

8. Storm Inlet Protection

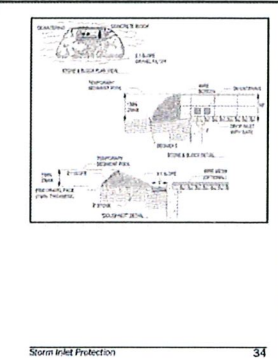
Purpose: Existing or new storm inlets on construction sites constitute a site perimeter and must be protected from sediment laden runoff. The practices below allow stormwater to settle and filter through the practice and not bypass the inlet entirely.

Requirements: Stormwater inlets shall be 4 inches above grade or an acceptable inlet control/protection should be installed.

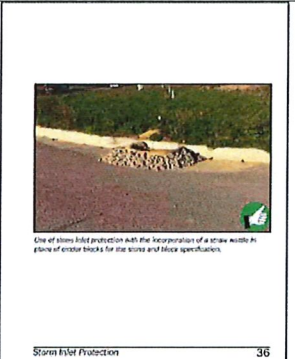
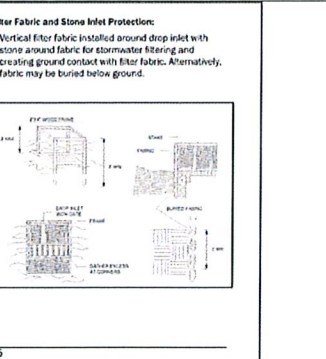
Inlet Protection Installation:

Proprietary Inlet Protection: Shall provide for storage and removal of sediment and be sized appropriately for the drainage area, while allowing stormwater to filter through. These may be used if installed and maintained in accordance with the manufacturer's specifications.

Stone and Block Inlet Protection: Concrete blocks placed around an inlet with a circle of filtering stone sloped against the blocks.



Storm Inlet Protection 34



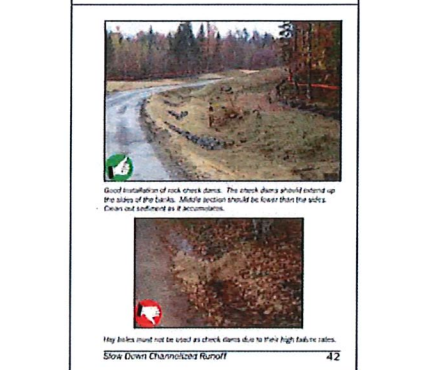
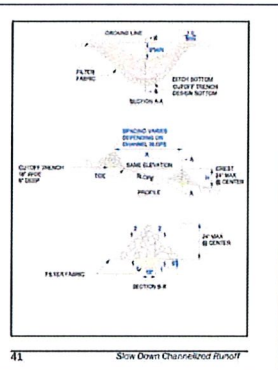
Storm Inlet Protection 36

Spacing: Space the dams so that the bottom (toe) of the upstream dam is at the elevation of the top (crest) of the downstream dam. This spacing is equal to the height of the check dam divided by the channel slope.

Spacing (in feet) = Height of check dam (in feet) / Slope in channel (ft/ft)

Check Dam Maintenance:

- Correct all observed damage immediately after every runoff event.
- Remove all sediment accumulated behind the check dams and dispose of in an upland location.
- If significant erosion is observed between check dams, the channel shall be stone lined.

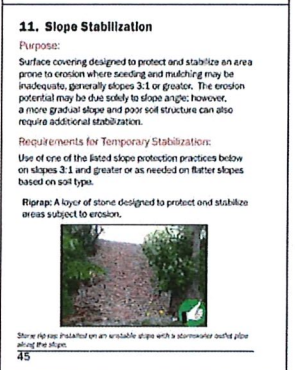


Slow Down Channelized Runoff 40

Rock Outlet Protection:

- Waterways or outlets with concentrated stormwater runoff shall be stabilized with riprap, proprietary stabilization product or permanent material. This additional stabilization is applicable in areas where the channel slope and velocity or soil type require additional stabilization.
- All outlets from concentrated stormwater flows will require a stabilized bed.
- Stone shall be sized so it is not mobilized during high flows.

