

APPENDIX L

UNITED STATES ARMY CORPS OF ENGINEERS

BEST MANAGEMENT PRACTICES TIMBER MAT



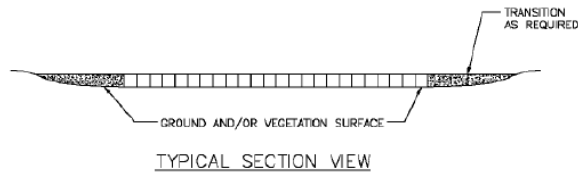
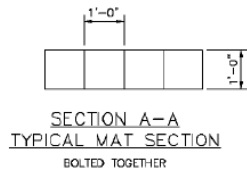
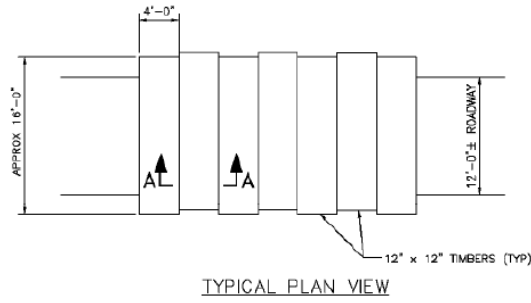
Construction Mat Best Management Practices (BMPs)

Installation	
	<ul style="list-style-type: none">• Mats should be in good condition to ensure proper installation, use and removal.• Operating heavy equipment in wetlands shall be minimized, and such equipment other than fixed equipment (drill rigs, fixed cranes, etc.) shall not be stored, maintained, fueled or repaired in wetlands unless the equipment is broken down and cannot be easily removed.• An adequate supply of spill containment equipment shall be maintained on site.• General Permits in New England do not authorize dragging construction mats into position in waters of the U.S.• Woody vegetation (trees, shrubs, etc.) shall be cut at or above ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area.• Where feasible, place mats in a location that would minimize the amount needed for the wetlands crossing.• Minimize impacts to wetland areas during installation, use, and removal.• Install adequate erosion and sediment controls at approaches to mats to promote a smooth transition to, and minimize sediment tracking onto, swamp mats.• In most cases, construction mats should be placed along the travel area so that the individual boards are resting perpendicular to the direction of traffic. No gaps should exist between mats. Place mats far enough on either side of the resource area to rest on firm ground.• Provide standard construction mat BMP details to work crews (examples provided below).
Wetland/Stream Channel Crossing	
	<ul style="list-style-type: none">• At “dry” crossings where no flow is present or anticipated during project construction, the mats may be placed directly onto the ground in order to prevent excessive rutting, provided stream banks and bottoms are not adversely altered.• Construction mats may be used as a temporary bridge over a stream to allow vehicles access to the work site. Small sections of mat are placed within and along the stream parallel to the flow of water. Mats may then be placed perpendicular to the stream, resting on top of the initial construction mat supports. It may be necessary to place additional reinforcement for extra stability and to minimize the amount of sediment that could fall between the spaces of each timber.• In areas where wildlife passage or migration is a consideration, mats may be installed in accordance with the diagram “Typical Stream Crossing with Swamp Mats.”• Mats should not be placed so that they restrict the natural flow of the stream.• Minimize number of stream/wetland crossings. Where feasible, locate crossing site where stream channel is narrow for the shortest possible clear span and where stream banks are stable and well defined. For large wetland complexes, consider accessing structures from opposite sides where possible to avoid crossing the entire wetland.• More than one layer of mats may be necessary in areas which are inundated or have deep organic wetland soils.

Maintenance	
	<ul style="list-style-type: none"> • Matted wetland crossings should be monitored to assure correct functioning of the mats. Inspect mats after use. Look for any defects or structural problems. Mats which become covered with soils or construction debris should be cleaned and the materials removed and disposed of in an upland location. The material should not be scraped and shoveled into the resource area. Mats which become imbedded must be reset or layered to prevent mud from covering them or water passing over them.
Removal	
	<ul style="list-style-type: none"> • Matting should be removed by “backing” out of the site, removing mats one at a time. Any rutting or significant indentations identified during mat removal should be regraded immediately, taking care not to compact soils. • Mats should be cleaned before transport to another wetland location to remove soil and any invasive plant species seed stock or plant material. • Mats shall be cleaned of soil and any invasive plant species seed stock or plant material from before installation. • Cleaning methods may include but are not limited to shaking or dropping mats in a controlled manner with a piece of machinery to knock off attached soil and debris, spraying with water or air, and sweeping. • Crossings should be inspected following mat removal to determine the level of restoration required.
Restoration	
	<ul style="list-style-type: none"> • Special precautions should be taken to promptly stabilize areas of disturbed soil located near wetlands and streams. Matted areas within wetlands shall be restored to their original condition and elevation. This may involve natural revegetation from existing root and seed stock of native plant species. Conditions may warrant planting and the broadcast of a wetland seed mix over the matted area to supplement the existing seed and rootstock. Seed mixes and vegetation shall contain only plant species native to New England. The use of mulch in wetlands shall consist of weed-free mulch to mitigate the risk of the spread of invasive plant species.

Example Mat Diagrams -

Best Management Practices Manual for Utility Maintenance
 In and Adjacent to Wetlands and Waterbodies in New Hampshire
 Interim January 2010.



- NOTE:
1. TO BE INSTALLED IF NECESSARY TO PREVENT RUTTING, TO ACCESS STRUCTURES.
 2. THIS DETAIL SHOWS TYPICAL DIMENSIONS. SOME CONTRACTORS SWAMP MATS ARE DIMENSIONALLY DIFFERENT FROM WHAT IS SHOWN HERE.
 3. DEPENDENT ON SITE CONDITIONS, MULTIPLE LAYERS OF SWAMP MATS MAY BE INSTALLED.

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