VERMONT

Vermont Department of Environmental Conservation *Agency of Natural Resources*
Watershed Management Division
Springfield Regional Office
100 Mineral Street, Suite 303 [phone] 802-885-8855
Springfield, VT 05156 [fax] 802-885-8890
www.watershedmanagement.vt.gov [cell] 802-345-3510

AUTHORIZATION TO CONDUCT NEXT FLOOD MEASURES

Pursuant to Section F of the Vermont Stream Alteration General Permit

Project Number:	SA-05-023-2015 Jamaica Pikes Falls Rd Culvert 46	VTrans EA #	THS-2015-305
Applicant Name:	Town of Jamaica	Contact:	Paul Fraser
Mailing Address:	P.O. Box 173, 28 Town Office Rd, Jamaica, VT 0534	Phone:	802-874-4681
Project Location:	Pike Falls Rd TH 1 Culvert 46 over North Branch trib	Email:	frasercrew@aol.com

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

1. This project authorizes replacement of dual culverts damaged by T.S. Irene with a 3-sided 11" x 4' precast concrete culvert and associated wing walls and rip-rap stabilization over an un-named tributary to the North Branch of Ball Mountain Brook. The culvert invert to be stabilized with stone fill Type E1 as per Appendix M Stone Sizing.
2. The proposed activity is eligible for coverage under the VT ANR Stream Alteration General Permit – Next Flood Measures.
3. The proposed activity will meet the terms and conditions of Section F of the General Permit provided:
   a) The project will be completed and approved as shown on the plans revised to 4/2/15, prepared by Holden Engineering, and approved by the Vermont Agency of Natural Resources as attached herein.
   b) The project is proportional to the threat and conditioned to cease when the threat to life or to improved property has ended.
   c) The project will not result in a threat to life, public health or safety.
   d) The project will meet the standards detailed in subsection E.2.1 and E.2.2 of the General Permit.
   e) The project will meet Stream Alteration Standards to the greatest extent possible.
   f) A pre-construction meeting is held between the contractor, owner/applicant, and the ANR River Management Engineer.
   g) The River Management Engineer is notified by phone or email when construction begins and when the project is complete.

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 6th day of August, 2015
David K. Mears, Commissioner
Department of Environmental Conservation

This permit expires October 1, 2015.

by: _____
Todd Menees, P.E., P.H., River Management Engineer

Streambed Stone Fill Design Guidance

Type	Velocity Range (fps)*	Embeddedness (in)
E1	$V \leq 9$	18
E2	$9 < V \leq 11$	24
E3	$11 < V \leq 13$	36
E4	$13 < V \leq 15$	48

*Maximum velocity should be based on a minimum 50-year design flow rate and calculated at the structure outlet.

Item xxx.xxx CY Streambed Stone Fill Specification

Type E1. The longest dimension of the stone shall be at least 18 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 12 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

Type E2. The longest dimension of the stone shall be at least 24 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.

Type E3. 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 24 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

Type E4. The longest dimension of the stone shall be at least 48 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 36 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

Notes

- The streambed stone fill shall be hard, blasted, angular rock other than serpentine rock containing the fibrous variety chrysotile (asbestos). Similar sized river sediment is an acceptable alternative as is a mixture of angular material and river sediment.
- Stone placed inside of a closed structure shall be placed such that the structure is not damaged.
- Care shall be taken to limit segregation of the materials.
- Add sand borrow item as needed to seal the bed and prevent subsurface flow.
- There shall be no subsurface flow upon final inspection.

LEGEND

- EXISTING CONTOUR MNR
- EXISTING CONTOUR MJR
- ALUMINUM GUARD RAIL
- REBAR/IRON PIN FOUND
- UTILITY POLE
- B-1 SOIL BORING LOCATION
- EDGE OF BROOK

H-16
Wesley T. Frost
233 Lincoln Road
Lincoln, MA 01773-5100

H-16
Wesley T. Frost
233 Lincoln Road
Lincoln, MA 01773-5100

H-19.1
Jeffrey L. Wood
&
April C. Wood
12336 Thunder Bay Drive
Indianapolis, IN 46236

H-16
Wesley T. Frost
233 Lincoln Road
Lincoln, MA 01773-5100

Edge of Brook
Edge of Brook
EDGE OF BROOK
(UNNAMED BROOK)
Inv.=1267.28'
Inv.=1267.88'
Approx. Existing R.O.W.
B-1
B-2
Existing Guardrail
Existing Barb-Wire Fence
Approx. Existing R.O.W.
P I K E S F A L L S R O A D
57" x 38" Pipe Arch
48" Culv. Culvert
Railroad Spike In Pole #90-01/83 Set El: 1271.49
Existing Guardrail
INV.=1266.11
Inv.=1264.91
Inv.=1269.18
Approx. Existing R.O.W.
Inv.=1271.88'
30" CCP Culvert
12"
Field Drive
(UNNAMED BROOK)
Edge of Brook
Edge of Brook
Edge of Channel
Edge of Channel
Approx. Existing R.O.W.

