

REVIEWER NOTES:

1. TRAFFIC WILL BE MAINTAINED ON AN TWO-WAY TEMPORARY ON-SITE DETOUR LOCATED DOWNSTREAM OF THE EXISTING BRIDGE.
2. ANY STRUCTURAL ELEMENTS SHOWN IN THE PLANS ARE CONCEPTUAL IN NATURE AND HAVE NOT BEEN FULLY DESIGNED.
3. IT IS ANTICIPATED THAT ADDITIONAL R.O.W. WILL BE REQUIRED.
4. IT IS ANTICIPATED THAT NO UTILITIES WILL BE RELOCATED.
5. THIS PROJECT WILL UTILIZE THE VT DEC LOW RISK SITE HANDBOOK FOR EPSC. NO SITE-SPECIFIC EPSC PLAN IS INCLUDED. THE CONTRACTOR SHALL SUBMIT A SITE-SPECIFIC EPSC PLAN TO VTRANS UPON CONTRACT AWARD IN ACCORDANCE WITH THEIR MEANS AND METHODS.
6. NO UTILITY RELOCATION

# STATE OF VERMONT AGENCY OF TRANSPORTATION



## PROPOSED IMPROVEMENT BRIDGE PROJECT

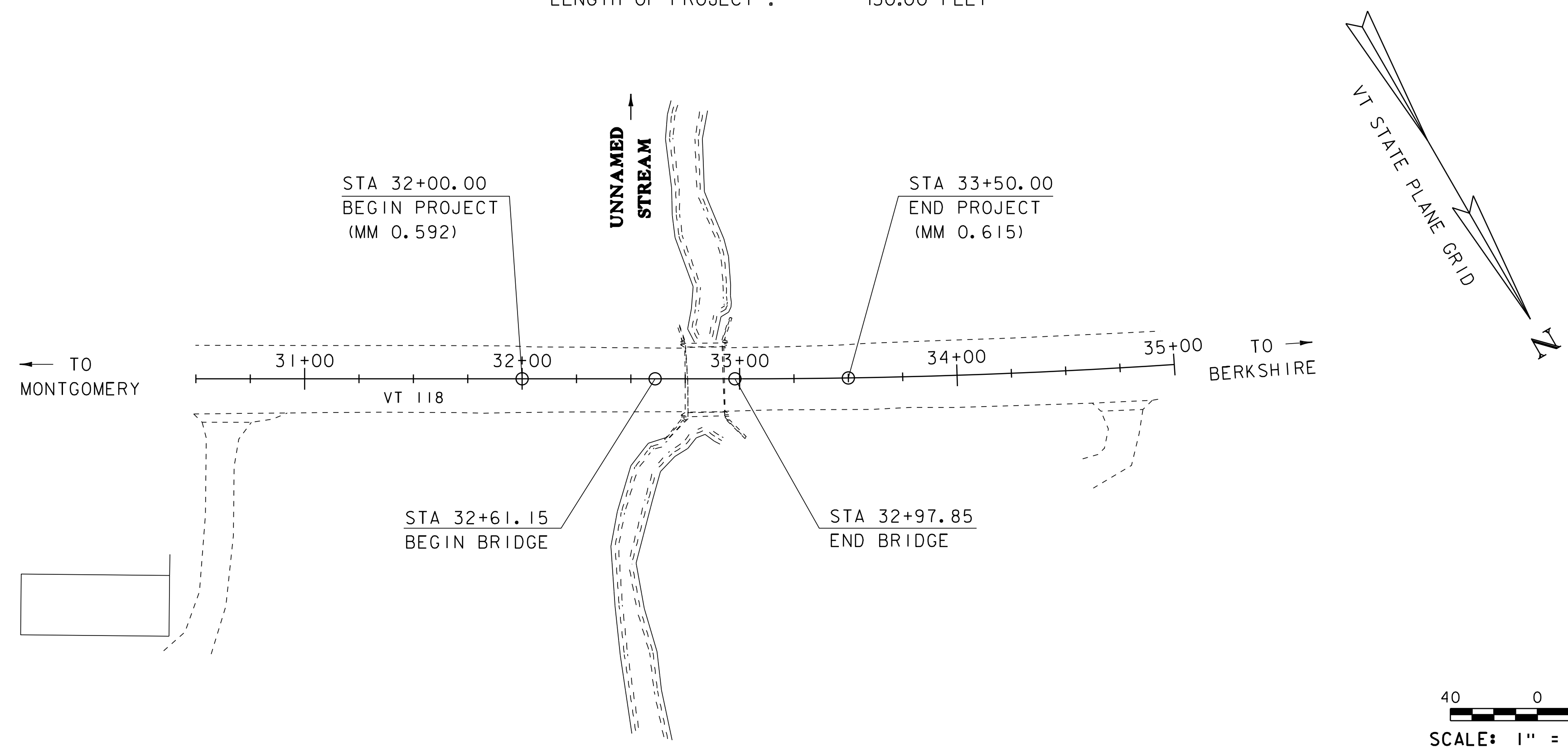
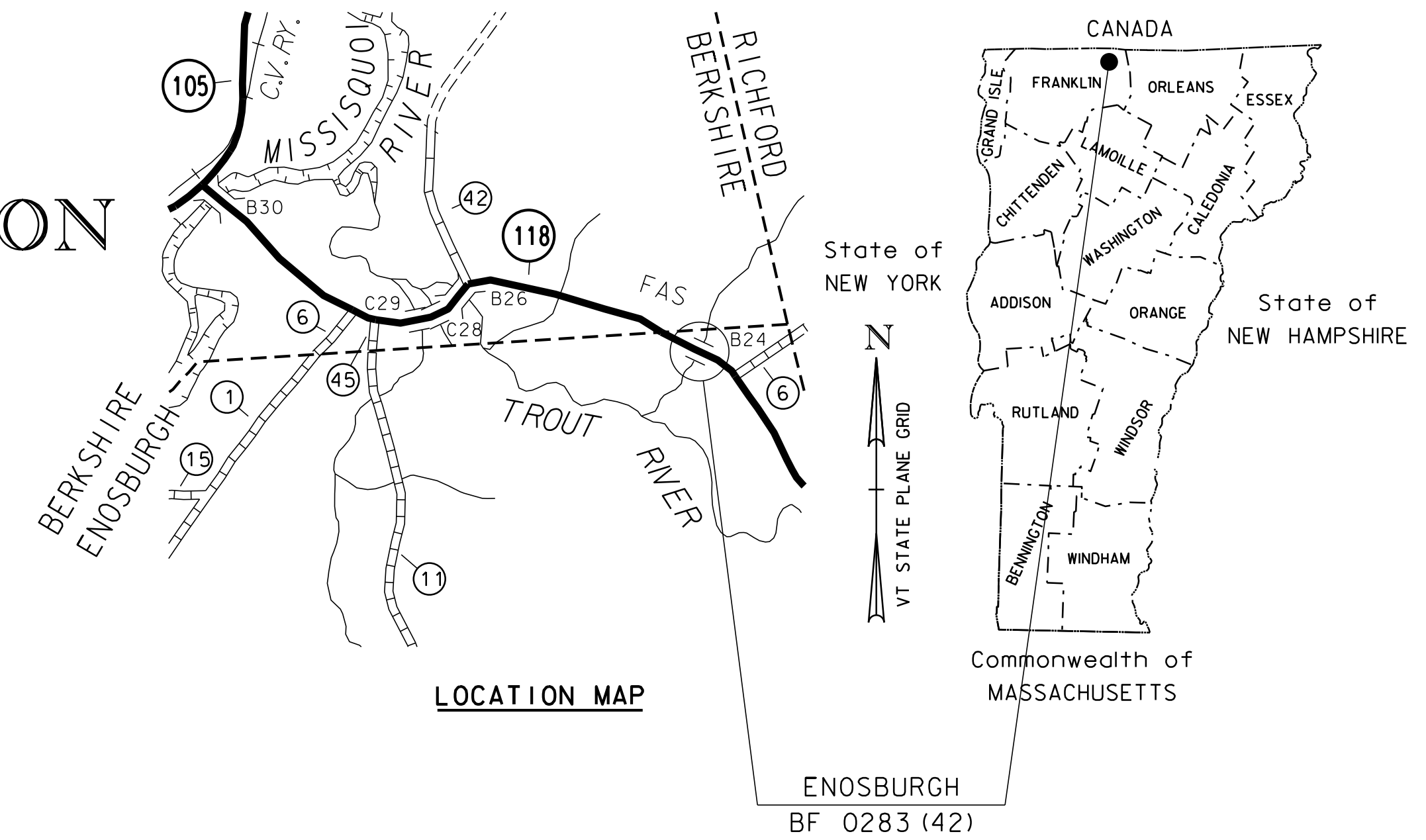
TOWN OF ENOSBURGH  
COUNTY OF FRANKLIN

ROUTE NO : VT 118; RURAL MAJOR COLLECTOR    BRIDGE NO : 24

PROJECT LOCATION :    ON VT 118 BEGINNING APPROXIMATELY 1.71 MILE SOUTHEASTERLY FROM ITS INTERSECTION WITH VT 105 AND EXTENDING NORTHWESTERLY APPROXIMATELY 0.027 MILE.

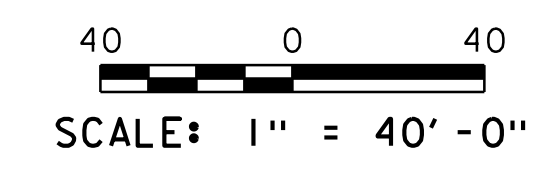
PROJECT DESCRIPTION :    REPLACEMENT OF EXISTING BRIDGE ALONG WITH RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE :    36.70 FEET  
LENGTH OF ROADWAY :    113.30 FEET  
LENGTH OF PROJECT :    150.00 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 : 8/16/2018	
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (2011)



**PRELIMINARY**  
**10-DEC-2019**

HIGHWAY DIVISION, CHIEF ENGINEER
APPROVED _____ DATE _____
PROJECT MANAGER : ROB YOUNG, PE
PROJECT NAME : ENOSBURGH
PROJECT NUMBER : BF 0283 (42)
SHEET 1 OF 22 SHEETS

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STANDARDS LIST

G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	11-15-2002
S-364A	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM	02-02-2017
S-364B	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	02-02-2017
S-364C	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	02-02-2017
S-364D	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	02-02-2017
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-31	CONSTRUCTION SIGN DETAILS	08-06-2012
T-42	BRIDGE NUMBER PLAQUE	04-09-2014
T-44	MILEMARKER DETAILS STATE AND TOWN HIGHWAYS	04-09-2014
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013

DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES	5/7/2010
SD-502.00	CONCRETE DETAILS AND NOTES	5/7/2010
SD-516.10	BRIDGE JOINT ASPHALTIC PLUG	8/29/2011
HSD-400.01	SAFETY EDGE DETAIL	1/5/2018

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 12/3/19

DRAINAGE AREA : 1.16 sq. mi.  
 CHARACTER OF TERRAIN : Hilly to mountainous, forested with wetlands and open areas  
 STREAM CHARACTERISTICS : Meandering to sinuous with floodplain access upstream  
 NATURE OF STREAMBED : Gravel and cobbles

PEAK FLOW DATA - ANNUAL EXCEEDANCE PROBABILITY (AEP)

43% =	85 cfs	2% =	270 cfs
10% =	160 cfs	1% =	330 cfs
4% =	220 cfs	0.2% =	500 cfs

DATE OF FLOOD OF RECORD : Unknown  
 ESTIMATED DISCHARGE : Unknown  
 WATER SURFACE ELEV. : Unknown  
 NATURAL STREAM VELOCITY : @ 7% AEP = ?  
 ICE CONDITIONS : Unknown  
 DEBRIS : Unknown  
 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 : Tailwater is affected by Trout River confluence found downstream of the existing crossing.

WATERSHED STORAGE : 0% HEADWATERS :  
 UNIFORM :  
 IMMEDIATELY ABOVE SITE :

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE : Single Span Concrete Slab Bridge  
 YEAR BUILT : 1921  
 CLEAR SPAN(NORMAL TO STREAM) : 20 ft.  
 VERTICAL CLEARANCE ABOVE STREAMBED : 6.5 ft.  
 WATERWAY OF FULL OPENING : 130 sq. ft.  
 DISPOSITION OF STRUCTURE : N/A  
 TYPE OF MATERIAL UNDER SUBSTRUCTURE : N/A

WATER SURFACE ELEVATIONS AT:

43% AEP =	423.3 ft.	VELOCITY =	3.1 fps
10% AEP =	423.5 ft.	"	3.4 fps
4% AEP =	423.5 ft.	"	2.9 fps
2% AEP =	423.8 ft.	"	3.2 fps
1% AEP =	424.3 ft.	"	2.7 fps

LONG TERM STREAMBED CHANGES : Unknown

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: Yes.  
 FREQUENCY: 50% AEP  
 RELIEF ELEVATION: 424.4 ft.  
 DISCHARGE OVER ROAD @ 1% AEP: 40 cfs +/-

UPSTREAM STRUCTURE

TOWN: N/A DISTANCE: N/A  
 HIGHWAY #: N/A STRUCTURE #: N/A  
 CLEAR SPAN: N/A CLEAR HEIGHT: N/A  
 YEAR BUILT: N/A FULL WATERWAY: N/A  
 STRUCTURE TYPE: N/A

DOWNSTREAM STRUCTURE

TOWN: Enosburgh DISTANCE: 1  
 HIGHWAY #: VT-118 STRUCTURE #: 26  
 CLEAR SPAN: 144 ft. CLEAR HEIGHT: Unknown  
 YEAR BUILT: 2005 FULL WATERWAY: Unknown  
 STRUCTURE TYPE: Welded Plate Girder

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR.	4A STR.	5A SEM
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:							

PROPOSED STRUCTURE

STRUCTURE TYPE: Concrete Slab  
 CLEAR SPAN(NORMAL TO STREAM): 31.5 ft.  
 VERTICAL CLEARANCE ABOVE STREAMBED: 6.4 ft.  
 WATERWAY OF FULL OPENING: 135 sq. ft.

WATER SURFACE ELEVATIONS AT:

43% AEP =	423.3 ft.	VELOCITY=	3.1 fps
10% AEP =	423.5 ft.	"	3.0 fps
4% AEP =	423.5 ft.	"	2.6 fps
2% AEP =	423.7 ft.	"	3.0 fps
1% AEP =	424.3 ft.	"	2.6 fps

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: Yes.  
 FREQUENCY: 2%  
 RELIEF ELEVATION: 424.5 ft.  
 DISCHARGE OVER ROAD @ 1% AEP: 40 cfs +/-

BRIDGE LOW CHORD ELEVATION: 425.17 ft.  
 FREEBOARD: @ 2% AEP = 1.44 ft.

SCOUR: 1.0 ft. of scour during design event (1% AEP). 1.6 ft. of scour during check event (0.5% AEP).  
 REQUIRED CHANNEL PROTECTION: E-Stone Type II

PERMIT INFORMATION

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

TEMPORARY BRIDGE REQUIREMENTS

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

ADDITIONAL INFORMATION

Prive Hill Road overtops during the 43% AEP event.  
 VT-118 roadway overtopping is found 500-ft southeast of existing crossing

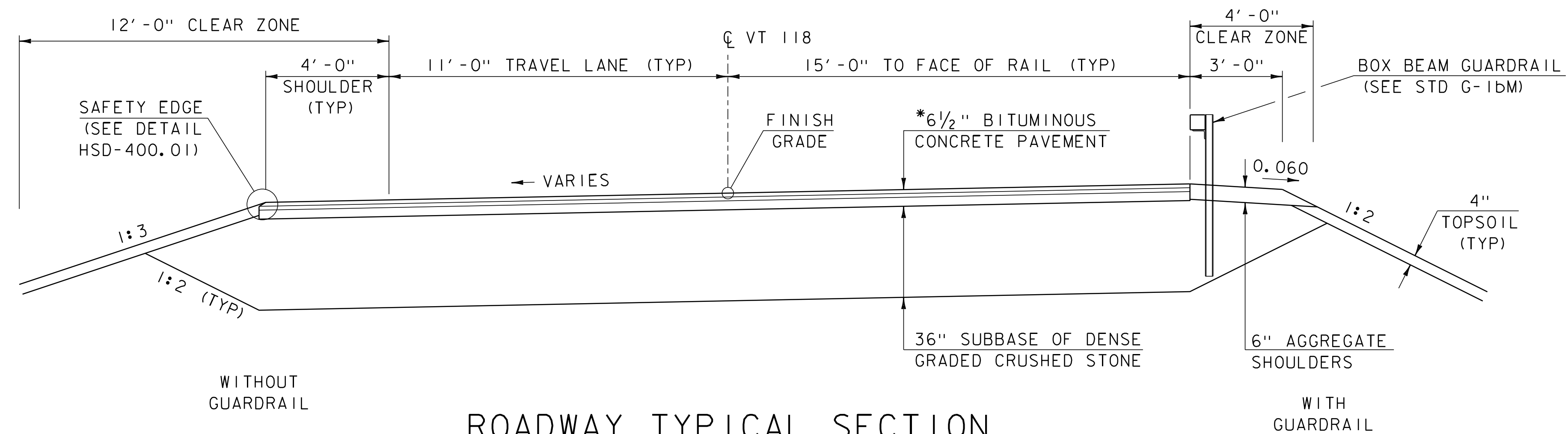
DESIGN VALUES

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	dp: 2.5 INCH
3. DESIGN SPAN	L: 35.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ: ---
5. PRESTRESSING STRAND	fy: ---
6. PRESTRESSED CONCRETE STRENGTH	f'c: ---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'cr: ---
8. HIGH PERFORMANCE CONCRETE, CLASS PCD	f'c: 4.0 KSI
9. HIGH PERFORMANCE CONCRETE, CLASS PCS	f'c: 3.5 KSI
10. CONCRETE HIGH PERFORMANCE, CLASS PSS	f'c: 4.0 KSI
11. CONCRETE, CLASS C	f'c: 3.0 KSI
12. REINFORCING STEEL	fy: 60 KSI
13. STRUCTURAL STEEL AASHTO M270	fy: ---
14. NOMINAL BEARING RESISTANCE OF SOIL	qn: 4.0 KSF
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
16. NOMINAL BEARING RESISTANCE OF ROCK	qn: 10.0 KSF
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
18. PILE RESISTANCE FACTOR	φ: ---
19. LATERAL PILE DEFLECTION	Δ: ---
20. BASIC WIND SPEED	V3s: ---
21. MINIMUM GROUND SNOW LOAD	pg: ---
22. SEISMIC DATA	PGA: --- Ss: --- S1: ---
23.	---
24.	---
25.	---
26.	---

AS BUILT "REBAR" DETAIL

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





**ROADWAY TYPICAL SECTION**

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

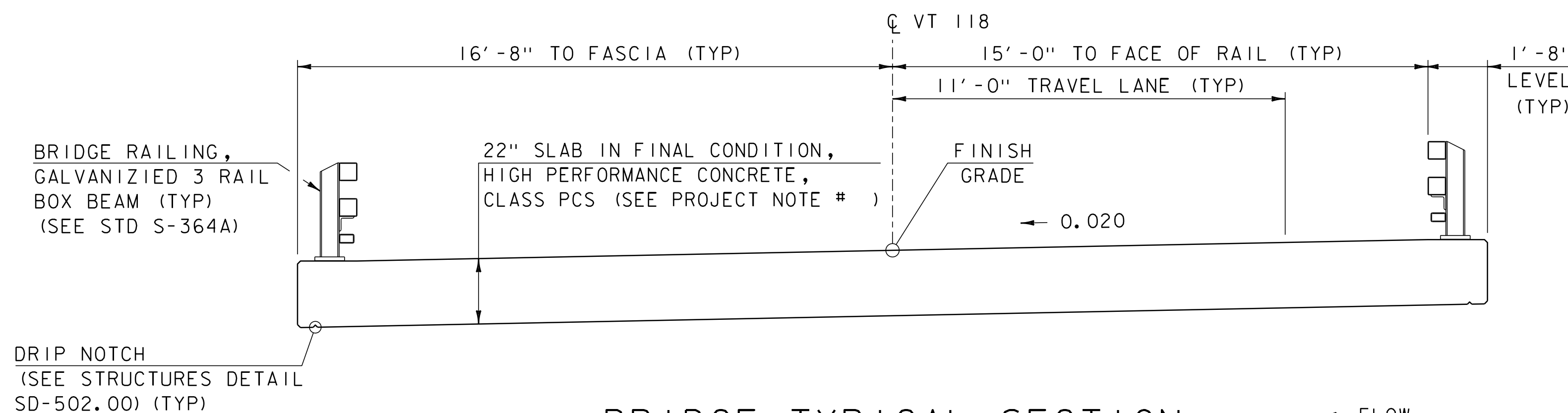
MATERIAL TOLERANCES (IF USED ON PROJECT)	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	
SAND BORROW	+/- 1"

- \* 1 1/2" TYPE III OR IVS OVER
- 1 1/2" TYPE III OR IVS OVER
- 3 1/2" TYPE I OR IIS

**NOTES:**

1. BITUMINOUS CONCRETE PAVEMENT WILL BE PAID FOR UNDER ITEM 900.680 "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".
2. EMULSIFIED ASPHALT: SEE TABLE 406.12A IN VTRANS SPECIFICATIONS.
3. THE CONTRACTOR MAY SUBSTITUTE SUBBASE MATERIAL FOR THE SAND BORROW SHOWN ON PLANS. THE SUBBASE MATERIAL SHALL BE THE TYPE SPECIFIED IN THE CONTRACT AND SHALL BE PLACED TO MEET THE SUBBASE SPECIFICATIONS. IF SUBBASE IS PLACED IN LIEU OF SAND BORROW, A GEOTEXTILE MEETING THE REQUIREMENTS OF ITEM 649.11 "GEOTEXTILE FOR ROAD BED SEPARATOR" SHALL BE PLACED BETWEEN THE SUBGRADE AND SUBBASE MATERIAL. ALL COSTS ASSOCIATED WITH THE SUBSTITUTION INCLUDING THE GEOTEXTILE SHALL BE INCIDENTAL TO 203.31 "SAND BORROW".

