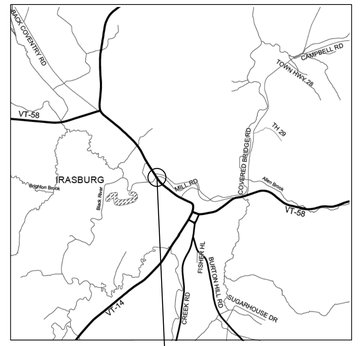
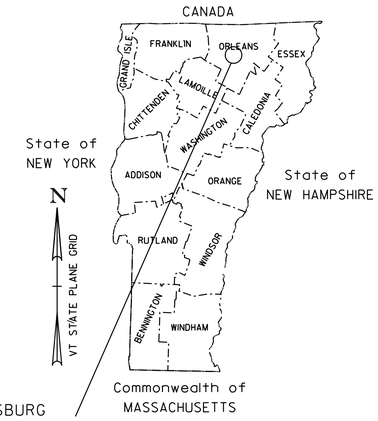
REVIEWER NOTES:

1. PRELIMINARY DESIGN AND GEOTECHNICAL WORK SUGGEST THAT A AN INTEGEGRAL ABUTMENT BRIDGE FOUNDED ON DEEP PILES IS THE BRIDGE TYPE MOST SUITED FOR THIS LOCATION. EXPLORATORY BORINGS SHOW LARGE, SUBSURFACE BOULDERS. THE DESIGN TEAM WILL WORK TO MITIGATE RISKS ASSOCIATED WITH DRIVING DEEP PILES IN SUBSURFACE CONDITIONS WHERE BOULDERS ARE PRESENT.

2. SIGNIFICANT STONE FILL HAS BEEN PLACED AROUND THE EXISTING STRUCTURE. RECORD PLANS WILL BE INCLUDED IN THE CONTRACT PLAN SET FOR THE CONTRACTOR'S REFERENCE.

STATE OF VERMONT
AGENCY OF TRANSPORTATION





IRASBURG
STP DECK (50)

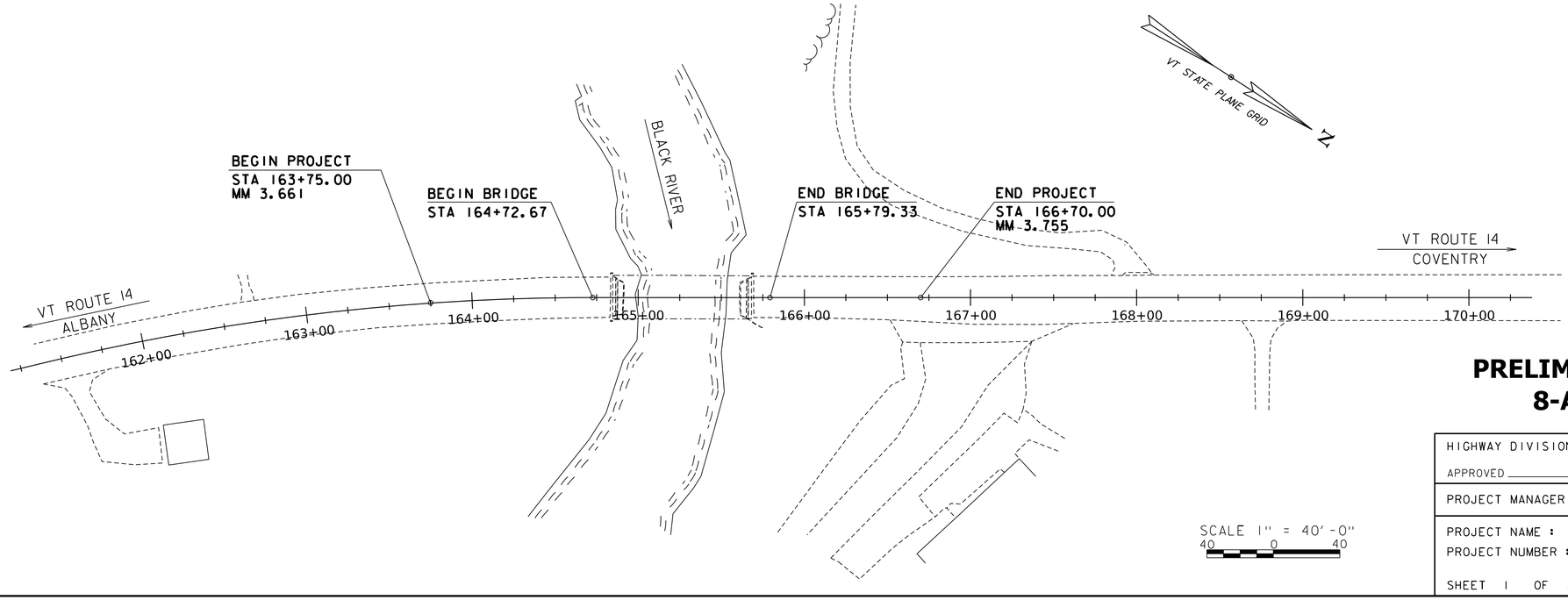
PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF IRASBURG
COUNTY OF ORLEANS

ROUTE NO: VT RT 14, MAJOR COLLECTOR BRIDGE NO: 124

PROJECT LOCATION: LOCATED IN THE TOWN OF IRASBURG, VT ON VT RT 14, APPROXIMATELY 0.40 MILES NORTH OF THE JUNCTION WITH VT RT 58.

PROJECT DESCRIPTION: CONSTRUCTION OF A NEW BRIDGE WITH RELATED ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE: 106.66 FEET
LENGTH OF ROADWAY: 188.34 FEET
LENGTH OF PROJECT: 295.0 FEET



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON APRIL 13, 2018 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 2	
SURVEYED BY :	R. GILMAN
SURVEYED DATE :	12/23/2019
DATUM	
VERTICAL	NAD8 (2011)
HORIZONTAL	NAVD88

PRELIMINARY PLANS
8-AUG-2023

HIGHWAY DIVISION, CHIEF ENGINEER

APPROVED _____ DATE _____

PROJECT MANAGER : J.B. McCARTHY, P.E.

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

SHEET 1 OF 34 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

INDEX OF SHEETS

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T-28	CONSTRUCTION SIGN DETAILS	08-06-2012
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T-30	CONSTRUCTION SIGN DETAILS	02-17-2022
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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
2023	2700	310	55	13.4	270
2043	3000	350	55	17.9	400

20 year ESAL for flexible pavement from 2023 to 2043 : 1997000
40 year ESAL for flexible pavement from 2023 to 2063 : 4377000
Design Speed : 40 mph

AS BUILT "REBAR" DETAIL

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

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: February 23, 2023

DRAINAGE AREA : 104 square miles
CHARACTER OF TERRAIN : Hilly to flat rural watershed
STREAM CHARACTERISTICS : Meandering with wide floodplain
NATURE OF STREAMBED : Silt, sand, and gravel with small cobbles

PEAK FLOW DATA - ANNUAL EXCEEDANCE PROBABILITY (AEP)

43% =	1,900 cfs	2% =	3,800 cfs
10% =	2,800 cfs	1% =	4,200 cfs
4% =	3,400 cfs	0.2% =	4,700 cfs

NATURAL STREAM VELOCITY : @ 2% AEP = 6.1 fps

IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

WATERSHED STORAGE: 5% HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single Span Rolled Beam
YEAR BUILT: 1939 (Reconstructed in 1968)
CLEAR SPAN(NORMAL TO STREAM): 82.0 ft.
VERTICAL CLEARANCE ABOVE STREAMBED: 13.9 ft.
WATERWAY OF FULL OPENING: 893.0 sq. ft.
DISPOSITION OF STRUCTURE: Full Replacement
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See Borings

WATER SURFACE ELEVATIONS AT:

43% AEP =	832.3 ft.	VELOCITY =	6.0 fps
10% AEP =	833.5 ft.	"	7.2 fps
4% AEP =	834.3 ft.	"	7.9 fps
2% AEP =	834.8 ft.	"	8.4 fps
1% AEP =	835.3 ft.	"	8.9 fps

LONG TERM STREAMBED CHANGES: Unknown

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

UPSTREAM STRUCTURE

TOWN: Irasburg DISTANCE: 3.3 miles
HIGHWAY # : Private farm road STRUCTURE #: Unknown
CLEAR SPAN: Unknown CLEAR HEIGHT: Unknown
YEAR BUILT: Unknown FULL WATERWAY: Unknown
STRUCTURE TYPE: Unknown

DOWNSTRUCTURE STRUCTURE

TOWN: Irasburg DISTANCE: 2,060 ft.
HIGHWAY # : TH-34 STRUCTURE #: 21
CLEAR SPAN: 69.0 ft. CLEAR HEIGHT: Unknown
YEAR BUILT: 1952 FULL WATERWAY: Unknown
STRUCTURE TYPE: Rolled beam bridge

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: Plate girder bridge

CLEAR SPAN(NORMAL TO STREAM): 102.0 ft.
VERTICAL CLEARANCE ABOVE STREAMBED: 15.0 ft.
WATERWAY OF FULL OPENING: 1,308.8 sq. ft.

WATER SURFACE ELEVATIONS AT:

43% AEP =	832.1 ft.	VELOCITY=	4.3 fps
10% AEP =	833.3 ft.	"	5.2 fps
4% AEP =	834.1 ft.	"	5.7 fps
2% AEP =	834.5 ft.	"	6.1 fps
1% AEP =	835.0 ft.	"	6.5 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: 839.5 feet
FREEBOARD: @ 2% AEP = 5.0 ft.

SCOUR: Calculated contraction scour depth of 10 ft. at the check scour event

REQUIRED CHANNEL PROTECTION: Stone Fill Type IV

TEMPORARY BRIDGE REQUIREMENTS

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

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TWO-WAY TRAFFIC ON A 26 FT MIN WIDTH TEMPORARY BRIDGE.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY
4. THE APPROACHES FOR THE TEMPORARY BRIDGE SHALL BE PAVED.

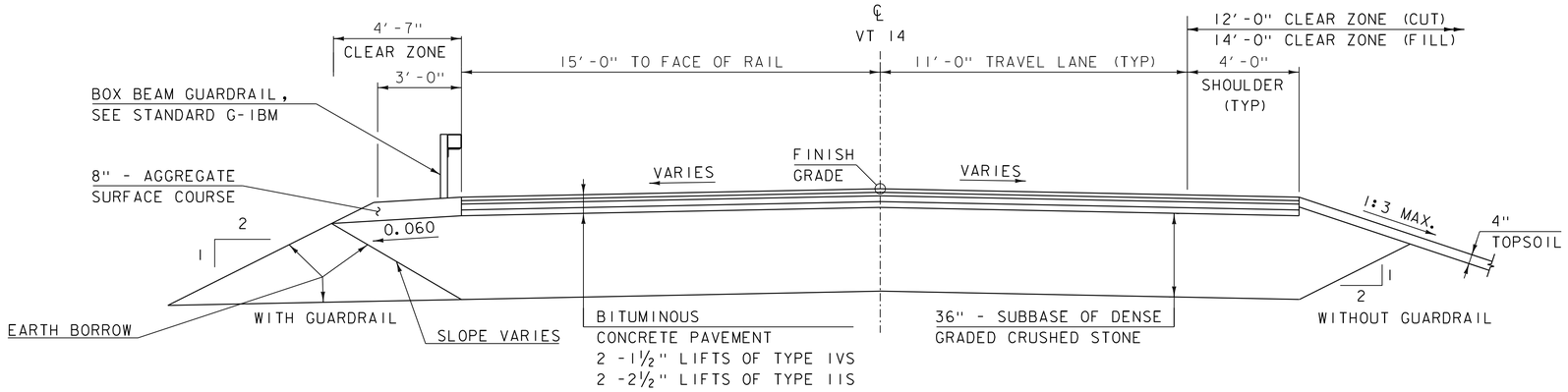
DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	2.5 INCH
3. DESIGN SPAN	L:	105.00 FT 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:	4.0 KSF
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
16. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	10.0 KSF
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: IRASBURG
PROJECT NUMBER: STP DECK(50)

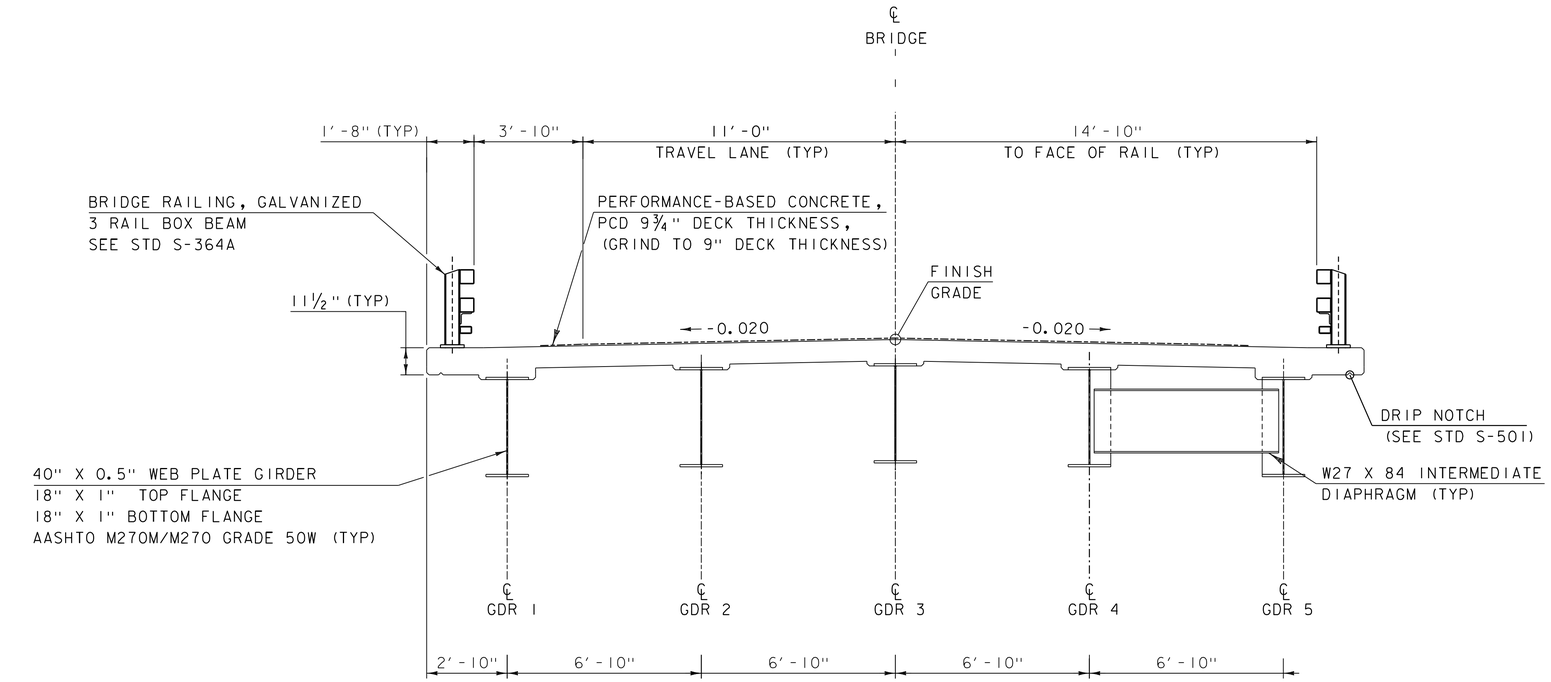
FILE NAME: sl9b217pi.dgn
PROJECT LEADER: J.B. McCARTHY
DESIGNED BY: A. VAN BUSKIRK
PROJECT INFORMATION

PLOT DATE: 8-AUG-2023
DRAWN BY: A. VAN BUSKIRK
CHECKED BY: G. DARGAN
SHEET 2 OF 34



VT 14 TYPICAL SECTION

SCALE ⅜″ = 1′-0″



BRIDGE TYPICAL SECTION

SCALE ⅜″ = 1′-0″

PAVEMENT SPECIFICATIONS

	DESIGN VALUE	DESCRIPTION
BINDER	58E-28	PERFORMANCE GRADE ASPHALT BINDER
GYRATION	65	DESIGN GYRATIONS
	THICKNESS	
WEARING COURSE	1½″	TYPE IVS
INTERMEDIATE COURSE	1½″	TYPE IVS
BASE COURSE #2	2½″	TYPE IIS
BASE COURSE #1	2½″	TYPE IIS

MATERIAL TOLERANCES

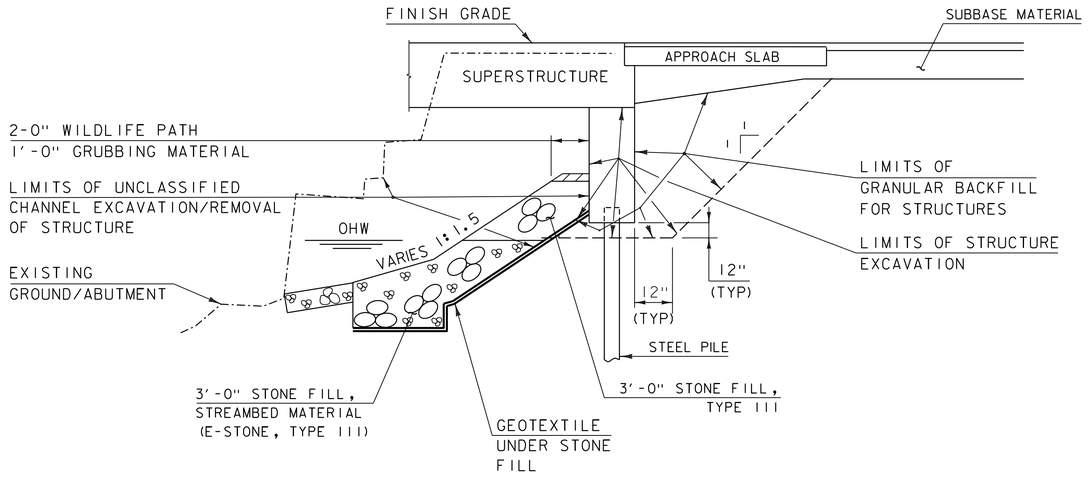
(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- ¼″
- AGGREGATE SURFACE COURSE	+/- ½″
SUBBASE	+/- 1″
SAND BORROW	+/- 1″

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

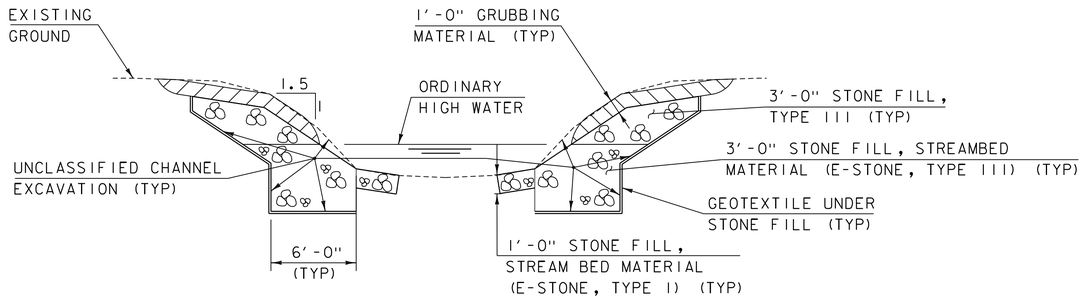
FILE NAME: sl9b217typ_2.dgn
PROJECT LEADER: J.B. McCARTHY
DESIGNED BY: G. DARGAN
TYPICAL SECTIONS 1

PLOT DATE: 8-AUG-2023
DRAWN BY: G. DARGAN
CHECKED BY: A. VAN BUSKIRK
SHEET 3 OF 34



EARTHWORK TYPICAL SECTION ABUTMENT

NOT TO SCALE

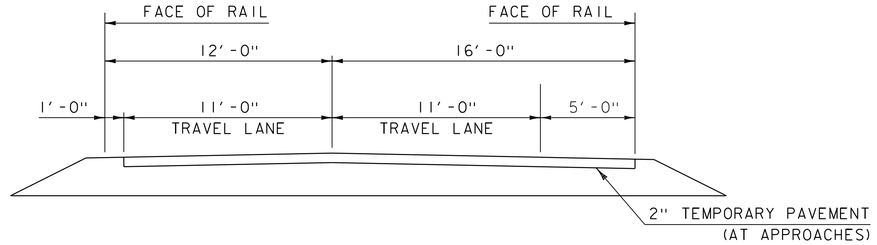


CHANNEL TYPICAL SECTION

NOT TO SCALE

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

2. GRUBBING MATERIAL SHALL BE PLACED OVER STONE FILL WHEN ABOVE THE OHW ELEVATION. SEE THE CHANNEL SECTIONS FOR ADDITIONAL DETAILING.