SCALE: 1" = 10'

10 0 10 20 30

HOLDEN TRANSPORTATION ENGINEERING

☐ 56 Old Suncook Road – Unit #4
PO Box 480 Concord, N.H. 03302
(603) 225-6449

☒ 9 Constitution Drive
Bedford, N.H. 03110
(603) 472-2078

EXISTING CONDITIONS PLAN
PIKES FALLS ROAD CULVERT REPLACEMENT
JAMAICA, VT

DATE:	REVISION DESCRIPTION	DR. BY:	CHK. BY:
XXXX	XXXX	XXXX	XXXX

BOOK | PAGE

Date: 12-01-14
Scale: 1" = 10'
Dr. By: RL Ck. By: WCR
Job No. 1470027
Sheet No. 2 of 16

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ROADWAY CONSTRUCTION NOTES

1. ALL PROJECT MATERIALS AND CONSTRUCTION METHODS SHALL BE IN CONFORMANCE WITH THE VTrans "2011 STANDARD SPECIFICATIONS FOR THE CONSTRUCTION BOOK" AND ALL ADDENDA THAT FOLLOW.

2. ROAD BUILDING PAVEMENT AND GRANULAR SUB-BASE COURSES FOR THE APPROACHES WILL BE AS FOLLOWS:

- 3.5 INCHES – BITUMINOUS CONCRETE PAVEMENT (ITEM 406.25)
- 1.5 INCHES OF WEARING COURSE PLUS 2 INCHES OF BINDER COURSE.
- 6 INCHES – SUB-BASE OF CRUSHED GRAVEL, FINE GRADED (ITEM 301.26)
- 18 INCHES – SUB-BASE OF GRAVEL (ITEM 301.15)

DRAINAGE NOTES

1. STATION 12+75 – LT. 20 FEET TO RT. 21 FEET
CONSTRUCT 41 LF OF 15" RCP CLASS IV (ITEM 601.0811)
SLOPE 0.03 FT/FT

2. CONSTRUCT STONE FILL TYPE II (ITEM 613.11) AND GEOTEXTILE UNDER STONE FILL (ITEM 649.31).
AT THE PIPE OUTLET – CONSTRUCT STONE FILL FOR OUTLET PROTECTION ALONG THE SLOPE TO THE FOLLOWING DIMENSIONS: 5 FEET WIDE, 8 FEET LONG, AND 1.5 FEET DEEP.

NEAR THE PIPE INLET – CONSTRUCT STONE FILL TO STABILIZE THE 1:1 SLOPE AS SHOWN ON THE PLANS AND CROSS SECTION.

3. CONSTRUCT A TYPE II DELINEATOR WITH STEEL POST (PAY ITEM 676.10) TO MARK EACH END OF THE NEW 15" RCP PIPE.

GUARDRAIL AND DELINEATOR NOTES

1. ALL EXISTING GUARDRAILS WILL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR (PAY ITEM 621.80).

2. ALL NEW GUARDRAILS WILL BE STEEL BEAM GUARDRAIL, GALVANIZED ON STEEL POSTS (PAY ITEM 621.20).

STRAIGHT SECTIONS OF RAIL WILL BE CONSTRUCTED AT THE FOLLOWING LOCATIONS:
STATION 11+70, RT TO STATION 13+10, RT
STATION 11+50, LT TO STATION 12+25, LT

CURVED SECTIONS OF RAIL WILL BE CONSTRUCTED AT THE FOLLOWING LOCATIONS:
STATION 11+58 RT TO STATION 11+70, RT RADIUS = 10', L = 18.75'
STATION 13+10 RT TO STATION 13+20, RT RADIUS = 10', L = 12.50'
STATION 11+34 LT TO STATION 11+50, LT RADIUS = 20', L = 18.75'
STATION 12+25 LT TO STATION 12+42, LT RADIUS = 20', L = 18.75'

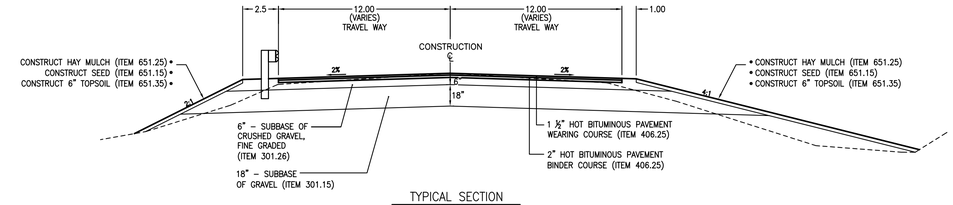
CONSTRUCT ROUNDED "W" BEAM END SECTIONS AT THE ENDS OF ALL CURVED SECTIONS OF RAIL. PAYMENT WILL BE SUBSIDIARY TO ITEM 621.20.

3. STEEL BEAM GUARDRAIL DELINEATORS WILL BE PLACED ONTO EACH FIFTH POST (ITEM 621.218)

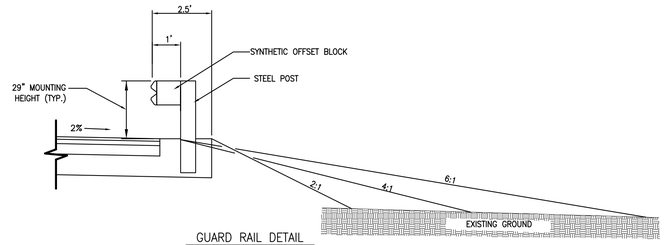
4. CONSTRUCT A TYPE II DELINEATOR WITH STEEL POST (PAY ITEM 676.10) AT THE FOLLOWING LOCATIONS TO MARK THE BEGINNING AND END OF STRAIGHT GUARDRAIL SECTIONS:
STATION 11+70, RT
STATION 13+10, RT
STATION 11+50, LT
STATION 12+25, LT

