

Chapter ATCP 50

TECHNICAL STANDARDS INCORPORATED BY REFERENCE

Chapter ATCP 50, Wis. Adm. Code, incorporates the following technical standards by reference. **Primary standards** are specifically identified in ATCP 50. **Secondary standards** are incorporated by reference in one or more primary standards.

The following list identifies each primary and secondary standard and its date of publication. It also includes information for obtaining a copy of the standards from the custodian of the standard or publication. Custodians include Wisconsin Department of Natural Resources (WDNR) United States Department of Agriculture, Natural Resources Conservation Service (NRCS), University of Wisconsin-Extension (UWEX). Copies of each standard are on file with the department and the legislative reference bureau. The county land conservation committee also may have copies in their files.

Future updates to technical standards are *not* automatically incorporated into ATCP 50. The department may incorporate future updates in future rule amendments.

Primary Standards

1. **NRCS, Wisconsin, Section IV, Technical Guide (“NRCS technical guide”) standards.** A person may obtain copies of the following standards from the NRCS Wisconsin State Office, 8030 Excelsior Drive, Suite 200, Madison, WI 53717-2906. Phone: 608-662-4422. Website: <http://www.wi.nrcs.usda.gov/>. Copies may also be obtained from a county land conservation department, an NRCS field office, and the national NRCS website at: <http://www.nrcs.usda.gov/>. This chapter incorporates, by reference, various NRCS technical guide standards and supporting technical documentation.

- Access Control Standard 472 (April, 2016).
- Access Road Standard 560 (October, 2014)
- Constructed Wetland Standard 656 (December, 2016).
- Contour Farming Standard 330 (March, 2016).
- Cover Crop Standard 340 (August, 2015).
- Critical Area Planting Standard 342 (August, 2016).
- Diversion Standard 362 (August, 2016).
- Fence Standard 382 (January, 2014).
- Field Border Standard 386 (January, 2017).
- Filter Strip Standard 393 (January, 2017).
- Forage and Biomass Planting Standard 512 (January, 2013).
- Grade Stabilization Structure Standard 410 (August, 2016).
- Grassed Waterway Standard 412 (July, 2016).
- Heavy Use Area Protection Standard 561 (August, 2015).
- Integrated Pest Management Standard 595 (January, 2013).
- Karst Sinkhole Treatment Standard 527 (March, 2016).
- Lined Waterway or Outlet Standard 468 (March, 2013).
- Livestock Pipeline Standard 516 (December, 2016).
- Mulching Standard 484 (June, 2016).
- Nutrient Management Standard 590 (December, 2015).
- Obstruction Removal Standard 500 (July, 2016).
- Pond Sealing or Lining - Flexible Membrane Lining Standard 521A (September, 2012).

- Pond Sealing or Lining-Bentonite Standard 521C (January, 2011).
- Pond Sealing or Lining – Compacted Clay Treatment Standard 521D (September, 2012).
- Prescribed Grazing (Managed Grazing-Wisconsin) Standard 528 (December, 2008).
- Pumping Plant Standard 533 (July, 2016).
- Residue and Tillage Management-No Till/Strip Till/Direct Seed Standard 329 (January, 2017).
- Residue and Tillage Management-Mulch Till Standard 345 (January, 2017).
- Residue and Tillage Management – Ridge Till Standard 346 (January, 2012).
- Residue Management- Seasonal Standard 344 (January, 2012).
- Riparian Forest Buffer Standard 391 (January, 2013).
- Roof Runoff Structure Standard 558 (September, 2015).
- Roofs and Covers Standard 367 (April, 2016).
- Sediment Basin Standard 350 (August, 2016).
- Shoreland Habitat Standard 643A (July, 2001).
- Spring Development Standard 574 (March, 2014).
- Stream Crossing Standard 578 (March, 2015).
- Streambank and Shoreline Protection Standard 580 (August, 2013).
- Stripcropping Standard 585 (June, 2016).
- Subsurface Drain Standard 606 (March, 2014).
- Terrace Standard 600 (March, 2015).
- Trails and Walkways Standard 575 (April, 2016).
- Tree/Shrub Establishment Standard 612 (July, 2011).
- Underground Outlet Standard 620 (March, 2014).
- Upland Wildlife Habitat Management Standard 645 (January, 2013).
- Vegetated Treatment Area Standard 635 (October, 2014).
- Waste Facility Closure Standard 360 (March, 2013).
- Waste Storage Facility Standard 313 (January, 2014).
- Waste Transfer Standard 634 (January, 2014).
- Waste Treatment Standard 629 (January, 2014).
- Water & Sediment Control Basin Standard 638 (August, 2016).
- Water Well Standard 642 (October, 2014).
- Watering Facility Standard 614 (October, 2014).
- Well Decommissioning Standard 351 (October, 2014).
- Wetland Restoration Standard 657 (September, 2016).
- Windbreak/Shelterbelt Establishment Standard 380 (October, 2016).
- Windbreak/Shelterbelt Renovation Standard 650 (January, 2013).

