OHIO EPA

SECTION 401 WATER QUALITY CERTIFICATION APPLICATION PRIMER

August 1998

Purpose: The following primer was prepared by staff in the Section 401/Wetland Unit of Ohio EPA's Division of Surface Water to provide applicants with information that may be helpful in completing Ohio EPA's Section 401 Water Quality Certification application (revised July 1998).

Format: This primer is meant to be used in conjunction with Ohio EPA's Section 401 Water Quality Certification application (revised August 1998). When completing an application, you should use this primer as a guide. The information in this primer is listed in the same order as the questions on the 401 application. Following each number is a list of topics that Ohio EPA requires to be addressed in that section, and a brief explanation of the kind of information that section should include. Please respond to each question **in the order and format below**. If a particular point does not apply to your project, state 'not applicable' and include an explanation.

Public notice: Once Ohio EPA receives a complete Section 401 application and Corps of Engineers Public Notice (when applicable), it will publish a public notice of the receipt of a complete application and a 30-day comment period. If, during this comment period, Ohio EPA receives a significant number of requests for a public hearing, the hearing will be scheduled and a second public notice will be published giving at least 45 days prior notice of the hearing.

A public notice for a complete Section 401 application can only be published after Ohio EPA has received:

- Army Corps of Engineers notification on the project (when applicable)
- Complete 401 application package

Certification time frame: Ohio EPA's goal is to take an action on Water Quality Certifications within 60 - 180 days of receipt of a **complete application**.

Definitions:

IBI (Index of Biotic Integrity) - Metrics that assess fish community attributes that are presumed to correlate (either positively or negatively) with biotic integrity.

ICI (Invertebrate Community Index) - Used by Ohio EPA as the principle measure of the overall macro invertebrate community condition.

Jurisdictional wetland - any area that has the appropriate hydrology, soils and plants to meet wetland criteria as defined in the 1987 Army Corps of Engineers' Wetlands Delineation Manual.

Ordinary High Water Mark (OHWM) - Defined by the Army Corps of Engineers (ACOE) as that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. (The ACOE is the final arbitrator in determining the OHWM).

QHEI (Qualitative Habitat Evaluation Index) - Index designed to provide a measure of habitat that generally corresponds to those physical factors affecting fish communities and which are generally important to other aquatic life (e.g. invertebrates).

Water quality - Water quality refers to the physical, chemical and biological integrity of any waters of the state.

401 Application question numbers and information needed:

(Note: Questions #1- #9 and #11 should be completed on the application form. Question #10 should be completed on separate sheets).

1) Complete appropriate information as requested.

2) Leave Blank

3) Applicant information

- **Applicant's name and complete street address** is required.
- Ohio EPA cannot accept a P.O. Box as the mailing address.
- Phone numbers are required.

3a) Applicant's legal **signature** and **date** are required.

4) If you have hired an agent to act on your behalf:

- **Agent's name and complete street address** is also required.
- Ohio EPA cannot accept a P.O. Box as the mailing address.
- Phone numbers are required.

4a) Applicant must sign to allow agent to act on their behalf.

5) Give the **project address** or closest point of reference. Also indicate the watershed where the impact is to occur, if known, from the 1988 State of Ohio Hydrologic Unit Map, a copy of which appears in Ohio EPA's *Wetland Water Quality Standards*.

6) If answer is no:

- No further response is needed.

If answer is yes, provide the following:

- Give date the project was started.
- Give date the project was completed/stopped.
- Submit drawings (to scale) and description of work completed.
- Was an order to cease work issued by the Army Corps of Engineers?
- If so, include a copy of cease and desist order with your application.

7) List all approvals needed to complete your project and their status, such as:

Army Corps of Engineers
Individual Section 404 permit
Nationwide permit
Ohio EPA
Storm water Permits
Permit to install (PTI)
National Pollutant Discharge Elimination System permit (NPDES)
Ohio Department of Natural Resources
Dam permits
Mining permits
Coastal Zone Management (CZM)
Federal Emergency Management Authority (FEMA)

Other

8a) Give a brief explanation of **what** you are proposing to do.

8b) Give a brief explanation of **why** you are proposing to do the project.

8c) Cubic yards

- Give the number of cubic yards and type of material proposed to be **removed** from below the OHWM or from a jurisdictional wetland.
- Give the number of cubic yards and type of material proposed to be **placed** below the OHWM or within a jurisdictional wetland.
- Give the **total** number of cubic yards of material proposed to be both removed and placed below the OHWM or within a jurisdictional wetland.

9) Surface water name & location

- Give the **name(s)** of each stream, lake and/or wetland proposed to be affected by the project.
- Give the **location** of each water body listed above.

- Give the name(s) and location(s) of adjacent and/or receiving waters.
- Give the linear footage of each stream proposed to be impacted by the project.
- Give the acreage of each wetland proposed to be impacted by the project.