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

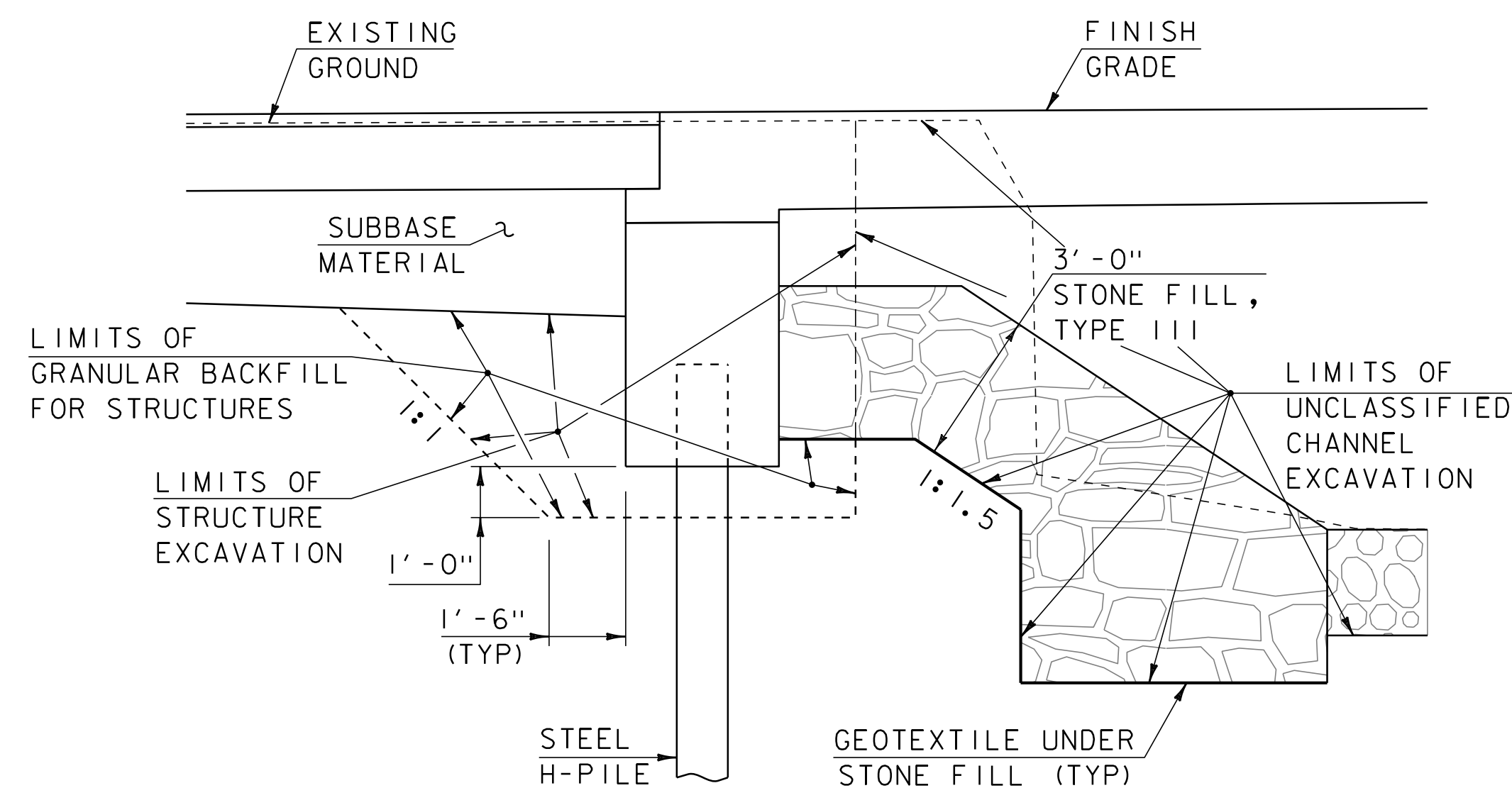


**BRIDGE TYPICAL SECTION**

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

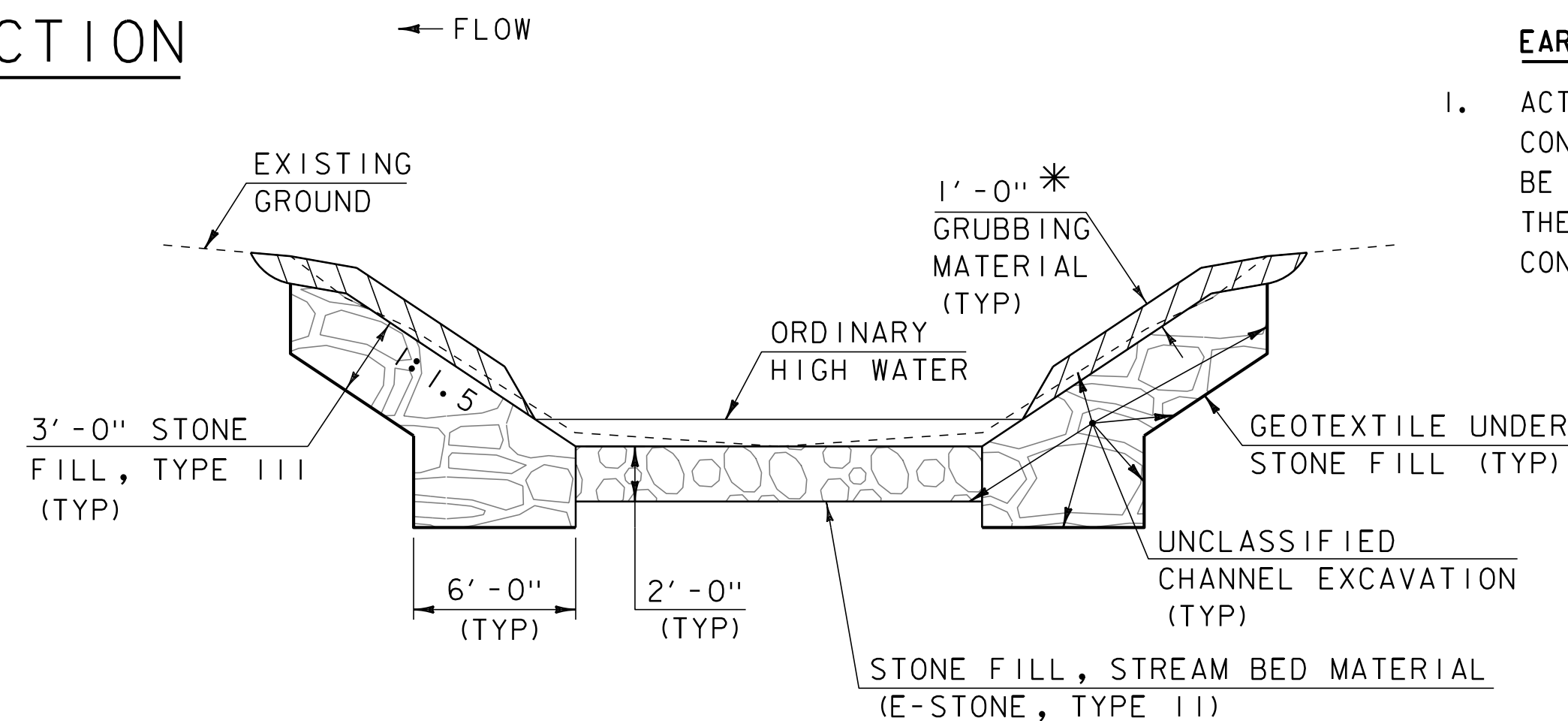
**EARTHWORK NOTES:**

1. ACTUAL LIMITS OF STRUCTURE EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER ITEM 204.25 "STRUCTURE EXCAVATION". EXCAVATION BY THE CONTRACTOR OUTSIDE OF THESE LIMITS WILL BE AT THE EXPENSE OF THE CONTRACTOR.



**ABUTMENT TYPICAL SECTION**

(NOT TO SCALE)



**CHANNEL TYPICAL SECTION**

(NOT TO SCALE)

\*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.

PROJECT NAME: ENOSBURGH  
PROJECT NUMBER: BF 0283 (42)

FILE NAME: sl2c584typ.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: S. COLEY  
TYPICAL SECTIONS

PLOT DATE: 10-DEC-2019  
DRAWN BY: C. FRENCH  
CHECKED BY: S. COLEY  
SHEET 3 OF 22

**GENERAL INFORMATION**

**SYMBOLGY LEGEND NOTE**

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

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

POINT CODE	DESCRIPTION
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 SYMBOLGY**

