REVIEWER NOTES

1. IT IS ANTICIPATED THAT CHANNEL RIGHT-OF-WAY ACQUISITION WILL NOT BE NECESSARY.

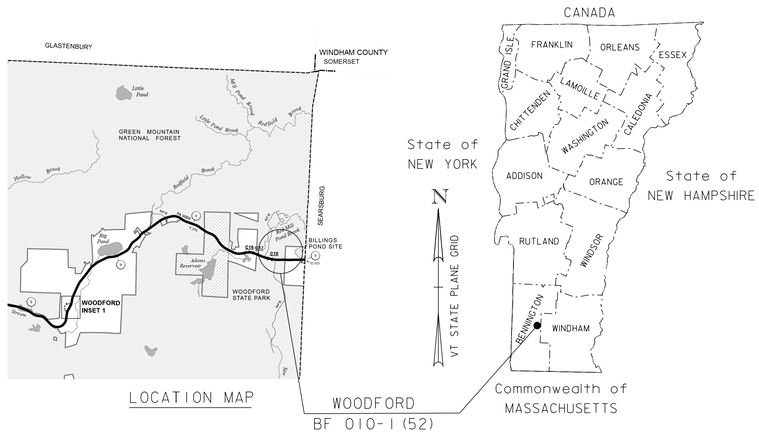
2. THERE ARE EXISTING OVERHEAD UTILITIES WITHIN THE PROJECT AREA WHICH WILL NOT REQUIRE RELOCATION. THERE SHOULD BE SUFFICIENT CLEARANCE FOR EXCAVATION AND CONCRETE PLACEMENT OPERATIONS.

3. THE PROPOSED HEADWALL AND SIDE SLOPES ENCROACH ON EXISTING WETLANDS/WATERS. MITIGATION CAN BE ACHIEVED BY PERFORMING ADDITIONAL EXCAVATION TO CREATE NEW WATER AREA FOR A ZERO NET LOSS.

4. NO GEOTECHNICAL EVALUATION HAS BEEN DONE FOR THE PROPOSED HEADWALL DESIGN.

5. NO ENVIRONMENTAL RESOURCES FILE THAT WOULD SHOW THE CLASS II DELINEATED WETLANDS WAS RECEIVED PRIOR TO SUBMISSION.

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

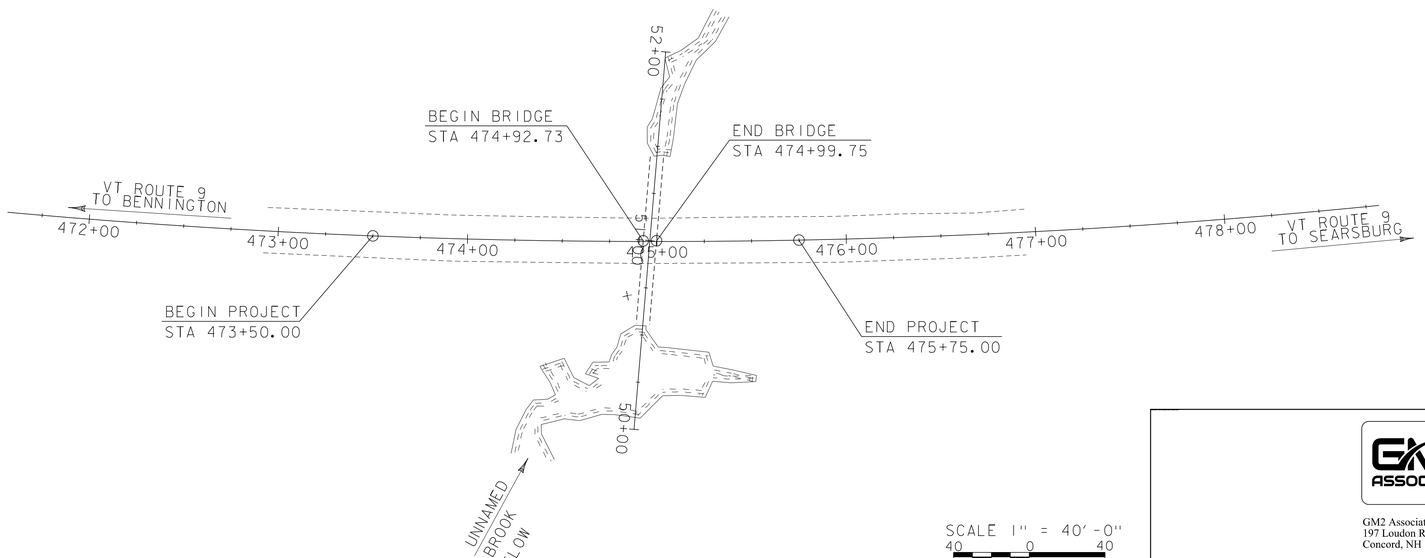
TOWN OF WOODFORD
COUNTY OF BENNINGTON

ROUTE NO : VT ROUTE 9 , BRIDGE NO : 18

PROJECT LOCATION: APPROXIMATELY 2.4 MILES WEST OF INTERSECTION WITH VT 8.

PROJECT DESCRIPTION: THE PROJECT SHALL CONSIST OF LINING THE EXISTING CULVERT WITH A CONCRETE SPRAY-ON LINER AND CONSTRUCTING A BEVELLED HEADWALL AT THE INLET.

LENGTH OF STRUCTURE: 7.02 FEET
LENGTH OF PROJECT: 225.00 FEET



SCALE 1" = 40'-0"
40 0 40

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL	
SURVEYED BY :	VTRANS
SURVEYED DATE :	07/03/2014
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAVD83 (2011)

PRELIMINARY PLANS
3-MAR-2017

GM2 Associates, Inc.
197 Loudon Road, Suite 310
Concord, NH 03301

Tel: 603-856-7854
Fax: 603-856-7855

DIRECTOR OF PROJECT DELIVERY
APPROVED _____ DATE _____

PROJECT MANAGER : N. WARK

PROJECT NAME : WOODFORD
PROJECT NUMBER : BF 010-1(52)

SHEET 1 OF 17 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (CULVERT)

Version
LRFD

INDEX OF SHEETS

PLAN SHEETS

STANDARDS LIST

STRUCTURES DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES	2/9/2012

FINAL HYDRAULIC REPORT

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TWO-WAY TRAFFIC ON THE EXISTING STRUCTURE.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	---
3. CULVERT OPENING	D:	7.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	---
5. PRESTRESSING STRAND	f_y:	---
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	--- KSI
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	--- KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	3.5 KSI
11. CONCRETE, CLASS C	f'_c:	--- KSI
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270	f_y:	---
14. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	*9 KSF
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	0.45
16. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	--- KSF
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
18. PILE RESISTANCE FACTOR	ϕ:	---
19. LATERAL PILE DEFLECTION	Δ:	--- INCH
20. BASIC WIND SPEED	V_{3s}:	---
21. MINIMUM GROUND SNOW LOAD	p_g:	---
22. SEISMIC DATA — PGA: ---	S_s:	---
	S_1:	---
23.		
24.		---
25.		---
26.		---

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR.	4A STR.	5A SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:	TABLE TO BE COMPLETED BY CONTRACTOR'S DESIGNER						

AS BUILT "REBAR" DETAIL

LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

CULVERT DESIGN CRITERIA

1. PROPOSED CULVERT IS A LINING.
2. CULVERT ENDS ARE NOT SKEWED.
3. CULVERT WILL BE SET AT A SLOPE OF 0.79 IN. ON 10 FT.
4. CULVERT WILL REQUIRE FISH PASSAGE ACCOMMODATIONS.
5. CULVERT CONSTRUCTION WILL REQUIRE TEMPORARY RELOC. OF STREAM FLOW.

* 9 KSF IS ASSUMED FOR NOMINAL BEARING RESISTANCE. NO GEOTECHNICAL RECOMMENDATIONS RECEIVED.

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2017	3200	490	54	15.2	540
2037	3400	520	54	19.9	750

