

REVIEWER NOTES

I. THERE WILL BE A WEEKEND CLOSURE PERIOD.

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT

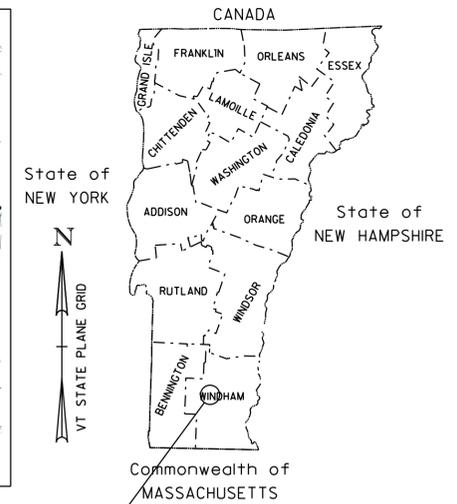
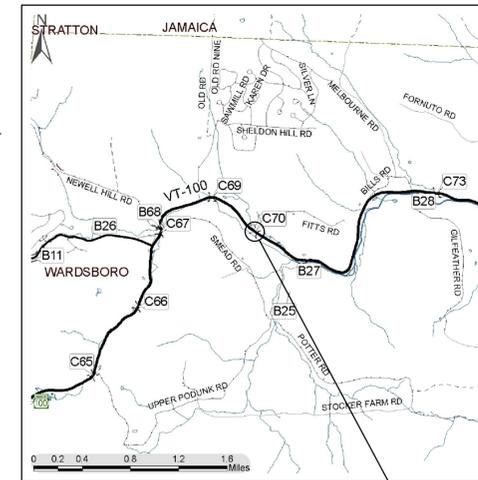
TOWN OF WARDSBORO
COUNTY OF WINDHAM

ROUTE NO : VT ROUTE 100, RURAL MINOR ARTERIAL. CULVERT NO : 70

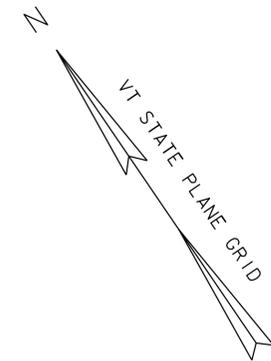
PROJECT LOCATION: 7.7 MILES SOUTH OF THE JUNCTION OF VT ROUTE 100 AND VT ROUTE 30

PROJECT DESCRIPTION: REMOVAL OF EXISTING STRUCTURE AND REPLACEMENT WITH A NEW PRECAST STRUCTURE.

LENGTH OF STRUCTURE: 17.00 FEET
LENGTH OF ROADWAY: 158.00 FEET
LENGTH OF PROJECT: 175.00 FEET

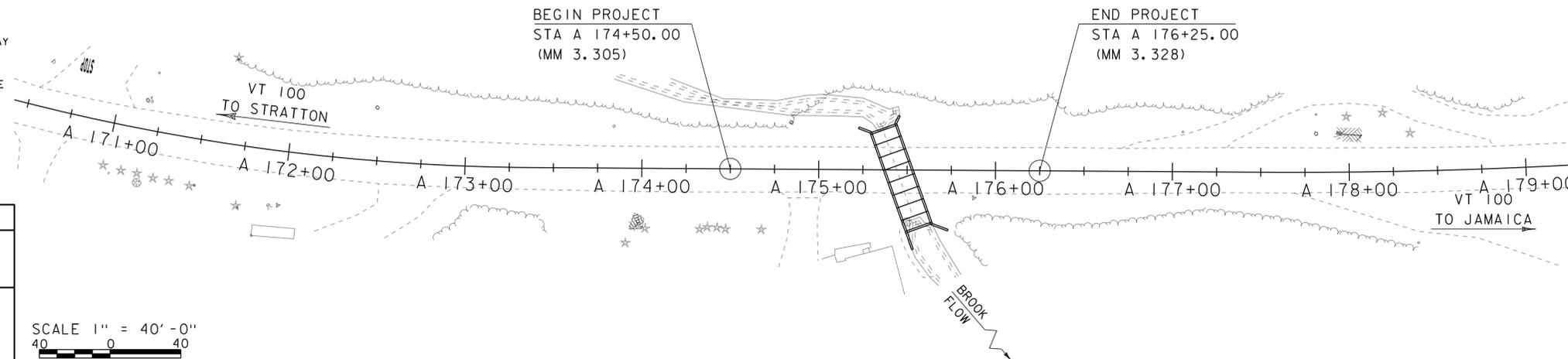


WARDSBORO
BF 013-1 (21)



THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

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.



**PRELIMINARY PLANS
31-DEC-2013**

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	L. ORVIS
SURVEYED DATE :	09/19/2012
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD 83 (2007)

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

DIRECTOR OF PROGRAM DEVELOPMENT	
APPROVED _____	DATE _____
PROJECT MANAGER : K. HIGGINS, P.E.	
PROJECT NAME :	WARDSBORO
PROJECT NUMBER :	BF 013-1 (21)
SHEET 1 OF 25 SHEETS	

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STANDARDS LIST

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: Nov 2013

DRAINAGE AREA : 1.3 sq. mi.
 CHARACTER OF TERRAIN : Mountainous, mostly forested, some development
 STREAM CHARACTERISTICS : Sinuous and alluvial
 NATURE OF STREAMBED : Boulders and gravel

PEAK FLOW DATA

Q 2.33 =	90 cfs	Q 50 =	350 cfs
Q 10 =	225 cfs	Q 100 =	420 cfs
Q 25 =	290 cfs	Q 500 =	590 cfs

DATE OF FLOOD OF RECORD: Unknown
 ESTIMATED DISCHARGE: Unknown
 WATER SURFACE ELEV.: Unknown
 NATURAL STREAM VELOCITY: @ Q50 = 11.7 fps
 ICE CONDITIONS: Moderate
 DEBRIS: Moderate
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
 IS ORDINARY RISE RAPID? No
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
 IF YES, DESCRIBE:

WATERSHED STORAGE: <1% HEADWATERS:
 UNIFORM: X
 IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Multiplate Pipe Arch
 YEAR BUILT: 1957
 CLEAR SPAN(NORMAL TO STREAM): 8' - 10"
 VERTICAL CLEARANCE ABOVE STREAMBED: 6' - 1"
 WATERWAY OF FULL OPENING: 43 sq. ft.
 DISPOSITION OF STRUCTURE: Remove and replace
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings

WATER SURFACE ELEVATIONS AT:

Q2.33 =	1289.9'	VELOCITY =	7.5 fps
Q10 =	1292.0'	"	10.3 fps
Q25 =	1293.0'	"	11.1 fps
Q50 =	1294.1'	"	11.5 fps
Q100 =	1295.6'	"	12.4 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY: N/A
 RELIEF ELEVATION: 1296.4' @ arch
 DISCHARGE OVER ROAD @Q100: N/A

UPSTREAM STRUCTURE

TOWN: Wardsboro DISTANCE: 500'
 HIGHWAY #: TH 11 STRUCTURE #:
 CLEAR SPAN: CLEAR HEIGHT:
 YEAR BUILT: FULL WATERWAY: 12.6 sq. ft.
 STRUCTURE TYPE: 4' boiler pipe

DOWNSTREAM STRUCTURE

TOWN: Wardsboro DISTANCE: 100'
 HIGHWAY #: STRUCTURE #:
 CLEAR SPAN: CLEAR HEIGHT:
 YEAR BUILT: FULL WATERWAY:
 STRUCTURE TYPE: Confluence with Wardsboro Brook

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

- PROPOSED CULVERT IS A PRESTRESS CONCRETE STRUCTURE (14'-0" X 8'-0" X 57'-3 1/2" BOX).
- CULVERT ENDS ARE SKEWED BY AN ANGLE OF VARIES°
- CULVERT WILL BE SET AT A SLOPE OF 36.00 IN. ON 100 FT.
- CULVERT WILL REQUIRE FISH PASSAGE ACCOMMODATIONS
- CULVERT CONSTRUCTION WILL REQUIRE A TEMPORARY PIPE

PROPOSED STRUCTURE

STRUCTURE TYPE: Concrete Box
 CLEAR SPAN(NORMAL TO STREAM): 14'
 VERTICAL CLEARANCE ABOVE STREAMBED: 6'
 WATERWAY OF FULL OPENING: 84 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	1288.9'	VELOCITY=	6.6 fps
Q10 =	1290.2'	"	9.3 fps
Q25 =	1290.8'	"	10.3 fps
Q50 =	1291.2'	"	11.0 fps
Q100 =	1291.8'	"	11.9 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY: N/A
 RELIEF ELEVATION: 1296.4' at structure
 DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 1293.4' at inlet
 VERTICAL CLEARANCE: @ Q50 = 2.2'

SCOUR: Scour not calculated for a box

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW: 3 cfs DEPTH OR ELEVATION:
 ORDINARY LOW WATER: 1 cfs ~0.5'
 ORDINARY HIGH WATER: 40 cfs ~1.0'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: None required - road closure
 CLEAR SPAN (NORMAL TO STREAM):
 VERTICAL CLEARANCE ABOVE STREAMBED:
 WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

- MAINTAIN ONE-WAY TRAFFIC ON THE EXISTING STRUCTURE.
- INSTALL AND MAINTAIN TRAFFIC SIGNALS.
- SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	dp: 3.0 INCH
3. CULVERT OPENING	D: 84.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ: ---
5. PRESTRESSING STRAND	fy: ---
6. PRESTRESSED CONCRETE STRENGTH	f'c: ---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'cr: ---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'c: 4.0 KSI
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'c: 4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'c: 3.5 KSI
11. CONCRETE, CLASS C	f'c: 3.0 KSI
12. REINFORCING STEEL	fy: 60 KSI
13. STRUCTURAL STEEL AASHTO M270	fy: ---
14. SOIL UNIT WEIGHT	γ: 0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	qn: 4.0 KSF
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
17. NOMINAL BEARING RESISTANCE OF ROCK	qn: 10.0 KSF
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
19. NOMINAL AXIAL PILE RESISTANCE	qp: ---
20. PILE YIELD STRENGTH ASTM A572	fy: ---
21. PILE SIZE	---
22. EST. PILE LENGTH	Lp: ---
23. PILE RESISTANCE FACTOR	φ: ---
24. LATERAL PILE DEFLECTION	Δ: ---
25. BASIC WIND SPEED	V3s: ---
26. MINIMUM GROUND SNOW LOAD	pg: ---
27. SEISMIC DATA	PGA: --- Ss: --- S1: ---

PROJECT NAME: **WARDSBORO**
 PROJECT NUMBER: **BF 013-1(21)**
 FILE NAME: s13b072pi.dgn PLOT DATE: 12/31/2013
 PROJECT LEADER: **K. HIGGINS** DRAWN BY: **J. SALVATORI**
 DESIGNED BY: **J. SALVATORI** CHECKED BY:
PRELIMINARY INFORMATION SHEET 1 SHEET 2 OF 23

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2016 to 2036 : 898000
2016	1100	150	55	13.7	130	40 year ESAL for flexible pavement from 2016 to 2056 : 2056000
2036	1200	170	55	20.4	210	Design Speed : 50 mph

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 6th EDITION, AND ITS LATEST REVISIONS.
2. THE CONTRACTOR WILL BE ALLOWED TO CLOSE THE BRIDGE FOR ONE WEEKEND (TWO CONSECUTIVE DAYS) BEGINNING ON A FRIDAY AT 6PM AND REOPENING THE FOLLOWING MONDAY AT 6 AM, TO A MINIMUM OF ONE-LANE, TWO-WAY TRAFFIC. DURING THAT TIME THE CONTRACTOR WILL BE ALLOWED TO WORK 24 HOURS PER DAY. THE CONTRACTOR SHALL SCHEDULE THEIR WORK SUCH THAT THE BRIDGE IS NOT CLOSED DURING HOLIDAY PERIODS. SEE SPECIAL PROVISIONS FOR FURTHER DETAILS.
3. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES F UNLESS OTHERWISE NOTED.
4. ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE USED FOR ALL WORK REQUIRED TO REMOVE AND PROPERLY BACKFILL TO PROPOSED SUBGRADE, THE EXISTING CGMPPA UNDER VT 100.
5. ITEM 404.65 "EMULSIFIED ASPHALT" IS TO BE APPLIED AT A RATE OF 0.025 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT OR AS DIRECTED BY THE ENGINEER.
6. AN EXISTING CONDITIONS SHEET HAS BEEN INCLUDED IN THE PLANS FOR USE OF CONTRACTOR IN SUBMITTALS.
7. EXCAVATION FOR OR PLACEMENT OF BOX SECTIONS WILL ONLY BE ALLOWED DURING CLOSURE PERIOD.

TRAFFIC CONTROL

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF A SITE SPECIFIC TRAFFIC CONTROL PLAN FOR ALL STAGES OF CONSTRUCTION. THE PLAN SHALL CLEARLY DETAIL HOW TRAFFIC WILL BE MAINTAINED PRIOR TO, DURING AND AFTER THE CLOSURE PERIOD. THE PLAN SHALL SPECIFY ALL CONSTRUCTION ACTIVITIES REQUIRING ALTERNATING ONE WAY TRAFFIC, RELATE THOSE ACTIVITIES TO THE CONSTRUCTION SCHEDULE AND SHOW APPROPRIATE TEMPORARY TRAFFIC CONTROL. THE CONTRACTOR SHALL SUBMIT DETAILED TRAFFIC CONTROL PLANS TO THE RESIDENT ENGINEER FOR APPROVAL PER SUBSECTION 105.03. ALL COSTS SHALL BE INCLUDED IN ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE). SEE SPECIAL PROVISIONS.
9. ALL TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). FOR ADDITIONAL SIGNING INSTRUCTIONS SEE THE T SERIES OF THE STANDARDS. WHERE CONFLICTS EXIST, THE MUTCD SHALL GOVERN.
10. INSTALLATION OF TEMPORARY TRAFFIC CONTROL SIGNS SHALL NOT BLOCK ANY EXISTING TRAFFIC CONTROL SIGN ASSEMBLIES. THE CONTRACTOR SHALL TRY TO MAINTAIN AT LEAST 200 FEET BETWEEN SIGN ASSEMBLIES.
11. ALL ITEMS REQUIRED TO IMPLEMENT THE CONTRACTOR'S TRAFFIC CONTROL PLAN NOT PAID UNDER A SEPARATE CONTRACT ITEM WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
12. DURING THE CLOSURE PERIOD, TOWN HIGHWAYS SHALL BE PATROLLED FOR ANY OVERSIZED OR OVERLOADED VEHICLES NOT USING THE SIGNED DETOUR. PAYMENT FOR PATROLS SHALL BE UNDER ITEM 630.10.

PRECAST CONCRETE

13. DESIGN CRITERIA:
 - A. SOIL UNIT WEIGHT = 135 PCF
 - B. DESIGN LIVE LOAD = HL-93
 - C. NOMINAL BEARING RESISTANCE (BEDROCK) = 70 KSF
 - D. NOMINAL BEARING RESISTANCE (GRANULAR BACKFILL) = 21 KSF
 - E. BEARING RESISTANCE FACTOR = 0.45
 - F. DESIGN FILL OVER BOX = 0-2 FEET
 - G. CONCRETE COMPRESSIVE STRENGTH = SEE SUBSECTION 540.05(e)
14. ALL CONCRETE SHALL BE PRECAST. ITEM 540.10 "PRECAST CONCRETE STRUCTURE" INCLUDES ALL BOX SEGMENTS, HEADWALLS, AND CUTOFF WALLS. ALL CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR AND SHALL BE CONSIDERED INCIDENTAL TO ITEM 540.10.
15. THE PRECAST CONCRETE STRUCTURE SHALL BE DESIGNED FOR HYDROSTATIC PRESSURE UNLESS RAPID DRAINING MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 704.18 IS USED. ANY RAPID DRAINING MATERIAL SHALL BE CONSIDERED INCIDENTAL TO ITEM 540.10. NO WEEPHOLES IN THE BOX SECTIONS WILL BE ALLOWED.
16. THE PRECAST BOX SECTIONS ARE SHOWN FOR REFERENCE ONLY. THE ACTUAL DIMENSIONS AND SHAPE WILL BE DEPENDENT ON THE FABRICATOR. THE MINIMUM INSIDE DIMENSIONS SHALL BE 8'-0" IN HEIGHT AND 16'-0" IN WIDTH. THE OVERALL LENGTH OF THE BOX SHALL BE 60'-0" ALONG THE STREAMBED GRADE. THE EXPOSED ENDS OF THE FIRST AND LAST UNITS SHALL BE VERTICAL.
17. ALL LIFTING HOLES AND BOLT POCKETS SHALL BE FILLED WITH MORTAR TYPE IV AFTER BEING SET IN THEIR FINAL POSITION. THIS WORK WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 540.10. FILLING THE JOINTS BETWEEN BOX SEGMENTS WITH GROUT IS NOT REQUIRED.
18. NO ADDITIONAL WORK (I.E. BACKFILLING OR MEMBRANE) IS ALLOWED UNTIL THE GROUT HAS REACHED A STRENGTH OF 2000 PSI OR 30% OF MAXIMUM.
19. A TWO (2) FOOT WIDE STRIP OF SHEET MEMBRANE WATERPROOFING SHALL BE PLACED AT EACH JOINT. MEMBRANE SHALL BE CENTERED ON THE JOINT AND COVER THE FULL HEIGHT. THE SIDES SHALL BE COVERED PRIOR TO THE TOP. ANY OVERLAPPING OF MEMBRANE SHALL BE DONE IN A SHINGLE TYPE STYLE TO SHED WATER AND SHALL OVERLAP A MINIMUM OF ONE FOOT. PAYMENT FOR MEMBRANE AT EACH VERTICAL JOINT WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 540.10.
20. WATER REPELLENT, SILANE SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 514 AND SHALL BE SHOP APPLIED TO ALL EXPOSED EXTERIOR SURFACES OF THE PRECAST CONCRETE STRUCTURE. PAYMENT FOR SILANE WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 540.10.