**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 SYMBOLGY**

**PROJECT DESIGN & LAYOUT SYMBOLGY**

— — — CZ — — —	CLEAR ZONE
—————	PLAN LAYOUT MATCHLINE

**PROJECT CONSTRUCTION FEATURES**

▲ —▲ —▲ —▲ —▲	TOP OF CUT SLOPE
○ —○ —○ —○ —○	TOE OF FILL SLOPE
⊗ ⊗ ⊗ ⊗ ⊗	STONE FILL
-----	BOTTOM OF DITCH
-----	CULVERT PROPOSED
-----	STRUCTURE SUBSURFACE
PDF — PDF —	PROJECT DEMARCATION FENCE
BF — x — x — BF — x — x —	BARRIER FENCE
xxxxxxxxxxxxxxxxxxxxxxxx	TREE PROTECTION ZONE (TPZ)
//////	STRIPING LINE REMOVAL
~~~~~	SHEET PILES

**CONVENTIONAL BOUNDARY SYMBOLGY**

**BOUNDARY LINES**

—————	TOWN BOUNDARY LINE
—————	COUNTY BOUNDARY LINE
—————	STATE BOUNDARY LINE
———/———	PROPOSED STATE R.O.W. (LIMITED ACCESS)
———/———	PROPOSED STATE R.O.W.
———/———	STATE ROW (LIMITED ACCESS)
———/———	STATE ROW
———/———	TOWN ROW
-----	PERMANENT EASEMENT LINE (P)
-----	TEMPORARY EASEMENT LINE (T)
-----	SURVEY LINE
— P — P —	PROPERTY LINE (P/L)
— L — 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 SYMBOLGY**

**EPSC MEASURES**

ONNOONNOONNO	FILTER CURTAIN
— x — x — x — x —	SILT FENCE
— x — x — x — x —	SILT FENCE WOVEN WIRE
▶ —▶ —▶ —▶ —▶	CHECK DAM
▭	DISTURBED AREAS REQUIRING RE-VEGETATION
⊞	EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLGY

**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
Ⓜ	HISTORIC STRUCTURE

**CONVENTIONAL TOPOGRAPHIC SYMBOLGY**

**EXISTING FEATURES**

-----	ROAD EDGE PAVEMENT
-----	ROAD EDGE GRAVEL
-----	DRIVEWAY EDGE
-----	DITCH
-----	FOUNDATION
x — x — x — x —	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: ENOSBURGH  
PROJECT NUMBER: BF 0283 (42)

FILE NAME: sl2c584legend.dgn PLOT DATE: 10-DEC-2019  
PROJECT LEADER: R. YOUNG DRAWN BY: C. FRENCH  
DESIGNED BY: S. COLEY CHECKED BY: S. COLEY  
CONVENTIONAL SYMBOLGY LEGEND SHEET 4 OF 22

PRIMARY CONTROL

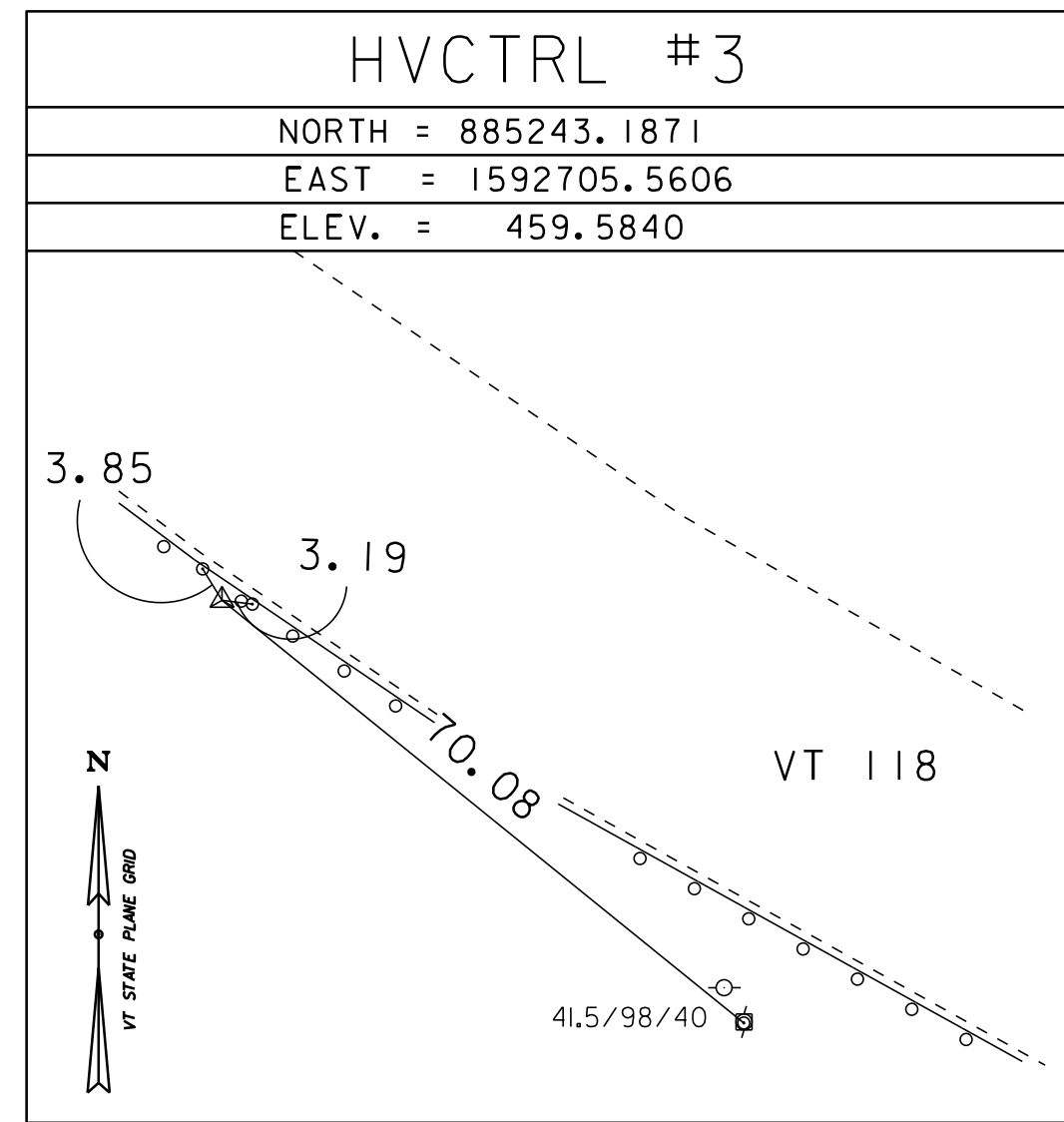
HVCTRL #1  
 EAST BERKSHIRE  
 NORTH = 887130.3300  
 EAST = 1586474.2600  
 ELEV. = 414.6300

GENERAL LOCATION, EAST BERKSHIRE, VT. OWNERSHIP, PAUL ROBITAILLE, BOX 96 VT ROUTE 118, EAST BERKSHIRE, VT. 05447. PHONE 802-933-8361. TO REACH FROM THE INTERSECTION OF VT ROUTE 105 AND VT ROUTE 118 SOUTH IN EAST BERKSHIRE GO SOUTHEAST ALONG VT ROUTE 118 FOR 0.05 MI (0.08 KM) TO THE VT ROUTE 118 BRIDGE OVER THE MISSISQUOI RIVER. FROM THE SOUTHEAST END OF THE BRIDGE CONTINUE SOUTHEAST ALONG VT ROUTE 118 FOR ABOUT 50 M (164.0 FT) TO THE SITE OF THE MARK ON THE RIGHT IN A PASTURE. THE MARK IS SET 2 CM BELOW GROUND SURFACE IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT POURED 1.3 M (4.3 FT) DEEP. IT IS 6.5 M (21.3 FT) SOUTHWEST OF AND ABOUT 0.5 M (1.6 FT) LOWER THAN THE SOUTHWEST EDGE OF PAVEMENT OF VT ROUTE 118, 38.0 M (124.7 FT) NORTHWEST OF POLE NO. 153, AND 1.3 M (4.3 FT) EAST OF POLE NO. 4+1/2 AND A FIBERGLASS WITNESS POST.

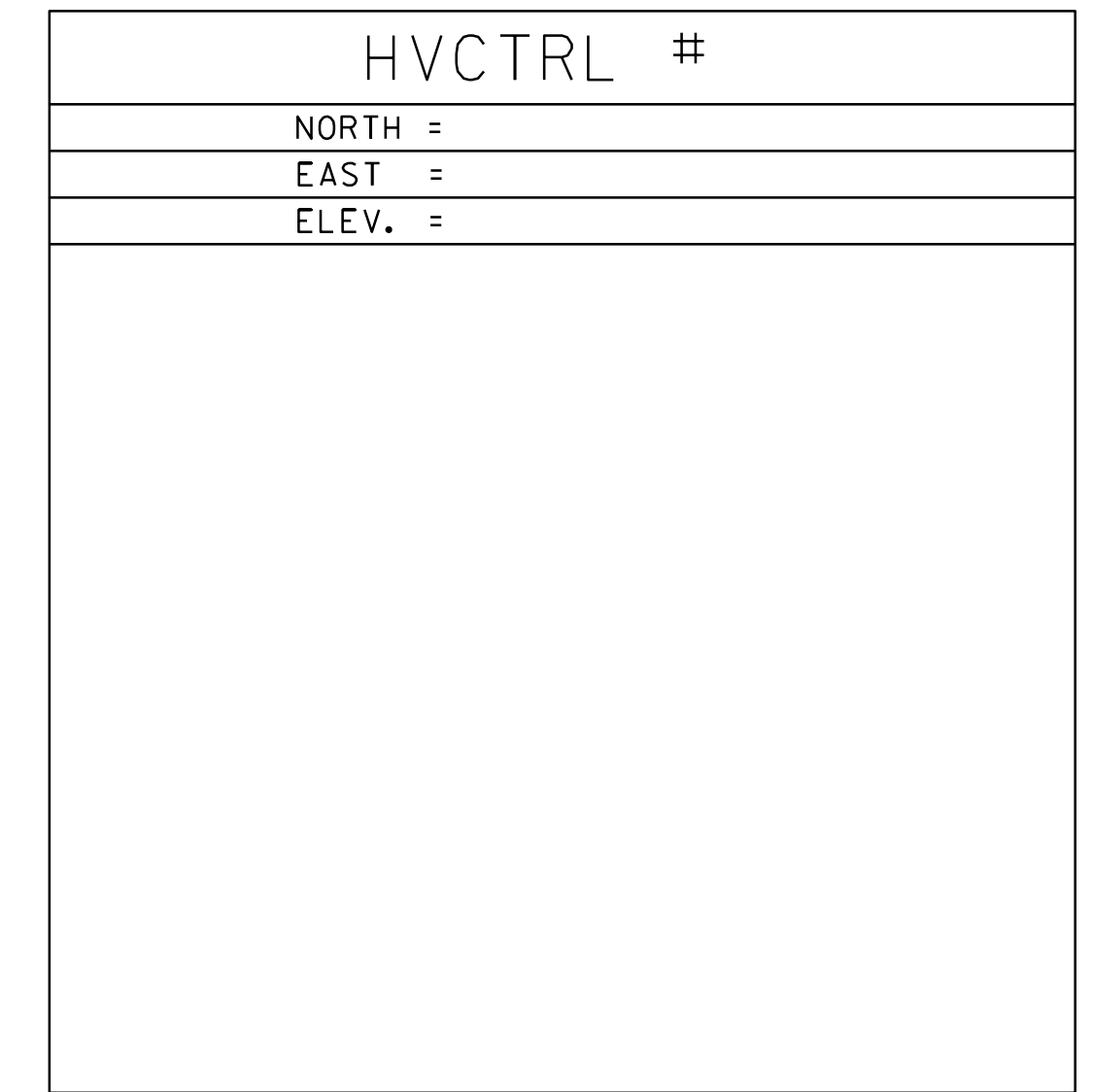
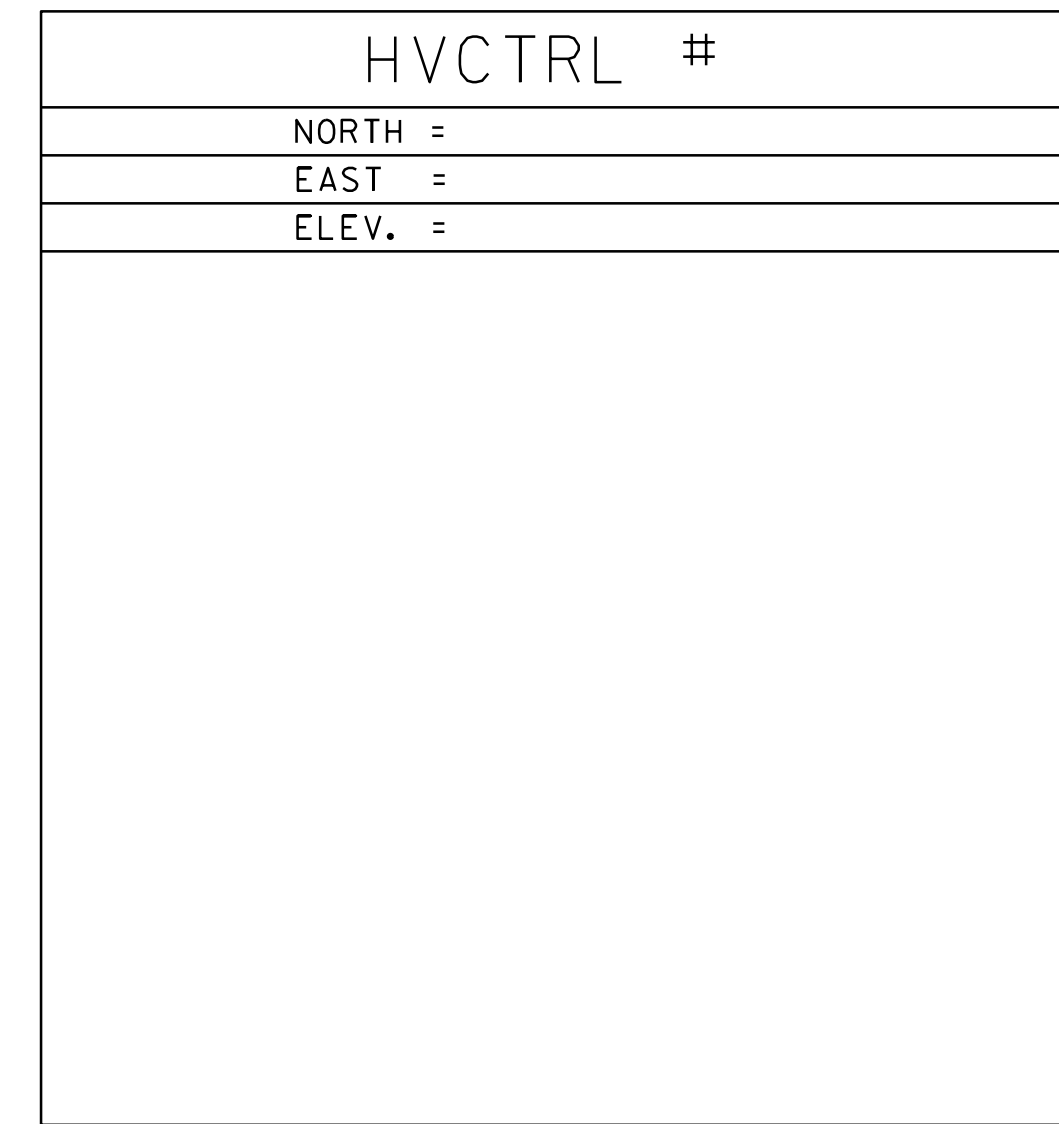
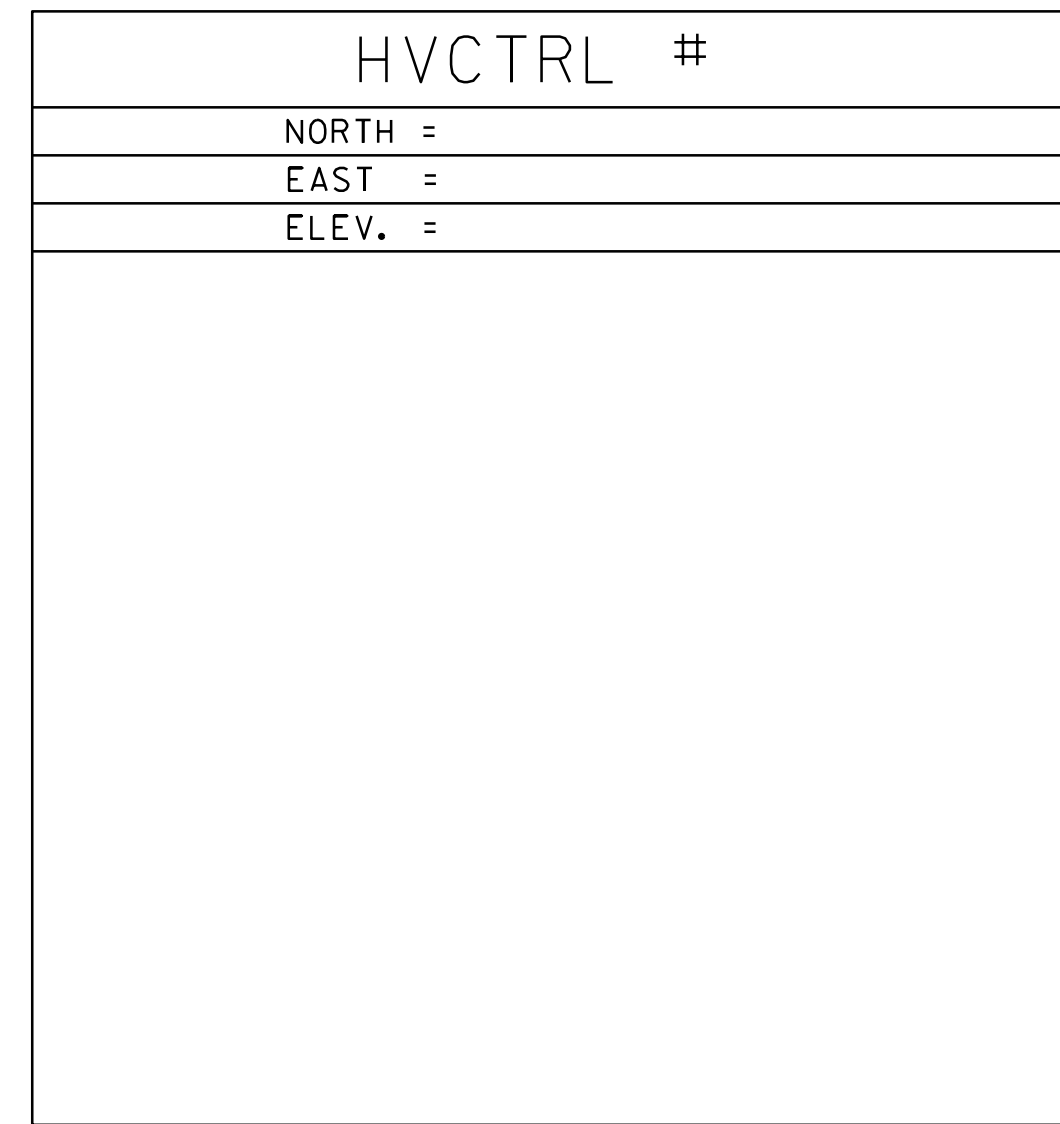
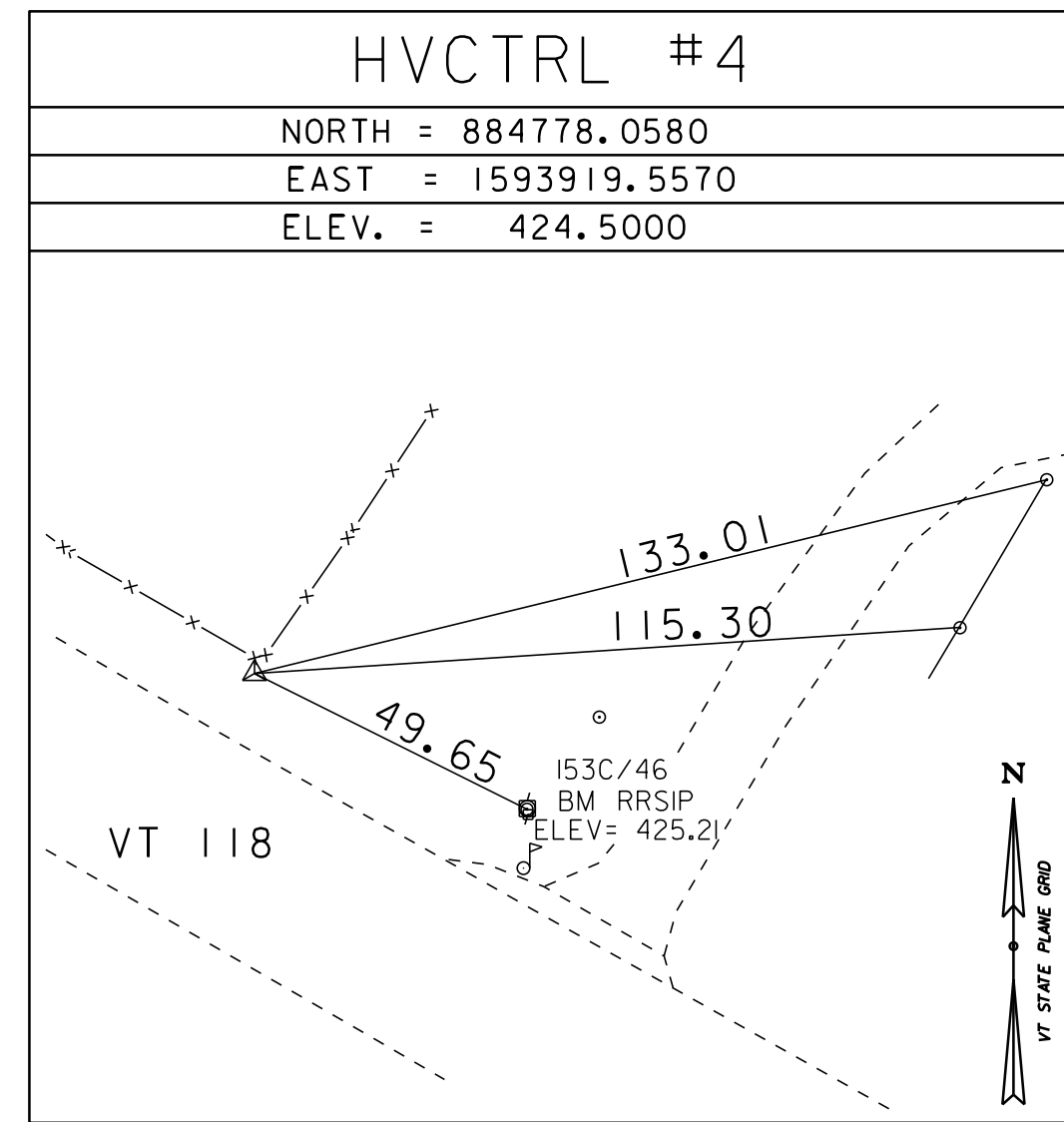
HVCTRL #2  
 EAST BERKSHIRE AZ MK  
 NORTH = 884459.1500  
 EAST = 1588007.0500  
 ELEV. = 569.1500

GENERAL LOCATION, ENOSBURG, VT., JUST SOUTH OF THE VILLAGE OF EAST BERKSHIRE, VT. OWNERSHIP, WATSON SIGN COMPANY, RD 1 BOX 946, RICHFORD, VT. 05476. PHONE 802-933-2111. TO REACH FROM THE INTERSECTION OF VT ROUTE 105 AND VT ROUTE 118 SOUTH IN EAST BERKSHIRE GO SOUTHEAST ALONG VT ROUTE 118 FOR 0.55 MI (0.89 KM) TO THE INTERSECTION OF PEARLY ROAD RIGHT. TURN RIGHT AND GO SOUTHWEST ALONG PEARLY ROAD FOR 0.2 MI (0.3 KM) TO THE INTERSECTION OF A GRAVEL DRIVE LEFT, LEADING TO THE WATSON SIGN COMPANY. TURN LEFT AND GO SOUTH ALONG THE GRAVEL DRIVE FOR ABOUT 50 M (164.0 FT) TO THE END OF THE DRIVE AT THE SIGN COMPANY BUILDING. PARK VEHICLE AND WALK SOUTHEAST, UPHILL THROUGH A PASTURE, FOR ABOUT 75 M (246.1 FT) TO THE SITE OF THE MARK. THE MARK IS SET IN THE TOP OF A MASSIVE ROCK OUTCROP ON THE NORTHWEST EDGE OF A KNOB, IN A PASTURE. IT IS 75.4 M (247.4 FT) (SLOPE) SOUTHEAST OF THE SOUTHEAST CORNER OF AN ATTACHED SHED ON THE SIGN COMPANY BUILDING, 49.4 M (162.1 FT) EAST OF THE EAST EDGE OF A POND, 8.5 M (27.9 FT) EAST OF A CLUMP APPLE, 65.0 M (213.3 FT) SOUTHWEST OF AN ANGLE POINT IN A WIRE FENCE, AND 68.8 M (225.7 FT) WEST OF ANOTHER ANGLE POINT IN THE SAME FENCE.