2. **UWEX Publications.** A person may obtain electronic copies of the following standards by downloading them from: <http://learningstore.uwex.edu>.

- Nutrient application guidelines for field, vegetable, and fruit crops in Wisconsin, UWEX Pub. No. A2809 (2012).(available at, <http://learningstore.uwex.edu/assets/pdfs/A2809.pdf>).

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- Pastures for profit: A guide to rotational grazing, UWEX Pub. No. A3529 (2014) (available at, <http://learningstore.uwex.edu/assets/pdfs/A3529.pdf>).
 - Recommended Methods of Manure Analysis, UWEX Pub. No. A3769 (2003) (available at, <http://learningstore.uwex.edu/assets/pdfs/A3769.pdf>).
3. **WNDR Standards.** A person may obtain these standards from the Wisconsin Department of Administration, Document Sales Unit, 202 S Thornton Ave, PO Box 7840, Madison, WI 53707-7840. Phone: 608-266-3358. <mailto:docsales@doa.state.wi.us>.
- Wet Detention Basin Standard 1001 (October, 2007).
 - “Stormwater Construction and Post-Construction Technical Standards”. Must go to DNR Website for Construction Site Best Management Practices: <http://dnr.wi.gov/topic/stormwater/standards/index.html>
4. **NRCS-Wisconsin.**
- Wisconsin Conservation Planning Technical Note WI-1, “Nutrient Management”. (February, 2016). A person may obtain copies of this standard from the NRCS Wisconsin State Office, 8030 Excelsior Drive, Suite 200, Madison, WI 53717-2906. Phone: 608-662-4422. Website: <http://www.wi.nrcs.usda.gov/>.
 - Revised Universal Soil Loss Equation, Version 2 (“RUSLE 2”) (November, 2006). This software contains 9 previous versions as well as the 2006 version and may be downloaded free of charge from: http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm.
 - Milking Center Wastewater Guidelines. A Companion Document to Wisconsin NRCS Standard 629 (June, 2009). Copies available online at: http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_020247.pdf
For a printed copy contact the Wisconsin state NRCS office at (608)662-4422.
 - Wind Erosion Prediction System, Version 1.2.28 (2013). This software contains previous versions as well as the 2013 version and may be downloaded free of charge from: <http://www.weru.ksu.edu/>.
5. **University of Wisconsin-Madison, Biological Systems Engineering Department.** Wisconsin Minimum Design and Construction Standards for Concrete Mixing and Loading Pads and Secondary Containment Structures (February, 2005). A person may obtain this standard from the Biological Systems Engineering Dept., University of Wisconsin-Madison, 460 Henry Mall, Madison WI 53706. Phone: 608-262-3311. E-mail: hkirschn@facstaff.wisc.edu
6. **University of Wisconsin-Madison, Soil Science Department.** Wisconsin Procedures for Soil Testing, Plant Analysis and Feed & Forage Analysis (October, 2013). Available from the University of Wisconsin-Madison, Soil Science Department website: <https://uwlab.soils.wisc.edu/lab-procedures/>.
- Secondary Standards**
1. **NRCS – Wisconsin**, Section IV, Technical Guide (“NRCS technical guide”). A person may obtain copies of the following standards from the NRCS Wisconsin State Office, 8030 Excelsior Drive, Suite 200, Madison, WI 53717-2906. Phone: 608-662-4422. Website: <http://www.wi.nrcs.usda.gov/>.
- Agrichemical Handling Facility 309 (October, 2014).
 - Alley Cropping Standard 311 (January, 2012).
 - Amendments For Treatment Of Agricultural Waste Standard 591 (March, 2014)
 - Anaerobic Digester Standard 366 (August, 2011).
 - Aquatic Organism Passage Standard 396 (July, 2016).
 - Brush Management Standard 314 (August, 2015).
 - Channel Bed Stabilization Standard 584 (March, 2016).
 - Conservation Cover Standard 327 (January, 2013).
 - Conservation Crop Rotation Standard 328 (September, 2015).
 - Contour Buffer Strips Standard 332 (July, 2016).
 - Dike Standard 356 (September, 2016).
 - Drainage Water Management Standard 554 (January, 2017).
 - Dust Control from Animal Activity on Open Lot Surfaces Standard 375 (September, 2010).
 - Dust Control on Unpaved Roads and Surfaces Standard 373 (October, 2014).
 - Early Successional Habitat Development/Management Standard 647 (May, 2014).
 - Fish Pond Management Standard 399 (March, 2000).
 - Forest Site Management Standard 490 (December, 2012).
 - Forest Stand Improvement Standard 666 (October, 2015).
 - Forest Trails and Landings Standard 655 (September, 2015).
 - Groundwater Testing Standard 355 (October, 2014).
 - Hedgerow Planting Standard 422 (June, 2002).
 - Herbaceous Wind Barriers Standard 603 (August, 2016).
 - Irrigation Pipeline Standard 430 (October, 2016).
 - Livestock Shelter Structure Standard 576 (March, 2014).
 - Open Channel Standard 582 (March, 2016).
 - PAM Application Standard 450 (December, 2016).
 - Pond Standard 378 (August, 2016).
 - Prescribed Burning Standard 338 (March, 2016).
 - Restoration and Management of Declining Habitats Standard 643 (May, 2014).
 - Seasonal High Tunnel System 325 (August, 2015).
 - Shallow Water Development and Management Standard 646 (April, 2016).
 - Spoil Spreading Standard 572 (July, 2016).
 - Stormwater Runoff Control Standard 570 (August, 2016).