REINFORCING STEEL

21. ALL REINFORCING STEEL SHALL BE LEVEL II REINFORCING STEEL IN ACCORDANCE WITH SECTION 507. PAYMENT FOR ALL REINFORCING STEEL WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 540.10.
22. ALL REINFORCING STEEL SHALL HAVE A MINIMUM CLEAR COVER OF 2".
23. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:
SPACING +/- 1"
CLEARANCE +/- 1/4"

PROJECT NAME: WARDSBORO

PROJECT NUMBER: BF 013-1(21)

FILE NAME: s13b072.dgn

PROJECT LEADER: K. HIGGINS

DESIGNED BY: J. SALVATORI

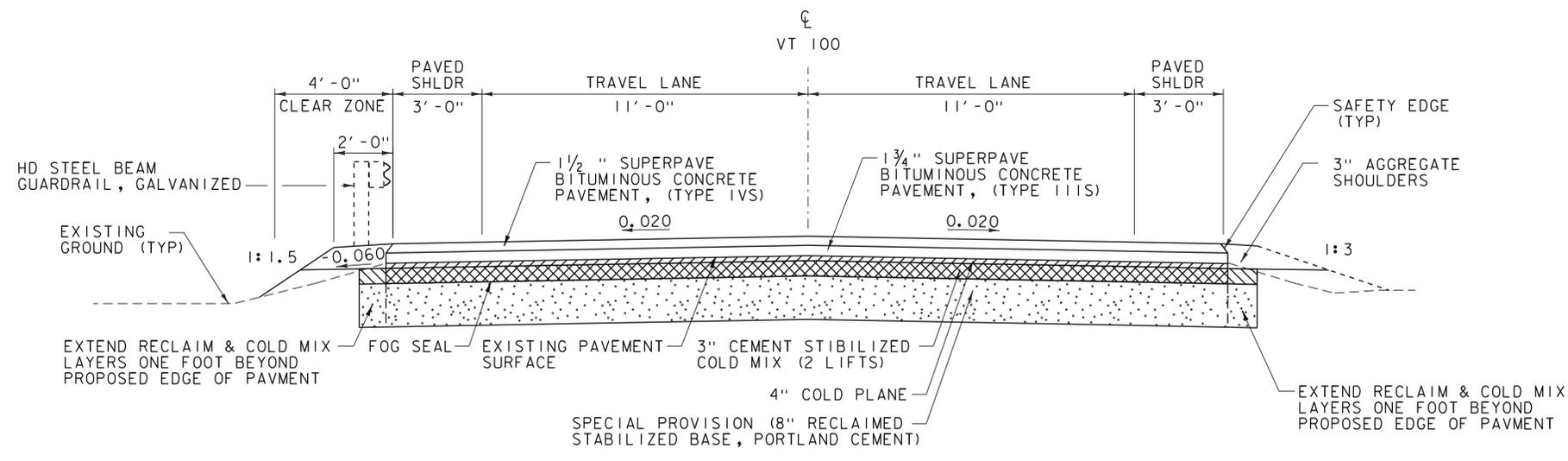
GENERAL NOTES

PLOT DATE: 31-DEC-2013

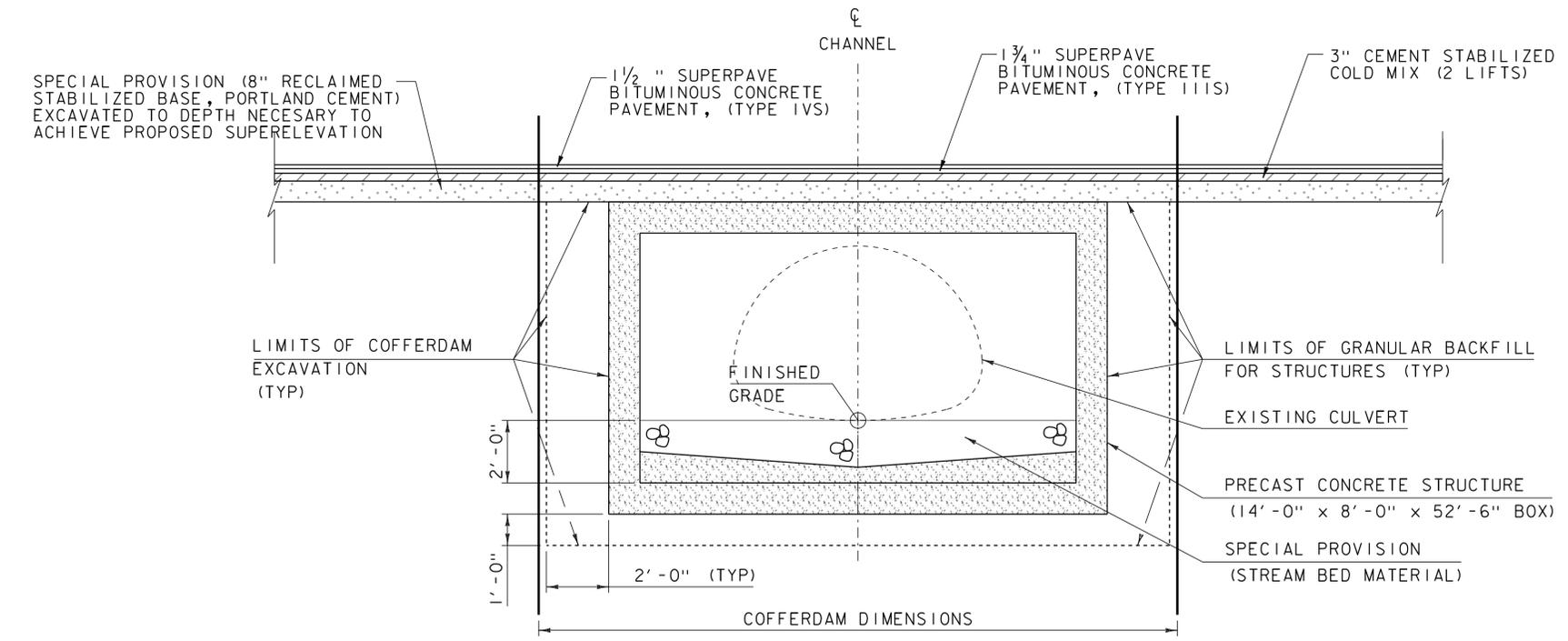
DRAWN BY: ----

CHECKED BY: J. SALVATORI

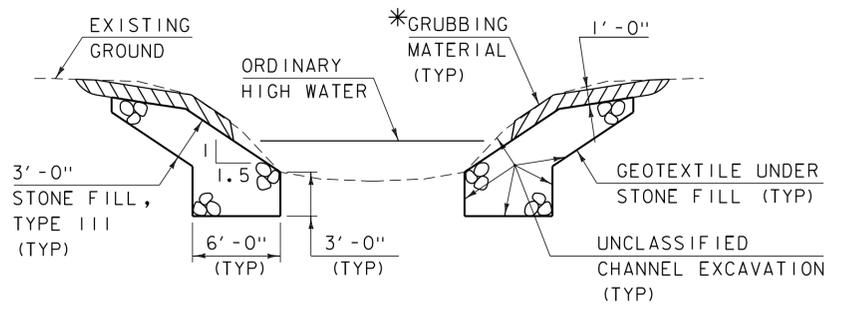
SHEET 3 OF 25



VT ROUTE 100 ROADWAY TYPICAL SECTION
NOT TO SCALE

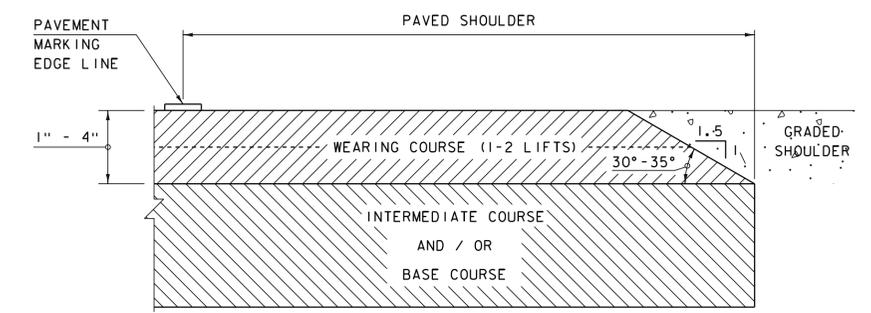


TYPICAL PRECAST BOX CULVERT SECTION
SCALE 3/8" = 1'-0"



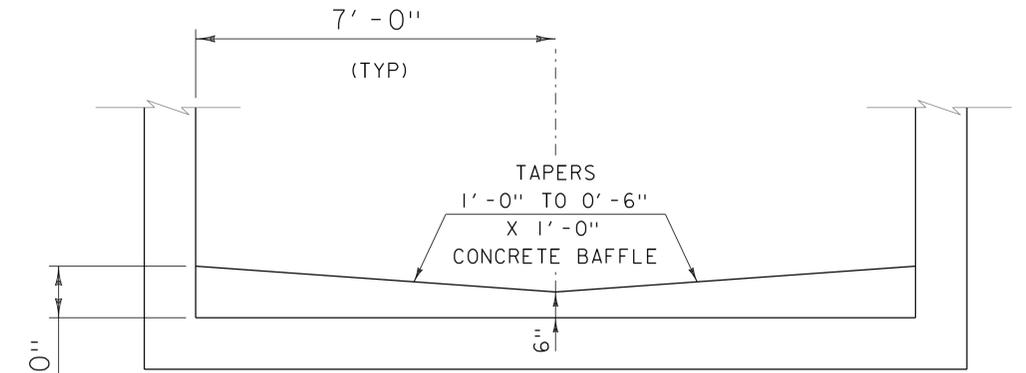
TYPICAL CHANNEL SECTION
(NOT TO SCALE)

*GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.



SAFETY EDGE DETAIL
NOT TO SCALE

NOTE: LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE" AT THE CONTRACTOR'S CHOICE.



NOTES:
1. BAFFLES TO BE SPACED A MINIMUM OF EVERY 8'-0" AND AT THE INLET AND OUTLET.
2. FABRICATOR TO DETAIL BAFFLE CONNECTION.

LOW FLOW BAFFLE DETAIL
NOT TO SCALE

MATERIAL TOLERANCES
(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

COFFERDAM NOTES

1. COFFERDAM DIMENSIONS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF EITHER "COFFERDAM EXCAVATION, EARTH" OR "COFFERDAM EXCAVATION, ROCK" SHALL BE AS DETAILED IN THE TYPICAL SECTION.
3. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN DETAILED, NO MEASUREMENT AND PAYMENT WILL BE MADE FOR COFFERDAM EXCAVATION AND GRANULAR BACKFILL FOR STRUCTURES OUTSIDE THOSE PAY LIMITS.

PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BF 013-1(21)
FILE NAME:	sl3b072typ.dgn
PROJECT LEADER:	K. HIGGINS
DESIGNED BY:	J. SALVATORI
TYPICAL SECTIONS	
PLOT DATE:	31-DEC-2013
DRAWN BY:	J. SALVATORI
CHECKED BY:	
SHEET	4 OF 25

GENERAL INFORMATION

SYMBOLGY LEGEND NOTE

THE SYMBOLGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLGY. THE SYMBOLGY 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. SYMBOLGY 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 BENCH MARK
◻	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 SYMBOLGY

UNDERGROUND UTILITIES

— 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)

— 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 SYMBOLGY

PROJECT DESIGN & LAYOUT SYMBOLGY

— 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
PDF	PROJECT DEMARCATION FENCE
BF	BARRIER FENCE
—	TREE PROTECTION ZONE (TPZ)
—	STRIPING LINE REMOVAL
—	SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLGY

BOUNDARY LINES

—	TOWN BOUNDARY LINE
—	COUNTY BOUNDARY 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
—	PROPERTY LINE (P/L)
—	SLOPE RIGHTS
6f	6F PROPERTY BOUNDARY
4f	4F PROPERTY BOUNDARY
HAZ	HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLGY

EPSC MEASURES

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

ENVIRONMENTAL RESOURCES

—	WETLAND BOUNDARY
—	RIPARIAN BUFFER ZONE
—	WETLAND BUFFER ZONE
—	SOIL TYPE BOUNDARY
T&E	THREATENED & ENDANGERED SPECIES
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

—	ARCHEOLOGICAL BOUNDARY
—	HISTORIC DISTRICT BOUNDARY
—	HISTORIC AREA
⊞	HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLGY

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: WARDSBORO

PROJECT NUMBER: BF 013-1(21)

FILE NAME: s13b072legend.dgn

PROJECT LEADER: K. HIGGINS

DESIGNED BY: J. SALVATORI

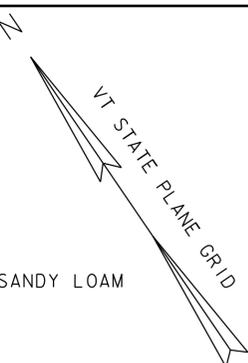
LEGEND SHEET

PLOT DATE: 31-DEC-2013

DRAWN BY: J. SALVATORI

CHECKED BY: -----

SHEET 5 OF 25

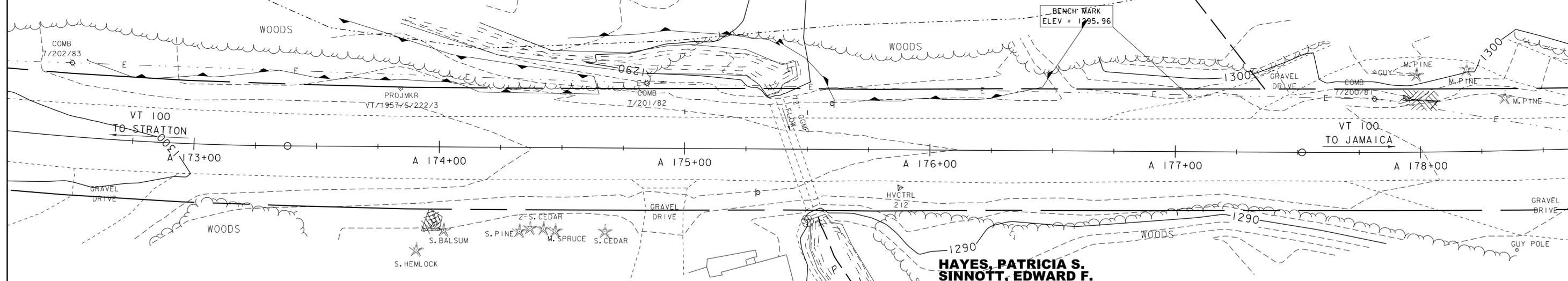


WILMINGTON VERY FINE SANDY LOAM
 VERY STONY
 2% - 8% SLOPES
 K = 0.43
 POTENTIALLY HIGHLY ERODIBLE

MONADNOCK FINE SANDY LOAM
 VERY STONY
 8% - 15% SLOPES
 K = 0.28
 POTENTIALLY HIGHLY ERODIBLE

BRISSETTE, LAURA M.

JOSLIN, JEAN

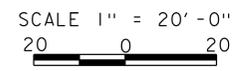


COLTON LOAMY FINE SAND
 2% - 8% SLOPES
 K = 0.17
 POTENTIALLY HIGHLY ERODIBLE

PODUNK FINE SANDY LOAM
 0% - 3% SLOPES
 K = 0.24
 NOT HIGHLY ERODIBLE

EXISTING BRIDGE DATA
 6'-11" X 8'-10" W CGMPA
 CULVERT BUILT IN 1957
 CULVERT BARREL LENGTH = 46 FT.
 WATERWAY AREA = 43 SF

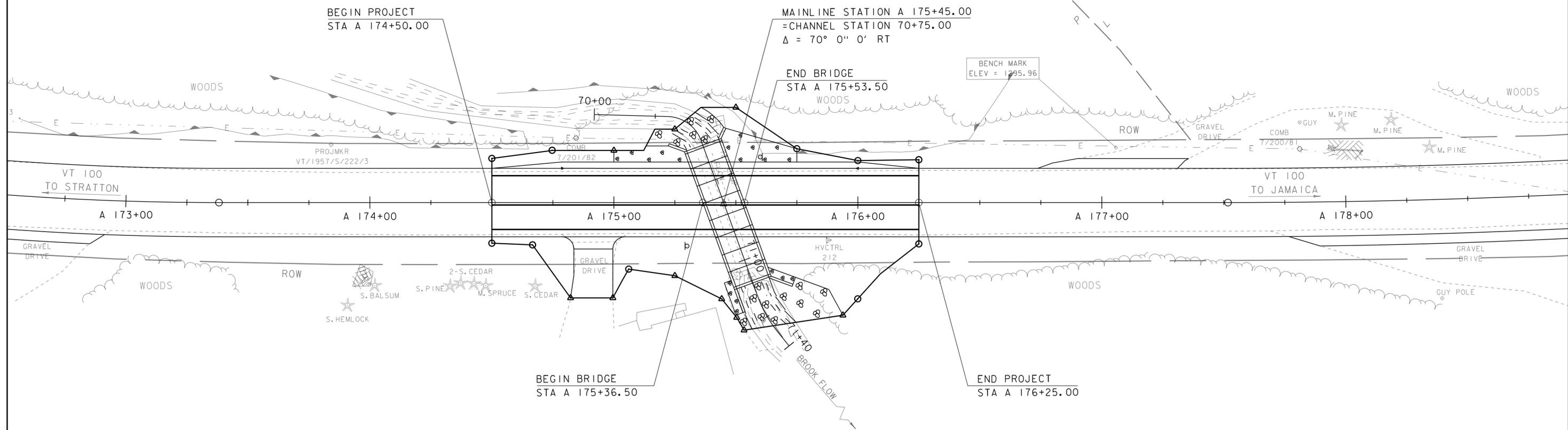
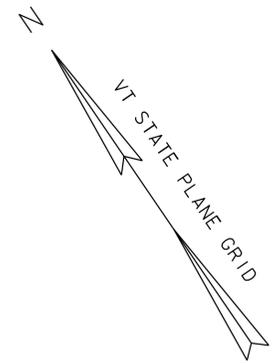
EXISTING CONDITIONS



PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BF 013-1(21)	
FILE NAME: s13b072bdr_ex.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: -----
EXISTING CONDITIONS LAYOUT	SHEET 6 OF 25

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS		NEW SIGN "A"	EXIST. POST REL. TO ALIGN.	NO. OF POSTS	NEW SIGN POSTS SQUARE STEEL (in)			ANCHOR	S. S. W. E. F. E.	REMARKS	SIGN DETAIL		
		WIDTH (in)	HEIGHT (in)				2.0	2.0	2.5				DETAIL IN SHSM	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
							lb/ft								
A 175+30.00 RT	BRIDGE 70 VT 100	6	8	0.33		1	2.16	2.42	3.35	X		VD-701		E-134	
A 175+60.00 LT	BRIDGE 70 VT 100	6	8	0.33		1	2.16	2.42	3.35	X		VD-701		E-134	
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."		TOTALS		SF 0.66			FT 16	FT 16	FT 16	EA		SHSM = STANDARD HIGHWAY SIGNS AND MARKINGS (MUTCD) (APPROVED BY THE FHWA)			

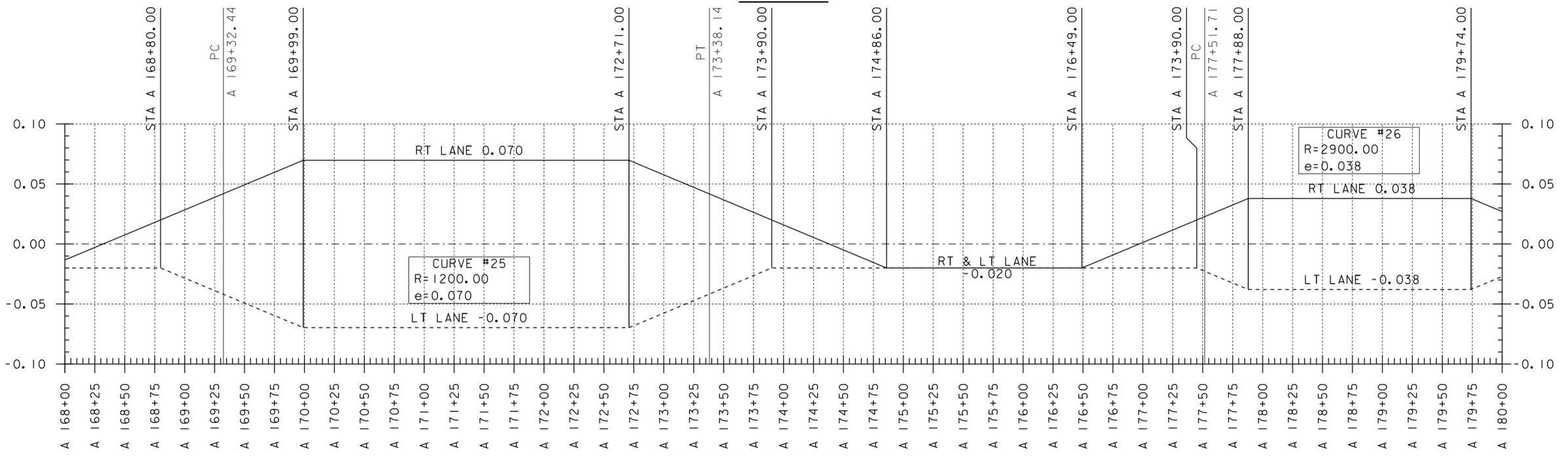
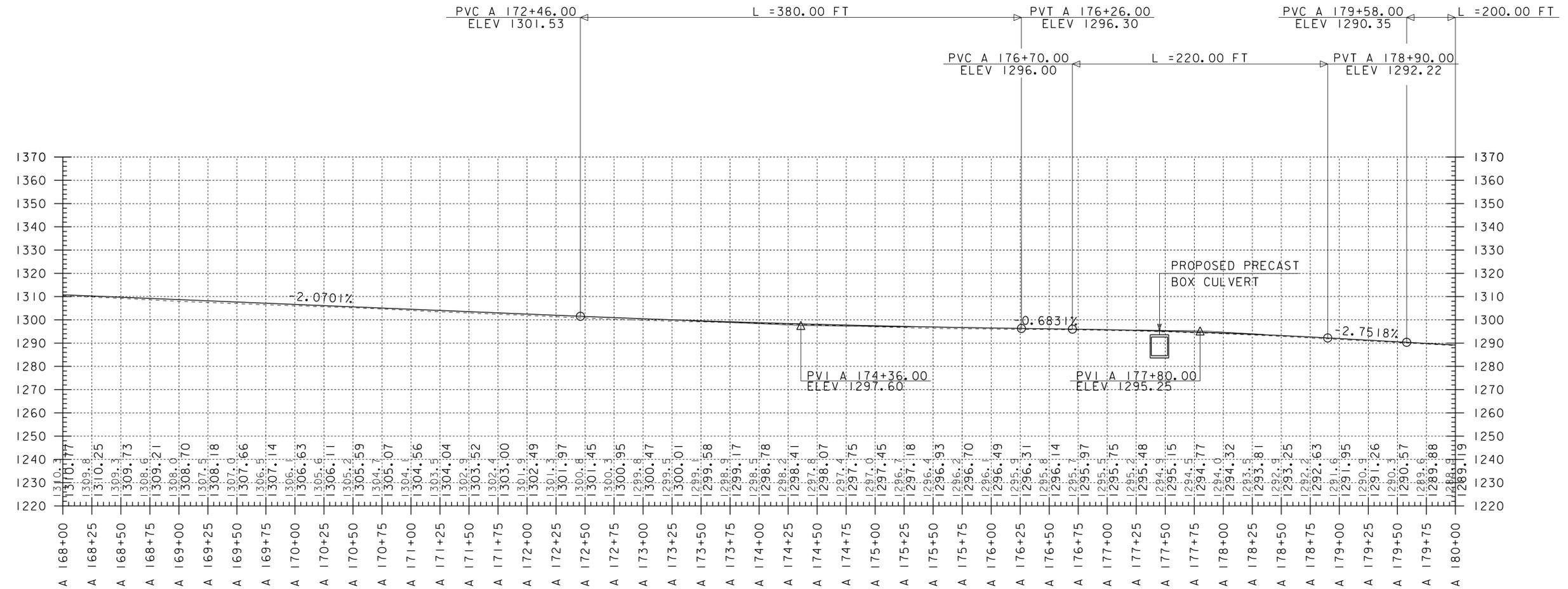
4 INCH WHITE LINE
 STA A 174+50.00 - A 176+25.00 LT/RT
 4 INCH YELLOW LINE
 STA A 174+50.00 - A 176+25.00 CL



LAYOUT SHEET

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

PROJECT NAME: WARDSBORO	PLOT DATE: 31-DEC-2013
PROJECT NUMBER: BF 013-1(21)	DRAWN BY: J. SALVATORI
FILE NAME: s13b072bdr.dgn	CHECKED BY: -----
PROJECT LEADER: K. HIGGINS	SHEET 7 OF 25
DESIGNED BY: J. SALVATORI	
LAYOUT SHEET	



THE GRADES SHOWN TO THE NEAREST TENTH OF A FOOT ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDRETH OF A FOOT ARE FINISH GRADES FOR THE PROPOSED ALIGNMENT. SUPERELEVATIONS ARE SHOWN IN PERCENTAGES.

PROJECT NAME:	WARDSBORO-JAMAICA	PLOT DATE:	31-DEC-2013
PROJECT NUMBER:	ER STP 013-1(I7)	DRAWN BY:	B. KIPP
FILE NAME:	d12b236_pro.bnk	CHECKED BY:	A. KEMPTON
PROJECT LEADER:	K. UPMAL	SHEET	8 OF 25
DESIGNED BY:	B. KIPP		
VT 100 PROFILE & BANKING DIAGRAM			



MANUFACTURED TERMINAL
END SECTION, TANGENT
(TYP)

93'-6" SPECIAL PROVISION
(LONGSPAN STEEL BEAM GUARDRAIL, GALVANIZED)

DELINEATOR WITH
STEEL POST
(TYP)

9' - 10 1/2"

8' - 10 1/2"

A 175+00

A 176+00

NOTES:

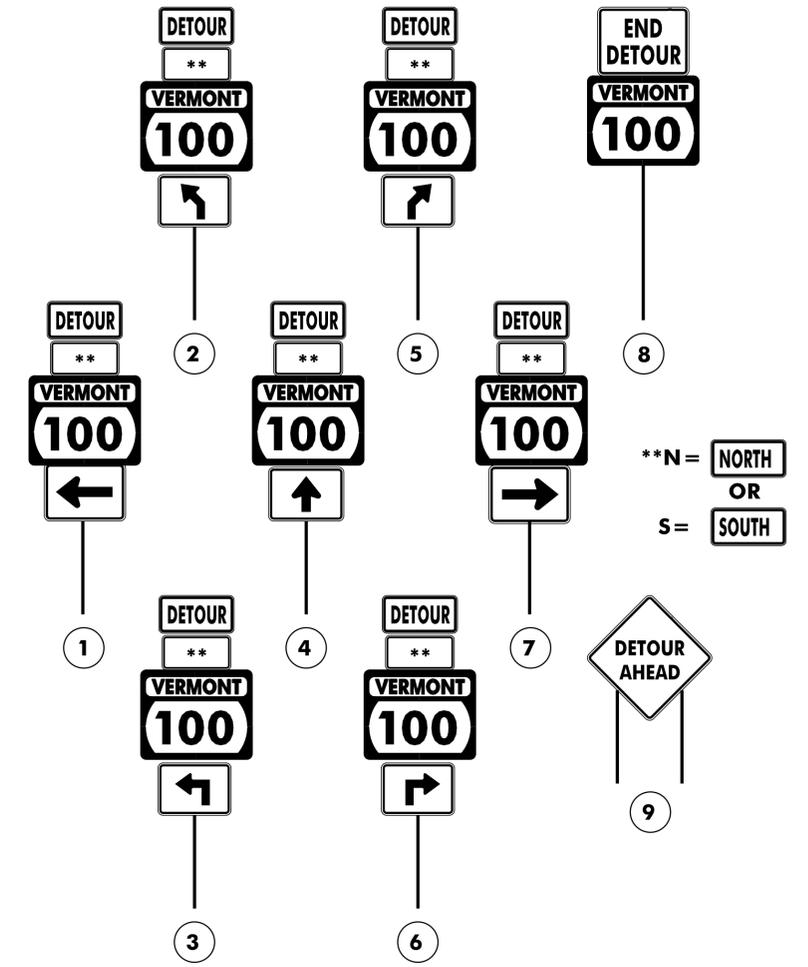
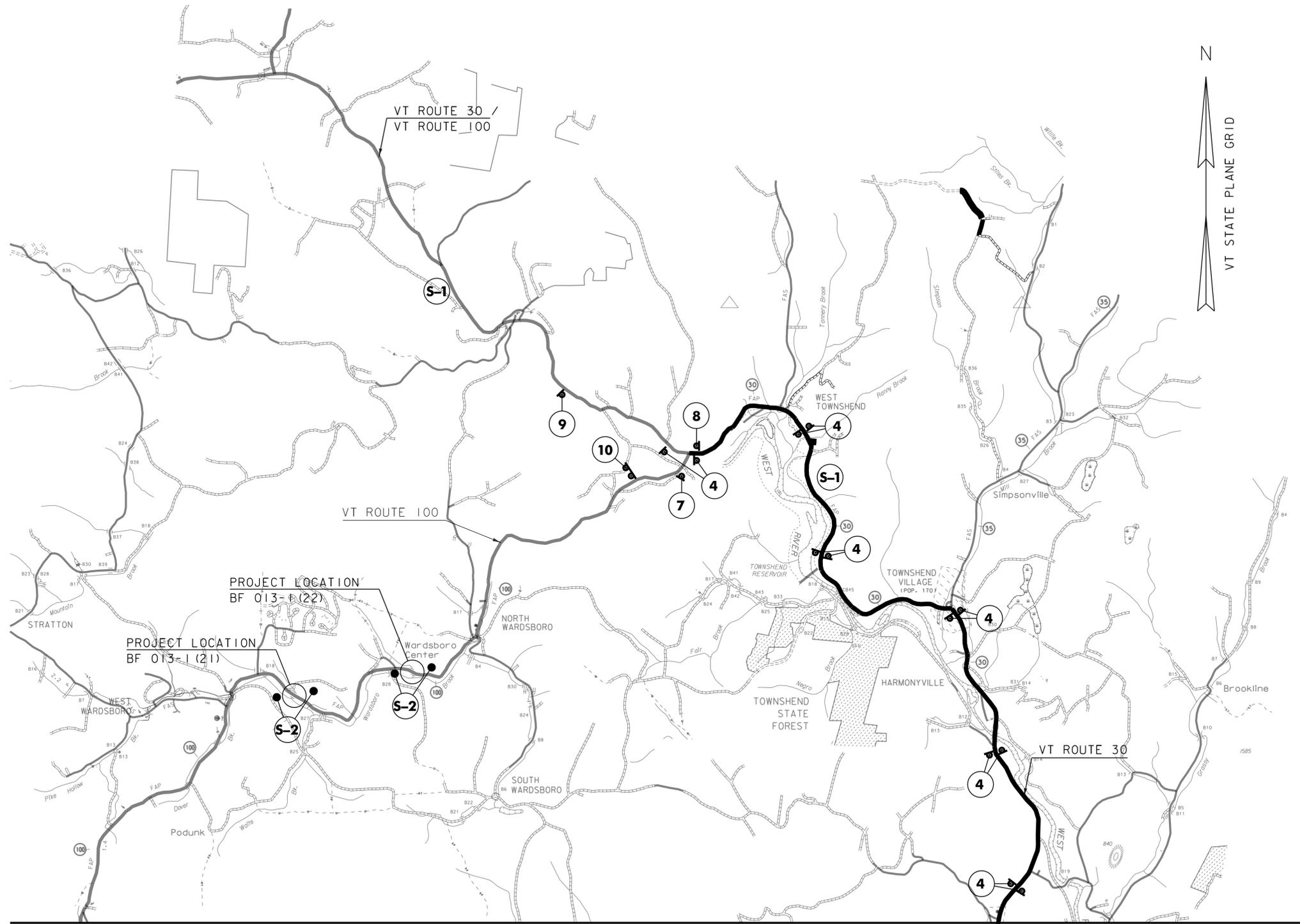
1. SEE STANDARDS G-1, S-366 AND T-40 FOR ADDITIONAL DETAILS.

RAIL LAYOUT SHEET

SCALE 1" = 5'-0"
5 0 5

BOX

PROJECT NAME: WARDSBORO	PLOT DATE: 31-DEC-2013
PROJECT NUMBER: BF 013-1(21)	DRAWN BY: J. SALVATORI
FILE NAME: s13b072Rail1ng.dgn	CHECKED BY: -----
PROJECT LEADER: K. HIGGINS	SHEET 9 OF 25
DESIGNED BY: J. SALVATORI	
RAIL LAYOUT SHEET	



VT	100		
C	C	C	C

PHASE 1

S	O	U	T	H		O	F
W	A	R	D	S	-		
B	O	R	O				

PHASE 2

*	F	R	I	M	/	D	D
*	6	P	M	-	M	O	N
	M	/	D	D	6	A	M

PHASE 3

B	R	I	D	G	E		
C	L	O	S	E			

PHASE 1

*	F	R	I	M	/	D	D
*	6	P	M	-	M	O	N
	M	/	D	D	6	A	M

PHASE 2

* M=MONTH
D=DAY
(S-1)

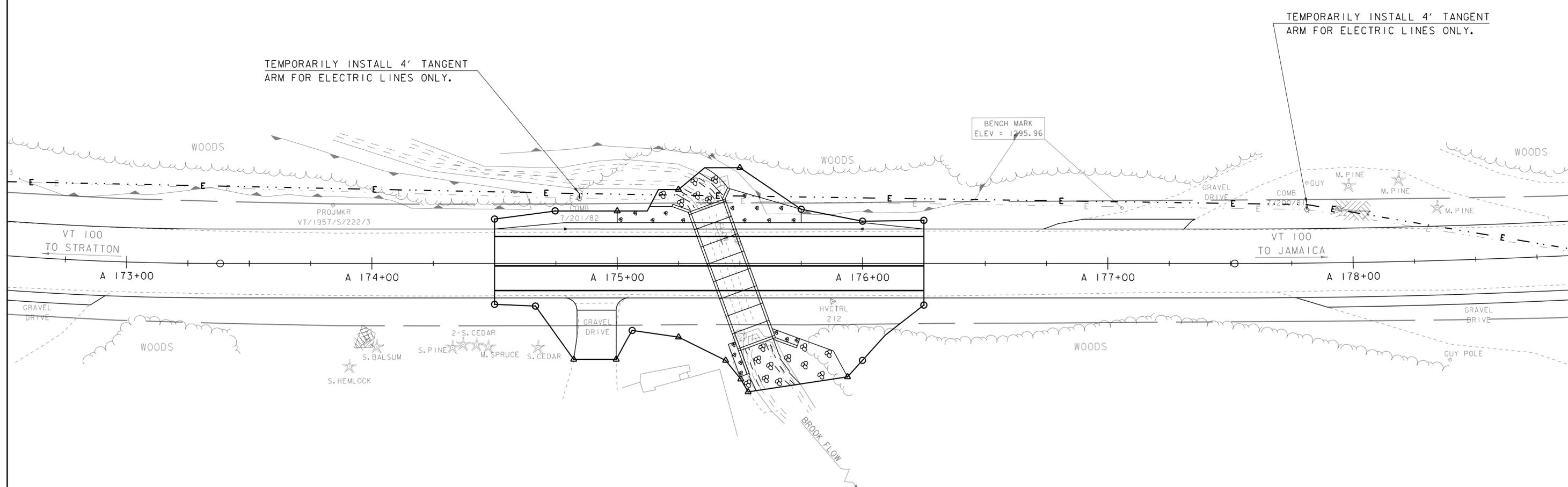
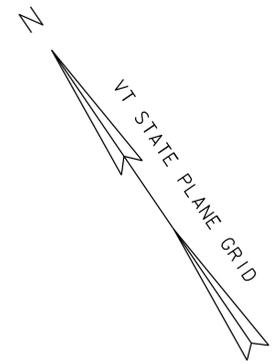
* M=MONTH
D=DAY
(S-2)

