APPLICATION FILING REQUIREMENTS SUBSTATION PROJECTS

PUBLIC SERVICE COMMISSION OF WISCONSIN
WISCONSIN DEPARTMENT OF NATURAL RESOURCES

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Table of Contents

Application Filing Requirements
Substation Construction Projects

October 2017

This document lists information required for a complete application for the construction of a new substation or modification of an existing substation, whether as a stand-alone project or as part of a larger transmission or power plant project. Proposed projects that would exceed the cost thresholds described in Wis. Admin. Code § PSC 112.05(3) require a Certificate of Authority (CA) under Wis. Stat. § 196.49 from the Public Service Commission of Wisconsin (PSC).

Often, substations are part of transmission or power plant application which may require either a CA under Wis. Stat. § 196.49 or a Certificate of Public Convenience and Necessity (CPCN) under Wis. Stat. § 196.491. If the proposed substation or substation modification is part of a larger project, it is recommended to combine the substation application materials into the power plant or transmission application. The combined application should be organized in the most logical manner possible and contain all filing requirement information for all proposed facilities.

Overall, the filing requirements are intended to organize information consistently and to facilitate application reviews.

Joint PSC/DNR Pre-Application Consultation Process

An applicant must consult with both the PSC and DNR prior to submitting its application (Wis. Stat. § 30.025(1m) and Wis. Admin. Code § PSC 4.70(1)). This pre-application consultation process is a series of discussions with the staff of these two agencies. Each agency has its own requirements, but the two agency reviews interrelate.

Topics that may be discussed during the pre-application process include:

- PSC and DNR staff contacts
- Applicable portions of the filing requirements for each agency
- Appropriate application formats and subject matter, such as for maps and diagrams
- Specific permits and approvals required for the project
- PSC's and DNR's projected review timelines and important milestones
- Appropriate type, scope, and timing of required field work (habitat assessments, wetland delineations, biological surveys, etc.)

DNR Application Needs

Like the PSC, DNR requires a complete application for the project review to proceed in a timely manner. The applicant must consult DNR staff to ensure that particular requirements for the DNR project review are met.

Permits and Application Requirements

DNR permits required for the project will be identified during the pre-application process.

Under Wis. Stat. § 30.025, the two agencies must follow a common review timetable, if wetlands or navigable waters are involved. For this reason, a complete application containing both DNR and PSC required information is submitted to both agencies at the same time. Specific DNR permit application requirements can be confirmed by the staff of the DNR Bureau of Environmental Analysis and Sustainability(BEAS). The requirements include information and materials needed for analysis of potential impacts to rare species and natural communities, and wetland or waterway construction permits. Applications must include an Endangered Resources (ER) review from the DNR Bureau of Natural Heritage Conservation (BNHC) or obtain concurrence from DNR for an ER Review completed by a certified individual. The ER Review includes an analysis of the information contained in the Natural Heritage Inventory (NHI) database.

Habitat Assessments and Biological Surveys

Habitat assessments or biological (plant and/or animal) surveys may be required for the DNR portion of the application or at some point in the application process. Natural resources of particular concern include (1) areas that support high quality, rare, or important wetlands, rivers, or natural communities or habitat features (*e.g.*, bat hibernacula or bird rookeries); and (2) areas where state or federal endangered, threatened, or special concern species occur or may occur.

The applicant should meet early in the pre-application process with DNR to determine the type of field work that should be completed. DNR may require fieldwork to be conducted (1) prior to submitting an application, (2) while the application is under review, (3) prior to the start of construction, and (4) post construction. At least two to four months before the beginning of the appropriate field season, DNR will require project information such as the project schedule, major project actions, and current aerial photos of the project area. For most species, the field season begins in the second quarter of the year; however, some rare species may require that field work be conducted earlier or later in the year. DNR will discuss with the applicant the timing and scope of the required studies based on project specifics and the application schedule.

Application Formats

Geographical Information System Submissions

Geographic Information Systems (GIS) data files must be submitted in shapefile format, in the current version of ArcGIS (ESRI ArcGIS 10.X). Geodatabases may also be used. Data files should clearly describe the contents and be appropriately named.

Provide the following GIS related items as part of the application:

- GIS shapefiles or a geodatabase that contains all the data used to produce all maps submitted as part of the application.
- A spreadsheet listing all GIS data files, a file description, the source of the data, and the date when the data was collected or published.
- Map files in ESRI ArcView *.mxd format for all GIS maps in the application.
- ESRI ArcReader published map files in *.pmf format for all applicable GIS maps in the application.