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- Structure for Water Control Standard 587 (January, 2011).
 - Stream Habitat Improvement and Management Standard 395 (August, 2016).
 - Tree / Shrub Site Preparation Standard 490 (January, 2013).
 - Waste Separation Facility Standard 632 (April, 2014).
 - Water Well Testing Standard 355 (December, 2011).
 - Wetland Creation Standard 658 (October, 2016).
 - Wetland Enhancement Standard 659 (September, 2015).
 - Wetland Wildlife Habitat Management Standard 644 (January, 2013).
 - Wisconsin Construction Specification 2, “Excavation” (May, 2012).
 - Wisconsin Construction Specification 3, “Earthfill” (May, 2012).
 - Wisconsin Construction Specification 3a, “Earth Fill Ditch and Partial” (June 2013)
 - Wisconsin Construction Specification 4, “Concrete” (June, 2016).
 - Wisconsin Construction Specification 6, “Corrugated Metal Pipe Conduits” (January, 2012).
 - Wisconsin Construction Specification 9, “Rock Riprap” (November, 2011).
 - Wisconsin Construction Specification 10, “Fences” (March, 2015).
 - Wisconsin Construction Specification 11, “Small Rock Aggregate, ” (December, 2013)
 - Wisconsin Construction Specification 13, “Geotextiles” (May, 2010).
 - Wisconsin Construction Specification 13, Chapter 17 WI Supplement, “Guide for the Use of Wisconsin Construction Specification 13, Geotextiles” (June, 2008).
 - Wisconsin Construction Specification 15, “Plastic Pipe Conduits” (December, 2016).
 - Wisconsin Construction Specification 19, “Drilled Well Abandonment/Decommissioning” (May, 2012).
 - Wisconsin Construction Specification 44, “Corrugated Polyethylene Tubing” (May, 2012).
 - Wisconsin Construction Specification 50, “Organic Fill for Ditches” (June, 2013).
 - Wisconsin Construction Specification 51, “Organic Fill for Embankments and Ditch Plugs” (June, 2013).
 - Wisconsin Construction Specification 202 “Polyethylene Geomembrane Lining” (September, 2012).
 - Wisconsin Construction Specification 203 “Geosynthetic Clay Liner” (July, 2011).
 - Wisconsin Construction Specification 204 “Earthfill for Waste Storage Facilities” (October 2012).
 - Wisconsin Construction Specification 205 “Ethyl Propylene Diene Monomer (EPDM) Geomembrane Lining” (December, 2016).
 - Wisconsin Construction Specification 300 “Clay Liner” (March, 2016)
 - Wisconsin Construction Specification 516 “Polyethylene (PE) Pressure Pipe and Tubing for Livestock Pipeline” (December 2016)
 - Wisconsin Construction Specification 634 “Waste Transfer Pipe” (March,2015).
2. **NRCS– Wisconsin.** A person may obtain copies of the following standards from the NRCS Wisconsin State Office, 8030 Excelsior Drive, Suite 200, Madison, WI 53717-2906. Phone: 608-276-8732. Website: <http://www.wi.nrcs.usda.gov/>.
- Part 401-General Manual**
- Cultural Resource (May 2010)
- National Range and Pasture Handbook:**
- Chapter 6, “Livestock Nutrition, Husbandry, and Behavior” (September, 1997).
- Number 667 – Agricultural Resource Service, Agriculture Handbook:**
- “Stability Design of Grass-Lined Open Channels” (September, 1987).
- Part 501 – National Engineering Manual:**
- Subpart B, Section 501.23 “Dams Installed Without NRCS Assistance” (July, 2010).
- National Engineering Manual:**
- **Part 503** – Safety (July, 2010, 2015 WI supplements)
 - **Part 520** – Soil and Water Resource Development (July, 2010)
 - **Part 531** – Geology (June, 2013)
 - **Part 536** – Structural Engineering, Subpart 536.78 “State Standard Detail Drawings” (November, 2014).
- National Engineering Handbook**
- **Part 623 –Irrigation:**
 - Chapter 2, “Irrigation Water Requirements” (September, 1993).
 - **Part 630 – Hydrology (September, 1997).**
 - **Part 631 –Geology:**
 - Chapter 31, “Groundwater Investigations” (February, 2010).
 - Chapter 32, “Well Design and Spring Development” (January 2010).
 - **Part 633 –Soil Engineering:**
 - Chapter 26, “Gradation Design of Sand and Gravel Filters” (October, 1994).
 - **Part 634 -Hydraulic Engineering:**
 - Section 11, “Drop Spillways” (May, 2008).
 - Standard Drawing ES-67
 - Section 14, “Chute Spillways” (May, 2008).
- Part 636–Structural Engineering:**
- Chapter 52, “Structural Design of Flexible Conduits” (June, 2005).
- Part 637 – Environmental Engineering:**
- Chapter 3, “Constructed Wetlands” (September, 2002).
- Part 650 – Engineering Field Handbook:**
- Chapter 2, “Estimating Runoff” (August, 1989).