ROAD CLOSED
XX MILES AHEAD
NO THRU TRAFFIC

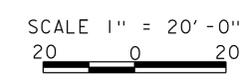
10

DETOUR PLAN I
NOT TO SCALE

PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BF 013-1(21)
FILE NAME:	s13b074detour.dgn
PROJECT LEADER:	K. HIGGINS
DESIGNED BY:	J. SALVATORI
DETOUR PLAN I	
PLOT DATE:	31-DEC-2013
DRAWN BY:	J. SALVATORI
CHECKED BY:	----
SHEET	10 OF 25



TEMPORARY UTILITY RELOCATION



PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BF 013-1(21)	
FILE NAME: sl3b072util.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: -----
TEMPORARY UTILITY RELOCATION	SHEET 12 OF 25

SOIL CLASSIFICATION

AASHTO

A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.O.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

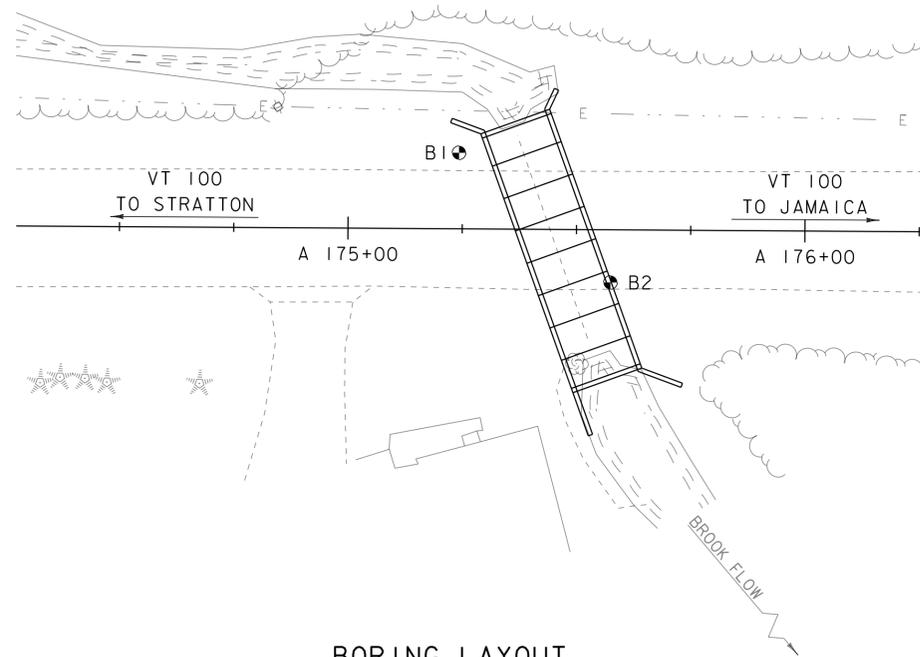
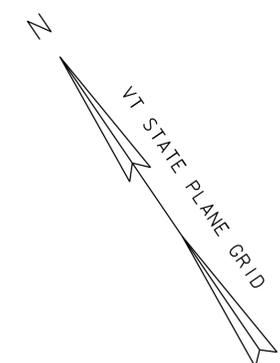
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊕	Standard Penetration Boring
⊗	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 7/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	Top of Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
1/2 Rec.	Percent Recovery
ROD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

COLOR

blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gr'y	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		



BORING LAYOUT

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

DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.	VARVED - Alternate layers of silt and clay.
BOULDER - A rock fragment with an average dimension > 12 inches.	HARDPAN - Extremely dense soil, cemented layer, not softened when wet.
COBBLE - Rock fragments with an average dimension between 3 and 12 inches.	MUCK - Soft organic soil (containing > 10% organic material).
GRAVEL - Rounded particles of rock < 3" and > 0.075" (#10 sieve).	MOISTURE CONTENT - Weight of water divided by dry weight of soil.
SAND - Particles of rock < 0.075" (#10 sieve) and > 0.0029" (#200 sieve).	FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
SLT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.	STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.
CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.	DIP - Inclination of bed with a horizontal plane.

GENERAL NOTES

- The subsurface explorations shown herein were made between 12/6/13 and 12/10/13 by the Agency.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.
- Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

PROJECT NAME: WARDSBORO

PROJECT NUMBER: BF 013-1(21)

FILE NAME: si3b072boring.dgn

PROJECT LEADER: K HIGGINS

DESIGNED BY: J. SALVATORI

BORING INFORMATION SHEET

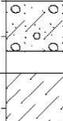
PLOT DATE: 31-DEC-2013

DRAWN BY: J. SALVATORI

CHECKED BY: -----

SHEET 13 OF 25

 STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION	BORING LOG		Boring No.: B-101
	WARDSBORO BF 013-1(21) VT-100 BR-70		Page No.: 1 of 1 Pin No.: 13B072 Checked By: TDE
Boring Crew: DAIGNEAULT, JUDKINS, HOOK	Casing: WB	Sampler: SS	Groundwater Observations
Date Started: 12/06/13 Date Finished: 12/06/13	I.D.: 4 in	1.5 in	Date: 12/06/13
VTSPG NAD83: N 193304.08 ft E 1550611.56 ft	Hammer Wt: N.A.	140 lb.	Depth: 5.9
Station: 175+24.2 Offset: -16.60	Hammer Fall: N.A.	30 in.	Notes: While drilling.
Ground Elevation: 1291.0 ft	Hammer/Rod Type: Auto/AWJ		
	Rig: CME 55 TRACK	C _e = 1.46	

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/ft (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-1-a, SaGr, Dk/bm, Moist, Rec. = 1.0 ft, Lab Note: Lots of Broken Rock was within sample.	7-8-5-16 (13)	9.3	58.4	31.5	10.1
		A-1-a, SaGr, bm, Moist, Rec. = 0.8 ft, Lab Note: Lots of Broken Rock was within sample. Cleaned out casing with roller cone.	8-7-9-10 (16)	4.4	55.9	34.4	9.7
		A-1-b, GrSa, bm, MTW, Rec. = 0.6 ft, Lab Note: Broken Rock was within sample. NXDC, Cleaned out casing.	4-3-12-14 (15)	11.6	38.9	51.8	9.3
		No Recovery, 6.0 ft - 6.2 ft Field Note: NXDC, Cleaned out casing	R@2.5'				
10		A-1-b, SaGr, bm-gry, MTW, Rec. = 0.6 ft, Lab Note: Lots of Broken Rock was within sample. NXDC, Cleaned out casing.	11-12-11-16 (23)	12.5	55.3	32.7	12.0
		A-1-b, SiSaGr, brn, Moist, Rec. = 0.8 ft, Lab Note: Broken Rock was within sample. NXDC, Cleaned out casing.	27-48-R@6.0" (R)	10.6	38.1	37.3	24.6
15		A-4, SaSi, Lt/bm, MTW, Rec. = 1.1 ft	17-17-21-23 (36)	19.4	6.1	39.3	54.6
		A-2-4, SiSa, bm, MTW, Rec. = 0.9 ft, Lab Note: Broken Rock was within sample. Cleaned out casing with roller cone.	17-17-16-18 (33)	16.6	16.5	56.3	27.2
		A-2-4, GrSiSa, Lt/bm, Moist, Rec. = 0.9 ft, Lab Note: Broken Rock was within sample.	9-33-45-R@2.5" (76)	12.2	24.0	42.0	34.0
20		A-2-4, SiGrSa, Lt/bm, MTW, Rec. = 1.0 ft, Lab Note: Broken Rock was within sample. NXDC, Cleaned out casing.	34-41-R@5.0" (R)	10.5	31.2	45.5	23.3
		A-4, SaSi, Lt/bm, MTW, Rec. = 1.2 ft, Lab Note: Broken Rock was within sample. Cleaned out casing with roller cone.	25-19-25-25 (44)	17.4	12.8	39.1	48.1
		A-4, SiSa, Lt/bm, MTW, Rec. = 1.1 ft	21-24-22-25 (46)	17.8	6.1	53.1	40.8
25		A-2-4, Sa, Lt/bm, MTW, Rec. = 0.7 ft	6-18-23-22 (41)	16.8	12.7	70.3	17.0
Hole stopped @ 26.0 ft							
Remarks: 1. Hole collapsed at 4.6 ft.							

Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. C_e is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

 STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION	BORING LOG		Boring No.: B-102
	WARDSBORO BF 013-1(21) VT-100 BR-70		Page No.: 1 of 1 Pin No.: 13B072 Checked By: TDE
Boring Crew: GARROW, JUDKINS	Casing: WB	Sampler: SS	Groundwater Observations
Date Started: 12/10/13 Date Finished: 12/10/13	I.D.: 4 in	1.5 in	Date: 12/10/13
VTSPG NAD83: N 193261.92 ft E 1550623.19 ft	Hammer Wt: N.A.	140 lb.	Depth: 8.9
Station: 175+57.5 Offset: 11.50	Hammer Fall: N.A.	30 in.	Notes: While drilling.
Ground Elevation: 1296.0 ft	Hammer/Rod Type: Auto/AWJ		
	Rig: CME 55 TRACK	C _e = 1.46	

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/ft (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-1-b, GrSa, Dk/bm, Moist, Rec. = 0.7 ft	11-10-39-18 (49)	13.1	27.9	56.5	15.6
		A-1-b, SaGr, white-brn, Moist, Rec. = 0.7 ft, Lab Note: Lots of Broken & Pulverized Rock (Granite) were within sample. Cleaned out casing with roller cone.	4-7-8-10 (15)	1.0	54.3	29.6	16.1
		A-1-b, SaGr, bm, Moist, Rec. = 0.6 ft, Lab Note: Lots of Broken Rock was within sample.	6-3-2-3 (5)	11.8	44.3	44.0	11.7
		A-1-b, GrSa, bm, Moist, Rec. = 0.5 ft, Lost water return at 4.0 feet. Lab Note: Lots of Broken & Pulverized Rock (Granite) w	7-4-4-2 (8)	12.2	41.4	48.0	10.6
		Field Note: No Recovery, Cleaned out casing with roller cone.	1-WH-1-1 (1)				
		Field Note: No Recovery					
10		A-1-b, SaGr, bm, Moist, Rec. = 0.8 ft, Lab Note: Lots of Broken Rock was within sample.	30-11-11-19 (22)	10.7	49.8	34.9	15.3
15		A-1-b, SiSaGr, brn, Moist, Rec. = 0.6 ft, Lab Note: Broken Rock was within sample. NXDC, Cleaned out casing.	35-R@5.0" (R)	9.2	41.2	34.5	24.3
		A-4, SiSa, bm, MTW, Rec. = 1.2 ft	17-23-21-22 (44)	18.1	9.3	52.2	38.5
20		A-2-4, SiSa, bm, MTW, Rec. = 1.5 ft	13-30-30-R@5.0" (60)	14.3	12.0	52.9	35.1
		A-2-4, SiGrSa, brn, MTW, Rec. = 1.5 ft, Lab Note: Broken Rock was within sample.	25-24-22-23 (46)	11.9	27.9	46.2	25.9
25		A-2-4, GrSiSa, bm, MTW, Rec. = 1.1 ft, Lab Note: Broken Rock was within sample.	17-31-36-R@2.5" (67)	13.0	24.2	42.8	33.0
		A-2-4, SiGrSa, brn, MTW, Rec. = 1.3 ft	17-23-30-R@2.5" (53)	16.1	25.0	54.3	20.7
Hole stopped @ 26.7 ft							
Remarks: 1. Hole collapsed at 10.5 ft.							

Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. C_e is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

PROJECT NAME: WARDSBORO
 PROJECT NUMBER: BF 013-1(21)
 FILE NAME: si3b072boring.dgn PLOT DATE: 31-DEC-2013
 PROJECT LEADER: K HIGGINS DRAWN BY: K. FRIEDLAND
 DESIGNED BY: J. SALVATORI CHECKED BY: J. SALVATORI
 BORING LOGS SHEET 14 OF 25

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF THE EXISTING CULVERT WITH A NEW REINFORCED PRECAST CONCRETE BOX CULVERT WITH RELATED APPROACH AND CHANNEL WORK.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND 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 0.23 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS A SADDLE THAT IS MOSTLY WELL ESTABLISHED FOREST WITH OCCASIONAL OPEN AREAS.

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

AN UNNAMED 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.

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 REPLACEMENT OF THE EXISTING CULVERT. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE III AS SPECIFIED ON THE PLANS. 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 WINDHAM, VERMONT. SOILS ON THE PROJECT SITE ARE AS FOLLOWS:

COLTON LOAMY FINE SAND, WITH 2-8% SLOPES. "K" FACTOR = 0.17

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: NO
WATER RESOURCE: UNNAMED BROOK
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, 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.

BARRIER FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

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.

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

FILTER CURTAINS SHALL BE INSTALLED ON THE INLET AND OUTLET ENDS OF THE PROPOSED BOX AS SHOWN IN THE EROSION CONTROL 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.

NO DIVERSIONARY MEASURES ARE ANTICIPATED ON THIS PROJECT.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

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

NO CHECK STRUCTURES ARE ANTICIPATED ON THIS PROJECT.

1.4.7 CONSTRUCT PERMANENT CONTROLS

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

NO PERMANENT CONTROLS ARE ANTICIPATED ON THIS PROJECT.

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 PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

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.

TREATMENT OF DEWATERING COFFERDAM IS ANTICIPATED. A FILTER BAG LOCATION FOR TREATMENT HAS BEEN PROPOSED AND IS SHOWN ON THE PLANS. HOWEVER THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR.

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 SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

PROJECT NAME: WARDSBORO

PROJECT NUMBER: BF 013-1(21)

FILE NAME: s13b072epsc.nar.dgn

PROJECT LEADER: K. HIGGINS

DESIGNED BY: J. SALVATORI

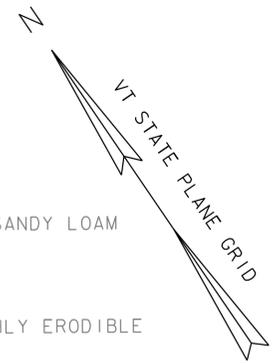
EPSC NARRATIVE

PLOT DATE: 31-DEC-2013

DRAWN BY: J. SALVATORI

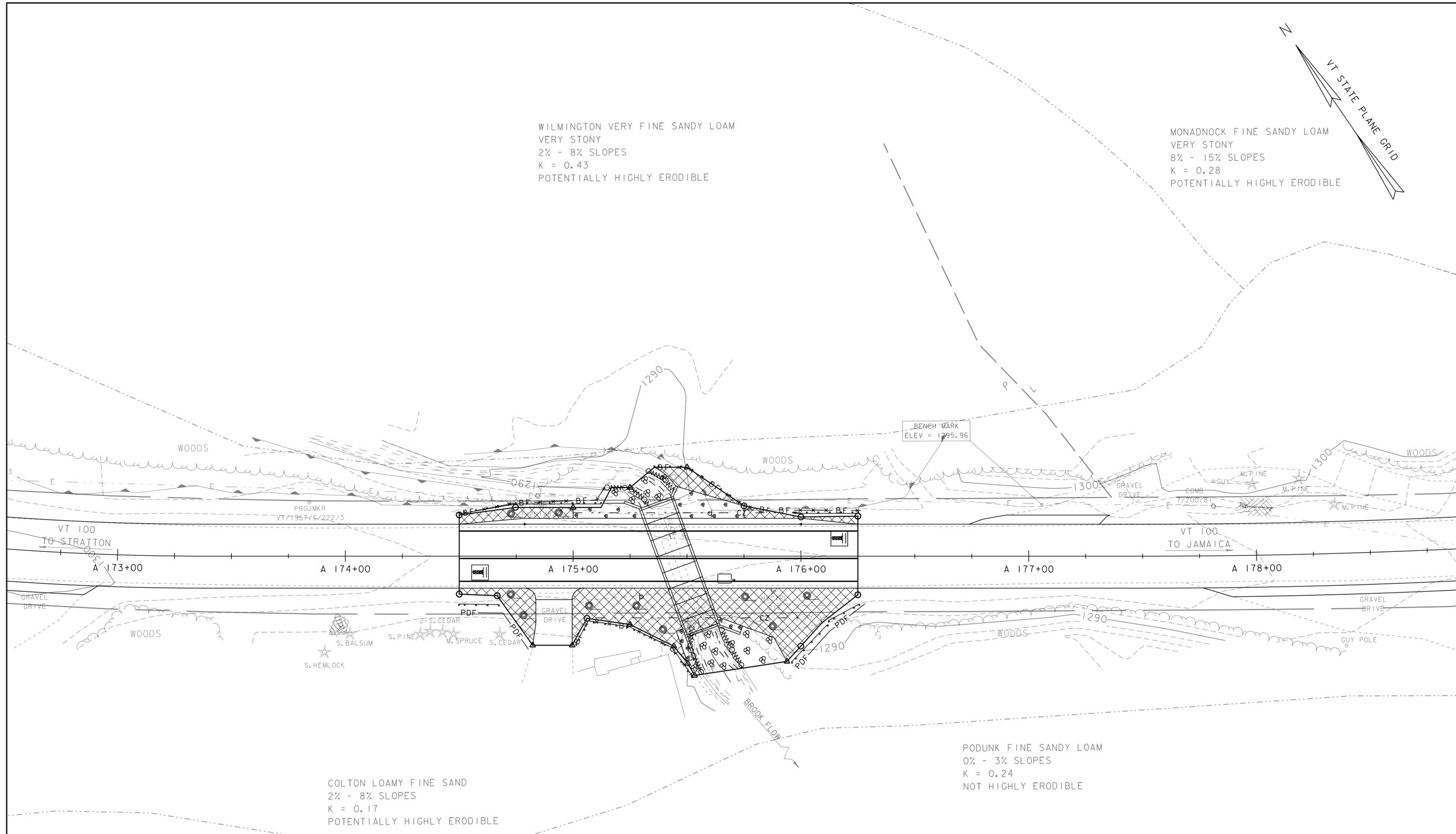
CHECKED BY: ---

SHEET 15 OF 25



WILMINGTON VERY FINE SANDY LOAM
 VERY STONY
 2% - 8% SLOPES
 K = 0.43
 POTENTIALLY HIGHLY ERODIBLE

MONADNOCK FINE SANDY LOAM
 VERY STONY
 8% - 15% SLOPES
 K = 0.28
 POTENTIALLY HIGHLY ERODIBLE

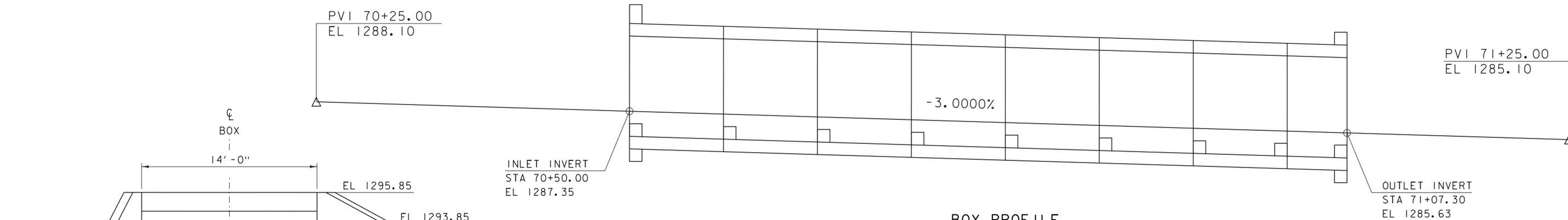


NOTES:

1. EXISTING CONTOURS SHOWN. SEE CROSS SECTIONS FOR FINAL CONDITIONS.
2. FOR CLARITY, AREAS TO BE SEEDED AND MULCHED HAVE NOT BEEN INDICATED. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS APPLICABLE.

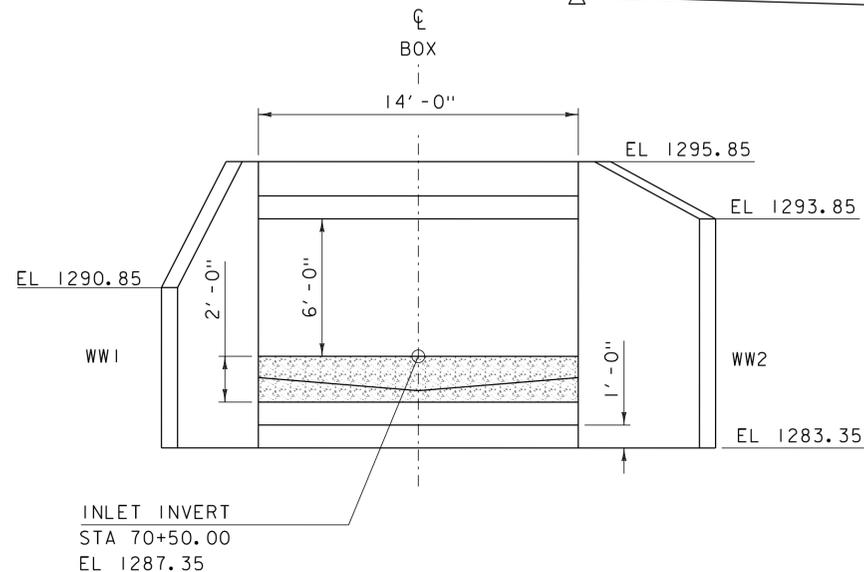
EPSC PLAN
 SCALE 1" = 20' - 0"
 20 0 20

PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BF 013-1(21)	
FILE NAME: s13b072bdr_epsc.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: -----
EPSC PLAN	SHEET 16 OF 25



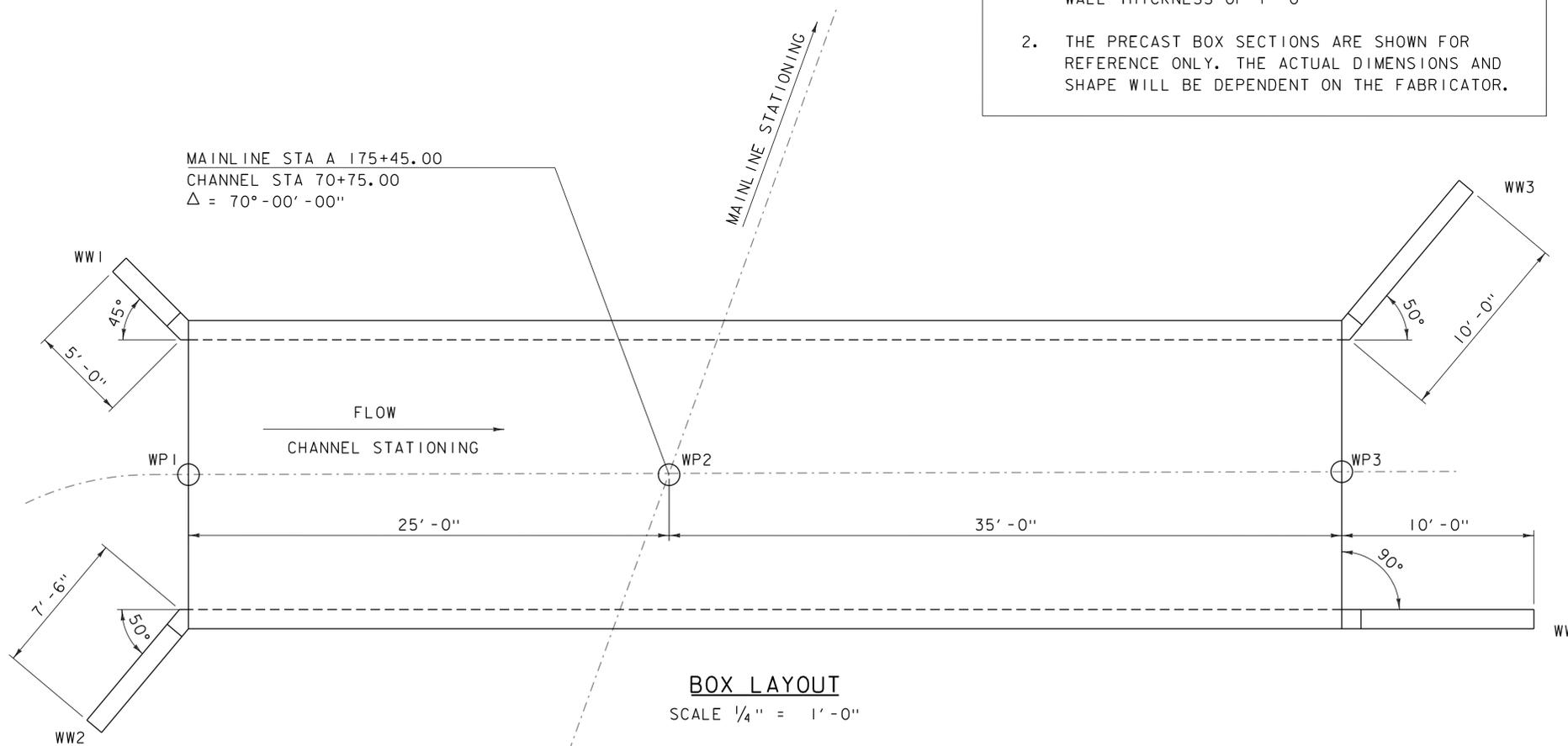
BOX PROFILE
SCALE 1/4" = 1'-0"

- NOTES:
1. DIMENSIONS SHOWN ARE BASED ON AN ASSUMED WALL THICKNESS OF 1'-0"
 2. THE PRECAST BOX SECTIONS ARE SHOWN FOR REFERENCE ONLY. THE ACTUAL DIMENSIONS AND SHAPE WILL BE DEPENDENT ON THE FABRICATOR.

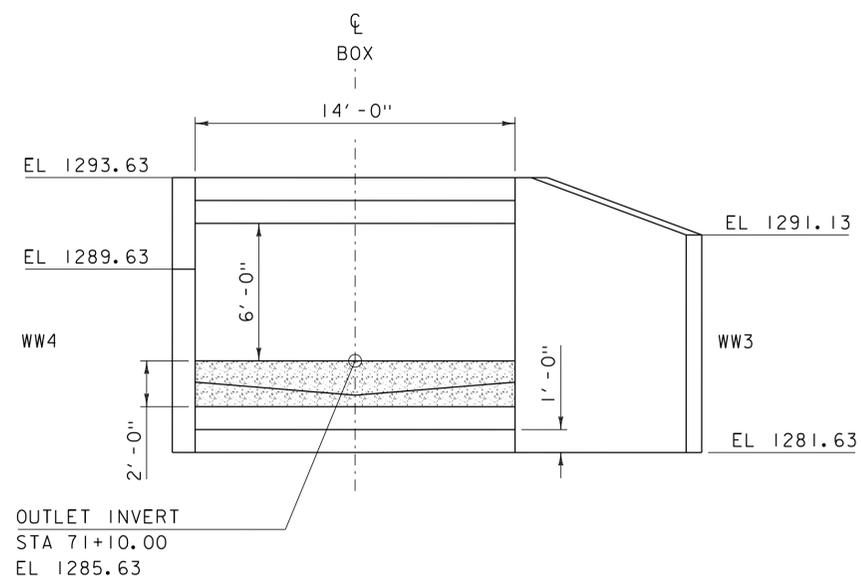


INLET ELEVATION
SCALE 1/4" = 1'-0"

MAINLINE STA A 175+45.00
CHANNEL STA 70+75.00
 $\Delta = 70^\circ - 00' - 00''$

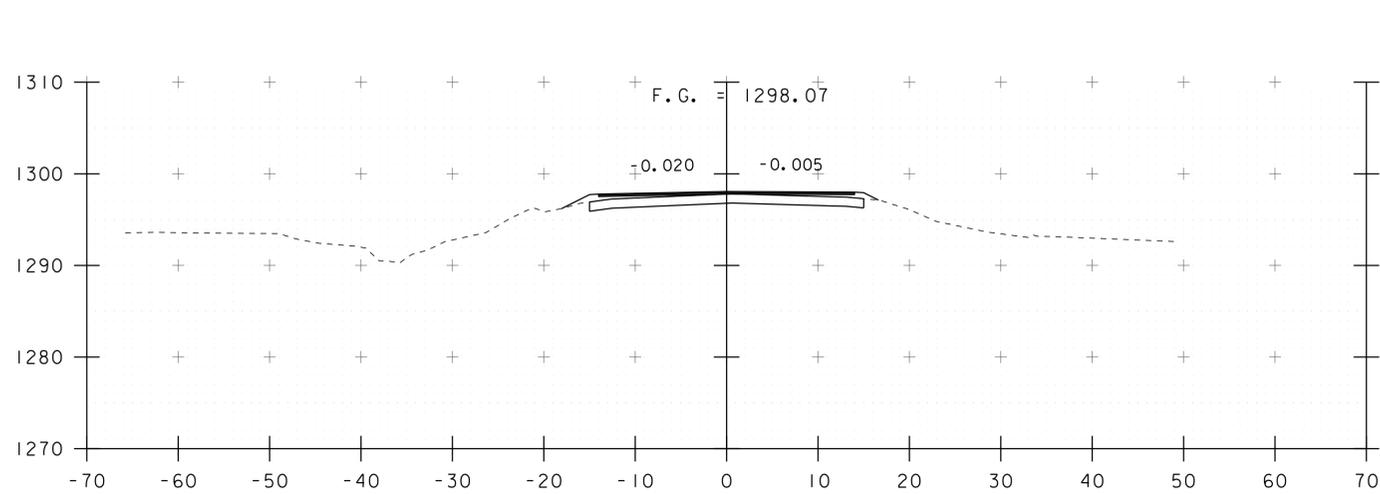


BOX LAYOUT
SCALE 1/4" = 1'-0"

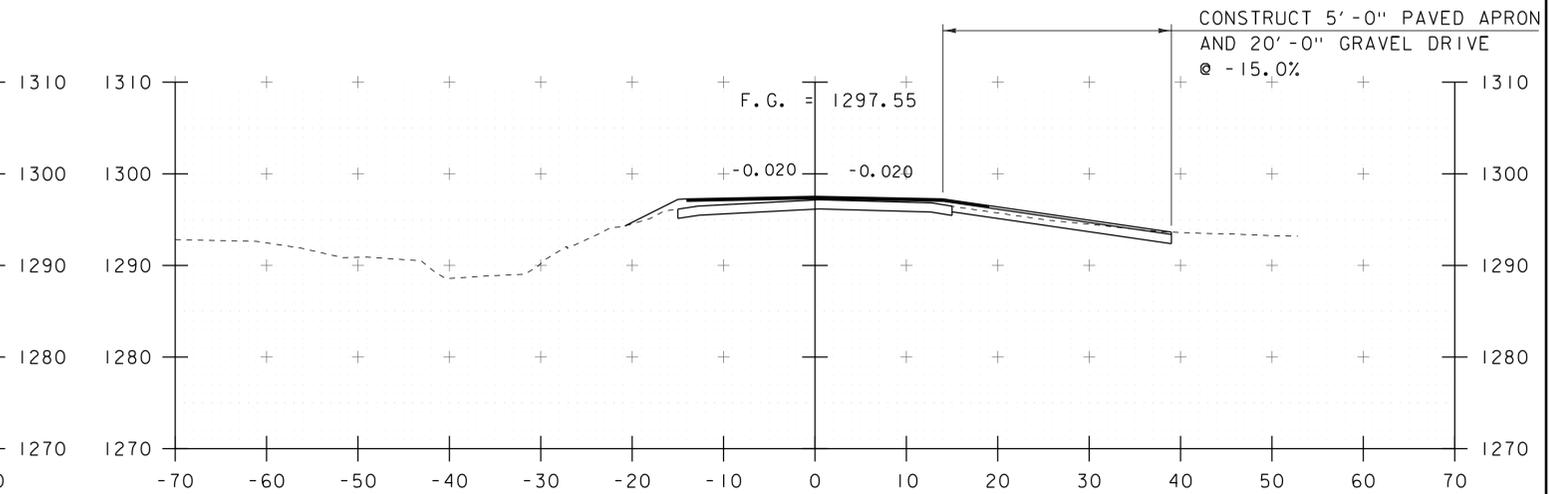


OUTLET ELEVATION
SCALE 1/4" = 1'-0"

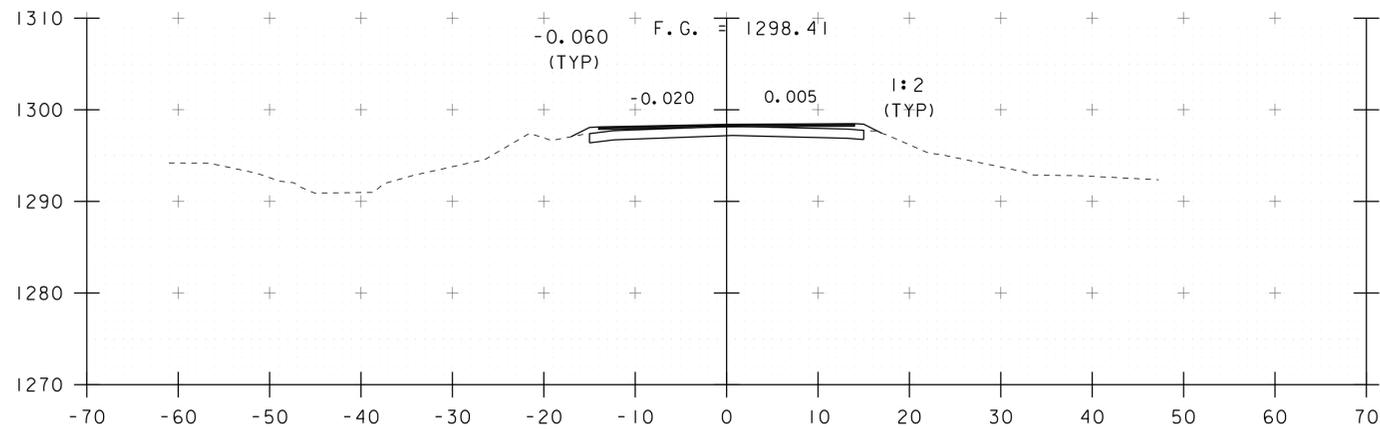
PROJECT NAME:	WARDSBORO	PLOT DATE:	31-DEC-2013
PROJECT NUMBER:	BF 013-1(21)	DRAWN BY:	J. SALVATORI
FILE NAME:	sl3b072box.dgn	CHECKED BY:	G. LAROCHE
PROJECT LEADER:	K. HIGGINS	SHEET	18 OF 25
DESIGNED BY:	J. SALVATORI		
BOX LAYOUT			



