

EROSION CONTROL REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

- A. The work under this section includes but is not limited to providing all labor, equipment and materials for the installation of all required site related erosion control measures. If not otherwise directed on the plans, erosion control measures shall be installed in accordance with the edition of the Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites.

1.02 GENERAL NOTES

- A. The discharge of sediment laden water from the project site is prohibited. All discharged water from dewatering operations shall discharge into a temporary sedimentation basin.

- B. Contractor shall install all erosion control measures as depicted on plans and details or as recommended by the Vermont Agency of Natural Resources, or Soil Conservation Service, prior to any construction. Contractor shall also be responsible for inspecting and maintaining all erosion control measures until project is completed.
- C. Contractor shall also limit the soil disturbance and seeding application dates to between May 1st and October 15th. If soil disturbance occurs later than October 15th and prior to May 1st, winter erosion control measures shall be installed in accordance with the Vermont Handbook for additional site specific winter erosion control measures.

- D. All stockpile material (topsoil, borrow, etc.) will have a hay bale dike or silt fence constructed around the stockpile as possible to prevent soil erosion and sedimentation off site. Locate stockpiles on the uphill side of the disturbed area, if possible. During windy conditions, stockpiled material shall be covered or watered appropriately to prevent wind erosion.
- E. Slopes greater than 1:3 shall have erosion control netting installed to stabilize the slope and reduce the erosion potential. Install netting over mulched slopes so that all parts are in contact with the soil and mulch. Pin netting to the slopes 3' o.c. to ensure full bonding with soil surface.
- F. Install hay bales in grass-lined ditches 50 feet on center to prevent silt from washing into the drainage system during storms. Hay bales shall be removed when vegetation is established.
- G. Control dust through the application of calcium chloride or water. An average application of one pound of calcium chloride per square yard of exposed area should be applied to the surface of the road. Applications should be based upon field and weather conditions. It shall be spread in such manner and by such devices that uniform distribution is obtained over the entire area on which it is ordered placed.

PART 2 - PRODUCTS

2.01 EROSION CONTROL NETTING

- A. Jute netting shall consist of undyed and unbleached yarn woven into a uniform open plain weave mesh.

2.02 EROSION CONTROL MATTING

- A. Where required on the plans or where directed by the Engineer, erosion control blankets (matting) shall be North American Green G125 for sods, and SCT50 for slope stabilization, or approved equal.

2.03 FILTER FABRIC

- A. When filter fabric is required, it shall conform to the requirements of Mohri H40NS or approved equivalent.

2.04 CALCIUM CHLORIDE

- A. Calcium chloride shall conform to the requirements of AASHTO M 144. Either regular flake calcium chloride, Type 1 or concentrated flake, pellet or other granular calcium chloride, Type 2, may be used.

2.05 WATER

- A. All water used shall be clean and free of harmful amounts of oil, grease, or other pollutants. Water shall be applied in a manner not injurious to the finished product, plant life or the establishment of vegetation.

PART 3 - EXECUTION

3.01 HAY BALE CHECK DAM AND INLET PROTECTION

- A. Bales shall be placed in a row with ends tightly abutting the adjacent bales. Each bale shall be interlocked in the minimum of 4 inches. Bales shall be securely anchored in the ditch by driving a 2" x 4" stake through the top of the first stake in each bale shall be driven toward the previously laid bale to force the bales together.

3.02 SILT FENCES

- A. The silt fences shall be constructed in accordance with the construction detail on the plans and shall be installed 10 feet from the edge of the slope or driveway on the plans. The ends of the fence shall be placed uphill to form a horseshoe shape to trap all runoff.
- B. The silt fences shall be inspected periodically for damage or failure. If damage or failure is observed, the silt fence shall be repaired or replaced. Sediment deposits shall be removed from the fence as they build up and be placed in an area where there is no danger of further erosion.

3.03 EROSION MATTING

- A. Erosion matting shall be placed on all grass-lined ditches with profile grades exceeding 5.0% and shall be placed and maintained in accordance with the Vermont Agency of Transportation Standard Specifications Sections 654 and 755.07.

3.04 RESTORATION

- A. As soon as construction is completed in a given area, it shall be topsoiled, seeded, fertilized and mulched as specified in the Permanent Seeding section.

3.05 STABILIZED ROAD ENTRANCE

- A. A stabilized pad of crushed stone located as shown on the drawings shall be constructed for the purpose of preventing the tracking of sediment onto public rights-of-way.

- B. Design Criteria:
 1. Use 2.0 to 4.0 inch stone.
 2. Use 8 high layer of stone.
 3. Stone pad shall be full width of entrance.
 4. Minimum length shall be 50 feet.

3.06 GRASS-LINED DITCHES

- A. All ditches that are not storm-lined shall be topsoiled, seeded, fertilized and mulched. Any area which shows signs of erosion shall be topsoiled, seeded, fertilized and mulched until permanent vegetation is established.

