



Vermont Department of Environmental Conservation

Watershed Management Division
1 National Life Drive, Main 2
Montpelier VT 05620-3522
www.watershedmanagement.vt.gov

Agency of Natural Resources

[phone] 802-828-1535
[fax] 802-828-1544

AUTHORIZATION TO CONDUCT STREAM ALTERATION ACTIVITIES

Pursuant to Section C.2.2 of the VT Stream Alteration General Permit (Reporting activities not requiring an application)

Project Number: SA-06- 46 -2015

Applicant Name: Birds of Vermont Museum

Mailing Address: 900 Sherman Hollow Rd, Huntington VT 05468 Phone: (802) 343-2167

Project Location: " " " " " " " " Email: Museum@birdsofvermont.org

The Secretary of the Vermont Agency of Natural Resources (VT ANR) has determined that:

1. This project authorizes ~ 300 l.f. of Stream Restoration & a bridge crossing
2. The proposed activity is eligible for coverage under the VT ANR Stream Alteration General Permit.
3. The proposed activity will meet the terms and conditions of the General Permit provided:
 - a) The project will be completed and approved as shown on the plan dated 09/17/2014, prepared by Crover Engineering PC, and approved by the Vermont Agency of Natural Resources.
 - b) The project will not adversely affect the public safety by increasing flood hazards.
 - c) The project will not significantly damage fish life or wildlife.
 - d) The project will not significantly damage the rights of riparian owners.
 - e) The project will not obstruct the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction.
 - f) The project is conducted in a manner which minimizes or avoids any discharge of sediment or other pollutants to surface waters in violation of the VT Water Quality Standards.
 - g) The ANR River Management Engineer is notified by phone or email when construction begins and when the project is complete.
 - h) In-stream working dates for all GP activities are from July 1st through October 1st; any in-stream work outside these dates will require an Individual Stream Alteration Permit authorization by the River Management Engineer.
 - i) This authorization has been posted for three days public comment. This authorization constitutes final approval.

If there are any changes in the project plan or deviation in construction from the plan, the Permittee must notify the River Management Engineer immediately.

If the project is constructed as you have described, as shown on the above referenced approved plans and according to the above conditions, there is no reason to expect any violation of Vermont Water Quality Standards.

Signed this 24th day of August, 2015
David K. Mears, Commissioner
Department of Environmental Conservation

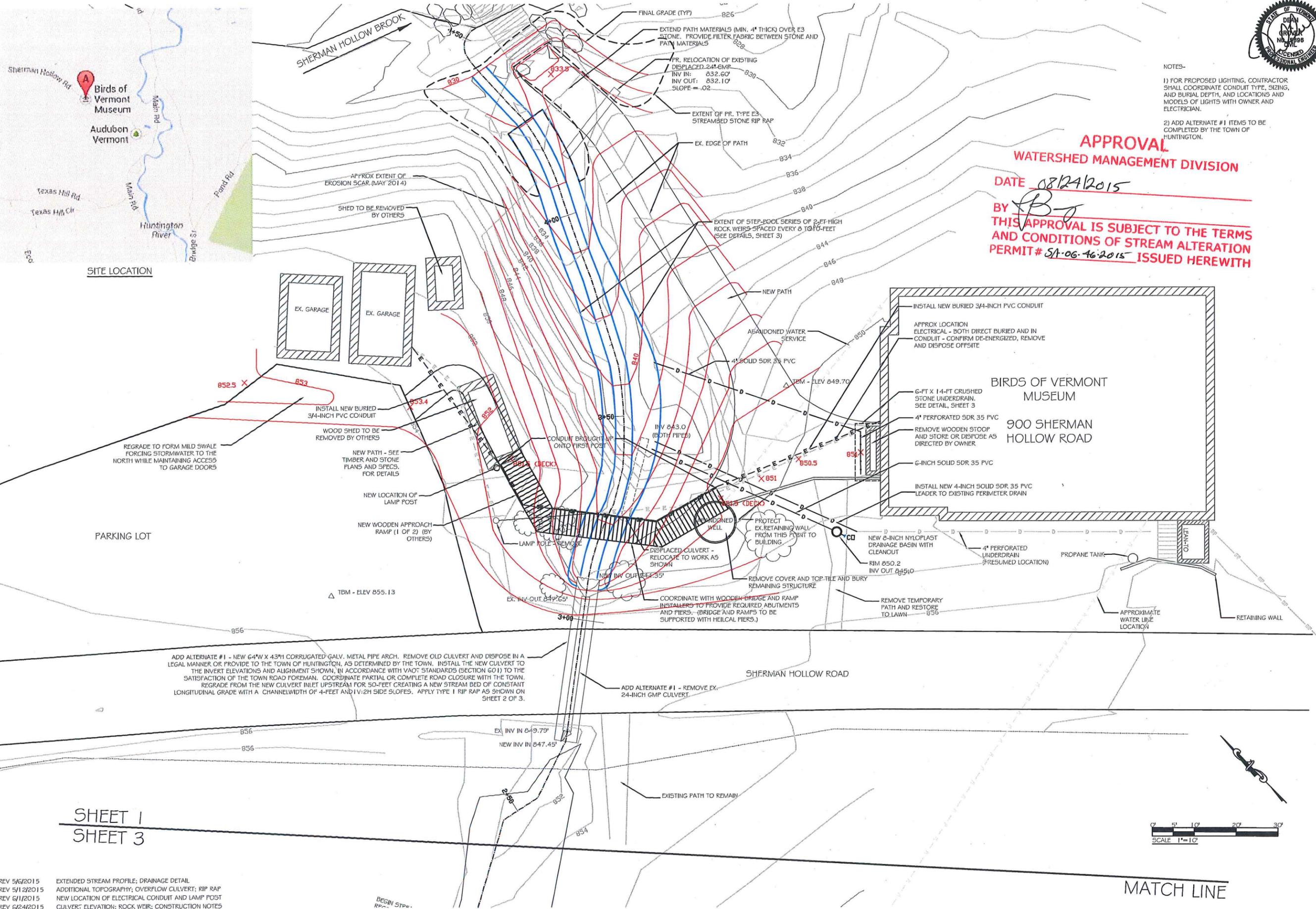
This permit expires October 1, 2015.