TEMPORARY ROADWAY/TEMPORARY BRIDGE LANE REQUIREMENTS

(NOT TO SCALE)

PROJECT NAME:	IRASBURG
PROJECT NUMBER:	STP DECK (50)
FILE NAME: sl9b217typ_2.dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: J.B. McCarthy	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. VAN BUSKIRK
TYPICAL SECTIONS 2	SHEET 4 OF 34

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

- UTILITY (GENERIC-UNKNOWN)
- TELEPHONE
- ELECTRIC
- CABLE (TV)
- ELECTRIC+CABLE
- ELECTRIC+TELEPHONE
- CABLE+TELEPHONE
- ELECTRIC+CABLE+TELEPHONE
- GAS LINE
- WATER LINE
- SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

- UTILITY (GENERIC-UNKNOWN)
- TELEPHONE
- ELECTRIC
- CABLE (TV)
- ELECTRIC+CABLE
- ELECTRIC+TELEPHONE
- ELECTRIC+TELEPHONE
- CABLE+TELEPHONE
- 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
- PROJECT DEMARCATION FENCE
- BARRIER FENCE
- TREE PROTECTION ZONE (TPZ)
- STRIPING LINE REMOVAL
- SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

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) (P L P L)
- SLOPE RIGHTS (SR SR SR)
- 6F PROPERTY BOUNDARY
- 4F PROPERTY BOUNDARY
- 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
- 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: IRASBURG
PROJECT NUMBER: STP DECK(50)

FILE NAME: sl9b217legend.dgn
PROJECT LEADER: J.B. McCARTHY
DESIGNED BY: R. PELLETT
SYMBOLOGY LEGEND

PLOT DATE: 8-AUG-2023
DRAWN BY: R. PELLETT
CHECKED BY: H. SALLS
SHEET 5 OF 34

PRIMARY CONTROL

HVCTRL #1
NORTH = 842283.082
EAST = 1695402.6980
ELEV. = 872.7500

TO REACH FROM THE INTERSECTION OF ROUTE 14 AND ROUTE 58 WEST IN IRASBURG, GO SOUTH ALONG ROUTE 14 FOR 0.55 MI (0.9 KM) TO THE SITE OF THE MARK ON THE RIGHT, ACROSS THE ROAD FROM THE END OF A LARGE CEDAR HEDGE.

THE MARK IS A 3/4 INCH (19 MM) REBAR WITH RED PLASTIC CAP SET 2 INCHES (5 CM) BELOW GROUND SURFACE.

IT IS 17.0 FT (5.2 M) WEST OF AND ABOUT 1 FT (0.3 M) LOWER THAN THE CENTERLINE OF ROUTE 14, 38.5 FT (11.7 M) NORTH OF POLE 121B/22 AND 111.0 FT (33.8 M) SOUTH OF POLE 120A/23M.

HVCTRL #2
NORTH = 840678.1680
EAST = 1696567.9780
ELEV. = 856.5500

TO REACH FROM THE INTERSECTION OF ROUTE 14 AND ROUTE 58 WEST IN IRASBURG, GO SOUTH ALONG ROUTE 14 FOR 0.9 MI (1.4 KM) TO THE SITE OF THE MARK ON THE RIGHT.

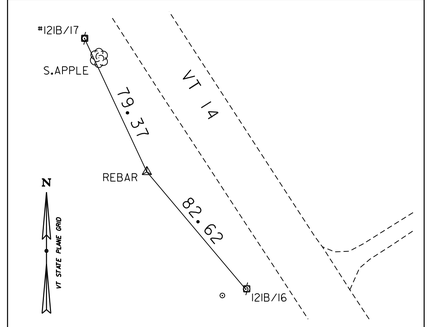
THE MARK IS A 3/4 INCH (19 MM) REBAR WITH RED PLASTIC CAP SET 2 INCHES (5 CM) BELOW GROUND SURFACE.

IT IS 19.5 FT (5.9 M) SOUTHWEST OF AND ABOUT 1 FT (0.3 M) LOWER THAN THE CENTERLINE OF ROUTE 14, 97.0 FT (29.6 M) SOUTHEAST OF A SPEED LIMIT 30 AHEAD SIGN, 21.5 FT (6.6 M) EAST-SOUTHEAST OF POLE NUMBER 121B/11 AND 22.0 FT (6.7 M) NORTH-NORTHEAST OF A RAIL FENCE JUNCTION.

SECONDARY CONTROL

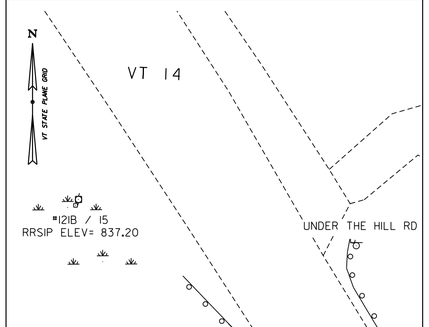
HVCTRL #3

NORTH = 841568.9375
EAST = 1695786.3698
ELEV. = 858.2040



BM #1433

NORTH = 841340.8136
EAST = 1695945.1218
ELEV. = 837.1970



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

* MAIN TRAVERSE COMPLETED ON 12/23/2019 BY R.GILMAN AND B.HERRING

ALIGNMENT TIES

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD83 (2011)
ADJUSTMENT COMPASS

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

FILE NAME: sl9b217tie.dgn
PROJECT LEADER: J.B. McCARTHY
DESIGNED BY: VTRANS
TIE SHEET

PLOT DATE: 8-AUG-2023
DRAWN BY: H.McGOWAN
CHECKED BY: R. GILMAN
SHEET 6 OF 34

LAMOINE SILT LOAM
8-15% SLOPE
TYPE C SOIL
K VALUE = 0.32
HIGH EROSION POTENTIAL

NICHOLVILLE VERY FINE SANDY LOAM
3-8% SLOPE
TYPE C SOIL
K VALUE = 0.49
HIGH EROSION POTENTIAL

HOLLAND, ROBERT R.;
GREEN, LAURIE J.

PORTLAND PIPELINE CORPORATION

BENCHMARK
RAILROAD SPIKE
IN POLE
ELEV. =837.20

VT STATE PLANE GRID

RIPARIAN BUFFER

ELECTRIC FENCE

GUY WIRE

COMB 12IB

APPROX. EXISTING R.O.W.

4x4 CONCRETE BOUNDARY MARKER BGS

OGMP FLOW

AER E&T

STONE FILL

SIGN OM3-L

SIGN VD-701 (BRIDGE I24 VT-14)

SIGN OM3-R

SIGN R2-1 (40)

HVCTRL 100

VT ROUTE 14 TO ALBANY

163+00 164+00 165+00 166+00 167+00

162+00

MATCHLINE @ STA 167+25

PAVED DRIVE

GRAVEL DRIVE

SIGN D3-1 (UNDER THE HILL RD)

TH-5 (UNDER THE HILL RD)

OHW

BLACK RIVER FLOW

MACHIA, CHARLES EDWARD

CDMB GOODRIDGE, LLC.

SHELT

LAMOINE SILT LOAM
3-8% SLOPE
TYPE C SOIL
K VALUE = 0.32
HIGH EROSION POTENTIAL

CABOT SILT LOAM
3-8% SLOPE
TYPE C SOIL
K VALUE = 0.32
HIGH EROSION POTENTIAL

EXISTING BRIDGE INFORMATION
BUILT 1939, RECONSTRUCTED 1968
SINGLE SPAN ROLLED BEAM
CAST-IN-PLACE DECK
82' MAX SPAN

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

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

FILE NAME: sl9b217border.dgn
PROJECT LEADER: J.B. McCARTHY
DESIGNED BY: G. DARGAN
EXISTING CONDITIONS 1

PLOT DATE: 8-AUG-2023
DRAWN BY: A. VAN BUSKIRK
CHECKED BY: G. DARGAN
SHEET 7 OF 34

VT STATE PLANE GRID

N

NELSON FARMS, INC.

P L

840

O.W.

ARCH

AER E&T

FIELD DRIVE

GUY WIRE

TIE DIST: 82.62

COMB 12IB 16

HVCTRL 3

TIE DIST: 79.37

COMB 12IB 17

MATCHLINE @ STA 167+25

VT ROUTE 14
TO COVENTRY

168+00

169+00

170+00

APPROX. EXISTING R.O.W.

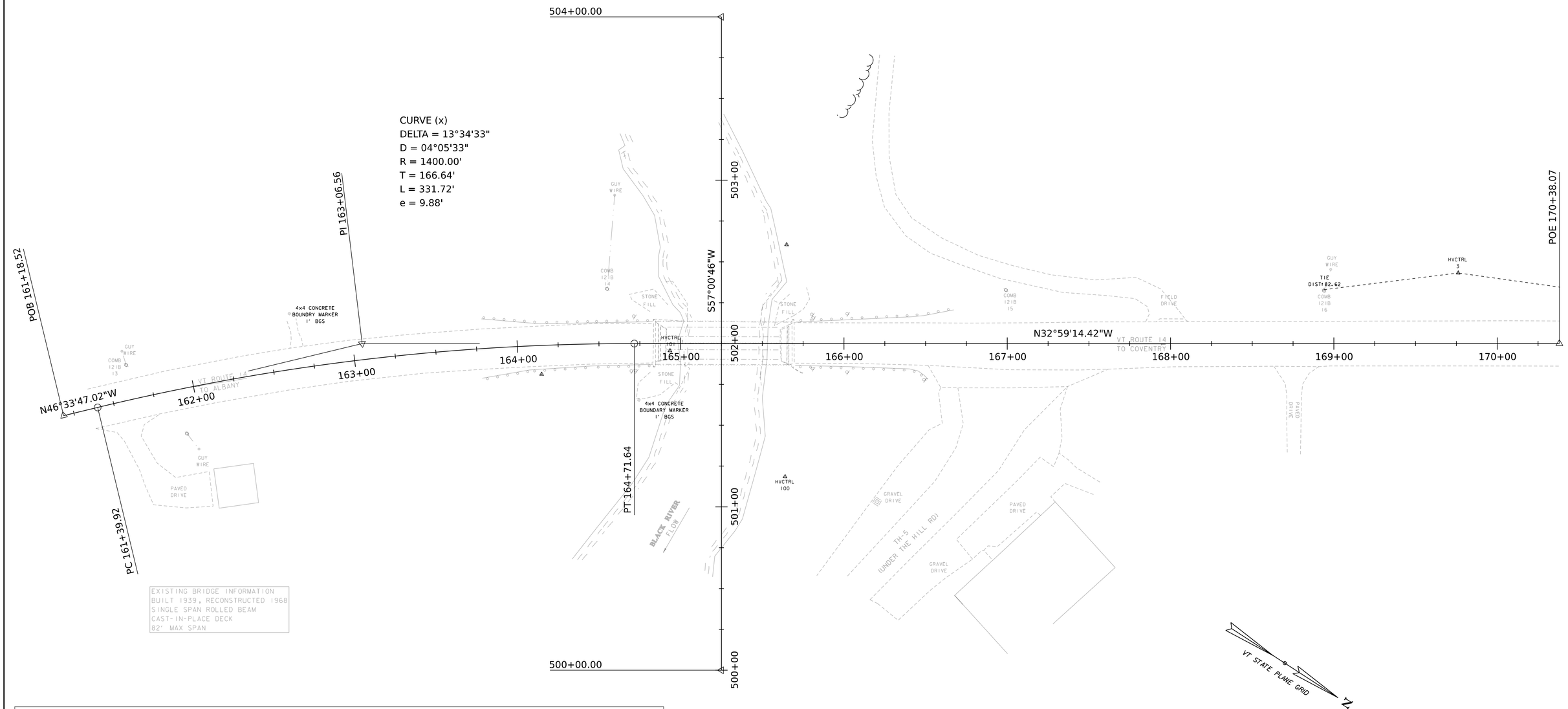
PAVED DRIVE

ON I-TOR WELL

'RA, PAUL & YVETTE

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

PROJECT NAME:	IRASBURG
PROJECT NUMBER:	STP DECK (50)
FILE NAME: sl9b217border.dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: J.B. McCARTHY	DRAWN BY: A. VAN BUSKIRK
DESIGNED BY: G. DARGAN	CHECKED BY: G. DARGAN
EXISTING CONDITIONS 2	SHEET 8 OF 34



CONTROL LINE DATA - VT14

POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
POB	N46.563°W	21.403 '	840900.281	1696324.537		16118.519					
	N32.987°W	733.071 '	841029.571	1696187.994	16139.922	16306.561	16471.64	13.576°	1400.000 '	331.717 '	166.639 '
POE			841644.464	1695788.87		17038.071					

CONTROL LINE DATA - Channel Alignment

POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
POB	S57.013°W	400.000 '	841322.995	1696235.972		50000					
POE			841105.214	1695900.456		50400					

SCALE 1" = 30'-0"
30 0 30

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

FILE NAME: s19b217alg_bdr.dgn
PROJECT LEADER: J.B. McCARTHY
DESIGNED BY: G. DARGAN
ALIGNMENT SHEET

PLOT DATE: 8-AUG-2023
DRAWN BY: G. DARGAN
CHECKED BY: A. VAN BUSKIRK
SHEET 9 OF 34

COARSE-MILLING, BITUMINOUS PAVEMENT
162+00.0 - 162+25.0

CONSTRUCT PAVED DRIVE APRON - 5' LENGTH
166+52.4 - 167+61.2 RT

CONSTRUCT AGGREGATE SURFACE COURSE
DRIVE - 5' LENGTH
162+62.5 - 162+69.8 LT

CLEANING CULV. PIPE, IN PLACE (12")
162+60.0 - 162+73.9 LT

STA 165+26.00 CHAN.
STA 502+00.00
Δ 90 DEGREES

UTILITY WORK LIMITS
(TYP)

END PROJECT
STA 166+70.00

END BRIDGE
STA 165+79.33

BEGIN BRIDGE
STA 164+72.67

BEGIN PROJECT
STA 163+75.00

BEGIN APPROACH
STA 162+00.00

VT STATE PLANE GRID

HOLLAND, ROBERT R.;
GREEN, LAURIE J.

PORTLAND PIPELINE
CORPORATION

BENCHMARK
RAILROAD SPIKE
IN POLE
ELEV. =837.20

MACHIA, CHARLES EDWARD

CDMB
GOODRIDGE,
LLC.

SHELT

VT ROUTE 14
TO ALBANY

TH-5
(UNDER THE HILL RD)

BLACK RIVER
FLOW

APPROX. EXISTING R.O.W.

APPROX. EXISTING TOWN R.O.W.

PERMANENT
CONSTRUCTION LIMITS

TEMPORARY DETOUR
ALIGNMENT

TEMPORARY
CONSTRUCTION LIMITS

SEE NOTE

STONE FILL,
TYPE IV

TEMPORARY
BRIDGE

STONE FILL,
STREAMBED
MATERIAL (E-
STONE, TYPE I)

EXISTING BRIDGE INFORMATION
BUILT 1939, RECONSTRUCTED 1968
SINGLE SPAN ROLLED BEAM
CAST-IN-PLACE DECK
82' MAX SPAN

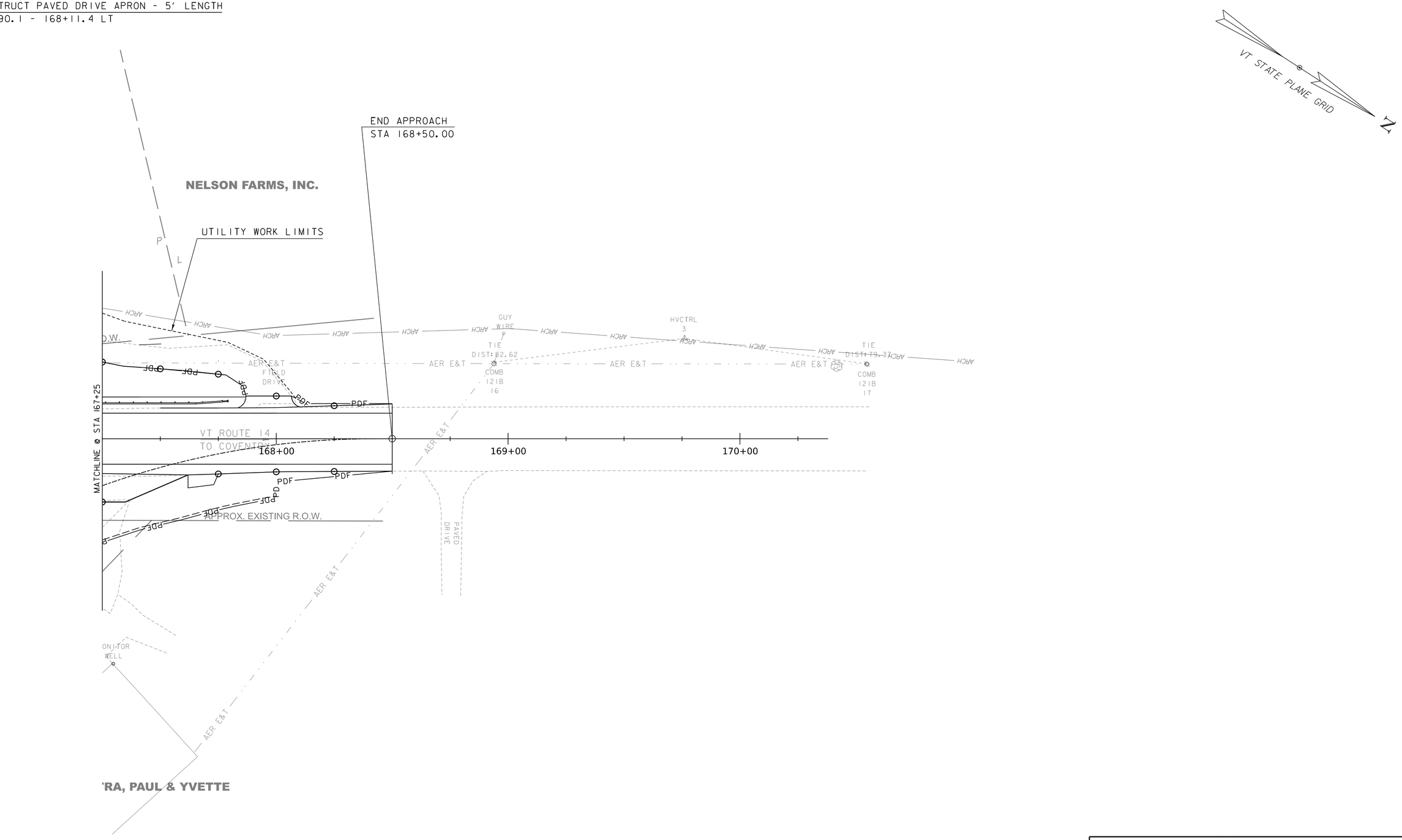
NOTES:

CONTACT THE VTRANS SURVEY DEPARTMENT TO RESET BOUNDARY MARKER.

PROJECT NAME:	IRASBURG
PROJECT NUMBER:	STP DECK(50)
FILE NAME: s19b217borderDetour.dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: J.B. McCARTHY	DRAWN BY: A. VAN BUSKIRK
DESIGNED BY: G. DARGAN	CHECKED BY: G. DARGAN
LAYOUT SHEET 1	SHEET 10 OF 34

COARSE-MILLING, BITUMINOUS PAVEMENT
168+00.0 - 168+50.0

CONSTRUCT PAVED DRIVE APRON - 5' LENGTH
167+90.1 - 168+11.4 LT



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

PROJECT NAME:	IRASBURG
PROJECT NUMBER:	STP DECK (50)
FILE NAME: sl9b217borderDetour.dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: J.B. McCARTHY	DRAWN BY: A. VAN BUSKIRK
DESIGNED BY: G. DARGAN	CHECKED BY: G. DARGAN
LAYOUT SHEET 2	SHEET 11 OF 34

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 163+79.1 - STA 164+83.0 LT
STA 165+70.6 - STA 166+66.9 LT
STA 163+77.2 - STA 164+83.1 RT
STA 165+70.2 - STA 166+51.4 RT

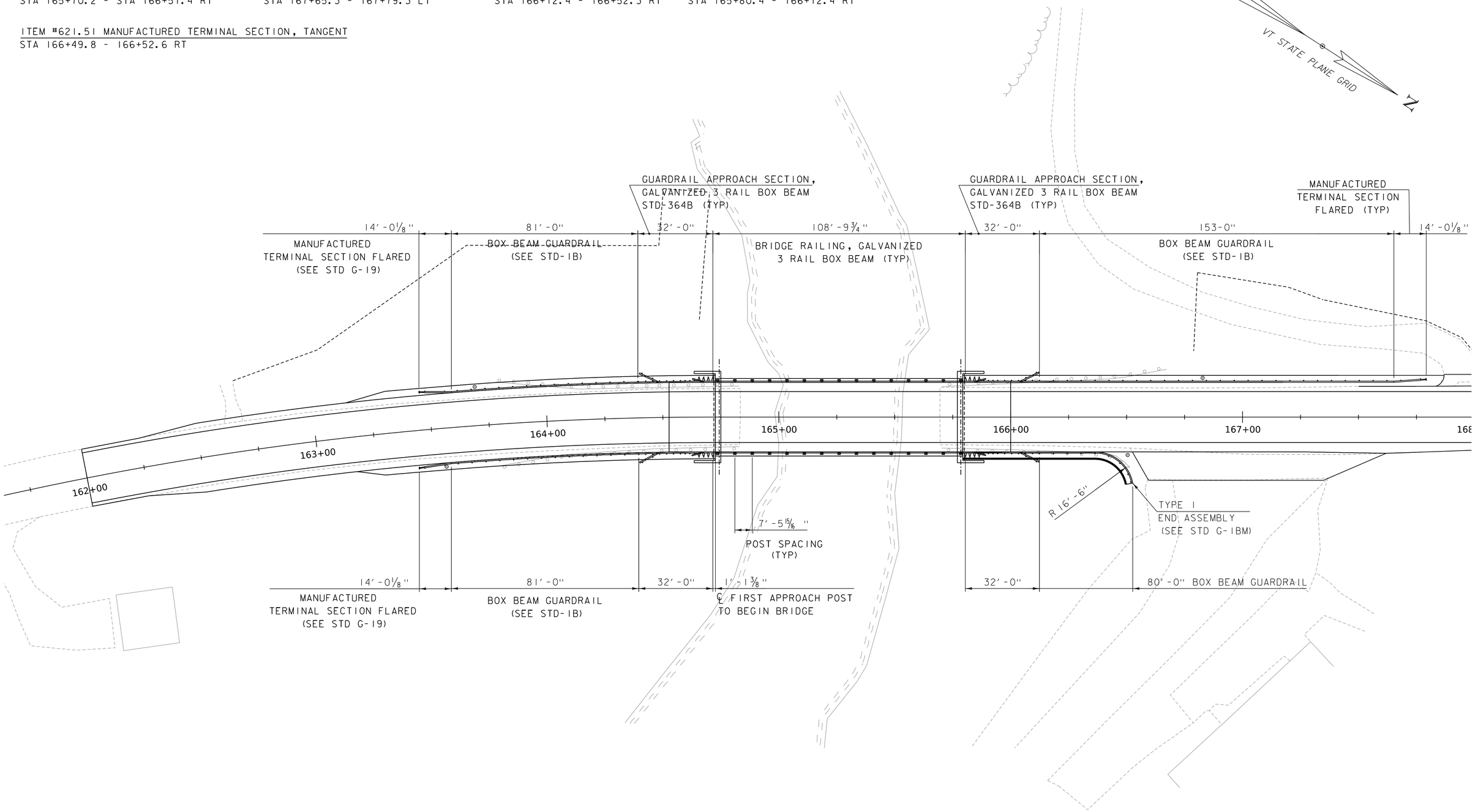
MANUFACTURED TERMINAL SECTION
(FOR BOX BEAM GUARDRAIL)
STA 163+46.0 - 163+59.9 LT
STA 163+43.2 - 163+57.3 RT
STA 167+65.3 - 167+79.3 LT