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- Chapter 3, “Hydraulics” (undated, version in effect on June 1, 2014).
 - Chapter 6, “Structures” (undated, version in effect on June 1, 2014).
 - Chapter 7, “Grassed Waterways” (December, 2007).
 - Chapter 8, “Terraces” (December, 2011).
 - Chapter 9, “Diversions” (September 2009).
 - Chapter 11, “Ponds and Reservoirs” (April, 1980).
 - Chapter 13, “Wetland Restoration, Enhancement, or Creation” (April, 2008).
 - Chapter 14, “Water Management (Drainage)” (April, 2001).
 - Chapter 16, “Streambank and Shoreline Protection” (December, 1996)
 - Chapter 18, “Soil Bioengineering for Upland Slope Protection and Erosion Reduction” (December, 1995).
 - Chapter 19, “Hydrology Tools for Wetland Determination” (January, 2011).
 - Scope and Effect Equations (January, 2011)
 - **Part 651 – Agricultural Waste Management Field Handbook:**
 - Chapter 4, “Animal Waste Characteristics” (March, 2008)
 - Chapter 7, “Geologic and Ground Water Considerations” (Amend. 38, August, 2010).
 - Chapter 9, “Agricultural Waste Management Systems” (Amend. 47, December, 2011).
 - Chapter 10, “Agricultural Waste Management System Component Design” (August, 2009).
 - Chapter 10 Wisconsin Supplement Notices 42-51, https://www.nrcs.usda.gov/wps/portal/nrcs/detail/wi/technical/engineering/?cid=nrcs142p2_025411
 - Chapter 12, “Waste Management Equipment” (Amend. 44, July, 2011).
 - Appendix 10D “Design and Construction Guidelines for Waste Impoundments Lined with Clay or Amendment-Treated Soil” (March 2008)
 - **Part 652–Irrigation Guide (September, 1997).**
 - **Part 654 – Stream Restoration Guide:**
 - Technical Supplement 14C, “Stone Sizing Criteria” (August, 2007).
 - Technical Supplement 14N, “Fish Passage and Screening Design” (August, 2007).
3. **NRCS – Wisconsin, Wisconsin Technical Notes.** A person may obtain copies of the following standards from the NRCS Wisconsin State Office, 8030 Excelsior Drive, Suite, Madison, WI 53717-2906. Phone: 608-276-8732. Website: <http://www.wi.nrcs.usda.gov/>
- Companion Document 580-1, a supplement to the Streambank and Shoreline Protection Standard, (February, 2009).
 - Landscape Architecture Note 4, “Trail and Walkway Design Aid” 210-VI-LAN-04 (March, 2009).
 - Wisconsin Agronomy Technical note WI-1, “Guidelines for Herbaceous Stand Evaluation” (May, 1991).
