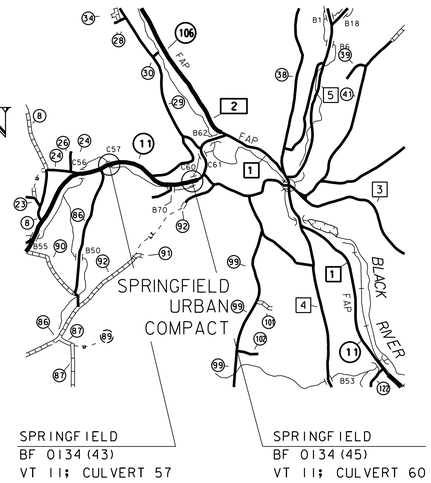
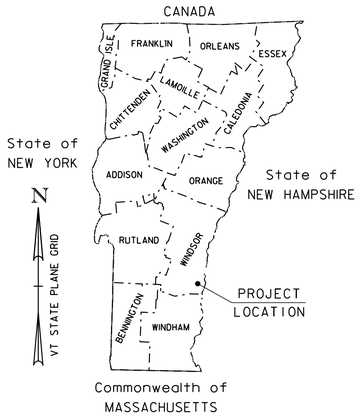
STATE OF VERMONT
AGENCY OF TRANSPORTATION





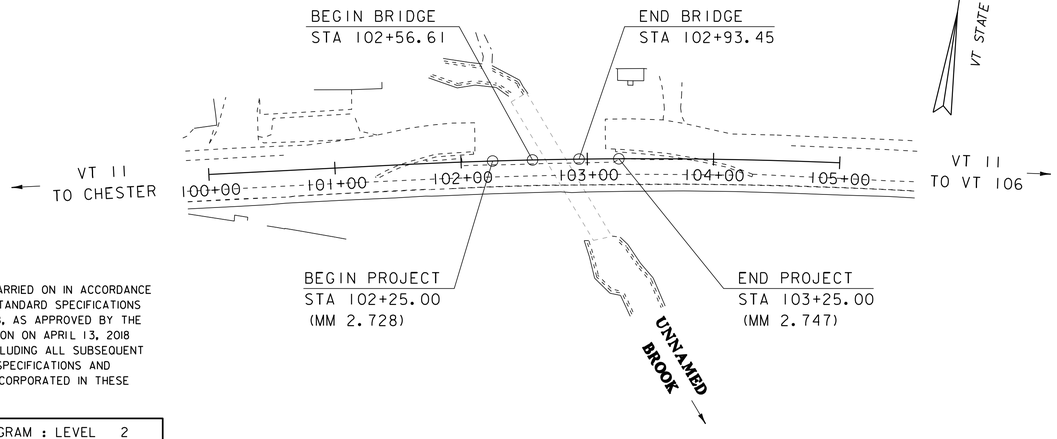
PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF SPRINGFIELD
COUNTY OF WINDSOR
VT 11 (RURAL MAJOR COLLECTOR)

SPRINGFIELD BF 0134(43) - BRIDGE 57

PROJECT LOCATION: 1.25 MILES FROM THE INTERSECTION OF VT 11 AND VT 106 IN SPRINGFIELD, VT, WEST ON VT 11. AT AN UNNAMED BROOK CROSSING.

PROJECT DESCRIPTION: REPLACEMENT OF EXISTING STRUCTURE (BRIDGE #57) WITH A NEW BURIED STRUCTURE WITH RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE: 36.84 FEET
LENGTH OF ROADWAY: 63.16 FEET
LENGTH OF PROJECT: 100.00 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 :	06-10-2014
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD 83 (2011)

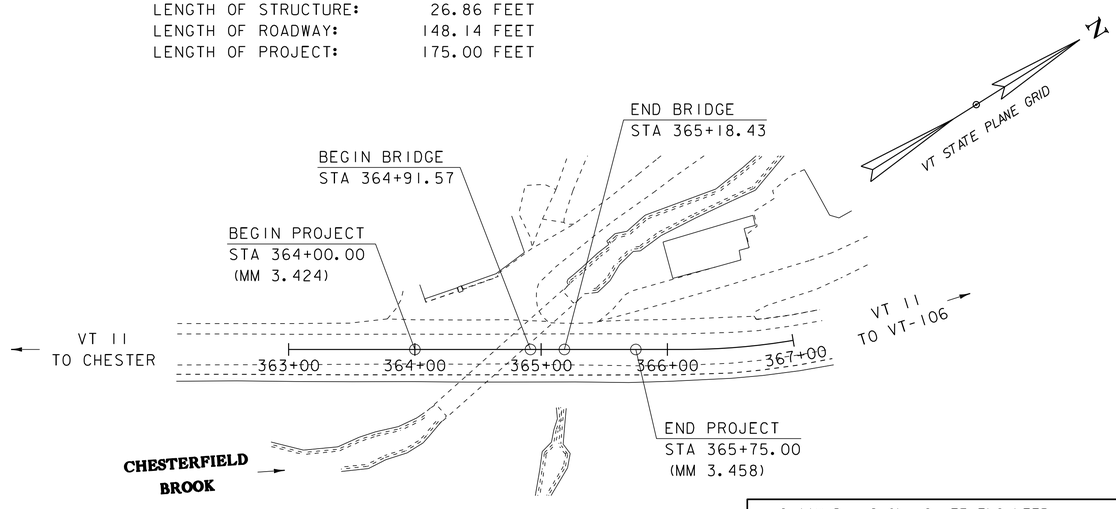
SCALE 1" = 60'-0"
60 0 60

SPRINGFIELD BF 0134(45) - BRIDGE 60

PROJECT LOCATION: 0.54 MILES FROM THE INTERSECTION OF VT 11 AND VT 106 IN SPRINGFIELD, VT, WEST ON VT 11. AT THE CHESTERFIELD BROOK.

PROJECT DESCRIPTION: WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REPLACEMENT OF EXISTING STRUCTURE (BRIDGE #60) WITH A NEW BURIED STRUCTURE WITH RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE: 26.86 FEET
LENGTH OF ROADWAY: 148.14 FEET
LENGTH OF PROJECT: 175.00 FEET



FINAL PLANS
11-AUG-2020

HIGHWAY DIVISION, CHIEF ENGINEER

APPROVED _____ DATE _____

PROJECT MANAGER : NICK WARK, P.E.

PROJECT NAME : SPRINGFIELD
PROJECT NUMBER : BF 0134(43) / BF 0134(45)

SHEET 1 OF 110 SHEETS

COMPOSITE SHEETS

SPRINGFIELD BF 0134(43)

SPRINGFIELD BF 0134(45)

DETAIL SHEETS

HSD-400.01	SAFETY EDGE DETAILS	01-05-2018
HSD-621.01	POST AND BLOCKOUT DETAILS FOR STEEL BEAM GUARDRAIL,GALV.	06-09-2015
HSD-621.06	GUARDRAIL TERMINAL LABEL DETAIL	02-27-2017
HSD-621.07A	MIDWEST GUARDRAIL SYSTEM (MGS)	04-17-2019
HSD-621.07B	W-BEAM GUARDRAIL COMPONENTS	04-17-2019
HSD-621.07F	MIDWEST GUARDRAIL SYSTEM TRANSITION SECTION	04-17-2019
SD-501.00	CONCRETE DETAILS AND NOTES	02-09-2012
SD-502.00	CONCRETE DETAILS AND NOTES	10-10-2012

STANDARDS LIST

A-60	STANDARD TYPICAL FOR SLOPES IN SOLID ROCK EXCAVATION DRILLING AND BLASTING OF SOLID ROCK SUBGRADE	06-01-1994
B-71	STANDARD FOR RESIDENTIAL AND COMMERCIAL DRIVES	07-08-2005
C-3A	SIDEWALK RAMPS	03-10-2008
C-10	CURBING	02-11-2008
D-11	STEEL OR IRON GRATES& COVERS (TYPE A)	06-01-1994
D-15	PRECAST REINF CONC. MH-GRATES, CAST IRON GRATE WITH FRAME, TYPE D & E	06-01-1994
D-33	REINFORCED CONCRETE STRAIGHT HEADWALL	03-12-2007
E-191	PAVEMENT MARKING DETAILS	02-01-1999
E-193	PAVEMENT MARKING DETAILS	08-18-1995
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	11-15-2002
J-1	PROJECT AND BOUNDARY MARKERS	06-01-1994
J-3	MAIL BOX SUPPORT DETAILS	08-07-1995
T-1	TRAFFIC CONTROL GENERAL NOTES	04-25-2016
T-2	TRAFFIC SIGN GENERAL NOTES	04-25-2016
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	08-06-2012
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-40	DELINEATORS AND MILEPOSTS	01-02-2013
T-42	BRIDGE NUMBER PLAQUE	04-09-2014
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013
T-95	VILLAGE SIGNS	05-25-2016

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43) / BF 0134(45)

FILE NAME: sl3c334composite_index.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROY
COMPOSITE INDEX

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROY
CHECKED BY: G. LAROCHE
SHEET 2 OF 110

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: SPRINGFIELD
PROJECT NUMBER: BF 0134(43) / BF 0134(45)

FILE NAME: sl3c334composite_legend
PROJECT LEADER: N. WARK
DESIGNED BY: M. LONGSTREET
SYMBOLOGY LEGEND

PLOT DATE: 11-AUG-2020
DRAWN BY: M. LONGSTREET
CHECKED BY: G. LAROCHE
SHEET 3 OF 110

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE VERMONT AGENCY OF TRANSPORTATION 2018 STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE 2017 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, AND THEIR LATEST REVISIONS.

2. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING CONSISTENCY BETWEEN THE FABRICATOR'S SHOP DRAWINGS AND ENSURING THAT ALL FABRICATED COMPONENTS FIT TOGETHER.

3. THE CONTRACTOR SHALL PROVIDE A SITE-SPECIFIC EROSION PREVENTION AND SEDIMENT CONTROL PLAN IN ACCORDANCE WITH SECTION 653 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION. ESTIMATED QUANTITIES FOR EPSC WORK HAVE BEEN INCLUDED IN THE CONTRACT FOR BIDDING PURPOSES. IF THE CONTRACTOR'S EPSC PLAN REQUIRES ITEMS OF WORK THAT ARE NOT INCLUDED IN THE PLANS, THE EXTRA WORK WILL BE PAID FOR AS PART OF ITEM 653.03 MAINTENANCE OF EPSC PLAN.

4. PREFORMED SHEET MEMBRANE - MEETING THE REQUIREMENTS OF 726.11 - SHALL BE APPLIED IN TWO-FOOT STRIPS OVER JOINTS IN THE BOX CULVERT, RIGID FRAME, AND SLAB BRIDGE. EXTEND THE SHEET MEMBRANE DOWN THE ENTIRE SIDE AND ACROSS THE TOP OF EACH STRUCTURE. COVER THE SIDES OF THE STRUCTURES PRIOR TO THE TOPS. ANY OVERLAPPING OF MEMBRANE SHALL BE DONE IN A SHINGLED STYLE WITH A MINIMUM OVERLAP OF ONE FOOT. PAYMENT FOR THIS WORK AND MATERIALS IS INCIDENTAL TO THE RESPECTIVE SUPERSTRUCTURE ITEM.

EARTHWORK

5. THE REMOVAL OF THE EXISTING STRUCTURES WILL BE PAID UNDER ITEM 529.15 "REMOVAL OF STRUCTURE". THIS WORK INCLUDES REMOVAL OF THE ENTIRE PIPE, HEADWALLS, AND ALL PARTS OF THE EXISTING STRUCTURE THAT MAY FALL OUTSIDE THE LIMITS OF STRUCTURE EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION, AS WELL AS ANY MATERIAL LOCATED WITHIN THE LIMITS OF "REMOVAL OF STRUCTURE" IDENTIFIED IN THE PLANS.

6. CONTACT THE RIVER MANAGEMENT ENGINEER, SCOTT JENSEN – (802) 490-6962 – A MINIMUM OF TWO WEEKS PRIOR TO CONSTRUCTION FOR APPROVAL OF STREAM BED MATERIAL AND FOR CONSULTATION REGARDING FINAL GRADING OF THE CHANNEL.

CONCRETE

7. ALL LIFTING POINTS SHALL BE REMOVABLE OR COVERABLE TO THE MINIMUM CLEAR COVER FOR REINFORCING STEEL SPECIFIED IN THE PLANS. THE LIFTING POINTS SHALL BE DETAILED IN THE APPROPRIATE FABRICATION DRAWING. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE PRECAST ITEM.

8. ALL RECESSED LIFTING POINTS AND BLOCK OUTS SHALL BE FILLED WITH A TYPE IV MORTAR PER SUBSECTION 540.11. PAYMENT WILL BE CONSIDERED INCIDENTAL TO THE APPROPRIATE PRECAST ITEM. TESTING GROUT USED TO FILL LIFTING POINTS AND BLOCKOUTS IS NOT REQUIRED.

9. THE CONTRACTOR SHALL DETERMINE THE METHOD OF FORMING FOR SUBSEQUENT POURS AFTER PLACING ANY PRECAST UNIT. THE CONTRACTOR IS ENCOURAGED TO WORK WITH THE FABRICATOR IF ADDITIONAL SUPPORTS ARE REQUIRED. THE CONTRACTOR CANNOT ATTACH ADDITIONAL FORM OR SCREED SUPPORTS BY DRILLING OR SIMILAR MEANS INTO ANY PRECAST UNIT.

10. WATER REPELLENT, SILANE SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 514 AND SHALL BE FIELD APPLIED TO ALL EXPOSED EXTERIOR CONCRETE SURFACES OF STRUCTURES, EXCEPT FOR AREAS BETWEEN DRIP NOTCHES. SILANE WILL BE PAID UNDER 514.10 "WATER REPELLENT, SILANE".

11. CHAMFER ALL EXPOSED EDGES OF CONCRETE 1" BY 1".

REINFORCING STEEL

12. REINFORCING STEEL CLEAR COVER REQUIREMENTS ARE STATED ACCORDING TO THE FOLLOWING, UNLESS OTHERWISE NOTED IN THE PLANS:

A.	UNDERSIDE OF FRAME/BOX ROOF	1.5 INCHES
B.	EXPOSED TO EARTH OR WEATHER	2.0 INCHES
C.	TOP OF FRAME/BOX	2.5 INCHES
D.	DIRECT EXPOSURE TO DEICING SALTS (FRAME/BOX FASCIA OR CURB)	3.0 INCHES
E.	CAST AGAINST EARTH	3.0 INCHES

13. WHEN A REINFORCING STEEL SCHEDULE IS NOT INCLUDED IN THE PLANS FOR A CAST-IN-PLACE CONCRETE COMPONENT, THE CONTRACTOR SHALL SUBMIT DETAILED REINFORCING STEEL FABRICATION DRAWINGS IN ACCORDANCE WITH SECTION 105.03.

BITUMINOUS CONCRETE SIDEWALK

14. THE CONTRACTOR MAY USE PAVEMENT MEETING THE REQUIREMENTS OF ITEM 900.680 "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)" IN LIEU OF PAVEMENT MEETING THE REQUIREMENTS CALLED FOR IN VTRANS STANDARD SPECIFICATIONS.

TRAFFIC CONTROL: PHASED CONSTRUCTION

15. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, SUBMITTAL, AND IMPLEMENTATION OF A SITE-SPECIFIC TRAFFIC CONTROL PLAN. THE SITE-SPECIFIC TRAFFIC CONTROL PLAN SHALL BE DESIGNED IN ACCORDANCE WITH SECTION 641. ALL COSTS OF DESIGNING, SUBMITTING, AND IMPLEMENTING THE SITE-SPECIFIC TRAFFIC CONTROL PLAN WILL BE INCLUDED IN THE PAYMENT OF ITEM 900.645 "SPECIAL PROVISION (TEMPORARY ROADWAY AND TRAFFIC CONTROL, ALL-INCLUSIVE)".

TEMPORARY TRAFFIC SIGNALS

16. TEMPORARY TRAFFIC SIGNAL SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM" AND IN COMPLIANCE WITH THE LATEST EDITION OF THE MUTCD.

17. SIGNAL FACES SHALL BE LED AND CONSIST OF 12 INCH LENSES (RED, YELLOW AND GREEN).

18. LUMINAIRES SHALL BE INSTALLED AT EACH OF THE APPROACHES TO ADEQUATELY LIGHT THE STOP BAR AREAS. PAYMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM".

19. ALL TEMPORARY SIGNAL EQUIPMENT, SIGNS, ETC. SHALL BELONG TO THE CONTRACTOR AT THE END OF THE PROJECT AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR REMOVAL INCLUDING UTILITY POLES, WIRES, ETC. PAYMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM".

20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING SIGNAL PHASING AND TIMING. THE CONTRACTOR SHALL SUBMIT A PHASING DIAGRAM AND TIMING SCHEDULE TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL MAKE THE SIGNALS OPERATIONAL ONLY AFTER RECEIVING APPROVAL OF BOTH THE PHASING DIAGRAM AND TIMING SCHEDULE BY THE ENGINEER. DEVELOPMENT OF THE PHASING DIAGRAM AND TIMING SCHEDULE WILL BE CONSIDERED INCIDENTAL TO ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM". ADDITIONAL ADJUSTMENTS TO SIGNAL TIMING OR PHASING REQUESTED BY THE ENGINEER SHALL BE COMPLETED WITHIN 48 HOURS OF THE REQUEST. PAYMENT FOR ADDITIONAL ADJUSTMENTS TO SIGNAL TIMING OR PHASING WILL BE CONSIDERED INCIDENTAL TO ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM".

21. THE SUBMITTAL FOR ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM" SHALL BE IN CONJUNCTION WITH THE SUBMITTAL FOR ITEM 641.11 "TRAFFIC CONTROL, ALL-INCLUSIVE" AND SHALL INCLUDE AS A MINIMUM, THE SIGNAL LOCATION, TIMING AND PHASING PLAN, VEHICLE DETECTION SYSTEM, AND EMERGENCY VEHICLE PREEMPTION SYSTEM.

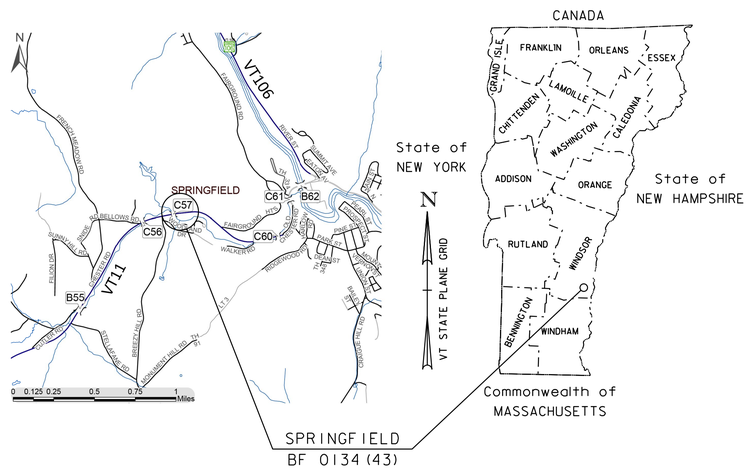
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334gennotes.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. DARGAN
GENERAL NOTES

PLOT DATE: 12-AUG-2020
DRAWN BY: G. DARGAN
CHECKED BY: A. LEMIEUX

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF SPRINGFIELD
COUNTY OF WINDSOR

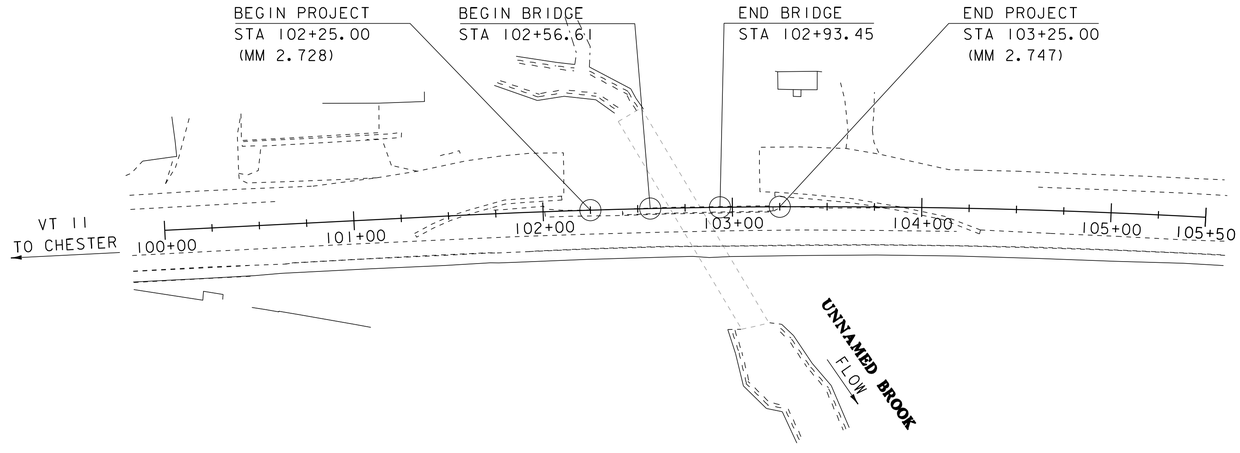


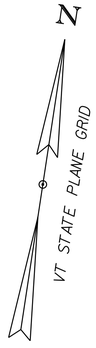
ROUTE NO : VT 11 BRIDGE NO : 57

PROJECT LOCATION : 1.25 MILES FROM THE INTERSECTION OF VT 11 AND VT 106 IN SPRINGFIELD, VT, WEST ON VT 11, AT AN UNNAMED BROOK CROSSING.

PROJECT DESCRIPTION : REPLACEMENT OF EXISTING STRUCTURE (BRIDGE #57) WITH A NEW BURIED STRUCTURE WITH RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE : 36.84 FEET
LENGTH OF ROADWAY : 63.16 FEET
LENGTH OF PROJECT : 100.00 FEET





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

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 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 : 06-10-2014
DATUM VERTICAL NAVD88 HORIZONTAL NAD 83 (2011)

HIGHWAY DIVISION, CHIEF ENGINEER APPROVED _____ DATE _____
PROJECT MANAGER : NICK WARK, P.E.
PROJECT NAME : SPRINGFIELD PROJECT NUMBER : BF 0134(43)
SHEET 5 OF 110 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

INDEX OF SHEETS

PLAN SHEETS

SEE SHEET 2 FOR INDEX OF SHEETS

STANDARDS LIST

SEE SHEET 2 FOR LIST OF STANDARDS

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: May, 2019

DRAINAGE AREA : 3.5 sq. mi.
CHARACTER OF TERRAIN : Residential, hilly and forested
STREAM CHARACTERISTICS : Sinuous alluvial fan laterally confined by roadway
NATURE OF STREAMBED : Cobbles, gravel and sand

PEAK FLOW DATA - ANNUAL EXCEEDANCE PROBABILITY (AEP)

43% =	150 cfs	2% =	440 cfs
10% =	270 cfs	1% =	520 cfs
4% =	360 cfs	0.2% =	750 cfs

DATE OF FLOOD OF RECORD Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ 2% AEP = 8.6 fps*
ICE CONDITIONS : Moderate
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Yes
IF YES, DESCRIBE: Confluence 70 ft. upstream and another confluence 230 ft. downstream.

WATERSHED STORAGE: 2%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: CGMPPA
YEAR BUILT: 1961
CLEAR SPAN(NORMAL TO STREAM): 14 ft. 1 in.
VERTICAL CLEARANCE ABOVE STREAMBED: 8 ft. 9 in.
WATERWAY OF FULL OPENING: 97 sq. ft.
DISPOSITION OF STRUCTURE: Remove and replace
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings

WATER SURFACE ELEVATIONS AT:

43% AEP =	556.5 ft.	VELOCITY =	7.4 fps**
10% AEP =	557.7 ft.	"	9.0 fps
4% AEP =	558.7 ft.	"	9.8 fps
2% AEP =	559.4 ft.	"	10.5 fps
1% AEP =	560.0 ft.	"	11.0 fps

LONG TERM STREAMBED CHANGES: Grade change and stream profile indicate that this reach is moderately depositional.

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
FREQUENCY: -
RELIEF ELEVATION: 569.0 ft.
DISCHARGE OVER ROAD @ 1% AEP: -

UPSTREAM STRUCTURE

TOWN: Springfield — DISTANCE: 0.25 mi.
HIGHWAY # : VT-11 — STRUCTURE #: C-56
CLEAR SPAN: 13 ft. — CLEAR HEIGHT: 8 ft.
YEAR BUILT: 1961 — FULL WATERWAY: 85 sq. ft.
STRUCTURE TYPE: CGMPPA

DOWNSTRUCTURE STRUCTURE

TOWN: Springfield — DISTANCE: 0.64 mi.
HIGHWAY # : TH-98, Walker Rd. — STRUCTURE #: B-70
CLEAR SPAN: 168 in. — CLEAR HEIGHT: 96 in.
YEAR BUILT: Unknown — FULL WATERWAY: 90 sq. ft.
STRUCTURE TYPE: Steel Corrugated Arch

LRFR LOAD RATING FACTORS

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

DESIGN CRITERIA

1. SEE TYPICAL SECTIONS AND DESIGN PARAMETERS SHEET FOR DETAILS.

PROPOSED STRUCTURE

STRUCTURE TYPE: Buried Structure

CLEAR SPAN(NORMAL TO STREAM): 30 ft.
VERTICAL CLEARANCE ABOVE STREAMBED: 10 ft.
WATERWAY OF FULL OPENING: 240 sq. ft.

WATER SURFACE ELEVATIONS AT:

43% AEP =	557.1 ft.	VELOCITY=	6.6 fps**
10% AEP =	558.1 ft.	"	7.7 fps
4% AEP =	558.7 ft.	"	8.4 fps
2% AEP =	559.2 ft.	"	8.7 fps
1% AEP =	559.7 ft.	"	9.1 fps

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
FREQUENCY: -
RELIEF ELEVATION: 568.9 ft.
DISCHARGE OVER ROAD @ 1% AEP: -

BRIDGE LOW CHORD ELEVATION: 563.2 ft. (inlet)
FREEBOARD: @ 2% AEP = 4.0 ft.

SCOUR: @ 1% AEP = 0.6 ft. of contraction scour

REQUIRED CHANNEL PROTECTION: Stone Fill, Type II; E-stone, Type II

PERMIT INFORMATION

		DEPTH OR ELEVATION:
AVERAGE DAILY FLOW:	-	
ORDINARY LOW WATER:	-	-
ORDINARY HIGH WATER:	-	-

TEMPORARY BRIDGE REQUIREMENTS

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

ADDITIONAL INFORMATION

* - Largest velocity in natural channel configuration with the structure removed.
** - Velocities are reported at the structure outlet.

TRAFFIC MAINTENANCE NOTES

1. SEE CONCEPTUAL TRAFFIC CONTROL LAYOUT SHEETS.

DESIGN VALUES

1.	DESIGN LIVE LOAD		HL-93
2.	FUTURE PAVEMENT	d_p:	---
3.	DESIGN SPAN	L:	31.00 FT
4.	MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	---
5.	PRESTRESSING STRAND	f_y:	---
6.	PRESTRESSED CONCRETE STRENGTH	f'_c:	---
7.	PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	---
8.	CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	4.0 KSI
9.	CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	4.0 KSI
10.	CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	3.5 KSI
11.	CONCRETE, CLASS C	f'_c:	3.0 KSI
12.	REINFORCING STEEL	f_y:	60 KSI
13.	STRUCTURAL STEEL AASHTO M270	f_y:	---
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:	0.65
19.	LATERAL PILE DEFLECTION	Δ:	---
20.	BASIC WIND SPEED	V_{3s}:	---
21.	MINIMUM GROUND SNOW LOAD	p_g:	---
22.	SEISMIC DATA	S_s:	---
	PGA: ---	S_1:	---
23.			
24.			---
25.			---
26.			---

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2017	5000	570	56	4.9	330
2037	5300	600	56	6.9	490

20 year ESAL for flexible pavement from 2017 to 2037 : 1746000
40 year ESAL for flexible pavement from 2017 to 2057 : 3908000
Design Speed : 40 mph

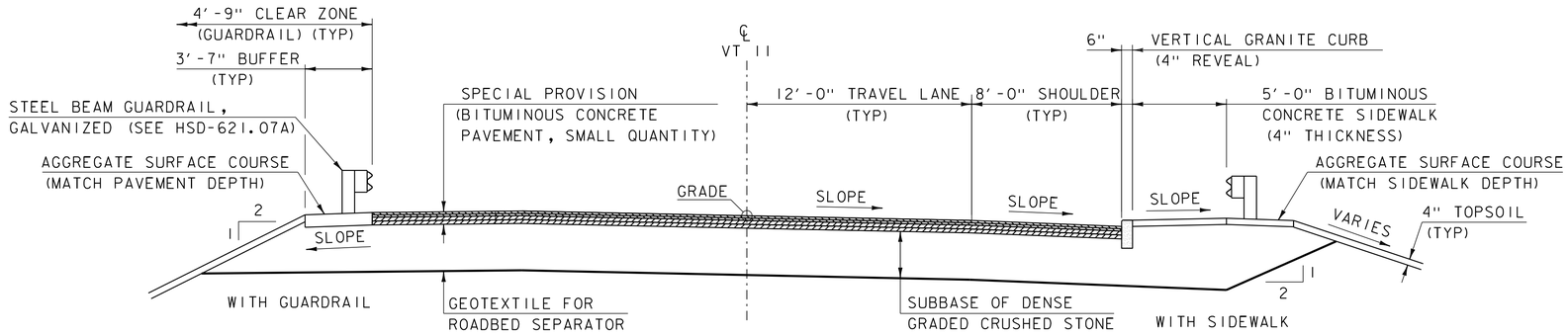
AS BUILT "REBAR" DETAIL

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

PROJECT NAME: **SPRINGFIELD**
PROJECT NUMBER: **BF 0134(43)**

FILE NAME: **s13c334pi.dgn**
PROJECT LEADER: **N. WARK**
DESIGNED BY: **G. LAROCHE**
PRELIMINARY INFORMATION

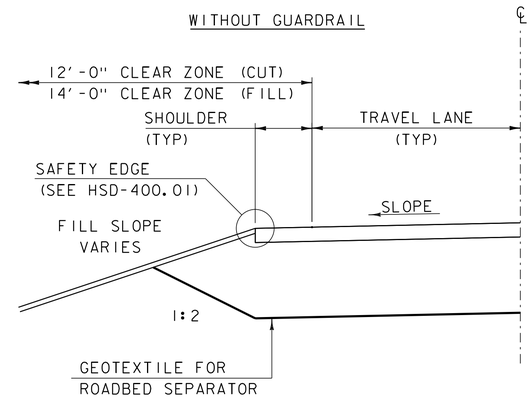
PLOT DATE: 6/2/2020
DRAWN BY: **G. LAROCHE**
CHECKED BY: **G. DARGAN**



VT 11 TYPICAL SECTION

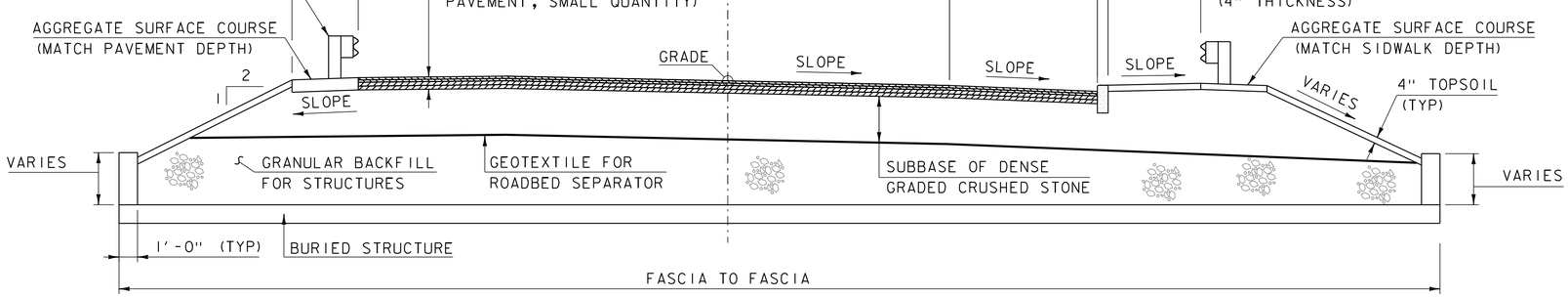
SCALE: 1/4" = 1'-0"

(SEE MATERIAL TRANSITION FOR
PAVEMENT TYPES AND THICKNESSES)



ROADWAY TYPICAL SECTION

NOT TO SCALE



VT 11 TYPICAL SECTION AT BURIED STRUCTURE

SCALE: 1/4" = 1'-0"

PAVEMENT SPECIFICATIONS

	THICKNESS	DESCRIPTION
BINDER	70-28	PERFORMANCE GRADE ASPHALT BINDER
GYRATION	65	DESIGN NUMBER OF GYRATIONS

NOTES:

1. DRIVES WILL ONLY UTILIZE INTERMEDIATE AND WEARING COURSE PAVEMENT LEVELS AS SPECIFIED ON THE MATERIAL TRANSITION SHEET.

MATERIAL TOLERANCES

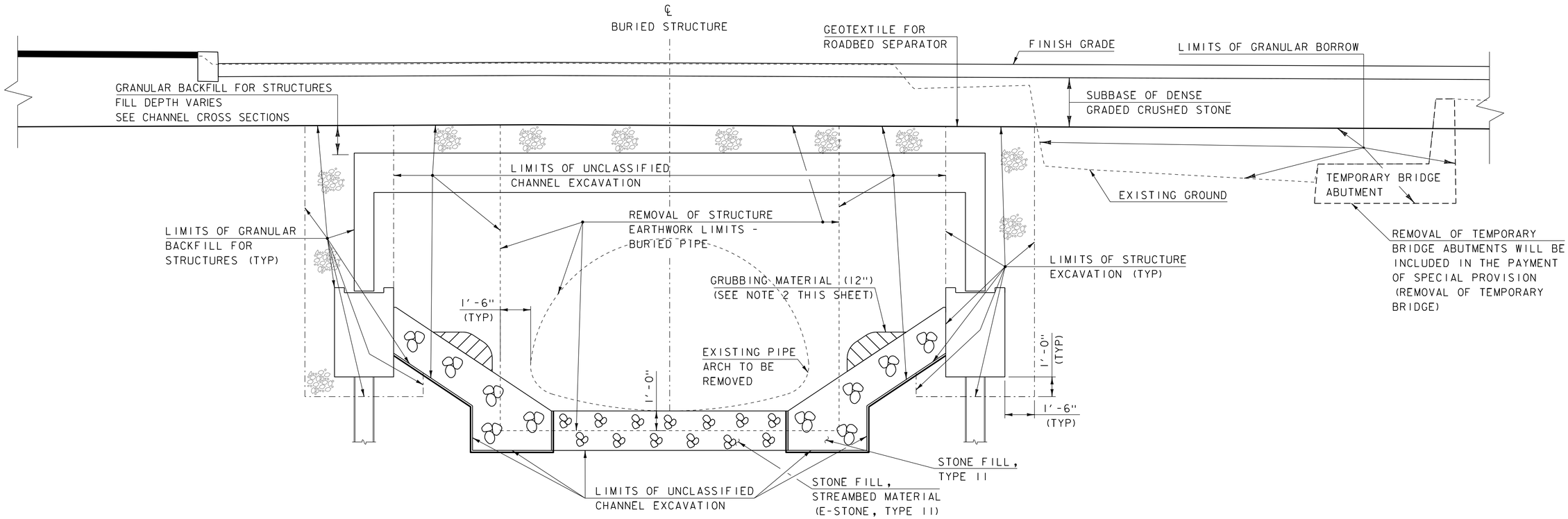
(IF USED ON PROJECT)

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

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334typ.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
TYPICAL SECTIONS 1

PLOT DATE: 11-AUG-2020
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 7 OF 110



BURIED STRUCTURE EARTHWORK TYPICAL SECTION

NOT TO SCALE

BURIED STRUCTURE EARTHWORK TYPICAL SECTION NOTES

1. SEE TYPICAL SECTIONS 4 FOR DIMENSIONS OF BURIED STRUCURE ASSUMED FOR ESTIMATING QUANTITIES.

2. PLACE GRUBBING MATERIAL UNDERNEATH STRUCTURES WHERE THERE IS MORE THAN 6 FEET VERTICALLY FROM ORDINARY HIGH WATER (OHW) TO THE BOTTOM OF SUPERSTRUCTURE AND MORE THAN 6 FEET HORIZONTALLY FROM OHW LINE TO FRONT FACE OF ABUTMENT. THIS MATERIAL SHALL START JUST ABOVE THE OHW ELEVATION AND TERMINATE 3 FEET HORIZONTALLY FROM THE FRONT FACE OF THE ABUTMENT. DO NOT PLACE GRUBBING MATERIAL IN AREAS THAT WILL SEE CONCENTRATED FLOWS RESULTING FROM SURFACE WATER RUNOFF. GRUBBING MATERIAL MAY BE OMITTED IF LESS THAN 3 FEET IN WIDTH BENEATH A STRUCTURE. SEE CHANNEL SECTIONS FOR ADDITIONAL DETAILING.

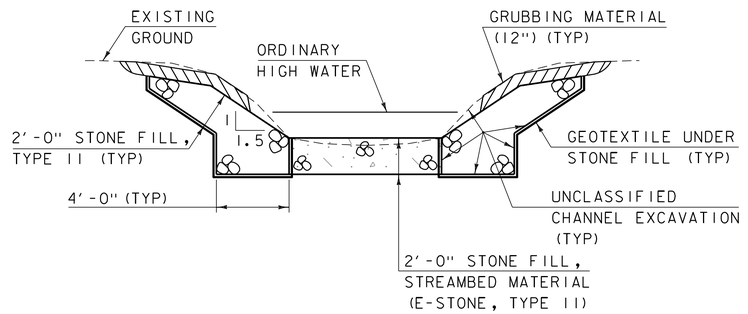
TYPICAL CHANNEL SECTION NOTES

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.

3. WHENEVER BEDROCK IS ENCOUNTERED DURING EXCAVATION OF THE CHANNEL KEY OR FILL SLOPES, THE ENGINEER WILL COORDINATE WITH THE RIVER MANAGEMENT ENGINEER FOR APPROVAL OF HOW THE CHANNEL SHALL BE CONSTRUCTED.

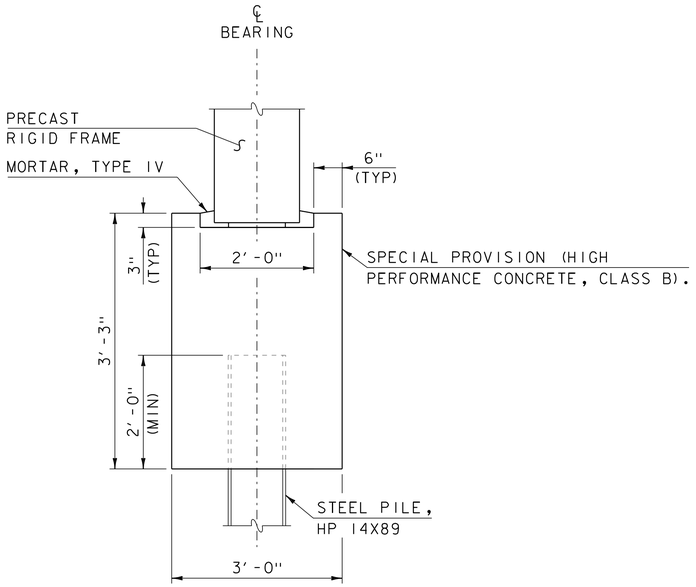
4. GRUBBING MATERIAL SHALL BE PLACED UNDERNEATH STRUCTURES WHERE THERE IS MORE THAN 6 FEET VERTICALLY FROM ORDINARY HIGH WATER (OHW) TO THE BOTTOM OF SUPERSTRUCTURE AND MORE THAN 6 FEET HORIZONTALLY FROM OHW LINE TO FRONT FACE OF ABUTMENT. THIS MATERIAL SHALL START JUST ABOVE THE OHW ELEVATION AND TERMINATE 3 FEET HORIZONTALLY FROM THE FRONT FACE OF THE ABUTMENT. THIS MATERIAL SHALL NOT BE PLACED IN AREAS THAT WILL SEE CONCENTRATED FLOWS RESULTING FROM SURFACE WATER RUNOFF. GRUBBING MATERIAL MAY BE OMITTED IF LESS THAN 3 FEET IN WIDTH BENEATH A STRUCTURE. SEE CHANNEL SECTIONS FOR ADDITIONAL DETAILING.



TYPICAL CHANNEL SECTION

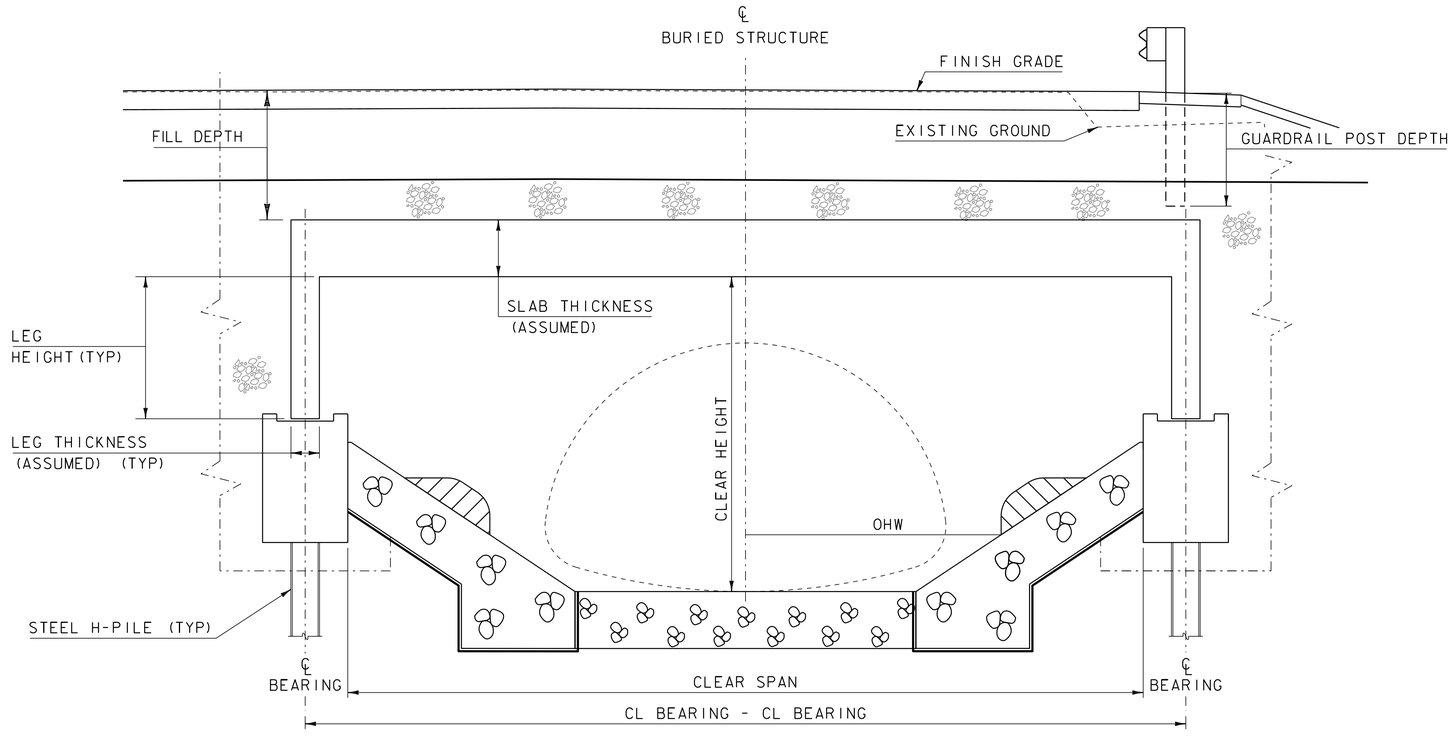
NOT TO SCALE

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(43)
FILE NAME: sl3c334typ.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
TYPICAL SECTIONS 2	SHEET 8 OF 110



PILE CAP TYPICAL SECTION

NOT TO SCALE



DESIGN PARAMETERS TYPICAL SECTION

NOT TO SCALE

BURIED STRUCTURE DIMENSIONS

FRAME	
	DIMENSION
LEG THICKNESS (ASSUMED)	1'-0"
LEG HEIGHT (ASSUMED)	5'-0"
SLAB THICKNESS (ASSUMED)	2'-0"
CL BEARING - CL BEARING	31'-0"
CLEAR SPAN	28'-0"
CLEAR HEIGHT	10'-0"
*FASCIA-FASCIA	89'-0"

*SEE TYPICAL SECTION SHEET 1

1. FABRICATOR TO DETERMINE FINAL STRUCTURE DIMENSIONS TO ACHIEVE DESIGN PARAMETERS.

OTHER DESIGN VALUES

	DIMENSION	DESCRIPTION
FILL DEPTH	4'-6" MAX	DESIGN FILL HEIGHT
GUARDRAIL POST DEPTH	4'-0"	STEEL BEAM GUARDRAIL, GALVANIZED

1. TOP OF ABUTMENT PEDESTAL SHALL BE 1'-0" ABOVE OHW (MIN)

PILE DRIVING CRITERIA

	VALUE
DRIVING RESISTANCE	418 KIPS
MIN EMBEDMENT (AB #1)	15 FT
MIN EMBEDMENT (AB #2)	15 FT
TESTING	DYNAMIC - 1 TEST/ABUTMENT

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334typ.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
TYPICAL SECTIONS 4

PLOT DATE: 11-AUG-2020
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 9 OF 110

H-PILES

1. ANY WORK REQUIRED FOR DRIVING PILE IS PAID FOR UNDER ITEM 504.10 “FURNISHING EQUIPMENT FOR DRIVING PILE”.

2. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED AS SHOWN ON THE BORING LOGS. THE ACTUAL IN-PLACE LENGTHS MAY VARY BASED ON BEDROCK LOCATION.

PRECAST RIGID FRAME/WINGWALL - DESIGN CRITERIA

3. THE RIGID FRAME, RIGID FRAME HEADWALLS, AND WINGWALLS SHALL BE DESIGNED BY THE FABRICATOR, INCLUDING THE ANCHORAGE AND CONNECTIONS BETWEEN ELEMENTS. THE CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS AND CALCULATIONS TO THE ENGINEER IN ACCORDANCE WITH SECTION 105. SHOP DRAWINGS MUST DEMONSTRATE COMPATIBILITY BETWEEN THE FRAME AND WINGWALL SYSTEM CHOSEN BY THE CONTRACTOR.

4. THE SOIL PROPERTIES AND DESIGN PARAMETERS USED FOR THIS PROJECT ARE INDICATED BELOW.

   A. DESIGN REQUIREMENTS = AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
   B. NOMINAL BEARING RESISTANCE (IN-SITU) = 4 KSF
   C. CONCRETE COMPRESSIVE STRENGTH = PER FABRICATOR
   D. REQUIRED DESIGN LIFE = 75 YEARS

PRECAST RIGID FRAME

5. THE LUMP SUM COST FOR ITEM 540.10 “PRECAST CONCRETE STRUCTURE (31’ X 89’ FRAME & WINGWALLS)” SHALL INCLUDE THE PRECAST RIGID FRAME, HEADWALLS, WINGWALLS AND ALL CONNECTIONS BETWEEN ADJACENT UNITS.

6. ALL REINFORCING STEEL IN THE PRECAST RIGID FRAME, HEADWALLS, AND WINGWALLS SHALL MEET THE REQUIREMENTS OF ITEM 507.11 – “REINFORCING STEEL, LEVEL 1 (EPOXY COATED)”.

7. PAYMENT FOR MORTAR, TYPE IV USED TO FILL THE VOID BETWEEN THE RIGID FRAME LEGS AND PILE CAPS SHALL BE INCLUDED IN PAYMENT FOR ITEM 540.10 “PRECAST CONCRETE STRUCTURE (31’ X 89’ FRAME & WINGWALLS)”. MORTAR, TYPE IV USED FOR THIS PURPOSE MUST MEET THE MATERIAL AND TESTING REQUIREMENTS OF ITEM 541.58 “MORTAR, TYPE IV”.

8. THE ABUTMENTS ARE DESIGNED FOR THE REACTIONS AND BEHAVIOR SUMMARIZED BELOW. IF THE PROPOSED FRAME REACTIONS AND GEOMETRY VARY BEYOND THE LIMITS DEFINED BELOW, THE FABRICATOR ASSUMES DESIGN RESPONSIBILITY OF THE FOUNDATION, DESIGNS THE NECESSARY REVISIONS TO THE FOUNDATION, AND SUBMIT STRUCTURAL CALCULATIONS FOR THE REVISED DESIGN IN ACCORDANCE WITH SUB”SECTION 540.04.

   A. FRAME STIFFNESS: WHEN MODELING THE STIFFNESS OF THE FRAME FOR PURPOSES OF DESIGNING THE PILES AND PILE CAPS, THE FRAME LEGS ARE ASSUMED TO RESOLVE ALL HORIZONTAL FORCES WITH MINIMAL DEFLECTIONS. IF THE FABRICATOR’S PROPOSED FRAME LEGS RELY ON THE FOUNDATION TO RESOLVE HORIZONTAL FORCES, THE FABRICATOR SHALL ASSUME DESIGN RESPONSIBILITY OF THE PILES AND PILE CAP.

   B. FRAME REACTIONS AT TOP OF PEDESTAL: FOUNDATIONS WERE DESIGNED FOR MAXIMUM UN-FACTORED REACTIONS OF:

A.	LIVE LOAD (LL)	4.8 KIPS PER FOOT
B.	WEARING SURFACES (DW):	1.7 KIPS PER FOOT
C.	EARTH PRESSURE (EV):	10.7 KIPS PER FOOT
D.	HORIZONTAL EARTH PRESSURE ON FRAME LEG (EH):	4.0 KIPS PER FOOT
E.	HORIZONTAL EARTH PRESSURE (EH) LOCATION (FROM BOTTOM PILE CAP):	6.0 FEET
F.	HORIZONTAL LIVE LOAD SURCHARGE ON FRAME LEG (LS):	1.2 KIPS PER FOOT
G.	HORIZONTAL LIVE LOAD SURCHARGE (LS) LOCATION (FROM BOT PILE CAP):	6.5 FEET

9. PEDESTAL HEIGHT: THE PILE CAP HAS BEEN DESIGNED FOR THE DIMENSIONS SHOWN IN THE PLANS. IF THE PROPOSED FABRICATOR’S DESIGN REQUIRES A HIGHER PEDESTAL ELEVATION, THE FABRICATOR SHALL ASSUME DESIGN RESPONSIBILITY OF THE PILE CAP.

10. THE FABRICATOR SHALL SUPPLY THE AGENCY WITH THE LRFD LOAD RATING FACTORS FOR THE FRAME TO COMPLETE THE LOAD RATING TABLE ON THE PRELIMINARY INFORMATION SHEET, ALONG WITH THE DESIGN OF THE PRECAST RIGID FRAME STAMPED BY AN ENGINEER REGISTERED IN THE STATE OF VERMONT.

11. THE PRECAST STRUCTURE DETAILS ARE SHOWN FOR REFERENCE ONLY. THE ACTUAL DIMENSIONS AND CONFIGURATION WILL BE DEPENDENT ON THE FABRICATOR. THE INSIDE CLEAR DIMENSION AND HEIGHT OF THE FRAME MAY BE NO LESS THAN SHOWN IN THE TYPICAL SECTIONS.

12. THE USE OF EQUIPMENT AND THE METHOD OF BACKFILLING AROUND THE BURIED STRUCTURE SHALL BE IN ACCORDANCE WITH THE FABRICATOR’S RECOMMENDATIONS. CARE SHALL BE TAKEN WHEN BACKFILLING AGAINST JOINT SEALING MATERIALS.

WINGWALLS/HEADWALLS

13. THE FABRICATOR, IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS REFERENCED IN GENERAL PROJECT NOTE 1, SHALL DESIGN THE PRECAST CONCRETE WINGWALLS AND FRAME HEADWALLS. THE DESIGN SHALL INCLUDE THE EFFECTS OF ALL APPLICABLE LOADS. SUBMIT DESIGN CALCULATIONS WITH FABRICATION DRAWINGS STAMPED BY AN ENGINEER REGISTERED IN THE STATE OF VERMONT.

14. THE DESIGN OF THE WALLS SHALL INCORPORATE PROVISIONS FOR ADJACENT OBSTRUCTIONS SUCH AS DRAINAGE FEATURES AND GUARDRAIL POSTS IF NECESSARY. ANY CHANGES TO THE WALL SYSTEM SHALL BE DETAILED IN THE FABRICATION DRAWINGS.

15. WALL DESIGN SHALL INCLUDE DRAINAGE PROVISIONS TO ACCOUNT FOR OR PREVENT HYDROSTATIC PRESSURE BEHIND WALLS.

16. A BRIDGE PLAQUE, FURNISHED BY THE AGENCY, SHALL BE CAST INTO WINGWALL NO. 2. SEE SD-502.00 FOR FURTHER DETAILS.

17. PAYMENT FOR THE DESIGN, SUBMITTALS, HANDLING, SHIPPING, AND CONSTRUCTION OF RETAINING WALLS WILL BE INCLUDED IN PAYMENT FOR ITEM 540.10 “PRECAST CONCRETE STRUCTURE (31’ X 89’ FRAME & WINGWALLS).”

18. ANY BEDROCK REMOVAL REQUIRED TO ACCOMMODATE WINGWALLS AND/OR ADDITIONAL RELATED ELEMENTS WILL BE INCLUDED IN PAYMENT FOR ITEM 540.10 “PRECAST CONCRETE STRUCTURE (31’ X 89’ FRAME & WINGWALLS)”.

TRAFFIC CONTROL: PHASED CONSTRUCTION

19. PAYMENT FOR REMOVAL OF THE EXISTING TEMPORARY BRIDGE ON SITE WILL BE INCLUDED IN PAYMENT FOR ITEM 900.645 “SPECIAL PROVISION (TEMPORARY ROADWAY AND TRAFFIC CONTROL, ALL-INCLUSIVE)”.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334notes.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. DARGAN
PROJECT NOTES

PLOT DATE: 12-AUG-2020
DRAWN BY: G. DARGAN
CHECKED BY: G. ROY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	BRIDGE	FULL CE
1			
840			
		860	
270			
1			
		470	
		400	
670			
960			
60			
30			
1			
		1	
		820	
		2	
		9400	
		10	
		1	
		1	
		1	
10			
	1		
	1		
		160	
		340	
300			
1			
38			
1			
90			
496			
4			
469			
100			
600			
			1
			1
			1
		1	1
			3000

TOTALS

GRAND TOTAL	FINAL
1	
840	
860	
270	
1	
470	
400	
670	
960	
60	
30	
1	
1	
820	
2	
9400	
10	
1	
1	
1	
10	
1	
1	
160	
340	
300	
1	
38	
1	
90	
496	
4	
469	
100	
600	
1	
1	
1	
2	
3000	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER	ROUND
LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
CY	COMMON EXCAVATION	203.15	
CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
CY	GRANULAR BORROW	203.32	
CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
CY	STRUCTURE EXCAVATION	204.25	
CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	
SY	COARSE-MILLING, BITUMINOUS PAVEMENT	210.10	
CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	
CY	AGGREGATE SURFACE COURSE	401.10	
CWT	EMULSIFIED ASPHALT	404.65	
LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	
LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10	
LF	STEEL PILING, HP 14 X 89	505.18	
EACH	DYNAMIC PILE LOADING TEST	505.45	
LB	REINFORCING STEEL, LEVEL I (EPOXY COATED)	507.11	
GAL	WATER REPELLENT, SILANE	514.10	
LS	TEMPORARY PEDESTRIAN BRIDGE (190 SF - EST.)	528.12	
EACH	REMOVAL OF STRUCTURE (14' X 8'-9" CORRUGATED METAL PLATE)	529.15	
LS	PRECAST CONCRETE STRUCTURE (7' X 32' X 89' RIGID FRAME AND WINGWALLS)	540.10	
HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	
MGAL	DUST CONTROL WITH WATER	609.10	
TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	
CY	STONE FILL, STREAM BED MATERIAL (E-STONE, TYPE II)	613.06	
CY	STONE FILL, TYPE II	613.11	
LF	VERTICAL GRANITE CURB	616.21	
EACH	REMOVE AND RESET MAILBOX, SINGLE SUPPORT	617.10	
TON	BITUMINOUS CONCRETE SIDEWALK	618.15	
EACH	REMOVING AND RESETTING PROPERTY MARKERS	619.20	
LF	REMOVING AND RESETTING FENCE	620.50	
LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20	
EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	
LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	
HR	UNIFORMED TRAFFIC OFFICERS	630.10	
HR	FLAGGERS	630.15	
LS	FIELD OFFICE, ENGINEERS	631.10	
LS	TESTING EQUIPMENT, CONCRETE	631.16	
LS	TESTING EQUIPMENT, BITUMINOUS	631.17	
LS	TESTING EQUIPMENT, GROUT	631.19	
DL	FIELD OFFICE COMMUNICATIONS (N.A.B.I.)	631.26	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORK SUMMARY
		FILL AVAILABLE
504	CY	COMMON EXCAVATION (840 x 0.6)
258	CY	UNCLASSIFIED CHANNEL EXCAVATION (860 x 0.3)
81	CY	STRUCTURE EXCAVATION (470 x 0.3)
7	CY	ROUNDING
850	**CY**	**TOTAL FILL AVAILABLE**
		FILL REQUIRED
0	CY	FILL (0 CY EARTH)
0	CY	FACTORED FILL (x1.15)
0	CY	ROUNDING
0	**CY**	**TOTAL FILL REQUIRED**
850	**CY**	**TOTAL WASTE**
		SPECIAL PROVISION
		(BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)
125	TON	BASE COURSE 1
125	TON	BASE COURSE 2
94	TON	INTERMEDIATE
132	TON	WEARING
9	TON	DRIVES
485	**TON**	**TOTAL**

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334qs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: R. HOOD
QUANTITY SHEET 1

PLOT DATE: 11-AUG-2020
DRAWN BY: G. DARGAN
CHECKED BY: G. DARGAN
SHEET 11 OF 110

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES			TOTALS	DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EROSION CONTROL	BRIDGE / FULL CE	GRAND TOTAL FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
6			6	EACH	CPM SCHEDULE	633.10				
1			1	LS	MOBILIZATION/DEMOBILIZATION	635.11				
700			700	LF	4 INCH WHITE LINE, WATERBORNE PAINT	646.201				
700			700	LF	4 INCH YELLOW LINE, WATERBORNE PAINT	646.2111				
1460			1460	SY	GEOTEXTILE FOR ROADBED SEPARATOR	649.11				
		590	590	SY	GEOTEXTILE UNDER STONE FILL	649.31				
	30		30	LB	SEED	651.15				
	30		30	LB	SEED, WINTER RYE	651.17				
	200		200	LB	FERTILIZER	651.18				
	1		1	TON	AGRICULTURAL LIMESTONE	651.20				
	190		190	CY	TOPSOIL	651.35				
		270	270	SY	GRUBBING MATERIAL (12")	651.40				
	1		1	LS	EPSC PLAN	653.01				
	100		100	HR	MONITORING EPSC PLAN	653.02				
	1		1	LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	653.03				
	1		1	TON	HAY MULCH	653.10				
	280		280	SY	ROLLED EROSION CONTROL PRODUCT, TYPE I	653.20				
	61		61	CY	STABILIZED CONSTRUCTION ENTRANCE	653.35				
	1		1	EACH	FILTER BAG	653.45				
	700		700	LF	SILT FENCE, TYPE I	653.475				
	490		490	LF	BARRIER FENCE	653.50				
	250		250	LF	PROJECT DEMARCATION FENCE	653.55				
0.84			0.84	SF	TRAFFIC SIGN, TYPE A	675.20				
16			16	LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
2			2	EACH	REMOVING SIGNS	675.50				
4			4	EACH	DELINEATOR WITH STEEL POST	676.10				
1			1	EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM	678.40				
1			1	LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
		62	62	CY	SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS B)	900.608				
1			1	EACH	SPECIAL PROVISION (DRIVEWAY ASSISTANCE DEVICE)	900.620				
		1	1	LS	SPECIAL PROVISION (REMOVAL OF TEMPORARY BRIDGE) (2400 SQ. FT)	900.645				
		1	1	LS	SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)	900.645				
1			1	LS	SPECIAL PROVISION (TEMPORARY ROADWAY AND TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645				
1			1	LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	900.650				
1			1	LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650				
485			485	TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334qs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: R. HOOD
QUANTITY SHEET 2

PLOT DATE: 11-AUG-2020
DRAWN BY: G. DARGAN
CHECKED BY: G. DARGAN
SHEET 12 OF 110

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

SUMMARY OF BRIDGE QUANTITIES				TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
FRAME	ABUTMENT #1	ABUTMENT #2	CHANNEL	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
			860	860	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
	235	235		470	CY	STRUCTURE EXCAVATION	204.25			
	200	200		400	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30			
	0.5	0.5		1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10			
	410	410		820	LF	STEEL PILING, HP 14 X 89	505.18			
	1	1		2	EACH	DYNAMIC PILE LOADING TEST	505.45			
	4700	4700		9400	LB	REINFORCING STEEL, LEVEL I (EPOXY COATED)	507.11			
3.32	3.34	3.34		10	GAL	WATER REPELLENT, SILANE	514.10			
1				1	LS	TEMPORARY PEDESTRIAN BRIDGE (190 SF - EST.)	528.12			
1				1	EACH	REMOVAL OF STRUCTURE (14' X 8'-9" CORRUGATED METAL PLATE)	529.15			
1				1	LS	PRECAST CONCRETE STRUCTURE (7' X 32' X 89' RIGID FRAME AND WINGWALLS)	540.10			
			160	160	CY	STONE FILL, STREAM BED MATERIAL (E-STONE, TYPE II)	613.06			
	170	170		340	CY	STONE FILL, TYPE II	613.11			
1				1	LS	TESTING EQUIPMENT, GROUT	631.19			
	295	295		590	SY	GEOTEXTILE UNDER STONE FILL	649.31			
	135	135		270	SY	GRUBBING MATERIAL (12")	651.40			
	31	31		62	CY	SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS B)	900.608			
1				1	LS	SPECIAL PROVISION (REMOVAL OF TEMPORARY BRIDGE) (2400 SQ. FT)	900.645			
1				1	LS	SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)	900.645			

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334qs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: R. HOOD
BRIDGE QUANTITY SHEET

PLOT DATE: 11-AUG-2020
DRAWN BY: G. DARGAN
CHECKED BY: G. DARGAN
SHEET 13 OF 110

GPS CONTROL POINTS

PT #1 SPRING 57 AZ MK

NORTH = 291633.6750
EAST = 1636877.4610
ELEV. = 593.789

GENERAL LOCATION, SPRINGFIELD, VT.
THE MARK IS SET 15 CM (6 INCHES) BELOW GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT. IT IS 7.9 M (25.9 FT) NORTH OF AND ABOUT LEVEL WITH THE CENTERLINE OF VT ROUTE 11, 20.7 M (67.9 FT) EAST OF THE CENTERLINE OF BELLOWS ROAD, 4.9 M (16.1 FT) SOUTH OF POLE NO 7/91/91/6, 7.6 M (24.9 FT) NORTHWEST OF THE SOUTHWEST CORNER OF A CONCRETE BASE FO R A STEEL TELEPHONE JUNCTION BOX, 32.5 M (106.6 FT) WEST OF THE CENTER OF THE NORTH (INLET) END OF BRIDGE 56.

PT #2 SPRING 57

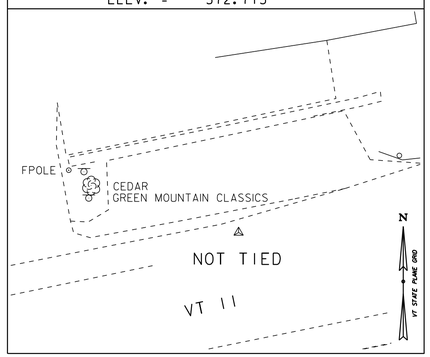
NORTH = 291938.9420
EAST = 1638030.0990
ELEV. = 567.043

SRINGFIELD, VT.
THE MARK IS SET 15 CM BELOW GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT. IT IS 7.5 M NORTH OF AND ABOUT 40 CM LOWER THAN THE CENTERLINE OF VT ROUTE 11, 8.8 M WEST OF THE CENTERLINE OF THE DRIVEWAY LEADING TO HOUSE NO 117, 12.2 M SOUTH-SOUTHEAST OF THE SOUTHWEST CORNER OF THE HOUSE, 11.5 M SOUTH-SOUTHWEST OF THE SOUTHEAST CORNER OF THE HOUSE AND 25.7 M SOUTHEAST OF THE CENTER OF BRIDGE NO 57.