All GIS data must include a *.prj file. Wisconsin state agencies use the Wisconsin Transverse Mercator (WTM) projection system.

Photographic and Line Drawing Submissions

- Line drawings must be in AutoCad and may be in either *.dwg or *.dxf format. The preference is *.dwg.
- Any photographic renderings (photo simulations) of proposed facilities on the existing landscape must be submitted in a high-resolution raster format.
- Digital aerial photographic images must be properly georeferenced and must be accompanied by the geographic coordinate and projection system.
- Scanned maps and diagrams that cannot be submitted in any other format must be submitted in *.gif format at a depth of 256 colors or less.

Confidential and CEII Materials

Organize the application so that all confidential materials are only in Appendices and separated from non-confidential materials. Submit confidential materials in compliance with the confidential materials handling procedures of each agency.

DNR Natural Heritage Inventory (NHI) related information must be submitted confidentially to both agencies.

Prior to submitting any critical energy infrastructure information (CEII) related to the project, contact the Commission staff docket coordinator for instructions regarding how to do so.

PSC Electronic Regulatory Filing (ERF) System

The ERF system is the official file for all dockets considered by the Commission. Use the ERF system to post all ***confidential*** and ***non-confidential*** application materials, including all materials provided to DNR. Items submitted in native formats, such as ESRI ArcGIS shapefiles, Microsoft Excel tables, Microsoft Word versions, modeling, etc. should be documented in a letter filed on ERF.

Instructions for submitting documents to the ERF system can be found on the PSC web site. (http://apps.psc.wi.gov/vs2015/ERF/documents/ERF%20Filing%20Procedure.pdf)

Application Completeness

PSC and DNR staff will examine the application for completeness. The applicant will be notified if an application is deemed complete or if additional information is required for the review of the application. Applicants should be aware that complete applications rarely answer all the questions that the PSC and DNR must address. It is likely that applicants will be called

upon to provide additional information and data to support their applications throughout the review process. Applicants will be expected to respond to all staff inquiries made subsequent to a determination of completeness in a timely, complete, and accurate manner.

Filing the Application

For CA substation applications, check with the PSC docket coordinator and DNR during the pre-application process to determine how the application should be filed and how many paper copies are necessary.

Post to the PSC ERF, all application materials both ***confidential*** and ***non-confidential***, including all materials provided to DNR.

For substations that are part of a transmission or power plant CPCN application, follow the procedures outlined in the applicable PSC application filing requirements.

Prior to submitting any CEII related to the project, contact the Commission staff docket coordinator for instructions regarding how to do so.

Contact for Questions

Adam Ingwell, PSC, (608) 267-9197, Adam.Ingwell@wisconsin.gov.

Application Filing Requirements
Substation Construction Projects

A complete application must contain the following information or a showing must be made as to why the information is not applicable. The application's organization should follow the major format and numbering system of these filing requirements. If the proposed substation is part of a larger project such as a proposed transmission line or power plant, it is recommended to combine the substation application materials into the larger application, provided the organization of the application remains clear and easy-to-understand. Questions about the applicability of specific information requirements should be discussed with PSC and DNR staff during pre-application consultation.

1. Project Overview

1.1. **Identify the owners and investors of the proposed project including their names, addresses, and percent of ownership.**

1.2. **Provide contractual agreements between developer and utilities to construct, finance, lease, use or own transmission facilities.**[1]

1.3. **Describe the location of the proposed substation site(s).**

1.4. **Provide the city, village, and/or township and counties of the proposed substation sites and any other areas of proposed construction activities.**

1.5. **PSC Review**

1.5.1 Identify the expected type of Commission action under Wis. Admin Code § PSC 4.10.

1.5.2 Discuss if the proposed substation is contingent or part of a transmission or generation project under another docket.

1.6. **Project Details and Project Area Information**

Provide descriptions of the project area(s) including the following:

1.6.1 Generalized description of the project area, including land cover and zoning.

1.6.2 Special or unique natural or cultural resources in the project area.

1.6.3 Areas of residential concentrations and urban centers in the project area.

[1] PSC confidential procedures may be used for the submittal of sensitive information.

1.7. Other Agency Correspondence/Permits/Approvals

1.7.1 Provide copies of all official correspondence between the applicant and all state, federal, or local government agencies.[2]

1.7.2 Provide a list of all state and federal permits/approvals that would be required for this project and their status.

1.7.3 Provide a list of all local permits and/or ordinances that apply to the proposed project and the status of those permits.

1.7.4 If any portion of the associated facilities would occupy property or easements owned by railroad or pipeline companies or WisDOT, provide documentation from these entities that the sharing is acceptable to the entity, if possible.