3.07 TEMPORARY DIVERSION DITCH

- A. Some diversion ditches will be temporary in nature, with stabilization and the area will not need to be stabilized with stone or seeding. These ditches will act as infiltrative areas and will have haybale check dams to minimize the move of fine grained materials.

3.08 MAINTENANCE

- A. All erosion control measures shall be inspected weekly and repaired and/or replaced as needed.
- B. All erosion control measures shall be inspected after periods of heavy rain.
- C. The stabilized road entrance shall be top dressed with additional stone should the existing stone become clogged with sediment.
- D. Hay or straw mulch is subject to wind action. Mulch may require reapplying as the weather conditions warrant.

3.09 WINTER CONSTRUCTION

- A. If, due to the project schedule, construction during the winter months is necessary, the Contractor shall follow the winter construction procedures outlined in the Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites between October and May.

TEMPORARY SEEDING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes:
 1. Complete all seeding materials and equipment to protection against wind or water erosion.

1.02 GENERAL NOTES

- A. Adequate seed bed preparation, use of quality seed, and timely planting are required to achieve a good stand of vegetation to control erosion.

PART 2 - PRODUCTS

2.01 GENERAL

- A. At a minimum, all products shall meet the requirements of the Permanent Seeding Section.

PART 3 - EXECUTION

3.01 SEEDING CONDITIONS

- A. All essential grading and all temporary structures, such as diversions, dams, ditches, and drains needed to prevent gulping and reduce erosion, should be completed prior to seeding.

3.02 SEED AND SEEDING

- A. Seed and seeding rates may be selected from the table below. The seed shall be spread uniformly over the area. After seeding, the soil should be tamped by rolling or packing, where rolling or packing is not feasible, the seed should be covered lightly by raking, dragging, or dragging.

Plant Selection and Seeding Rates:

Species	Per 1000 Sq. Ft.	Remarks
Annual Ryegrass	40 lbs	1 lb.
Perennial Ryegrass	30 lbs	0.7 lbs.

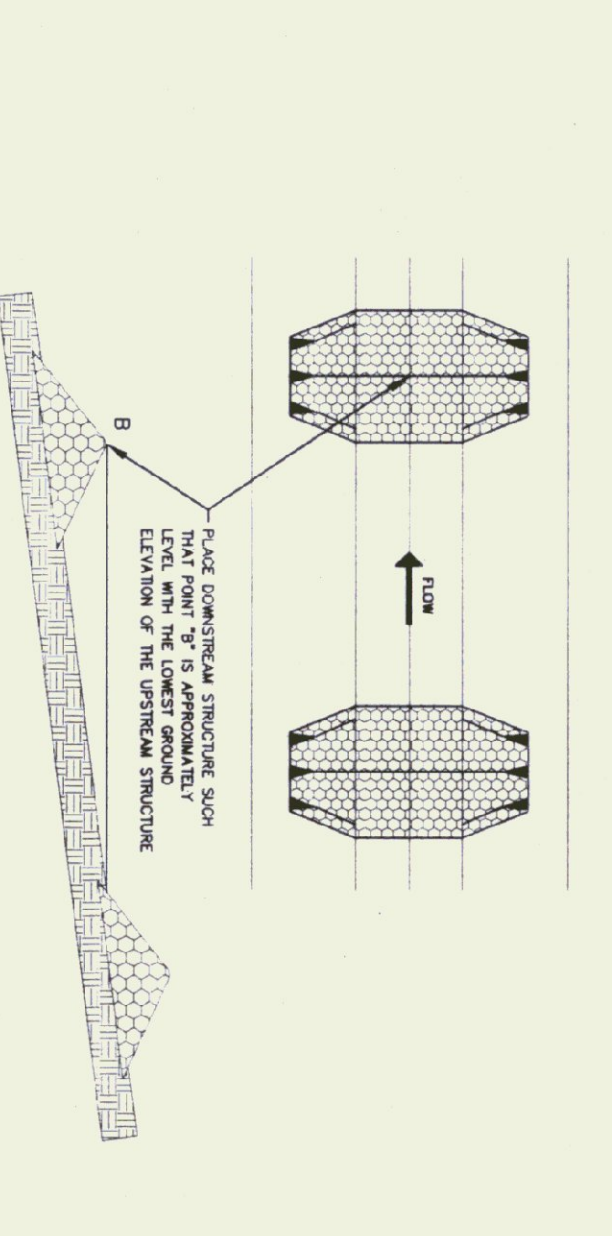
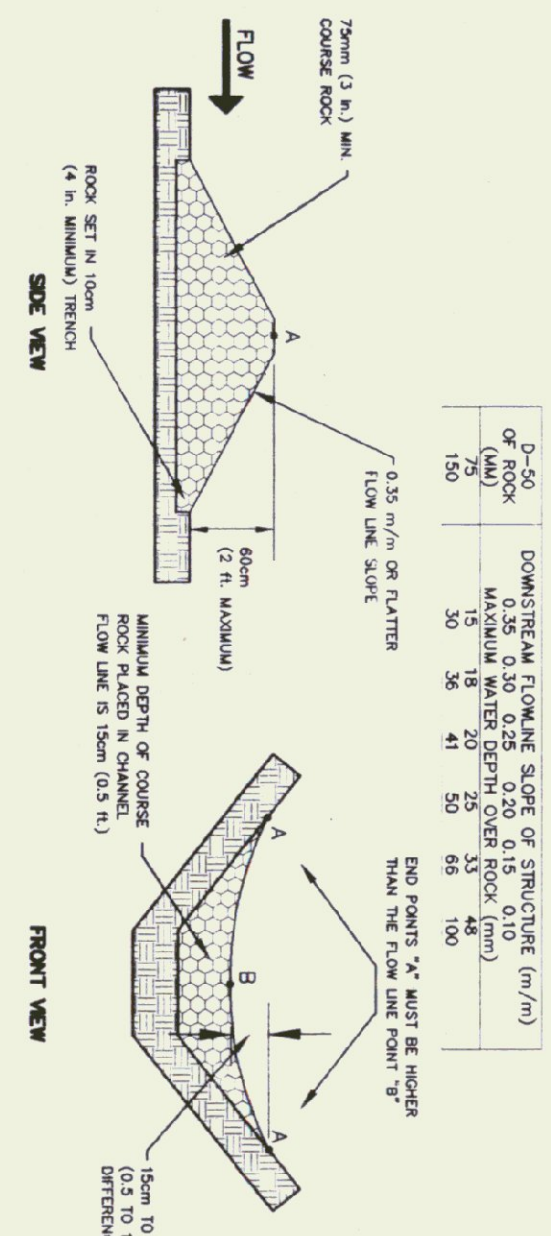
Good cover which is longer lasting than annual Ryegrass. Seed between April 1 and June 1 and/or between August 15 and September 15. Mulching with no more than 0.25 inch of soil.