by: 
Jaron Borg, River Management Engineer



NOTES:
 1) FOR PROPOSED LIGHTING, CONTRACTOR SHALL COORDINATE CONDUIT TYPE, SIZING, AND BURIAL DEPTH, AND LOCATIONS AND MODELS OF LIGHTS WITH OWNER AND ELECTRICIAN.
 2) ADD ALTERNATE #1 ITEMS TO BE COMPLETED BY THE TOWN OF HUNTINGTON.

APPROVAL
WATERSHED MANAGEMENT DIVISION
 DATE 08/24/2015
 BY B-J
THIS APPROVAL IS SUBJECT TO THE TERMS AND CONDITIONS OF STREAM ALTERATION PERMIT # 51-06-46-2015 ISSUED HEREWITH



REV 5/6/2015 EXTENDED STREAM PROFILE; DRAINAGE DETAIL
 REV 5/12/2015 ADDITIONAL TOPOGRAPHY; OVERFLOW CULVERT; RIP RAP
 REV 6/1/2015 NEW LOCATION OF ELECTRICAL CONDUIT AND LAMP POST
 REV 6/24/2015 CULVERT; ELEVATION; ROCK WEIR; CONSTRUCTION NOTES

SHEET 1
 SHEET 3



MATCH LINE

STREAM & SITE RESTORATION PLAN

BIRDS OF VERMONT MUSEUM

HUNTINGTON

2044 Main Road, Huntington, Vermont 05462
 phone: 802-434-2989 email: dean@groverengineeringpc.com

GROVER ENGINEERING PC

1 of 3

DATE: SEPT 17, 2014

SCALE: 1" = 10'