1.8. Construction Schedule

1.8.1 Provide the anticipated general construction schedule, identifying any potential seasonal or regulatory construction constraints.

1.8.2 Generally discuss any generation or transmission outage constraints that may have to be accommodated.

1.9. Project Area Maps

1.9.1 Provide project maps that use the best and most recent data available. Maps must clearly portray the project in a format and scale that is unambiguous and easy to understand. Labels and symbology used on the maps must be clearly visible. The scale of the maps, the number of map sets necessary to show all relevant data, and whether they will be submitted electronically or on paper will be discussed during pre-application consultations.

- Aerial photographs not more than three years old
- Project Data
  - Proposed substation
  - Proposed substation fenced area
  - Proposed access roads
  - Proposed electric poles (distribution and transmission) outside of the fenced area
  - Proposed new or altered distribution and transmission right-of-way (ROW)
  - Proposed associated facilities and features including storm water detention ponds
- Project Area Environmental Data
  - Rivers, lakes, and other waterways
  - Wetlands
  - Soils
  - NHI rare species occurrences (confidential)
  - Topographic maps
  - Floodplains
- Parcel Data Within One-half Mile of the Proposed Site

[2] The applicant must continue to submit copies of all official correspondence between the applicant and any federal, local government, or other state agency while the application is under review.

  - Private properties.
  - Public properties (symbolized differently than private properties)
  - Tribal or other types of properties
  - Political subdivision boundaries
  - Township, range, section divisions
- Land Use Within One-half Mile of the Proposed Site
  - Land cover
  - Zoning
  - Active mines and quarries
  - Sensitive sites (for example daycare centers, schools, hospitals, cemeteries, etc.)
  - Airports, airstrips (public and private)
  - Recreation areas, trails
- Utility/Infrastructure Data
  - Roads, highways, interstates
  - Existing transmission, pipelines, and other applicable infrastructure
  - Existing distribution lines that would be modified or relocated due to the proposed project or are in the project area
  - Applicable infrastructure ROWs (*e.g.*, DOT, pipeline, electric distribution, electric transmission, railroad, trail)
- DNR-required information such as locations of possible Chapter 30 activities (*e.g.*, grading, riprap), temporary clear span bridges, Wisconsin Wetland Inventory, wetland/waterway field data, hydric soils, etc.

1.10. ESRI ArcGIS Data Files (see Introduction, page ii)

1.10.1 Use the most recent version of ESRI ArcGIS to support all maps and information submitted as part of the application.

1.10.2 Provide a spreadsheet that lists each GIS file (clearly named and organized), a description of the data, data source, and the date when the data was generated or collected for field data.

1.11. Provide the mailing addresses and contact information for owners of the proposed site(s) and all properties adjacent to proposed facilities.

2. Engineering

2.1. Project Need

Describe the purpose or need for the project with supporting data.

2.2. Area Load Information

Submit historical peak load by substation, if available, for the study area for at least the past ten years. In the cases where coincident peak load data is not available by substation, provide annual peak load data by substation. Indicate for each substation whether the load data is coincident peak or annual peak. Explain each component of the forecasted load with quantitative detail. Any changes in the projected growth rates over the forecast period should be fully explained. Area load information requirements will be discussed at the pre-application consultations. Based on the need and scope of the proposed project, different historical data may be required.

2.3. **Discuss no-build options and their potential electrical supply and environmental impacts.**

2.4. **Provide an analysis of the ability of energy conservation and efficiency and load response to reduce, alter, or eliminate the need for this project. Analysis should include:**

- 2.4.1 A description of the energy conservation and efficiency and load response programs and services available to customers in the project area.
- 2.4.2 An indication of the amount of additional energy efficiency and demand response, not already included in the forecast, needed to reduce, alter, or eliminate the need for this project.
- 2.4.3 A discussion of the feasibility of achieving the level of energy efficiency and demand response identified in Section 2.4.2.

2.5. **Discuss the potential for alternative solutions to the identified problem, as prioritized in Wis. Stat. §§ 1.12(4) and 196.025(1)(ar).**

- 2.5.1 Noncombustible renewable energy resources
- 2.5.2 Combustible renewable energy resources
- 2.5.3 Nonrenewable combustible energy resources in the following order:
  - 2.5.3.1 Natural gas
  - 2.5.3.2 Oil or coal with a sulphur content of less than 1%
  - 2.5.3.3 All other carbon-based fuels

3. Magnetic Fields

Magnetic field information may be determined during pre-application consultations.