The images on page 44 show the before and after of an existing channel from a culvert outlet, stabilized with stone, to a small pool for energy dissipation at the bottom of the slope.



Rock Outlet Protection 43

Ruffed Erosion Control Product: A preformed protective blanket of straw or other plant residue, formed into a mat, with a supporting mesh framework on one or both sides. This mesh cannot be made of a material with welded joints.

Erosion Control Matting: Install per manufacturer's instructions.

IMPORTANT NOTE: Ruffed Erosion Control Product (RECP) materials have the potential to entangle animals such as snakes and birds, which can lead to injury or fatality. This has been observed to be most problematic in products with a plastic mesh, whether raddisidate or not.

Accordingly, only woven and interlocked products are approved for use in RECP applications. (See Tables 4.3 and 4.4 of the Vermont Standards & Specifications for Erosion Prevention and Sediment Control)

12. Winter Construction Requirements October 15 - April 15

Purpose: Winter construction as discussed here, describes the period from October 15 through April 15, when erosion prevention and sediment control is significantly more difficult. There are specific requirements for sites that conduct earth disturbance during the defined Winter Construction Period and for sites where disturbed areas have not reached final stabilization by October 15. Sites in late fall, thaw throughout the winter, and spring melt and rains can produce significant flows over frozen and saturated ground, greatly increasing the potential for erosion. A construction site can be managed to anticipate these conditions to prevent erosion and thus minimize the risk to water quality during this time period.

Requirements for Winter Shutdown: For projects or areas of a site that will have completed earth disturbance activities prior to the winter construction period (October 15 through April 15), the following requirements must be achieved to:



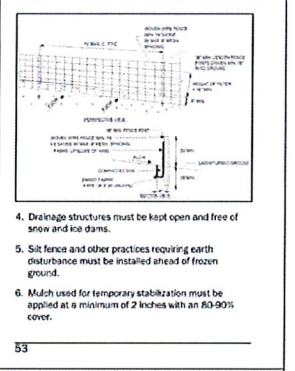
1. For areas to be stabilized for the winter through the establishment of vegetation, seeding and mulching shall be completed no later than September 15 to ensure adequate growth and cover before the start of the winter period.

2. If seeding is not completed by September 15, additional non-vegetative protection must be used to stabilize the site for the winter period. Areas of disturbance not seeded and mulched by September 15 are required to temporarily stabilize by one of the following methods:

- Implement Ruffed Erosion Control Products (i.e. matting) over the areas of earth disturbance.
- Apply a 2" mulch layer to areas of earth disturbance, equivalent to double the standard rate. Mulch should be tracked in open areas vulnerable to wind.
- Seeding with winter rye is recommended to allow for early germination during wet spring conditions.

Requirements for Winter Construction
If construction activities involving earth disturbance continue into the winter construction period, the following requirements apply:

- Enlarged access points, stabilized to provide for snow stocking.
- Snow shall be managed with adequate storage and control of meltwater, requiring cleared snow to be stored down slope of all areas of disturbance and out of stormwater treatment structures.



4. Drainage structures must be kept open and free of snow and ice dams.

5. Silt fence and other practices requiring earth disturbance must be installed ahead of frozen ground.

6. Mulch used for temporary stabilization must be applied at a minimum of 2 inches with an 80-90% cover.

7. To ensure cover of disturbed soil in advance of a precipitation or melt event, areas of disturbed soil must be stabilized prior to any runoff producing event.

- Stabilization is not required if the work is occurring in a self-contained excavation (i.e. no outlets) with a depth of 2 feet or greater (e.g. house foundation excavations, utility trenches), provided any dewatering, if necessary, is conducted in accordance with Part 13.