BOX BEAM GUARDRAIL
STA 163+59.9 - 164+39.9 LT
STA 163+57.4 - 164+39.2 RT
STA 166+12.4 - 167+65.3 LT
STA 166+12.4 - 166+52.3 RT

GUARDRAIL APPROACH SECTION
STA 164+39.9 - 164+71.6 LT
STA 164+39.2 - 164+71.6 RT
STA 165+80.4 - 166+12.4 LT
STA 165+80.4 - 166+12.4 RT

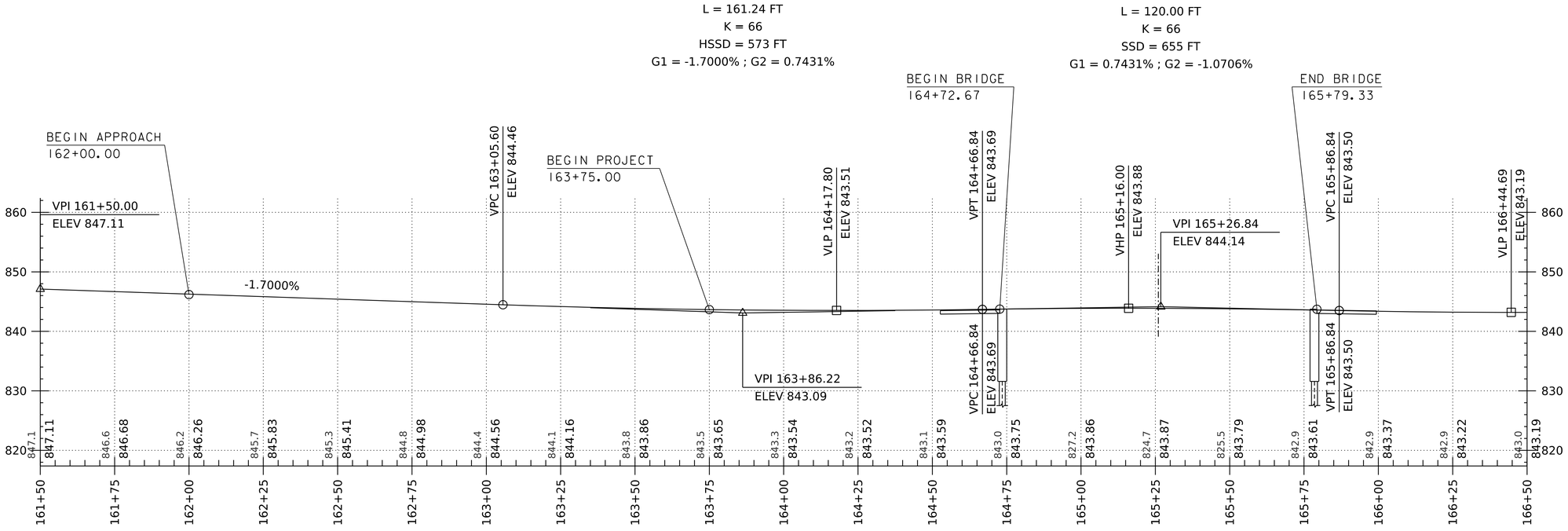
BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM
STA 164+71.6 - 165+80.4 LT
STA 164+71.6 - 165+80.4 RT

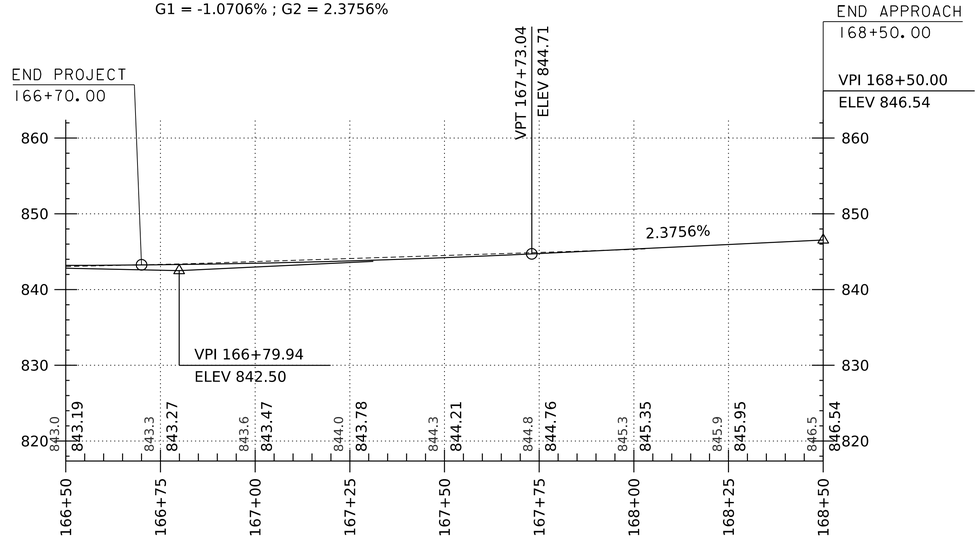
ITEM #621.51 MANUFACTURED TERMINAL SECTION, TANGENT
STA 166+49.8 - 166+52.6 RT



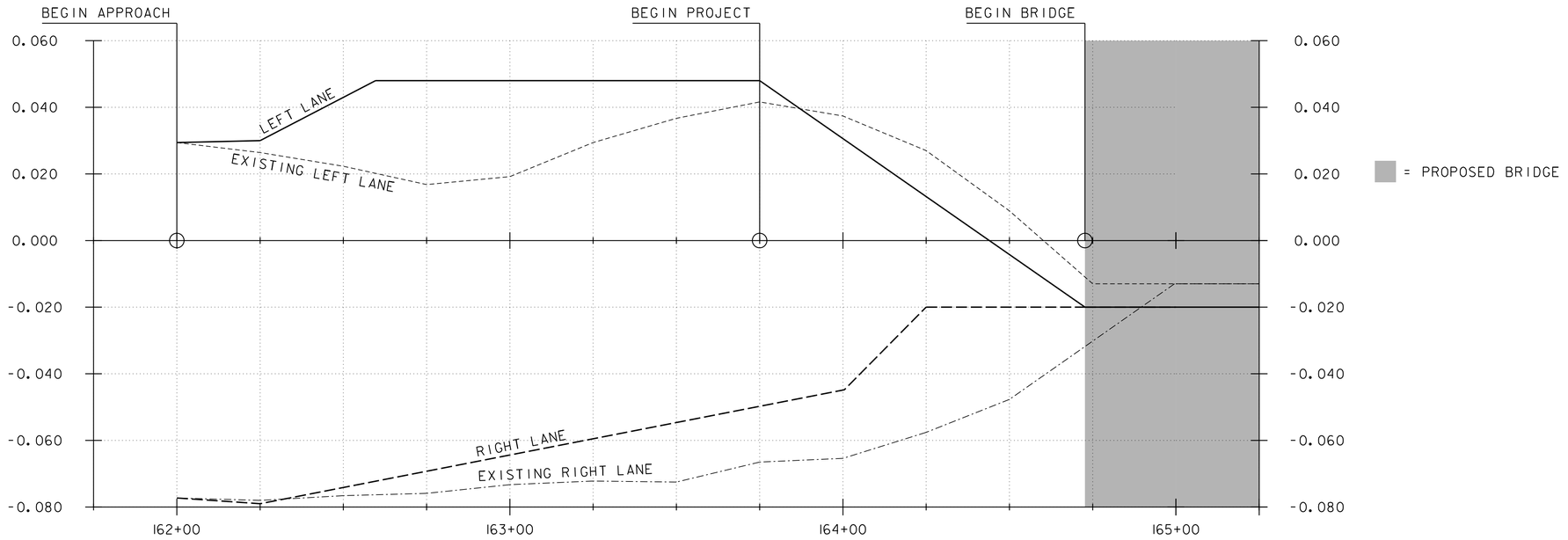
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME:	IRASBURG
PROJECT NUMBER:	STP DECK(50)
FILE NAME: sl9b217bdr_rail_2.dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: J.B. McCARTHY	DRAWN BY: A. VAN BUSKIRK
DESIGNED BY: G. DARGAN	CHECKED BY: G. DARGAN
RAIL LAYOUT	SHEET 12 OF 34

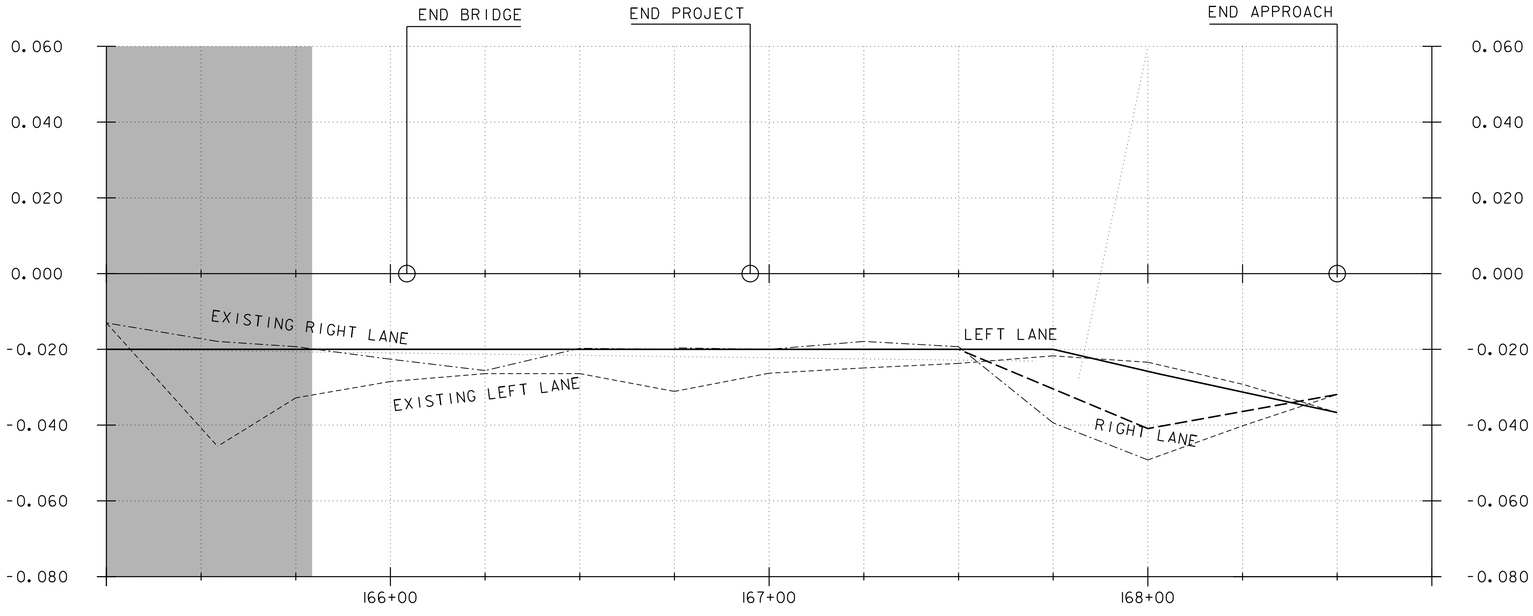




PROJECT NAME:	IRASBURG
PROJECT NUMBER:	STP DECK (50)
FILE NAME: .dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: J.B. McCarthy	DRAWN BY:
DESIGNED BY: G. DARGAN	CHECKED BY: A. VAN BUSKIRK
VT 14 PROFILE	SHEET 13 OF 34

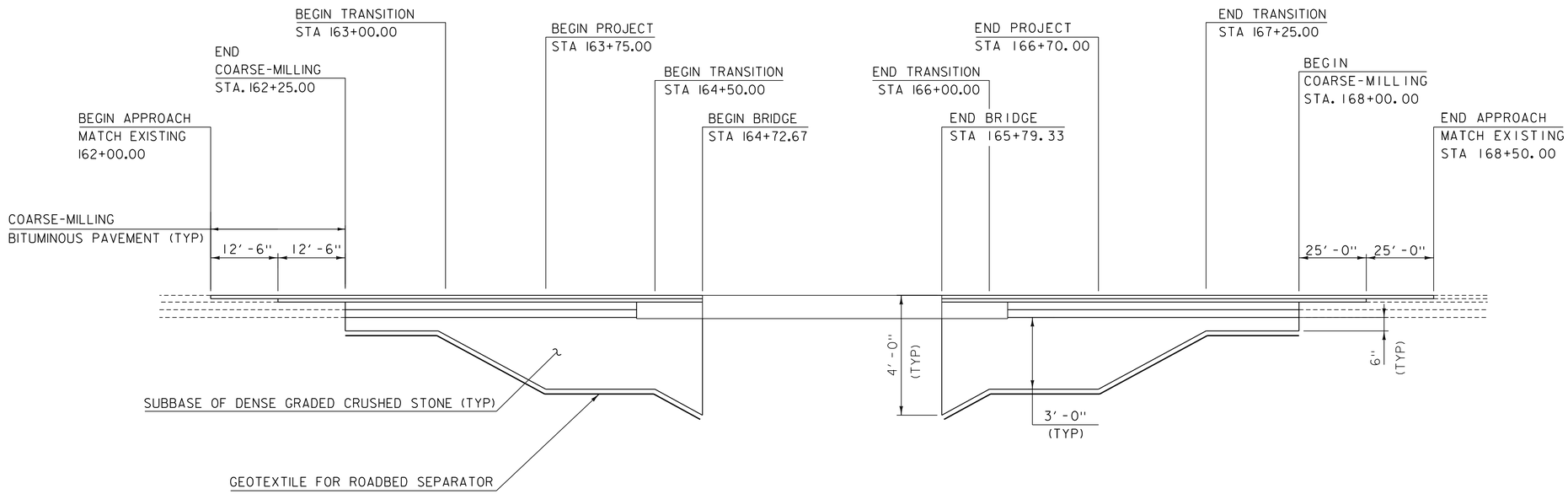


VT 14 SUPERELEVATION, 162+00 - 165+00



VT 14 SUPERELEVATION, 165+00 - 168+00

PROJECT NAME:	IRASBURG
PROJECT NUMBER:	STP DECK (50)
FILE NAME: s29b217pro.dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: J.B. McCARTHY	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. VAN BUSKIRK
VT 58 SUPERELEVATION	SHEET 14 OF 34



VT 14 MATERIAL TRANSITION DIAGRAM

NOT TO SCALE

PROJECT NAME: IRASBURG	
PROJECT NUMBER: STP DECK(50)	
FILE NAME: s19b217pro.dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: J.B. McCARTHY	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. VAN BUSKIRK
MATERIAL TRANSITION	SHEET 15 OF 34

DOUBLE DURABLE 4" YELLOW LINE
162+00 - 168+00

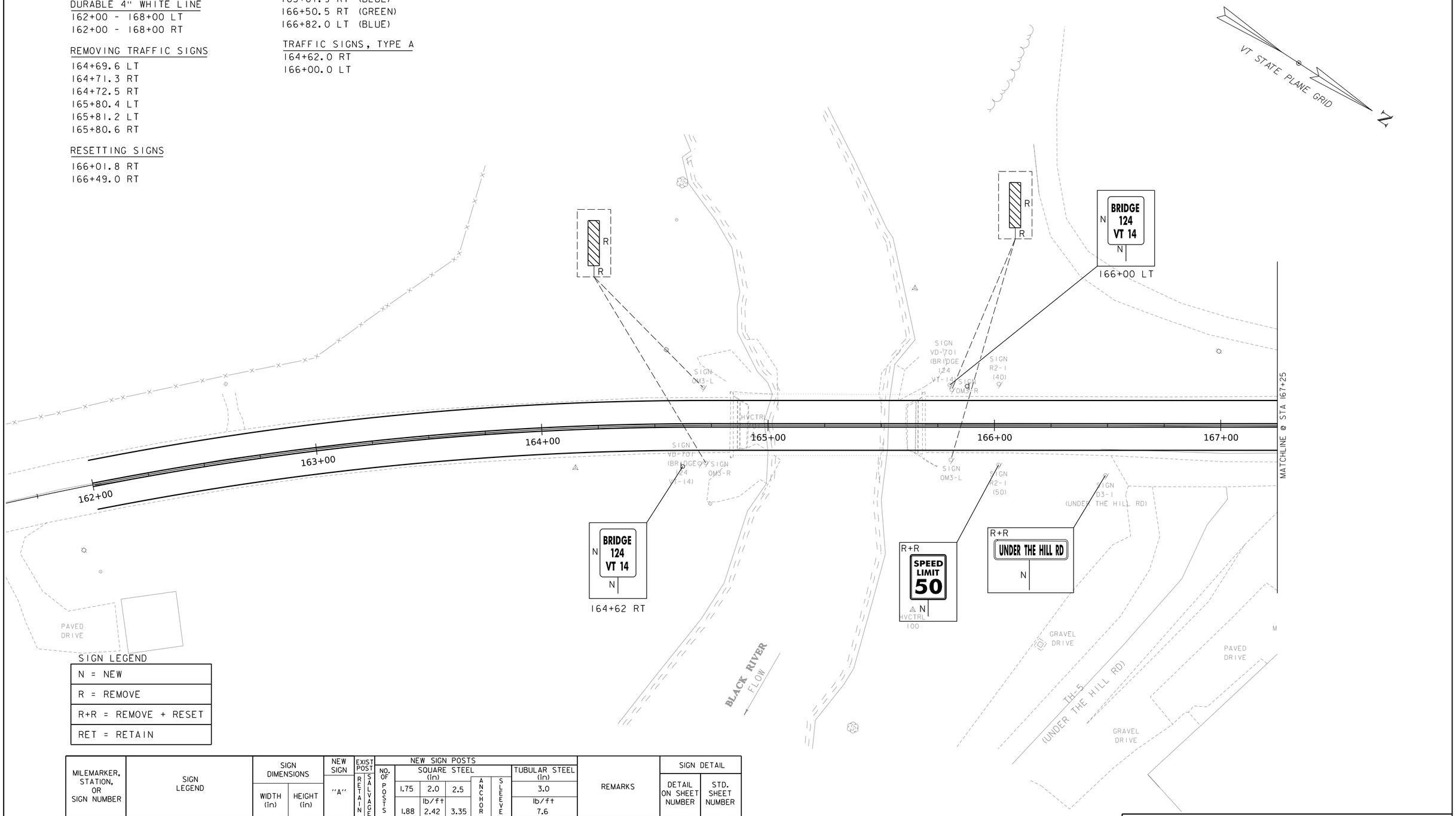
DURABLE 4" WHITE LINE
162+00 - 168+00 LT
162+00 - 168+00 RT

REMOVING TRAFFIC SIGNS
164+69.6 LT
164+71.3 RT
164+72.5 RT
165+80.4 LT
165+81.2 LT
165+80.6 RT

RESETTING SIGNS
166+01.8 RT
166+49.0 RT

DELINEATOR WITH STEEL POST
163+70.0 LT (GREEN)
163+61.9 RT (BLUE)
166+50.5 RT (GREEN)
166+82.0 LT (BLUE)

TRAFFIC SIGNS, TYPE A
164+62.0 RT
166+00.0 LT



SIGN LEGEND

N = NEW
R = REMOVE
R+R = REMOVE + RESET
RET = RETAIN

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS		NEW SIGN	EXIST POST		NEW SIGN POSTS						REMARKS	SIGN DETAIL	
							NO. OF POSTS	SQUARE STEEL (in)				TUBULAR STEEL (in)			
		WIDTH (in)	HEIGHT (in)	"A"	RETAIN	SALVAGE		1.75 lb/ft 1.88	2.0 lb/ft 2.42	2.5 lb/ft 3.35	ANCHOR	SLEEVE	3.0 lb/ft 7.6		DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
114+40 RT	BRIDGE 124 VT 14	6	10	0.42			1	8.67			X			VD-701		T-42
114+90 LT	BRIDGE 124 VT 14	6	10	0.42			1	8.67			X			VD-701		T-42

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

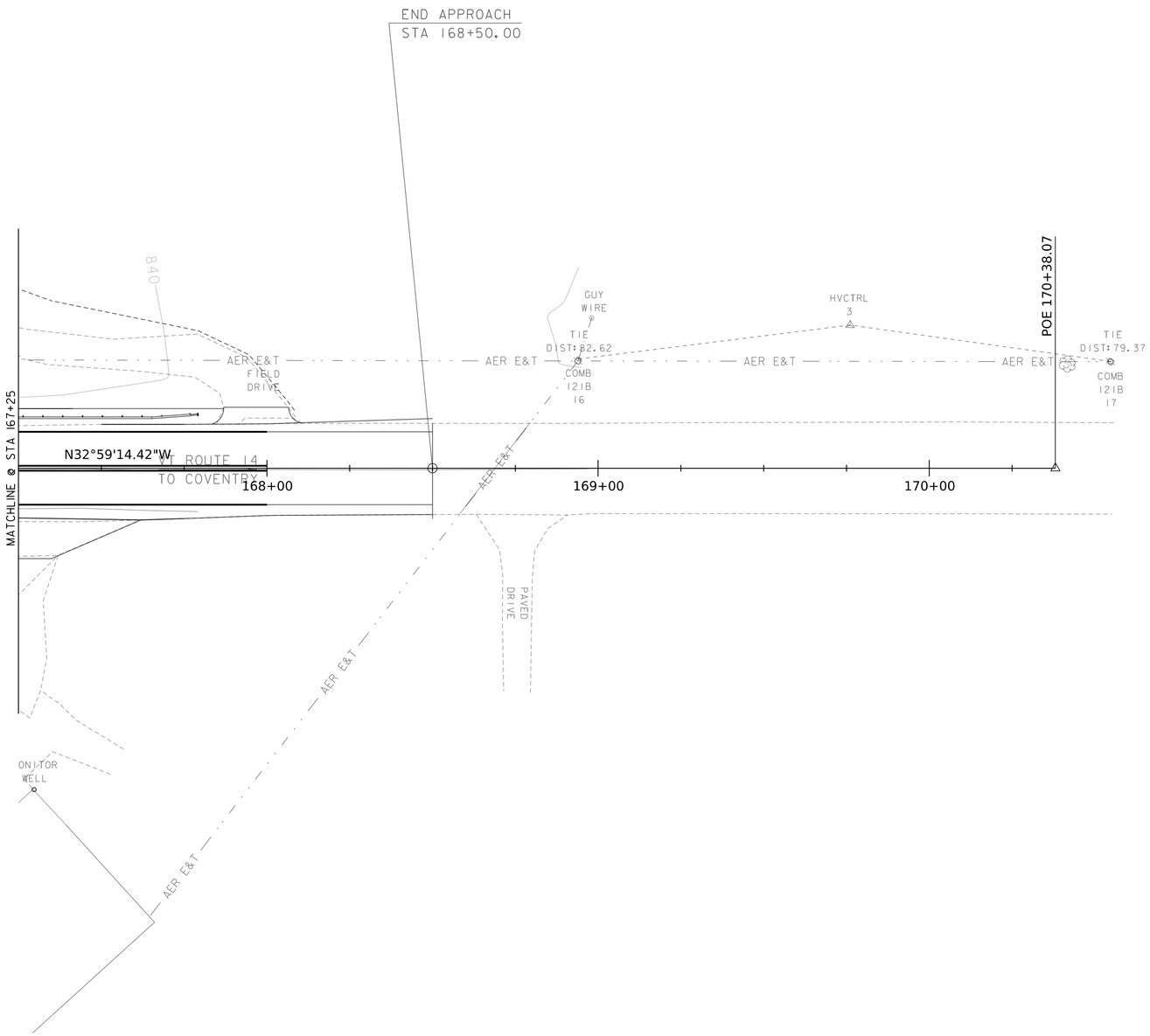
PROJECT NAME: IRASBURG
PROJECT NUMBER: STP DECK(50)

FILE NAME: sl9b2l7bdr_signs.dgn
PROJECT LEADER: J.B. McCARTHY
DESIGNED BY: G. DARGAN
SIGNS AND LINES SHEET 1

PLOT DATE: 8-AUG-2023
DRAWN BY: A. VAN BUSKIRK
CHECKED BY: G. DARGAN
SHEET 16 OF 34

DOUBLE DURABLE 4" YELLOW LINE
168+00 - 168+50

DURABLE 4" WHITE LINE
168+00 - 168+50 LT
168+00 - 168+50 RT



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

PROJECT NAME:	IRASBURG
PROJECT NUMBER:	STP DECK (50)
FILE NAME: 19b217bdr_signs.dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: J.B. McCARTHY	DRAWN BY: A. VAN BUSKIRK
DESIGNED BY: G. DARGAN	CHECKED BY: G. DARGAN
SIGNS AND LIGNS 2	SHEET 17 OF 34

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

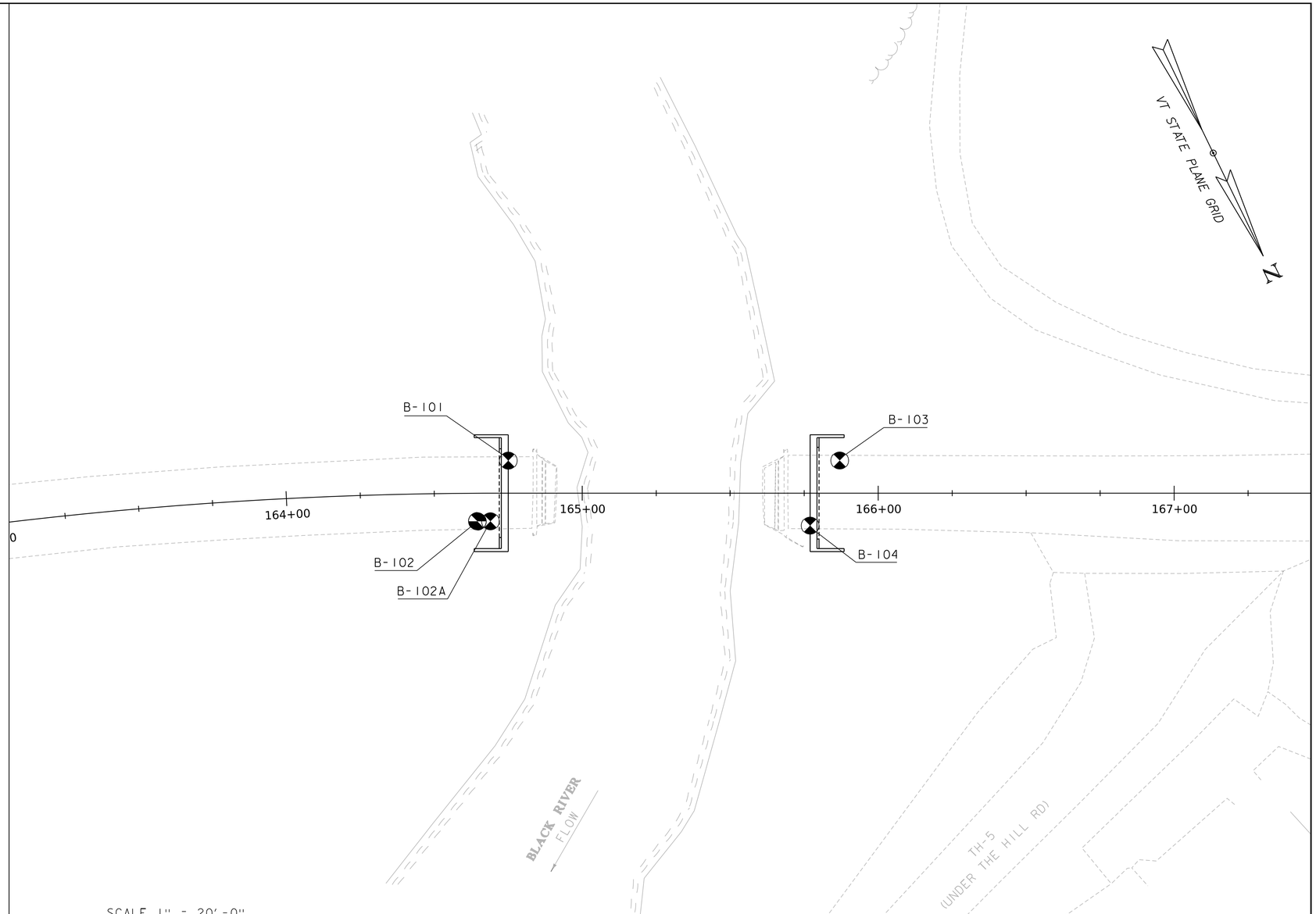
CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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 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 5/8"
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
%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		



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

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 03/09/2022 and 05/24/2022 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.

BORING CHART

HOLE NO.	NORTHING	EASTING	STATION	OFFSET
B-101	841166.20	1696086.20	164+75	11' LT
B-102	841168.60	1696109.10	164+64.5	9.5' RT
B-102A	841172.30	1696106.70	164+69	9.5' RT
B-103	841260.10	1696025.20	165+87	11' LT
B-104	841263.70	1696049.10	165+77	11' RT

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

FILE NAME: sl9b217bor.dgn
PROJECT LEADER: JB McCARTHY
DESIGNED BY: L. CHAMBERLAIN
BORING INFORMATION SHEET

PLOT DATE: 8-AUG-2023
DRAWN BY: L. CHAMBERLAIN
CHECKED BY: JB McCARTHY
SHEET 18 OF 34

TEMPORARY UTILITY POLE WITH 36'
ANCHOR FOR 3 PHASE POWER LINES.
POWER LINES ARE TO BE RELOCATED
PRIOR TO THE START OF BRIDGE
CONSTRUCTION AND RETURNED TO THEIR
EXISTING LOCATION ONCE BRIDGE
CONSTRUCTION HAS BEEN COMPLETED.

**HOLLAND, ROBERT R.;
GREEN, LAURIE J.**

**PORTLAND PIPELINE
CORPORATION**

NELSON

RETAIN EXISTING POLE
AND ADD 25' TEMPORARY
PUSH BRACE

VT STATE PLANE GRID

MACHIA, CHARLES EDWARD

EXISTING POLE AND ANCHOR TO REMAIN.
COMMUNICATION LINES TO REMAIN ATTACHED
TO THIS POLE DURING BRIDGE CONSTRUCTION.
POWER LINES TO BE TEMPORARILY RELOCATED
FROM THIS POLE PRIOR TO BRIDGE
CONSTRUCTION STARTING AND TO BE
REATTACHED AFTER BRIDGE CONSTRUCTION HAS
BEEN COMPLETED.

EXISTING BRIDGE INFORMATION
BUILT 1939, RECONSTRUCTED 1968
SINGLE SPAN ROLLED BEAM
CAST-IN-PLACE DECK
82' MAX SPAN

**CDMB
GOODRIDGE,
LLC.**

SHELTRA, PAUL & YVETTE

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

PROJECT NAME:	IRASBURG
PROJECT NUMBER:	STP DECK(50)
FILE NAME: sl9B217bdr_utl.dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: J.B. McCARTHY	DRAWN BY: A. LEGACY
DESIGNED BY: A. LEGACY	CHECKED BY: G. DARGAN
UTILITY LAYOUT	SHEET 19 OF 34

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg
STP DECK(50)
VT Route 14, Br. 124

Boring No.: B-101
Page No.: 1 of 2
Pin No.: 19B217
Checked By: SPM

Boring Crew: Aubut, Monette, McGinley, Zottola
Date Started: 3/11/22 Date Finished: 3/15/22
VTSPG NAD83: N 841166.20 ft E 1696086.20 ft
Station: 164+75 Offset: 11' LT
Ground Elevation: 842.5 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID AUTO	CE = 1.56

Groundwater Observations		
Date	Depth (ft)	Notes
03/15/22	15.1	WT before drilling

Depth (ft)	Strata ID	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Asphalt, 0.0 ft - 0.8 ft								
		A-1-a, SaGr, brn, MTW, Rec. = 0.7 ft, Refusal @ 1.7' (50 blows/ 6"), Rollercone cleanout 1.4-2.0'		26-R (8)	9.1	51.7	33.9	14.4		
		Field Class, SaGr, brn, Moist, Rec. = 0.5 ft, Refusal @ 2.8' (50 blows/ 6"), Rollercone cleanout 3.5-4.0'		28-R (8)						
5		Field Class, SaGr, Dk/brn, Moist, Rec. = 0.2 ft, Refusal @ 4.4' (50 blows/ 6"), Rock in tip of sampler		R (8)						
		Field Class, GrSa, brn, Moist, Rec. = 0.2 ft, Rollercone cleanout 7.6-8.0'		4-6-3-5 (9)						
		Field Class, Gr w/ coarse Sa, brn/grn, Moist, Rec. = 0.5 ft, Rock in tip of sampler. NXDC cleanout 8.9-10.0'		9-7-17-36 (24)						
10		A-1-a, SaGr, brn, Wet, Rec. = 0.9 ft, Split sample 0.5' recovery.		13-14-7-6 (21)	8.7	61.3	26.1	12.6		
		A-4, SaSi, brn, Moist, Split sample 0.4' recovery. Lab note: Wood within sample			28.5	4.7	37.1	58.2		
		A-4, SaSi, brn, MTW, Rec. = 1.8 ft, Lab note: Wood within sample		4-4-5-5 (9)	24.8	7.2	31.8	61.0		
15		A-4, SaSi, gry, MTW, Rec. = 0.9 ft, Lab note: Wood within sample		5-2-2-4 (4)	32.2	0.6	56.4	43.0		
		Field Class, SaSi w/ trace Gr & Cl, gry, MTW, Rec. = 1.4 ft		5-3-3-3 (6)						
		A-4, SaSi, gry, Wet, Rec. = 1.5 ft, Rollercone cleanout 19.0-25.0'. Lab note: Clay lenses within sample.		2-1-1-4 (2)	15.7	10.7	24.6	64.7	19	5
20										
25		A-4, SaSi, gry, Wet, Rec. = 1.5 ft, Rollercone cleanout 29.5-30.0'		10-15-23-29 (38)	14.0	8.4	21.9	69.7		
30		A-4, SaSi, gry, Wet, Rec. = 1.8 ft, Rollercone cleanout 34.1-35.0'. Lab note: Clay lenses within sample.		9-18-22-22 (40)	13.6	11.0	23.8	65.2	20	6
35		Field Class, Si w/ some Cl & trace coarse Sa, gry, Moist, Rec. = 1.2 ft, Refusal @ 36.4' (10 blows no movement)		28-33-R (0)						
		36.6 ft - 41.6 ft, Attempted NX coring at 36.6'. Low recovery. BOULDERS, broken and fractured rock fragments.	R-1							

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE 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.

BORING LOG IRASBURG STP DECK(50)R2 VERMONT ADJ.GDT 11/22/22

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg
STP DECK(50)
VT Route 14, Br. 124

Boring No.: B-101
Page No.: 2 of 2
Pin No.: 19B217
Checked By: SPM

Boring Crew: Aubut, Monette, McGinley, Zottola
Date Started: 3/11/22 Date Finished: 3/15/22
VTSPG NAD83: N 841166.20 ft E 1696086.20 ft
Station: 164+75 Offset: 11' LT
Ground Elevation: 842.5 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID AUTO	CE = 1.56

Groundwater Observations		
Date	Depth (ft)	Notes
03/15/22	15.1	WT before drilling

Depth (ft)	Strata ID	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
45		41.6 ft - 46.6 ft, Attempted NX coring at 41.6'. Low recovery. BOULDERS, broken and fractured rock fragments.	R-2							
		Hole stopped @ 46.6 ft								
50		Remarks: Ended hole @ 46.6' Hole collapsed @ 23.0'								
55										
60										
65										
70										
75										

Notes:
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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.

BORING LOG IRASBURG STP DECK(50)R2 VERMONT ADJ.GDT 11/22/22

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

FILE NAME: s19b217bor_log.dgn
PROJECT LEADER: JB McCarthy
DESIGNED BY: G. DARGAN
BORING LOGS 1

PLOT DATE: 8-AUG-2023
DRAWN BY: G. DARGAN
CHECKED BY: A. VAN BUSKIRK
SHEET 20 OF 34

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg Bridge
STP DECK(50)
VT Route 14, Br. 124

Boring No.: B-102
Page No.: 1 of 3
Pin No.: 19B217
Checked By: DTH

Boring Crew: M. Nadeau, NTB, A. Baribault, GEODesign
Date Started: 5/13/22 Date Finished: 5/17/22
VTSPG NAD83: N 841168.60 ft E 1696109.10 ft
Station: 164+64.5 Offset: 9.5' RT
Ground Elevation: 842.0 ft

	Casing	Sampler
Type:	HSA/FJ	SS
I.D.:	4 in	1.38 in
Hammer Wt:	140 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig: Diedrich D-50 Track	CE = 1.52	

Groundwater Observations		
Date	Depth (ft)	Notes
05/13/22	12.0	Wet sample
05/16/22	9.2	Casing @35'

Depth (ft)	Strata ID	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Approx. 0.6' Asphalt, 0.0 ft - 0.6 ft							
		A-4, S1 (1' - 3'): Very dense, black and gray fine to coarse SAND, little fine to coarse Gravel, little Silt, dry., Rec. = 0.6 ft	26-32-37-22 (69)	1.8					
		S2 (3' - 5'): Medium dense, gray fine to coarse SAND, little (-) fine to coarse Gravel, trace Silt, dry., Rec. = 1.3 ft, 3.0 ft - 5.0 ft	5-7-6-8 (13)						
5		S3 (5' - 7'): Medium dense, gray fine to coarse SAND, trace fine Gravel, trace Silt, moist., Rec. = 0.7 ft, 5.0 ft - 7.0 ft	6-7-9-8 (16)						
		A-1-b, S4 (7' - 8.2'): Refusal, brown fine to coarse SAND, some fine to coarse Gravel, trace Silt, moist., Rec. = 0.4 ft	4-5-50/2" (9)	6.9	48.0	49.4	2.6		
		Inferred Cobbles / Boulders, 8.2 ft - 10.0 ft							
10		S5 (10' - 12'): Medium dense, gray-brown with orange and black mottling fine SAND and SILT, very moist. With 1" decayed Wood in upper 2" of sample; gray fine to coarse SAND and SILT above Wood, moist., Rec. = 1.2 ft, 10.0 ft - 12.0 ft	27-10-3-2 (13)						
		A-4, S6 (12' - 14'): Loose, gray-brown fine SAND and SILT, trace fine Gravel, wet., Rec. = 1.6 ft	2-2-2-2 (4)	27.9	0.2	54.8	45.0		
15		S7 (14' - 16'): Loose, brown (top half) to gray (bottom half) fine SAND and SILT, trace Wood in spoon shoe. With 1/2" layer fine to coarse SAND at bottom., Rec. = 1.7 ft, 14.0 ft - 16.0 ft	3-3-2-2 (5)						
20		S8 (19' - 21'): Dense, gray SILT, some fine Sand, trace fine Gravel (broken), wet. Low recovery, possible slough., Rec. = 0.1 ft, 19.0 ft - 21.0 ft	15-16-18-24 (34)						
25		A-4, S9 (24' - 26'): Dense, gray SILT to Clayey SILT, some fine to coarse Sand, trace fine Gravel, moist., Rec. = 1.5 ft	9-16-19-18 (35)	12.3	18.9	21.2	67.9	19	4
30		S10 (30' - 32'): Dense, gray Clayey SILT, some fine to coarse SAND, trace fine to coarse Gravel, moist., Rec. = 2.0 ft, 30.0 ft - 32.0 ft	12-19-25-36 (44)						
35		A-4, S11 (34' - 36'): Dense, gray Clayey SILT and fine to coarse SAND, trace fine Gravel, moist., Rec. = 1.8 ft	11-18-20-26 (38)	12.1	9.3	22.4	68.3	19	5
		S12 (39' - 41'): Dense, gray Clayey SILT and fine to coarse SAND, trace fine	19-22-26-						

Notes:
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2. N Values have not been corrected for hammer energy. CE 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.

BORING LOG IRASBURG STP DECK(50) B-102-1826A.GPJ VERMONT AOT.GDT 11/22/22

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg Bridge
STP DECK(50)
VT Route 14, Br. 124

Boring No.: B-102
Page No.: 2 of 3
Pin No.: 19B217
Checked By: DTH

Boring Crew: M. Nadeau, NTB, A. Baribault, GEODesign
Date Started: 5/13/22 Date Finished: 5/17/22
VTSPG NAD83: N 841168.60 ft E 1696109.10 ft
Station: 164+64.5 Offset: 9.5' RT
Ground Elevation: 842.0 ft

	Casing	Sampler
Type:	HSA/FJ	SS
I.D.:	4 in	1.38 in
Hammer Wt:	140 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig: Diedrich D-50 Track	CE = 1.52	

Groundwater Observations		
Date	Depth (ft)	Notes
05/13/22	12.0	Wet sample
05/16/22	9.2	Casing @35'

Depth (ft)	Strata ID	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Gravel, moist., Rec. = 0.2 ft, 39.0 ft - 41.0 ft	1 (48)						
45		A-4, S13 (44' - 46'): Very dense, gray Clayey SILT and fine to coarse SAND, little fine to coarse Gravel (broken), moist., Rec. = 0.7 ft	25-42-43-50 (83)	9.5	22.7	33.3	44.0		
50		S14 (49' - 49.2'): Refusal, gray Clayey SILT and fine to coarse GRAVEL (1pc coarse), some fine to coarse Sand, moist., Rec. = 0.2 ft, 49.0 ft - 49.2 ft	50/2" (6)						
		Inferred Boulder, 49.2 ft - 50.2 ft							
55		Inferred Cobble, 53.8 ft - 54.0 ft	30-88/6" (8)						
		S15 (54' - 55'): Refusal, gray; top 3: fine to coarse SAND, some fine Gravel, little Silt. Bottom 5' fine to coarse SAND and SILT, little fine to coarse Gravel (1 piece coarse Gravel in spoon shoe)., Rec. = 0.7 ft, 54.0 ft - 55.0 ft							
60		A-4, S16 (59' - 61'): Very dense, gray SILT, some fine to coarse SAND, trace fine Gravel, moist., Rec. = 1.8 ft	36-56-48-53 (8)	9.7	14.4	28.3	57.3		
65		S17 (64' - 64.5'): Refusal, gray fine to coarse SAND and fine GRAVEL (broken rock in spoon shoe), some Silt. Wet., Rec. = 0.3 ft, 64.0 ft - 64.5 ft	89/6" (8)						
70		S18 (69' - 71'): Very dense, gray SILT and fine SAND, trace fine Gravel, moist. With occasional lenses 1/16" to 1/8" thick fine SAND, trace Silt., Rec. = 1.7 ft, 69.0 ft - 71.0 ft	35-42-50-74 (92)						
75		A-4, S19 (74' - 75.9'): Refusal, gray SILT and fine SAND, trace fine Gravel, wet. Top 6" of sample completely filled and plugged the sampler check ball; may have resulted in high/refusal blow count., Rec. = 1.5 ft	27-38-70-100/5" (8)	23.9	4.8	5.6	89.6		
		S20 (79' - 80.8'): Refusal, gray fine SAND, some Silt, wet. With approx. 3-4"	36-63-75-						

Notes:
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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.