PAVEMENT PAINT MARKING NOTES

1. STATION 10+50 TO STATION 13+40
CONSTRUCT 4 INCH DOUBLE YELLOW LINES ALONG THE ROAD CENTERLINE
(PAY ITEM 646.21)



TYPICAL SECTION
PAVED SURFACE
1" = 5'



GUARD RAIL DETAIL
(ITEM 621.20)
1" = 3'

H-16
WESLEY T. FROST
233 LINCOLN ROAD
LINCOLN, MA 01773-5100

H-19.1
JEFFREY I. WOOD
&
APRIL C. WOOD
12336 THUNDER BAY DRIVE
INDIANAPOLIS, IN 46236

H-16
WESLEY T. FROST
233 LINCOLN ROAD
LINCOLN, MA 01773-5100

CURVE DATA				
CURVE	ARC LENGTH	RADIUS	DELTA	TANGENT
C1	220.50'	1250.00'	10°06'25"	110.54'
C2	41.08'	765.00	3°04'38"	20.55'

SCALE: 1" = 10'

10 0 10 20 30

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ROADWAY PLAN & TYPICAL SECTIONS
PIKES FALLS ROAD CULVERT REPLACEMENT
JAMAICA, VT

DATE:	REVISION DESCRIPTION	DR. BY	CHK. BY
XXXX	XXXX	XXXX	XXXX

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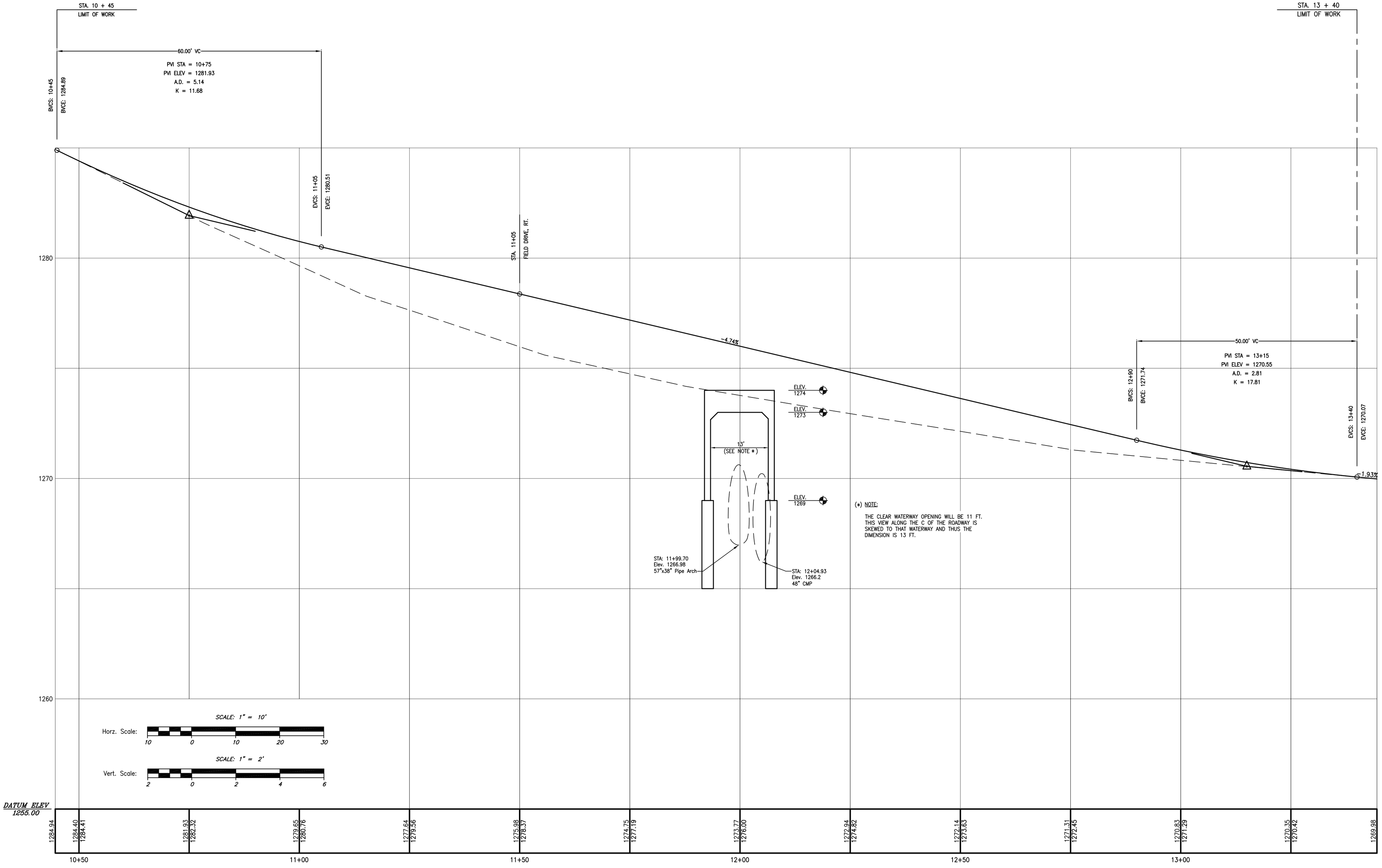

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ROADWAY PROFILE
PIKES FALLS ROAD CULVERT REPLACEMENT
JAMAICA, VT

DATE:	REVISION DESCRIPTION	DR. BY:	CHK. BY:
XXXX	XXXX	XXXX	XXXX

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Date: 12-01-14
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Dr. By: RL Ck. By: WCR
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CONSTRUCTION NOTES:

1. ALL SITE WORK SHALL BE IN CONFORMANCE WITH VERMONT AGENCY OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION," 2001 EDITION EXCEPT AS MODIFIED IN THE DRAWINGS, SPECIFICATIONS AND NOTES.