TRAVERSE TIES

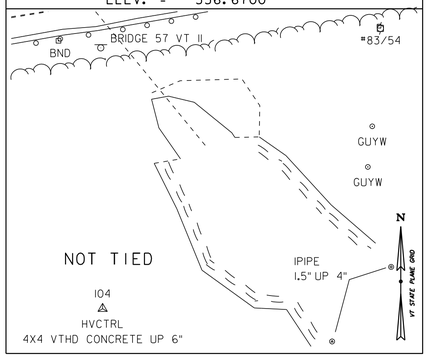
HVCTRL #100

NORTH = 291884.3602
EAST = 1637779.1022
ELEV. = 572.713



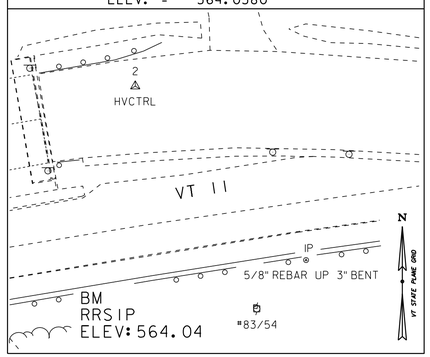
HVCTRL #104

NORTH = 291806.17
EAST = 1637988.8316
ELEV. = 556.6700



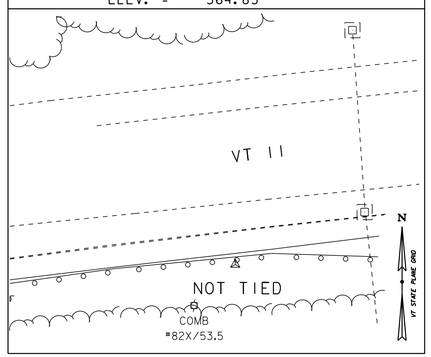
BM #1468

NORTH = 291880.77
EAST = 1638061.8156
ELEV. = 564.0380



HVCTRL #105

NORTH = 291906.7776
EAST = 1638189.8262
ELEV. = 564.85



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NORTH =
EAST =
ELEV. =

ALIGNMENT TIES

NORTH =	NORTH =	NORTH =	NORTH =	NORTH =
EAST =	EAST =	EAST =	EAST =	EAST =
ELEV. =	ELEV. =	ELEV. =	ELEV. =	ELEV. =

DATUM

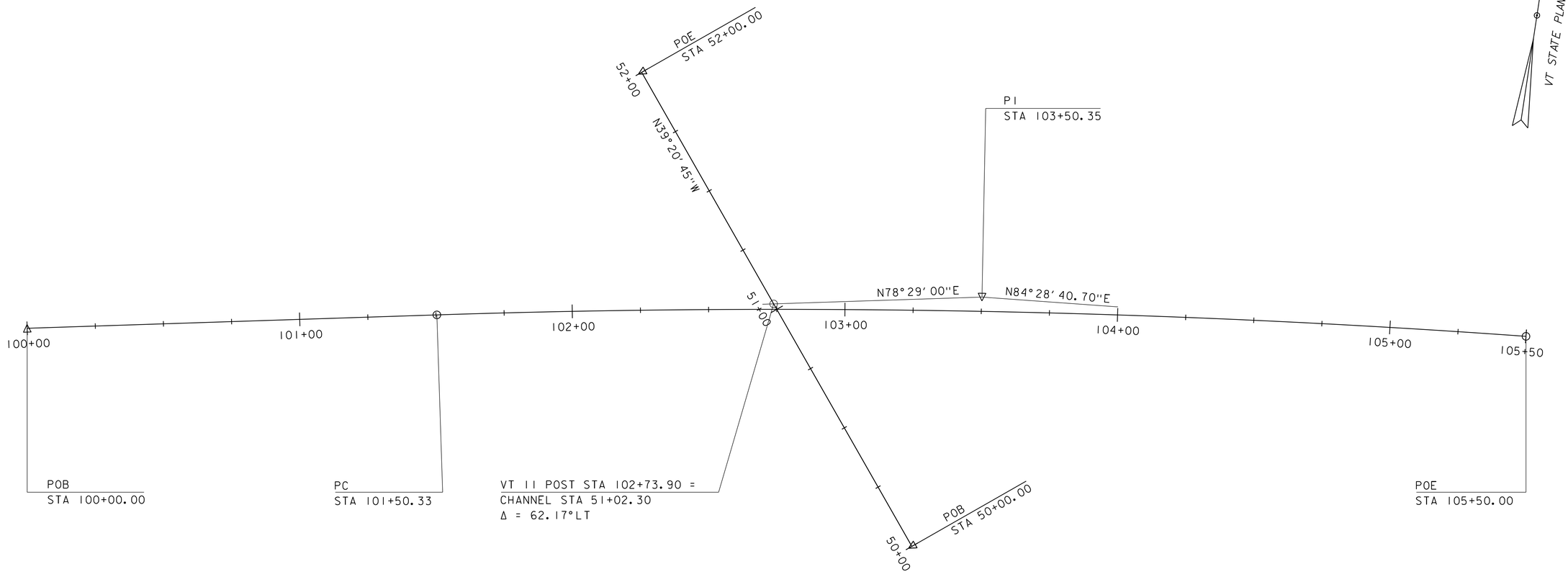
VERTICAL	NAVD88
HORIZONTAL	NAD83(2011)
ADJUSTMENT	COMPASS

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: X13C334TI.DGN
PROJECT LEADER: C. WILLIAMS
DESIGNED BY: VTRANS
TIE SHEET

PLOT DATE: 11-AUG-2020
DRAWN BY: C. CYR
CHECKED BY: P. BEYOR

MAINLINE CURVE DATA
CURVE (1)
DELTA = 5°59'41"
D = 1°30'00"
R = 3820.00'
T = 200.02'
L = 399.67'
E = 5.23'



CONTROL LINE DATA - VT11prop											
POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
9	N 78°29'00.00" E	150.33 '	291851.7746	1637700.671		100+00.00					
	N 84°28'40.70" E		291921.7223	1638043.964	101+50.33		105+50.00	5°59'40.70"	3820.00 '	399.67 '	200.02 '

CONTROL LINE DATA - CH_C57											
POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
14	N 39°20'45.00" W	200.00 '	291827.3481	1638033.919		50+00.00					
13			291982.0148	1637907.119		52+00.00					

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

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334align.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
ALIGNMENT

PLOT DATE: 11-AUG-2020
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 15 OF 110

SOIL INFORMATION:
URBAN LAND-COLTON-CROGHAN COMPLEX
(NOT HIGHLY ERODIBLE)
K-FACTOR = 0.24/0.17, 0%-8% SLOPES
HYDROLOGICAL SOIL GROUP: UNRATED
SOIL INFORMATION:
ADAMS LOAMY FINE SAND
POTENTIALLY HIGHLY ERODIBLE
K-FACTOR = 0.17, 8%-15%
HYDROLOGICAL SOIL GROUP: A
N
VT STATE PLANE GRID
RIPARIAN BUFFER
EXISTING ROW
15" CMP
FLOW
PAVED DRIVE
EXISTING ROW
4X4 VTHD CONCRETE BOUNDRY MARKER UP 1'
GUY
COMB 7 85 56
PAVED DRIVE
PAVED DRIVE
SIGN "GREEN MOUNTAIN CLASSICS"
GRAVEL DRIVE
WOOD FENCE
HVCTRL 103
COMB 7 84 2300 55
SIGN OM3-L
HVCTRL 101
SIGN VD-701 (BRIDGE 57 VT 11)
SIGN OM3-R
MBOX RELOCATED
HVCTRL REMOVED
MBOX
HVCTRL 100
VT ROUTE 11
TO CHESTER
100+00
101+00
102+00
103+00
104+00
105+00
105+50
SIGN WI-8
VT ROUTE 11
TO VT106
PIPE FLOW
SIDEWALK
EXISTING ROW
WOOD FENCE
HVCTRL 102
BOUNDRY MARKER (REBAR ONLY) POOR CONDITION
SIGN VD-701 (BRIDGE 57 VT 11)
STONE FILL
COMB 83 54
⅝" REBAR BENT, UP 3"
SIGN ECH2-1 (40)
HVCTRL 105
COMB 82X 53.5
EXISTING ROW
GUY
52+00
51+00
50+00
14'-1" X 8'-9" CGMPPA
4X4 VTHD CONCRETE BOUNDRY MARKER UP 6"
⅝" REBAR W/CAP DAVID UP 8"
½" IRON PIPE IP 1'
IRON PIPE IP 4'
2" IRON PIPE BOUNDRY MARKER REBAR ONLY
UNNAMED BROOK
FLOW
BENCHMARK
RAIL ROAD SPIKE
IN POLE
ELEV = 564.04
560
570
SCALE 1" = 20'-0"
20 0 20

EXISTING 132'-0" LONG CGMPPA
14'-1" SPAN X 8'-9" RISE
BUILT 1961
7' AVERAGE COVER

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BF 0134(43)	
FILE NAME: s13c334exist.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
EXISTING CONDITIONS	SHEET 16 OF 110

COARSE-MILLING, BITUMINOUS PAVEMENT
STA 100+75.0 - 101+75.0
STA 103+75.0 - 104+25.0

REMOVING AND RESETTING PROPERTY MARKERS
STA 102+77.0 - 28.5' RT

REMOVE AND RESET MAILBOX, SINGLE SUPPORT
REMOVE FROM STA 104+24.5 LT
RELOCATE TO STA 103+31.7 LT

REMOVING AND RESETTING FENCE
STA 101+46.6 - STA 101+57.8 LT
STA 100+71.0 - STA 101+66.0 RT

CONSTRUCT DRIVE APRON
STA 100+75.0 - 101+30.1 LT (PAVED)
STA 101+00.0 - 101+24.8 LT (GRAVEL)
STA 103+49.8 - 103+85.0 LT (PAVED)

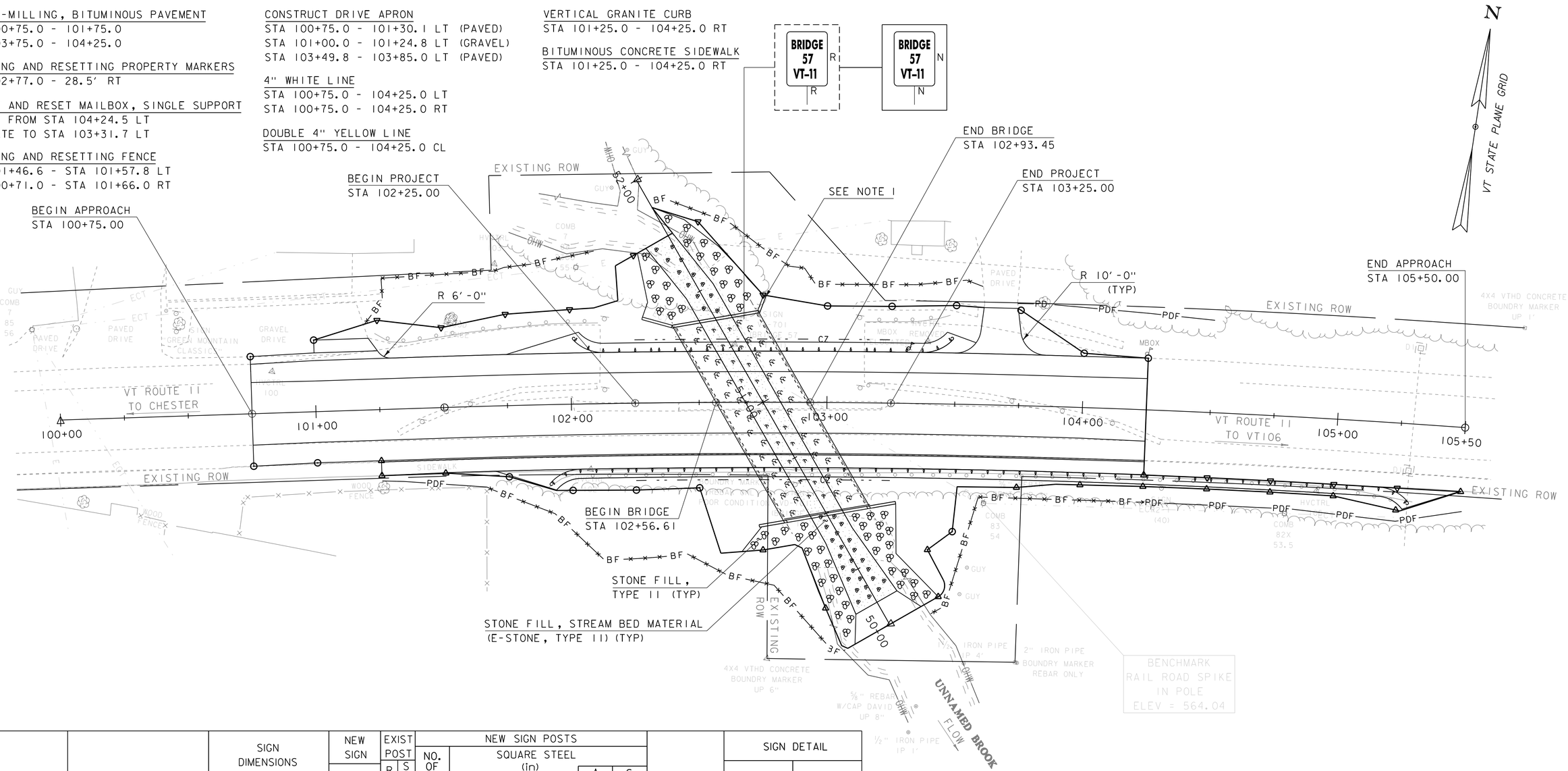
4" WHITE LINE
STA 100+75.0 - 104+25.0 LT
STA 100+75.0 - 104+25.0 RT

DOUBLE 4" YELLOW LINE
STA 100+75.0 - 104+25.0 CL

VERTICAL GRANITE CURB
STA 101+25.0 - 104+25.0 RT

BITUMINOUS CONCRETE SIDEWALK
STA 101+25.0 - 104+25.0 RT

BRIDGE 57 VT-11 R | BRIDGE 57 VT-11 N



MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS WIDTH (in)	SIGN DIMENSIONS HEIGHT (in)	NEW SIGN "A"	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	SQUARE STEEL (in) 1.75 lb/ft 1.88	SQUARE STEEL (in) 2.0 lb/ft 2.42	SQUARE STEEL (in) 2.5 lb/ft 3.35	ANCHOR	SLEEVE	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	SIGN DETAIL STD. SHEET NUMBER
102+67.6 LT	BRIDGE 57 VT-11	6	10	0.42			1	8			X		VD-701		T-42
102+87.7 RT	BRIDGE 57 VT-11	6	10	0.42			1	8			X		VD-701		T-42
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."								FT 16	FT	FT		EA			
	TOTALS			SF 0.84				FT 16					SHS = STANDARD HIGHWAY SIGNS (MUTCD)		

SIGN LEGEND
R = REMOVE
S = SALVAGE = REMOVE & RESET
N = NEW
RET = RETAIN
B-B = BACK TO BACK
EXISTING = - - - - - -
NEW = ———

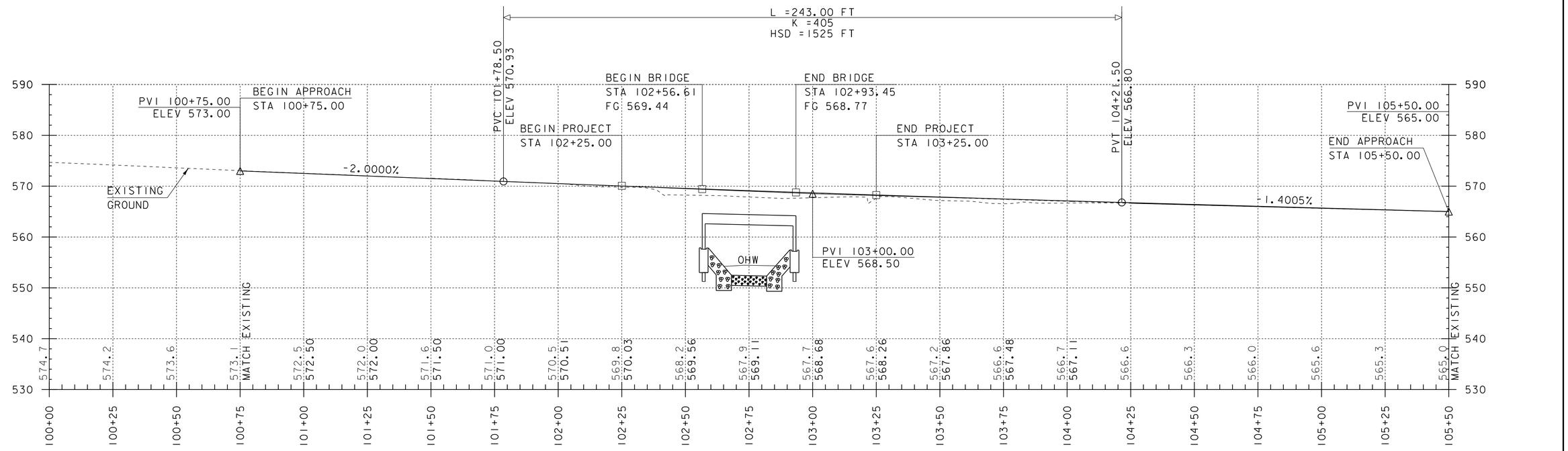
SCALE 1" = 20'-0"
20 0 20

NOTES:

1. THE CONTRACTOR IS ADVISED THAT OVERHEAD UTILITIES WILL LIKELY POSE CONFLICTS TO SETTING WW3 WITH A CRANE.

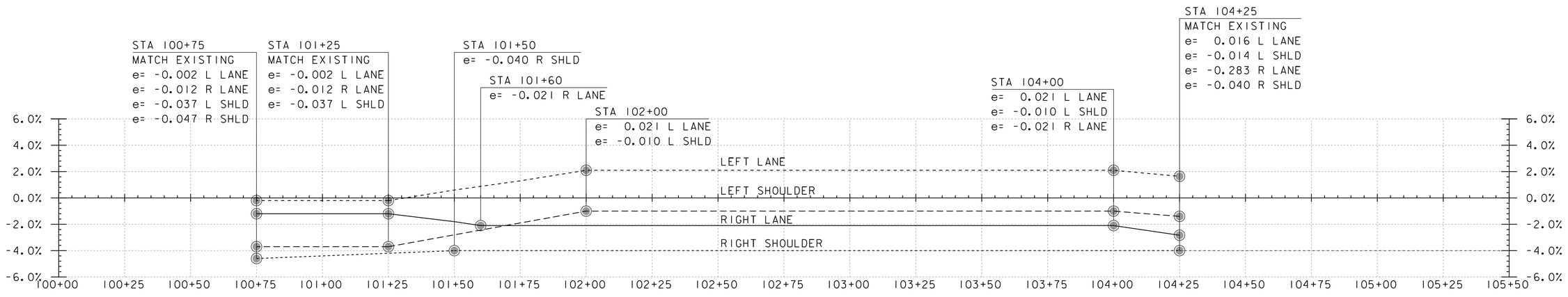
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334bdr.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
LAYOUT SHEET
PLOT DATE: 11-AUG-2020
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 17 OF 110



MAINLINE PROFILE

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



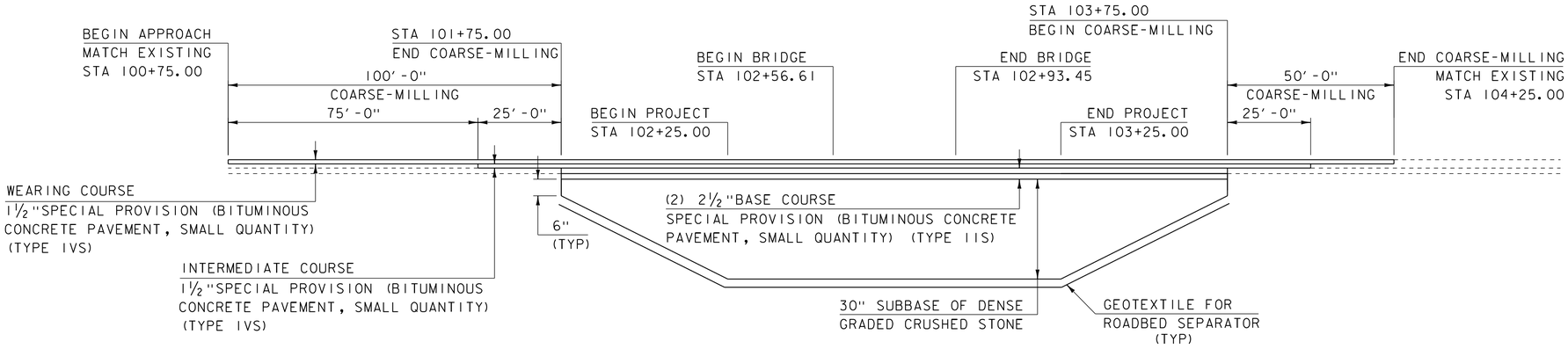
BANKING DIAGRAM

HOR. SCALE 1" =20'-0"
NO VER. SCALE

THE GRADES SHOWN TO THE TENTH ARE THE EXISTING GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT.

THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE FINISH GRADES ALONG THE PROPOSED ALIGNMENT.

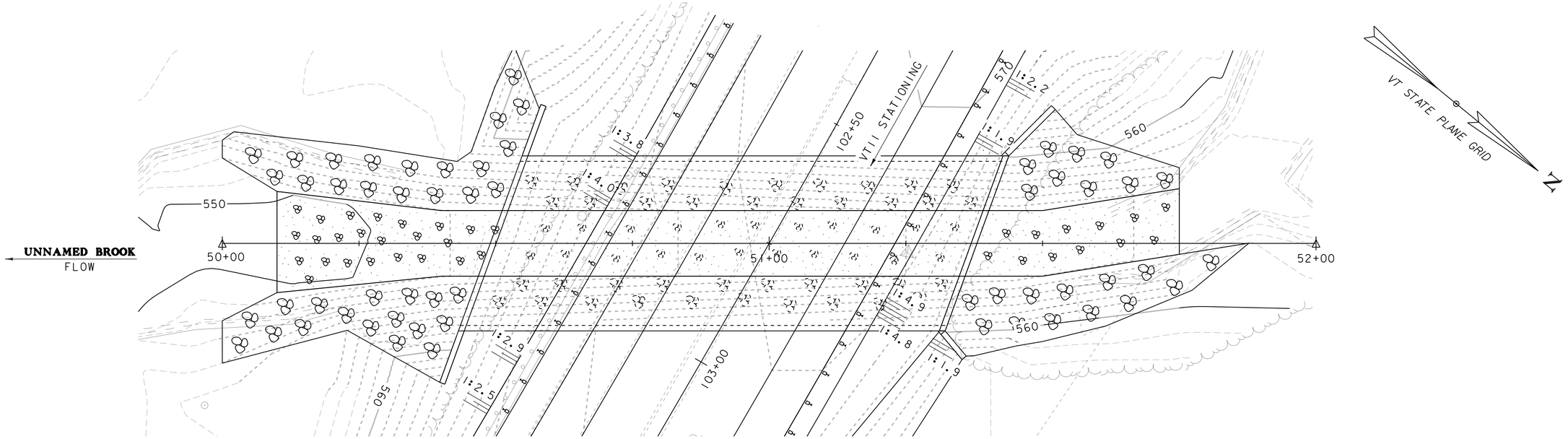
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(43)
FILE NAME: sl3c334pro.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
VT 11 PROFILE & BANKING DIAGRAM	SHEET 18 OF 110



VT II MATERIAL TRANSITION DETAIL

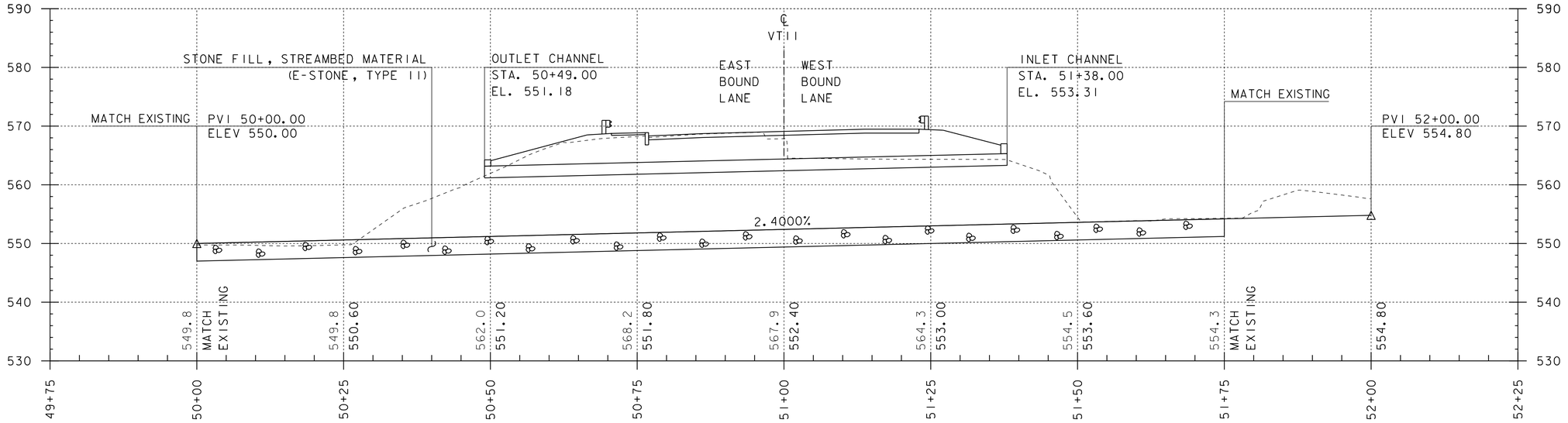
NOT TO SCALE

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(43)
FILE NAME: sl3c334pro.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
MATERIAL TRANSITION	SHEET 19 OF 110



STRUCTURE PLAN

SCALE: 1"=10'-0"



STRUCTURE CHANNEL PROFILE

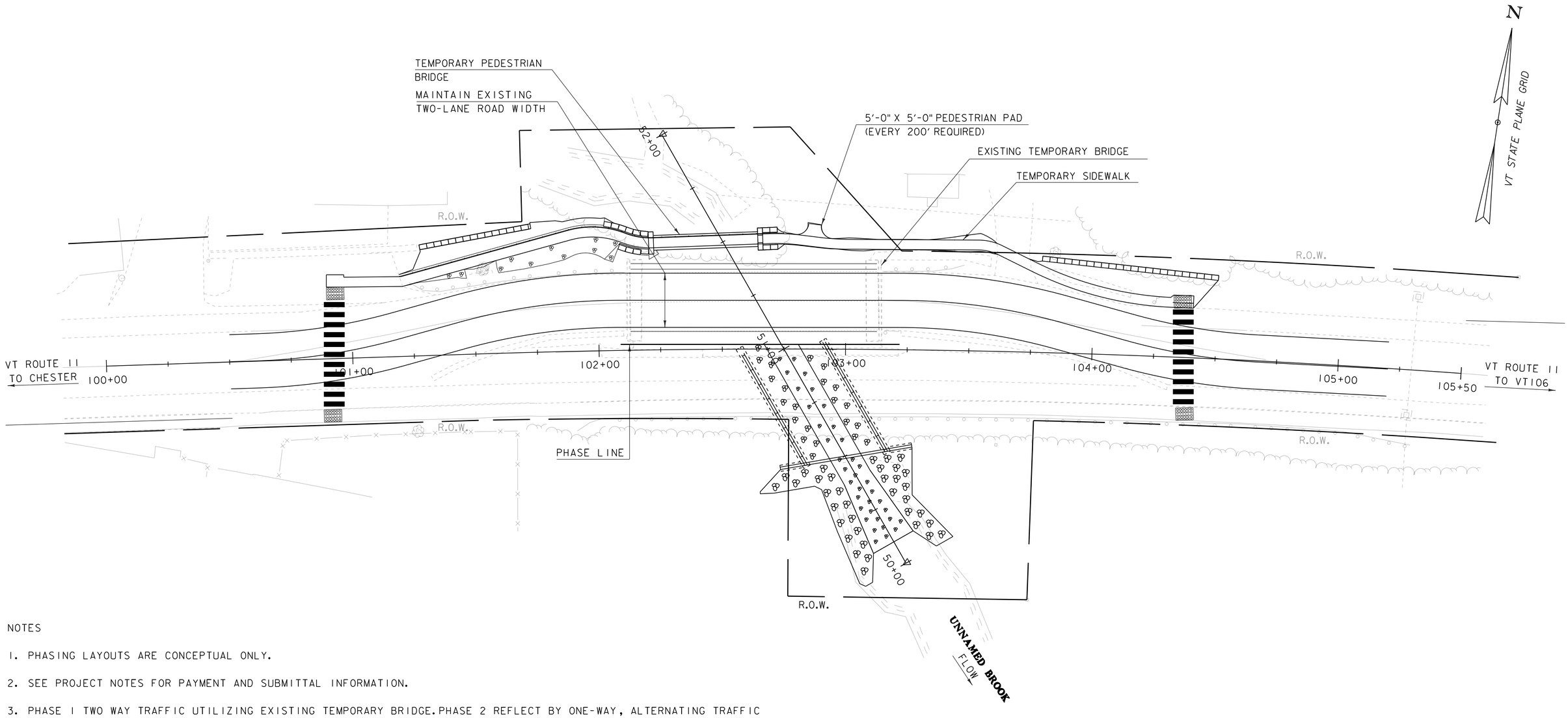
SCALE: 1"=10'-0"

NOTE:

ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG CHANNEL GEOMETRY.

ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE STREAM BED ALONG THE CHANNEL GEOMETRY.

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BF 0134(43)	
FILE NAME: sl3c334pp.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
FRAME PLAN & PROFILE	SHEET 20 OF 110



NOTES

1. PHASING LAYOUTS ARE CONCEPTUAL ONLY.
2. SEE PROJECT NOTES FOR PAYMENT AND SUBMITTAL INFORMATION.
3. PHASE I TWO WAY TRAFFIC UTILIZING EXISTING TEMPORARY BRIDGE. PHASE 2 REFLECT BY ONE-WAY, ALTERNATING TRAFFIC CONTROLLED BY TEMPORARY TRAFFIC SIGNALS. PLACE DRIVEWAY ASSISTED DEVICES (DADS) AT EACH DRIVEWAY WITHIN THE PROJECT SIGNALIZED AREA.
4. THE CONTRACTOR IS ADVISED THAT A MEANS OF SUPPORTING THE TEMORARY ROADWAY FILL IS LIKELY.
5. CONCRETE BARRIER ENDS EXPOSED TO TRAFFIC SHALL BE PROTECTED (ATTENUATED) OR EXTENDED OUTSIDE THE CLEAR ZONE.
6. CONCRETE BARRIER SIDE EXPOSED TO TRAFFIC SHALL BE DELINEATED TO MATCH THE CORRESPONDING TEMPORARY PAVEMENT MARKING. REFLECTORS SHALL BE MOUNTED EVERY 20 FEET ALONG THE SIDE OF THE BARRIER EXPOSED TO TRAFFIC.
7. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES THAT ACCESS VT-11 WITHIN THE PROJECT LIMITS AT ALL TIMES, FOR ALL PHASES OF CONSTRUCTION. IF ACCESS CANNOT BE MAINTAINED FOR SHORT PERIODS OF TIME, THE CONTRACTOR SHALL COORDINATE ACCESS WITH THE PROPERTY OWNER AND OBTAIN APPROVAL OF THE ENGINEER.
8. SEE SPECIAL PROVISON - TRAFFIC CONTROL AND TEMPORARY ROADWAY, ALL-INCLUSIVE FOR SUBBASE AND PAVEMENT REQUIREMENTS.
9. BICYCLE ACCOMMODATIONS SHOULD BE TAKEN TO ENSURE THAT OBSTACLES, EQUIPMENT, CONSTRUCTION MATERIALS, TRAFFIC CONTROL DEVICES, ETC. DO NOT ENCROACH INTO THE BICYCLE PATH OF TRAVEL. IT IS IMPORTANT THAT CYCLIST'S ROUTES ARE FREE OF RUTS, SAND AND MUD TO PREVENT CYCLIST'S CRASHES.

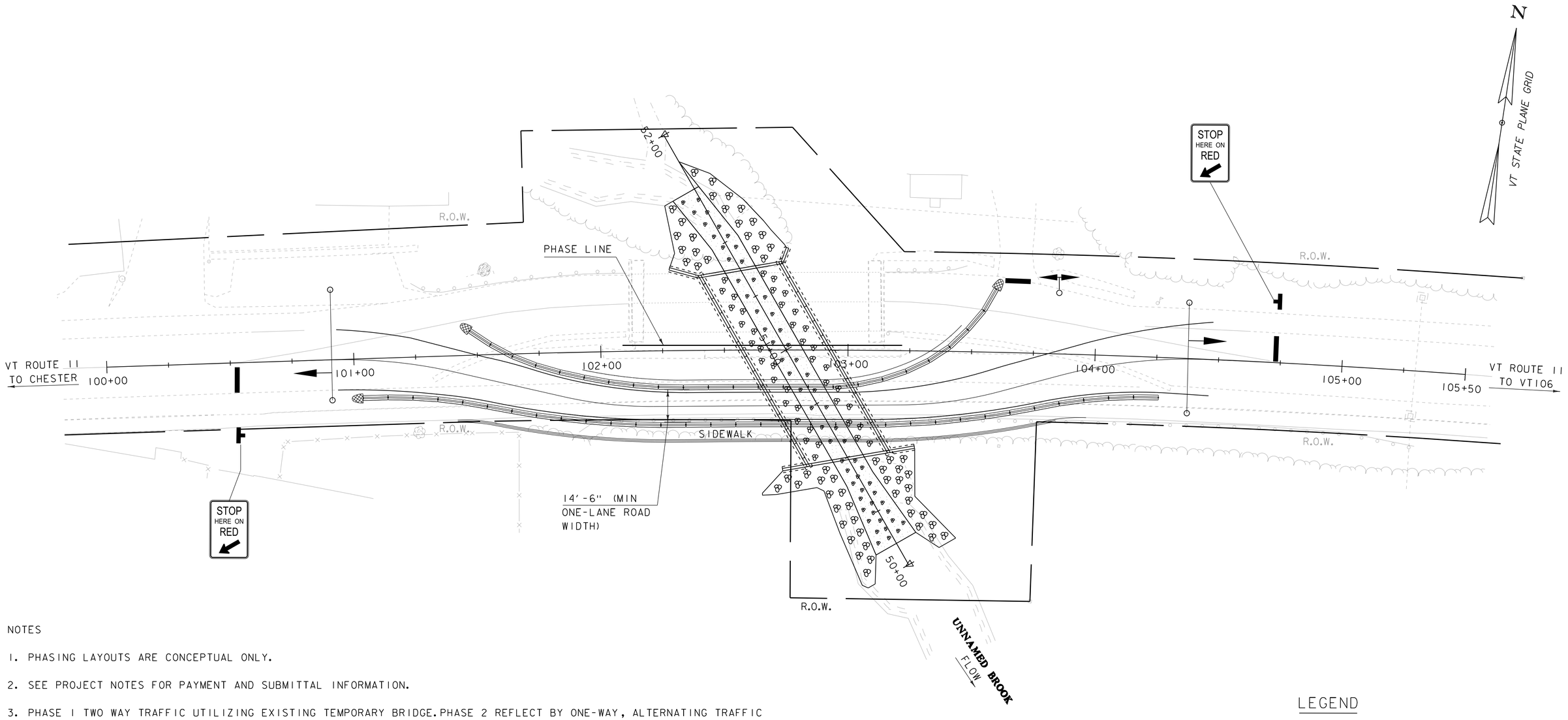
LEGEND

TEMPORARY DETECTABLE WARNING SURFACE

PHASE I LAYOUT

(NOT TO SCALE)

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(43)
FILE NAME: sl3c334phasing.dgn	PLOT DATE: 12-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
PHASE I LAYOUT	SHEET 21 OF 110



NOTES

1. PHASING LAYOUTS ARE CONCEPTUAL ONLY.

2. SEE PROJECT NOTES FOR PAYMENT AND SUBMITTAL INFORMATION.

3. PHASE I TWO WAY TRAFFIC UTILIZING EXISTING TEMPORARY BRIDGE. PHASE 2 REFLECT BY ONE-WAY, ALTERNATING TRAFFIC CONTROLLED BY TEMPORARY TRAFFIC SIGNALS. PLACE DRIVEWAY ASSISTED DEVICES (DADS) AT EACH DRIVEWAY WITHIN THE PROJECT SIGNALIZED AREA.

4. THE CONTRACTOR IS ADVISED THAT A MEANS OF SUPPORTING THE TEMORARY ROADWAY FILL IS LIKELY.

5. CONCRETE BARRIER ENDS EXPOSED TO TRAFFIC SHALL BE PROTECTED (ATTENUATED) OR EXTENDED OUTSIDE THE CLEAR ZONE.

6. CONCRETE BARRIER SIDE EXPOSED TO TRAFFIC SHALL BE DELINEATED TO MATCH THE CORRESPONDING TEMPORARY PAVEMENT MARKING. REFLECTORS SHALL BE MOUNTED EVERY 20 FEET ALONG THE SIDE OF THE BARRIER EXPOSED TO TRAFFIC.

7. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES THAT ACCESS VT-11 WITHIN THE PROJECT LIMITS AT ALL TIMES, FOR ALL PHASES OF CONSTRUCTION. IF ACCESS CANNOT BE MAINTAINED FOR SHORT PERIODS OF TIME, THE CONTRACTOR SHALL COORDINATE ACCESS WITH THE PROPERTY OWNER AND OBTAIN APPROVAL OF THE ENGINEER.

8. SEE SPECIAL PROVISON - TRAFFIC CONTROL AND TEMPORARY ROADWAY, ALL-INCLUSIVE FOR SUBBASE AND PAVEMENT REQUIREMENTS.

9. BICYCLE ACCOMMODATIONS SHOULD BE TAKEN TO ENSURE THAT OBSTACLES, EQUIPMENT, CONSTRUCTION MATERIALS, TRAFFIC CONTROL DEVICES, ETC. DO NOT ENCROACH INTO THE BICYCLE PATH OF TRAVEL. IT IS IMPORTANT THAT CYCLIST'S ROUTES ARE FREE OF RUTS, SAND AND MUD TO PREVENT CYCLIST'S CRASHES.

PHASE 2 LAYOUT

(NOT TO SCALE)

LEGEND

- CRASH ATTENUATOR
- CONSTRUCTION SIGN
- CONCRETE BARRICADE
- TEMPORARY STOP BAR
- TRAFFIC SIGNAL
- DRIVEWAY ASSIST DEVICE

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(43)
FILE NAME: sl3c334phasing.dgn	PLOT DATE: 12-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
PHASE 2 LAYOUT	SHEET 22 OF 110

N

VT STATE PLANE GRID

TEMPORARY POWER RELOCATION

GUYS
(RETAIN)

COMMUNICATION RELOCATION
POWER RELOCATION (POST CONSTRUCTION)

RETAIN EXISTING
POLE #7/84/2300/55

NEW 35'-0"
ANCHOR

NEW 20'-0" TEMPORARY ANCHOR

INSTALL TEMPORARY POLE

RETAIN EXISTING
SERVICE

NEW 20'-0"
ANCHOR

INSTALL NEW PERMANENT
POLE WITH 25'-0" ANCHOR

RETAIN EXISTING
POLE #7/85/56

GUY
COMB
7
85
56

COMB
7
84
2300
55

RETAIN ECT

ECT

BF

E

PDF

CZ

REMOVE

PERMANENT RELOCATION

EXISTING ROW

PAVED DRIVE

GRAVEL DRIVE

VT ROUTE 11
TO CHESTER

VT ROUTE 11
TO VT106

100+00

101+00

102+00

103+00

104+00

105+00

105+50

SIDEWALK

REMOVE EXISTING
POLE #83/54 AND
ANCHORS

COMB
83
54

GUY

INSTALL NEW
PERMANENT POLE

COMB
82X
53.5

NEW 20'-0"
ANCHOR

NEW 25'-0"
ANCHOR

UNNAMED BROOK
FLOW

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

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(43)
FILE NAME: sl3c334ut_relocate.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
UTILITY LAYOUT SHEET	SHEET 23 OF 110

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

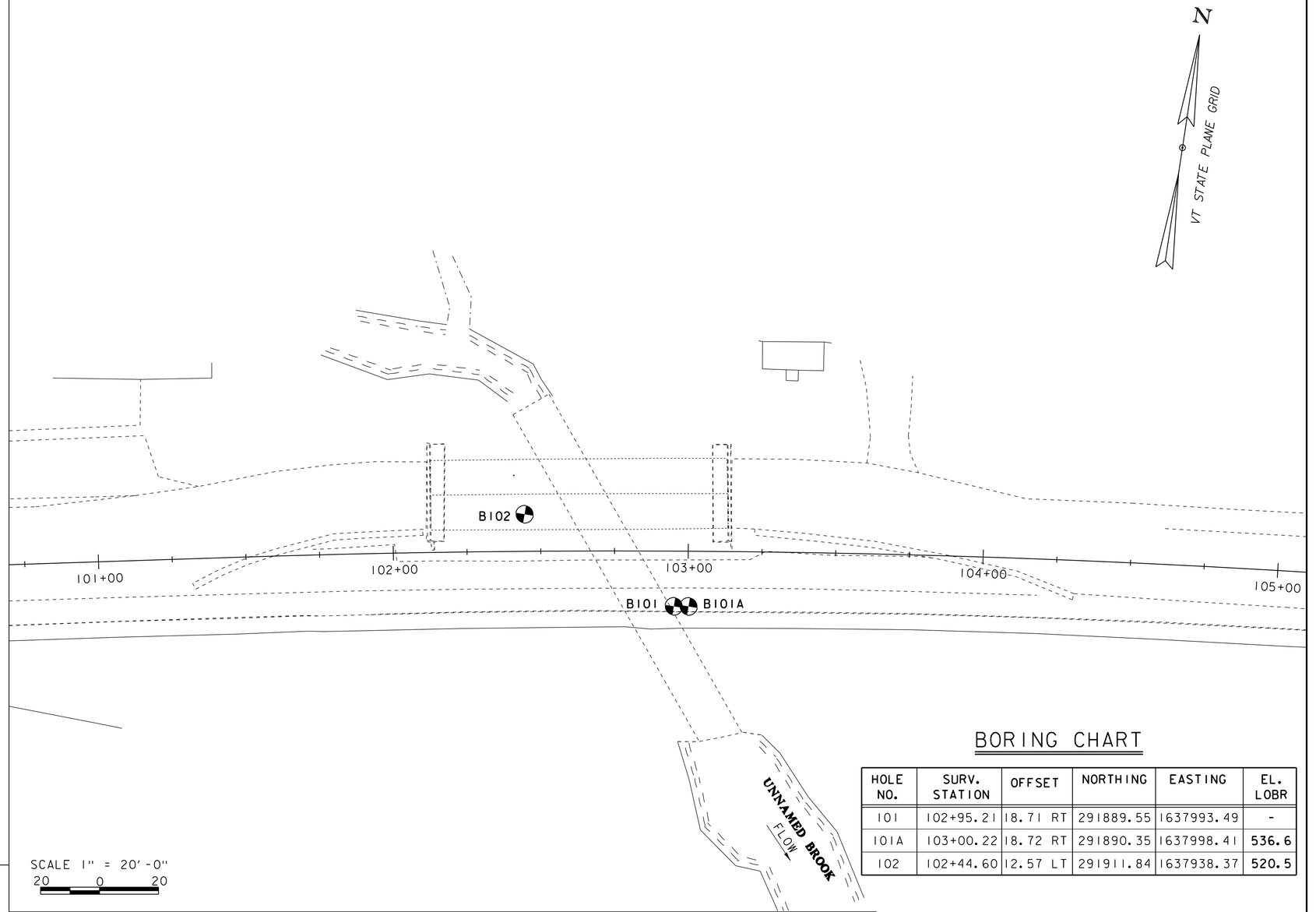
CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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
RQD	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

BORING CHART

HOLE NO.	SURV. STATION	OFFSET	NORTHING	EASTING	EL. LOBR
101	102+95.21	18.71 RT	291889.55	1637993.49	-
101A	103+00.22	18.72 RT	291890.35	1637998.41	536.6
102	102+44.60	12.57 LT	291911.84	1637938.37	520.5

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 7/25/2016 and 7/27/2016 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: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334bor.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
BORING INFORMATION

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 24 OF 110

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

BORING LOG

Springfield
BF 0134(43)
VT 11 Culvert 57

Boring No.: B-101
Page No.: 1 of 1
Pin No.: 13c334
Checked By: END

Boring Crew: Gomes, Judkins, Emerson
Date Started: 7/25/16 Date Finished: 7/25/16
VTSPG NAD83: N 291889.55 ft E 1637993.49 ft
Station: 102+95.21 Offset: 18.71 RT
Ground Elevation: 568.0 ft

	Casing	Sampler
Type:	WB	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	CE = 1.42

Groundwater Observations

Date	Depth (ft)	Notes
07/25/16		No W.T. observed

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Asphalt Pavement, 0.0 ft – 0.5 ft					
		A-1-b, GrSa, gry-brn, Moist, Rec. = 0.8 ft	2-3-3-3 (6)	10.5	33.5	55.8	10.7
2.5		Field Note:, Rollercone, Cleaned out casing					
		A-2-4, GrSiSa, gry-brn, Moist, Rec. = 0.8 ft	4-6-8-8 (14)	9.3	26.2	44.6	29.2
5.0		Field Note:, Rollercone, Cleaned out casing					
		A-2-4, SiSa, gry-brn, Moist, Rec. = 1.0 ft	8-4-7-5 (11)	9.0	18.3	52.2	29.5
		Field Note:, Rollercone, Cleaned out casing					
7.5		A-3, Sa, brn, Moist, Rec. = 1.0 ft	3-4-3-3 (7)	12.9	5.3	86.7	8.0
		A-3, GrSa, brn, Moist, Rec. = 0.5 ft	1-R@3.5" (R)	17.0	20.8	72.1	7.1
10.0		Hole stopped @ 9.8 ft					
12.5							

Remarks:
Hole collapsed at 9.3 feet.

1.) Hit culvert at 9.8 feet. Aborted drilling operations.

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.

BOT PC
EL=553.29'

BOT PILE
EL=536.61'

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

BORING LOG

Springfield
BF 0134(43)
VT 11 Culvert 57

Boring No.: B-101A
Page No.: 1 of 1
Pin No.: 13c334
Checked By: END

Boring Crew: Gomes, Judkins, Emerson
Date Started: 7/25/16 Date Finished: 7/26/16
VTSPG NAD83: N 291890.35 ft E 1637998.41 ft
Station: 103+00.22 Offset: 18.72 RT
Ground Elevation: 567.9 ft

	Casing	Sampler
Type:	WB	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	CE = 1.42

Groundwater Observations

Date	Depth (ft)	Notes
07/26/16	16.6	W.T. before drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Asphalt Pavement, 0.0 ft – 0.43 ft								
5										
10		Field Note:, NXDC, Cleaned out casing								
		Field Note:, No Reocvery, Rock stuck in end of sampler				6-7-11-9 (20)				
		A-1-a, SaGr, brn, Moist, Rec. = 0.5 ft, Lab Note: Broken rock was within sample				7-7-11-9 (18)	12.3	50.1	42.7	7.2
15		Field Note:, NXDC, Cleaned out casing				11-13-11-13 (24)	8.9	73.2	22.7	4.1
		A-1-a, SaGr, brn, Moist, Rec. = 0.1 ft 16.4 ft – 17.0 ft				16-15-6-5 (21)	11.3	59.7	31.2	9.1
		A-1-a, SaGr, brn, Moist, Rec. = 0.3 ft 18.3 ft – 19.0 ft				2-2-2-2 (4)	29.2	0.8	75.4	23.8
20		A-2-4, SiSa, brn, Moist, Rec. = 1.0 ft								
25		24.4 ft – 25.0 ft A-1-b, SaGr, gry-brn, Moist, Rec. = 0.5 ft, Lab Note: Broken and weathered rock was within sample				12-44-R@5" (R)	12.0	54.8	30.1	15.1
		28.7 ft – 30.0 ft								
30		A-1-b, SaGr, blk, Moist, Rec. = 0.1 ft, Lab Note: Broken and weathered rock was within sample	1 (70)	94 (21)	3 4	R@1" (R)	8.2	52.3	32.3	15.4
		30.1 ft – 35.1 ft, Gray to dark gray, Biotite-muscovite-quartz-plagioclase gneissic SCHIST, Slightly vuggy along some plagiclase foliations, rust and brown staining along joints. Hard, Slightly weathered, Poor rock, NX, RMR=39			3 2 4					
35		35.1 ft – 40.1 ft, Gray to dark gray, Biotite-muscovite-quartz-plagioclase gneissic SCHIST, Few vugs along plagioclase foliations and rust staining along joints. Hard, Slightly weathered, Fair rock, NX, RMR=50	2 (70)	100 (66)	3 2 2 2 3					
40		Hole stopped @ 40.1 ft								

Remarks:
Hole collapsed at 19.1 feet.

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 2 SPRINGFIELD BF 0134(43).GPJ VERMONT AOT.GDT 3/12/19

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334bor.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: M. LONGSTREET
BORING LOGS I

PLOT DATE: 11-AUG-2020
DRAWN BY: M. LONGSTREET
CHECKED BY: G. LAROCHE
SHEET 25 OF 110

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

BORING LOG

Springfield
BF 0134(43)
VT 11 Culvert 57

Boring No.: B-102
Page No.: 1 of 1
Pin No.: 13c334
Checked By: END

Boring Crew: Judkins, Gomes
Date Started: 7/26/16 Date Finished: 7/27/16
VTSPG NAD83: N 291911.84 ft E 1637938.37 ft
Station: 102+44.60 Offset: - 12.57 LT
Ground Elevation: 569.9 ft

	Casing	Sampler
Type:	WB	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	CE = 1.42

Groundwater Observations

Date	Depth (ft)	Notes
07/27/16	12.1	W.T. after drilling
07/27/16	17.0	W.T. before drilling

BOT PC
EL=553.02'

BOT PILE
EL=520.49'

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec.: % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Asphalt Pavement, brn, Moist, 0.0 ft - 0.58 ft								
		A-1-b, GrSa, brn, Moist, Rec. = 1.4 ft				10-15-18-8 (33)	9.0	31.9	53.4	14.7
		Field Note:, NXDC, Cleaned out casing								
		A-2-4, SiSa, brn, Moist, Rec. = 1.4 ft				8-11-14-14 (25)	10.0	10.9	60.6	28.5
		Field Note:, NXDC, Cleaned out casing								
		A-1-b, GrSa, brn, Moist, Rec. = 1.0 ft				24-18-14-12 (32)	7.6	36.1	49.6	14.3
		Field Note:, Rollercone, Cleaned out casing								
		A-2-4, GrSa, brn, Moist, Rec. = 1.0 ft				9-9-10-5 (19)	9.0	25.2	59.0	15.8
10		A-4, SaSi, brn, Moist, Rec. = 0.9 ft				3-3-2-2 (5)	25.0	8.2	39.6	52.2
		Field Note:, Rollercone, Cleaned out casing								
		A-2-4, SiSa, brn, Moist, Rec. = 0.9 ft				3-3-2-7 (5)	19.2	14.8	53.8	31.4
		A-2-4, GrSa, brn, Moist, Rec. = 1.4 ft				7-5-3-4 (8)	17.4	21.7	60.6	17.7
		Field Note:, Rollercone, Cleaned out casing								
		A-1-b, GrSa, brn, Moist, Rec. = 1.1 ft				3-5-14-15 (19)	11.9	33.9	54.2	11.9
		Field Note:, Rollercone, Cleaned out casing								
		A-1-b, GrSa, brn, Moist, Rec. = 1.2 ft				15-12-18-12 (30)	14.0	32.5	51.9	15.6
20		A-2-4, SiGrSa, brn, Moist, Rec. = 0.7 ft				9-12-26-25 (38)	13.7	31.4	42.5	26.1
		Field Note:, NXDC, Cleaned out casing								
		A-2-4, SiSa, brn, Moist, Rec. = 1.0 ft, Lab Note: Broken rock was within sample				15-20-20-R@2.5" (40)	16.2	16.8	52.8	30.4
		Field Note:, NXDC, Cleaned out casing								
30		A-2-4, GrSa, gry, Moist, Rec. = 0.9 ft, Lab Note: Broken rock was within sample				R@5" (R)	15.8	34.8	48.3	16.9
		Field Note:, NXDC, Cleaned out casing								
		Field Note:, No Recovery				R@3.5 (R)				
		Field Note:, NXDC, Cleaned out casing								
40		A-1-b, SaGr, gry, Moist, Rec. = 0.3 ft, Lab Note: Broken rock was within sample				R@5" (R)	7.6	58.9	22.8	18.3
		42.0 ft - 47.0 ft, Gray to white, Muscovite-biotite-plagioclase-quartz granitic GNEISS, Rust and brown staining along joints. Hard, Slightly weathered, Fair rock, NX, RMR=47	1 (65)	80 (18)	5 3 3 2 2	Top of Bedrock @ 42.0 ft				
		Hole stopped @ 47.0 ft								
50		Remarks: Hole collapsed at 14.4 feet.								

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 2 SPRINGFIELD BF 0134(43).GPJ VERMONT AOT.GDT 3/12/19

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334bor.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: M. LONGSTREET
BORING LOGS 2

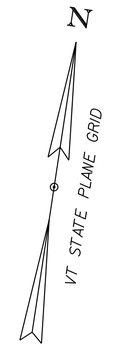
PLOT DATE: 11-AUG-2020
DRAWN BY: M. LONGSTREET
CHECKED BY: G. LAROCHE
SHEET 26 OF 110

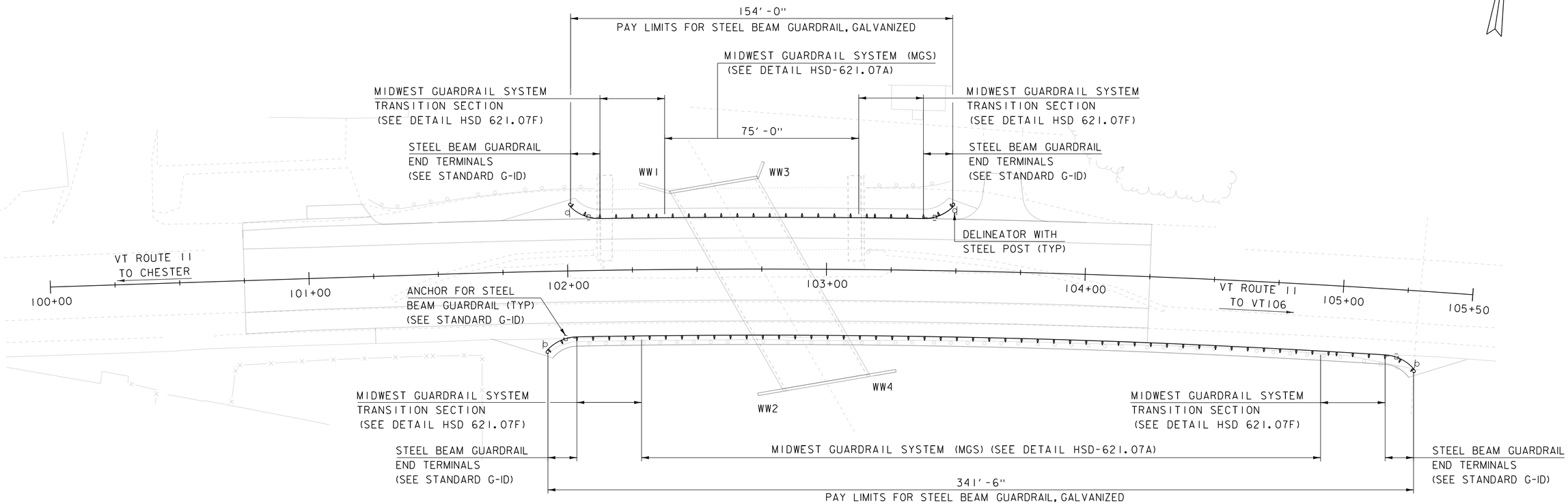
REMOVAL AND DISPOSAL OF GUARDRAIL
STA 101+23.9 - STA 103+47.7 LT
STA 101+90.5 - STA 105+31.3 RT

STEEL BEAM GUARDRAIL, GALVANIZED
STA 102+00.9 - STA 103+49.1 LT
STA 101+90.9 - STA 105+29.8 RT

ANCHOR FOR STEEL BEAM RAIL
STA 102+03.1 RT
STA 105+17.7 RT
STA 102+12.8 LT
STA 103+37.1 LT

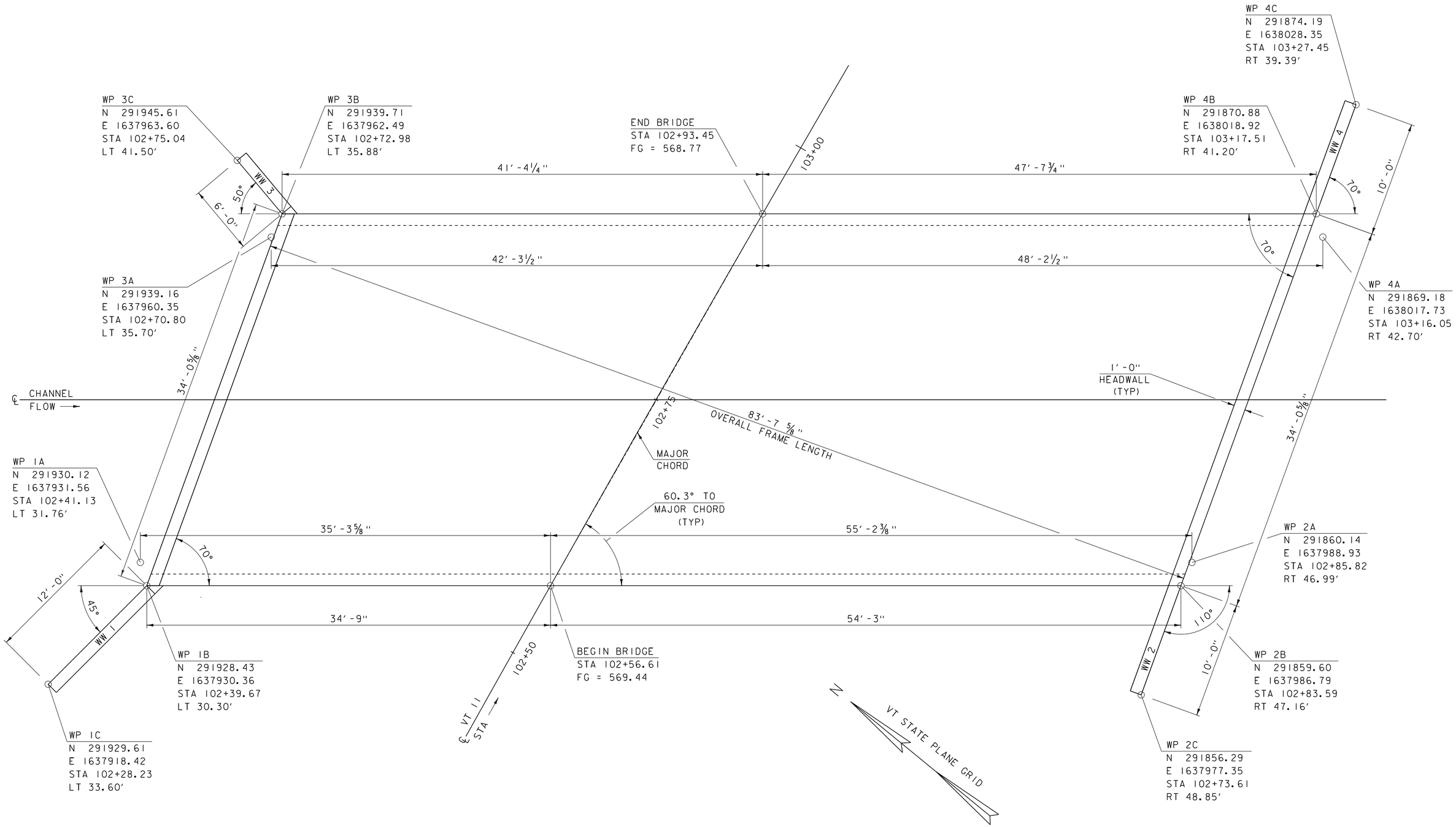
DELINEATOR WITH STEEL POST
STA 102+00.9 LT (GREEN)
STA 103+49.1 LT (BLUE)
STA 101+90.9 RT (BLUE)
STA 105+29.8 RT (GREEN)





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

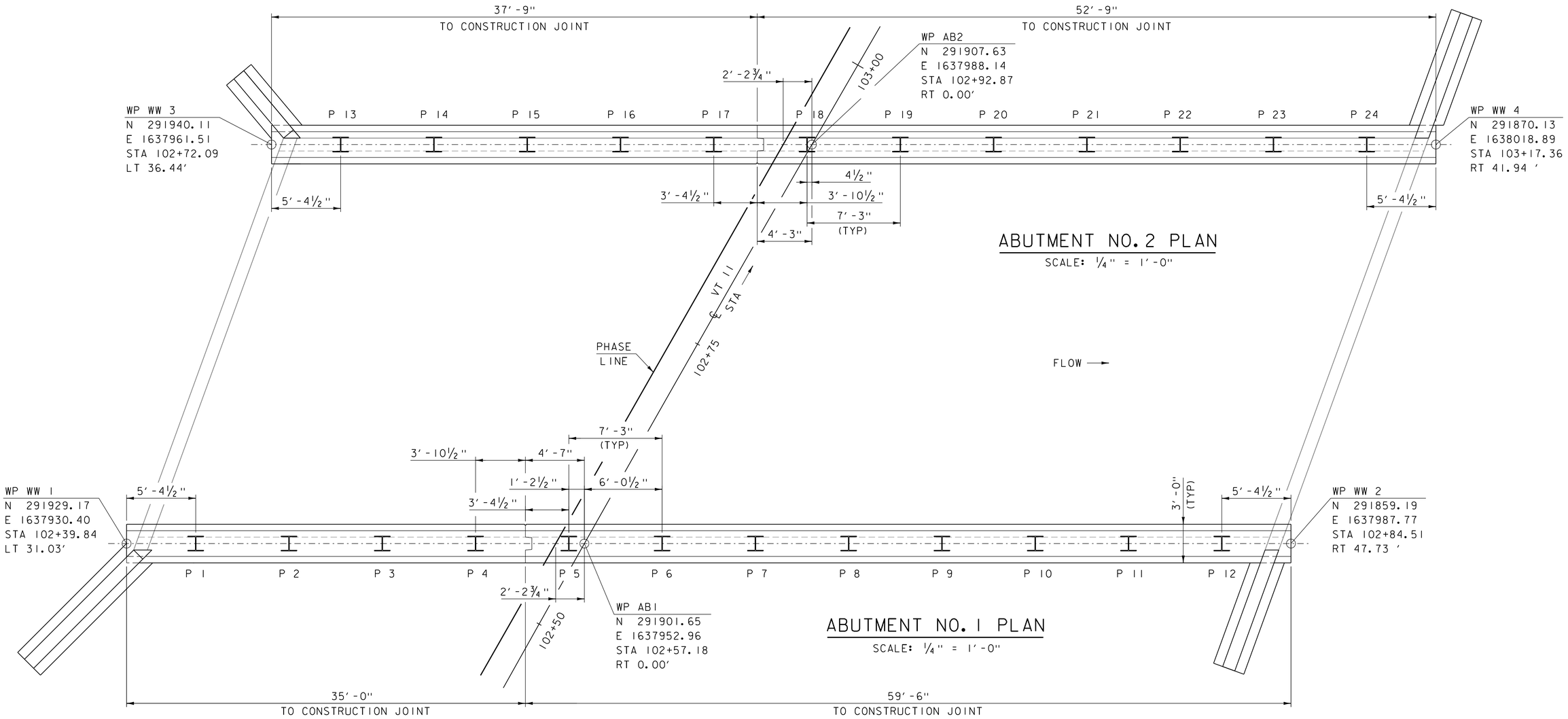
PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BF 0134(43)	
FILE NAME: sl3c334rail.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
RAIL LAYOUT	SHEET 27 OF 110



FRAME LAYOUT

SCALE: 1/4" = 1'-0"

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(43)
FILE NAME: sl3c334frame.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: G. LAROCHE	DRAWN BY: G. ROY
DESIGNED BY: G. ROKES	CHECKED BY: G. DARGAN
FRAME LAYOUT	SHEET 28 OF 110

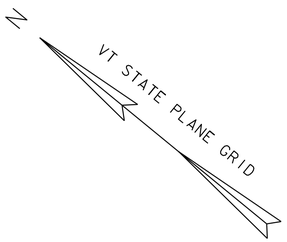


ABUTMENT 1 PILE LOCATIONS

PILE NO.	NORTHING	EASTING	STATION	OFFSET (FT)
P 1	291925.02	1637933.81	102+42.44	26.34 LT
P 2	291919.41	1637938.40	102+45.96	20.01 LT
P 3	291913.80	1637943.00	102+49.49	13.69 LT
P 4	291908.20	1637947.59	102+53.03	7.37 LT
P 5	291902.59	1637952.19	102+56.59	1.05 LT
P 6	291896.98	1637956.79	102+60.15	5.26 RT
P 7	291891.38	1637961.38	102+63.73	11.57 RT
P 8	291885.77	1637965.98	102+67.32	17.88 RT
P 9	291880.16	1637970.58	102+70.92	24.18 RT
P 10	291874.56	1637975.17	102+74.54	30.48 RT
P 11	291868.95	1637979.77	102+78.16	36.78 RT
P 12	291863.34	1637984.37	102+81.80	43.07 RT

ABUTMENT 2 PILE LOCATIONS

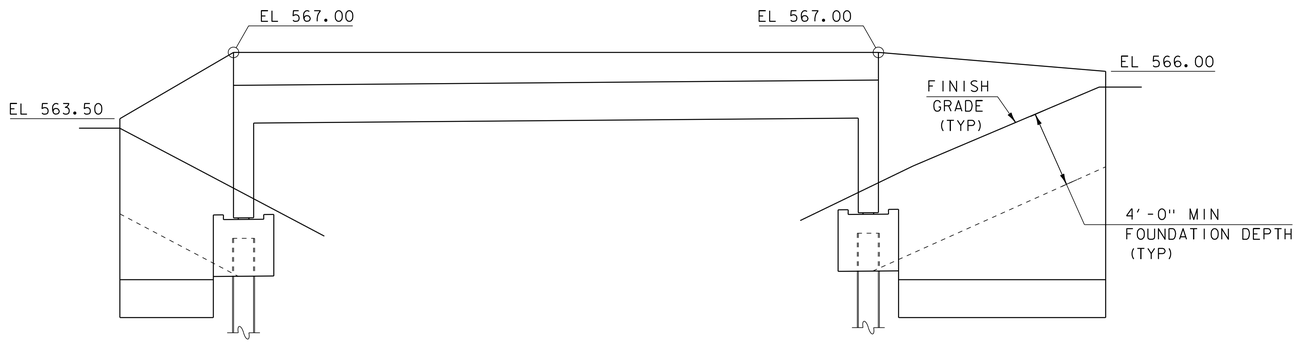
PILE NO.	NORTHING	EASTING	STATION	OFFSET (FT)
P 13	291935.96	1637964.92	102+74.72	31.77 LT
P 14	291930.35	1637969.52	102+78.29	25.48 LT
P 15	291924.74	1637974.11	102+81.87	19.18 LT
P 16	291919.14	1637978.71	102+85.46	12.89 LT
P 17	291913.53	1637983.31	102+89.07	6.61 LT
P 18	291907.92	1637987.90	102+92.68	0.32 LT
P 19	291902.32	1637992.50	102+96.31	5.95 RT
P 20	291896.71	1637997.10	102+99.95	12.23 RT
P 21	291891.10	1638001.69	103+03.60	18.50 RT
P 22	291885.50	1638006.29	103+07.26	24.77 RT
P 23	291879.89	1638010.89	103+10.93	31.04 RT
P 24	291874.28	1638015.48	103+14.62	37.30 RT



PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

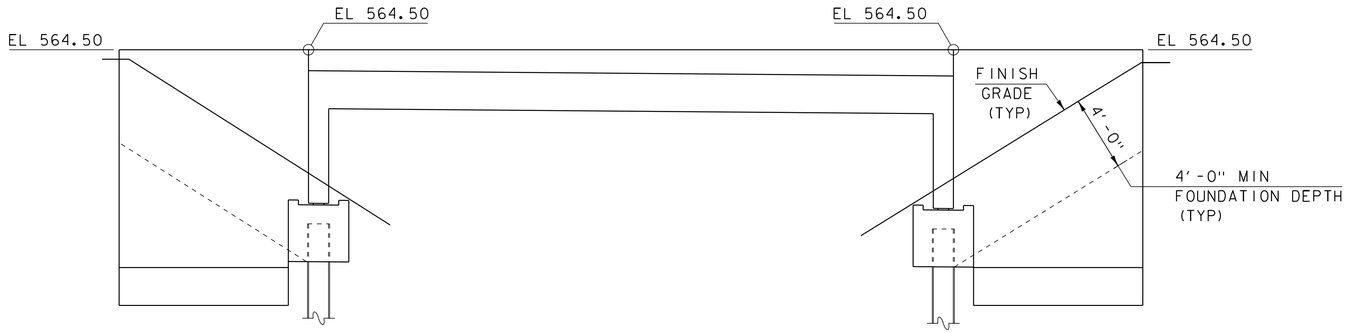
FILE NAME: sl3c334sub.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
PILE AND ABUTMENT LAYOUT

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROY
CHECKED BY: G. DARGAN
SHEET 29 OF 110



INLET ELEVATION

SCALE: 1/4" = 1'-0"
(FLATTENED TO REFLECT TRUE LENGTHS)



OUTLET ELEVATION

SCALE: 1/4" = 1'-0"

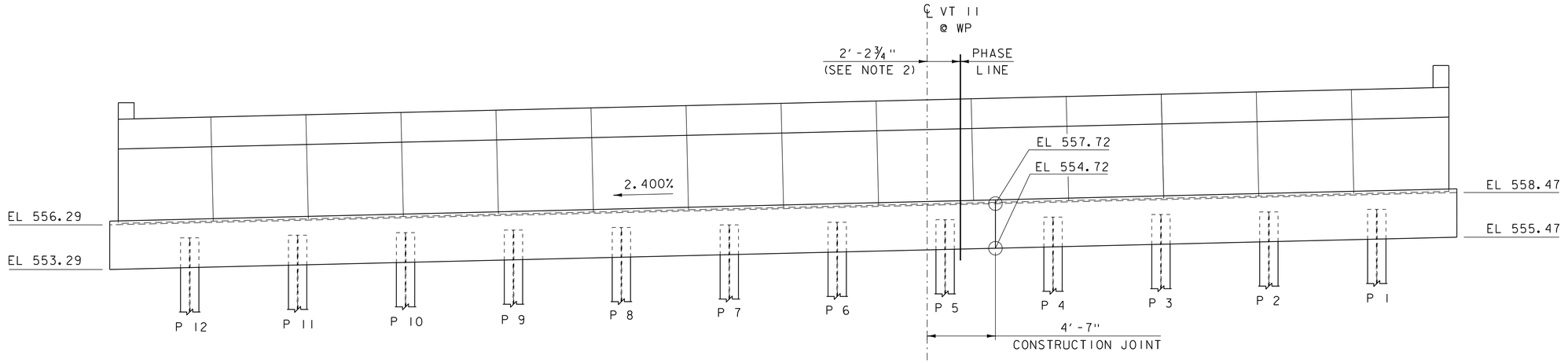
NOTES:

1. DIMENSIONS MEASURED ALONG EXPOSED FACE OF RETAINING WALLS.

2. CONNECTIONS BETWEEN FRAME/HEADWALL AND RETAINING WALLS SHALL MATCH HORIZONTALLY AND VERTICALLY. MINIMIZE OR ELIMINATE WALL BATTER AS MUCH AS POSSIBLE.

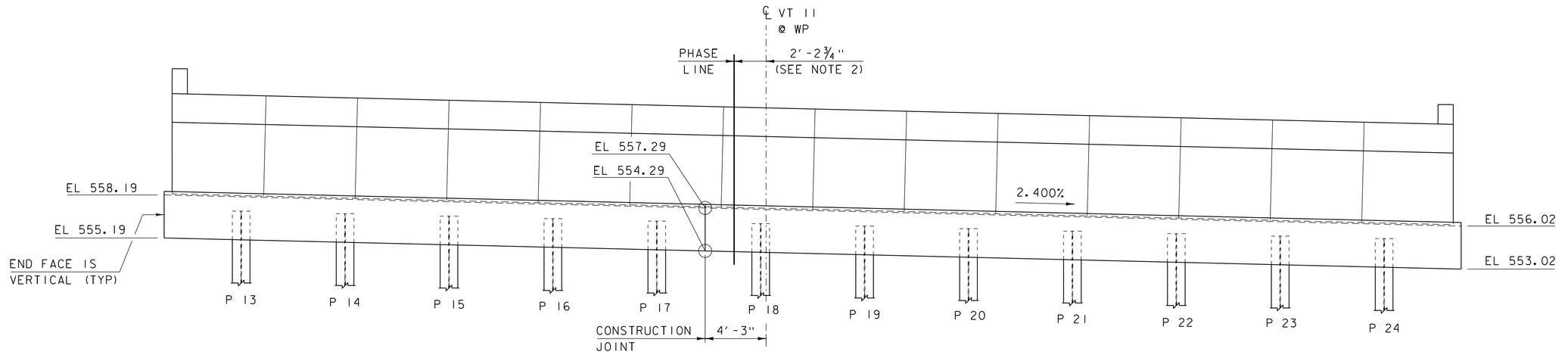
3. UNIT-BLOCK RETAINING WALL FOUNDATIONS MUST BE PLACED AT A MINIMUM DEPTH OF 48" BELOW FINISH GRADE, MEASURED PERPENDICULAR TO FINISH GRADE SURFACE, IF FOUNDED UPON SOIL. ANY FREE-DRAINING LEVELING PAD BASE COURSE (UP TO 1' IN DEPTH) IS INCLUDED IN THIS DIMENSION.

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BF 0134(43)	
FILE NAME: sl3c334sub.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROY
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
FRAME ELEVATIONS	SHEET 30 OF 110



ABUTMENT NO. 1 ELEVATION

SCALE: ¼" = 1′-0"
(INTERIOR VIEW)



ABUTMENT NO. 2 ELEVATION

SCALE: ¼" = 1′-0"
(INTERIOR VIEW)

NOTES:

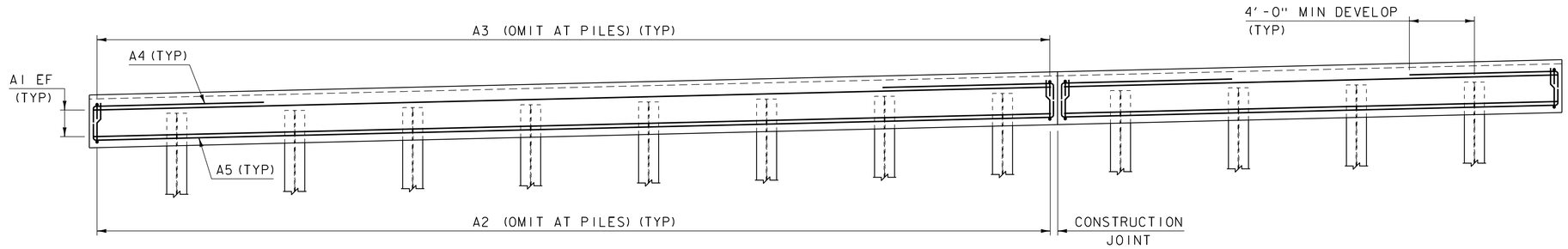
1. FRAME SECTIONS SHOWN ARE CONCEPTUAL. ACTUAL WIDTHS ARE DETERMINED BY THE FABRICATOR.

2. LOCATION OF CONSTRUCTION JOINT IS CONCEPTUAL. CONTRACTOR SHALL COORDINATE WITH FABRICATOR TO ENSURE THAT FINAL LOCATION IS COMPATIBLE WITH CONTRACTOR'S PHASING PLAN.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

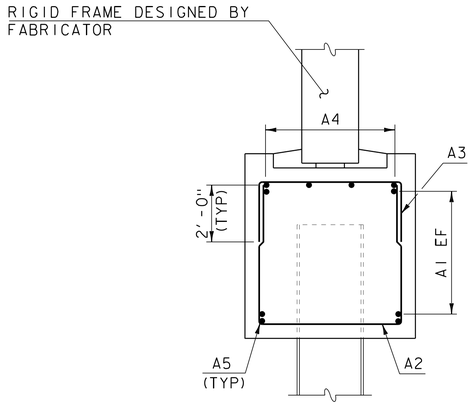
FILE NAME: sl3c334sub.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
PILE CAP ELEVATIONS

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROY
CHECKED BY: G. DARGAN
SHEET 31 OF 110



ABUTMENT TYPICAL REINFORCING ELEVATION

NOT TO SCALE



ABUTMENT REINFORCING TYPICAL SECTION

NOT TO SCALE

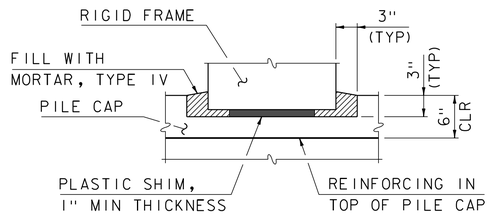
NOTES:

1. ALL REINFORCING STEEL IN THE PILE CAP SHALL MEET THE REQUIREMENTS OF ITEM 507.11 "REINFORCING STEEL, LEVEL 1 (EPOXY COATED)".

BAR	SIZE	SPACING	TYPE
A1	5	12"	STR
A2	4	8"	S10
A3	4	8"	S10
A4	8	AS SHOWN	2
A5	9	AS SHOWN	2

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR UNLESS OTHERWISE NOTED
2'-2" BAR LAP UNLESS OTHERWISE NOTED



FOOTING TO STEM CONNECTION DETAIL

NOT TO SCALE

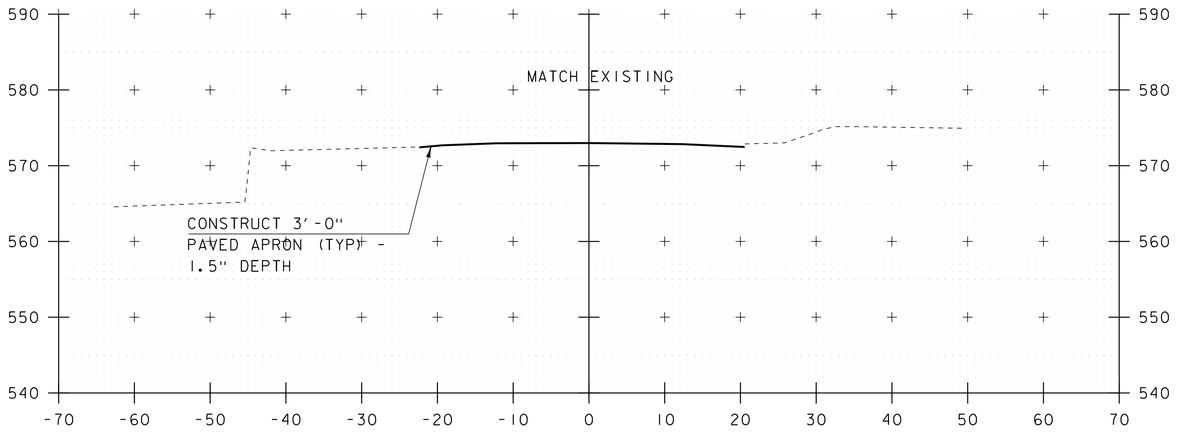
NOTE:

1. PLASTIC SHIMS SHALL BE CAPABLE OF SUPPORTING THE WEIGHT OF THE PRECAST UNITS AND SPACED AS REQUIRED TO PROVIDE A 1" MINIMUM GAP TO ALLOW FOR THE PLACEMENT OF 1" OF MORTAR, TYPE IV. SHIMS SHALL ALSO ALLOW FOR FINAL GRADE ADJUSTMENTS AS NECESSARY.

