



**US Army Corps
of Engineers**
St Paul District

Public Notice

ISSUED: 13-March-2013

EXPIRES: 11-April-2013

**PROPOSAL TO ISSUE RGP-002-MN FOR CERTAIN ACTIVITIES ON AGRICULTURAL LANDS INVOLVING
A DISCHARGE OF DREDGED OR FILL MATERIAL INTO WATERS OF THE UNITED STATES REGULATED
UNDER SECTION 404 OF THE CLEAN WATER ACT**

REFER TO: 2012-00291-BRC

I. PURPOSE OF THIS PUBLIC NOTICE. The purpose of this notice is to provide notification that, following review and evaluation of comments received in response to our May 18, 2012 public comment period, the U.S. Army Corps of Engineers, St. Paul District (Corps) has prepared a revised version of the proposed RGP-002-MN and intends to move forward with issuance of this regional general permit.

II. DISCHARGES AUTHORIZED BY RGP-002-MN. Project proponents pursuing authorization should carefully read the descriptions for each category to insure that their project is eligible for authorization based on the impact thresholds, exclusions, and terms and conditions of RGP-002-MN.

The first category of authorized activities is discharges of dredged or fill material associated with projects to replace certain altered natural watercourses, artificial watercourses, or linear wetland drainages with subsurface drainage tile or pipe. This is typically done to increase the efficiency of the farming operation as well as bring additional land into agricultural production. This may either be accomplished by placing drainage tile or pipe along the bottom of the watercourse and backfilling with soil to match the adjacent surface elevations or by installation of the drainage tile or piping adjacent to the watercourse and then filling the watercourse or linear wetland. Associated drainage infrastructure such as tile inlets and outlets are also eligible for authorization. See section 2.a. of the RGP for additional information regarding this category of activities.

The second category of authorized activities is discharges of dredged or fill material associated with improving drainage in wetlands that are designated as farmed wetlands (FW) by the Natural Resources Conservation Service (NRCS) or, for non-USDA program participants, wetlands that have been in agricultural use for 6 out of the last 10 years. Most often these activities are associated with the installation of subsurface drainage tile. Discharges of dredged or fill material into farmed wetlands that have been abandoned are not eligible for authorization under the RGP. See section 2.b. for additional information regarding this category of activities.

Applicants may propose projects that include activities under both categories (e.g., replace an artificial watercourse with drainage tile and install drainage tile in farmed wetlands) so long as the total impacts to waters and wetlands does not exceed the limits for either category (see section 7(a)(ix) of the RGP for more information).

III. BACKGROUND. The purpose of RGP-002-MN is to streamline review of permit applications for a narrow range of agricultural activities, establish consistency in permit decisions, and provide more certainty for landowners seeking Department of the Army permit authorization under Section 404 of the Clean Water Act. A draft version of the RGP was initially noticed on May 18, 2012 for a 30-day public comment period. The comment period was extended twice to provide additional opportunity for public comment and officially closed on August 18, 2012. The Corps received fifteen letters in response to the public notice and has considered these comments, as applicable, in the revisions to RGP-002-MN.

RGP-002-MN has been revised and reorganized to clarify what activities are authorized and the process for obtaining authorization under the RGP. We have also clarified several of the terms included in the draft version of the RGP by providing additional explanation or, where appropriate, using terms defined in other state and Federal regulatory programs. We also received numerous comments seeking clarification regarding the resources that are subject to Clean Water Act jurisdiction, and the activities that are exempt from regulation. Answers to these questions are typically addressed on a case-by-case basis and require a full understanding of the specific facts. Providing this type of information is beyond what can reasonably be addressed in a regional general permit. However, these are issues of concern to the public and therefore we have provided some basic information on these topics as an attachment to the RGP.

The Corps has retained the two categories of activities proposed in the draft general permit along with their respective impact thresholds. These categories are for discharges associated with the installation of tile and culvert in linear drainage features and discharges associated with farmed wetland drainage projects. Numerous changes to RGP-002-MN have been made to clarify terminology, more precisely define activities eligible for authorization, provide additional background information on the Section 404 permit program, and streamline the application process. A revised version of RGP-002-MN is attached to this public notice. The most significant changes are summarized in the following bullets:

Changes to Content

- The section of the RGP that addresses impacts to non-wetland aquatic resources in linear drainages has been revised so that these resources are now described as headwater reaches of altered natural watercourses or artificial watercourses. This change makes the RGP consistent with the State of Minnesota's descriptions for these resources. This change had no effect on the type or scope of activities addressed under that section.
- The notification requirement for watercourse (stream) impacts on linear drainages was changed to require notification for any amount of impact.
- In the farmed wetland drainage projects section, the definition of farmed wetlands for non-USDA program participants was revised, and requires that the wetlands that would be impacted must have been in agricultural use for 6 of the past 10 years to be eligible for authorization under the RGP.
- The prohibition against discharges into setbacks was removed from the farmed wetland drainage projects section of the RGP.
- Impacts to wetlands on abandoned farmland are excluded from authorization under the RGP.
- The application procedures section (see section 4) was revised to clarify the process and provide greater flexibility for submitting preconstruction notifications.

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- A section on jurisdictional determinations was added to provide information to prospective permittees on the two types jurisdictional determinations that are prepared by the Corps.
- The condition requiring compensatory mitigation was revised to clarify that mitigation is required for wetland impacts in excess of 2,000 square feet.
- The condition explaining the use of multiple general permits was revised to clarify proposals that may require authorization under both categories 2.a and 2.b of the RGP.
- The definitions section has been revised to include abandonment, altered natural watercourse, agricultural use, artificial watercourse, and natural watercourse. The following terms were deleted from the definitions section: ephemeral stream, farmed wetland pasture, intermittent stream, linear wetland drainage, and unaltered intermittent stream.

In addition to the revisions to the permit, we have developed additional information for the public on specific topics of concern that was identified in our review of the public comments. This information is provided in three attachments to the public notice and includes the following:

Attachment 1. Supplemental Information Regarding Clean Water Act Permits for Activities on Agricultural Lands. This The attachment provides general background information on how waters of the United States are identified, what constitutes a regulated discharge under Section 404, and activities that are either exempt from Clean Water Act jurisdiction or do not require a Section 404 permit.

Attachment 2 is a Natural Resources Conservation Service Conservation Practice Standard for Subsurface Drains which contains design standards for tile outlets into watercourses.

Attachment 3 contains examples of the wetlands and watercourses covered by RGP-02-MN and an example illustrating how eligibility determinations are made for proposed impacts to those resources.

IV. APPLICATION PROCEDURES. Prospective permittees seeking authorization for the activities described in the preceding paragraphs must follow the notification procedures in Section 4 of the RGP and submit the required information to the appropriate Corps of Engineers office. A map showing the work area for each office and contact information is shown on the attached figure. Applications should be sent to the Regulatory office covering the county where the proposed project is located. Applications sent directly to the St. Paul office will be forwarded to the appropriate office for processing. Prospective permittees may also visit the Corps' website at <http://www.mvp.usace.army.mil/Missions/Regulatory.aspx> to obtain contact information for a specific county. Persons with general inquiries regarding this RGP or the Corps Regulatory program may seek information by calling our general information number at (800) 290-5847 or (651) 290-5847. Alternatively, questions can be submitted via email to mvp-reg-inquiry@usace.army.mil.

V. FINAL DECISION REGARDING ISSUANCE OF RGP-002-MN. The Corps plans to issue this revised version of RGP-002-MN to the general public no sooner than 30 days from the date of this public notice. The Corps is not requesting comments in response to this public notice. However, any information received in response to this public notice within 30 days of the issuance date will become part of the administrative record prepared for the RGP.

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A final decision on whether to issue this permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production and, in general, the needs and welfare of the people.