2. GROUNDWATER CONTROL MEASURES SHALL BE PERFORMED SO THAT THE EXCAVATION ACTIVITIES CAN BE CONSTRUCTED IN THE DRY AND LIMITING THE POTENTIAL FOR THE DISTURBANCE OF SUBGRADE SOILS.

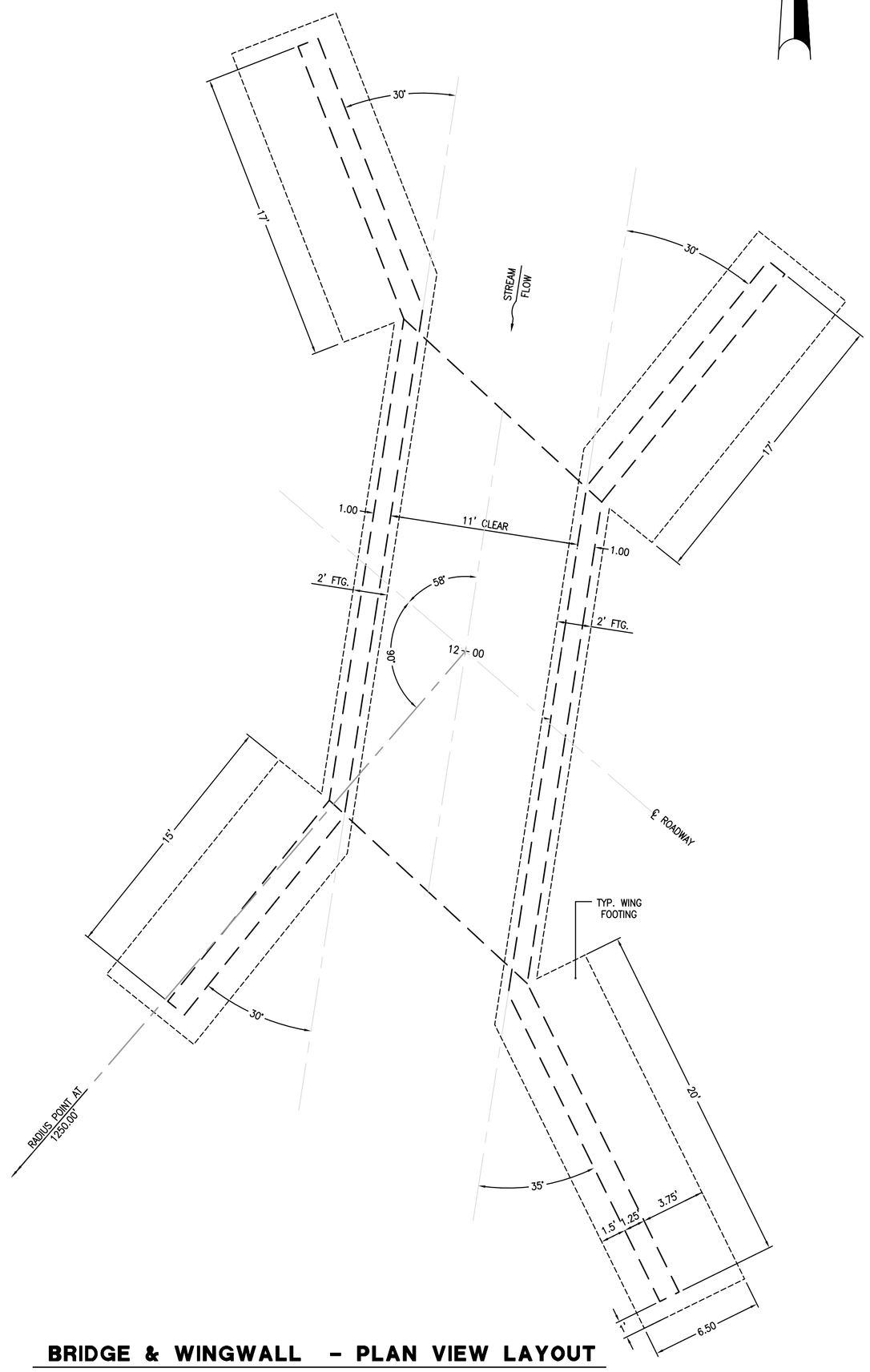
3. EXCAVATION SIDESLOPES SHOULD BE NO STEEPER THAN THOSE ALLOWED BY OSHA, UNLESS BRACING OR TRENCH BOXES ARE UTILIZED.

4. FILL PLACED WITHIN CULVERT AREAS SHALL CONSIST OF GRANUALAR BACKFILL FOR STRUCTURES (ITEM 204.30) MEETING THE GRADATION REQUIREMENTS OF 704.08.