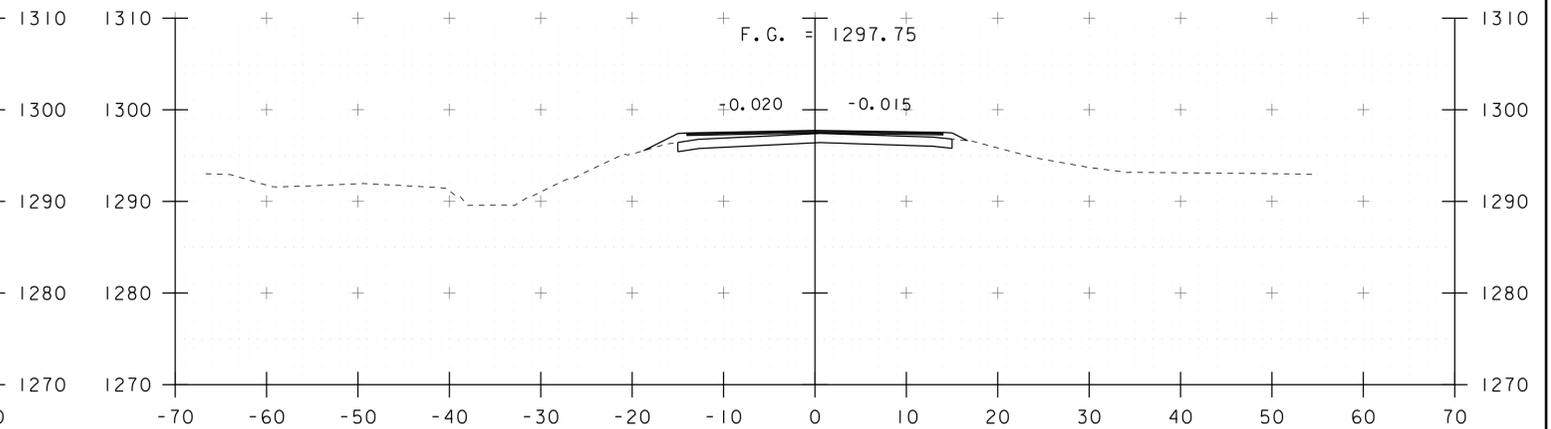
A 174+50
BEGIN PROJECT



A 174+92
CL DRIVEWAY



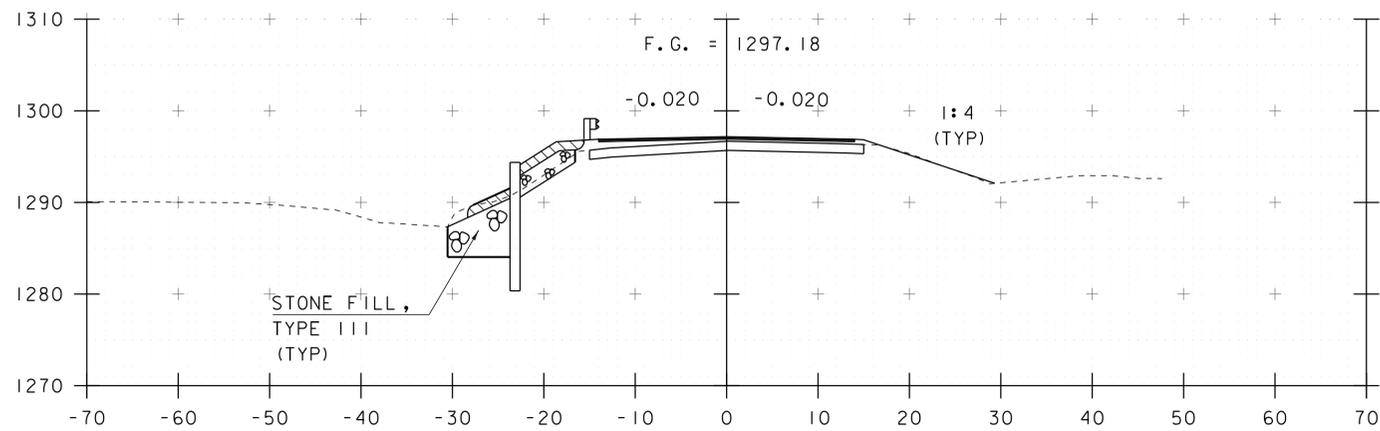
A 174+25



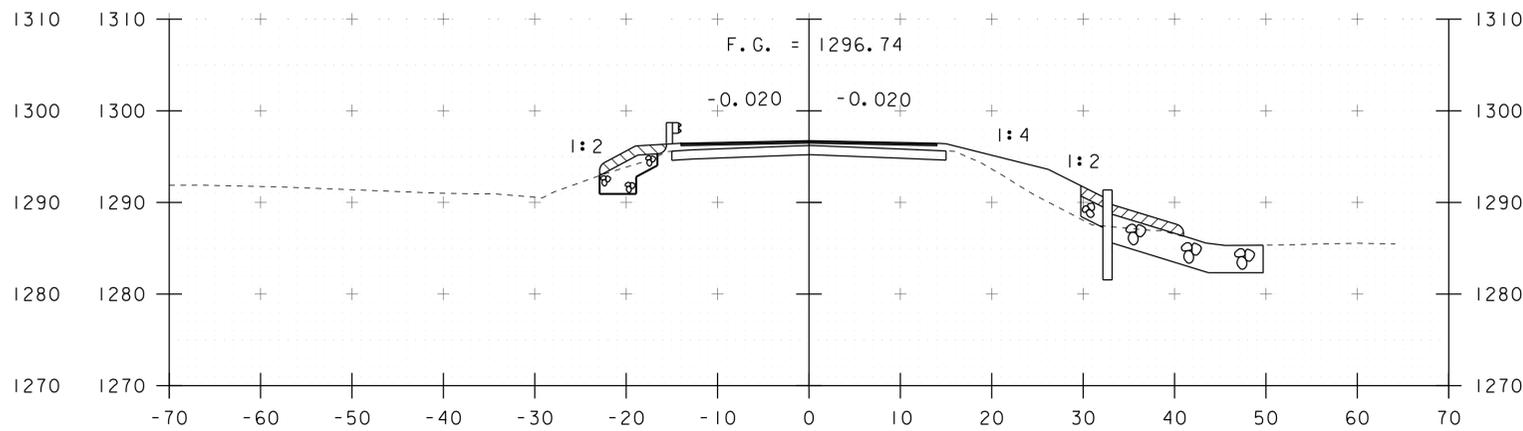
A 174+75

STA. A 174+25 TO STA. A 174+92

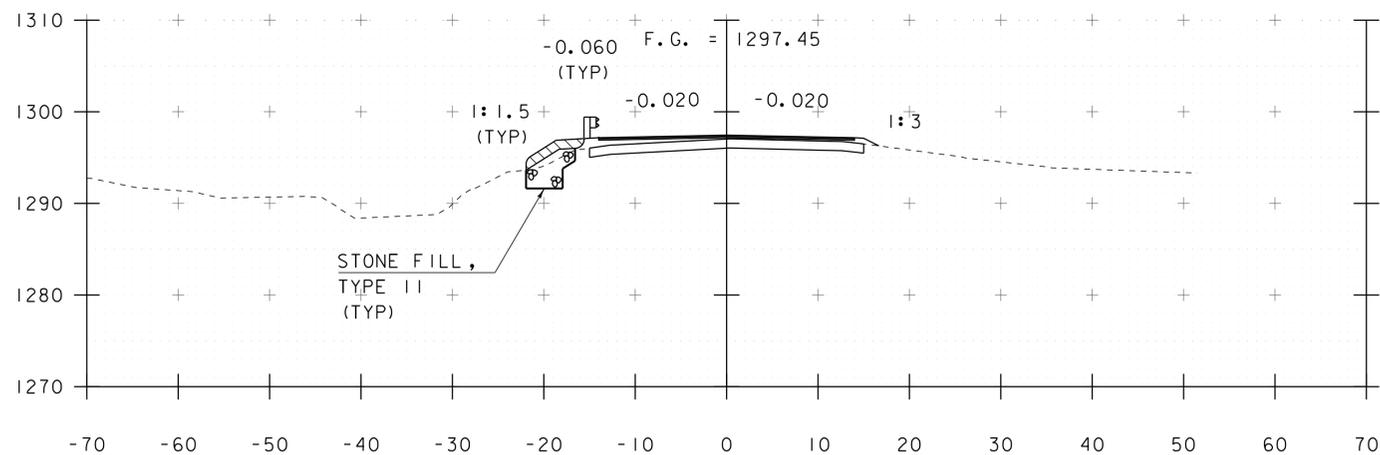
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PROJECT NUMBER: BF 013-1(21)	
FILE NAME: s13b072xsl.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: J. SALVATORI	CHECKED BY: J. SALVATORI
MAINLINE SECTIONS 1	SHEET 19 OF 25



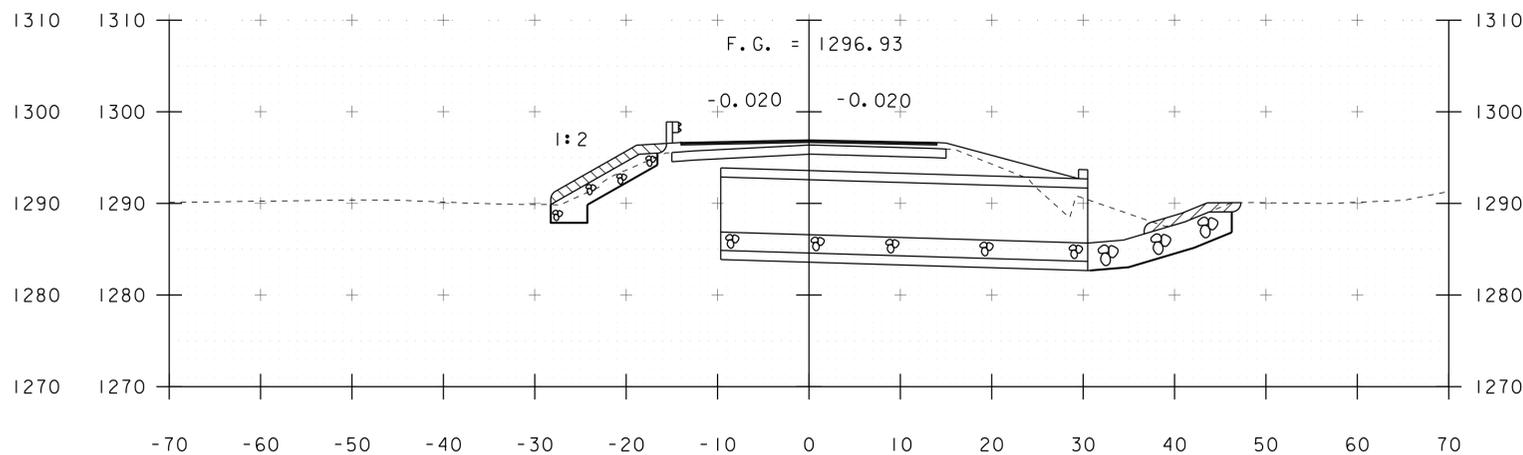
A 175+25



A 175+70



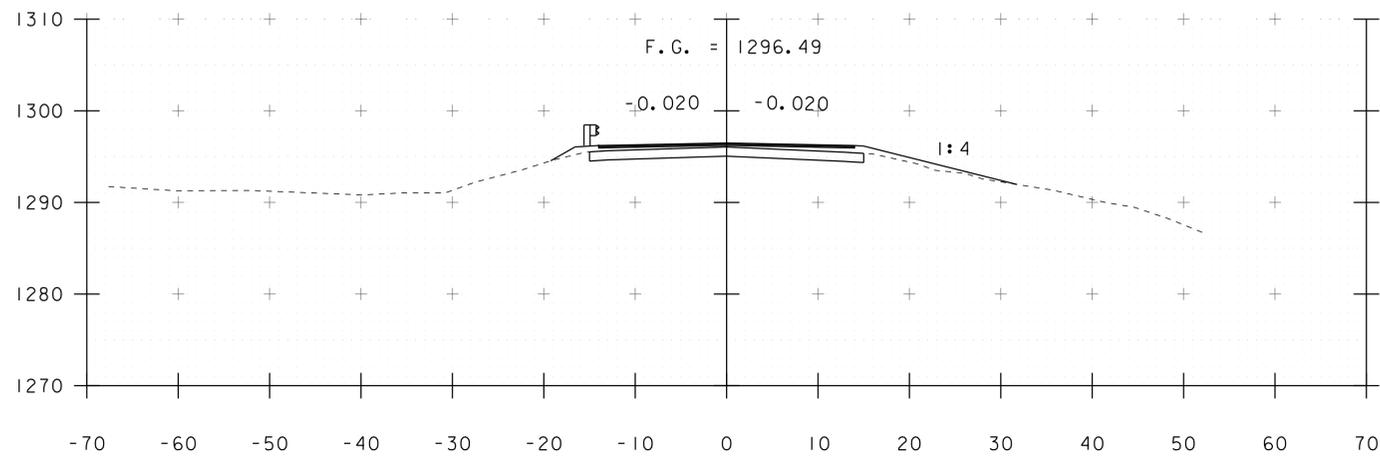
A 175+00



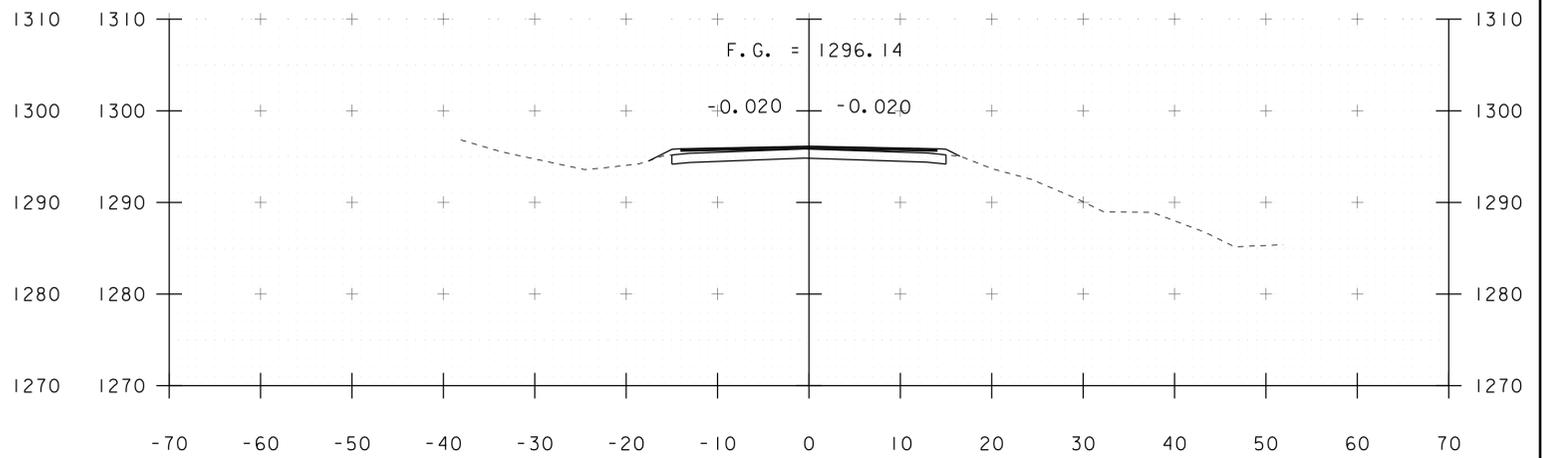
A 175+50

STA. A 175+00 TO STA. A 175+70

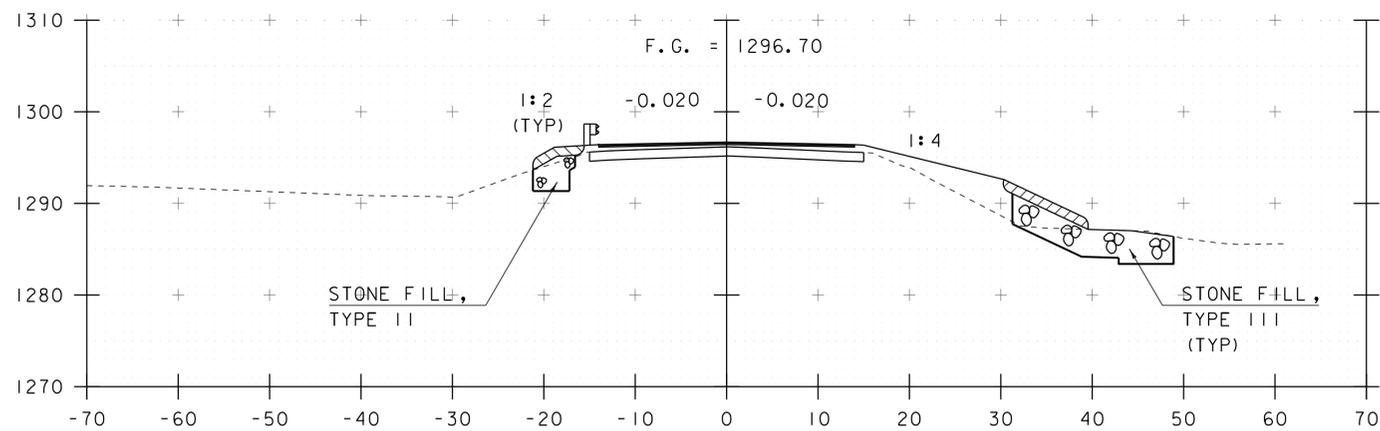
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PROJECT NUMBER: BF 013-1(21)	
FILE NAME: sl3b072xsl.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: J. SALVATORI	CHECKED BY: J. SALVATORI
MAINLINE SECTIONS 2	SHEET 20 OF 25



