](#) and (E)(5)(b) respectively. Discuss the overall objectives of the mitigation plan in terms of how it meets applicable Ohio laws and rules and in comparison, to the overall functions lost at the impact site.

Section 2: Mitigation Bank

If your mitigation plan includes purchasing credits at a mitigation bank, demonstrate that you have contacted mitigation banks to identify whether the required type and amount of mitigation credit is available. Provide the names of mitigation banks along with information on their service areas that you have contacted concerning the availability of credits.

If purchasing credits at a bank is all or part of your mitigation plan, Ohio EPA highly recommends you reserve the required credits at a mitigation bank early in the project planning process to ensure the credits are available when you need them.

For the chosen mitigation bank, provide the bank name and answer the following questions:

- 1) Is the required type and amount of mitigation credit available? If yes, attach documentation as an attachment to the mitigation plan. If you have reserved or fully purchased credits from the bank, attach a copy of the reservation or purchase agreement.
- 2) If only a portion of the required type and amount of mitigation credit is available, specify the amount available.
- 3) What is the number of non-forested and forested credits to be purchased?
- 4) Is the mitigated wetland isolated or non-isolated?
- 5) What is the bank's 8-digit HUC?

- 6) Is your watershed within the service area of the mitigation bank?
- 7) If more than one mitigation bank is being proposed, include the above information for each bank proposed.

Section 3: In-Lieu Fee Mitigation

For in-lieu fee (ILF) mitigation, a permittee pays a fee to a third party in lieu of (i.e., instead of) conducting project-specific mitigation or buying credits from a mitigation bank. ILF mitigation is used to compensate for unavoidable impacts to streams and wetlands. An ILF sponsor's projects can include restoration, enhancement, and/or preservation of aquatic resources. The fee charged by an ILF represents the expected cost of replacing the wetland or stream functions lost or degraded within the approved watershed.

If purchasing credits from an ILF program is all or part of your mitigation plan, Ohio EPA highly recommends you reserve the required credits from the ILF program early in the project planning process to ensure the credits are available when you need them.

If your mitigation consists of or includes payment to an ILF program, provide the ILF program name and answer the following questions:

- 1) Is the required type and amount of mitigation credit available? If yes, attach documentation as an attachment to the mitigation plan. If you have reserved or fully purchased credits from an ILF program, attach a copy of the reservation or purchase agreement.
- 2) If only a portion of the required mitigation is being satisfied through ILF, indicate how much and how the other portion(s) of mitigation required will be satisfied.
- 3) What is the number of credits being purchased?
- 4) What is the ILF program's service area?
- 5) Is your project in the ILF program's service area?

Section 4: On-site and Off-Site Permittee-Responsible Mitigation Project

On-site mitigation means any mitigation project located within one-mile and in the same 8-digit HUC of the impact site. Off-site mitigation means any mitigation project located greater than one-mile from the impact, but within the same 8-digit HUC of the impact site. Ohio EPA only considers mitigation outside of the 8-digit HUC, if the applicant can effectively demonstrate that there is a significant ecological reason that the mitigation location should not be limited to the mitigation location specified in OAC [3745-1-54](#). The applicant must also effectively demonstrate that the proposed mitigation will result in a substantially greater ecological benefit.

If your mitigation plan includes permittee responsible mitigation, provide the following information in the narrative of the mitigation plan:

- 1) **Does the applicant currently own the proposed mitigation site property:** If yes, provide information on purchase agreements, options, etc. that verifies the applicant's right to construct on the mitigation property. If no, specify if an agreement with the current landowner has been made allowing mitigation to occur on the property. Discuss existing easements/ownership rights on the property that may preclude it as an acceptable mitigation site such as mining rights, utility easements, etc.
- 2) **Explain the existing mitigation site setting:** Describe in detail, the location and size of the mitigation area(s), the predominant vegetation in the area, existing functions and values of water resources on-site, existing soil characteristics, surface and ground water conditions, present and proposed land use and zoning restrictions, if the site was previously disturbed by past activities or if it is adjacent to a roadway and current land use. Include type(s) of receiving waters. Justify why this site was selected for the proposed mitigation.