20 year ESAL for flexible pavement from 2017 to 2037 : N/A

40 year ESAL for flexible pavement from 2017 to 2057 : N/A

Design Speed : 50 mph

PROJECT NAME: **WOODFORD**

PROJECT NUMBER: **BF 010-1(52)**

FILE NAME: **z13b270pi.dgn**
PROJECT LEADER: **T. LEVINS**
DESIGNED BY: **B. WILLIAMS**
PRELIMINARY INFORMATION SHEET

PLOT DATE: 3/2/2017
DRAWN BY: **B. WILLIAMS**
CHECKED BY: **T. LEVINS**
SHEET 2 OF 17

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

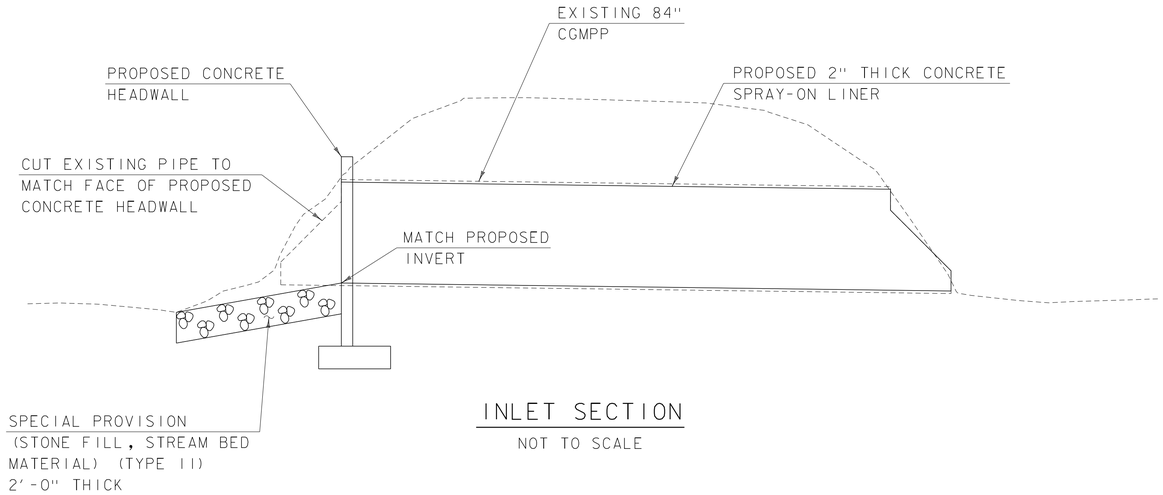
SUMMARY OF ESTIMATED QUANTITIES			TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				
		130		130		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27				
330				330		CY	GRANULAR BORROW	203.32				
		410		410		CY	STRUCTURE EXCAVATION	204.25				
		280		280		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30				
		12		12		GAL	WATER REPELLENT, SILANE	514.10				
		101		101		CY	CONCRETE, CLASS B	541.25				
		2		2		CY	CONCRETE, CLASS D	541.31				
		2		2		CY	CONTROLLED DENSITY (FLOWABLE) FILL	541.45				
100				100		HR	FLAGGERS	630.15				
			1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
			1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
			1	1		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
1				1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
	90			90		SY	GEOTEXTILE FOR SILT FENCE	649.51				
	20			20		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61				
	12			12		L	SEED	651.15				
	100			100		L	FERTILIZER	651.18				
	0.4			0.4		TON	AGRICULTURAL LIMESTONE	651.20				
	0.6			0.6		TON	HAY MULCH	651.25				
	110			110		CY	TOPSOIL	651.35				
	1			1		LS	EPSC PLAN	652.10				
	20			20		HR	MONITORING EPSC PLAN	652.20				
	1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
	340			340		SM	TEMPORARY EROSION MATTING	653.20				
	30			30		CWT	VEHICLE TRACKING PAD	653.35				
	410			410		LF	PROJECT DEMARCATION FENCE	653.55				
1				1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
		30		30		CY	SPECIAL PROVISION (STONE FILL, STREAM BED MATERIAL) (TYPE II)	900.608				
		81		81		LF	SPECIAL PROVISION (CONCRETE SPRAY-ON LINER) (EXISTING 84" PIPE)	900.640				
		1		1		LS	SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)	900.645				
1				1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645				

GM2 ASSOCIATES

PROJECT NAME: WOODFORD
PROJECT NUMBER: BF 010-1(52)

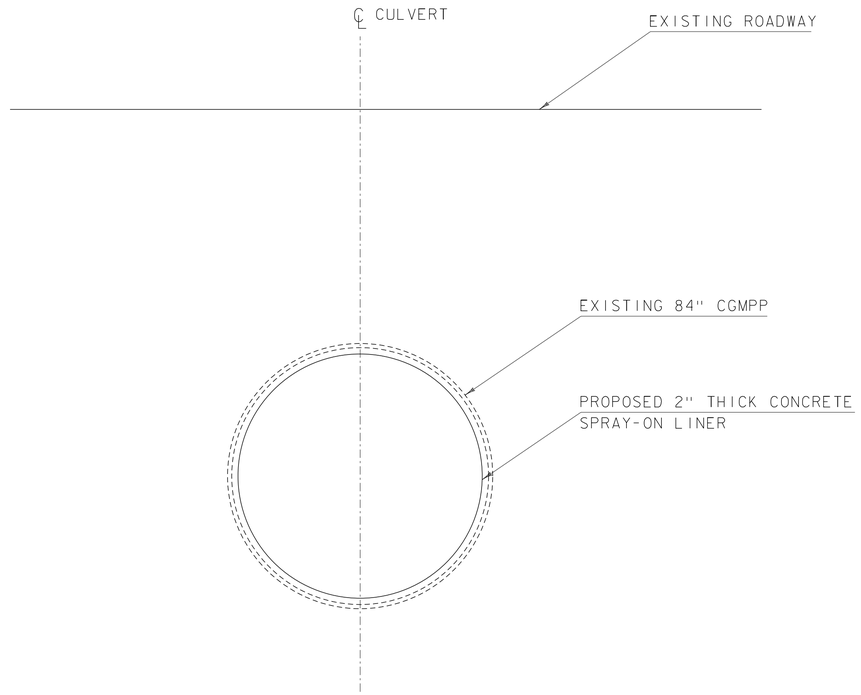
FILE NAME: z13c268qs.dgn
PROJECT LEADER: T. LEVINS
DESIGNED BY: B. WILLIAMS
QUANTITY SHEET

PLOT DATE: 3/1/17
DRAWN BY: B. WILLIAMS
CHECKED BY: T. LEVINS
SHEET 3 OF 17



INLET SECTION

NOT TO SCALE

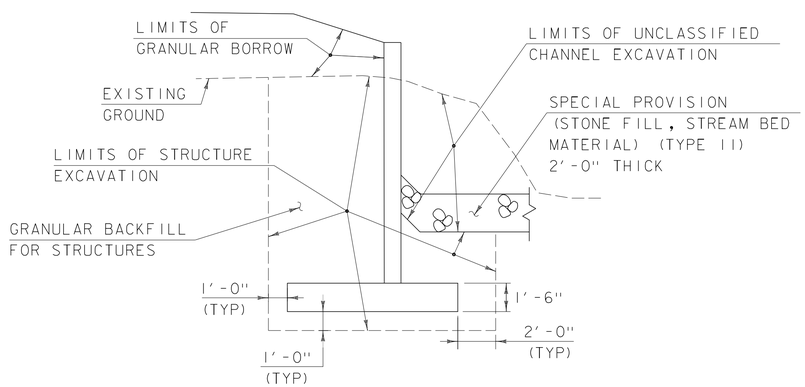


TYPICAL SECTION

NOT TO SCALE

TYPICAL HEADWALL SECTION

NOT TO SCALE



HEADWALL EARTHWORK TYPICAL SECTION

NOT TO SCALE

PROJECT NAME:	WOODFORD
PROJECT NUMBER:	BF 010-1(52)
FILE NAME:	z13b270typ.dgn
PROJECT LEADER:	T. LEVINS
DESIGNED BY:	B. WILLIAMS
TYPICAL SECTION	
PLOT DATE:	3/1/17
DRAWN BY:	B. WILLIAMS
CHECKED BY:	T. LEVINS
SHEET	4 OF 17

GM2 ASSOCIATES

GENERAL NOTES:

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION, DATED 2014, AND ITS LATEST REVISIONS.

2. ALL WORK AND ANY ASSOCIATED ACTIVITY ON THIS PROJECT SHALL BE PERFORMED WITHIN THE PROPOSED PROJECT LIMITS AS SHOWN ON THE PLANS.

3. DIMENSIONS, ANGLES, AND ELEVATIONS SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM SURVEY INFORMATION AND LIMITED FIELD INVESTIGATION, AND MAY NOT ACCURATELY REFLECT ACTUAL FIELD CONDITIONS. ACCORDINGLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING FIELD MEASUREMENTS FOR ALL STRUCTURE COMPONENTS IMPACTED BY THE WORK (EXISTING OR PROPOSED) TO ASSURE CONSISTENCY WITH THE PROPOSED MODIFICATIONS. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER, OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ADVANCING THE WORK. FABRICATION DRAWINGS REQUIRED FOR VARIOUS ITEMS OF THE WORK SHALL INDICATE THE ACTUAL FIELD MEASUREMENTS AND SHALL BE SO NOTED.

4. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS OTHERWISE NOTED.

5. IT IS EXPECTED THAT CULVERT LINING AND CONCRETE HEADWALL CONSTRUCTION WILL BE THE EXTENT OF THE WORK, AS NOTED ON THE PLANS. DURING THE COURSE OF CONSTRUCTION, IF THE CONTRACTOR SEES AN AREA OF CONCERN, SUCH AS VOIDS AROUND THE EXISTING CULVERT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE ENGINEER SHALL MAKE A DETERMINATION AS TO THE NEED FOR FURTHER EXPLORATION.

6. THE CONTRACTOR SHALL TAKE MEASUREMENTS TO ENSURE OVERHEAD UTILITY LINES ARE NOT IMPACTED BY CONSTRUCTION. SEE THE SPECIAL PROVISIONS FOR ADDITIONAL UTILITY INFORMATION AND REQUIREMENTS.

CONCRETE NOTES:

1. CONCRETE PAYMENT AND CLASSIFICATION WILL BE AS FOLLOWS:

   A. FILLING VOIDS BELOW PIPE OHW FLOW LINE: ITEM 541.31, CONCRETE, CLASS D.
   B. FILLING VOIDS ABOVE PIPE OHW FLOW LINE: ITEM 541.45, CONTROLLED DENSITY (FLOWABLE) FILL.
   C. CONCRETE FOR HEADWALL AND FOOTINGS: ITEM 541.25, CONCRETE, CLASS B.

2. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH BY 1 INCH, UNLESS OTHERWISE NOTED.

3. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES. PAYMENT WILL BE MADE UNDER ITEM 514.10, "WATER REPELLENT, SILANE". APPLICATION RATE OF "WATER REPELLENT, SILANE" SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

PIPE REHABILITATION NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR ANY DAMAGE THAT OCCURS TO THE SIDE SLOPES AS A RESULT OF CONSTRUCTION ACTIVITIES.

2. THE EXISTING CULVERT SHALL REMAIN UNDISTURBED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION OF THE EXISTING PIPE TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL REMOVE SEDIMENT, LARGE STONES, AND/OR LARGE DEBRIS FROM THE INSIDE OF THE EXISTING CULVERT PRIOR TO INSTALLATION OF THE NEW LINER. PAYMENT FOR THIS WORK WILL BE MADE UNDER CONTRACT ITEM 900.640, "SPECIAL PROVISION (CONCRETE SPRAY-ON LINER) (EXISTING 84" PIPE)".

3. IF VOIDS AROUND THE CULVERT ARE FOUND DURING CONSTRUCTION, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE ENGINEER WILL DETERMINE IF THE VOIDS ARE REQUIRED TO BE FILLED. THIS WORK SHALL BE PAID UNDER ITEM 541.45, "CONTROLLED DENSITY (FLOWABLE) FILL" OR ITEM 541.31, "CONCRETE, CLASS D", DEPENDING UPON THE LOCATION RELATIVE TO THE ORDINARY HIGH WATER MARK.