BORING LOG IRASBURG STP DECK(50) B-102-1826A.GPJ VERMONT AOT.GDT 11/22/22

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

FILE NAME: s19b217bor_log.dgn
PROJECT LEADER: JB McCarthy
DESIGNED BY: G. DARGAN
BORING LOGS 2

PLOT DATE: 8-AUG-2023
DRAWN BY: G. DARGAN
CHECKED BY: A. VAN BUSKIRK
SHEET 21 OF 34

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg Bridge
STP DECK(50)
VT Route 14, Br. 124

Boring No.: B-102
Page No.: 3 of 3
Pin No.: 19B217
Checked By: DTH

Boring Crew: M. Nadeau, NTB, A. Baribault, GEODesign
Date Started: 5/13/22 Date Finished: 5/17/22
VTSPG NAD83: N 841168.60 ft E 1696109.10 ft
Station: 164+64.5 Offset: 9.5' RT
Ground Elevation: 842.0 ft

	Casing	Sampler
Type:	HSA/FJ	SS
I.D.:	4 in	1.38 in
Hammer Wt:	140 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig:	Diedrich D-50 Track	CE = 1.52

Groundwater Observations

Date	Depth (ft)	Notes
05/13/22	12.0	Wet sample
05/16/22	9.2	Casing @35'

Depth (ft)	Strata ID	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		slough with fine Gravel in top of sample (discarded). Est. 3-4" of recovery flowed out of sampler through catcher (would have been 15" recl., Rec. = 1.0 ft, 79.0 ft - 88.8 ft	70/4" (R)						
85		Hole stopped @ 84.0 ft no refusal							

Remarks:
1) Boring drilled near marked location; estimated station and offset 164+64.5, 9.5' Rt
2) Borehole advanced from surface to 16' deep using 2-1/4" HSA. Grinding and chatter noted from 8' to 9.5' deep on inferred cobbles. Broken pieces up to ~5" cobble in auger cuttings.
3) Borehole advanced with 4" FJ casing, drive and wash from 14' deep; difficult driving 19' to 24' but continue open hole from 24' to 39' deep.
4) Roller bit grinding on inferred occasional gravel / cobbles from 19' to 64' deep.
5) Advanced from 28.5' to 29' deep through inferred boulder/cobble, sample S10 obtained at 30' deep.
6) After sampling S12 at 39' deep, advanced casing from 24' deep to 34' deep, with difficult driving 32 to 34' deep.
7) Casing driven to 35' deep (below pavement) after sampling S13 at 44' deep. Open hole below to 61' deep.
8) Over the weekend, hole collapsed to ~58' deep.
9) Occasional roller bit grinding / chatter on inferred gravel / cobbles at approx. 63' deep.
10) Slough in open hole above sample S19 at 74' deep likely caused high blow count/refusal from 18-24" because sampler was plugged
11) Occasional roller bit grinding / chatter from 74' to 79' on inferred gravel. Borehole collapsing around roller bit after drilling 79' to 84' deep; install 3" FJ casing.
12) Lowered 3" casing to 72' deep, then drove to 82.5' deep (practical refusal); wash out to 84' deep to attempt sample, but borehole collapsed. Drive casing to 84'
13) Attempted to sample at 84' but encountered ~3' of heave in casing. Abandoned hole and removed casing 5/17.
14) Visual Descriptions based on Modified Burmister system. Laboratory gradations (where applicable) were performed by VTrans and are per AASHTO M145.

Notes:
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BORING LOG IRASBURG STP DECK(50)B B-102-1@2A.GPJ VERMONT AOT.GDT 11/22/22

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg Bridge
STP DECK(50)
VT Route 14, Br. 124

Boring No.: B-102A
Page No.: 1 of 5
Pin No.: 19B217
Checked By: DTH

Boring Crew: M. Nadeau, NTB, A. Baribault, GEODesign
Date Started: 5/17/22 Date Finished: 5/24/22
VTSPG NAD83: N 841172.30 ft E 1696106.70 ft
Station: 164+69 Offset: 9.5' RT
Ground Elevation: 842.0 ft

	Casing	Sampler
Type:	HSA/FJ	SS
I.D.:	6 in	1.38 in
Hammer Wt:	140 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig:	Diedrich D-50 Track	CE = 1.52

Groundwater Observations

Date	Depth (ft)	Notes
05/18/22	11.0	Casing @100'

Depth (ft)	Strata ID	CLASSIFICATION OF MATERIALS (Description)	Run (Dp deg)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		0.0 ft - 0.6 ft								
		1.0 ft - 3.0 ft								
		3.0 ft - 5.0 ft								
5		Stratigraphy from surface to 80.7' deep inferred from B-102, 5.0 ft - 7.0 ft								
		7.0 ft - 8.2 ft								
		8.2 ft - 10.0 ft								
10		10.0 ft - 12.0 ft								
		12.0 ft - 14.0 ft								
15		14.0 ft - 16.0 ft								
		19.0 ft - 21.0 ft								
20										
		24.0 ft - 26.0 ft								
25										
		30.0 ft - 32.0 ft								
30										
		34.0 ft - 36.0 ft								
35										
		39.0 ft - 41.0 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. CE 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.

BORING LOG IRASBURG STP DECK(50)B B-102-1@2A.GPJ VERMONT AOT.GDT 11/22/22

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

FILE NAME: s19b217bor_log.dgn
PROJECT LEADER: JB McCarthy
DESIGNED BY: G. DARGAN
BORING LOGS 3

PLOT DATE: 8-AUG-2023
DRAWN BY: G. DARGAN
CHECKED BY: A. VAN BUSKIRK
SHEET 22 OF 34

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg Bridge
STP DECK(50)
VT Route 14, Br.124

Boring No.: B-102A
Page No.: 2 of 5
Pin No.: 19B217
Checked By: DTH

Boring Crew: M. Nadeau, NTB, A. Baribault, GEODesign
Date Started: 5/17/22 Date Finished: 5/24/22
VTSPG NAD83: N 841172.30 ft E 1696106.70 ft
Station: 164+69 Offset: 9.5' RT
Ground Elevations: 842.0 ft

	Casing	Sampler
Type:	HSA/FJ	SS
I.D.:	6 in	1.38 in
Hammer Wt:	140 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig: Diedrich D-50 Track	CE = 1.52	

Groundwater Observations

Date	Depth (ft)	Notes
05/18/22	11.0	Casing @100'

Depth (ft)	Strata ID	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg)	Core Rec.% (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
45		44.0 ft - 46.0 ft								
50		49.0 ft - 49.2 ft 49.2 ft - 50.2 ft								
55		53.0 ft - 54.0 ft 54.0 ft - 55.0 ft								
60		59.0 ft - 61.0 ft								
65		64.0 ft - 64.5 ft								
70		69.0 ft - 71.0 ft								
75		74.0 ft - 75.9 ft								
		79.0 ft - 80.8 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. CE 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.

BORING LOG IRASBURG STP DECK(50)B-102-1&2GAGFJ VERMONT AOT.GDT 11/22/22

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg Bridge
STP DECK(50)
VT Route 14, Br.124

Boring No.: B-102A
Page No.: 3 of 5
Pin No.: 19B217
Checked By: DTH

Boring Crew: M. Nadeau, NTB, A. Baribault, GEODesign
Date Started: 5/17/22 Date Finished: 5/24/22
VTSPG NAD83: N 841172.30 ft E 1696106.70 ft
Station: 164+69 Offset: 9.5' RT
Ground Elevations: 842.0 ft

	Casing	Sampler
Type:	HSA/FJ	SS
I.D.:	6 in	1.38 in
Hammer Wt:	140 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig: Diedrich D-50 Track	CE = 1.52	

Groundwater Observations

Date	Depth (ft)	Notes
05/18/22	11.0	Casing @100'

Depth (ft)	Strata ID	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg)	Core Rec.% (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
85		S1 (84' - 86'): Very dense, gray fine to medium SAND, trace Silt, wet., Rec. = 1.0 ft, 84.0 ft - 86.0 ft				8-17-34-44 (51)				
90		A-2-4, S2 (89' - 90.5'): Very dense, gray fine SAND, some Silt, trace fine Gravel, wet., Rec. = 1.5 ft				15-26-39 (65)	21.4	1.2	77.1	21.7
95		S3 (94' - 96'): Very dense, gray fine to medium SAND, trace Silt, wet. With 1" layer fine SAND and SILT at bottom., Rec. = 1.7 ft, 94.0 ft - 96.0 ft				12-25-36-41 (61)				
100		A-4, S4 (99' - 101'): Dense, gray fine SAND and Silt, wet., Rec. = 1.3 ft				2-15-27-36 (42)	20.2	0.4	54.0	45.6
105		A-4, S5 (104' - 105.5'): Refusal: S5A (upper 9"): gray fine SAND and SILT, trace f Gravel, wet. S5B (lower 4"): gray fine to coarse SAND, some Silt, little fine to coarse Gravel, moist., Rec. = 1.1 ft				22-30-85/6" (0)	19.8	0.6	51.6	47.8
110										
115		S6 (114' - 114.5'): Refusal, gray fine to coarse SAND, some fine Gravel, little Silt, wet., Rec. = 0.4 ft, 114.0 ft - 115.5 ft				110/6" (0)				

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE 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.

BORING LOG IRASBURG STP DECK(50)B-102-1&2GAGFJ VERMONT AOT.GDT 11/22/22

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

FILE NAME: s19b217bor_log.dgn
PROJECT LEADER: JB McCarthy
DESIGNED BY: G. DARGAN
BORING LOGS 4

PLOT DATE: 8-AUG-2023
DRAWN BY: G. DARGAN
CHECKED BY: A. VAN BUSKIRK
SHEET 23 OF 34

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg Bridge
STP DECK(50)
VT Route 14, Br. 124

Boring No.: B-102A
Page No.: 4 of 5
Pin No.: 19B217
Checked By: DTH

Boring Crew: M. Nadeau, NTB, A. Baribault, GEODesign
Date Started: 5/17/22 Date Finished: 5/24/22
VTSPG NAD83: N 841172.30 ft E 1696106.70 ft
Station: 164+69 Offset: 9.5' RT
Ground Elevation: 842.0 ft

	Casing	Sampler
Type:	HSA/FJ	SS
I.D.:	6 in	1.38 in
Hammer Wt:	140 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig: Diedrich D-50 Track	CE = 1.52	

Groundwater Observations

Date	Depth (ft)	Notes
05/18/22	11.0	Casing @100'

Depth (ft)	Strata ID	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
125										
		S7 (126' - 127'): Refusal, gray SILT and fine SAND, wet., Rec. = 0.5 ft, 126.0 ft - 127.0 ft				36-114 @				
130										
135		A-4, S8 (135' - 135.8'): Refusal, gray SILT and fine to coarse SAND, little fine to coarse Gravel, wet., Rec. = 0.8 ft				65-100/3" @	12.0	19.7	33.5	46.8
140										
145		S9 (145' - 146.1'): Refusal, gray SILT and fine to coarse SAND, trace fine Gravel, wet., Rec. = 0.7 ft, 145.0 ft - 146.1 ft				9-71-50/1.5" @				
150										
155		S10 (155' - 155.5'): Refusal, gray fine to coarse SAND, some Silt, little fine Gravel, wet., Rec. = 0.5 ft, 155.0 ft - 155.5 ft				113/6" @				

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE 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.

BORING LOG IRASBURG STP DECK(50) B-102-1(20)A,FJ VERMONT AOT.GDT 11/22/22

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg Bridge
STP DECK(50)
VT Route 14, Br. 124

Boring No.: B-102A
Page No.: 5 of 5
Pin No.: 19B217
Checked By: DTH

Boring Crew: M. Nadeau, NTB, A. Baribault, GEODesign
Date Started: 5/17/22 Date Finished: 5/24/22
VTSPG NAD83: N 841172.30 ft E 1696106.70 ft
Station: 164+69 Offset: 9.5' RT
Ground Elevation: 842.0 ft

	Casing	Sampler
Type:	HSA/FJ	SS
I.D.:	6 in	1.38 in
Hammer Wt:	140 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig: Diedrich D-50 Track	CE = 1.52	

Groundwater Observations

Date	Depth (ft)	Notes
05/18/22	11.0	Casing @100'

Depth (ft)	Strata ID	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
165		S11 (165' - 166.1'): Refusal, gray fine SAND, some Silt, trace fine Gravel, wet. With fractured gravel pieces in spoon shoe., Rec. = 0.7 ft, 165.0 ft - 166.1 ft				18-55.0-50/1" @ Top of Bedrock @ 166.0 ft				
170		168.0 ft - 173.0 ft, Gray to dark gray, fair quality, moderately hard, closely to moderately jointed, fresh to slightly weathered META-LIMESTONE. Fracturing ~10 to 50 degrees from horizontal. Reaction to dilute HCl. Possible 7" interbed of Amphibolite 169.5' to 170.3'. Hard, darker greenish gray, with slickensided fracture surface at top (169.5'). No reaction to dilute HCl.	C1	100 (75)	0.5 0.8 0.9 0.8 0.8					
175		173.0 ft - 178.0 ft, Gray to dark gray, excellent quality, moderately hard, moderately to widely jointed, fresh to slightly weathered META-LIMESTONE. Fracturing ~30 degrees from horizontal. Reaction to dilute HCl.	C2	100 (99)	0.9 1.1 1.1 1 0.9					
180		Hole stopped @ 178.0 ft								
185										
190										
195										

Remarks:
1) Boring offset attempted at estimated station and offset 164+74, 9.5' Rt using HSA. Abandoned at 8' deep due to crooked hole. Offset to approx. Sta. 164+69, 9.5' R.
2) Boring advanced to 15' using 2-1/4" HSA. Installed 6" FJ casing to 20' then washed ahead to 25' deep. 6" casing driven to 25' deep, then borehole advanced open hole to 82' deep.
3) Installed 4" casing to 66' deep, then drove to 84' deep. Continue boring drive and wash with 4" casing to 104' deep.
4) Drove sample S2 18" penetration to avoid plugging spoon and ball check valve. Observed 24" of recovery from inferred liquefying sand.
5) Driller noted increased roller bit resistance below 97.5' deep.
6) Roller bit chatter and grinding on inferred gravel or cobbles below 105' deep.
7) After sampling S5 at 104' deep, 4" casing driven to 110' deep with open hole below. Advanced 4" roller bit to 123' deep and encountered weathered rock; drill to 124' deep and installed 3" casing.
8) With 2 7/8" roller bit, encountered end of possible weathered boulder at 124.5' deep; advanced to 126' deep for sample S7.
9) Installed 3" FJ casing to refusal at 123' deep on 5/18 and advanced 2 7/8" roller bit to 145' deep; removed 3" casing 5/19 and advanced 3 7/8" roller bit to 145' deep, then installed 3" casing to 145' deep before sampling S9 at 145' deep.
10) Artesian pressure noted in casing from 135' to 145' deep, approx 1 to 2' above grade.
11) Advanced borehole from 145' to 165' by drilling ahead 5' to 18' with roller bit and then driving casing.
12) Advanced roller bit from 166.1' to 168' through inferred rock prior to attempting core.
13) Driller seated 3" casing on top of rock, then flushed hole with roller bit prior to coring.
14) Approximately 3" of C1 was recovered when attempting C2; steep ~60deg fracture jammed core barrel while advancing approximately 2" over 7 minutes (time not recorded as coring since driller was attempting to line up barrel and core). Removed barrel, cleared by breaking up rock from barrel.
16) Removed casing and backfilled with cuttings 5/24.
17) Visual Descriptions based on Modified Burmister system. Laboratory gradations (where applicable) were performed by VTrans and are per AASHTO M145.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE 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.

BORING LOG IRASBURG STP DECK(50) B-102-1(20)A,FJ VERMONT AOT.GDT 11/22/22

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

FILE NAME: s19b217bor_log.dgn
PROJECT LEADER: JB McCarthy
DESIGNED BY: G. DARGAN
BORING LOGS 5

PLOT DATE: 8-AUG-2023
DRAWN BY: A. VAN BUSKIRK
CHECKED BY: A. VAN BUSKIRK
SHEET 24 OF 34

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg
STP DECK(50)
VT Route 14, Br. 124

Boring No.: B-103
Page No.: 1 of 3
Pin No.: 19B217
Checked By: SPM

Boring Crew: McGinley, Aubut, Monette, Zottola, Arles
Date Started: 3/15/22 Date Finished: 3/18/22
VTSPG NAD83: N 841268.10 ft E 1696825.20 ft
Station: 165+87 Offset: 11' LT
Ground Elevation: 841.9 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 45C SKID AUTO	CE = 1.56

Groundwater Observations		
Date	Depth (ft)	Notes
03/16/22	11.1	WT before drilling

Depth (ft)	Strata ID	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Asphalt, 0.0 ft - 0.9 ft						
		A-1-b, GrSa, brn, MTW, Rec. = 0.7 ft, Refusal @ 1.8 (50 blows/ 6"), Rollercone cleanout 4.0-5.0'		38-R (9)	9.6	36.3	45.8	17.9
5		Field Note, No Recovery, Rec. = 0.0 ft, Rollercone cleanout 9.5-10.0'		3-6-7-5 (13)				
10		A-4, SaSi, Dk/brn, Moist, Rec. = 1.0 ft, Lab note: some wood within sample		2-2-2-3 (4)	34.8	5.1	38.9	56.0
15		A-4, SaSi, gry, Wet, Rec. = 1.4 ft, Rollercone cleanout 19.5-20.0'		1-2-2-2 (4)	21.4	5.7	34.3	60.0
20		Field Note, No Recovery, Rec. = 0.0 ft, Rollercone cleanout 24.5-25.0'		4-2-2-4 (4)				
25		A-4, SaSi, gry, MTW, Rec. = 1.1 ft, Refusal @ 25.3' (10 blows no movement), NXDC cleanout 27.5-30.0'		24-35-R (9)	15.9	3.4	26.9	69.7
30		30.0 ft - 35.0 ft, Attempted NX coring at 35.0'. Low recovery. BOULDERS, broken and fractured rock fragments.	R-1					
35		A-4, SaSi, gry, Wet, Rec. = 0.2 ft		3-3-6-23 (9)	14.6	8.8	27.5	63.7

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE 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.

BORING LOG IRASBURG STP DECK(50)P3 VERMONT ADJ.GDT 11/22/22

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg
STP DECK(50)
VT Route 14, Br. 124

Boring No.: B-103
Page No.: 2 of 3
Pin No.: 19B217
Checked By: SPM

Boring Crew: McGinley, Aubut, Monette, Zottola, Arles
Date Started: 3/15/22 Date Finished: 3/18/22
VTSPG NAD83: N 841268.10 ft E 1696825.20 ft
Station: 165+87 Offset: 11' LT
Ground Elevation: 841.9 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 45C SKID AUTO	CE = 1.56

Groundwater Observations		
Date	Depth (ft)	Notes
03/16/22	11.1	WT before drilling

Depth (ft)	Strata ID	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note, No Recovery, Rec. = 0.0 ft, Refusal @ 41.2' (100 blows), rock in tip of sampler		24-43-R (9)				
45		A-4, SaSi, gry, Wet, Rec. = 1.1 ft, Refusal @ 46.7' (100 blows), rock in tip of sampler		12-28-38-R (9)	13.2	15.4	21.7	62.9
50		A-4, SaSi, gry, Moist, Rec. = 0.7 ft, Refusal @ 51.5' (100 blows)		28-26-42-R (68)	11.5	9.2	28.2	62.6
55		Field Note, No Recovery, Rec. = 0.0 ft, Refusal @ 55.4' (50 blows/ 6"), rock in tip of sampler		R (9)				
60		Field Note, No Recovery, Rec. = 0.0 ft, Rock in tip of sampler		42-49-44-43 (93)				
65		Field Note, No Recovery, Rec. = 0.0 ft, Refusal @ 65.9' (50 blows/ 6"), NXDC cleanout 69.7-70.0'		38-R (9)				
70								
75		A-4, Si, gry, Moist, Rec. = 1.2 ft, Refusal @ 76.4' (50 blows/ 6")		29-44-R (9)	22.1	0.9	6.1	93.0

Notes:
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BORING LOG IRASBURG STP DECK(50)P3 VERMONT ADJ.GDT 11/22/22

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

FILE NAME: s19b217bor_log.dgn
PROJECT LEADER: JB McCarthy
DESIGNED BY: G. DARGAN
BORING LOGS 6

PLOT DATE: 8-AUG-2023
DRAWN BY: G. DARGAN
CHECKED BY: A. VAN BUSKIRK
SHEET 25 OF 34

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg
STP DECK(50)
VT Route 14, Br. 124

Boring No.: B-103
Page No.: 3 of 3
Pin No.: 19B217
Checked By: SPM

Boring Crew: McGinley, Aubut, Monette, Zottola, Arles
Date Started: 3/15/22 Date Finished: 3/18/22
VTSPG NAD83: N 841260.10 ft E 1696825.20 ft
Station: 165+87 Offset: 11' LT
Ground Elevation: 841.9 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 45C SKID AUTO	CE = 1.56

Groundwater Observations

Date	Depth (ft)	Notes
03/16/22	11.1	WT before drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
85		A-4, Si, gry, Wet, Rec. = 0.6 ft, Refusal @ 88.4' (50 blows/ 6")		22-37-72 (B)	21.2	1.0	11.4	87.6
90		A-3, Sa, gry, Wet, Rec. = 0.6 ft, Refusal @ 91.8' (50 blows/ 6"), Rollercone cleanout 97.5-99.5'		8-24-39-R (63)	23.2	0.2	92.5	7.3
95								
100		Field Notes: No Recovery, Rec. = 0.0 ft, Flowing sands encountered resulting in no recovery in sampler.		5-8-8-8 (16)				
		Hole stopped @ 101.5 ft						
105		Remarks: Ended hole @ 101.5' Hole collapsed @ 7.6'						
110								
115								

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE 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.