- 3) **Explain the mitigation site activities:** Explain the overall mitigation proposal. Include a description of activities planned to occur at each mitigation area including a timeline. The timeline should include a discussion of whether the mitigation is occurring before, concurrent with or after the authorized impacts and a sequence of mitigation construction activities. Discuss how this on-site project satisfies all or part of the mitigation requirements.
- 4) **Wetland mitigation** - Provide a summary of the proposed on-site wetland mitigation project. Be sure to indicate the type of wetland mitigation project this is (*i.e.* restoration, creation, preservation or enhancement).
 - a) Discuss the watershed setting, wetland hydrology, vegetation, soils, buffers, etc. Include information on planned wetland features.
 - b) Include information on reliability of source of water/water budget for the mitigation area. Identify sources of water for mitigation including current and proposed watershed size. Discuss manipulation of hydrology required for construction of the mitigation.
 - c) Describe the extent to which productive topsoil will be provided or amended as the topmost layer in floodplain restoration or wetland creation/restoration areas.
 - d) Provide a planting plan including size of stock to be planted, planting rates, list of species to be planted including scientific name and common name, and indicator status. Plantings may not consist of exotic, hybrid, or invasive or non-native species. Where plantings are not planned, provide rationale.
 - e) Include a conceptual invasive species control plan.
- 5) **Stream mitigation** - Provide a summary of the proposed on-site stream mitigation project. Be sure to indicate the type of stream mitigation project this is (*i.e.* restoration, relocation, preservation, daylighting, etc.).
 - a) Discuss the watershed setting, the stream hydrology, the vegetation, the soils, the buffers, etc.
 - b) Planting plan for riparian buffers including size of stock to be planted, planting rates, list of species to be planted including scientific name and common name, and indicator status. Plantings may not consist of exotic, hybrid, or invasive or non-native species. Where plantings are not planned, provide rationale.
 - c) If stream restoration/creation is proposed, include information on reliability of source of water/water budget for the mitigation area. Identify sources of water for mitigation including current and proposed watershed size. Discuss manipulation of hydrology required for construction of the mitigation. Indicate proposed flow regime.
 - d) Include a conceptual invasive species control plan.
- 6) **Mitigation Monitoring Plan** – Indicate the proposed length of the mitigation monitoring period and provide a mitigation monitoring schedule. Non-forested wetlands are required to be monitored for a minimum of 5 years and forested wetland communities are required to be monitored for a minimum of 10 years. Provide information on the parties that will be responsible for the mitigation monitoring and potential adaptive management, if necessary. Elaborate on what parameters will be monitored and how (percent invasive species, vegetative communities, hydric soils, hydrology, buffer areas, fish communities, macroinvertebrate communities, amphibians, etc.)
- 7) **Performance Standards** – Identify clear, quantifiable parameters that can be used to evaluate the success of the proposed mitigation project(s).

Wetland Mitigation

These can include, but are not limited to, all or some of the following:

- a) **An overall acreage** – A set acreage or size must be identified for each of the following within the proposed mitigation plan: restoration, creation, enhancement or preservation.
- b) **A Vegetative Index of Biotic Integrity (VIBI) score** – A VIBI goal for enhanced, created or restored wetlands must be specified. A VIBI score specific to the wetland type (HGM class, plant community), location (ecoregion), and quality is required. Ohio EPA requires that the VIBI goal meet Category 2 and the

Wetland Habitat tiered aquatic life use. These scores are available in Table 7 in [the Part 9: Field Manual for the Vegetation Index of Biotic Integrity for Wetlands v. 1.4.](#)

- c) **An Amphibian Index of Biotic Integrity (AmphIBI) score** – An AmphIBI should be used as a performance goal for depressional wetland forest mitigations (*i.e.* vernal pools) including vernal pool shrub swamps in a forest matrix.
- d) **Native species establishment** – An overall percentage of the native perennial hydrophytes present within the wetland mitigation area. Ohio EPA typically requires that an applicant demonstrate at least 75% of the total area be vegetated with native perennial hydrophytes.
- e) **Invasive species percentage** – A percentage of allowable invasive species within the wetland mitigation area. Typically, Ohio EPA typically allows a maximum of five percent and under of invasive species to be present within the wetland mitigation area. Due to the difficulty of distinguishing the three species of cattails (*Typha latifolia*, *Typha angustifolia*, and *Typha x glauca*), as well as the likelihood that at least one of these will be present in many types of Ohio wetlands, the total relative cover of all invasive species, including *Typha* spp., that will be allowed by Ohio EPA will be less than ten percent.
- f) **Woody species establishment** – If the proposed wetland mitigation is proposed to be forested habitat; there must be a goal demonstrating that the forested mitigation areas are on a trajectory to being forested. Typically, this demonstration is made by graphing basic forestry measures including frequency, density, and dominance per species against time.