4. THE CONTRACTOR SHALL FILL ANY VOIDS BELOW THE ORDINARY HIGH WATER MARK IN THE CULVERT FROM WITHIN THE CULVERT BEFORE INSTALLING THE LINER. PAYMENT FOR THIS WORK SHALL BE MADE UNDER ITEM 541.31, "CONCRETE, CLASS D".

5. THE CONTRACTOR SHALL FILL ANY VOIDS ABOVE THE ORDINARY HIGH WATER MARK IN THE CULVERT FROM WITHIN THE CULVERT BEFORE INSTALLING THE LINER. PAYMENT FOR THIS WORK SHALL BE MADE UNDER ITEM 541.45, "CONTROLLED DENSITY (FLOWABLE) FILL".

TEMPORARY RELOCATION OF STREAM NOTES:

1. ITEM 900.645, "SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)," SHALL BE USED TO DIVERT THE BROOK FLOW AROUND THE CONSTRUCTION AREA. THE CONTRACTOR SHALL SUBMIT A PLAN SHOWING THE PROPOSED METHOD OF DIVERTING THE BROOK AND ALLOWING THE CONSTRUCTION OF THE NEW HEADWALL. THE INSTALLATION OF THE CONCRETE LINER SHALL BE PERFORMED IN THE DRY. ANY METHOD USED SHALL BE PAID UNDER ITEM 900.645, "SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)" AND SHALL INCLUDE, BUT NOT BE LIMITED TO:

   A. THE TEMPORARY PIPE HARDWARE, PUMP RENTALS, AND MONITORING OF THE PUMP DIVERSION.

   B. ANY EXCAVATION, IMPACTS, OR EROSION CONTROL MEASURES NEEDED TO INSTALL THE TEMPORARY DIVERSION AND REMOVE THE TEMPORARY DIVERSION OUTSIDE THE IMPACTS SHOWN ON THE PLANS.

   C. INCIDENTALS USED WHILE DIVERTING THE WATER TO THE TEMPORARY DIVERSION (SANDBAGS, PUMPS, ETC.).

2. THE BROOK SHALL BE DIVERTED DURING LOW FLOW CONDITIONS ONLY.

TRAFFIC CONTROL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ACCESS TO THE CULVERT REHABILITATION SITE. ALL RESULTING DISTURBED EARTH SHALL BE STABILIZED AND RESTORED UPON COMPLETION OF CONSTRUCTION. IT HAS BEEN ASSUMED THAT A TEMPORARY ACCESS ROAD WILL NOT BE REQUIRED. THE INLET SIDE OF THE CULVERT SHALL BE ACCESSED WITHIN THE TEMPORARY CONSTRUCTION LIMITS SHOWN AND THE OUTLET SHALL ONLY BE ACCESSED BY WORKERS ON FOOT.

2. THE CONTRACTOR SHALL NOT GO OUTSIDE THE TEMPORARY CONSTRUCTION LIMITS DEPICTED ON THE PLANS.

3. FOR OTHER CONSTRUCTION ACTIVITIES ON VT ROUTE 9:

   A. WORK WILL NEED TO BE COMPLETED MAINTAINING TWO-WAY TRAFFIC.

   B. TEMPORARY LANE AND/OR SHOULDER CLOSURES WILL BE ALLOWED DURING WORKING HOURS ONLY.

   C. THE HIGHWAY SHALL BE RESTORED TO FULL CAPACITY AT THE CLOSE OF DAILY CONSTRUCTION ACTIVITIES.

4. ACCESS TO ALL DRIVES SHALL BE MAINTAINED DURING CONSTRUCTION.

5. ALL TRAFFIC CONTROL MEASURES FOR THIS PROJECT SHALL BE INSTALLED IN ACCORDANCE WITH TYPICAL APPLICATIONS TA-1, TA-3, AND TA-10 OF THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE REFERENCED VTRANS STANDARD DRAWINGS. CONFLICTS BETWEEN THE MUTCD AND THE VTRANS STANDARD DRAWINGS SHALL DEFER TO THE MUTCD.

6. THE CONTRACTOR SHALL SUBMIT A SPECIFIC TRAFFIC CONTROL PLAN FOR THE CONSTRUCTION SITE TO THE ENGINEER FOR APPROVAL PER SUBSECTIONS 104.04 AND 105.03. THIS WORK SHALL BE SUBSIDIARY TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".

7. TEMPORARY BARRIER, IF USED, SHALL MEET THE REQUIREMENTS OF SECTION 621. BARRIER ENDS FACING ONCOMING TRAFFIC SHALL BE TAPERED BEYOND THE CLEAR ZONE. IF NECESSARY, PAYMENT FOR FURNISHING, INSTALLING, RESETTING, AND REMOVING ANY TEMPORARY TRAFFIC BARRIER WILL BE INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".

8. SIGNS, BARRICADES, AND TRAFFIC CONTROL DEVICES SHALL BE CLEANED WEEKLY AND THIS WORK SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.645, "SPECIAL PROVISION, (TRAFFIC CONTROL, ALL-INCLUSIVE)".

9. TEMPORARY SIGNS LOCATED BEHIND THE GUARDRAIL SHALL BE INSTALLED PER STANDARDS AND SUCH THAT THE BOTTOM OF THE SIGN IS ABOVE THE HEIGHT OF THE GUARDRAIL. ALL CONSTRUCTION RELATED SIGNS SHALL BE PLACED SUCH THAT THEY DO NOT OBSTRUCT VISIBILITY OF THE EXISTING SIGNS.

10. PENDING APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY REMOVE EXISTING GUARDRAIL FOR CONSTRUCTION ACCESS. IF EXISTING GUARDRAIL IS REMOVED, TRAFFIC SHALL BE PROTECTED BY TEMPORARY BARRIER. PAYMENT FOR REMOVING AND RESETTING GUARDRAIL, FURNISHING, INSTALLING, RESETTING, AND REMOVING ANY TEMPORARY TRAFFIC BARRIER OR OTHER MATERIALS REQUIRED TO PROVIDE PROTECTION SHALL BE INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)". THE CONTRACTOR SHALL PLACE TEMPORARY BARRIER IN A MANNER SUCH THAT IT PROTECTS TRAFFIC FROM EXPOSED ENDS OF THE BARRIER AND GUARDRAIL.

11. THE CONTRACTOR SHALL COORDINATE ANY PROPOSED TRAFFIC CONTROL MEASURES WITH ABUTTING CONSTRUCTION PROJECTS.

GM2 ASSOCIATES

PROJECT NAME: WOODFORD
PROJECT NUMBER: BF 010-1(52)

FILE NAME: zl3b270notes.dgn
PROJECT LEADER: T. LEVINS
DESIGNED BY: B. WILLIAMS
PROJECT NOTES

PLOT DATE: 3/2/17
DRAWN BY: B. WILLIAMS
CHECKED BY: T. LEVINS
SHEET 5 OF 17

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

THE SYMBOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOGY. THE SYMBOLOGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLOGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT	CODE	DESCRIPTION
	CH	CHANNEL EASEMENT
	CONST	CONSTRUCTION EASEMENT
	CUL	CULVERT EASEMENT
	D&C	DISCONNECT & CONNECT
	DIT	DITCH EASEMENT
	DR	DRAINAGE EASEMENT
	DRIVE	DRIVEWAY EASEMENT
	EC	EROSION CONTROL
	HWY	HIGHWAY EASEMENT
	I&M	INSTALL & MAINTAIN EASEMENT
	LAND	LANDSCAPE EASEMENT
	R&RES	REMOVE & RESET
	R&REP	REMOVE & REPLACE
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BNDNS	BOUND SET
⧈	BNDNS	BOUND TO BE SET
●	IPNS	IRON PIN SET
◎	IPNS	IRON PIN TO BE SET
⊠	CALC	EXISTING ROW POINT
○	PROW	PROPOSED ROW POINT
[LENGTH]		LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT	CODE	DESCRIPTION
	APL	BOUND APPARENT LOCATION
	BM	BENCHMARK
	BND	BOUND
	CB	CATCH BASIN
	COMB	COMBINATION POLE
	DITHR	DROP INLET THROATED DNC
	EL	ELECTRIC POWER POLE
	FPOLE	FLAGPOLE
	GASFIL	GAS FILLER
	GP	GUIDE POST
	GSO	GAS SHUT OFF
	GUY	GUY POLE
	GUYW	GUY WIRE
	GV	GATE VALUE
	H	TREE HARDWOOD
	HCTRL	CONTROL HORIZONTAL
	HVCTRL	CONTROL HORIZ. & VERTICAL
	HYD	HYDRANT
	IP	IRON PIN
	IPIPE	IRON PIPE
	LI	LIGHT - STREET OR YARD
	MB	MAILBOX
	MH	MANHOLE (MH)
	MM	MILE MARKER
	PM	PARKING METER
	PMK	PROJECT MARKER
	POST	POST STONE/WOOD
	RRSIG	RAILROAD SIGNAL
	RRSL	RAILROAD SWITCH LEVER
	S	TREE SOFTWOOD
	SAT	SATELLITE DISH
	SHRUB	SHRUB
	SIGN	SIGN
	STUMP	STUMP
	TEL	TELEPHONE POLE
	TIE	TIE
	TSIGN	SIGN W/DOUBLE POST
	VCTRL	CONTROL VERTICAL
	WELL	WELL
	WSO	WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLOGY

UNDERGROUND UTILITIES

- UGU — UTILITY (GENERIC-UNKNOWN)
- UT — TELEPHONE
- UE — ELECTRIC
- UC — CABLE (TV)
- UEC — ELECTRIC+CABLE
- UET — ELECTRIC+TELEPHONE
- UCT — CABLE+TELEPHONE
- UECT — ELECTRIC+CABLE+TELEP.
- G — GAS LINE
- W — WATER LINE
- S — SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

