



MICHIGAN DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY

# Avoiding and Minimizing Impacts Utility/Linear Projects

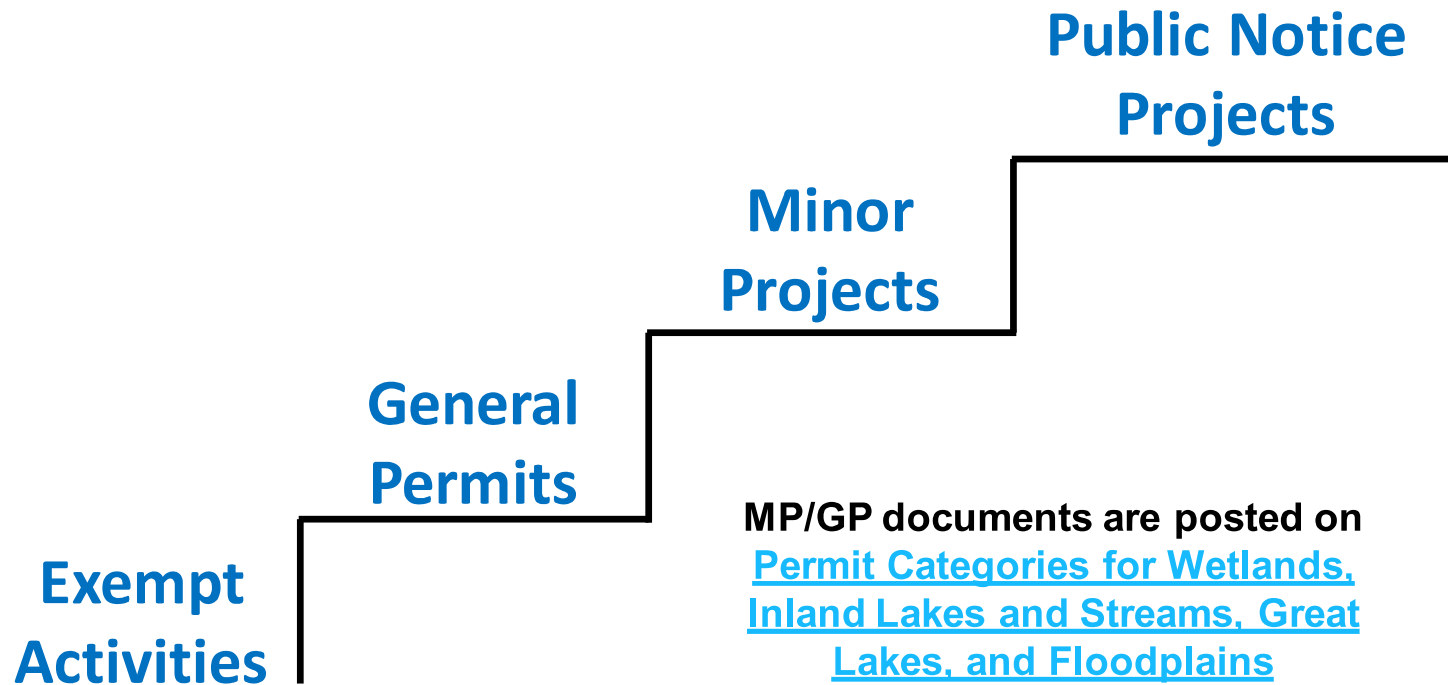
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MWA Conference  
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# Efforts depend on...

- Type of utility project
  - Generation
    - Solar, wind, natural gas, etc.
  - Transmission
  - Distribution
- Maintenance vs. New utilities
  - Avoidance will look different depending on the project