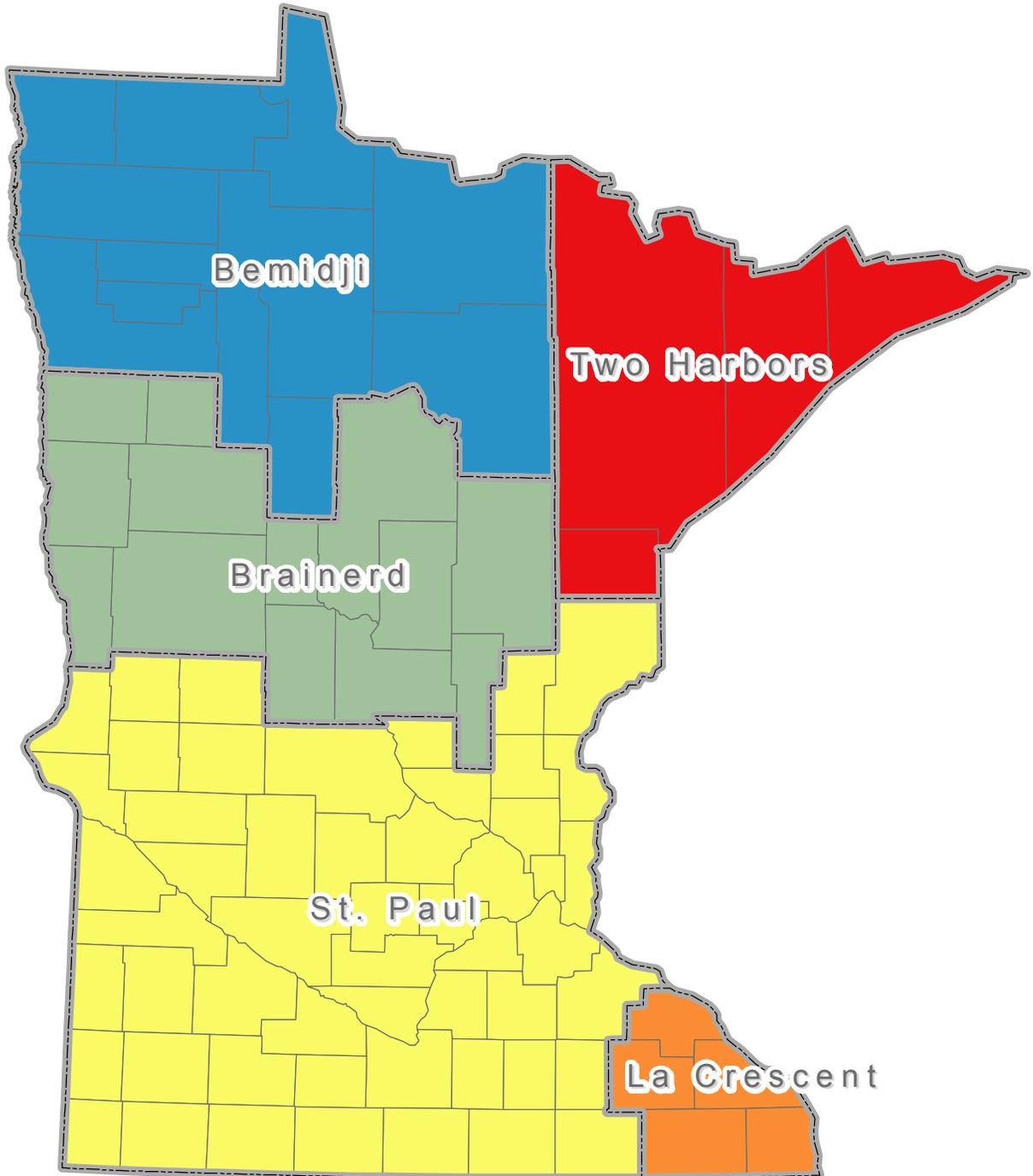
VI. ADDITIONAL INFORMATION. RGP-002-MN may be viewed on the District Internet web site at: <http://www.mvp.usace.army.mil/Missions/Regulatory/PermittingProcessProcedures.aspx>.

Replies may be addressed to Regulatory Branch, ATTN: Tim Smith, St. Paul District, Corps of Engineers, 180 Fifth Street East, Suite 700, Saint Paul, MN 55101-1678.

Or, if you have questions about this project, call Tim Smith in the St. Paul District office of the Corps, telephone number (651) 290-5432.

Tamara E. Cameron
Chief, Regulatory Branch

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Attachment 1
U.S. Army Corps of Engineers, St. Paul District
Regional General Permit for Agricultural Drainage Activities in Waters of the
United States (RGP-002-MN)

Supplemental Information Regarding Clean Water Act Permits for Activities on
Agricultural Lands

Introduction

RGP-002-MN was developed to provide an efficient and consistent review for certain types of agricultural drainage projects that require a Department of the Army permit. The feedback we received in response to our public notice indicated that the additional information on the Corps regulatory program needed to be provided for the public to more fully understand the scope of the Clean Water Act Section 404 permitting program.

In response, the St. Paul District has prepared this supplemental information sheet to address the following topics common to many of the comment letters:

Waters of the United States

Discharges of dredged and fill material

Activities associated with agricultural that do not require a Section 404 permit

Non-reporting general permits

Background

Under Section 404 of the Clean Water Act the U.S. Army Corps of Engineers has responsibility for regulating the discharge of dredged or fill material into waters of the United States. The scope of the Corps' regulatory program extends to those wetlands, rivers, lakes or other aquatic resources determined to be waters of the United States, including any that are located on agricultural lands. To the greatest extent practicable the Corps has attempted to coordinate its regulatory program with other state and Federal agency programs, including those administered by the Natural Resources Conservation Service. However, the Corps retains sole responsibility for implementing the Section 404 program, including the regulation of non-exempt discharges into waters of the United States located on lands in agricultural use.

Basic Information Regarding the Section 404 Permitting Program

The first step in determining whether a Section 404 permit may be required is to assess whether a water of the United States may be present within the project area. If present, the second step is to assess

whether the activity would result in a discharge of dredged or fill material. Additional information on these steps is provided in the following two paragraphs.

What is a water of the United States? On agricultural lands, the most commonly encountered aquatic resources that may be considered waters of the United States are wetlands and stream channels. Wetlands are identified and delineated using the Corps 1987 Wetland Delineation Manual and applicable regional supplement. These documents are also used by the Natural Resources Conservation Service (NRCS) and the Minnesota Board of Water and Soil Resources (BWSR). In general, a feature on the landscape must have the required soil, hydrology and vegetation characteristics to be identified as a wetland. Wetlands may still be present on agricultural fields even though they are plowed and cropped on a regular basis. Stream channels are identified for Clean Water Act purposes as features on the landscape through which water flows for sufficient frequency and duration each year to produce an ordinary high water mark (OHWM). The OHWM is the line on the shore or bank established by the fluctuations of water and indicated by physical characteristics such as clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris and other physical characteristics¹. Channels that do not have an OHWM are not waters of the United States. Not all wetlands and stream channels located on agricultural lands are waters of the United States and regulated by the Corps. Determining which resources are subject to Clean Water Act jurisdiction has become a complicated and potentially time consuming process in the wake of several Supreme Court decisions. Except for hydrologically isolated wetlands and water bodies, which generally are not regulated by the Corps, there are very few “bright line” standards for determining jurisdiction. District staff trained in making these determinations are available upon request to assist the public with questions regarding the status of an aquatic resource on their property.

What is a discharge of dredged or fill material? Dredged material is defined as “material that is excavated or dredged from waters of the United States.” With some exceptions, a discharge of dredged material is essentially material that is excavated or removed from a water of the United States and placed back into a water of the United States. Fill material is material placed in waters of the United States where the material has the effect of “replacing any portion of a water of the United States with dry land” or “changing the bottom elevation of any portion of a water of the United States.” With respect to agricultural drainage projects, the installation of drainage tile in a water of the United States requires a permit when the installation itself results in a redeposit of dredged material into a water of the United States. Our recent experiences with drainage tile installation have led us to conclude that most of the installation methods, including installation via tile plow, result in a redeposit of dredged material if undertaken in a water of the United States. Other activities associated with drainage tile installation that result in a discharge of dredged and fill material include temporarily stockpiling excavated material in a water of the United States when connections and surface inlets are installed and when material is used to provide bedding for tile or is used to backfill a trench/cut.

¹ The Minnesota Department of Natural Resources also utilizes the concept of an OHWM to implement their public waters regulatory program. However, each agency has its own set of criteria for establishing the OHWM and a determination by one agency should not be viewed as determinant for the other until officially reviewed and approved.

Agricultural Activities That Do Not Require Department of the Army Permits

Clean Water Act Section 404(f) Exemptions. The following agricultural related activities are exempt from the permitting requirements of Section 404 of the Clean Water Act and do not require submission of a permit application.

1. Normal farming activities such as plowing, seeding, cultivating, minor drainage, and harvesting for the production of food and fiber products. These activities must be part of on-going operation and must be done in accordance with the definitions in the Corps regulations at 33 CFR § 3223.4(a)(1)(iii). The public should be aware that the minor drainage category is limited to discharges of dredged or fill material incidental to connecting upland drainage facilities to waters of the United States and does not extend to discharges associated with drainage activities in wetlands;
2. Construction or maintenance of farm or stock ponds and irrigation ditches;
3. Maintenance of drainage ditches to their as-built configuration;
4. Construction of farm roads where the road is constructed and maintained in accordance with best management practices including the baseline conditions in our regulations at 33 CFR § 3223.4(a)(6).

Persons contemplating any of these activities are encouraged to contact the District Project Manager for the county in which the work will occur to confirm the applicability of the exemption to the proposed activity. Upon request, we will evaluate the proposed activity and provide written notification of our determination. Please note that any discharge of dredged or fill material into a water of the United States incidental to any of the previously listed activities must have a permit if (1) it is part of an activity whose purpose is to convert a water of the United States into a use to which it was previously not subject; and (2) where the flow or circulation of a water of the United States may be impaired or its reach reduced.