8. Prior to stabilization, snow or ice must be removed to the extent practicable.

9. Use stone to stabilize areas such as the perimeter of buildings under construction or where construction vehicle traffic is anticipated. Stone paths should be sufficient width to accommodate vehicle or equipment traffic.

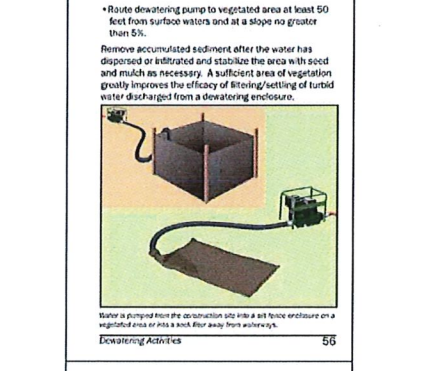
13. Dewatering Activities

Purpose: To minimize and prevent discharges of sediment as a result of dewatering activities.

Requirements: Stormwater and groundwater from dewatering activities shall be contained and shall be filtered or passed through a sediment trapping device, or both, and routed in a manner that does not result in visually turbid discharges to waters. Pump intake for dewatering must be at or near the surface of the ponding area to prevent disturbance of the settled material. Visually turbid water must be pumped directly to storm drains or other conveyance that leads to waters without implementing one or more of the practices described below.

How to comply: Implement one or more of the following practices when dewatering:

- Implement sock filters or sediment filter bags on dewatering pump discharge hoses or pipes.
- Route dewatering pumps into silt fence enclosures or into stalled hay bale enclosures lined with fabric.



Route dewatering pump to vegetated area at least 50 feet from surface waters and at a slope no greater than 5%.

Remove accumulated sediment after the water has dispersed or infiltrated and stabilize the area with seed and mulch as necessary. A sufficient area of vegetation greatly improves the efficacy of filtering/settling of turbid water discharged from a dewatering enclosure.

Water is pumped from the excavation site into a silt fence enclosure on a vegetated area or into a well filter away from watersheds.

14. Concrete Washout

Purpose: Concrete wash water often contains a slurry of heavy metals, can be caustic, and has a high pH. As a result, concrete washwater is not a permitted discharge.

Requirements: Concrete wash-water and excess washout concrete should go in a lined washout. This washout should be accessible to the cement truck and at least 50 feet away from stormwater inlets and surface water.

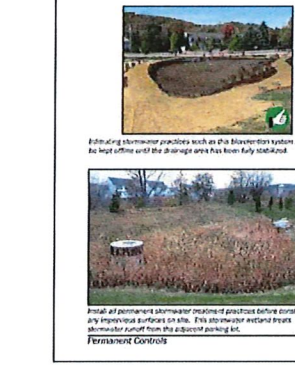
Concrete Washout Installation: If cement washout is going to occur on site, a lined concrete washout as shown below shall be used on site. Care should be given to ensure that the washout does not erode during a storm event. Proprietary lined and contained concrete washout basins may also be utilized in accordance with manufacturer's specifications.

Concrete Washout Maintenance: Concrete washout shall be pumped to a concrete truck as necessary, for disposal or reuse at a batch plant. Washout may also be allowed to evaporate/harden for disposal in accordance with all applicable local, state, and federal regulations.

Permanent Stormwater Treatment Practices (STPs) include infiltration and filtering practices as well as detention ponds and treatment wetlands. It is critical that infiltration practices do not receive runoff until the site area has reached final stabilization.

The outlet of permanent controls that are used as temporary storage and sediment basins during construction constitutes a potential discharge point and therefore must be managed to minimize and prevent sediment laden stormwater discharges. These practices will often need to be washed to meet the operational design criteria for volumes, grades and geometry once final grading and stabilization has occurred.