3.1. ***For existing substations*, submit magnetic field readings at the secured fence line and in the area from the fence outward to the property boundary or 150 feet, whichever is the shortest distance as follows:**

- 3.1.1 At each corner of the fence line and outward toward the property perimeter at 25-foot intervals.
- 3.1.2 At the midpoint along each linear fenced section and outward toward the property perimeter at 25-foot intervals
- 3.1.3 At the fence line where existing overhead or underground electric lines cross the fence.

3.2. ***For new substations that would* tap *existing transmission lines,* estimate the power flow changes and magnetic fields of the existing transmission lines.**

3.3. ***For substations associated with new generation*, state how the new generation source would change the magnetic fields on the existing transmission lines connected to the substation with the generating plant operating at full capacity.**

4. Project Costs

Cost tables should be based on the projected in-service year. Tables must be submitted in a Microsoft Excel format, in addition to Adobe Acrobat (*.pdf) format.

4.1. Substation Cost Estimate Tables

Provide table(s) detailing the projected total costs for each proposed substation broken into the major categories listed below. Each major category of costs should be broken down into logical components and/or contracts.

- Material Costs
- Labor Costs
- Other Costs
- Pre-certification Costs

4.2. ***For 345 kV projects:*** **Provide a summary table of total costs (transmission and substation) for each proposed route, broken down by the following voltage classes.**

- 345 kV
- Less than 345 kV
- Distribution

5. Site and Construction Information

5.1. **Provide descriptions, diagrams, and graphics for the proposed project that include the following details:**

5.1.1 The location, size, and dimensions of the proposed substation, access roads, detention ponds, and associated facilities
5.1.2 The topography, land cover, zoning, and land use of the proposed site(s)
5.1.3 Layout of the proposed substation equipment
5.1.4 Dimensions of the property boundaries and substation fenced area
5.1.5 Vertical profile and topography of the proposed substation and property

5.2. **For any electric structures or lines (transmission and distribution) that would be constructed outside of the fence line of the proposed substation, including the following:**

5.2.1 Electric line configuration (such as single-circuit or double-circuit with existing line, overhead or underground, conductor replacement or new construction, etc.).
5.2.2 A description and location of the proposed ROWs (for example new ROW, partially overlapping existing transmission ROW, completely within existing ROW, etc.).

5.3. **Describe the construction impacts of the proposed project and any proposed associated facilities, including:**

5.3.1 The area and depth of excavations.
5.3.2 The type of construction machinery that would be used.
5.3.3 The construction disturbance zone, including access from public roads.
5.3.4 How spoil materials would be managed on and off-site.
5.3.5 For transmission or distribution electric lines proposed to be constructed outside of the substation fenced area, provide the following:
5.3.5.1 Construction methods for the electric lines.

5.3.5.2 A description of any unique construction methods (*e.g.*, directional boring, jack and bore, helicopter, vibratory caissons, etc.

6. Natural Resource Impacts

6.1. Forested Lands

Forested lands are defined as any wooded landscapes (greater than 20% canopy cover) excluding narrow windbreaks located between agricultural areas, but including wooded areas adjacent to waterways.

6.1.1 For each substation property describe the forested lands that would be impacted by the proposed project. Include the following information in the description.
- Type of forest
- Dominant species
- Average age, size of trees
- Ownership (private, county, etc.)
- Use (recreation, timber, riparian habitat, etc.)

6.1.2 Identify any substation site land that is enrolled in either Managed Forest Law or Forest Crop Law and discuss how the proposed project would affect their enrollment.

6.1.3 Provide specific details for mitigating or minimizing construction impacts in and around forest lands.

6.2. Grasslands

Grasslands are defined as any undeveloped landscape dominated by herbaceous (non-woody) vegetation.

6.2.1 For each substation property describe the grasslands that would be impacted by the proposed project. Include the following information in the description.
- Type of grassland (prairie, pasture, old field, etc.).
- Dominant species.
- Ownership (private versus public).
- Use (agricultural, non-productive agricultural, recreation, natural area, etc.).

6.2.2. Provide specific details for mitigating or minimizing construction impacts in and around grasslands.

6.3. Wetlands (see Section 8.0)

6.3.1 Identify any wetlands that would be affected by the proposed project.

6.3.2 Identify the location of any wetland crossings required for the construction of the project.

6.3.3 Identify any structure or facility that would be constructed within wetlands.

6.3.4 Provide the methods to be used for avoiding, minimizing or, if necessary, mitigating construction impacts in and near wetlands.