3.04 MULCHING

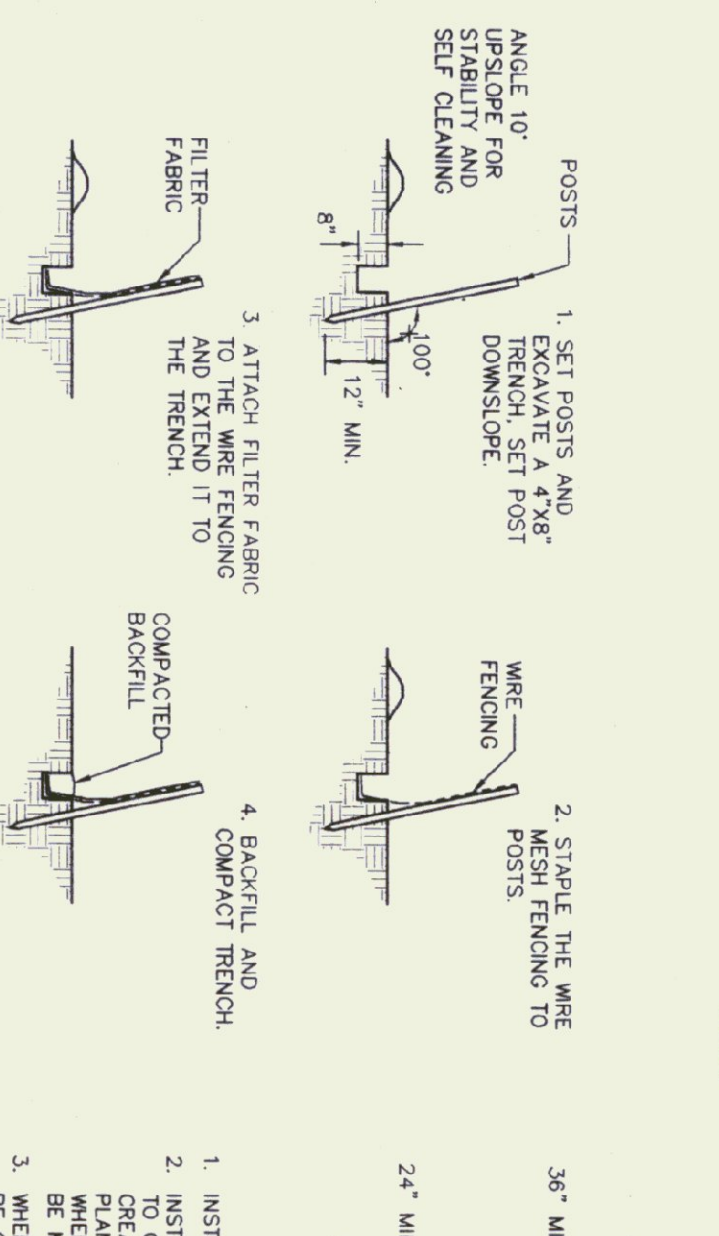
- A. Where it is impracticable to incorporate fertilizer and seed into moist soil, the seeded area should be mulched to facilitate germination.

