



Introduction

After you identify fields that would benefit from tile drainage, this document contains items you may need to consider and address prior to installation of subsurface tile drainage. This is by no means meant to be an exhaustive list so please refer to the resource information and contact list on the back of this page. *As of November 2018, no permits are required to install drainage tile in Vermont. However, local, state, and federal regulations must be followed. Refer to the back of this sheet for a list resources including agencies, tile drainage businesses, and economic calculators.*

Tile Drainage Pre-Installation Checklist

	Yes	No
1. Will the economic investment of tile drainage improve your bottom line i.e. will the benefit from additional crop yield be higher than the cost of installation and maintenance? (Refer to the back of this sheet for an example profitability calculator)	<input type="checkbox"/>	<input type="checkbox"/>
2. Do you have permission from the land owner?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have you contacted neighbors about this project in an effort to minimize potential drainage disputes?	<input type="checkbox"/>	<input type="checkbox"/>
4. Have you contacted FSA or otherwise have a map showing prior converted wetlands?	<input type="checkbox"/>	<input type="checkbox"/>
5. Does the project comply with USDA-NRCS standards?	<input type="checkbox"/>	<input type="checkbox"/>
7. Do you know your soil type (clay, loam, sand, etc.) and what the common spacing is for that soil?	<input type="checkbox"/>	<input type="checkbox"/>
8. Do you have a tile drainage design?	<input type="checkbox"/>	<input type="checkbox"/>
a. Do you know which way your tile slopes and where outlets will go?	<input type="checkbox"/>	<input type="checkbox"/>
b. Does the proposed outlet have the capacity to handle the projected peak discharge amount?	<input type="checkbox"/>	<input type="checkbox"/>
c. Does the plan comply with Required Agricultural Practices (RAPs) i.e. has rodent guards, does not have inlets, etc.? Refer to the RAPs for a complete list tile drainage state laws: https://agriculture.vermont.gov/rap	<input type="checkbox"/>	<input type="checkbox"/>
d. Does the design follow the golden rule of drainage: drain all that you need for trafficability and good crops, but not a drop more?	<input type="checkbox"/>	<input type="checkbox"/>
e. Does the design include the flexibility for future phases of installation, if necessary?	<input type="checkbox"/>	<input type="checkbox"/>
9. Does this project require a permit under Army Corps of Engineers or Army Corps of Engineers Self-Verification General Permit 21?	<input type="checkbox"/>	<input type="checkbox"/>
10. Does this project require a permit by the DEC Wetland Program?	<input type="checkbox"/>	<input type="checkbox"/>
11. Does this project require a permit by DEC Conservation River Management Engineers?	<input type="checkbox"/>	<input type="checkbox"/>
12. Has Dig Safe been contacted?	<input type="checkbox"/>	<input type="checkbox"/>

Agencies

Vermont Agency of Agriculture, Food & Markets
(802) 828-2430

<https://agriculture.vermont.gov/rap>

Natural Resource Conservation Service (NRCS)
(802) 951-6796

<https://www.nrcs.usda.gov/wps/portal/nrcs/main/vt/contact/state/>

Army Corps of Engineers
(802) 872-2893

<http://www.nae.usace.army.mil/Contact.aspx>

For more information about GP 21 (pg. 25):

http://www.nae.usace.army.mil/portals/74/docs/regulatory/PublicNotices/Vermont_General_Permits.pdf

Department of Environmental Conservation (DEC) Wetlands Program

(802) 828-1535

<http://dec.vermont.gov/watershed/wetlands/contact>

DEC River Management Engineers call Agency of Natural Resources Department of Conservation Wetland Division

(802) 828-1535

http://dec.vermont.gov/sites/dec/files/wsm/rivers/docs/RME_districts.pdf

Dig Safe: at least 48 hours before excavation begins.

1-888-DIGSAFE (1-888-344-7233)

http://publicservice.vermont.gov/publications-resources/damage_prevention

List of Tile Drainage Contractors*

- ♦ BCA Ag Technologies (802.870.0850; Medina, NY)
- ♦ HA Monash (802.888.5722; Morrisville, VT)
- ♦ Larry Pickett (802.685.4455; Randolph, VT)
- ♦ Redline Drainage (518.578.2738; West Chazy, NY)
- ♦ Steve Mahoney (518.569.6441; Altoona, NY)
- ♦ Van Wyck. Bros (802.870.0850; Ferrisburgh, VT)

Tile Drainage Profitability Calculator*

Prinsco Inc., Agricultural Resource Library

<https://www.prinsco.com/resources/profitability-analysis-calculator/>

*This is not intended to be a complete list and inclusion does not imply endorsement or support of any of the linked information, services, products, or providers.

Resources & References

Carlson, Brad and Gary Sands. Ten Points to Consider When Planning an Agricultural Drainage System. University of Minnesota Extension. 2012

<https://www.extension.umn.edu/agriculture/water/planning/ten-drainage-planning-points/docs/10-planning-points-to-consider-carlson-sands-2012.pdf>

Carlson, Brad and Gary Sands. Evaluating a Subsurface Drainage Project and Its Alternatives. University of Minnesota Extension. 2013

<https://www.extension.umn.edu/agriculture/water/planning/evaluating-subsurface-drainage-projects/docs/evaluating-subsurface-drainage-carlson-sands-2013.pdf>

DEC River Corridor and Floodplain Protection

<http://dec.vermont.gov/watershed/rivers/river-corridor-and-floodplain-protection>

Miner Institute

<http://www.whminer.com/>

NRCS 2014 Farm Bill Compliance Changes

<https://www.nrcs.usda.gov/wps/portal/nrcs/detail-national/programs/farmbill/?cid=stelprdb1257899>

NRCS Vermont Drainage Guide

https://efotg.sc.egov.usda.gov/references/Delete/2013-11-2/VT_Drainage_Guide.pdf

VT DEC Stream Alternation Rules and Permits

<https://dec.vermont.gov/watershed/rivers/river-management#rules>

March 2019

A publication of the University of Vermont Extension Northwest Crops and Soil Program.

This material is based upon work supported by USDA/NIFA under Award Number 2015-49200-24225.