6.3.5 For "significant" or "high-quality" wetlands in the project area, identify:

7.1.5.1 The location where the proposed project would cross or potentially impact these wetlands.

6.3.5.2 The wetland type (forested, shrub, emergent, or open water).

6.3.5.3 The specific methods that would be used to mitigate the potential impacts.

6.4. **Waterbodies/Waterways (see Section 8.0)**

6.4.1 Identify the waterbodies or waterways in the project area.

6.4.2 Identify any proposed facilities that would be constructed below the ordinary high-water mark (OHWM) of a waterbody or waterway.

6.4.3 For each proposed waterbody and waterway crossing, identify the need and method for constructing the crossing.

6.4.4 Provide the methods to be used for avoiding, minimizing, and finally mitigating construction impacts in and near waterbodies and waterways.

6.4.5 Identify the waterways in the project area that are classified as follows and the site-specific methods that would be used to mitigate potential impacts to these waterways:

6.4.5.1 Outstanding or Exceptional Resource Waters

6.4.5.2 Trout Streams

6.4.6 Wild or Scenic Rivers

6.5. **Rare Species and Natural Communities (see Section 9.0)**

6.5.1 Document communication with DNR and USFWS, as applicable.

6.5.2 Document compliance with DNR and USFWS direction, as applicable.

6.5.3 For the project area, discuss concerns and potential impacts to rare species as identified in the Endangered Resources Review and field studies.

6.5.3.1 For any DNR-identified follow-up actions that must be taken to comply with endangered species law, discuss how each action or rare species identified would affect the proposed project and the specific site.

6.5.3.2 For any DNR-identified recommended actions to help conserve Wisconsin's rare species and high-quality natural communities, discuss which actions would be incorporated into the proposed project.

6.6. **Invasive Species (Uplands and Wetlands)**

6.6.1 Describe areas where invasive species or disease-causing organisms have been observed or are a concern for the construction of the project (*e.g.*, invasive plants, oak wilt, emerald ash borer, etc.).

6.6.2 Describe mitigation methods that would be used to avoid the spread of invasive plants or disease-causing organisms and comply with Wis. Admin. Code ch. NR 40, such as cleaning of machinery, surveys, etc.

6.7. **Historical Resources**

6.7.1 List each county, town, range, section and ¼, ¼ section in which any construction would occur, or identify where this information can be determined from application materials.

6.7.2 Provide a copy of the results of a Wisconsin Historic Preservation Database (WHPD) historical resources search for the entire project construction area, whether it is completed in-house or by a consulting archaeologist. In the search results, list each historical resource from the WHPD that would be found in areas of project-related construction, by State Site number, Burial Site number (if any), and Name. Submit this information to the PSC Historic Preservation Officer

under separate cover and do not enter it into the ERF. Reference and summarize the review in the application.

6.7.3 For each historical resource identified, describe without showing the specific location of the resource how the proposed project might affect the resource and how the project could be modified to reduce or eliminate any potential effect on the resource. Modifications to the proposed project could include site modification, route changes for access roads, crane paths, or collector circuits, and/or mitigation could include route changes and avoidance, modified construction practices, protective barrier placement, monitoring, excavation, recordation, data recovery and/or relocation.

6.8. **Conservation Easements**

Identify conservation easements that may be impacted by any proposed construction activities.

6.9. **Restoration of Disturbed Areas**

Provide a detailed re-vegetation and site restoration plan which discusses the following items:

6.9.1 Type of re-vegetation proposed and planned landscaping for impacted areas such as detention ponds, berms, grasslands, etc.

6.9.2 Vegetative monitoring criteria (number of post-construction years or percent cover achieved) and methods.

6.9.3 Invasive species monitoring and management (see Section 6.5).

7. Community Impacts

7.1. **Communication with Potentially Affected Public**

7.1.1 List all attempts made to communicate with and provide information to the public.

7.1.2 Provide a description of public information meetings and who was invited.

7.1.3 Submit copies of public outreach mailings and handouts

7.1.4 Provide electronic copies of written public comments (*e.g.*, letters, emails, forms, etc.) submitted prior to filing the application with the PSC.

7.2. **Community Issues**

Discuss any concerns that groups or potentially impacted communities have raised**.**

7.3. **Land Use Plans**

Provide relevant portions of land-use plans that describe future land uses potentially impacted by the project. (Land use plans include recreational plans, agricultural plans, etc.)

7.4. **Agriculture**

For each substation site, provide the following:

7.4.1 Type of farming that could be impacted by the proposed project, such as pasture, row crops, or other type (*e.g.* orchards, tree plantations, cranberry bogs, etc.).