BORING LOG IRASBURG STP DECK50R.GPJ VERMONT AOT.GDT 11/22/22

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Irasburg
STP DECK(50)
VT Route 14, Br. 124

Boring No.: B-104
Page No.: 1 of 1
Pin No.: 19B217
Checked By: SPM

Boring Crew: Aubut, Monette, McGinley, Zottola
Date Started: 3/09/22 Date Finished: 3/10/22
VTSPG NAD83: N 841263.70 ft E 1696849.10 ft
Station: 165+77 Offset: 11' RT
Ground Elevation: 842.5 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 45C SKID AUTO	CE = 1.56

Groundwater Observations

Date	Depth (ft)	Notes
03/10/22	14.3	WT before drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Asphalt, 0.0 ft - 0.7 ft, Rollercone cleanout 3.8-5.0'								
5		Field Class. GrSa, brn, Wet, Rec. = 0.3 ft		16-2-10-9 (12)						
		Field Class. SaGr, brn, Moist, Rec. = 0.7 ft, R @ 8.3' (50 blows/ 6"), Rock in tip of sampler		9-13-R (B)						
10		A-1-a, SaGr, gry, Wet, Rec. = 0.6 ft, Rollercone cleanout 10.7-11.8'		17-9-7-9 (16)	8.1	71.0	23.2	5.8		
		Field Class. Gr w/ some coarse Sa & wood, brn, Wet, Rec. = 0.3 ft, Wood in tip of sampler, Rollercone cleanout 12.6-13.8'		7-4-5-6 (9)						
		A-4, SaSi, gry, Wet, Rec. = 1.5 ft, Rollercone cleanout 14.2-15.8'		7-4-2-2 (6)	25.2	1.4	43.8	54.8		
15		Field Notes: No Recovery, Rec. = 0.0 ft		5-5-10-9 (15)						
		A-4, SaSi, gry, Wet, Rec. = 1.6 ft, Rollercone cleanout 18.5-19.8'. Lab note: Clay lenses within sample. Sample tested non-plastic.		2-3-2-3 (5)	22.9	2.6	29.4	68.0		
20		A-4, SaSi, gry, Wet, Rec. = 2.0 ft, Rollercone cleanout 24.5-25.8'. Lab note: Clay lenses within sample.		3-3-2-3 (5)	15.8	12.3	22.3	65.4	20	5
25		A-4, SaSi, gry, Wet, Rec. = 1.0 ft, Refusal @ 26.2' (100 blows)		37-38-R (B)	14.8	4.7	28.1	67.2		
		Field Notes: No Recovery, Rec. = 0.0 ft, Refusal @ 29.3' (50 blows/ 6"), Rollercone cleanout 29.3-30.0'		R (B)						
30		30.0 ft - 35.0 ft, Attempted NX coring at 30.0'. Low recovery. BOULDERS, broken and fractured rock fragments.	R-1							
35		35.0 ft - 40.0 ft, Attempted NX coring at 35.0'. Low recovery. BOULDERS, broken and fractured rock fragments.	R-2							
		Hole stopped @ 40.0 ft								
40		Remarks: Ended hole @ 40.0' Hole collapsed @ 7.1'								
45										

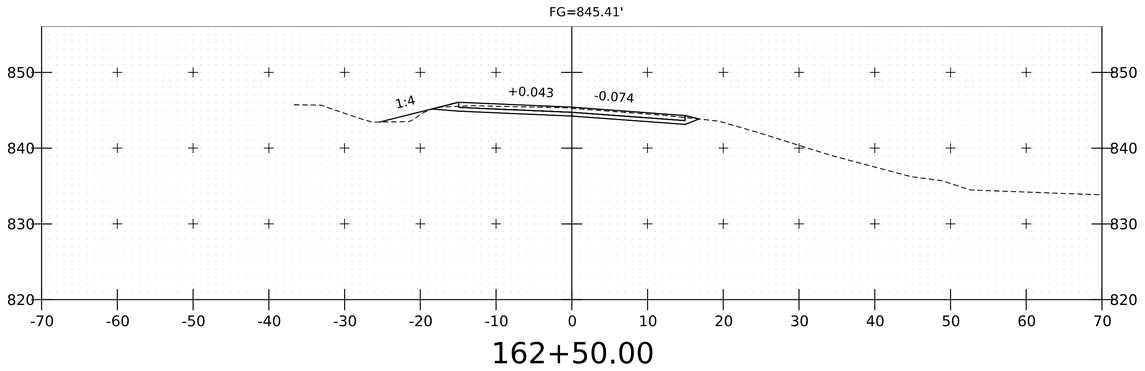
Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations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

BORING LOG IRASBURG STP DECK50R.GPJ VERMONT AOT.GDT 11/22/22

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

FILE NAME: s19b217bor_log.dgn
PROJECT LEADER: JB McCarthy
DESIGNED BY: G. DARGAN
BORING LOGS 7

PLOT DATE: 8-AUG-2023
DRAWN BY: A. VAN BUSKIRK
CHECKED BY: A. VAN BUSKIRK
SHEET 26 OF 34



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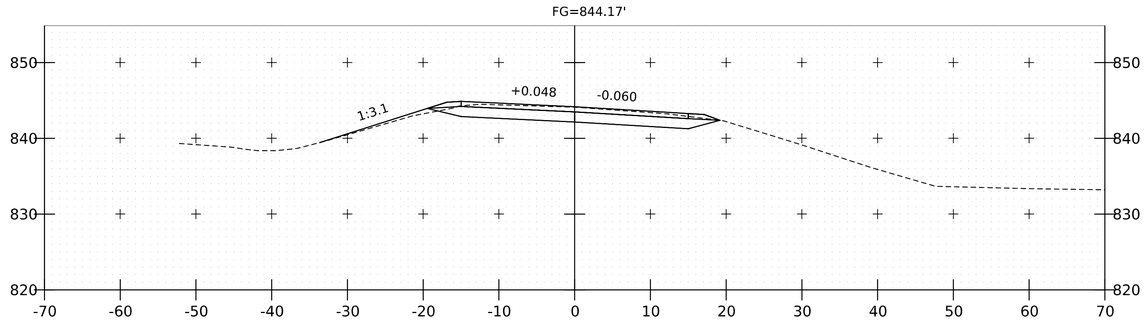

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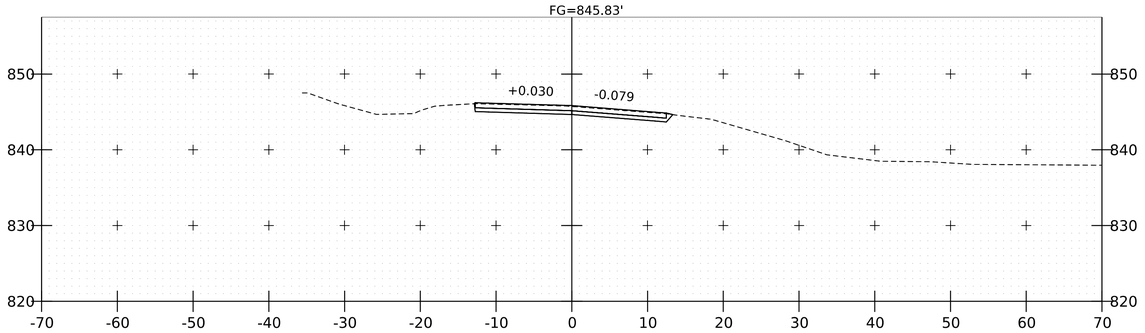

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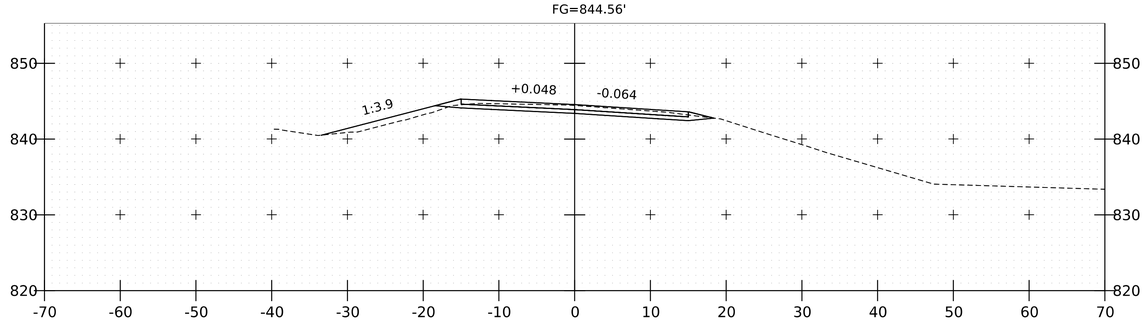

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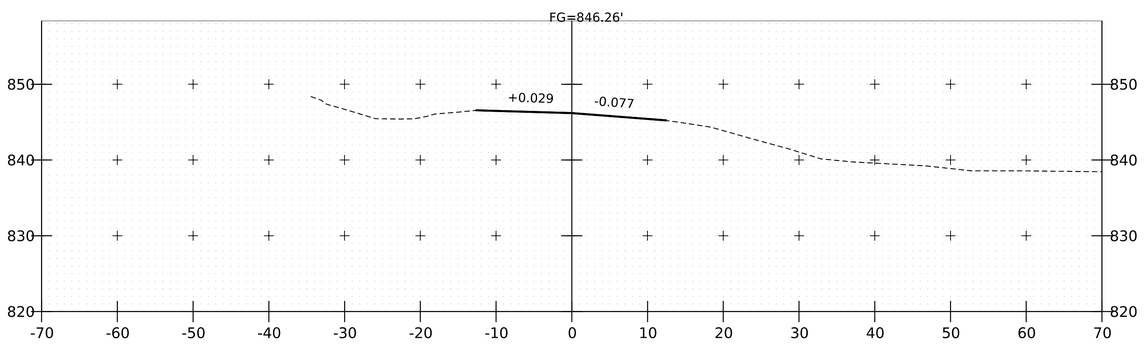

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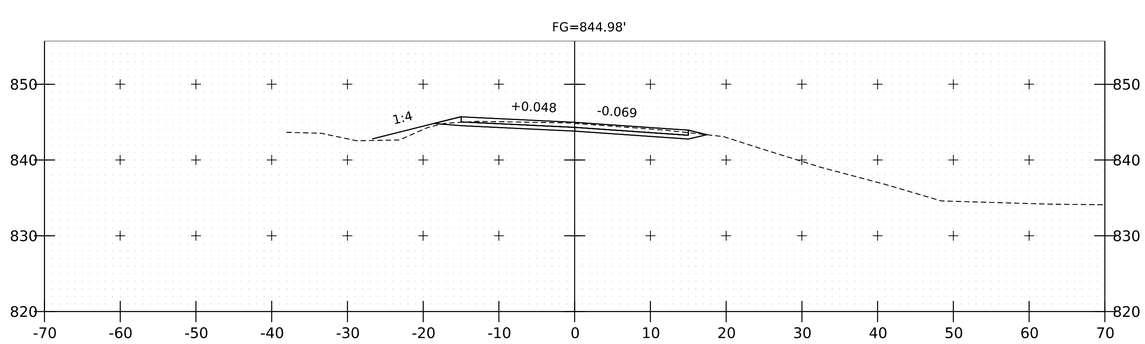
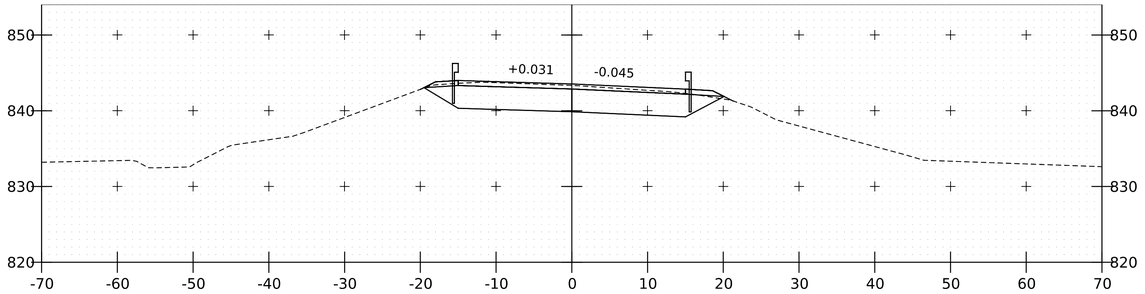


162+75.00

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

FILE NAME:	s19b217xs_rev(4)	PLOT DATE:	8-AUG-2023
PROJECT LEADER:	J.B. McCARTHY	DRAWN BY:	A. VAN BUSKIRK
DESIGNED BY:	A. VAN BUSKIRK	CHECKED BY:	G. DARGAN
VT14 CROSS SECTIONS 1		SHEET	$S#$ OF $T#$

FG=843.54'



164+00.00

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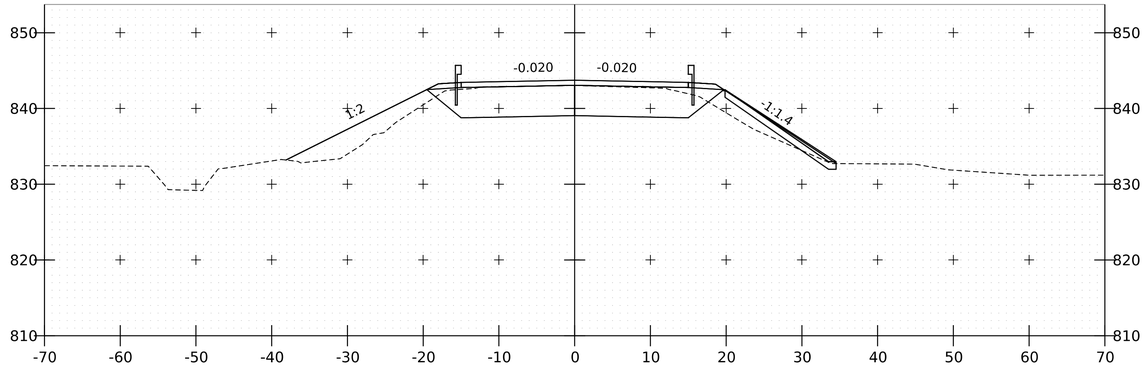

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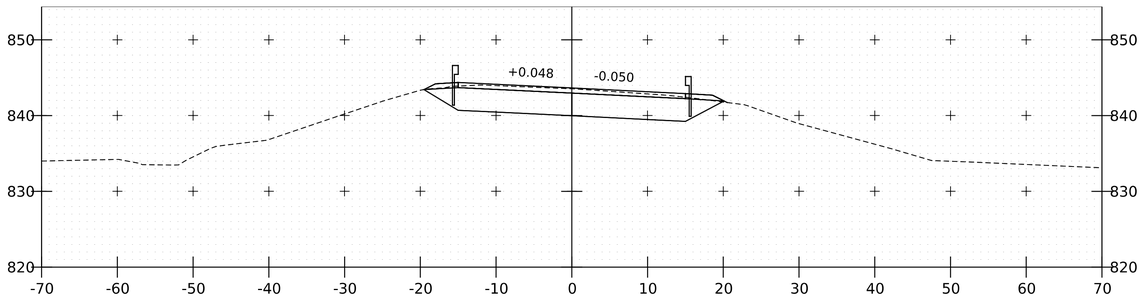

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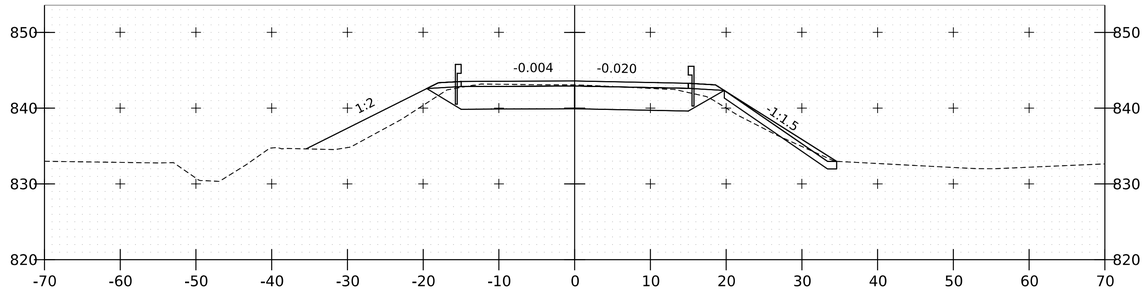

164+50.00

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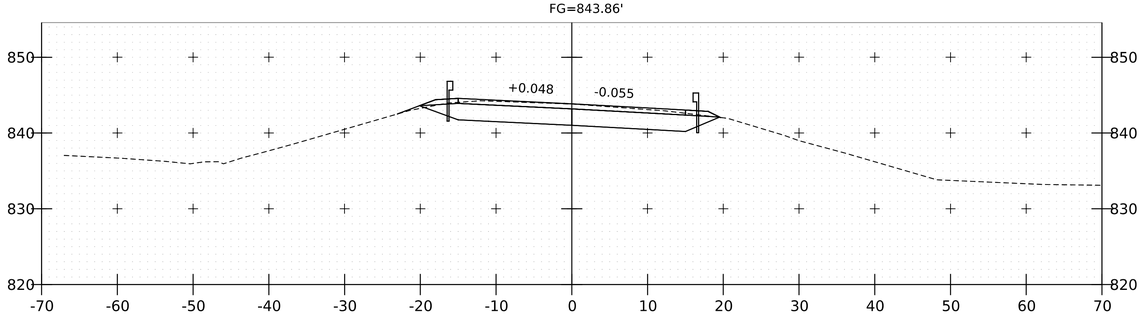

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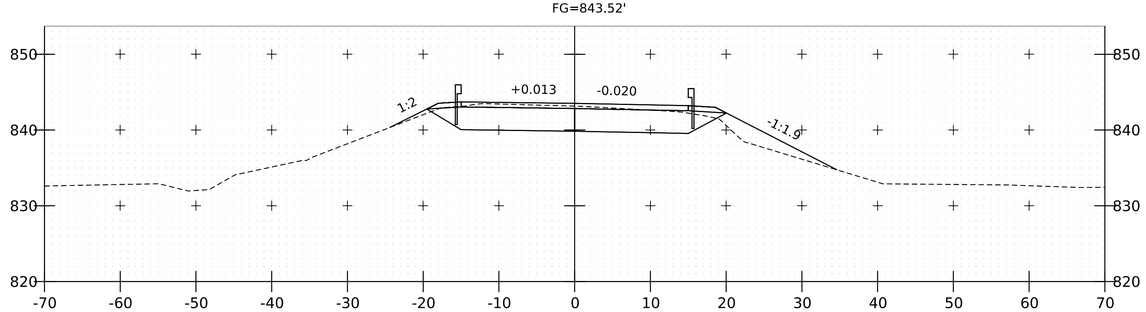
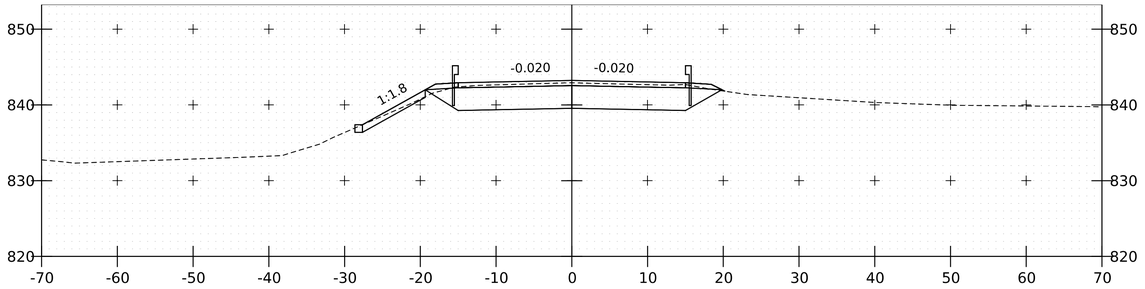


164+25.00

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

FILE NAME:	s19b217xs_rev(4)	PLOT DATE:	8-AUG-2023
PROJECT LEADER:	J.B. McCARTHY	DRAWN BY:	A. VAN BUSKIRK
DESIGNED BY:	A. VAN BUSKIRK	CHECKED BY:	G. DARGAN
VT 14 CROSS SECTIONS 2		SHEET	$S#$ OF $T#$

FG=843.23'



166+25.00

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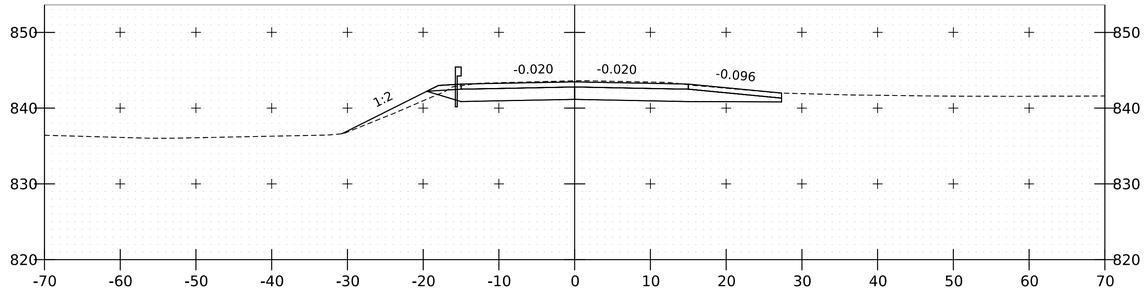

167+00.00

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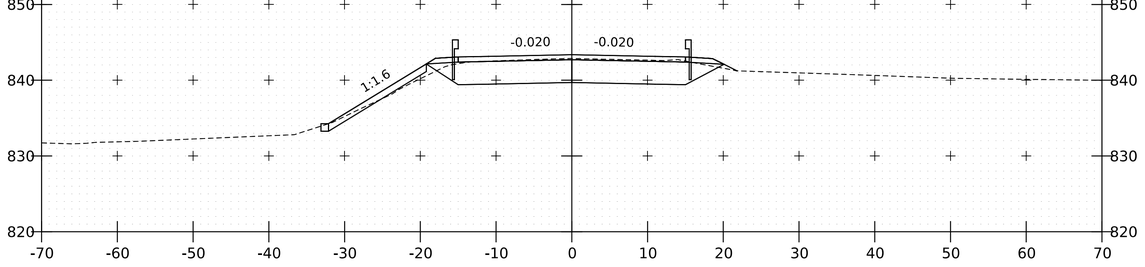

166+00.00

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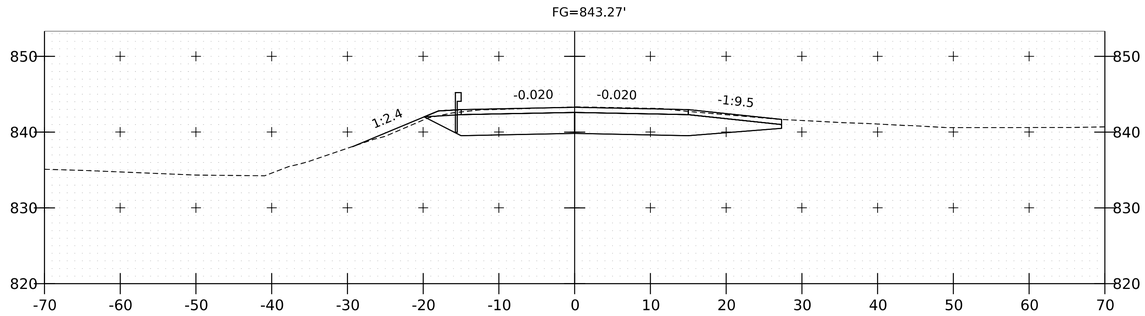

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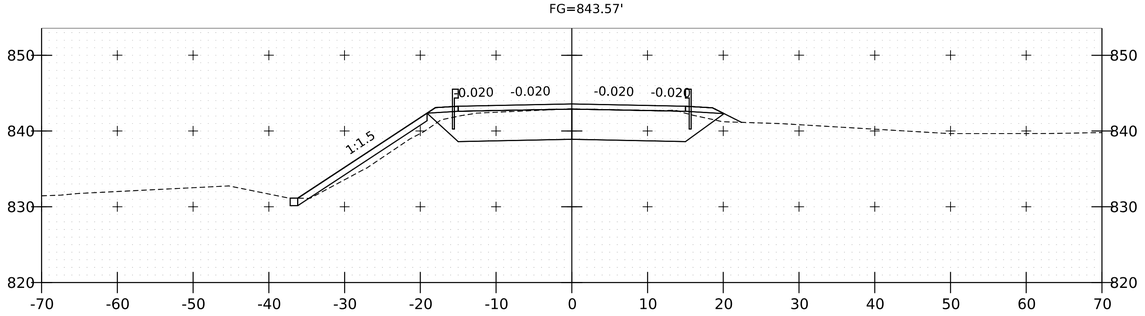

165+79.33

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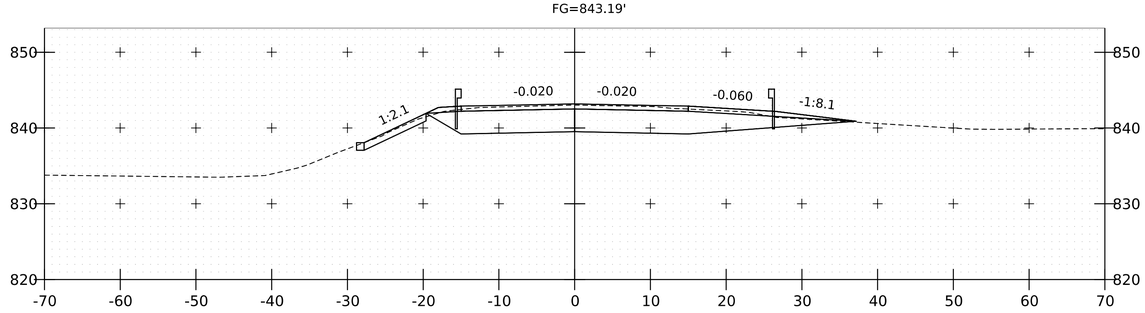
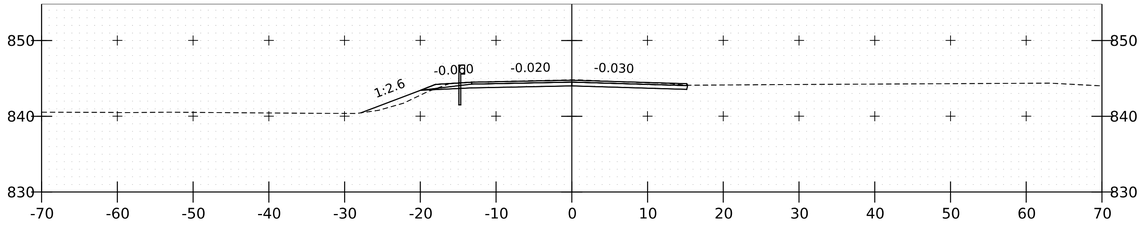


166+50.00

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

FILE NAME:	s19b217xs_rev(4).dgn	PLOT DATE:	8-AUG-2023
PROJECT LEADER:	J.B. McCARTHY	DRAWN BY:	A. VAN BUSKIRK
DESIGNED BY:	A. VAN BUSKIRK	CHECKED BY:	G. DARGAN
VT14 CROSS SECTIONS 3		SHEET	$S#$ OF $T#$

FG=844.76'



167+75.00

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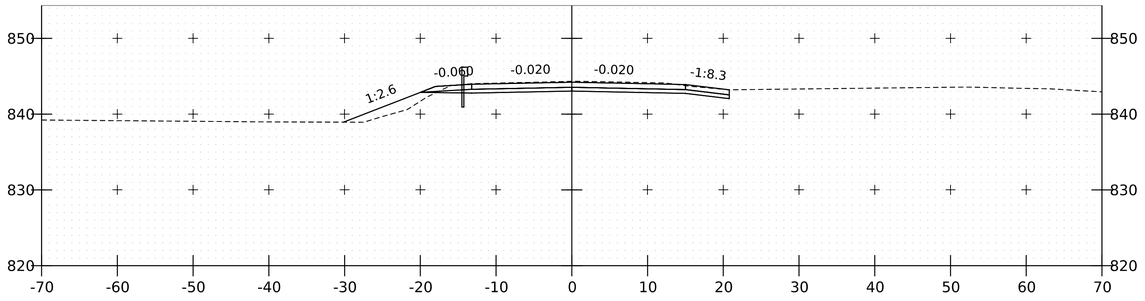
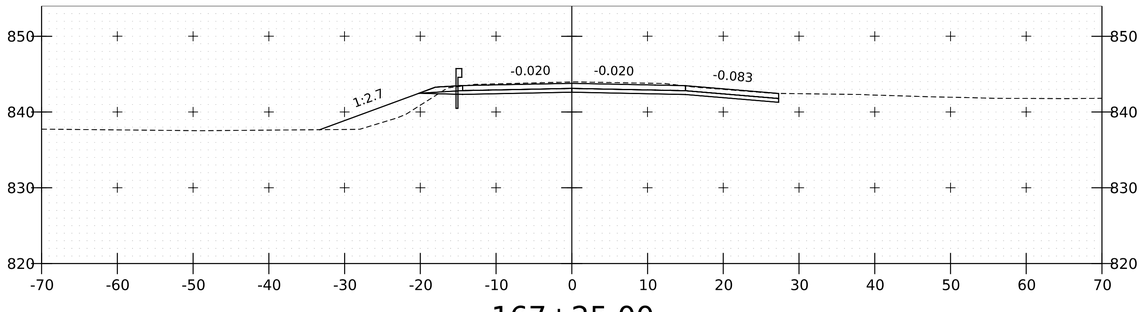


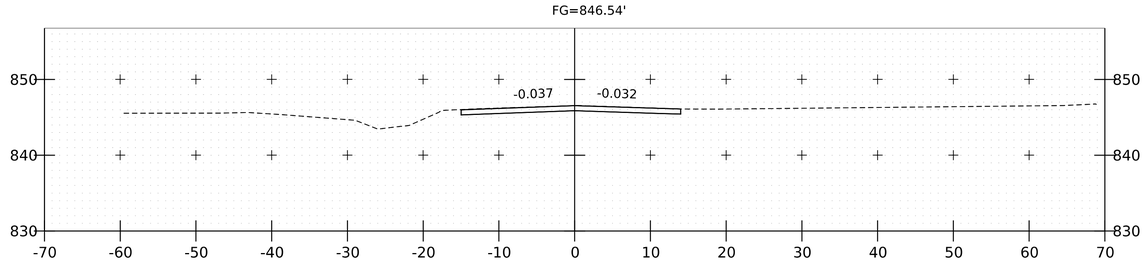
167+50.00

FG=843.79'



167+25.00

FG=846.54'



168+50.00

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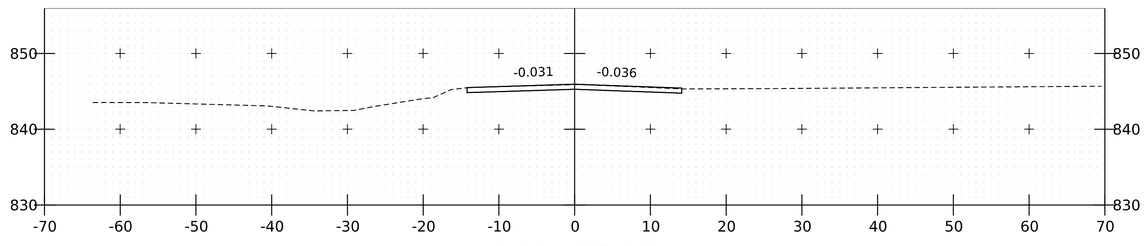

168+25.00

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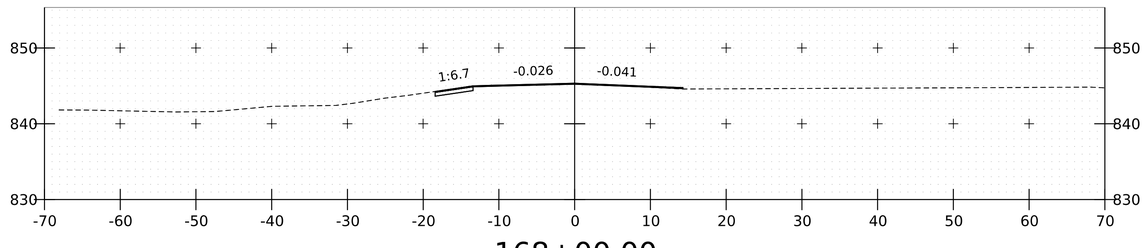
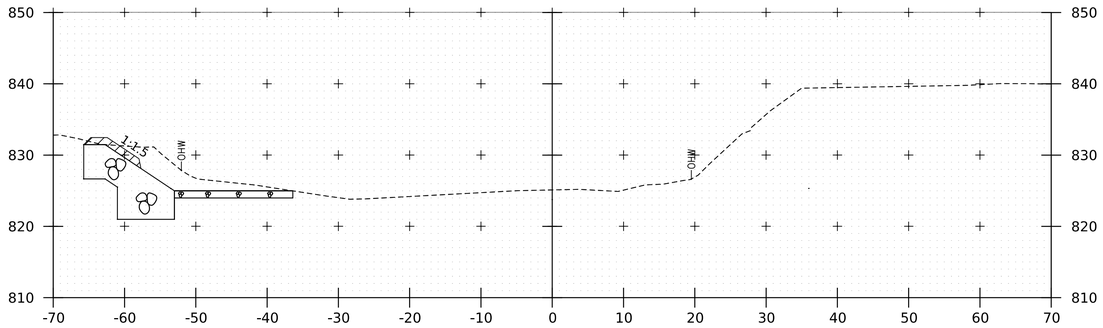


168+00.00

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

FILE NAME: s19b217xs_rev(4)
PROJECT LEADER: J.B. McCARTHY
DESIGNED BY: A. VAN BUSKIRK
VT14 CROSS SECTIONS 4

PLOT DATE: 8-AUG-2023
DRAWN BY: A. VAN BUSKIRK
CHECKED BY: G. DARGAN
SHEET $S#$ OF $T#$



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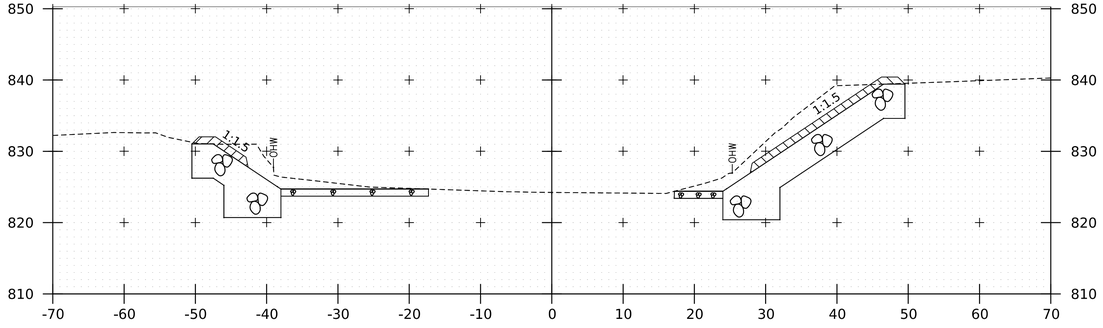

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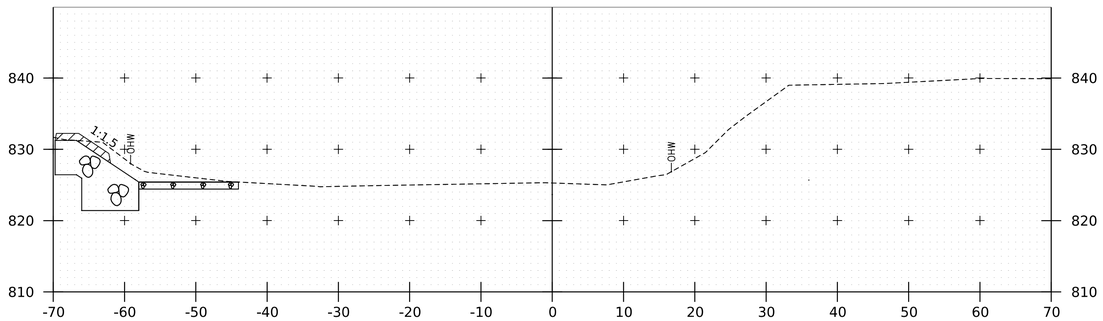

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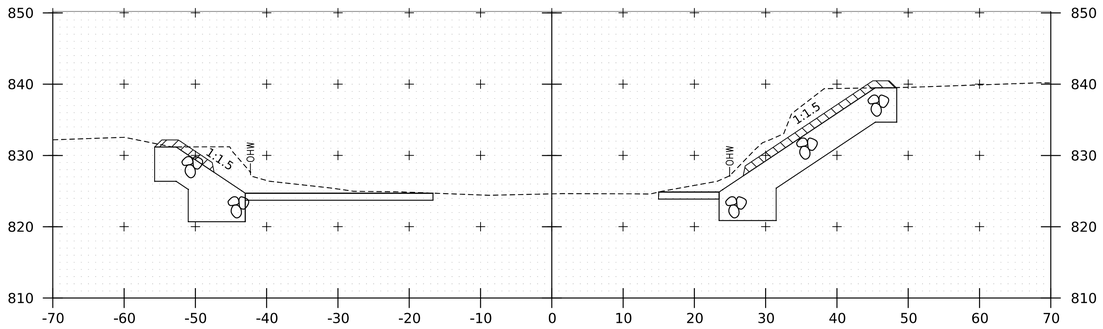

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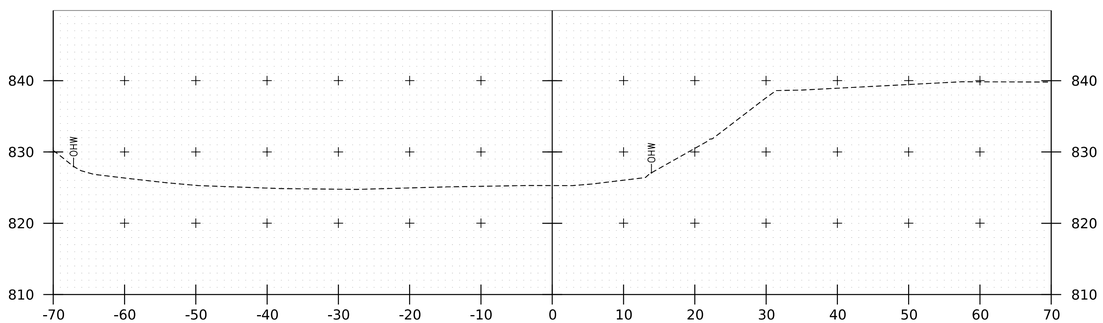

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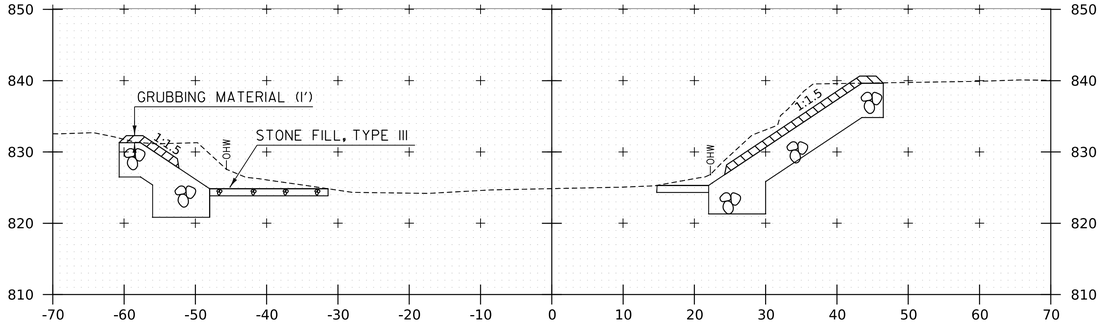
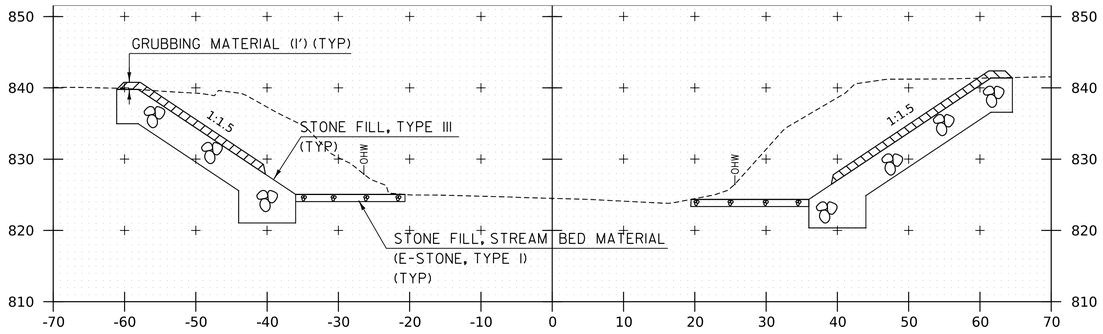


501+30

PROJECT NAME:	IRASBURG
PROJECT NUMBER:	STP DECK(50)
FILE NAME: sl9b217xs_channel.dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: JB McCARTHY	DRAWN BY: A. VAN BUSKIRK
DESIGNED BY: A. VAN BUSKIRK	CHECKED BY: JB McCARTHY
CHANNEL CROSS SECTIONS I	SHEET 31 OF 34



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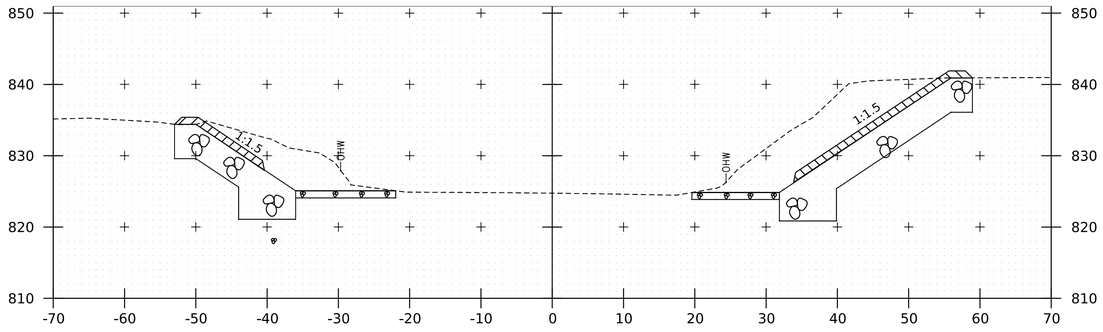