 - Wisconsin Agronomy Technical Note WI-5, “Establishing and Maintaining Native Grasses, Forbs and Legumes” (April, 2013).
 - Wisconsin Agronomy Technical Note WI-6, “Establishing and Maintaining Introduced Grasses and Legumes” (March, 2013).
 - Wisconsin Agronomy Technical Note WI-7, “Cover and Green Manure Crop Benefits to Soil Quality” (August, 2015).
 - Wisconsin_Agronomy_Technical_Note_10, Planning, Design, Management and Maintenance of Vegetative Filter Strips (VFS) (August, 2015).
 - Wisconsin Biology Technical Note 1, “Shoreland Habitat” (September, 2001).
 - Wisconsin Biology Technical Note 8, “Pollinator Biology and Habitat” (October, 2008).
 - Wisconsin Forestry Technical Note WI-1, “Native Tree and Shrub Planting Recommendations for Wisconsin” (August, 2015).
 - Wisconsin Forestry Technical Note WI-2, “Tree and Shrub Establishment” (April, 2003).
 - Wisconsin Forestry Technical Note 4, Tree and Shrub Species for Windbreak (Nov. 2011)
 - Wisconsin Conservation Planning Technical Note WI-2, “Companion Document to NRCS FOTG Standard 595 Pest Management” (July, 2007).
4. **NRCS– Wisconsin.** A person may obtain copies of the following standards from the NRCS Wisconsin State Office, 8030 Excelsior Drive, Suite 200, Madison, WI 53717-2906. Phone: 608-276-8732. Website: <http://www.wi.nrcs.usda.gov/>
- Technical Release TR-25, “Design of Open Channels” (1977).
 - Technical Release TR-55, “Urban Hydrology for Small Watersheds” (November, 2014)
 - Technical Release TR-60, “Earth Dams and Reservoirs” (July, 2005).
 - Technical Release TR-74, “Lateral Earth Pressures” (July, 1989).
 - Field Office Technical Guide, Section III, “Guidelines for Resource Management System Quality Criteria and Human Considerations” (March 2005).
 - Field Office Technical Guide, Section I, Part II, “Wind Erosion Prediction” (visited March 8, 2017), https://www.nrcs.usda.gov/wps/portal/nrcs/detail/wi/technical/?cid=nrcs142p2_020798
 - National Planning Procedures Handbook, Subpart F, Part 600.50, “Areawide Planning” (Amend. 6, November 2014).
 - Flexible Membrane Liner Specification 594 (National Spec.) (January, 2009).
 - Soil Conservation Service, “Handbook of Channel Design for Soil and Water Conservation” (June, 1954).
 - “Vegetated Treatment Areas Engineering Spreadsheet”, NRCS practice standard 635 companion (December, 2014). Website: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/wi/technical/engineering/?cid=nrcs142p2_025422.