7.4.2 The amount of land that would no longer be farmed.

7.4.3 Any impacts to farming operations (including windbreaks) from the construction or operation of the substation.

7.4.4 Specific details for mitigating or minimizing construction impacts in and around agricultural lands.

7.4.5 Agricultural Impact Statement[3] (AIS) - Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP). If the project would affect any private non-utility owned properties used for agricultural purposes, submit one of the following, either:

7.4.5.1 A completed Agricultural Impact Notice (see DATCP web site and search "Agricultural Impact Notice" for appropriate form or contact DATCP).

7.4.5.2 A release letter from DATCP stating that an AIS will not be written for this proposed project.

7.5. **Residential and Urban Areas**

7.5.1 Discuss anticipated impacts to residential/urban neighborhoods and communities such as noise, dust, duration of construction, time-of-day of construction, road congestion, impacts to driveways, etc.

7.5.2 Discuss how anticipated impacts would be mitigated.

7.6. **Aesthetic Impacts**

7.6.1 Discuss the potential aesthetic issues associated with the proposed substation as it relates to the surrounding land uses.

7.6.2 Describe the plans for landscaping or other measures used to mitigate the potential aesthetic impacts to the surrounding land uses.

7.7. **Parks and Recreation Areas**

7.7.1 Identify any parks and recreation areas or trails that may be impacted by the proposed project and the owner/manager of each recreation resource.

7.7.2 Discuss how short- and long-term impacts to these resources might be mitigated.

7.8. **Airports**

7.8.1 Identify the location of all private and public airports/airstrips in the project area.

7.8.2 Describe the airports/airstrips, their runways (length, orientation), and type of use.

7.8.3 Describe any potential for impact to aircraft safety and intrusion into navigable airspace (runway approaches).

7.9. **Shared Revenue**

7.9.1 For modifications of existing substations, provide a brief overview of the current shared revenue payments and how it might change as a result of the proposed project.

7.9.2 For new substations, provide a general idea of the potential shared revenue distributions.

8. **DNR Permits and Approvals for Impacts to Waterways and Wetlands**

Submit the appropriate waterway and wetland permit application materials for all proposed project construction that may impact a waterway or wetland. DNR permit materials can be found at http://dnr.wi.gov/waterways/permit_apps/permit_apps.html. Permits may also be required

[3] http://datcp.wi.gov/Environment/Agricultural_Impact_Statement/index.aspx

from the U.S. Army Corps of Engineers. Application materials will also include the following items.

8.1. Wetland Practicable Alternatives Analysis (Wis. Admin. Code ch. NR 103)

8.1.1 Describe how wetlands were factored into the site selection process.

8.1.2 Describe how the proposed location of the site(s) and the design of project avoids and minimizes wetland impacts including consideration for placing structures outside wetlands. Include how proposed access routes also avoid or minimize wetland impacts.

8.1.3 For proposed construction that will impact wetlands, detail why project alternatives are not practicable after taking into consideration cost, available technology, and logistics in light of overall project purpose.

8.1.4 If wetland impacts cannot be avoided, describe all temporary and permanent impacts, as well as the construction and restoration methods that would be used to minimize wetland impacts.

8.2. Wetland Delineations

Identify all wetlands on a map in accordance with the U.S. Army Corps of Engineers' January 1987 Technical Report Y-87-1 entitled, "Corps of Engineers Wetland Delineation Manual" and relevant guidance documents. Wetland delineation reports should not be submitted as part of the printed application but in electronic format only.

9. Endangered, Threatened, Special Concern Species and Natural Communities

Pre-application meetings with DNR staff are required to determine the information necessary to be included in the application. DNR staff will indicate the type, scope, and timing of required field work relative to the application process. In the *Introduction, pages ii* of this document, additional details about performing habitat assessments and how to file results of DNR-required field surveys is provided. More information can be found on the DNR website: http://dnr.wi.gov/topic/endangeredresources/laws.html.

Endangered Resource (ER) Reviews may be done by either requesting a review from the Utility and Energy Reviewer in the DNR Bureau of Endangered Resources (BER) or by submitting a proposed ER review completed by a certified individual to the Utility and Energy Reviewer for concurrence. Please note that NHI-related information (*i.e.*, the names and locations of endangered, threatened, special concern species, natural communities, and habitat features) are considered confidential. Submit information in both a redacted (non-confidential) and confidential version.

9.1. Submit a DNR-ER review for all route segments.

9.2. Submit maps and/or data files showing NHI occurrences.

9.3. Submit results from habitat or natural community assessments and biological surveys for the proposed routes segments that WNDR has requested to be included in the application. Results from additional surveys conducted during the review of the application, prior to the start of construction, and/or post-construction must be submitted as they are completed.