DWGNO: 13019

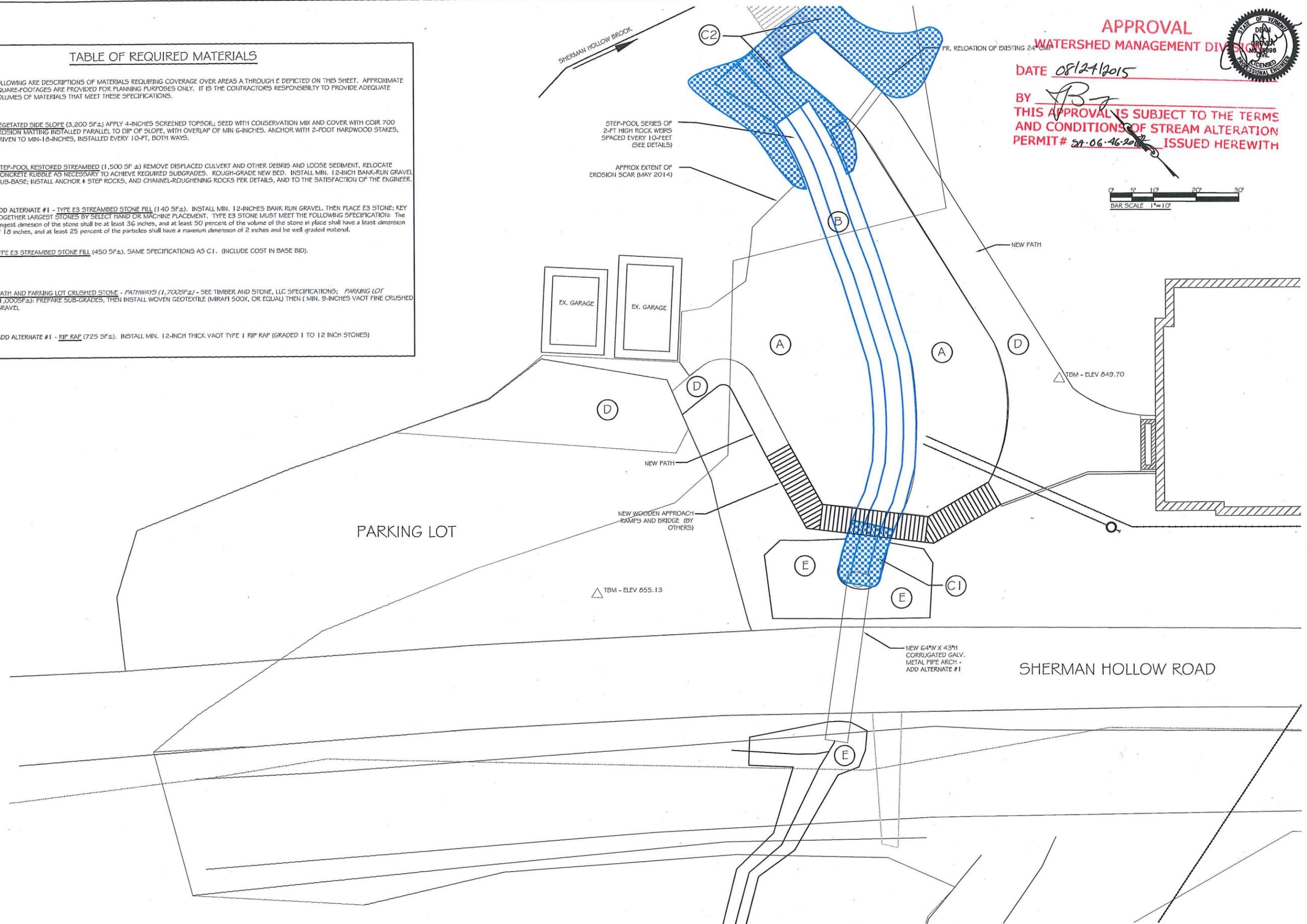
PROJ: c:\TownConnect\MeadowRidge\Leachfields2010-06-10

VERMONT

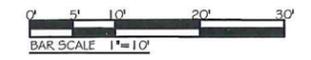
TABLE OF REQUIRED MATERIALS

FOLLOWING ARE DESCRIPTIONS OF MATERIALS REQUIRING COVERAGE OVER AREAS A THROUGH E DEPICTED ON THIS SHEET. APPROXIMATE SQUARE-FOOTAGES ARE PROVIDED FOR PLANNING PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE VOLUMES OF MATERIALS THAT MEET THESE SPECIFICATIONS.