3.05 MAINTENANCE

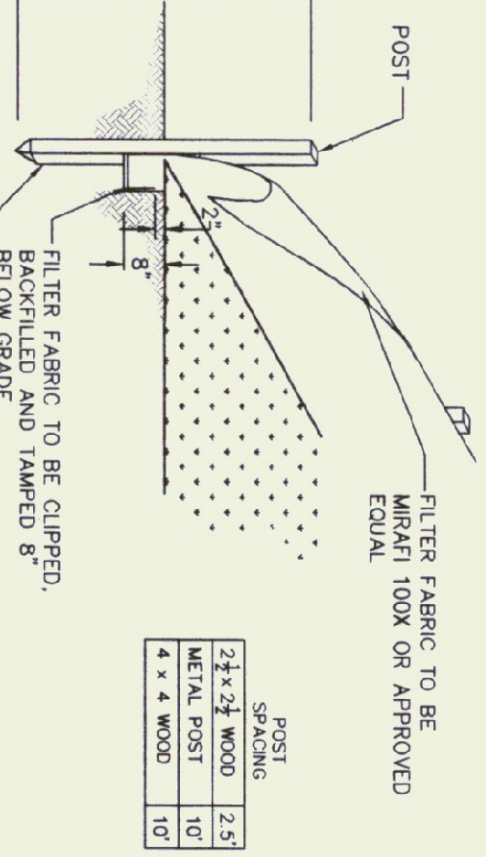
- A. If the seeding fails to grow, it may need to be re-established to provide adequate erosion control.
- B. If weeds become a problem, they may need to be controlled by mowing.



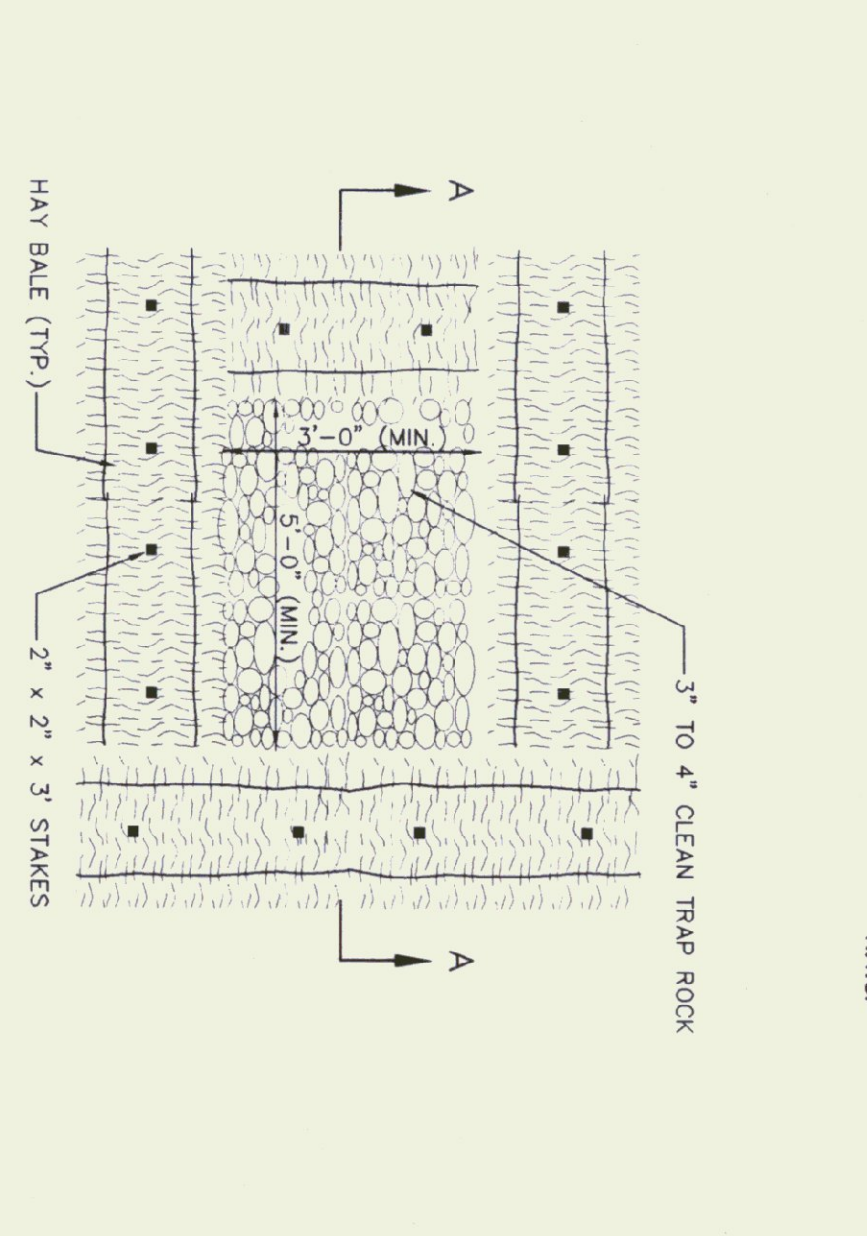
STONE CHECK DAM STRUCTURE
N.T.S.