- AGU — UTILITY (GENERIC-UNKNOWN)
- T — TELEPHONE
- E — ELECTRIC
- C — CABLE (TV)
- EC — ELECTRIC+CABLE
- ET — ELECTRIC+TELEPHONE
- AER E&T — ELECTRIC+TELEPHONE
- CT — CABLE+TELEPHONE
- ECT — ELECTRIC+CABLE+TELEP.
- UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

- CZ — CLEAR ZONE
- PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

- TOP OF CUT SLOPE
- TOE OF FILL SLOPE
- STONE FILL
- BOTTOM OF DITCH ℄
- CULVERT PROPOSED
- STRUCTURE SUBSURFACE
- PROJECT DEMARCATION FENCE (PDF)
- BARRIER FENCE (BF)
- TREE PROTECTION ZONE (TPZ)
- STRIPING LINE REMOVAL
- SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

- TOWN LINE — TOWN BOUNDARY LINE
- COUNTY LINE — COUNTY BOUNDARY LINE
- STATE LINE — STATE BOUNDARY LINE
- PROPOSED STATE R.O.W. (LIMITED ACCESS)
- PROPOSED STATE R.O.W.
- STATE ROW (LIMITED ACCESS)
- STATE ROW
- TOWN ROW
- PERMANENT EASEMENT LINE (P)
- TEMPORARY EASEMENT LINE (T)
- SURVEY LINE
- P/L — PROPERTY LINE (P/L)
- SR SR SR — SLOPE RIGHTS
- 6F — 6F PROPERTY BOUNDARY
- 4F — 4F PROPERTY BOUNDARY
- HAZ — HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

- FILTER CURTAIN
- SILT FENCE
- SILT FENCE WOVEN WIRE
- CHECK DAM
- DISTURBED AREAS REQUIRING RE-VEGETATION
- EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

ENVIRONMENTAL RESOURCES

- WETLAND BOUNDARY
- RIPARIAN BUFFER ZONE
- WETLAND BUFFER ZONE
- SOIL TYPE BOUNDARY
- T&E — THREATENED & ENDANGERED SPECIES
- HAZ — HAZ — HAZARDOUS WASTE AREA
- AG — AGRICULTURAL LAND
- HABITAT — FISH & WILDLIFE HABITAT
- FLOOD PLAIN — FLOOD PLAIN
- OHW — ORDINARY HIGH WATER (OHW)
- STORM WATER
- USDA FOREST SERVICE LANDS
- WILDLIFE HABITAT SUIT/CONN

ARCHEOLOGICAL & HISTORIC

- ARCH — ARCHEOLOGICAL BOUNDARY
- HISTORIC DIST — HISTORIC DISTRICT BOUNDARY
- HISTORIC — HISTORIC AREA
- (H) — HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

EXISTING FEATURES

- ROAD EDGE PAVEMENT
- ROAD EDGE GRAVEL
- DRIVEWAY EDGE
- DITCH
- FOUNDATION
- FENCE (EXISTING)
- FENCE WOOD POST
- FENCE STEEL POST
- GARDEN
- ROAD GUARDRAIL
- RAILROAD TRACKS
- CULVERT (EXISTING)
- STONE WALL
- WALL
- WOOD LINE
- BRUSH LINE
- HEDGE
- BODY OF WATER EDGE
- LEDGE EXPOSED

PROJECT NAME: WOODFORD
PROJECT NUMBER: BF 010-1(52)

FILE NAME: zl3b270leg.dgn
PROJECT LEADER: T. LEVINS
DESIGNED BY: VTRANS
LEGEND SHEET

PLOT DATE: 7/6/2016
DRAWN BY: VTRANS
CHECKED BY: T. LEVINS
SHEET 6 OF 17

GPS CONTROL POINTS

HVCTRL #1
B95032
NORTH = 142309.5030
EAST = 1502198.7350
ELEV. = 2226.510

WOODFORD, VT., ABOUT 9.5 MI (15.3 KM) EAST OF BENNINGTON, VT., ABOUT 7.5 MI (12.1 KM) WEST OF WILMINGTON, AND ABOUT 10.5 MI (16.9 KM) NORTH OF THE MASSACHUSETTS/VERMONT STATE LINE. TO REACH FROM THE INTERSECTION OF VT ROUTE 9 AND VT ROUTE 8 IN SEARSBURG GO 1.9 MI (3.1 KM) TO THE SITE OF THE MARK ON THE RIGHT. THE MARK IS SET 4 CM (2 INCHES) BELOW GROUND SURFACE IN THE TOP OF A 30 CM (12 INCH) DIAMETER CONCRETE MONUMENT. IT IS 10.7 M (35.1 FT) NORTH OF AND ABOUT 0.5 M (1.6 FT) LOWER THAN THE CENTERLINE OF VT ROUTE 9, 24.7 M (81.0 FT) SOUTHEAST OF POLE NO 354/664, 36.1 M (118.4 FT) WEST OF POLE NO 242/663, 30.9 M (101.4 FT) SOUTH OF THE SOUTHEAST CORNER OF HOUSE NO 9271 AND 7.2 M (23.6 FT) WEST OF THE CENTERLINE OF THE MOST EASTERLY ENTRANCE TO A CIRCULAR GRAVEL DRIVE.

HVCTRL #10
B95031
NORTH = 142236.8370
EAST = 1501259.7180
ELEV. = 2225.880

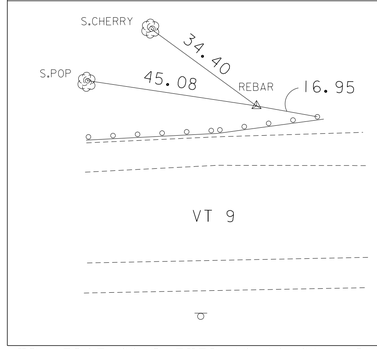
WOODFORD, VT., ABOUT 9.5 MI (15.3 KM) EAST OF BENNINGTON, VT., ABOUT 7.5 MI (12.1 KM) WEST OF WILMINGTON, AND ABOUT 10.5 MI (16.9 KM) NORTH OF THE MASSACHUSETTS/VERMONT STATE LINE. TO REACH FROM THE INTERSECTION OF VT ROUTES 9 AND 8 IN SEARSBURG GO WEST ALONG VT ROUTE 9 FOR 2.3 MI (3.7 KM) TO THE INTERSECTION OF A GRAVEL ROAD LEFT TO THE GEORGE D. AIKEN WILDERNESS AREA AND THE MARK ON THE LEFT IN THE SOUTHEAST QUADRANT OF THE INTERSECTION. THE MARK IS SET 5 CM BELOW GROUND SURFACE IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT POURED 1.5 M (4.9 FT) DEEP. IT IS 11.8 M (38.7 FT) SOUTH OF AND ABOUT 0.7 M (2.3 FT) LOWER THAN THE CENTERLINE OF VT ROUTE 9, 11.6M (38.1 FT) EAST OF THE CENTERLINE OF THE GRAVEL ROAD, 5.5 M (18.0 FT) NORTHEAST OF THE GEORGE D. AIKEN WILDERNESS SIGN, 12.4 M (40.7 FT) NORTH OF POLE NO. 238/667, AND 0.6 M (2.0 FT) NORTH OF A FIBERGLASS WITNESS POST. THIS MARK IS INTERVISIBLE WITH MARK B95032.

*GPS CONTROL PROVIDED BY VT GSU

TRAVERSE TIES

HVCTRL #9

NORTH = 142292.7033
EAST = 1501729.2185
ELEV. = 2237.277



HVCTRL #11

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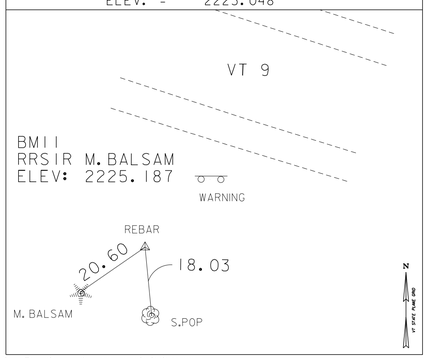
EAST = 1500388.3457
ELEV. = 2223.048



HVCRTL

NORTH =
EAST =
ELEV. =

N
GRID NORTH AS PER NAD 83 (2011)

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

*TRAVERSE COMPLETED 06/09/2014 BY L.ORVIS P.C. & H.MCGOWAN

ALIGNMENT TIES

NORTH =
EAST =
ELEV. =

N
GRID NORTH AS PER NAD 83 (2011)

NORTH =
EAST =
ELEV. =

N
GRID NORTH AS PER NAD 83 (2011)

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (2011)

ADJUSTMENT COMPASS

PROJECT NAME: WOODFORD

PROJECT NUMBER: BF 010-1(52)

FILE NAME: x13b270ti.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: VTRANS
TIE SHEET

PLOT DATE: 3/1/17
DRAWN BY: G. HITCHCOCK
CHECKED BY: P. BEYOR
SHEET 7 OF 17

WILMINGTON-MUNDAL ASSOCIATION
UNDULATING, VERY STONY SOIL
0% - 3% SLOPES
NO "K" VALUE REPORTED

N

VT STATE PLANE GRID

VERMONT MOUNTAIN
NATIONAL FOREST

EXISTING
RIGHT-OF-WAY

VT ROUTE 9
TO BENNINGTON

VT ROUTE 9
TO SEARSBURG

472+00
473+00
474+00
475+00
476+00
477+00
52+00
51+00
50+00

2210
2220
20
HYCTRL

GRAVEL DRIVE
VAST TRAIL

AER E&T

EXISTING
RIGHT-OF-WAY

VERMONT MOUNTAIN
NATIONAL FOREST

EXISTING CULVERT DATA
EXISTING 7' CGMPP
92' LONG, BUILT 1919
RECONSTRUCTED 1965
6' AVERAGE COVER
38 SQFT WATERWAY AREA

GM2 ASSOCIATES

PROJECT NAME: WOODFORD
PROJECT NUMBER: BF 010-1(52)