Stream Mitigation

These can include, but are not limited to, all or some of the following:

- a) **An overall linear footage** – A set linear footage must be identified for each of the following within the proposed mitigation plan: restoration, creation, enhancement or preservation.
 - b) **An Index of Biotic Integrity (IBI) score**– An IBI goal for appropriate stream mitigation projects.
 - c) **An Invertebrate Community Index (ICI) score** – An ICI score can be used as a performance goal for appropriate stream mitigation projects.
 - d) **Percentage increase of sensitive and EPT taxa** – An overall percentage increase can be demonstrated in the total number of sensitive and EPT taxa in the mitigated stream.
 - e) **Stability of the stream channel** – For restored, created or enhanced streams, it must be demonstrated the stream channel show no signs of excessive bank erosion, sedimentation, headcutting, aggradation, entrenchment, or degradation.
 - f) **Riparian buffer woody species establishment** – If buffer plantings are proposed, there must be a goal demonstrating that the buffer areas contain at least a minimum number of native, live and healthy woody plants per acre at the end of the monitoring period. Typically, this number is 400 stems/acre.
- 8) **Required Mapping:** The following maps should be included as part of the mitigation plan (All maps should contain a legend, a north arrow, an accurate ruler-type scale bar and clearly defined project boundaries):
- a) For all types of mitigation projects:
 - Road map
 - USGS map
 - NWI map
 - NRCS County Soil map (identify as hydric, non-hydric w/ inclusions., or non-hydric)
 - Recent aerial photography map showing boundary of mitigation property
 - Map showing both location of mitigation site and impact site.
 - Map of the proposed mitigation site showing the location of existing aquatic resources, vegetation communities, boundary of preservation property, and areas presently dominated by invasive species

- b) For restoration, creation and/or establishment projects:
 - o Plan views showing expected approximate limits of cut and fill areas, limits of vegetation removal, ditch plug areas, tile cutoff areas, berm locations, etc.
 - o Conceptual plan views of boundaries showing existing aquatic resources, and limits of proposed enhanced, restored, created, and preserved aquatic resources, existing and proposed vegetation types, proposed planting areas, and proposed habitat features.
 - o Conceptual cross section of mitigation and buffer areas showing existing land surface, proposed land surface, expected maximum and normal water depths, natural channel design measurements
 - o For streams, also provide conceptual longitudinal profile of existing and proposed land surface
- 9) **Photographs:** Ohio EPA uses photographs of the mitigation site in a variety of ways. Include a clear and in-focus color photograph for each stream and wetland to be addressed by the mitigation project.
- 10) **Photo Location Map:** Provide a topographic map or aerial photograph marking the location where each photo was taken and an arrow depicting the direction toward which each photo was taken.

Ohio EPA reserves the right to request additional information during the technical review of the mitigation plan if necessary.

Section 5: Long Term Protection

ORC requires mitigation to be protected long term with a real estate instrument or other available mechanism. Indicate how each of the mitigation parcels will be protected long term. Ohio EPA's preferred instrument for protection is an environmental covenant. If a conservation easement is proposed, provide justification why an environmental covenant is not proposed. If more than one mitigation site and/or more than one type of protection is being proposed, explain the details in the cell next to the appropriate type. If an environmental covenant with a holder is proposed, the name of the covenant holder must be provided. If a conservation easement is proposed, the name of the easement holder must be provided. Please be aware that conservation easement holders must meet the requirements of ORC [5301.68](#).

If you are proposing to use a conservation easement or environmental covenant as your document for protecting the mitigation area(s), please include the following as attachments:

- A draft copy of the proposed easement/covenant language; and
- A topographic map or aerial photograph clearly showing the boundaries of the proposed mitigation area(s).

Ohio EPA has a pre-approved Environmental Covenant Template available on the "Related Information" tab on the DSW 401 Mitigation webpage at: <http://www.epa.ohio.gov/dsw/401/mitigation.aspx>.