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- Wisconsin Job Sheet 134, “How to Establish and Maintain Introduced Grasses and Legumes” (April 2014).
 - Wisconsin Job Sheet 135, “How to Establish and Maintain Native Grasses, Forbs and Legumes” (April, 2014).
 - Wisconsin Job Sheet 472, Access Control (April, 2016)
 - Wisconsin Job Sheet 136, “Wildlife Food Plots” (November, 2016).
 - Wisconsin Job Sheet 142, “Permanent Wildlife Habitat Corridor Plan - CP4B, Permanent Wildlife Habitat Plan - CP4D” (April, 2016).
 - Wisconsin Job Sheet 340, “How to Establish Cover Crops” (August, 2015).
 - Wisconsin Job Sheet 380, Windbreak/Shelterbelt Establishment (November, 2016)
 - Wisconsin Job Sheet 484, Mulching (June, 2016)
 - Wisconsin Job Sheet 585, Strip Cropping (June, 2016)
 - “Soil Conditioning Index” (June, 2005).
 - “Windows Pesticide Screening Tool” (WIN-PST 3.1.3) (February, 2014). This may also be downloaded from the website:
<http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/landuse/crops/npm/?cid=stelprdb1044769>
 - NRCS Milking Center Waste Volume Spreadsheet, available at:
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/wi/technical/engineering/?cid=nrcs142p2_025422
 - Handbook of Channel Design for Soil and Water Conservation (SCS-TP-61) (August 1966)
5. **NRCS – Wisconsin, “Drainage Guide for Wisconsin” (1977).** A person may obtain this standard from the NRCS Wisconsin State Office, 8030 Excelsior Drive, Suite 200, Madison, WI 53717-2906. Phone: 608-276-8732. Website:
<http://www.wi.nrcs.usda.gov/http://www.nrcs.usda.gov/v/>.
- NRCS – Cover Crop Termination Guidelines (August, 2015)
6. **UWEX Publications.** A person may obtain copies of the following standards from Cooperative Extension Publications, 45 North Charter Street, Madison, WI 53715. Phone: 877-WIS-PUBS (947-7827). E-mail: reitzman@admin.uwex.edu
- Corn Fertilization, UWEX publication A3340, (1998).
 - “Forage Variety Update for Wisconsin, 2016 Trial Results”, UWEX Publication A1525 (November, 2016).
 - Guidelines for Applying Manure to Pasture and Cropland in Wisconsin, UWEX publication A3392 (1995).
 - Management of Wisconsin Soils, UWEX publication 3588 (2005).
 - Recommended Methods of Manure Analysis, UWEX publication A3769 (2003).
 - Soil Calcium to Magnesium Ratios - Should You be Concerned? UWEX publication A2986 (1993).
 - Understanding Plant Nutrients: Soil and Applied Boron, UWEX publication A2522 (1999).
 - Understanding Plant Nutrients: Soil and Applied Calcium, UWEX publication A2523 (2004).
 - Understanding Plant Nutrients: Soil and Applied Chlorine, UWEX publication A3556 (1992).
 - Understanding Plant Nutrients: Soil and Applied Copper, UWEX publication A2527 (1999).
 - Understanding Plant Nutrients: Soil and Applied Iron, UWEX publication A3554 (1992).
 - Understanding Plant Nutrients: Soil and Applied Manganese, UWEX publication A2526 (1999).
 - Understanding Plant Nutrients: Soil and Applied Magnesium, UWEX publication A2524 (2004).
 - Understanding Plant Nutrients: Soil and Applied Molybdenum, UWEX publication A3555 (1992).
 - Understanding Plant Nutrients Sulfur and Applied Sulfur UWEX A2525 (1992).
 - Understanding Plant Nutrients: Soil and Applied Zinc, UWEX publication A2528 (2004).
 - Wisconsin’s Pre-plant Soil Nitrate Test, UWEX publication 3512 (1995).
 - Training Manual for the Private Pesticide Applicator, 7th Edition – Chapter 25, “Calibration” (January 2013).
 - Sampling Soils for Testing, UWEX Publication A2100 (2013).
 - Phosphorous for Bearing Cranberries in North America (November, 2004).
<http://uwlab.soils.wisc.edu/lab-procedures/>.
7. **North Central Regional Extension Publications**
Soil Cation Ratios for Crop Production, NCRE 533 (2009).
8. **Oregon State University-Extension Publications, “Cranberry Tissue Testing for Producing Beds in North America”. Extension Publication Number EM-8610 (August, 1995).** A person may obtain copies of the standard from Extension Service Administration, 101 Ballard Hall, Corvallis, OR 97331-0360 Phone: 541-737-2713 or from the UW Horticulture Department Website:
<http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/14789/em8610.pdf?sequence=1>.
9. **WDNR Publications.** A person may obtain the following standards from the Wisconsin Department of Administration, Document Sales Unit, 202 S Thornton Ave, PO Box 7840,