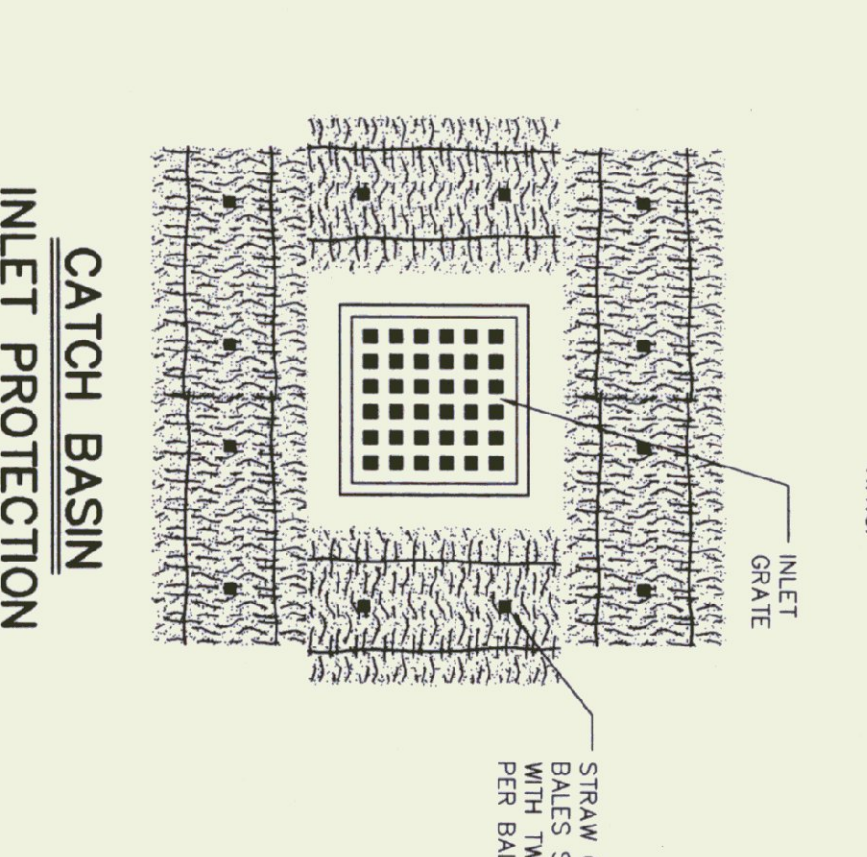
SILT FENCE CONSTRUCTION DETAIL
N.T.S.



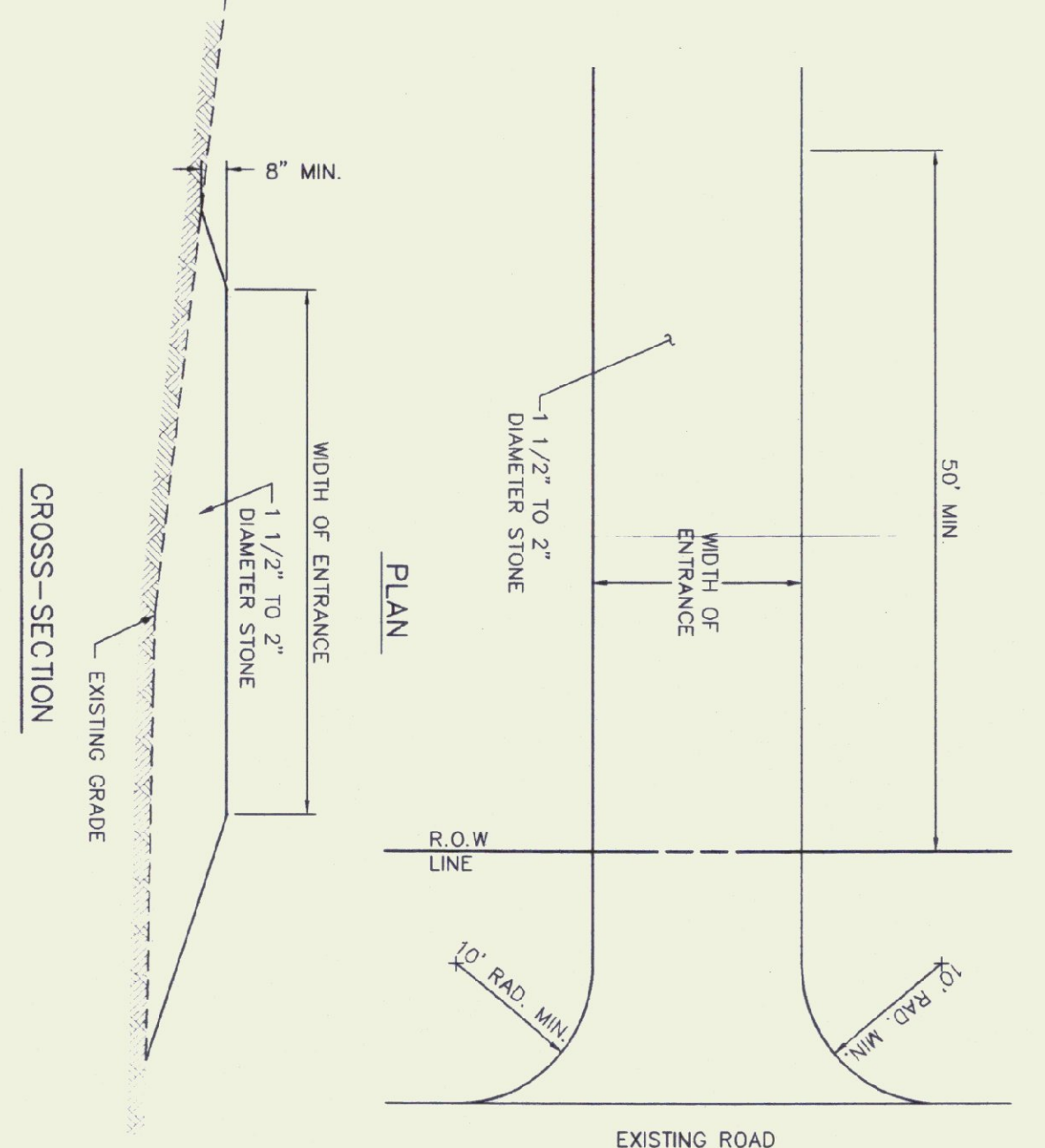
SILT FENCE DETAIL
N.T.S.