5. PRECAST CONCRETE SHALL BE IN CONFORMANCE WITH SECTION 501, STRUCTURAL CONCRETE, AND SECTION 507, REINFORCING STEEL.

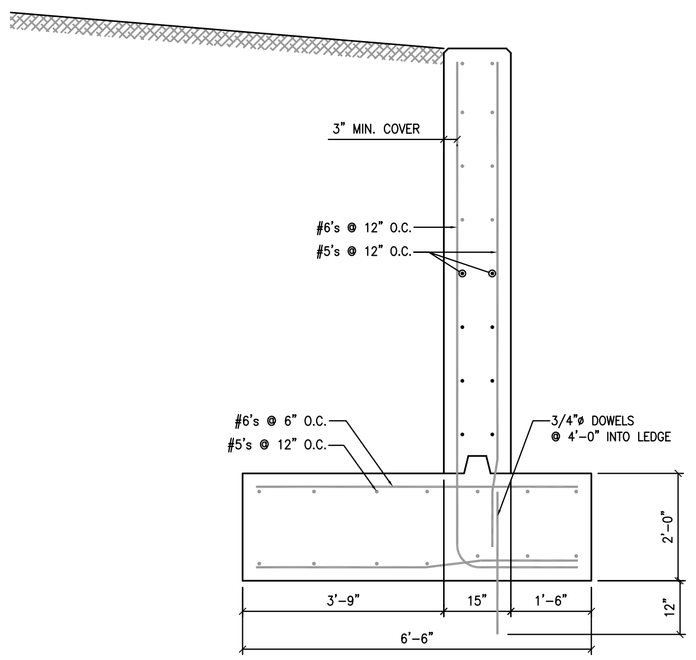
6. THE CAST IN PLACE CONCRETE FOOTING AND WINGWALL SHALL BE CLASS B (3500 PSI)AND THE REINFORCING STEEL BARS SHALL BE GRADE 60 EXPOXY COATED.

7. THE PRECAST CONCRETE RIGID FRAME SHALL BE DESIGNED IN ACCORDANCE WITH AASHTO LRFD DESIGN SPECIFICATION 2012.



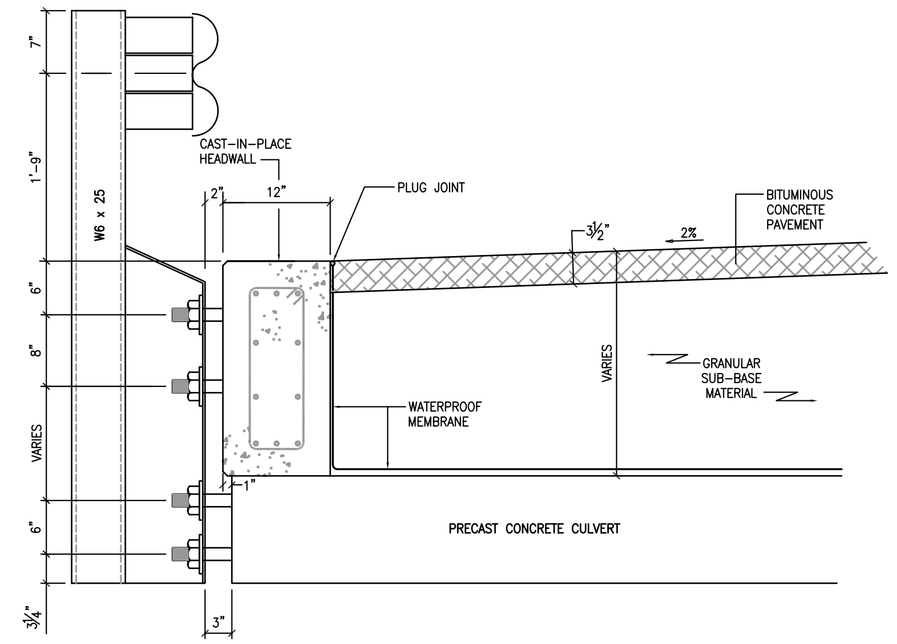
BRIDGE & WINGWALL - PLAN VIEW LAYOUT

1" = 5'