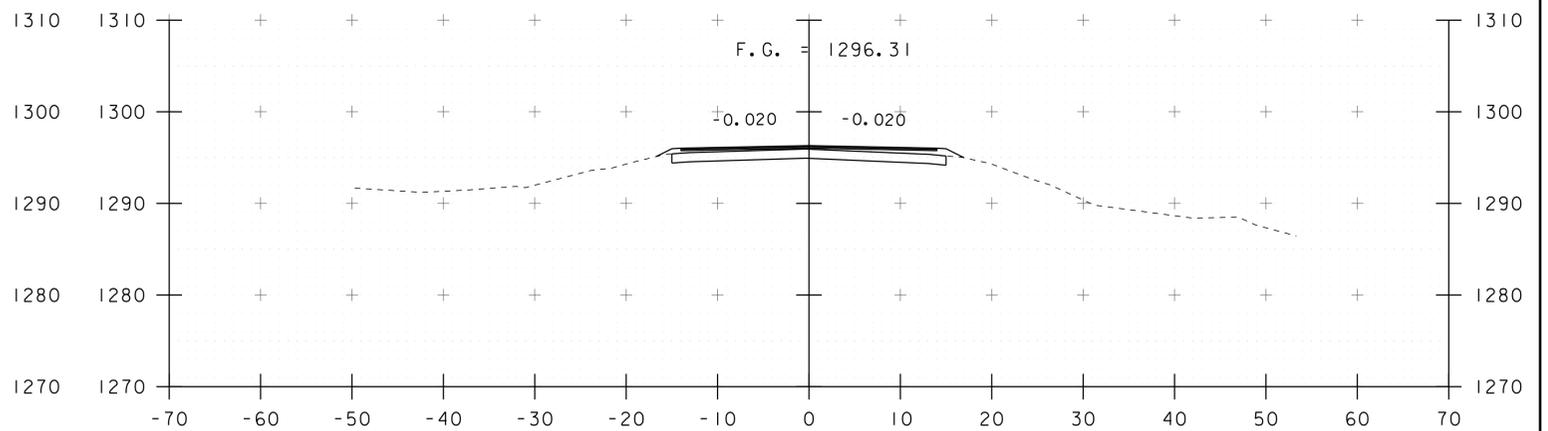
A 176+00



A 176+50



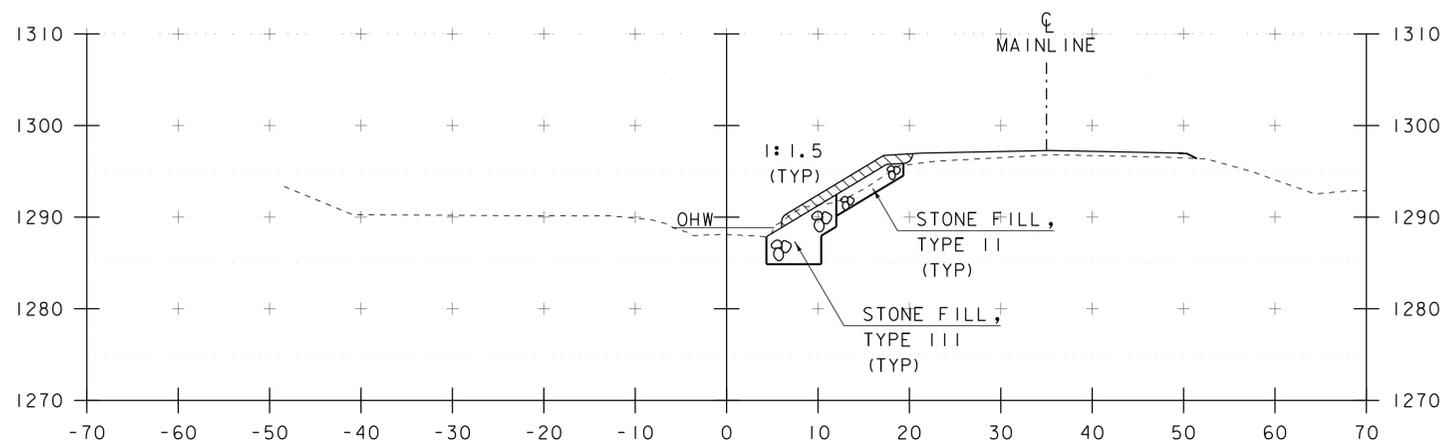
A 175+75



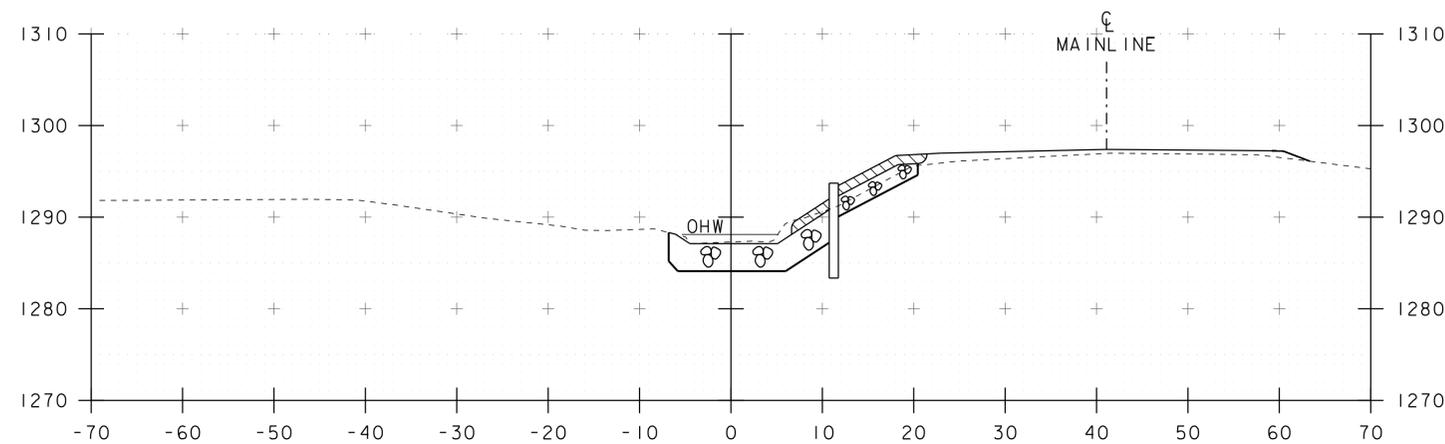
A 176+25
END PROJECT

STA. A 175+75 TO STA. A 176+50

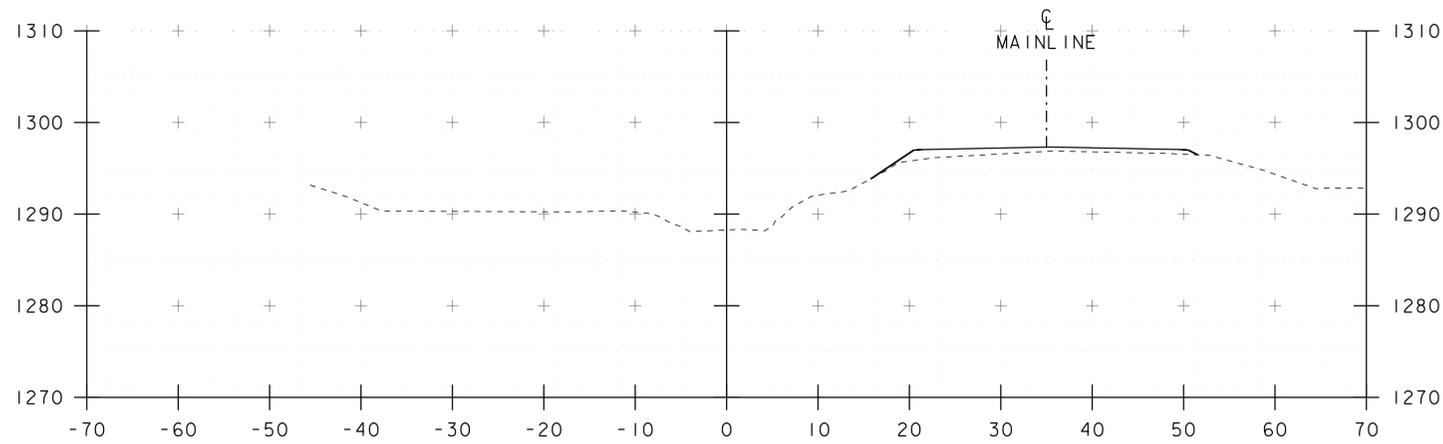
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PROJECT NUMBER: BF 013-1(21)	
FILE NAME: s13b072xsl.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: J. SALVATORI	CHECKED BY: J. SALVATORI
MAINLINE SECTIONS 3	SHEET 21 OF 25



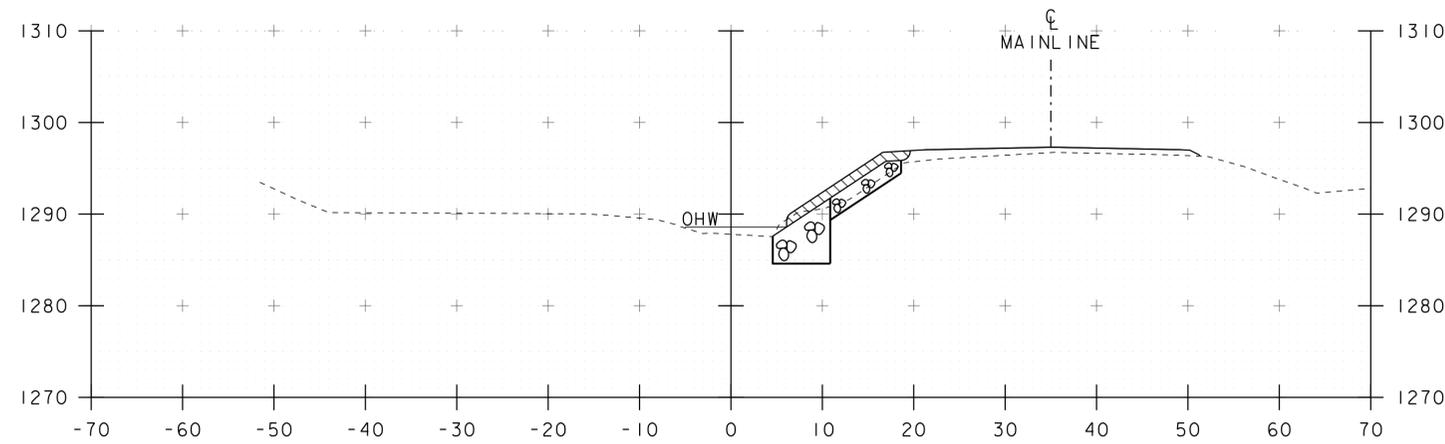
70+25 STA 70+25 RT
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION
 BEGIN GEOTEXTILE UNDER STONE FILL
 BEGIN STONE FILL, TYPE III
 BEGIN GRUBBING MATERIAL



70+40 STA 70+40 LT
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION
 BEGIN GEOTEXTILE UNDER STONE FILL
 BEGIN STONE FILL, TYPE III
 BEGIN GRUBBING MATERIAL



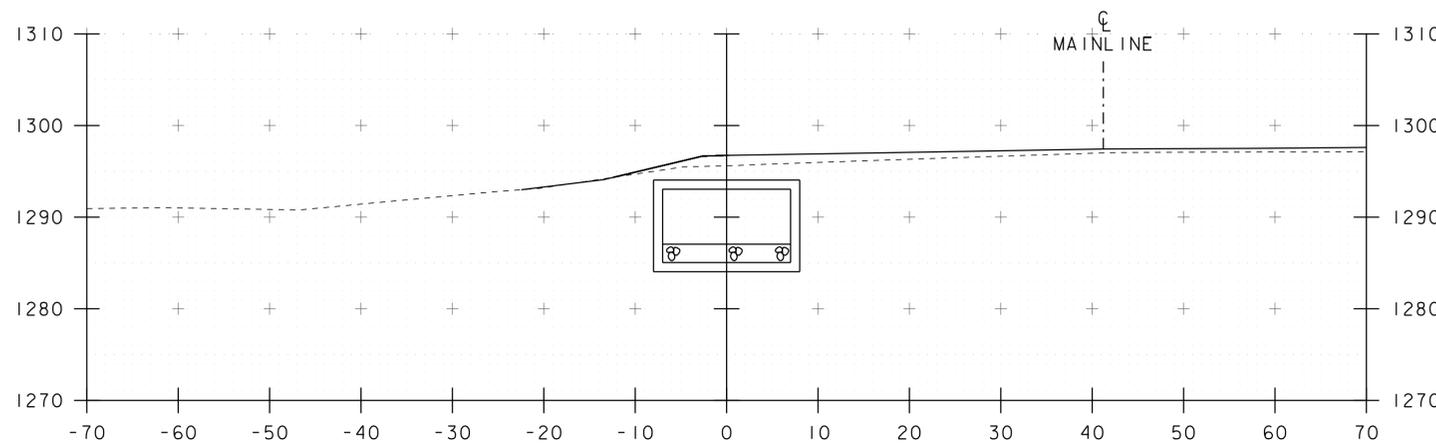
70+20



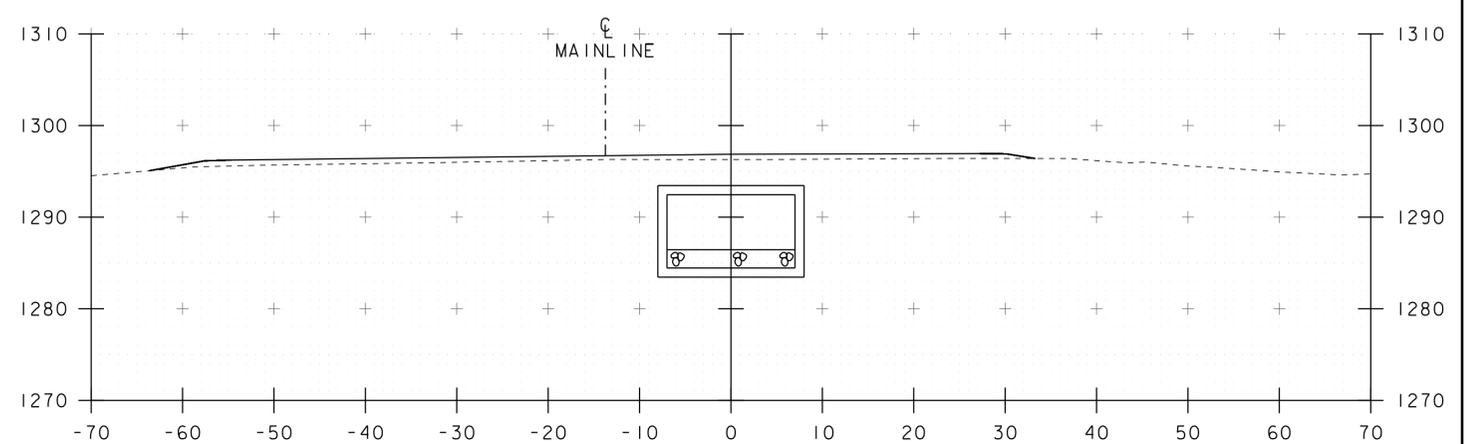
70+30

STA. 70+20 TO STA. 70+40

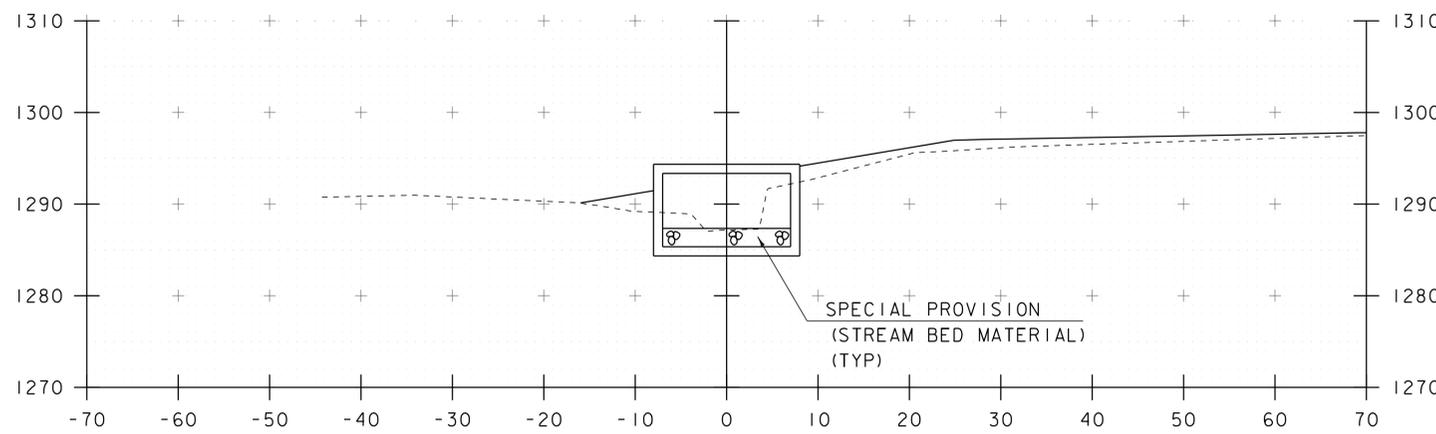
PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BF 013-1(21)	
FILE NAME: s13b072xsl.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: -----
CHANNEL SECTIONS 1	SHEET 22 OF 25