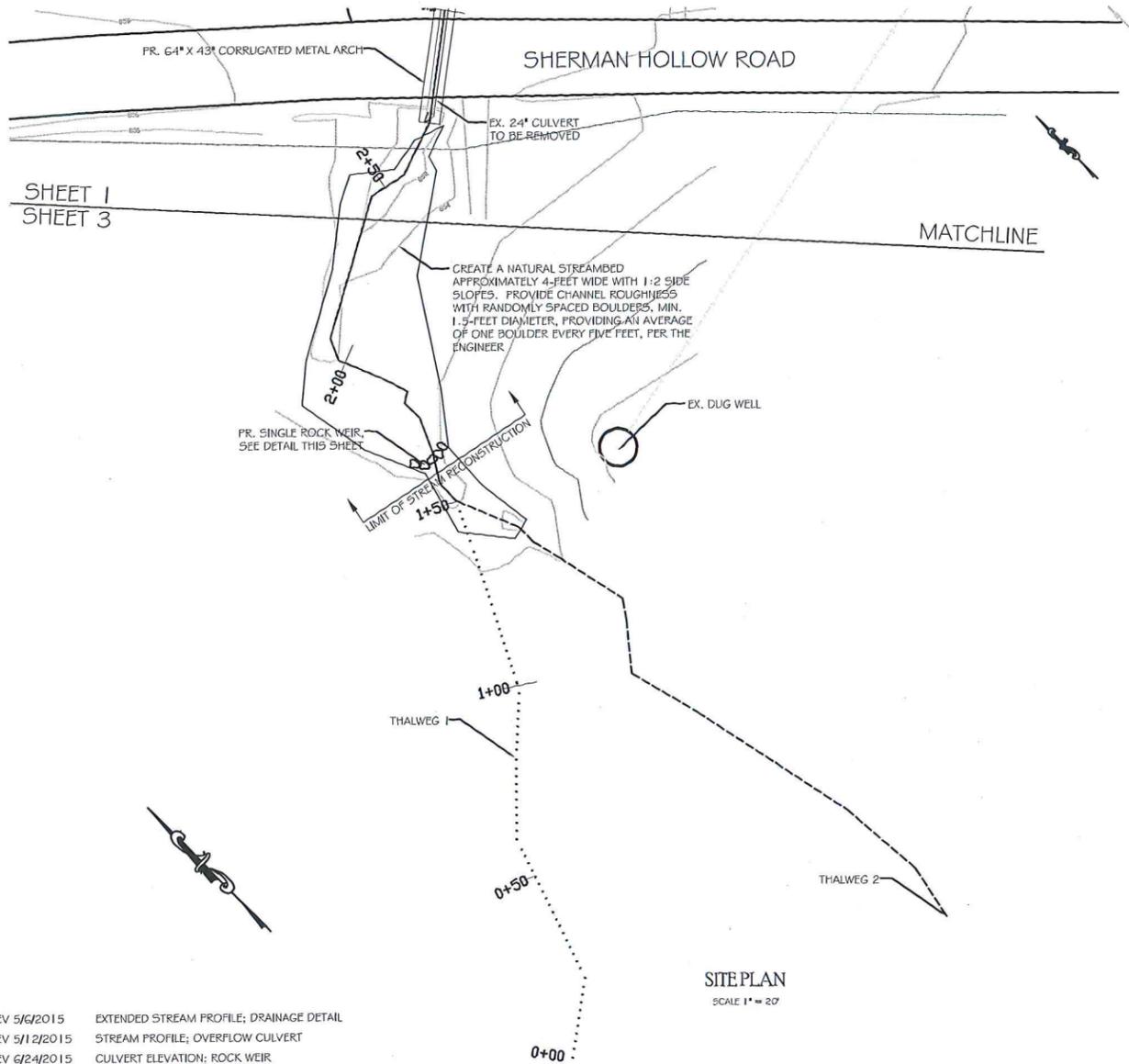
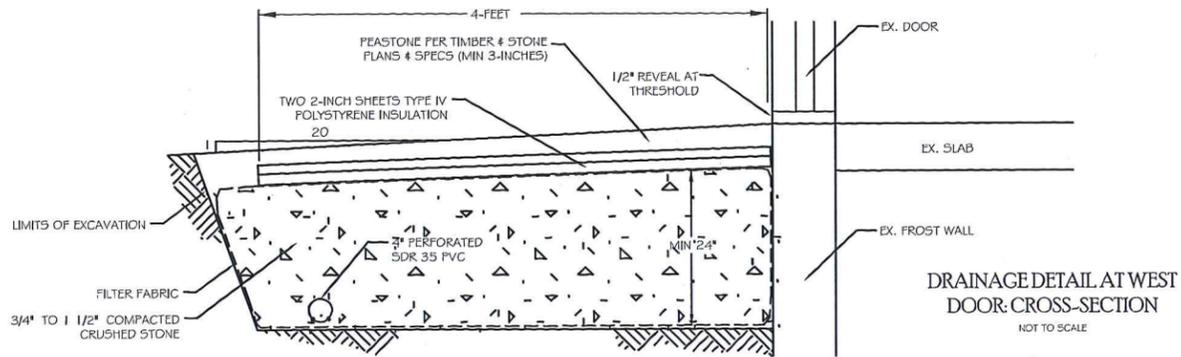
- (A)** VEGETATED SIDE SLOPE (3,200 SF±) APPLY 4-INCHES SCREENED TOPSOIL; SEED WITH CONSERVATION MIX AND COVER WITH COIR 700 EROSION MATTING INSTALLED PARALLEL TO DIP OF SLOPE, WITH OVERLAP OF MIN 6-INCHES. ANCHOR WITH 2-FOOT HARDWOOD STAKES, DRIVEN TO MIN-18-INCHES, INSTALLED EVERY 10-FT, BOTH WAYS.
- (B)** STEP-POOL RESTORED STREAMBED (1,500 SF±) REMOVE DISPLACED CULVERT AND OTHER DEBRIS AND LOOSE SEDIMENT. RELOCATE CONCRETE RUBBLE AS NECESSARY TO ACHIEVE REQUIRED SUBGRADES. ROUGH-GRADE NEW BED. INSTALL MIN. 1/2-INCH BANK-RUN GRAVEL SUB-BASE; INSTALL ANCHOR & STEP ROCKS, AND CHANNEL-ROUGHENING ROCKS PER DETAILS, AND TO THE SATISFACTION OF THE ENGINEER.
- (C1)** ADD ALTERNATE #1 - TYPE E3 STREAMBED STONE FILL (1,400 SF±). INSTALL MIN. 1/2-INCHES BANK RUN GRAVEL. THEN PLACE E3 STONE; KEY TOGETHER LARGEST STONES BY SELECT HAND OR MACHINE PLACEMENT. TYPE E3 STONE MUST MEET THE FOLLOWING SPECIFICATION: The longest dimension of the stone shall be at least 36 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 18 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.
- (C2)** TYPE E3 STREAMBED STONE FILL (450 SF±). SAME SPECIFICATIONS AS C1. (INCLUDE COST IN BASE BID).
- (D)** PATH AND PARKING LOT CRUSHED STONE - PATHWAYS (1,700SF±) - SEE TIMBER AND STONE, LLC SPECIFICATIONS; PARKING LOT (1,000SF±); PREPARE SUB-GRADES, THEN INSTALL WOVEN GEOTEXTILE (MIRAFI 500X, OR EQUAL) THEN (MIN. 9-INCHES VAOT FINE CRUSHED GRAVEL
- (E)** ADD ALTERNATE #1 - RIP RAP (725 SF±). INSTALL MIN. 1/2-INCH THICK VAOT TYPE 1 RIP RAP (GRADED 1 TO 12 INCH STONES)



