Practicable Alternatives Analysis Informational

SUPPLEMENT 1
ROAD AND DRIVEWAY WETLAND CROSSINGS
ALTERNATIVES TO AVOID & MINIMIZE WETLAND IMPACTS

(Revised May 10, 2012)

This document outlines the supplemental information required by the applicant for Section 2 of the Practicable Alternatives Analysis for road and driveway projects that impact wetlands. The information you provide for this supplement is in addition to the information you are required to provide as outlined in the four sections of the Informational Requirements for Practicable Alternatives Analysis.

DIRECTIONS: For road/driveway project applicants are required to consider the following avoid and minimize project alternatives outlined below. The alternatives listed below are only the basic or common set of project alternatives the applicant should consider. Given each site and project are a little different there will also likely be project specific alternatives the applicant should consider, in addition to the standard alternatives listed below. Holding a pre-application meeting with Department staff can assist applicants with understanding the Practicable Alternatives Analysis process, as well as the standard and site or project specific alternatives that should be considered for a given project. For each alternative analyzed, please show the location of the alternatives on an aerial photograph and clearly label each alternative.

DEVELOPING PROJECT ALTERNATIVES

STEP 1: PROJECT ALTERNATIVES THAT AVOID WETLAND IMPACTS

The first step in the alternatives analysis process is to determine if a practicable alternative is available that completely avoids wetland impacts. If a practicable avoid alternative exists that meets the basic project purpose, this is the project alternative the applicant should select. The basic project purpose for construction of road/driveways is to gain access to a property.

The following project alternatives should be analyzed by the applicant to determine if the project can avoid wetlands, even if these are not your preferred alternatives. In Section 3 of the Practicable Alternatives Analysis you will be asked to provide information as to why each of the alternatives analyzed is or is not feasible to meet your basic project purpose.

1. **Existing Road/Driveway**. Is there an existing road/driveway that can be used for access to desired location? If the existing road/driveway is in poor condition, can it be upgraded or improved to meet access needs without impacting wetlands?
2. **Relocating Road/Driveway**. Are there locations on the property the road/driveway can be moved to that are not wetlands? If the property is *entirely* surrounded by wetlands and/or a navigable waterbody this alternative may not be available; indicate if this is the situation.
3. **Relocate Other Proposed Structures.** If other structures are proposed, such as a garage, shed or home, can they be shifted or reconfigured so the road/driveway can be moved to avoid wetlands?
4. **Reduce Road/Driveway (Width and/or Height).** Decreasing the width and/or height of a road/driveway may be enough to avoid impacting the edge of a wetland. Note: Decreasing the width/height of the road only needs to take place where the road crosses the wetland and can be wider outside of the wetland crossing. For example, if a wider driveway is desired to accommodate two-way traffic, before the wetland crossing a portion of the driveway could be widened to serve as a pull-off while the other vehicle crosses the wetland.
5. **Clear Span Bridge**. Depending on the width of the wetland to be crossed, installation of a clear span bridge with footings outside the wetland boundary may be feasible to avoid wetland impacts.
6. **Open Bottom Culvert**. Depending on the width of the wetland to be crossed, installation of an open bottom culvert may be feasible to avoid wetland impacts.

7. **Access from Adjacent Parcel**. Avoid wetland impacts by constructing portion of driveway or road on adjacent parcel to gain access to desired property. This may require obtaining an access easement from adjacent property owner or the purchase of adjacent parcels.
8. **Other Properties**. What other properties have you considered that you currently own or have recently owned and other properties available for sale in the area? Provide the geographic area(s) you searched for an alternative site and the specific location of other properties considered. For each of the properties considered, indicated why they there were not selected. If no other sites were considered, please explain why.

STEP 2: PROJECT ALTERNATIVES THAT MINIMIZE WETLAND IMPACTS

If wetland impacts are not avoidable, the second step in the alternatives analysis process is for the applicant to determine if there is a practicable alternative available that minimizes wetland impacts and still meets the basic project purpose. The following project alternatives should be analyzed by the applicant to determine how the project can minimize fill into the wetland and limit project impacts to the lower quality and functioning wetlands on the site. To qualify for the wetland general permit, the applicant is required to select the project alternative that minimizes wetland impacts to the maximum amount practicable if no avoid alternative is available to meet the basic project purpose.

The project alternative that results in the least amount of impact to wetlands will likely include a combination of the alternatives listed below. For example, the applicant selects a project alternative that minimizes the road width to the maximum extent practicable and crosses the wetland along the edge or narrowest portion of the wetland that contains non-native invasive plants, such as reed canary grass. This is an example of a project that will qualify for the wetland general permit (GP) if all other GP eligibility standards are met.

1. **Existing Road/Driveway.** Is there an existing road/driveway that can be used for access to desired location? If the existing road/driveway is in poor condition, can it be upgraded or improved to meet access needs and minimize wetland impacts?
2. **Reduce Road/Driveway Crossing (Width and/or Height)**. There are several different options for decreasing the width of a road/driveway crossing through a wetland. The portion of the road that is driven should be decreased to the minimum amount necessary for the types of vehicles that will utilize the road, as well as the width of the road shoulders and side slopes. The installation of retaining walls and/or guard rails are available options that allow for road shoulders and/or side slopes width to be narrowed to minimize encroachment into wetlands.
3. **Relocate Other Proposed Structures.** If other structures are proposed, such as a garage, shed or home, can they be shifted or reconfigured so the road/driveway can be adjusted to minimize wetland impacts?
4. **Relocate Crossing to Narrowest Portion of Wetland**. Using the wetland boundary map, find locations where the road/driveway can cross the wetland at the narrowest location that would result in the least amount of wetland fill.
5. **Place Crossing at Wetland Edge**. Using the wetland boundary map, find locations where the road/driveway can be installed along the edge of the wetland rather than right through the middle of the wetland complex. It is preferred to cross along the edge of a wetland rather than through the middle of a wetland complex as it avoids segmenting the wetland complex.
6. **Limit Crossing to Degraded Wetlands & Avoid High Quality Wetlands.** Consult with a DNR Water Management Specialist to determine which wetlands on the site are considered degraded and those that are high quality, including shoreland wetlands. Limit the wetland crossing to the portion of wetland that is degraded, for example, dominated by non-native invasive plants such as reed canary grass and avoid intact wetland communities such as a sedge meadow.
7. **Maintain Wetland Hydrology**. To minimize impacts to wetland hydrology at the crossing location culverts, drain tiles or other appropriate drainage structures should be properly sized and installed to maintain the water flow and connection to the wetland on either side of the road/driveway. These structures are also desired to maintain the integrity of the road/driveway, as well as minimize flooding of the road/driveway.

STEP 3: EVALUATING THE ALTERNATIVES

In Section 3 of the Informational Requirements for Practicable Alternatives Analysis (PAA) you are required to evaluate each of the alternatives considered and explain why the alternative would or would not meet the basic project purpose and address the following issues, including, but not limited to cost, location, access, transportation, technological concerns and other logistics. Please reference the detailed outline in Section 3 of the PAA for more detailed requirements.

To verify the reasons outlined for why an alternative is or is not feasible, you are also required to submit quantitative and reliable supporting documentation. Below are a few examples of supporting documentation that are typically provided for road/driveway crossings:

- Traffic Studies
- Safety Analysis
- Cost Comparison (per linear foot of road/driveway, bridge, culvert, etc.)
- Request for Variance or Condition Use from other State or Local Standards (e.g. side-yard setbacks, road width, etc.)
- Contact with Adjacent Landowners for Easement Access Request