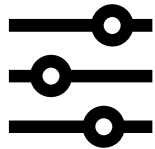
# 3-Tiered Permitting System



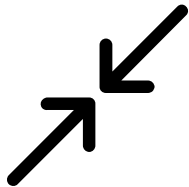
# Objectives



Reduce Time and cost



Create flexibility



Minimize individual and cumulative impacts



Incorporate BMPs

# Objective 1: Reducing Time and Cost

↓ TIME

+

↓ COST

=

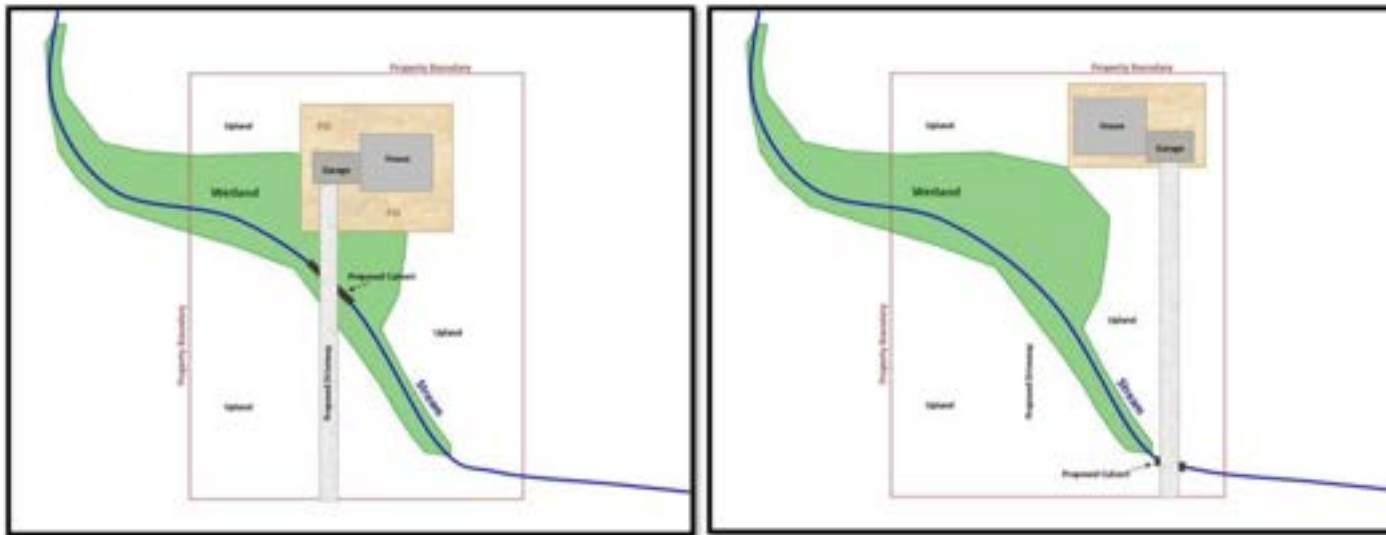
↑ INCENTIVE

## Objective 2: Flexibility

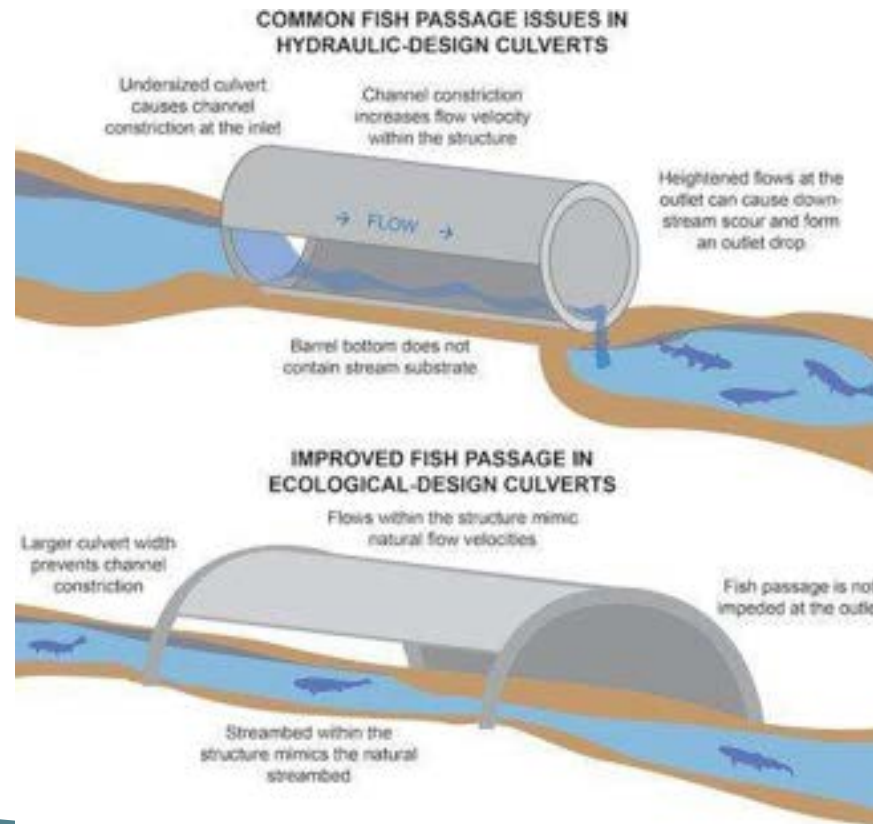
1. Diversity of water in the state
2. Stakeholder input
3. Allow for updates/changes