APPROVAL
WATERSHED MANAGEMENT DIVISION
 DATE 08/27/2015
 BY [Signature]
 THIS APPROVAL IS SUBJECT TO THE TERMS AND CONDITIONS OF STREAM ALTERATION PERMIT # SA-06-46-2012 ISSUED HEREWITH



MATERIALS DISTRIBUTION PLAN BIRDS OF VERMONT MUSEUM		HUNTINGTON VERMONT	
GROVER ENGINEERING PC 2044 Main Road, Huntington, Vermont 05462 phone: 802-434-2989 email: dean@groverengineeringpc.com	DATE: SEPTEMBER 17, 2014	DWGNO: 2 OF 3	PROJ: 13019
SCALE: 1" = 10'	FILE: c:\TownConnect\MeadowRidge\Leachfields2010-06-10		



REV 5/6/2015 EXTENDED STREAM PROFILE; DRAINAGE DETAIL
 REV 5/12/2015 STREAM PROFILE; OVERFLOW CULVERT
 REV 6/24/2015 CULVERT ELEVATION; ROCK WEIR

STREAMBED RECONSTRUCTION MATERIALS:

SUBBASE GRAVELS:

PREPARE SUBGRADES TO REQUIRED ELEVATIONS THEN PLACE A MINIMUM 12-INCH BED OF BANK RUN GRAVEL BENEATH ALL RECONSTRUCTED STREAMBED AREAS.