10. DNR Guidance Information

This and the following checklists serves as guidance in the completion of the DNR Erosion Control, Material Management, and Dewatering Plans necessary to meet the requirements of the Chapter 30 and NR 216 Permits. These are not requirements for a PSC CPCN or CA.

10.1. DNR Guidance for Erosion Control Plans

DNR may require, if appropriate a description of erosion control measures to be utilized. If the project will involve land disturbance in excess of 1 acre, the applicant's request for permits under Wis. Stat. §30.025 must include a request for a Construction Site Erosion Control and Storm Water Discharge Permit from DNR. This permit may also authorize construction site pit and trench dewatering wastewater discharges to surface waters or seepage systems.

If the project will involve land disturbance in excess of 1 acre, the applicant will be required to submit a Construction Site Notice of Intent (NOI) form and to develop an Erosion Control and Storm Water Management Plan describing the best management practices that will be used on-site for erosion control. The DNR-approved erosion and sediment control technical standard and NOI form are available on the DNR Storm Water Program web-site at: http://dnr.wi.gov/runoff/stormwater.htm

Applicants may opt to refer to that company's state agency-approved Standard Erosion Control Plan to meet most of these requirements, though some form of supplemental information on project-specific elements may be required.

- **Erosion Control Methods and Materials**

The types of erosion control methods that will be used during project construction to protect disturbed areas. Include where applicable:

  - Soil and slope stabilization
  - Seeding and mulching
  - Matting, tracking pads, silt fences, stockpile protection
  - Dewatering-related erosion control
  - Channel protection
  - Any other appropriate erosion control measures
  - Details and typical section drawings of all the erosion control methods utilized

- **Erosion Control Measure Site Plan**

Include a site plan view and typical drawings illustrating:

  - Construction site boundary
  - The location of all erosion control measures
  - Location of stockpiled soil
  - Vehicle and equipment access sites
  - Areas of disturbance
  - The drainage area configuration
  - Surface water diversion measures
  - Topography
  - Existing floodplains and wetlands
  - Location of trees and unique vegetation

- **Sequence of Erosion Control Measures**

List and give a detailed description of the sequence of erosion control measures that will occur (*i.e.*, placed, relocated, and replaced) during all phases of construction including:

  - Clearing and grubbing
  - Material installation
  - Channel construction
  - Revegetation processes
  - Seeding and mulching/matting

- **Off-site Diversion Methods**
  - Identify off-site contributions of water affecting project construction sites
  - Methods of controlling off-site water contributions
  - Site plan indicating where the off-site water is originating from and locations of diversion measures on-site

- **Provisions for Inspection and Maintenance**

Document the provisions for:

  - The regular inspection of all erosion control efforts including the identity of who will perform the inspections, when the inspections would occur, and any special circumstances initiating an inspection.
  - The regular maintenance of all erosion control efforts including the identity of who will be responsible for the maintenance and a list of potential corrective actions if the site is not maintained according to the provisions.

11. DNR Guidance for Materials Management Plans

11.1. Materials Management Methodology

Applicants may opt to refer to the company's standard Materials Management Plan to meet most of these requirements, though some form of supplemental information on project-specific elements may be required. The following checklist serves as guidance in the completion of a Materials Management Plan. The Materials Management Plan should contain information on all of the following components, where applicable.

- **Access Point Locations**
  - List the locations that will be used to gain access to the work site.
  - Include a plan view of all access points.

- **Haul Routes**
  - Indicate how and where hauled materials will be routed, including inbound and outbound materials, clean fill materials, contaminated materials, and any other materials.
  - Alternate locations, if necessary.
  - Include a haul route diagram indicating haul route locations.

- **Stockpile Areas**
  - List and describe material to be stockpiled, the location where material will be stockpiled on-site, and the measures to be taken to protect stockpiled areas.
  - Provide a plan view diagram of stockpile area locations.

- **Equipment Staging Areas**
  - Identify where equipment will be stored on-site.
  - Include a plan view of equipment storage areas on-site.
  - Identify where spill control and kits will be stored on-site.
- **Field Screening Protocol for Contaminant Testing**

If contaminated materials (*i.e.,* soil) are encountered on-site, specify:

  - The procedure for screening materials
  - The location where materials be tested
  - The protocols that will be followed
  - Whether construction work will be impacted

- **Contaminated Materials**

If contaminated materials are known to exist on-site, list and describe:

  - The type of contaminant(s) known to exist on-site
  - The location of the contaminant(s)
  - The media in which the contaminant is located within (*i.e.,* soil, water, etc.)
  - The estimated concentration of the contaminant(s)
  - The estimated volumes of the contaminant(s)

- **Excavation Methods**

List and describe:

  - The materials that will be excavated
  - The location of the excavated materials
  - The way in which the materials will be excavated and removed
  - How the excavated materials will be exported from site
  - The location where excavated materials will be exported to

- **Dewatering of Excavated Materials**

If free water is found present in excavated materials, list and describe:

  - The methods that would be used to correct the situation (*i.e.*, how will water be removed).
  - Identify where these methods will take place on-site.