10) ALTERNATIVES ANALYSIS

Definitions:

Preferred Design
The project you are submitting for approval.

Minimal Degradation Alternative(s)
Less environmentally-damaging or scaled-down version(s) of the project that would result in **less damage** to surface water quality and still meet your project goals.

Non-Degradation Alternative(s)
Less environmentally-damaging, further scaled-down version(s) or revision of the project that would result in **no damage** to surface water quality (no material removed or placed below OHWM). If the project must be located entirely within water (water-dependent) to fulfill the basic project purpose, this alternative may be considered to be a no-build alternative. However, if the final project purpose requires a land base, this is not a water-dependent project, and an alternative other than a no-build alternative must be proposed.

Format: You should first give a brief description of each alternative. **Questions 10a - 10k must be answered for each alternative**. The following format is recommended:

EXAMPLE : a) Provide a description **. . .** for:
The Preferred Alternative
The Minimal-Degradation Alternative(s)
The Non-Degradation Alternative(s)

b) Describe the magnitude of the proposed water quality. . . for:
The Preferred Alternative
The Minimal Degradation Alternative(s)
The Non-Degradation Alternative(s)

And so on, until letters a - k have been addressed

10a) Detailed project description

Construction details for each alternative

- Describe project in detail.
- Submit maps and plans of site showing the present extent and type of vegetative cover, all surface waters and all proposed changes to site (to scale), including a well defined map of the construction limits of the project.
- Submit original topographic map of area (or identify the site on a specific quadrangle).
- Submit cross-sectional drawings of the project.

Description of fill material to be placed

- Give cubic yards to be placed below the OHWM or within jurisdictional wetlands.
- Describe all types of fill material to placed below the OHWM or within jurisdictional wetlands, including rock types and sizes.
- Identify origin of the fill material to be placed.

Description of dredge material to be removed

- Give cubic yards to be removed below OHWM or from jurisdictional wetlands.
- Submit particle size analysis as required.
- Submit chemical constituent sampling as required.
- Describe the dredge spoil disposal location and identify it on a scaled plan or map.

10b) Biological and physical impacts

- How will your project adversely impact animal life (including sport and recreational fishes).
- How will your project adversely impact plant life.
- How will your project adversely impact rare, threatened and endangered plants and animals.
  (Include written comments from the Ohio Department of Natural Resources, and the U.S. Fish and Wildlife Service).
- How will your project adversely impact aquatic habitat and physical characteristics of the water body and adjacent areas.
- How will your project adversely impact flow patterns of surface water if applicable.

Wetlands

- Describe type of wetland(forested, emergent, etc.).
- Describe category (Category I, II or III) for each wetland to be impacted. Include a discussion of the functional assessment tool used and the rationale for placing the wetlands in the selected categories (See Wetland Water Quality Standards on Ohio EPA's web site or call 614/644-2001.)
- Give individual and total wetland acreage on site.
- Give individual and total wetland acreage to be impacted.

- Describe proximity/location of each wetland in relation to other surface waters.
- Include wetland delineation report.
- Demonstrate that the storm water post-construction runoff rate will not exceed the pre-construction runoff rate and that water quality will either be unaffected or improve.

Streams

- Give name of each stream to be impacted and each receiving stream.
- Give water quality use designation for each stream (See OAC 3745-1 on Ohio EPA's web site or call 614/644-2001).
- Describe type, age and width of vegetation adjacent to watercourse(s).
- Give individual and total lineal feet of stream on site.
- Give individual and total lineal feet to be impacted on site.
- Describe proximity/location of each watercourse in relation to other surface waters.
- Submit QHEI forms (must be conducted by an Ohio EPA approved technician).

Lakes/Ponds

- Give name of each water body.
- Describe and give name of each stream flowing in or out of each water body.
- Describe type, age and width of vegetation adjacent to each water body.
- Describe adjacent land uses.

Photographs

- Submit numbered photographs of all surface water areas and all associated vegetative buffers to be impacted, including photographs of directly adjacent land.
- Include reference map showing photo locations and directional arrows.

Describe present and proposed adjacent land uses, to the extent known.

NOTE: The following information may also be requested by Ohio EPA:

- Qualitative Habitat Evaluation Index (QHEI) sheets
- Index of Biotic Integrity (IBI) data
- Index of Community Integrity (ICI) data

10c) Applicant's project costs

Cost effectiveness

- Itemize the anticipated costs to construct each alternative.
- Itemize the anticipated economic profits or losses for each alternative.

Availability

- Is the technology available to complete the project/alternative as proposed, or is it theoretical or unproven?

Reliability / operation maintenance difficulty

- What is the anticipated life of the project and will it need repairing?
- Are the aspects of the project and the alternatives which are designed to address water quality impacts associated with the project, reliable and dependable?