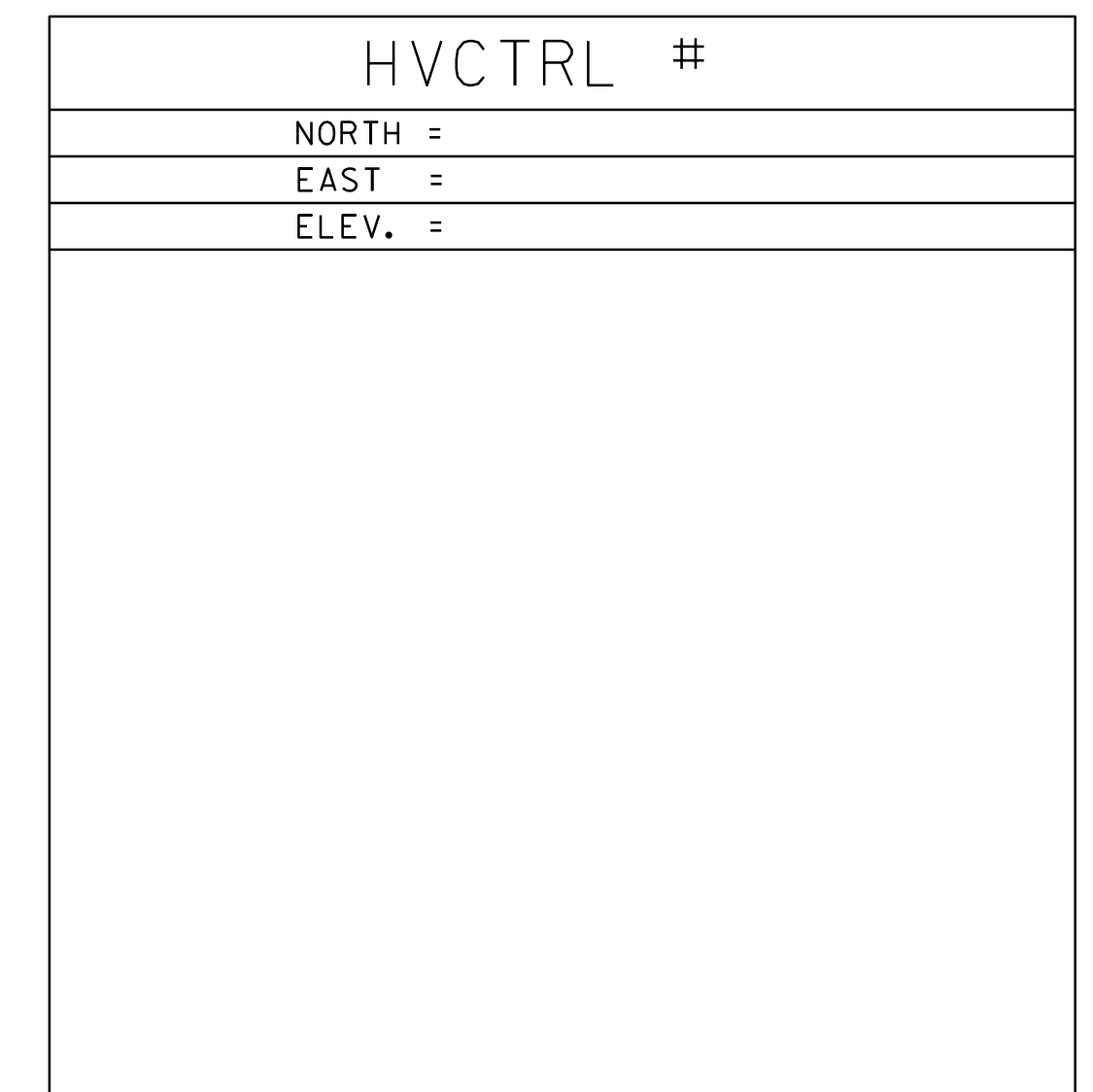
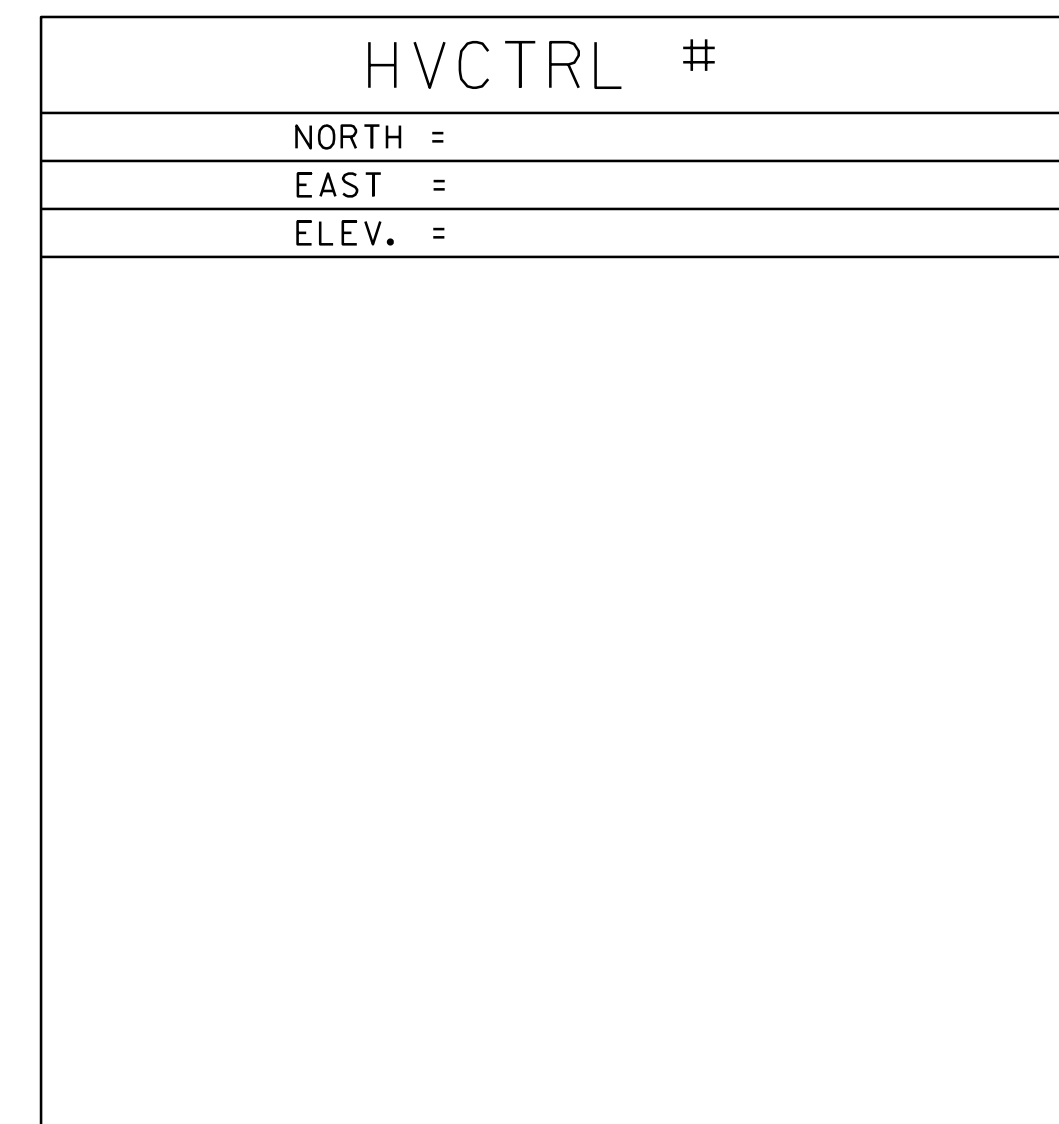
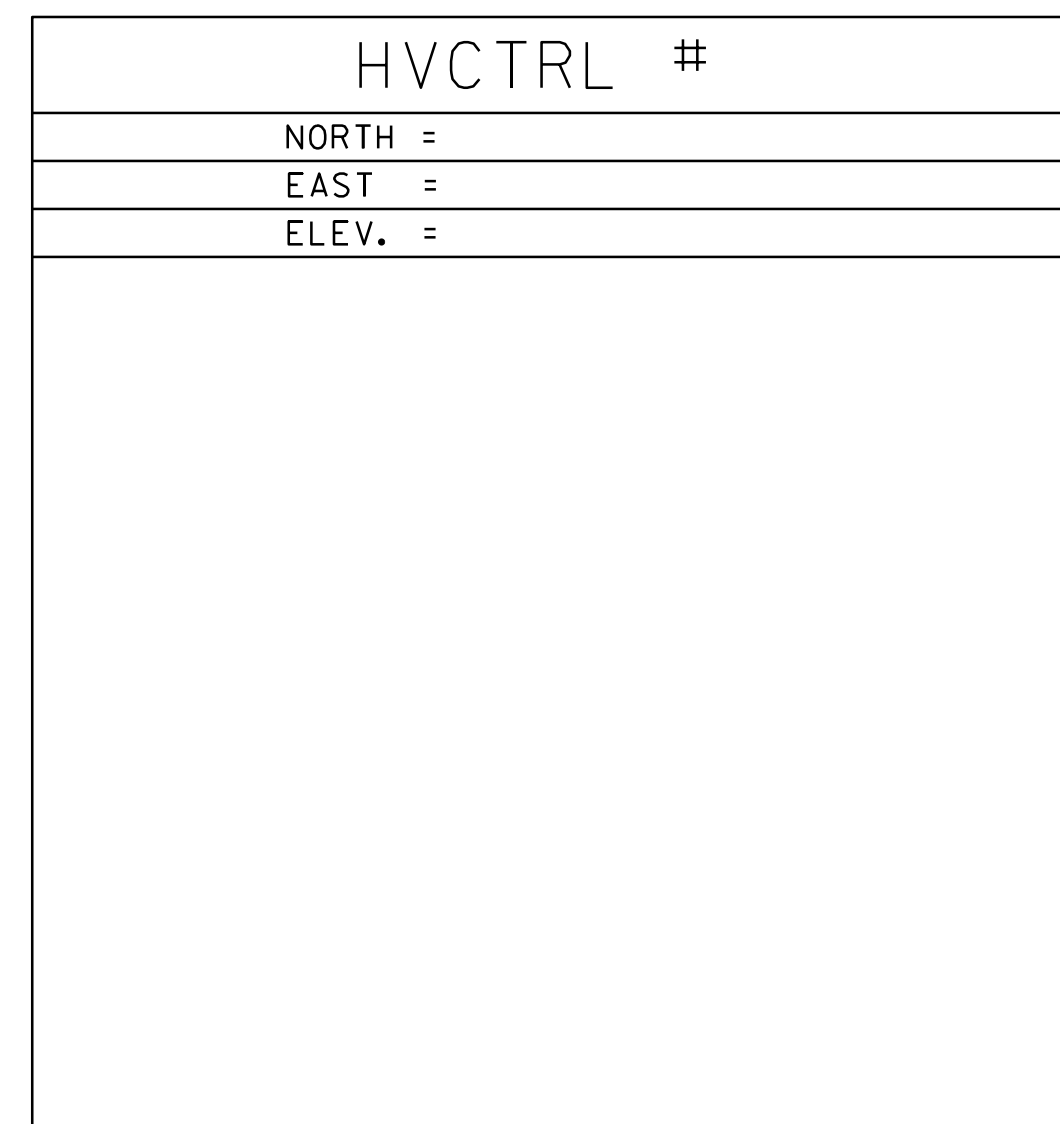
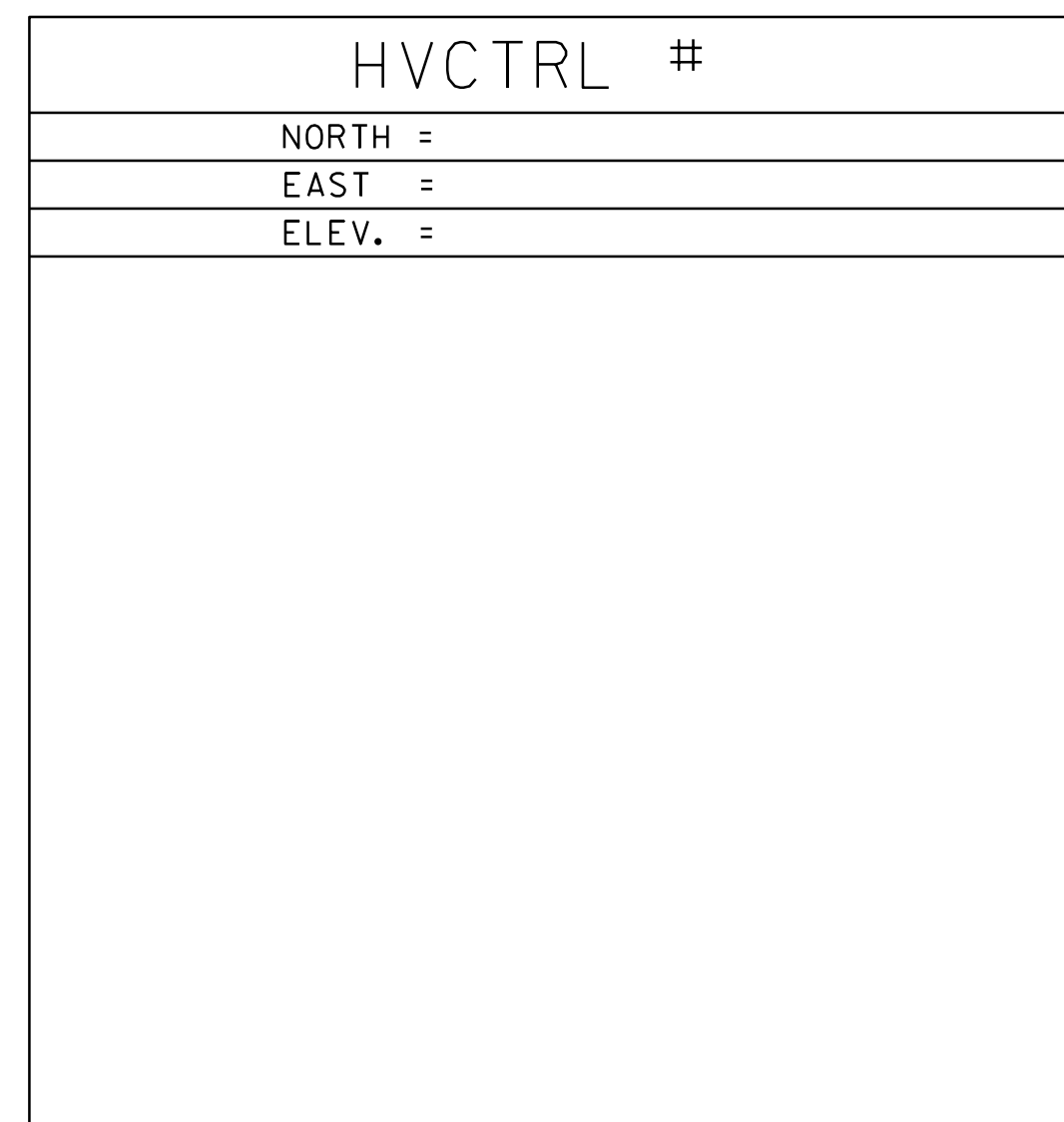
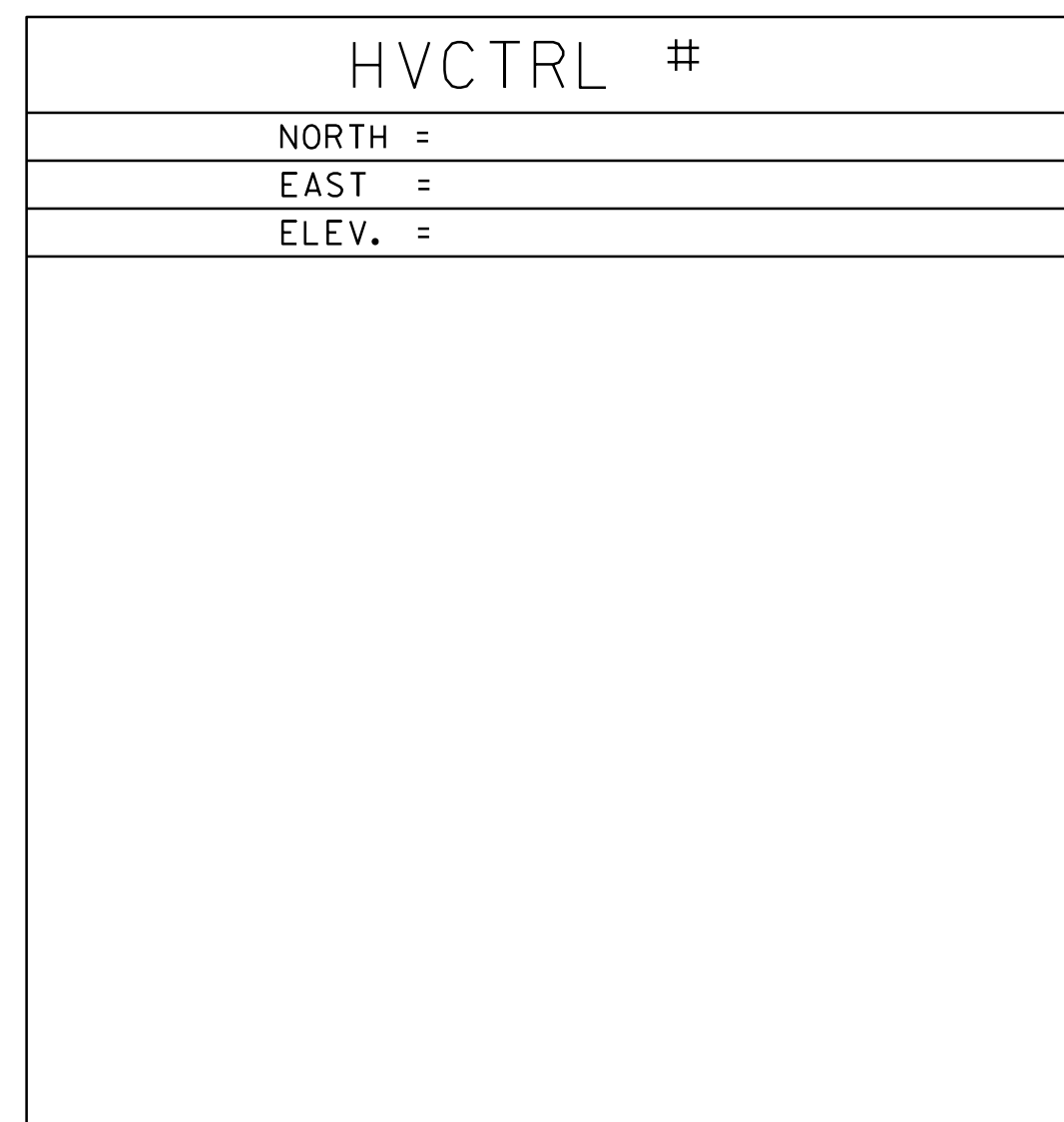
SECONDARY CONTROL



MAIN TRAVERSE COMPLETED: 8/20/2018 BY R. GILMAN



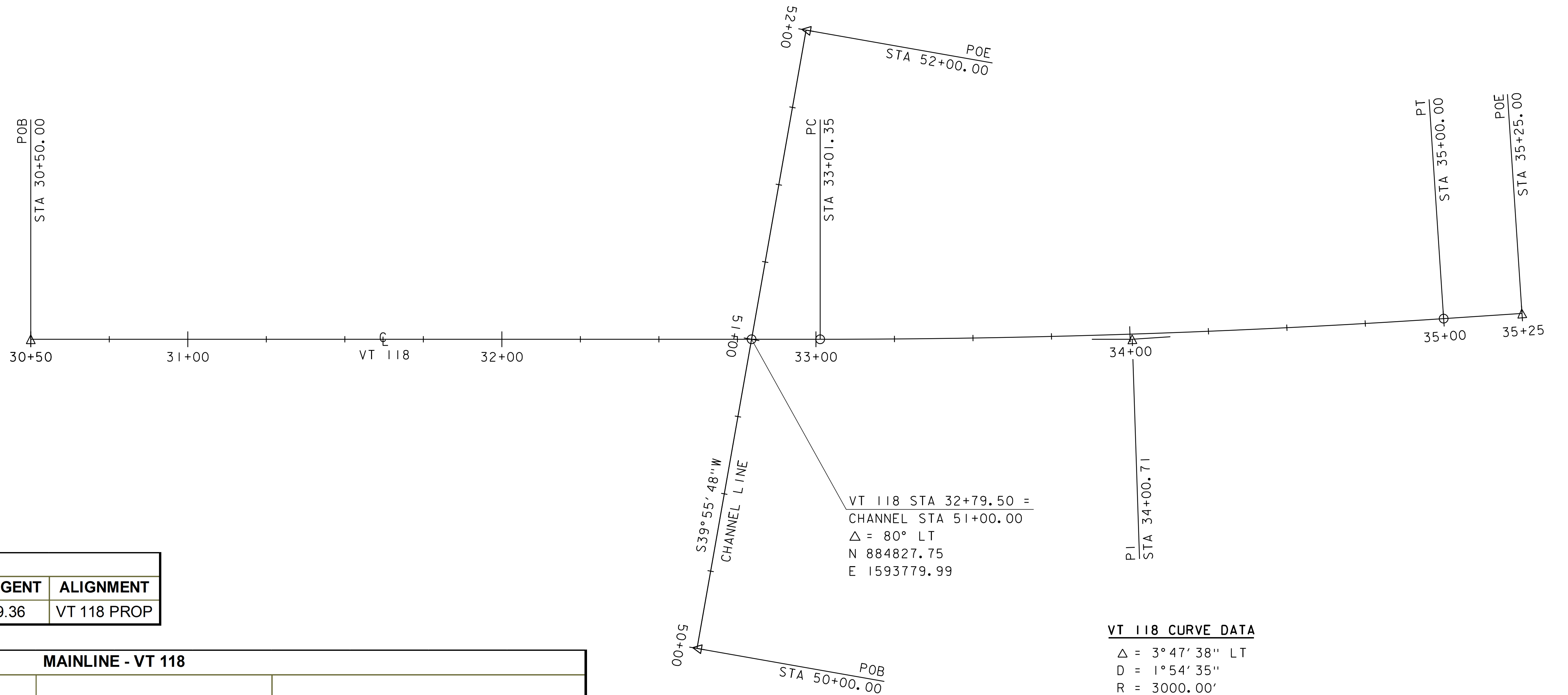
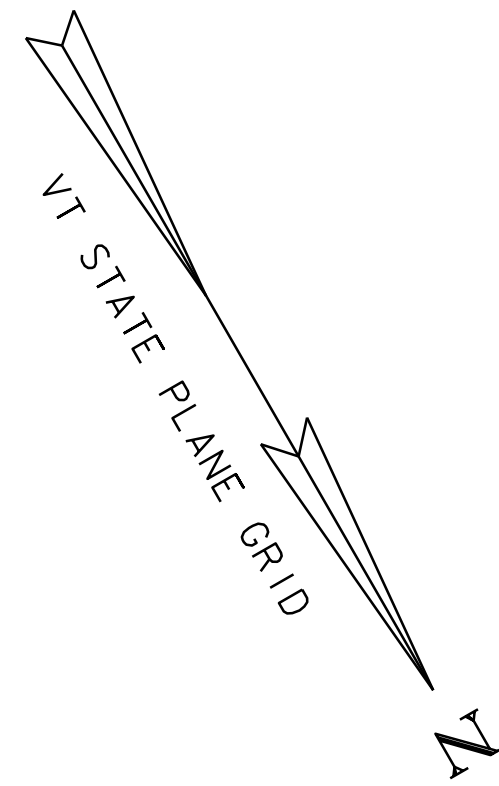
LOCAL CONTROL



DATUM
VERTICAL NAVD88
HORIZONTAL NAD83 (2011)
ADJUSTMENT COMPASS

PROJECT NAME: ENOSBURGH
PROJECT NUMBER: BF 0283(42)
FILE NAME: sl2c5841e.dgn
PROJECT LEADER: R. YOUNG
DESIGNED BY: S. COLEY
TIE SHEET
PLOT DATE: 10-DEC-2019
DRAWN BY: C. FRENCH
CHECKED BY: S. COLEY
SHEET 5 OF 22





VT 118 STA 32+79.50 =  
CHANNEL STA 51+00.00  
Δ = 80° LT  
N 884827.75  
E 1593779.99

**VT 118 CURVE DATA**

Δ = 3°47'38" LT  
D = 1°54'35"  
R = 3000.00'  
T = 99.36'  
L = 198.65'  
E = 1.65'

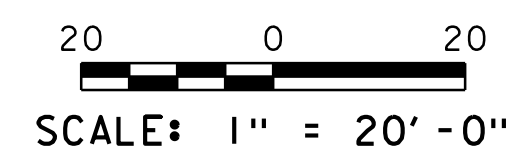
CURVE DATA					
NO.	RADIUS	DELTA	LENGTH	TANGENT	ALIGNMENT
C1	3000	3°47'38.32"	198.65	99.36	VT 118 PROP

MAINLINE - VT 118											
POINT ID	BEARING	DISTANC E (FEET)	NORTHIN G (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
39	60°04'12.26"	251.35 '	884713.25	1593978.88		30+50.00					
	N63°51'50.58"	124.36 '	884888.23	1593674.95	33+01.35		35+00.00	3°47'38.32"	-3000.00 '	198.65 '	99.36 '
4			884943.01	1593563.30		35+25.00					

CHANNEL											
POINT ID	BEARING	DISTANC E (FEET)	NORTHIN G (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
53	39°55'47.74"	200.00 '	884904.44	1593844.18		50+00.00					
54			884751.07	1593715.81		52+00.00					

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (2011)
ADJUSTMENT	Compass



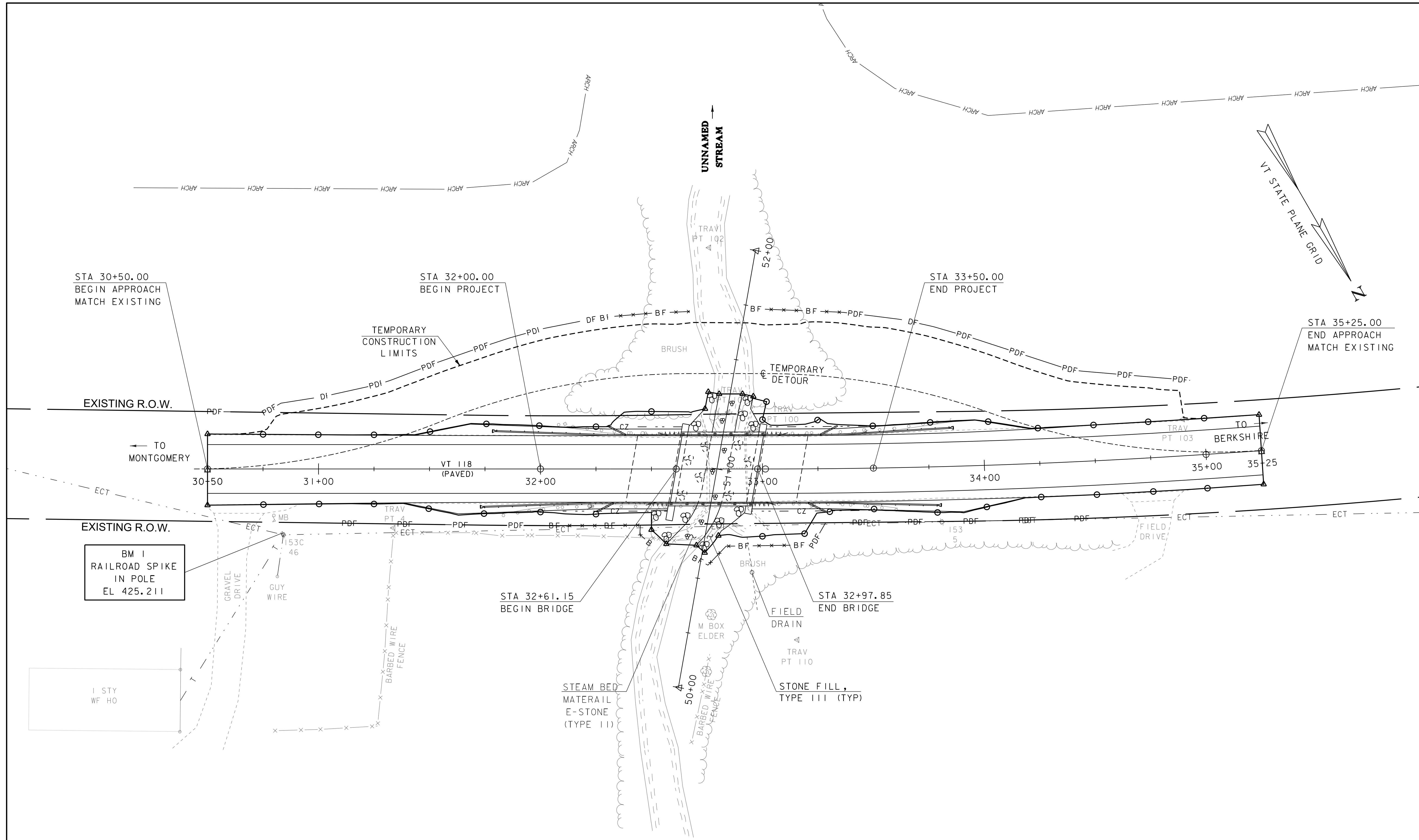
PROJECT NAME:	ENOSBURGH	PLOT DATE:	10-DEC-2019
PROJECT NUMBER:	BF 0283 (42)	DRAWN BY:	C. FRENCH
FILE NAME:	sl2c584align.dgn	CHECKED BY:	S. COLEY
PROJECT LEADER:	R. YOUNG	ALIGNMENT SHEET	SHEET 6 OF 22
DESIGNED BY:	S. COLEY		

HADLEY SILT LOAM  
 0%-3% SLOPES  
 HIGHLY ERODIBLE  
 K= 0.49

RUMNEY VARIANT SILT LOAM  
 0%-2% SLOPES  
 HIGHLY ERODIBLE  
 K= 0.37



PROJECT NAME:	ENOSBURGH
PROJECT NUMBER:	BF 0283 (42)
FILE NAME:	sl2c584erobdr.dgn
PROJECT LEADER:	R. YOUNG
DESIGNED BY:	S. COLEY
EXISTING SITE CONDITIONS	
PLOT DATE:	10-DEC-2019
DRAWN BY:	C. FRENCH
CHECKED BY:	S. COLEY
SHEET	7 OF 22



STA 30+50.00  
BEGIN APPROACH  
MATCH EXISTING

STA 32+00.00  
BEGIN PROJECT

STA 33+50.00  
END PROJECT

STA 35+25.00  
END APPROACH  
MATCH EXISTING

EXISTING R.O.W.

EXISTING R.O.W.

BM 1  
RAILROAD SPIKE  
IN POLE  
EL 425.211

STA 32+61.15  
BEGIN BRIDGE

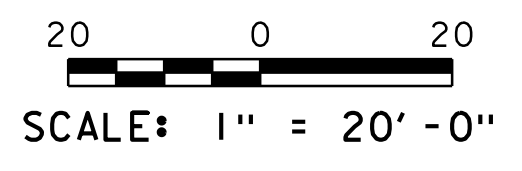
STA 32+97.85  
END BRIDGE

STEAM BED  
MATERIAL  
E-STONE  
(TYPE III)

STONE FILL,  
TYPE III (TYP)

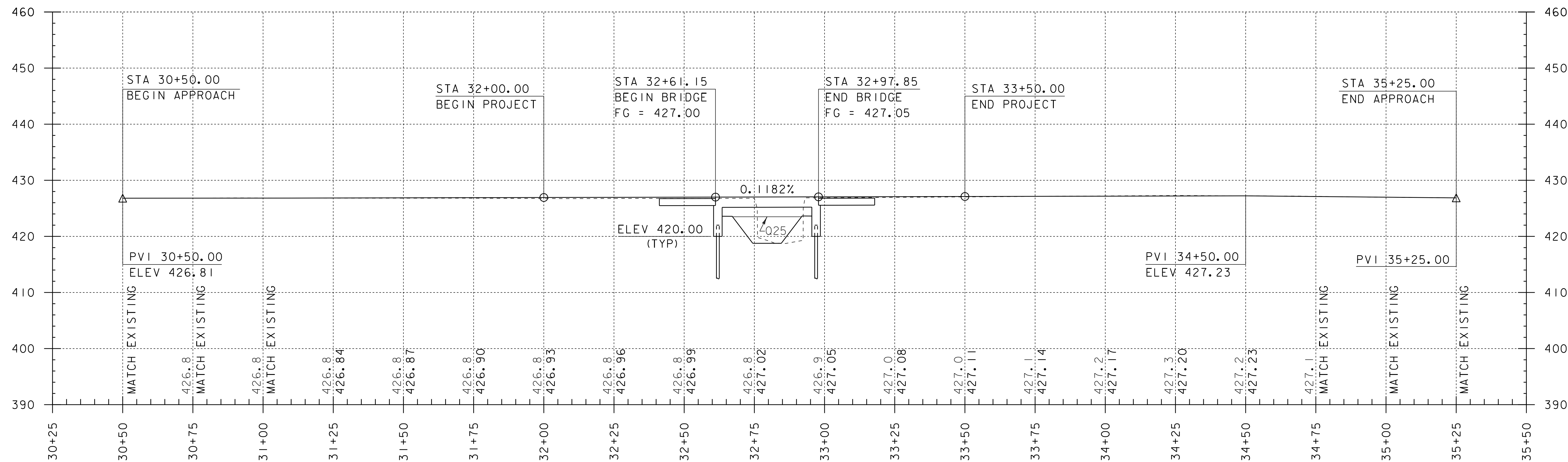
**EXISTING BRIDGE DATA**

CONCRETE SLAB ON  
CONCRETE ABUTMENTS  
BUILT 1921  
OVERALL LENGTH: 18'  
FASCIA TO FASCIA WIDTH: 33.7'



PROJECT NAME: ENOSBURGH	
PROJECT NUMBER: BF 0283 (42)	
FILE NAME: sl2c584bdr.dgn	PLOT DATE: 10-DEC-2019
PROJECT LEADER: R. YOUNG	DRAWN BY: C. FRENCH
DESIGNED BY: S. COLEY	CHECKED BY: S. COLEY
LAYOUT	SHEET 8 OF 22





**PROFILE ALONG VT 118**

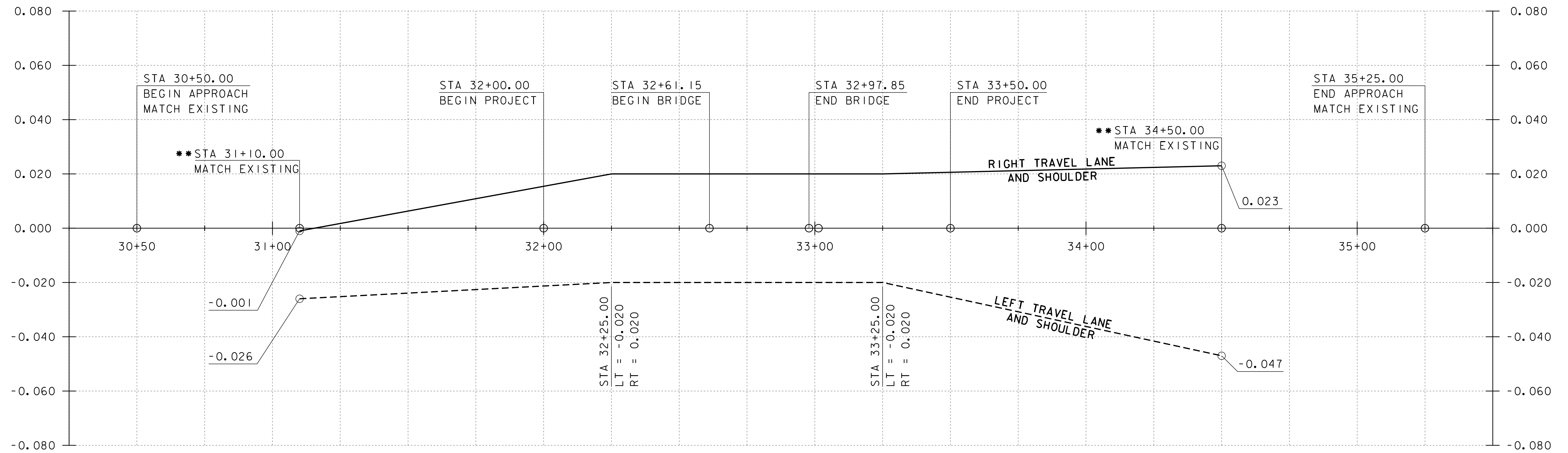
HORIZONTAL SCALE: 1" = 20'-0"  
 VERTICAL SCALE: 1" = 10'-0"

**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.

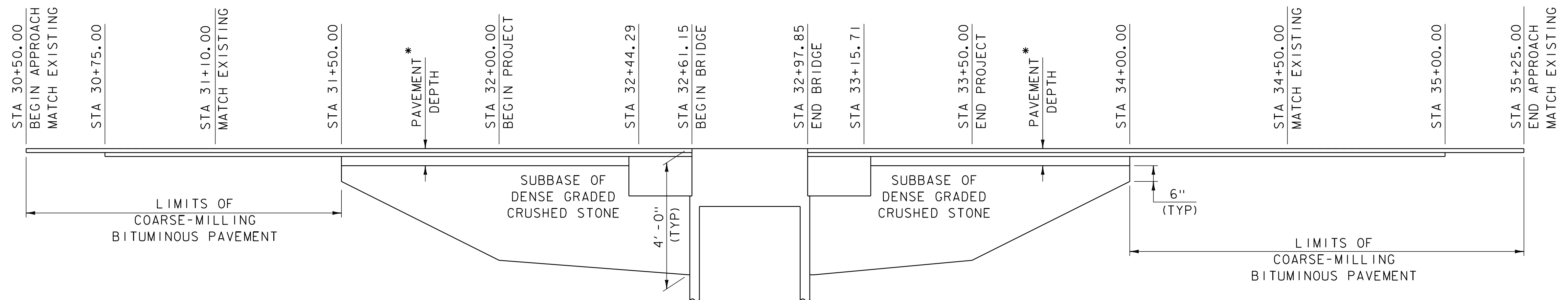
PROJECT NAME: ENOSBURGH	
PROJECT NUMBER: BF 0283 (42)	
FILE NAME: sl2c584pro.dgn	PLOT DATE: 10-DEC-2019
PROJECT LEADER: R. YOUNG	DRAWN BY: C. FRENCH
DESIGNED BY: S. COLEY	CHECKED BY: S. COLEY
VT 118 PROFILE	SHEET 9 OF 22



**VT 118 BANKING DIAGRAM**

HORIZONTAL SCALE: 1" = 20' -0"  
 VERTICAL SCALE: 1" = 0.020' /'

\*\*BEFORE STATION 31+10 AND AFTER STATION 34+50  
 THE BANKING SHALL MATCH EXISTING

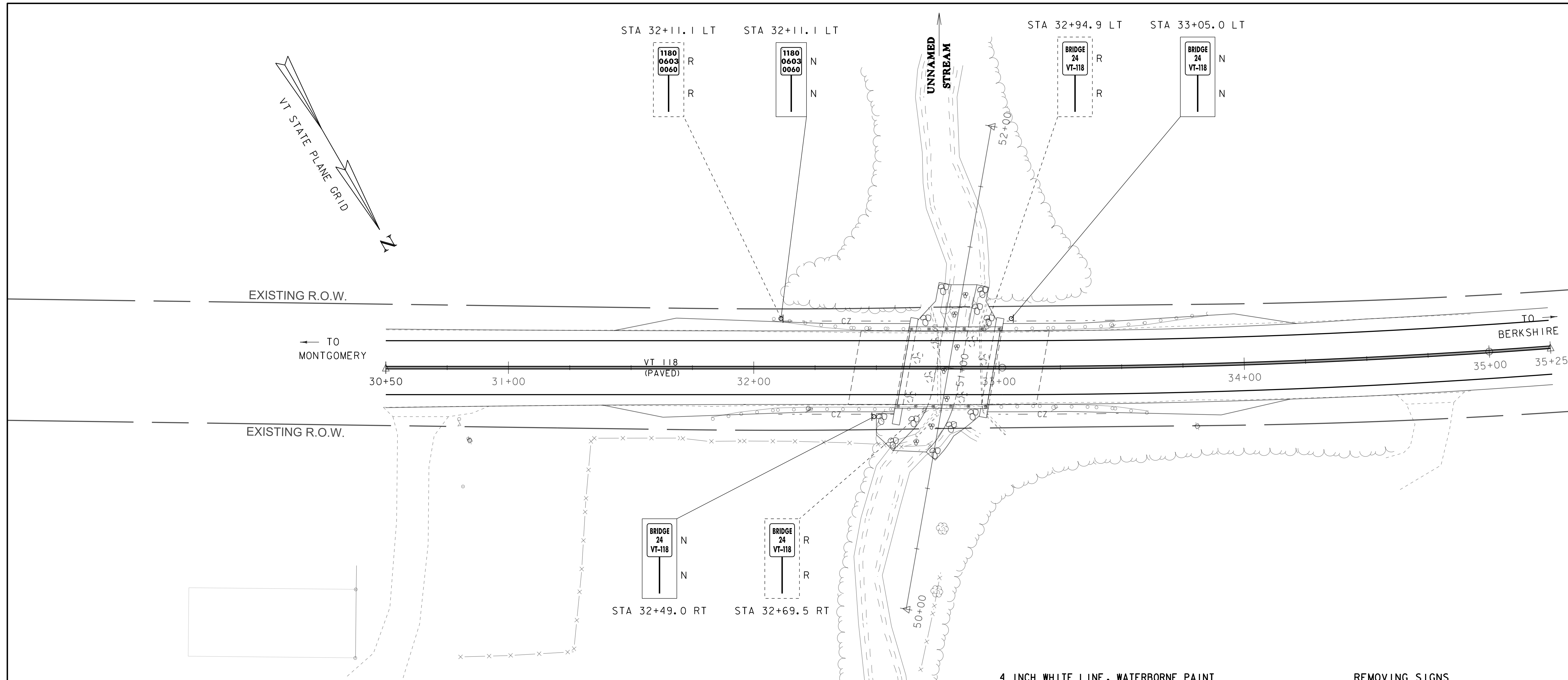


**VT 118 MATERIAL TRANSITION**

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

\*SEE ROADWAY TYPICAL SECTION FOR  
 PAVEMENT AND SUBBASE MATERIAL  
 DESIGN INFORMATION.