# Objective 3: Minimize Impacts



# Objective 4: Incorporate BMPs





# Applicable Categories

## GP Categories

- GP G. Culverts and Bridges – Small
- GP H. Culverts – Wetland Equalizer
- GP R. Pipeline Safety Program  
Designated Time Sensitive Inspections  
and Repairs
- GP U. Removal of Structures
- GP BB. Utility Line Activities

## MP Categories

- MP 11. Culverts and Bridges – Large
- MP 17. Driveway
- MP 18. Fences
- MP 51. Temporary Construction,  
Access, and Dewatering
- MP 53. Utility Line Activities

# GP BB vs. MP 53 – Utility Line Activities

## GP BB

- Activities required for the construction, maintenance, repair, and removal of utility lines by **directional drilling/jack and bore** crossings of wetlands, inland lakes, and streams.
- Temporary construction matting beyond the "no permit required" activity is included in the category.
- BMPs incorporated include: minimum cover, maximum pipe size, drilling mud contingency plans, etc.

## MP 53

- Allows for some **Plowing-in/Knifing-in, and Open Trenching** installation techniques.
- The construction, maintenance, and removal of **above-ground and overhead utility line** associated facilities in wetlands that are **not contiguous to the Great Lakes or connecting waters or wetlands that border an inland lake or stream**
- BMPs incorporated include: invasive species management, temp. construction mats, etc.

## Activities Not Requiring Permit

- **303 Exempt Activities**
  - Directional drilling/boring/knifing-in
    - 6 in or less diameter pipe
    - 4 ft or more below ground surface
    - No accidental release
  - Installation of poles <1 cyd support structure
  - In Place/In Kind maintenance or repair
    - Done in a manner to minimize adverse impact
    - No conversion of wetland
- **301 Exempt Activities**
  - Directional drilling/boring
    - 10 or more feet from top of line to bottom of lake/stream
    - No bank disturbance
    - No accidental release
- **Timbermatting BMPs**
  - Placed for short duration at appropriate time of year
  - Does not significantly disturb the soil
  - Avoids standing water areas

## TEMPORARY IMPACTS

# Temporary Activities Requiring Permit

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- Installation with minimal disturbance restored in place
- Access Roads/Clear span bridges
- Timbermatting resulting in earth disturbance
  - Does not meet BMPs



## PERMANENT IMPACTS

### Permanent Activities Requiring Permit

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#### *Wetland --> Upland*

- Non-exempt Structure Installation
  - Pump houses, substations, poles, etc.
- Pads
  - Towers
- Access Roads



## PERMANENT IMPACTS

# Wetland Use Activities Requiring Permit

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### *Conversion of Wetland Types*

- Long-term maintenance activities
  - Tree/shrub cutting/mowing
  - Changing wetland type from PFO --> PSS/PEM or PSS --> PEM
- Converting wetland to open water
  - Increasing hydrology inputs



# Is Mitigation Required?

## It Depends!

Mitigation is to replace lost functions and values, so ask yourself the following:

- Will the area still be wetland afterwards?
  - If yes, will it be the same type of wetland?
- What does the vegetation maintenance entail?
  - Timing, frequency, height of vegetation allowed, etc.
- What quality is the existing wetland and how will it be impacted?
- How long will the area take to be restored?
- What is the likelihood of success?

# Is Restoration Required?

Are there temporary wetland impacts?

- If so, then **YES**

Range of restoration requirements will be based on:

- Wetland type (PEM/PSS/PFO)
- Quality of the wetland
- Amount of impact



# Is Monitoring Required?

## It Depends!

- Range of monitoring requirements will be based on:
  - Wetland type (PEM/PSS/PFO)
  - Quality of the wetland
  - Amount of impact
- Monitoring is typically required for conversion impacts.

