



# Wetland Restoration (ACRE) Code 657

## Montana Conservation Practice Specification Sheet

### GENERAL SPECIFICATION

Wetland Restoration shall be planned and installed in accordance with the Field Office Technical Guide (FOTG), Section IV–Practice Standard. This document provides additional parameters, references, recommendations, and requirements for developing site-specific plans for this practice.

### PURPOSE

The purposes of this practice include restoration and rehabilitation of wetlands that have previously been otherwise degraded, drained, or altered. Additionally, see Field Office Technical Guide (FOTG), Section IV–Practice Standards and Specifications, 658–Wetland Creation for creation of a new wetland where none previously existed and/or 659–Wetland Enhancement for modification of an existing wetland to achieve a desired wetland function.



### HYDROLOGY RESTORATION

An appropriate water supply for the wetland type and functions must be available to provide for the needs of the wetland being restored.

The following FOTG, Section IV–Practice Standards, Specifications, and Job Sheets will be used as appropriate:

356–Dike	348–Dam, Diversion
378–Pond	582–Open Channel
587–Structure for Water Control	584–Channel Stabilization
410–Grade Stabilization Structure	580–Streambank and Shoreline Protection
322–Channel Vegetation	395–Stream Habitat Improvement and Management
342–Critical Area Planting	644–Wetland Wildlife Habitat Management

Refer to the Engineering Field Handbook, Chapter 13, “Wetland Restoration, Enhancement, and Creation,” and Chapter 6, “Structures,” for additional design information. Also refer to the Electronic Field Office Technical Guide—MT Construction Specifications and the National Handbook of Conservation Practices—Construction Specifications for Montana. Existing drainage systems will be utilized, removed, or modified as needed to achieve the intended purpose.

## **SOILS**

Hydric soils will be used, where possible, to interpret previous wet conditions in determining the extent of the degraded wetland and to design the restoration.

## **SURFACE DRAINAGE REMOVAL**

The fill for channel blocks will be crowned a minimum of one foot above the top of the lowest existing channel bank to account for settlement and to prevent concentrated flow over the channel block.

## **GRADE STABILIZATION STRUCTURE and WATER CONTROL STRUCTURE**

Fire resistant materials will be used for exposed portions of structures where vegetation will be maintained by burning.

## **STORAGE VOLUME REPLACEMENT**

Sediment deposition or other fill materials will only be removed to the top of the buried hydric soil. Sediment will be removed and placed on upland sites.

If the presence of hazardous waste materials in the sediment or fill is suspected, soil samples will be collected and analyzed for the presence of hazardous waste as identified by local, state, or federal authorities.

## **DUGOUTS**

Dugouts and potholes will meet criteria for FOTG, Section IV–Practice Standards and Specifications, 644–Wetland Wildlife Habitat Management.

Wetland dugouts may be used to restore previously filled wetlands and to develop wetlands. A wetland dugout is a constructed shallow depression area. Side slopes shall be shaped to a stable grade. All excavated material shall be spread on non-wetland sites, or will be hauled off-site. No spoil will be allowed in any drainage path.

Potholes may be developed or restored through blasting, excavation, or by restoring the hydrology to existing depression areas. Blasting is to be done by experienced personnel in accordance with federal, state, and local regulations.

## **VEGETATION RESTORATION**

Preference shall be given to native wetland plants with localized genetic material. Plant materials collected or grown from material collected within the same MLRA as the site is considered local. Woody vegetation may need protection from beavers until established.

For forested wetland plantings, dormant pole plantings may be used for cottonwood and willow establishment. Seed planting rates and site preparation will meet the criteria of FOTG, Section IV–Practice Standards and Specifications, 652–Woodland Direct Seeding. Seed viability will be determined prior to planting.

A vegetative buffer zone will be established in areas surrounding the wetland. The buffer will act as a filter for sediment and debris. The buffer zone must be wide enough to adequately filter overland runoff from the surrounding uplands.

**VEGETATION RESTORATION CONTINUED**

Planning for vegetation must begin early in the overall wetland planning process. Species selection can be effected by many factors of the design, construction, and site.

Changes in management may meet the cooperators' objectives for restoring or enhancing the wetland without implementing accelerating practices such as seeding or planting and should be considered.

Dikes, pond embankments and other engineering structures installed the association with this practice may have non-hydric soil situations and require vegetation. Refer to FOTG, Section IV—Practice Standards and Specifications, 342—Critical Area Stabilization for vegetation considerations.

Specify required management of water and/or animals before seeding/planting is implemented.

**WETLAND FUNCTIONAL ANALYSIS**

A functional assessment (Hydrogeomorphic—HGM—approach or MDT, Montana Wetland Assessment Method) will be performed on the site prior to restoration or modification. The assessment shall also be done on a suitable reference area, if available, to later evaluate the success of the restoration effort.

Restoration goals and objectives shall include targeted natural wetland functions for the wetland type and the site location as determined by the functional assessment and reference site data.

**PLANS AND SPECIFICATIONS**

Specification for this practice will be prepared for each site. Specifications shall be recorded using approved specification sheets, job sheets, narrative statements in the conservation plan, or other documentations. Requirements for the operation and maintenance of the practice shall be incorporated into site specifications.

**OPERATION AND MAINTENANCE**

The functional integrity of the restored wetland will be maintained.

Structures built to restore the wetland will be inspected each year for the life of the practice. Water control structures will be inspected for wear and damage so that the designed amount of water is retained in the wetland and/or delivered to the wetland. Embankments must maintain designed water levels without leakage.

Hydrology of the designed wetland must not be altered.

Functions of the designed wetland will be evaluated and maintained for the life of the practice.

**REFERENCES**

Hammer, D.A. 1992. "Creating Freshwater Wetlands." Lewis Publishers, Inc., Chelsea, MI. p. 298

Mitsch, J.W. and J.G. Grosselink. 1993. 2nd Edition. Van Nostrand Reinhold, New York. p. 722.

**ADDITIONAL SPECIFICATIONS AND NOTES**

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