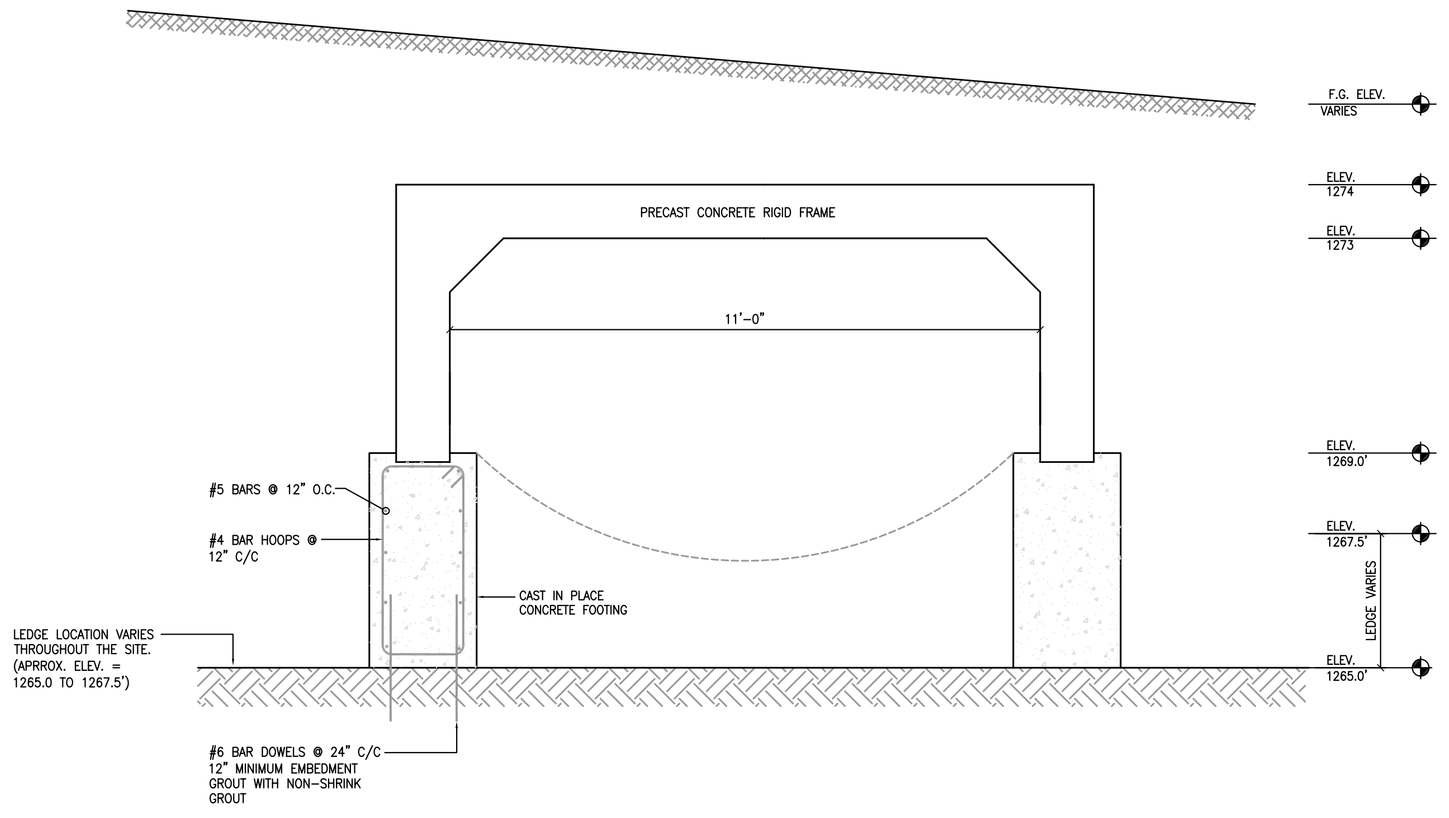
TYPICAL WINGWALL - SECTION

1/2" = 1'-0"



POST ANCHOR DETAILS (PRECAST CONCRETE)

1" = 1'-0"



PROPOSED CULVERT - SECTION

1/2" = 1'-0"

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DETAILS - FOOTINGS, ABUTMENTS & WINGWALLS
PIKES FALLS ROAD CULVERT REPLACEMENT
JAMAICA, VT

DATE:	REVISION DESCRIPTION	DR. BY	CHK. BY
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HAZARDOUS MATERIALS PLAN

INVENTORY FOR POLLUTION PREVENTION PLAN

THE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION

- CONCRETE
- PETROLEUM BASED PRODUCTS
- WOOD
- MASONRY BLOCK
- ASPHALT
- PAINTS (ENAMEL, OIL, LATEX)
- METAL
- CONCRETE
- TAR
- SHINGLES

SPILL PREVENTION PLAN NOTES:

MATERIAL MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF

GOOD HOUSEKEEPING

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT

1. AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB
2. ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND , IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE
3. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL
4. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER
5. WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER
6. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
7. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.

HAZARDOUS PRODUCTS:

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

1. PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINER UNLESS THEY ARE NOT RESEALABLE
2. ORIGINAL LABEL AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
3. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURE'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES

PETROLEUM PRODUCTS

1. ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE
2. ALL VEHICLE REFUELING, OILING AND / OR GREASING, SHALL BE CONFINED TO THE VEHICLE MAINTENANCE PAD (CONSTRUCTION DETAIL SHOWN ON THIS PLAN), THROUGHOUT THE DURATION OF EARTH EXCAVATION AND PIT RESTORATION OPERATIONS.
3. SHOULD ANY FUEL, HYDRAULIC OIL OR ENGINE OIL SPILL OCCUR:
   a.) THE PLASTIC ON THE LOWER SIDE OF THE PAD SHALL BE SWIVELED UP AGAINST THE SAND SLOPE AND STABILIZED IN THAT POSITION.
   b.) ANY CONTAMINATED SOILS SHALL BE HAULED OFF-SITE AND DISPOSED OF BY AND THROUGH A STATE APPROVED HAZARDOUS MATERIAL DISPOSAL CONTRACTOR.
4. PLASTIC AREAS EXPOSED TO SUNLIGHT SHOULD BE CHECKED EVERY TWO MONTHS FOR U.V. DETERIORATION. SHOULD THE PLASTIC BECOME BRITTLE, THE PAD SHALL BE UNDERLAIN WITH NEW PLASTIC.
5. IN THE EVENT OF A LARGE SPILL (25 GALLONS OR MORE) CONTACT THE STATE OF VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION (D.E.C.) WASTE MANAGEMENT DIVISION

   OFFICE HOURS REPORTING: 802-828-1138
   24-HOUR REPORTING: 800-641-5005
6. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. REFUELING BARRELS SHOULD BE PLACED WITHIN A CONTAINMENT WALL OR BERM.
7. ASPHALT PRODUCTS USED ONSITE WILL BE APPLIED AND STORED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS

FERTILIZERS

1. FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER
2. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER
3. STORAGE WILL BE IN A COVERED SHED.
4. THE CONTENTS OF PARTIALLY USED BAGS WILL BE TRANSFERRED TO SEALABLE BAGS.