FILE NAME: zl3B270bdr_ero.dgn
PROJECT LEADER: T. LEVINS
DESIGNED BY: B. WILLIAMS
EXISTING CONDITIONS

PLOT DATE: 3/1/17
DRAWN BY: B. WILLIAMS
CHECKED BY: T. LEVINS
SHEET 8 OF 17

N

VT STATE PLANE GRID

VERMONT MOUNTAIN
NATIONAL FOREST

EXISTING
RIGHT-OF-WAY

UNNAMED BROOK

CHANNEL POE
STA 52+00.00
N = 142440.6553
E = 1500817.8769

52+00

MAINLINE STA 474+96.24
=CHANNEL STA 50+99.57
Δ=85°07'32.16"

PROJECT CONSTRUCTION
LIMITS (TYP)

BEGIN BRIDGE
STA 474+92.73

END BRIDGE
STA 474+99.75

SIGN
VD-701
(VT 9
BR 18)

HVCTRL
20

END PROJECT
STA 475+75.00

BEGIN PROJECT
STA 473+50.00

VT ROUTE 9
TO BENNINGTON

472+00

473+00

474+00

475+00

476+00

477+00

VT ROUTE 9
TO SEARSBURG

478+00

EXISTING 84" CGMPP
NEW 2" THICK CONCRETE
SPRAY-ON LINER

50+00

HVCTRL
21

SIGN
VD-701
(VT 9
BR 18)

CONSTRUCT NEW CONCRETE
HEADWALL AT INLET

GRAVEL DRIVE
VAST TRAIL

GRAVEL DRIVE
VAST TRAIL

AER E&T

AER E&T

AER E&T

AER E&T

AER E&T

AER E&T

COMB
2
689

TEMPORARY CONSTRUCTION
LIMITS (TYP)

TEMPORARY CONSTRUCTION
LIMITS (TYP)*

*NOTE:
FULL LENGTH OF GUARDRAIL WAS NOT SURVEYED. LOCATION OF TEMPORARY CONSTRUCTION ACCESS SHOWN IS APPROXIMATE. LOCATE TEMPORARY CONSTRUCTION ACCESS AT END OF GUARDRAIL.

CHANNEL POB
STA 50+00.00
N = 142248.9850
E = 1500760.7585

N16°35'39"E
50+00

2'-0" STREAM BED
MATERIAL TYPE II
(SEE SPECIAL PROVISION)

PI
STA 475+99.17 BK =
STA 475+78.22 AHD

EXISTING
RIGHT-OF-WAY

VERMONT MOUNTAIN
NATIONAL FOREST

EXISTING CURVE
PC = STA 468+55.73
PT = STA 483+55.73
DELTA = 23°00'40"
D = 1°30'00"
R = 3819.72'
T = 777.51'
L = 1534.07'
E = 78.33'

EXISTING CULVERT DATA
EXISTING 7' CGMPP
92' LONG, BUILT 1919
RECONSTRUCTED 1965
6' AVERAGE COVER
38 SQFT WATERWAY AREA

LAYOUT

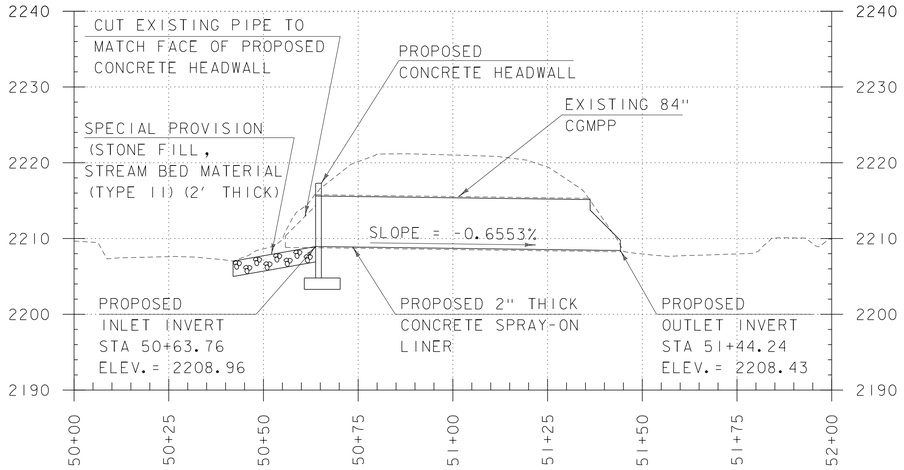
SCALE 1" = 20'-0"
20 0 20

GM2 ASSOCIATES

PROJECT NAME: WOODFORD
PROJECT NUMBER: BF 010-1(52)

FILE NAME: z13b270bdr.dgn
PROJECT LEADER: T. LEVINS
DESIGNED BY: B. WILLIAMS
LAYOUT SHEET

PLOT DATE: 3/1/17
DRAWN BY: B. WILLIAMS
CHECKED BY: T. LEVINS
SHEET 9 OF 17

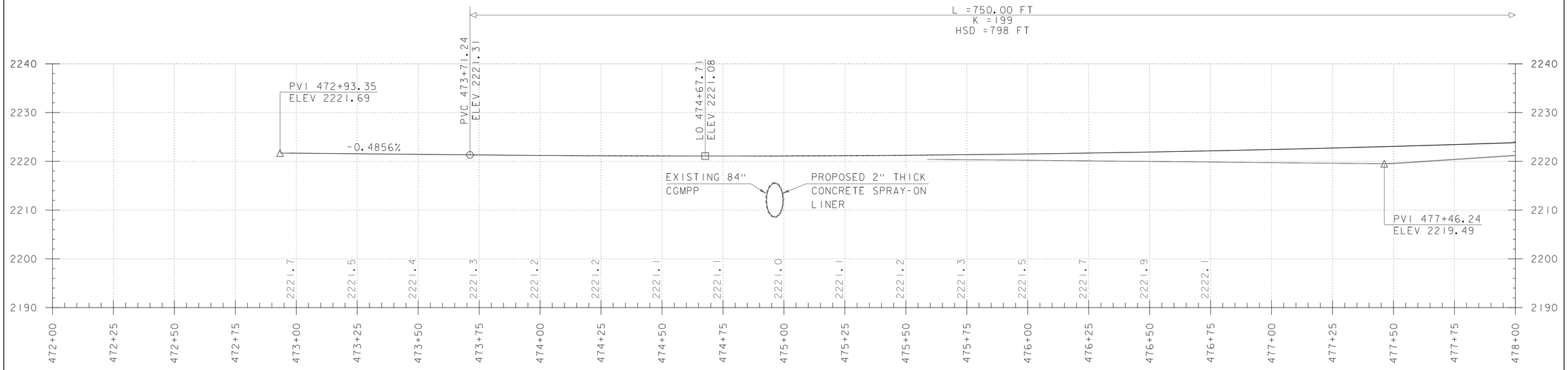


CULVERT PROFILE

HORIZONTAL SCALE 1" = 20'-0"
VERTICAL SCALE 1" = 10'-0"

NOTES:

1. ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄
2. ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG ℄

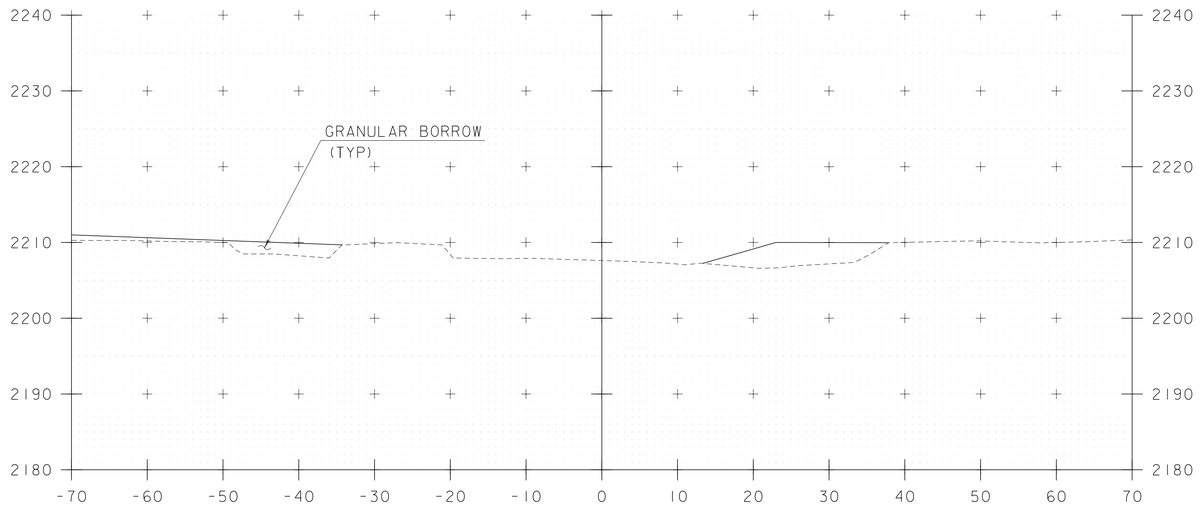


VT ROUTE 9 PROFILE

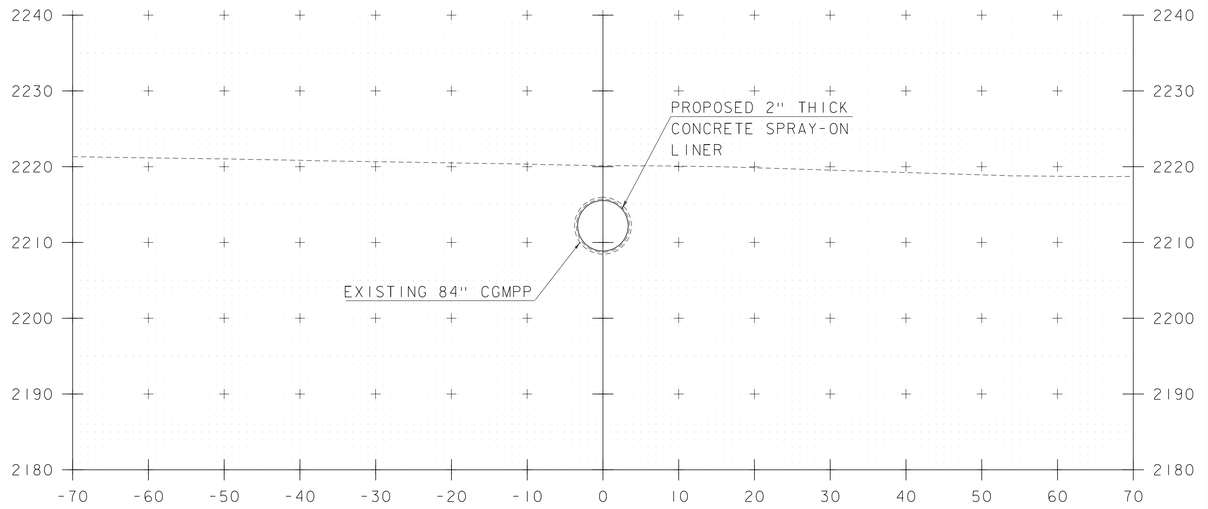
HORIZONTAL SCALE 1" = 20'-0"
VERTICAL SCALE 1" = 10'-0"