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- Madison WI 53707-7840. Phone: 608-266-3358. E-mail: docsales@doa.state.wi.us.
- BARNY 2.6, “The Wisconsin Barnyard Runoff Model” (October, 1996).
 - NR 243, “Animal Feeding Operations” https://docs.legis.wisconsin.gov/code/admin_code/nr/200/243.pdf (July 2015),
 - NR 812, “Well Construction and Pump Installation” https://docs.legis.wisconsin.gov/code/admin_code/nr/800/812.pdf (October 2016).
 - “Trails”, Wisconsin Trail Specification Handbook, 8605.1, Ch. 30 (October 2004).
 - “Wisconsin’s Forestry Best Management Practices for Water Quality”, Field Manual Publication No. FR-093 (2010).
- P8 Urban Catchment Model. (October, 2007). available at: <http://www.wwwalker.net/p8/>.
- Agricultural Spills and How to Handle Them, publication #Pub-RR-687-2002 (August, 2002).
- 10. Wisconsin Department of Transportation, Facilities Development Manual, Chapter 10, “Erosion Control and Storm Water Quality” (January 2013).** A person may obtain this standard from the Wisconsin Dept. of Transportation, <http://wisconsindot.gov/Pages/doing-business/eng-consultants/cnslt-rsrcs/rdw/fdm.aspx>
- WisDOT Bridge Manual,** <http://wisconsindot.gov/Pages/doing-business/eng-consultants/cnslt-rsrcs/strct/bridge-manual.aspx>
- Chapter 8, “Hydraulics” (January 2017).
- 11. American Concrete Institute Publications.** A person may obtain copies of the following standards from the American Concrete Institute, PO Box 9094, Farmington Hills, MI 48333-9094. Phone: 248-848-3800.
- “Building Code Requirements for Structural Concrete” ACI 318-14 (2014).
 - “Design of Slabs on Grade” ACI 360R-10 (Re-approved 2010).
 - “Guide for Design and Construction of Concrete Parking Lots” ACI 330R-01 (October, 2001).
- 12. American Forest & Paper Association, American Wood Council, “National Design Specification for Wood Construction” (2015 edition).** A person may obtain this standard from the American Forest & Paper Association, 1111 19th St NW, Suite 800, Washington, DC 20036. Phone: 800-890-7732. E-mail: AWCINFO@afandpa.org.
- 13. American Society of Agricultural and Biological Engineers, Engineering Practices.** A person may obtain copies of the following standards from the American Society of Agricultural and Biological Engineers, 2950 Niles Road, St Joseph, MI 49085. Phone: 616-429-0300. Website: www.asae.org
- Engineering Practice Number 378.4, “Floor and Suspended Loads on Agricultural Structures Due to Use” (R2014).
 - Engineering Practice Number 393.3, “Manure Storages” (r2013).
 - Engineering Practice Number 470, “Manure Storage Safety” (R2016).
