



*Helping People Help the Land*

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**TECHNICAL GUIDE**  
**NOTICE #241 (electronic)**

**Purpose:** To transmit information regarding the electronic NRCS Field Office Technical Guide (eFOTG).

**Effective Date:** This notice is effective upon receipt.

**Notice of Changes**

**SECTION IV: Practice Standards and Specifications**

**Conservation Practices**

**REVIEW ONLY**

The practice standards below are only being reviewed this year. There are no changes to the recently updated national version of this practice standard, but the 5-year cycle requires that we at least review it. There were no changes at all made to the Michigan standard, O&M Plan, and Statement of Work.

- **Stream Crossing (578)**
- **Structure for Water Control (587)**

**UPDATED STANDARDS**

The practice standards below have been updated to reflect changes in national practice standards, new technologies, and/or revisions to state regulations. A short description of the changes for each practice standard is included below.

- **Animal Mortality Facility (316)**
- **Channel Bed Stabilization (584)**
- **Clearing and Snagging (326)**
- **Composting Facility (317)**
- **Grassed Waterway (412)**
- **Heavy Use Area Protection (561)**
- **Irrigation Pipeline (430)**
- **Irrigation Reservoir (436)**

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- **Irrigation System, Microirrigation (441)**
- **Irrigation System, Sprinkler (442)**
- **Irrigation System, Surface and Subsurface (443)**
- **Irrigation Water Management (449)**
- **Pipeline (516)**
- **Pond (378)**
- **Pond Sealing or Lining, Bentonite Treatment (521C)**
- **Pond Sealing or Lining, Soil Dispersant (521B)**
- **Pumping Plant (533)**
- **Roofs and Covers (367)**
- **Streambank and Shoreline Protection (580)**
- **Underground Outlet (620)**
- **Waste Facility Closure (360)**
- **Waste Transfer (634)**
- **Watering Facility (614)**

#### **Animal Mortality Facility (316)**

- New standard for Michigan. Developed NRCS-Michigan version based on national standard.
- Text added for compliance with BODA Law/Rules
- Text added for consistency with the Waste Storage Facility (313) standard
- New O&M Plan
- New Statement of Work

#### **Channel Bed Stabilization (584)**

- Revisions made to address updates from most recent national standard.
- Name was changed from Channel Stabilization for better description
- Added criteria to ensure measures will not impede upstream or downstream passage of aquatic organisms.
- Added examples of adverse affects on the function of the stream or stream corridor.
- No change to O&M Plan other than name change.
- No change to Statement of Work other than name change.

#### **Clearing and Snagging (326)**

- Revisions made to address updates from most recent national standard. No significant technical changes were made to this practice standard; however, significant edits and grammatical changes have been made.
- Revised Definition to clarify that clearing and snagging includes the removal of vegetation from streambanks.
- Criteria were limited to the purposes stated, while Considerations were expanded to improve the conservation function.
- Added “References” section.
- O&M Plan changes:
  - Added “Remove downed trees and debris accumulations that are causing bank erosion problems as soon as possible.”

- Added “Clear any vegetation and/or debris that block side drainage structures and channels.”
- No change to Statement of Work

### **Composting Facility (317)**

- Revisions made to address significant updates from most recent national standard.
- Added separate sections for “Composting Manure or Other Organic Waste” and “Composting Animal Mortality.”
- Criteria changes for animal mortality composting include the following:
  - Mortality siting criteria per State of Michigan Bodies of Dead Animals Act
  - Sizing method
  - Mortality composting process
- Additional items were included under Considerations, and Plans and Specifications for Animal Mortality Composting Facilities.
- New O&M plans for Manure and Animal Mortality Composting Facility
- New Statement of Work

### **Grassed Waterway (412)**

- Only one significant change was made to this standard. The “Criteria” section, under the Stability subsection, was changed to allow stability analysis based on tractive stress, rather than the velocity approach previously required. Use of Ag Handbook 667 is referenced.
- A required provision for livestock and vehicle crossings to prevent waterway damage has been moved from the considerations section to the criteria section
- No changes to O&M Plan
- No changes to Statement of Work

### **Heavy Use Area Protection (561)**

- Changed Purpose and made other minor wording changes to be consistent with updated national standard.
- Removed design load values and added criteria noting surface treatment to be designed according to anticipated loads and use.
- Referenced ACI-360, Design of Slabs on Ground, and Waste Storage Facility (313) practice standard for concrete surface design, as appropriate.
- Increased “Other” surfacing material thickness (e.g. bark mulch, shredded rubber) to 4 inches as required in updated national standard.
- Revised Structures section to require use of Waste Storage Facility (313) criteria when walls and curbs are higher than 1 foot.
- No change to O&M Plan
- No change to Statement of Work

### **Irrigation Pipeline (430)**

- New Purposes of “Reduce Energy Use” and “Develop Renewable Energy Systems” along with accompanying Criteria, Considerations, and Reference added.
- No change to O&M Plan

- No change to Statement of Work

**Irrigation Reservoir (436)**

- Unit changed from (No. & Ac.-Ft.) to (Ac.-Ft.).
- New Purposes of “Reduce Energy Use” and “Develop Renewable Energy Systems” along with accompanying Criteria and Reference added.
- No change to O&M Plan
- No change to Statement of Work

**Irrigation System, Microirrigation (441)**

- Unit changed from (No. & Ac.) to (Ac.).
- New Purpose of “Reduce Energy Use” and accompanying Criteria added.
- Filter permissible design head loss was changed
- Requirement for an Irrigation Water Management Plan added.
- Reworded reference notations.
- No change to O&M Plan
- No change to Statement of Work