PAINTS

1. ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE.
2. EXCESS PAINT AND CLEANING MATERIALS WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS

1. CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER WITHIN ANY CRITICAL BUFFER OR PROTECTION ZONE.

SPILL PREVENTION PLAN NOTES:

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

1. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
2. MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA
3. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY
4. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY
5. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM OCCURING AGAIN AND IT WILL BE ADJUSTED IF ADDITIONAL HAZARDOUS MATERIALS ARE BROUGHT ONSITE.
6. THE ONSITE SUPERVISOR WILL APPOINT A PERSON RESPONSIBLE FOR DAILY AND WEEKLY INSPECTIONS AND REPORTS.

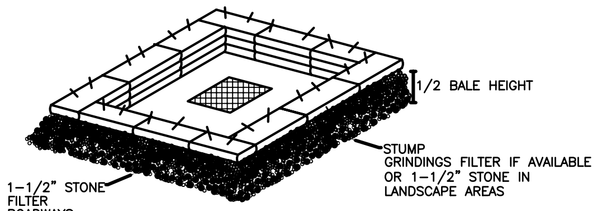
NON STORM WATER DISCHARGES

THE FOLLOWING NON STORM DISCHARGES WILL ACCRUE FROM THE SITE DURING CONSTRUCTION AND WILL BE PROPERLY TREATED PRIOR TO DISCHARGE.

1. WATER FROM WATER LINE FLUSHING
2. PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).
3. UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION)

WASTE DISPOSAL

1. ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A METAL DUMPSTER SUPPLIED BY A LICENSED SOLID WASTE MANAGEMENT COMPANY. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS .
2. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER.
3. THE DUMPSTER WILL BE EMPTIED WHEN IT HAS REACHED ITS DESIGN CAPACITY.
4. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ONSITE.
5. ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE MANUFACTURER.
6. PORTABLE SANITARY FACILITIES WILL BE SUPPLIED BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY LOCAL AND STATE REGULATIONS. THESE FACILITIES WILL BE CLEANED AS NECESSARY TO MAINTAIN A CLEAN AND SANITARY FACILITY.
7. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PROCEDURES MUST POSTED ON THE SITE.
8. THE INDIVIDUAL APPOINTED BY THE SITE CONTRACTOR OR OWNER TO DO SITE INSPECTIONS SHALL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

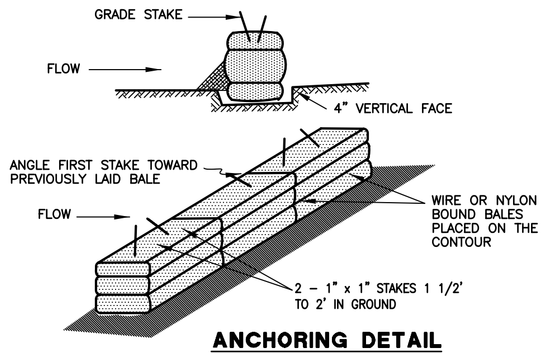


HAY BALE BARRIER AT CATCH BASIN

STRAW OR HAY BALE AND FILTER BARRIER

1.) BARRIER TO REMAIN UNTIL GRASS IS GROWING IN ALL SEEDED AREAS.

2.) PROVIDE HAY BALES ON ALL SIDES OF CATCH BASIN FROM WHICH FLOW CAN APPROACH CATCH BASIN.



ANCHORING DETAIL

CONSTRUCTION SPECIFICATIONS:

1.) BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.

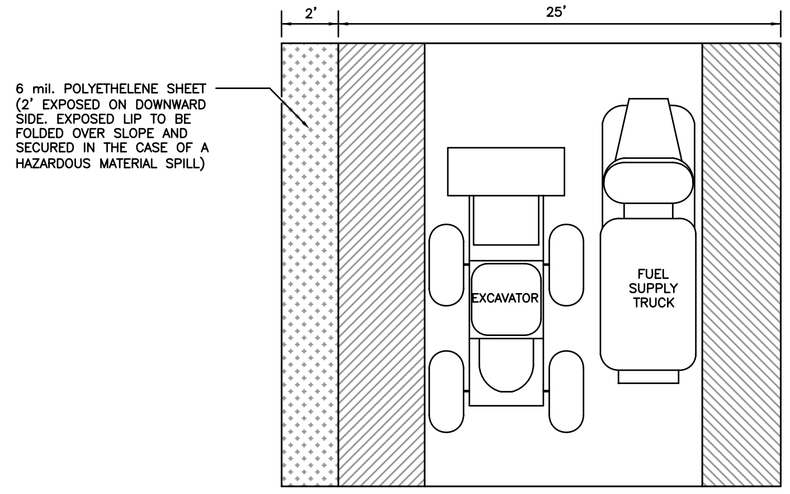
2.) EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".