PROJECT NAME:	ENOSBURGH
PROJECT NUMBER:	BF 0283 (42)
FILE NAME:	sl2c584pro.dgn
PROJECT LEADER:	R. YOUNG
DESIGNED BY:	S. COLEY
VT 118 BANKING AND MATERIAL TRANSITION	
PLOT DATE:	10-DEC-2019
DRAWN BY:	C. FRENCH
CHECKED BY:	S. COLEY
SHEET	10 OF 22



MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS		NEW SIGN "A"	EXIST POST RETAIN SALVAGE	NO. OF POSTS	NEW SIGN POSTS SQUARE STEEL (in)				REMARKS	SIGN DETAIL	
		WIDTH (in)	HEIGHT (in)				SQUARE STEEL (in)			DETAIL ON SHEET NUMBER		STD. SHEET NUMBER	
							1.75	2.0	2.5				
32+11.1 LT		6	10	0.42		1	1.88	2.42	3.35			VD-700 1180/0603/0060	T-44
32+49.0 RT		6	10	0.42		1						VD-701 LINE 2: 24 LINE 3: VT 118	T-42
53+45.0 LT		6	10	0.42		1						VD-701 LINE 2: 24 LINE 3: VT 118	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." SHS = STANDARD HIGHWAY SIGNS							FT 36	FT	FT	EA			
<b>TOTALS</b>		SF 1.26					FT 36						

**4 INCH WHITE LINE, WATERBORNE PAINT**

STA 30+50.0 LT - STA 35+25.0 LT  
STA 30+50.0 RT - STA 35+25.0 RT

**4 INCH YELLOW LINE, WATERBORNE PAINT**

STA 30+50.0 C - STA 35+25 C (DOUBLE)

**TRAFFIC SIGNS, TYPE A**

STA 32+11.1 LT (1 EA)  
STA 32+49.0 RT (1 EA)  
STA 33+05.0 LT (1 EA)

**REMOVING SIGNS**

STA 32+11.1 LT (1 EA)  
STA 32+69.5 RT (1 EA)  
STA 32+94.9 LT (1 EA)

**REMOVAL OF EXISTING DELINEATOR AND POST**

STA 32+22.2 RT  
STA 32+46.1 LT  
STA 33+22.2 RT  
STA 33+46.1 LT

**LEGEND**

- R: REMOVE
- R&S: REMOVE AND SALVAGE
- RET: RETAIN
- N: NEW
- S: SALVAGE



PROJECT NAME: ENOSBURGH	PLOT DATE: 10-DEC-2019
PROJECT NUMBER: BF 0283 (42)	DRAWN BY: C. FRENCH
FILE NAME: sl2c584bdr_trf.dgn	CHECKED BY: S. COLEY
PROJECT LEADER: R. YOUNG	SHEET 11 OF 22
DESIGNED BY: S. COLEY	
SIGNS AND PAVEMENT MARKINGS	



**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 3/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	Top of Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
1/2 Rec.	Percent Recovery
ROD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

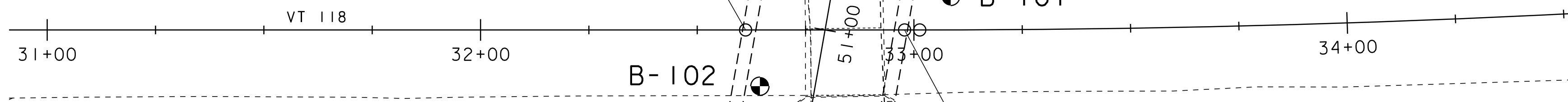
**COLOR**

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

**DEFINITIONS (AASHTO)**

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

← TO MONTGOMERY



**BORING LAYOUT**

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

**BORING CHART**

HOLE NO.	STATION	OFFSET	NORTHING	EASTING
B-101	33+08.00	7.7' LT	884835.5	1593751.0
B-102	32+64.00	13.0' RT	884831.5	1593799.5

PROJECT NAME: ENOSBURGH  
PROJECT NUMBER: BF 0283(42)

FILE NAME: sl2c584bor.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: S. COLEY  
BORING INFORMATION

PLOT DATE: 10-DEC-2019  
DRAWN BY: C. FRENCH  
CHECKED BY: S. COLEY  
SHEET 12 OF 22

**GENERAL NOTES**

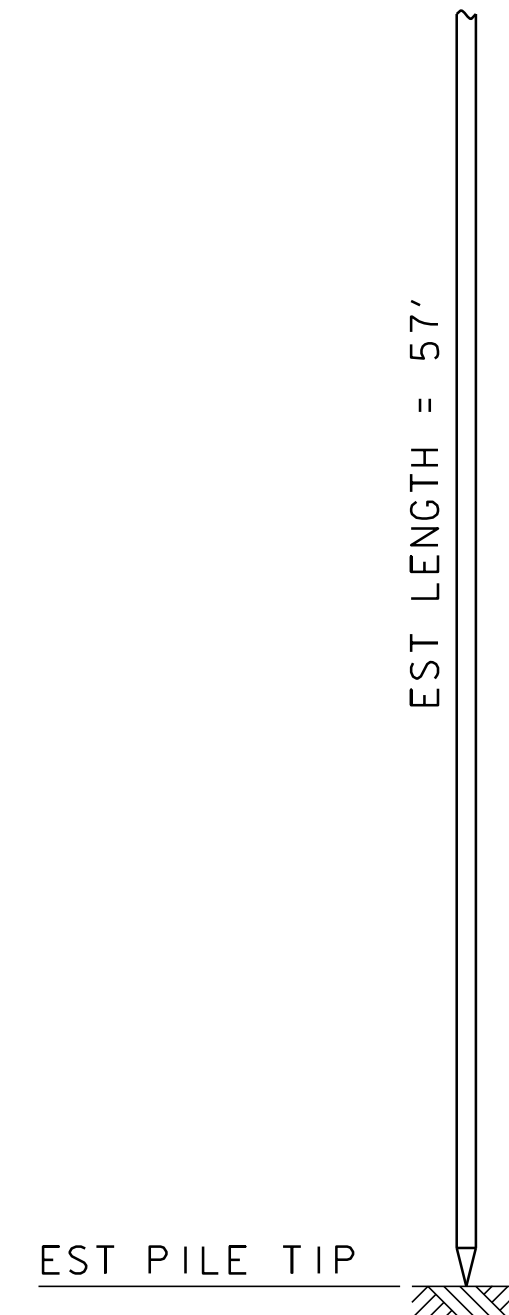
- The subsurface explorations shown herein were made between 12/04/2018 and 12/12/2018 by the Agency.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.
- Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: <b>B-101</b>				
		ENOSBURG BF 0283 (42) VT-118 Br #24				Page No.: 1 of 2				
						Pin No.: 12c584				
						Checked By: LJD				
Boring Crew: Drilex/Chris H.		Type: Casing		Groundwater Observations						
Date Started: 12/10/18 Date Finished: 12/12/18		I.D.: 4 2 in		Date	Depth (ft)	Notes				
VTSPG NAD83: N 884835.5 ft E 1593751.0 ft		Hammer Wt: 300 lb. 140 lb.		12/12/18	11.0	After boring				
Station: 33+07 Offset: 9.5L		Hammer Fall: 30 in. 30 in.								
Ground Elevation: 427.0 ft		Hammer/Rod Type: Auto								
		Rig: CME-75 C <sub>F</sub> = 1.23								
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)		Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6' (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		6 inches of bituminous concrete				79-46-29-18 (75)	2.7	35.3	48.7	16.0
		A-2-4, GrSa, brown to gray, Rec. = 1.42 ft, (FILL)								
5		SiSa, brown to gray, Rec. = 0.83 ft, Advanced sampler through a 4 to 5 inch piece of wood at 8 feet (ALLUVIUM)			4-6-7-9 (13)					
10		A-4, Si, brown to gray, Rec. = 1.0 ft, (ALLUVIUM)			7-7-6-6 (13)	28.0	1.3	8.7	90.1	
15		A-1-a, SaGr, brown to gray, Rec. = 0.42 ft, (ALLUVIUM)			9-11-6-6 (17)	10.7	48.5	40.3	11.2	