GM2 ASSOCIATES

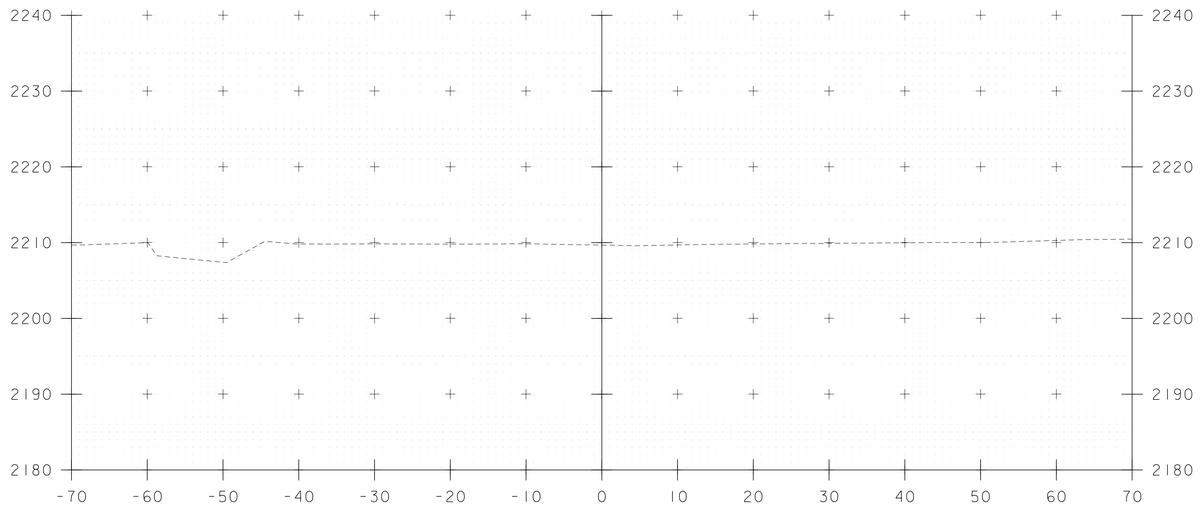
PROJECT NAME:	WOODFORD		
PROJECT NUMBER:	BF 010-1(52)		
FILE NAME:	z13b270profile.dgn	PLOT DATE:	3/1/17
PROJECT LEADER:	T. LEVINS	DRAWN BY:	B. WILLIAMS
DESIGNED BY:	B. WILLIAMS	CHECKED BY:	T. LEVINS
PROFILE		SHEET	10 OF 17



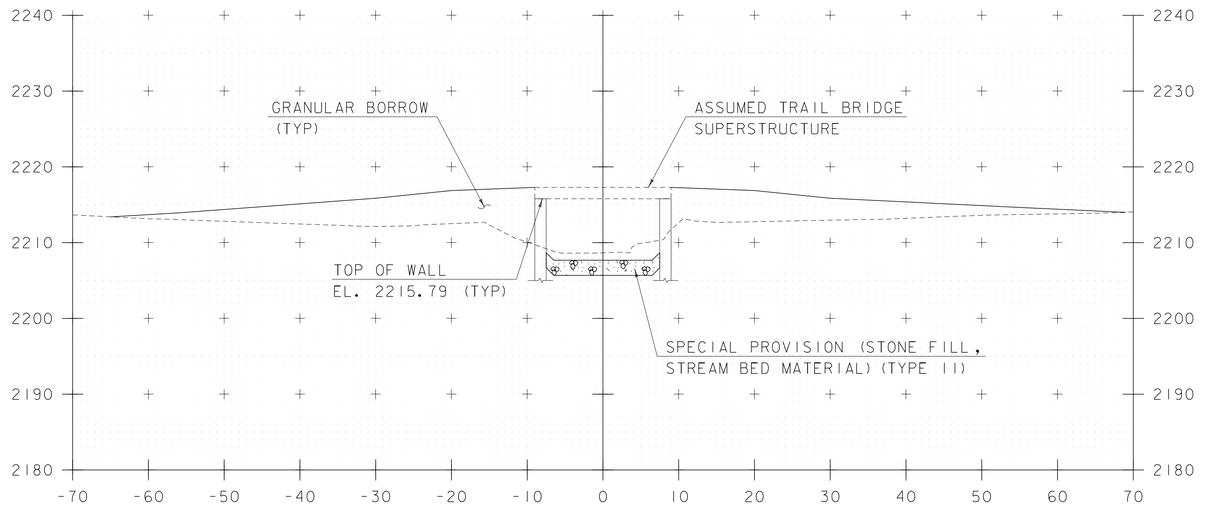
50+25



50+75



50+00



50+50

SCALE 1" = 10'-0"
10 0 10

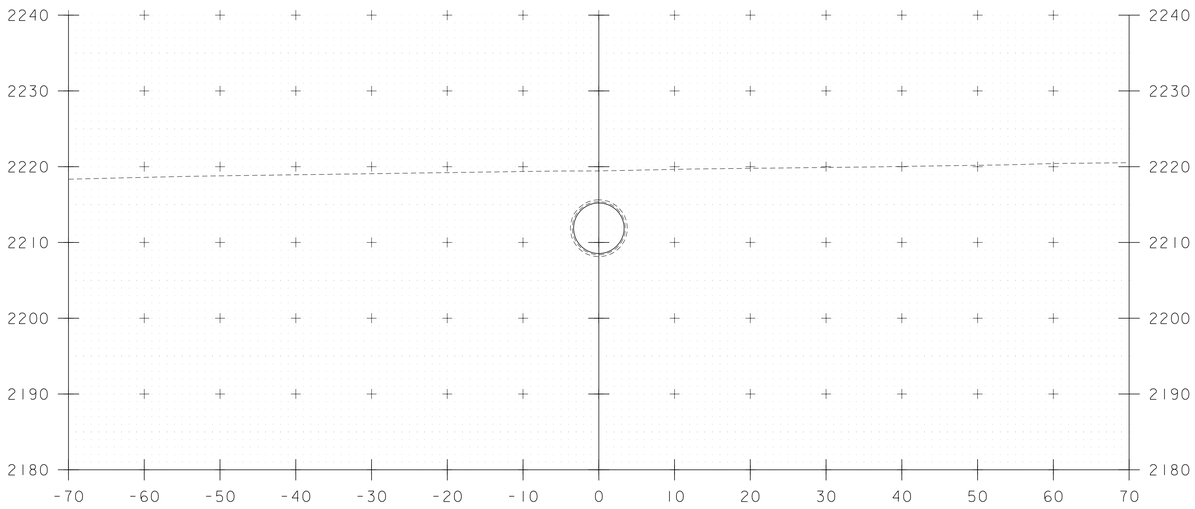
STA. 50+00 TO STA. 50+75

GM2 ASSOCIATES

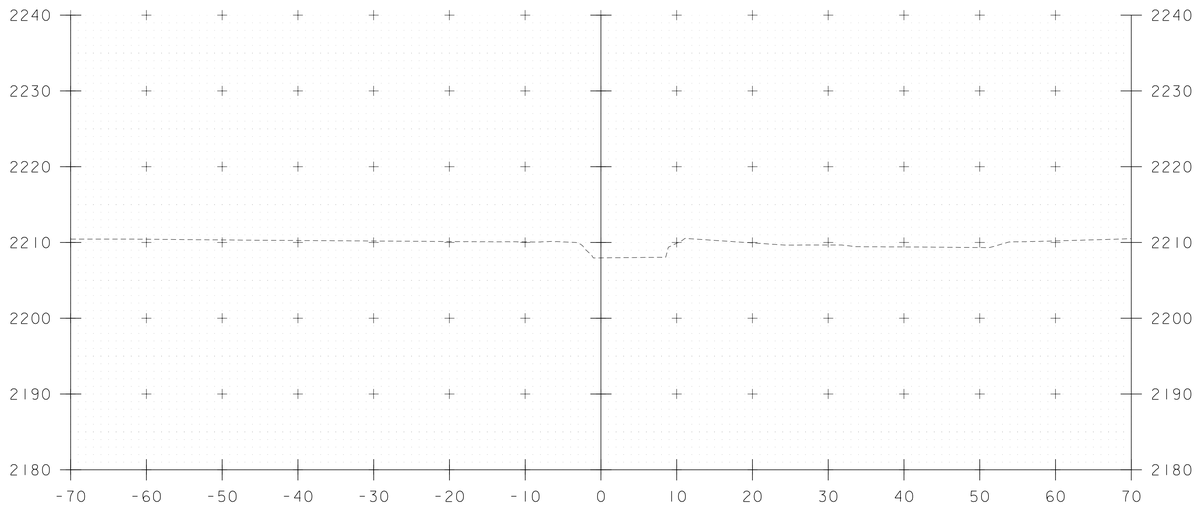
PROJECT NAME: WOODFORD
PROJECT NUMBER: BF 010-1(52)