Activities That Do Not Result In A Discharge of Dredged or Fill Material into a Water of the United States. The installation of drainage tile in uplands or in areas designated as prior converted (PC) by the NRCS do not require a Department of the Army permit since the area where the tile would be installed is not a water of the United States.² In addition, activities in a water of the United States that do not result in a discharge of dredged or fill material do not require a Department of the Army permit (i.e. vegetation cutting and horizontal drilling or pushing of tile).

Non-Reporting General Permits. Certain discharges of dredged and/or fill material that impact less than 400 square feet of waters of the United States are authorized by the non-reporting category of a previously issued Corps of Engineers general permit (see category K of RGP-003-MN). Formal notification to the Corps is not required for activities that qualify for the non-reporting category of RGP-003-MN; however, persons conducting work are responsible for ensuring that it complies with the terms and conditions of the general permit.

² Areas designated as PC that have been abandoned for a minimum of five years or that have changed use from agricultural to a non-agricultural use may be re-evaluated as waters of the United States.

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

SUBSURFACE DRAIN

(Ft.)
Code 606

DEFINITION

A conduit installed beneath the ground surface to collect and/or convey excess water.

PURPOSE

This practice may be applied as part of a resource management system to achieve one or more of the following purposes:

- Remove or distribute excessive soil water.
- Remove salts and other contaminants from the soil profile.

CONDITIONS WHERE PRACTICE APPLIES

This standard applies to agricultural land where a shallow water table exists and where a subsurface drainage system can mitigate the following adverse conditions caused by excessive soil moisture:

- Poor health, vigor and productivity of plants.
- Poor field trafficability.
- Accumulation of salts in the root zone.
- Health risk and livestock stress due to pests such as flukes, flies, or mosquitoes.
- Wet soil conditions around farmsteads, structures, and roadways.

This standard also applies where collected excess water can be distributed through a subsurface water utilization or treatment area.

CRITERIA

Capacity. Design capacity shall be based on the following, as applicable:

1. Application of a locally proven drainage coefficient for the acreage drained.

The drainage coefficient is the rate at which excess water must be removed from cropland in order to provide the proper degree of protection for crops to be grown. Coefficients are expressed in inches (millimeters) of water to be removed in 24 hours. Minimum coefficients are as follows:

- a. Subsurface Drainage Only (no open inlets)

Table M-1

Soil	Field Crops	Truck Crops
	Inches (mm)	inches (mm)
Mineral	3/8 (9.5)	1/2 (12.7)
Organic	1/2 (12.7)	3/4 (19.0)

This condition assumes that surface drainage is adequate. The selected drainage coefficient applies to the entire area being drained. If the runoff from an upland area spreads over the area to be drained and is likely to increase the drainage problem, the acres used in determining the drain (tile) size shall be proportionately increased.

- b. Subsurface and Surface Drainage (surface inlets in subsurface drains)

Table M-2. Minimum Drainage Coefficients

	Field Crops	Field Crops	Truck Crops	Truck Crops
	Blind Inlets Inches(m m)	Open Inlets Inches (mm)	Blind Inlets Inches(m m)	Open Inlets Inches (mm)
Mineral	3/8 (9.5)	1/2 (12.7)	1/2 (12.7)	1 (25.4)
Organic	1/2 (12.7)	3/4 (19.0)	3/4 (19.0)	2 (50.8)

Note: A 1/2 inch (12.7 mm) coefficient may be used if the organic soil occurs only as a small pocket in the vicinity of the inlet.

The selected drainage coefficient will apply to the entire watershed contributing runoff to the surface inlet, except where only a small amount of runoff will be impounded at the location of the inlet with the remainder flowing away in a confined channel. For the latter case, the drain (tile) shall be large enough to remove the impounded water in 24 hours, plus providing additional capacity for the required internal drainage. Blind inlets should only be used in areas where surface drainage will handle most of the surface water.

- c. Determine the minimum capacity using Figure 14-33 of the Engineering Field Handbook Chapter 14 (EFH14)(2001). Conduit size can be determined using Figures 14-34 and 14-35, as appropriate, in EFH14.

NRCS-Minnesota
August 2012

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard, contact the MN NRCS in your area, or download it from the eFOTG for MN.

2. Yield of groundwater based on the expected deep percolation of irrigation water from the overlying fields.
3. Comparison of the site with other similar sites where subsurface drain yields have been measured.
4. Measurement of the rate of subsurface flow at the site during a period of adverse weather and groundwater conditions.
5. Application of Darcy's law to lateral or artesian subsurface flow.
6. Contributions from surface inlets based on hydrologic analysis or flow measurements

Size. The size of subsurface drains shall be computed by applying Manning's formula, using roughness coefficients recommended by the manufacturer of the conduit. The size shall be based on the maximum design flow rate and computed using one of the following assumptions:

1. The hydraulic grade line parallel to the bottom grade of the subsurface drain with the conduit flowing full at design flow (normal condition, no internal pressure).
2. Conduit flowing partly full where a steep grade or other conditions require excess capacity.
3. Conduit flowing under internal pressure with hydraulic grade line set by site conditions, which differs from the bottom grade of the subsurface drain. This procedure shall be used only if surface water inlets or nearness of the conduit to outlets with fixed water elevations permit satisfactory estimates of hydraulic pressure and flows under design conditions.

For assumptions 1 or 2 above, the minimum size of subsurface drains may be determined using the drainage charts in EFH14. Use Figure 14-34 on page 14-66 for corrugated plastic tubing, or Figure 14-35 on page 14-67 for clay and concrete tiles.

All subsurface drains shall have a nominal diameter that equals or exceeds 3 inches. When 3-inch (76 mm) diameter drains are used, any single line shall not exceed 1000 ft (305 m) in length.

Four-inch (102 mm) diameter drains shall not exceed 1320 ft (402 m) in length. In peat and muck soil, when using clay or concrete tile, consider using the longest individual section length possible.

Internal Hydraulic Pressure. Drains are normally designed to flow with no internal pressure, and the flow is normally classified as open channel. The design internal pressure of drains shall not exceed the limits recommended by the manufacturer of the conduit.

Horizontal Alignment. A change in horizontal direction of the subsurface drain shall be made by one of the following methods:

1. The use of manufactured fittings.

2. The use of junction boxes or manholes.
3. A gradual curve of the drain trench on a radius that can be followed by the trenching machine while maintaining grade.

Location, Depth, and Spacing. The location, depth, and spacing of the subsurface drain shall be based on site conditions including soils, topography, groundwater conditions, crops, land use, outlets, saline or sodic conditions, and proximity to wetlands.

The minimum depth of cover over subsurface drains may exclude sections of conduit near the outlet or through minor depressions, providing these sections of conduit are not subject to damage by frost action or equipment travel.

In mineral soils, the minimum depth of cover over subsurface drains shall be 2.0 ft.

In organic soils, the minimum depth of cover after initial subsidence shall be 3.0 ft. If water control structures are installed and managed to limit oxidation and subsidence of the soil, the minimum depth of cover may be reduced to 2.5 ft.

For flexible conduits, maximum burial depths shall be based on manufacturer's recommendations for the site conditions, or based on a site-specific engineering design consistent with methods in NRCS National Engineering Handbook (NEH), Part 636, Chapter 52, Structural Design of Flexible Conduits.

For computation of maximum allowable loads on subsurface drains of all materials, use the trench and bedding conditions specified, and the compressive strength of the conduit. The design load on the conduit shall be based on a combination of equipment loads, trench loads, and road traffic, as applicable.

Equipment loads shall be based on the maximum expected wheel loads for the equipment to be used, the minimum height of cover over the conduit, and the trench width. Equipment loads on the conduit may be neglected when the depth of cover exceeds 6 ft. Trench loads shall be based on the type of backfill over the conduit, the width of the trench, and the unit weight of the backfill material.

Continuous pipe shall be used where it is not feasible to obtain cover as specified in the national standards, such as where drain lines cross waterways, or roads, the outlet end of mains, or near structures. The continuous pipe shall be of sufficient strength and durability to withstand expected loadings and weathering.

The minimum average depth of any drain through an area requiring continuous internal drainage shall be 3 ft (0.9 m).

The depth of laterals to intercept hillside seepage will vary according to the depth of the impervious layer. The drain line must be placed so that it intercepts the seepage flow.

The depth of mains will be adjusted so that the laterals can be joined to the main with a center-to-center connection or at a higher point. Where laterals are significantly above the main or more than one lateral joins the main at a point, refer to the section on “Auxiliary Structures and Protection.” A flowline-to-flowline connection is permissible when a center-to-center connection is not practical.

The maximum depth of cover for standard duty corrugated plastic tubing shall be 10 ft for trench widths of 2 ft or less (measured at tubing and to 1 ft above top of tubing). Heavy duty tubing shall be specified for depths greater than 10 ft, trench widths more than 2 ft, or in rocky soils.

For computation of maximum allowable loads on subsurface drains, use the trench and bedding conditions specified and the crushing strength of the kind and class of drain. The design load on the conduit shall be based on a combination of equipment loads and trench loads. Equipment loads are based on the maximum expected wheel loads for the equipment to be used, the minimum height of cover over the conduit, and the trench width. Equipment loads on the conduit may be neglected when the depth of cover exceeds 6 ft. Trench loads are based on the type of backfill over the conduit, the width of the trench, and the unit weight of the backfill material. A safety factor of not less than 1.5 shall be used in computing the maximum allowable depth of cover for a particular type of conduit.