# Scenario 1

Overhead utility line corridor.  
Temporary Impact (< 1 construction season) to emergent wetland dominated by invasives.

Activities included:

- Non-exempt new line installation meeting the MP
- Soil disturbance from matting

- MITIGATION
  - No mitigation required
- RESTORATION
  - Minimum restoration condition
  - Must be restored to existing grade and wetland type
- MONITORING
  - Minimum monitoring to ensure not converted to upland
  - Typically 1-2 growing seasons

## Scenario 2

Overhead utility line

Permanent Impact to forested wetland.

Activities included:

- Expanding existing 50 foot ROW to 75 feet
- Conversion PFO to PEM
- Timbermatting (meeting BMPs)

- MITIGATION
  - 1:1 mitigation ratio for forested conversion
- RESTORATION
  - Minimum restoration condition
  - Must be restored to existing grade and wetland type
- MONITORING
  - Standard conditions
  - Manage for invasives
  - 1-2 years

# Scenario 3

Solar Farm installation  
Temporary Impact (< 1 construction season) to scrub shrub wetland.

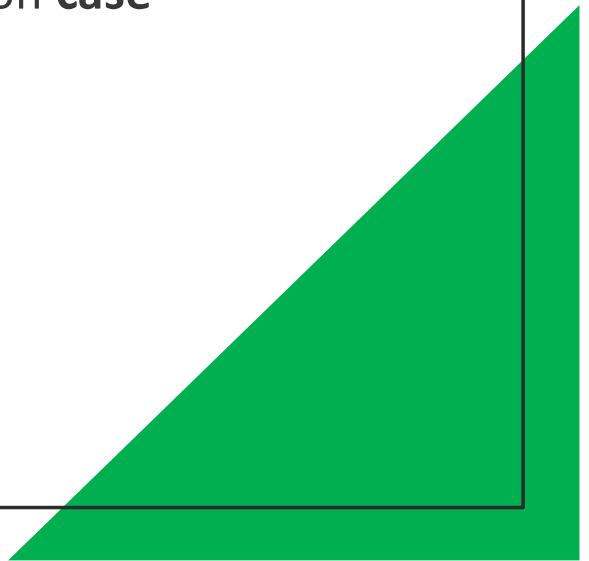
Activities included:

- Panels outside of wetland
- Open Cut trench through PSS
- Proposed replanting of scrub shrub wetland impacts

- MITIGATION
  - Likely no mitigation required
- RESTORATION
  - Standard restoration conditions
  - Must be restored to existing grade and wetland type
- MONITORING
  - Monitoring to ensure returns to scrub shrub conditions
  - Standard monitoring conditions
  - Typically 3-5 growing seasons

**Remember!**

These scenarios are basic examples.  
All utility projects will be on **case-  
by-case** basis.



# Common Issues

- Easements
  - Applicants not listed as the property owner typically need to provide letter of authorization or proof of property ownership, however utilities typically have easements over the property.
  - New corridors are more complicated
    - If the applicant is still working through obtaining some easements, please notify the permit processor.
    - Best to have all easements secured prior to submitting the JPA.

# Common Issues

- Administrative Completeness
- Off season delineations
- Massive linear projects with large resource impacts
- Timbermatting
  - Crossing T&E species area?
    - EGLE is still required to coordinate with state and federal agencies. Additional review may be required.
  - Unable to meet BMPs?
- Route Feasibility/Site Selection Studies

# What can be provided in an Alternatives Analysis?

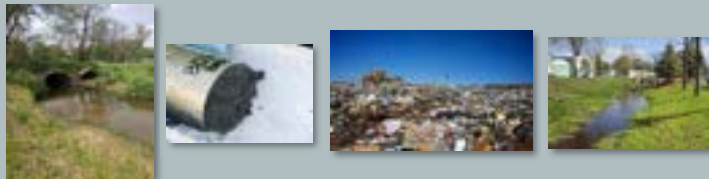
Alternative construction technologies



Alternative project layout and design



Pertinent environmental and resource issues



Local land use regulations and infrastructure



*This list of factors is not exhaustive and no particular factor will necessarily be dispositive in any given case.*



# Feasible and Prudent Alternatives

- Linear projects
  - Early, more detailed investigation of wetland boundaries prior to determining route.
    - Do not recommend relying solely on NWI imagery.
    - Can use LIDAR, soil maps, historical aeriels to provide more accurate preliminary desktop delineations.
- Fill pads
  - Purposes that require a permanent pad vs. temporary matting
  - Modify size, shape, type of impacts
- Solar panels
  - Many alternative locations are available to place solar panels.
  - Can be configured with the landscape, placed on existing infrastructure, ROWs, etc.