20		A-2-4, Sa, brown to gray, Rec. = 1.33 ft, (ALLUVIUM)			8-6-5-7 (11)	20.6	15.4	67.9	16.7	
25		Sa, brown to gray, Rec. = 1.0 ft, (ALLUVIUM)			4-2-3-5 (5)					
30		No recovery, Rec. = 0.0 ft, (ALLUVIUM)			11-12-11-11 (23)					
35		A-1-a, GrSa, gray, Rec. = 0.58 ft, (ALLUVIUM)			12-12-17-14 (29)	9.3	35.7	54.7	9.7	
		GrSa, gray, Rec. = 0.5 ft, (ALLUVIUM)			14-15-19-15 (34)					
40		No recovery, Rec. = 0.0 ft, (ALLUVIUM)			7-4-16-					
<p>Notes:</p> <ol style="list-style-type: none"> <li>1. Stratification lines represent approximate boundary between material types. Transition may be gradual.</li> <li>2. N Values have not been corrected for hammer energy. C<sub>F</sub> is the hammer energy correction factor. C<sub>F</sub> is an estimated value.</li> <li>3. Water level readings have been made at times and under conditions stated.</li> <li>4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VAOT.</li> </ol>										

ABUT 1 BTM  
ELEV 420.00

2010 COPY -1185138 ROUTE 118 VTRANS VERSION.GPJ VERMONT AOT.GDT 1/4/19

**Terracon**



2010 COPY -1185138 ROUTE 118 VTRANS VERSION.GPJ VERMONT AOT.GDT 1/4/19

**Terracon**

VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: <b>B-101</b>				
		ENOSBURG BF 0283 (42) VT-118 Br #24				Page No.: 2 of 2				
						Pin No.: 12c584				
						Checked By: LJD				
Boring Crew: Drilex/Chris H.		Type: Casing		Groundwater Observations						
Date Started: 12/10/18 Date Finished: 12/12/18		I.D.: 4 2 in		Date	Depth (ft)	Notes				
VTSPG NAD83: N 884835.5 ft E 1593751.0 ft		Hammer Wt: 300 lb. 140 lb.		12/12/18	11.0	After boring				
Station: 33+07 Offset: 9.5L		Hammer Fall: 30 in. 30 in.								
Ground Elevation: 427.0 ft		Hammer/Rod Type: Auto								
		Rig: CME-75 C <sub>F</sub> = 1.23								
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)		Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6' (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		No recovery, Rec. = 0.0 ft, (ALLUVIUM)				26 (20)				
45		A-1-b, Sa, gray, Rec. = 1.25 ft, (ALLUVIUM)				16-15-16-17 (31)	10.2	14.3	73.2	12.5
						22-17-16-16 (33)				
50		GrSa, gray, Rec. = 0.92 ft, (ALLUVIUM)				13-14-14-16 (28)				
55		No recovery, Rec. = 0.0 ft, (ALLUVIUM)				10-12-17-16 (29)				
60		A-1-a, GrSa, gray, Rec. = 0.33 ft, (ALLUVIUM)				17-13-15-10 (28)	9.5	39.2	50.0	10.8
		Casing refusal at 63 feet. Roller bit to 64 feet and begin core at 64 feet								
65		64.0 ft - 69.0 ft, Moderately hard, slightly weathered, green to gray, SCHIST with phyllite zones, moderately dipping joints with close spacing, quartz veins throughout		98 (73)	8	7				
		Boring terminated at 69 feet after the core bit broke at the bottom of the hole			6	5				
		Hole stopped @ 69.0 ft			5	6				
70										
75										
80										
<p>Notes:</p> <ol style="list-style-type: none"> <li>1. Stratification lines represent approximate boundary between material types. Transition may be gradual.</li> <li>2. N Values have not been corrected for hammer energy. C<sub>F</sub> is the hammer energy correction factor. C<sub>F</sub> is an estimated value.</li> <li>3. Water level readings have been made at times and under conditions stated.</li> <li>4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VAOT.</li> </ol>										

PROJECT NAME: ENOSBURGH  
PROJECT NUMBER: BF 0283(42)

FILE NAME: sl2c584bor.dgn PLOT DATE: 10-DEC-2019  
PROJECT LEADER: R. YOUNG DRAWN BY: C. FRENCH  
DESIGNED BY: S. COLEY CHECKED BY: S. COLEY  
BORING LOGS (1) SHEET 13 OF 22



VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: <b>B-102</b>				
		ENOSBURG BF 0283 (42) VT-118 Br #24				Page No.: 1 of 2				
						Pin No.: 12c584				
						Checked By: LJD				
Boring Crew: Drilex/Jamie H.		Type: Casing		Groundwater Observations						
Date Started: 12/04/18 Date Finished: 12/10/18		Sampler: SS		Date	Depth (ft)	Notes				
VTSPG NAD83: N 884831.5 ft E 1593799.5 ft		I.D.: 4 2 in		12/07/18	10.5	After boring				
Station: 32+65 Offset: 11.7R		Hammer Wt: 300 lb. 140 lb.								
Ground Elevation: 426.0 ft		Hammer Fall: 30 in. 30 in.								
		Hammer/Rod Type: Auto								
		Rig: CME-75 C <sub>F</sub> = 1.23								
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)		Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/ft (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
0	X X X	6 inches of bituminous concrete				23-18-16-16 (34)	2.4	35.4	50.9	13.7
	X X X	A-1-b, GrSa, brown, Rec. = 1.0 ft, (FILL)				17-13-13-6 (26)				
	X X X	GrSa, brown, Rec. = 0.08 ft, (FILL)				10-7-9-3 (16)				
5		No recovery, Rec. = 0.0 ft, (FILL)				3-2-3-2 (5)	21.3	2.0	72.5	25.5
		A-2-4, SiSa, brown, Rec. = 0.83 ft, (ALLUVIUM)				3-2-2-3 (4)				
10		No recovery, Rec. = 0.0 ft, (ALLUVIUM)				2-2-2-2 (4)	23.1	0.8	20.2	79.0
		A-4, SaSi, gray, Rec. = 0.83 ft, (ALLUVIUM)				2-3-5-7 (8)				
		SiSa, gray, Rec. = 0.83 ft, (ALLUVIUM)				7-8-12-8 (20)	11.3	33.1	49.8	17.0
15		A-1-b, GrSa, gray to brown, Rec. = 0.92 ft, (ALLUVIUM)				4-6-9-10 (15)	11.6	36.9	40.3	22.8
		A-1-b, SiGrSa, gray to brown, Rec. = 0.83 ft, (ALLUVIUM)				5-6-5-5 (11)	22.3	4.5	79.0	16.5
20		A-2-4, Sa, gray, Rec. = 0.5 ft, (ALLUVIUM)				4-3-2-4 (5)				
		No recovery, Rec. = 0.0 ft, (ALLUVIUM)				5-4-5-10 (9)				
		SiSa, gray, Rec. = 0.58 ft, (ALLUVIUM)				6-5-4-5 (9)	24.0	2.6	29.3	68.1
25		No recovery, Rec. = 0.0 ft, (ALLUVIUM)				8-10-11-13 (21)				
		A-4, SaSi, gray, Rec. = 0.83 ft, (ALLUVIUM)								
		Roller bit through cobbles at 33 feet								
35		SaSi, gray, Rec. = 1.17 ft, 35.0 ft - 37.0 ft, (ALLUVIUM)								
		A-1-a, GrSa, gray, Rec. = 0.75 ft, (ALLUVIUM)								
40		A-1-a, GrSa, gray, Rec. = 0.75 ft, (ALLUVIUM)								

ABUT 2 BTM  
ELEV 420.00

2010 COPY - J1185138 ROUTE 118 VTRANS VERSION.GPJ VERMONT AOT.GDT 1/4/19

Notes:  
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.  
2. N Values have not been corrected for hammer energy. C<sub>F</sub> is the hammer energy correction factor. C<sub>F</sub> is an estimated value.  
3. Water level readings have been made at times and under conditions stated.  
4. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.  
5. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VAOT.

Terracon

EST PILE TIP

EST LENGTH = 64'

2010 COPY - J1185138 ROUTE 118 VTRANS VERSION.GPJ VERMONT AOT.GDT 1/4/19

Notes:  
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.  
2. N Values have not been corrected for hammer energy. C<sub>F</sub> is the hammer energy correction factor. C<sub>F</sub> is an estimated value.  
3. Water level readings have been made at times and under conditions stated.  
4. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.  
5. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VAOT.

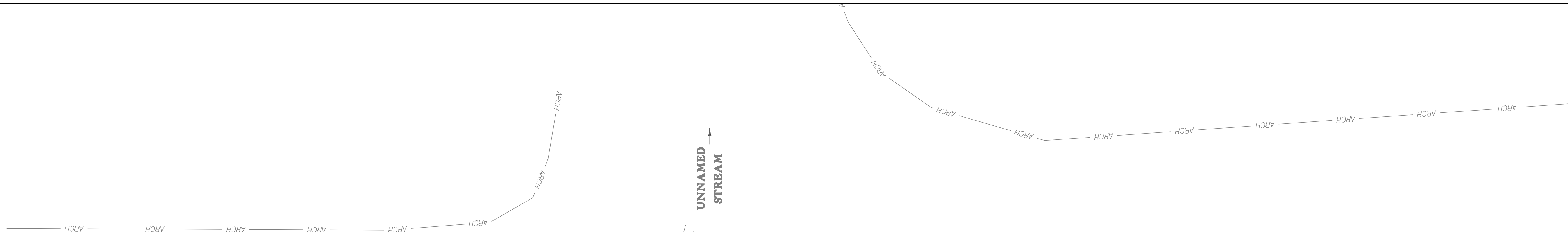
Terracon

VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: <b>B-102</b>				
		ENOSBURG BF 0283 (42) VT-118 Br #24				Page No.: 2 of 2				
						Pin No.: 12c584				
						Checked By: LJD				
Boring Crew: Drilex/Jamie H.		Type: Casing		Groundwater Observations						
Date Started: 12/04/18 Date Finished: 12/10/18		Sampler: SS		Date	Depth (ft)	Notes				
VTSPG NAD83: N 884831.5 ft E 1593799.5 ft		I.D.: 4 2 in		12/07/18	10.5	After boring				
Station: 32+65 Offset: 11.7R		Hammer Wt: 300 lb. 140 lb.								
Ground Elevation: 426.0 ft		Hammer Fall: 30 in. 30 in.								
		Hammer/Rod Type: Auto								
		Rig: CME-75 C <sub>F</sub> = 1.23								
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)		Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/ft (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
0						8-7 (18)				
45		GrSa, gray, Rec. = 0.58 ft, (ALLUVIUM)				9-30-12-8 (42)				
50		GrSa, gray, Rec. = 0.25 ft, (ALLUVIUM)				6-6-10-12 (16)				
55		A-1-a, SaGr, gray, Rec. = 0.58 ft, (ALLUVIUM)				7-26-13-13 (39)	11.3	44.1	43.0	12.9
60		GrSa, gray, Rec. = 0.33 ft, (ALLUVIUM)				10-7-5-2 (12)				
65		Casing refusal at 63.5 feet. Roller bit to 65.5 feet and attempted to core. Difficulty coring due to boulders and cobbles. Roller bit to 70 feet and begin core at 70 feet.								
70		70.0 ft - 75.0 ft, Moderately hard, slightly weathered, green and white SCHIST, horizontal joints with close to moderately close spacing, quartz veins present throughout		98 (95)	2					