FILE NAME: z13b270xs.dgn
PROJECT LEADER: T. LEVINS
DESIGNED BY: B. WILLIAMS
CHANNEL CROSS SECTIONS 1

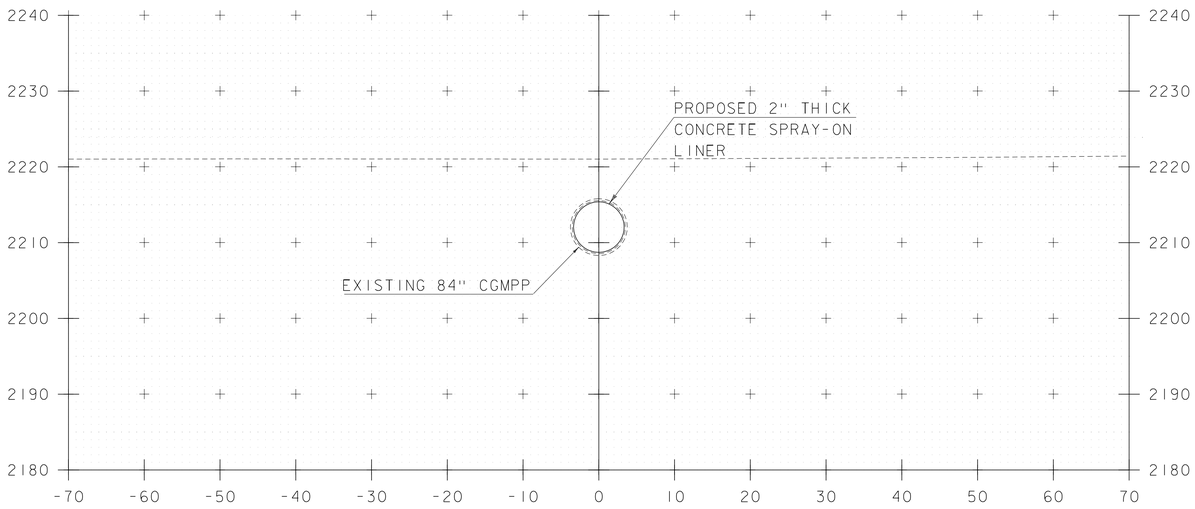
PLOT DATE: 3/1/17
DRAWN BY: B. WILLIAMS
CHECKED BY: T. LEVINS
SHEET 11 OF 17



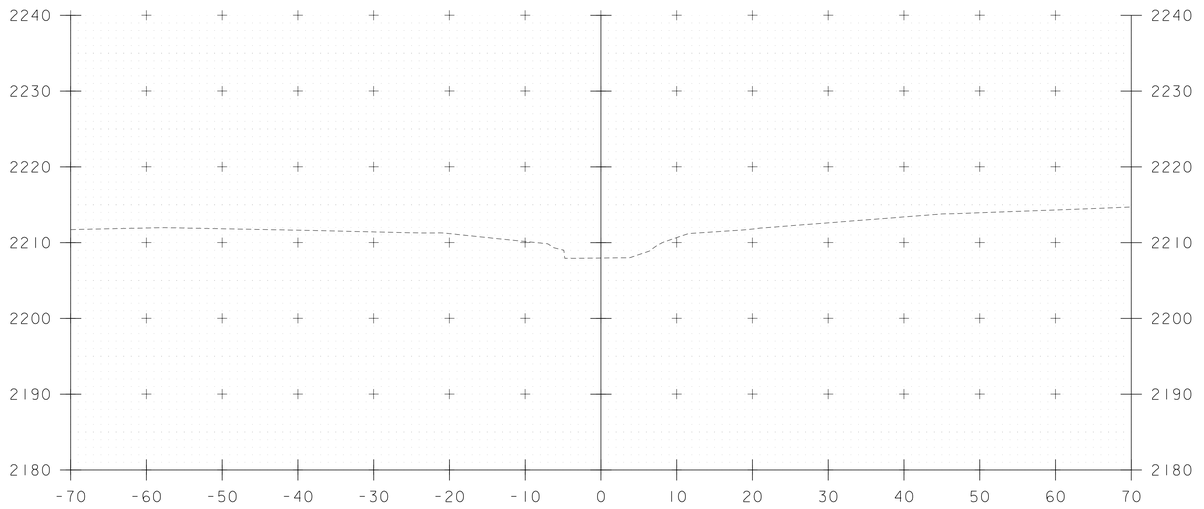
51+25



51+75



51+00



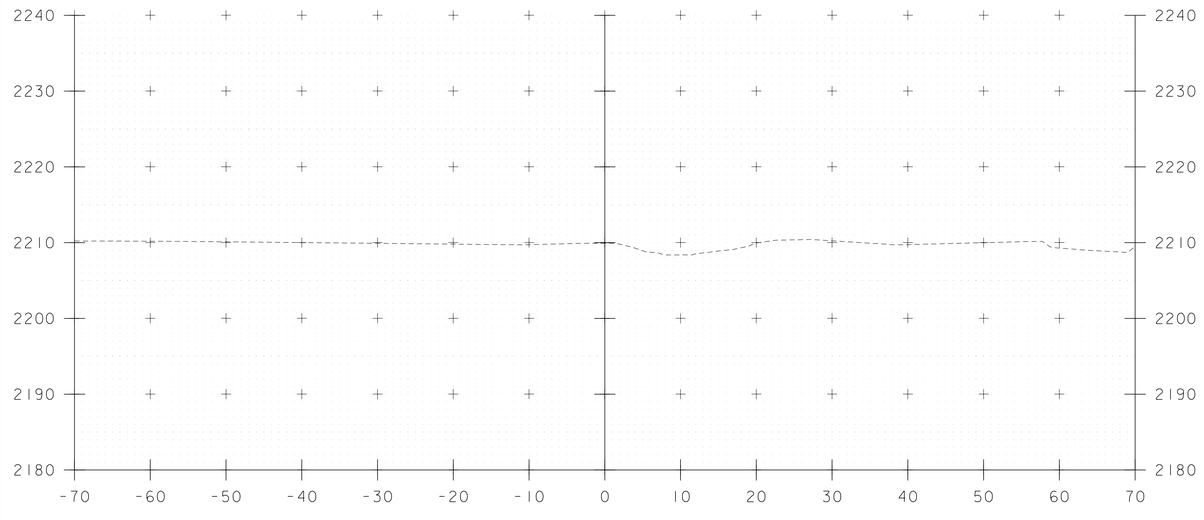
51+50

SCALE 1" = 10'-0"
10 0 10

STA. 51+00 TO STA. 51+75

GM2 ASSOCIATES

PROJECT NAME:	WOODFORD		
PROJECT NUMBER:	BF 010-1(52)		
FILE NAME:	z13b270xs.dgn	PLOT DATE:	3/1/17
PROJECT LEADER:	T. LEVINS	DRAWN BY:	B. WILLIAMS
DESIGNED BY:	B. WILLIAMS	CHECKED BY:	T. LEVINS
CHANNEL CROSS SECTIONS 2		SHEET	12 OF 17



52+00

SCALE 1" = 10'-0"
10 0 10

STA. 52+00 TO STA. 52+00

GM2 ASSOCIATES

PROJECT NAME: WOODFORD
PROJECT NUMBER: BF 010-1(52)

FILE NAME: z13b270xs.dgn
PROJECT LEADER: T. LEVINS
DESIGNED BY: B. WILLIAMS
CHANNEL CROSS SECTIONS 3

PLOT DATE: 3/1/17
DRAWN BY: B. WILLIAMS
CHECKED BY: T. LEVINS
SHEET 13 OF 17

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THE WOODFORD BF 010-1(52) PROJECT PROPOSES THE REHABILITATION OF THE CURRENT BRIDGE ON VT ROUTE 9 SPANNING AN UNAMED BROOK IN THE TOWN OF WOODFORD. THE EXISTING CULVERT WILL BE LINED WITH A 2" THICK SPRAY ON CONCRETE LINER. THE SHOULDER WIDTHS ARE SUBSTANDARD BUT DO NOT WARRANT IMPROVEMENT UNDER THE PROPOSED REHABILITATION.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.39 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE TO TWO WEEKS.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE AREA SURROUNDING THE PROJECT IS GRASS AND WOODS IN A RURAL SETTING.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE BROOK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS STEEP, SINUOUS, NARROW, WITH A CONFINED AND ARMORED CHANNEL AT THE SITE. THE STREAM BED CONSISTS OF GRAVEL, COBBLES AND BOULDERS. THE TRIBUTARY AREA AT THE CULVERT CROSSING IS 1.8 SQ. MI. DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE COULD RECEIVE RUNOFF WATER FROM A FEW NEARBY SLOPES.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY ACCESS TO THE INLET OF EXISTING CULVERT DURING CONSTRUCTION. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF BENNINGTON, VERMONT. SOILS ON THE PROJECT SITE ARE WILMINGTON-MUNDAL ASSOCIATION, UNDULATING, VERY STONY SOIL, 0% TO 3% SLOPES.

NO "K" VALUE REPORTED.

NOTE: "K" VALUES GENERALLY INDICATE THE FOLLOWING:
0.0-0.23 = LOW EROSION POTENTIAL
0.24-0.36 = MODERATE EROSION POTENTIAL
0.37 AND HIGHER = HIGH EROSION POTENTIAL

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: A PLANT SPECIES OF SPECIAL CONCERN IN NEARBY WETLANDS.
WATER RESOURCE: UNNAMED BROOK
WETLANDS: THERE ARE CLASS II WETLANDS WITHIN THE PROJECT AREA.

1.3 RISK EVALUATION

THIS PROJECT FALLS UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES FOR LOW RISK PROJECTS. ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING. ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES.

1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

GEOTEXTILE FOR SILT FENCE SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN. A FILTER CURTAIN SHALL BE INSTALLED AT THE OUTLET END OF THE CULVERT AS PROPOSED ON THE EPSC PLAN.

1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

NONE ANTICIPATED.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITHN PERMIT CONDITIONS.