*An impervious surface is a permeable surface, including, but not limited to, paved and unpaved roads, parking areas, roofs, driveways, and walkways, from which precipitation runs off rather than infiltrates.



16. Inspection, Maintenance, and Discharge Reporting

Site inspections are required to ensure that all erosion prevention and sediment control practices are sufficient and functioning properly. Regular inspections and maintenance of practices will help to reduce costly repairs and minimize the risk to water quality from construction stormwater discharges.

Requirements: Inspect the site at least once every 7 days and after every rainfall or snowmelt that results in stormwater runoff. Perform maintenance to ensure that practices are functioning according to the specifications outlined in this handbook.

In the event of a visibly turbid discharge from the construction site, you must take immediate action to inspect and maintain existing erosion prevention and sediment control practices. Additional erosion prevention and sediment control measures must be installed as necessary, including temporary stabilization, to minimize and prevent the discharge of sediment laden stormwater runoff.

If after maintaining and supplementing BMPs, a discharge of visibly discolored stormwater from the construction site to surface waters continues, the permittee is required to notify DEC within 24 hours.

While documentation of a routine inspection is not required, example inspection forms and forms for required discharge reporting are available at the Stormwater Program website. Permittees shall review Construction General Permit 3-9020 for all discharge reporting requirements.

- A copy of the Low Risk Site Handbook shall be kept on site.
- Daily inspections are required from October 15 through April 15.

Acknowledgements

Some design details and standards were adopted from those provided by: Vermont Electric Power Company (VTECO), TIC Solutions, Connecticut Department of Transportation (CTDOT) and the New York Department of Environmental Conservation (NYDEC).

Section 3 Additional Resources

How to calculate slope:

How to estimate disturbance areas:

1 acre = 43,560 square feet = 4,840 square yards

Area in acres (width in feet x length in feet)

Area (ft)	100	150	200	300	400	500
100	0.2	0.3	0.5	0.7	0.9	1.1
150	0.3	0.5	0.7	1.0	1.4	1.7
200	0.4	0.7	0.9	1.4	1.9	2.3
300	0.7	1.0	1.4	2.1	2.8	3.4
400	0.9	1.4	1.9	2.8	3.7	4.6
500	1.1	1.7	2.3	3.4	4.6	5.7

Vermont Department of Environmental Conservation
Watershed Management Division
1 National Life Drive
Montpelier, VT 05602-3522

dec.vermont.gov/watershed/stormwater

63

Exhibit DD

Use of These Drawings

- Unless otherwise noted, these Drawings are intended for preliminary planning, coordination with other disciplines or utilities, and/or approval from the regulatory authorities. They are not intended as construction drawings unless noted as such or marked approved by a regulatory authority.
- By use of these drawings for construction of the Project, the Owner represents that they have reviewed, approved, and accepted the drawings, obtained all necessary permits, and have met with all applicable parties/disciplines, including but not limited to, the Engineer and the Architect, to insure these plans are properly coordinated including, but not limited to, contract documents, specifications, owner/contractor agreements, building and mechanical plans, private and public utilities, and other pertinent permits for construction.
- Owner and Architect are responsible for final design and location of buildings shown, including an area measured a minimum five (5) feet around any building and coordinating final utility connections shown on these plans.
- Prior to using these plans for construction layout, the user shall contact TCE to ensure the plan contains the most current revisions.
- These Drawings are specific to the Project and are not transferable. As instruments of service, these drawings, and copies thereof, furnished by TCE are its exclusive property. Changes to the drawings may only be made by TCE. If errors or omissions are discovered, they shall be brought to the attention of TCE immediately.
- It is the User's responsibility to ensure this copy contains the most current revisions.



For Local Permitting Only

Allstone Vermont
VT 103
Chester, VT

EPSC Low Risk Handbook Sheet 2

Date: 05/31/2023
Scale:
Project Number: 22-270
Drawn By: CAJ
Project Engineer: CAJ
Approved By: JYM
Field Book: