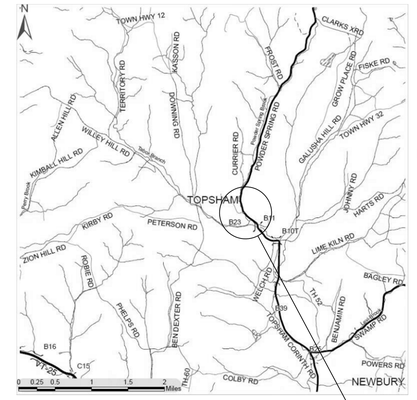
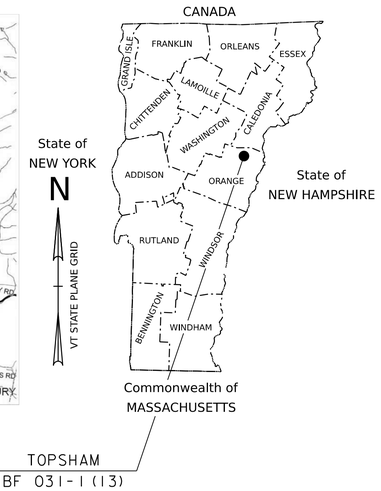
REVIEWER NOTES:

1. ANY STRUCTURAL ELEMENTS SHOWN IN THE PLANS ARE CONCEPTUAL IN NATURE AND HAVE NOT BEEN FULLY DESIGNED.
2. NO RELOCATION OF UTLITIES WILL BE NECESSARY DURING CONSTRUCTION
3. A 2FT X 2FT HOLE IN THE DECK OCCURRED IN APRIL 2022. METAL PLATES WERE INSTALLED BY THE DISTRICT AS A TEMPORARY REPAIR. THE PLATES SHALL BE SALVAGED AND RETURNED TO THE DISTRICT DURING CONSTRUCTION.

STATE OF VERMONT
AGENCY OF TRANSPORTATION



LOCATION MAP



PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF TOPSHAM

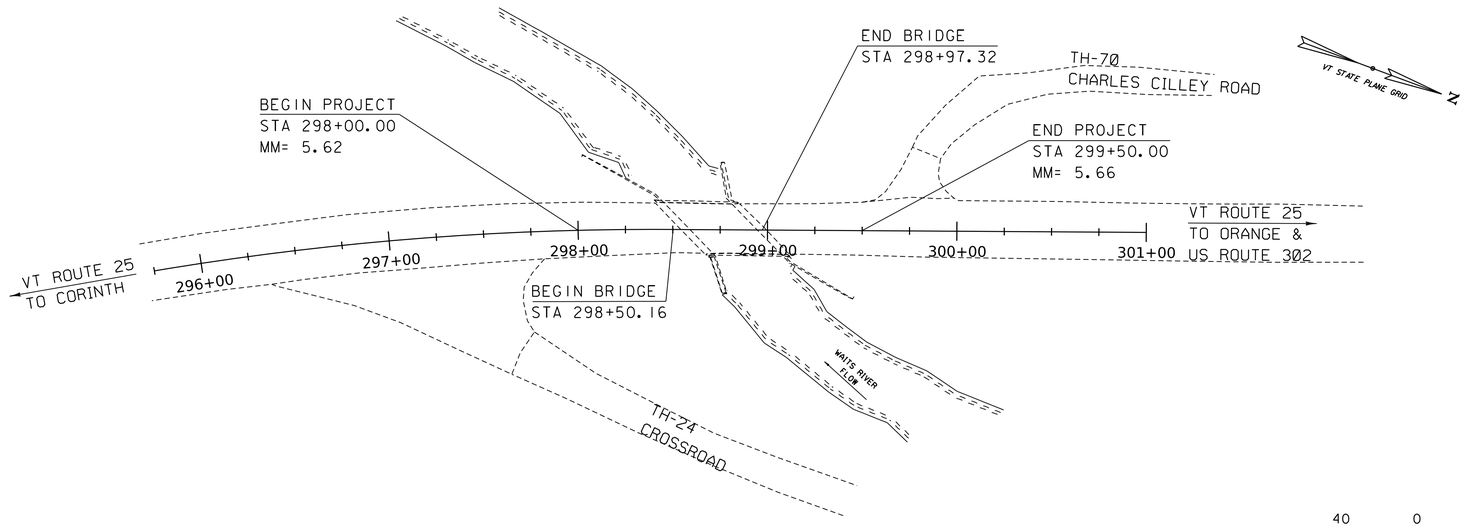
COUNTY OF ORANGE

ROUTE NO : VT 25 (MINOR ARTERIAL) BRIDGE NO : 23

PROJECT LOCATION : IN THE TOWN OF TOPSHAM ON VT ROUTE 25 OVER WAITS RIVER LOCATED APPROXIMATELY 1.1 MILES SOUTH OF THE INTERSECTION WITH US ROUTE 302

PROJECT DESCRIPTION : REPLACEMENT OF EXISTING BRIDGE WITH A NEW BURIED STRUCTURE ON ALIGNMENT INCLUDING NECESSARY APPROACH AND CHANNEL WORK.

LENGTH OF STRUCTURE :	47.16 FEET
LENGTH OF ROADWAY :	102.84 FEET
LENGTH OF PROJECT :	150.00 FEET



40 0 40

SCALE: 1" = 40'-0"

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2024, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 27, 2023 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 : H. MCGOWAN, R. GILMAN, B. HERRING
SURVEYED DATE : 9/30/2019

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (2011)

PRELIMINARY PLANS
16-OCT-2023

HIGHWAY DIVISION, CHIEF ENGINEER
APPROVED _____ DATE _____

PROJECT MANAGER : CORY BURRALL, PE

PROJECT NAME : TOPSHAM
PROJECT NUMBER : BF 031-1(13)

SHEET 1 OF 23 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

INDEX OF SHEETS

PLAN SHEETS

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6	CONVENTIONAL SYMBOLOGY LEGEND
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8	EXISTING CONDITIONS
9	ALIGNMENT SHEET
10	LAYOUT SHEET
11	RAIL LAYOUT
12	PROFILES
13	SUPERELEVATION DIAGRAM
14	MATERIAL TRANSITION
15	BORING LAYOUT
16 - 19	VT 25 CROSS SECTIONS 1-4
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DETAIL SHEETS

HSD-400.01	SAFETY EDGE DETAILS	1/5/2018
HSD-621.07	MIDWEST GUARDRAIL SYSTEM (MGS)	1/4/2021
HSD-621.07	W-BEAM GUARDRAIL COMPONENTS	4/17/2019
HSD-621.07	MIDWEST GUARDRAIL SYSTEM (MGS) ANCHOR	4/17/2019
HSD-621.07	MIDWEST GUARDRAIL SYSTEM (MGS) ANCHOR COMPONENTS	4/17/2019
HSD-621.07	MIDWEST GUARDRAIL SYSTEM (MGS) ANCHOR COMPONENTS	4/17/2019
HSD-621.07	MIDWEST GUARDRAIL SYSTEM TRANSITION SECTION	1/4/2021

STANDARDS LIST

E-10	ROLLED EROSION CONTROL PRODUCT, TYPE I	04-07-2020
E-11	CHECK DAM, TYPE I	04-07-2020
E-12	STABILIZED CONSTRUCTION ENTRANCE	04-07-2020
E-13	INLET PROTECTION DEVICE, TYPE I	04-07-2020
E-15	SILT FENCE	04-07-2020
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	03-10-2017
G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN)	03-10-2017
G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	10-02-2018
S-500	CONCRETE DETAILS AND NOTES	02-15-2023
S-501	CONCRETE DETAILS AND NOTES	02-15-2023
T-1	TRAFFIC CONTROL GENERAL NOTES	04-25-2016
T-2	TRAFFIC SIGN GENERAL NOTES	04-07-2020
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	08-06-2012
T-17	TRAFFIC CONTROL MISCELLANEOUS DETAILS	08-06-2012
T-28	CONSTRUCTION SIGN DETAILS	08-06-2012
T-29	CONSTRUCTION SIGN DETAILS	08-06-2012
T-30	CONSTRUCTION SIGN DETAILS	02-17-2022
T-31	CONSTRUCTION SIGN DETAILS	08-06-2012
T-33	MISCELLANEOUS SIGN DETAILS	08-06-2012
T-35	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS	08-06-2012
T-36	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS FOR PAVING	08-06-2012
T-42	BRIDGE NUMBER PLAQUE	04-09-2014
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2024	1800	230	55	8.1	160
2044	2000	26	55	12.5	270

20 year ESAL for flexible pavement from 2024 to 2044 : 941000
40 year ESAL for flexible pavement from 2024 to 2064 : 2159000
Design Speed : 50 mph

AS BUILT "REBAR" DETAIL

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

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 8/30/2023

DRAINAGE AREA : 13.7 sqaure miles
CHARACTER OF TERRAIN : Mountainous, mostly forested with some open areas
STREAM CHARACTERISTICS : Sinuous with narrow floodpain
NATURE OF STREAMBED : Cobble and gravel

PEAK FLOW DATA - ANNUAL EXCEEDANCE PROBABILITY (AEP)

50% =	600 cfs	2% =	1,800 cfs
10% =	1,100 cfs	1% =	2,100 cfs
4% =	1,500 cfs	0.2% =	3,100 cfs

NATURAL STREAM VELOCITY : @ 2% AEP = 10.6 fps
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

WATERSHED STORAGE: 0.8%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span concrete T-beam
YEAR BUILT: 1946
CLEAR SPAN(NORMAL TO STREAM): 25 feet
VERTICAL CLEARANCE ABOVE STREAMBED: 19.3 feet
WATERWAY OF FULL OPENING: 490.1 square feet
DISPOSITION OF STRUCTURE: Full Replacement
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See Borings

WATER SURFACE ELEVATIONS AT:

50% AEP =	1,260.5 feet	VELOCITY =	7.2 fps
10% AEP =	1,262.1 feet	"	9.8 fps
4% AEP =	1,263.3 feet	"	11.9 fps
2% AEP =	1,264.1 feet	"	13.3 fps
1% AEP =	1,265.0 feet	"	14.5 fps

LONG TERM STREAMBED CHANGES: Unknown

IS THE EXISTING BRIDGE ON THE VTRANS SCOUR CRITICAL LIST? No

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
FREQUENCY: N/A
RELIEF ELEVATION: N/A
DISCHARGE OVER ROAD @ 1% AEP:
BRIDGE LOW CHORD ELEVATION: 1,274.3 feet

UPSTREAM STRUCTURE

TOWN: Topsham
HIGHWAY # : US-302
CLEAR SPAN: 20 feet
YEAR BUILT: 1929
STRUCTURE TYPE: Single span bridge
DISTANCE: 6,340 feet
STRUCTURE #: 23
CLEAR HEIGHT: Unknown
FULL WATERWAY: Unknown

DOWNSTREAM STRUCTURE

TOWN: VT-25
HIGHWAY # : #REF!
CLEAR SPAN: 31 feet
YEAR BUILT: 1928, re-constrcuted in 1947
STRUCTURE TYPE:
DISTANCE:
STRUCTURE #:
CLEAR HEIGHT:
FULL WATERWAY:

ADDITIONAL INFORMATION

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:							

PROPOSED STRUCTURE

STRUCTURE TYPE: Single Span Bridge

CLEAR SPAN(NORMAL TO STREAM): 35 feet
VERTICAL CLEARANCE ABOVE STREAMBED: 15 feet*
WATERWAY OF FULL OPENING: 492.7 square feet*

WATER SURFACE ELEVATIONS AT:

50% AEP =	1,260.4 feet	VELOCITY=	6.6 fps
10% AEP =	1,261.9 feet	"	8.5 fps
4% AEP =	1,262.8 feet	"	9.7 fps
2% AEP =	1,263.6 feet	"	10.6 fps
1% AEP =	1,264.2 feet	"	11.4 fps

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
FREQUENCY: N/A
RELIEF ELEVATION: N/A
DISCHARGE OVER ROAD @ 1% AEP: N/A

BRIDGE LOW CHORD ELEVATION: 1,270.0 feet**
FREEBOARD: @ 2% AEP = 6.4 feet**

SCOUR: 0.0 feet of contraction scour was calculated

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE:
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

*May vary with final bridge type and geometry
**May vary with final bridge type and geometry

CALCULATIONS BY: KRF
CHECKED BY:

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY

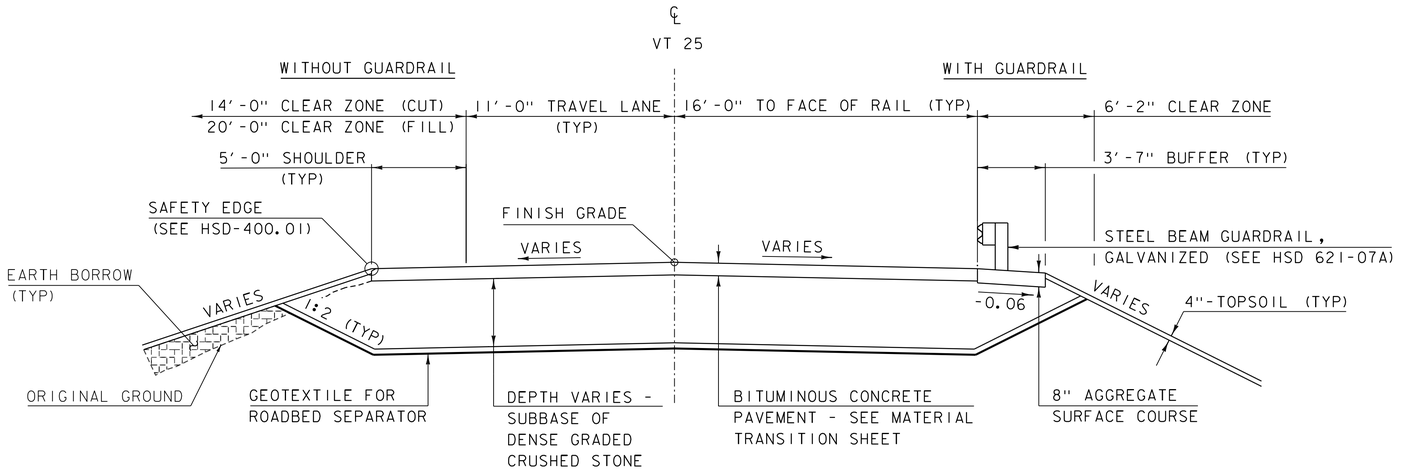
DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	- - -
3. DESIGN SPAN	L:	38.00 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. HIGH PERFORMANCE CONCRETE, CLASS PCD	f'_c:	4.0 KSI
9. HIGH PERFORMANCE CONCRETE, CLASS PCS	f'_c:	3.5 KSI
10. CONCRETE HIGH PERFORMANCE, CLASS SCC	f'_c:	4.0 KSI
11. CONCRETE, CLASS C	f'_c:	3.0 KSI
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270 (WEATHERING)	f_y:	50 KSI
14. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	- - -
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
16. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	- - -
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
18. PILE RESISTANCE FACTOR	ϕ:	- - -
19. LATERAL PILE DEFLECTION	Δ:	- - -
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.		- - -

PROJECT NAME: **TOPSHAM**
PROJECT NUMBER: **BF 031-1(13)**

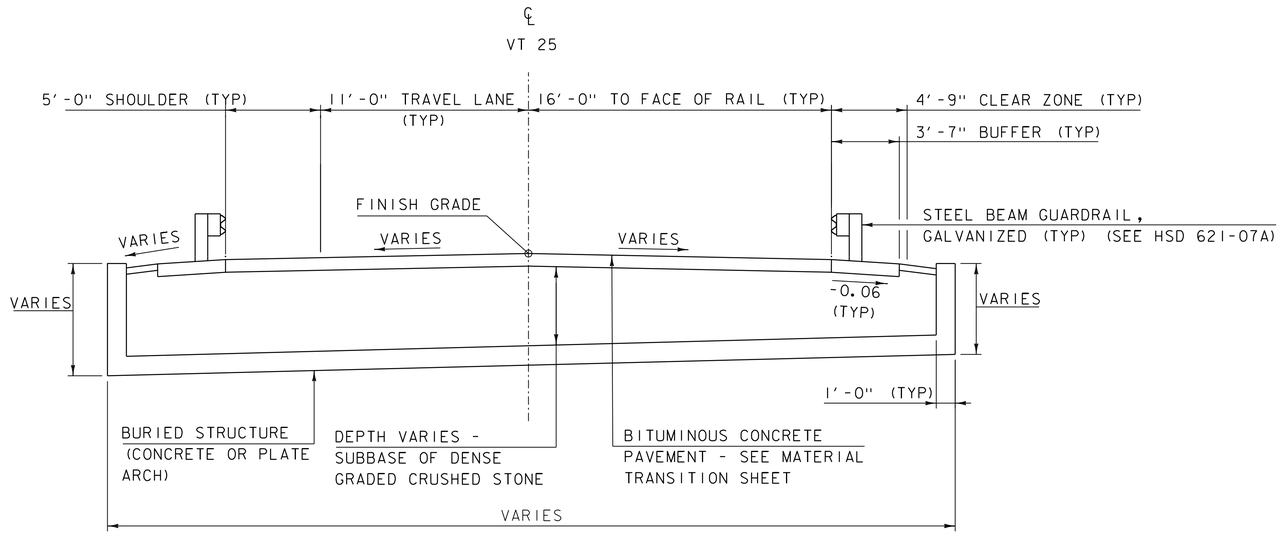
FILE NAME: **s19b210pi.dgn**
PROJECT LEADER: **C. BURRALL**
DESIGNED BY: **G. DARGAN**
PRELIMINARY INFORMATION SHEET

PLOT DATE: 9/12/2023
DRAWN BY: **R. PELLETT**
CHECKED BY: **A. VAN BUSKIRK**
SHEET 2 OF 22



VT 25 ROADWAY TYPICAL SECTION

1/4" = 1'-0"



VT 25 BRIDGE TYPICAL SECTION

1/4" = 1'-0"

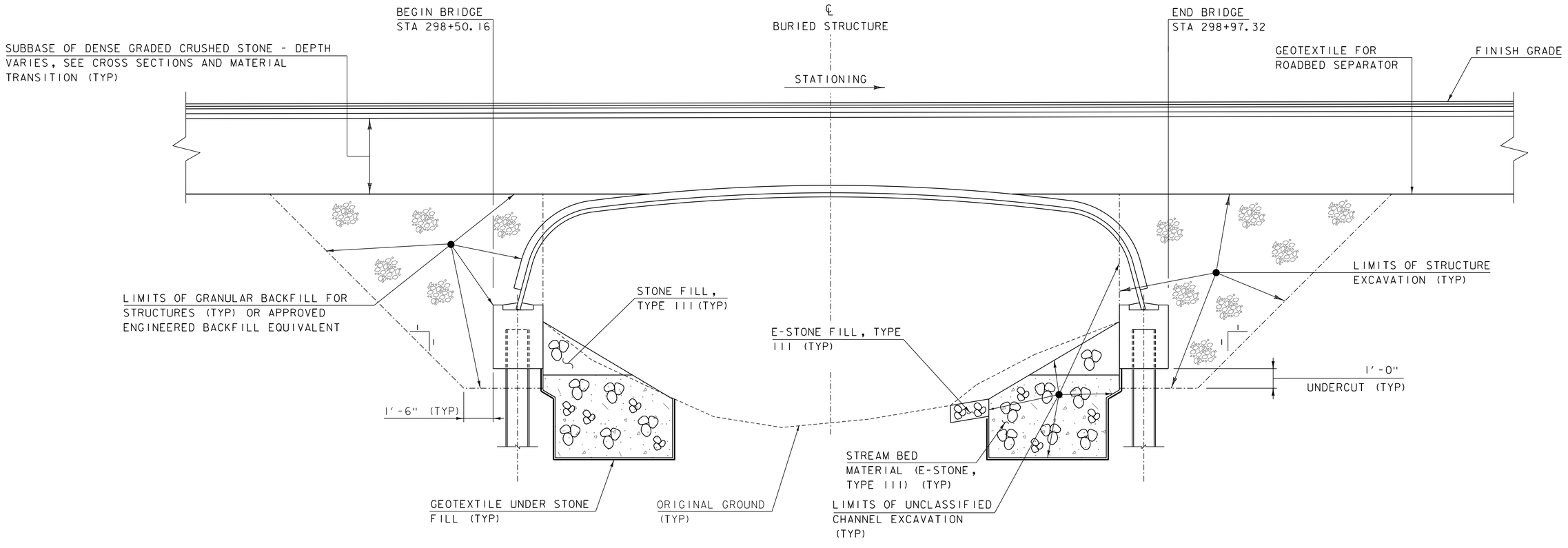
MATERIAL TOLERANCES
(IF USED ON PROJECT)

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

PROJECT NAME: TOPSHAM
PROJECT NUMBER: BF 031-1(13)

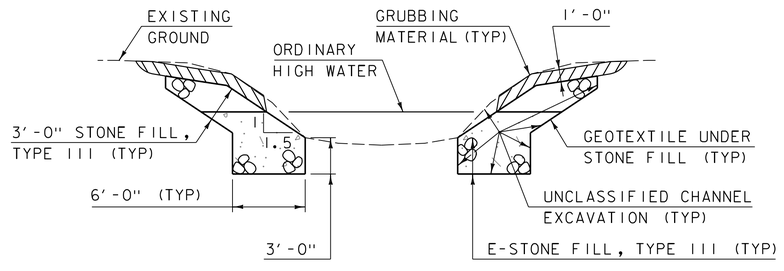
FILE NAME: sl9b210typ.dgn
PROJECT LEADER: C. BURRALL
DESIGNED BY: G. DARGAN
TYPICAL SECTIONS 1

PLOT DATE: 18-SEP-2023
DRAWN BY: G. DARGAN
CHECKED BY: C. BURRALL
SHEET 3 OF 23



BURIED STRUCTURE EARTHWORK TYPICAL CHANNEL SECTION

NOT TO SCALE



TYPICAL CHANNEL SECTION

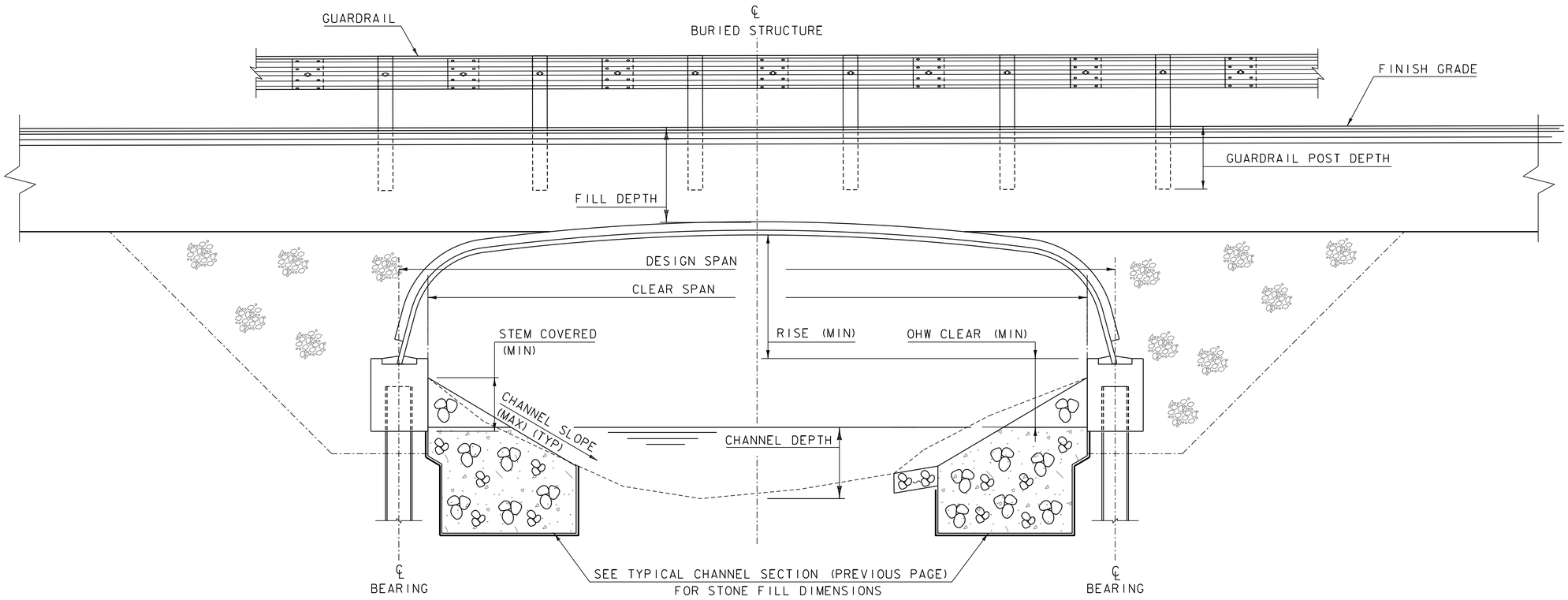
NOT TO SCALE

NOTES

1. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

2. THE CONTRACTOR SHALL CREATE A LOW FLOW CHANNEL IN THE STREAM BED MATERIAL AS DIRECTED BY THE ENGINEER.

PROJECT NAME:	TOPSHAM
PROJECT NUMBER:	BF 031-1(13)
FILE NAME: s19b210typ.dgn	PLOT DATE: 18-SEP-2023
PROJECT LEADER: C. BURRALL	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: C. BURRALL
TYPICAL SECTIONS 2	SHEET 4 OF 23



BURIED STRUCTURE TYPICAL SECTION

NOT TO SCALE

BURIED STRUCTURE DESIGN PARAMETERS

STRUCTURE	
	DIMENSION
CLEAR SPAN	35'-0"
RISE (MIN)	12'-9½"
STEM COVERED (MIN)	-
MAX/MIN FILL DEPTH	5'-6"/4'-0"
OHW CLEAR (MIN)	-
DESIGN SPAN	38'-0"
CHANNEL	
CHANNEL DEPTH	3'-0"
CHANNEL SLOPE (MAX)	1:1.5
GUARDRAIL	
POST DEPTH	4'-0"

* FILL DEPTH SHALL MEET THE COVER REQUIREMENTS FOR THE STRUCTURE DESIGN AND THE REQUIRED CLEARANCE FOR THE GUARDRAIL POSTS.

PILE DRIVING CRITERIA

	VALUE
DRIVING RESISTANCE	TBD
MIN EMBEDMENT (AB #1)	TBD
MIN EMBEDMENT (AB #2)	TBD
TESTING	TBD

PROJECT NAME: TOPSHAM
PROJECT NUMBER: BF 031-1(13)

FILE NAME: s19b210typ.dgn
PROJECT LEADER: C. BURRALL
DESIGNED BY: G. DARGAN
TYPICAL SECTIONS 3

PLOT DATE: 18-SEP-2023
DRAWN BY: G. DARGAN
CHECKED BY: C. BURRALL
SHEET 5 OF 23

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
	BF	BARRIER FENCE
	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
	PDF	PROJECT DEMARCATION FENCE
	R&RES	REMOVE & RESET
	R&REP	REMOVE & REPLACE
	R.T.& I.	RIGHT, TITLE, AND INTEREST
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BNDNS	BOUND SET
⧈	BNDNS	BOUND TO BE SET
◎	IPNF	IRON PIN FOUND
●	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 VALVE
	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 RADIUS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE
CB	CHORD BEARING

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+TELEPHONE
- 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+TELEPHONE
- 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
- PDF — PDF — PROJECT DEMARCATION FENCE
- BF — BF — BARRIER FENCE
- 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 — 6F PROPERTY BOUNDARY
- 4f — 4f — 4F PROPERTY BOUNDARY
- HAZ — 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: TOPSHAM
PROJECT NUMBER: BF 031-1(13)

FILE NAME: sl9b210legend.dgn
PROJECT LEADER: C. BURRALL
DESIGNED BY: G. DARGAN
CONVENTIONAL SYMBOLOGY LEGEND

PLOT DATE: 18-SEP-2023
DRAWN BY: A.MANN
CHECKED BY: C. BURRALL
SHEET 6 OF 23

PRIMARY CONTROL

HVCTRL #1
CILLEY
NORTH = 592857.6630
EAST = 1690411.6650
ELEV = 1273.4690

TO REACH FROM THE INTERSECTION OF ROUTES 302 AND 25 IN ORANGE, GO SOUTHEAST ALONG ROUTE 25 FOR 1.1 MI (1.8 KM) TO THE SITE OF THE MARK ON THE RIGHT JUST SOUTH OF A GUARD RAIL AND THE INTERSECTION OF CROSSROAD.

THE MARK IS A SURVEY DISK IN THE TOP OF A FENO MONUMENT, SET 0.2 FT (6 CM) BELOW GROUND SURFACE.

IT IS ABOUT 110 FT (33.5 M) SOUTH OF THE INTERSECTION OF CROSSROAD, 22.3 FT (6.8 M) WEST-SOUTHWEST OF AND ABOUT 1 FT (0.3 M) LOWER THAN THE CENTERLINE OF ROUTE 25, 62 FT (18.9 M) SOUTHWEST OF AND ACROSS THE ROAD FROM A DRAINAGE INLET, AND 7.2 FT (2.2 M) SOUTH OF THE END OF A STEEL GUARD RAIL.

HVCTRL #2
REBAR WITH RED CAP
NORTH = 593555.8760
EAST = 1690169.0900
ELEV = 1284.9740

TO REACH FROM THE INTERSECTION OF ROUTES 302 AND 25 IN ORANGE, GO SOUTHEAST ALONG ROUTE 25 FOR 1.0 MI (1.6 KM) TO THE SITE OF THE MARK ON THE LEFT BEHIND A STEEL GUARD RAIL.

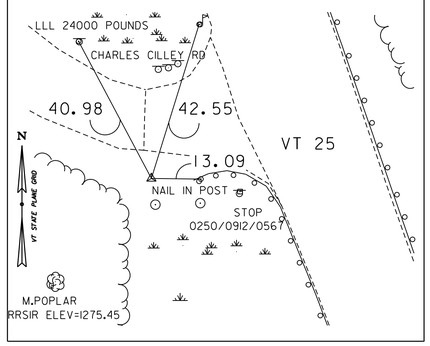
THE MARK IS A 3/4 INCH (19 MM) REBAR WITH RED CAP INSCRIBED 'VT AOT TRAV PT' SET FLUSH WITH GROUND SURFACE.

IT IS ABOUT 330 FT (100.6 M) NORTH OF CHARLES CILLEY ROAD, 18 FT (5.5 M) EAST OF AND LEVEL WITH THE CENTERLINE OF ROUTE 25, 90 FT (27.4 M) SOUTHEAST OF AND ACROSS THE ROAD FROM TELEPHONE PEDESTAL D/48, AND 2.0 FT (0.6 M) EAST OF THE STEEL GUARD RAIL.

SECONDARY CONTROL

HVCTRL 3

NORTH = 593218.7651
EAST = 1690229.3946
ELEV. = 1277.8090



HVCTRL

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

ALIGNMENT TIES

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(2011)
ADJUSTMENT COMPASS

TRAVERSE COMPLETED BY R. GILMAN B. HERRING AND H. MCGOWAN ON 9/30/2019

PROJECT NAME: TOPSHAM
PROJECT NUMBER: BF 031-1(13)

FILE NAME: s19b210tie.dgn
PROJECT LEADER: C. BURRALL
DESIGNED BY: H. MCGOWAN
TIE SHEET

PLOT DATE: 18-SEP-2023
DRAWN BY: VTRANS
CHECKED BY: G. HITCHCOCK
SHEET 7 OF 23

SOIL INFORMATION
CABOT SILT LOAM
K FACTOR = 0.32
HYDROLOGICAL GROUP= D

SOIL INFORMATION
POMFRET STONY LOAMY SAND
K FACTOR = 0.17
HYDROLOGICAL GROUP= A

SOIL INFORMATION
CABOT SILT LOAM
K FACTOR = 0.32
HYDROLOGICAL GROUP= D

SOIL INFORMATION
MERRIMAC FINE SANDY LOAM
K FACTOR = 0.24
HYDROLOGICAL GROUP= A

SOIL INFORMATION
COLRAINE EXTREMELY STONY FINE SANDY LOAM
K FACTOR = 0.24
HYDROLOGICAL GROUP= A

EXISTING BRIDGE INFORMATION
BUILT 1946
SINGLE SPAN CONCRETE T-BEAM
CONCRETE CAST IN PLACE DECK
44' LENGTH

VT STATE PLANE GRID

N

APPROX. EXISTING R.O.W.

APPROX. EXISTING TOWN R.O.W.

TOWN OF TOPSHAM

ESTATE OF ELSIE O. CILLEY (LATE)
C/O DEBORA MACRITCHIE

TH-70
CHARLES CILLEY ROAD

VT ROUTE 25
TO CORINTH

VT ROUTE 25
TO ORANGE &
US ROUTE 302

296+00
297+00
298+00
299+00
300+00
301+00
52+00
51+00
50+00

HVCTRL 100
HVCTRL 101
HVCTRL 102
HVCTRL 103
HVCTRL 104
HVCTRL 105
HVCTRL 106

15" ACCGMP FLOW

MAILBOX

TELEPHONE PEDESTAL

STONE FILL

WATTS RIVER FLOW

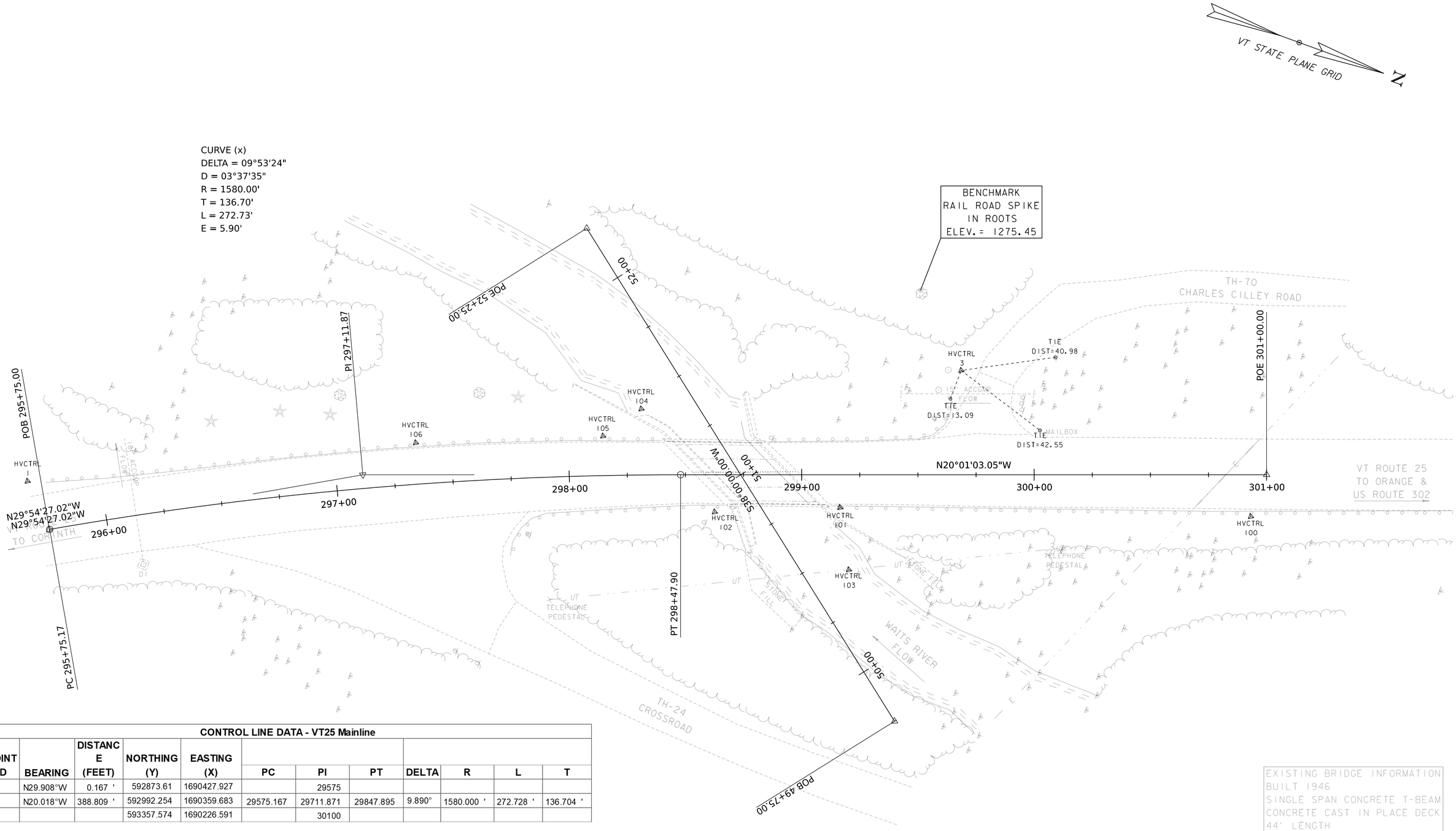
TH-24
CROSSROAD

CZ

BF

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

PROJECT NAME:	TOPSHAM
PROJECT NUMBER:	BF 031-1(13)
FILE NAME: sl9b210epsc.dgn	PLOT DATE: 18-SEP-2023
PROJECT LEADER: C. BURRALL	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. MANN
EXISTING CONDITIONS	SHEET 8 OF 23



CONTROL LINE DATA - VT25 Mainline

POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
1	N29.908°W	0.167 '	592873.61	1690427.927		29575					
2	N20.018°W	388.809 '	592992.254	1690359.683	29575.167	29711.871	29847.895	9.890°	1580.000 '	272.728 '	136.704 '
3			593357.574	1690226.591		30100					

CONTROL LINE DATA - Channel

POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
1A	S38.000°W	250.000 '	593243.481	1690381		0					
1B			593046.478	1690227.085		250					

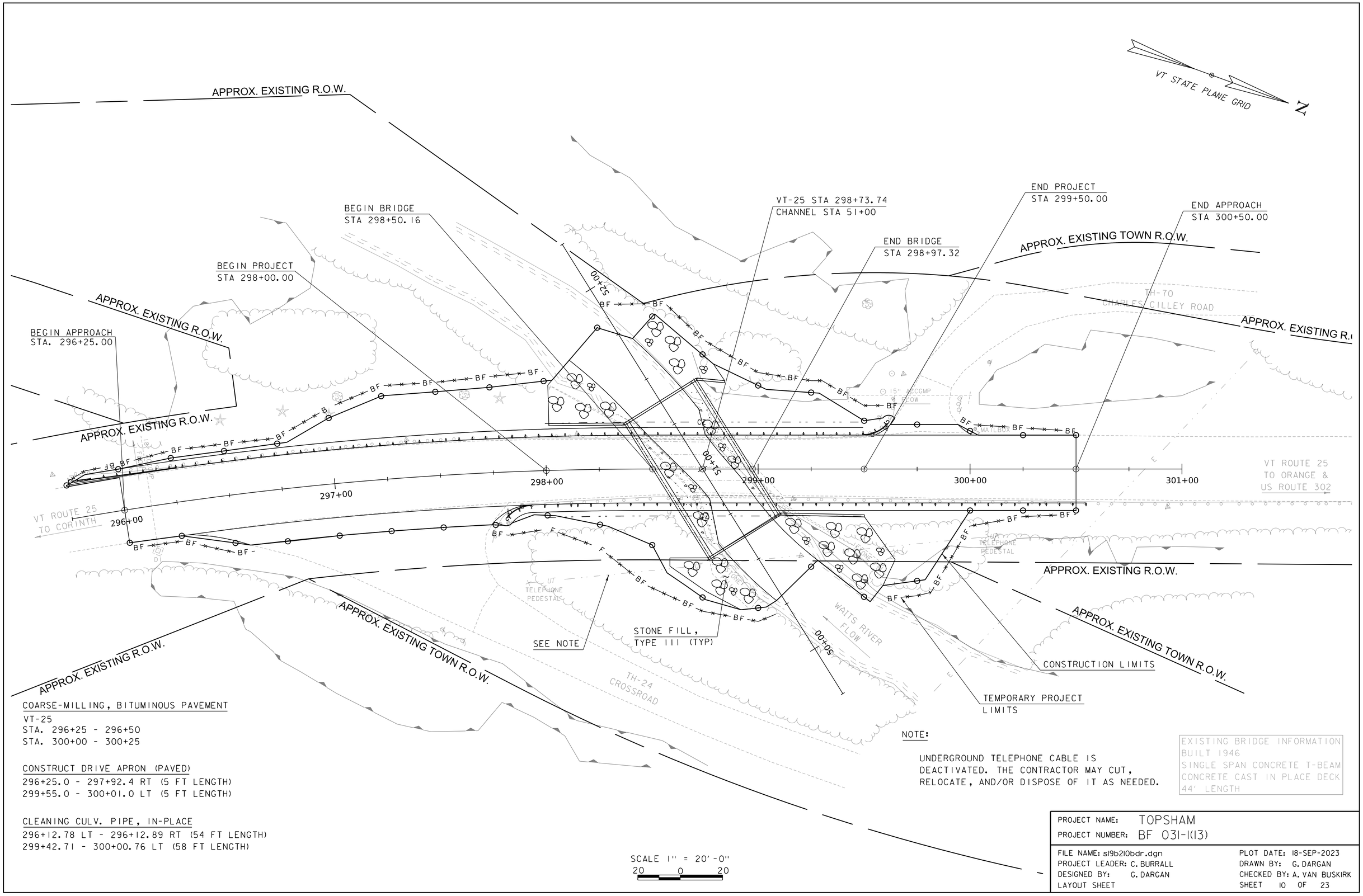
SCALE 1" = 20'-0"
20 0 20

EXISTING BRIDGE INFORMATION
BUILT 1946
SINGLE SPAN CONCRETE T-BEAM
CONCRETE CAST IN PLACE DECK
44' LENGTH

PROJECT NAME: TOPSHAM
PROJECT NUMBER: BF 031-1(13)

FILE NAME: sl9b210align.dgn
PROJECT LEADER: C. BURRALL
DESIGNED BY: G. DARGAN
ALIGNMENT SHEET

PLOT DATE: 18-SEP-2023
DRAWN BY: G. DARGAN
CHECKED BY: A. VAN BUSKIRK
SHEET 9 OF 23



COARSE-MILLING, BITUMINOUS PAVEMENT
VT-25
STA. 296+25 - 296+50
STA. 300+00 - 300+25

CONSTRUCT DRIVE APRON (PAVED)
296+25.0 - 297+92.4 RT (5 FT LENGTH)
299+55.0 - 300+01.0 LT (5 FT LENGTH)

CLEANING CULV. PIPE, IN-PLACE
296+12.78 LT - 296+12.89 RT (54 FT LENGTH)
299+42.71 - 300+00.76 LT (58 FT LENGTH)

NOTE:

UNDERGROUND TELEPHONE CABLE IS DEACTIVATED. THE CONTRACTOR MAY CUT, RELOCATE, AND/OR DISPOSE OF IT AS NEEDED.

EXISTING BRIDGE INFORMATION
BUILT 1946
SINGLE SPAN CONCRETE T-BEAM
CONCRETE CAST IN PLACE DECK
44' LENGTH

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

PROJECT NAME: TOPSHAM
PROJECT NUMBER: BF 031-1(13)

FILE NAME: sl9b210bdr.dgn
PROJECT LEADER: C. BURRALL
DESIGNED BY: G. DARGAN
LAYOUT SHEET

PLOT DATE: 18-SEP-2023
DRAWN BY: G. DARGAN
CHECKED BY: A. VAN BUSKIRK
SHEET 10 OF 23

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 295+76.85 - STA 298+39.85 LT
STA 298+85.21 - STA 299+64.35 LT
STA 297+73.08 - STA 298+66.94 RT
STA 299+12.61 - STA 300+67.99 RT

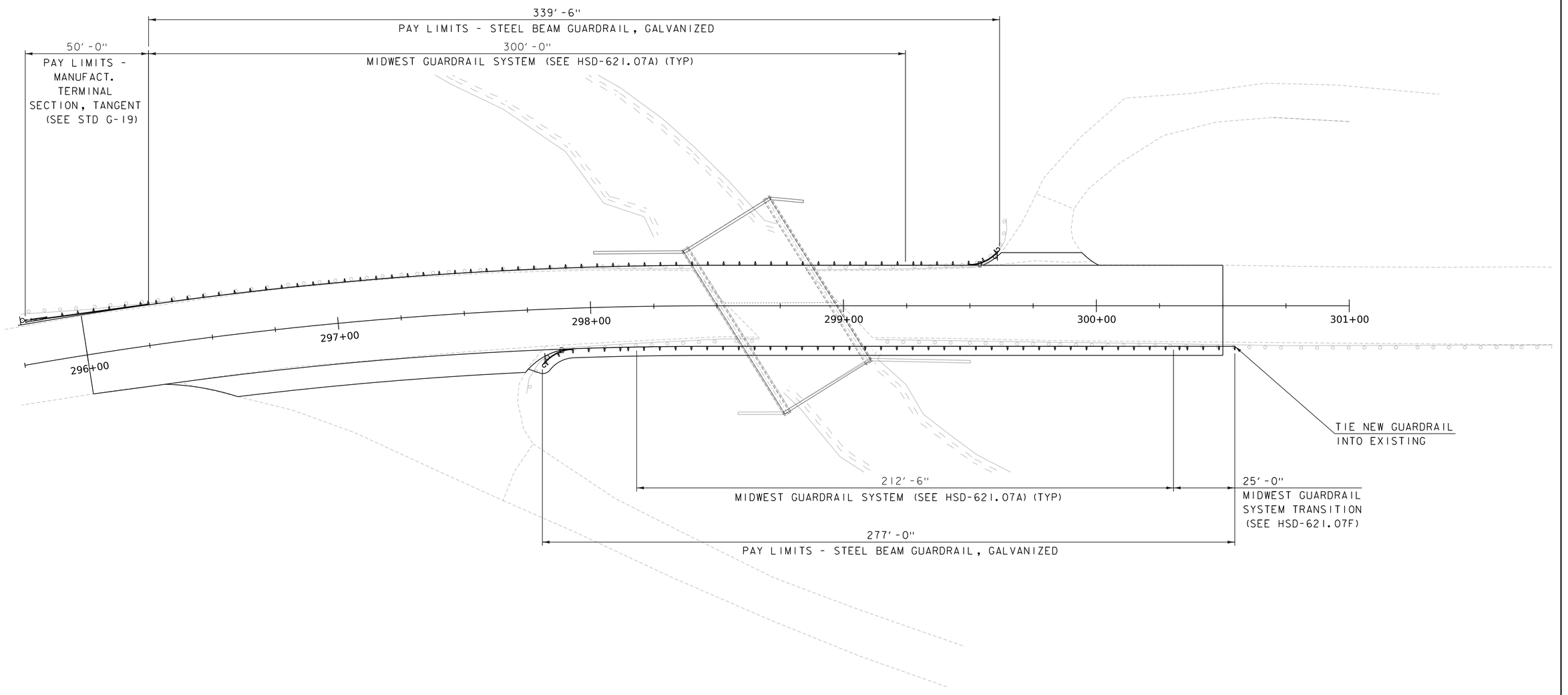
MANUFACTURED TERMINAL SECTION, TANGENT
STA 295+84.32 - STA 296+32.95 LT

STEEL BEAM GUARDRAIL, GALVANIZED
STA. 297+80.22 - 300+67.99 RT
STA. 296+32.95 - 299+61.51 LT

ANCHOR FOR STEEL BEAM RAIL
STA. 297+88.01 RT
STA. 299+53.86 LT

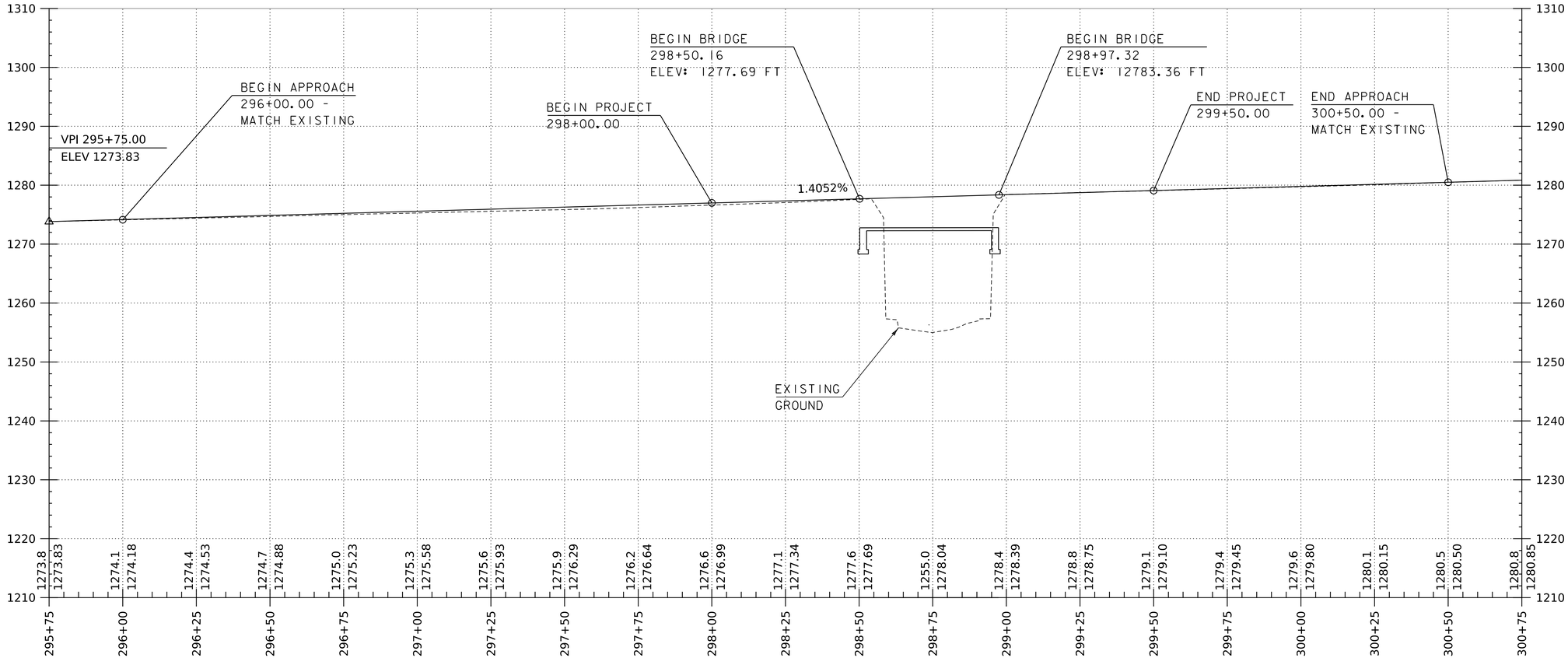
DELINEATOR WITH STEEL POST
STA. 295+77.00 LT
STA. 297+82.00 RT
STA. 299+00.00 LT

VT STATE PLANE GRID
N



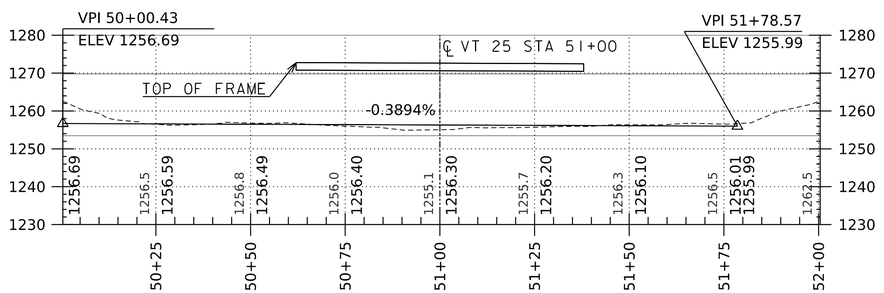
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME:	TOPSHAM
PROJECT NUMBER:	BF 031-1(13)
FILE NAME: sl9b210rail.dgn	PLOT DATE: 18-SEP-2023
PROJECT LEADER: C. BURRALL	DRAWN BY: A. VAN BUSKIRK
DESIGNED BY: G. DARGAN	CHECKED BY: G. DARGAN
RAIL LAYOUT	SHEET 11 OF 23



VT 25 PROFILE

HOR. SCALE 1" = 20'-0"
VER. SCALE 1" = 10'-0"



CHANNEL PROFILE

HOR. SCALE 1" = 20'-0"
VER. SCALE 1" = 10'-0"

NOTES

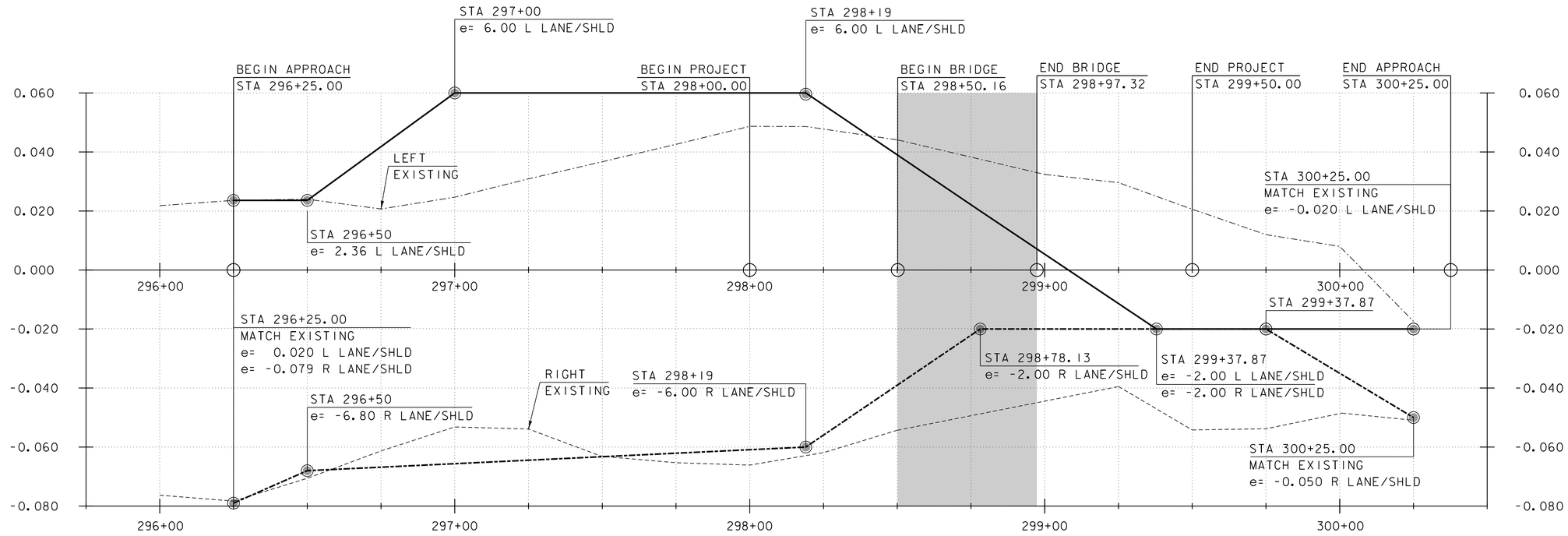
1. ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.

2. ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG PROPOSED CENTERLINE.

PROJECT NAME: TOPSHAM
PROJECT NUMBER: BF 031-1(13)

FILE NAME: sl9b210profile.dgn
PROJECT LEADER: C. BURRALL
DESIGNED BY: G. DARGAN
PROFILES

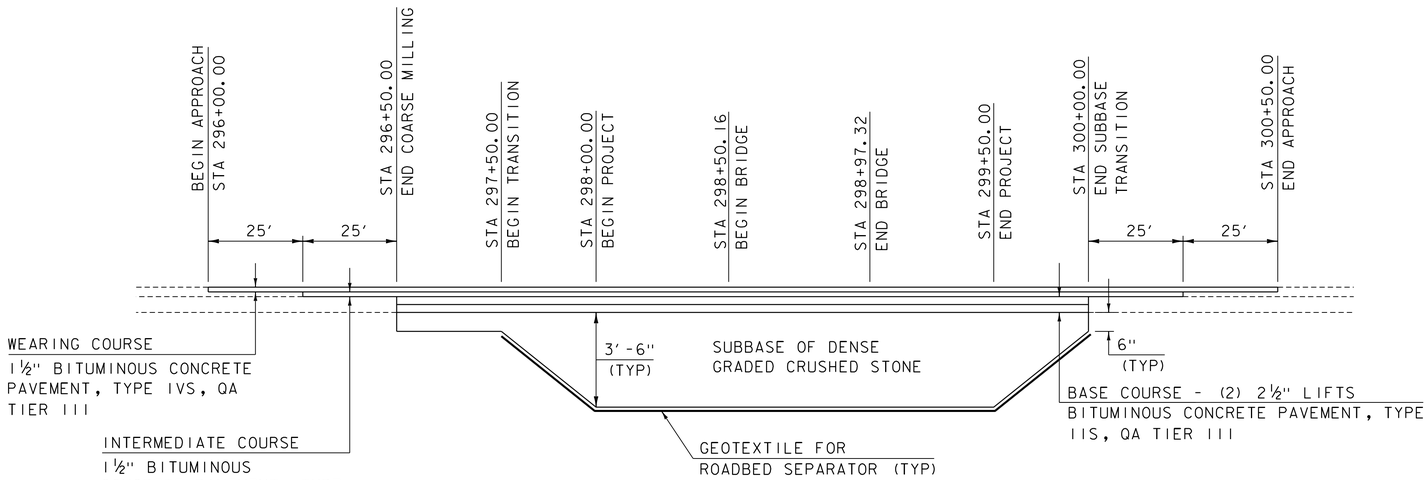
PLOT DATE: 18-SEP-2023
DRAWN BY: G. DARGAN
CHECKED BY: A. MANN
SHEET 12 OF 23



VT 25 SUPERELEVATION, 296+25 - 300+25

VERT: 1" = 2.00%
HOR: 1" = 20'

PROJECT NAME:	TOPSHAM
PROJECT NUMBER:	BF 031-1(13)
FILE NAME: sl9b210superelevation.dgn	PLOT DATE: 18-SEP-2023
PROJECT LEADER: C. BURRALL	DRAWN BY: A. VAN BUSKIRK
DESIGNED BY: G. DARGAN	CHECKED BY: G. DARGAN
SUPERELEVATION DIAGRAM	SHEET 13 OF 23



MATERIAL TRANSITION

NOT TO SCALE

PROJECT NAME:	TOPSHAM
PROJECT NUMBER:	BF 031-1(13)
FILE NAME: sl9b210profile.dgn	PLOT DATE: 18-SEP-2023
PROJECT LEADER: C. BURRALL	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. VAN BUSKIRK
MATERIAL TRANSITION	SHEET 14 OF 23

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.Q.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

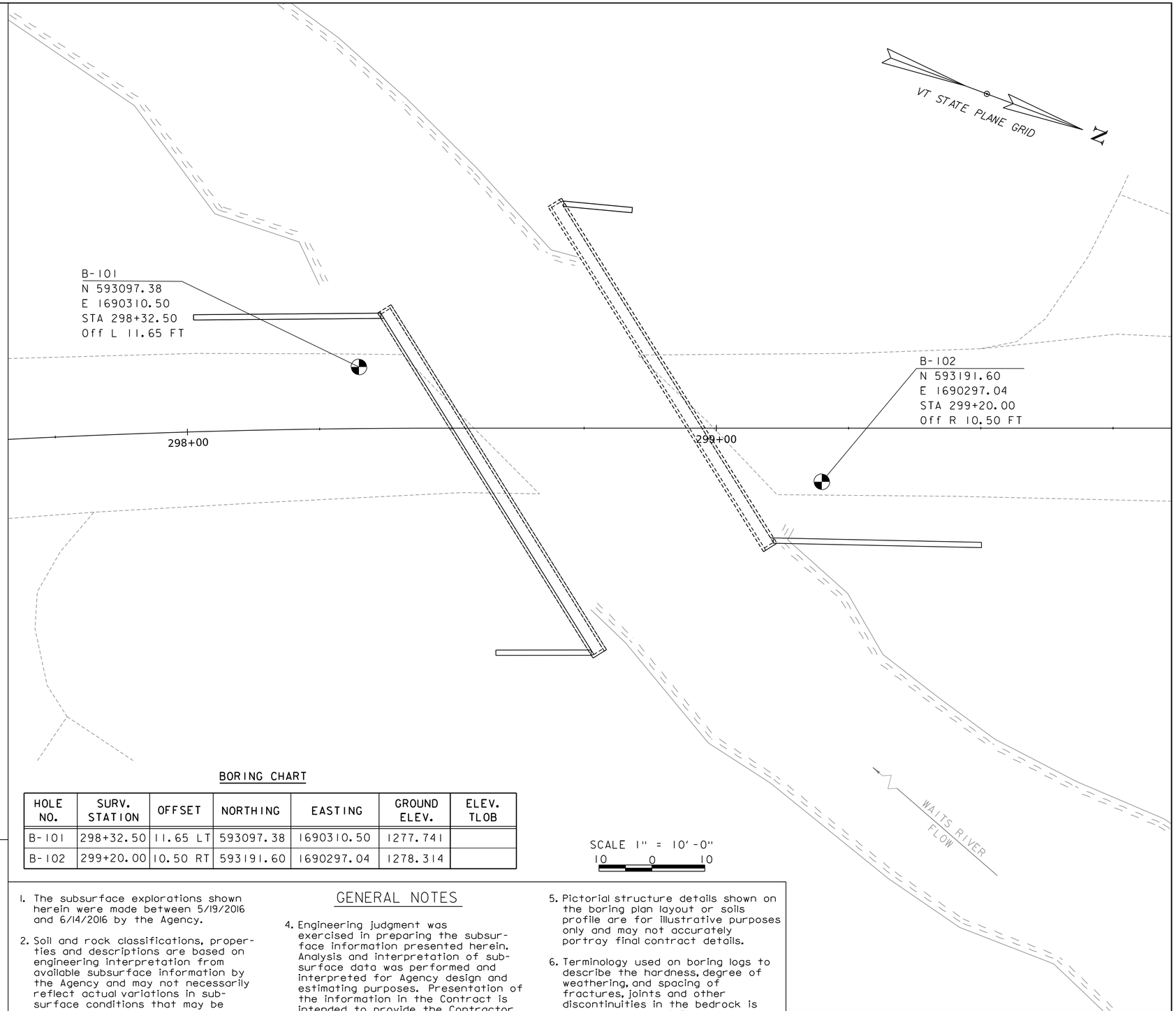
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

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 1⅜" 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 1⅛"
BX	Core Size 1⅝"
NX	Core Size 2 ⅛"
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
%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
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		



BORING CHART

HOLE NO.	SURV. STATION	OFFSET	NORTHING	EASTING	GROUND ELEV.	ELEV. TLOB
B-101	298+32.50	11.65 LT	593097.38	1690310.50	1277.741	
B-102	299+20.00	10.50 RT	593191.60	1690297.04	1278.314	

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

DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.

BOULDER - A rock fragment with an average dimension > 12 inches.

COBBLE - Rock fragments with an average dimension between 3 and 12 inches.

GRAVEL - Rounded particles of rock < 3" and > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

HARDPAN - Extremely dense soil, cemented layer, not softened when wet.

MUCK - Soft organic soil (containing > 10% organic material.

MOISTURE CONTENT - Weight of water divided by dry weight of soil.

FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.

DIP - Inclination of bed with a horizontal plane.

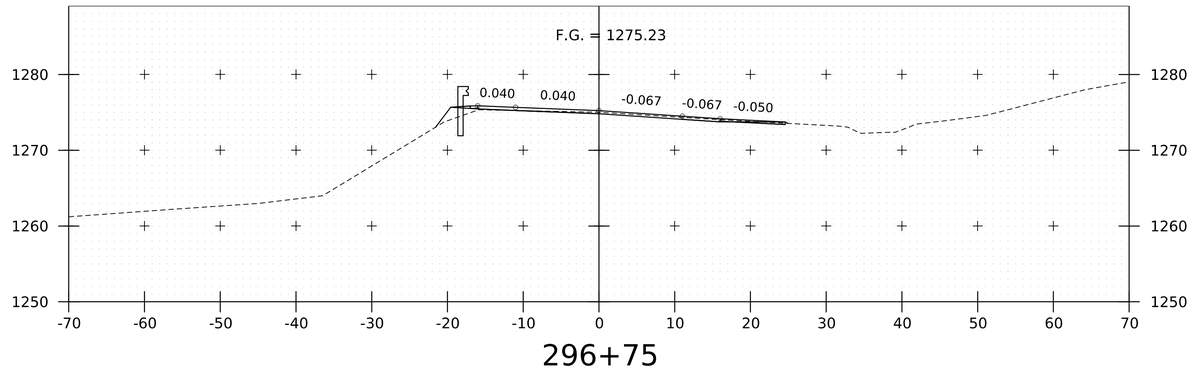
GENERAL NOTES

1. The subsurface explorations shown herein were made between 5/19/2016 and 6/14/2016 by the Agency.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

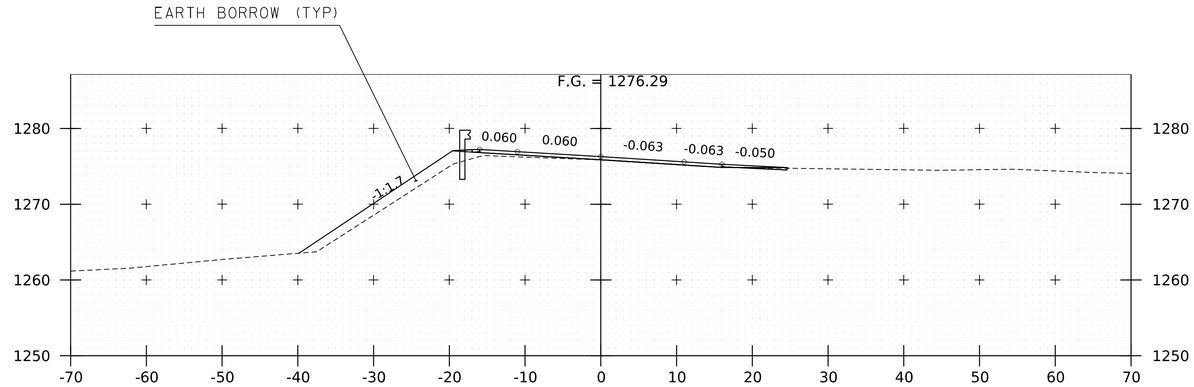
PROJECT NAME: TOPSHAM
PROJECT NUMBER: BF 031-1(13)

FILE NAME: sl9b210boring.dgn
PROJECT LEADER: C. BURRALL
DESIGNED BY: G. DARGAN
BORING LAYOUT

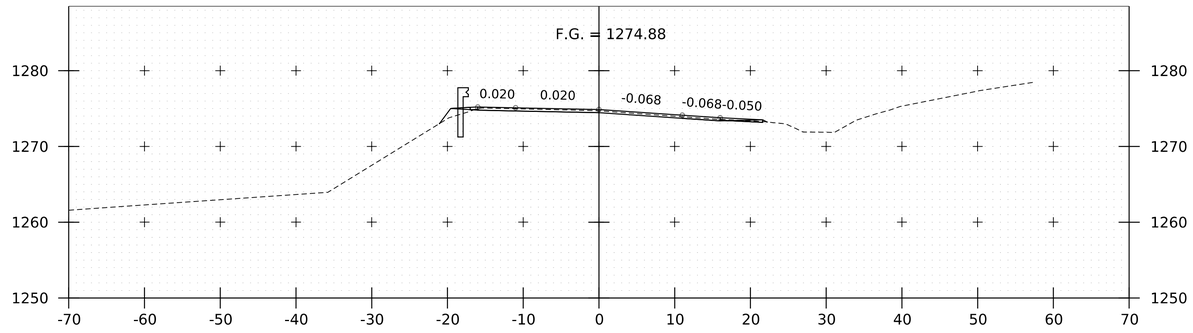
PLOT DATE: 18-SEP-2023
DRAWN BY: G. DARGAN
CHECKED BY: A. MANN
SHEET 15 OF 23



296+75



297+50



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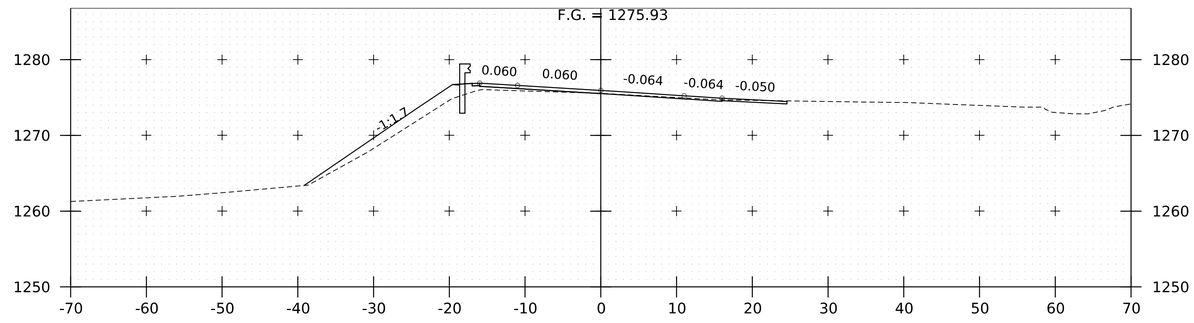
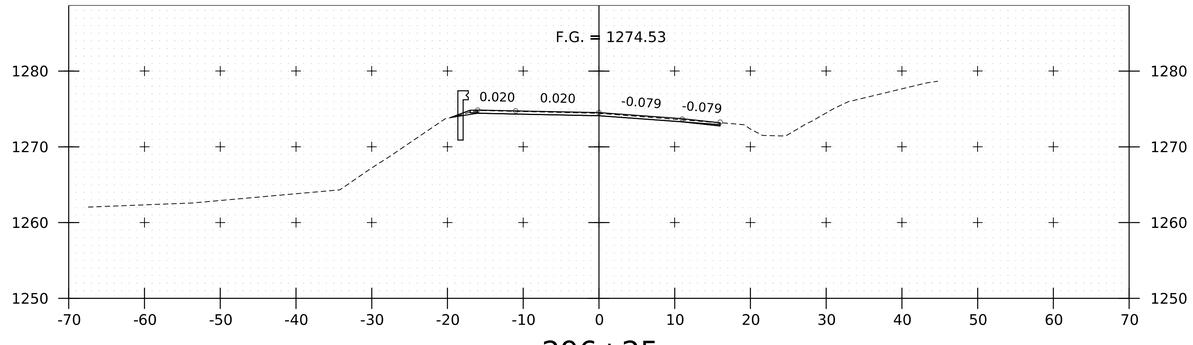
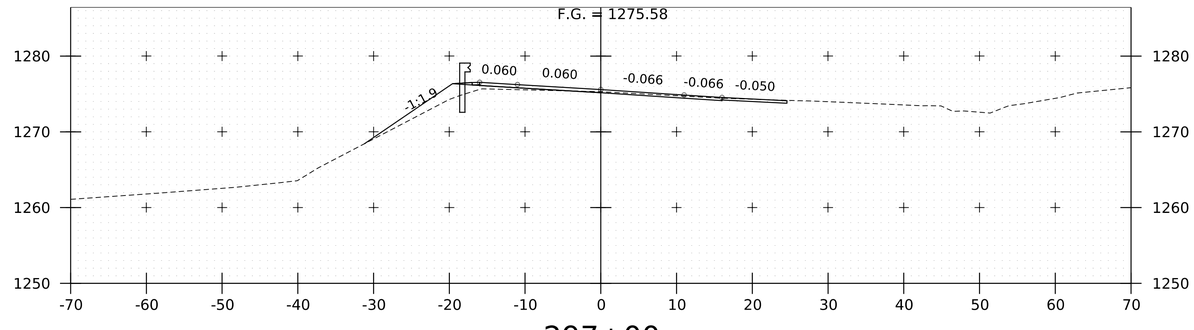


297+25



296+25

STA 296+25.00
BEGIN APPROACH
MATCH EXISTING

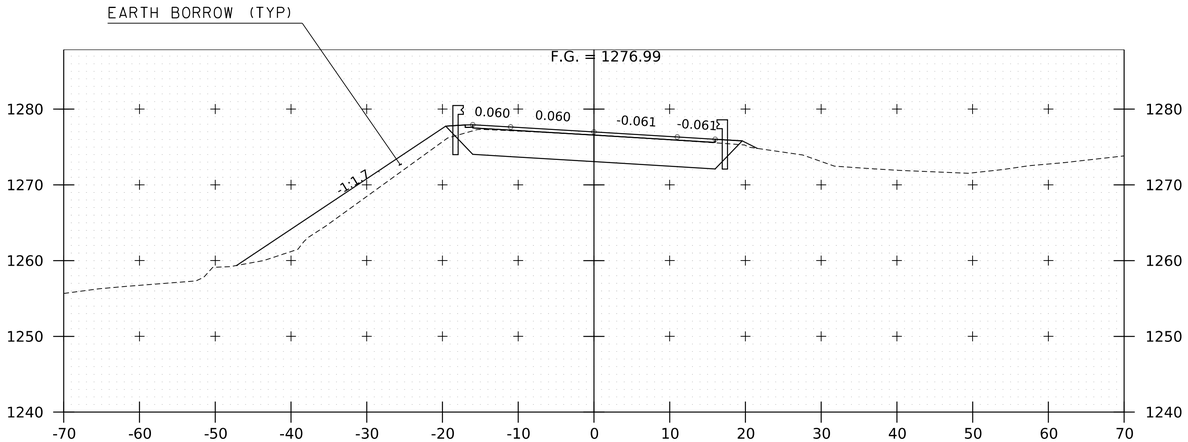


297+00

PROJECT NAME: TOPSHAM
PROJECT NUMBER: BF 031-1(13)

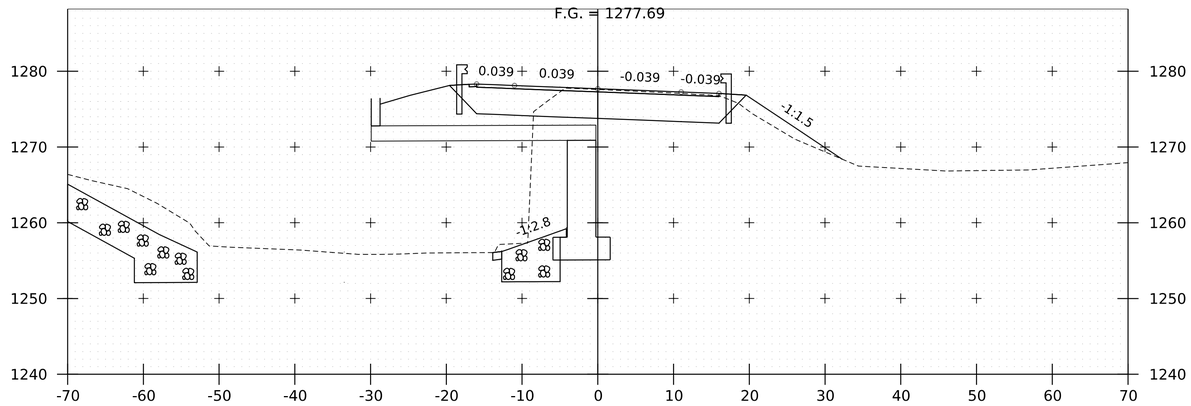
FILE NAME: sl9b210xsVT25.dgn
PROJECT LEADER: C. BURRALL
DESIGNED BY: G. DARGAN
VT 25 CROSS SECTIONS 1

PLOT DATE: 18-SEP-2023
DRAWN BY: G. DARGAN
CHECKED BY: A. MANN
SHEET 16 OF 23



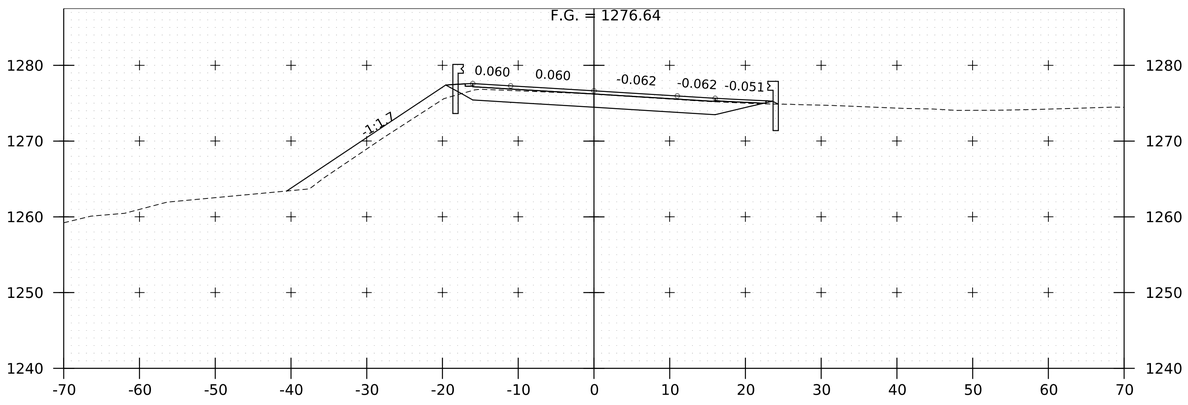
298+00

STA 298+00.00
BEGIN PROJECT

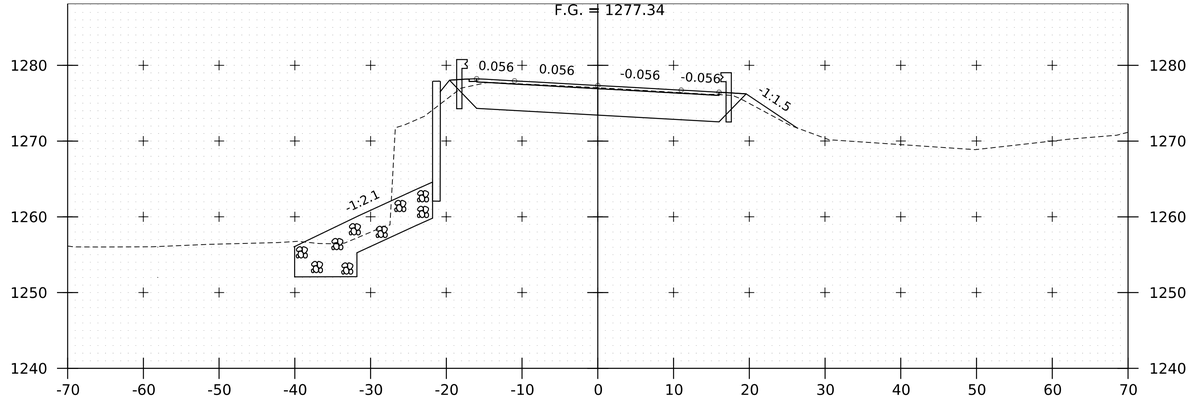


298+50

STA 298+50.16
BEGIN BRIDGE



297+75

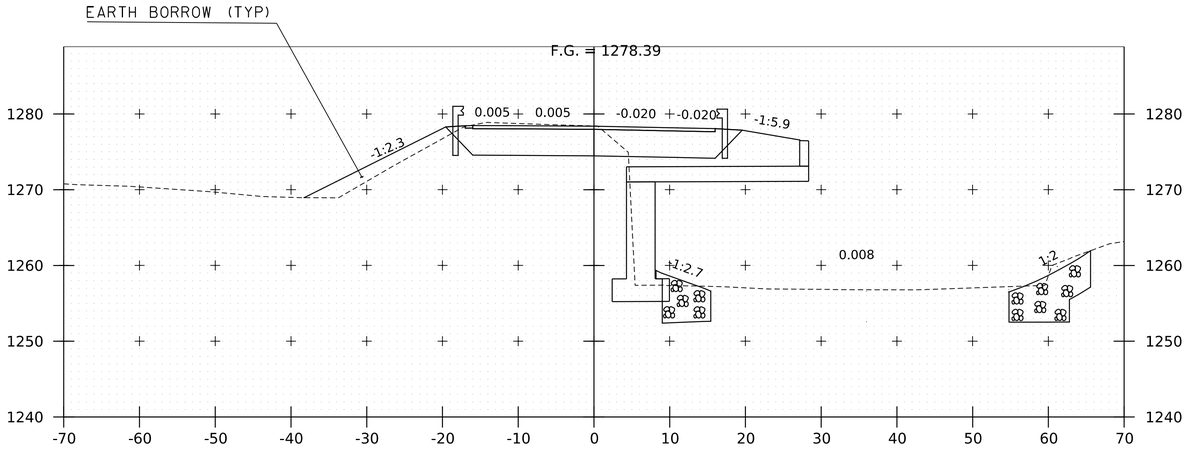


298+25

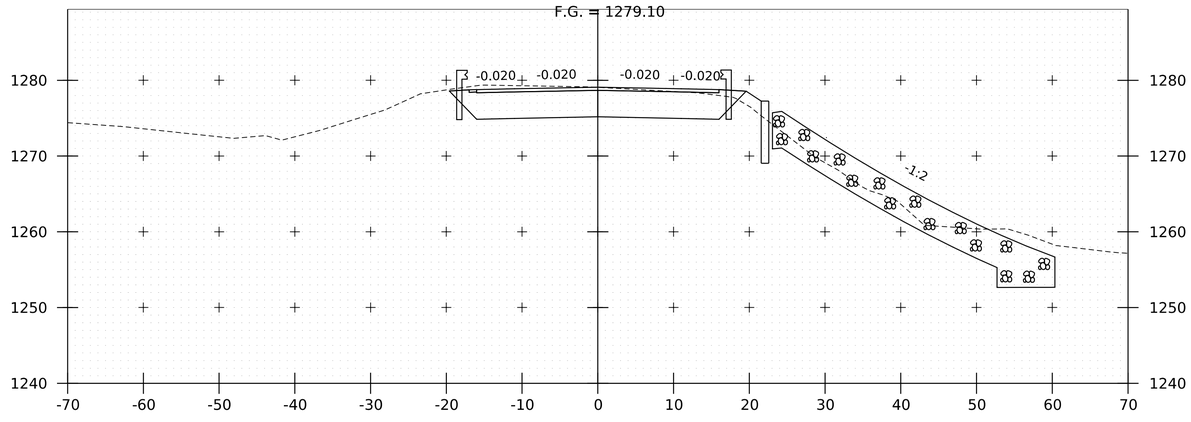
PROJECT NAME: TOPSHAM
PROJECT NUMBER: BF 031-1(13)

FILE NAME: sl9b210xsVT25.dgn
PROJECT LEADER: C. BURRALL
DESIGNED BY: G. DARGAN
VT 25 CROSS SECTIONS 2

PLOT DATE: 18-SEP-2023
DRAWN BY: G. DARGAN
CHECKED BY: A. MANN
SHEET 17 OF 23

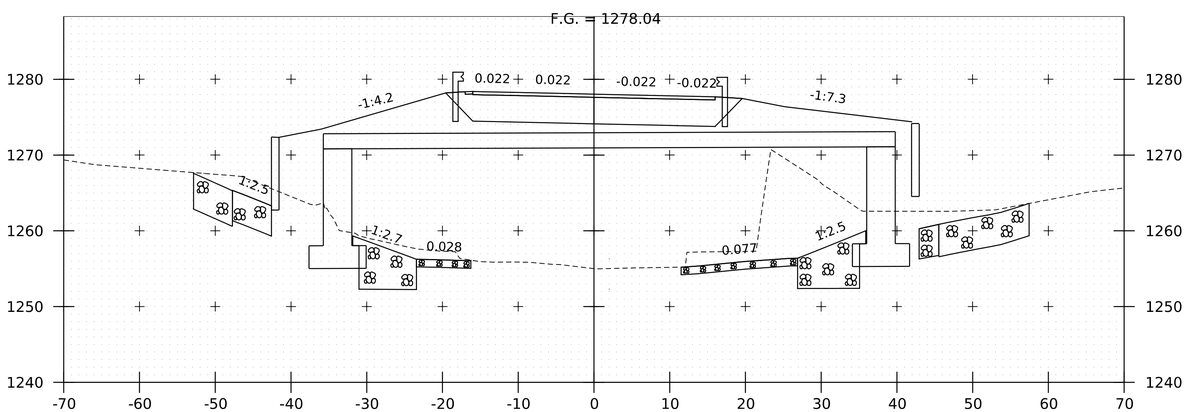


299+00



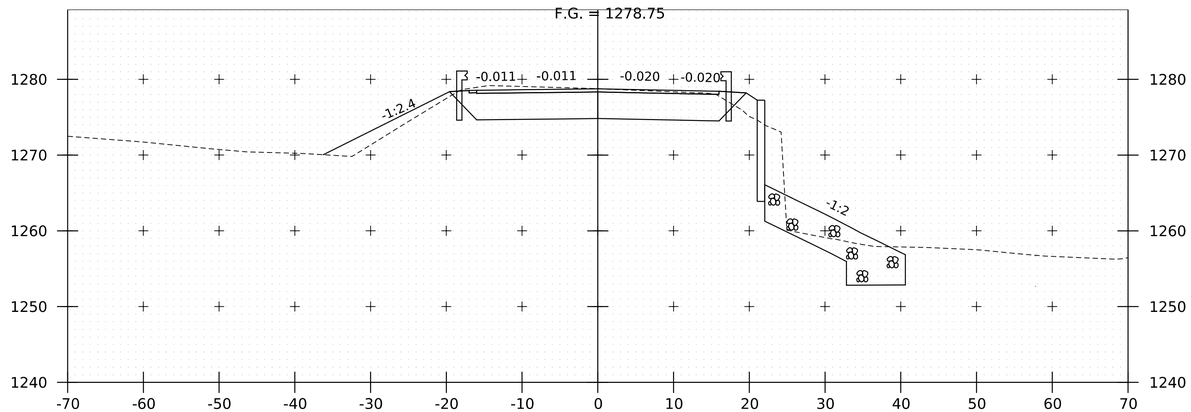
299+50

STA 299+50.00
END PROJECT



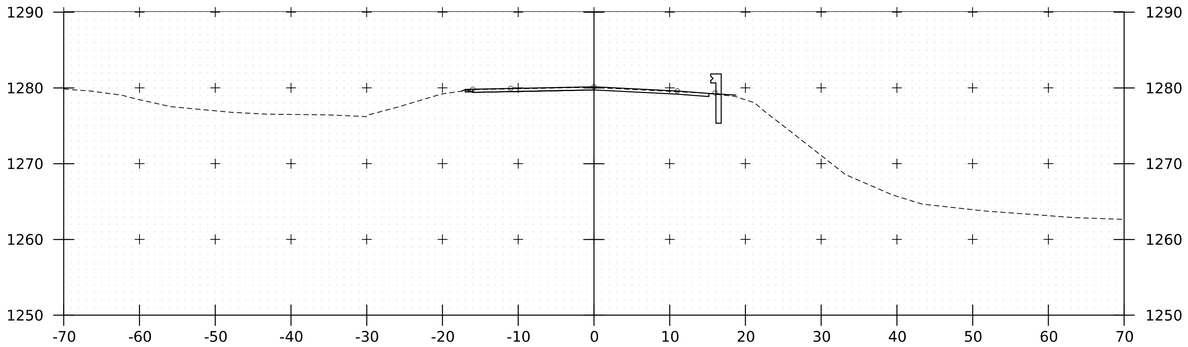
298+75

STA 298+97.32
END BRIDGE



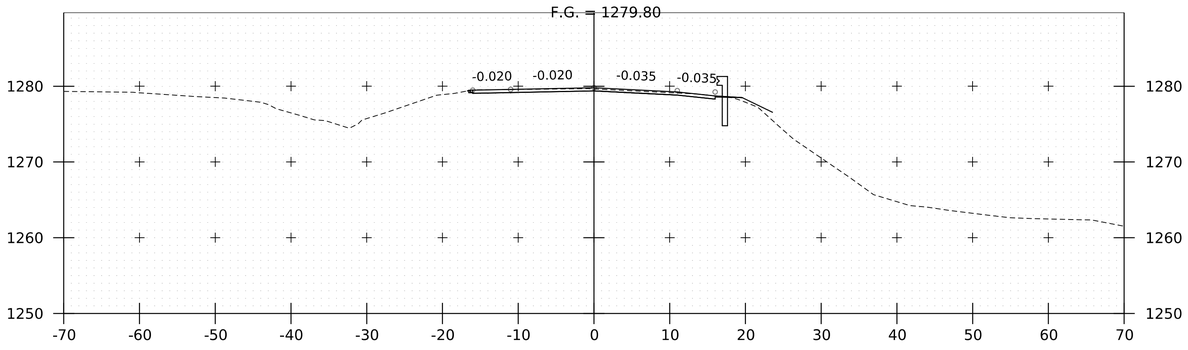
299+25

PROJECT NAME:	TOPSHAM
PROJECT NUMBER:	BF 031-1(13)
FILE NAME: sl9b210xsVT25.dgn	PLOT DATE: 18-SEP-2023
PROJECT LEADER: C. BURRALL	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. MANN
VT 25 CROSS SECTIONS 3	SHEET 18 OF 23

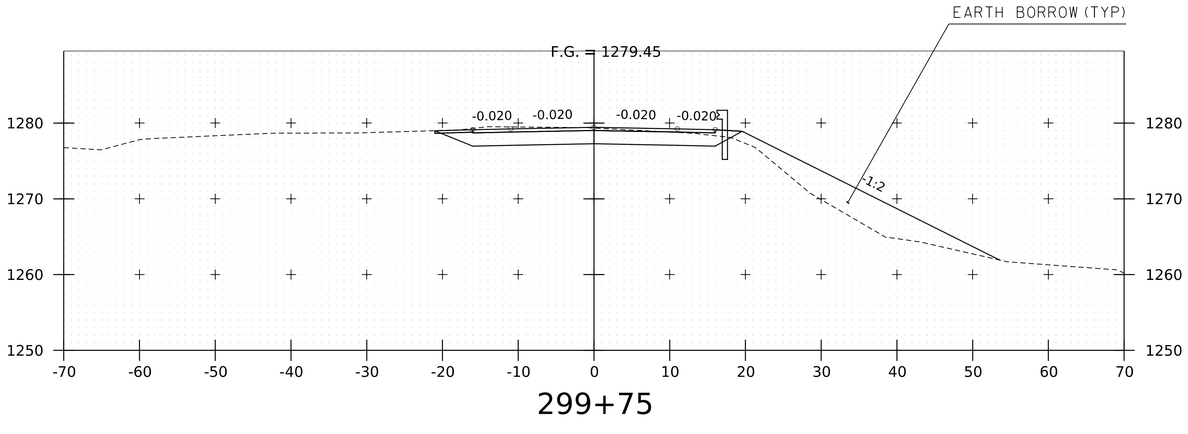


300+25

STA 300+25.00
END APPROACH
MATCH EXISTING

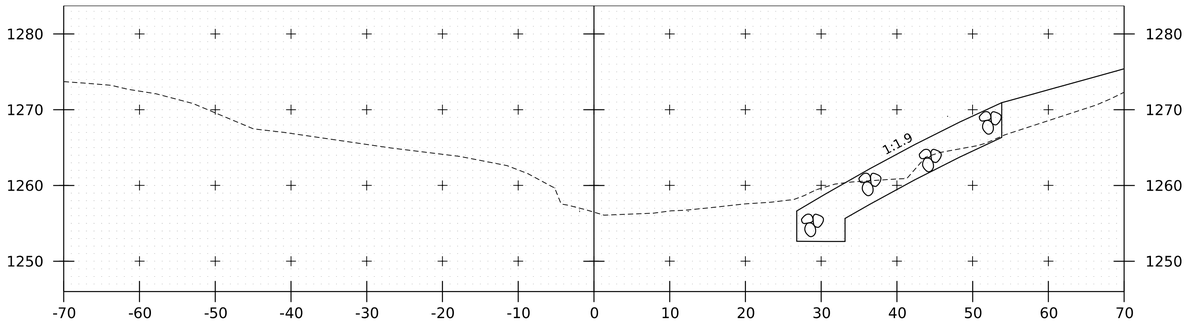


300+00

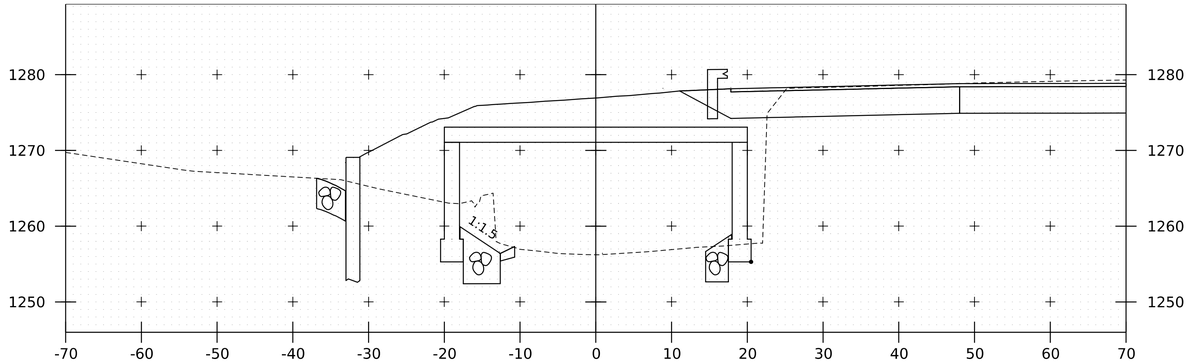


299+75

PROJECT NAME:	TOPSHAM
PROJECT NUMBER:	BF 031-1(13)
FILE NAME: sl9b210xsVT25.dgn	PLOT DATE: 18-SEP-2023
PROJECT LEADER: C. BURRALL	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. MANN
VT 25 CROSS SECTIONS 4	SHEET 19 OF 23



50+25



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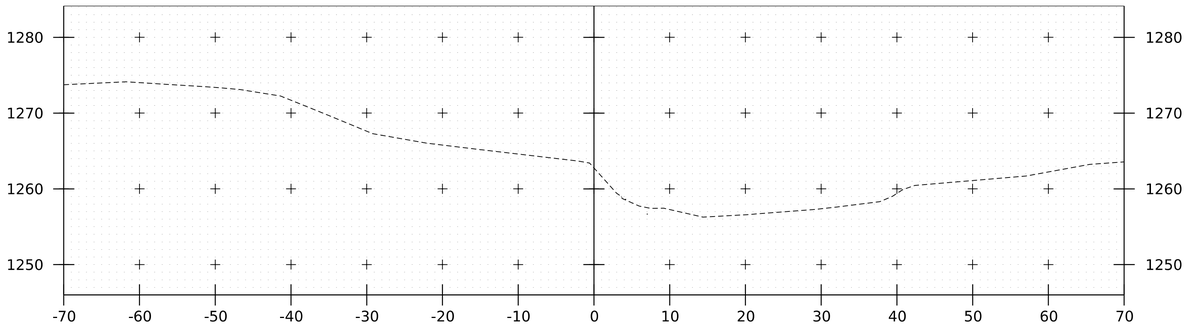

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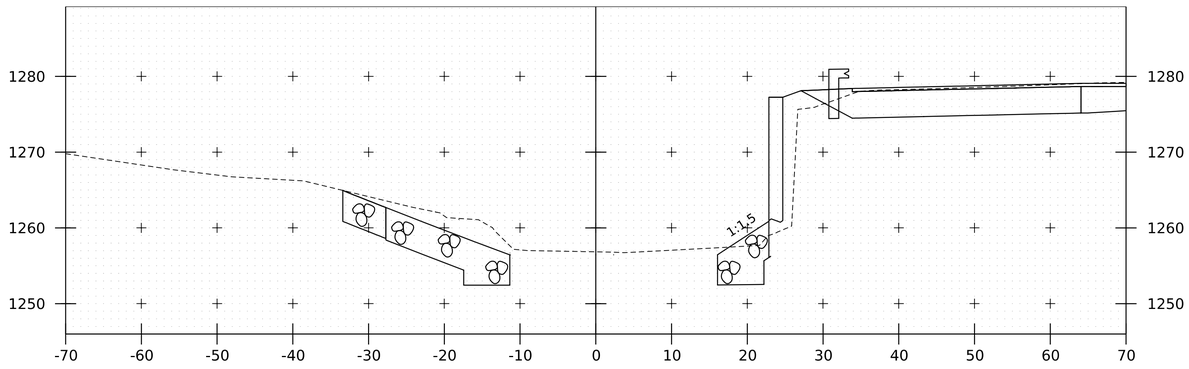

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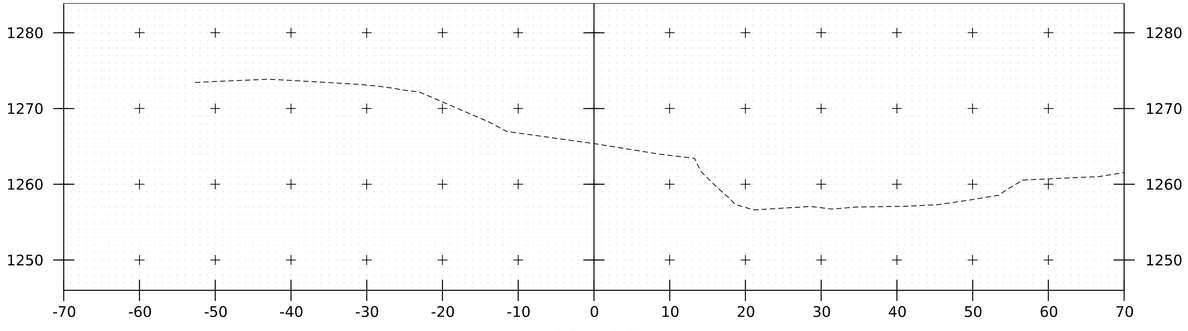
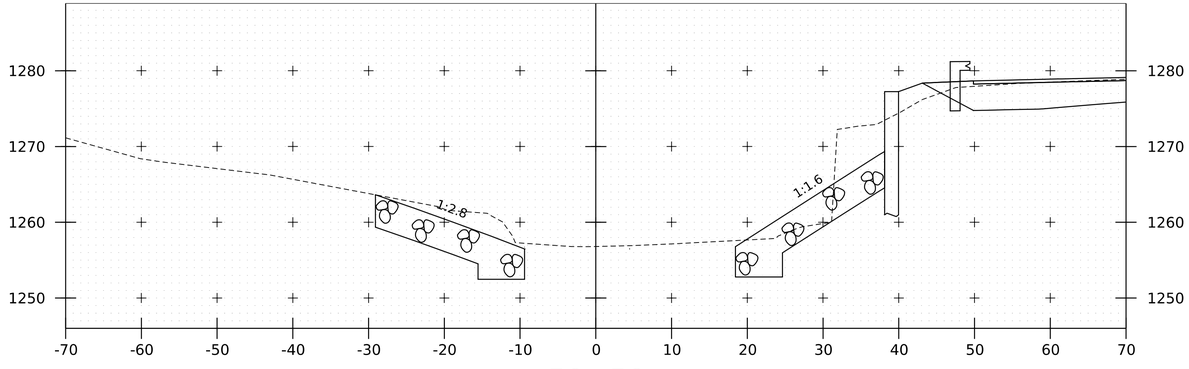
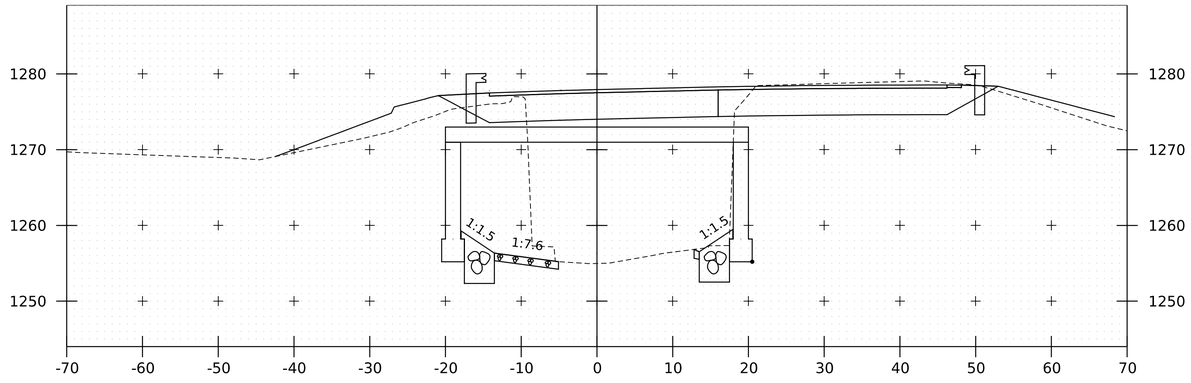


49+75



50+50

PROJECT NAME:	TOPSHAM
PROJECT NUMBER:	BF 031-1(13)
FILE NAME: s19b210xsChannel.dgn	PLOT DATE: 18-SEP-2023
PROJECT LEADER: C. BURRALL	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. VAN BUSKIRK
CHANNEL CROSS SECTIONS 1	SHEET 20 OF 23



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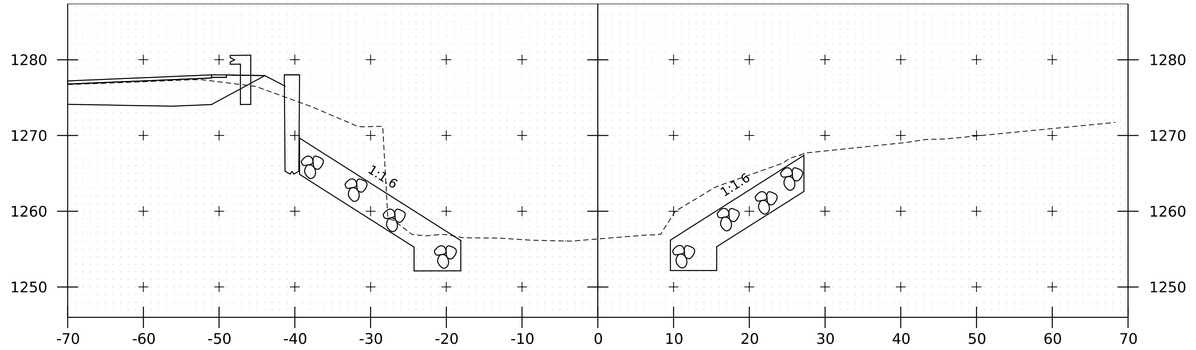
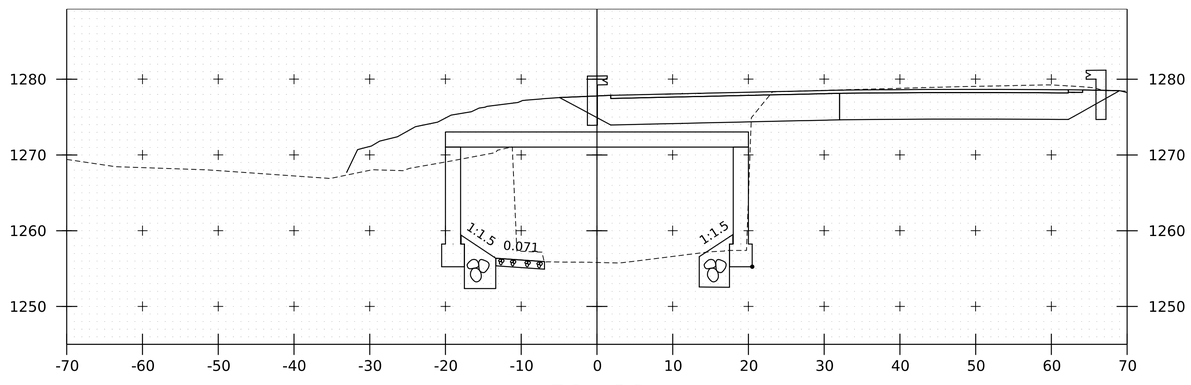
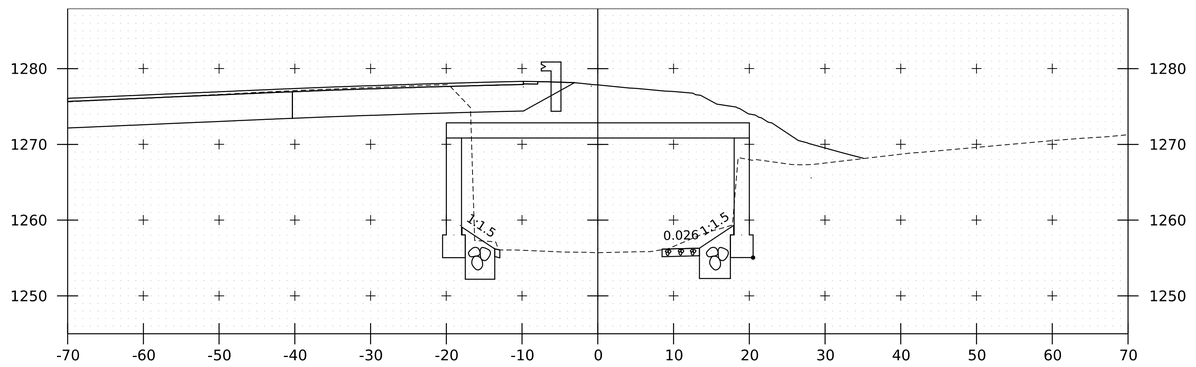


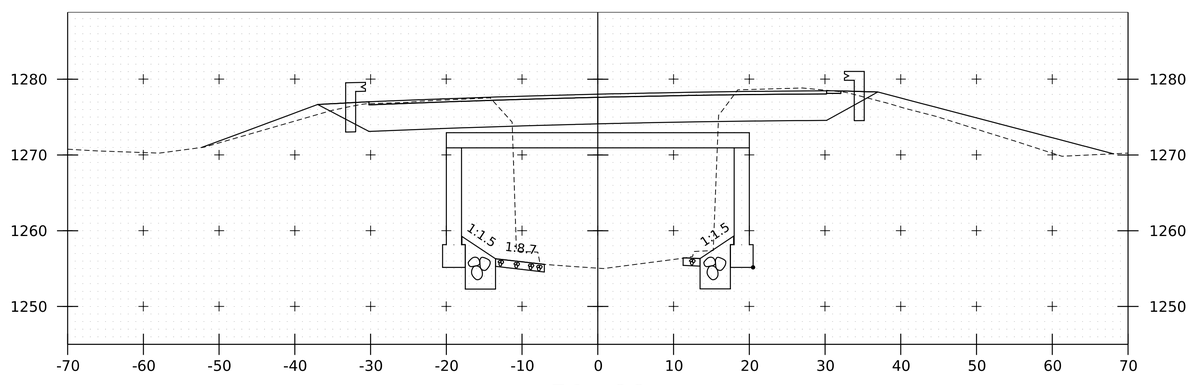
51+50



50+80

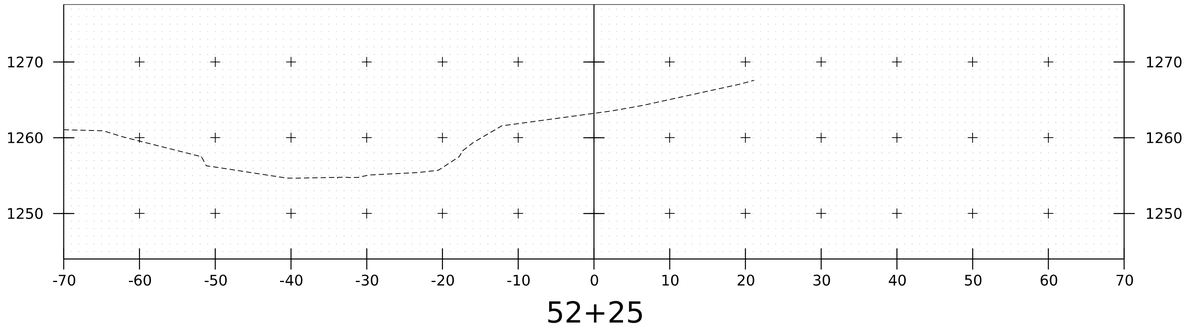


51+25



51+00

PROJECT NAME:	TOPSHAM
PROJECT NUMBER:	BF 031-1(13)
FILE NAME: s19b210xsChannel.dgn	PLOT DATE: 18-SEP-2023
PROJECT LEADER: C. BURRALL	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. VAN BUSKIRK
CHANNEL CROSS SECTIONS 2	SHEET 21 OF 23



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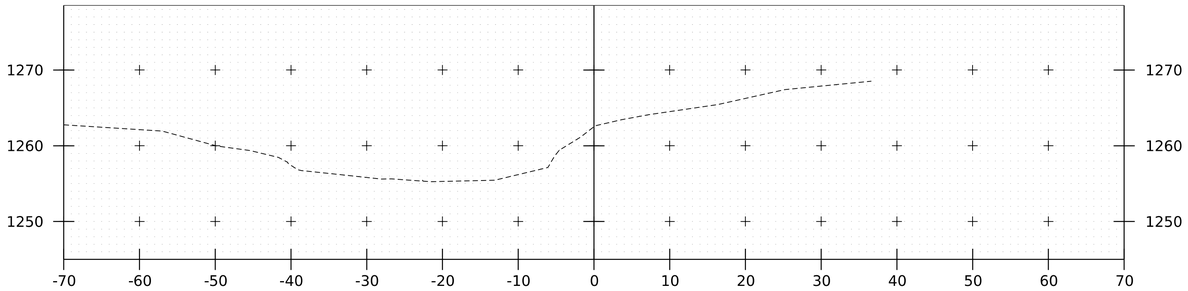
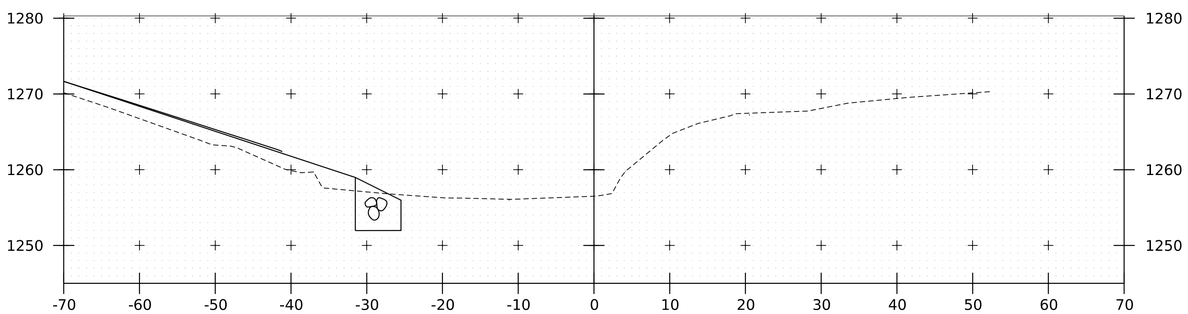


52+00



51+75

PROJECT NAME:	TOPSHAM
PROJECT NUMBER:	BF 031-1(13)

FILE NAME: sl9b210xsChannel.dgn	PLOT DATE: 18-SEP-2023
PROJECT LEADER: C. BURRALL	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. VAN BUSKIRK
CHANNEL CROSS SECTIONS 3	SHEET 22 OF 23

VAOT URBAN LAWN MIX

LBS/AC						
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
42.5%	34	68	CREEPING RED FESCUE	FESTUCA RUBRA X RUBRA	85%	98%
20.0%	16	32	PERENNIAL RYE GRASS	LOLIUM PERENNE	90%	95%
32.5%	26	52	KENTUCKY BLUE GRASS	POA PRATENSIS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	80	160				

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 URBAN AREA MIX SHALL NOT BE USED IN WETLANDS OR ANY WATERS OF THE STATE OF VERMONT.
2. SEED MIX: USE ONLY AS INDICATED IN THE PLANS.
3. SEED MIX: 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 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 651FOR SEED (PAY ITEM 651.15)

REVISIONS	
JANUARY 22, 2015	WHF

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

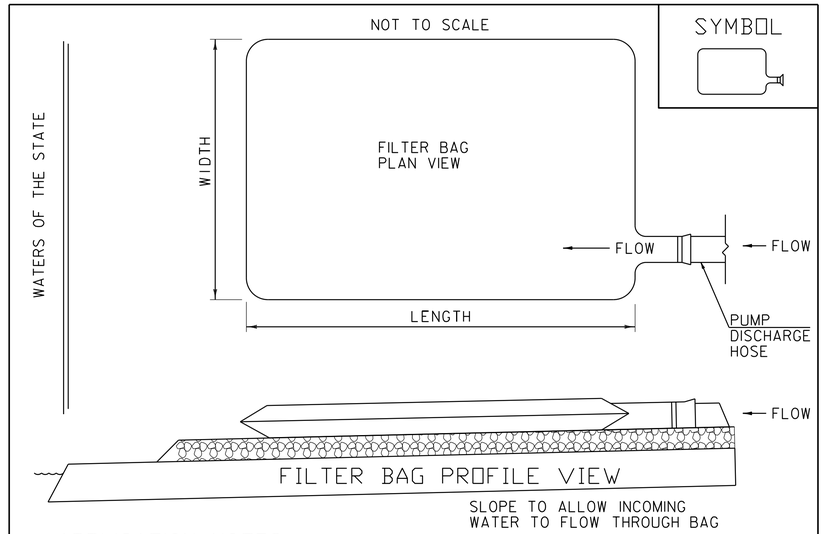
1. SEED MIX: THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER ON WHICH SEED MIX TO USE.
2. SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT 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 651FOR SEED (PAY ITEM 651.15)

REVISIONS	
JANUARY 12, 2015	WHF



APPLICATION NOTES:

THE PRIMARY PURPOSE OF THE FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS WHILE ALLOWING WATER TO PASS THROUGH THE BAG.

GENERAL NOTES:

1. FILTER BAG SHALL BE INSTALLED ON A VEGETATED SLOPE TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
2. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION EFFICIENCY.
3. FILTER BAG SHALL BE LOCATED A MINIMUM OF 50 FEET FROM WATERS OF THE STATE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
4. THE NECK OF THE FILTER BAG SHALL BE STRAPPED TIGHTLY TO THE DISCHARGE HOSE.
5. A FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A REASONABLE RATE.
6. FILTER BAG SHALL BE DISPOSED OF AS APPROVED IN THE EPSC PLAN OR AS DIRECTED BY THE ENGINEER.

FILTER BAG

THIS ITEM SHALL BE PAID FOR UNDER ITEM 653.45 FILTER BAG

REVISIONS	
SEPTEMBER 18, 2007	WHF
DECEMBER 13, 2007	WHF

PROJECT NAME: TOPSHAM
PROJECT NUMBER: STP DECK(50)

FILE NAME: sl9b210epsc_det.dgn
PROJECT LEADER: C. BURRALL
DESIGNED BY: G. DARGAN
EPSC DETAILS

PLOT DATE: $$$$DATE$$$
DRAWN BY: G. DARGAN
CHECKED BY: C. BURRALL
SHEET $S#$ OF $T#$