# Feasible and Prudent Alternatives

- Document these well in the JPA
  - What was considered in the site selection?
    - Alternative routes/parcels, local ordinance/zoning, higher quality habitat, cost, etc.
  - What BMPs are being utilized?
    - Temporary timbermatting, exclusionary fencing, invasive species decontamination, culvert sizing, etc.
- Utilize Pre-application Meetings!
  - Discuss concerns with project, timelines, JPA items, and alternatives.

# Online Resources – Utility Corridor Projects

## Wetland Information for Utility Corridor Projects

[Home](#) / [About Us](#) / [Divisions and Offices](#) / [Water Resources](#) / [EGLE/USACE Joint Permit Application](#) / [Wetland Information for Utility Corridor Projects](#)

Utility corridors often cross multiple wetland areas that are regulated by the State of Michigan. However, some activities have been exempted from requiring a permit under Part 303, Wetlands Protection law. These include certain activities associated with the installation, maintenance or repair of utility lines and associated structures if they are done in a manner that minimizes any adverse effect on wetlands. The links and information below provide utility service providers and their contractors with information on state regulated wetlands, EGLE wetland identification services, suggested BMPs for construction in wetlands, and wetland mitigation.

### Wetland Regulations

- [Michigan's Wetland Protection Program](#)
  - [Wetland Definition and Identification](#)
  - [Wetland Identification Resources](#)
  - [State and Federal Regulations](#)
- [Utility Exemptions Information and Examples](#)

### Avoidance and Minimization

- [Suggested BMPs for Utility Corridor Projects that Cross Wetlands](#)
  - [Planning](#)
  - [Access](#)
  - [Staging](#)
  - [Timing](#)
  - [Installation Methods](#)
  - [SESC Measures](#)
  - [Soils Management](#)
  - [Selective Cutting and Specialized Mowing](#)
  - [Invasive Species](#)

### Restoration and Compensation for Lost Functions

- [Site Restoration and Compensation for Utility Corridor Projects that Cross Wetlands](#)
  - [Repair of Damaged Areas](#)

**UTILITY CORRIDORS IN WETLANDS – EDUCATION SERIES**  
 DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY WATER RESOURCES DIVISION  
 Michigan.gov/wetlands

**Utilities Exemptions under Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act 1994 PA 451, as amended (NREPA)**

Utility corridors often cross multiple wetland areas that are regulated by the State of Michigan. Some activities have been exempted from requiring a permit under Part 303, Wetlands Protection, of the NREPA. These include certain activities associated with the installation, maintenance, and repair of utility lines and associated structures if they are done in a manner that minimizes any adverse effect on the wetland.

For the purposes of the exemptions, "utility line" means any pipe or pipeline used to transport any gas, liquid, effluent, or slurry substance, for any purpose, and any other structure used for any purpose of electrical energy, telephone or telegraph message, or communication.

The following are the exemptions in Part 303 related to utility activities:

- (i) Maintenance or repair of utility lines and associated support structures that:
  - (I) is done in a manner that minimizes any adverse effect on the wetland;
  - (II) does not include any modification to the character, scope, or size of the wetland;
  - (III) does not convert a wetland area to a use to which it was not previously dedicated;
- (ii) Installation of utility lines having a diameter of six inches or less using directional drilling or boring under the placement of the utility line at the bottom of the wetland does not occur;
- (iii) The entry and exit holes are located a sufficient distance from the disturbance of the wetland does not occur;
- (iv) The operation does not result in the eruption or release of mud or other fill material.

Both exemptions require that the work be conducted in a manner that minimizes any adverse effect on the wetland. Information on suggested ways to meet this criterion is provided in the **Suggested Best Management Practices for Utility Corridor Projects**.