**Irrigation System, Sprinkler (442)**

- Unit changed from (No. & Ac.) to (Ac.).
- New Purpose of “Reduce Energy Use” and accompanying Criteria and Reference added.
- No change to O&M Plan
- No change to Statement of Work

**Irrigation System, Surface and Subsurface (443)**

- Revisions made to address updates from most recent national standard.
- Unit changed from (No. & Ac.) to (Ac.).
- New Purpose of “Reduce Energy Use” and accompanying Criteria added.
- Incorporated criteria and considerations for Multi-Outlet Pipelines
- Expanded “Considerations” section
- Added “References” section.
- O&M Plan change:
  - Added under Subsurface Irrigation Systems “2. Periodically check observation wells to ensure water level is at desired depth from the surface of the ground.
- No change to Statement of Work

**Irrigation Water Management (449)**

- New Purpose of “Reduce Energy Use” and accompanying additional Criteria added.
- Updated reference to USDA-NRCS-Michigan, Conservation Sheet, Irrigation Water Management to Protect Agricultural Resources, January 2010.
- No change to Statement of Work

**Pipeline (516)**

- Revisions made to address updates from most recent national standard.

- New Purposes of “Reduce Energy Use” and “Develop Renewable Energy Systems” along with accompanying Criteria and Reference added.
- Clarification was made to the pipe design specifying the working pressure is the maximum static pressure, psi
- Darcy Weisbach equation was included as a design equation for pumped pressure systems
- Criteria for air valves changed
- No change to O&M Plan
- No change to Statement of Work

**Pond (378)**

- New Purpose of “Develop Renewable Energy Systems” and accompanying additional Criteria added.
- No change to O&M Plan
- No change to Statement of Work

**Pond Sealing or Lining, Bentonite Treatment (521C)**

- Revisions made to address updates from most recent national standard.
- Revised to better match the changes to NRCS technical guidance document, National Engineering Handbook Series, Part 651, Agricultural Waste Management Field Handbook (AWMFH), Chapter 10, Appendix 10D.
- O&M Plan changes:
  - Added “Damage that might be caused by roots from trees and large shrubs should be prevented by removing such vegetation at first appearance.”
- No change to Statement of Work.

**Pond Sealing or Lining, Soil Dispersant (521B)**

- Revisions made to address updates from most recent national standard.
- Revised to better match the changes to NRCS technical guidance document, National Engineering Handbook Series, Part 651, Agricultural Waste Management Field Handbook (AWMFH), Chapter 10, Appendix 10D.
- O&M Plan changes:
  - Added “Damage that might be caused by roots from trees and large shrubs should be prevented by removing such vegetation at first appearance.”
- No change to Statement of Work.

**Pumping Plant (533)**

- New Purpose of “Reduce Energy Use” and accompanying additional Criteria added.
- Criteria Applicable to All Purposes augmented for renewable power units.
- Additional Criteria Applicable to the Improvement of Energy Efficiency removed.
- No change to O&M Plan
- No change to Statement of Work

**Roofs and Covers (367)**

- Name changed from “Waste Facility Cover” to “Roofs and Covers”.

- Revisions made to address the many changes in updated national standard.
- Additional criteria was included for flexible or composite geomembrane covers and treated wood structures
- Definition and purpose expanded to include roofs and covers over barnyard, feedlot or exercise areas as a part of the standard purpose.
- Added “References” section
- O&M Plan change:
  - Practice name change
  - Added “Develop an emergency action plan for covered systems associated with biogas production. The emergency plan shall contain instructions as to limits of the cover performance and emergency procedures if control equipment fails.”
  - Added “For enclosed waste facilities, exercise caution and care during cover removal or access. If opening the cover is required for facility management include provision to prevent exposure of workers to hazardous gases.”
  - Added “If personnel are or may be required to enter an enclosed waste facility, include safety provisions recommended by NIOSH (National Institute for Occupational Safety and Health) for working in confined spaces including, but not limited to, using a positive-pressure self-contained breathing apparatus safety line, and standby personnel.”
- No change to Statement of Work other than name change

#### **Streambank and Shoreline Protection (580)**

- Added consideration for wildlife habitat and pollinators in selection of plant materials.
- No change to O&M Plan.
- No change to Statement of Work.

#### **Underground Outlet (620)**

- Revisions made to address updates from most recent national standard.
- Increased minimum conduit diameter from 3 inches to 4 inches.
- Purpose section expanded to include other water concentration areas.
- Added “References” section.
- No change to O&M Plan.
- No change to Statement of Work.

#### **Waste Facility Closure (360)**

- Name changed from “Closure of Waste Impoundments” to “Waste Facility Closure”
- Revisions made to address updates from most recent national standard.
- Definition expanded to include dry waste and any facilities where agricultural waste has been handled, treated, and/or stored.
- Updated to include the remediation of contaminated soil in facilities where dry waste has been handled, treated, and/or stored.
- Added “References” section.
- No change to O&M Plan other than name change.
- No change to Statement of Work other than name change.

**Waste Transfer (634)**

- Added criteria for Temporary Storage, Headland Stacking, or Stockpiling of Solid Manure.
- O&M Plan change:
  - Added O&M guidance for Temporary Storage, Headland Stacking, or Stockpiling of Solid Manure.
- No change to Statement of Work

**Watering Facility (614)**

- Revisions made to address updates from the most recent national standard dated 2010.
- No significant technical changes were made to this practice standard. Only edits and grammatical changes were made.
- No change to O&M Plan
- No change to Statement of Work

Technical questions on these engineering conservation practice standards should be addressed to Steve Davis, State Conservation Engineer, at (517) 324-5232.

Questions regarding eFOTG content management should be directed to Ruth Shaffer, Water Quality Specialist, at (517) 324-5239.

/S/

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