NONE ANTICIPATED.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PRJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

NONE ANTICIPATED.

1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SPECIFICATION 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

N

VT STATE PLANE GRID

UNNAMED BROOK

VERMONT MOUNTAIN
NATIONAL FOREST

EXISTING
RIGHT-OF-WAY

VT ROUTE 9
TO BENNINGTON

VT ROUTE 9
TO SEARSBURG

472+00
473+00
474+00
475+00
476+00
477+00
478+00
51+00
52+00

2210
2220

PDF

GRAVEL DRIVE
VAST TRAIL

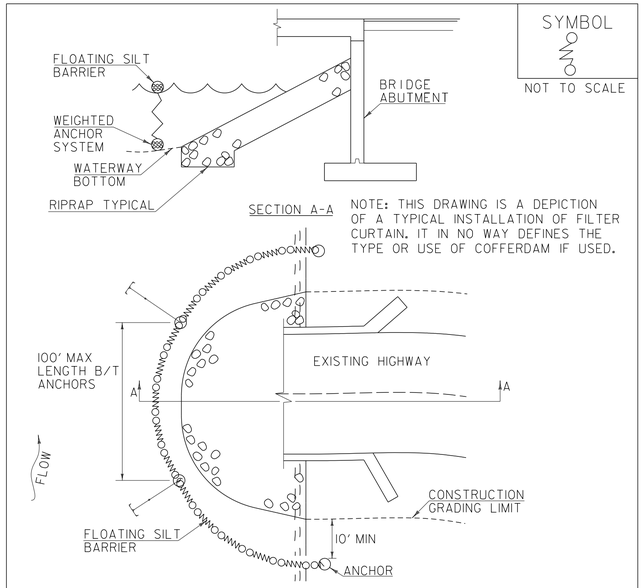
AER E&T

COMB
236
689

SCALE 1" = 20'-0"
20 0 20

GM2 ASSOCIATES

PROJECT NAME:	WOODFORD
PROJECT NUMBER:	BF 010-1(52)
FILE NAME:	z13b270epsc_const.dgn
PROJECT LEADER:	T. LEVINS
DESIGNED BY:	B. WILLIAMS
EPSC CONSTRUCTION SITE PLAN	
PLOT DATE:	3/1/17
DRAWN BY:	B. WILLIAMS
CHECKED BY:	T. LEVINS
SHEET	15 OF 17



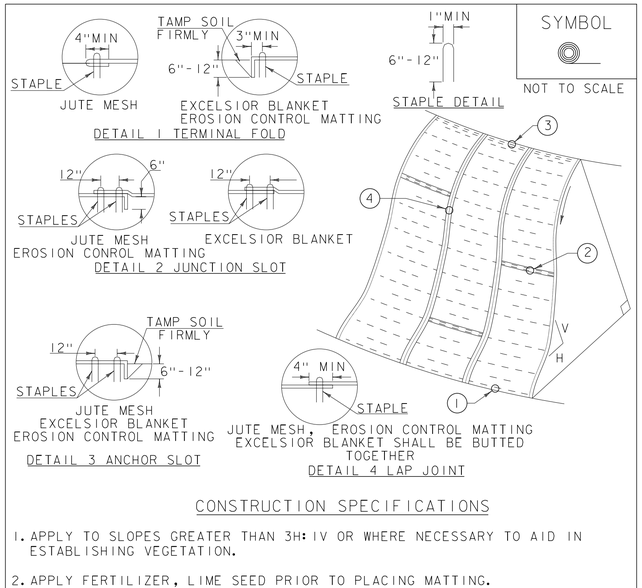
CONSTRUCTION SPECIFICATIONS

1. FILTER CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FEET/SECOND.
2. MAXIMUM 100' LENGTH BETWEEN ANCHORS.
3. LAST SECTION SHALL TERMINATE A MINIMUM OF 10' BEYOND LIMIT OF DISTURBANCE.
4. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE WHICH ALLOWS THE CURTAIN TO CONFORM TO THE BOTTOM OF THE WATERWAY.
5. THE CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE MINIMIZING THE ESCAPE OF SEDIMENTS INTO WATERWAY.

FILTER CURTAIN

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN.

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF
SEPTEMBER 4, 2009	WHF



CONSTRUCTION SPECIFICATIONS

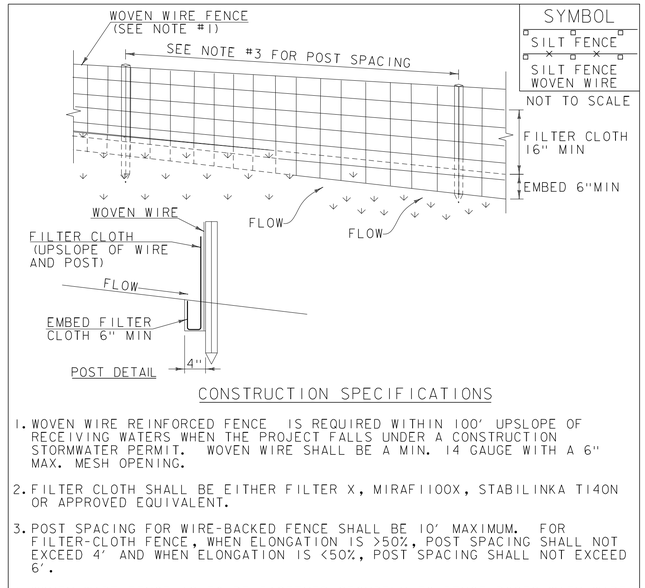
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: WOODFORD
PROJECT NUMBER: BF 010-1(52)

FILE NAME: sl3b270epsc_detl.dgn
PROJECT LEADER: T. LEVINS
DESIGNED BY: B. WILLIAMS
EPSC DETAILS 1

PLOT DATE: 3/1/17
DRAWN BY: B. WILLIAMS
CHECKED BY: T. LEVINS
SHEET 16 OF 17

VAOT LOW GROW/FINE FESCUE MIX						
	LBS/AC					
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
38%	57	95	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	90%	98%
29%	43.5	72.5	HARD FESCUE	FESTUCA LONGIFOLIA	85%	95%
15%	22.5	37.5	CHEWINGS FESCUE	FESTUCA RUBRA VAR. COMMUTATA	87%	95%
15%	22.5	37.5	ANNUAL RYEGRASS	LOLIUM MULTIFLORUM	90%	95%
3%	4.5	7.5	INERTS			
100%	150	250				

VAOT RURAL AREA MIX						
	LBS/AC					
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
37.5%	22.5	45	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
37.5%	22.5	45	TALL FESCUE	FESTUCA ARUNDINACEA	90%	95%
5.0%	3	6	RED TOP	AGROSTIS GIGANTEA	90%	95%
15.0%	9	18	WHITE FIELD CLOVER	TRIFOLIUM REPENS	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	60	120				

GENERAL AMENDMENT GUIDANCE		
FERTILIZER	LIME	
10/20/10	AG LIME	PELLITIZED
500 LBS/AC	2 TONS/AC	1 TONS/AC

CONSTRUCTION GUIDANCE

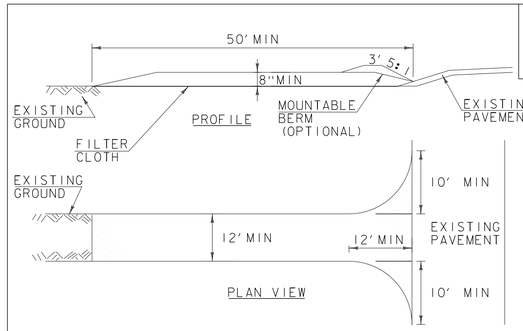
1. SEED MIX: THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER ON WHICH SEED MIX TO USE.
2. SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER.
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED PROPOSED FOR USE WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED.
7. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)

REVISIONS	
JANUARY 12, 2015	WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS- NOT LESS THAN 8".
4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

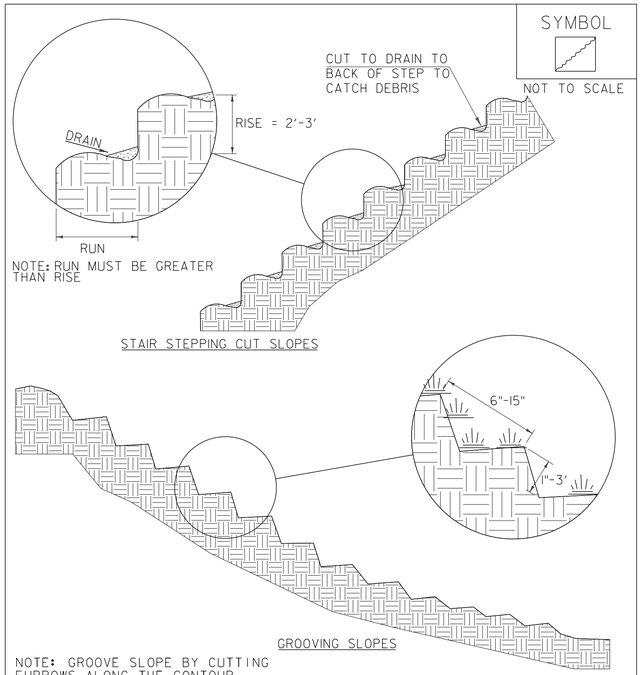
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STABILIZED CONSTRUCTION ENTRANCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



STAIR STEPPING CUT SLOPES

GROOVING SLOPES

NOTE: GROOVE SLOPE BY CUTTING FURROWS ALONG THE CONTOUR. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER AND RETAIN LIME, FERTILIZER AND SEED.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SURFACE ROUGHENING

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: WOODFORD
PROJECT NUMBER: BF 010-1(52)

FILE NAME: sl3b270epsc_det2.dgn
PROJECT LEADER: T. LEVINS
DESIGNED BY: B. WILLIAMS
EPSC DETAILS 2

PLOT DATE: 3/1/17
DRAWN BY: B. WILLIAMS
CHECKED BY: T. LEVINS
SHEET 17 OF 17