- The following are examples of activities that **would not** require a permit because they do not significantly disturb the wetland:
- The use of temporary construction mats that are placed on the wetland and do not include grubbing of vegetation or other earth disturbing activities.
  - Open trenching to access utility lines for maintenance or repair. They must be replaced with the same size or larger pipe necessary to conform to modern construction practice standards if they remain of the same size and do not

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**Suggested Best Management Practices for Utility Corridor Projects in Accordance with Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA)**

During the planning process of a utility corridor project it is important to be aware of wetland locations with the goal of avoiding impacts to wetlands. Once avoidance is planned to the greatest extent possible, Part 303, Wetlands Protection, of the NREPA, and management practices be used during construction to minimize impacts to wetlands. Temporary and non-exempt utility projects.

Avoidance and minimization requires up-front planning and knowledge. The following management practices (BMP) for avoiding and minimizing impacts to wetlands:

**Planning**

Having a plan in place that addresses and avoids impacts to the known natural resources of a wetland can provide for less long-term costs associated with clean-up efforts and avoidance and minimization process should start with utilizing in-office resources such as Wetland Inventory Maps, Soils Maps, and aerial photographs to determine what resources are present. Areas shown as wetlands, wetland soils, or open water on these maps, and deserve further site investigation to verify if wetlands are actually present. Evaluation performed in accordance with Part 303 can identify if wetland is/are present. Proper permits should be sought early in the planning process. Meetings will ensure that all contractors and workers know the plan for the project and avoid or any special measures that are required to minimize impacts. Identification of the areas to be avoided should be marked in the field. Oversight is necessary to ensure that the work is carried out properly.

**Access**

Access routes should be planned for locations that are not in wetlands. Accessing the wetland (by hand if possible) is the best way to ensure impacts to wetlands are minimized. If equipment is necessary and these areas should be located to cross at the narrowest point of the wetland and not at an angle.

Once an access route is established, it should be traveled in a way that is discouraged. The access route should be memorialized with a flag or other activity. This can be done through establishing GPS points. Marking the route in the field is recommended, but may require permits, locations, etc. Width of, and clearing for, the passage of the required equipment.

Mating can be used in access areas that cannot avoid wetlands. Multiple mating types and methods that may be appropriate to use in wetlands.

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**Restoration and Follow-Up of Utility Corridor Projects in Accordance with Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA)**

After any project construction it is important to restore the site and complete follow-up activities to ensure it is properly closed out, including removal of all waste products and debris. Proper decontamination and cleaning of equipment and materials should occur prior to leaving the site at the designated staging area (see **Suggested BMPs for Utility Corridor Projects that Cross Wetlands**). However, some utility activities may require more than just clean up. Sometimes unintentional or unavoidable damage may have occurred during the construction or maintenance activities. Knowing when and how to repair damaged areas is important in doing it properly since sometimes trying to repair damage could result in more damage. Table 1 details various damage issues that may occur with construction activities and how to restore it.

Table 1. When and how to restore areas disturbed by maintenance activities.

Issue	Re-grade (by hand if possible)	Apply Mulch	Apply Native Seed	Inspect	Maintain
Rule #1*	yes				
Rule #2*	yes	no	no	no	no
Exposed Soil in Wetland	yes	yes	no	no	no
Exposed Soil in Upland	yes	yes	no	yes	no
Fill or Dredge	yes	yes	yes	yes	yes

During directional drilling operations if a leak of drilling mud material into surface waters occurs, the project shall be immediately stopped, evaluated, and appropriate measures should be taken to alleviate the release and contain the leaking material. In general, the leaked material should be immediately isolated, contained, and restored to previous conditions.

- When restoring any disturbed area, the following should be taken into account:
- Avoid using machinery and restore by hand if possible.
  - Small areas will likely regenerate on their own and may not need additional seed if there is not a large invasive species presence.
  - Always use a temporary seed such as annual rye to immediately stabilize the area with knowledgeable staff should occur.
  - Do not use fertilizer or lime, and only use certified weed-free mulch.

A landscape photograph showing a river winding through a vibrant green meadow. The river is surrounded by tall grasses and other vegetation. In the background, a dense forest of evergreen trees stretches across the horizon under a cloudy, overcast sky. The overall scene is a natural, serene environment.

**Questions?**