Minimum Velocity and Grade. In areas where sedimentation is not a hazard, minimum grades shall be based on site conditions and a velocity of not less than 0.5 ft per second. If a sedimentation hazard exists, a velocity of not less than 1.4 ft per second shall be used to establish the minimum grades. Otherwise, provisions shall be made for preventing sedimentation by use of filters or by collecting and periodically removing sediment from installed traps, or by periodically cleaning the lines with high-pressure jetting systems or cleaning solutions.

Minimum grades where no sediment hazard exists are as follows:

Drain Size, Inches (mm)	Grade, Percent
3 to 6 (102 to 152)	0.10
8 to 10 (203 to 254)	0.07
12 and larger (>305)	0.05

Maximum Velocity. Design velocities for perforated or open joint pipe shall not exceed those given in Table M-3, unless special protective measures are installed. Design velocities with protective measures shall not exceed manufacturer’s recommended limits.

On sites where topographic conditions require drain placement on steep grades and design velocities greater than indicated in Table M-3, special measures shall be used to protect the conduit or surrounding soil.

Protective measures for high velocities shall include one or more of the following, as appropriate:

1. Enclose continuous perforated pipe or tubing with fabric type filter material or properly graded sand and gravel.
2. Use non-perforated continuous conduit or a watertight pipe, and sealed joints.
3. Place the conduit in a sand and gravel envelope, or initial backfill with the least erodible soil available.
4. Select rigid butt end pipe or tile with straight smooth sections and square ends to obtain tight fitting joints.
5. Wrap open joints of the conduit with tar-impregnated paper, burlap, or special fabric-type filter material.
6. Install larger diameter drain conduit in the steep area to help assure a hydraulic grade line parallel with the conduit grade.
7. Install open air risers for air release or entry at the beginning and downstream end of the high velocity section.

Releases from drainage water management structures shall not cause flow velocities in perforated or open joint drains to exceed allowable velocities in Table M-3, unless protective measures are installed.

Thrust Control. Follow pipe manufacturer’s recommendations for thrust control or anchoring, where the following conditions exist:

- Axial forces that tend to move the pipe down steep slopes.
- Thrust forces from abrupt changes in pipeline grade or horizontal alignment, which exceed soil bearing strength.
- Reductions in pipe size.

In the absence of manufacturer’s data, thrust blocks shall be designed in accordance with NEH, Part 636, Chapter 52, Structural Design of Flexible Conduits.

Outlets. Drainage outlets shall be adequate for the quantity and quality of water to be discharged.

Outlets to surface water shall be designed to operate without submergence under normal conditions.

For discharge to streams or channels, the outlet invert shall be located above the elevation of normal flow and at least 1.0 foot above the channel bottom.

Outlets shall be protected against erosion and undermining of the conduit, entry of tree roots, damaging periods of submergence, and entry of rodents or other animals into the subsurface drain.

A continuous section of pipe without open joints or perforations, and with stiffness necessary to withstand expected loads, shall be used at the outlet end of the drain line. Minimum lengths for the outlet section of conduit are provided in Table M-4. Single-wall Corrugated Plastic Pipe is not suitable for the section that outlets into a ditch or channel.

For outlets into sumps, the discharge elevation shall be located above the elevation at which pumping is initiated.

Table M-4. Minimum Length of Outlet Pipe Sections.

Pipe Diameter, in.	Min. Section Length, ft.
8 and smaller	10
10 to 12	12
15 to 18	16
Larger than 18	20

The use and installation of outlet pipe shall conform to the following requirements:

1. If burning vegetation on the outlet ditch bank is likely to create a fire hazard, the material from which the pipe is fabricated must be fireproof.
2. At least two-thirds of the pipe section shall be buried in the ditch bank, and the cantilever section must extend to the toe of the ditch side slope, or the side slope shall be protected from erosion. The minimum length of the pipe shall be 10 ft (3 m). Under certain conditions shorter sections are appropriate; e.g., steep-sided main and laterals (1:1 or less) with a narrow bottom width of 3 ft, commonly referred to as “minimum ditches,” for outletting individual subsurface drain laterals. For 15 in. and 18 in. diameter pipe, use 16 ft minimum length. Use 20-ft outlet pipe for all diameters larger than 18 inches.
3. If ice or floating debris may damage the outlet pipe, the outlet shall be recessed to the extent that the cantilevered part of the pipe will be protected from the current of flow in the ditch or channel.
4. When surface water must enter the channel at the location of the outlet pipe, some approved type of structure shall be installed to safely lower the

surface water into the ditch and protect the outlet. Headwalls used for subsurface drain outlets must be adequate in strength and design to avoid washouts and other failures. At least 8 ft (2.4 m) of rigid pipe shall be used to connect the drain line with the structure.

5. The minimum thickness for metal pipe shall be 0.064 inches (1.63 mm).

An adequate outlet shall be available and shall meet the following requirements:

Open Channel. The outlet channel shall be large enough to remove surface runoff from the watershed in a period of time sufficient to prevent serious crop damage. Required capacity will be based on NRCS design criteria for open channels. The channel shall be deep enough to provide the minimum of one foot of clearance between the invert of the drain at its outlet and low-water stage in the channel. This clearance may be reduced: (1) where the outlet channel is on such a grade that silting will not occur; (2) where the tile will flow freely within 24 hours after a storm; or (3) where definite scheduled plans have been made for outlet improvement within the next 12 months.

Existing Mutual or Private Drains. When existing mutual or private tile mains are used as an outlet, the tile shall be in good condition, free of failure, and working properly. The minimum capacity of an existing mutual tile main shall be ¼ inch (6.4 mm) per 24 hours for the area to be served (wet acres if no inlets). The minimum capacity of a private tile main (one that is under the control of a farmer for which the proposed system will serve) must have the capacity as shown in Table M-1 or Table M-2, as the case may be.

Legal Closed Drain. A legal closed drain (county or judicial) intended to serve as an outlet for the proposed drainage system shall be administratively considered adequate, provided it is in good repair, free of failure, working properly and the owner has secured required permits to use the legal drain as an outlet.

Sink Holes and Wells. Sink holes and wells are not considered adequate outlets.

Pump Outlet. The pump capacity and setting shall be capable of providing the appropriate drainage coefficient for the area drained.

Surface Drains. The area to be drained must have adequate surface drainage or provisions must be developed, if feasible and practical, for removing surface water overland to the outlet channel. When it is not feasible or practical to remove impounded surface water by surface drains, surface inlets to subsurface drains may be used.

The outlet must be protected against erosion and undermining of the conduit, entry of tree roots, damaging periods of submergence, and entry of rodents or other animals into the subsurface drain. A continuous section of rigid pipe without open joints or perforations will be used at the outlet end of the line and must discharge above the normal elevation of low flow in the outlet ditch. Corrugated plastic tubing is not suitable for the outlet section. Minimize the visual impact of projecting outlets.

Continuously submerged outlets will be permitted for water table control systems if planned and designed according to the standard for Drainage Water Management (554).

Watertight conduits strong enough to withstand the expected loads will be used if subsurface drains cross under irrigation canals, ditches, or other structures. Conduits under roadways must be designed to withstand the expected loads. Shallow subsurface drains through depressed or low areas and near outlets must be protected from damage caused by farm machinery and other equipment and from freezing and thawing.

Alignment. The change in horizontal direction of the tile shall be made by one of the following methods:

1. The use of manufactured fittings.
2. The use of junction boxes or manholes.
3. A gradual curve of the drain trench on a radius that can be followed by the trenching machine and maintain grade. A gradual curve may be made by hand shaping the inner side of the trench, but in no case shall the radius be less than 5 ft (1.5 m). In either case, rigid tile must then be shaped or chipped so that no crack between tile exceeds 1/8 inch, unless adequately covered.

Protection from Biological and Mineral Clogging.

Drains in certain soils are subject to clogging of drain perforations by bacterial action in association with ferrous iron, manganese, or sulfides. Iron ochre can clog drain openings and can seal manufactured (fabric) filters. Manganese deposits and sulfides can clog drain openings.

Where bacterial activity is expected to lead to clogging of drains, access points for cleaning the drain lines shall be provided.

Where possible, outlet individual drains to an open ditch to isolate localized areas of contamination and to limit the translocation of contamination throughout the system.

Drain cleaning provisions should be installed in such a way that the drains can be cleaned in an upstream or rising grade direction. If possible, drains in ochre-prone areas should be installed during the dry season when the water table is low and the iron is in its insoluble form.

Where possible, in areas where the potential for ochre problems is high, protection against ochre development can be provided by designing an outlet facility to ensure permanent submergence of the drain line.

Protection from Root Clogging. Problems may occur where drains are in close proximity to perennial vegetation. Drain clogging may result from root penetration by water-loving trees, such as willow, cottonwood, elm, soft maple, some shrubs, grasses, and deep-rooted perennial crops growing near subsurface drains.