BOULDER WEIRS AND BOULDER WEIR ANCHORS:

BOULDERS FOR WEIRS, INCLUDING ANCHOR BOULDERS SHALL BE WEATHERED AND NATURALLY FORMED. BLAST ROCK, RIPRAP OR MATERIAL WITH AN UNNATURAL APPEARANCE SHOULD BE AVOIDED. BLASTED LIMESTONE SHALL NOT BE USED. ALL WEIR MATERIALS ARE SUBJECT TO APPROVAL BY THE BIRDS OF VERMONT AND THE ENGINEER. MATERIALS SHALL BE SUB-ANGULAR TO ANGULAR. MINOR DIMENSIONS SHALL RANGE FROM 2 TO 3 FEET. SELECT SHAPES THAT WILL KEY TOGETHER DURING INSTALLATION. PLACE BOULDERS INDIVIDUALLY BY HAND OR MACHINE. EACH BOULDER SHALL REST ON TWO BOULDERS IN THE COURSE BELOW, AND LEAN AGAINST AT LEAST ONE NEIGHBORING DOWNSTREAM BOULDER.

ADDITIONAL CHANNEL ROUGHENING MATERIALS:

COBBLES AND BOULDERS RANGING FROM 3-INCHES TO 12-INCHES SHALL BE INSTALLED WITH A MIN. THICKNESS OF 1-FOOT IN ALL STREAMBED RECONSTRUCTION AREAS LYING BETWEEN BOULDER WEIRS. THESE MATERIALS SHALL BE WEATHERED AND NATURALLY FORMED. BLAST ROCK, RIPRAP OR MATERIAL WITH AN UNNATURAL APPEARANCE SHOULD BE AVOIDED. BLASTED LIMESTONE SHALL NOT BE USED. CHANNEL ROUGHENING MATERIALS ARE SUBJECT TO APPROVAL BY THE BIRDS OF VERMONT AND THE ENGINEER. MATERIALS SHALL BE SUB-ANGULAR TO ANGULAR.

CONSTRUCTION SCHEDULE LIMITATIONS:

WORK WITHIN THE STREAM CHANNEL SHALL BE PERFORMED BETWEEN JULY 15TH AND OCTOBER 1ST (PER REQUIREMENTS OF STREAM ALTERATION PERMIT).

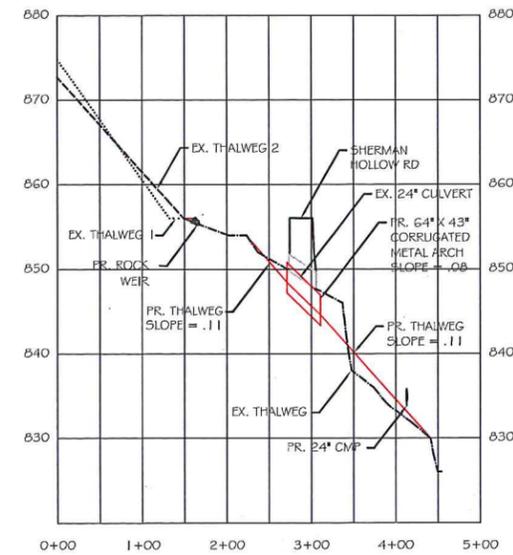
EROSION PREVENTION & SEDIMENT CONTROL:

DISTURBED SURFACES SHALL BE SEEDED AND MULCHED WITHIN 48 HOURS OF FINAL GRADING. GROUND SHALL BE PERMANENTLY OR TEMPORARILY STABILIZED IF LEFT DISTURBED FOR MORE THAN 7 CONSECUTIVE CALENDAR DAYS. SEDIMENT CONTROL STRUCTURES SHALL BE REMOVED AS SOON AS HEALTHY GRASS IS ESTABLISHED.