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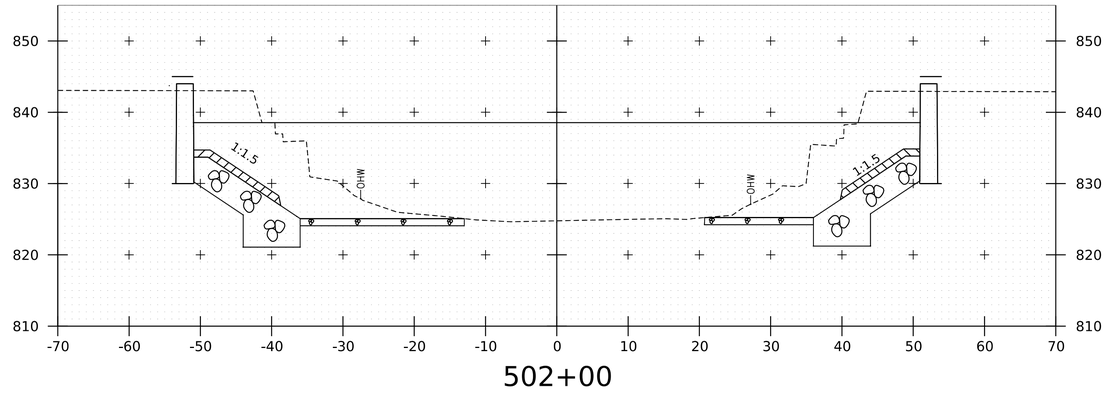

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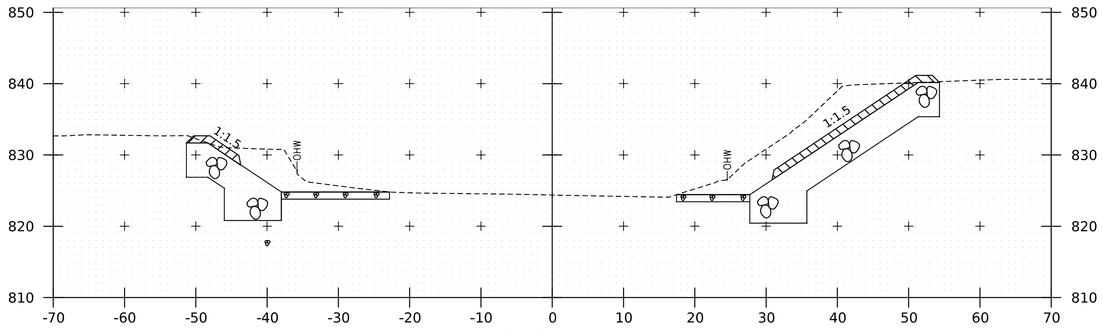

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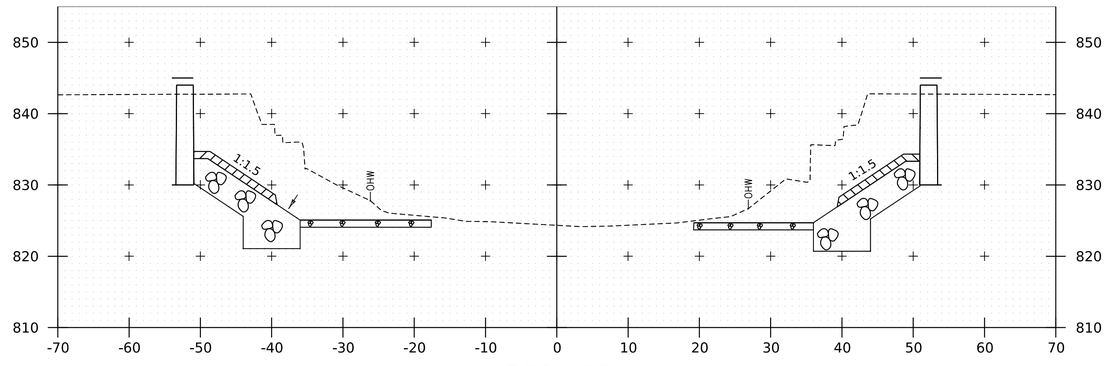
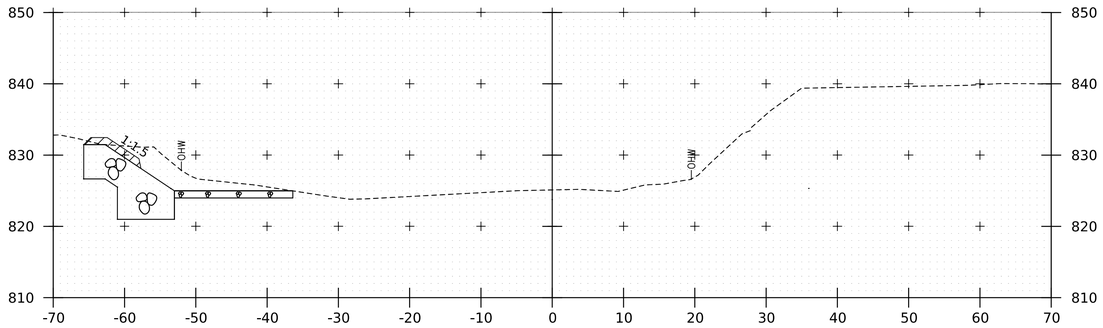


501+90

PROJECT NAME:	IRASBURG
PROJECT NUMBER:	STP DECK(50)
FILE NAME: s19b217xs_channel.dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: JB McCARTHY	DRAWN BY: A. VAN BUSKIRK
DESIGNED BY: A. VAN BUSKIRK	CHECKED BY: JB McCARTHY
CHANNEL CROSS SECTIONS 2	SHEET 32 OF 34



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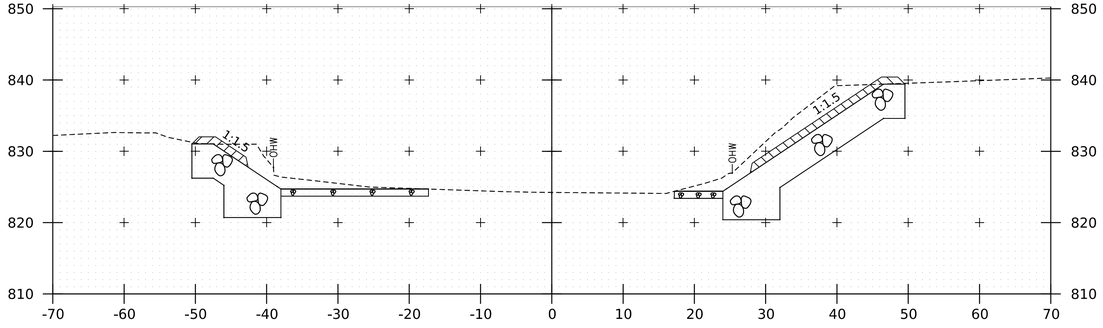

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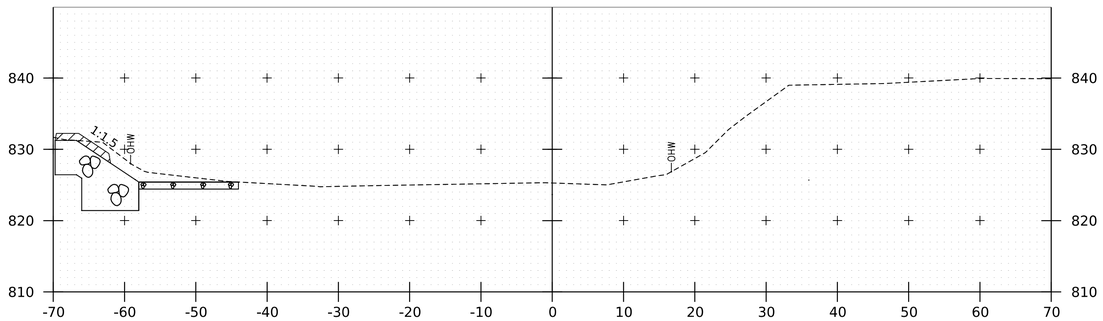
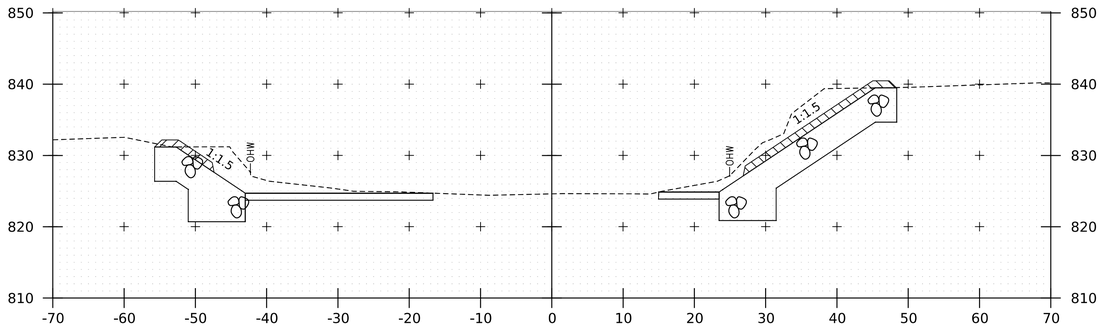


501+10



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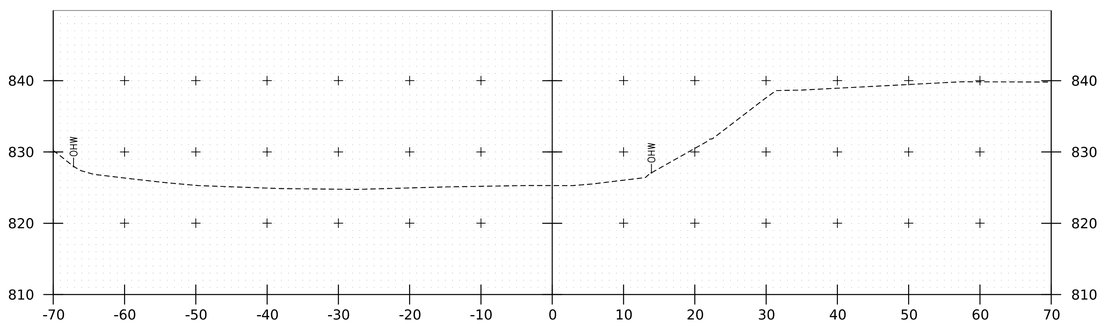
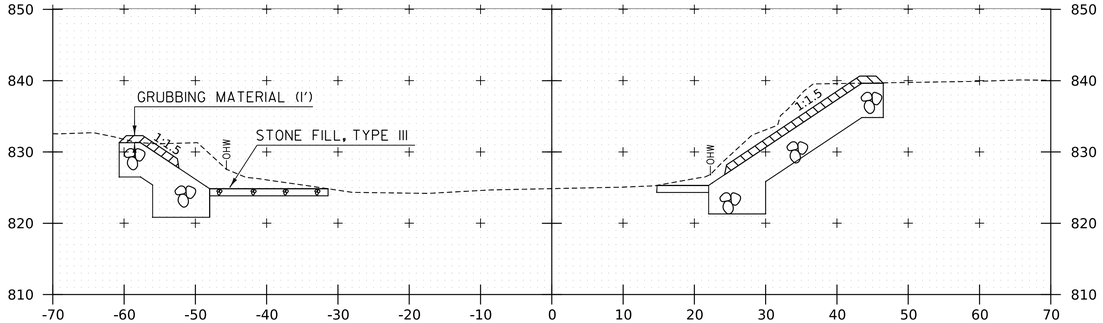


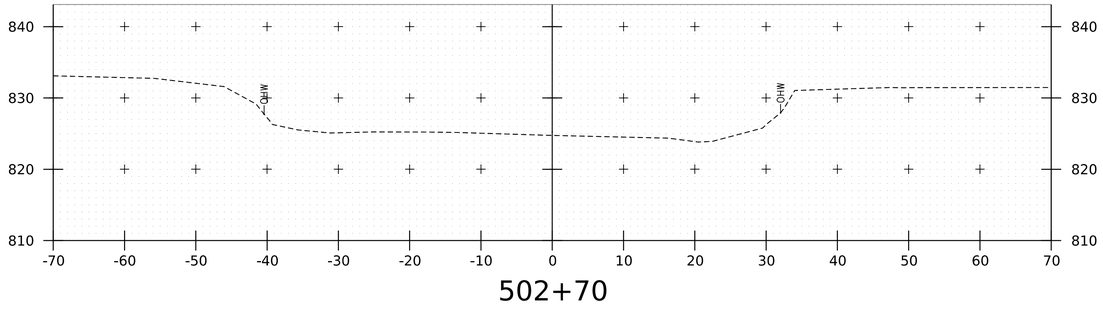
501+00



501+30

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

FILE NAME: sl9b217xs_channel.dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: JB McCARTHY	DRAWN BY: A. VAN BUSKIRK
DESIGNED BY: A. VAN BUSKIRK	CHECKED BY: JB McCARTHY
CHANNEL CROSS SECTIONS I	SHEET 33 OF 34



502+70

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

FILE NAME: sl9b2l7xs_channel.dgn	PLOT DATE: 8-AUG-2023
PROJECT LEADER: JB McCARTHY	DRAWN BY: A. VAN BUSKIRK
DESIGNED BY: A. VAN BUSKIRK	CHECKED BY: JB McCARTHY
CHANNEL CROSS SECTIONS 4	SHEET 34 OF 34

LEGEND:

- AOT LOW GROW/FINE FESCUE MIX
- WET AREA SEED
- DECIDUOUS TREE
- DECIDUOUS SHRUB

WET AREA SEED

WET AREA SEED TO BE PAID FOR UNDER 900.635 SPECIAL PROVISION (WET AREA SEED). APPLICATION RATES VARY BY SEED MIX. WET AREA SEED TO BE ONE OF THE FOLLOWING, OR APPROVED EQUAL:

- VERMONT WET MEADOW & DETENTION BASIN MIX
SUPPLIER: VERMONT WETLAND PLANT SUPPLY. APPLICATION RATE: 35 LBS/ACRE.

- NEW ENGLAND WET MIX (WETLAND SEED MIX)
SUPPLIER: NEW ENGLAND WETLAND PLANTS, INC. APPLICATION RATE: 18 LBS/ACRE.

- PA NEW ENGLAND PROVINCE FACW MIX
SUPPLIER: ERNST CONSERVATION SEEDS, INC. APPLICATION RATE: 20 LBS/ACRE WITH A COVER CROP (GRAIN RYE (1 SEP TO 30 APR; 30 LBS/ACRE). JAPANESE MILLET OR BARNYARD GRASS (1 MAY TO 31 AUG; 10 LBS/ACRE)).

NOTES:

1. SEEDED AREAS SHALL BE PROTECTED IN ACCORDANCE WITH SPECIFICATION SUBSECTION 651.07 PROTECTION. WHERE WETLANDS OR WETLAND BUFFERS ARE PRESENT, STRAW MULCH SHALL BE USE INSTEAD OF HAY MULCH.

2. IF AREAS WITHIN PDF OR BARRIER FENCE ARE NOT DISTURBED, THEY SHOULD REMAIN VEGETATED, AND ADDITIONAL REVEGETATION IS NOT REQUIRED.

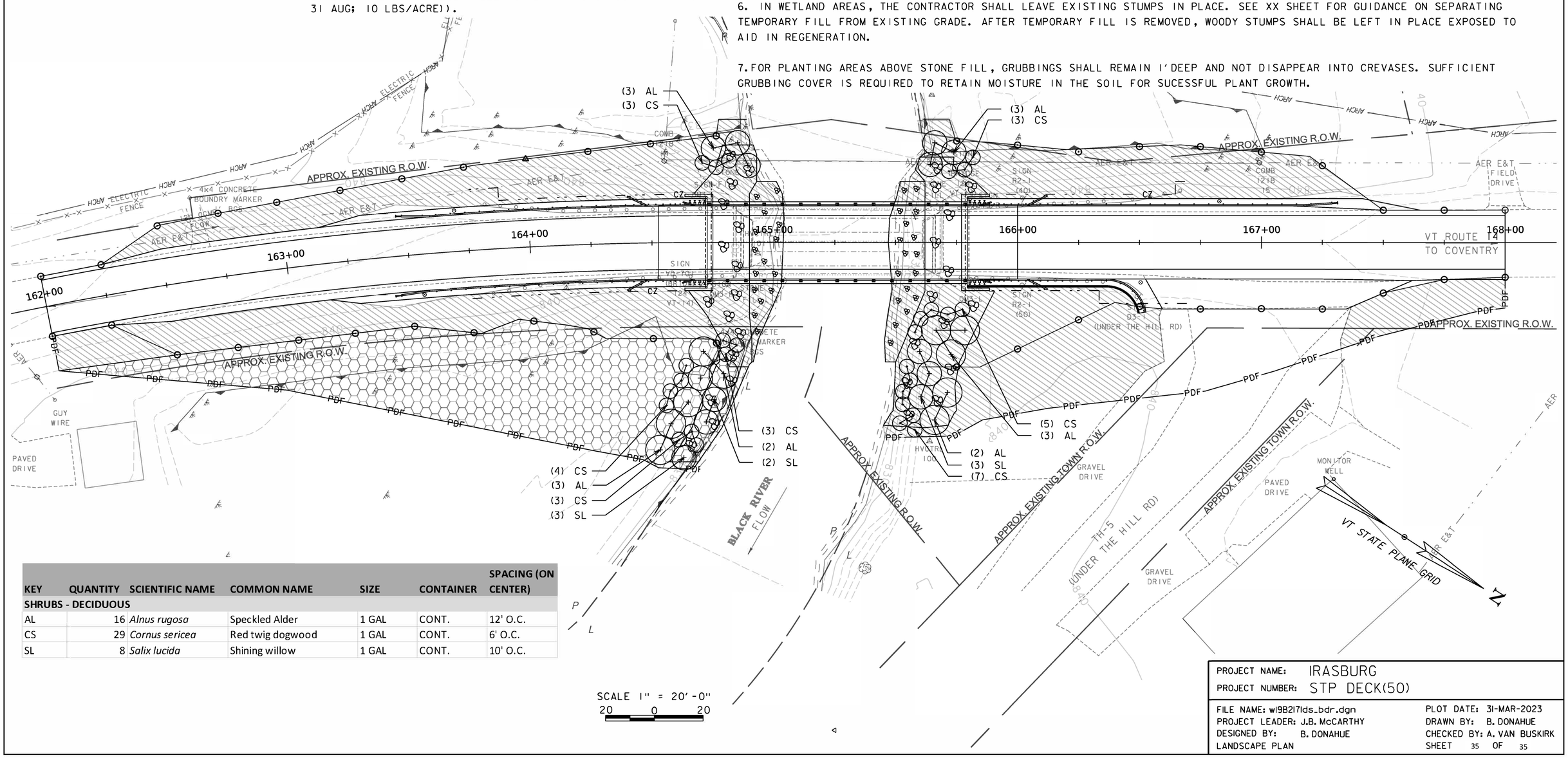
3. PROVIDING SUFFICIENT MOISTURE IS CRITICAL DURING THE ENTIRE PLANT ESTABLISHMENT PERIOD. WATERING TO BE PAID FOR UNDER 656.65 LANDSCAPE WATERING.

4. FOR WETLAND AREAS RECEIVING WET AREA SEED, NO TOPSOIL OR GRUBBINGS SHALL BE ADDED. SCARIFY SOIL SURFACE TO LOOSEN SOIL FOR BETTER SEED-SOIL CONTACT. FOR TREES AND SHRUBS IN WETLAND AREAS, LANDSCAPE BACKFILL SHALL BE USED PER VTRANS STANDARD E-1 TREE PLANTING AND E-2 SHRUB PLANTING.

5. SEE WETLAND PERMIT FOR LANDSCAPE-RELATED PROJECT COMMITMENTS.

6. IN WETLAND AREAS, THE CONTRACTOR SHALL LEAVE EXISTING STUMPS IN PLACE. SEE XX SHEET FOR GUIDANCE ON SEPARATING TEMPORARY FILL FROM EXISTING GRADE. AFTER TEMPORARY FILL IS REMOVED, WOODY STUMPS SHALL BE LEFT IN PLACE EXPOSED TO AID IN REGENERATION.

7. FOR PLANTING AREAS ABOVE STONE FILL, GRUBBINGS SHALL REMAIN 1' DEEP AND NOT DISAPPEAR INTO CREVASES. SUFFICIENT GRUBBING COVER IS REQUIRED TO RETAIN MOISTURE IN THE SOIL FOR SUCESSFUL PLANT GROWTH.



KEY	QUANTITY	SCIENTIFIC NAME	COMMON NAME	SIZE	CONTAINER	SPACING (ON CENTER)
SHRUBS - DECIDUOUS						
AL	16	*Alnus rugosa*	Speckled Alder	1 GAL	CONT.	12' O.C.
CS	29	*Cornus sericea*	Red twig dogwood	1 GAL	CONT.	6' O.C.
SL	8	*Salix lucida*	Shining willow	1 GAL	CONT.	10' O.C.

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

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

FILE NAME: wl9B217ldS_bdr.dgn
PROJECT LEADER: J.B. McCARTHY
DESIGNED BY: B. DONAHUE
LANDSCAPE PLAN

PLOT DATE: 31-MAR-2023
DRAWN BY: B. DONAHUE
CHECKED BY: A. VAN BUSKIRK
SHEET 35 OF 35