The following steps may reduce the incidence of root intrusion:

- Install a continuous section of non-perforated pipe or tubing with sealed joints, through the root zone.
- Remove water-loving trees for a distance of at least 100 ft on each side of the drain, and locate drains a distance of 50 ft or more from non-crop tree species.
- Provide for intermittent submergence of the drain to limit rooting depth by installing a structure for water control (e.g. an inline weir with adjustable crest) that allows for raising the elevation of the drain outlet.

Water Quality. Septic systems shall not be directly connected to the subsurface drainage system, nor shall animal waste be directly introduced into the subsurface drainage system.

Materials. Subsurface drains include flexible conduits of plastic, bituminized fiber, or metal; rigid conduits of vitrified clay or concrete; or other materials of acceptable quality.

The conduit shall meet strength and durability requirements for the site. All conduits shall meet or exceed the minimum requirements of the appropriate specifications published by the American Society for Testing and Materials (ASTM), American Association of State Highway Transportation Officials (AASHTO), or the American Water Works Association (AWWA).

Foundation. If soft or yielding foundations are encountered, the conduits shall be stabilized and protected from settlement. The following methods are acceptable for the stabilization of yielding foundations:

- Remove the unstable material and provide a stable bedding of granular envelope or filter material.
- Provide continuous cradle support for the conduit through the unstable section.
- Bridge unstable areas using long sections of conduit having adequate strength and stiffness to ensure satisfactory subsurface drain performance.
- Place conduit on a flat, treated plank. This method shall not be used for flexible (e.g. Corrugated Plastic Pipe) without proper bedding between the plank and conduit.

Loading. See the EFH14 Table 14-6 on page 14-63 for determining maximum trench depths for corrugated plastic tubing buried in loose, fine-textured soils. Special designs using reinforced concrete pipe or other pipe of similar strength will be used where drainage tile or tubing will not provide adequate strength.

Filters and Filter Material. Filters shall be used around conduits, as needed, to prevent movement of the surrounding soil material into the conduit. The need for a filter shall be determined by the characteristics of the surrounding soil material, site conditions, and the velocity of flow in the conduit. A suitable filter shall be used if any of the following conditions exist:

- Local experience with soil site conditions indicates a need.
- Soil materials surrounding the conduit are dispersed clays, silts with a Plasticity Index less than 7, or fine sands with a Plasticity Index less than 7.
- The soil is subject cracking by desiccation.
- The method of installation may result in inadequate consolidation between the conduit and backfill material.

If a sand-gravel filter is specified, the filter gradation shall be designed in accordance with NEH, Part 633, Chapter 26, Gradation Design of Sand and Gravel Filters or the following:

D15 size smaller than 7 times d85 size but not smaller than 0.6 mm,

D15 size larger than 4 times d15 size,

Less than 5% passing No. 200 sieve,

Maximum size smaller than 1.5 inches, where D represents the filter material and d represents the surrounding base material.

The number following each letter is the percent of the sample, by weight, that is finer than that size. For example, D15 size means that 15 percent of the filter material is finer than that size.

Specified filter material must completely encase the conduit such that all openings are covered with at least 3 inches of filter material, except where the top of the conduit and side filter material are covered by a sheet of plastic or similar impervious material to reduce the quantity of filter material required. In all cases, the resulting flow pattern through filter material shall be a minimum of 3 inches in length.

Geotextile filter materials may be used, provided that the effective opening size, strength, durability, and permeability are adequate to prevent soil movement into the drain throughout the expected life of the system.

Geotextile filter material shall not be used where the silt content of the soil exceeds 40 percent.

Envelopes and Envelope Material. Envelopes shall be used around subsurface drains if needed for proper conduit bedding or to improve flow characteristics into the conduit.

Materials used for envelopes do not need to meet the gradation requirements of filters, but they must not contain materials that will cause an accumulation of sediment in the conduit, or materials that will render the envelope unsuitable for bedding of the conduit.

Envelope materials shall consist of sand-gravel, organic, or similar material. 100 percent of sand-gravel envelope materials shall all pass a 1.5-inch sieve; not more than 30 percent shall pass a Number 60 sieve; and not more than 5 percent shall pass the Number 200 sieve. ASTM-C-33 fine aggregate for concrete has been satisfactorily used and is readily available.

Organic or other compressible envelope materials shall not be used below the centerline of flexible conduits. All organic or other compressible materials shall be of a type that will not readily decompose.

Placement and Bedding. Placement and bedding requirements apply to both excavation trenching and plow type installations.

Place the conduit on a firm foundation to ensure proper alignment.

Conduits shall not be placed on exposed rock, or on stones greater than 1½ inches for conduits 6 inches or larger in diameter, or on stones greater than ¾ inch for conduit less than 6 inches in diameter. Where site conditions do not meet this requirement, the trench must be over-excavated a minimum of 6 inches and refilled to grade with a suitable bedding material.

If installation will be below a water table or where unstable soils are present, special equipment, installation procedures, or bedding materials may be needed. These special requirements may also be necessary to prevent soil movement into the drain or plugging of the envelope, if installation will be made in materials such as soil slurries.

For the installation of Corrugated Plastic Pipe with diameters of 8 inches or less, one of the following bedding methods shall be specified:

1. A shaped groove providing an angle of support of 90 degrees or greater shall be provided in the bottom of the trench for tubing support and alignment.
2. A sand-gravel envelope, at least 3 inches thick, to provide support.
3. Compacted bedding material beside and to 3 inches above the conduit.

For the installation of Corrugated Plastic Pipe with diameters larger than 8 inches, the same bedding requirements shall be met except that a semi-circular or trapezoidal groove shaped to fit the conduit with a support angle of 120 degrees will be used rather than a V-shaped groove.

For rigid conduits installed in a trench, the same requirements shall be met except that a groove or notch is not required. For trench installations where a sand-gravel or compacted bedding is not specified, the initial backfill for the conduit shall be selected material containing no hard objects (e.g. rocks or consolidated chunks of soil) larger than 1.5 inches in diameter. Initial backfill shall be carried to a minimum of 3 inches above the conduit.

Information on placing and bedding conduit is also contained in EFH14 on page 14-87. The minimum trench width at the top of the drain should be adequate to permit installation and provide bedding conditions suitable to support the load on the tile.

Auxiliary Structures and Protection. The capacity of any structure installed in the drain line shall be no less than that of the line or lines feeding into or through them.

Manufactured connections of junctions for joining two tile lines should always be used when available. If manufactured connections are not available, the junction should be cut and fitted and the cracks sealed with concrete mortar around the entire circumference of the fitted junction.

Structures for water table management, with provisions to elevate the outlet and allow submergence of the upstream drain, shall meet applicable design criteria in conservation practice standards, Structure for Water Control (587), and Drainage Water Management (554).

If the drain system is to include underground outlets, the capacity of the surface water inlet shall not be greater than the maximum design flow in the downstream drain line or lines. Covers or trash racks shall be used to ensure that no foreign materials are allowed in the drain lines. Inlets shall be protected from entry of animals or debris. If sediment may pose a problem, sediment traps shall be installed.

The capacity of a relief well system shall be based on the flow from the aquifer, the well spacing, and other site conditions, and shall be adequate to lower the artesian water head to the desired level. Relief wells shall not be less than 4 inches in diameter.

Surface water inlets will be installed using manufactured intakes or an approved equal method. See 650.1426 in EFH14.

The capacity of a relief well system for reducing artesian waterhead shall be based on the flow from the aquifer, the

well spacing, and other site conditions and will be adequate to lower the artesian waterhead to the desired level.

Breathers or vents shall be constructed according to Figure 14-42 in EFH14.

Junction boxes, manholes, catch basins, and sand traps must be accessible for maintenance. A clear opening of not less than 2.0 ft will be provided in either circular or rectangular structures.

The drain system shall be protected against turbulence created near outlets, surface inlets or similar structures. Continuous non-perforated or closed-joint pipe shall be used in drain lines adjoining the structure where excessive velocities will occur.

Junction boxes shall be installed where three or more lines join or if two lines join at different elevations. If the junction box is buried, a solid cover should be used, and the junction box should have a minimum of 1.5 ft of soil cover. Buried boxes shall be protected from traffic.

If not connected to a structure, the upper end of each subsurface drain line will be closed with a tight-fitting cap or plug of the same material as the conduit, or other durable materials.

Watertight conduits designed to withstand the expected loads shall be used where subsurface drains cross under irrigation canals, ditches, or other structures.

CONSIDERATIONS

When planning, designing, and installing this practice, the following items should be considered:

- Protection of shallow drains, auxiliary structures, and outlets from damage due to freezing and thawing.
- Proper surface drainage to reduce the required intensity of the subsurface drainage system.
- Designs that incorporate drainage water management practices (or facilitate its future incorporation) to reduce nutrient loading of receiving waters.
- Drainage laterals oriented along elevation contours to improve the effectiveness of drainage water management structures.
- The effects of drainage systems on runoff volume, seepage, and the availability of soil water needed for plant growth.
- Confirmation of soil survey information with site investigation, including auguring and shallow excavations to identify soil profile hydraulic characteristics, soil texture layering, water table depth, etc.
- The effects of drainage systems on the hydrology of adjacent lands.
- Subsoiling or ripping of soils with contrasting texture layers to improve internal drainage.