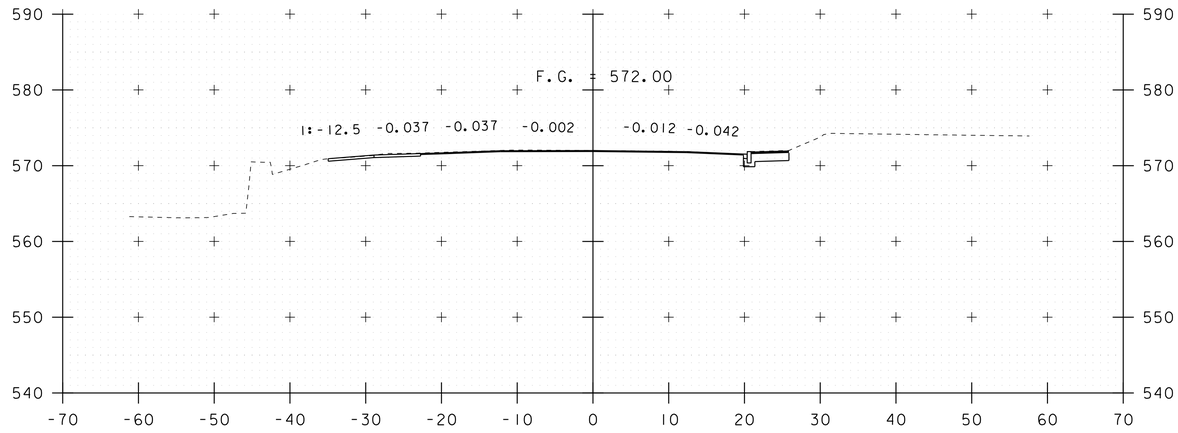
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334sub.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
ABUTMENT REINFORCING

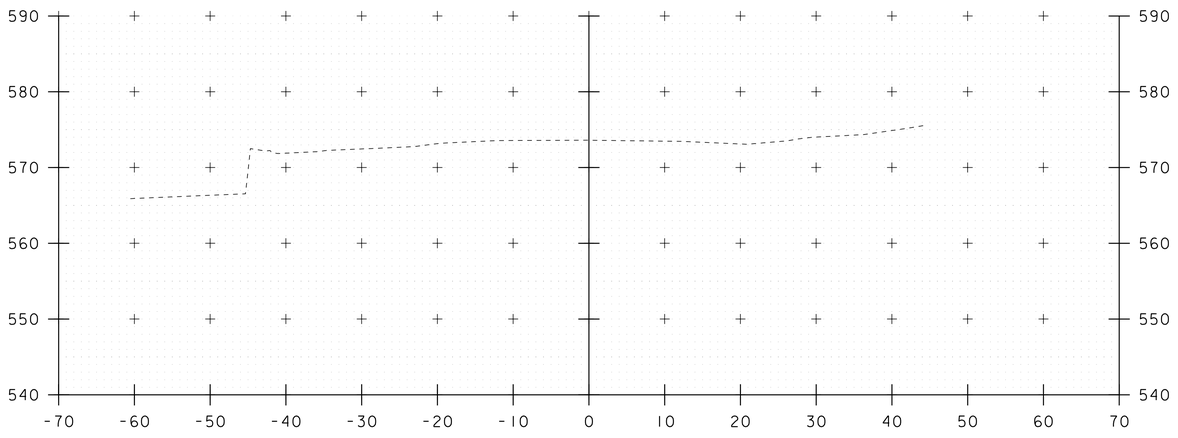
PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROY
CHECKED BY: G. DARGAN
SHEET 32 OF 110



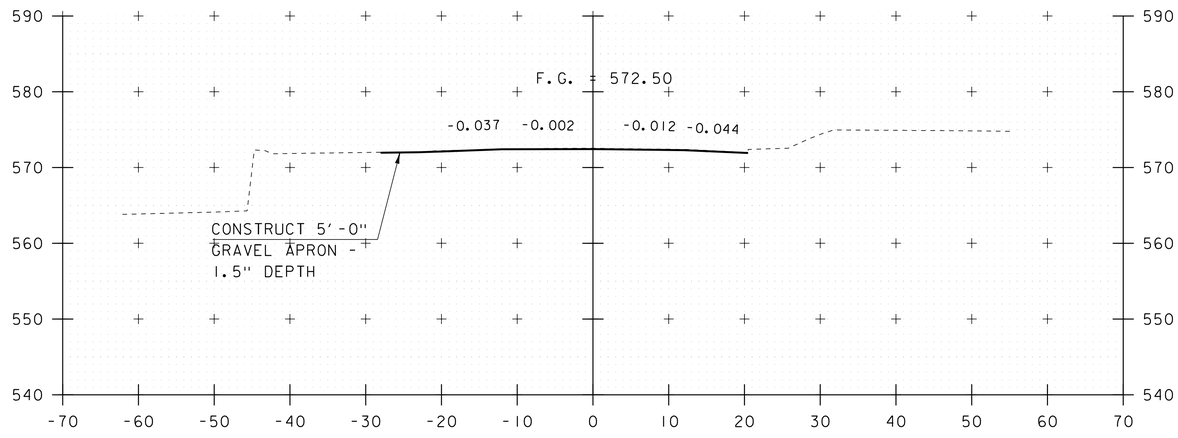
100+75
BEGIN APPROACH



101+25



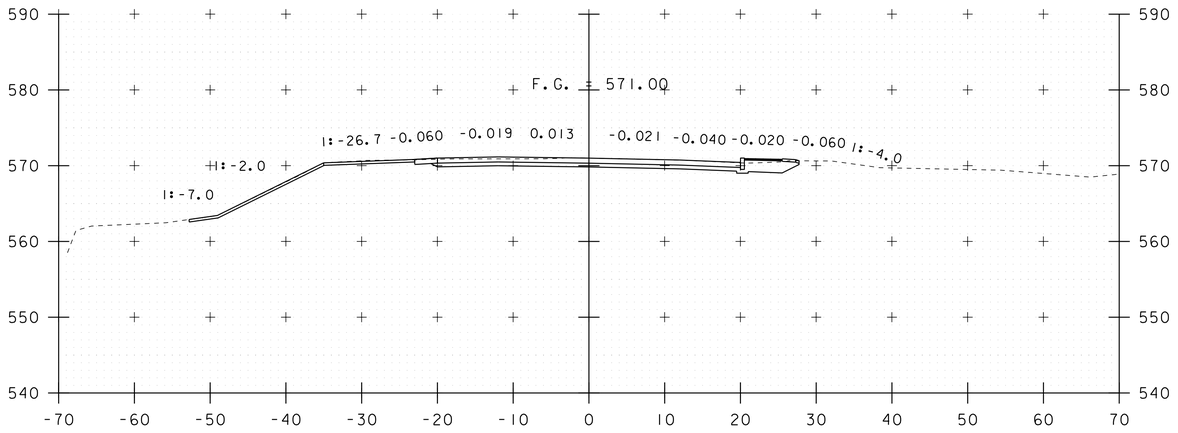
100+50



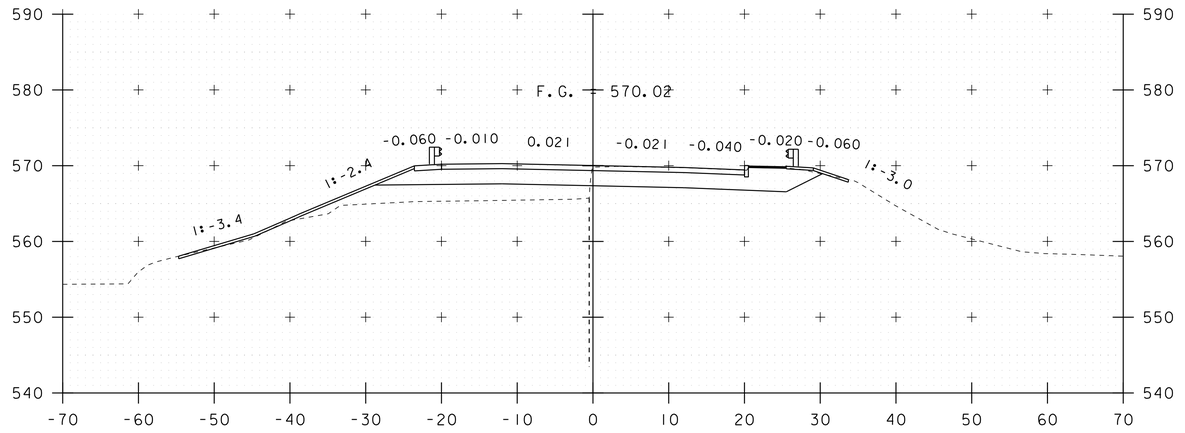
101+00

STA. 100+50 TO STA. 101+25

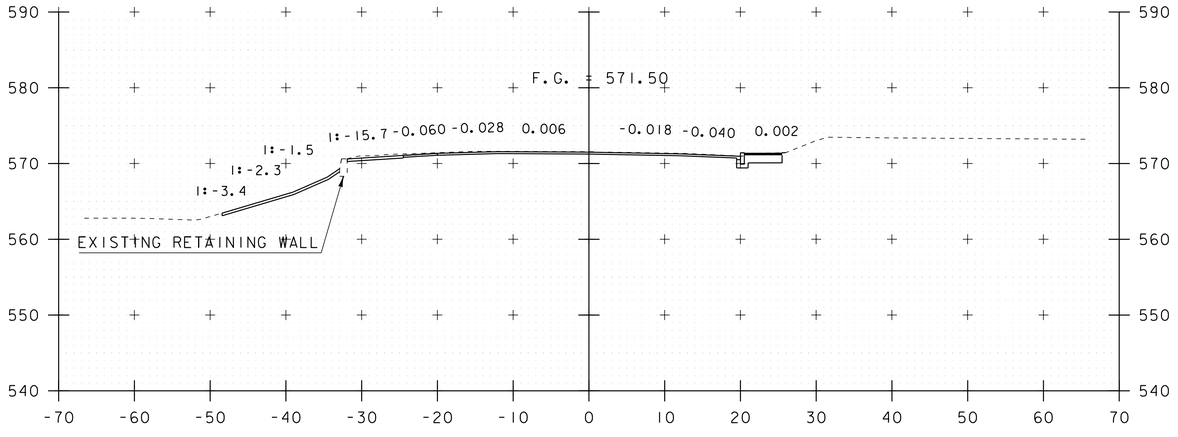
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(43)
FILE NAME: sl3c334xsML.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
MAINLINE SECTIONS 1	SHEET 33 OF 110



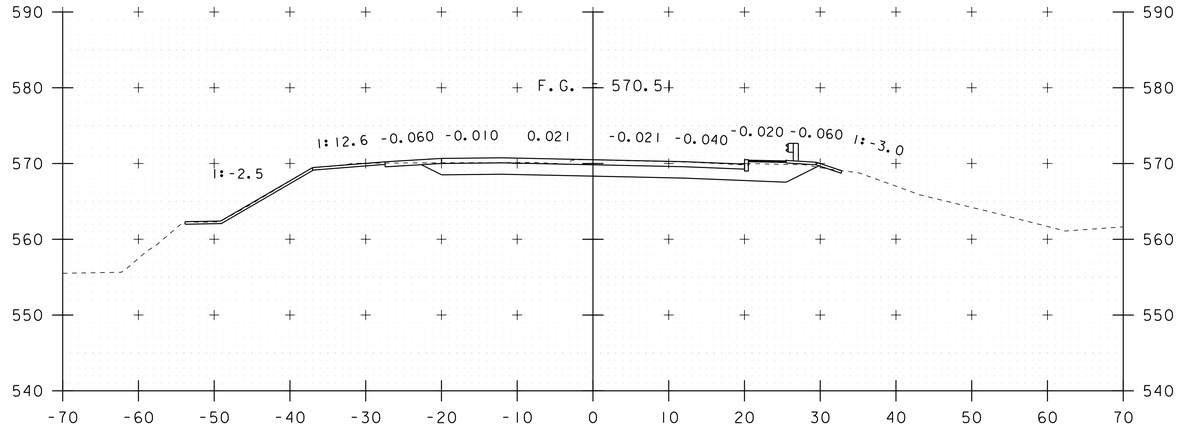
101+75



102+25
BEGIN PROJECT



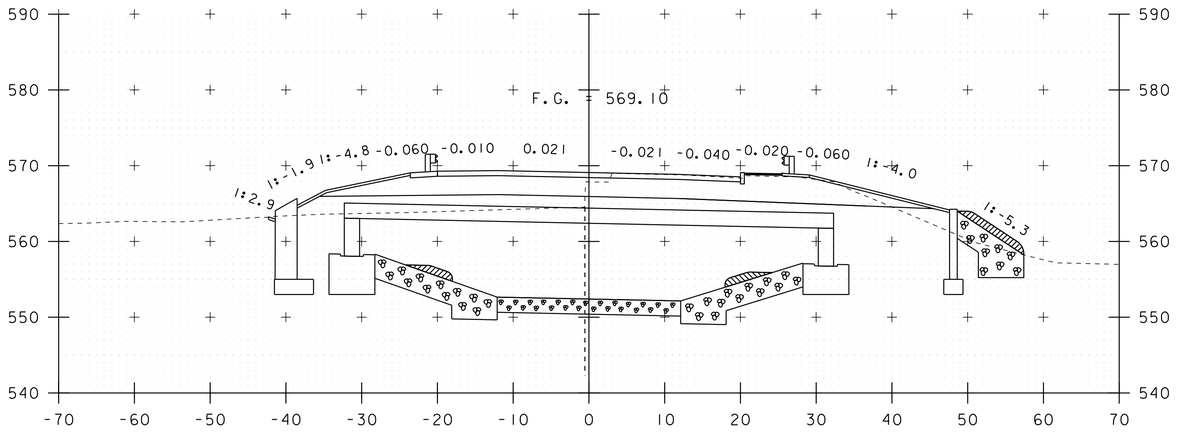
101+50



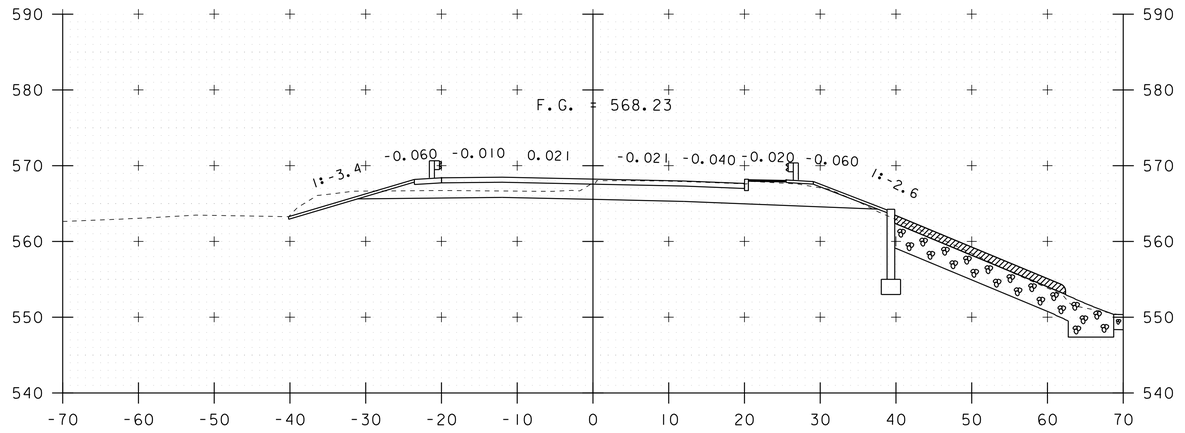
102+00

STA. 101+50 TO STA. 102+25

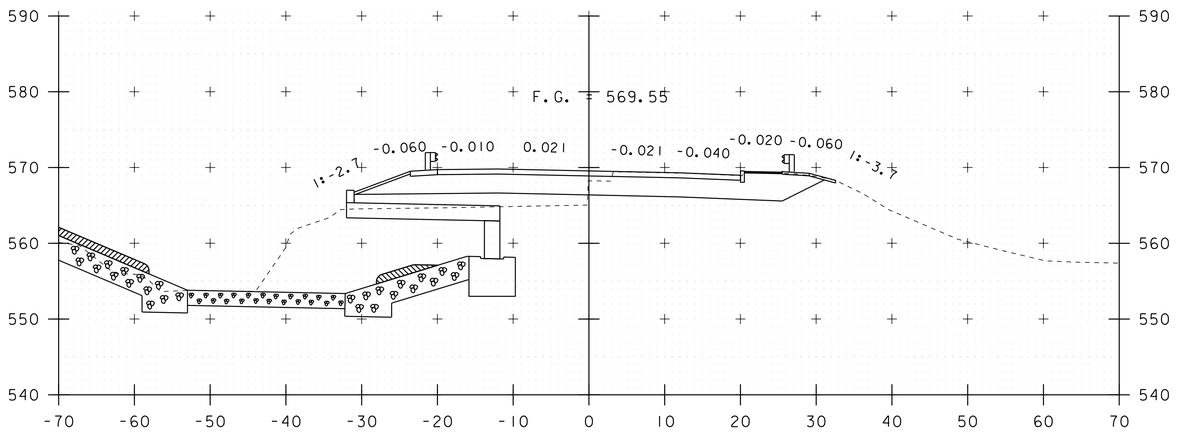
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(43)
FILE NAME: sl3c334xsML.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
MAINLINE SECTIONS 2	SHEET 34 OF 110



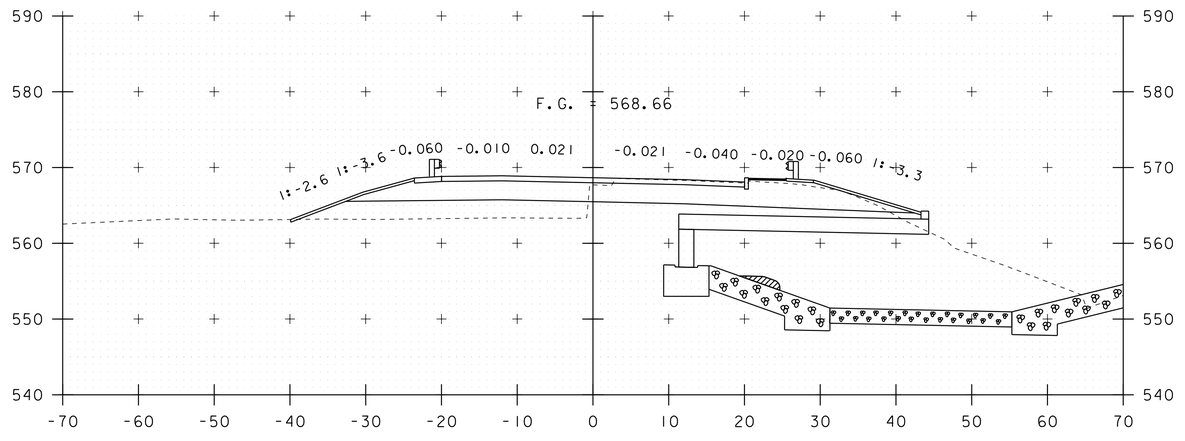
102+75
BEGIN BRIDGE STA 102+56.61
END BRIDGE STA 102+93.45



103+25
END PROJECT



102+50



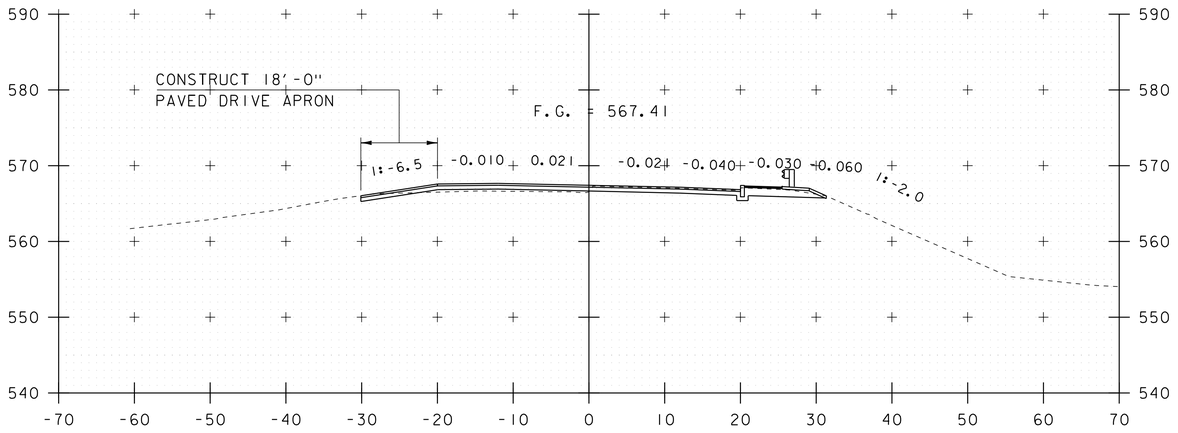
103+00

STA. 102+50 TO STA. 103+25

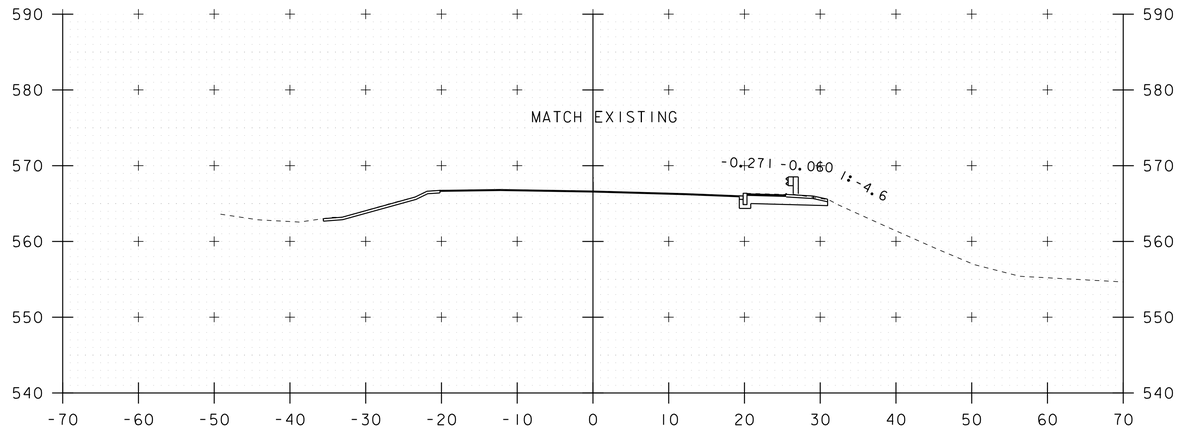
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334xsML.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
MAINLINE SECTIONS 3

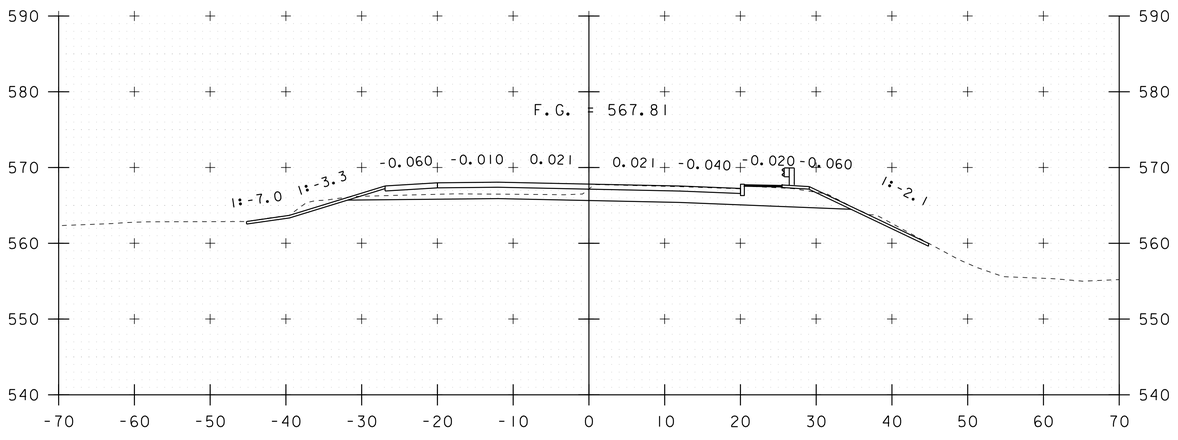
PLOT DATE: 11-AUG-2020
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 35 OF 110



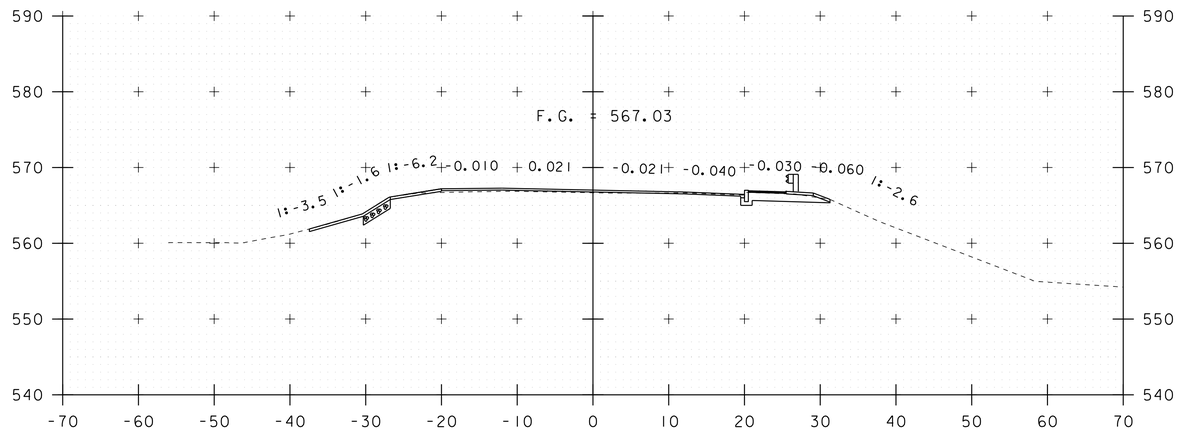
103+75



104+25



103+50



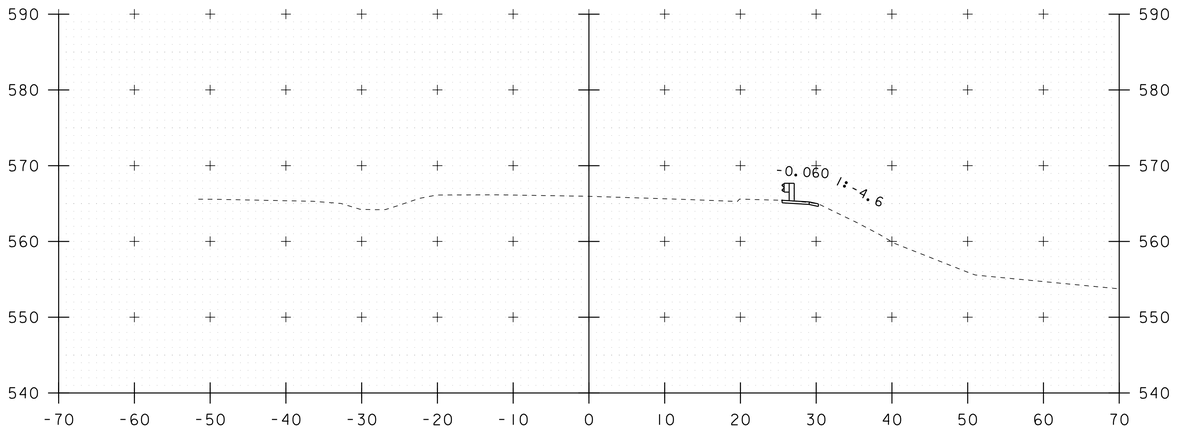
104+00

STA. 103+50 TO STA. 104+25

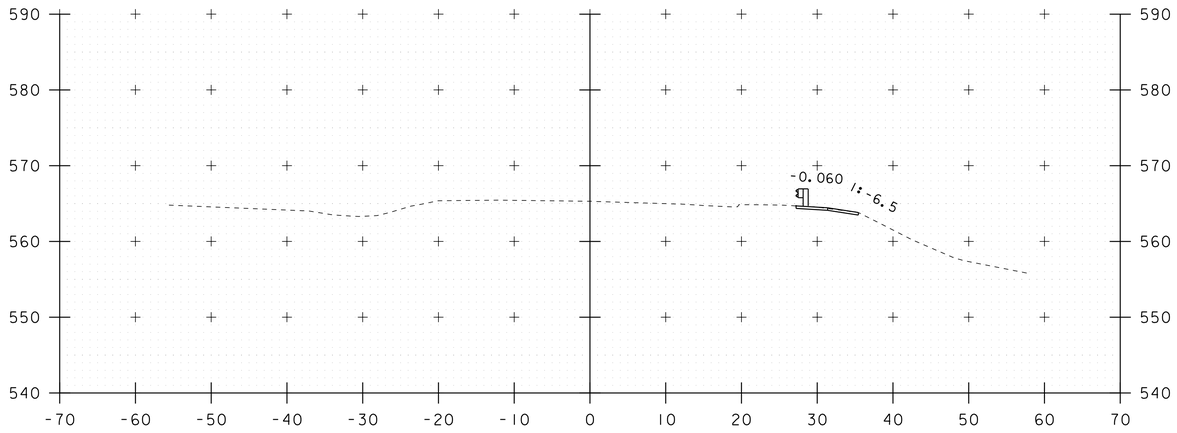
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334xsML.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
MAINLINE SECTIONS 4

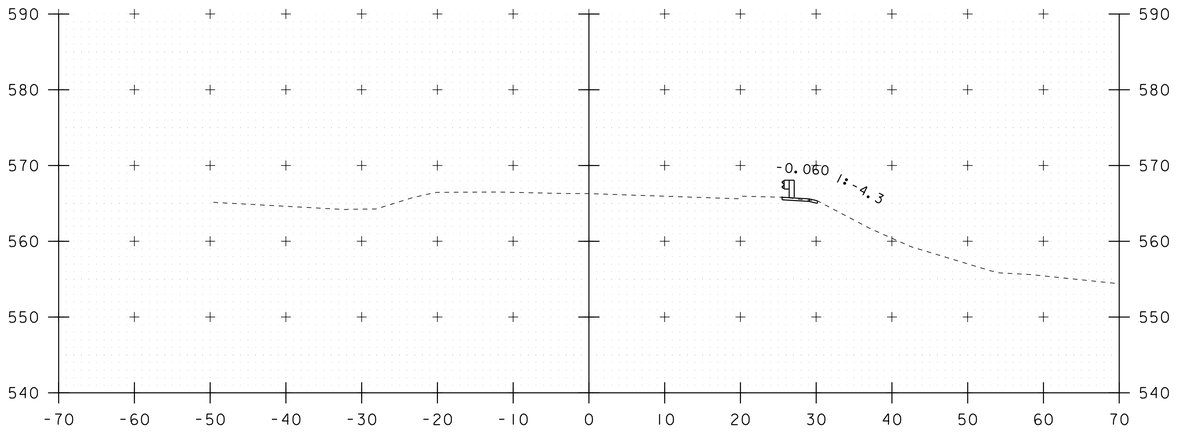
PLOT DATE: 11-AUG-2020
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 36 OF 110



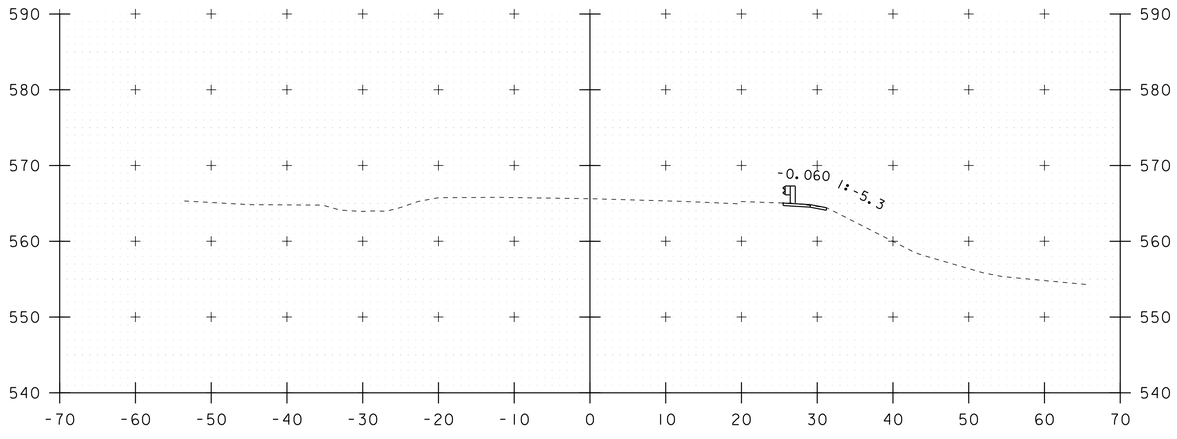
104+75



105+25



104+50



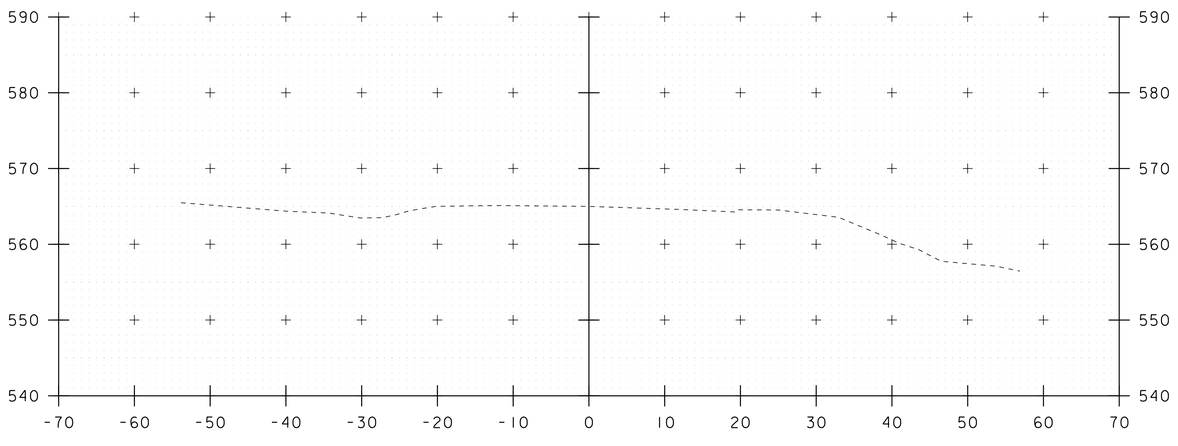
105+00

STA. 104+50 TO STA. 105+25

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334xsML.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
MAINLINE SECTIONS 5

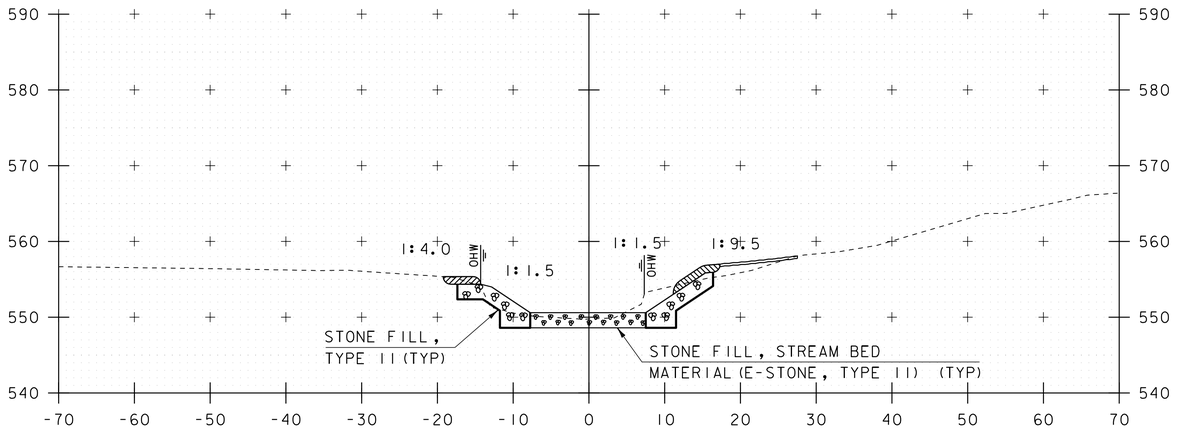
PLOT DATE: 11-AUG-2020
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 37 OF 110



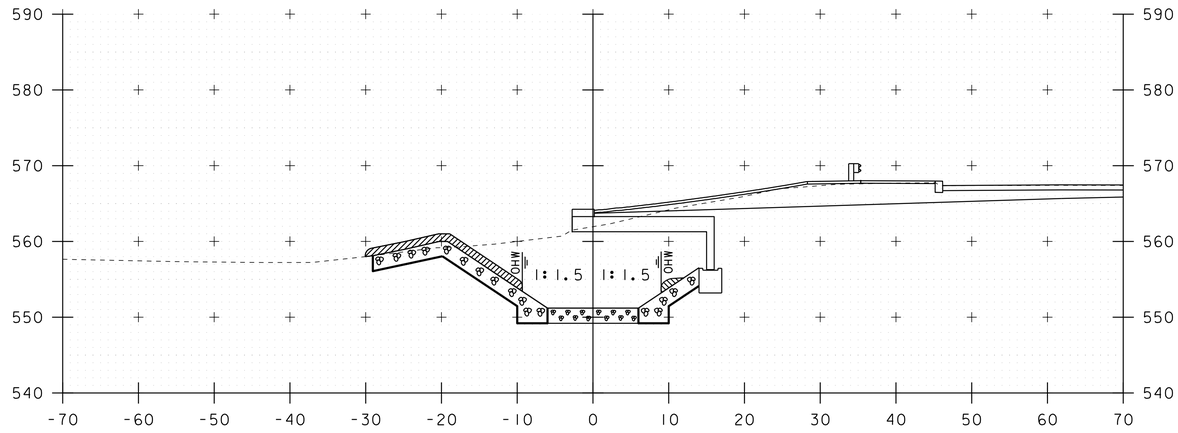
105+50
END APPROACH

STA. 105+50 TO STA. 105+50

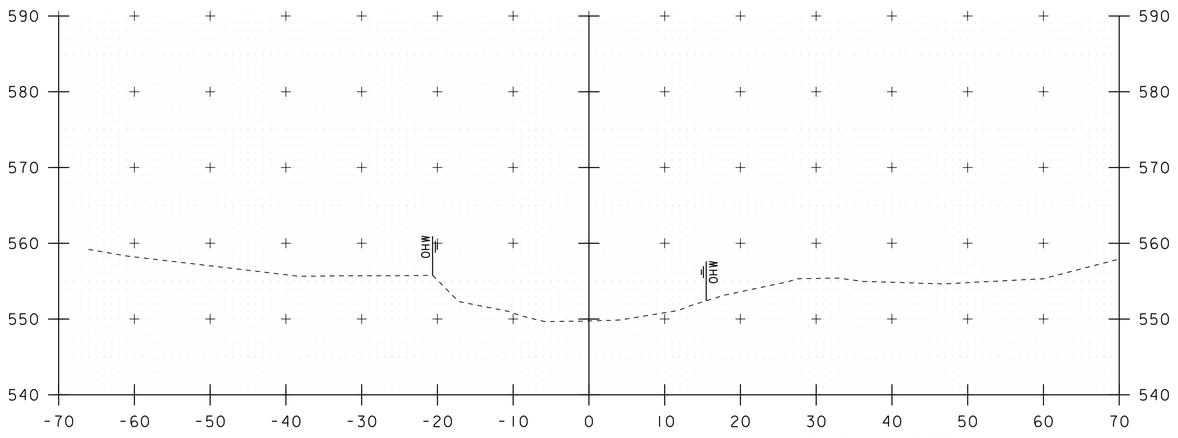
PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BF 0134(43)	
FILE NAME: sl3c334xsML.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
MAINLINE SECTIONS 6	SHEET 38 OF 110



50+25



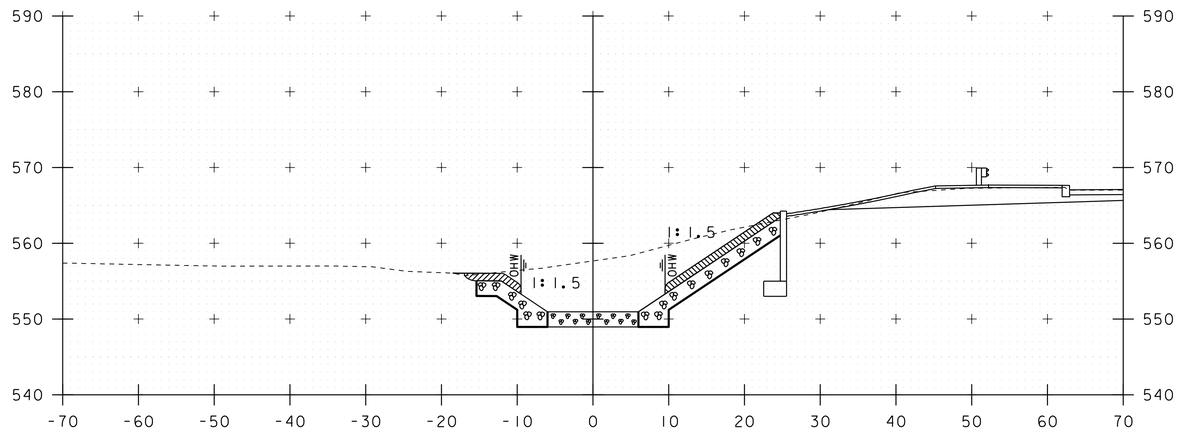
50+50



STA 50+00.00 LT
BEGIN STONE FILL, TYPE II
GEOTEXTILE UNDER STONE FILL
GRUBBING MATERIAL
UNCLASSIFIED CHANNEL EXCAVATION

50+00

STA 50+00.00 RT
BEGIN STONE FILL, TYPE II
GEOTEXTILE UNDER STONE FILL
GRUBBING MATERIAL
UNCLASSIFIED CHANNEL EXCAVATION
STA 50+10.00
BEGIN STONE FILL, STREAM BED
MATERIAL (E-STONE, TYPE II)



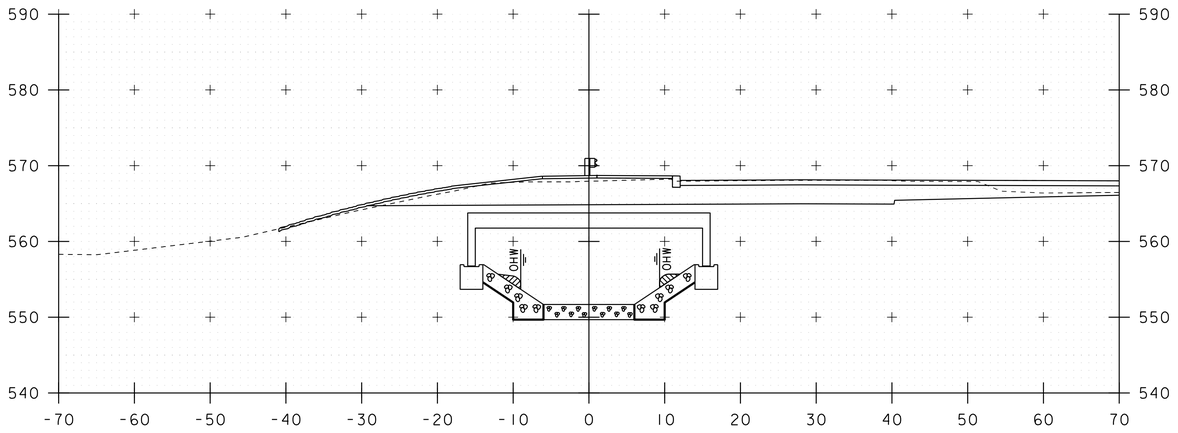
50+40

STA. 50+00 TO STA. 50+50

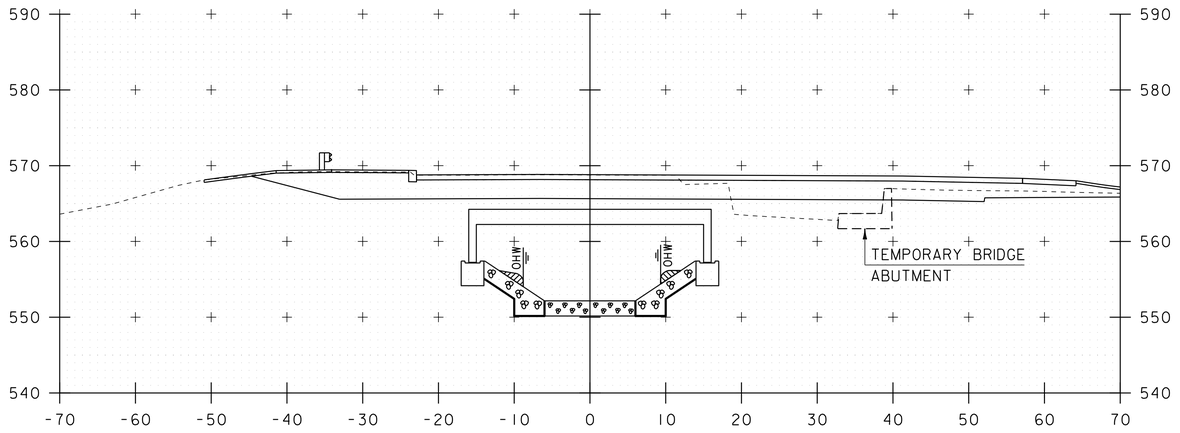
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334xsCH.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
CHANNEL SECTIONS I

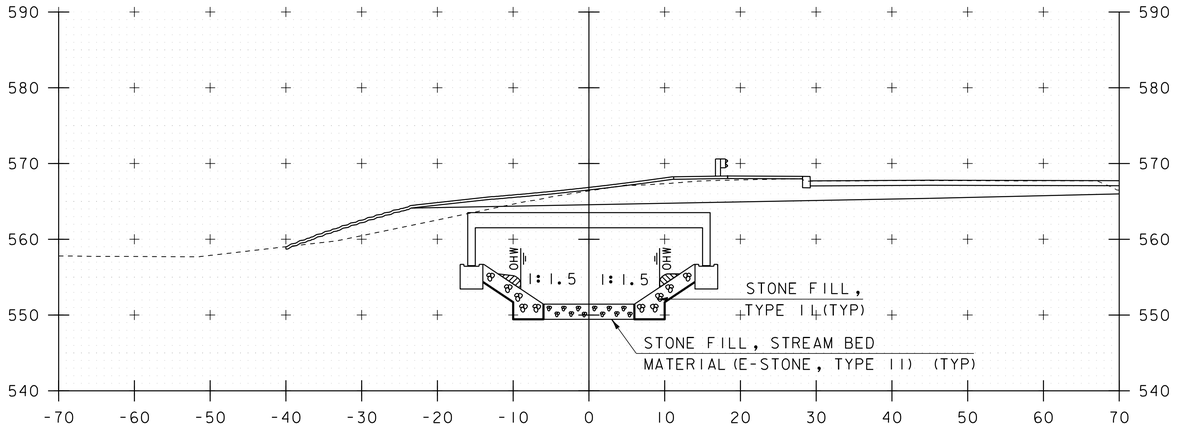
PLOT DATE: 11-AUG-2020
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 39 OF 110



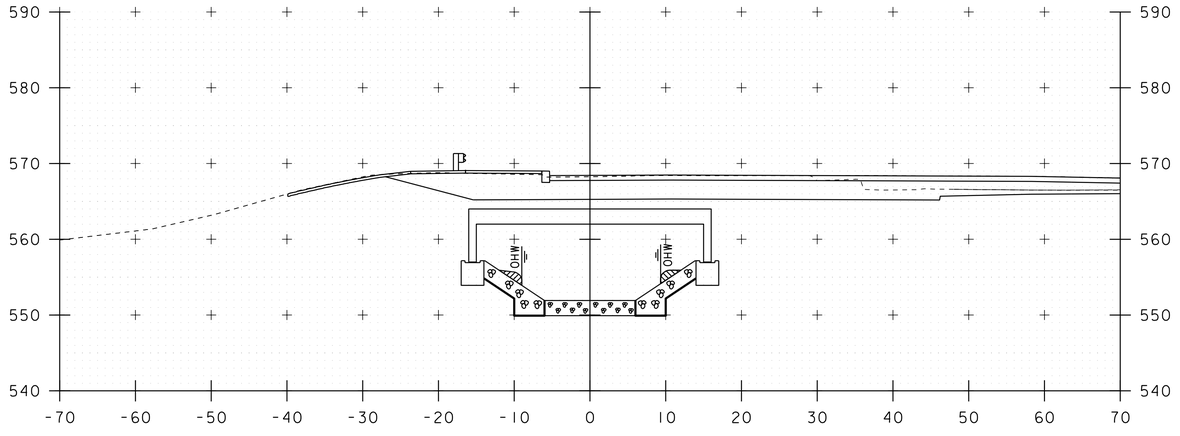
50+70



50+90



50+60

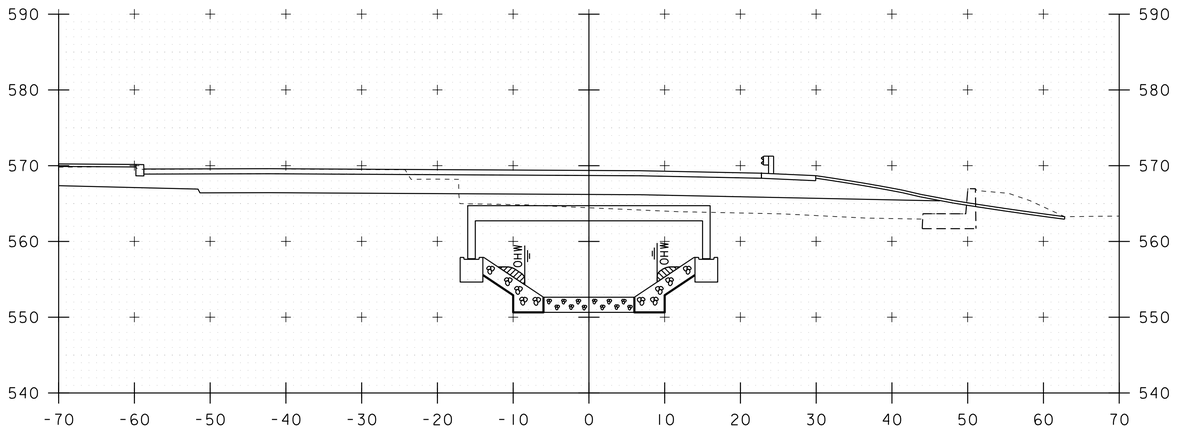


50+80

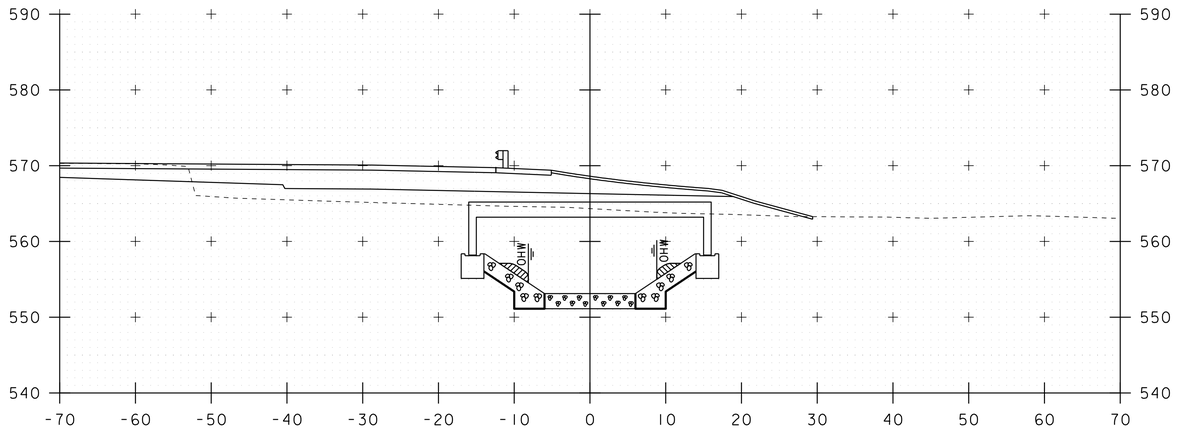
STA. 50+60 TO STA. 50+90

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(43)

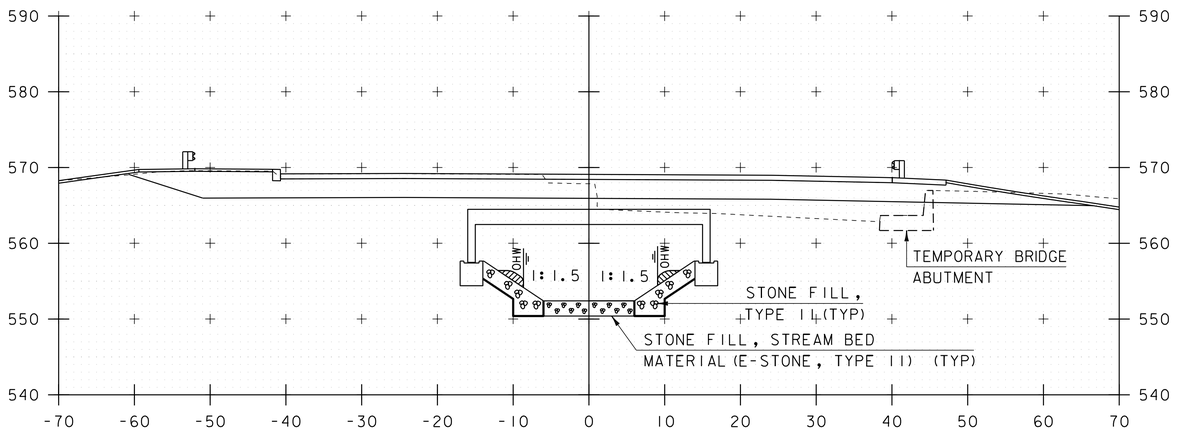
FILE NAME: sl3c334xsCH	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
CHANNEL SECTION 2	SHEET 40 OF 110



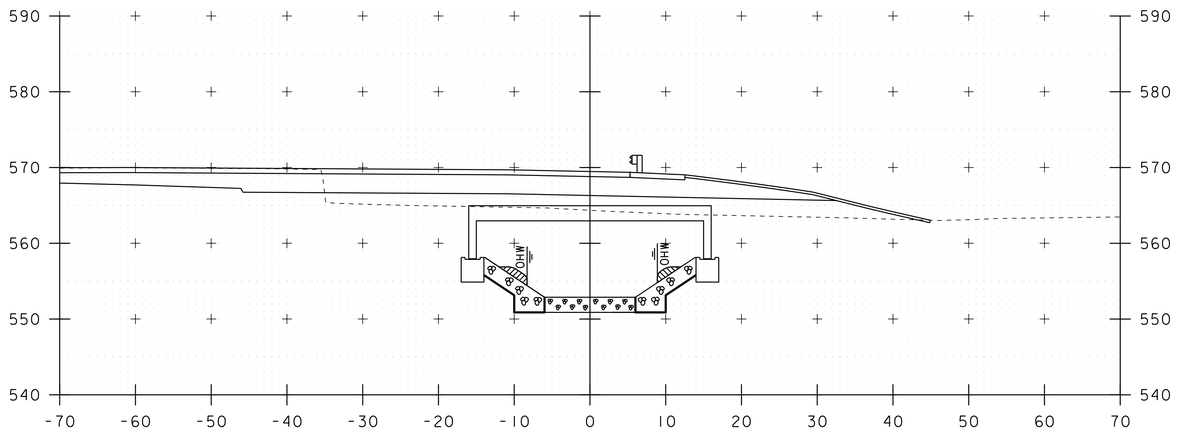
51+10



51+30



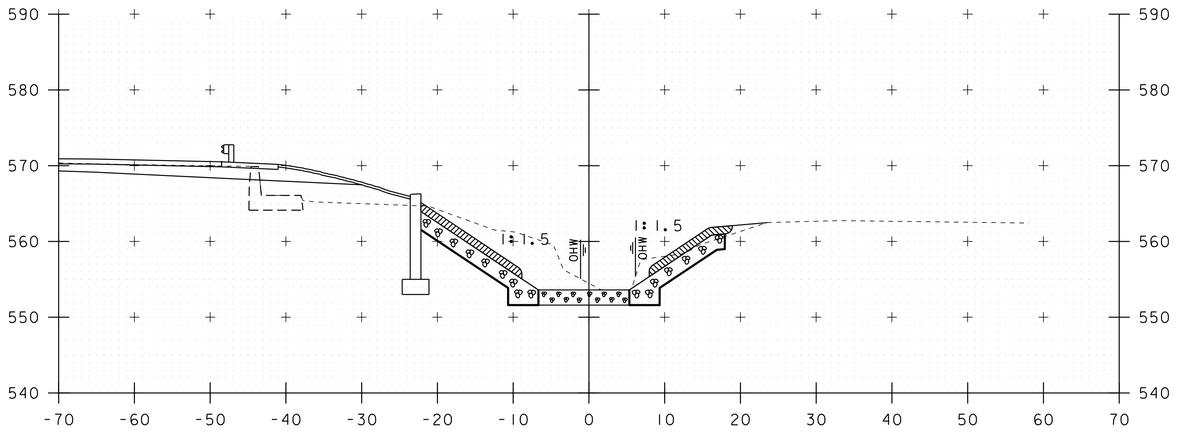
51+00



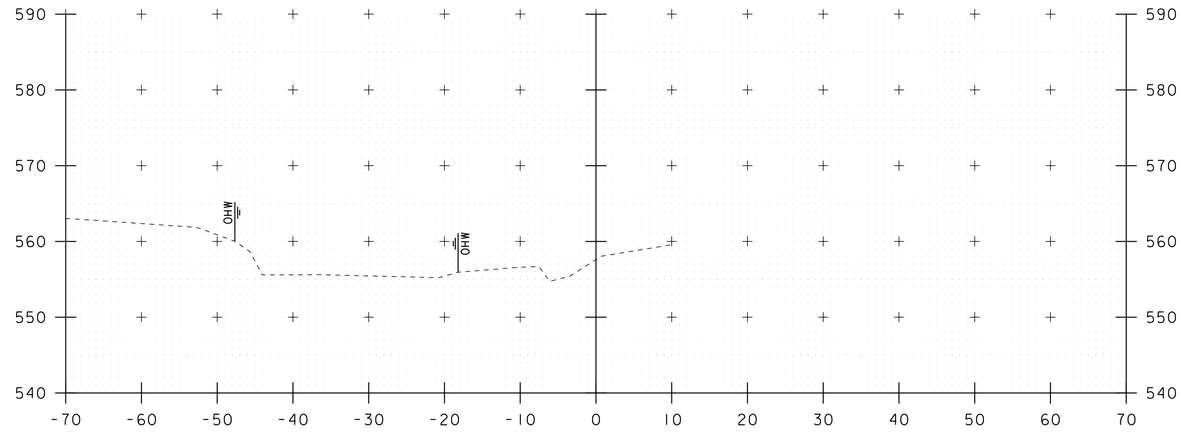
51+20

STA. 51+00 TO STA. 51+30

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BF 0134(43)	
FILE NAME: sl3c334xsCH	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
CHANNEL SECTIONS 3	SHEET 41 OF 110

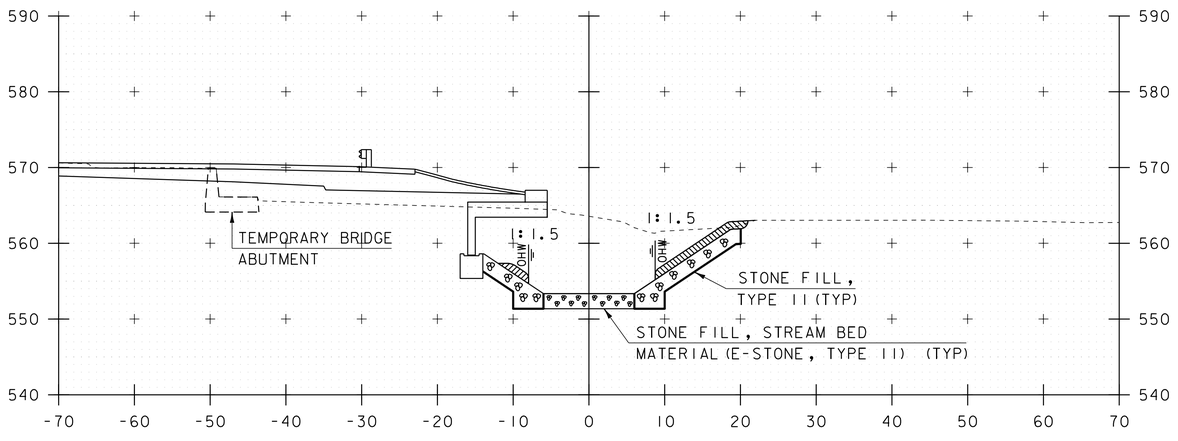


51+50

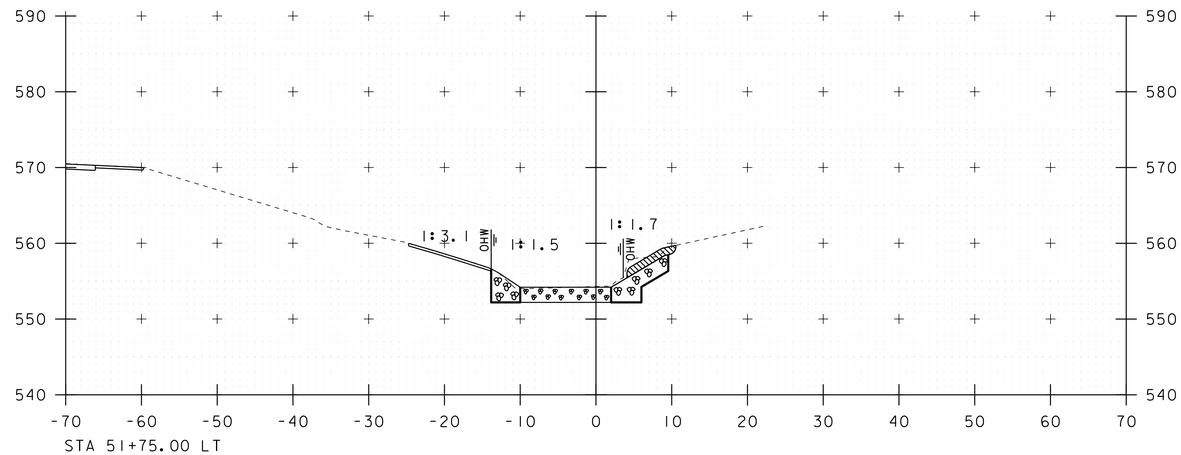


52+00

STA 51+87.66 RT
END STONE FILL, TYPE II
GEOTEXTILE UNDER STONE FILL
GRUBBING MATERIAL
UNCLASSIFIED CHANNEL EXCAVATION



51+40



STA 51+75.00 LT
END STONE FILL, STREAM BED
MATERIAL (E-STONE, TYPE II)
END STONE FILL, TYPE II
GEOTEXTILE UNDER STONE FILL
GRUBBING MATERIAL
UNCLASSIFIED CHANNEL EXCAVATION

51+75

STA. 51+40 TO STA. 52+00

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334xsCH
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
CHANNEL SECTIONS 4

PLOT DATE: 11-AUG-2020
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 42 OF 110

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

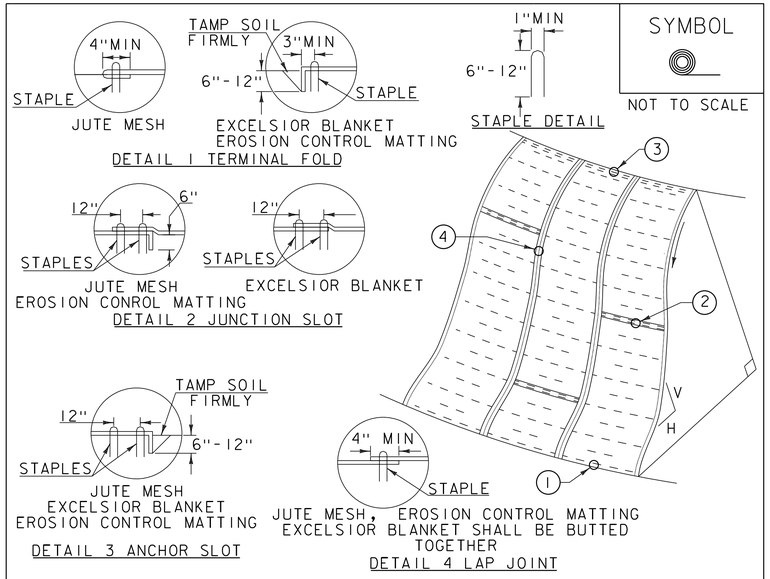
VAOT RURAL AREA MIX						
	LBS/AC					
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
37.5%	22.5	45	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
37.5%	22.5	45	TALL FESCUE	FESTUCA ARUNDINACEA	90%	95%
5.0%	3	6	RED TOP	AGROSTIS GIGANTEA	90%	95%
15.0%	9	18	WHITE FIELD CLOVER	TRIFOLIUM REPENS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

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

CONSTRUCTION GUIDANCE

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

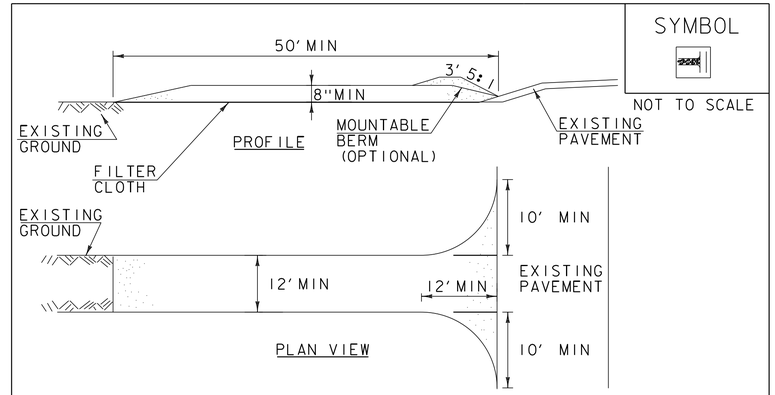
ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES	TURF ESTABLISHMENT
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)	REVISIONS JANUARY 12, 2015 WHF



CONSTRUCTION SPECIFICATIONS

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

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE
NOTES: REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR ROLLED EROSION CONTROL PRODUCT, TYPE I (PAY ITEM 653.20) OR ROLLED EROSION CONTROL PRODUCT, TYPE II (PAY ITEM 653.21).	REVISIONS APRIL 16, 2007 JMF JANUARY 13, 2009 WHF



CONSTRUCTION SPECIFICATIONS

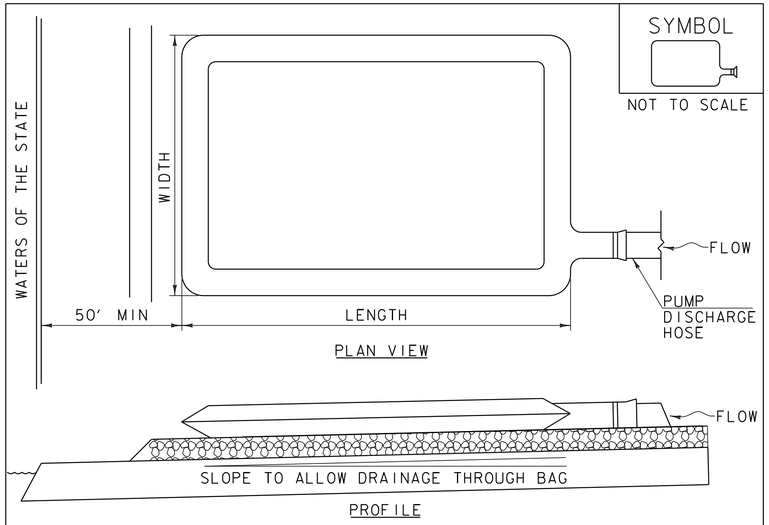
1. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS- NOT LESS THAN 8".
4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.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

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	STABILIZED CONSTRUCTION ENTRANCE
NOTES: REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR STABILIZED CONSTRUCTION ENTRANCE (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.	REVISIONS MARCH 24, 2008 WHF JANUARY 13, 2009 WHF

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: s13c334ero_details.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: G. DARGAN
EROSION CONTROL DETAILS 1

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROY
CHECKED BY: G. DARGAN
SHEET 43 OF 110



CONSTRUCTION SPECIFICATIONS

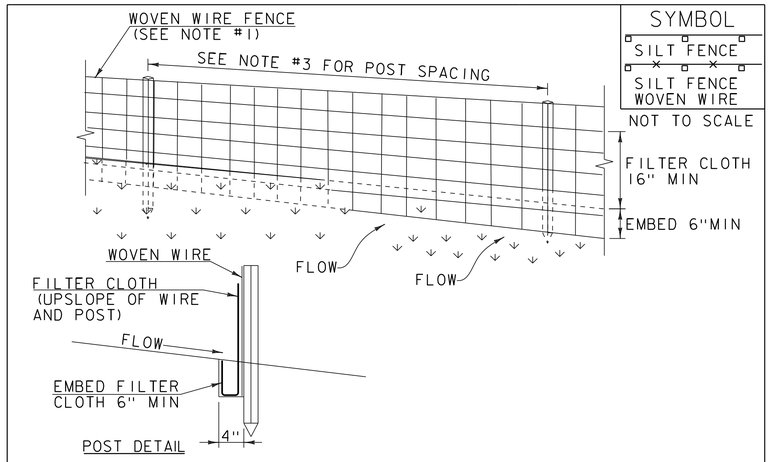
1. THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.
2. FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
3. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION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

FILTER BAG

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR FILTER BAG (PAY ITEM 653.45) AND AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



CONSTRUCTION SPECIFICATIONS

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

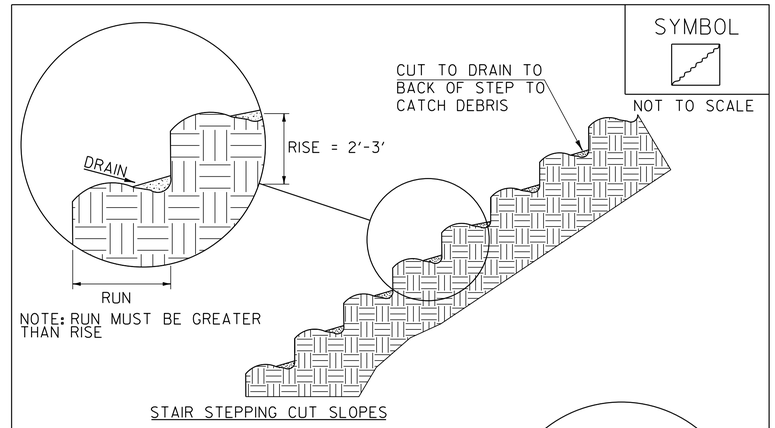
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

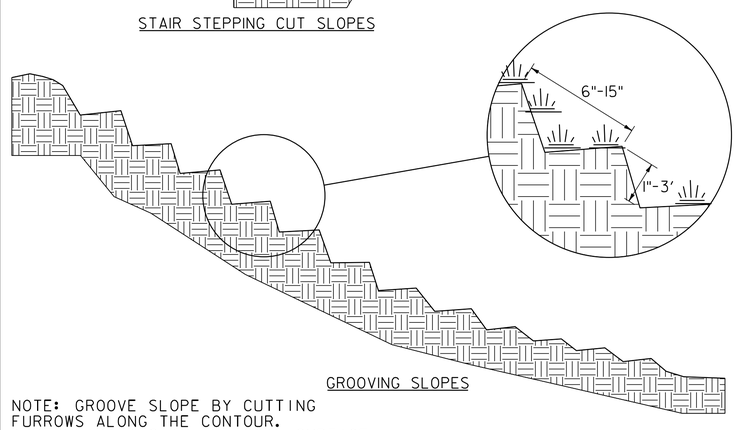
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR SILT FENCE, TYPE I (PAY ITEM 653.475) OR SILT FENCE, TYPE II (PAY ITEM 653.476).