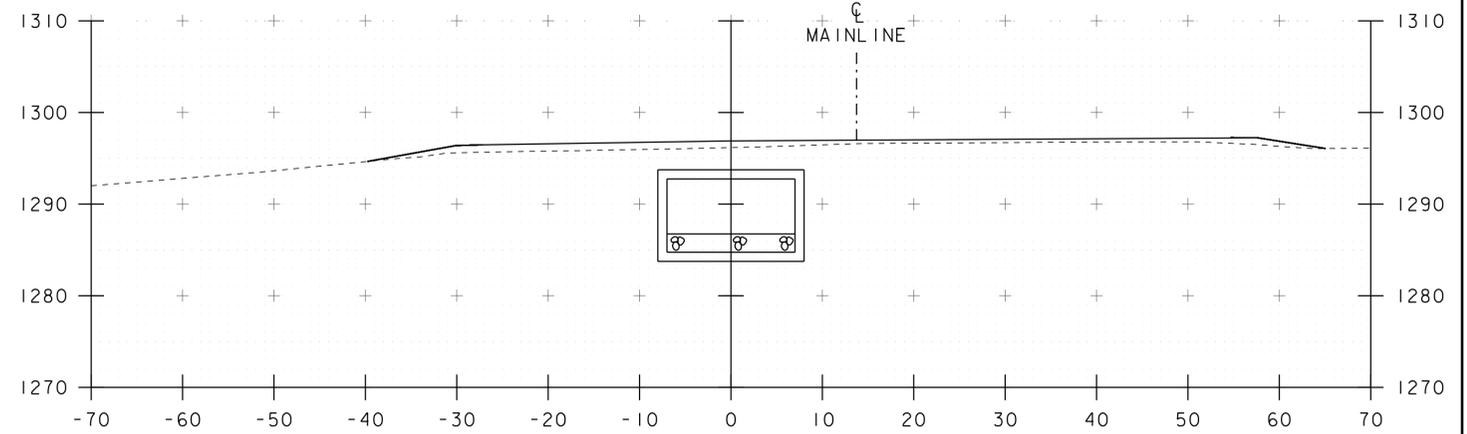
70+60



70+80



70+50

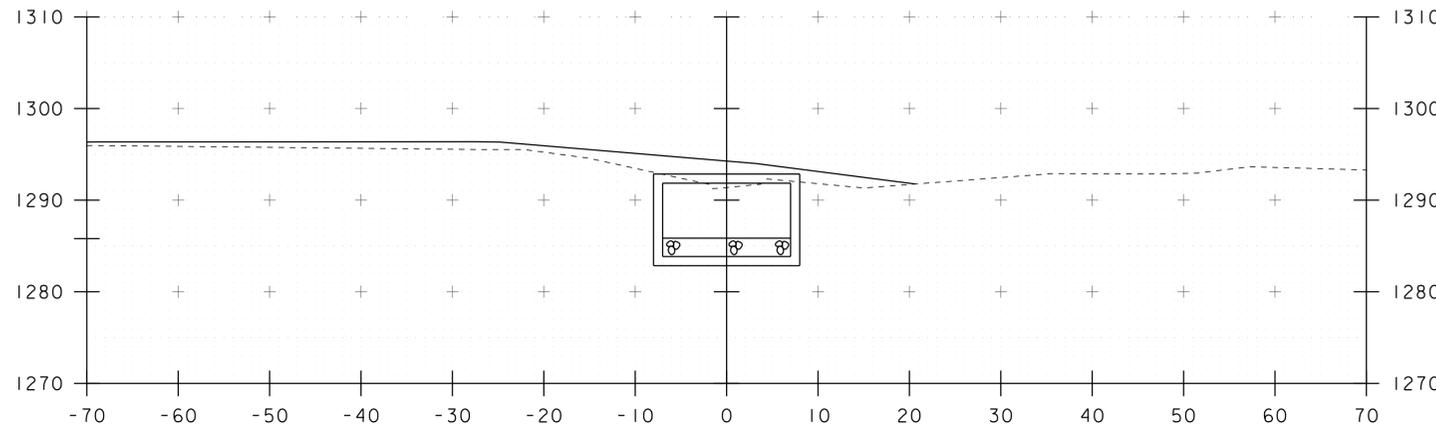


70+70

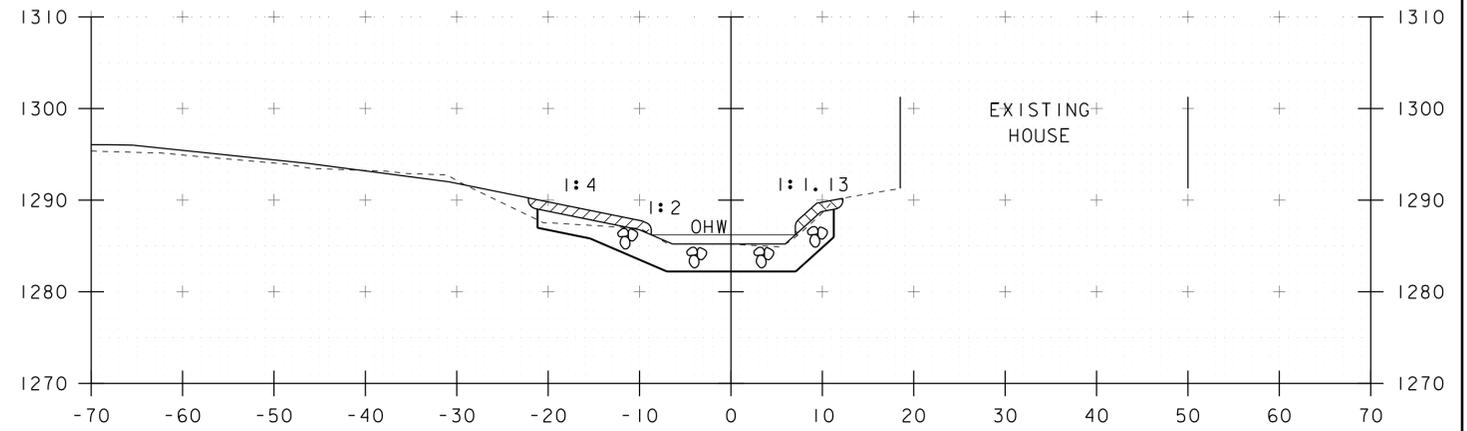
STA 70+50
 END UNCLASSIFIED CHANNEL EXCAVATION
 END GEOTEXTILE UNDER STONE FILL
 END STONE FILL, TYPE III
 END GRUBBING MATERIAL

STA. 70+50 TO STA. 70+80

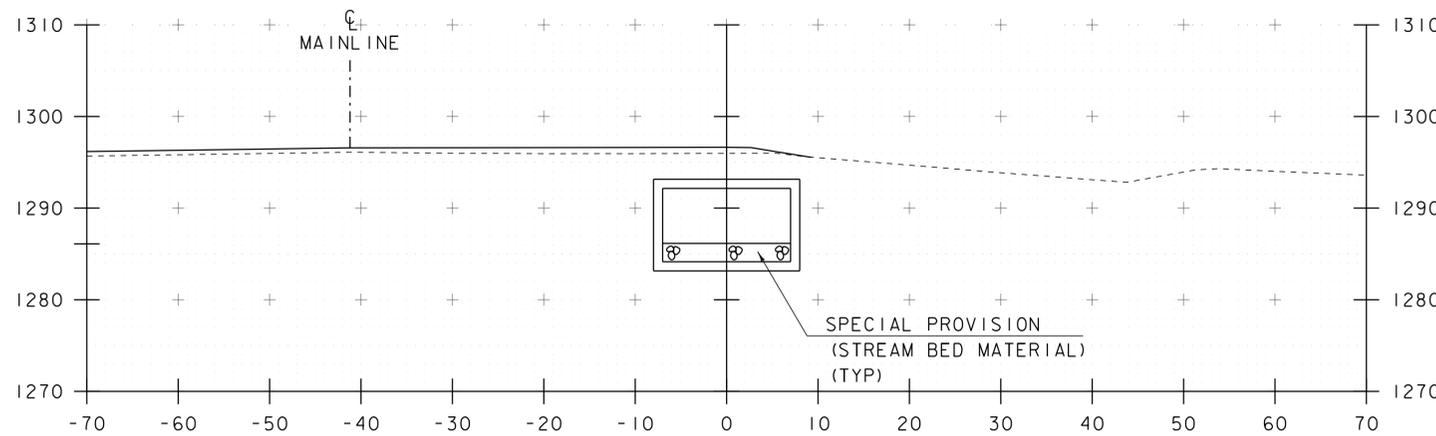
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PROJECT NUMBER: BF 013-1(21)	
FILE NAME: s13b072xsl.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: -----
CHANNEL SECTIONS 2	SHEET 23 OF 25



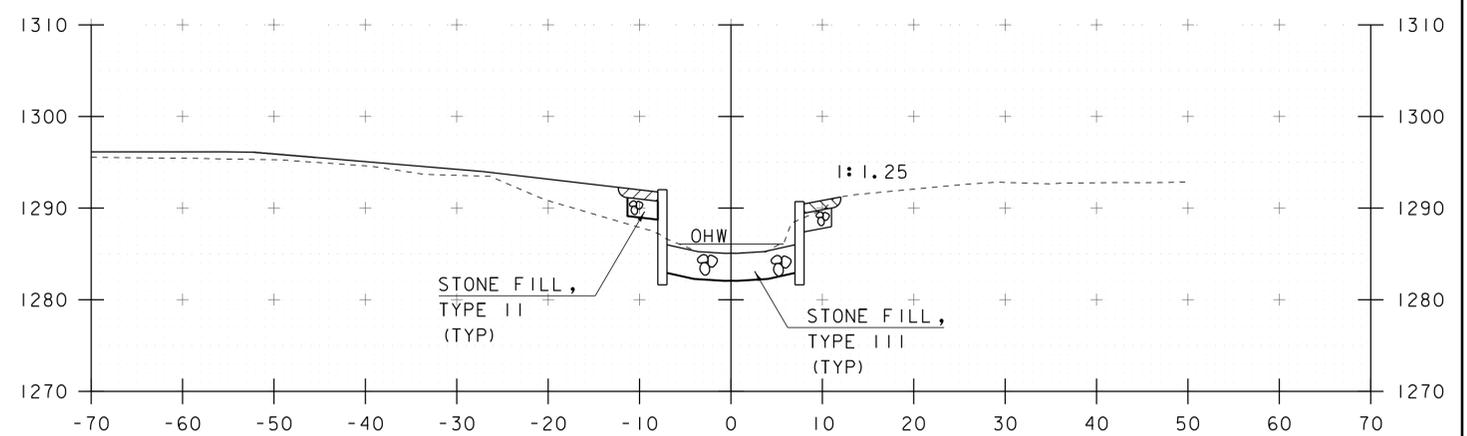
71+00



71+20



70+90

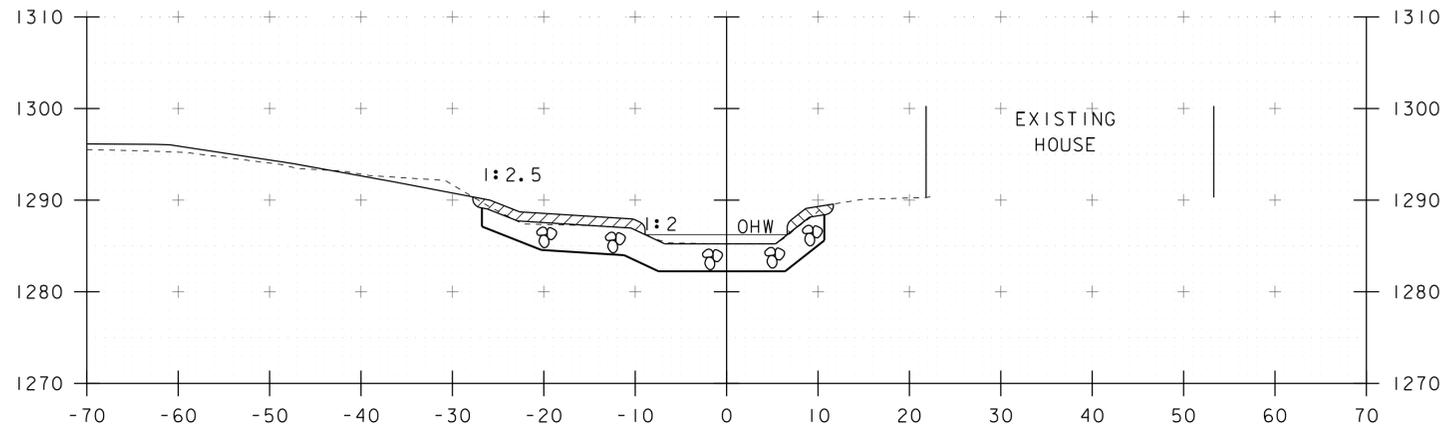


71+10

STA 71+07.30
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION
 BEGIN GEOTEXTILE UNDER STONE FILL
 BEGIN STONE FILL, TYPE III
 BEGIN GRUBBING MATERIAL

STA. 70+90 TO STA. 71+20

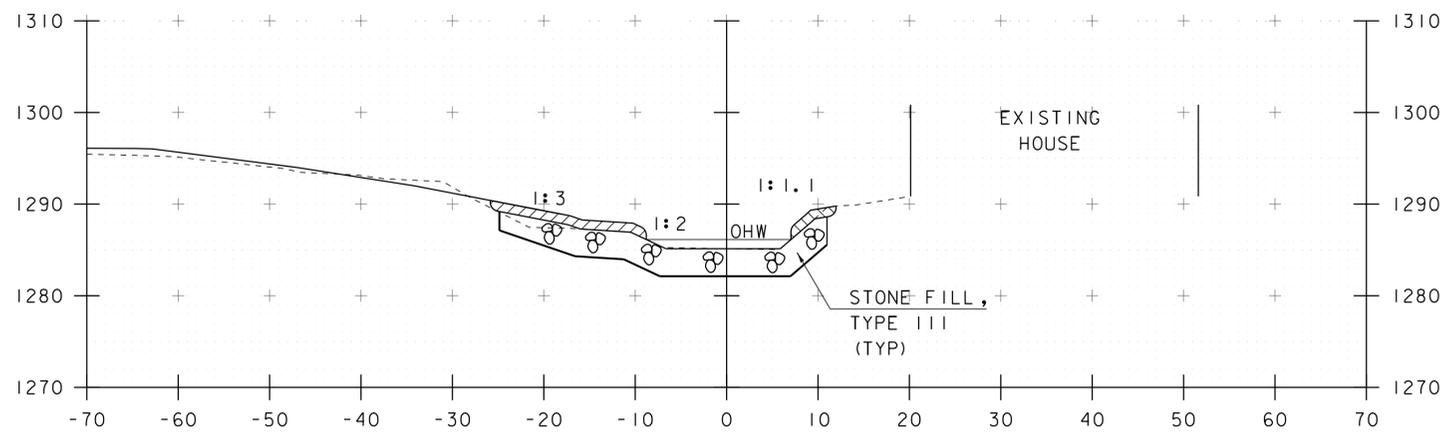
PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BF 013-1(21)	
FILE NAME: sl3b072xsl.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: -----
CHANNEL SECTIONS 3	SHEET 24 OF 25



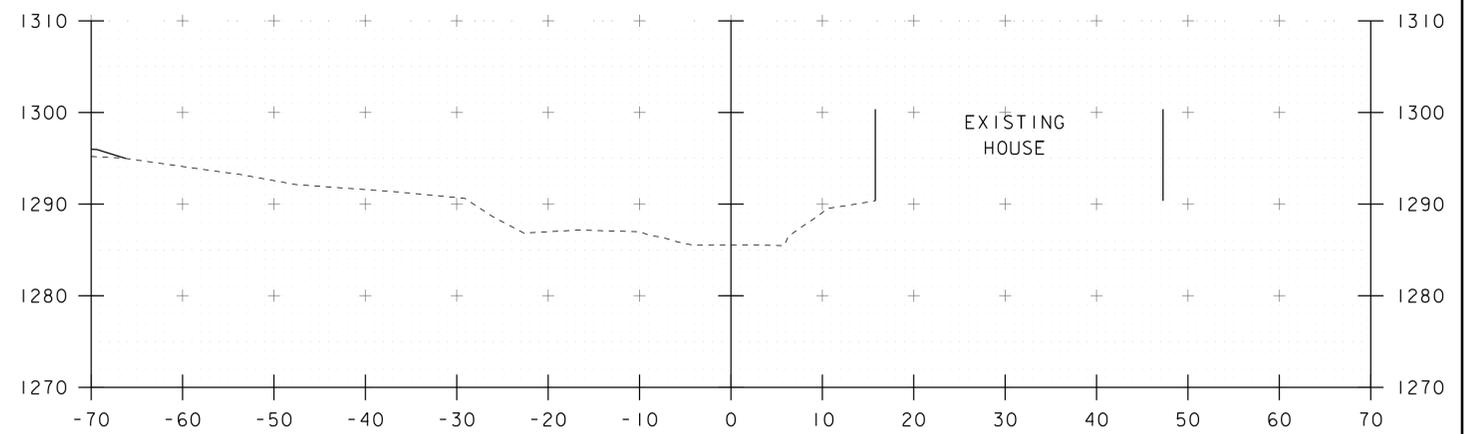
STA 71+37 LT
 END UNCLASSIFIED CHANNEL EXCAVATION
 END GEOTEXTILE UNDER STONE FILL
 END STONE FILL, TYPE III
 END GRUBBING MATERIAL

71+30

STA 71+30 RT
 END UNCLASSIFIED CHANNEL EXCAVATION
 END GEOTEXTILE UNDER STONE FILL
 END STONE FILL, TYPE III
 END GRUBBING MATERIAL



71+25



71+40

STA. 71+25 TO STA. 71+40

PROJECT NAME: WARDBORO
 PROJECT NUMBER: BF 013-1(21)
 FILE NAME: s13b072xsl.dgn
 PROJECT LEADER: K. HIGGINS
 DESIGNED BY: J. SALVATORI
 CHANNEL SECTIONS 4

PLOT DATE: 31-DEC-2013
 DRAWN BY: J. SALVATORI
 CHECKED BY: -----
 SHEET 25 OF 25