- Installations in dry soil profile to minimize problems of trench stability, conduit alignment, and soil movement into the drain.
- The effects to surface water quality.
- Use of temporary flow blocking devices to reduce risk of drain water contamination from surface applications of manure.

PLANS AND SPECIFICATIONS

Plans and specifications for installing subsurface drains shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

At a minimum, plans specifications shall include, as applicable: location of drainage system; wetland delineation(s); conduit lengths, grades, sizes, and type of materials; structure locations, dimensions, and elevations; outlet locations, elevations, and protection required; and normal water level elevations in outlet ditches or streams.

OPERATION AND MAINTENANCE

The Operation and Maintenance (O&M) Plan shall provide specific instructions for operating and

maintaining the system to insure proper function as designed. At a minimum, the O&M Plan shall address:

- Necessary periodic inspection and prompt repair of system components (e.g. structures for water control, underground outlets, vents, drain outlets, trash and rodent guards).
- Winterization protection from freezing conditions for drainage systems in cold climates.

REFERENCES

USDA-NRCS, National Engineering Handbook, Part 624, Chapter 4, Subsurface Drainage.

USDA-NRCS, National Engineering Handbook, Part 633, Chapter 26, Gradation Design of Sand and Gravel Filters.

USDA-NRCS, National Engineering Handbook, Part 636, Chapter 52, Structural Design of Flexible Conduits.

USDA-NRCS, National Engineering Handbook, Part 650, Engineering Field Handbook, Chapter 14, Water Management (Drainage).

Table M-3. Maximum Velocities in feet/second (to convert to m/s, multiply by 0.305)

Soil Texture 4)	Drains without protection	Drain tile with filter 2), 3)	Continuous pipe or sewer pipe with sealed joints (nonperforated)
Sand/loamy sand/fine sandy loam/loamy coarse sand/loamy very fine sand/fine sand/very fine sand/muck (sapric)/coarse loam/sandy loam	3.5	5.0	no limit
Silt/silt loam/mucky peat (hemic)/very fine sandy loam	5.0	6.0	no limit
Loam/silty clay/silty clay loam/sandy clay/sandy clay loam	6.0	7.0	no limit
Clay/clay loam/peat (fibric)	7.0	9.0	no limit
Coarse sand or gravel	9.0	10.0	no limit

The use of tile longer than 12 inches (305 mm) is recommended to reduce the number of joints.

Includes corrugated plastic drainage tubing installed with filter.

Graded gravel filter shall be a minimum of 3 inches (76 mm) thick around drain pipe and reasonably graded for the surrounding soil. The d85 of the envelope shall be larger than the perforations.

Where a soil horizon includes more than one texture, the most restrictive texture will be used.

Attachment 3
U.S. Army Corps of Engineers, St. Paul District
Regional General Permit for Agricultural Drainage Activities in Waters of the
United States (RGP-002-MN)

Examples and Illustrations

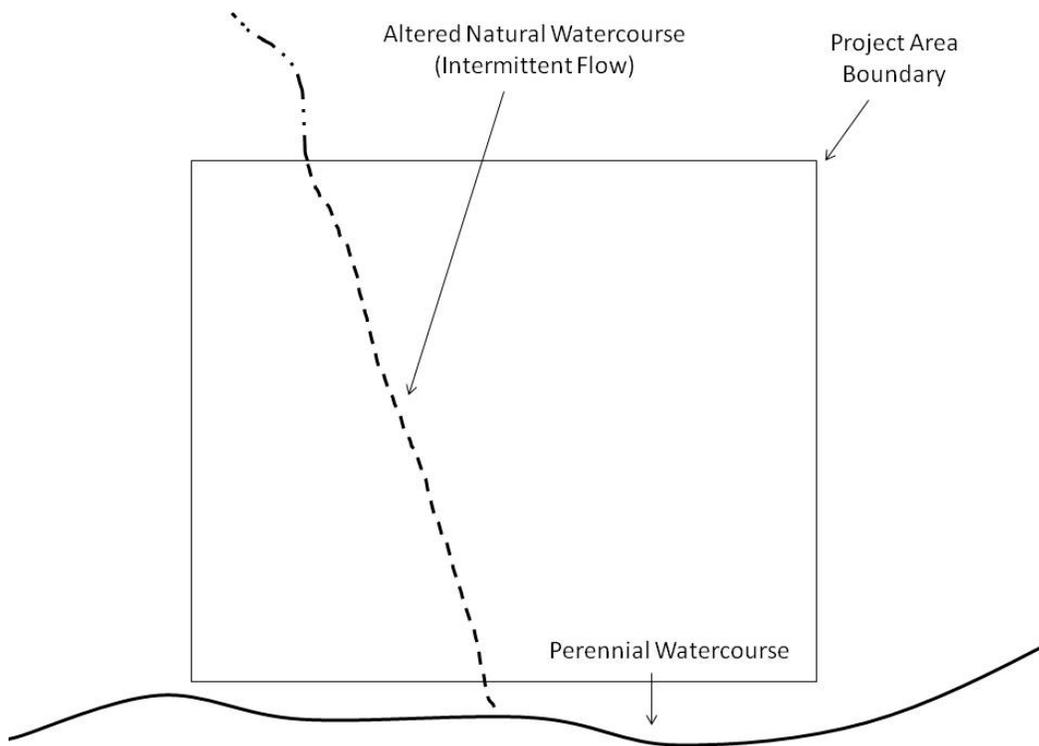


Example 1: linear wetland drainage in an
agricultural Field



Example 2: altered water course in an agricultural
Field

Examples and Illustrations



Example 3: Watercourse eligibility example. In this figure, if the origin of the watercourse is within the Project Area Boundary then the activity is eligible for authorization under category 3ai of RGP-002-MN provided the length of the watercourse affected is less than 2,000 feet. If, however, the watercourse extends outside of the Project Area Boundary (as shown by the dash and dot line segment) then the activity is not eligible for the RGP and would be reviewed under our individual permit procedures.

DEPARTMENT OF THE ARMY PERMIT

Permittee: The General Public in Minnesota

Permit No.: RGP-002-MN (Corps File No. MVP-2012-00291-BRC)

Issuing Office: St. Paul District, U.S. Army Corps of Engineers

Issuance Date:

Expiration Date:

Authority: Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344)

1. **Project Location.** RGP-002-MN (RGP) is eligible for use in waters of the U.S. within the State of Minnesota. Information regarding requests that the Corps make a determination whether a particular wetland, watercourse, or other aquatic resource is a water of the United States is provided in section 6 of the RGP.
2. **Authorized Activities.** The general public in the State of Minnesota is hereby authorized to discharge dredged or fill material into waters of the United States, including wetlands, for the following activities on agricultural lands:
 - a. **Installation of tile and culvert in linear drainage features (see Attachment 2 of the public notice for examples of these types of resources).**
 - i. **Headwater Reaches of Altered Natural Watercourses Or Artificial Watercourses.**¹ Discharges of dredged or fill material for the placement of drainage tile and culverts and associated infrastructure along the bottom of headwater reaches of altered natural watercourses or artificial watercourses whose primary function is agricultural surface drainage (see section 11 of the RGP for definitions of these terms). This category also authorizes discharges of dredged or fill material to backfill altered natural watercourses or artificial watercourses when the tile or culvert is installed immediately adjacent to the watercourse. Impacts to waters of the United States under this category may not exceed 2,000 linear feet.
 - ii. **Wetlands.** Discharges of dredged or fill material for the placement of drainage tile, culverts and associated infrastructure in linear wetland drainages through agricultural fields. Impacts to waters of the United States under this category may not exceed 10,000 square feet.

Calculation of Impacts: The measurement of impact to waters of the U.S. will be determined by calculating the area of wetlands or linear feet of watercourse where dredged or fill material would be discharged, plus the impacts to waters of the U.S. that would be excavated, inundated, or drained as a result of the regulated discharge.

¹ Information regarding the classification for a particular waterbody as altered, unaltered, or artificial may be obtained from other state regulatory agencies, however, for purposes of this RGP the final determination on how a waterbody is classified shall be made by the Corps.

Prospective permittees may request verification for a combined total of 2,000 linear feet of watercourse impact and 10,000 square feet of wetland impact under category 2.a. of the RGP.

Restrictions: This category of the general permit does not authorize the discharge of dredged or fill material into any perennial watercourse, any unaltered watercourse, or any watercourse where the origin of the channel extends beyond the upstream-most boundary of the proposed project (see example 3 in the examples and illustrations attachment to the public notice).

Notification requirements: The applicant must notify the Corps in accordance with Section 4 if the project would impact any amount of a watercourse or greater than 400 square feet of wetland.