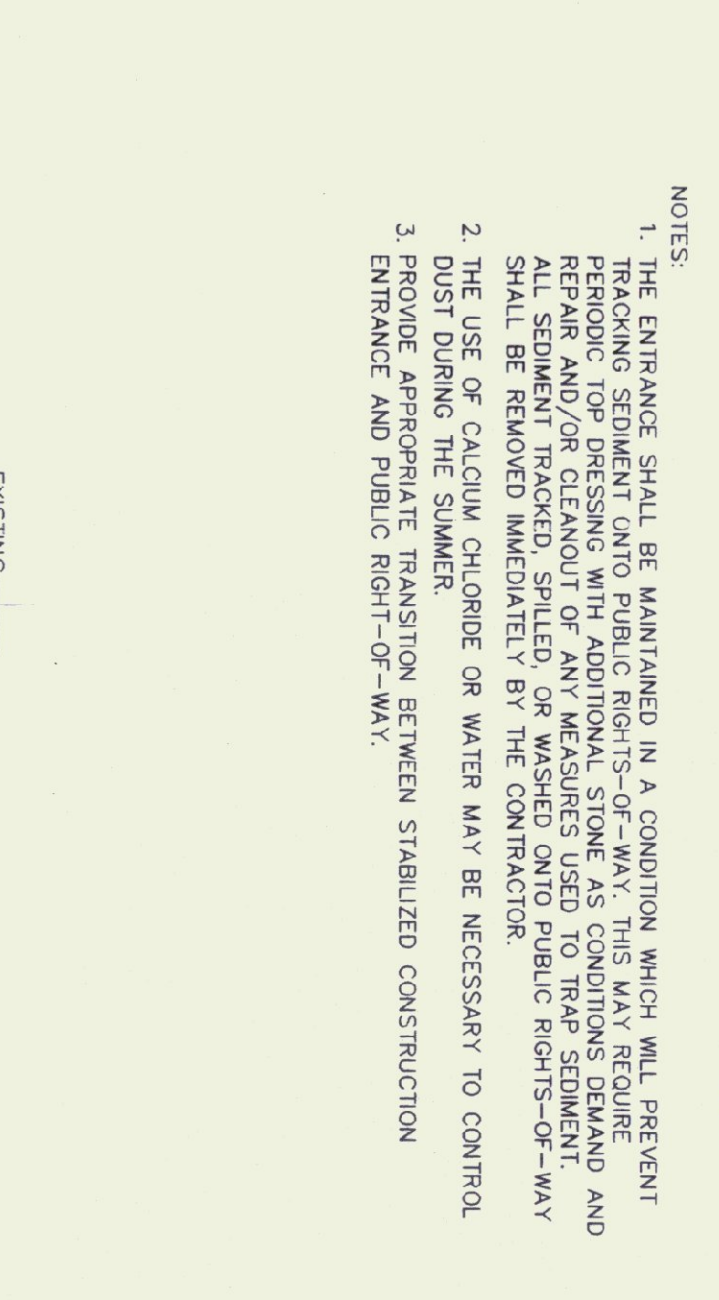
HAY BALE CHECK DAM AND INLET PROTECTION
N.T.S.