- **In-channel and Upland Excavated Materials**
  - Estimate the total volume of dredged materials (cubic yards) that will be excavated from beds and banks of waterways and wetlands.
  - Estimate the volume of upland materials (cubic yards) to be excavated from areas outside of waterway(s) and wetland(s).
- **Re-used In-Channel and Upland Excavated Materials**
  - Estimate the total volume.
  - Identify the location where dredged materials will be used on either project plans or provide off-site address, property owner, and site map (drawn to scale).
  - Describe the purpose of dredged materials (*i.e.*, grading, trench backfill, etc.).
- **Reuse of Upland Materials**
  - Estimate the total volume.

- Identify the location where dredged materials will be used on either project plans or provide off-site address, property owner, and site map (drawn to scale).
- Describe the purpose of dredged materials (*i.e.*, grading, trench backfill, etc.).

- **Off-site Disposal Plans for Contaminated Materials and Non-contaminated Materials**
  - Estimate the cubic yards of dredged materials and the cubic yards of upland material that will be disposed.
  - Detail disposal site information for both dredged materials and upland materials including material to be disposed, type of disposal site (such as disposal facility, landfill, etc.), disposal site name, disposal site location.

12. DNR Guidance for Dewatering Plans

Provide details for dewatering work areas, including excavation for structure foundations or poles. Applicants may opt to refer to the company's standard Dewatering Plan to meet most of these requirements, though some form of supplemental information on project-specific elements may be required. The following checklist serves as guidance in the completion of the Dewatering Plan. Consider the following items in the Dewatering Plan.

- Dewatering/Diversion of Flow

Provide detailed plans for the dewatering/diversion of flow/standing water removal. Include typical dewatering/diversion measure plans.

- Provide specifications for the dewatering/diversion of flow/ standing water removal.
- Specify the methods to be employed to dewater/divert flow/treat water, if applicable.
- Detail the methods that will be employed
- Specify where the methods will be employed.
- Detail the proposed methods, capacities, and capabilities.

- Downstream Impact Minimization

List and describe methods of minimizing downstream impacts during high flow conditions.

- Analysis of Possible System Overload Scenarios

Provide the following information if the stream is overloaded.

- Estimate the volume of system overload (*i.e.*, what rainfall overloads the system).
- Estimate frequency of system overload (*i.e.*, how often will the system be overloaded)
- Specify actions that would be taken if stream is overloaded.

- Impacts of System Overload on Construction Activities and Water Quality

If the system overloads, list and describe:

- The anticipated number of lost work days
- The possible water quality impacts
- The methods that would be used to deter adverse changes in water quality

- Water Discharge Locations

Provide the following:

- Where water will be discharged
- How water will be discharged
- A site map indicating discharge locations

- Details of a Back-up System

If a back-up system becomes necessary, indicate:

  - The type of back-up system that will be used (include backup and standby equipment/power supply)
  - The conditions when the system will be needed
  - How the back-up system will operate
  - Where the back-up system will be located

- High Flow Plan

When flooding is likely to occur, list and describe the following:

  - How the water will be removed from the site
  - Methods of water removal (*e.g.* pumping)
  - Methods of minimizing water contamination (*e.g.* treatment methods)
  - Protocols for evacuating materials from the flood conveyance channel including:
    - A list of materials that would require evacuation during high flow periods
    - How the materials will be evacuated from the flood conveyance channel
    - The location where the materials will be temporarily placed on-site
    - How materials will be transported
    - The methods for protecting the materials
    - A site map indicating the location of temporary placement
  - Protocols for evacuating machinery from the flood conveyance channel including:
    - The type of machinery that would require evacuation during high flow periods
    - How the machinery will be evacuated from the flood conveyance channel
    - Where the machinery will be temporarily placed on-site
    - A site map indicating possible locations of temporary machinery placement

- Contaminated Water

List and describe what measures will be taken if contaminated water is found on site including:

  - Methods of isolating the contaminated water
  - Methods of analyzing the contaminated water
  - Where the water will be tested
  - Methods of removing contaminated water from site
  - How the water will be treated and disposed

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