THE METHOD AND DURATION OF CONSTRUCTION SHALL BE THAT WHICH PRESENTS THE LEAST DISTURBANCE OF STREAM FLOW AND RESULTS IN MINIMAL TURBIDITY AND MINIMAL DISCHARGE OF SEDIMENT. (VT STREAM ALT. RULE, APRIL 10, 2014, SECTION B.3.3)

WORK MUST BE ISOLATED FROM STREAM FLOW WITH APPROPRIATE SEDIMENT CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE. PUMPING FROM EXCAVATION AREAS SHALL BE DISCHARGE TO AN OVERLAND AREA OR OFF-STREAM SETTLING BASINS SUCH THAT THE EFFLUENT SHALL BE ESSENTIALLY CLARIFIED BEFORE REENTERING THE STREAM FLOW. (VT STREAM ALT. RULE, APRIL 10, 2014, SECTION B.3.3)

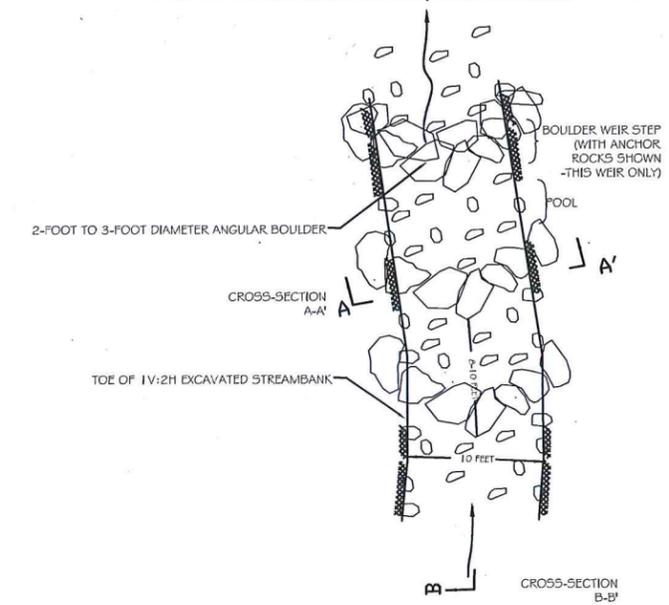
ALL HEAVY EQUIPMENT ENTERING THE STREAM SHALL BE FREE OF VISIBLE OIL OR FUEL LEAKS.



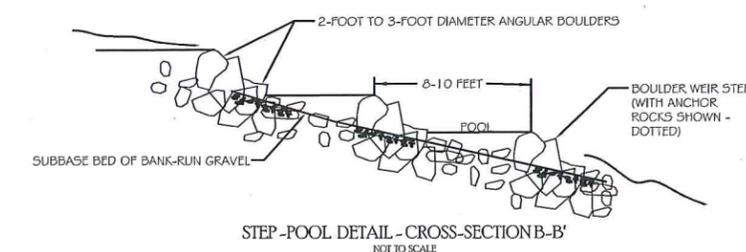
PROPOSED THALWEG PROFILE

HORIZONTAL SCALE 1" = 10'
 VERTICAL SCALE 1" = 10'
 VERTICAL EXAGGERATION: 10 X

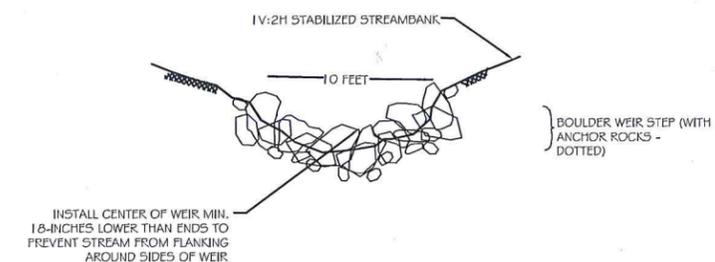
APPROVAL
WATERSHED MANAGEMENT DIVISION
 DATE 08/24/2015
 BY [Signature]
THIS APPROVAL IS SUBJECT TO THE TERMS AND CONDITIONS OF STREAM ALTERATION PERMIT # SA-06-46-2015 ISSUED HEREWITH



STEP-POOL DETAIL - PLAN VIEW
 NOT TO SCALE



STEP-POOL DETAIL - CROSS-SECTION B-B'
 NOT TO SCALE



STEP-POOL DETAIL - CROSS-SECTION A-A'
 VIEW LOOKING DOWNSTREAM
 NOT TO SCALE

STREAM RESTORATION DETAILS
 BIRDS OF VERMONT MUSEUM
 HUNTINGTON

2044 Main Road, Huntington, Vermont 05462
 phone: 802-434-2989 email: dean@groverengineeringpc.com
 GROVER ENGINEERING PC
 SCALE: AS NOTED DATE: SEPT 17, 2014 DWG NO: 3 OF 3
 FILE: c:\TownConnect\MeadowRidge\Leachfields2010-06-10 PROJ: 13019

VERMONT