3.) BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.

4.) ROADWAY AREAS STONE SHALL BE PLACED TO A MINIUM DEPTH OF 1/2 THE BAIL HEIGHT LANDSCAPE AREAS STUMP GRINDINGS OR STONE TO BE PLACED TO A MINUMUM OF 1/2 THE BALE HEIGHT

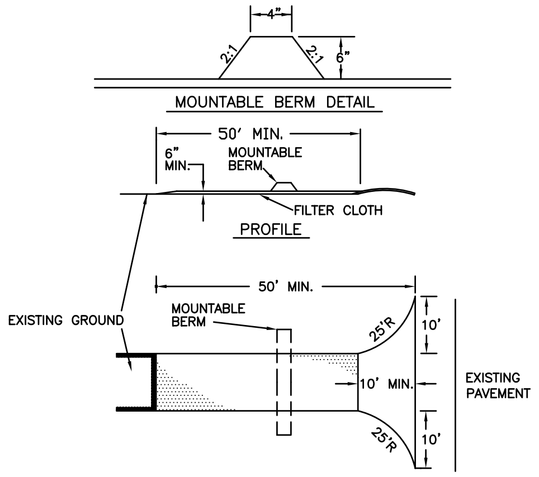
5.) INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

6.) BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.



TEMPORARY VEHICLE MAINTENANCE PAD

NOT TO SCALE

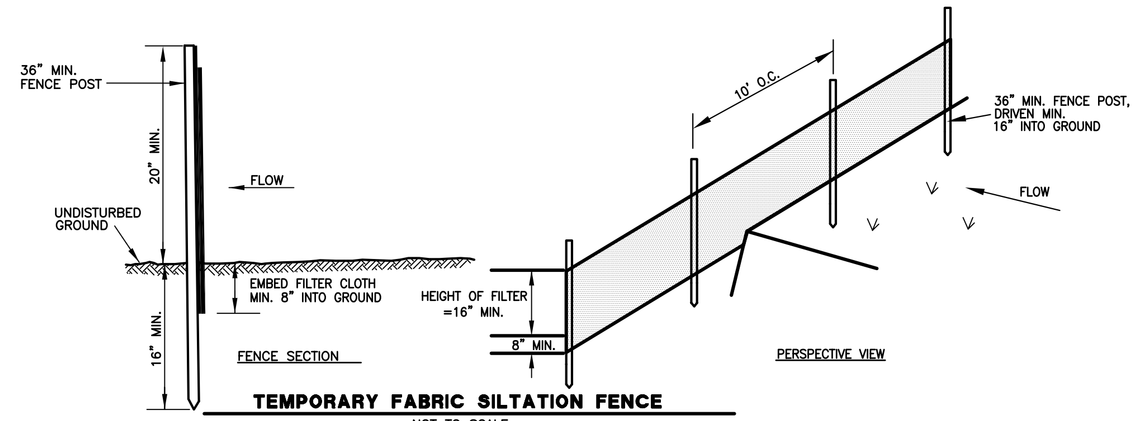


TEMPORARY STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

NOTES:

1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 2 TO 4 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES
3. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
4. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE.
5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED OR TRACKED ONTO PUBLIC RIGHT OF WAY MUST BE REMOVED PROMPTLY
6. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

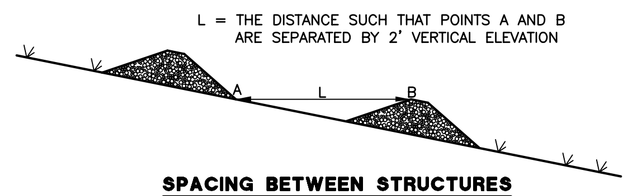


TEMPORARY FABRIC SILTATION FENCE

NOT TO SCALE

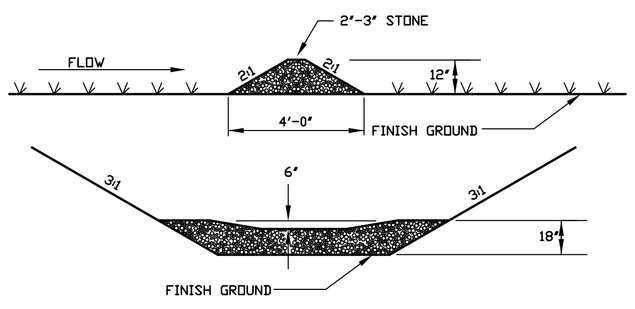
NOTES:

1. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACES EVERY 24" AT TOP, MID SECTION, AND BOTTOM.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.



SPACING BETWEEN STRUCTURES

NOT TO SCALE



SOURCE: VIRGINIA SOIL AND WATER CONSERVATION COMMISSION

TEMPORARY & PERMANENT ROCK DAM DETAIL

NOT TO SCALE

HOLDEN TRANSPORTATION ENGINEERING

56 Old Suncook Road - Unit #4
PO Box 480 Concord, N.H. 03302
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Bedford, N.H. 03110
(603) 472-2078

EROSION CONTROL DETAILS
PIKES FALLS ROAD CULVERT REPLACEMENT
JAMAICA, VT

DATE:	REVISION DESCRIPTION	DR. BY:	CHK. BY:
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BOOK | PAGE

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