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



STAIR STEPPING CUT SLOPES



GROOVING SLOPES

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

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

SURFACE ROUGHENING

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

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334ero_details.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: G. DARGAN
EROSION CONTROL DETAILS 2

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROY
CHECKED BY: G. DARGAN
SHEET 44 OF 110

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	ROW LAYOUT NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA±	AREA±	TYPE	T / P	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
1	MESSER, MICHAEL	1	102+66.00 RT	102+76.79 RT	339 SF		HIGHWAY	P							
			101+25 RT	102+77 RT			DETOUR	T	1,982 SF						INCL. PDF & BF
			101+66 RT	102+66 RT			SLOPE	T	579 SF						INCL. EC
			101+74.67 RT	102+66.00 RT			INSTALL & MAINTAIN	P	113 SF						GUARDRAIL
2	HOLMES, JAMES R.	1	103+00.25 LT	104+08.06 LT			UTILITY	P	1,768 SF						OVERHEAD ELECTRIC
			103+18 LT	103+69 LT			DETOUR	T	289 SF						INCL. BF
			103+31 LT	104+25 LT			REMOVE & RESET	T							MAILBOX
			103+81.84 LT	103+84.91 LT			INSTALL & MAINTAIN	P							GUY WIRE & ANCHOR
3	VERMONT SUBACUTE LLC	1	103+76.98 RT	105+44.68 RT			INSTALL & MAINTAIN	P	331 SF						GUARDRAIL
			103+77 RT	105+45 RT			SLOPE	T	209 SF						INCL. EC
			103+77 RT	105+50 RT			CONSTRUCTION	T	1,029 SF						INCL. PDF & BF
			104+72.40 RT	104+96.66 RT			INSTALL & MAINTAIN	P							2 GUY WIRES & ANCHORS
4	GREEN MOUNTAIN POWER CORPORATION		101+25 RT	105+50 RT											UTILITY
5	VERMONT TELEPHONE COMPANY, INC.		101+25 RT	105+50 RT											UTILITY
6	COMCAST OF CONNECTICUT/GEORGIA/ MASSACHUSETTS/NEW HAMPSHIRE/ NEW YORK/NORTH CAROLINA/VIRGINIA/ VERMONT, LLC		101+25 RT	105+50 RT											UTILITY

TABLE OF REVISIONS

REVISION NO.	ROW SET SHEET #	DESCRIPTION	DATE

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: rl3c334detail.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. PROULX
R.O.W. DETAIL SHEET 1

PLOT DATE: 11-AUG-2020
DRAWN BY: M. TROTTIER
CHECKED BY: A. PROULX
SHEET 45 OF 110

COARSE-MILLING, BITUMINOUS PAVEMENT
STA 100+75.0 - 101+75.0
STA 103+75.0 - 104+25.0

REMOVING AND RESETTING PROPERTY MARKERS
STA 102+77.0 - 28.5' RT

REMOVE AND RESET MAILBOX, SINGLE SUPPORT
REMOVE FROM STA 104+24.5 LT
RELOCATE TO STA 103+31.7 LT

REMOVING AND RESETTING FENCE
STA 101+46.6 - STA 101+57.8 LT
STA 100+71.0 - STA 101+66.0 RT

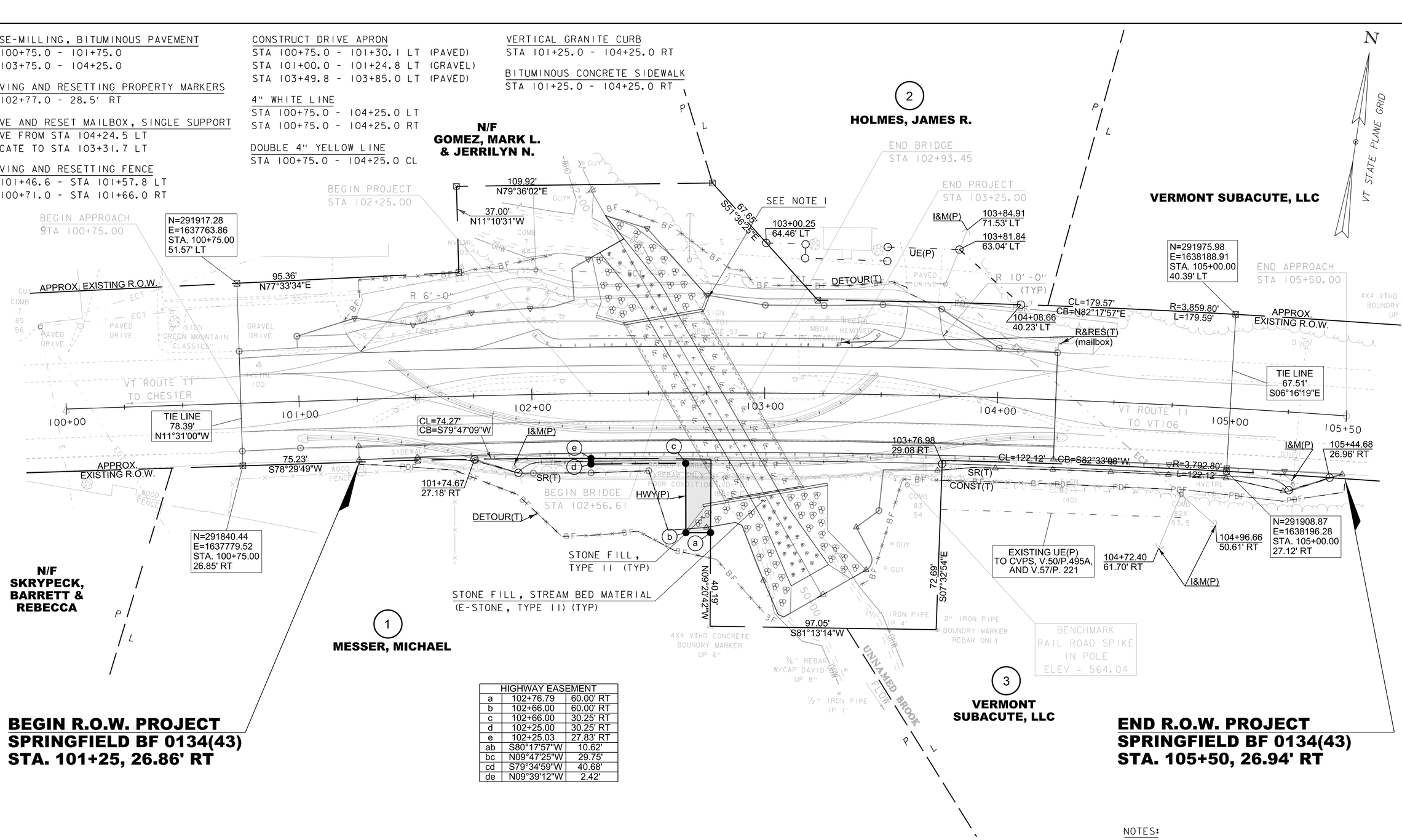
CONSTRUCT DRIVE APRON
STA 100+75.0 - 101+30.1 LT (PAVED)
STA 101+00.0 - 101+24.8 LT (GRAVEL)
STA 103+49.8 - 103+85.0 LT (PAVED)

4" WHITE LINE
STA 100+75.0 - 104+25.0 LT
STA 100+75.0 - 104+25.0 RT

DOUBLE 4" YELLOW LINE
STA 100+75.0 - 104+25.0 CL

VERTICAL GRANITE CURB
STA 101+25.0 - 104+25.0 RT

BITUMINOUS CONCRETE SIDEWALK
STA 101+25.0 - 104+25.0 RT



HIGHWAY EASEMENT		
a	102+76.79	60.00' RT
b	102+66.00	60.00' RT
c	102+66.00	30.25' RT
d	102+25.00	30.25' RT
e	102+25.03	27.83' RT
ab	S80°17'57"W	10.62'
bc	N09°47'25"W	29.75'
cd	S79°34'59"W	40.68'
de	N09°39'12"W	2.42'

BEGIN R.O.W. PROJECT
SPRINGFIELD BF 0134(43)
STA. 101+25, 26.86' RT

END R.O.W. PROJECT
SPRINGFIELD BF 0134(43)
STA. 105+50, 26.94' RT

NOTES:

1. THE CONTRACTOR IS ADVISED THAT OVERHEAD UTILITIES WILL LIKELY POSE CONFLICTS TO SETTING WW3 WITH A CRANE.

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR R.O.W. USE ONLY

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

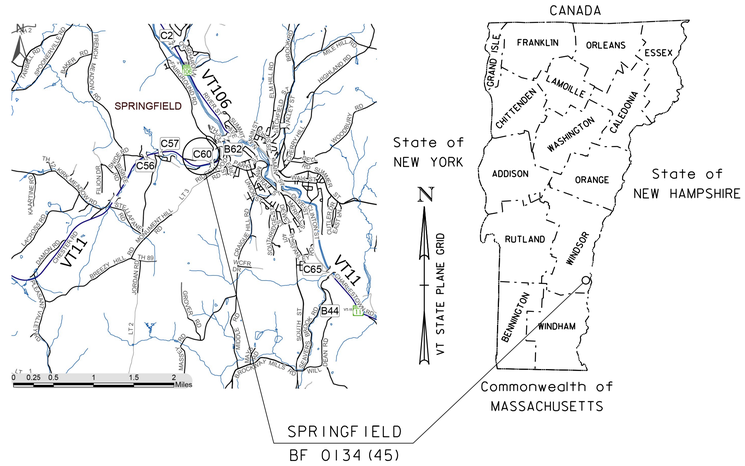
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: r13c334lay.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
R.O.W. LAYOUT SHEET 1

PLOT DATE: 11-AUG-2020
DRAWN BY: A. PROULX
CHECKED BY: A. PROULX
SHEET 46 OF 110

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF SPRINGFIELD
COUNTY OF WINDSOR

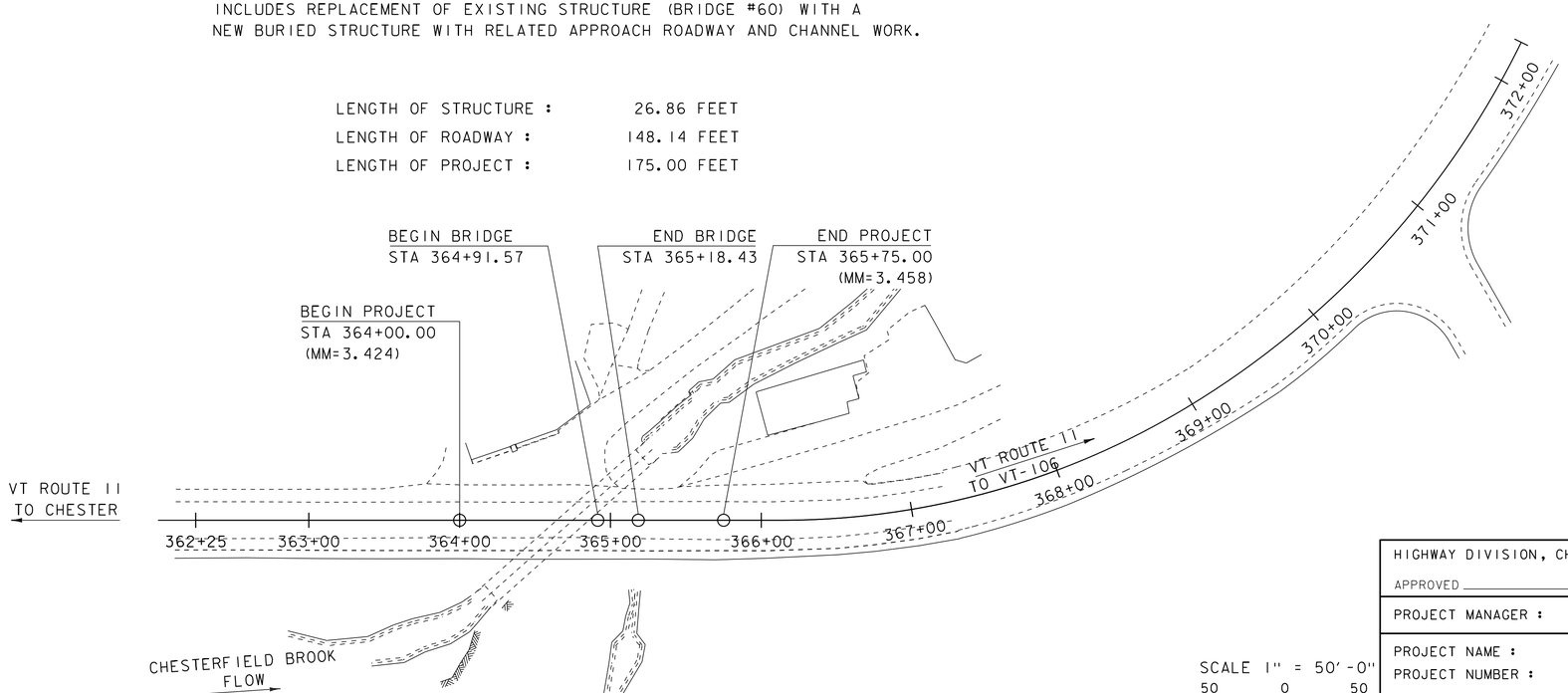


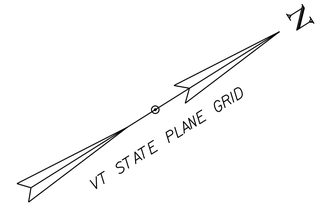
ROUTE NO : VT ROUTE 11 BRIDGE NO : 60

PROJECT LOCATION : 0.54 MILES FROM THE INTERSECTION OF VT11 AND VT106 IN SPRINGFIELD VT, WEST ON VT 11. AT THE CHESTERFIELD BROOK.

PROJECT DESCRIPTION : WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REPLACEMENT OF EXISTING STRUCTURE (BRIDGE #60) WITH A NEW BURIED STRUCTURE WITH RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE :	26.86 FEET
LENGTH OF ROADWAY :	148.14 FEET
LENGTH OF PROJECT :	175.00 FEET





SCALE 1" = 50'-0"
50 0 50

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 :	05-25-2016
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD 83 (2011)

HIGHWAY DIVISION, CHIEF ENGINEER

APPROVED _____ DATE _____

PROJECT MANAGER : NICK WARK, P.E.

PROJECT NAME : SPRINGFIELD
PROJECT NUMBER : BF 0134(45)

SHEET 47 OF 110 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

INDEX OF SHEETS

PLAN SHEETS

SEE SHEET 2 FOR INDEX OF SHEETS

STANDARDS LIST

SEE SHEET 2 FOR LIST OF STANDARDS

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: June, 2019

DRAINAGE AREA : 4.2 sq. mi.
CHARACTER OF TERRAIN : Residential, hilly and forested
STREAM CHARACTERISTICS : Sinuous river corridor laterally confined by roadway
NATURE OF STREAMBED : Cobbles and gravel

PEAK FLOW DATA - ANNUAL EXCEEDANCE PROBABILITY (AEP)

43% =	170 cfs	2% =	510 cfs
10% =	320 cfs	1% =	610 cfs
4% =	420 cfs	0.2% =	880 cfs

DATE OF FLOOD OF RECORD Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ 2% AEP = 9.3 fps*
ICE CONDITIONS : Moderate
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

WATERSHED STORAGE: 2%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: CGMPPA
YEAR BUILT: 1961
CLEAR SPAN(NORMAL TO STREAM): 14 ft. 3 in.
VERTICAL CLEARANCE ABOVE STREAMBED: 8 ft. 11 in.
WATERWAY OF FULL OPENING: 100 sq. ft.
DISPOSITION OF STRUCTURE: Remove and replace
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings

WATER SURFACE ELEVATIONS AT:

43% AEP =	483.4 ft.***	VELOCITY =	9.7 fps**
10% AEP =	485.1 ft.	"	12.1 fps
4% AEP =	486.1 ft.	"	13.2 fps
2% AEP =	486.8 ft.	"	14.0 fps
1% AEP =	487.6 ft.	"	14.8 fps

LONG TERM STREAMBED CHANGES: Lateral confinement has been perpetuated by retaining wall (downstream) and ledge outcropping (upstream).

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
FREQUENCY: -
RELIEF ELEVATION: 490.0 ft.
DISCHARGE OVER ROAD @ 1% AEP: -

UPSTREAM STRUCTURE

TOWN: Springfield — DISTANCE: 0.64 mi.
HIGHWAY # : TH-98, Walker Rd. — STRUCTURE #: B-70
CLEAR SPAN: 168 in. — CLEAR HEIGHT: 96 in.
YEAR BUILT: Unknown — FULL WATERWAY: 90 sq. ft.
STRUCTURE TYPE: Steel Corrugated Arch

DOWNSTRUCTURE STRUCTURE

TOWN: Springfield — DISTANCE: 0.25 mi.
HIGHWAY # : VT-11 — STRUCTURE #: C-61
CLEAR SPAN: 14 ft. 1 in. — CLEAR HEIGHT: 8 ft. 9 in.
YEAR BUILT: 1960 — FULL WATERWAY: 97 sq. ft.
STRUCTURE TYPE: CGMPPA

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		1.14					
POSTING							
OPERATING		1.48	2.6	1.26	1.74	1.6	2.45
COMMENTS:	CIP SLAB RATINGS PROVIDED. FABRICATOR TO PROVIDE PRECAST BOX LOAD RATING						

PROPOSED STRUCTURE

STRUCTURE TYPE: Buried Structure

CLEAR SPAN(NORMAL TO STREAM): 30 ft.
VERTICAL CLEARANCE ABOVE STREAMBED: 7 ft. 7 in.
WATERWAY OF FULL OPENING: 170 sq. ft.

WATER SURFACE ELEVATIONS AT:

43% AEP =	482.0 ft.***	VELOCITY=	6.6 fps**
10% AEP =	485.0 ft.	"	8.0 fps
4% AEP =	485.6 ft.	"	8.6 fps
2% AEP =	486.1 ft.	"	9.1 fps
1% AEP =	486.6 ft.	"	9.6 fps

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
FREQUENCY: -
RELIEF ELEVATION: 490.7 ft.
DISCHARGE OVER ROAD @ 1% AEP: -

BRIDGE LOW CHORD ELEVATION: 486.4 ft. (inlet)
FREEBOARD: @ 2% AEP = 0.3 ft.

SCOUR: @ 1% AEP = 0.5 ft.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III; E-stone, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	-	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	-	-
ORDINARY HIGH WATER:	-	-

TEMPORARY BRIDGE REQUIREMENTS

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

ADDITIONAL INFORMATION

* - Largest velocity observed near the crossing in a model with the structure removed.
** - Velocities are reported at the structure outlet.
*** - Water surface elevations for both models are reported about a cross section located approximately one bridge length upstream of the respective model inlet location.

TRAFFIC MAINTENANCE NOTES

1. PHASE 1: MAINTAIN ONE-WAY ALTERNATING TRAFFIC OVER EXISTING STRUCTURE.
2. INSTALL TEMPORARY SIDEWALK TO SOUTH SIDE OF PHASE 1.
3. PHASE 2: MAINTAIN ONE-WAY ALTERNATING TRAFFIC OVER NEW STRUCTURE.
4. MAINTAIN PEDESTRIAN TRAFFIC OVER NEW STRUCTURE

DESIGN VALUES

1.	DESIGN LIVE LOAD		HL-93
2.	FUTURE PAVEMENT	d_p:	0.0 INCH
3.	DESIGN SPAN	L:	20.00 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 A	f'_c:	4.0 KSI
9.	HIGH PERFORMANCE CONCRETE, CLASS B	f'_c:	3.5 KSI
10.	CONCRETE HIGH PERFORMANCE, CLASS PSS	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	f_y:	---
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:	0.55
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.			---

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2017	6900	730	52	4	340
2037	7300	770	52	6.2	550

20 year ESAL for flexible pavement from 2017 to 2037 : 2999000
40 year ESAL for flexible pavement from 2017 to 2057 : 7227000
Design Speed : 40 mph

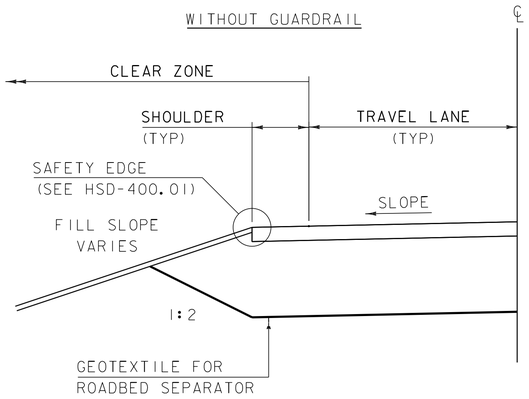
AS BUILT "REBAR" DETAIL

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

PROJECT NAME: **SPRINGFIELD**
PROJECT NUMBER: **BF 0134(45)**

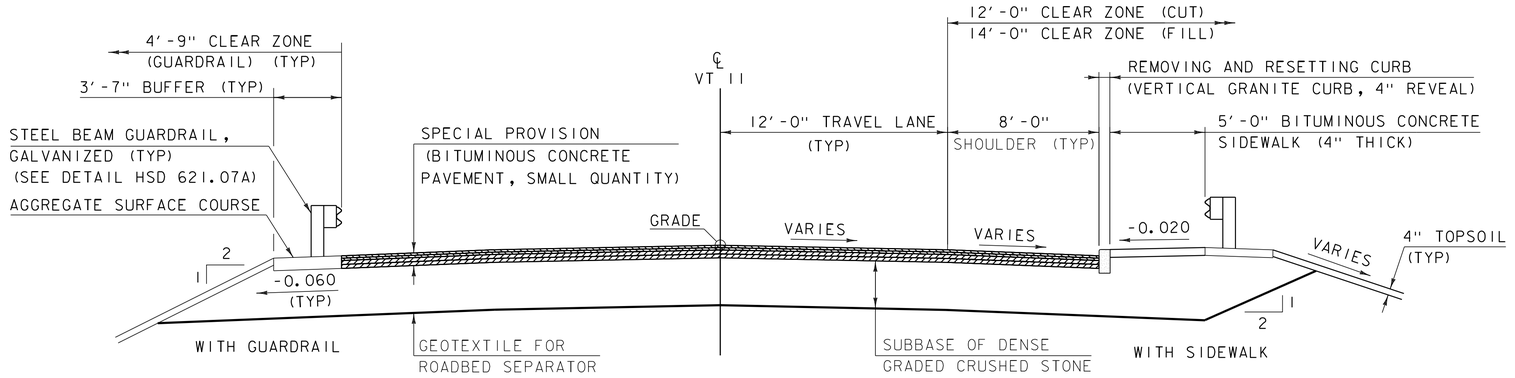
FILE NAME: **s13d336pi.dgn**
PROJECT LEADER: **N. WARK**
DESIGNED BY: **G. LAROCHE**
PRELIMINARY INFORMATION

PLOT DATE: 5/21/2020
DRAWN BY: **G. ROKES**
CHECKED BY: **G. DARGAN**



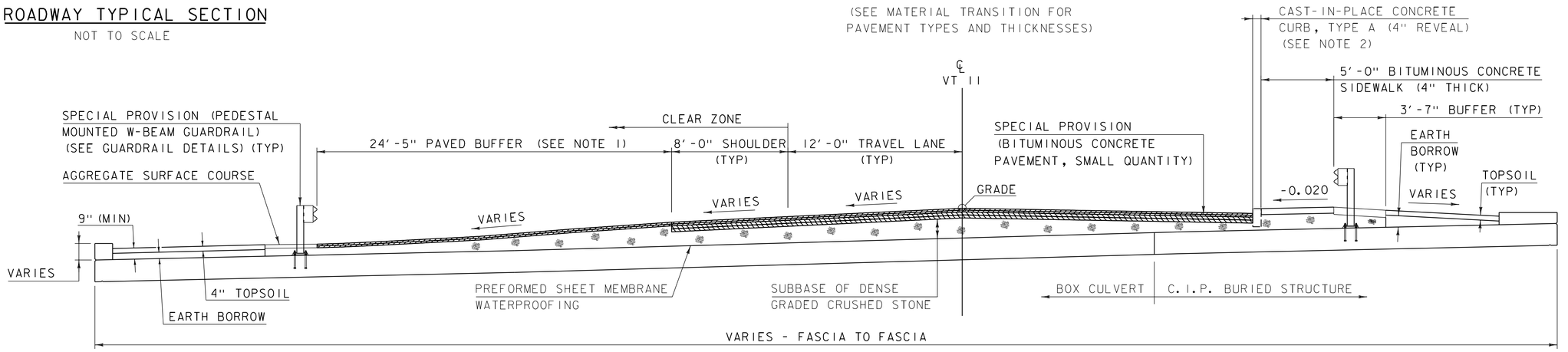
ROADWAY TYPICAL SECTION

NOT TO SCALE



VT II TYPICAL SECTION

NOT TO SCALE



VT II TYPICAL SECTION AT BURIED STRUCTURE

NOT TO SCALE

MATERIAL TOLERANCES

(IF USED ON PROJECT)

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

PAVEMENT SPECIFICATIONS

	THICKNESS	DESCRIPTION
BINDER	70-28	PERFORMANCE GRADE ASPHALT BINDER
GYRATION	65	DESIGN NUMBER OF GYRATIONS

NOTES:

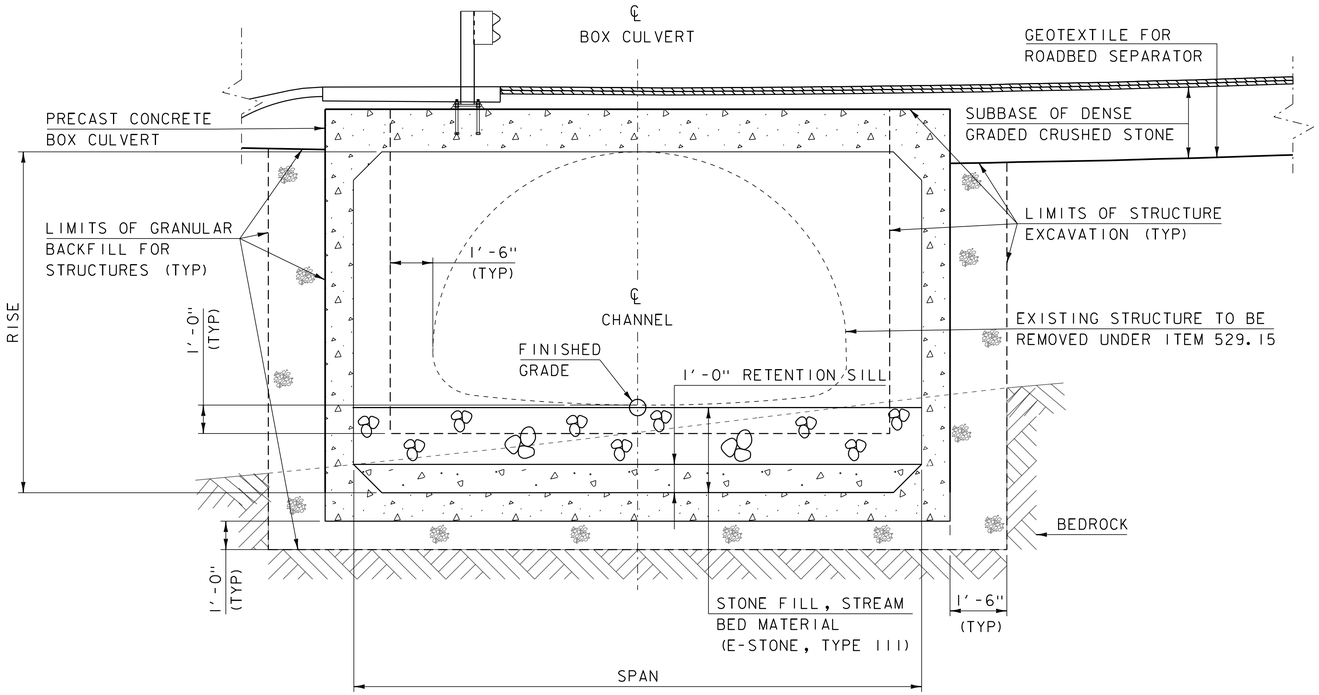
1. PAVED BUFFER AND DRIVES WILL ONLY UTILIZE INTERMEDIATE AND WEARING COURSE PAVEMENT LEVELS AS SPECIFIED ON THE MATERIAL TRANSITION SHEET.

2. MODIFY CAST-IN-PLACE CONCRETE CURB, TYPE A TO MATCH GRANITE CURB. FACE OF CONCRETE CURB SHALL BE VERTICAL. CURB SHALL HAVE A WIDTH OF 7".

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

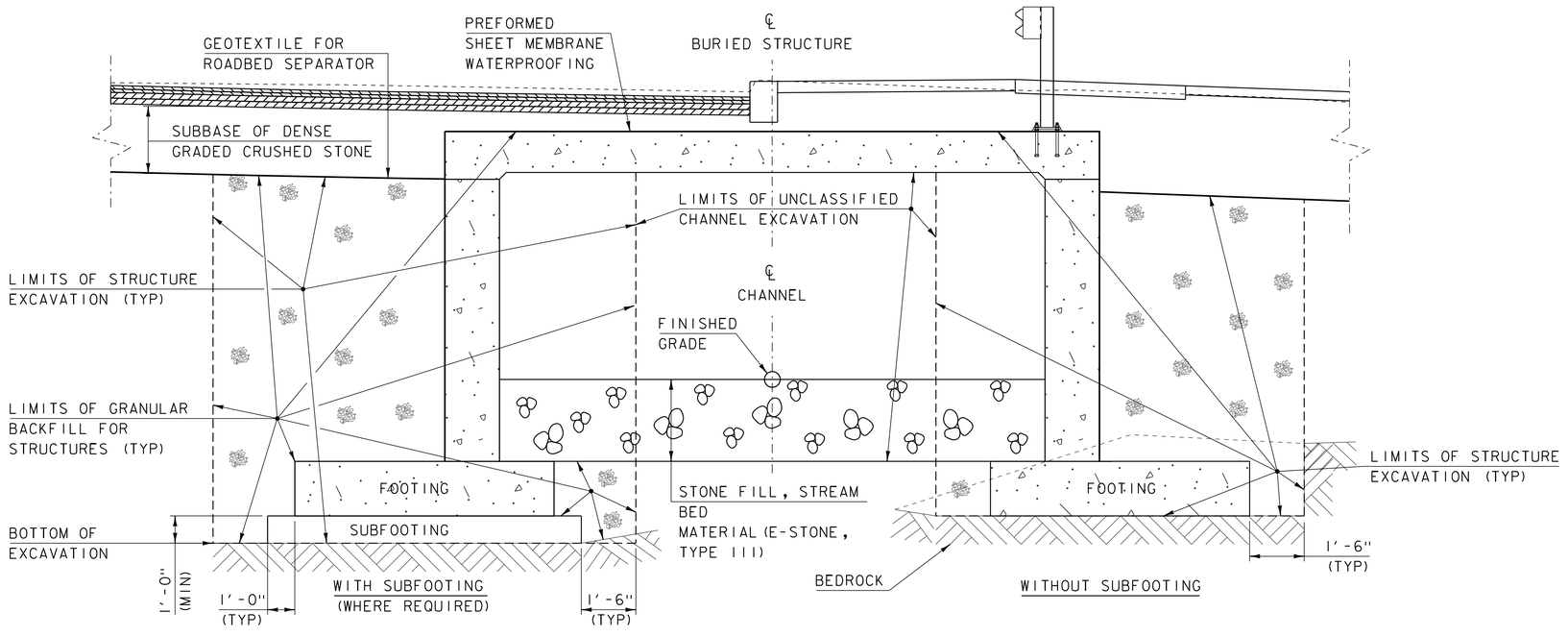
FILE NAME: sl3d336typ.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
TYPICAL SECTIONS I

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G. DARGAN
SHEET 49 OF 110



BURIED STRUCTURE EARTHWORK TYPICAL SECTION - BOX CULVERT

(NOT TO SCALE)



BURIED STRUCTURE EARTHWORK TYPICAL SECTION - C.I.P FRAME

(NOT TO SCALE)

BOX CULVERT REQUIREMENTS

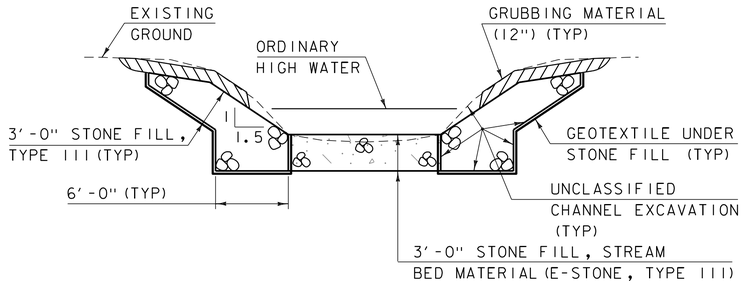
SPAN	20'-0"
RISE	12'-0"
LENGTH	84'-0"

BEDROCK SHOWN IS NOT REPRESENTATIVE OF ACTUAL CONDITIONS, BUT AN EXAMPLE OF HOW SPREAD FOOTINGS CAN BE CONSTRUCTED UPON BEDROCK. CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING ACTUAL ELEVATIONS.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336typ.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
TYPICAL SECTIONS 2

PLOT DATE: 11-AUG-2020
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 50 OF 110



TYPICAL CHANNEL SECTION

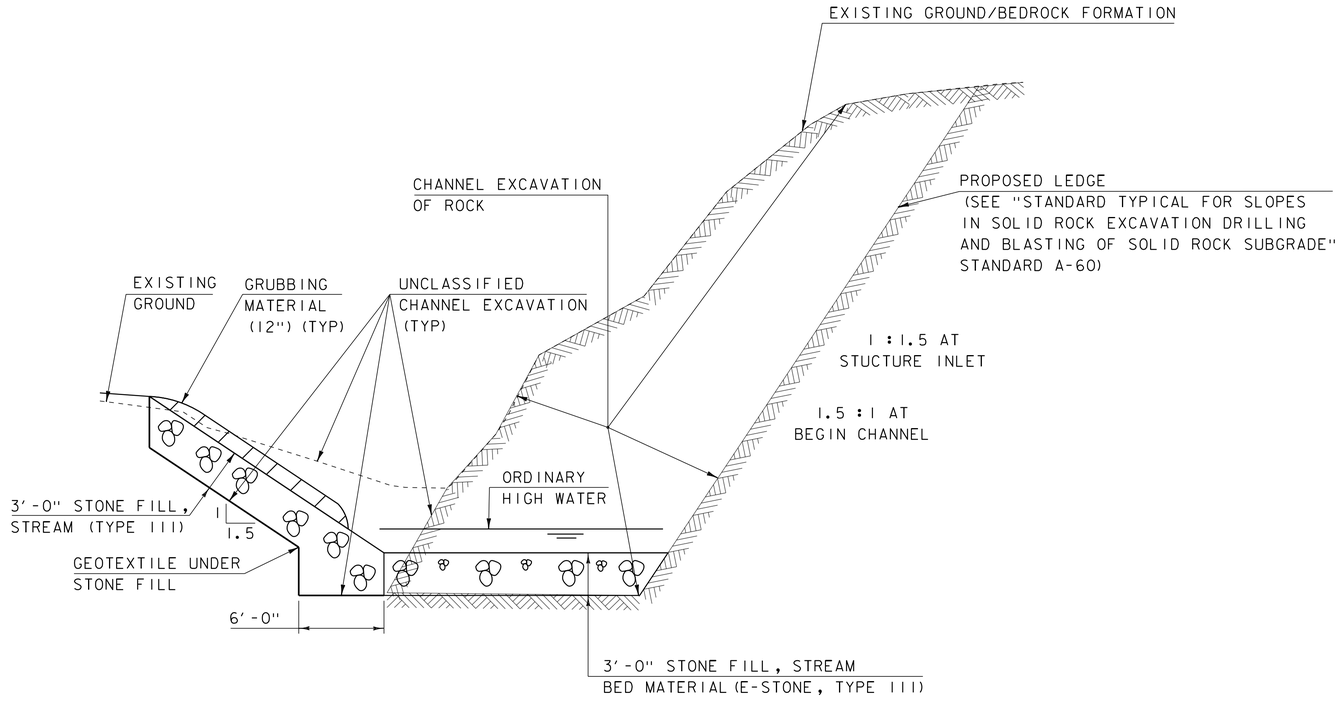
NOT TO SCALE

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.

3. WHENEVER BEDROCK IS ENCOUNTERED DURING EXCAVATION OF THE CHANNEL KEY OR FILL SLOPES, THE ENGINEER WILL COORDINATE WITH THE RIVER MANAGEMENT ENGINEER FOR APPROVAL OF HOW THE CHANNEL SHALL BE CONSTRUCTED.

4. GRUBBING MATERIAL SHALL BE PLACED UNDERNEATH STRUCTURES WHERE THERE IS MORE THAN 6 FEET VERTICALLY FROM ORDINARY HIGH WATER (OHW) TO THE BOTTOM OF SUPERSTRUCTURE AND MORE THAN 6 FEET HORIZONTALLY FROM OHW LINE TO FRONT FACE OF ABUTMENT. THIS MATERIAL SHALL START JUST ABOVE THE OHW ELEVATION AND TERMINATE 3 FEET HORIZONTALLY FROM THE FRONT FACE OF THE ABUTMENT. THIS MATERIAL SHALL NOT BE PLACED IN AREAS THAT WILL SEE CONCENTRATED FLOWS RESULTING FROM SURFACE WATER RUNOFF. GRUBBING MATERIAL MAY BE OMITTED IF LESS THAN 3 FEET IN WIDTH BENEATH A STRUCTURE. SEE CHANNEL SECTIONS FOR ADDITIONAL DETAILING.



TYPICAL CHANNEL INLET SECTION

(NOT TO SCALE)

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336typ.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
TYPICAL SECTIONS 3	SHEET 51 OF 110

EARTHWORK

1. THE CONTRACTOR IS ADVISED THAT SIGNIFICANT SOLID ROCK EXCAVATION IS EXPECTED WITHIN THE LIMITS OF STRUCTURE EXCAVATION.

PRECAST BOX CULVERT/WINGWALLS

2. THE BOX CULVERT, HEADWALLS, AND WINGWALLS SHALL BE DESIGNED BY THE FABRICATOR, INCLUDING THE ANCHORAGE AND CONNECTIONS BETWEEN ELEMENTS. THE CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS AND CALCULATIONS TO THE ENGINEER IN ACCORDANCE WITH SECTION 105. SHOP DRAWINGS MUST DEMONSTRATE COMPATIBILITY BETWEEN THE FRAME AND WINGWALL SYSTEM CHOSEN BY THE CONTRACTOR.

3. THE DESIGN OF THE WALLS SHALL INCORPORATE PROVISIONS FOR ADJACENT OBSTRUCTIONS SUCH AS DRAINAGE FEATURES AND GUARDRAIL POSTS IF NECESSARY. ANY CHANGES TO THE WALL SYSTEM SHALL BE DETAILED IN THE FABRICATION DRAWINGS.

4. WALL DESIGN SHALL INCLUDE DRAINAGE PROVISIONS TO ACCOUNT FOR OR PREVENT HYDROSTATIC PRESSURE BEHIND WALLS.

5. A BRIDGE PLAQUE FURNISHED BY THE AGENCY SHALL BE CAST INTO RETAINING WALL NO. 2. SEE SD-502.00 FOR FURTHER DETAILS.

6. PREFORMED SHEET MEMBRANE – MEETING THE REQUIREMENTS OF 726.11 – SHALL BE APPLIED TO THE ENTIRE BURIED TOP SURFACE OF THE BOX CULVERT AND SLAB BRIDGE AND EXTENDED A FOOT DOWN THE SIDES, AS PER THE MANUFACTURER'S INSTRUCTIONS. OVER THE JOINTS, EXTEND THE SHEET MEMBRANE IN TWO-FOOT STRIPS DOWN THE SIDE OF THE BOX CULVERT. THE SIDES OF THE STRUCTURE SHALL BE COVERED PRIOR TO THE TOP. ANY OVERLAPPING OF MEMBRANE SHALL BE DONE IN A SHINGLED STYLE AND SHALL OVERLAP A MINIMUM OF ONE FOOT. PAYMENT FOR THIS WORK AND MATERIALS IS INCIDENTAL TO THE RESPECTIVE SUPERSTRUCTURE ITEM.

7. THE REQUIRED DESIGN PARAMETERS FOR THIS PROJECT ARE INDICATED BELOW.

   A. DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (8TH EDITION)
   B. DESIGN LIVE LOAD = HL-93
   C. CONCRETE COMPRESSIVE STRENGTH = THE FABRICATOR SHALL SPECIFY THE STRENGTH OF PRECAST ELEMENTS
   D. REQUIRED DESIGN LIFE = 75 YEARS

CONCRETE

8. CONSTRUCTION DRAWINGS INCLUDING FALSEWORK AND FORM WORK PLANS SHALL BE SUBMITTED BY THE CONTRACTOR IN ACCORDANCE WITH SECTION 105 BEFORE COMMENCING CONSTRUCTION. PAYMENT FOR PREPARATION AND SUBMITTAL OF CONSTRUCTION DRAWINGS IS INCIDENTAL TO ITEM 900.608, SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS A).

9. CHAMFER ALL EXPOSED EDGES OF CONCRETE 1" BY 1".

10. THE DECK SLAB IS TO BE POURED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A TRANSVERSE CONSTRUCTION JOINT SHALL BE USED BETWEEN ADJACENT POURS. A MINIMUM 96 HOUR DELAY BETWEEN ADJACENT POURS SHALL BE OBSERVED.

11. ITEM 514.10, "WATER REPELLENT, SILANE", SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON THE BRIDGE – INCLUDING THE DECK, FASCIAS, AND SUBSTRUCTURE, WITH THE EXCEPTION OF THE BOTTOM OF THE DECK BETWEEN DRIP NOTCHES.

SUBSTRUCTURE ON BEDROCK

12. UPON COMPLETION OF EXCAVATION FOR SUBSTRUCTURES FOUNDED ON BEDROCK AND PRIOR TO PLACING FORMWORK, THE ENGINEER SHALL NOTIFY THE PROJECT MANAGER AND THE VTRANS STATE GEOLOGIST. THE GEOLOGIST WILL DETERMINE IF THE BEDROCK IS COMPETENT TO OBTAIN THE REQUIRED NOMINAL BEARING RESISTANCE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 72 HOURS PRIOR TO WHEN THE ANALYSIS WILL BE NEEDED.

13. 10 CY OF ITEM 541.30 "CONCRETE, CLASS C" IS INCLUDED IN THE PROJECT SHOULD FIELD CONDITIONS WARRANT A SUBFOOTING. A SUBFOOTING IS REQUIRED IF THE FOOTING DEPTH WILL EXCEED 3 FT 6 IN. THE SUBFOOTING SHALL BE A MINIMUM OF 1 FOOT DEEP AND SHALL BE 1 FOOT LARGER IN EACH DIRECTION THAN THE FOOTING.

14. OVERBREAK EXCEEDING THE MAXIMUM ALLOWANCE SPECIFIED IN SUBSECTION 204.06(B)(1) SHALL BE REPLACED WITH "CONCRETE, CLASS C" AT THE CONTRACTOR'S EXPENSE.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336notes.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. DARGAN
PROJECT NOTES

PLOT DATE: 12-AUG-2020
DRAWN BY: G. DARGAN
CHECKED BY: A. LEMIEUX
SHEET 52 OF 110

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EPSC	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				**EARTHWORK SUMMARY**
1650				1650		CY	COMMON EXCAVATION	203.15				**FILL AVAILABLE**
50				50		CY	SOLID ROCK EXCAVATION	203.16		990	CY	COMMON EXCAVATION (1650 x 0.6)
		2750		2750		CY	CHANNEL EXCAVATION OF ROCK	203.26		30	CY	SOLID ROCK EXCAVATION (50 x 0.6)
		490		490		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27		1650	CY	CHANNEL EXCAVATION OF ROCK (2750 x 0.6)
50				50		CY	TRENCH EXCAVATION OF EARTH	204.20		147	CY	UNCLASSIFIED CHANNEL EXCAVATION (490 x 0.3)
120				120		CY	TRENCH EXCAVATION OF ROCK	204.21		30	CY	TRENCH EXCAVATION OF EARTH (50 x 0.6)
1				1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22		72	CY	TRENCH EXCAVATION OF ROCK (120 x 0.6)
		2240		2240		CY	STRUCTURE EXCAVATION	204.25		672	CY	STRUCTURE EXCAVATION (2240 x 0.3)
		940		940		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30		9	CY	ROUNDING
1980				1980		SY	COARSE-MILLING, BITUMINOUS PAVEMENT	210.10		**3600**	**CY**	**TOTAL FILL AVAILABLE**
1270				1270		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35				**FILL REQUIRED**
93				93		TON	AGGREGATE SHOULDERS	402.12		0	CY	FILL (0 CY EARTH)
40				40		CWT	EMULSIFIED ASPHALT	404.65		0	CY	FACTORED FILL (x1.15)
1				1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50		0	CY	ROUNDING
		28510		28510		LB	REINFORCING STEEL, LEVEL I (EPOXY)	507.11		**0**	**CY**	**TOTAL FILL REQUIRED**
900				900		LB	REINFORCING STEEL, LEVEL I	507.11		**3600**	**CY**	**TOTAL WASTE**
		14380		14380		LB	REINFORCING STEEL, LEVEL II	507.12				
		126		126		LF	DRILLING AND GROUTING DOWELS	507.16				**SPECIAL PROVISION**
		14		14		GAL	WATER REPELLENT, SILANE	514.10				**(BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)**
		1		1		EACH	REMOVAL OF STRUCTURE (14'-3" x 8'-11" CGMPPA)	529.15		172	TON	BASE COURSE 1
		1		1		LS	PRECAST CONCRETE STRUCTURE (20' X 12' X 84' BOX AND WINGWALLS)	540.10		172	TON	BASE COURSE 2
5				5		CY	CONCRETE, CLASS B	541.25		132	TON	INTERMEDIATE
		10		10		CY	CONCRETE, CLASS C	541.30		269	TON	WEARING
42				42		LF	18" CPEP	601.0915		146	TON	DRIVES
28				28		LF	24" CPEP	601.0920		**891**	**TON**	**TOTAL**
1				1		EACH	PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE (48")	604.20				
1				1		EACH	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER	604.21				
2				2		EACH	CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES	604.40				
10				10		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25				
	1			1		MGAL	DUST CONTROL WITH WATER	609.10				
		510		510		CY	STONE FILL, STREAM BED MATERIAL (E-STONE, TYPE III)	613.06				
		10		10		CY	STONE FILL, TYPE I	613.10				
		670		670		CY	STONE FILL, TYPE III	613.12				
30				30		LF	CAST-IN-PLACE CONCRETE CURB, TYPE A	616.27				
400				400		LF	REMOVING AND RESETTING CURB	616.40				
1				1		EACH	REMOVE AND RESET MAILBOX, SINGLE SUPPORT	617.10				
55				55		TON	BITUMINOUS CONCRETE SIDEWALK	618.15				
4				4		EACH	REMOVING AND RESETTING PROPERTY MARKERS	619.20				
288				288		LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20				

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336qs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: R. HOOD
QUANTITY SHEET 1

PLOT DATE: 11-AUG-2020
DRAWN BY: G. DARGAN
CHECKED BY: G. DARGAN
SHEET 53 OF 110

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES			TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EPSC	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
2				2		EACH	MANUFACTURED TERMINAL SECTION, TANGENT	621.51				
2				2		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
380				380		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
100				100		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
600				600		HR	FLAGGERS	630.15				
			1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
			1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
			1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
			1	1		LS	TESTING EQUIPMENT, GROUT	631.19				
			3000	3000		DL	FIELD OFFICE COMMUNICATIONS (N.A.B.I.)	631.26				
6				6		EACH	CPM SCHEDULE	633.10				
1				1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
2				2		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
1390				1390		LF	4 INCH WHITE LINE, WATERBORNE PAINT	646.201				
1430				1430		LF	4 INCH YELLOW LINE, WATERBORNE PAINT	646.2111				
13				13		LF	24 INCH STOP BAR, WATERBORNE PAINT	646.261				
4				4		EACH	DURABLE LETTER OR SYMBOL, EPOXY PAINT	646.493				
2050				2050		SY	GEOTEXTILE FOR ROADBED SEPARATOR	649.11				
		800		800		SY	GEOTEXTILE UNDER STONE FILL	649.31				
	10			10		LB	SEED	651.15				
	10			10		LB	SEED, WINTER RYE	651.17				
	60			60		LB	FERTILIZER	651.18				
	0.5			0.5		TON	AGRICULTURAL LIMESTONE	651.20				
	60			60		CY	TOPSOIL	651.35				
		460		460		SY	GRUBBING MATERIAL (12")	651.40				
	1			1		LS	EPSC PLAN	653.01				
	100			100		HR	MONITORING EPSC PLAN	653.02				
	1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	653.03				
	0.5			0.5		TON	HAY MULCH	653.10				
	460			460		SY	ROLLED EROSION CONTROL PRODUCT, TYPE I	653.20				
	1270			1270		LF	SILT FENCE, TYPE I	653.475				
	380			380		LF	BARRIER FENCE	653.50				
	570			570		LF	PROJECT DEMARCATION FENCE	653.55				
13.09				13.09		SF	TRAFFIC SIGN, TYPE A	675.20				
75				75		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
5				5		EACH	REMOVING SIGNS	675.50				
1				1		EACH	RESETTING SIGNS	675.60				
4				4		EACH	DELINEATOR WITH STEEL POST	676.10				
		80		80		CY	SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS A)	900.608				
		300		300		CY	SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS B)	900.608				

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336qs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: R. HOOD
QUANTITY SHEET 2

PLOT DATE: 11-AUG-2020
DRAWN BY: G. DARGAN
CHECKED BY: G. DARGAN
SHEET 54 OF 110

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EPSC	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						57				57		LF	SPECIAL PROVISION (PEDESTAL MOUNTED GUARDRAIL)	900.640				
						1				1		LS	SPECIAL PROVISION (TEMPORARY ROADWAY AND TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645				
								1		1		LS	SPECIAL PROVISION TEMPORARY RELOCATION OF STREAM	900.645				
						1				1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	900.650				
						1				1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650				
						891				891		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336qs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: R. HOOD
QUANTITY SHEET 3

PLOT DATE: 11-AUG-2020
DRAWN BY: G. DARGAN
CHECKED BY: G. DARGAN
SHEET 55 OF 110

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

SUMMARY OF BRIDGE QUANTITIES			TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
SLAB	ABUTMENT #1	ABUTMENT #2	CHANNEL	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
			2750	2750	CY	CHANNEL EXCAVATION OF ROCK	203.26			
			490	490	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
	1120	1120		2240	CY	STRUCTURE EXCAVATION	204.25			
	470	470		940	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30			
	14255	14255		28510	LB	REINFORCING STEEL, LEVEL I (EPOXY)	507.11			
14380				14380	LB	REINFORCING STEEL, LEVEL II	507.12			
	98	28		126	LF	DRILLING AND GROUTING DOWELS	507.16			
4	5	5		14	GAL	WATER REPELLENT, SILANE	514.10			
1				1	EACH	REMOVAL OF STRUCTURE (14'-3" x 8'-11" CGMPPA)	529.15			
1				1	LS	PRECAST CONCRETE STRUCTURE (20' X 12' X 84' BOX AND WINGWALLS)	540.10			
	5	5		10	CY	CONCRETE, CLASS C	541.30			
			510	510	CY	STONE FILL, STREAM BED MATERIAL (E-STONE, TYPE III)	613.06			
		10		10	CY	STONE FILL, TYPE I	613.10			
	335	335		670	CY	STONE FILL, TYPE III	613.12			
	400	400		800	SY	GEOTEXTILE UNDER STONE FILL	649.31			
	230	230		460	SY	GRUBBING MATERIAL (12")	651.40			
80				80	CY	SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS A)	900.608			
	150	150		300	CY	SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS B)	900.608			
			1	1	LS	SPECIAL PROVISION TEMPORARY RELOCATION OF STREAM	900.645			

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336qs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: R. HOOD
BRIDGE QUANTITY SHEET

PLOT DATE: 11-AUG-2020
DRAWN BY: G. DARGAN
CHECKED BY: G. DARGAN
SHEET 56 OF 110

GPS CONTROL POINTS

PT #1 SPRING 57 AZ MK

NORTH = 291633.6750
EAST = 1636877.4610
ELEV. = 593.789

GENERAL LOCATION, SPRINGFIELD, VT.
THE MARK IS SET 15 CM (6 INCHES) BELOW GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT. IT IS 7.9 M (25.9 FT) NORTH OF AND ABOUT LEVEL WITH THE CENTERLINE OF VT ROUTE 11, 20.7 M (67.9 FT) EAST OF THE CENTERLINE OF BELLOWS ROAD, 4.9 M (16.1 FT) SOUTH OF POLE NO 7/91/91/6, 7.6 M (24.9 FT) NORTHWEST OF THE SOUTHWEST CORNER OF A CONCRETE BASE FO R A STEEL TELEPHONE JUNCTION BOX, 32.5 M (106.6 FT) WEST OF THE CENTER OF THE NORTH (INLET) END OF BRIDGE 56.

PT #2 SPRING 57

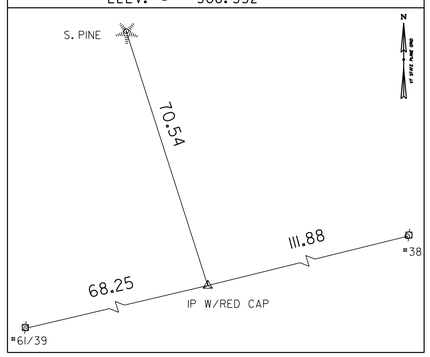
NORTH = 291938.9420
EAST = 1638030.0990
ELEV. = 567.043

SRINGFIELD, VT.
THE MARK IS SET 15 CM BELOW GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT. IT IS 7.5 M NORTH OF AND ABOUT 40 CM LOWER THAN THE CENTERLINE OF VT ROUTE 11, 8.8 M WEST OF THE CENTERLINE OF THE DRIVEWAY LEADING TO HOUSE NO 117, 12.2 M SOUTH-SOUTHEAST OF THE SOUTHWEST CORNER OF THE HOUSE, 11.5 M SOUTH-SOUTHWEST OF THE SOUTHEAST CORNER OF THE HOUSE AND 25.7 M SOUTHEAST OF THE CENTER OF BRIDGE NO 57.

TRAVERSE TIES

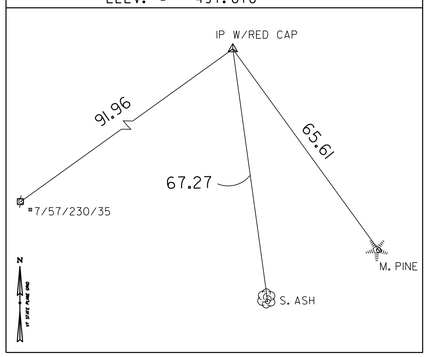
HVCTRL #5

NORTH = 291074.8459
EAST = 1640935.0322
ELEV. = 506.332



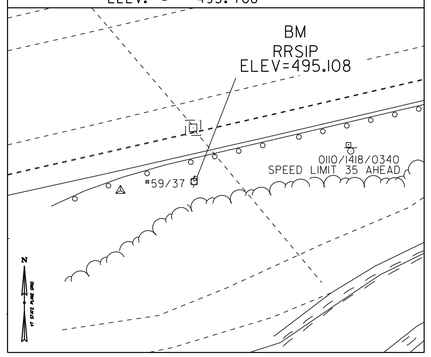
HVCTRL #6

NORTH = 291334.3637
EAST = 1641653.0069
ELEV. = 491.678



BM #1035

NORTH = 291133.4449
EAST = 1641206.9830
ELEV. = 495.108



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

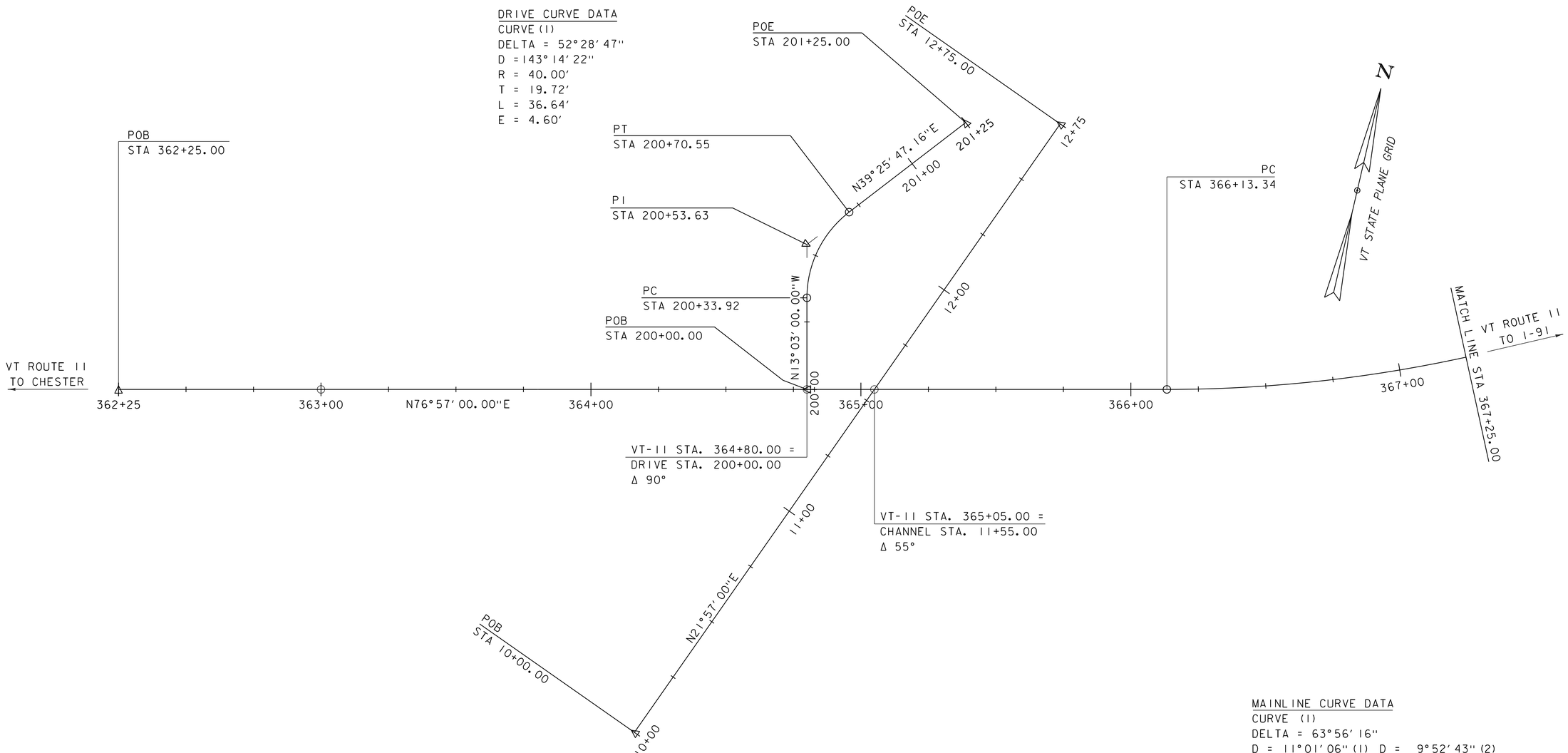
HORIZONTAL NAD83(2011)

ADJUSTMENT COMPASS

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: X13D336T1.DGN
PROJECT LEADER: C. WILLIAMS
DESIGNED BY: VTRANS
TIE SHEET

PLOT DATE: 11-AUG-2020
DRAWN BY: C. CYR
CHECKED BY: P. BEYOR
SHEET 57 OF 110



MAINLINE CURVE DATA
CURVE (1)
DELTA = 63°56'16"
D = 11°01'06" (1) D = 9°52'43" (2)
R = 520.00' (1) R = 580.00' (2)
T = 335.52' (1) T = 352.67' (2)
L = 277.93' (1) L = 337.23' (2)
E = 98.85'

CONTROL LINE DATA - VT11Pro_HSD

POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
3	N 76°57'00.00" E	388.34 '	291141.3399	1641099.487		362+25.00					
	N 46°19'34.04" E	479.61 '	291261.176	1641616.495	366+13.34		368+91.28	30°37'25.96"	-520.00 '	277.93 '	142.37 '
	N 13°00'44.01" E	'	291479.3256	1641844.984	368+91.28		372+28.51	33°18'50.03"	-580.00 '	337.23 '	173.53 '

CONTROL LINE DATA - Channel Prop 8.13.2019

POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
11	N 21°57'00.00" E	275.00 '	291060.8002	1641314.317		10+00.00					
12			291315.8655	1641417.111		12+75.00					

CONTROL LINE DATA - Left Drive

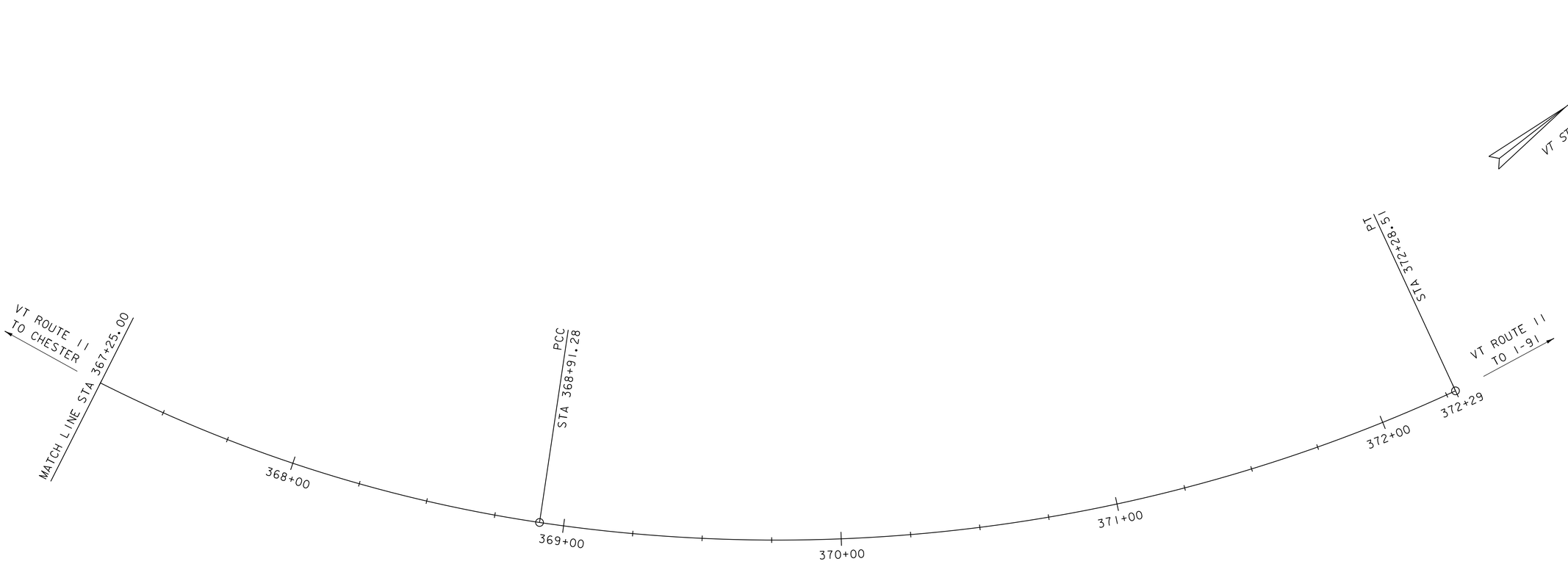
POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
37	N 13°03'00.00" W	33.92 '	291198.9192	1641347.901		200+00.00					
	N 39°25'47.16" E	74.16 '	291251.1675	1641335.79	200+33.92		200+70.55	52°28'47.16"	40.00 '	36.64 '	19.72 '
39			291308.4512	1641382.894		201+25.00					

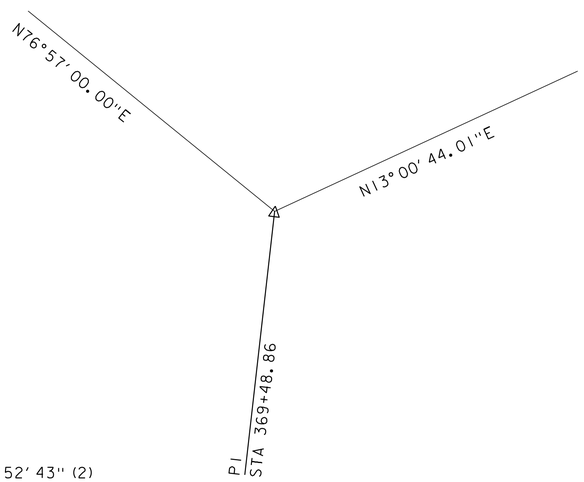
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336alingbdr.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
ALIGNMENT LAYOUT 1

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 58 OF 110





MAINLINE CURVE DATA
CURVE (1)
DELTA = 63°56'16"
D = 11°01'06" (1) D = 9°52'43" (2)
R = 520.00' (1) R = 580.00' (2)
T = 335.52' (1) T = 352.67' (2)
L = 277.93' (1) L = 337.23' (2)
E = 98.85'

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

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BF 0134(45)	
FILE NAME: sl3d336alingbdr.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
ALIGNMENT LAYOUT 2	SHEET 59 OF 110

SOIL INFORMATION:
WINDSOR LOAMY FINE SAND
HIGHLY ERODIBLE
K-FACTOR = 0.17, 25%-60% SLOPES
HYDROLOGICAL SOIL GROUP: A

SOIL INFORMATION:
URBAN LAND-WINDSOR-AGAWAM COMPLEX
NOT HIGHLY ERODIBLE
K-FACTOR = 0.17/0.28, 0%-8% SLOPES
HYDROLOGICAL SOIL GROUP: UNRATED

SOIL INFORMATION:
BUCKLAND LOAM, VERY STONY
HIGHLY ERODIBLE
K-FACTOR = 0.43, 35%-60% SLOPES
HYDROLOGICAL SOIL GROUP: C

EXISTING 152' CGMPPA
BUILT 1961
SPAN 14'-3", RISE 8'-11"
AVERAGE COVER 3'
WATERWAY AREA = 101 SF

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

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336exist.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
EXISTING CONDITIONS

PLOT DATE: 11-AUG-2020
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN

REMOVING AND RESETTING CURB
STA 362+50.0 - 364+75.7 RT
STA 365+02.3 - 366+75.0 RT

CAST-IN-PLACE CONCRETE CURB, TYPE A
STA 364+75.7 - 365+02.3 RT

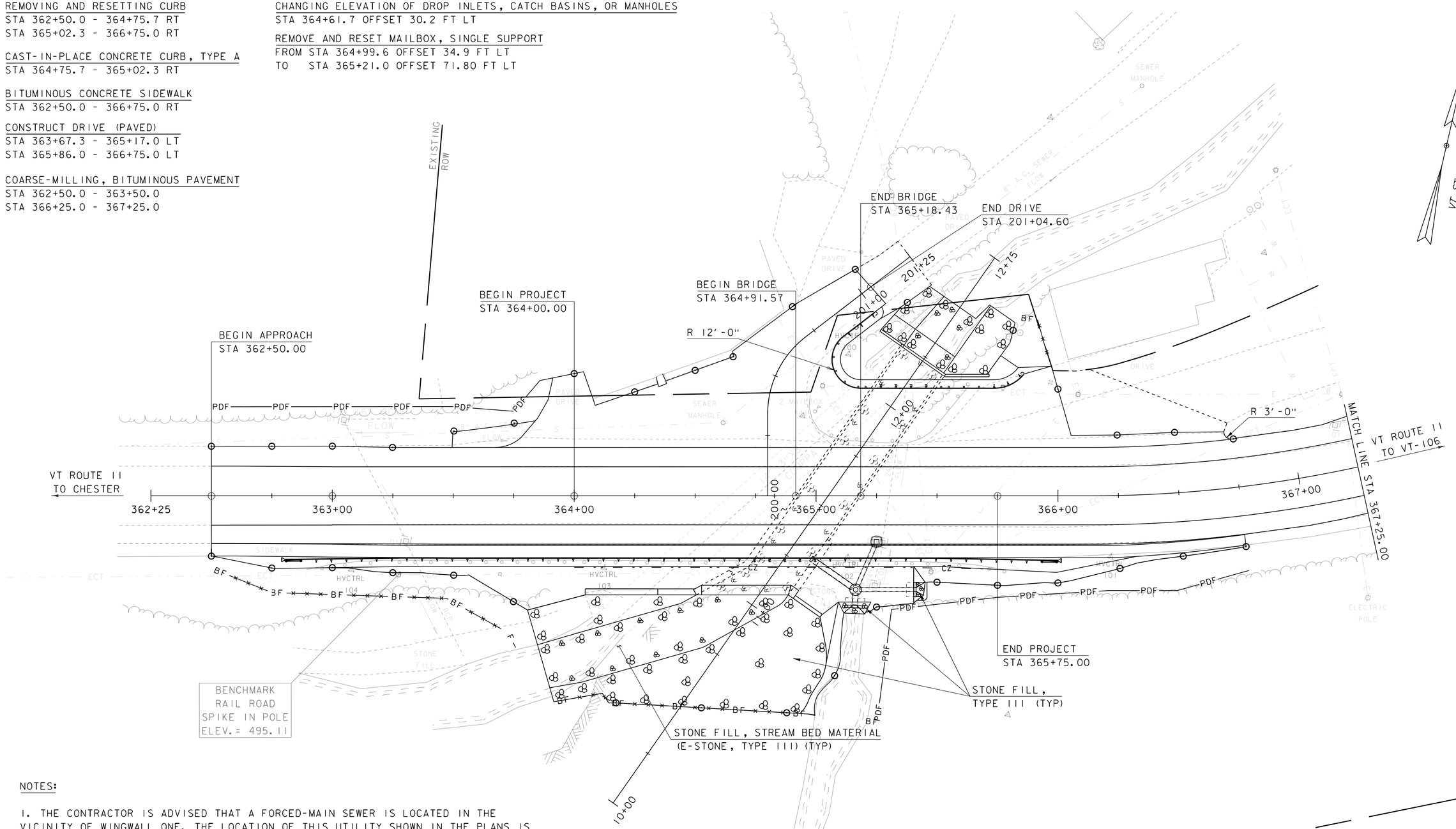
BITUMINOUS CONCRETE SIDEWALK
STA 362+50.0 - 366+75.0 RT

CONSTRUCT DRIVE (PAVED)
STA 363+67.3 - 365+17.0 LT
STA 365+86.0 - 366+75.0 LT

COARSE-MILLING, BITUMINOUS PAVEMENT
STA 362+50.0 - 363+50.0
STA 366+25.0 - 367+25.0

CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES
STA 364+61.7 OFFSET 30.2 FT LT

REMOVE AND RESET MAILBOX, SINGLE SUPPORT
FROM STA 364+99.6 OFFSET 34.9 FT LT
TO STA 365+21.0 OFFSET 71.80 FT LT



NOTES:

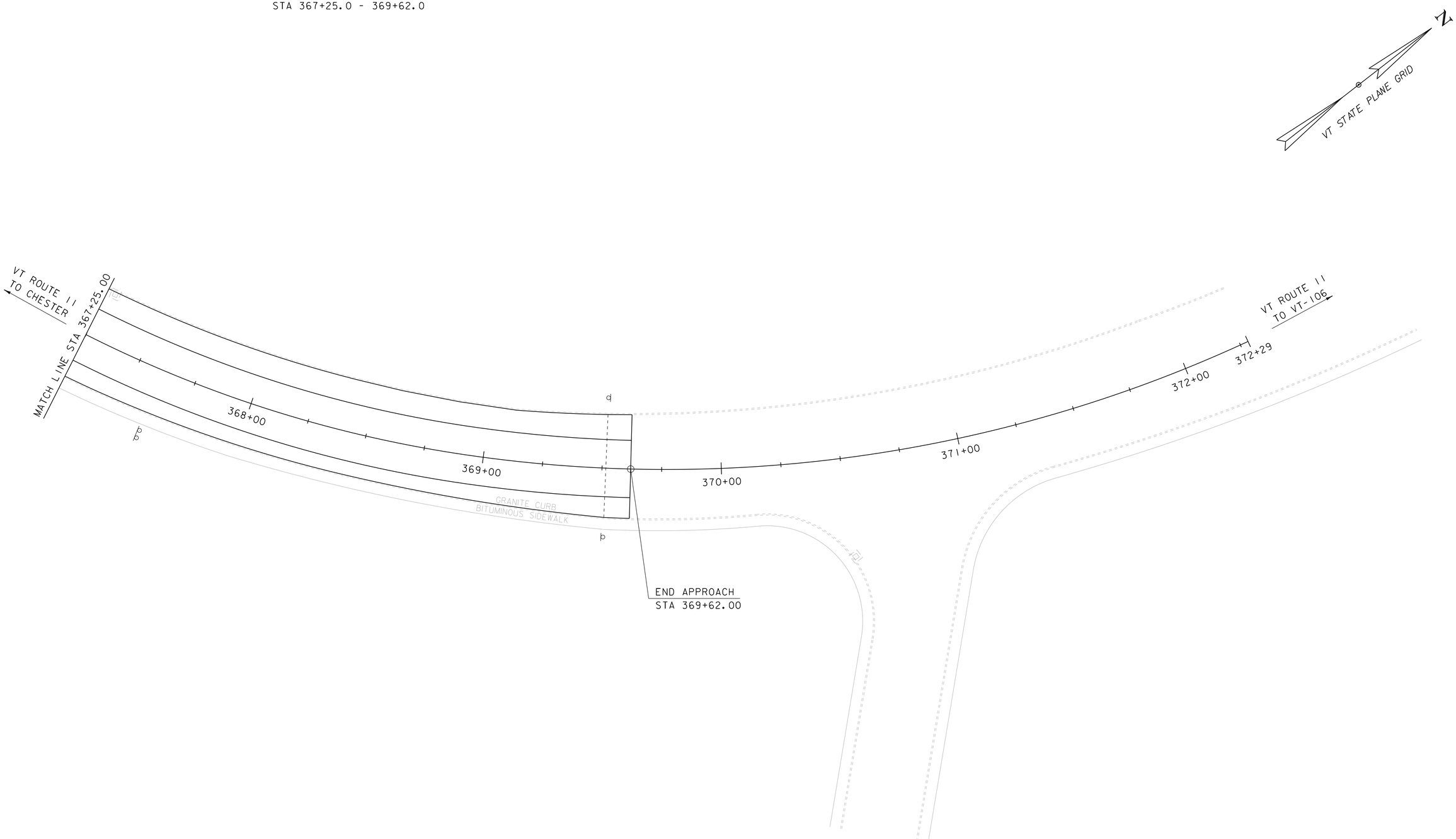
1. THE CONTRACTOR IS ADVISED THAT A FORCED-MAIN SEWER IS LOCATED IN THE VICINITY OF WINGWALL ONE. THE LOCATION OF THIS UTILITY SHOWN IN THE PLANS IS APPROXIMATE. WHEN WORK IS PERFORMED IN THIS AREA, THE CONTRACTOR IS REQUIRED TO LOCATE AND PROTECT THE SEWER FOR THE DURATION OF THE WORK. PAYMENT FOR LOCATING AND PROTECTING THIS, OR ANY OTHER, UTILITY WILL BE PAID UNDER TRENCH EXCAVATION OF EARTH, EXPLORATORY.

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

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: s13d336bdr.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
LAYOUT SHEET 1
PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 61 OF 110

COARSE-MILLING, BITUMINOUS PAVEMENT
STA 367+25.0 - 369+62.0



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

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336alingbdr.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
LAYOUT SHEET 2	SHEET 62 OF 110

VT-11

4 INCH WHITE LINE

STA 362+50.00 - 367+25.00 RT

STA 362+50.00 - 365+14.50 LT

STA 365+14.50 (12.0 FT LT) -
365+42.00 (16.30 FT LT)

STA 365+42.00 (16.30 FT LT -
366+10.00 (37.00 FT LT)

STA 366+67.50 (32.67 FT LT -
367+25.00 (65.00 FT LT)

4 INCH YELLOW LINE (DOUBLE CENTERLINE)

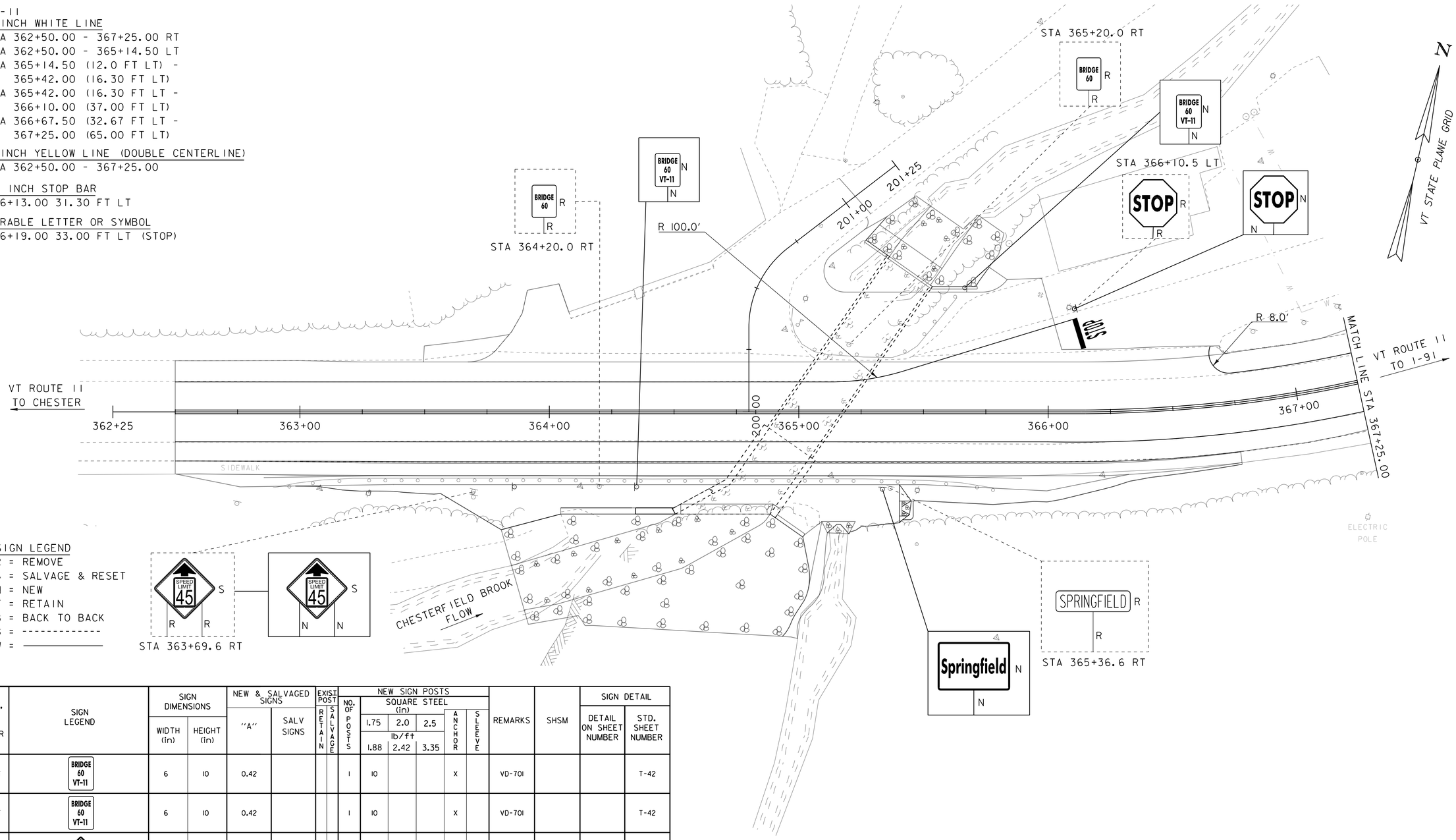
STA 362+50.00 - 367+25.00

24 INCH STOP BAR

366+13.00 31.30 FT LT

DURABLE LETTER OR SYMBOL

366+19.00 33.00 FT LT (STOP)



SIGN LEGEND

R = REMOVE
S = SALVAGE & RESET
N = NEW
RET = RETAIN
B-B = BACK TO BACK
EXISTING = ----------
NEW = ——————

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS WIDTH (in)	SIGN DIMENSIONS HEIGHT (in)	NEW & SALVAGED SIGNS "A"	NEW & SALVAGED SIGNS SALV SIGNS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	NEW SIGN POSTS SQUARE STEEL (in) 1.75 lb/ft 1.88	2.0 lb/ft 2.42	2.5 lb/ft 3.35	ANCHOR	SLEEVE	REMARKS	SHSM	SIGN DETAIL DETAIL ON SHEET NUMBER	SIGN DETAIL STD. SHEET NUMBER
364+35.0 RT	BRIDGE 60 VT-11	6	10	0.42				1	10			X		VD-701			T-42
365+66.5 LT	BRIDGE 60 VT-11	6	10	0.42				1	10			X		VD-701			T-42
363+69.6 RT	SPEED LIMIT 45				X			2		30		X		W3-5			
365+33.6 RT	Springfield	36	24	6.00				1		10		X		VD-018			T-95
366+10.5 LT	STOP	30	30	6.25				1		15		X		RI-1			
									FT 20	FT 55	FT		EA				
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."	TOTALS			SF 13.09	EACH 1				FT 75					SHSM = STANDARD HIGHWAY SIGNS (MUTCD)			

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

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

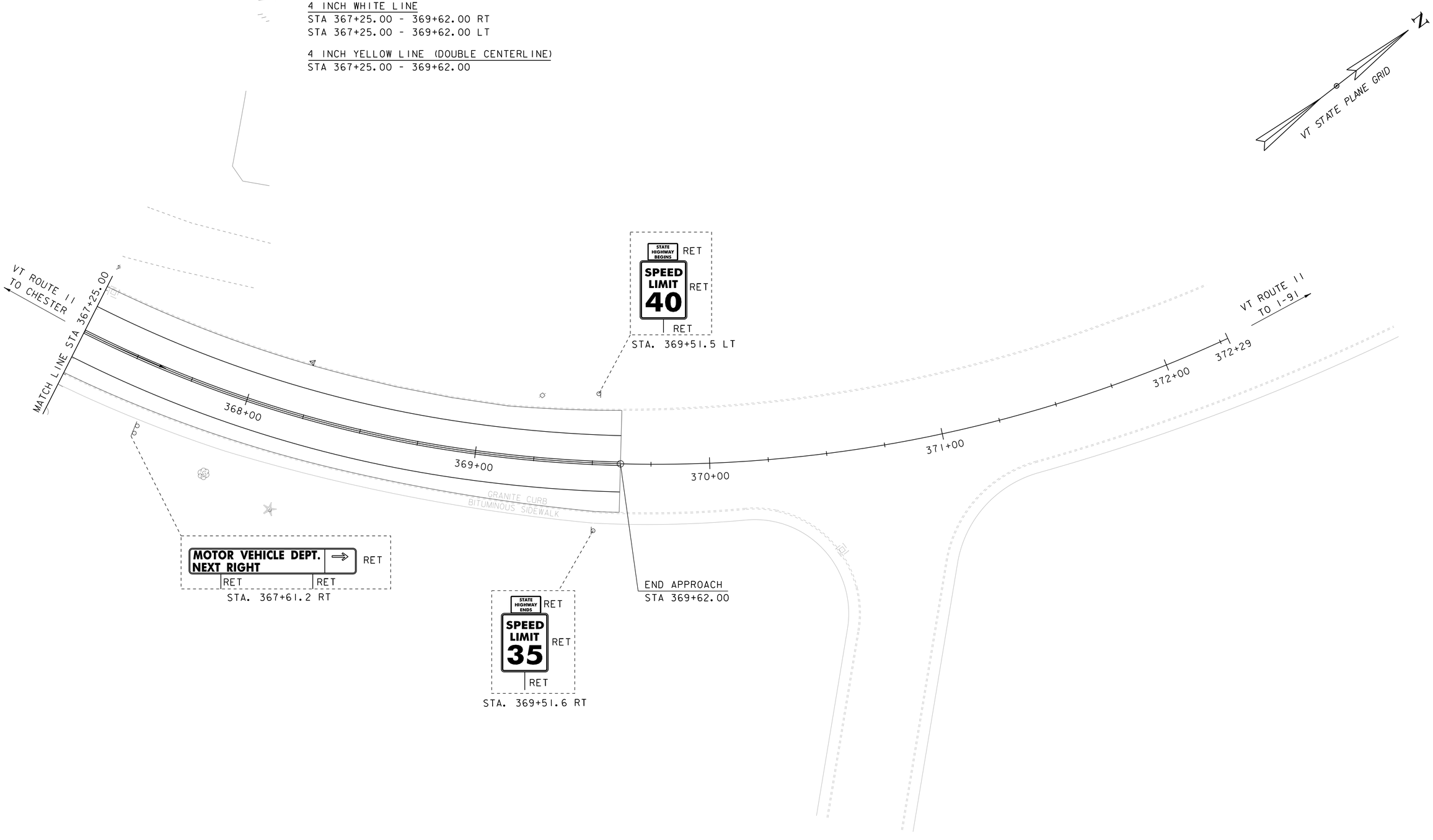
FILE NAME: sl3d336sign.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
SIGN AND PAVEMENT MARKINGS SHEET 1

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 63 OF 110

VT-11

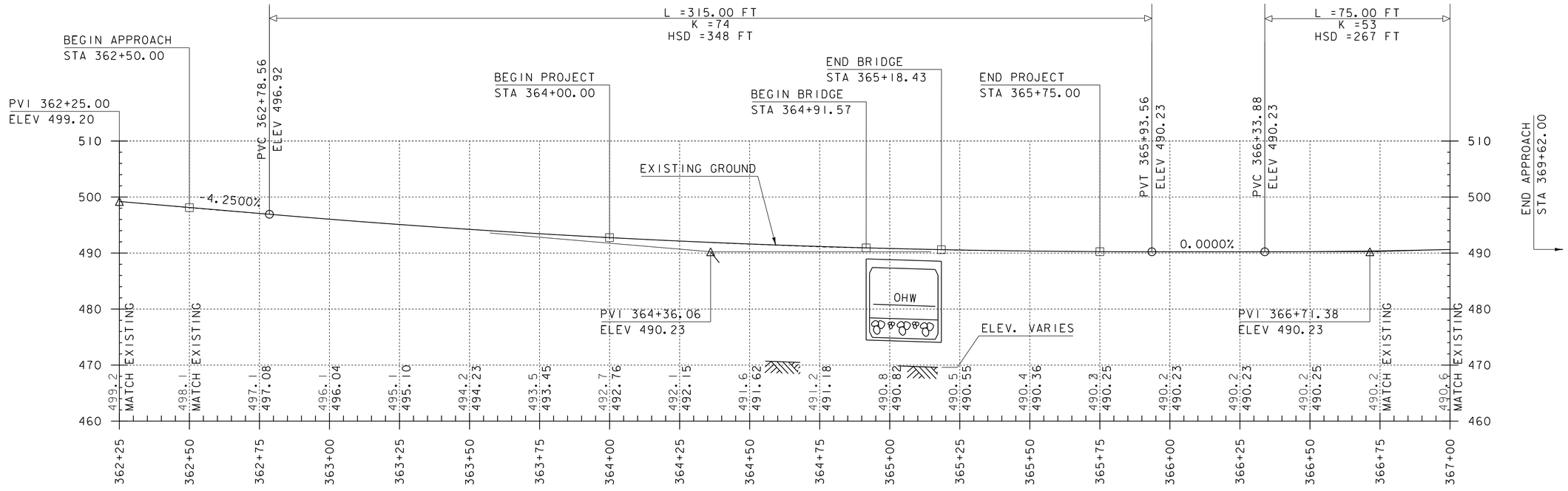
4 INCH WHITE LINE
STA 367+25.00 - 369+62.00 RT
STA 367+25.00 - 369+62.00 LT

4 INCH YELLOW LINE (DOUBLE CENTERLINE)
STA 367+25.00 - 369+62.00



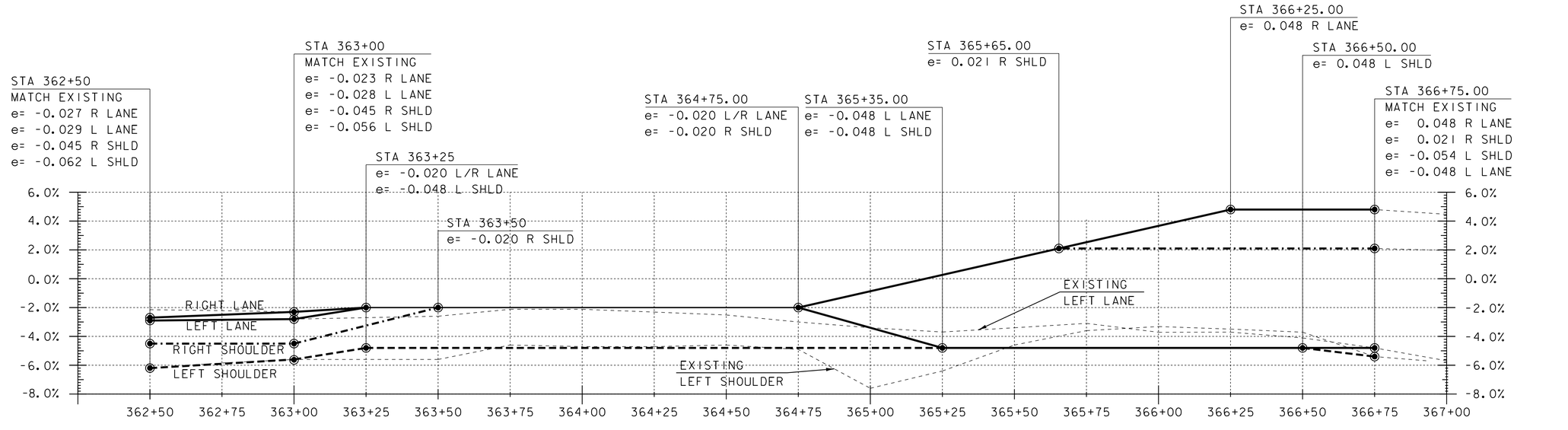
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BF 0134(45)	
FILE NAME: sl3d336alingbdr.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
SIGN AND PAVEMENT MARKINGS SHEET 2	SHEET 64 OF 110



MAINLINE PROFILE

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



BANKING DIAGRAM

SCALE: HORIZONTAL 1"=20'-0"
VERTICAL 1"=2%

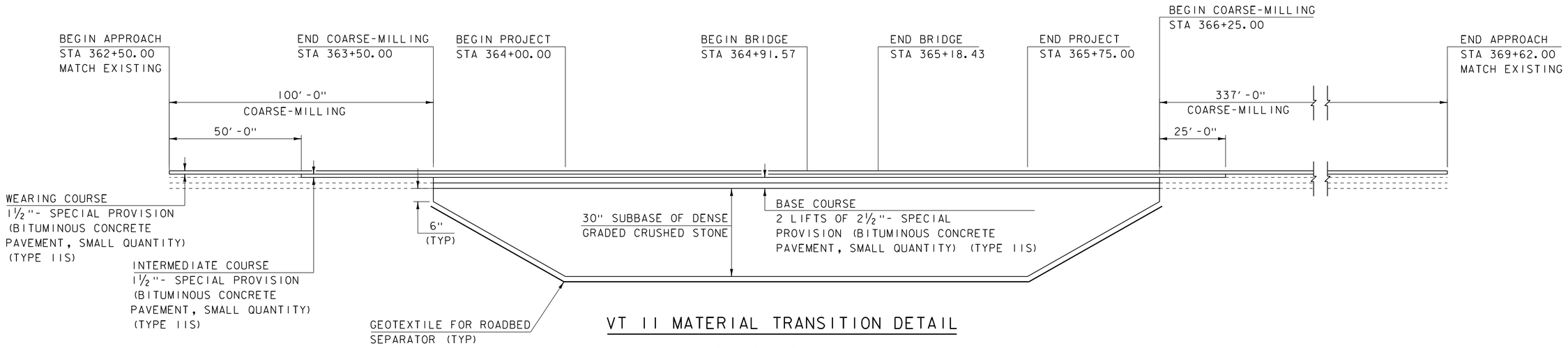
THE GRADES SHOWN TO THE TENTH ARE THE EXISTING GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT.

THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE FINISH GRADES ALONG PROPOSED ALIGNMENT.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

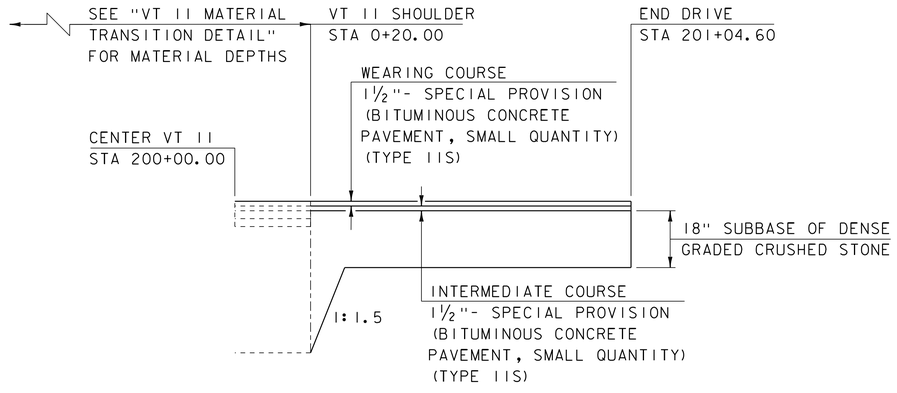
FILE NAME: sl0c216pro.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
VT 11 PROFILE & BANKING DIAGRAM

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 65 OF 110



VT II MATERIAL TRANSITION DETAIL

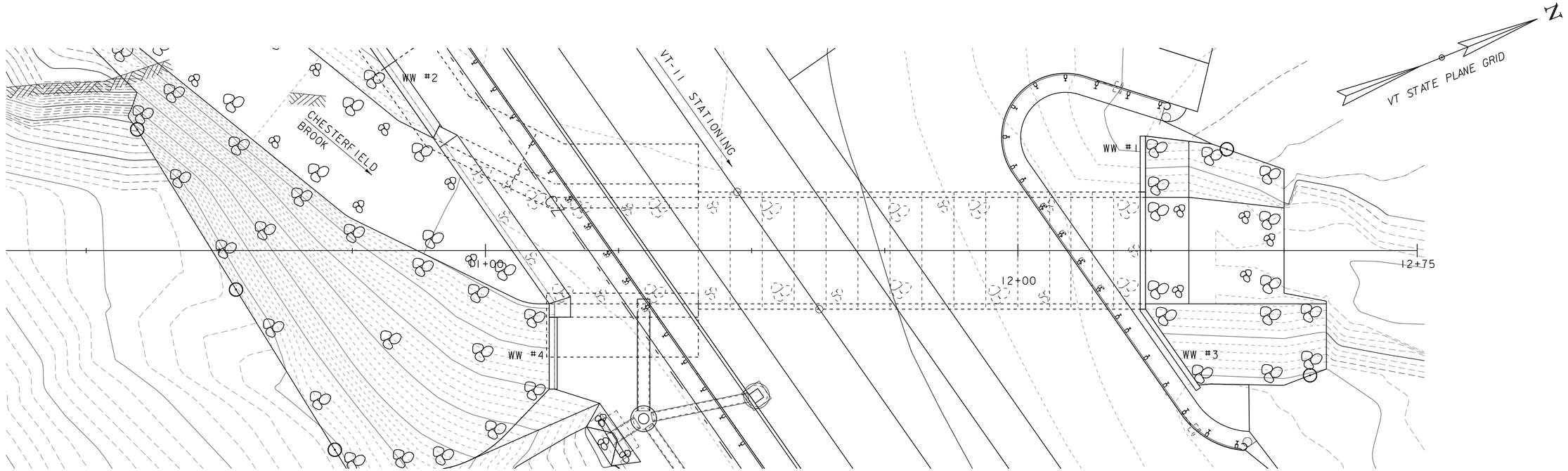
SCALE: HORIZONTAL 1"=20'-0"
VERTICAL NTS



DRIVE MATERIAL TRANSITION DETAIL

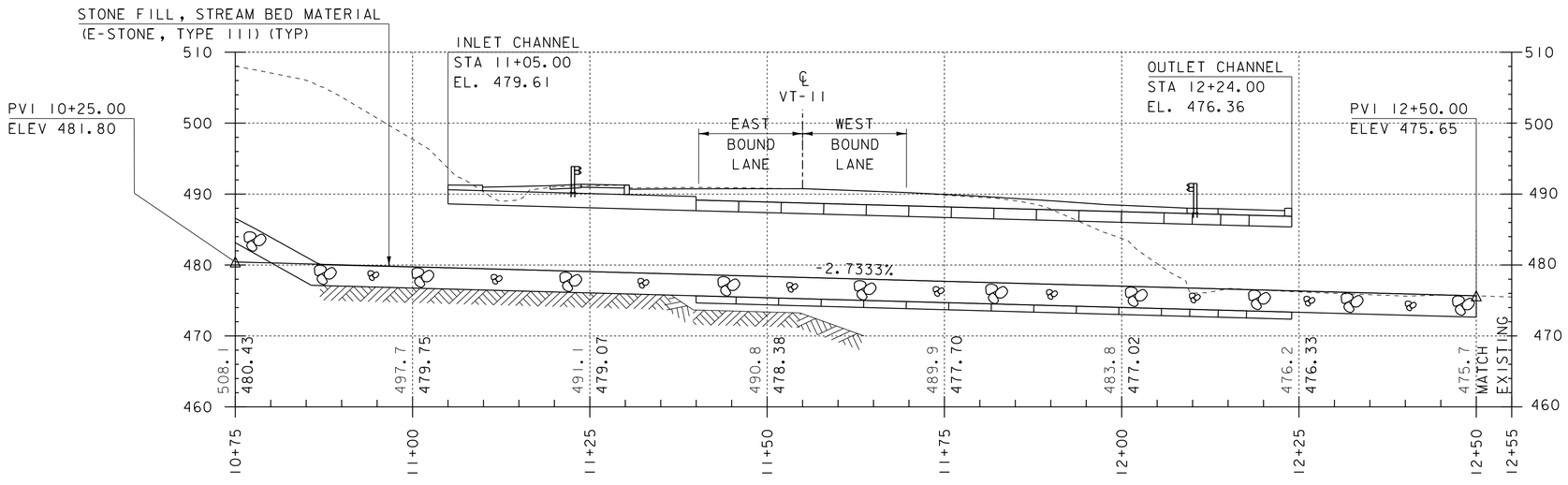
SCALE: HORIZONTAL 1"=20'-0"
VERTICAL NTS

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336pro.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
MATERIAL TRANSITION	SHEET 66 OF 110



STRUCTURE PLAN

SCALE 1" = 10'-0"



STRUCTURE CHANNEL PROFILE

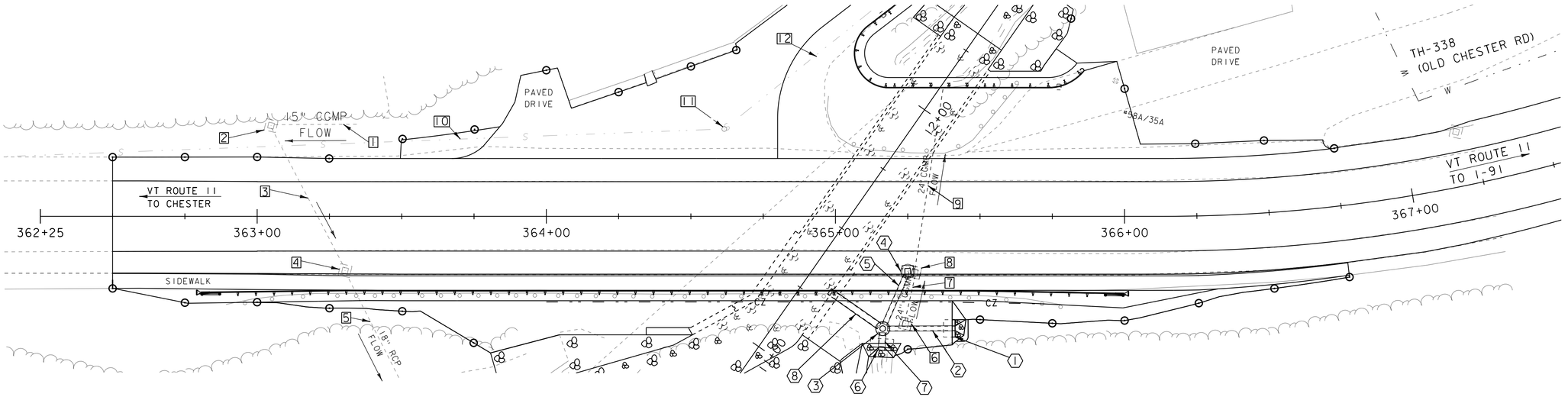
SCALE 1" = 10'-0"

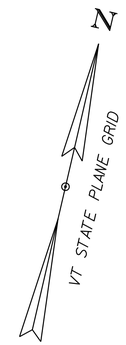
NOTE:

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

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

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336pro.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
PLAN AND STRUCTURE PROFILE	SHEET 67 OF 110





DRAINAGE LAYOUT

SCALE 1" = 20'-0"

[1] STA 363+05.84 LT - 363+34.43 LT
EXISTING 15" CGMP (RETAIN)

[2] STA 363+04.80 LT
EXISTING DI (RETAIN)

[3] STA 363+05.00 LT - 363+30.25 RT
EXISTING 18" RCP (RETAIN)

[4] STA 363+30.40 RT
EXISTING DI (RETAIN AND AJUST GRATE ELEV.)

[5] STA 363+30.61 RT - 363+54.25 RT
EXISTING 18" RCP (RETAIN)

[6] STA 365+24.25 RT
EXISTING DI (REMOVE)

[7] STA 365+24.02 RT - 365+27.65 RT
EXISTING 24" CGMP (REMOVE)

[8] STA 365+27.42 RT
EXISTING DI (REMOVE)

[9] STA 365+27.48 RT - 365+37.36 LT
EXISTING 24" CGMP (REMOVE)

[10] RETAIN 8" A.C. SEWER
SEE UTILITY LAYOUT SHEET

[11] RETAIN SEWER MANHOLE
SEE UTILITY LAYOUT SHEET

[12] RETAIN 8" A.C. SEWER
SEE UTILITY LAYOUT SHEET

⟨1⟩ NEW HEADWALL
STA 365+40.75 OFFSET 38.75' RT
SEE STANDARD "D-33" REINFORCED CONCRETE
STRAIGHT HEADWALL, USE TABLE FOR 18" PIPE.

⟨2⟩ NEW 18 INCH PIPE
FROM STA 365+17.80 OFFSET 38.75 RT
TO STA 365+41.35 OFFSET 38.75 RT

⟨3⟩ NEW 48 INCH DIA. PRECAST REINFORCED
CONCRETE MANHOLE WITH CAST IRON COVER
STA 365+16.35 OFFSET 38.75' RT

⟨4⟩ NEW 48 INCH DIA. PRECAST REINFORCED
CONCRETE CATCH BASIN WITH CAST IRON
GRATE, TYPE D
STA 365+25.00 OFFSET 19.00' RT

⟨5⟩ NEW 18 INCH PIPE
FROM STA 365+17.00 OFFSET 37.40 RT
TO STA 365+25.00 OFFSET 20.00 RT

⟨6⟩ NEW HEADWALL
STA 365+16.00 OFFSET 46.30' RT
SEE STANDARD "D-33" REINFORCED CONCRETE
STRAIGHT HEADWALL, USE TABLE FOR 24" PIPE.

⟨7⟩ NEW 24 INCH PIPE
FROM STA 365+16.00 OFFSET 46.30 RT
TO STA 365+16.40 OFFSET 40.20 RT

⟨8⟩ NEW 24 INCH PIPE
FROM STA 364+98.00 OFFSET 25.93 RT
TO STA 365+15.00 OFFSET 37.97 RT

NOTES:

1. ELEVATION AND LOCATION OF THE EXISTING DRAINAGE SYSTEM IS APPROXIMATE.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF THE EXISTING DRAINAGE AND MAKING ANY CORRECTIONS AS NECESSARY.

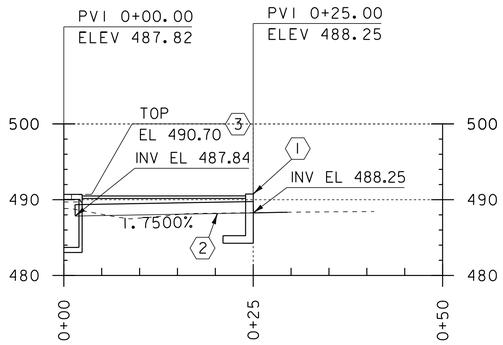
3. SEE "DRIVE AND DRAINAGE PROFILE" SHEET FOR PIPE DRAINAGE PROFILES.

4. FOR INFORMATION ON SEWER PIPES [10], [12] AND MANHOLE [11] SEE "UTILITIES LAYOUT SHEET"

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

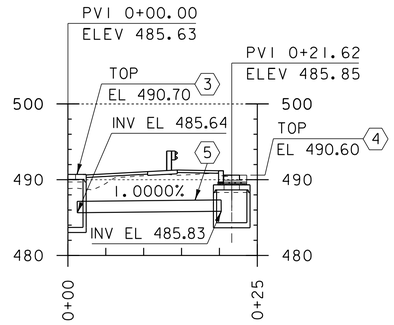
FILE NAME: sl3d336drain.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
DRAINAGE LAYOUT

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 68 OF 110



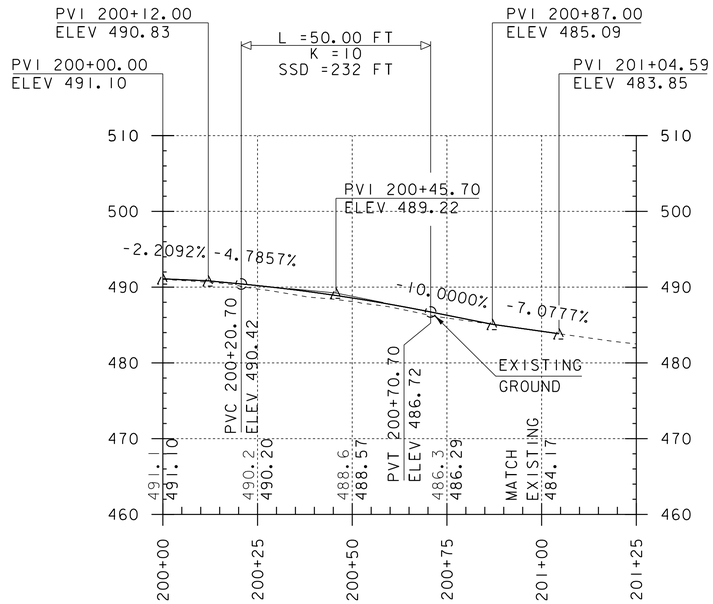
PIPE 2 PROFILE

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



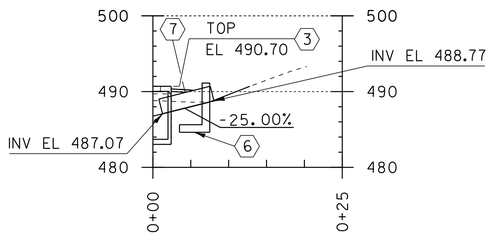
PIPE 5 PROFILE

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



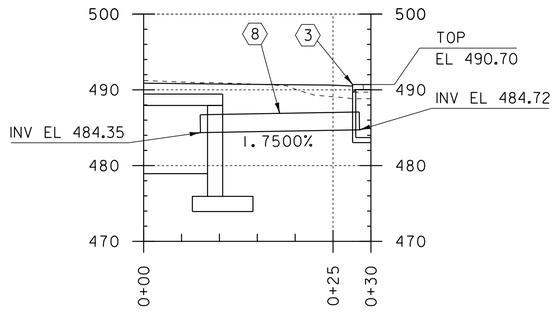
DRIVEWAY PROFILE

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



PIPE 7 PROFILE

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



PIPE 8 PROFILE

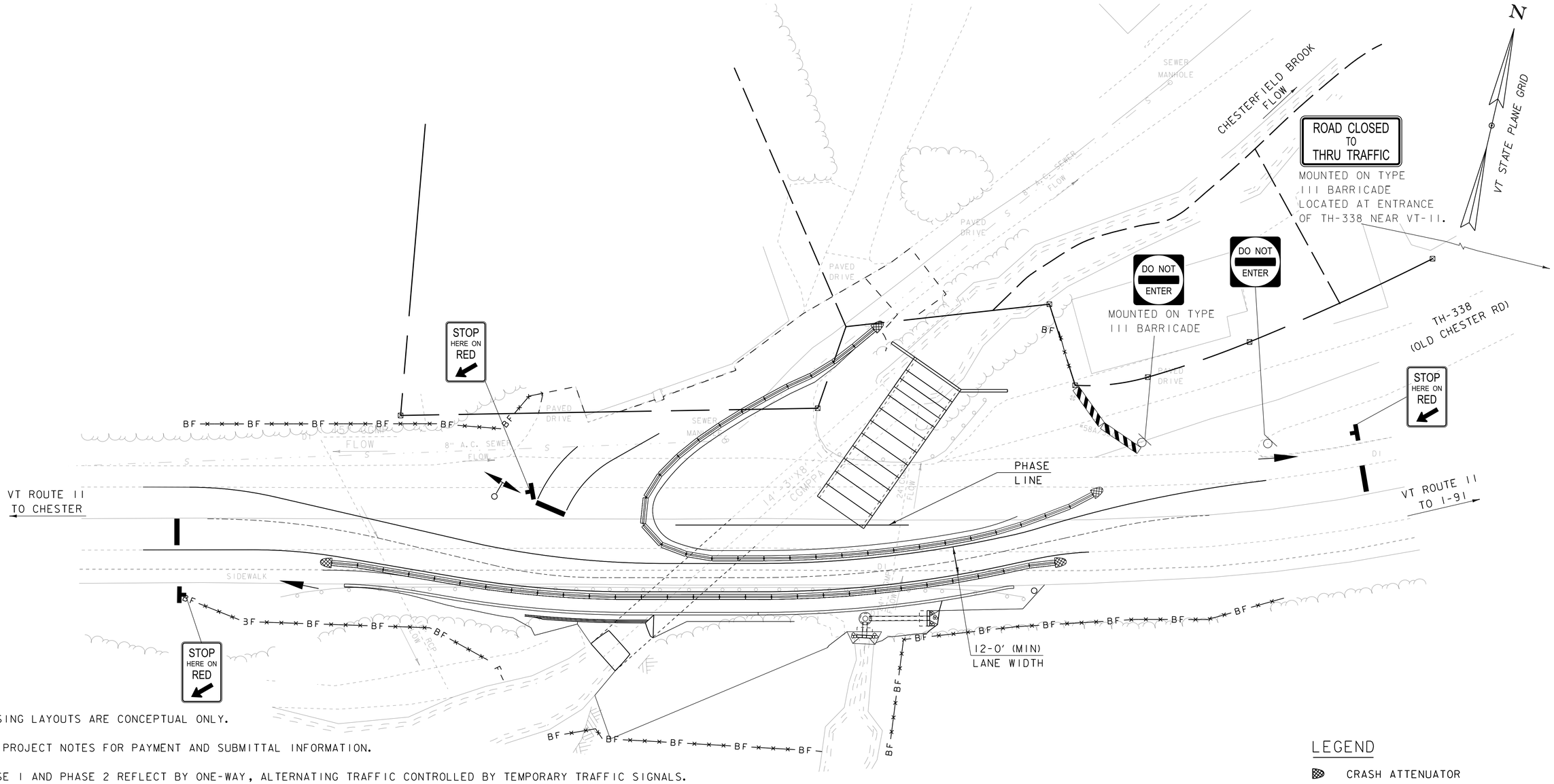
SCALE: HORIZONTAL 1"=10'-0"
VERTICAL 1"=10'-0"

NOTE:

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

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

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BF 0134(45)	
FILE NAME: sl3d336pro.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
DRIVE AND DRAINAGE PROFILE	SHEET 69 OF 110



NOTES

1. PHASING LAYOUTS ARE CONCEPTUAL ONLY.
2. SEE PROJECT NOTES FOR PAYMENT AND SUBMITTAL INFORMATION.
3. PHASE 1 AND PHASE 2 REFLECT BY ONE-WAY, ALTERNATING TRAFFIC CONTROLLED BY TEMPORARY TRAFFIC SIGNALS. PLACE DRIVEWAY ASSISTED DEVICES (DADS) AT EACH DRIVEWAY WITHIN THE PROJECT SIGNALIZED AREA.
4. THE CONTRACTOR IS ADVISED THAT A MEANS OF SUPPORTING THE TEMORARY ROADWAY FILL IS LIKELY.
5. CONCRETE BARRIER ENDS EXPOSED TO TRAFFIC SHALL BE PROTECTED(ATTENUATED) OR EXTENDED OUTSIDE THE CLEAR ZONE.
6. CONCRETE BARRIER SIDE EXPOSED TO TRAFFIC SHALL BE DELINEATED TO MATCH THE CORRESPONDING TEMPORARY PAVEMENT MARKING. REFLECTORS SHALL BE MOUNTED EVERY 20 FEET ALONG THE SIDE OFTHE BARRIER EXPOSED TO TRAFFIC.
7. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES THAT ACCESS VT-11 WITHIN THE PROJECT LIMITS AT ALL TIMES, FOR ALL PHASES OF CONSTRUCTION. IF ACCESS CANNOT BE MAINTAINED FOR SHORT PERIODS OF TIME, THE CONTRACTOR SHALL COORDINATE ACCESS WITH THE PROPERTY OWNER AND OBTAIN APPROVAL OF THE ENGINEER.
8. SEE SPECIAL PROVISON - TRAFFIC CONTROL AND TEMPORARY ROADWAY, ALL-INCLUSIVE FOR SUBBASE AND PAVEMENT REQUIREMENTS.
9. BICYCLE ACCOMMODATIONS SHOULD BE TAKEN TO ENSURE THAT OBSTACLES, EQUIPMENT, CONSTRUCTION MATERIALS, TRAFFIC CONTROL DEVICES, ETC.DO NOT ENCROACH INTO THE BICYCLE PATH OF TRAVEL.IT IS IMPORTANT THAT CYCLIST'S ROUTES ARE FREE OF RUTS, SAND AND MUD TO PREVENT CYCLIST'S CRASHES.

LEGEND

- CRASH ATTENUATOR
- TEMPORARY STOP BAR
- CONSTRUCTION SIGN
- CONCRETE BARRICADE
- TRAFFIC SIGNAL
- DRIVEWAY ASSIST DEVICE
- TYPE III BARRICADE

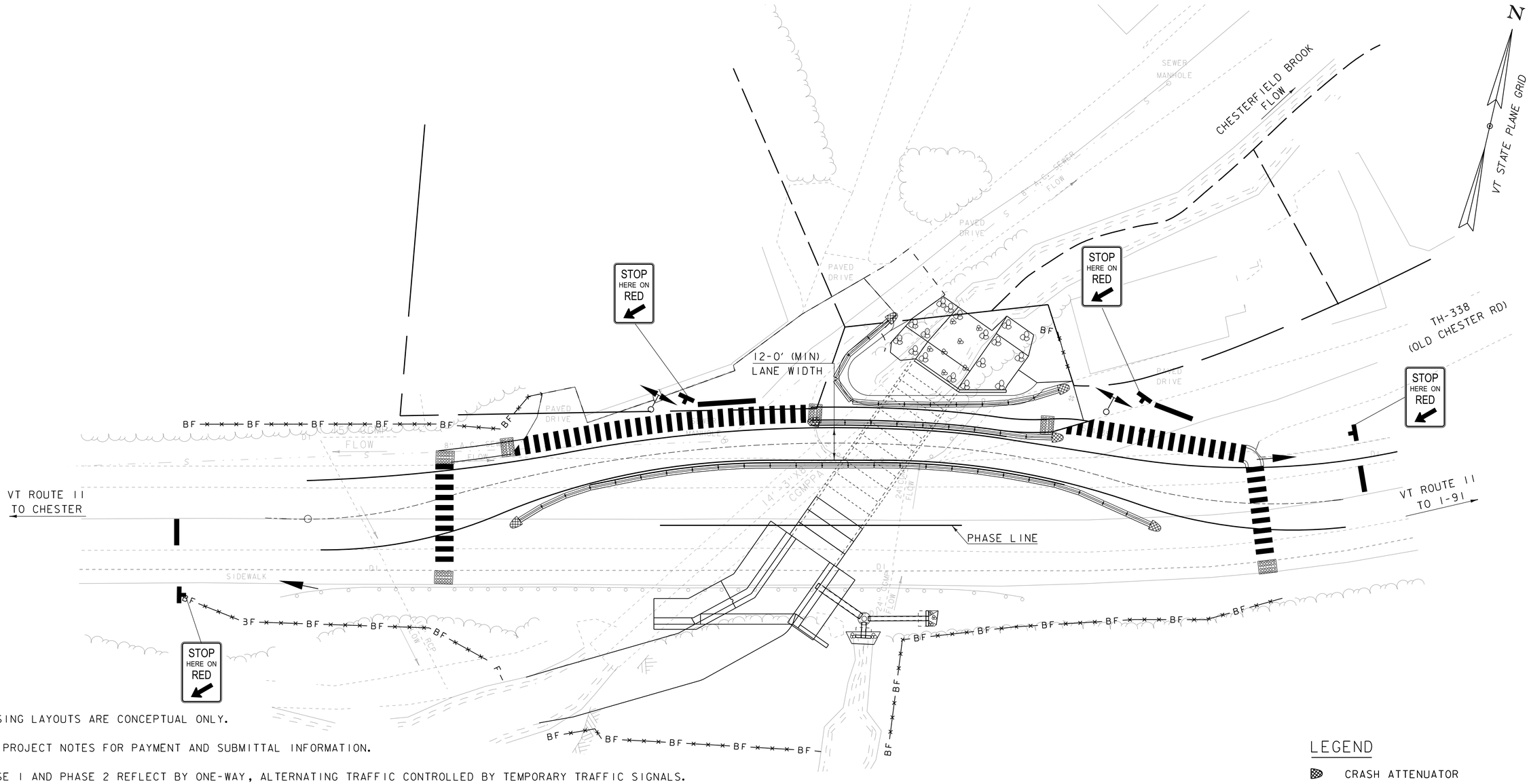
PHASE I LAYOUT

NOT TO SCALE

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336phase.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
PHASE I LAYOUT

PLOT DATE: 12-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 70 OF 110



NOTES

1. PHASING LAYOUTS ARE CONCEPTUAL ONLY.

2. SEE PROJECT NOTES FOR PAYMENT AND SUBMITTAL INFORMATION.

3. PHASE 1 AND PHASE 2 REFLECT BY ONE-WAY, ALTERNATING TRAFFIC CONTROLLED BY TEMPORARY TRAFFIC SIGNALS. PLACE DRIVEWAY ASSISTED DEVICES (DADS) AT EACH DRIVEWAY WITHIN THE PROJECT SIGNALIZED AREA.

4. THE CONTRACTOR IS ADVISED THAT A MEANS OF SUPPORTING THE TEMORARY ROADWAY FILL IS LIKELY.

5. CONCRETE BARRIER ENDS EXPOSED TO TRAFFIC SHALL BE PROTECTED (ATTENUATED) OR EXTENDED OUTSIDE THE CLEAR ZONE.

6. CONCRETE BARRIER SIDE EXPOSED TO TRAFFIC SHALL BE DELINEATED TO MATCH THE CORRESPONDING TEMPORARY PAVEMENT MARKING. REFLECTORS SHALL BE MOUNTED EVERY 20 FEET ALONG THE SIDE OFTHE BARRIER EXPOSED TO TRAFFIC.

7. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES THAT ACCESS VT-11 WITHIN THE PROJECT LIMITS AT ALL TIMES, FOR ALL PHASES OF CONSTRUCTION. IF ACCESS CANNOT BE MAINTAINED FOR SHORT PERIODS OF TIME, THE CONTRACTOR SHALL COORDINATE ACCESS WITH THE PROPERTY OWNER AND OBTAIN APPROVAL OF THE ENGINEER.

8. SEE SPECIAL PROVISON - TRAFFIC CONTROL AND TEMPORARY ROADWAY, ALL-INCLUSIVE FOR SUBBASE AND PAVEMENT REQUIREMENTS.

9. BICYCLE ACCOMMODATIONS SHOULD BE TAKEN TO ENSURE THAT OBSTACLES, EQUIPMENT, CONSTRUCTION MATERIALS, TRAFFIC CONTROL DEVICES, ETC. DO NOT ENCROACH INTO THE BICYCLE PATH OF TRAVEL. IT IS IMPORTANT THAT CYCLIST'S ROUTES ARE FREE OF RUTS, SAND AND MUD TO PREVENT CYCLIST'S CRASHES.

LEGEND

- CRASH ATTENUATOR
- TEMPORARY STOP BAR
- CONSTRUCTION SIGN
- CONCRETE BARRICADE
- TRAFFIC SIGNAL
- DRIVEWAY ASSIST DEVICE

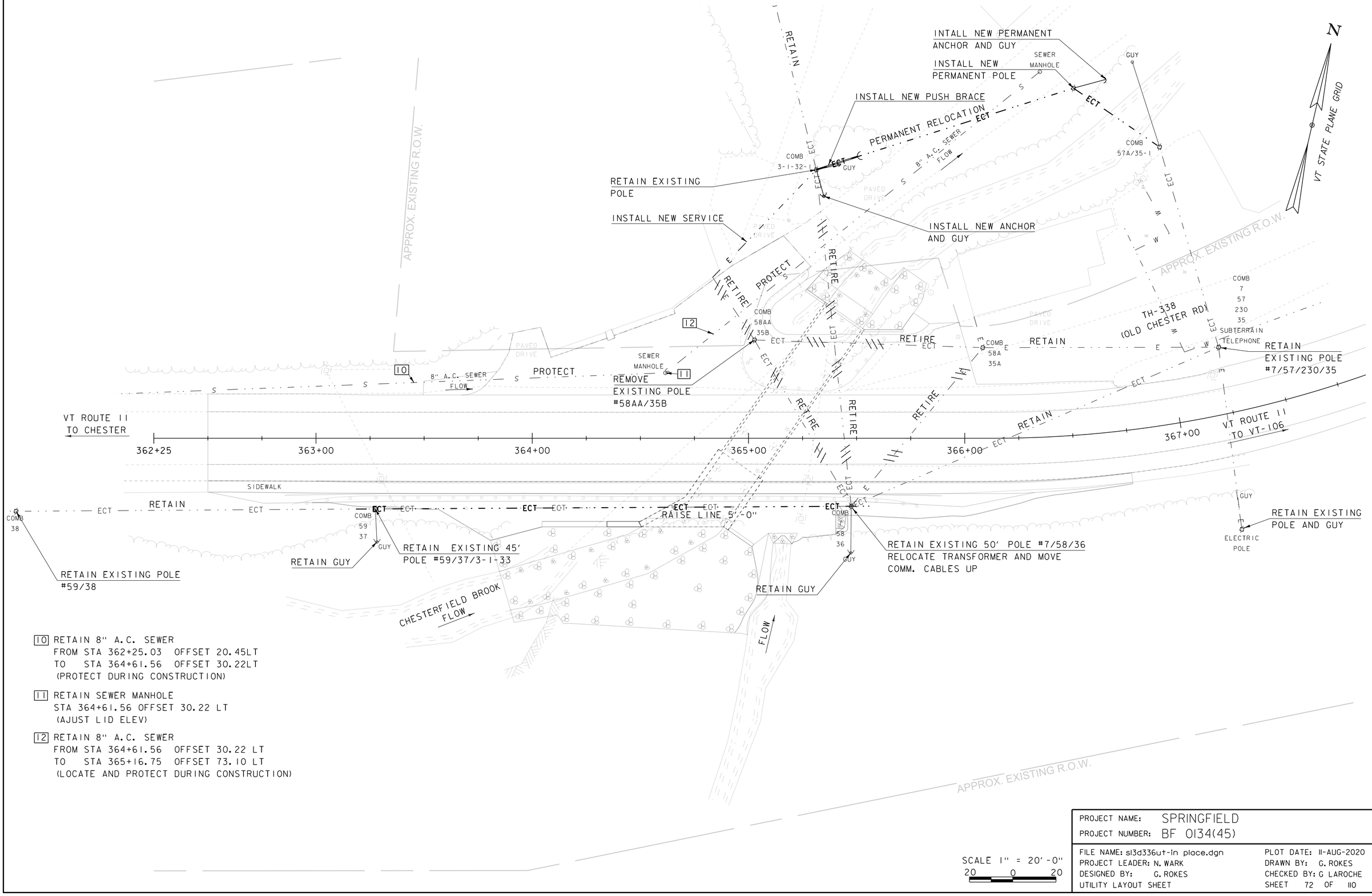
PHASE 2 LAYOUT

NOT TO SCALE

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: s13d336phase.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
PHASE 2 LAYOUT

PLOT DATE: 12-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE



10 RETAIN 8" A.C. SEWER
FROM STA 362+25.03 OFFSET 20.45LT
TO STA 364+61.56 OFFSET 30.22LT
(PROTECT DURING CONSTRUCTION)

11 RETAIN SEWER MANHOLE
STA 364+61.56 OFFSET 30.22 LT
(AJUST LID ELEV)

12 RETAIN 8" A.C. SEWER
FROM STA 364+61.56 OFFSET 30.22 LT
TO STA 365+16.75 OFFSET 73.10 LT
(LOCATE AND PROTECT DURING CONSTRUCTION)

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

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336ut-in place.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
UTILITY LAYOUT SHEET	SHEET 72 OF 110

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		

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.

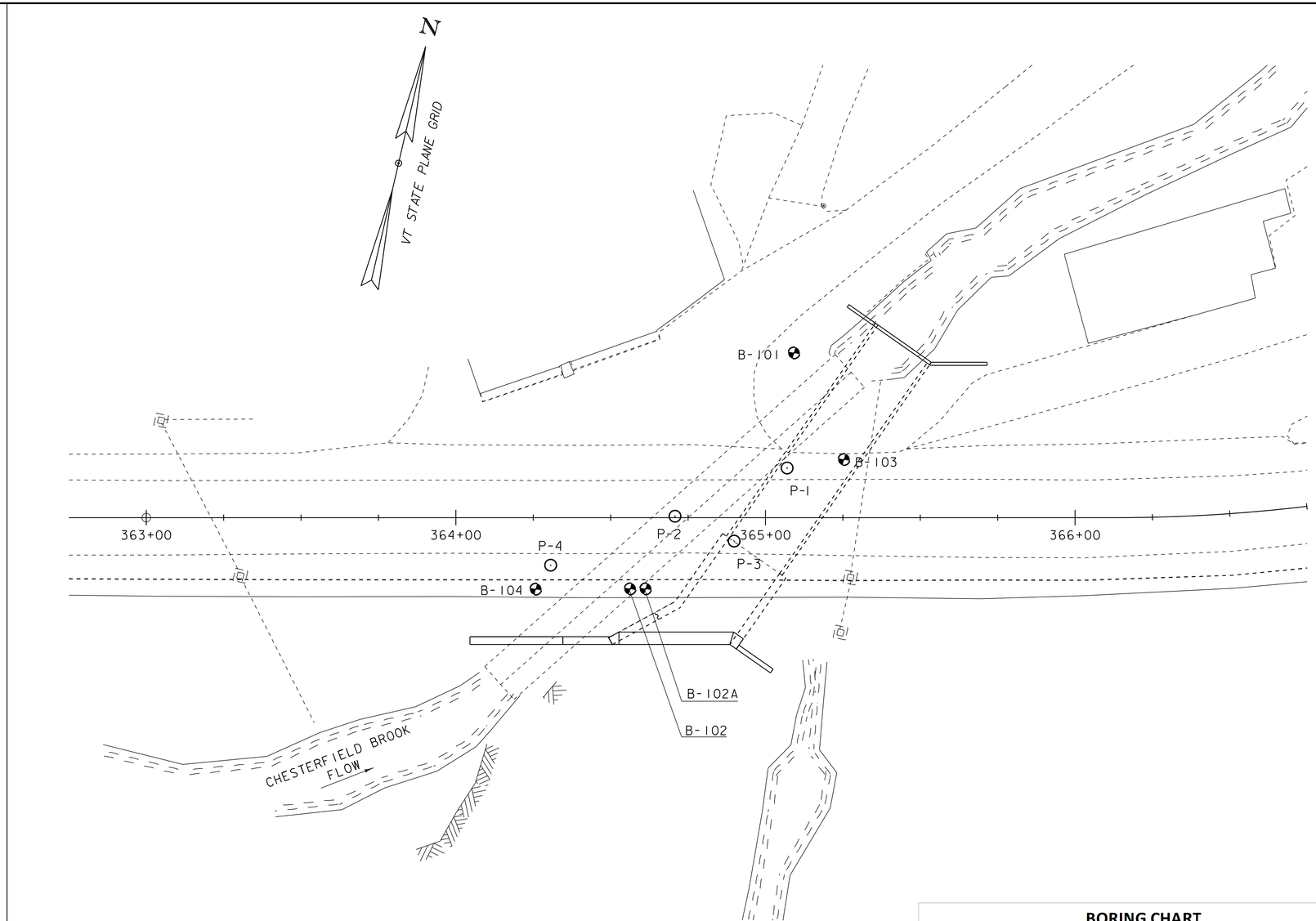
MUCK - Soft organic soil (containing > 10% organic material.

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.



BORING LAYOUT

SCALE 1" = 20'-0"

20 0 20

GENERAL NOTES

1. The subsurface explorations shown herein were made between 7/28/2016 and 8/2/2016 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.

BORING CHART

HOLE NO.	STATION	OFFSET	NORTHING	EASTING	EL. LOBR
B101	365+09.21	53.22 LT	291257.36	1641364.34	464.5
B102	364+56.28	23.01	291171.15	1641329.99	N/A
B102A	364+61.28	23.01	291172.28	1641334.86	478.6
B103	365+25.35	18.78 LT	291227.45	1641387.84	458
B104	364+25.79	23.1	291164.18	1641300.31	475.4
P1	365+07.00	16.04 LT	291220.64	1641370.58	477.3
P2	364+70.78	0.47 LT	291197.29	1641338.81	470.3
P3	364+89.89	7.57	291193.78	1641359.24	478.9
P4	364+30.62	15.35	291172.81	1641303.26	477.8

PROJECT NAME: SPRINGFIELD

PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336bor.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
BORING INFORMATION

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 73 OF 110

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

BORING LOG

Springfield
BF 0134(45)
VT 11 Culv. 60

Boring No.: **B-101**
Page No.: 1 of 1
Pin No.: 13d336
Checked By: END

Boring Crew: Emerson, Judkins, Gomes
Date Started: 7/28/16 Date Finished: 7/29/16
VTSPG NAD83: N 291257.36 ft E 1641364.34 ft
Station: 365+09 Offset: -52.96
Ground Elevation: 485.4 ft

	Casing	Sampler
Type:	WB	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 <<SUB>><<SUB>> = 1.42	

Groundwater Observations

Date	Depth (ft)	Notes
07/29/16	8.6	W.T. before drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-1-b, GrSa, brn, Moist, Rec. = 0.9 ft				2-4-3-2 (7)	10.6	36.8	45.3	17.9
		A-1-b, SiGrSa, brn, Moist, Rec. = 1.0 ft, Lab Note: Broken rock was within sample				34-27-3-4 (30)	10.6	35.9	42.4	21.7
		Field Note:, NXDC, Cleaned out casing								
5		Field Note:, No Recovery				4-2-2-6 (4)				
		Field Note:, NXDC, Cleaned out casing								
		A-1-b, GrSa, brn, Moist, Rec. = 0.5 ft				4-4-6-3 (10)	13.9	37.7	44.4	17.9
		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, gry, Moist, Rec. = 0.2 ft, Lab Note: Broken rock was within sample				R@3.5" (R)	9.2	69.6	25.0	5.4
10		Field Note:, NXDC, Cleaned out casing								
		A-2-4, SiSaGr, gry, Moist, Rec. = 1.0 ft				12-21-10-14 (31)	11.6	41.5	29.5	29.0
		Field Note:, NXDC, Cleaned out casing								
		A-4, GrSaSi, gry, Moist, Rec. = 1.4 ft				10-12-22-20 (34)	11.4	25.3	35.0	39.7
15		A-4, SaSi, gry, Moist, Rec. = 13.0 ft				12-16-20-30 (36)	12.7	12.7	40.0	47.3
		Field Note:, NXDC, Cleaned out casing								
		A-4, SaSi, gry, Moist, Rec. = 1.7 ft, Lab Note: A very small amount of clay was within sample. Sample tested non-plastic				10-12-16-26 (28)	11.2	13.8	40.4	45.8
		Field Note:, NXDC, Cleaned out casing								
		A-1-b, SaGr, brn, MTW, Rec. = 1.0 ft				4-9-R@2.5" (R)	11.7	48.1	36.7	15.2
20		Field Note:, NXDC, Cleaned out casing								
		A-2-4, GrSiSa, brn-gry, Moist, Rec. = 0.1 ft, Lab Note: Broken rock was within sample				R@1" (R)	8.8	29.2	36.3	34.5
		Top of Bedrock @ 20.9 ft								
		20.9 ft - 25.9 ft, Brown and tan, Rusty weathering, biotite-muscovite-quartz-plagioclase schist and Meta-Andesite, with hornblend. Penetrative rust staining and fine sandy silt coating along joints and broken rock. Schist is soft, moderately weathered. Moderately hard, Moderately weathered, Poor rock, NX, RMR=26	1 (70)	44 (0)	4 4 2 2 2					
25		25.9 ft - 30.9 ft, Tan to white, Rusty weathering Meta-Andesite, with hornblende. Persistant rust and orange staining along Meta-Andesite. Hard, Slightly weathered, Poor rock, NX, RMR=34	2 (65-70)	56 (0)	1 2 1 2 1					
30		30.9 ft - 35.9 ft, White, Gneiss with brown to tan weathering and green/gray SCHIST, Gneiss is moderately hard. Soft, Moderately weathered, Poor rock, NX, RMR=25	3 (60)	14 (14)	1 2 2 2 2					
35		Hole stopped @ 35.9 ft								
40		Remarks: Hole collapsed at 6.4 feet.								

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
<<SUB>><<SUB>> 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 2 SPRINGFIELD BF 0134(45).GPJ VERMONT AOT.GDT 9/9/16

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

BORING LOG

Springfield
BF 0134(45)
VT 11 Culv. 60

Boring No.: **B-102**
Page No.: 1 of 1
Pin No.: 13d336
Checked By: END

Boring Crew: Emerson, Judkins, Gomes
Date Started: 7/28/16 Date Finished: 7/28/16
VTSPG NAD83: N 291171.15 ft E 1641329.99 ft
Station: 364+56 Offset: 23.22
Ground Elevation: 491.7 ft

	Casing	Sampler
Type:	WB	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 <<SUB>><<SUB>> = 1.42	

Groundwater Observations

Date	Depth (ft)	Notes
07/28/16		No W.T. observed

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Asphalt Pavement, 0.0 ft - 0.45 ft					
		A-1-b, GrSa, brn, Moist, Rec. = 1.3 ft	4-3-3-3 (6)	9.2	40.0	46.8	13.2
2.5		A-2-4, SiGrSa, brn, Moist, Rec. = 1.1 ft	4-6-22-14 (28)	11.0	30.4	46.5	23.1
		Field Note:, Rollercone, Cleaned out casing					
5.0		Field Note:, No Recovery	R@3.5" (R)				
		Hole stopped @ 5.3 ft					
7.5		Remarks: Hole collapsed at 2.5 feet. 1.) Hit culvert at 5.3 feet. Aborted drilling operations.					

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
<<SUB>><<SUB>> 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 2 SPRINGFIELD BF 0134(45).GPJ VERMONT AOT.GDT 9/9/16

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336bor.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: S. COLEY
BORING LOGS 1

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 74 OF 110

TOP OF FOOTING #1 AND 2# EL = 476.4

BORING LOG 2 SPRINGFIELD BF 0134(45).GPJ VERMONT AOT.GDT 9/9/16

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

BORING LOG

Springfield
BF 0134(45)
VT 11 Culv. 60

Boring No.: **B-102A**
Page No.: 1 of 1
Pin No.: 13d336
Checked By: END

Boring Crew: Emerson, Judkins, Gomes
Date Started: 7/28/16 Date Finished: 7/28/16
VTSPG NAD83: N 291172.28 ft E 1641334.86 ft
Station: 364+61 Offset: 23.22
Ground Elevation: 491.6 ft

	Casing	Sampler
Type:	WB	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 <<SUB>><<SUB>> = 1.42

Groundwater Observations

Date	Depth (ft)	Notes
07/28/16	10.4	W.T. during drilling

CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
Asphalt Pavement, 0.0 ft - 0.45 ft								
Field Note:, NXDC, Cleaned out casing								
A-1-b, GrSa, brn, Moist, Rec. = 0.9 ft				5-4-6-15 (10)	11.7	37.6	48.7	13.7
A-1-b, GrSa, brn, Moist, Rec. = 0.3 ft Field Note:, NXDC, Cleaned out casing				5-7-10-10 (17)	12.7	37.5	45.7	16.8
A-1-b, GrSa, brn, Moist, Rec. = 0.8 ft				9-18-R@5" (R)	12.6	29.4	57.2	13.4
Field Note:, NXDC, Cleaned out casing								
13.0 ft - 14.3 ft, White, Biotite-muscovite-quartz-plagioclase-hornblend GNEISS, Brown and orange staining along joints. Hard, Slightly weathered, NX 14.3 ft - 18.0 ft, Gray to black, Biotite-muscovite-quartz-plagioclase SCHIST, Rust staining along joints. Moderately hard, Slightly weathered, Fair rock, RMR=43	1 (70)	76 (32)	2 3 4 7 6	Top of Bedrock @ 13.0 ft				
18.0 ft - 23.0 ft, Gray, Interlayed biotite-quartz-plagioclase SCHIST, and white, biotite-muscovite-quartz-plagioclase-garnet GNEISS. Slightly vuggy. Light brown, yellow, and orange staining along joints. Gneiss is hard.. Moderately hard, Slightly weathered, Fair rock, NX, RMR=49	2 (70)	100 (64)	3 2 3 3 4					

Hole stopped @ 23.0 ft

Remarks:
Hole collapsed at 8.2 feet.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
<<SUB>><<SUB>> 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.

BOTTOM OF BOX EL = 472.5

BORING LOG 2 SPRINGFIELD BF 0134(45).GPJ VERMONT AOT.GDT 9/9/16

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

BORING LOG

Springfield
BF 0134(45)
VT 11 Culv. 60

Boring No.: **B-103**
Page No.: 1 of 1
Pin No.: 13d336
Checked By: END

Boring Crew: Gomes, Judkins, Emerson
Date Started: 8/02/16 Date Finished: 8/02/16
VTSPG NAD83: N 291227.45 ft E 1641387.84 ft
Station: 365+25.10 Offset: -18.50
Ground Elevation: 489.5 ft

	Casing	Sampler
Type:	WB	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 <<SUB>><<SUB>> = 1.42

Groundwater Observations

Date	Depth (ft)	Notes
08/02/16	9.9	W.T. during drilling

CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
Asphalt Pavement, 0.0 ft - 0.68 ft								
A-1-b, SaGr, brn, Moist, Rec. = 0.8 ft, Lab Note: Broken rock was within sample				7-6-7-6 (13)	8.9	46.5	43.8	9.7
A-1-b, GrSa, brn, Moist, Rec. = 0.6 ft				7-7-8-6 (15)	9.5	35.3	49.9	14.8
A-1-b, GrSa, brn, Moist, Rec. = 0.4 ft				9-7-5-7 (12)	13.8	30.0	53.4	16.6
A-2-4, SiSa, brn, Moist, Rec. = 0.3 ft				7-4-5-3 (9)	13.0	18.8	56.8	24.4
A-2-4, SiSa, brn, Moist, Rec. = 0.9 ft Field Note:, Rollercone, cleaned out casing				3-1-2-1 (3)	17.6	15.8	60.9	23.3
A-1-b, GrSa, gry-brn, Moist, Rec. = 0.2 ft				1-1-W.H.-8 (1)	13.4	41.0	45.9	13.1
A-1-a, SaGr, gry-brn, Moist, Rec. = 0.9 ft, Lab Note: Pieces of wood and a lot of broken rock was within sample Field Note:, Rollercone, cleaned out casing				5-7-28-19 (35)	11.9	68.4	23.3	8.3
A-4, SaSi, gry, Moist, Rec. = 1.2 ft, Lab Note: Some clay was within sample. Sample tested non-plastic				8-2-5-8 (7)	13.3	14.4	35.7	49.9
Field Note:, No Recovery				22-R@2.5"				
A-4, SiSa, gry-brn, Moist, Rec. = 1.5 ft				8-16-27-R@5" (43)	18.5	2.1	51.5	46.4
Field Note:, NXDC, cleaned out casing								
A-4, SiSa, white-brn, Moist, Rec. = 0.1 ft, Lab Note: Sample consisted of weathered rock				R@1"	11.8	1.7	56.4	41.9
31.5 ft - 36.5 ft, Light green & gray, To white biotite-quartz-plagioclase-pyrite gneiss Meta-Andesite, with hornblende. Slight brown and rust staining along joints. Rare vugs. Hard, Very slightly weathered, Good rock, NX, RMR=69	1 (50)	98 (93)	7 7 6 5 6	Top of Bedrock @ 31.5 ft				

Hole stopped @ 36.5 ft

Remarks:
Hole collapsed at 8.7 feet.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
<<SUB>><<SUB>> is the hammer energy correction factor.
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PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: s13d336bor.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: S. COLEY
BORING LOGS 2
PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 75 OF 110

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

BORING LOG

Springfield
BF 0134(45)
VT 11 Culv. 60

Boring No.: **B-104**
Page No.: 1 of 1
Pin No.: 13d336
Checked By: END

Boring Crew: Gomes, Judkins, Emerson
Date Started: 8/01/16 Date Finished: 8/02/16
VTSPG NAD83: N 291164.18 ft E 1641300.31 ft
Station: 364+25.51 Offset: 23.28
Ground Elevation: 492.1 ft

	Casing	Sampler
Type:	WB	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 SK<<SUB>><<SUB>> = 1.42	

Groundwater Observations

Date	Depth (ft)	Notes
08/02/16	11.2	W.T. before drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Asphalt Pavement, 0.0 ft - 0.25 ft								
		A-1-b, GrSa, brn, Moist, Rec. = 0.8 ft Field Note:, NXDC, Cleaned out casing				--4-4-3 (8)	11.3	32.6	51.1	16.3
		A-1-b, SaGr, brn, Moist, Rec. = 0.9 ft Field Note:, NXDC, Cleaned out casing				4-5-7-14 (12)	10.2	51.5	34.5	14.0
5		A-1-b, SaGr, brn, Moist, Rec. = 1.2 ft, Lab Note: Broken rock was within sample				16-16-44-15 (60)	10.2	50.0	36.3	13.7
		A-2-4, SiGrSa, gry, Moist, Rec. = 1.0 ft, Lab Note: Broken rock was within sample Field Note:, NXDC, Cleaned out casing				12-11-11-19 (22)	10.3	27.1	47.6	25.3
		Field Note:, No Recovery				R@2.5" (R)				
		Field Note:, NXDC, Cleaned out casing								
10		A-2-4, GrSiSa, gry, Moist, Rec. = 0.7 ft				11-11-11-29 (22)	12.0	21.2	56.4	22.4
		Field Note:, No Recovery				R@5" (R)				
		Field Note:, NXDC, Cleaned out casing								
		A-4, SiSa, brn, Moist, Rec. = 1.1 ft				21-25-R@5" (R)	15.0	4.1	52.4	43.5
15										
		A-1-b, SaGr, brn, Moist, Rec. = 0.4 ft, Lab Note: Broken rock was within sample				R@5" (R)	10.0	53.1	30.5	16.4
		16.7 ft - 19.7 ft, Gray, Biotite-quartz-plagioclase SCHIST, Brown and rust staining along joints. Vugs forming along plagioclase foliations at 16.9 feet to 17.05 feet. Moderately hard, Very slightly weathered, Fair rock, NX, RMR=46	1 (50)	60 (60)	5 5 3	Top of Bedrock @ 16.7 ft				
20		19.7 ft - 21.7 ft, Gray, Biotite-muscovite-quartz-plagioclase SCHIST, Brown and orange staining along slickensided joints. Slightly vuggy. Moderately hard, Slightly weathered, Fair rock, NX, RMR=41	2 (50)	20 (55)	5 5					
		Hole stopped @ 21.7 ft								
		Remarks: Hole collapsed at 6.4 feet.								
25										

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
<<SUB>><<SUB>> 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 2 SPRINGFIELD BF 0134(45).GPJ VERMONT AOT.GDT 9/9/16

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336bor.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: S. COLEY
BORING LOGS 3

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 76 OF 110

MANUFACTURED TERMINAL SECTION, TANGENT
STA 362+79.0 - 363+27.7 RT
STA 365+52.7 - 366+01.4 RT

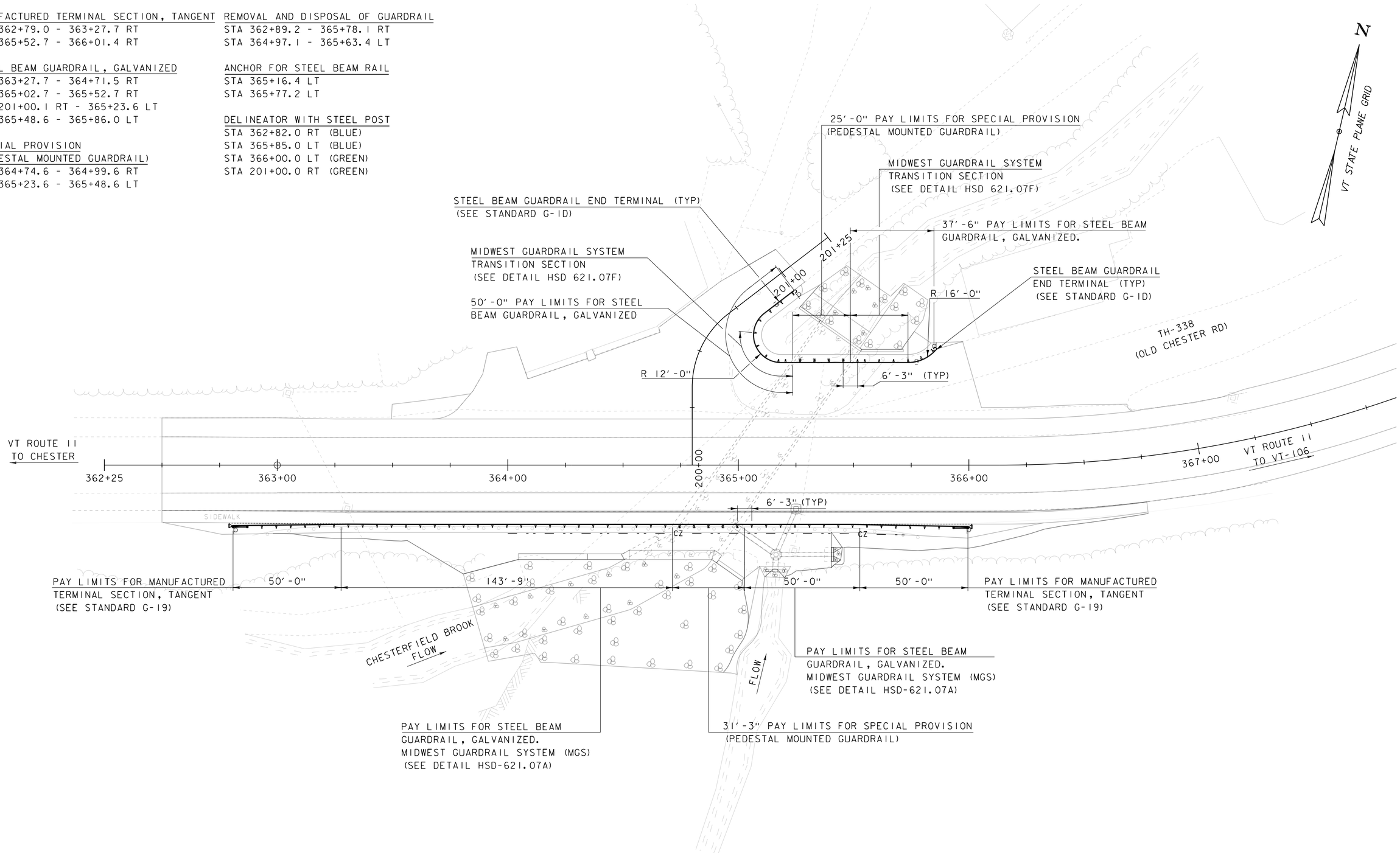
STEEL BEAM GUARDRAIL, GALVANIZED
STA 363+27.7 - 364+71.5 RT
STA 365+02.7 - 365+52.7 RT
STA 201+00.1 RT - 365+23.6 LT
STA 365+48.6 - 365+86.0 LT

SPECIAL PROVISION
(PEDESTAL MOUNTED GUARDRAIL)
STA 364+74.6 - 364+99.6 RT
STA 365+23.6 - 365+48.6 LT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 362+89.2 - 365+78.1 RT
STA 364+97.1 - 365+63.4 LT

ANCHOR FOR STEEL BEAM RAIL
STA 365+16.4 LT
STA 365+77.2 LT

DELINEATOR WITH STEEL POST
STA 362+82.0 RT (BLUE)
STA 365+85.0 LT (BLUE)
STA 366+00.0 LT (GREEN)
STA 201+00.0 RT (GREEN)

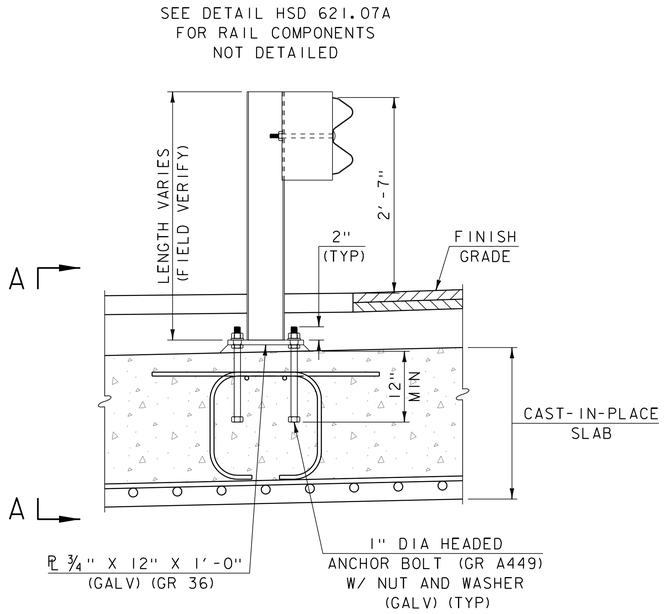


SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

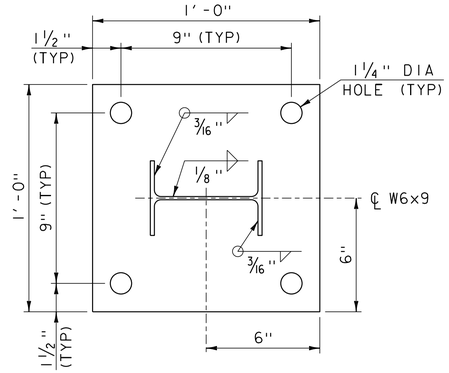
FILE NAME: sl3d336rail.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
RAIL LAYOUT