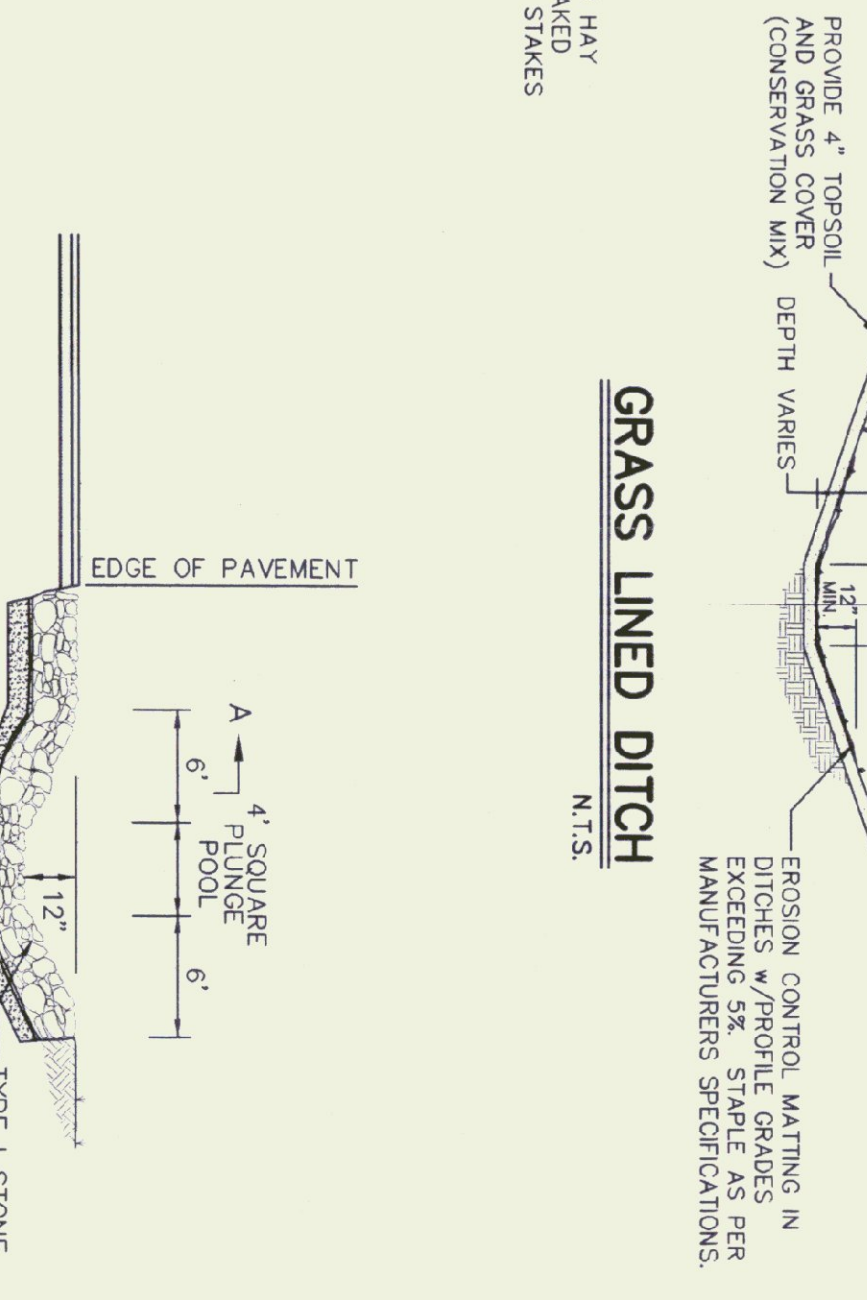
CATCH BASIN AND INLET PROTECTION
N.T.S.



