

## Avoidance and Minimization Worksheet

These checklists provide examples of how to accomplish avoidance and minimization during site analysis, project design, and construction across various project types. The intent is to help people meet the requirements of wetland permitting by avoiding and minimizing impacts to wetlands and buffer zones as much as possible before applying for a permit. If a criteria has been checked "no", but may still be applicable to your project, you will likely be asked to provide justification for why it cannot be implemented during the permitting process. *This checklist does not replace the application review for a wetlands permit and is intended to supplement.*

### Avoidance

| Yes | No | N/A | General Project Design:<br>Have you implemented the following design aspects to avoid impacts? |
|-----|----|-----|--|
|     |    |     | Position infrastructure on the lot to avoid impacts.   |
|     |    |     | Cluster multiple structures or share paths/drives.   |
|     |    |     | Redevelop existing disturbed areas.  |
|     |    |     | Shift or realign other project elements avoid impacts from the proposed structure.             |
|     |    |     | Realign road or utility corridors to avoid wetlands and their buffers.                         |
|     |    |     | Request setback variances or easements if it helps avoid impacts.                              |
|     |    |     | Consolidate above and below ground utilities and route them around wetlands.                   |
|     |    |     | Avoid grading by incorporating natural topography into the site design.                        |
|     |    |     | Design project with consideration of existing vegetation to avoid clearing.                    |
|     |    |     | Reduce or shift structure footprints by using innovative or non-traditional design.            |
|     |    |     | Write in:  |
|     |    |     | Write in:  |

Avoidance notes:

### Minimization

Note: Most techniques in the avoidance checklist above can also be used to minimize impacts.

| Yes | No | N/A | Project Design:<br>Have you implemented the following design aspects to avoid impacts?  |
|-----|----|-----|---|
|     |    |     | Cross wetlands and buffers at their narrowest point and limit the number of crossings.  |
|     |    |     | Keep wetland and buffer crossing widths to the minimum necessary.   |
|     |    |     | Reduce fills and road shoulders by keeping profile low and close to the native ground.  |
|     |    |     | Avoid impacting higher-quality wetlands first if there are multiple wetlands on site.   |
|     |    |     | Size culverts correctly for best hydrologic connectivity.   |
|     |    |     | Avoid invasive plant species introduction either by direct planting as landscaping, transported by mulch/hay or through construction methods. |
|     |    |     | Protect the wetland and buffer zone from adjacent land uses or unwanted access with fences or other visual/physical barriers.                 |
|     |    |     | Write in:   |
|     |    |     | Write in:   |

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| Yes                 | No | N/A | Construction Techniques<br>Have you implemented these construction techniques where appropriate in order to minimize impacts?  |
|---------------------|----|-----|--|
|                     |    |     | Clearly mark limits of construction on plans and in the field. Maintain signs/flagging of limits and adjacent wetlands for the life of the construction.   |
|                     |    |     | Keep construction staging and stockpiling of materials out of wetlands and their buffers   |
|                     |    |     | Restrict site machinery to as few areas as possible and use low ground pressure equipment to reduce soil compaction and rutting.   |
|                     |    |     | Assess site conditions during construction and adjust accordingly. If the work you are performing is causing ruts or excessive disturbance due to soil saturation, methodology or the equipment you are using STOP WORK and come up with a better approach. This can mean waiting until the site dries out, changing equipment, or using mats. |
|                     |    |     | Clean equipment brought from other sites away from the wetland and its buffer so that invasive plants and animals are not introduced into the work site.   |
|                     |    |     | Use clean fill materials so invasive plants and animals are not introduced into the project site.  |
|                     |    |     | Use seed-free mulch materials such as straw to prevent invasive plant introduction.  |
|                     |    |     | If temporary fill must be used for access or other construction purposes, make removal easier by placing geotextile fabric or geogrid below the fill.  |
| Yes                 | No | N/A | Construction Timing:<br>Have you taken this information into consideration in your planning process?   |
|                     |    |     | Construct the project during dry or frozen conditions to reduce impacts.   |
|                     |    |     | Pay attention to timing restrictions on in-water work (i.e. fish windows) or potential impacts to special-status species (i.e. breeding or migration).   |
|                     |    |     | Install plantings in the appropriate season.   |
| Minimization Notes: |    |     |  |

| Project Type Specific Avoidance and Minimization |    |     |   |
|--|----|-----|---|
| Yes  | No | N/A | Wetland crossings and structure expansions<br>Have you taken this information into consideration in your planning process?    |
|  |    |     | Use existing disturbed areas for crossings.   |
|  |    |     | Cluster multiple structures or share paths/drives.  |
|  |    |     | Realign road or utility corridors to avoid wetlands and their buffers.  |
|  |    |     | Use bridges or spans instead of culverts.   |
|  |    |     | Reduce the width of crossings. Use pullouts if needed.  |
|  |    |     | Expand existing structures into uplands rather than wetlands.   |
|  |    |     | Protect the wetland and buffer zone from adjacent land uses or unwanted access with fences or other visual/physical barriers. |
|  |    |     | Reduce the amount of impervious surface and preserve as much natural soil cover as possible.                                  |
|  |    |     | Use existing roadways, paths, or trails by upgrading them and including new culverts or bridges.                              |
|  |    |     | Locate trails out of the wetland and buffer if possible or in the outer 25% of the buffer.                                    |
| Notes:   |    |     |   |

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| Yes    | No | N/A | Stormwater Treatment Practices<br>Have you taken this information into consideration in your planning process?                      |
|--------|----|-----|---|
|        |    |     | Design stormwater facilities to use disconnects and infiltration where feasible.  |
|        |    |     | Adequately backfill trenches so as not to alter above or below grade hydrology.   |
|        |    |     | Stormwater management practices should strive to utilize the natural drainage system and require as little maintenance as possible. |
|        |    |     | Replace side cast material in the same order it was removed to maintain integrity of the soil.                                      |
|        |    |     | Expand structures into uplands rather than wetlands if footprint must be increased.   |
|        |    |     | Avoid redirection of water to or from an existing wetland/buffer.   |
|        |    |     | Cluster multiple structures or share paths/drives.  |
|        |    |     | Realign road or utility corridors to avoid wetlands and their buffers.  |
|        |    |     | Structural stormwater controls should be implemented in concert with conservation site design and nonstructural options.            |
| Notes: |    |     |   |

Should any project proponent be uncertain about avoidance and minimization techniques, the project proponent should engage the services of a qualified consultant or contact a Department of Environmental Conservation Wetlands Ecologist. Department contact information is located at:

<http://dec.vermont.gov/watershed/wetlands/contact>

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