- b. Farmed wetland drainage projects. Discharges of dredged or fill material for the installation of new drainage tile and associated infrastructure or improvement of existing drainage tile in farmed wetlands that impacts no more than 2 acres of waters of the U.S.

Calculation of Impacts: The measurement of impact to waters of the U.S. will be determined by calculating the area of wetlands where dredged or fill material would be discharged, plus the impacts to waters of the U.S. that would be excavated, inundated, or drained as a result of the regulated discharge.

Restrictions: This category of the general permit only authorizes the discharge of dredged or fill material into wetlands that are designated “Farmed Wetlands” (FW) by the Natural Resources Conservation Service (NRCS) or, for non-U.S. Department of Agriculture (USDA) program participants, wetlands that have been in agricultural use for 6 out of the last 10 years (see definitions for farmed wetlands and agricultural use in section 10). Discharges into wetlands on farmland that meets the definition of abandonment in section 10 are not eligible for authorization under the RGP.

Notification requirements: The applicant must notify the Corps in accordance with Section 4 if the project would impact more than 400 square feet of wetlands.

3. **Activities Specifically Excluded from RGP-002-MN.** In addition to the restrictions in section 2, the following activities are not eligible for authorization using RGP-002-MN:
 - a. Discharges within the exterior boundaries of a federally recognized Indian Reservation.
 - b. Discharges that may impact federally threatened or endangered species or a species proposed for such designation or which is likely to destroy or adversely modify the critical habitat of such species.
 - c. Discharges in calcareous fens or in wetlands within 300 feet of a state designated calcareous fen.

4. Application Procedures

- a. Where required by the terms of RGP-002-MN, the prospective permittee must notify the Corps by submitting a pre-construction notification (PCN). The PCN should be submitted as far in advance of the proposed work as possible and shall consist of the following information:
 - i. Name, address and telephone number of the prospective permittee.
 - ii. Location of the proposed project.
 - iii. Description of the proposed project including the amount of watercourse and wetland that would be impacted.
 - iv. A drawing of the proposed project showing all tile lines, connections, surface inlets, outlets, etc.
 - v. A wetland delineation or determination for the properties or farm tracts identified in the project.
 - vi. If the proposed activity will impact more than 2,000 square feet of wetlands, the prospective permittee must submit a statement describing how the losses will be offset through compensatory mitigation (see section 7(a)(ii) for additional information on compensatory mitigation).
- b. The prospective permittee may submit the information required for a complete PCN via a letter, report, the state/federal joint application form, or a completed NRCS form 1026 provided it contains all of the information outlined in section 4(a).

5. PCN Evaluation Process

- a. Timing. Upon receipt of a PCN, the Corps will determine if the PCN is complete within 30 calendar days of receipt. If incomplete, the Corps will prepare a letter requesting the information required to initiate the review process. As a general rule, the Corps will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the Corps will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the Corps.
- b. PCN Review and Processing. Upon receipt of a complete PCN, the Corps will initiate the permit review process to determine if the proposed activity complies with the terms and conditions of the RGP. Within forty-five calendar days of receipt of a complete PCN the Corps will either notify the prospective permittee that: (1) the activity is authorized under the RGP; or, (2) that the proposed activity is not eligible for authorization under the RGP and will be reviewed under our individual permit procedures.
- c. Decision on the PCN. The prospective permittee shall not begin the activity until either:

- i. He or she is notified in writing by the Corps that the activity may proceed under RGP-002-MN with any special conditions imposed by the Corps; or
- ii. Forty-five calendar days have passed from the Corps' receipt of the complete PCN and the prospective permittee has not received written notice from the Corps verifying that the proposed activity is consistent with the terms and conditions of RGP-002-MN.

6. Jurisdictional Determinations A jurisdictional determination (JD) is a written determination made by the Corps that a wetland and/or waterbody is subject to regulatory jurisdiction under Section 404 of the Clean Water Act (33 U.S.C. 1344). The Corps issues two types of JDs: approved and preliminary. An approved JD is an official Corps determination that jurisdictional waters of the United States are either present or absent at a particular site. An approved JD precisely identifies the limits of those waters on the project site determined to be jurisdictional under the Clean Water Act and may be appealed through the Corps' administrative appeal process. Preliminary JDs are non-binding written indications that there may be waters of the United States, including wetlands, on a parcel or indications of the approximate location(s) of waters of the United States or wetlands on a parcel. Preliminary JDs are advisory in nature and may not be appealed.

A landowner, permit applicant, or other "affected party" can request and obtain an approved JD prior to, or concurrent with, submission of a PCN under this RGP. He or she can also decline to request an approved JD, and instead obtain a Corps general permit authorization based on a preliminary JD. As a matter of practice, the Corps will prepare a preliminary JD for all PCNs reviewed under this RGP unless the prospective permittee specifically requests an approved JD. The Corps must prepare an approved JD when requested by a landowner, permit applicant, or other affected party.

7. Permit Conditions

- a. Standard Conditions. The activities authorized in Section 2 are subject to the following standard conditions, unless otherwise noted.
 - i. Discretionary authority: As allowed under 33 CFR 325.2(e)(2), the Corps retains discretionary authority to require an individual permit review of any activity eligible for authorization under RGP-002-MN based on concern for the aquatic environment or for any other factor of the public interest.
 - ii. Compensatory Mitigation. Compensatory mitigation will be required for projects that impact more than 2,000 square feet of wetlands. When compensatory mitigation is required, the prospective permittee must submit a mitigation proposal with the PCN. Compensatory mitigation shall be designed to replace the functions lost as result of the project. Applicants may also propose compensatory mitigation for projects with impacts to less than 2,000 square feet; however, the Corps may determine that this mitigation does not need to be included as a condition in the general permit verification letter. Use of Corps-approved mitigation banks and in-lieu fee programs are the preferred methods for providing compensatory mitigation if the mitigation site

meets the sequencing requirements of the Federal mitigation rule (33 CFR 332). Prospective permittees who wish to pursue project-specific mitigation must submit a mitigation plan prepared in accordance with 33 CFR 332, and the *St. Paul District Policy for Wetland Compensatory Mitigation in Minnesota* (<http://www.mvp.usace.army.mil/Missions/Regulatory/SpecialNotices.aspx>). Compensatory mitigation required by other Federal or state programs may, but will not necessarily, satisfy the compensatory mitigation requirement under the Clean Water Act. Prospective permittees are encouraged to contact the Corps Project Manager to ensure proposed compensatory mitigation complies with the St. Paul District Policy.

The Corps must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the Corps will expeditiously review the proposed compensatory mitigation plan. The Corps must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment as a result of the authorization.

- iii. Decision. In reviewing the PCN for the proposed activity, the Corps will determine whether the activity authorized by RGP-002-MN will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. The Corps will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. If the Corps determines that the activity complies with the terms and conditions of RGP-002-MN and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the Corps will notify the permittee and include any conditions the Corps deems necessary. When compensatory mitigation is required, the verification letter will include a condition requiring that the mitigation be provided by a specific date. No discharges of dredged or fill material shall occur in waters of the United States until the Corps has approved the mitigation plan.

If the Corps determines that the adverse effects of the proposed work are more than minimal, then the Corps will notify the applicant either: (1) That the project does not qualify for authorization under RGP-002-MN and instruct the applicant regarding the procedures to seek authorization under an individual permit; (2) that the project is authorized under RGP-002-MN subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under RGP-002-MN with specific modifications or conditions.

- iv. Normal and flood flows (Activity 2.a. only): Drainage tile must be sized to handle normal and anticipated high flows (see Attachment 3 to the public notice).

- v. Maintain slope and alignment (Activity 2.a. only): Drainage tile must be set at the same elevation and slope as the bed of the existing stream or linear wetland. The outlet elevation may not be lower than the existing outlet elevation. The alignment of drainage tile must generally follow the same path as the watercourse or linear wetland it replaces.
- vi. Maintenance of upstream and downstream hydrologic connection (Activity 2.a. only): As part of any work authorized under this general permit drainage tile must maintain the pre-project drainage flows through the project area. Tile inlets and outlets shall be located at the point where surface drainage features previously entered or exited the project area. No diversion or rerouting of surface water flows to other drainage systems (ditches, swales, tributaries, or new or existing tile lines) is authorized. Linear tile projects that intersect other wetlands must daylight at the wetland crossing to, at a minimum, maintain existing surface flows to the wetland. This general permit does not authorize the placement of dredged or fill material in wetlands other than those specifically requested in the permit application and included in the verification letter. Drainage tile must outlet at the point where surface water would normally enter the wetland and the tile outlet must be placed at the same elevation. The tile may not continue through the wetland. Drainage tile may be reestablished at the point where surface flows exit the wetland provided the inlet is set at the ground surface elevation of the wetland.
- vii. Inlet and outlet protection: Drainage tile outlets must be protected to limit erosion to the receiving water. This protection may include rock riprap, natural vegetation, or other acceptable measures. If additional discharges are required to protect tile inlets and outlets required by this standard condition, then specific authorization should be requested in the PCN. Additional information on design standards for tile outlets is provided in Attachment 3 to the public notice.
- viii. Soil erosion and sediment controls: Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction. All work shall be completed in accordance with applicable NRCS Conservation Practice Standards or other state approved best management practices for the protection of water quality during construction.
- ix. Use of multiple general permits: A single producer may request multiple authorizations under RGP-002-MN if the proposed activities have independent utility and are not located within the same project area. An activity is considered to have independent utility if it would be constructed absent the completion of other projects inside or outside of the project area. For purposes of this general permit, the project area is defined as the drainage area where the project is located that is under the control of the prospective permittee. The maximum loss of waters from a single producer in one project area is limited to the thresholds established for the activities described in Sections 2.a and 2.b of the RGP. If an application includes discharges under both Sections 3.a and 3.b the thresholds for each category will be applied independently to determine eligibility for the RGP. Applications with impacts to

waters of the United States that exceed the thresholds in the general permit can be evaluated under the Corps' individual permit application review procedures.