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 77 OF 110



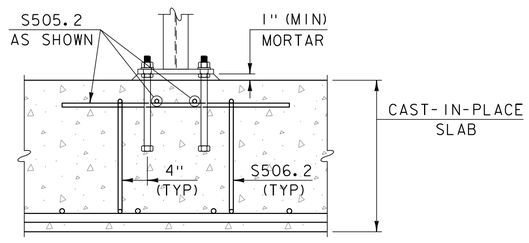
PEDESTAL MOUNTED W-BEAM GUARDRAIL DETAIL FOR CAST-IN-PLACE SLAB

NOT TO SCALE



BASE PLATE DETAIL

NOT TO SCALE



VIEW A-A

NOT TO SCALE

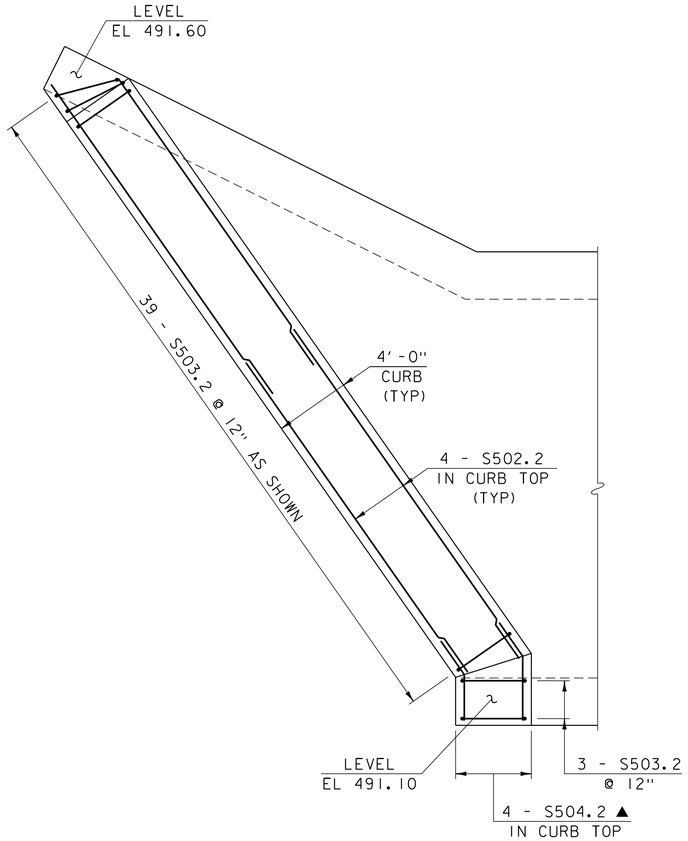
NOTES

1. INDIVIDUAL POST ASSEMBLY SHALL NOT BE INSTALLED SPLITTING OVER TWO PRECAST BOX UNITS. MAINTAIN MINIMUM OF 7½" EDGE DISTANCE FROM CENTER OF ANCHOR BOLT TO EDGE OF PRECAST BOX UNIT.
2. POST ASSEMBLIES SHALL BE INSTALLED PLUMB AS SHOWN. CONTRACTOR SHALL DETERMINE FINAL LENGTH OF POSTS PRIOR TO FABRICATION.
3. CONTRACTOR/FABRICATOR SHALL DETERMINE METHOD FOR ATTACHING POSTS TO PRECAST CONCRETE BOX SECTIONS.
4. 3" CLEAR UNLESS OTHERWISE NOTED.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

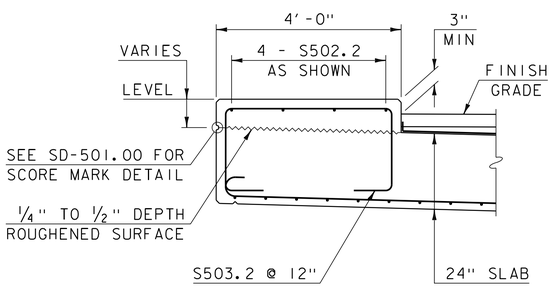
FILE NAME: sl3d336rail_details.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
GUARDRAIL DETAILS

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROY
CHECKED BY: A. LEMIEUX
SHEET 78 OF 110



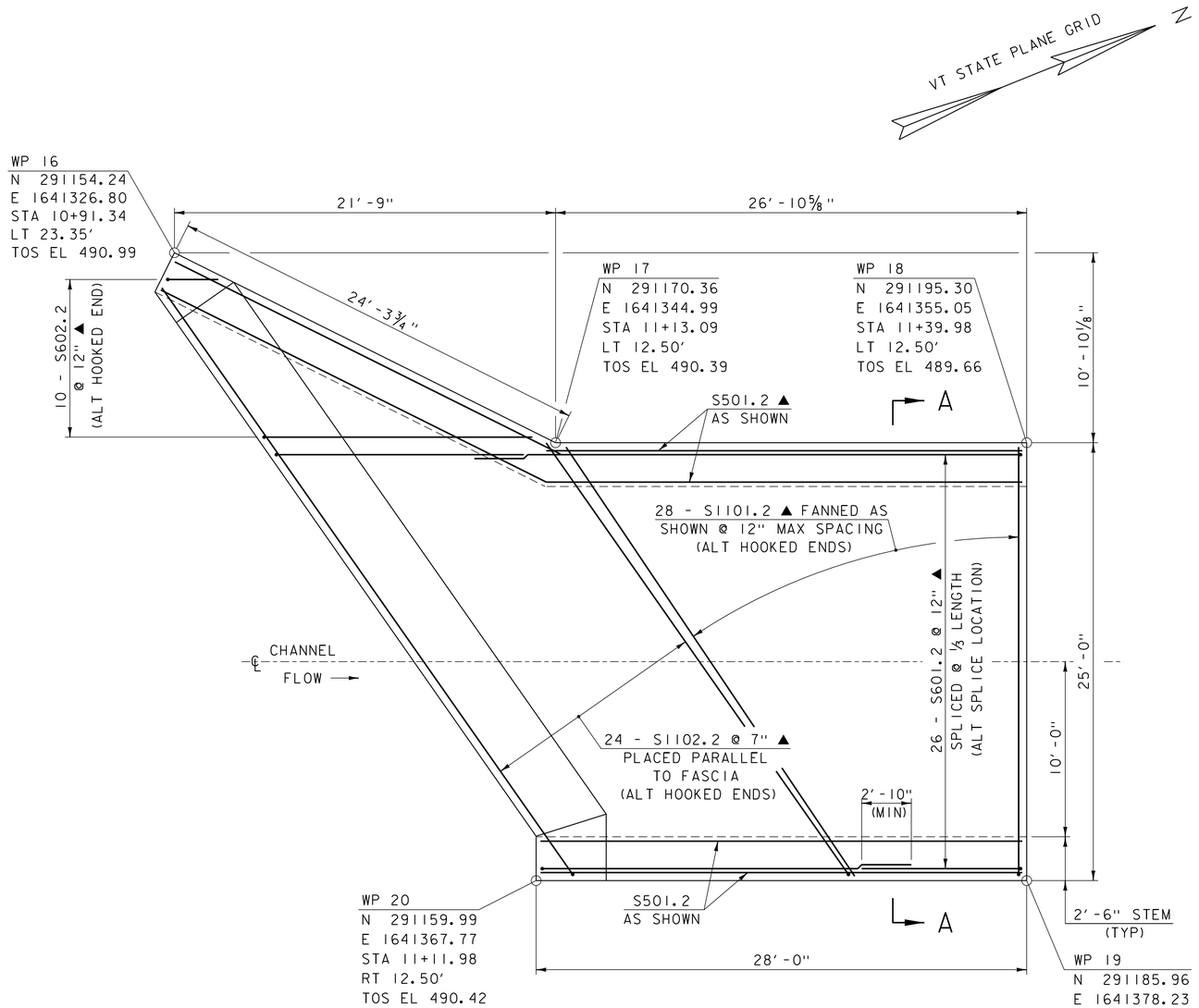
CURB LAYOUT

SCALE: ½" = 1'-0"



CURB DETAIL

SCALE: ½" = 1'-0"



SLAB LAYOUT

SCALE: ¼" = 1'-0"
(GUARDRAIL ANCHORAGE STEEL
OMITTED FOR CLARITY)

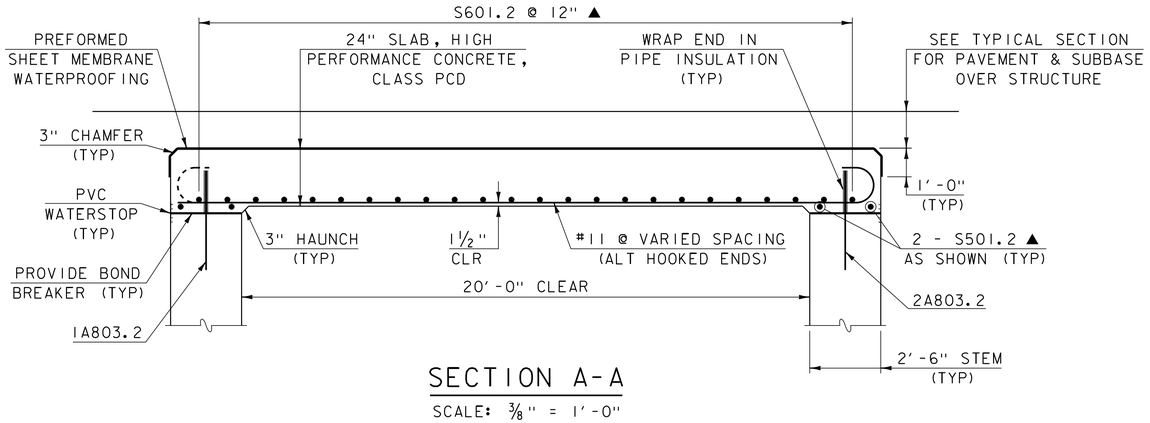
NOTE:

TOS = TOP OF SLAB
▲ = CUT TO FIT IN FIELD
3" CLEAR UNLESS OTHERWISE NOTED
2'-2" BAR LAP UNLESS OTHERWISE NOTED

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

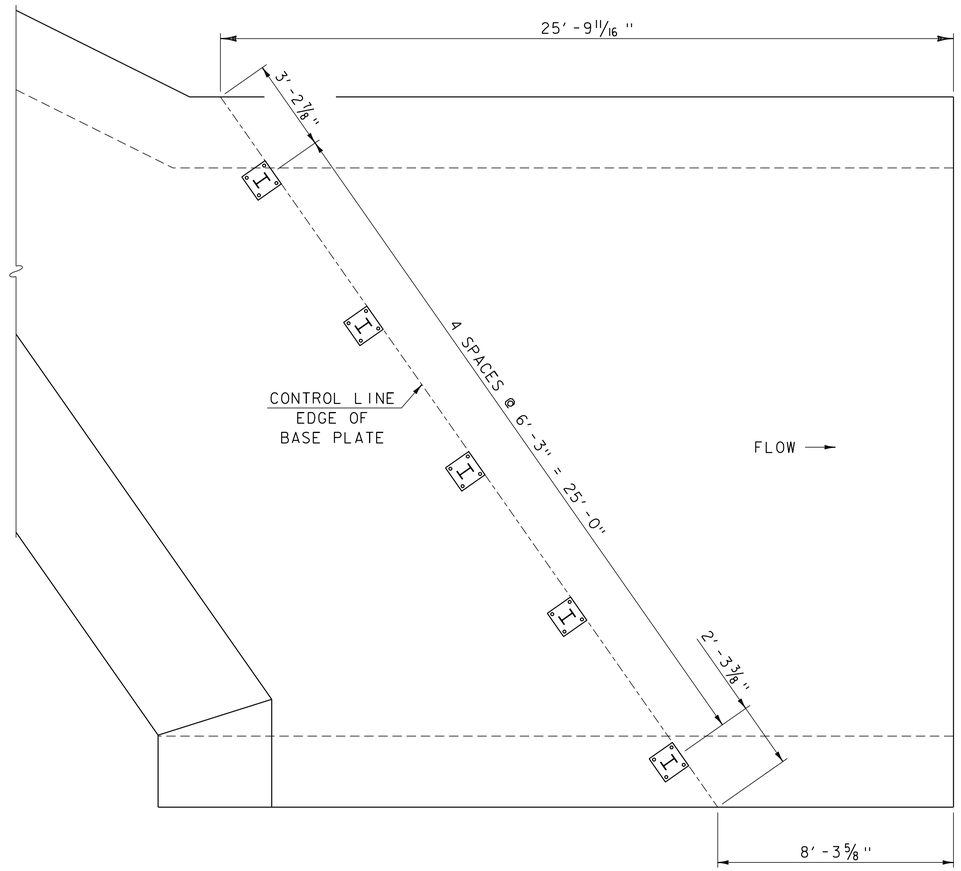
FILE NAME: sl3d336sup.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
SLAB LAYOUT

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROY
CHECKED BY: A. LEMIEUX
SHEET 79 OF 110



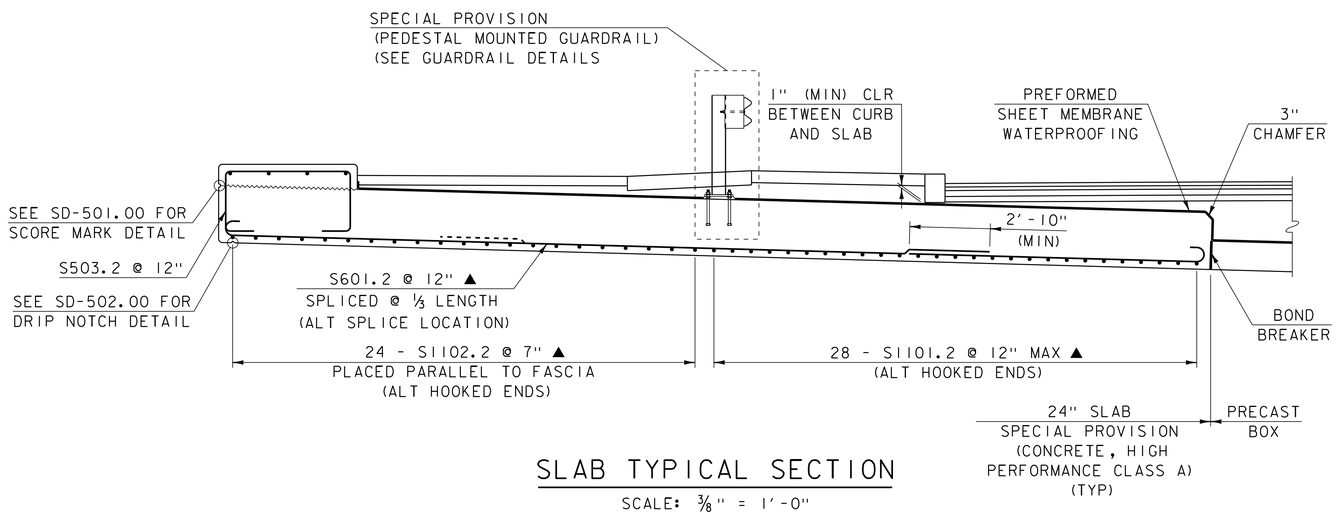
SECTION A-A

SCALE: 3/8" = 1'-0"



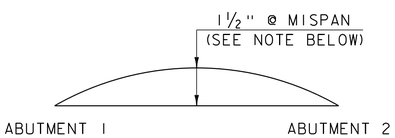
RAIL POST LAYOUT

SCALE: 3/8" = 1'-0"



SLAB TYPICAL SECTION

SCALE: 3/8" = 1'-0"



CAMBER DIAGRAM

NOT TO SCALE

THE SLAB SHALL BE CAMBERED A TOTAL OF 1½" AT MIDSPAN.
THIS INITIAL CAMBER SHALL APPROXIMATE A CIRCULAR CURVE.

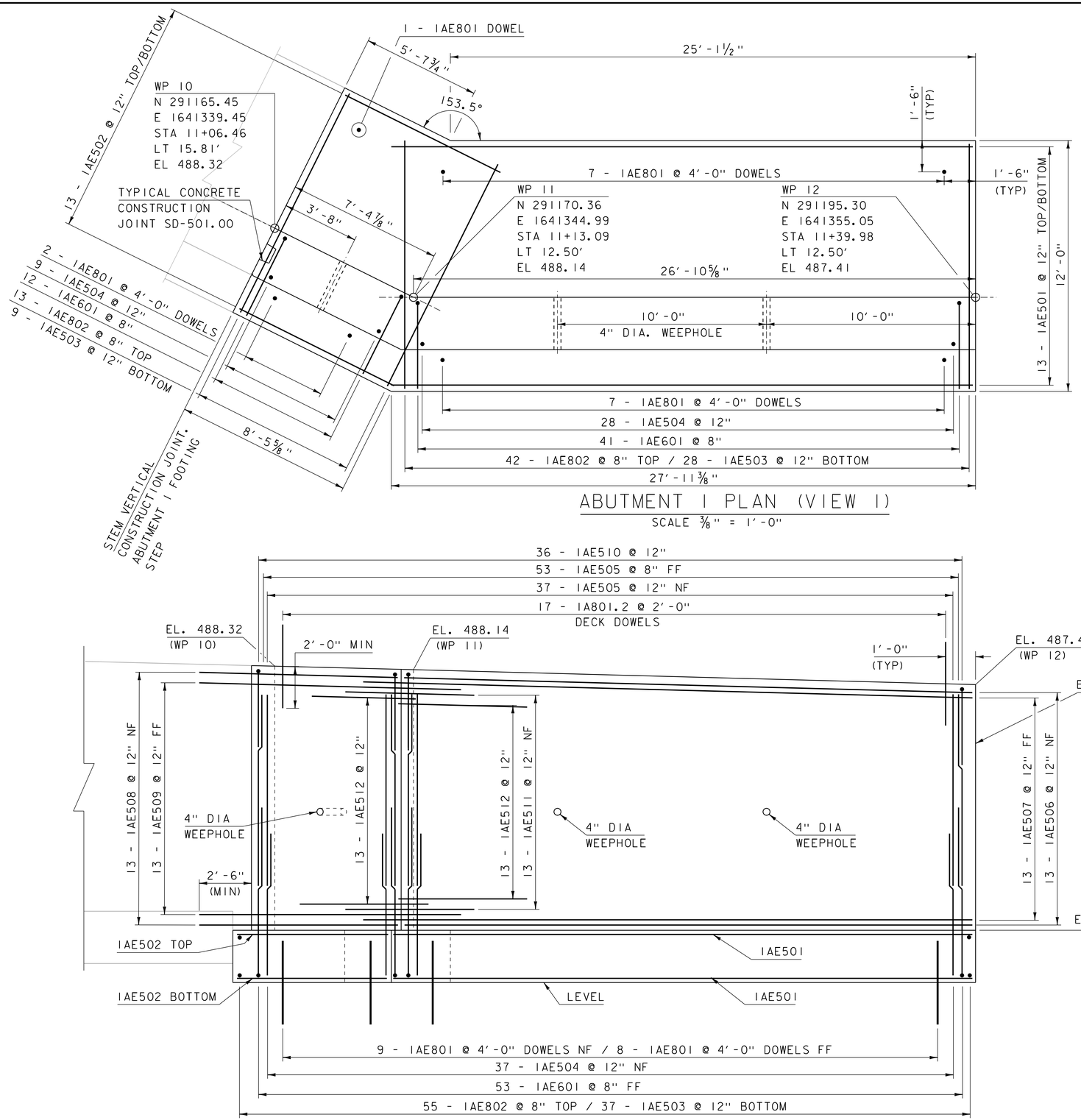
NOTE:

▲ = CUT TO FIT IN FIELD
3" CLEAR UNLESS OTHERWISE NOTED
2'-2" BAR LAP UNLESS OTHERWISE NOTED

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336sup.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
SLAB SECTIONS

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROY
CHECKED BY: A. LEMIEUX
SHEET 80 OF 110

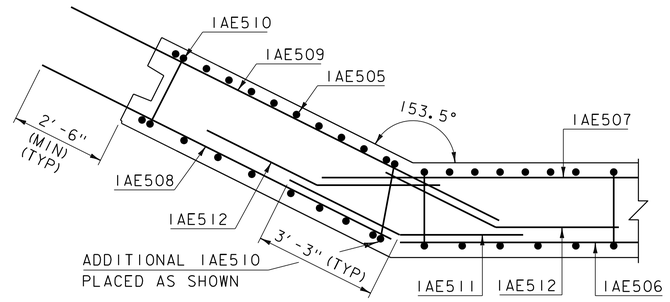


ABUTMENT 1 PLAN (VIEW 1)

SCALE ⅜" = 1'-0"

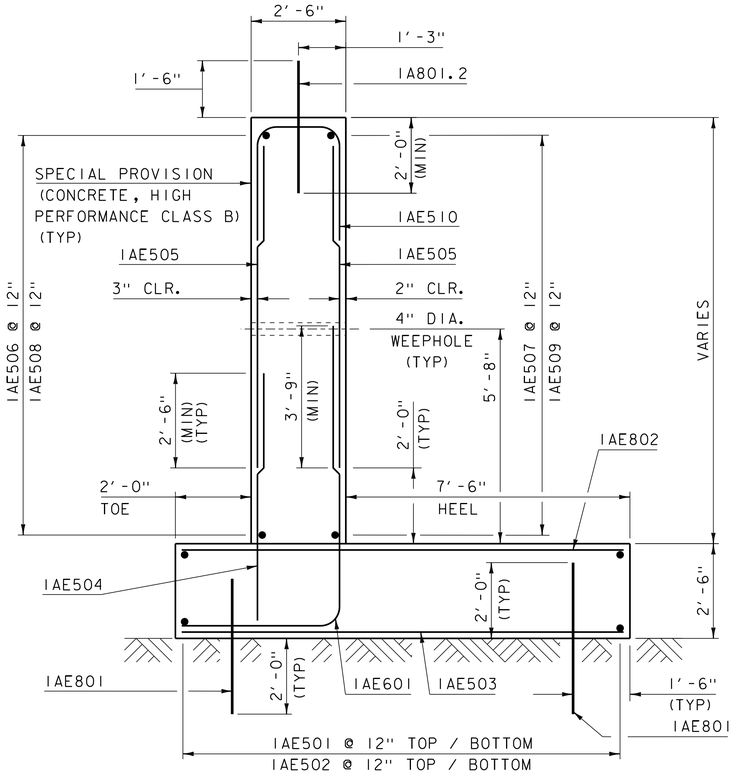
ABUTMENT 1 ELEVATION (VIEW 1)

SCALE ⅜" = 1'-0"



ABUTMENT 1 STEM CORNER DETAIL 1

SCALE ½" = 1'-0"



ABUTMENT 1 TYPICAL (VIEW 1)

SCALE ½" = 1'-0"

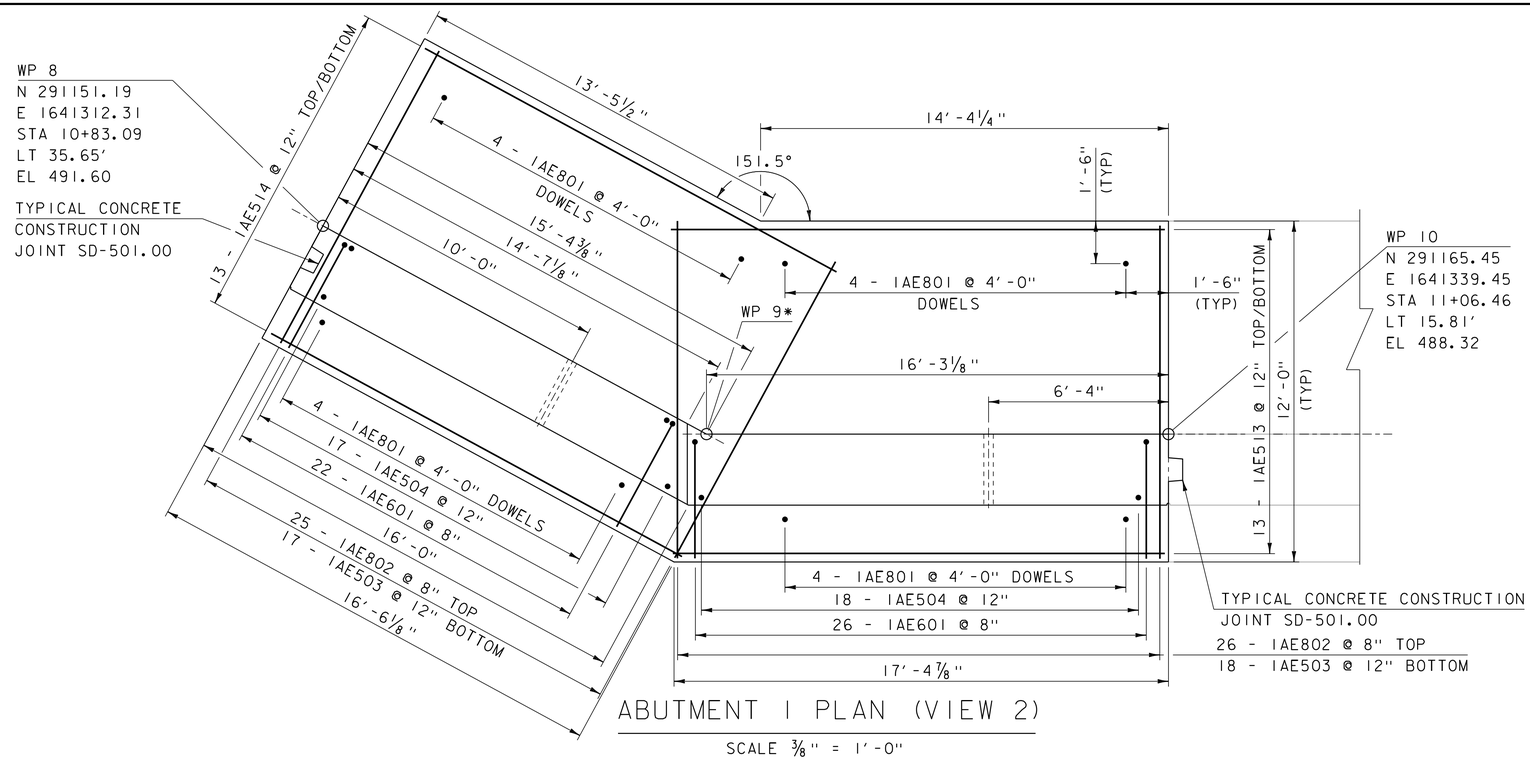
LEGEND

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
3" CLEAR COVER UNLESS NOTED OTHERWISE.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

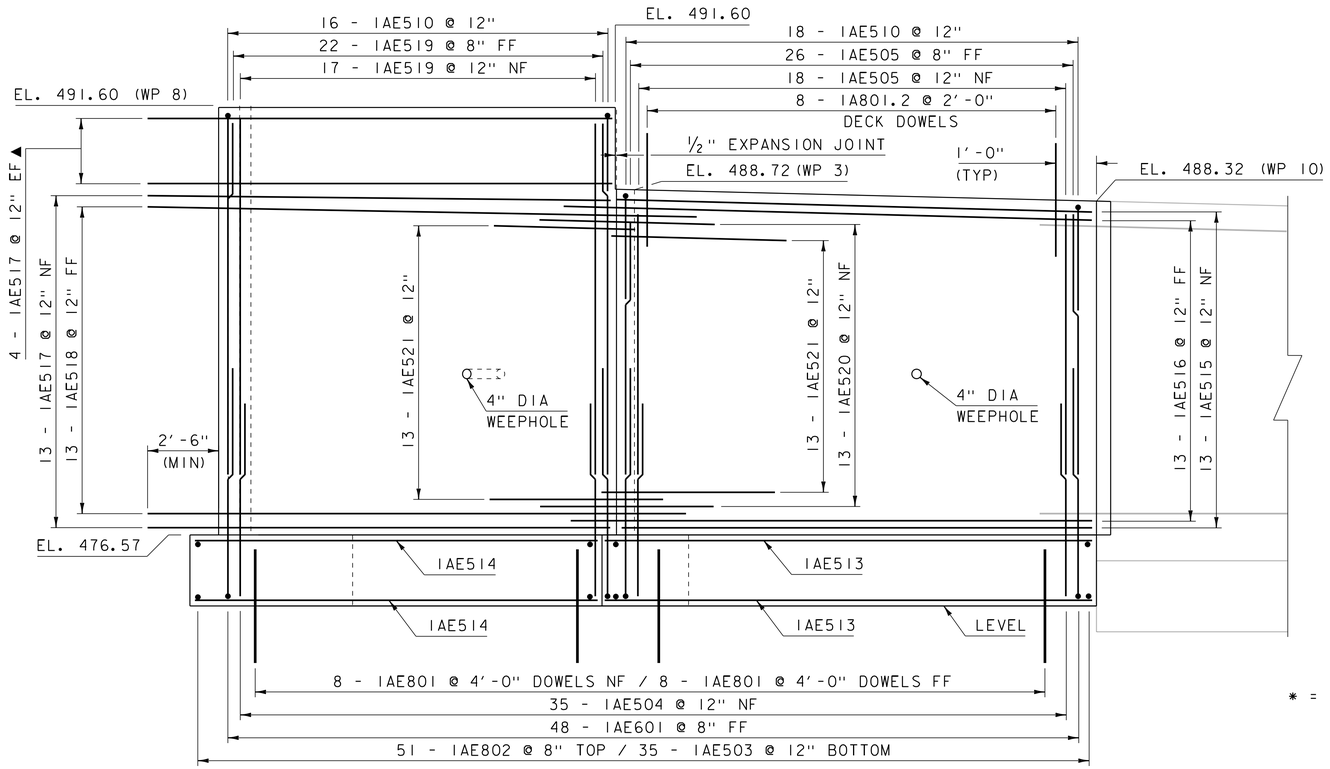
FILE NAME: sl3c336sub.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
ABUTMENT 1 SHEET 1

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: A. LEMIEUX
SHEET 81 OF 110



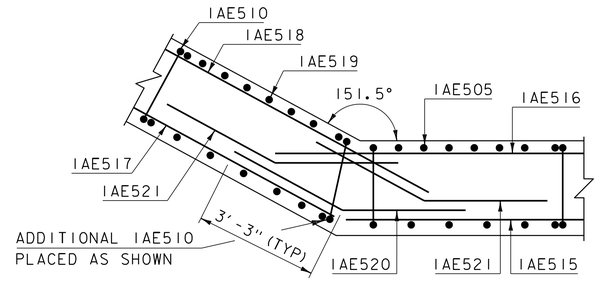
ABUTMENT 1 PLAN (VIEW 2)

SCALE ⅜" = 1'-0"



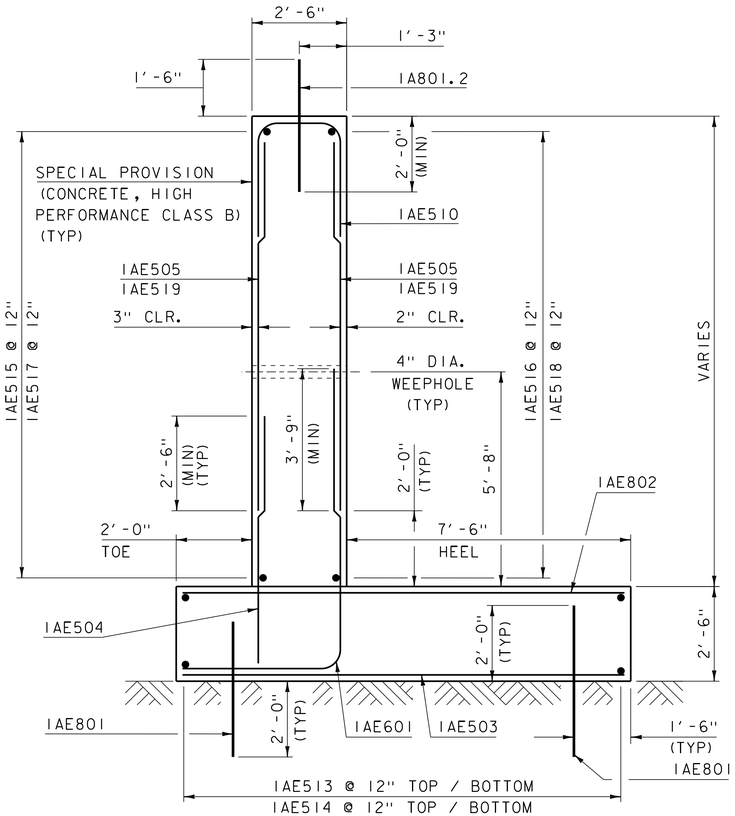
ABUTMENT 1 ELEVATION (VIEW 2)

SCALE ⅜" = 1'-0"



ABUTMENT 1 STEM CORNER DETAIL 2

SCALE ½" = 1'-0"



ABUTMENT 1 TYPICAL (VIEW 2)

SCALE ½" = 1'-0"

* = WP 9
N 291154.66
E 1641327.28
STA 10+91.90
LT 23.06'
EL 488.72

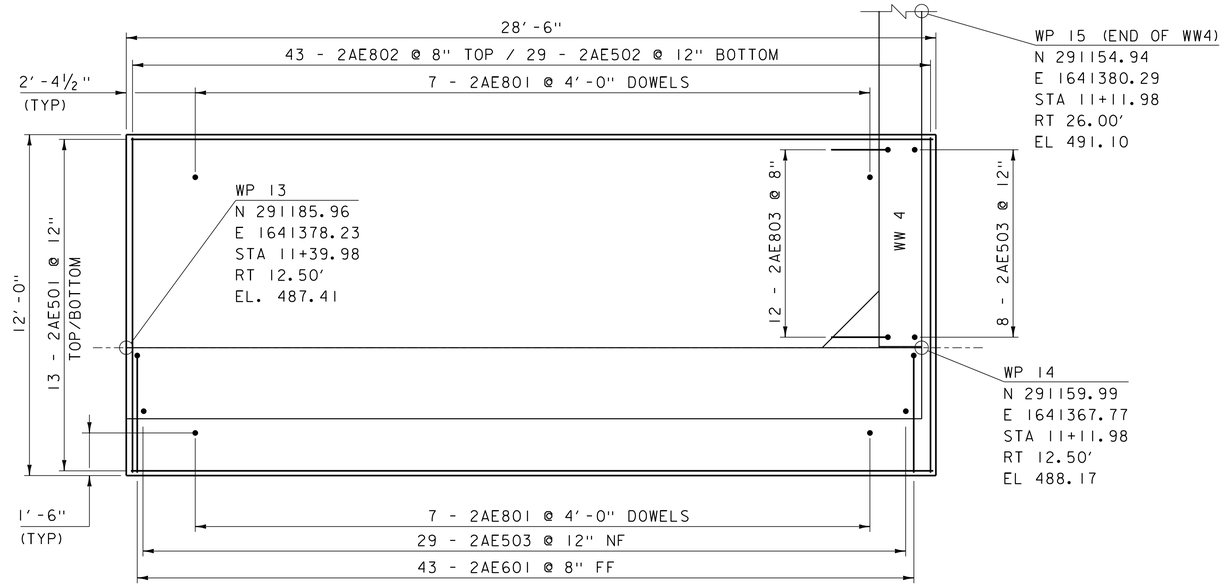
LEGEND

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT
3" CLEAR COVER UNLESS NOTED OTHERWISE.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

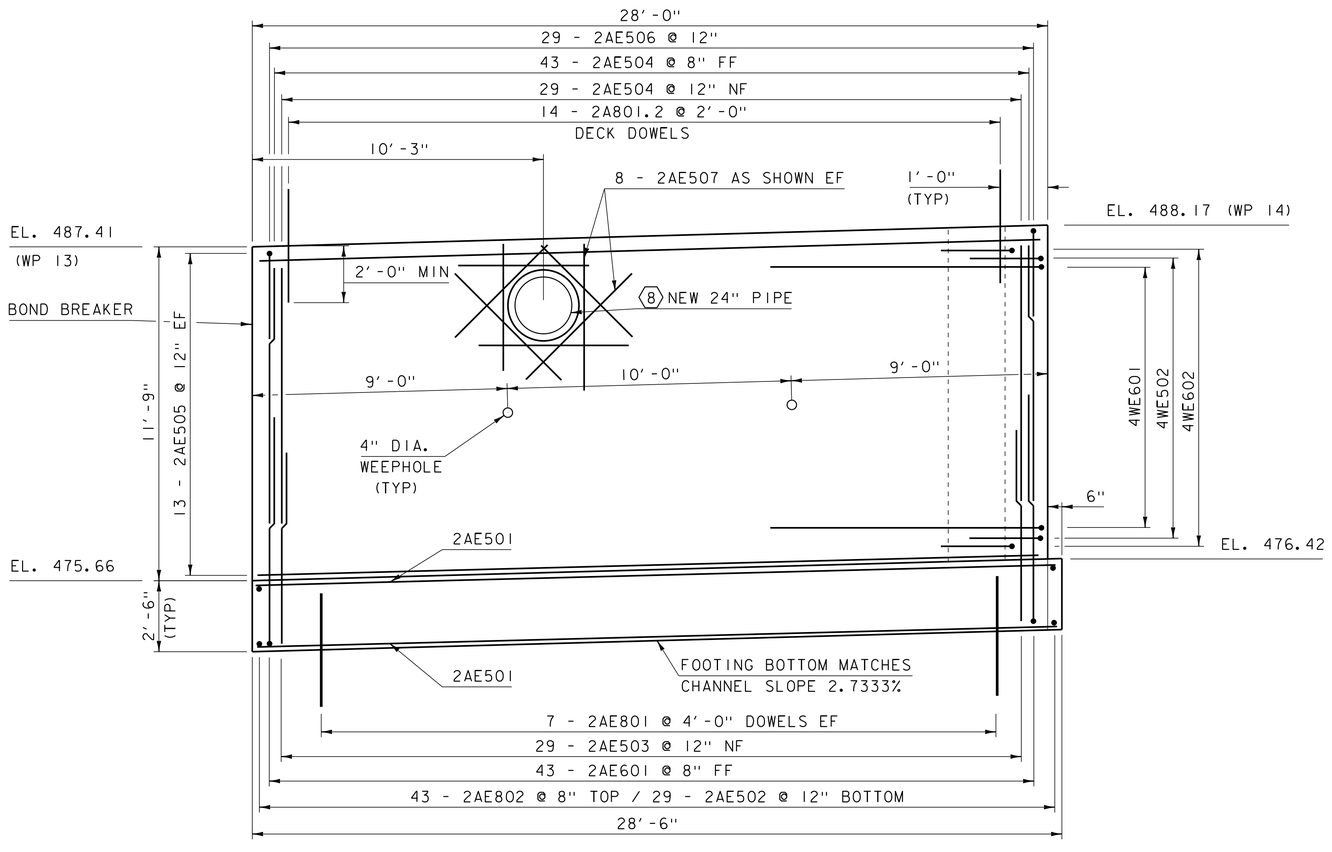
FILE NAME: sl3c336sub.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
ABUTMENT 1SHEET 2

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: A. LEMIEUX
SHEET 82 OF 110



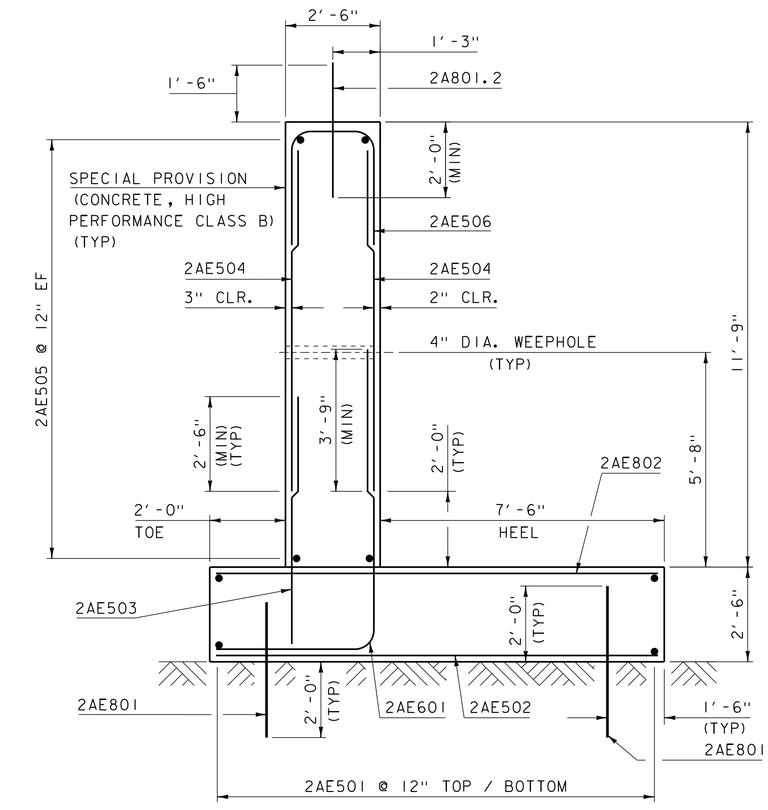
ABUTMENT 2 PLAN

SCALE ⅜" = 1'-0"



ABUTMENT 2 ELEVATION

SCALE ⅜" = 1'-0"



ABUTMENT 2 TYPICAL

SCALE ½" = 1'-0"

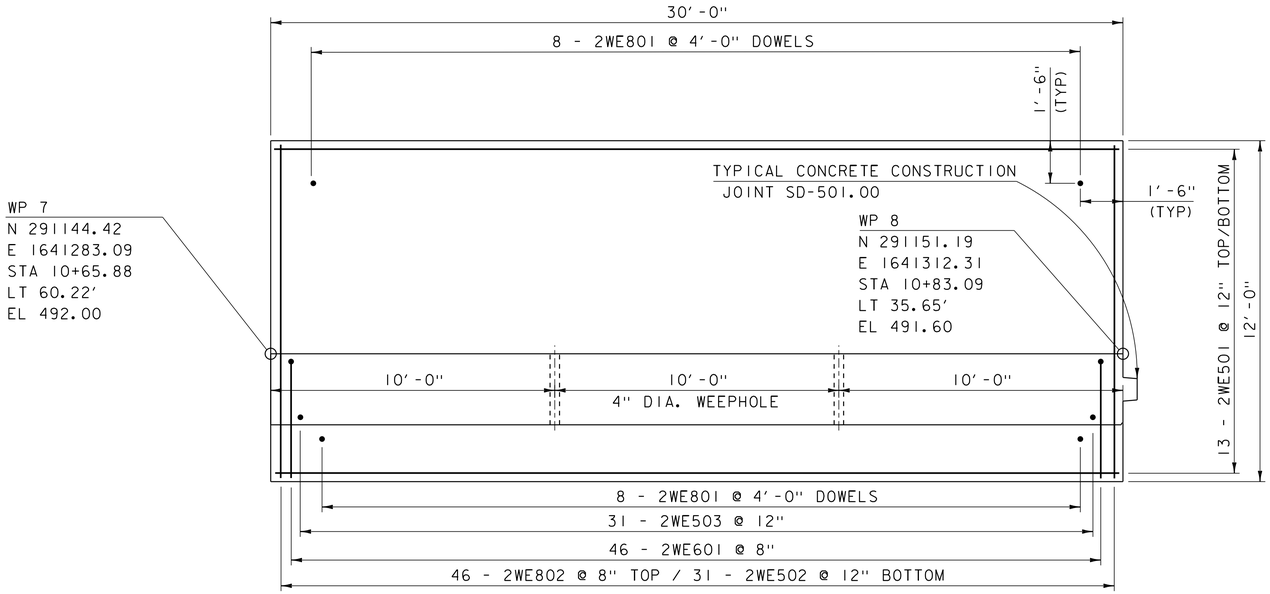
LEGEND

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT
3" CLEAR COVER
UNLESS NOTED
OTHERWISE.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

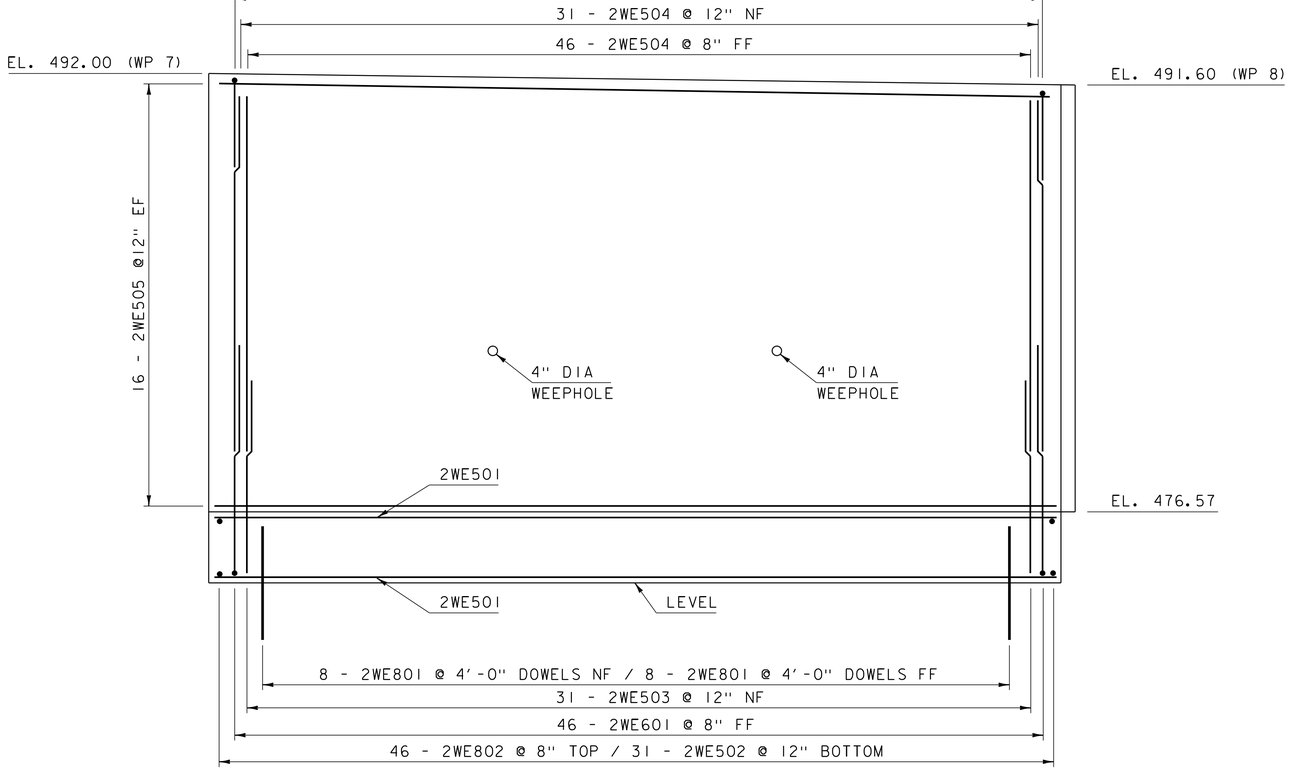
FILE NAME: sl3c336sub.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
ABUTMENT 2 DETAILS

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: A. LEMIEUX
SHEET 83 OF 110



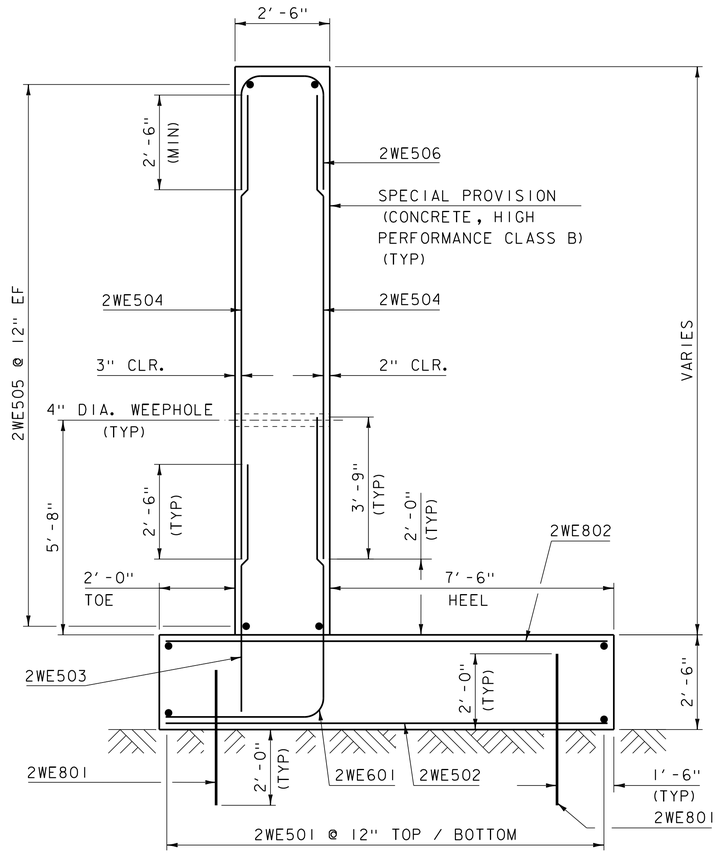
WINGWALL 2 PLAN

SCALE 3/8" = 1'-0"



WINGWALL 2 ELEVATION

SCALE 3/8" = 1'-0"



WINGWALL 2 TYPICAL

SCALE 1/2" = 1'-0"

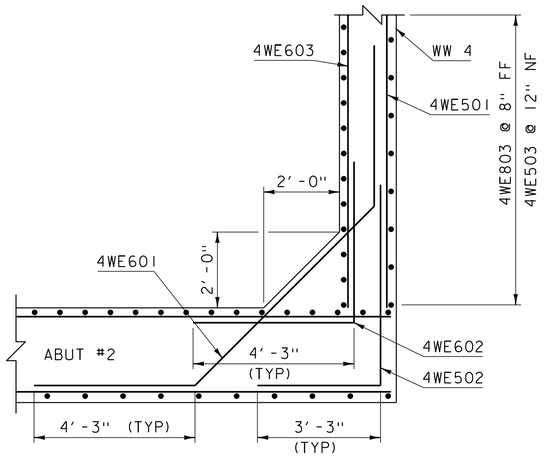
LEGEND

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT
3" CLEAR COVER
UNLESS NOTED
OTHERWISE.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

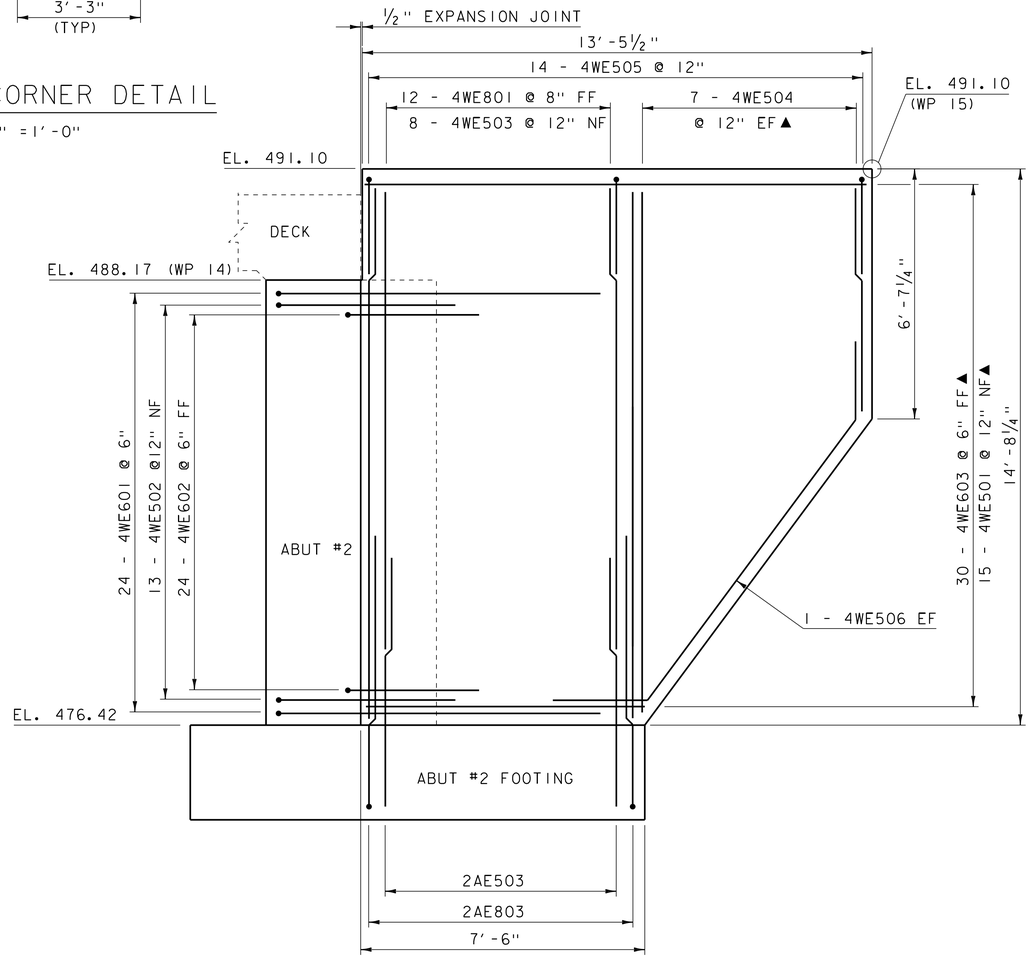
FILE NAME: sl3c336sub.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
WINGWALL 2 DETAILS

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: A. LEMIEUX
SHEET 84 OF 110



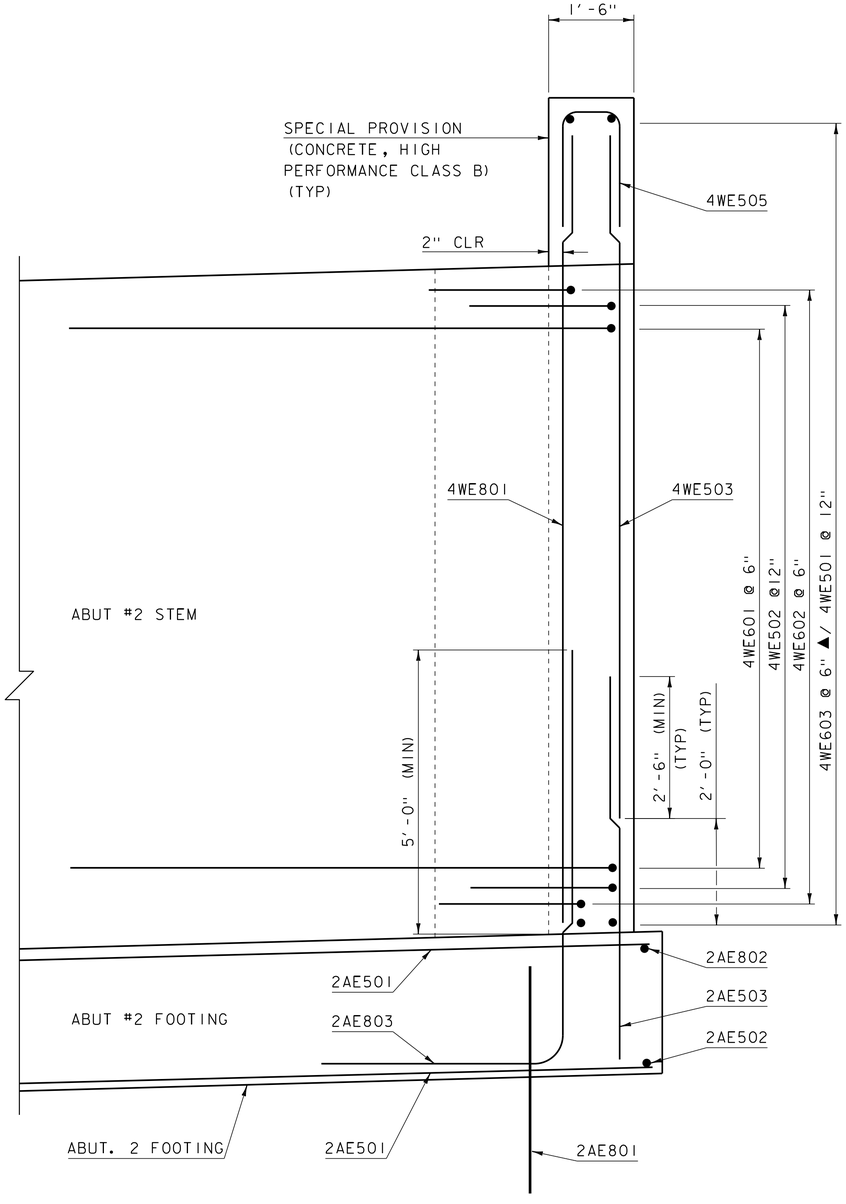
WINGWALL 4 CORNER DETAIL

SCALE ½" = 1'-0"



WINGWALL 4 ELEVATION

SCALE ½" = 1'-0"



WINGWALL 4 TYPICAL

SCALE ¾" = 1'-0"

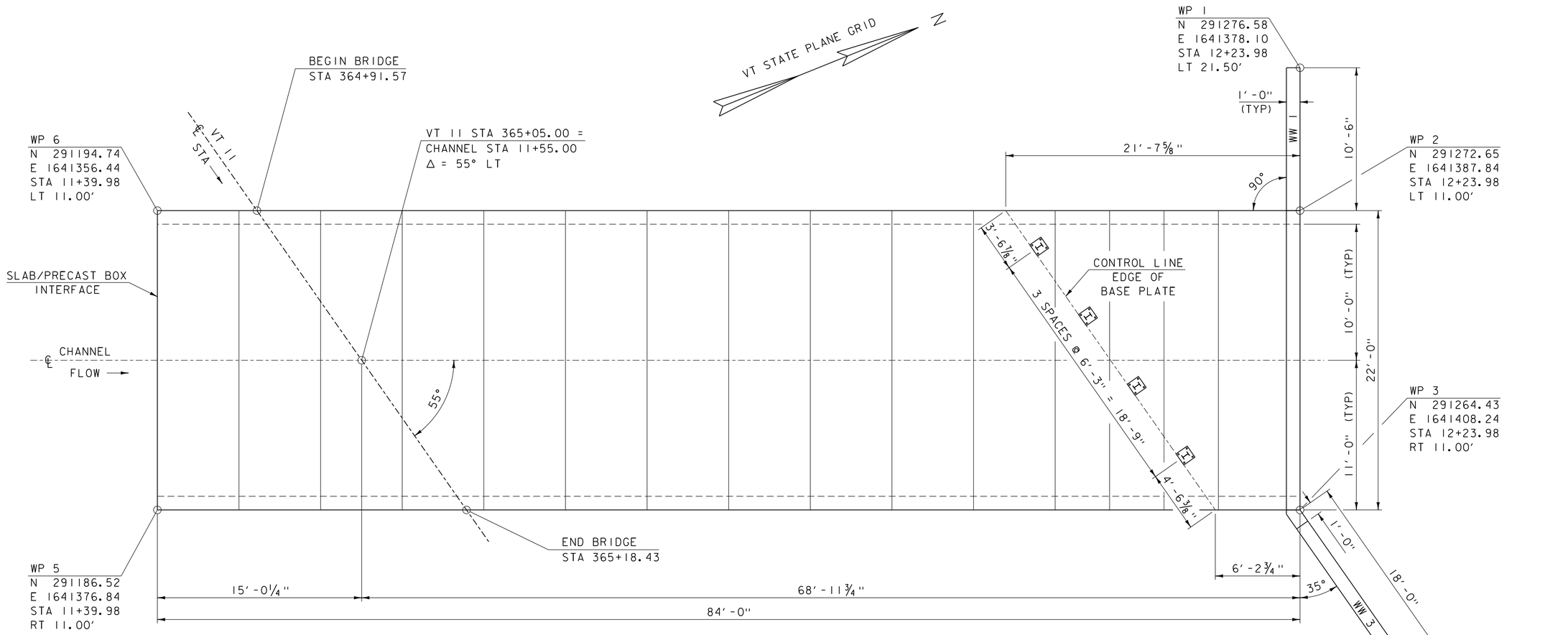
LEGEND

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT
3" CLEAR COVER
UNLESS NOTED
OTHERWISE.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

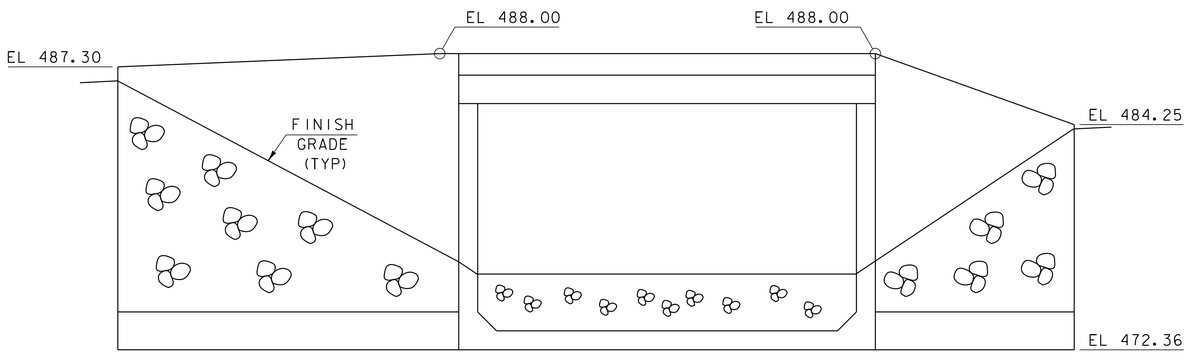
FILE NAME: s13c336sub.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
WINGWALL 4 DETAILS

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: A. LEMIEUX
SHEET 85 OF 110



PRECAST BOX LAYOUT

SCALE: ¼" = 1'-0"



OUTLET ELEVATION

SCALE: ¼" = 1'-0"
(FLATTENED TO REFLECT TRUE LENGTHS)

NOTES:

1. DIMENSIONS MEASURED ALONG EXPOSED FACE OF RETAINING WALLS.
2. BOX CULVERT SECTION LENGTHS ARE CONCEPTUAL ONLY. THE CONTRACTOR AND FABRICATOR SHALL DETERMINE FINAL SECTION LENGTHS.
3. CONNECTIONS BETWEEN BOX/HEADWALL AND RETAINING WALLS SHALL MATCH HORIZONTALLY AND VERTICALLY. MINIMIZE OR ELIMINATE WALL BATTER AS MUCH AS POSSIBLE.
4. UNIT-BLOCK RETAINING WALL FOUNDATIONS MUST BE PLACED AT A MINIMUM DEPTH OF 48" BELOW FINISH GRADE, MEASURED PERPENDICULAR TO FINISH GRADE SURFACE, IF FOUNDED UPON SOIL. ANY FREE-DRAINING LEVELING PAD BASE COURSE (UP TO 1' IN DEPTH) IS INCLUDED IN THIS DIMENSION.

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336box.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROY
DESIGNED BY: G. ROKES	CHECKED BY: G. DARGAN
PRECAST BOX LAYOUT	SHEET 86 OF 110

STATE OF VERMONT
AGENCY OF TRANSPORTATION

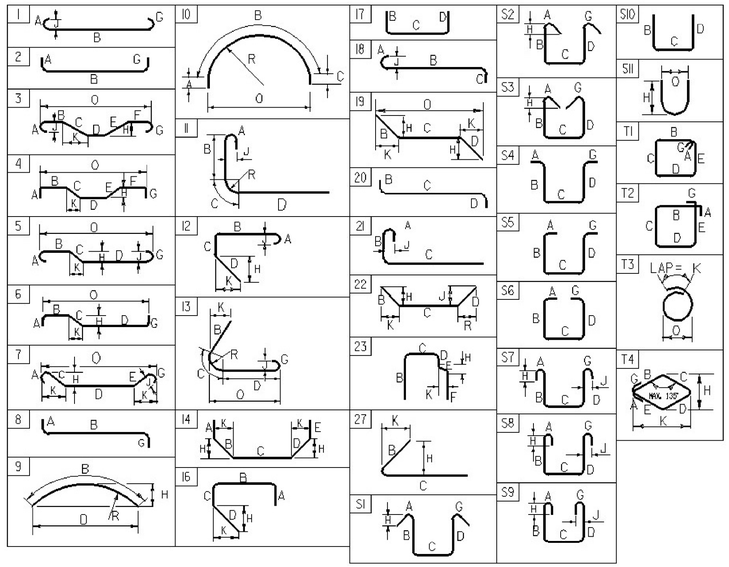
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
DECK/SLAB																	
▲	6	5	27'- 6"	S501.2	STR	27'- 6"											
✳	8	5	22'- 2"	S502.2	STR	22'- 2"											
	42	5	9'- 6"	S503.2	S6	1'- 0"	2'- 0"	3'- 6"	2'- 0"			1'- 0"					
	4	5	5'- 8"	S504.2			2'- 2"	3'- 6"	---				1'- 9"	---	1'- 3"	---	
	20	5	3'- 0"	S505.2	STR	3'- 0"											
	10	5	5'- 4"	S506.2	S6	0'- 6"	1'- 5"	1'- 6"	1'- 5"			0'- 6"					
▲	52	6	31'- 2"	S601.2	1	0'- 8"	30'- 6"							0'- 6"			
✳ ▲	10	6	17'- 0"	S602.2	1	0'- 8"	16'- 4"							0'- 6"			
✳ ▲	28	11	31'- 5"	S1101.2	1	1'- 7"	29'- 10"							1'- 3"			
▲	24	11	44'- 10"	S1102.2	1	1'- 7"	43'- 3"							1'- 3"			
ABUTMENT 1																	
	26	5	27'- 5"	1AE501	STR	27'- 5"											
✳	26	5	7'- 11"	1AE502	STR	7'- 11"											
	72	5	11'- 6"	1AE503	STR	11'- 6"											
	72	5	6'- 9"	1AE504	STR	6'- 9"											
	134	5	10'- 5"	1AE505	STR	10'- 5"											
	13	5	27'- 3"	1AE506	STR	27'- 3"											
	13	5	31'- 2"	1AE507	STR	31'- 2"											
	13	5	10'- 3"	1AE508	STR	10'- 3"											
	13	5	14'- 5"	1AE509	STR	14'- 5"											
	70	5	7'- 1"	1AE510	S10		2'- 6"	2'- 1"	2'- 6"								
	13	5	6'- 6"	1AE511	22		3'- 3"	3'- 3"	---				1'- 5"	---	2'- 11"	---	
	26	5	6'- 6"	1AE512	22		3'- 3"	3'- 3"	---				1'- 5"	---	2'- 11"	---	
	26	5	16'- 11"	1AE513	STR	16'- 11"											
	26	5	16'- 0"	1AE514	STR	16'- 0"											
	13	5	16'- 5"	1AE515	STR	16'- 5"											
	13	5	20'- 6"	1AE516	STR	20'- 6"											
▲	21	5	18'- 3"	1AE517	STR	18'- 3"											
	13	5	22'- 5"	1AE518	STR	22'- 5"											
	39	5	12'- 9"	1AE519	STR	12'- 9"											
	13	5	6'- 6"	1AE520	22		3'- 3"	3'- 3"	---				1'- 6"	---	2'- 10"	---	
	26	5	6'- 6"	1AE521	22		3'- 3"	3'- 3"	---				1'- 6"	---	2'- 10"	---	
✳	101	6	12'- 1"	1AE601	17		4'- 1"	8'- 0"	---								
	33	8	4'- 0"	1AE801	STR	4'- 0"											
✳	106	8	11'- 6"	1AE802	STR	11'- 6"											
	25	8	3'- 6"	1A801.2	STR	3'- 6"											
WINGWALL 2																	
	26	5	29'- 6"	2WE501	STR	29'- 6"											
	31	5	11'- 5"	2WE502	STR	11'- 5"											
	31	5	6'- 9"	2WE503	STR	6'- 9"											
	77	5	13'- 3"	2WE504	STR	13'- 3"											
	32	5	29'- 6"	2WE505	STR	29'- 6"											
	31	5	7'- 1"	2WE506	S10		2'- 6"	2'- 1"	2'- 6"								
	46	6	12'- 1"	2WE601	17		4'- 1"	8'- 0"	---								
	16	8	4'- 0"	2WE801	STR	4'- 0"											
	46	8	11'- 6"	2WE802	STR	11'- 6"											
ABUTMENT 2																	
	26	5	27'- 6"	2AE501	STR	27'- 6"											
	29	5	11'- 6"	2AE502	STR	11'- 6"											
	37	5	6'- 9"	2AE503	STR	6'- 9"											
	72	5	9'- 6"	2AE504	STR	9'- 6"											
	26	5	27'- 6"	2AE505	STR	27'- 6"											
	29	5	7'- 1"	2AE506	S10		2'- 6"	2'- 1"	2'- 6"								
	16	5	6'- 0"	2AE507	STR	6'- 0"											
	43	6	12'- 1"	2AE601	17		4'- 1"	8'- 0"	---								
	14	8	4'- 0"	2AE801	STR	4'- 0"											
	43	8	11'- 6"	2AE802	STR	11'- 6"											
	12	8	11'- 4"	2AE803	17		4'- 1"	7'- 3"	---								
	14	8	3'- 6"	2A801.2	STR	3'- 6"											

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
WINGWALL 4																	
▲	15	5	13'- 0"	4WE501	STR	13'- 0"											
	13	5	6'- 6"	4WE502	S10		3'- 3"	3'- 3"	---								
	8	5	12'- 5"	4WE503	STR	12'- 5"											
▲	14	5	14'- 2"	4WE504	STR	14'- 2"											
	14	5	6'- 1"	4WE505	S10		2'- 6"	1'- 1"	2'- 6"								
	2	5	14'- 8"	4WE506	22		2'- 6"	9'- 8"	2'- 6"								
	24	6	16'- 3"	4WE601	22		4'- 3"	7'- 9"	4'- 3"								
	24	6	8'- 6"	4WE602	S10		4'- 3"	4'- 3"	---								
▲	30	6	13'- 0"	4WE603	STR	13'- 0"											
	12	8	14'- 5"	4WE801	STR	14'- 5"											

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-SI). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS-ROUND SECTION DIAMETER INCHES	AREA SQUARE INCHES	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.04	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.14
#9	3.400	1.13	1.00	3.54
#10	4.3	1.270	1.27	3.990
#11	5.31	1.410	1.56	4.430
#14	7.65	1.69	2.25	5.32
#18	13.60	2.26	4.00	7.09

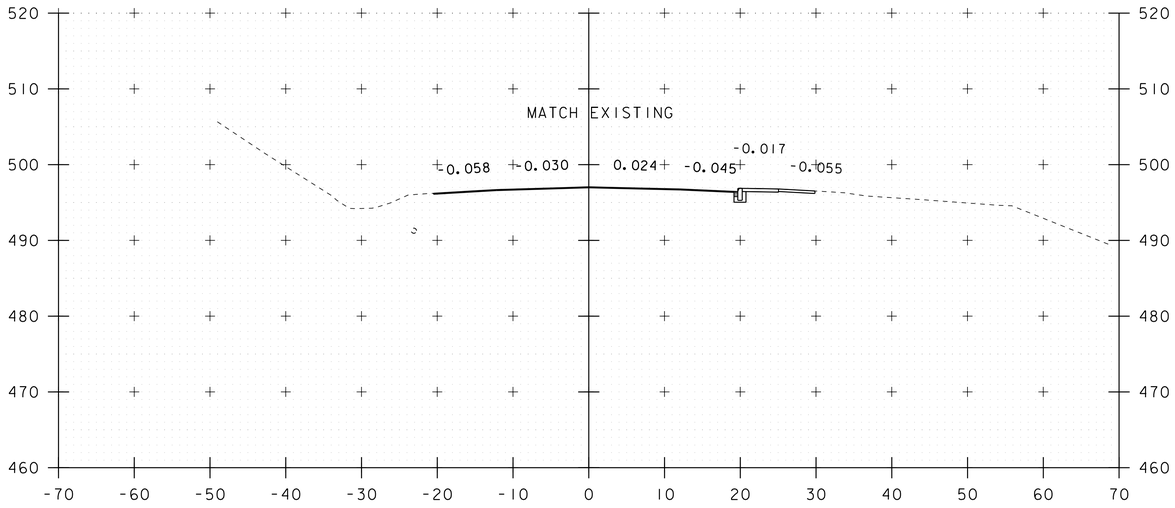
~ REINFORCING STEEL CORROSION RESISTANCE LEVEL ~

THE REINFORCING STEEL MARKS IN THIS SCHEDULE INDICATE THE REQUIRED BAR CORROSION RESISTANCE LEVEL. CORROSION RESISTANCE LEVEL IS DENOTED WITH A .2 FOR LEVEL TWO SUFFIX OR .3 FOR LEVEL THREE SUFFIX, .1 FOR LEVEL ONE IS TO BE OMITTED. THE BAR MATERIAL TYPE AND BAR STEEL GRADE PROVIDED FOR EACH CORROSION LEVEL WILL BE RECORDED ON THE PLAN SET PI SHEET FOR AS-BUILT RECORD PLAN ARCHIVES.