10d) Sewage projects

Is the project a regional or part of a regional sewer and collection facility? If so, discuss the following in same manner as in 10 c):

- Describe the technical feasibility of the project.
- Describe the cost Effectiveness of the project.
- Describe the availability of the project.
- Include long range plans in state or local water quality management planning documents and applicable facility planning documents.

10e) Other related projects

- Check with local and regional agencies and groups to develop a list of any environmental or recreational improvement projects targeted for the affected surface water.
- List any projects or development other than your proposed project targeted for the local region.

10f) Water pollution controls

- Describe best management practices to be used. This may include, but is not limited to, erosion and turbidity controls and their costs.
- Describe other water pollution controls, including water treatment works or other aspects incorporated into the project to treat, reduce or eliminate water pollution generated as a result of implementation of the project.

10g) Human health impacts

- Describe how the lowering of water quality may affect human health.
- Describe impacts to overall quality of the water resource.

10h) Jobs created and revenues gained

- Include the number of jobs to be created (directly and indirectly) by the project.
- Include state and local tax revenues to be generated.
- Give a brief description of the local economy (i.e. median household income, poverty rates, population growth, unemployment, etc.).
- Discuss the potential direct and indirect increases in property values due to the proposed project.
- Discuss the positive impacts on the recreational and commercial opportunities of the water resource, including tourism.
- Discuss businesses that will be positively impacted by the proposed project.
- Give a brief discussion regarding the positive aesthetics of the proposed project.

10i) Jobs and revenues lost - Social and Economic Benefits Lost

- Include the number of jobs to be lost (directly and indirectly) due to the project.
- Include state and local tax revenues to be lost.
- Give a brief description of the local economy (i.e. median household income, poverty rates, population growth, unemployment, etc.)
- Discuss the proposed direct and indirect lowering of property values due to the proposed project.
- Discuss the negative impacts on the recreational and commercial opportunities of the water resource, including tourism.
- Discuss businesses that will be negatively impacted by the proposed project.
- Give a brief discussion regarding the negative aesthetics of the proposed project.

10j) Environmental benefits lost or gained

Including but not limited to:

- How will each stream's natural sediment-moving capabilities be affected?
- How will each wetland's pollutant filtering capability be affected?
- Include a discussion of how any losses will be mitigated.

10k) Mitigation Techniques* (Does not apply to the Non-Degradation Alternative)

*These are proposed techniques that will be incorporated into the project that will offset or compensate for any water quality impacts. Mitigation must be proposed for impacts to any surface water.

NOTE: There must be a mitigative technique referenced for the preferred design and each minimal degradation alternative you have submitted. No mitigative technique is required for the non-degradation alternative.

Wetland Mitigation:

Note: Wetlands should replace wetlands (in-kind). Ponds are not wetlands and should not be proposed as mitigation for wetland impacts.

- Describe where the mitigation is proposed. Locate the mitigation site and the impact site on a quadrangle.
- The mitigation acreage ratio must conform to the requirements in OAC 3745-1-54 (F)(1).
- Develop a scaled plan (preferably with 6 inch contours) and sections to illustrate the size, shape, and depth variation of the proposed mitigation.
- Describe the source of hydrology and demonstrate that there will be sufficient water to sustain the wetland mitigation in perpetuity.
- Describe the soil type in the mitigation area and if soil amendments will be necessary.
- Describe how and what vegetation will be established.

- Describe when the mitigation will be constructed and completed.
- Describe Best Management Practices to be used. This may include, but is not limited to, erosion and turbidity control.
- Describe how the mitigation will be monitored, and who will be conducting the monitoring. Monitoring must be conducted for at least 5 years.
- Describe how water quality functions will be replaced on-site.
- Identify who will manage the mitigation area, who will retain ownership, and how the mitigation area will be protected in perpetuity.
- Describe a contingency plan in case the mitigation fails, including a time frame for remediation.

Stream, Lake, Pond Mitigation:

- Describe where the mitigation is proposed. Locate the mitigation site and the impact site on a U.S.G.S. quadrangle.
- Develop a scaled plan and sections and specifications to illustrate the size/length, shape, and depth variation of the proposed mitigation.
- Describe habitat restoration or enhancement proposed. Demonstrate that there will be no elimination or substantial impairment of existing in-stream water uses as part of this project (OAC 3745-1-05 (c)(1)).
- Describe Best Management Practices to be used. This may include, but is not limited to, velocity reduction structures, erosion control methods, and turbidity controls.
- Develop a monitoring plan that will focus on the re-establishment of habitat and other water quality functions. Identify who will be conducting the monitoring. For streams, proposed Qualitative Habitat Evaluation Index scores or biological indices may be included.
- Describe a contingency plan in case the mitigation fails, including a time frame for remediation.

11. Either the applicant or designated agent must **sign and date the application.** The original application, signed and dated must be submitted to Ohio EPA.