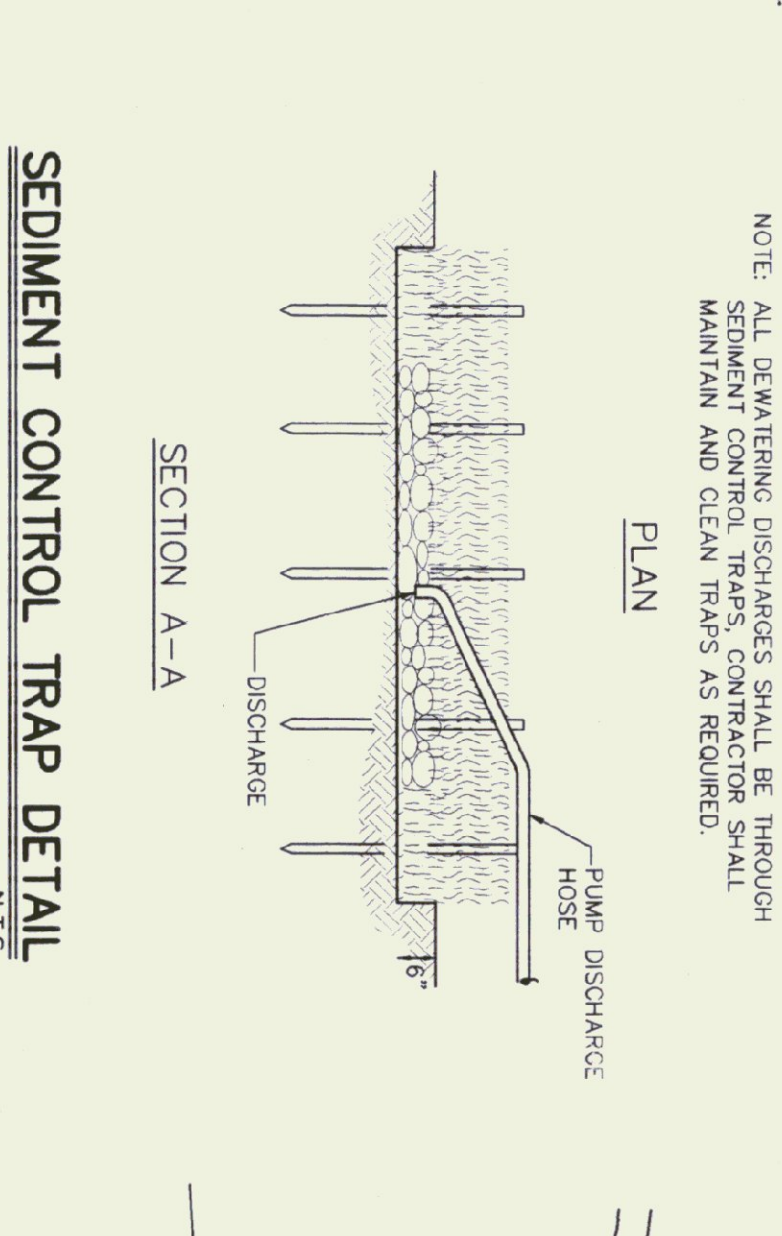
STABILIZED CONSTRUCTION ENTRANCE
N.T.S.



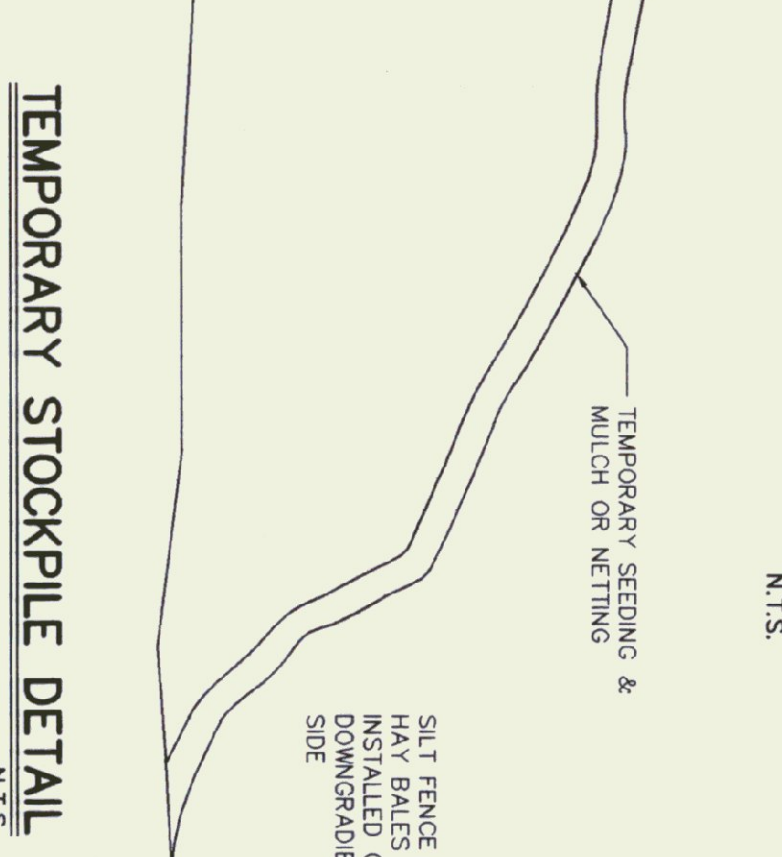
GRASS LINED DITCH
N.T.S.



PLUNGE POOL DETAIL
N.T.S.



SEDIMENT CONTROL TRAP DETAIL
N.T.S.



TEMPORARY STOCKPILE DETAIL
N.T.S.

SITE ENGINEER:



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OWNER: **STATE OF VERMONT**
DEPARTMENT OF BUILDINGS AND GENERAL SERVICES
MONTPELLIER, VERMONT

PROJECT: **MONTGOMERY GARAGE and SALT SHED**
VT ROUTE 118
MONTGOMERY, VERMONT

DATE	DESCRIPTION	REVISION
2/2/03	UTILITIES SECTION REVISIONS	
4/26/03	ADDED SHEETS & STONE CHECK DAM	
	REMOVED THE STONE CHECK DAM	

DATE: **JAN, 2003**
SCALE: **AS SHOWN**
PROJECT NO: **01309.02**
DRAWING NUMBER: **C5**