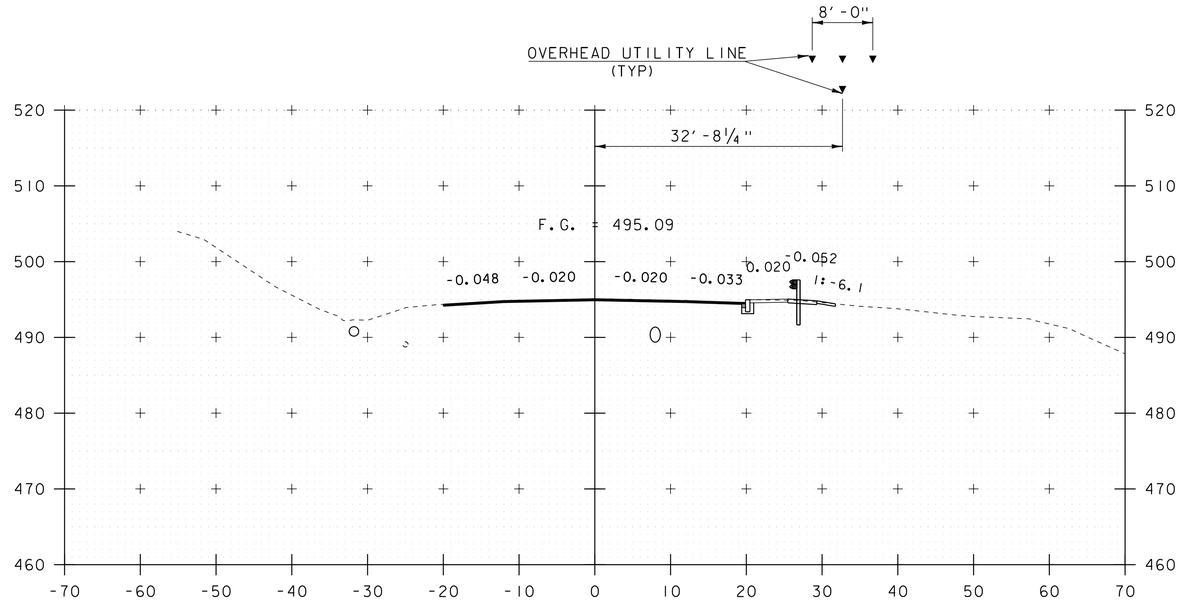
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336rss.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
REINFORCING STEEL SCHEDULE

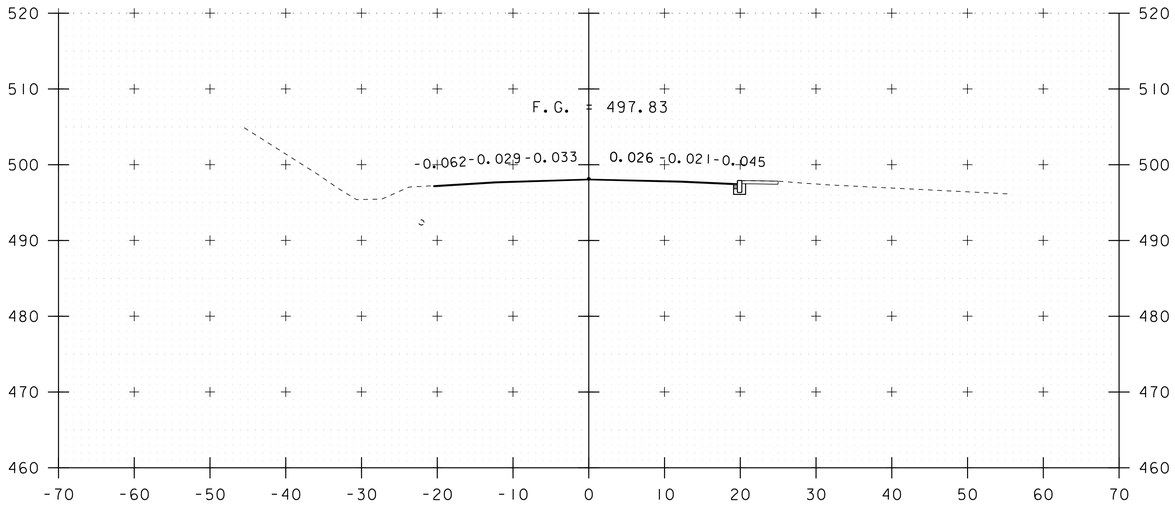
PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROY
CHECKED BY: G. DARGAN
SHEET 87 OF 110



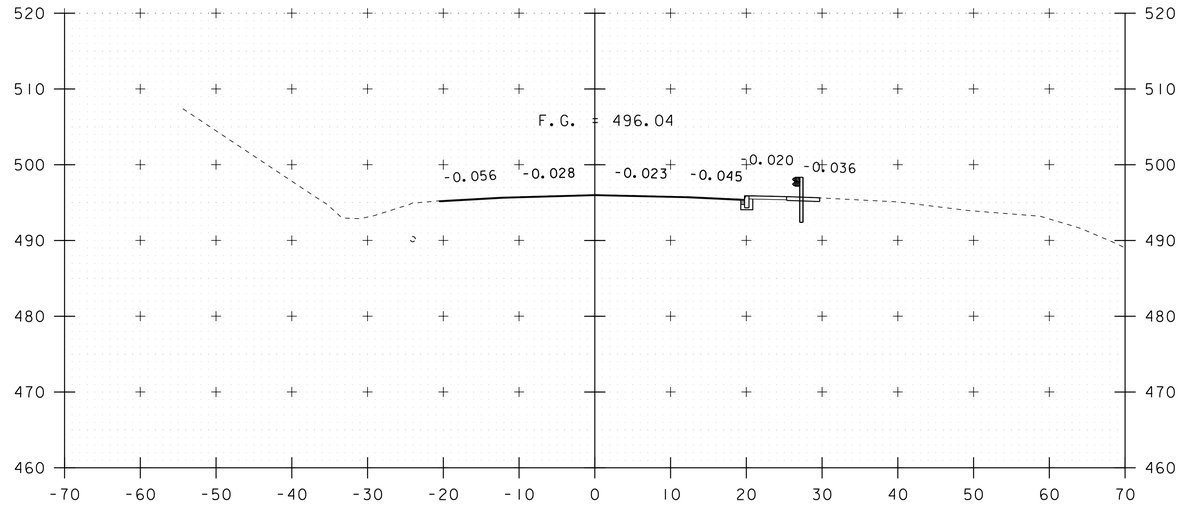
362+75



363+25



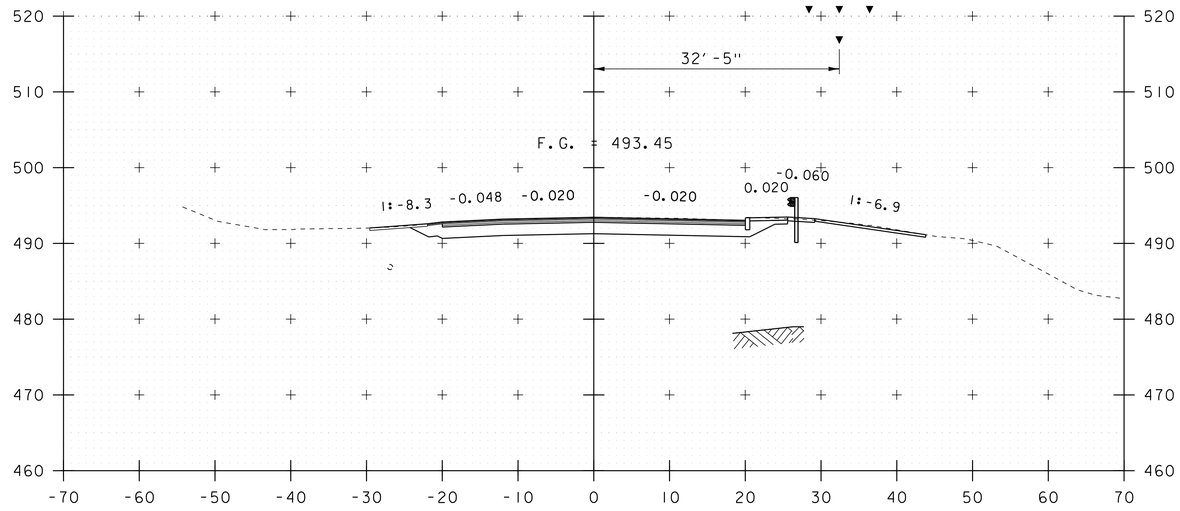
362+50
BEGIN APPROACH



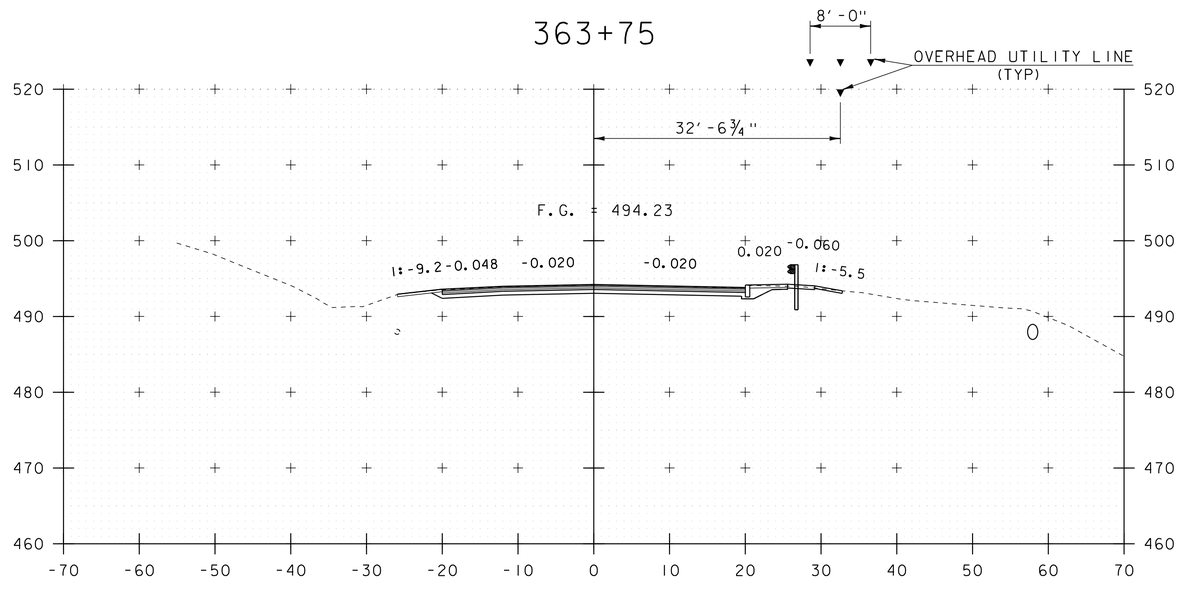
363+00

STA. 362+50 TO STA. 363+25

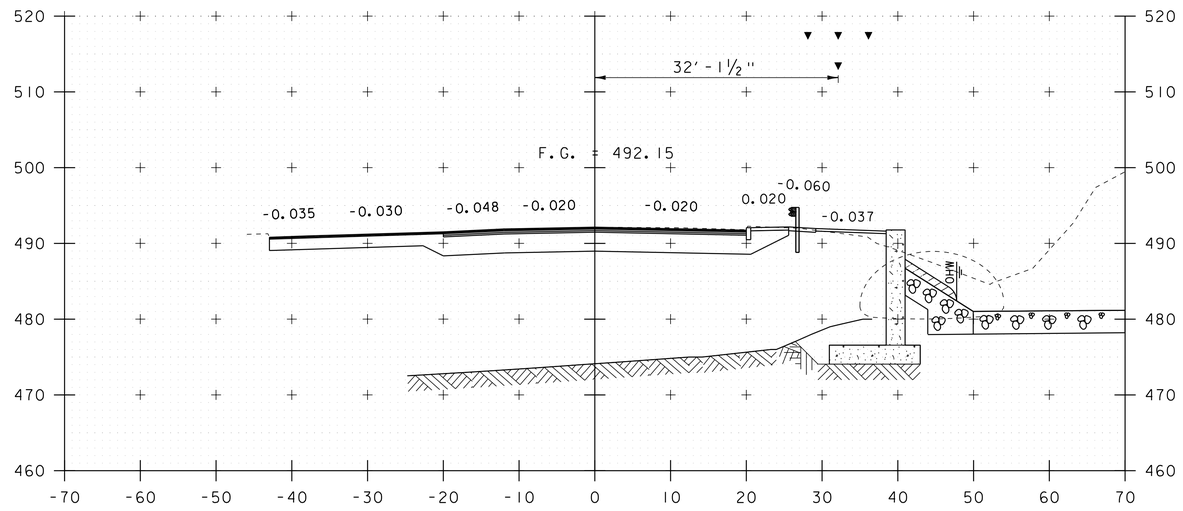
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336xs.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
VT 11 SECTIONS 1	SHEET 88 OF 110



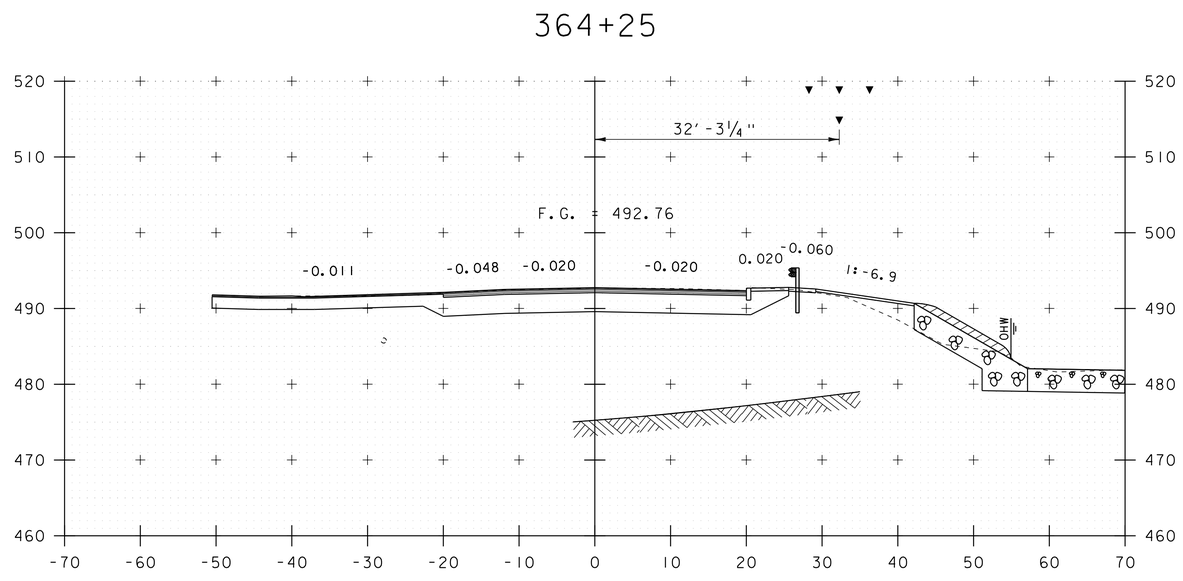
363+75



363+50



364+25



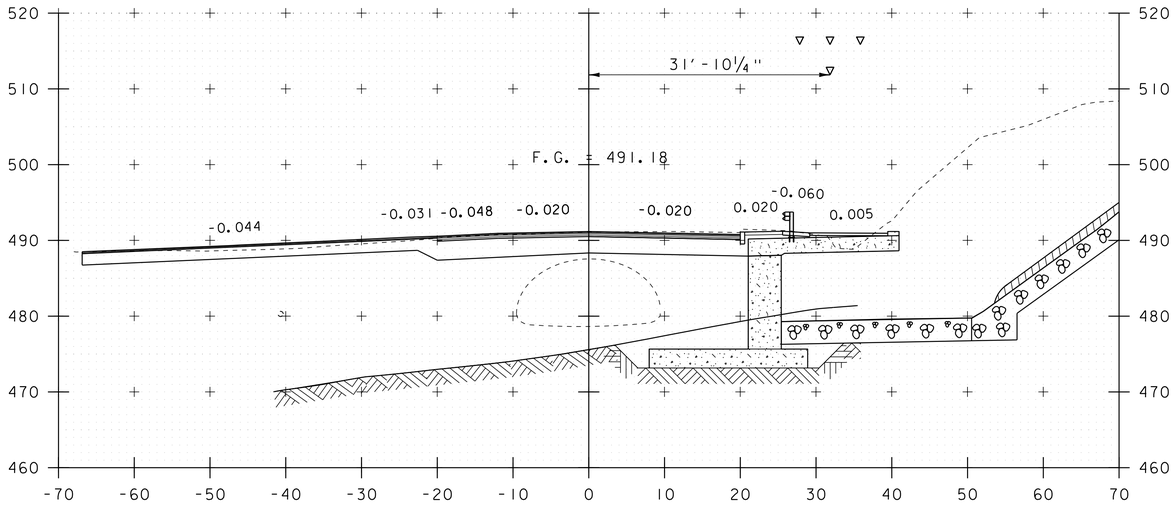
364+00
BEGIN PROJECT

STA. 363+50 TO STA. 364+25

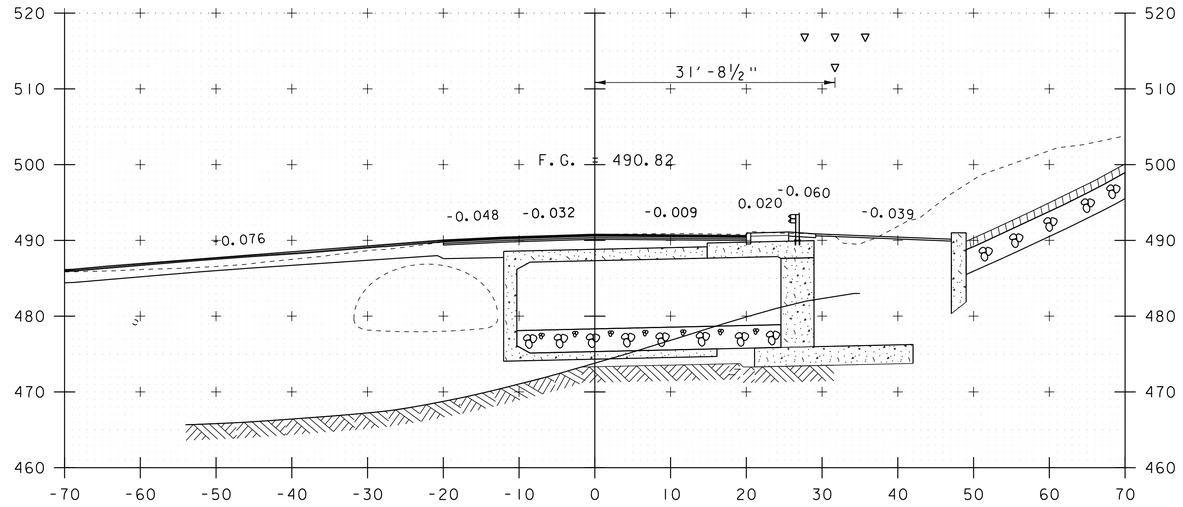
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
VT 11 SECTIONS 2

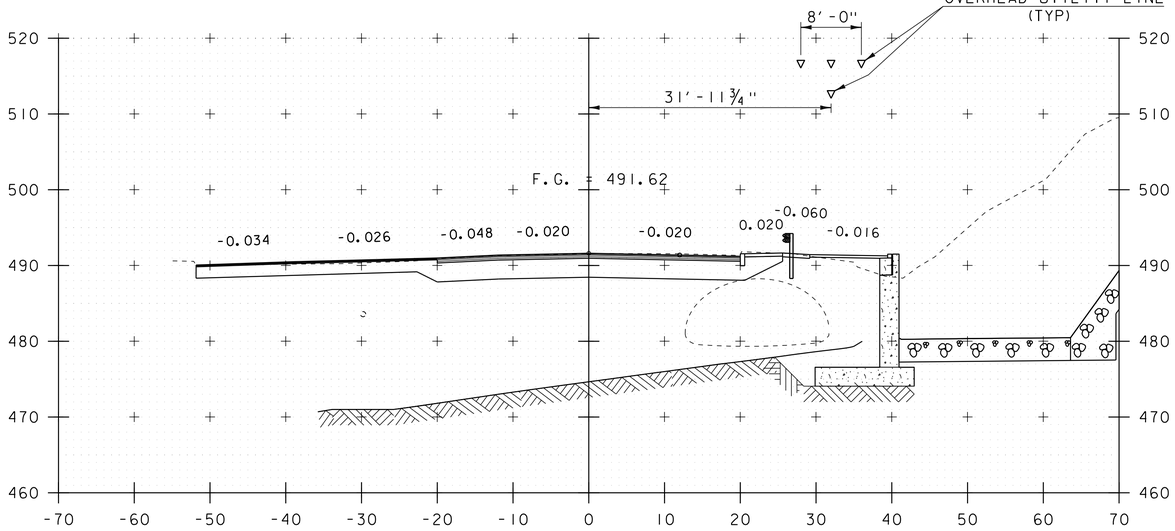
PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 89 OF 110



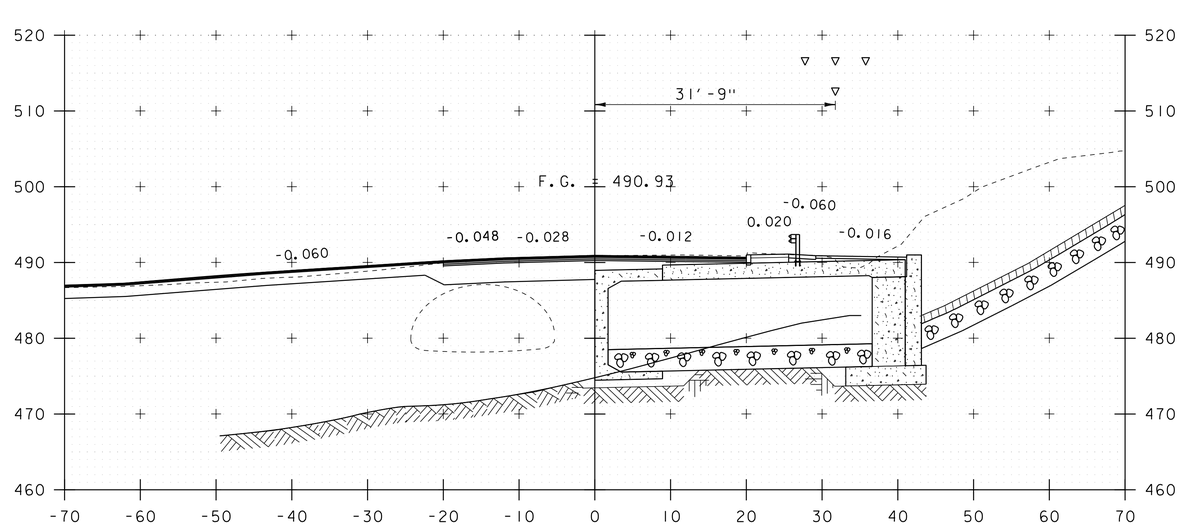
364+50



365+00



364+75



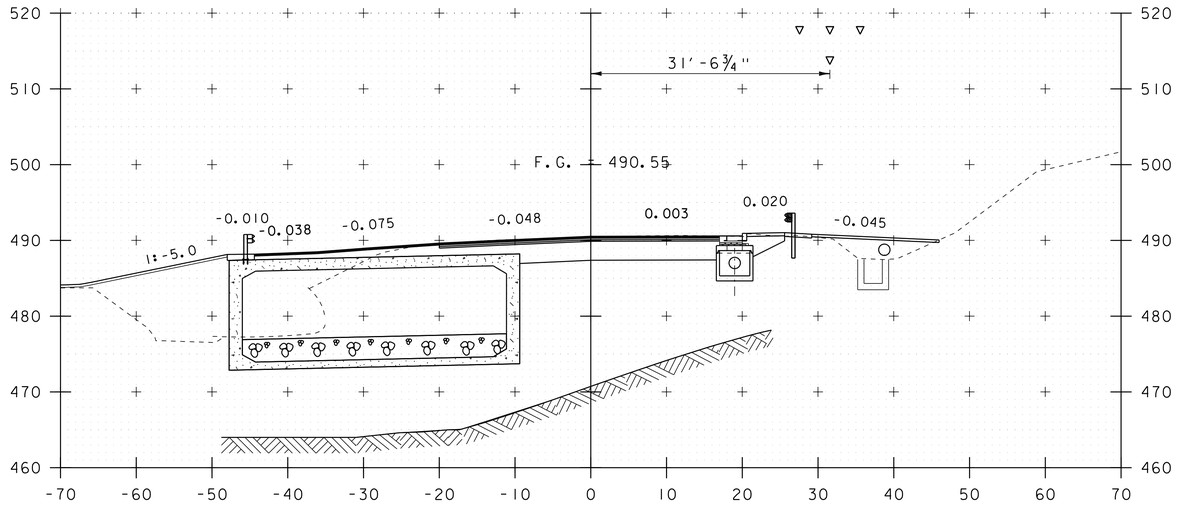
364+92
BEGIN BRIDGE

STA. 364+25 TO STA. 365+00

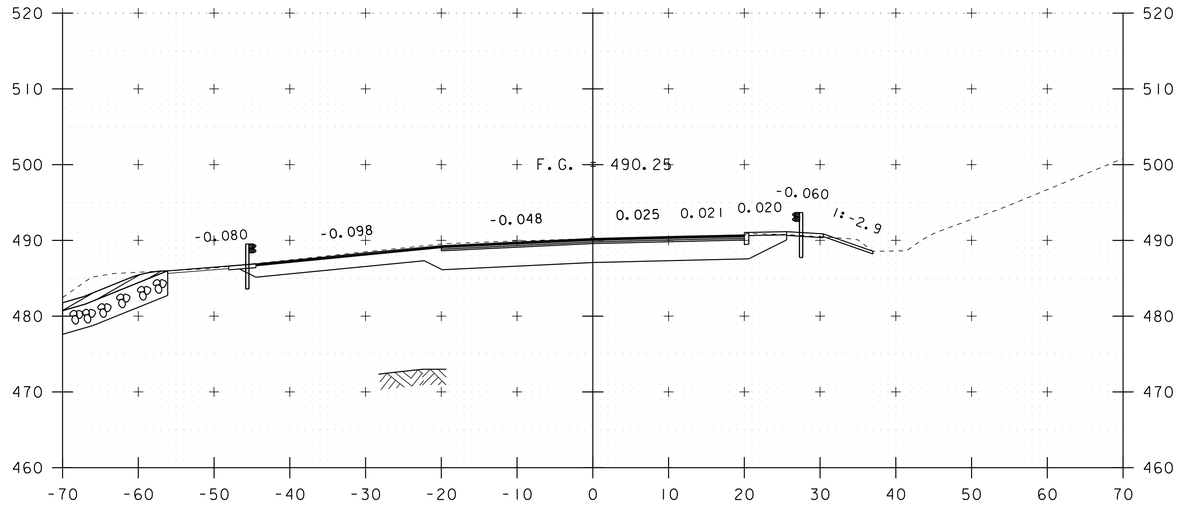
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
VT 11 SECTIONS 3

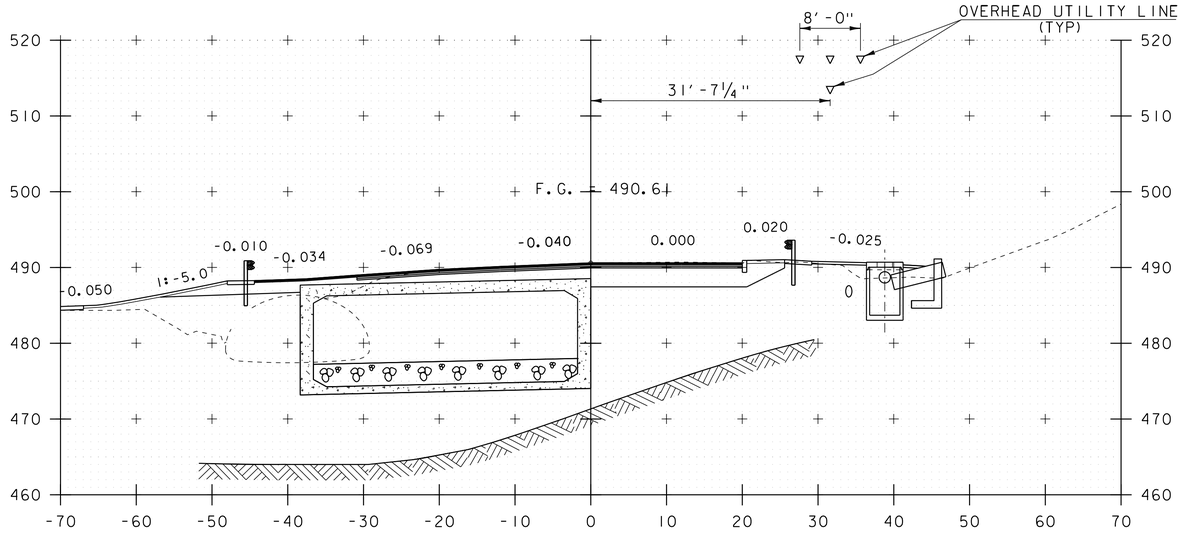
PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 90 OF 110



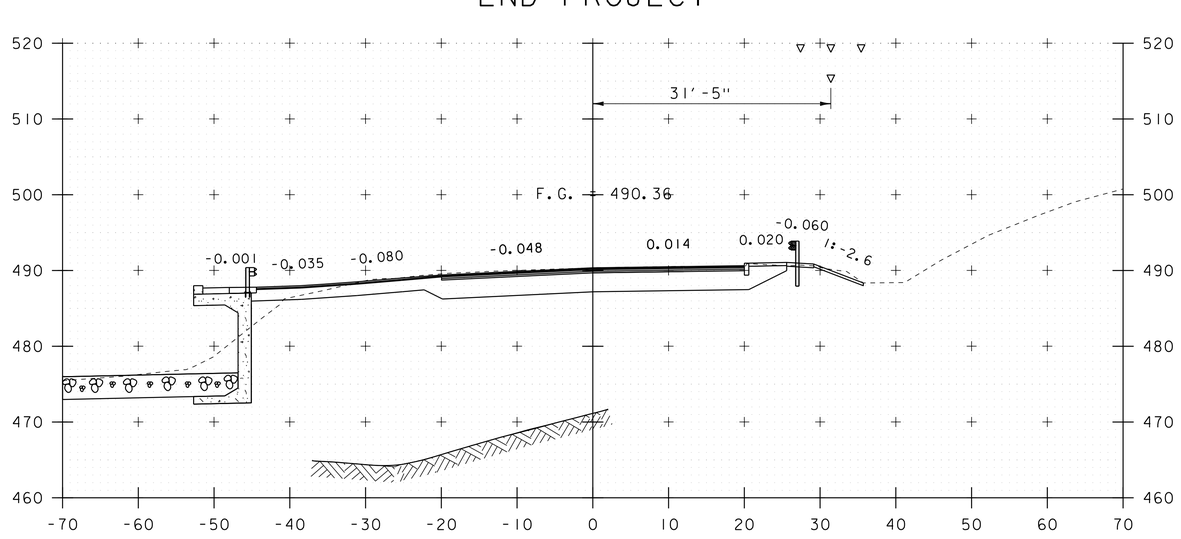
365+25



365+75
END PROJECT



365+18
END BRIDGE

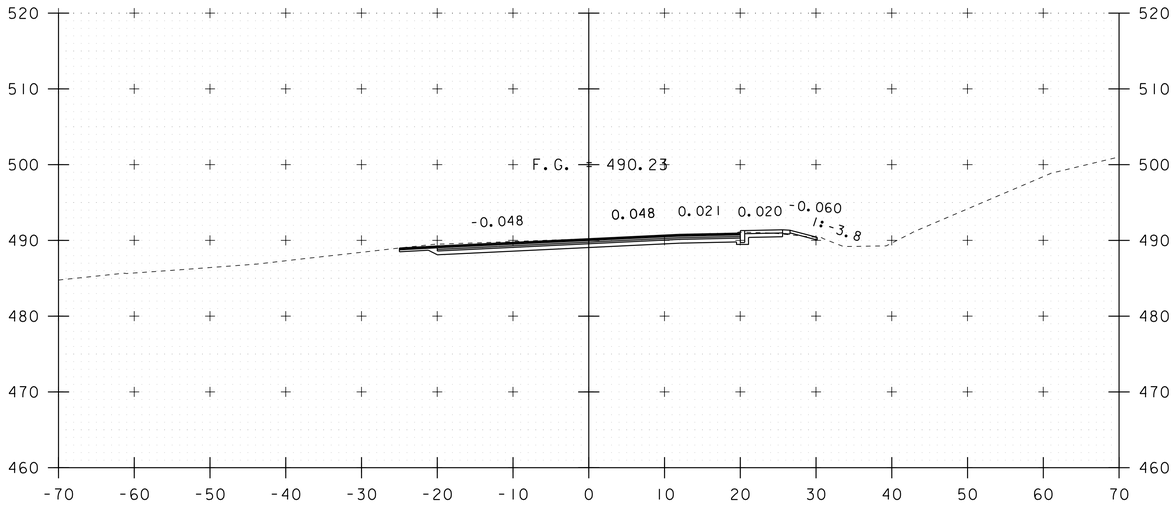


365+50

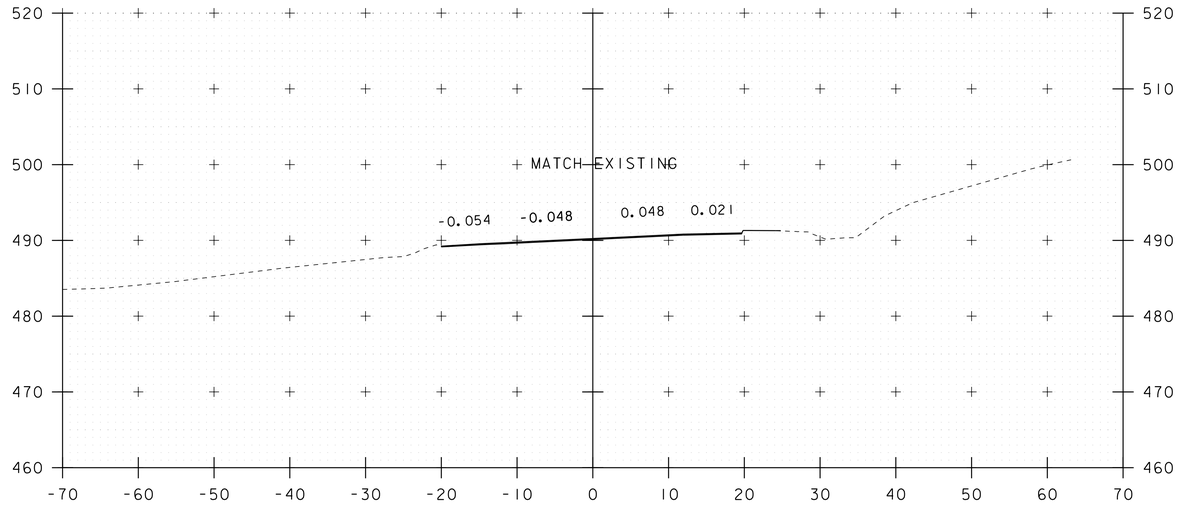
STA. 365+18 TO STA. 365+75

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)

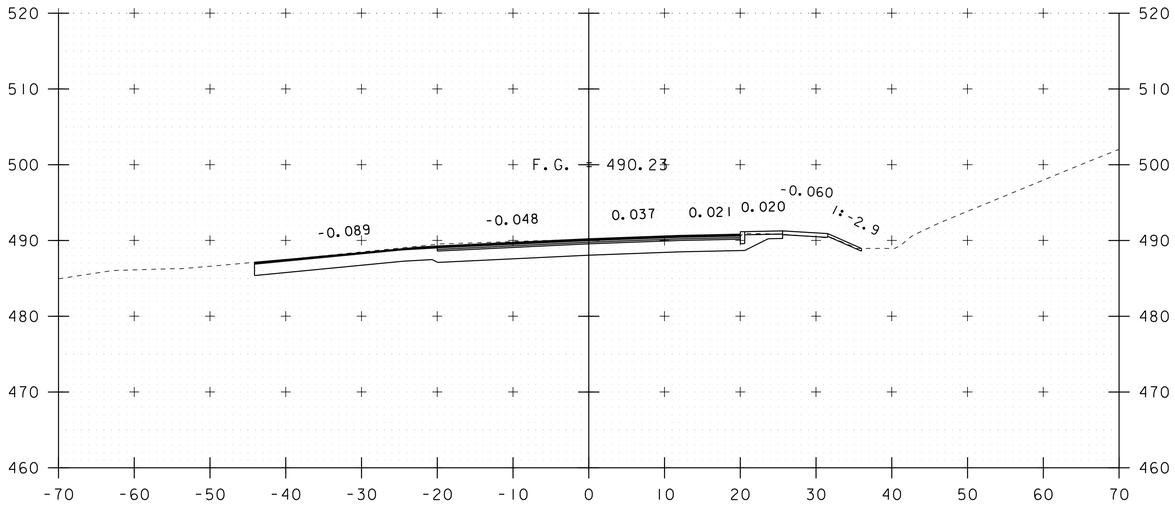
FILE NAME: sl3d336xs.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
VT 11 SECTIONS 4	SHEET 91 OF 110



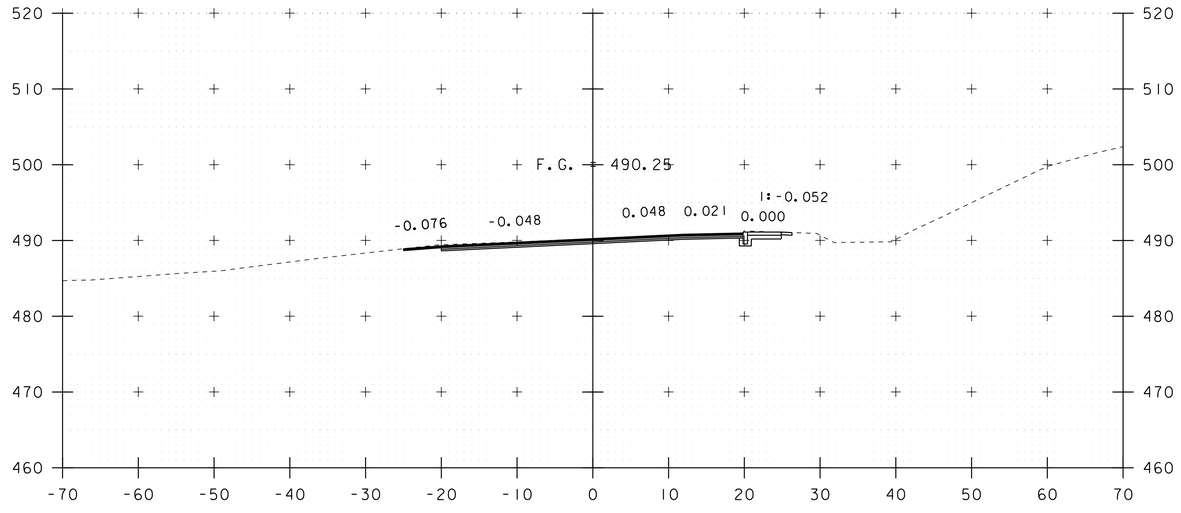
366+25



366+75



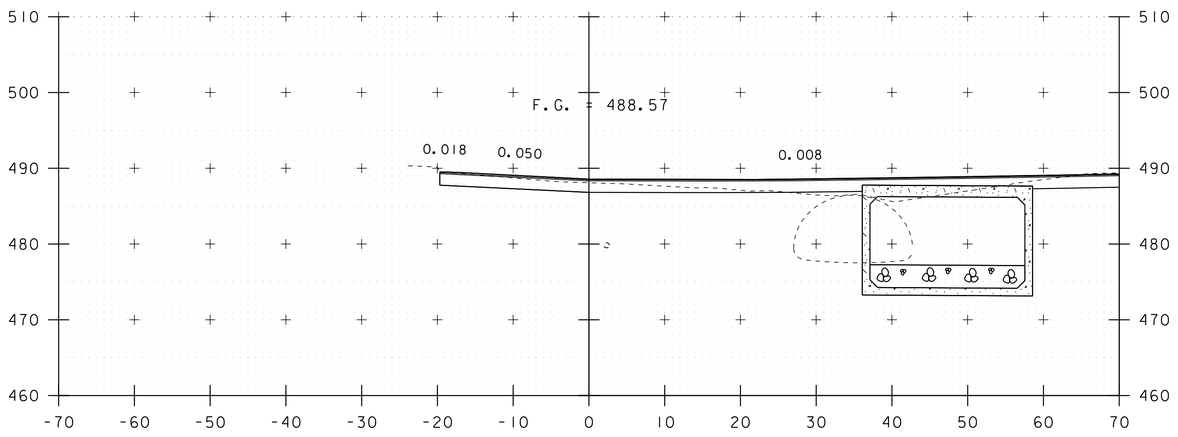
366+00



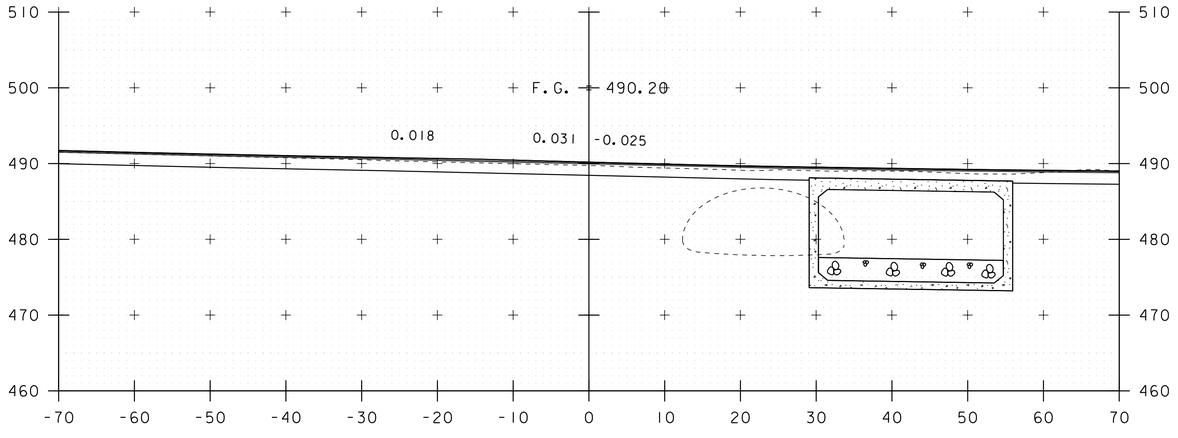
366+50

STA. 366+00 TO STA. 366+75

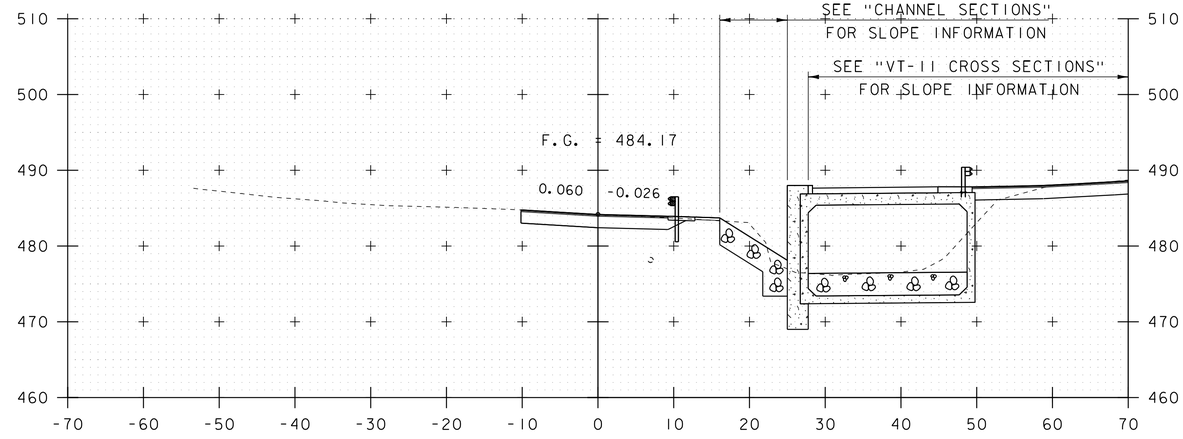
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336xs.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
VT 11 SECTIONS 5	SHEET 92 OF 110



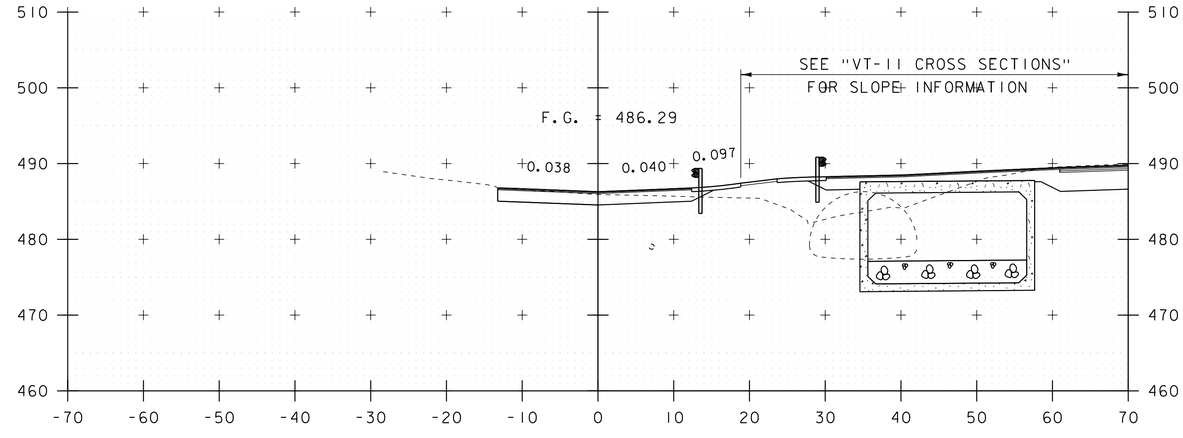
200+50



200+25



201+00



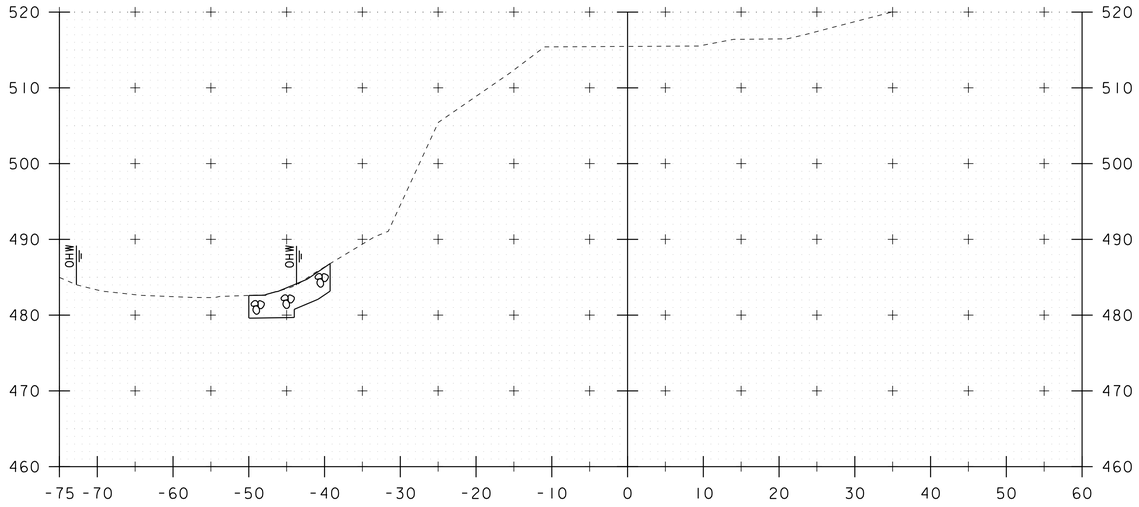
200+75

STA. 200+25 TO STA. 201+00

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

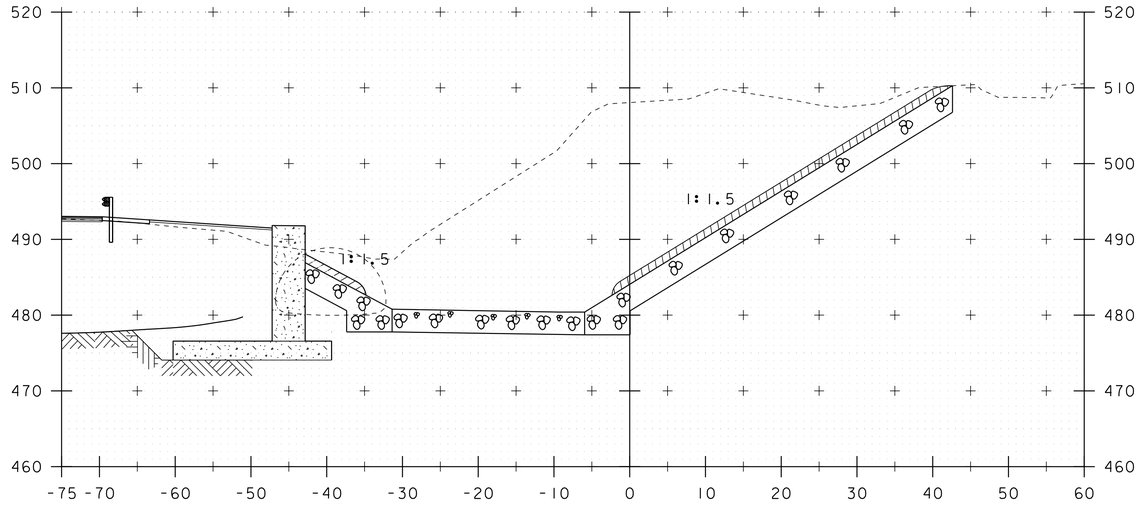
FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
DRIVE SECTIONS

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 93 OF 110



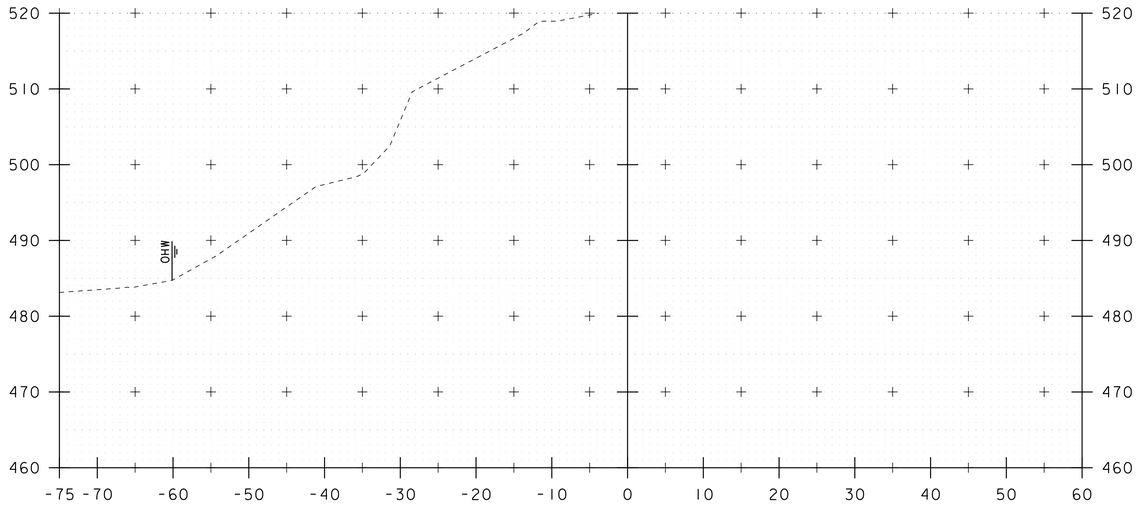
10+25

STA 10+25.00 RT
BEGIN STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
UNCLASSIFIED CHANNEL EXCAVATION

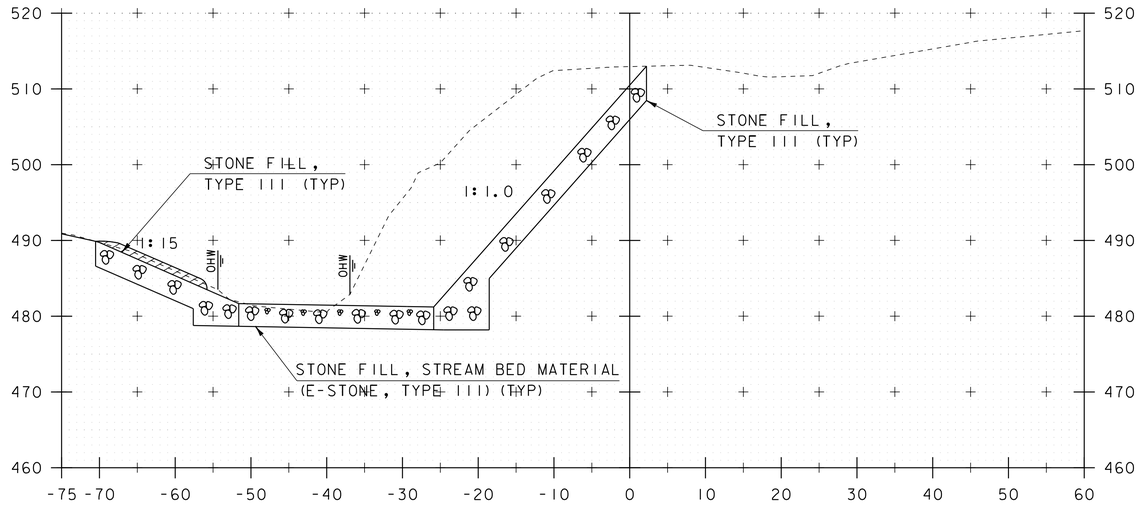


10+75

STA 10+60.00 RT
BEGIN GRUBBING MATERIAL



10+00



STA 10+35.00 LT
BEGIN STONE FILL, TYPE III
GRUBBING MATERIAL
GEOTEXTILE UNDER STONE FILL
UNCLASSIFIED CHANNEL EXCAVATION

10+50

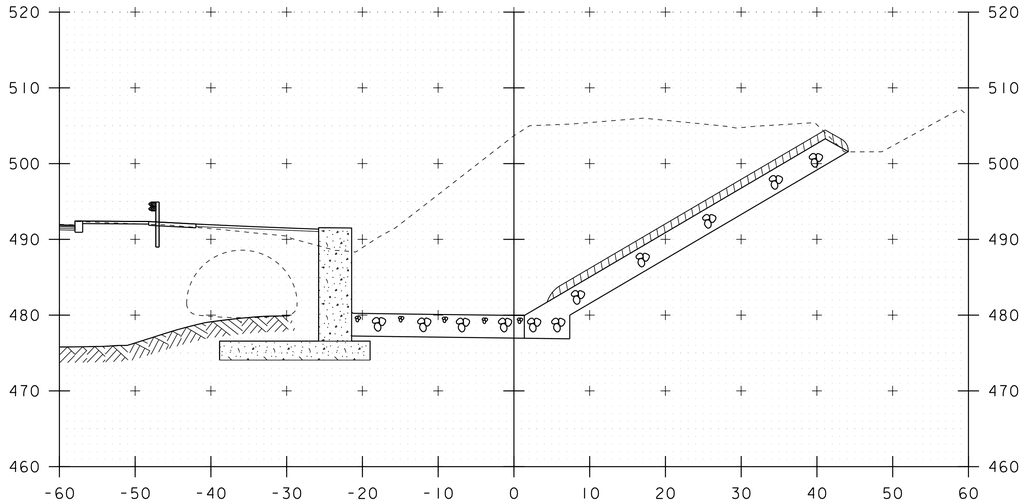
STA 10+30.00 LT/RT
BEGIN STONE FILL, STREAM BED MATERIAL

STA. 10+00 TO STA. 10+75

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

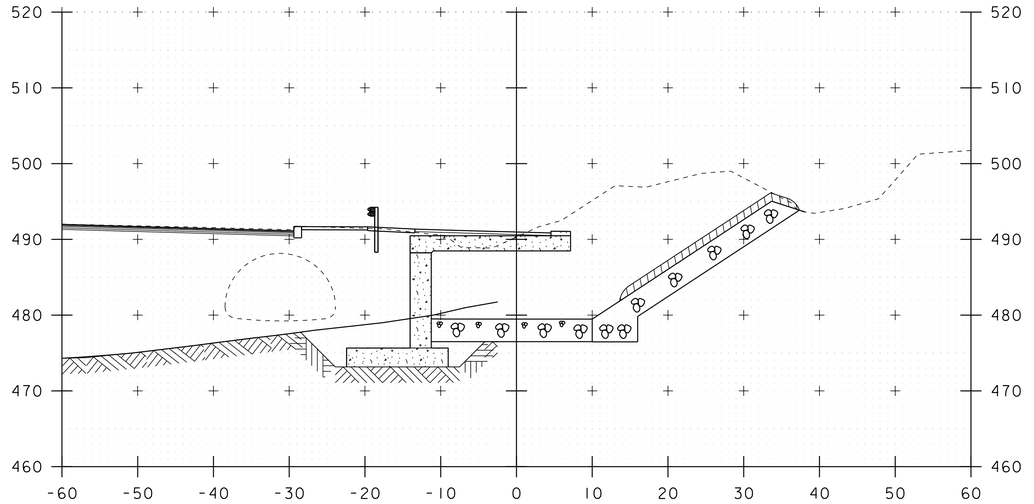
FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
CHANNEL SECTIONS 1

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 94 OF 110



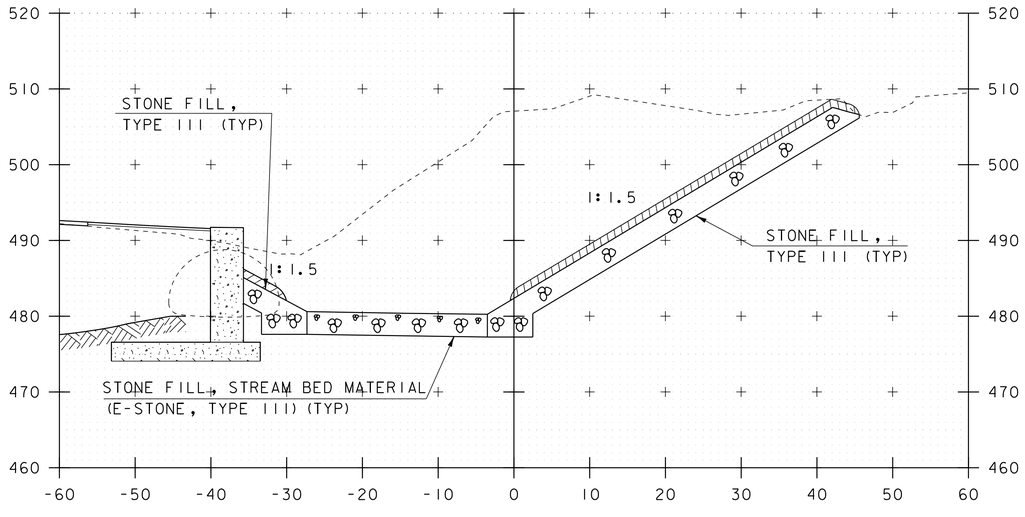
STA 10+90.00 LT
END STONE FILL, TYPE III
GRUBBING MATERIAL
GEOTEXTILE UNDER STONE FILL

10+90

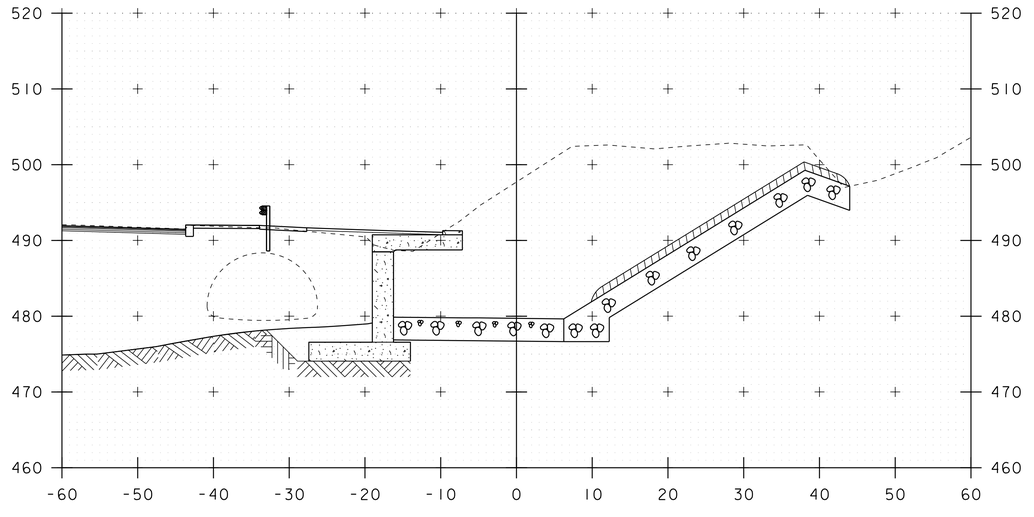


STA 11+10.00 RT
END STONE FILL, TYPE III
ENDGRUBBING MATERIAL
END GEOTEXTILE UNDER STONE FILL

11+10



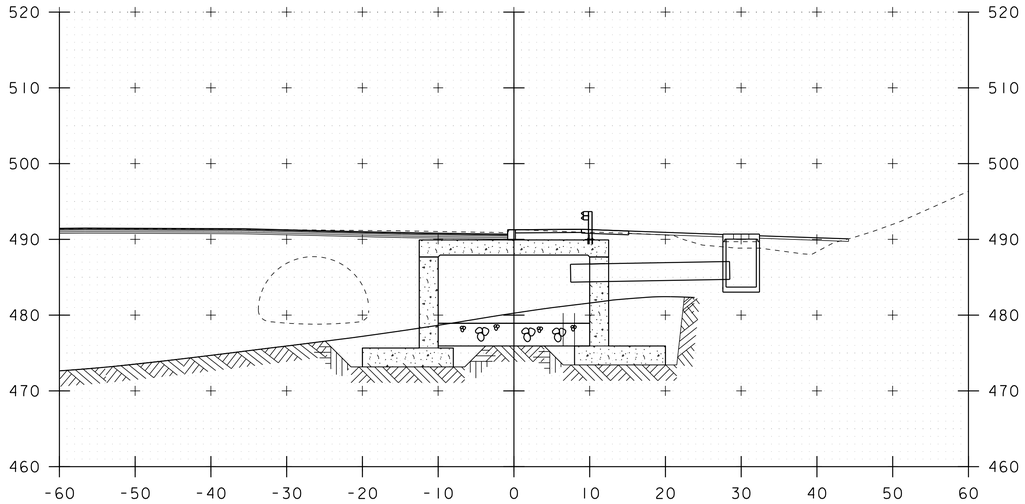
10+80



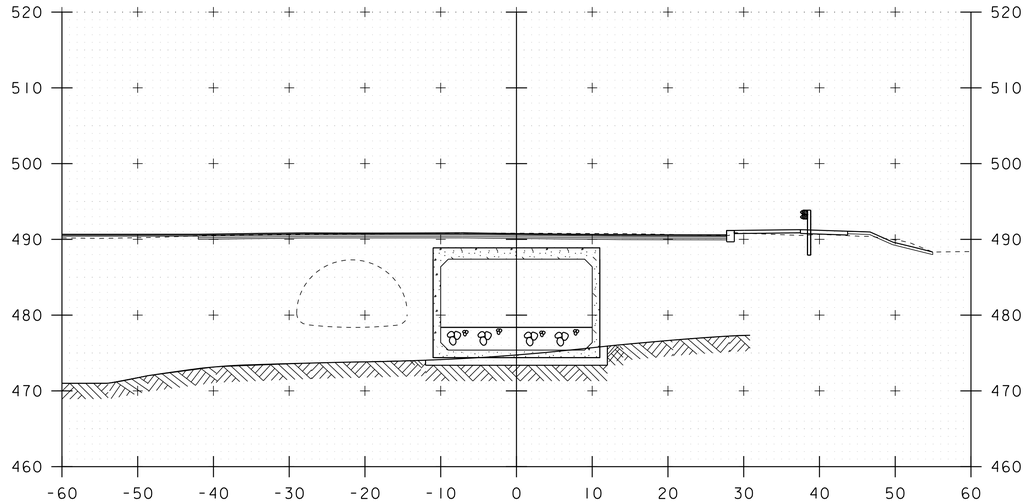
11+00

STA. 10+80 TO STA. 11+10

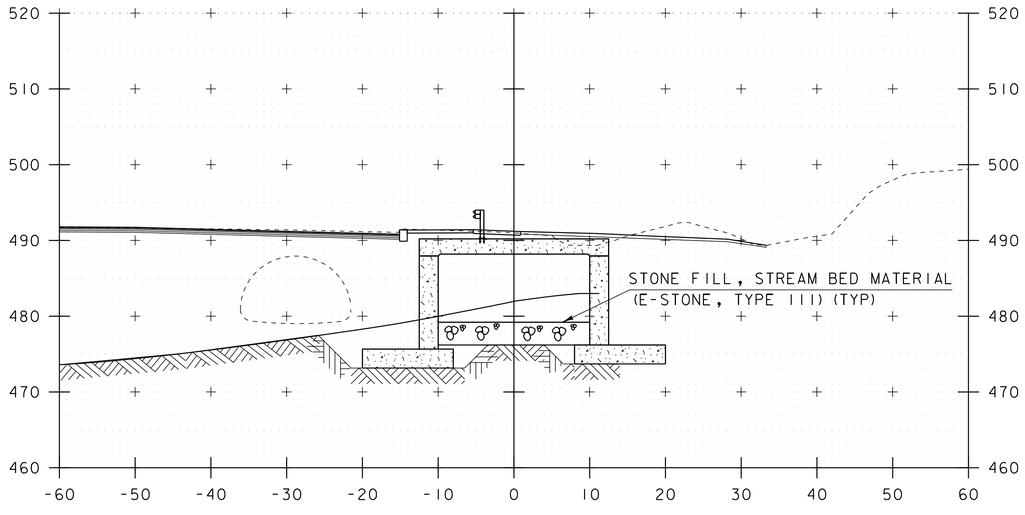
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336xs.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
CHANNEL SECTIONS 2	SHEET 95 OF 110



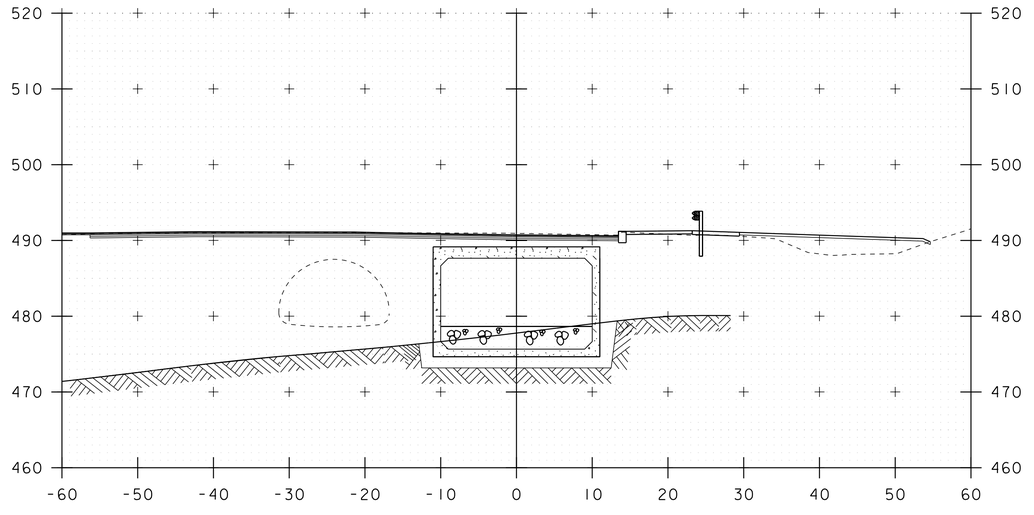
11+30



11+50



11+20



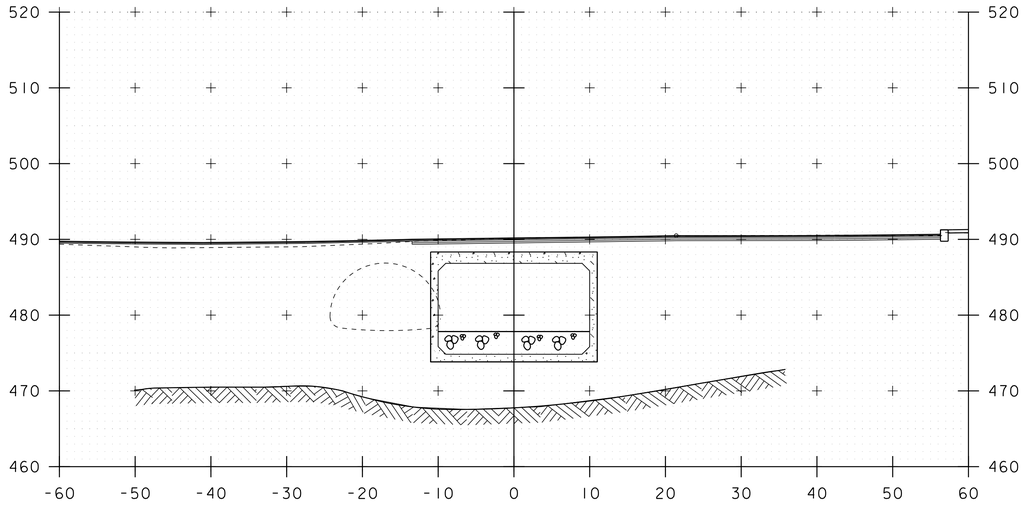
11+40

STA. 11+20 TO STA. 11+50

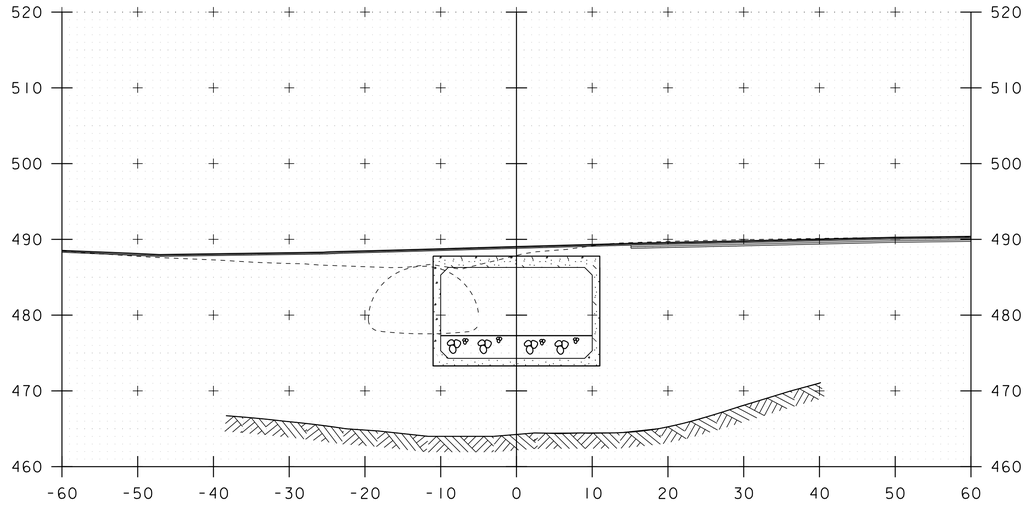
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
CHANNEL SECTIONS 3

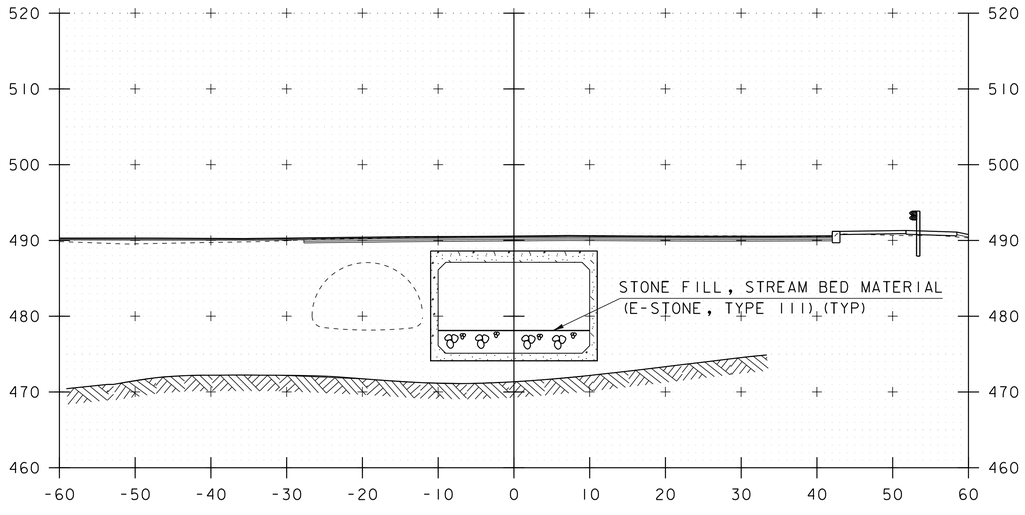
PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 96 OF 110