- x. Proper maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.
- xi. Historic properties and cultural resources. Project proponents for reporting GP-004-WI categories shall notify the Corps if any historic properties listed, determined eligible, or which the project proponent has reason to believe may be eligible for listing on the National Register of Historic Places (NRHP), might be affected or is in the vicinity of the project. Information concerning the location and existence of cultural resources may be obtained by contacting the State Historic Preservation Office (SHPO) at (651) 259-3450, the NRHP, and the appropriate tribal government.
 - a. No activity which may affect historic properties listed, or eligible for listing, on the NRHP is authorized, until the Corps has complied with the provisions of 33 CFR 325, Appendix C.
 - b. If cultural, archaeological, or historical resources are unearthed during activities authorized by this permit, work must be stopped immediately and the Corps, SHPO and/or Tribal Historic Preservation Office (THPO) must be contacted for further instruction. If you discover any previously unknown historic or archaeological remains while accomplishing any activity authorized by RGP-002-MN, you must immediately stop work and notify this office of what you have found. The Corps will initiate the coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing on the NRHP.
- xii. Rock or fill material used for activities authorized by this permit must either be obtained from existing quarries or, if a new borrow site is opened up to obtain fill material, the Corps must be notified prior to the use of the new site to determine whether a cultural resources survey of the site is necessary.
- xiii. Endangered species
 - a. No activity is authorized which is likely to adversely affect a threatened or endangered species as identified under the Federal Endangered Species Act (ESA), or which is likely to adversely affect critical habitat of such species.
 - b. No activity is authorized which may affect a listed species or critical habitat unless consultation under the ESA addressing the effects of the proposed activity has been completed. Non-federal permittees shall notify the District Engineer if any listed species or critical habitat might be affected or is in the vicinity of the project, and shall not begin work on the activity until notified by the District Engineer that the requirements of the ESA have been satisfied and that the activity is authorized. Federal project proponents should follow their own procedures for complying with the requirements of the ESA and provide documentation of compliance with those requirements.

- c. No activity is authorized which is likely to jeopardize a proposed species or which is likely to adversely modify proposed critical habitat.
 - d. Authorization of an activity under RGP-002-MN does not authorize the take of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with incidental take provisions, etc.) from the U.S. Fish and Wildlife Service (USFWS), both lethal and non-lethal takes of protected species are in violation of the ESA. Information on threatened or endangered species and critical habitat can be obtained directly from the USFWS Twin Cities Field office (TCFO) at 612-725-3548.
 - e. If it becomes apparent that a federally listed endangered plant or animal species will be affected by work authorized by this permit, work must be stopped immediately and the St. Paul District Corps of Engineers must be contacted for further instruction.
- xiv. **Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act:**
Notification to the Corps is required for projects within 660 feet of an eagle nest. There are approximately 1,300 bald eagle nests distributed among 64 of Minnesota's 87 counties. In Minnesota, bald eagles typically nest in old, large diameter trees within approximately 500 feet of a water body. It is recommended that the project proponent also contact the USFWS TCFO (612-725-3548) if the proposed project will disturb a bald eagle or a bald eagle nest.
For more information concerning the Bald and Golden Eagle Protection Act or the Migratory Bird Treaty Act refer to the following websites:
- <http://www.fws.gov/migratorybirds/mbpermits.html>
 - <http://www.fws.gov/midwest/eagle/protect/index.html>
 - <http://www.fws.gov/midwest/eagle/guidelines/disturbnestingbaea1.html>
- xv. **Site Access.** You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of RGP-002-MN.
- b. **Special Conditions.** The Corps may impose additional conditions on a project authorized pursuant to RGP-002-MN that are determined necessary to avoid or minimize adverse effects on the environment to ensure that the project is not contrary to the public interest. Such conditions will be specifically identified in any Corps confirmation letter. Failure to comply with all conditions and limitations of the authorization, including special conditions incorporated into the Corps' confirmation letter, constitutes a permit violation and may subject the permittee to criminal, civil or administrative penalties, and

appropriate environmental remediation (which could include restoration of the site to its pre-violation condition).

8. Duration of Authorization Unless otherwise specified in the District’s letter confirming your project complies with the requirements of this RGP, the time limit for completing work authorized by RGP-002-MN ends upon the expiration date of this RGP-002-MN. Activities authorized under the RGP-002-MN that have commenced construction or are under contract to commence construction, will remain authorized provided the activity is completed within 12 months of the date of the RGP-002-MN expiration, suspension, or revocation; whichever is sooner. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least three months before the expiration date is reached.

9. Further Information

- a. Congressional authorities: You have been authorized to undertake the activity described above pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344).
- b. Limits of this authorization:
 - i. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law;
 - ii. This permit does not grant any property rights or exclusive privileges;
 - iii. This permit does not authorize any injury to the property or rights of others; and
 - iv. This permit does not authorize interference with any existing or proposed Federal project.
- c. Limits of federal liability: In issuing this permit, the Federal Government does not assume any liability for the following:
 - i. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes;
 - ii. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest;
 - iii. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit; or
 - iv. Design or construction deficiencies associated with the permitted work.
 - v. Damage claims associated with any future modification, suspension, or revocation of this permit.

- d. Reliance on applicant's data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
- e. Reevaluation of permit decision: This office may reevaluate its decision for an individual authorization under this general permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
 - i. You fail to comply with the terms and conditions of this permit;
 - ii. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See d above); or
 - iii. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

- f. This Office may also reevaluate its decision to issue RGP-002-MN at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following: significant new information surfaces which this office did not consider in reaching the original public interest decision. Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7.

10. Definitions

- a. Abandonment: The cessation for five consecutive years of management or maintenance operations related to the production of agricultural commodities or forage on a particular tract of land.
- b. Agricultural Land: Agricultural land is land(s) used and managed for the production of food and fiber and includes cropland, hay land, rangeland, pasture land and lands used for horticultural crops.
- c. Altered Natural Watercourse: A former natural watercourse that has been affected by artificial changes to straighten, deepen, narrow, or widen the original channel. For Clean

Water Act purposes, a watercourse must have an ordinary high water mark to be considered eligible for further evaluation as a water of the United of the States.

- d. Agricultural Use. Land planted in an annually seeded crop or that was in a crop rotation for the production of food, fiber, or horticultural crops.
- e. Artificial Watercourse: A watercourse artificially constructed by human beings where a natural watercourse was not previously located. For Clean Water Act purposes, a watercourse must have an ordinary high water mark to be considered eligible for further evaluation as a water of the United of the States.
- f. Calcareous Fen: A calcareous fen is a rare type of wetland that receives groundwater rich in calcium. These wetlands support a number of rare plants only found in calcareous fens. More information on calcareous fens and a list of state designated calcareous fens can be found at: http://www.dnr.state.mn.us/snapshots/ecosystems/bogs_fens.html
- g. Drainage Tile: A drainage tile is a subsurface conduit meant to remove excess soil moisture for increased crop production. Drainage tile includes perforated tile and non-perforated tile and its associated infrastructure such as surface inlets, outlets, inlet/outlet protection, and connections.
- h. Farmed Wetland: A farmed wetland is an area that was manipulated and planted before December 23, 1985, but still meets wetland criteria. Under most circumstances a wetland determination from the Natural Resources Conservation Service identifying an area as a farmed wetland is acceptable for purposes of this GP.
- i. Natural Watercourse: A natural channel that has definable beds and banks capable of conducting confined runoff from adjacent land. For Clean Water Act purposes, a watercourse must have an ordinary high water mark to be considered eligible for further evaluation as a water of the United of the States.
- j. Ordinary High Water mark: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
- k. Perennial Watercourse: A perennial watercourse has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow and runoff from rainfall is a supplemental source of flow. A perennial watercourse is shown on U.S. Geological Survey topographic maps as a solid blue line.
- l. Setback: Setback distance or lateral drainage effect refers to the distance to one side of a drain (drainage ditch or tile) where soil gravitational water is drawn down to 1 foot below the ground surface within 14 days time.

- m. Wetland: The term wetland means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.
- n. Wetland Impact: The term wetland impact means filling, draining, grading, conversion, or clearing of wetlands.

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