 - “An EXCEL Program to Design Rock Chutes for Grade Stabilization” ASAE2008 (July 2000)
- 14. Design Of Rock Chutes,** K.M. Robinson, C.E. Rice, K.C. Kadavy, American Society of Agricultural Engineers VoL. 41(3):621-626 (1998), available at <http://agriculture.ks.gov/docs/default-source/dwr-ws-forms/design-of-rock-chutes.pdf?sfvrsn=2>
- Rock Chutes on Slopes Between 2 and 40%*, K.M. Robinson, K.C. Kadavy and C.E. Rice, ASAE Paper No 982136 (1998)
- 15. American Institute of Steel Construction, Inc. “Manual of Steel Construction, Load and Resistance Factor Design,” 14th edition (2011)** A person may obtain this standard from the American Institute of Steel Construction, One East Wacker Drive, Suite 3100, Chicago IL 60601-2001. Phone: 800-644-2400. Website: www.aisc.org.
- 2003 Revisions to the Manual
- 16. American Society of Civil Engineers (ASCE),** Minimum Design Loads for Buildings and Other Structures, ASCE/SEI 7-10 (2010). A person may obtain this standard from ASCE Publications, 1801 Alexander Bell Drive, Reston, VA 20191. Phone: 800-548-ASCE (2723). Website: www.asce.org/
- 17. U.S. Army Corps of Engineers (COE),** Recreational Facility and Customer Services Standards, COE 1110-1-400 (November, 2004). A person may obtain this standard from the following Website: http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_1110-1-400.pdf
- 18. Geosynthetic Institute,** Determination of Allowable Flow Rate of a Drainage Geocomposite, GRI Standard GC8 (January, 2013). A person may obtain this standard from the following Website: <http://www.geosynthetic-institute.org/grispecs/gc8.pdf>.
- 19. National Food Security Act Manual – Part 527 Appendix** “Wetland Identification Procedures” (December 2010).
- 20. Wisconsin Dept. of Safety and Professional Services (DSPS),** Safety and Buildings Division, Plumbing Products Database. A person may access this database on the following Website: <http://dsps.wi.gov/Default.aspx?Page=2e719db6-3d2a-4bd7-ae2c-d58b16ded430>.

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21. **International Building Code (IBC)**, International Code Council (2006). A person may obtain a copy of this code at the following Website:
<http://archive.org/details/gov.law.icc.ibc.2006>.
22. **American Association of State Highway and Transportation Officials (AASHTO)**,
 - Load and Resistance Factor Design (LRFD) bridge design specifications (2010)
 - “Bridge Element Inspection Guide Manual” (2015).
 - “Guide Specifications for the Design of Pedestrian Bridges 2nd edition (2015).
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