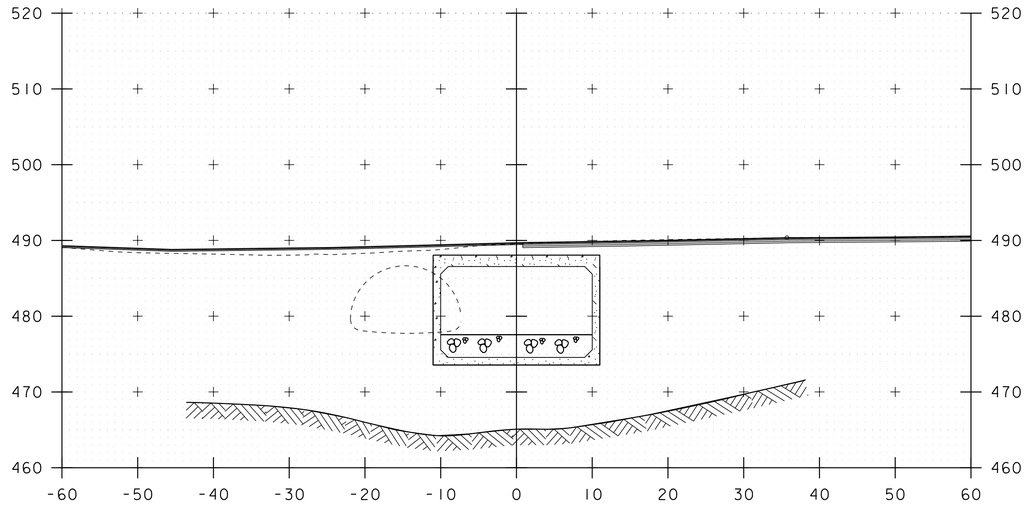
11+70



11+90



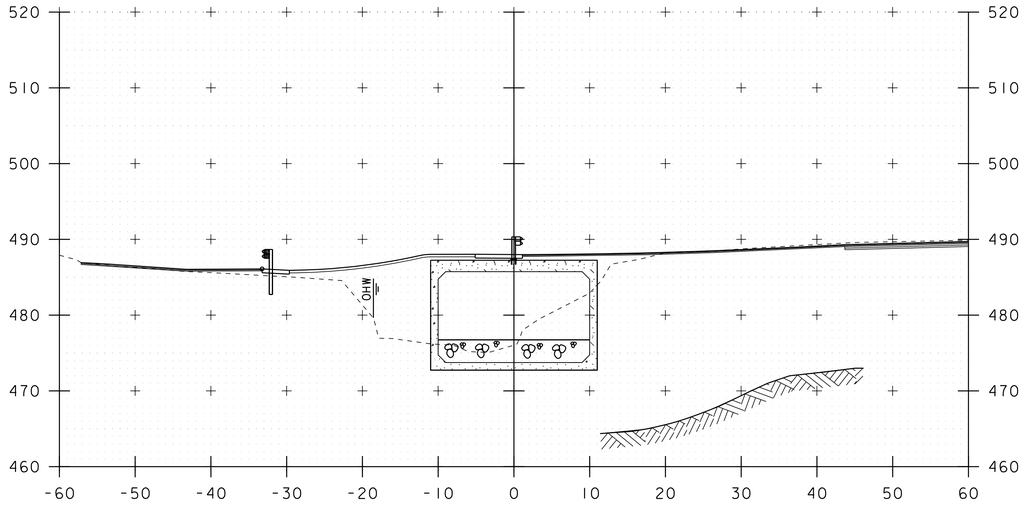
11+60



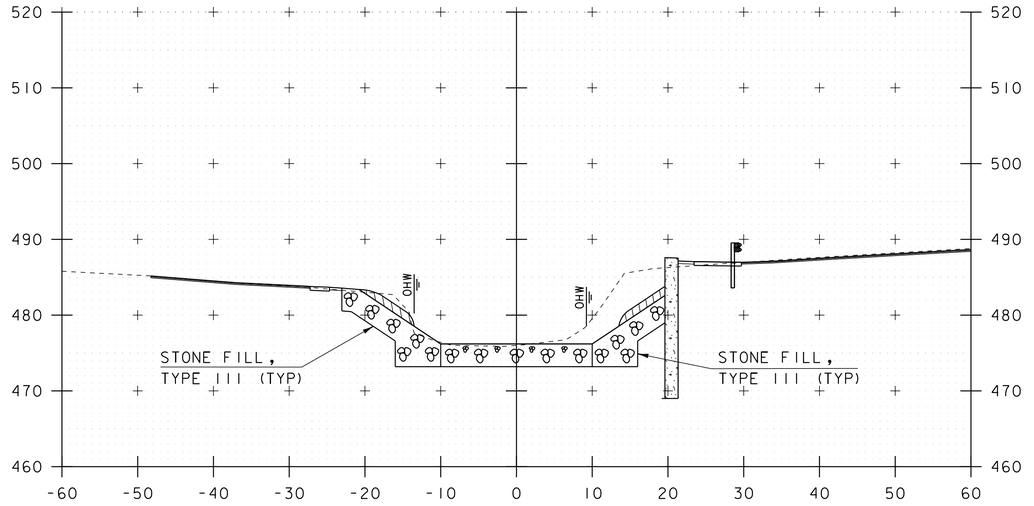
11+80

STA. 11+60 TO STA. 11+90

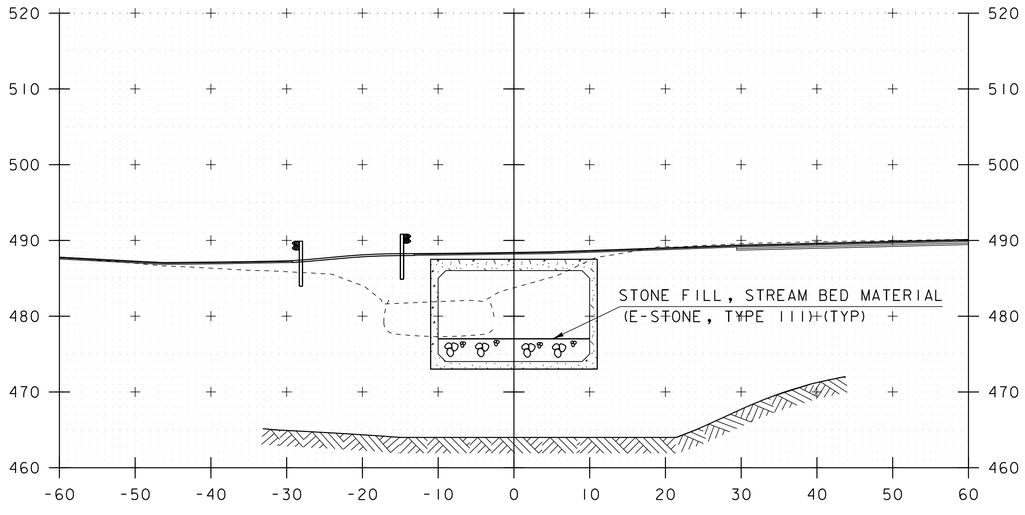
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336xs.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
CHANNEL SECTIONS 4	SHEET 97 OF 110



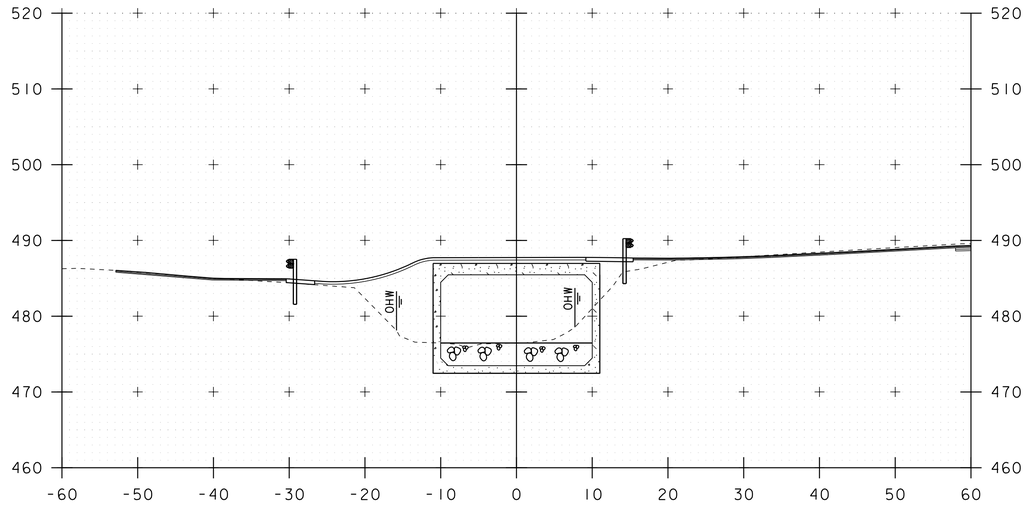
12+10



12+30



12+00



12+20

STA 12+24.00 LT
BEGIN STONE FILL, TYPE III
GRUBBING MATERIAL
GEOTEXTILE UNDER STONE FILL

STA 12+24.00 RT
BEGIN STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
UNCLASSIFIED CHANNEL EXCAVATION

STA. 12+00 TO STA. 12+30

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

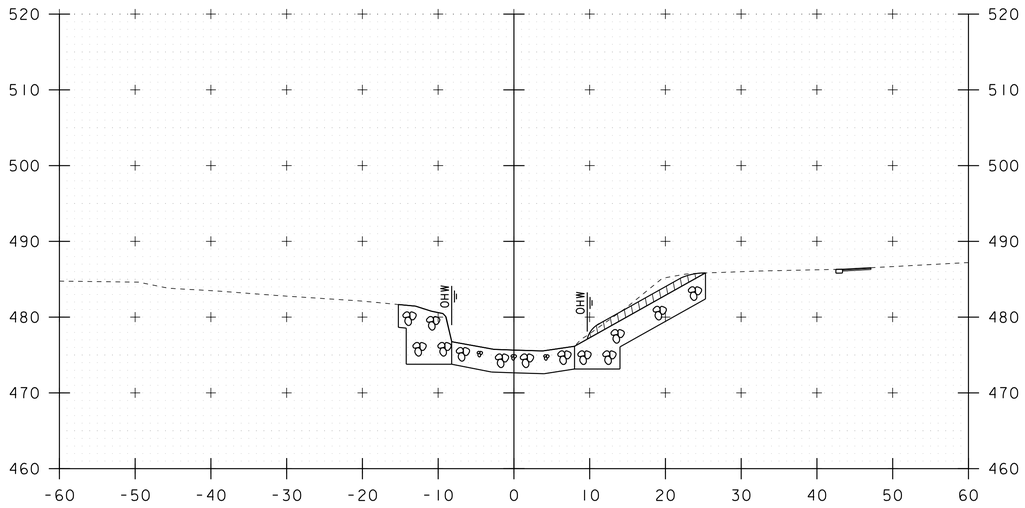
FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
CHANNEL SECTIONS 5

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 98 OF 110

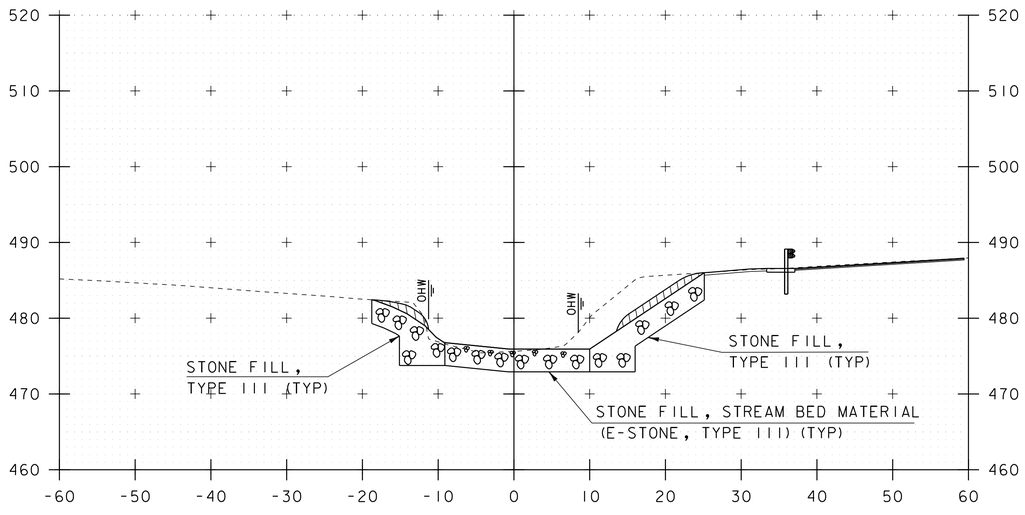
STA 12+50.00 LT
END STONE FILL, TYPE III
GRUBBING MATERIAL
GEOTEXTILE UNDER STONE FILL

STA 12+50.00 LT/RT
END STONE FILL, STREAM BED MATERIAL

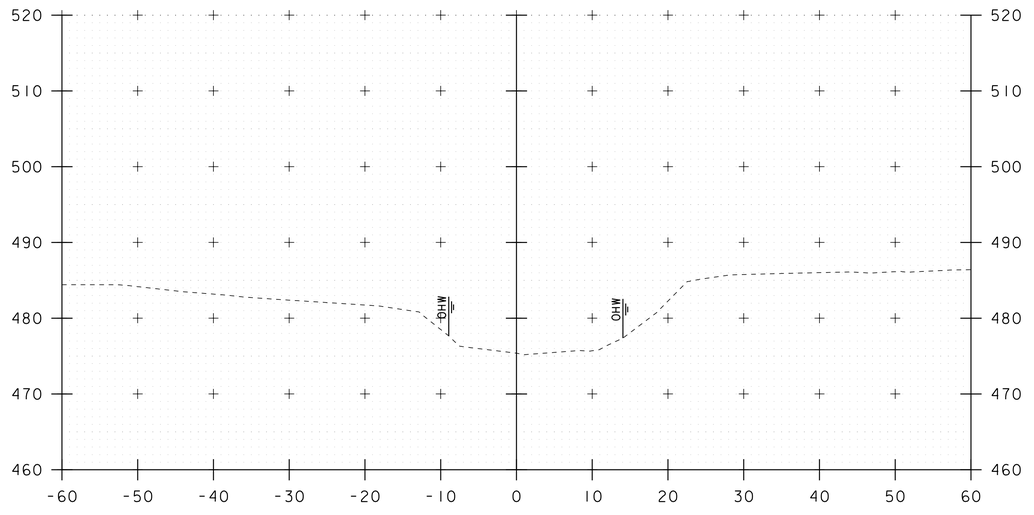
STA 12+50.00 RT
END STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
UNCLASSIFIED CHANNEL EXCAVATION



12+50



12+40



12+60

STA. 12+40 TO STA. 12+60

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
CHANNEL SECTIONS 6

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 99 OF 110

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				

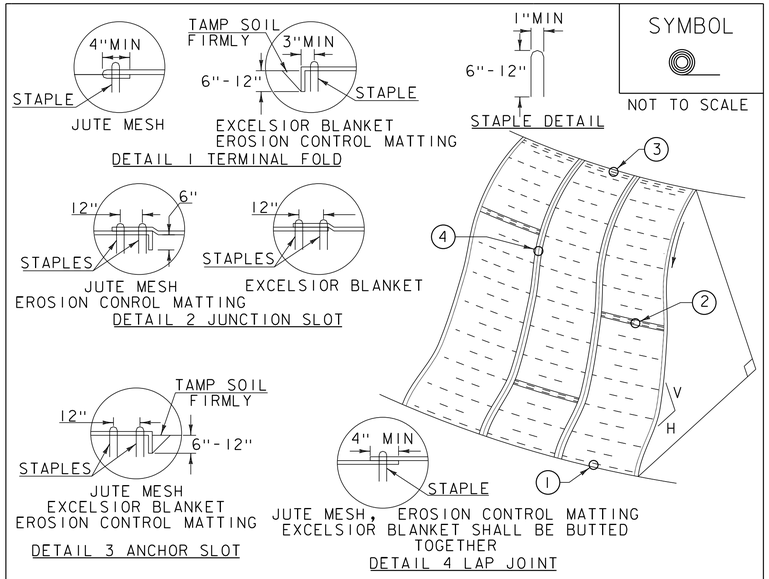
VAOT RURAL AREA MIX						
	LBS/AC					
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
37.5%	22.5	45	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
37.5%	22.5	45	TALL FESCUE	FESTUCA ARUNDINACEA	90%	95%
5.0%	3	6	RED TOP	AGROSTIS GIGANTEA	90%	95%
15.0%	9	18	WHITE FIELD CLOVER	TRIFOLIUM REPENS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



CONSTRUCTION SPECIFICATIONS

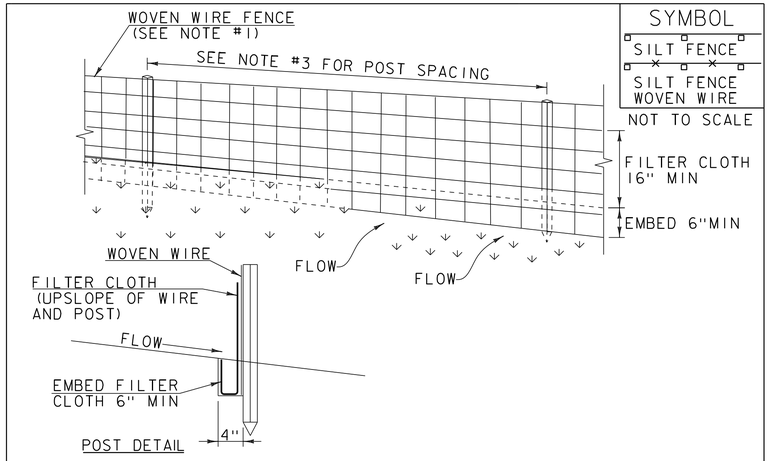
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER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

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

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

REVISIONS		
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336ero_details.dgn	PLOT DATE: 11-AUG-2020
PROJECT LEADER: G. LAROCHE	DRAWN BY: G. ROY
DESIGNED BY: G. DARGAN	CHECKED BY: G. DARGAN
EROSION CONTROL DETAILS I	SHEET 100 OF 110



SYMBOL

SILT FENCE

SILT FENCE WOVEN WIRE

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

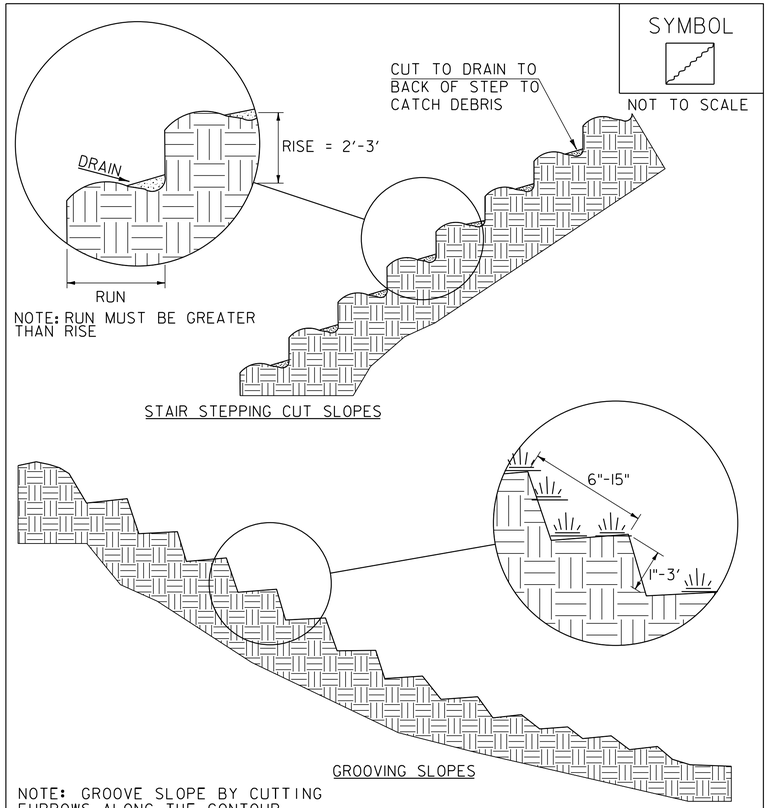
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR SILT FENCE, TYPE I (PAY ITEM 653.475) OR SILT FENCE, TYPE II (PAY ITEM 653.476).

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



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

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

SURFACE ROUGHENING

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

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336ero_details.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: G. DARGAN
EROSION CONTROL DETAILS 2

PLOT DATE: 11-AUG-2020
DRAWN BY: G. ROY
CHECKED BY: G. DARGAN
SHEET 101 OF 110

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	ROW LAYOUT NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA±	AREA±	TYPE	T / P	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
1	BLUE WOODCHUCK, LLC.	1	363+80 LT	363+92 LT			CONSTRUCTION	T	52 SF						INCL. PDF
			363+89 LT	364+08 LT			DRIVE	T	137 SF						
			364+21 LT	365+08.84 LT			DRIVE	T	1,483 SF						INCL. TRAFFIC CONTROL DEVICES
			364+99.6 LT	365+21 LT			REMOVE & RESET	T							MAILBOX
2	JONES, RALPH D. & MARIANNE	1	364+97± LT	367+12± LT			UTILITY	P	.12 A						5,387 SF±
			365+04± LT	365+29 LT			DRIVE	T	287 SF						INCL. PEDESTRIAN ACCESS, TRAFFIC CONTROL DEVICES & EC
			365+16 LT	365+48 LT			CONSTRUCTION	T	467 SF						
			364+89 LT	365+02 LT			CHANNEL	P	87 SF						INCL. STONE FILL
			364+99.6 LT	365+21 LT			REMOVE & RESET	T							MAILBOX
3	THE MAGIC MUSHROOM, LLC	1	366+77± LT	366+98± LT			UTILITY	P	107 SF						
4	35 CHESTER ROAD, LLC	1	366+88± LT	367+35.03 LT			UTILITY	P	586 SF						
5	GREEN MOUNTAIN POWER CORPORATION		363+80 LT	367+35.03 LT											UTILITY
6	VERMONT TELEPHONE COMPANY, INC.		363+80 LT	367+35.03 LT											UTILITY
7	COMCAST OF CONNECTICUT/GEORGIA/ MASSACHUSETTS/NEW HAMPSHIRE/ NEW YORK/NORTH CAROLINA/VIRGINA/ VERMONT, LLC		363+80 LT	367+35.03 LT											UTILITY
8	TOWN OF SPRINGFIELD, VERMONT		363+80 LT	367+35.03 LT											UTILITY

TABLE OF REVISIONS

REVISION NO.	ROW SET SHEET #	DESCRIPTION	DATE

PROJECT NAME: **SPRINGFIELD**
PROJECT NUMBER: **BF 0134(45)**

FILE NAME: **r13d336detail.xls**
PROJECT LEADER: **N. WARK**
DESIGNED BY: **E. WILDER**
R.O.W. DETAIL SHEET #1

PLOT DATE: 11-AUG-2020
DRAWN BY: **M. TROTTIER**
CHECKED BY: **T. POLK**
SHEET 102 OF 110

REMOVING AND RESETTING CURB
STA 362+50.0 - 364+75.7 RT
STA 365+02.3 - 366+75.0 RT

CAST-IN-PLACE CONCRETE CURB, TYPE A
STA 364+75.7 - 365+02.3 RT

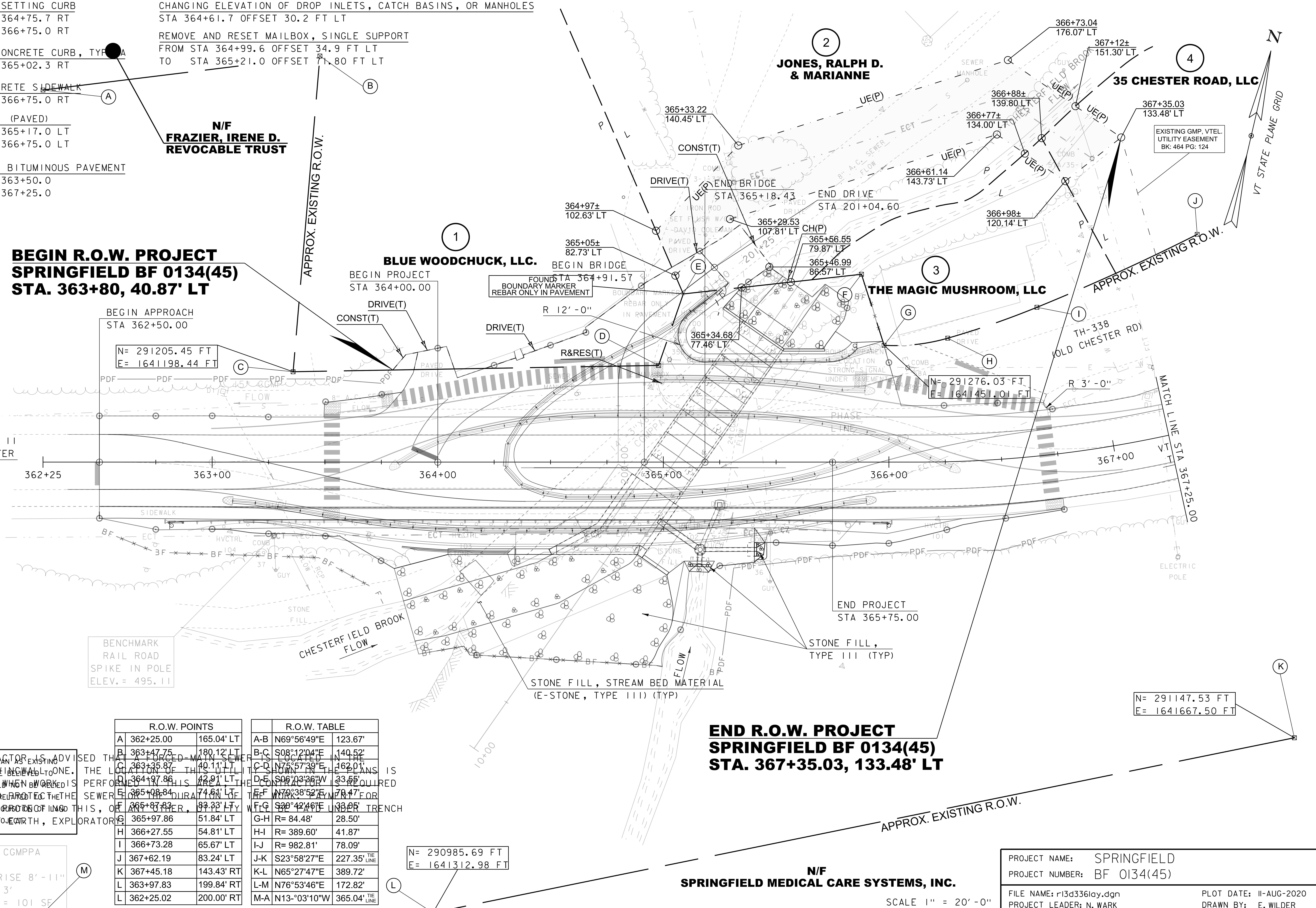
BITUMINOUS CONCRETE SIDEWALK
STA 362+50.0 - 366+75.0 RT

CONSTRUCT DRIVE (PAVED)
STA 363+67.3 - 365+17.0 LT
STA 365+86.0 - 366+75.0 LT

COARSE-MILLING, BITUMINOUS PAVEMENT
STA 362+50.0 - 363+50.0
STA 366+25.0 - 367+25.0

CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES
STA 364+61.7 OFFSET 30.2 FT LT

REMOVE AND RESET MAILBOX, SINGLE SUPPORT
FROM STA 364+99.6 OFFSET 34.9 FT LT
TO STA 365+21.0 OFFSET 71.80 FT LT



N/F
FRAZIER, IRENE D.
REVOCABLE TRUST
BEGIN R.O.W. PROJECT
SPRINGFIELD BF 0134(45)
STA. 363+80, 40.87' LT
APPROX. EXISTING R.O.W.
1
BLUE WOODCHUCK, LLC.
2
JONES, RALPH D.
& MARIANNE
3
THE MAGIC MUSHROOM, LLC
4
35 CHESTER ROAD, LLC
BEGIN PROJECT
STA 364+00.00
BEGIN APPROACH
STA 362+50.00
BEGIN BRIDGE
STA 364+91.57
END BRIDGE
STA 365+18.43
END DRIVE
STA 201+04.60
END PROJECT
STA 365+75.00
N= 291205.45 FT
E= 1641198.44 FT
N= 291276.03 FT
E= 1641451.01 FT
N= 291147.53 FT
E= 1641667.50 FT
N= 290985.69 FT
E= 1641312.98 FT
FOUND
BOUNDARY MARKER
REBAR ONLY IN PAVEMENT
EXISTING GMP, VTEL.
UTILITY EASEMENT
BK: 464 PG: 124
VT ROUTE 11
TO CHESTER
TH-338
(OLD CHESTER RD)
MATCH LINE STA 367+25.00
VT STATE PLANE GRID
CHESTERFIELD BROOK
FLOW
STONE FILL,
TYPE III (TYP)
STONE FILL, STREAM BED MATERIAL
(E-STONE, TYPE III) (TYP)
BENCHMARK
RAIL ROAD
SPIKE IN POLE
ELEV.= 495.11
END R.O.W. PROJECT
SPRINGFIELD BF 0134(45)
STA. 367+35.03, 133.48' LT
N/F
SPRINGFIELD MEDICAL CARE SYSTEMS, INC.
EXISTING 152' CGMPPA
BUILT 1961
SPAN 14'-3", RISE 8'-11"
AVERAGE COVER 3'
WATERWAY AREA = 101 SF

FOR R.O.W. USE ONLY

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

NOTES:

1. THE CONTRACTOR IS ADVISED THAT A FORCED-MAIN SEWER IS LOCATED IN THE VICINITY OF WINGWALL ONE. THE LOCATION OF THIS UTILITY SHOWN IN THE PLANS IS APPROXIMATE. WHEN WORK IS PERFORMED IN THIS AREA, THE CONTRACTOR IS REQUIRED TO LOCATE AND PROTECT THE SEWER FOR THE DURATION OF THE WORK. PAYMENT FOR LOCATING AND PROTECTING THIS, OR ANY OTHER, UTILITY WILL BE PAID UNDER TRENCH EXCAVATION OF EARTH, EXPLORATORY.

R.O.W. POINTS		
A	362+25.00	165.04' LT
B	363+47.75	180.12' LT
C	363+35.87	40.11' LT
D	364+97.86	42.91' LT
E	365+08.84	74.61' LT
F	365+87.83	83.33' LT
G	365+97.86	51.84' LT
H	366+27.55	54.81' LT
I	366+73.28	65.67' LT
J	367+62.19	83.24' LT
K	367+45.18	143.43' RT
L	363+97.83	199.84' RT
L	362+25.02	200.00' RT

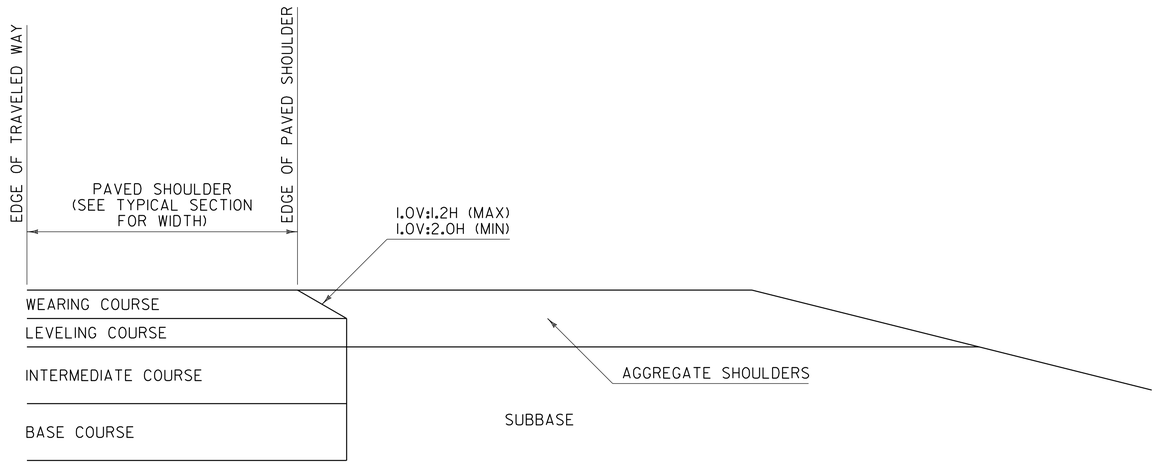
	R.O.W. TABLE	
A-B	N69°56'49"E	123.67'
B-C	S08°12'04"E	140.52'
C-D	N75°57'39"E	162.01'
D-E	S06°03'36"W	33.55'
E-F	N70°38'52"E	79.47'
F-G	S30°42'46"E	33.05'
G-H	R= 84.48'	28.50'
H-I	R= 389.60'	41.87'
I-J	R= 982.81'	78.09'
J-K	S23°58'27"E	227.35' TIE LINE
K-L	N65°27'47"E	389.72'
L-M	N76°53'46"E	172.82'
M-A	N13-°03'10"W	365.04' TIE LINE

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

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: r13d336lay.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
R.O.W. LAYOUT SHEET 1 OF 1

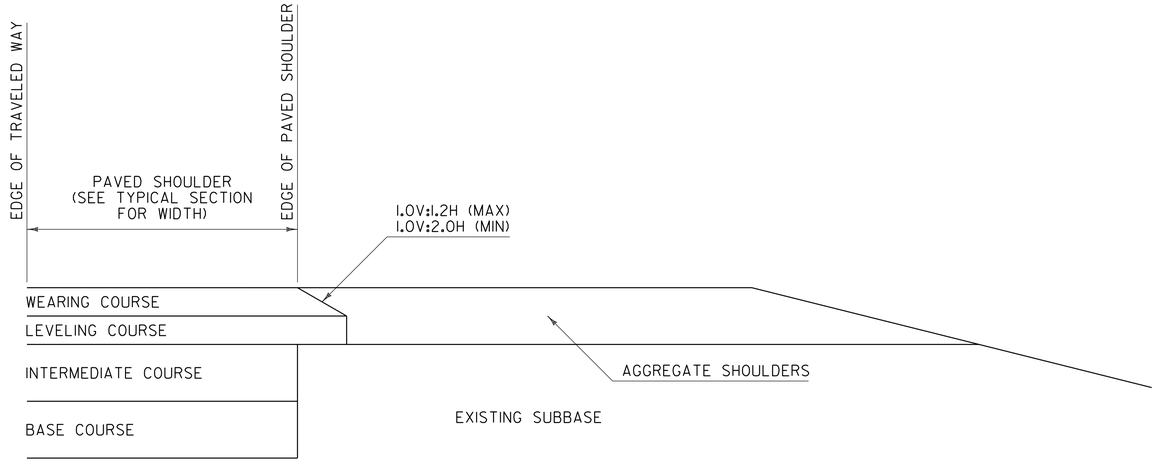
PLOT DATE: 11-AUG-2020
DRAWN BY: E. WILDER
CHECKED BY: T. POLK
SHEET 103 OF 110



SAFETY EDGE DETAIL
FOR PAVING BELOW WEARING COURSE

NOTES:

1. THIS DETAIL IS INTENDED FOR WHEN PAVING EXTENDS BELOW THE WEARING COURSE.
2. PRIOR TO PLACEMENT OF THE LEVELING AND/OR WEARING COURSE, THE SUBBASE LOCATED BENEATH THE AGGREGATE SHOULDERS SHALL BE PREPARED FLUSH WITH THE BOTTOM OF THE LEVELING COURSE.
3. BASE COURSE LIMITS MAY VARY, SEE TYPICAL SECTIONS FOR WIDTH.



SAFETY EDGE DETAIL
FOR PAVING WEARING COURSE ONLY

NOTES:

1. THIS DETAIL IS INTENDED FOR WHEN ONLY THE LEVELING AND/OR WEARING COURSE IS TO BE PLACED.
2. PAVEMENT COURSES MAY VARY, SEE TYPICAL SECTIONS FOR ACTUAL PAVEMENT COURSES REQUIRED.

SAFETY EDGE WIDTH BASED ON WEARING COURSE THICKNESS AND A 1V:1.6H SLOPE	
WEARING COURSE THICKNESS (INCHES)	NOMINAL SAFETY EDGE WIDTH (INCHES)
1.25	2.000
1.50	2.375
1.75	2.750
2.00	3.125
2.25	3.500
2.50	4.000

GENERAL NOTES:

1. PLACEMENT OF THE WEARING COURSE SHALL INCLUDE THE SAFETY EDGE, UNLESS THE FOLLOWING APPLIES:
   - A. THE ADJACENT SLOPE IS STEEPER THAN THE SAFETY EDGE.
   - B. THE EDGE OF PAVEMENT BEING PLACED ABUTS BOUND MATERIAL.
   - C. VEHICLES ARE RESTRICTED FROM LEAVING THE PAVED SURFACE (EXAMPLE: GUARDRAIL).
2. THE SAFETY EDGE SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE SLOPE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.
3. THE SAFETY EDGE SHALL NOT BE CONSIDERED PART OF THE PAVED SHOULDER.
4. THIS WORK SHALL BE INCIDENTAL TO THE RESPECTIVE BITUMINOUS CONCRETE PAVEMENT ITEM.

REV.	DATE	DESCRIPTION
0	MAR. 29, 2016	ORIGINAL APPROVAL
1	JAN. 5, 2018	ANNOTATION CORRECTIONS

OTHER DETAILS REQUIRED: NONE

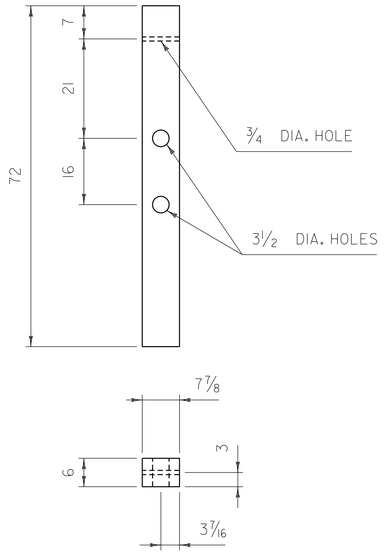
DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN

SAFETY EDGE DETAILS

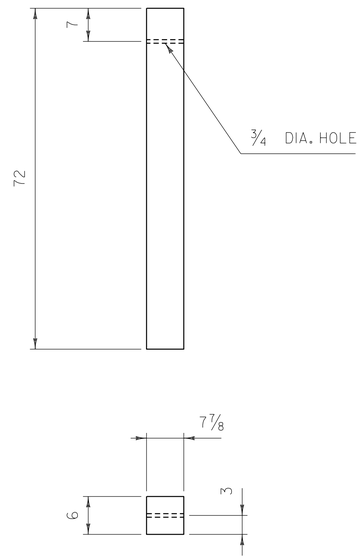
VTrans Working to Get You There
VERMONT AGENCY OF TRANSPORTATION

HIGHWAY SAFETY & DESIGN DETAIL

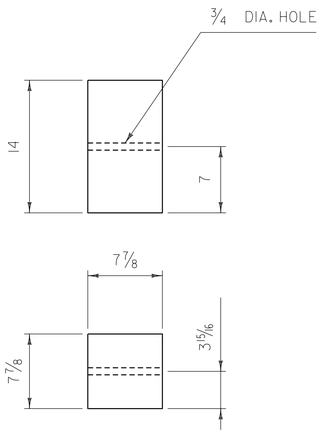
HSD-400.01



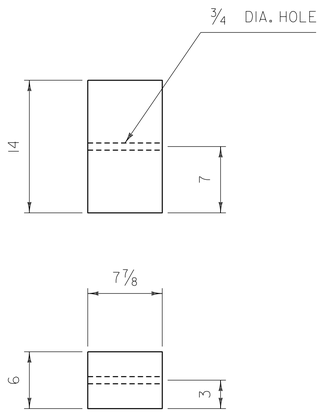
CONTROLLED RELEASING TERMINAL (CRT) TIMBER POST (PDE09)



TIMBER GUARDRAIL POST (PDE07)



TRANSITION SPACER BLOCKOUTS (PDB07)



W-BEAM TIMBER BLOCKOUT (PDB01)

GENERAL NOTES:

1. ALL MATERIAL DESIGNATIONS ARE AS IDENTIFIED IN ''A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE'' AS PUBLISHED BY THE ''AMERICAN ASSOCIATION OF STATE AND HIGHWAY TRANSPORTATION OFFICIALS'' (AASHTO), ASSOCIATED GENERAL CONTRACTORS OF AMERICA (AGC) AND THE AMERICAN ROAD AND TRANSPORTATION BUILDERS ASSOCIATION (ARTBA).
2. CRT TIMBER POSTS SHALL BE INSTALLED SO THAT THE CENTER OF THE TOP 3 1/2 INCH HOLE IS AT GROUND LEVEL.
3. ALL TIMBER SHALL RECEIVE A PRESERVATION TREATMENT IN ACCORDANCE WITH AASHTO M133 AFTER ALL HOLES ARE DRILLED AND END CUTS ARE MADE.
4. ALL DIMENSIONS IN INCHES.

REV.	DATE	DESCRIPTION
0	JUN. 9, 2015	ORIGINAL APPROVAL

OTHER DETAILS REQUIRED: NONE

DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN

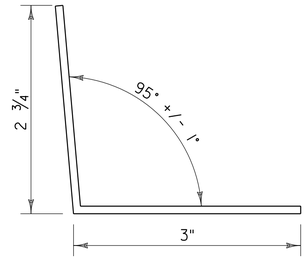
POST AND BLOCKOUT DETAILS FOR STEEL BEAM GUARDRAIL, GALVANIZED

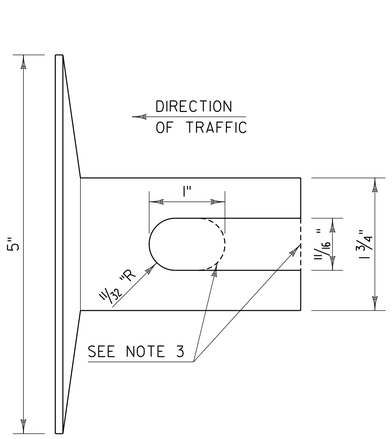
VTrans Working to Get You There
VERMONT AGENCY OF TRANSPORTATION

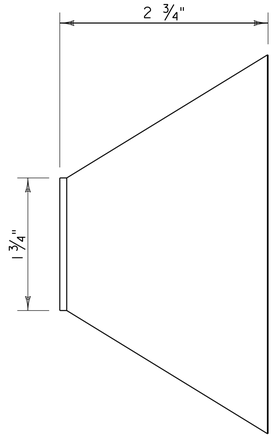
HIGHWAY SAFETY & DESIGN DETAIL

HSD-621.01

GUARDRAIL DELINEATOR DETAIL







NOTES:

1. GUARDRAIL DELINEATOR BASE MATERIAL SHALL BE 0.10 INCH THICK ALUMINUM IN ACCORDANCE WITH SUBSECTION 728.04 DELINEATION DEVICES.
2. GUARDRAIL DELINEATORS SHALL HAVE WHITE RETROREFLECTIVE SHEETING, EQUAL TO OR EXCEEDING TYPE III IN ACCORDANCE WITH SUBSECTION 750.08(B)(3) ON THE RIGHT SIDE OF THE TRAVELED WAY AND YELLOW RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING TYPE VII IN ACCORDANCE WITH SUBSECTION 750.08(B)(7) ON THE LEFT SIDE OF THE TRAVELED WAY IN RESPECT TO APPROACHING TRAFFIC. ON ONE DIRECTIONAL ROADWAYS RETROREFLECTIVE SHEETING MAY BE OMITTED ON FACES WHERE THERE WILL BE NO APPROACHING TRAFFIC.
3. HOLE MAY BE USED IN PLACE OF SLOT.

GUARDRAIL TERMINAL LABEL DETAIL

NOTES:

1. LINE ONE SHALL INDICATE THE INSTALLATION YEAR (YYYY).
2. LINE TWO SHALL INDICATE THE MODEL AS IDENTIFIED ON THE APPROVED PRODUCTS LIST. FOR GENERIC INSTALLATIONS THE STANDARD DRAWING DESIGNATION OR NAME AS IDENTIFIED IN THE FHWA ELIGIBILITY LETTER SHALL BE USED.
3. LINE THREE SHALL SHALL INDICATE ADDITIONAL MODEL INFORMATION IF NECESSARY.
4. LINE FOUR SHALL INDICATE FLARED (FLRD) OR TANGENT (TANG).
5. LEGEND SHALL BE SIZE 3/4 INCH ARIEL FONT.
6. LEGEND SHALL BE BLACK ON A WHITE BACKGROUND, LEGEND AND BACKGROUND SHALL NOT BE REFLECTIVE.
7. SUITABLE MATERIAL SHALL BE USED SO AS TO NOT DETERIORATE DURING EXPOSURE TO WEATHER.
8. LABELS SHALL BE APPLIED IN SUCH A WAY THAT THEY REMAIN INTACT DURING THE LIFE OF THE TERMINAL.
9. FOR W-BEAM GUARDRAIL, LABEL SHALL BE PLACED ON THE TOP OF POST ONE FACING AWAY FROM TRAFFIC.
10. FOR BOX BEAM GUARDRAIL, LABEL SHALL BE PLACED ON THE BOX BEAM ADJACENT TO POST ONE FACING AWAY FROM TRAFFIC.
11. PAYMENT SHALL BE INCIDENTAL TO OTHER TRAFFIC BARRIER ITEMS.

REV.	DATE	DESCRIPTION
0	NOV. 3, 2015	ORIGINAL APPROVAL
1	FEB. 27, 2017	UPDATED NAME, MINOR CORRECTIONS AND ADDED GUARDRAIL DELINEATOR DETAIL

OTHER DETAILS REQUIRED: NONE

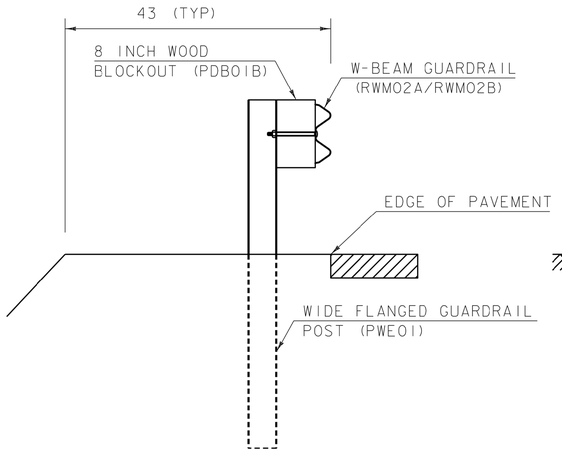
DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN

MISCELLANEOUS GUARDRAIL DETAILS

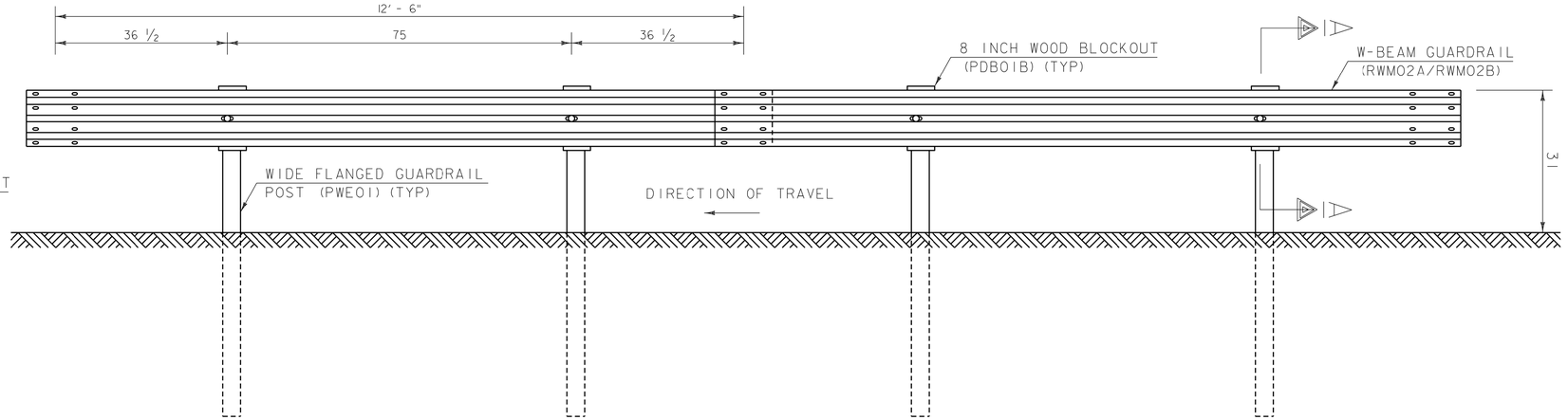
VTrans Working to Get You There
VERMONT AGENCY OF TRANSPORTATION

HIGHWAY SAFETY & DESIGN DETAIL

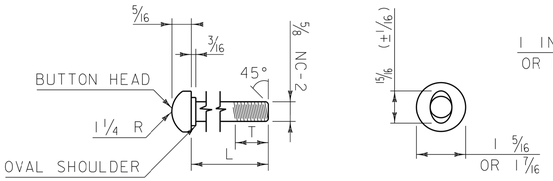
HSD-621.06



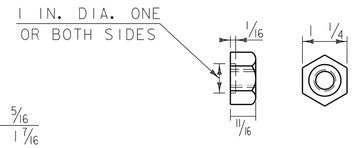
TYPICAL GUARDRAIL DETAIL
SECTION A-A



GUARDRAIL ELEVATION

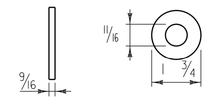


GUARDRAIL BOLT



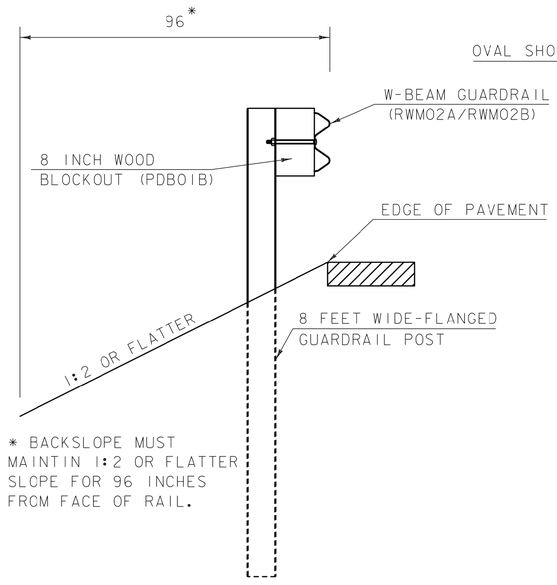
RECESSED NUT FOR GUARDRAIL BOLT

NOTE: WASHER IS USED UNDER RECESSED NUT WHERE GUARDRAIL BOLT IS USED WITH WOOD POSTS.

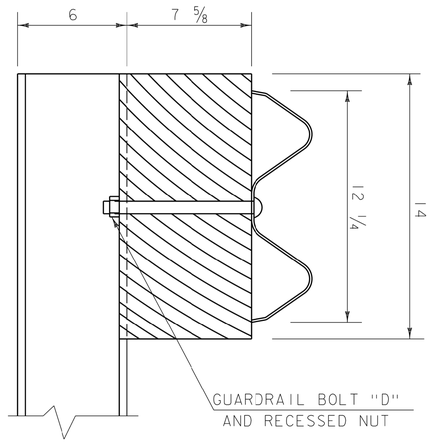


WASHER FOR 5/8" BOLTS
ARTBA F-13-73

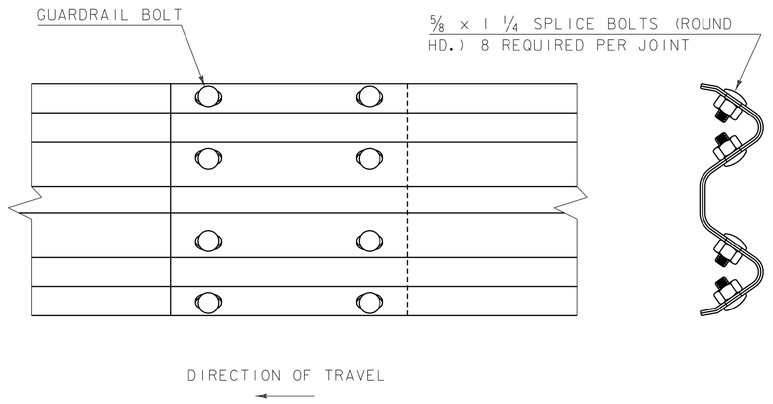
GUARDRAIL BOLTS				FASTENER USED IN	
BOLT DES.	ARTBA REF. NO.	L	T (MIN.)	STEEL POSTS	WOOD POSTS
"A"	F-3[1 1/4]-76	1 1/4"	1"	X	X
"C"	F-3[9 1/2]-76	9 1/2"	1 3/4"	X	
"D"	F-3[18]-76	18"	2 1/2"		X
"F"	F-3[25]-76	25"	2"		X



8 FEET POSTS GUARDRAIL DETAIL
SECTION A-A



POST ATTATCHMENT DETAIL



SPLICE DETAIL

GENERAL NOTES

1. DESIGNATIONS ARE AS IDENTIFIED IN "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE" AS PUBLISHED BY THE "AMERICAN ASSOCIATION OF STATE AND HIGHWAY TRANSPORTATION OFFICIALS" (AASHTO), "ASSOCIATED GENERAL CONTRACTORS OF AMERICA" (AGC) AND THE "AMERICAN ROAD AND TRANSPORTATION BUILDERS ASSOCIATION" (ARTBA).
2. MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 728 OF THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND ITS LATEST REVISIONS, AS APPLICABLE.
3. WHEN W-BEAM GUARDRAIL, 8 FEET POSTS IS SPECIFIED ON THE PLANS, WIDE FLANGED GUARDRAIL POST (PWE01) SHALL BE INCREASED FROM 72 INCHES TO 96 INCHES, SEE DETAIL HSD-621.03B.
4. THE DYNAMIC DEFLECTION DISTANCE OF 57 INCHES FOR W BEAM GUARDRAIL SHALL BE MAINTAINED CLEAR OF OBSTACLES, TO BE MEASURED FROM THE BACK OF POST.
5. FOR TEST LEVEL 3 APPLICATIONS, AS APPROVED IN THE FEDERAL HIGHWAY ADMINISTRATION'S ELIGIBILITY LETTER, HSST/B-240, DATED NOVEMBER 8, 2012.
6. ALL DIMENSION IN INCHES, UNLESS OTHERWISE NOTED.

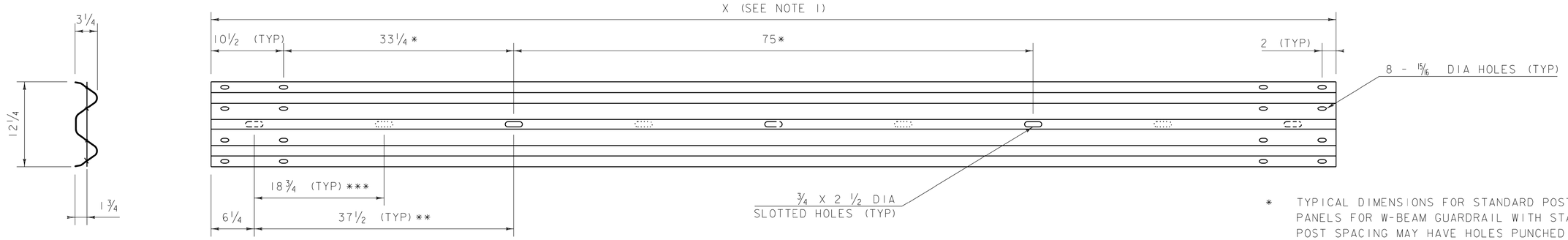
REV.	DATE	DESCRIPTION
--	APR. 17, 2019	ORIGINAL APPROVAL

OTHER DETAILS REQUIRED: 621.07B
DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN

MIDWEST GUARDRAIL SYSTEM (MGS)

VTrans Working to Get You There
VERMONT AGENCY OF TRANSPORTATION

HIGHWAY SAFETY & DESIGN DETAIL
HSD-621.07A



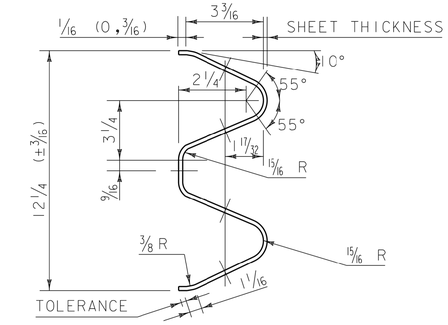
1. TANGENT W-BEAM RAIL LENGTHS SHALL BE 13'-6 1/2" OR 26'-1/2", UNLESS OTHERWISE SPECIFIED.
2. W-BEAM THICKNESS SHALL BE 1/8" FOR STANDARD W-BEAM GUARDRAIL (RWM02A) AND 5/64" FOR HEAVY DUTY GUARDRAIL (RWM02B).

* TYPICAL DIMENSIONS FOR STANDARD POST SPACING. PANELS FOR W-BEAM GUARDRAIL WITH STANDARD POST SPACING MAY HAVE HOLES PUNCHED AT ONE-HALF POST SPACING FOR INVENTORY PURPOSES.
** TYPICAL DIMENSION FOR ONE-HALF POST SPACING.
*** TYPICAL DIMENSION FOR ONE-QUARTER POST SPACING.

W-BEAM GUARDRAIL (RWM02A/ RWM02B)

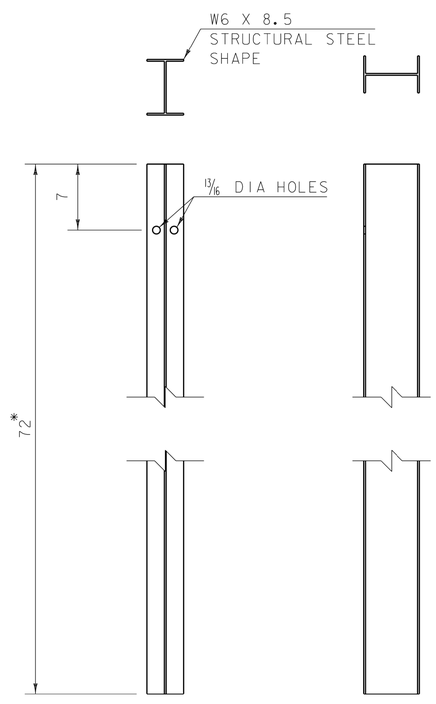
NOTES:

1. BLOCKS SHALL BE MADE OF TIMBER WITH A STRESS GRADE OF 1200 PSI OR MORE. TESTING SHALL BE IN ACCORDANCE WITH WEST COAST LUMBER INSPECTION BUREAU, SOUTHERN PINE INSPECTION BUREAU OR OTHER APPROPRIATE ASSOCIATION. TIMBER FOR BLOCKS SHALL BE ROUGH SAWN (UNPLANED) WITH DIMENSIONS INDICATED. THE SIZE TOLERANCE OF ROUGH SAWN BLOCKS IN THE DIRECTION OF THE BOLT HOLES SHALL BE NOT MORE THAN +/- 1/4".
2. SUPPLY WOOD BLOCKS PER AASHTO M 168.
3. TREAT WITH PRESERVATIVE PER AASHTO M 133.
4. BLOCKOUTS MAY ALSO BE MADE OF APPROVED ALTERNATIVE MATERIAL.



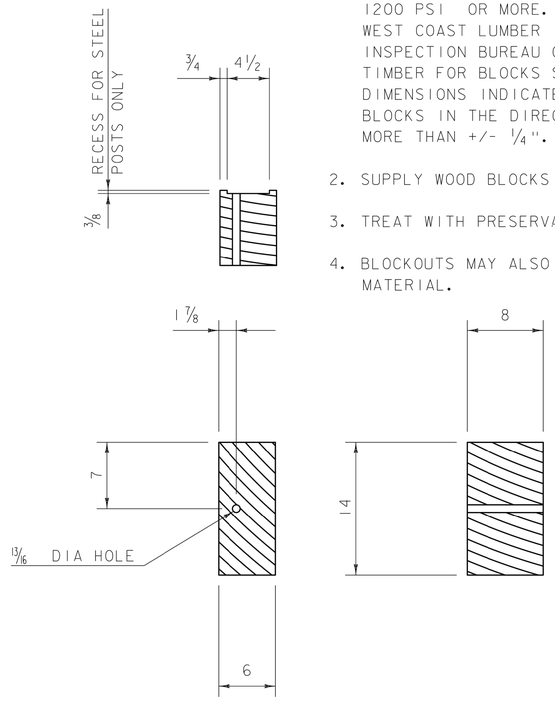
ARTBA RE-3(2@6'-3"=12'-6" CLASS A, TYPE 1)-73

TYPICAL GUARDRAIL SECTION



WIDE FLANGED GUARDRAIL POST (PWE01)

* POST LENGTH SHALL BE INCREASED TO 96 INCHES WHEN W BEAM GUARDRAIL, 8 FEET POSTS IS SPECIFIED.



8 INCH WOOD BLOCKOUT (PDB01B)

GENERAL NOTES

1. DESIGNATIONS ARE AS IDENTIFIED IN "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE" AS PUBLISHED BY THE "AMERICAN ASSOCIATION OF STATE AND HIGHWAY TRANSPORTATION OFFICIALS" (AASHTO), "ASSOCIATED GENERAL CONTRACTORS OF AMERICA" (AGC) AND THE "AMERICAN ROAD AND TRANSPORTATION BUILDERS ASSOCIATION" (ARTBA).
2. MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 728 OF THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND ITS LATEST REVISIONS, AS APPLICABLE.
3. ALL DIMENSION IN INCHES, UNLESS OTHERWISE NOTED.

REV.	DATE	DESCRIPTION
--	APR. 17, 2019	ORIGINAL APPROVAL

OTHER DETAILS REQUIRED: NONE

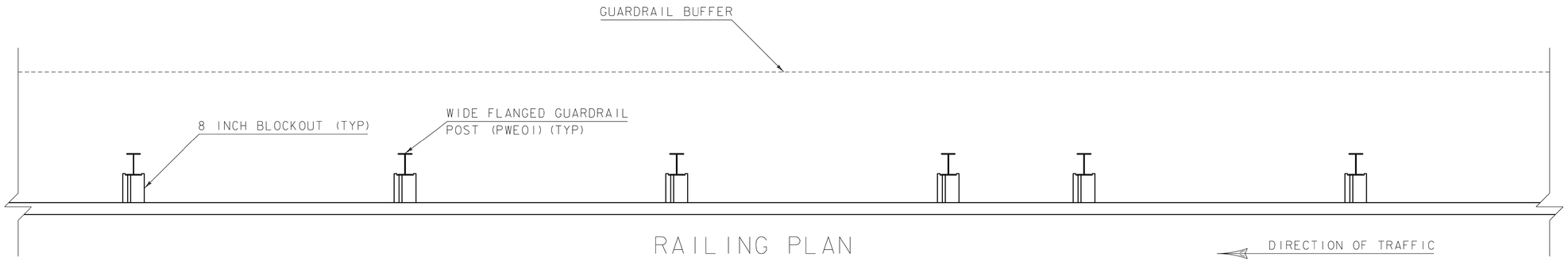
DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN

W-BEAM GUARDRAIL COMPONENTS

VTrans Working to Get You There — VERMONT AGENCY OF TRANSPORTATION

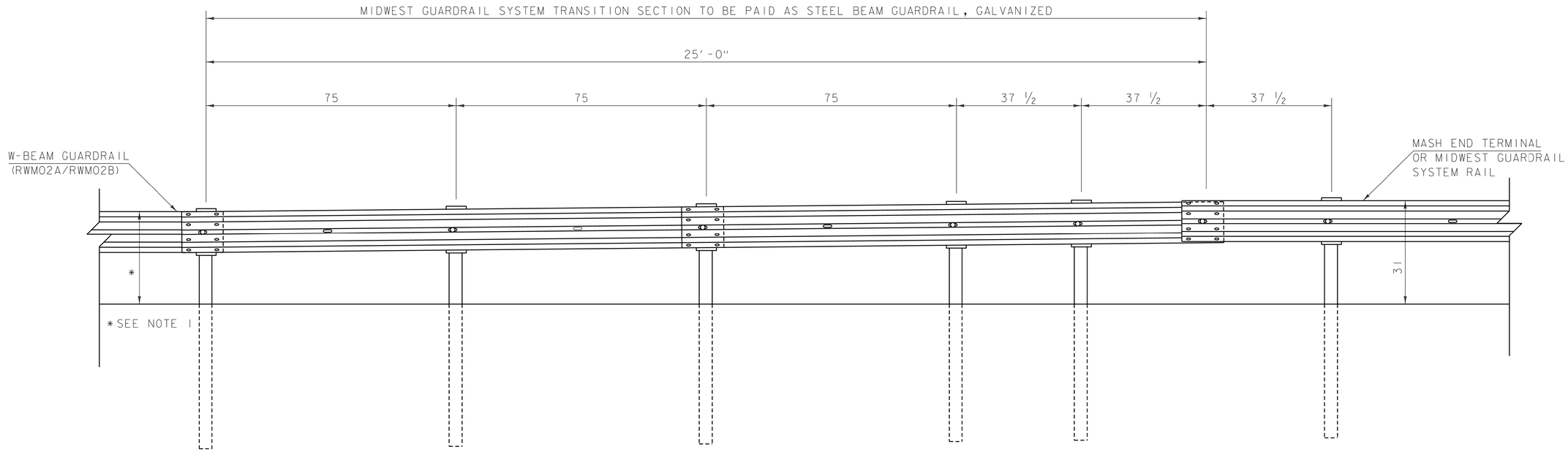
HIGHWAY SAFETY & DESIGN DETAIL

HSD-621.07B



RAILING PLAN

DIRECTION OF TRAFFIC



RAILING ELEVATION

GENERAL NOTES

1. THE HEIGHT OF RAIL AT THE END OF THIS TRANSITION SHALL MATCH THE DESIGN FOR THE APPLICABLE GUARDRAIL SYSTEM.
2. TRANSITIONS FROM 31 INCH HIGH MIDWEST GUARDRAIL SYSTEM TO OTHER RAIL SYSTEMS SHALL BE ACCOMPLISHED WITH 2 STANDARD 12½ FOOT SECTIONS OF W-BEAM RAIL.
3. POSTS, BLOCKOUTS AND SPLICES SHALL BE IN ACCORDANCE WITH DETAILS HSD-621.03A AND HSD-621.03B AND LOCATED AS SHOWN IN THE DETAILS ABOVE.
4. STANDARD 6 FOOT POSTS SHALL BE USED UNLESS OTHERWISE NOTED ON PLANS.
5. END TERMINAL SHALL BE A VTRANS APPROVED PRODUCT MEETING MASH TESTING CRITERIA. ANY TERMINAL USED SHALL BE FROM THE VTRANS APPROVED PRODUCTS LIST.
6. ALL MEASURMENTS ARE IN INCHES UNLESS OTHERWISE NOTED.

REV.	DATE	DESCRIPTION
--	APR. 17, 2019	ORIGINAL APPROVAL

OTHER DETAILS REQUIRED: HSD-621.07A, HSD-621.07B

DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN

MIDWEST GUARDRAIL SYSTEM TRANSITION SECTION

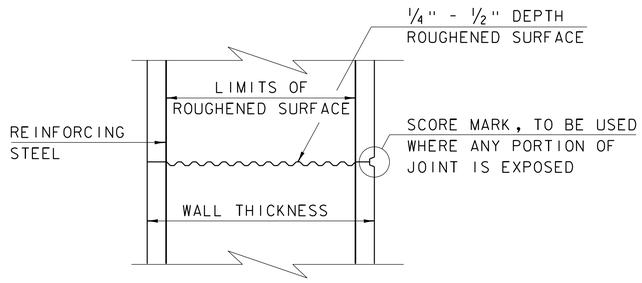
VTrans Working to Get You There
VERMONT AGENCY OF TRANSPORTATION

HIGHWAY SAFETY & DESIGN DETAIL

HSD-621.07F

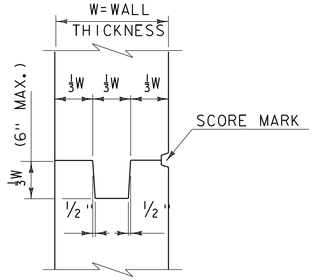
CONCRETE GENERAL NOTES

1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1"
2. REINFORCING STEEL SIZE AND SPACING SHOWN IN THE PLANS IS BASED ON 60 KSI STEEL, UNLESS NOTED OTHERWISE. WITH THE ENGINEER'S PERMISSION, BAR SIZE AND SPACING MAY BE MODIFIED ACCORDING TO THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND STRUCTURES DESIGN MANUAL WHEN USING HIGHER STRENGTH STEEL.

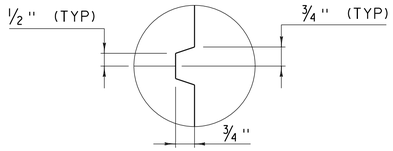


TYPICAL HORIZONTAL CONSTRUCTION JOINT
(NOT TO SCALE)

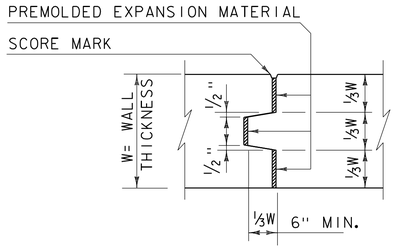
1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



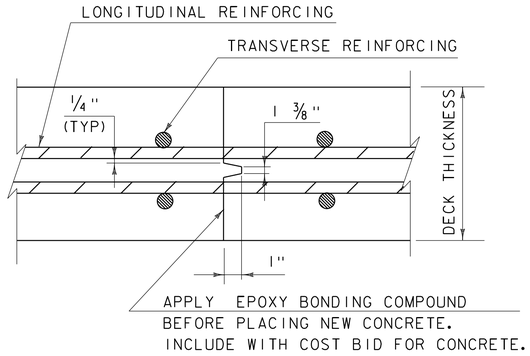
TYPICAL CONCRETE CONSTRUCTION JOINT
(NOT TO SCALE)



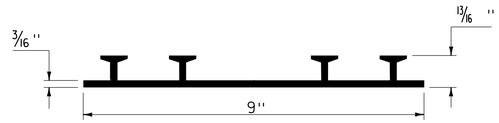
SCORE MARK DETAIL
(NOT TO SCALE)



TYPICAL CONCRETE EXPANSION JOINT
(NOT TO SCALE)



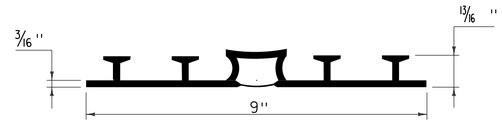
TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS
(NOT TO SCALE)



P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

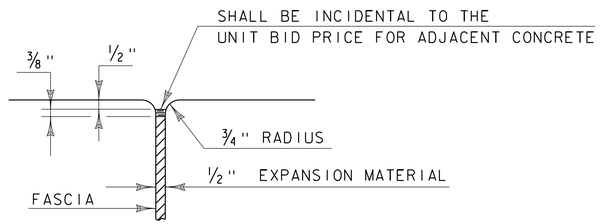
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



P.V.C. WATERSTOP FOR EXPANSION JOINTS
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



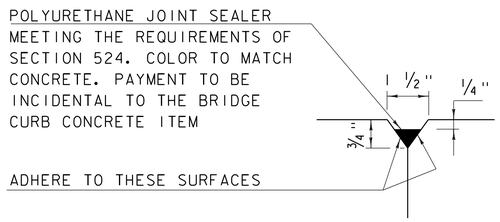
JOINT BETWEEN FASCIA AND WINGWALL
(NOT TO SCALE)

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
FEBRUARY 9, 2012	REBAR SUBSTITUTION ALLOWANCE ADDED TO CONCRETE GENERAL NOTES.

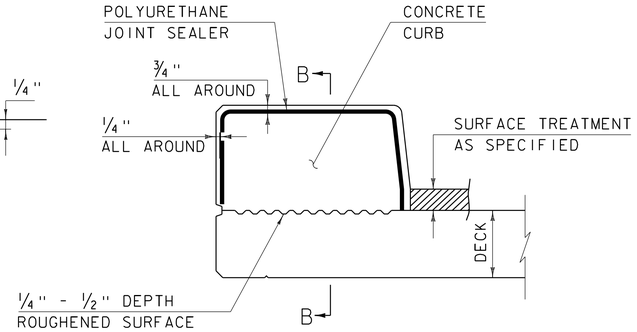
CONCRETE DETAILS AND NOTES

VERMONT AGENCY OF TRANSPORTATION
STRUCTURES - SECTION

STRUCTURES DETAIL
SD-501.00

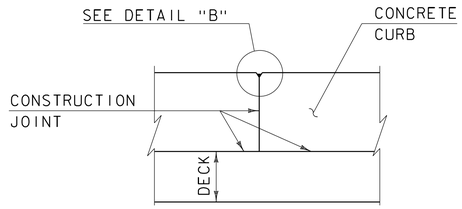


DETAIL "B"
(NOT TO SCALE)

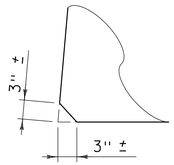


CONCRETE CURB JOINT SECTION
(NOT TO SCALE)

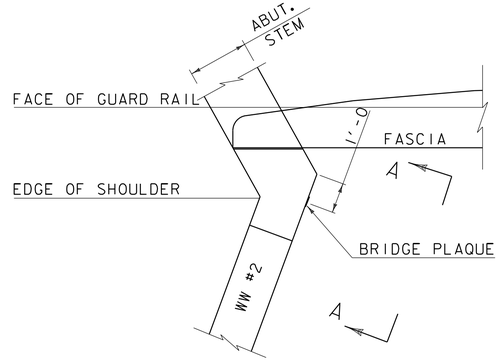
1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT DETAIL FOR ADDITIONAL INFORMATION



SECTION B - B
(NOT TO SCALE)



ACUTE ANGLE CLIP DETAIL
(NOT TO SCALE)



PLAN

CONCRETE CURB JOINT NOTES

1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.

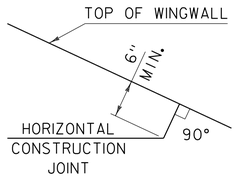
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 15'-0" CENTER TO CENTER AND 2'-0" MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.

3. ON MULTI-SPAN CONTINUOUS SUPERSTRUCTURES, REGARDLESS OF WHETHER APPROVED SHRINKAGE REDUCING ADMIXTURE IS USED, CURB JOINTS SHALL BE LOCATED OVER THE CENTERLINE OF PIERS AND 7'-0" EACH SIDE OF THE CENTERLINE OF EACH PIER.

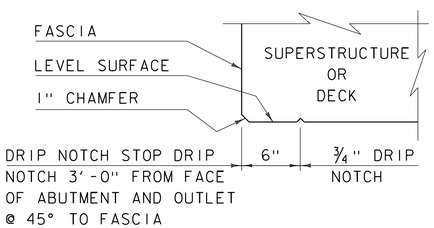
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.

5. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS. CURB STIRRUP BARS SHALL BE TURNED AS NECESSARY TO MAINTAIN COVER IN THE FLARED CURB ENDS.

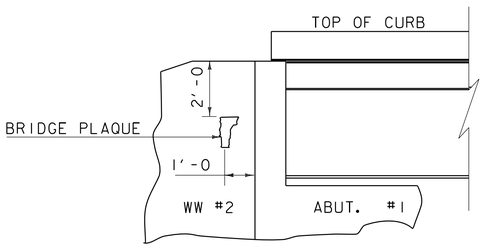
6. THE JOINT SPACING AND DETAILS SHOWN SHALL APPLY TO SIDEWALKS WHEN SHOWN IN THE PLANS.



HORIZONTAL WINGWALL CONSTRUCTION JOINT
(NOT TO SCALE)



DRIP NOTCH DETAIL
(NOT TO SCALE)



VIEW "A - A"

BRIDGE PLAQUE
(NOT TO SCALE)

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

PAYMENT FOR INSTALLATION OF THE BRIDGE PLAQUE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED AND ADDED TWO DETAILS
OCTOBER 10, 2012	MODIFIED HORZ. JOINT WINGWALL ADD 6" MIN. DIMENSION

CONCRETE DETAILS AND NOTES

VERMONT AGENCY OF TRANSPORTATION
STRUCTURES - SECTION

STRUCTURES DETAIL
SD-502.00