75		75.0 ft - 80.0 ft, Similar, moderately dipping joints		91 (70)	3					
80		Hole stopped @ 80.0 ft			3					

PROJECT NAME: ENOSBURGH  
PROJECT NUMBER: BF 0283(42)

FILE NAME: sl2c584bor.dgn PLOT DATE: 10-DEC-2019  
PROJECT LEADER: R. YOUNG DRAWN BY: C. FRENCH  
DESIGNED BY: S. COLEY CHECKED BY: S. COLEY  
BORING LOGS (2) SHEET 14 OF 22

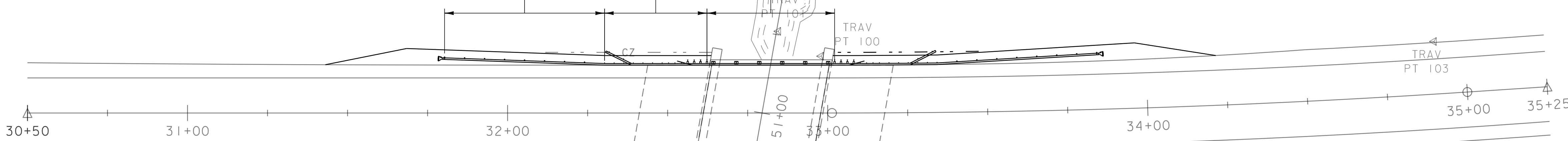




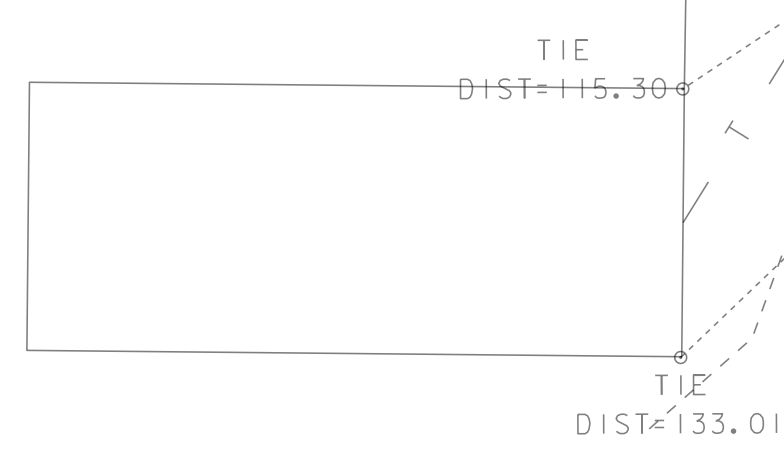
39' - 10"  
S-364A BRIDGE RAIL, GALVANIZED,  
3 RAIL BOX BEAM (TYP)

32' - 0"  
S-364B, GUARDRAIL APPROACH SECTION  
GALVANIZED 3 RAIL BOX BEAM (TYP)

50' - 0"  
PAY LIMITS FOR SPECIAL PROVISION  
(MANUFACTURED TERMINAL SECTION,  
BOX BEAM) (TYP) (2' - 0" OFFSET FROM  
FACE OF RAIL AT END TERMINAL TO  
EDGE OF ROAD) (TYP)



BM 1  
RAILROAD SPIKE  
IN POLE  
EL 425.211



**BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM**

STA 32+56.8 RT - STA 32+96.7 RT  
STA 32+62.3 LT - STA 33+02.2 LT

**GUARDRAIL APPROACH SECTION,  
GALVANIZED 3 RAIL BOX BEAM**

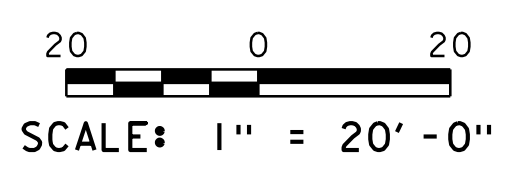
STA 32+24.8 RT - STA 32+56.8 RT  
STA 32+30.3 LT - STA 32+62.3 LT  
STA 32+96.7 RT - STA 33+28.6 RT  
STA 33+02.2 LT - STA 33+34.3 LT

**MANUFACTURED TERMINAL SECTION, TANGENT**

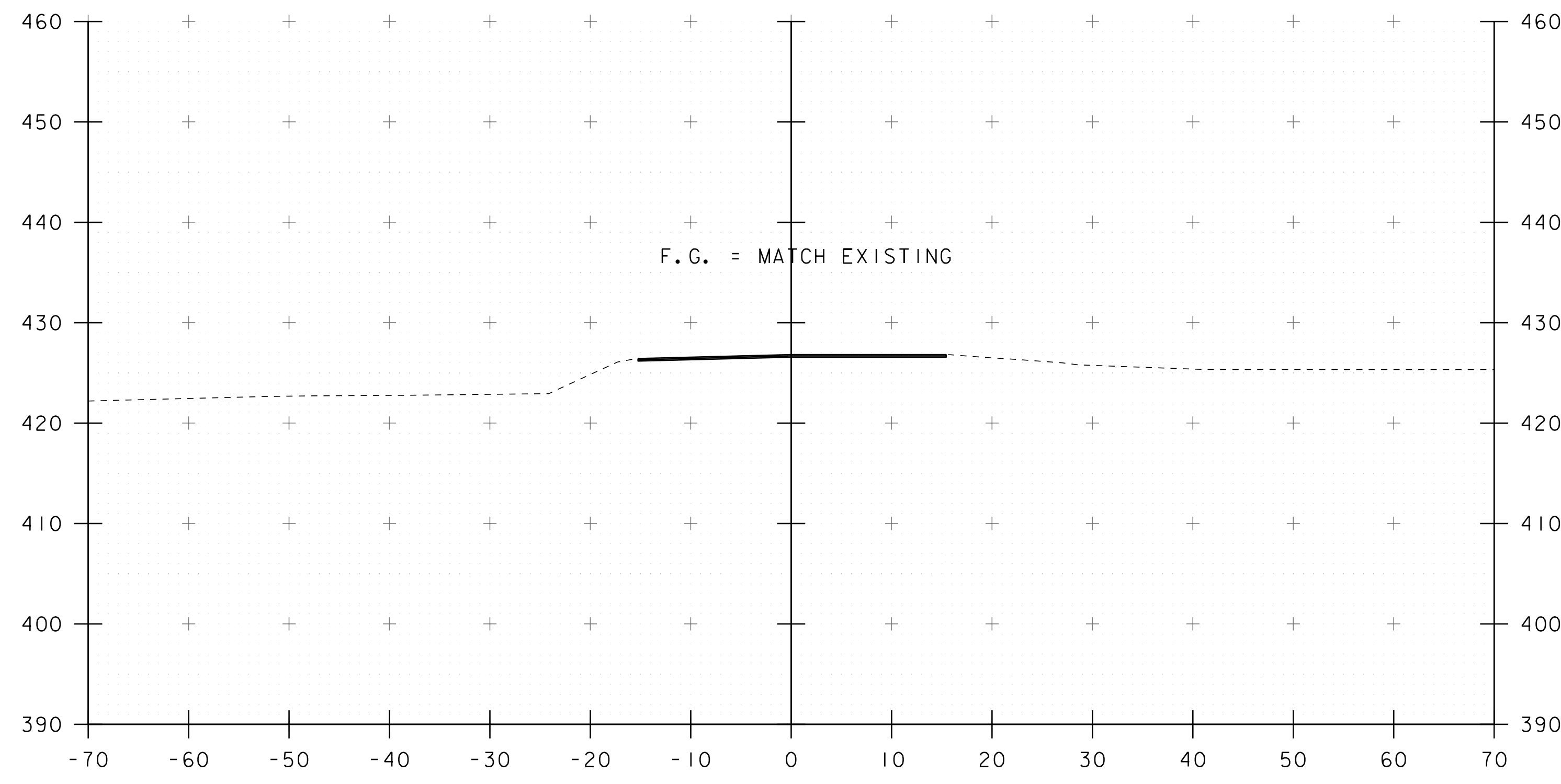
STA 31+74.8 RT - STA 32+24.8 RT  
STA 31+80.3 LT - STA 32+30.3 LT  
STA 33+28.6 RT - STA 33+78.3 RT  
STA 33+34.3 LT - STA 33+84.6 LT

**REMOVAL AND DISPOSAL OF GUARDRAIL**

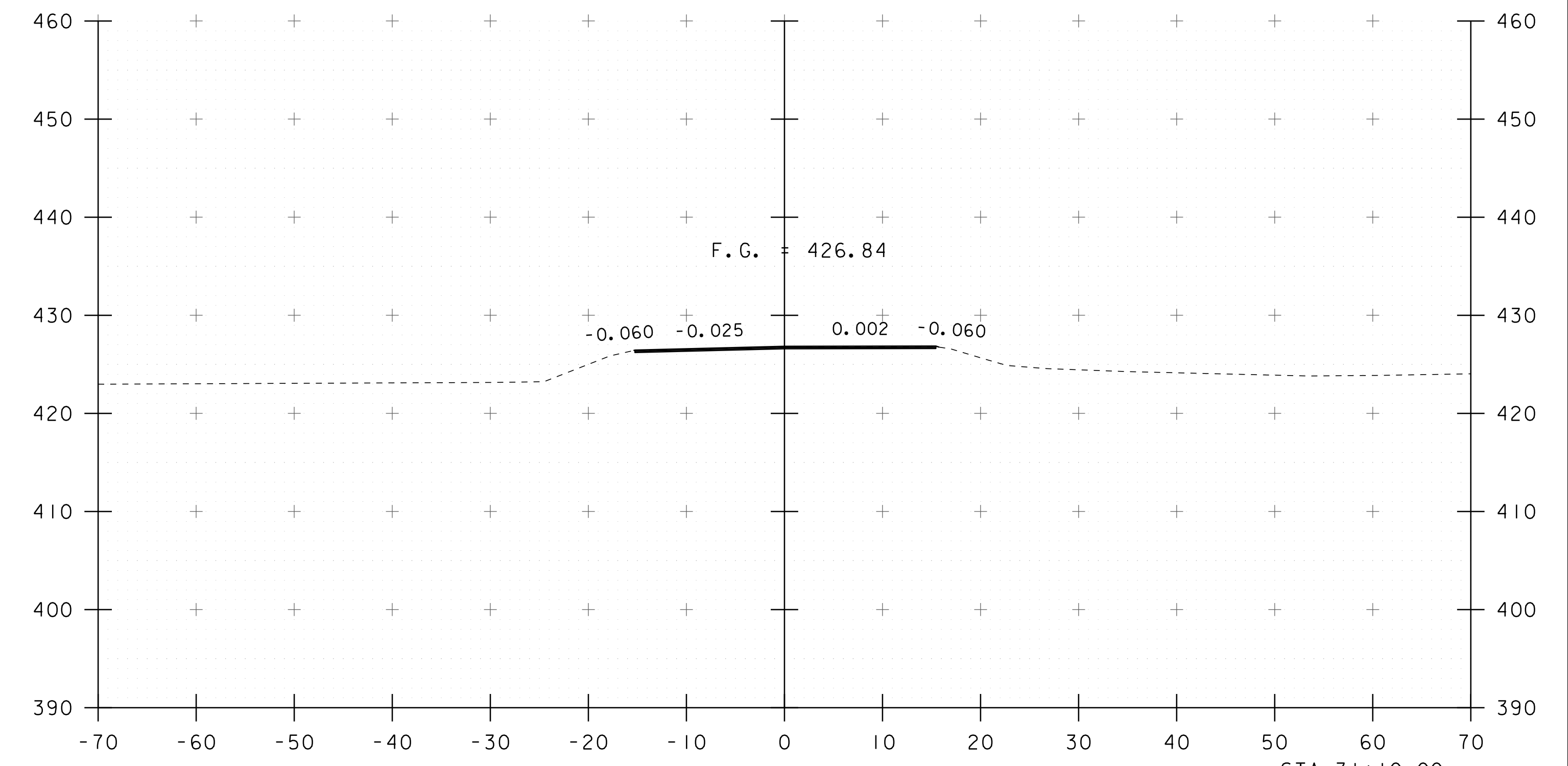
STA 31+82.6 RT - STA 32+74.0 RT  
STA 32+07.4 LT - STA 32+74.6 LT  
STA 32+93.8 RT - STA 33+60.7 RT  
STA 32+93.4 LT - STA 33+85.8 LT



PROJECT NAME: ENOSBURGH	
PROJECT NUMBER: BF 0283 (42)	
FILE NAME: sl2c584rail.dgn	PLOT DATE: 10-DEC-2019
PROJECT LEADER: R. YOUNG	DRAWN BY: C. FRENCH
DESIGNED BY: S. COLEY	CHECKED BY: S. COLEY
RAIL LAYOUT	SHEET 15 OF 22

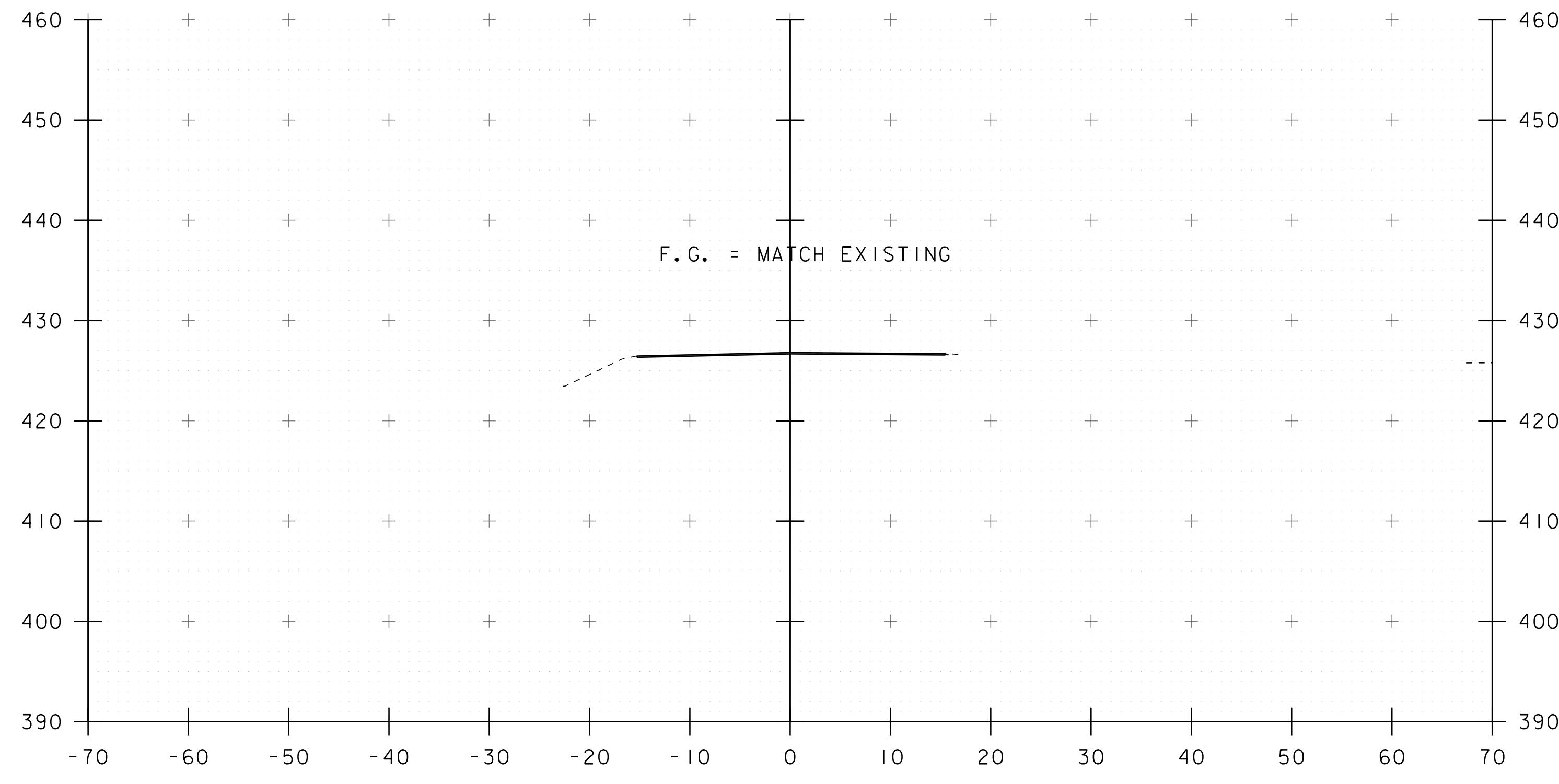


30+75



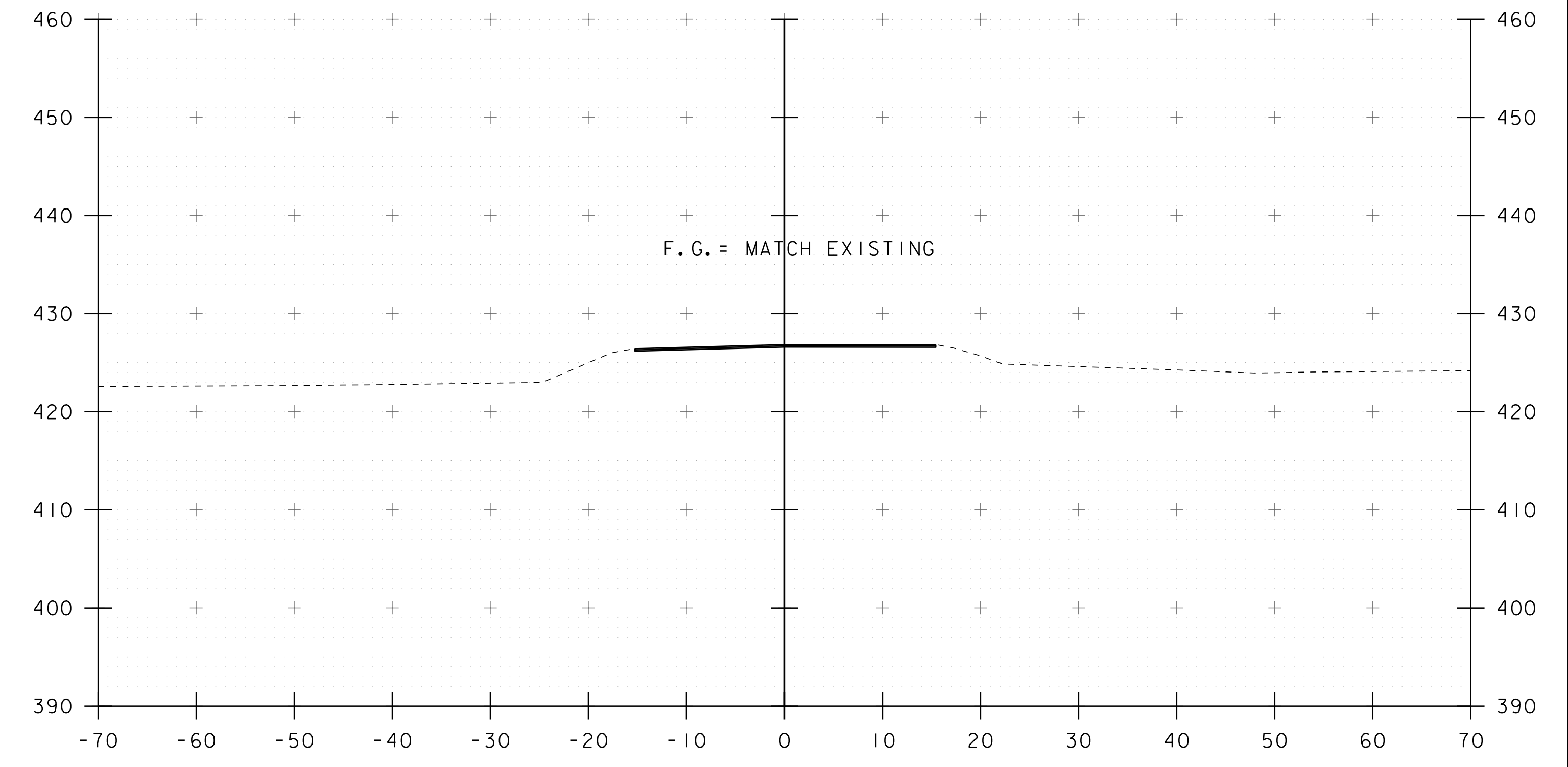
31+25

STA 31+10.00  
MATCH EXISTING



30+50

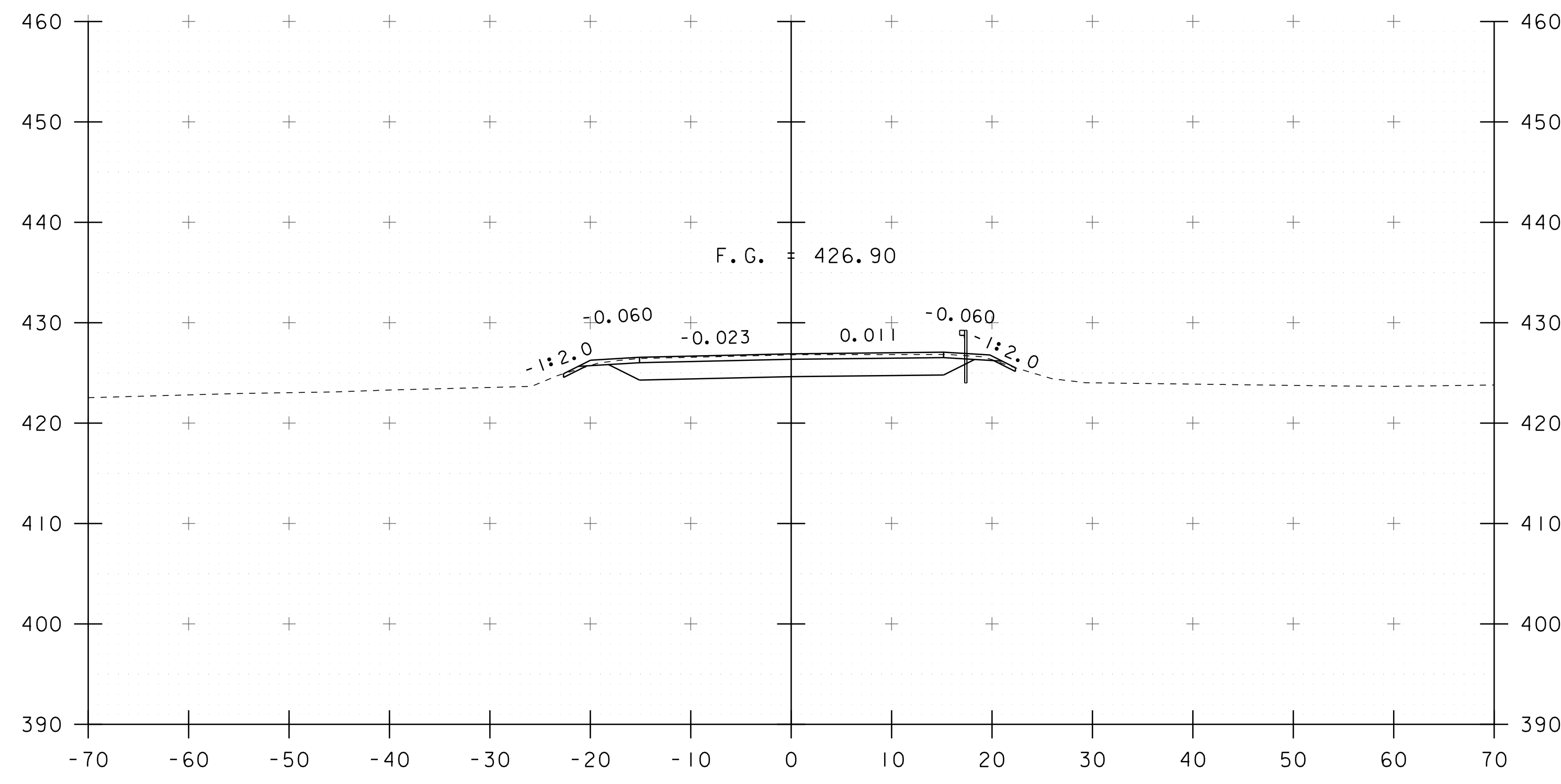
STA 30+50.00  
BEGIN APPROACH  
MATCH EXISTING



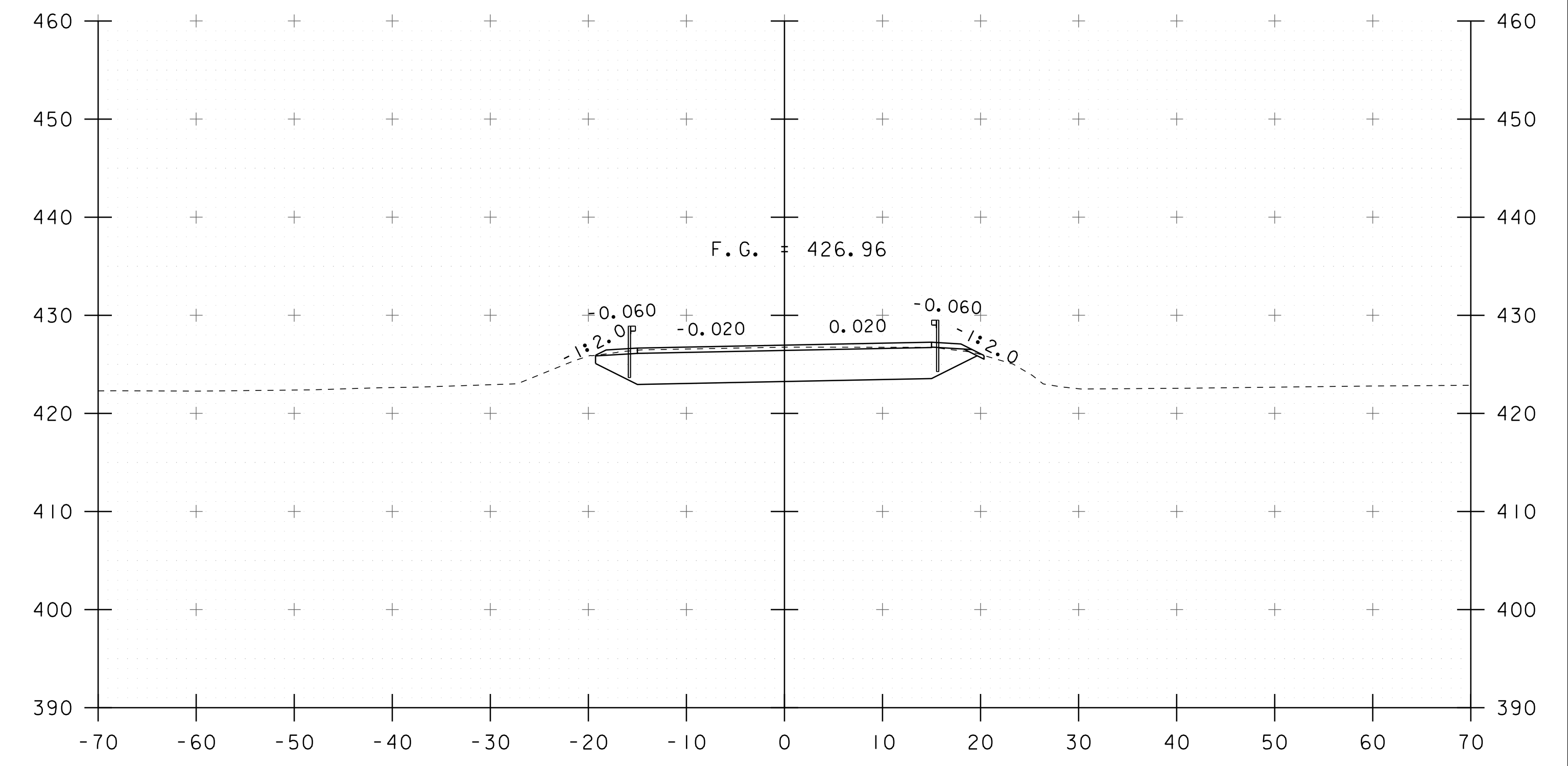
31+00

STA. 30+50 TO STA. 31+25

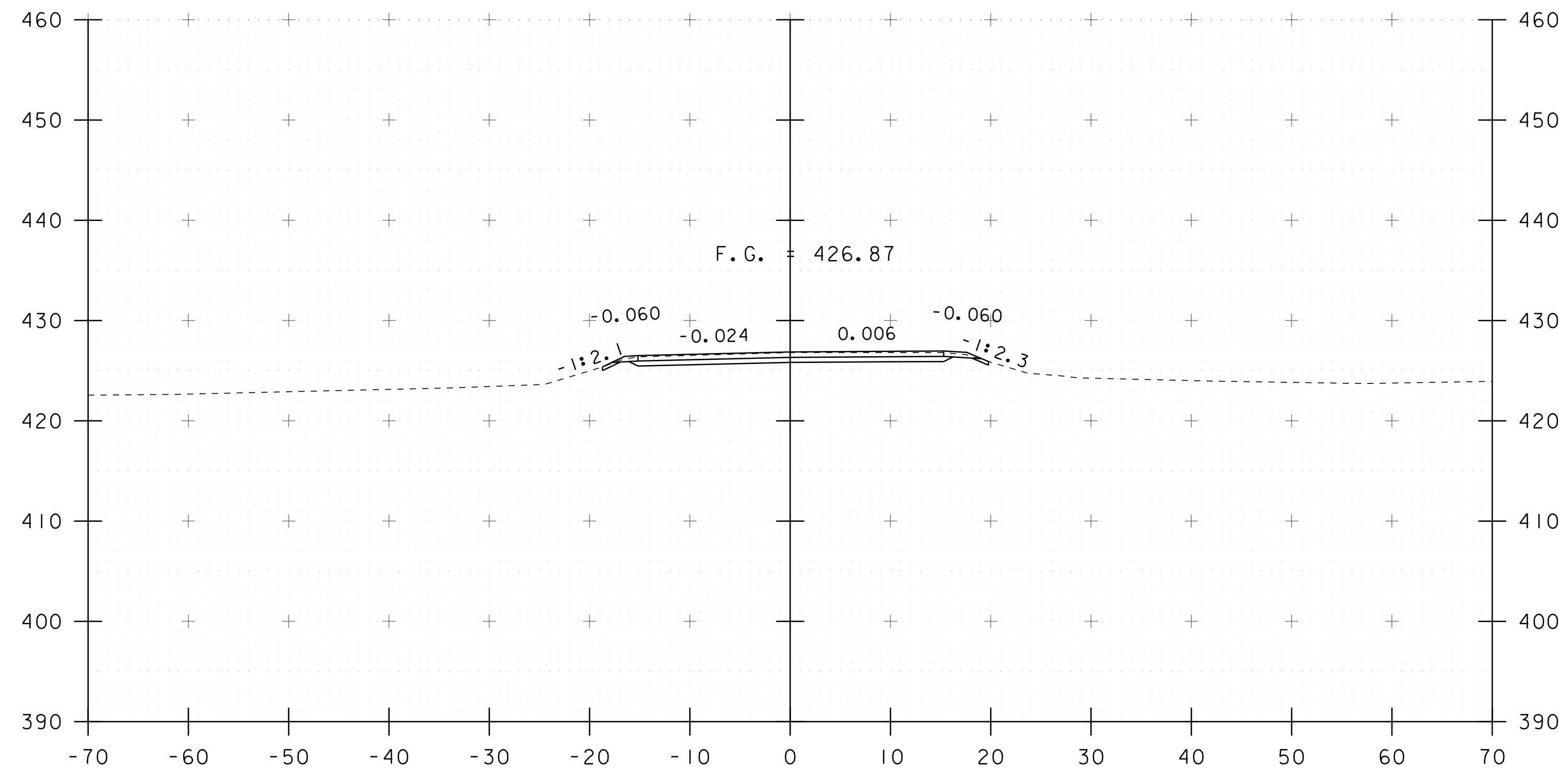
PROJECT NAME: ENOSBURGH	
PROJECT NUMBER: BF 0283 (42)	
FILE NAME: sl2c584xsl.dgn	PLOT DATE: 10-DEC-2019
PROJECT LEADER: R. YOUNG	DRAWN BY: C. FRENCH
DESIGNED BY: S. COLEY	CHECKED BY: S. COLEY
VT 118 CROSS SECTION (1)	SHEET 16 OF 22



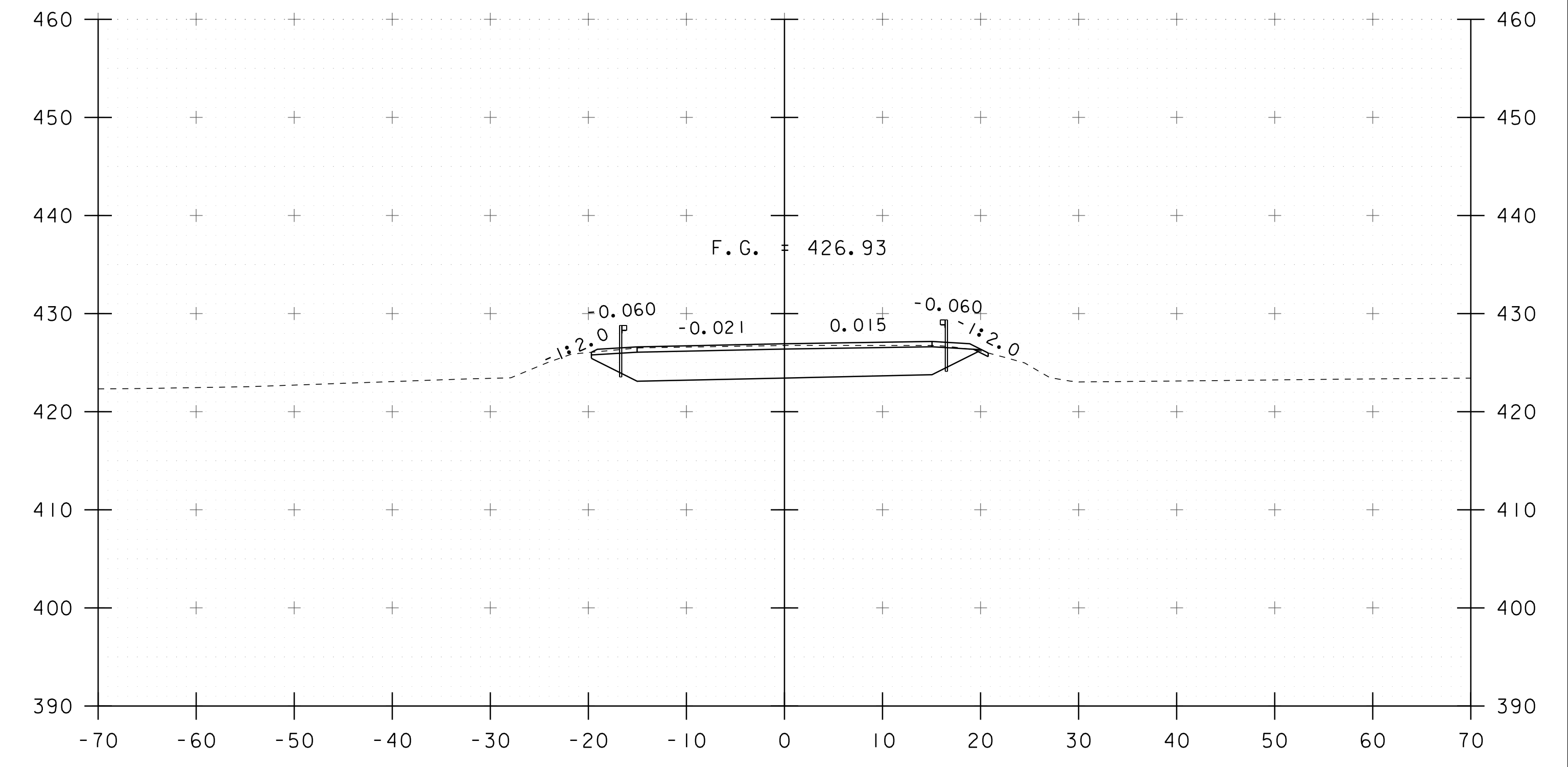
31+75



32+25



31+50



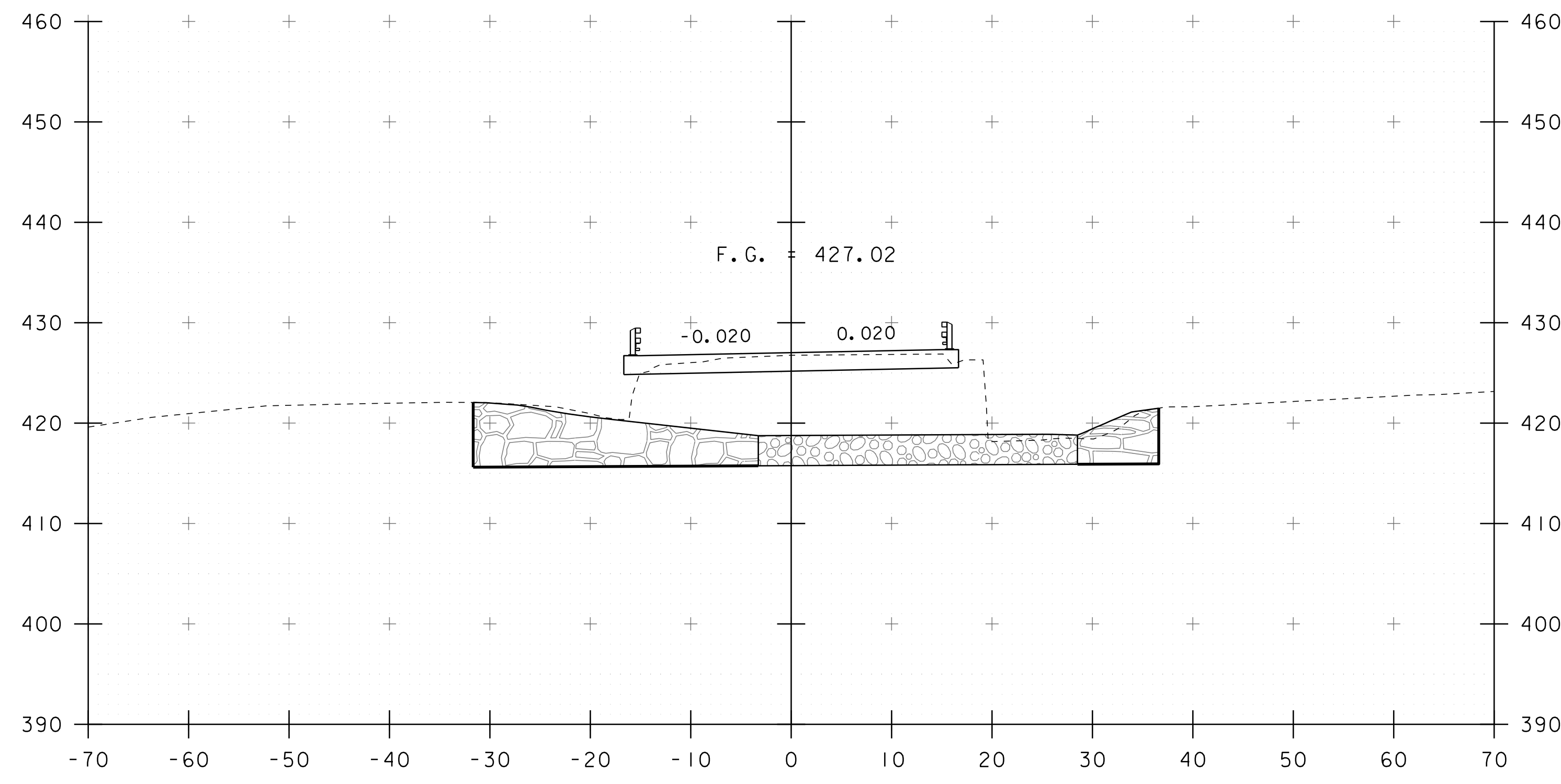
32+00

STA 32+00.00  
BEGIN PROJECT

STA. 31+50 TO STA. 32+25

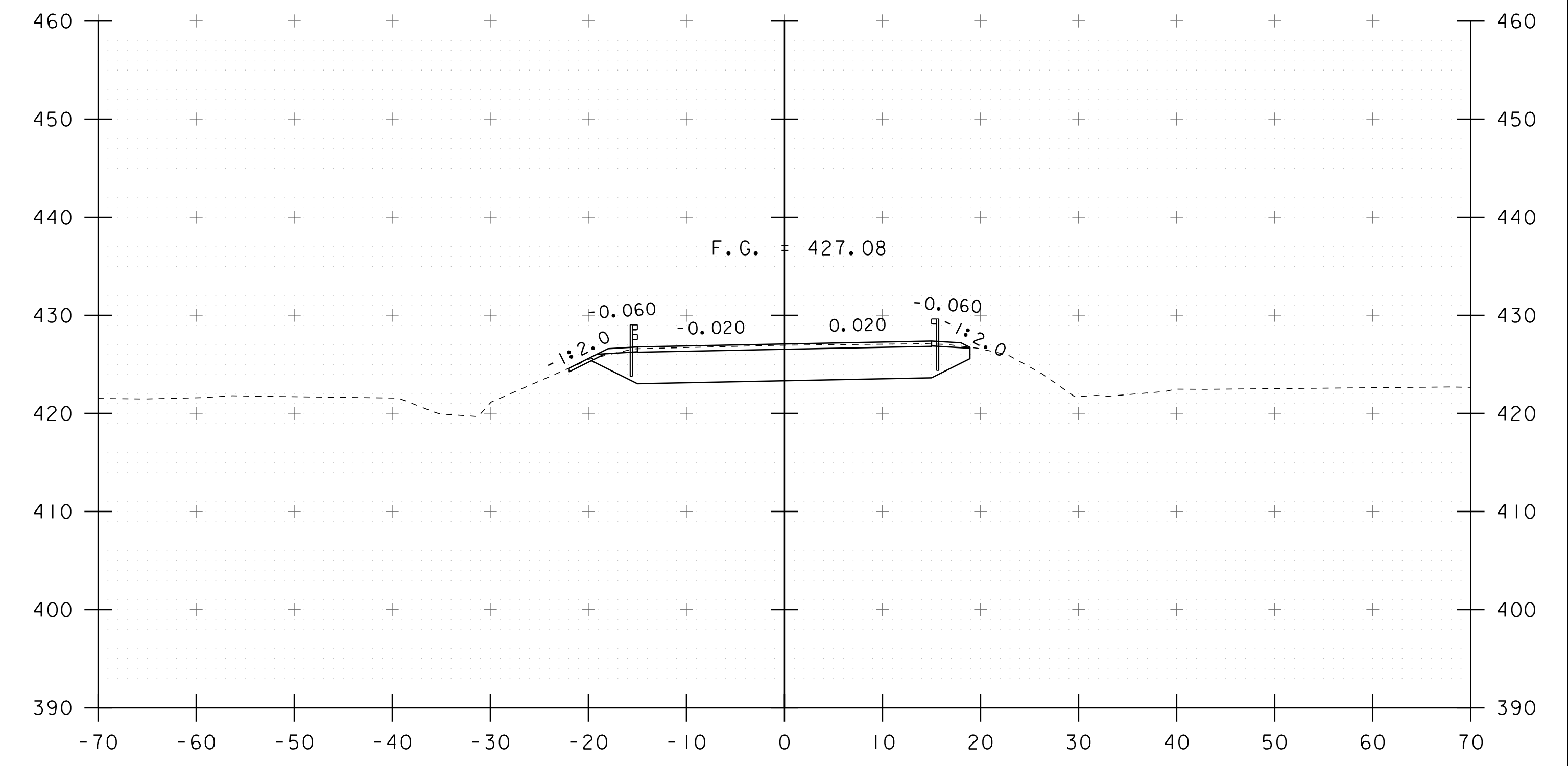
PROJECT NAME: ENOSBURGH	
PROJECT NUMBER: BF 0283 (42)	
FILE NAME: sl2c584xsl.dgn	PLOT DATE: 10-DEC-2019
PROJECT LEADER: R. YOUNG	DRAWN BY: C. FRENCH
DESIGNED BY: S. COLEY	CHECKED BY: S. COLEY
VT 118 CROSS SECTION (2)	SHEET 17 OF 22



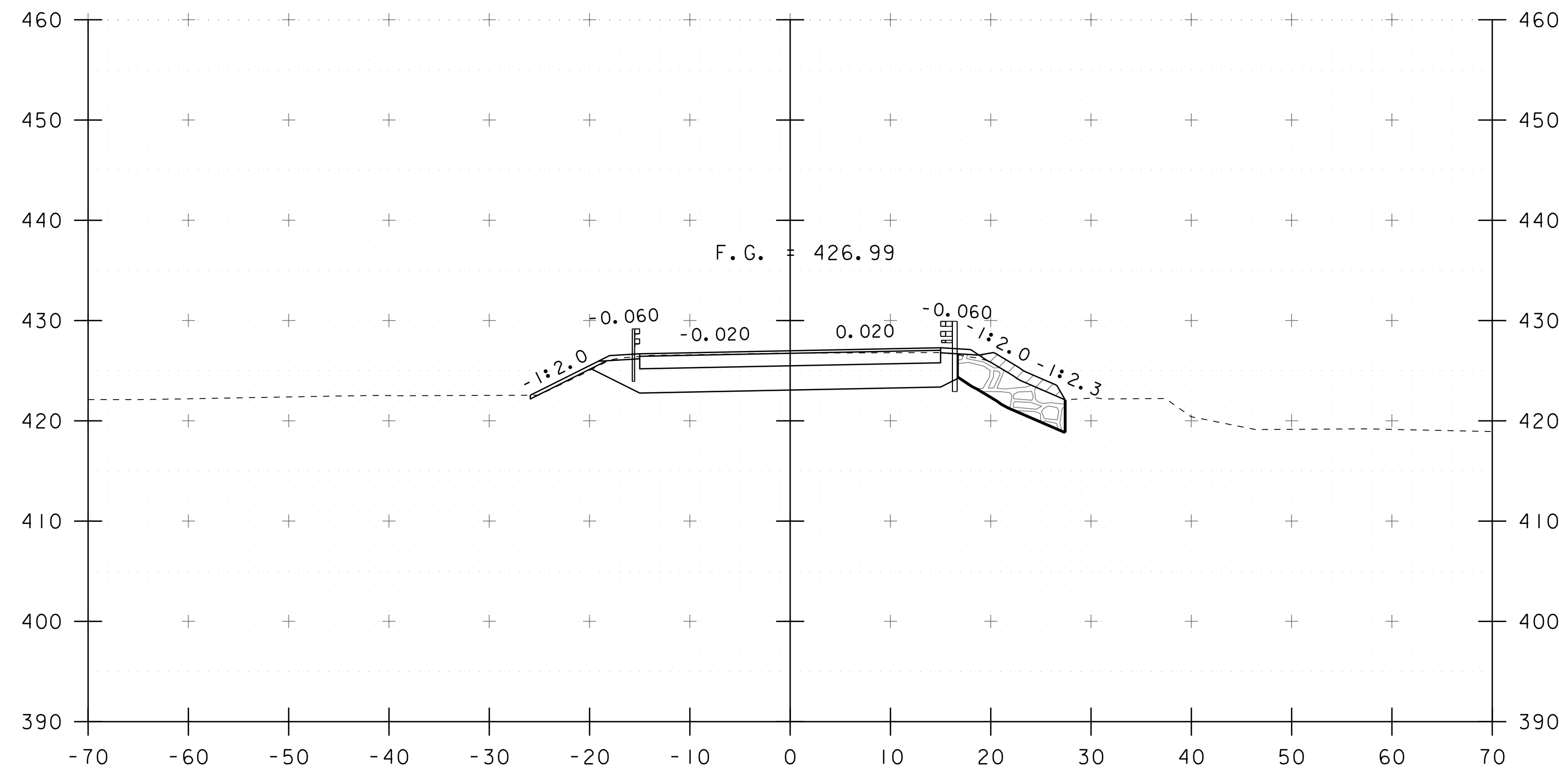


32+75

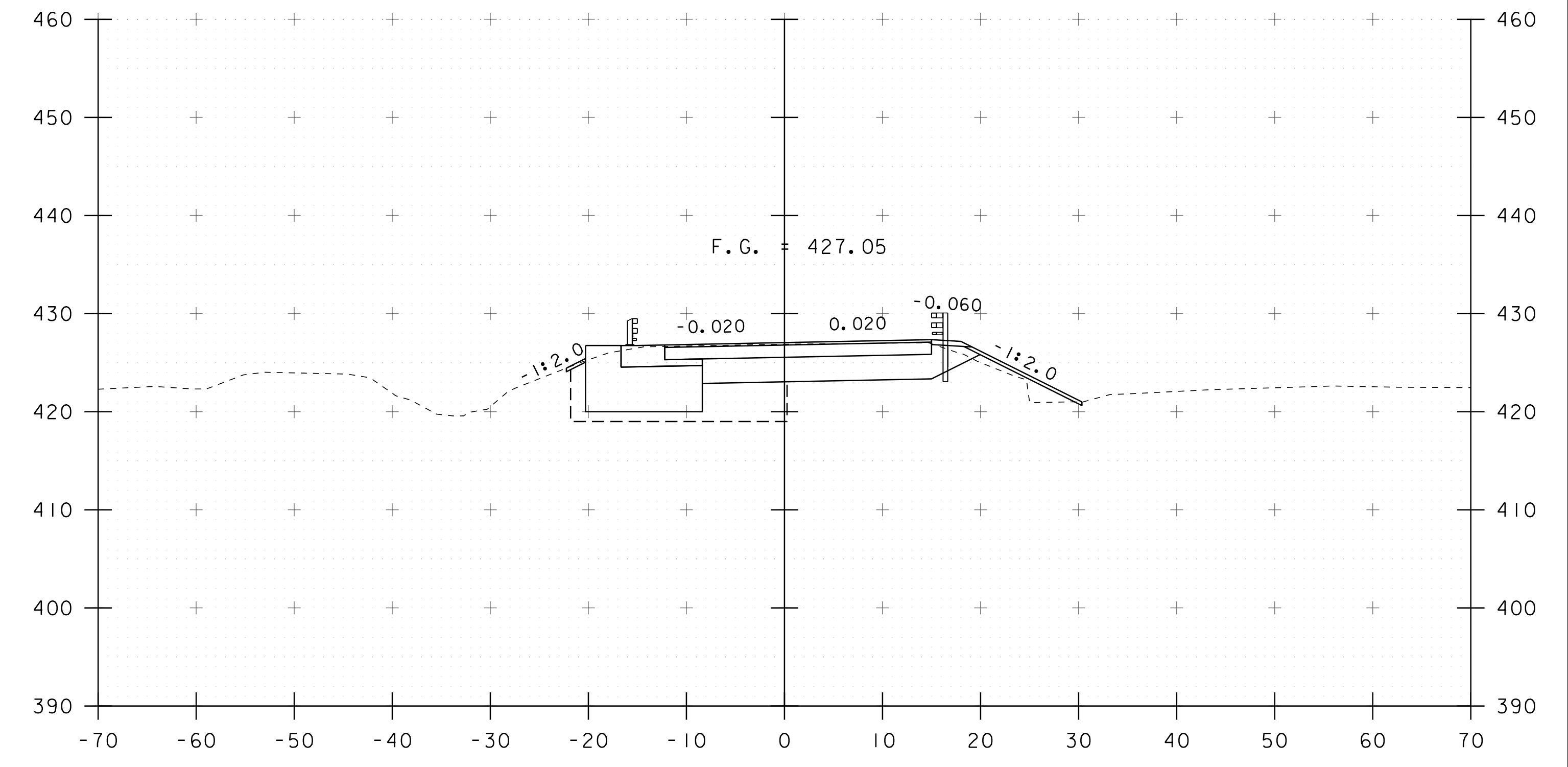
STA 32+61.15  
BEGIN BRIDGE



33+25



32+50

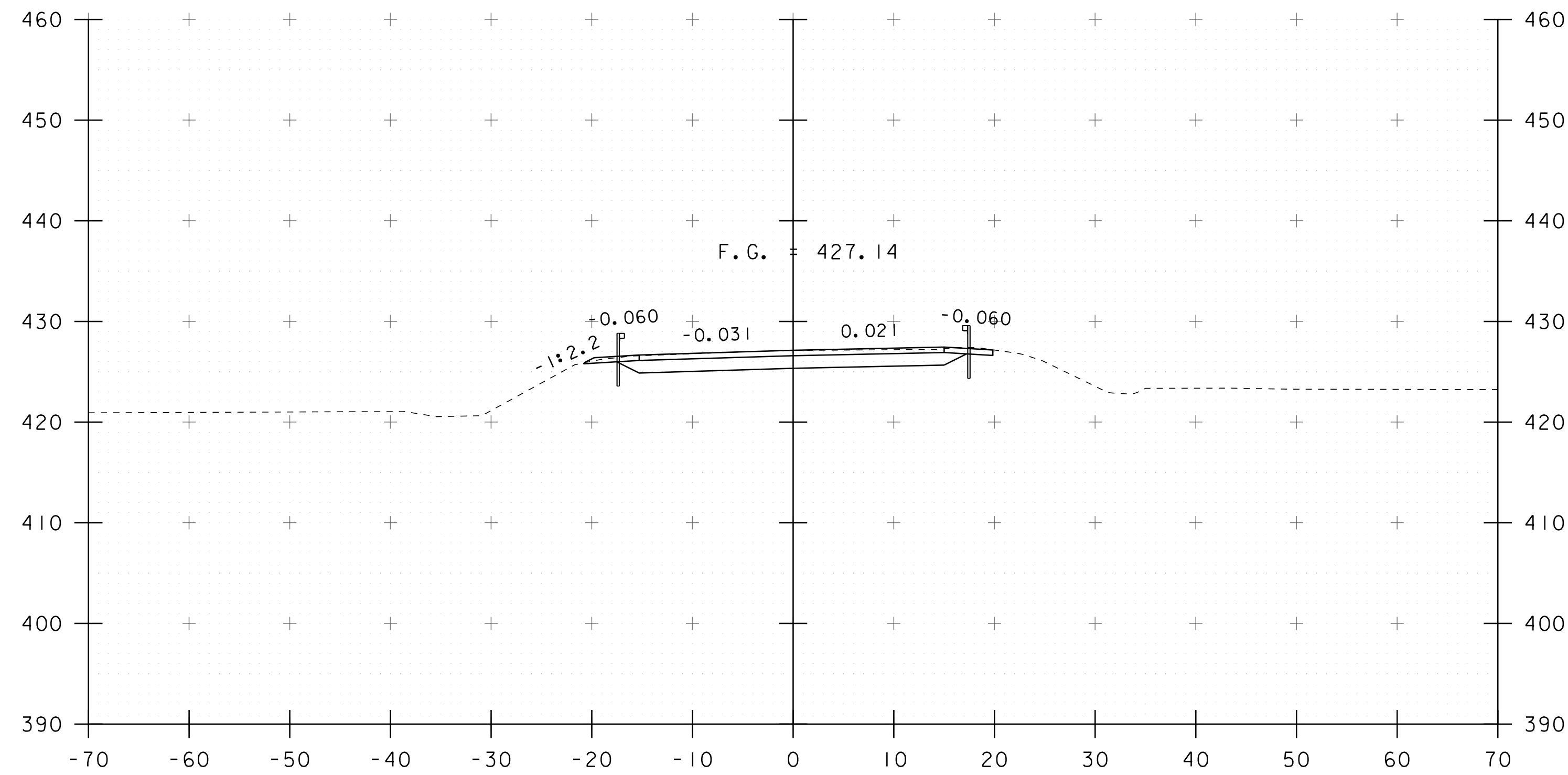


33+00

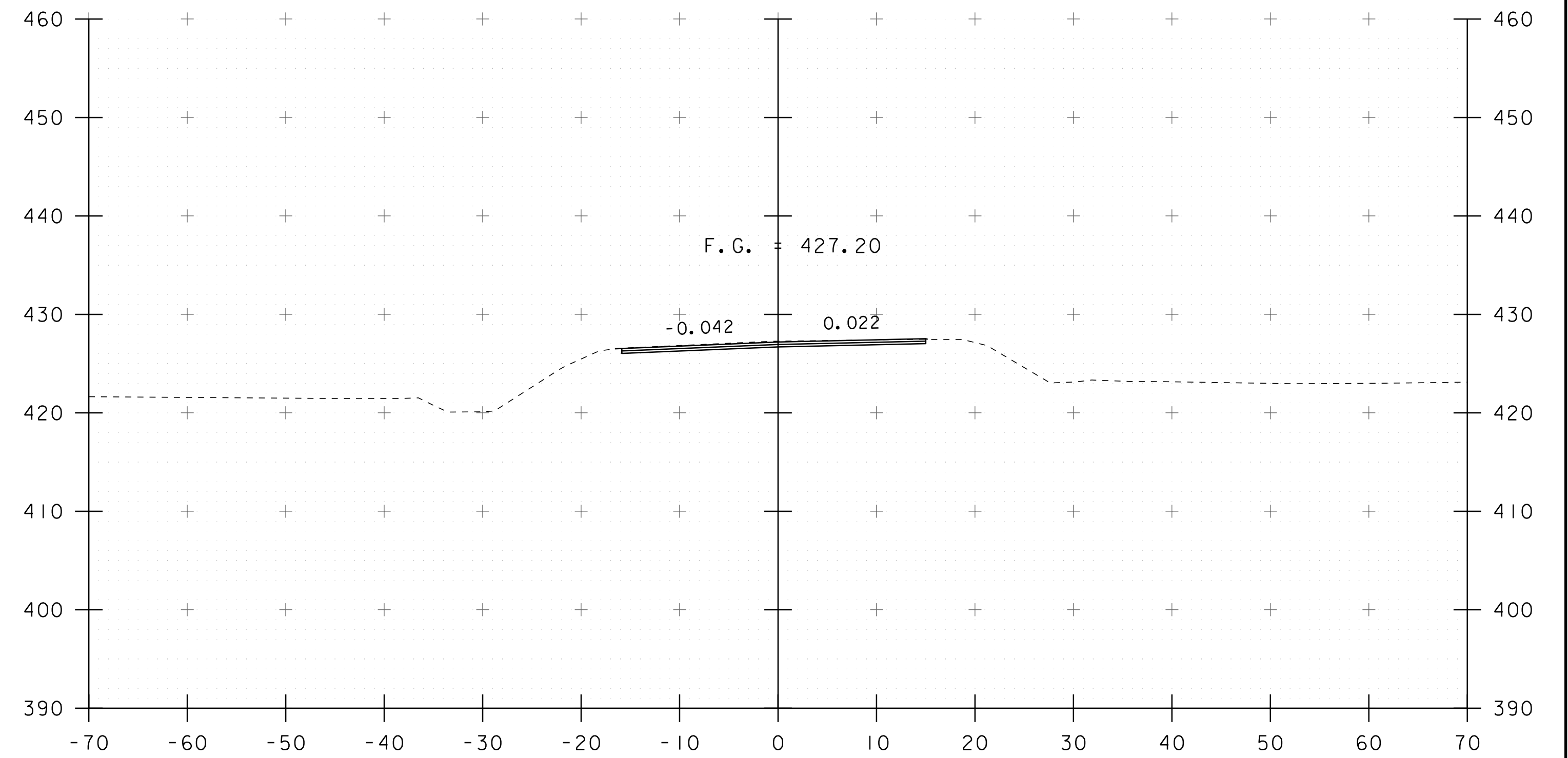
STA 32+97.85  
END BRIDGE

STA. 32+50 TO STA. 33+25

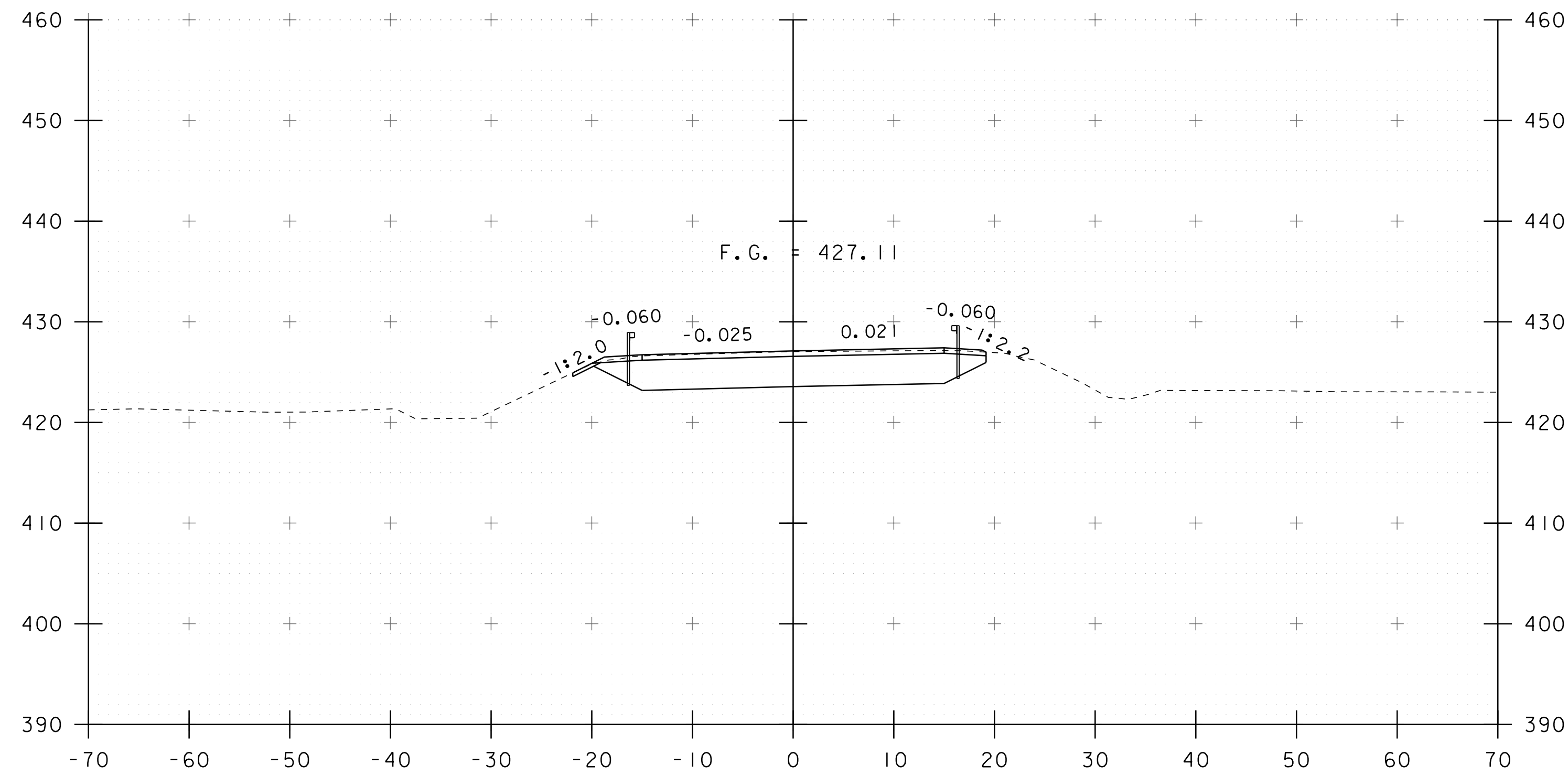
PROJECT NAME: ENOSBURGH	
PROJECT NUMBER: BF 0283 (42)	
FILE NAME: sl2c584xsl.dgn	PLOT DATE: 10-DEC-2019
PROJECT LEADER: R. YOUNG	DRAWN BY: C. FRENCH
DESIGNED BY: S. COLEY	CHECKED BY: S. COLEY
VT 118 CROSS SECTION (3)	SHEET 18 OF 22



33+75

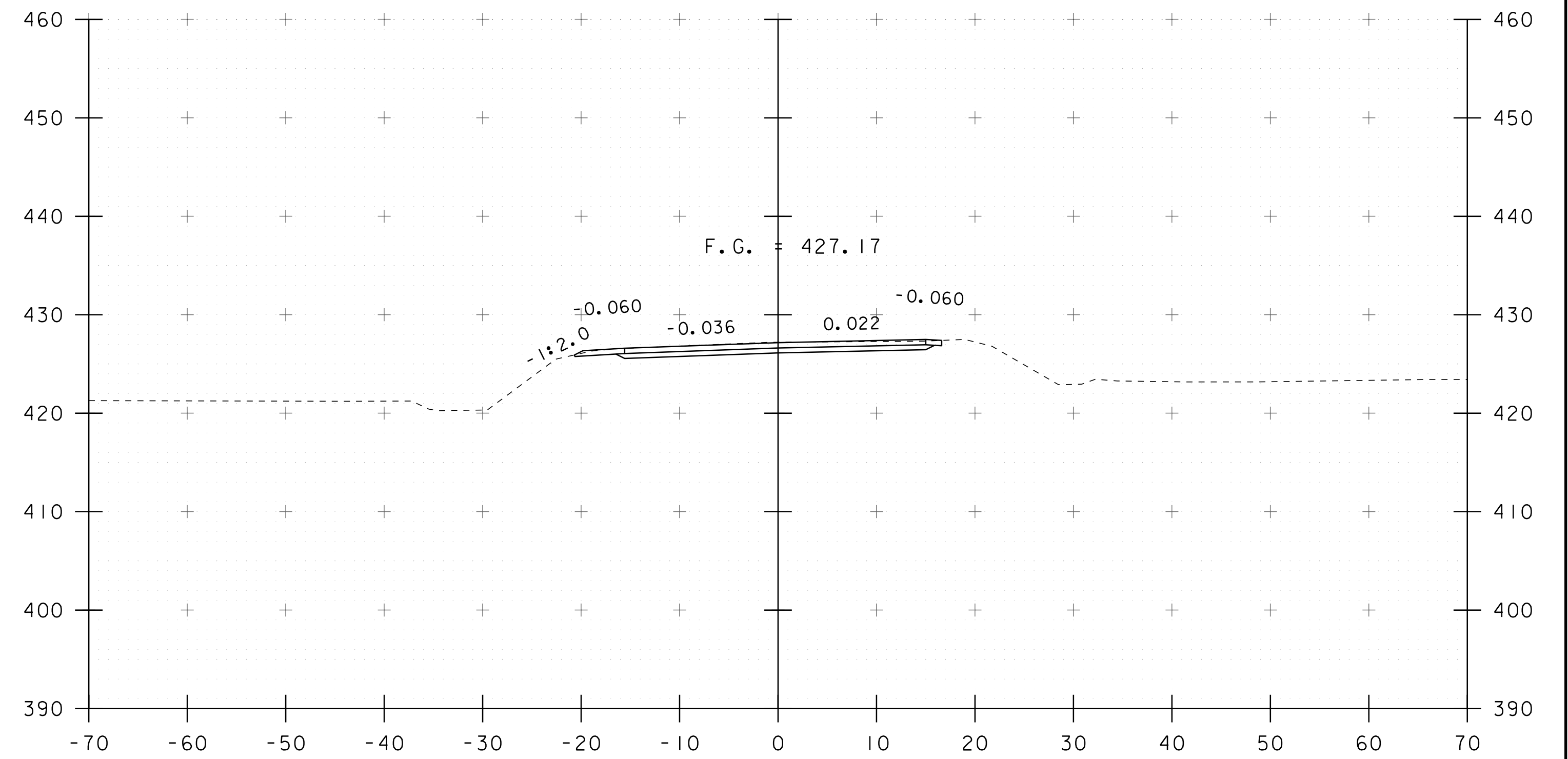


34+25



33+50

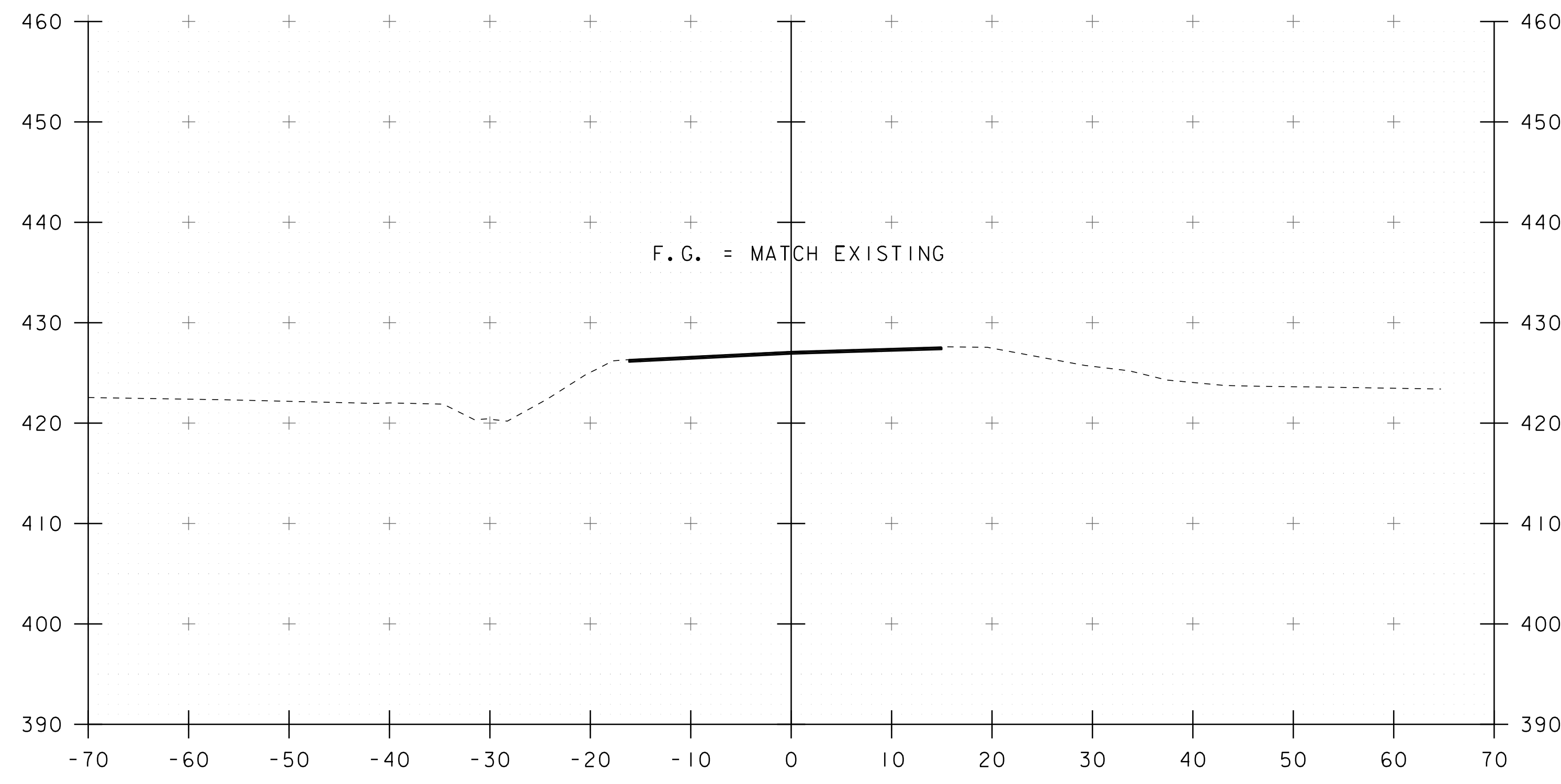
STA 33+50.00  
END PROJECT



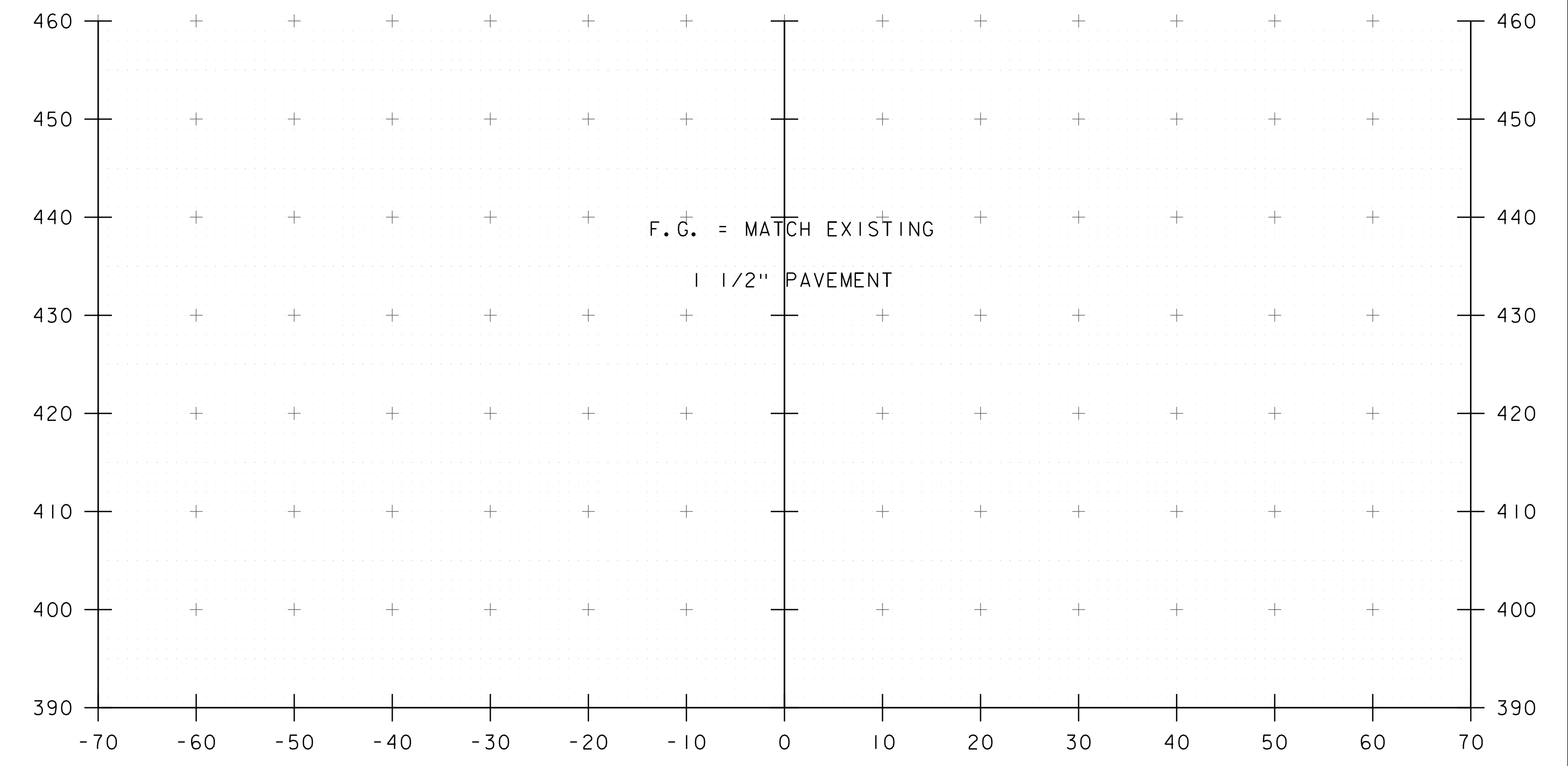
34+00

STA. 33+50 TO STA. 34+25

PROJECT NAME: ENOSBURGH	
PROJECT NUMBER: BF 0283 (42)	
FILE NAME: sl2c584xsl.dgn	PLOT DATE: 10-DEC-2019
PROJECT LEADER: R. YOUNG	DRAWN BY: C. FRENCH
DESIGNED BY: S. COLEY	CHECKED BY: S. COLEY
VT 118 CROSS SECTION (4)	SHEET 19 OF 22

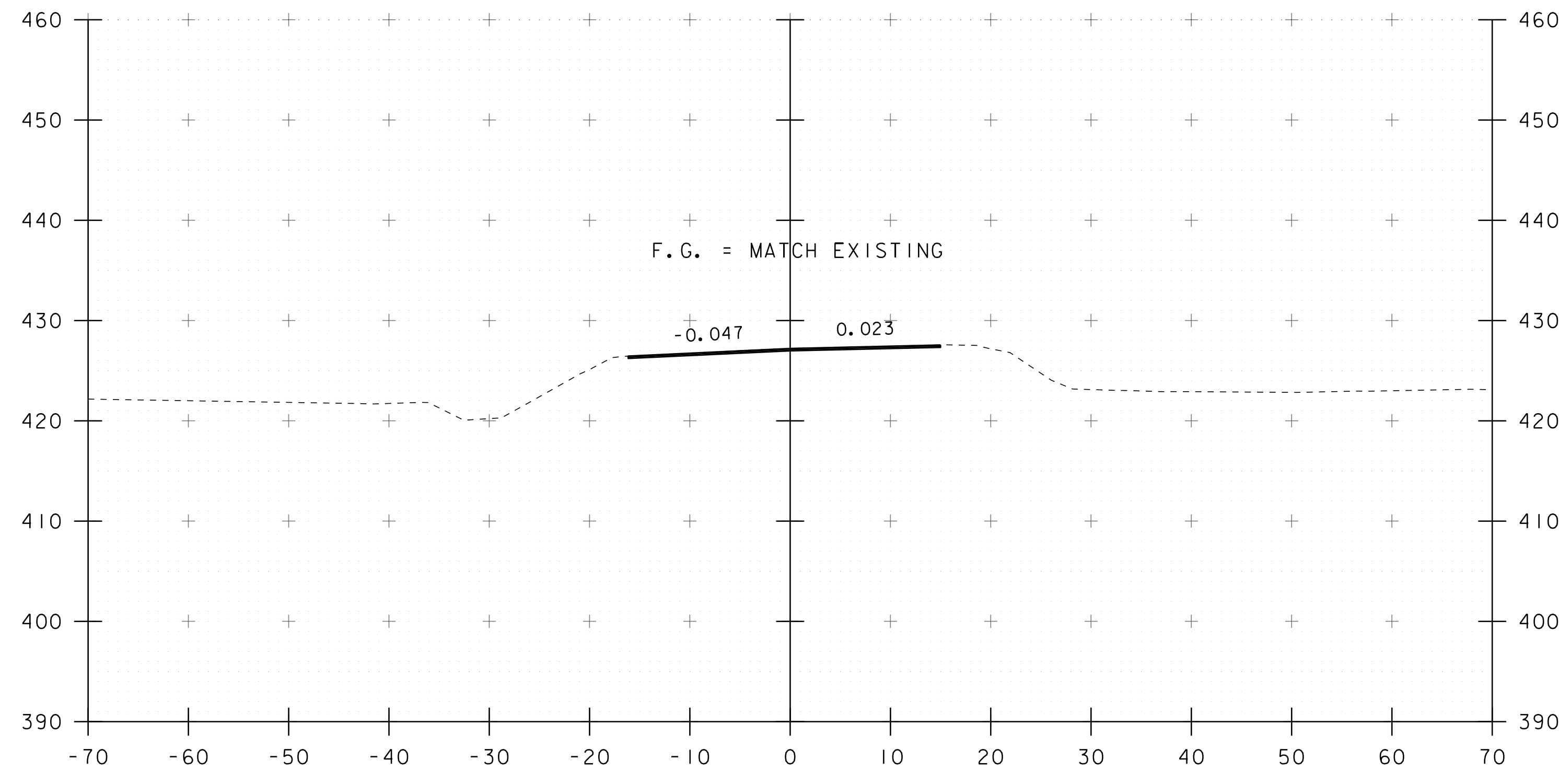


34+75

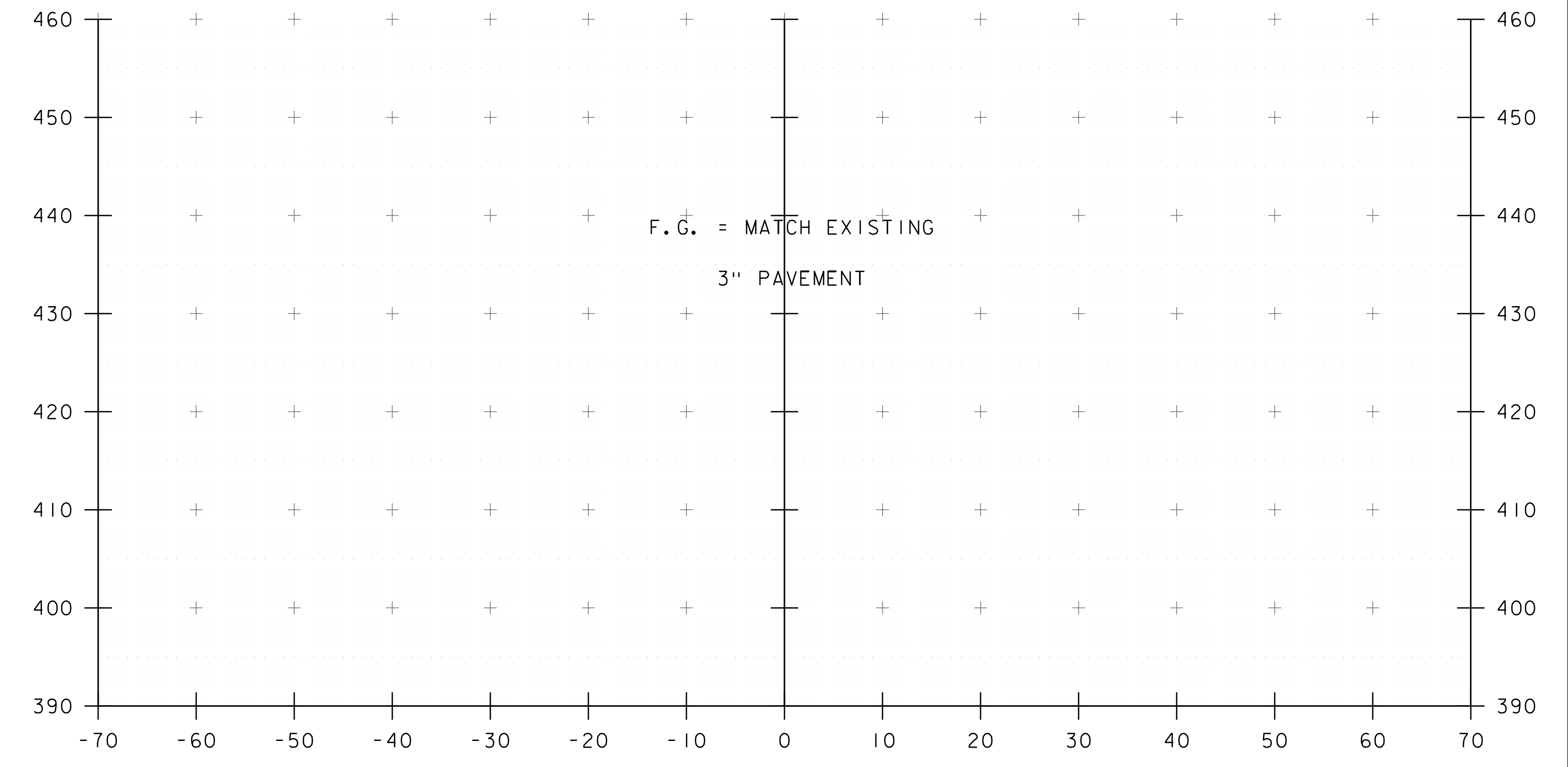


35+25

STA 35+25.00  
END APPROACH  
MATCH EXISTING



34+50

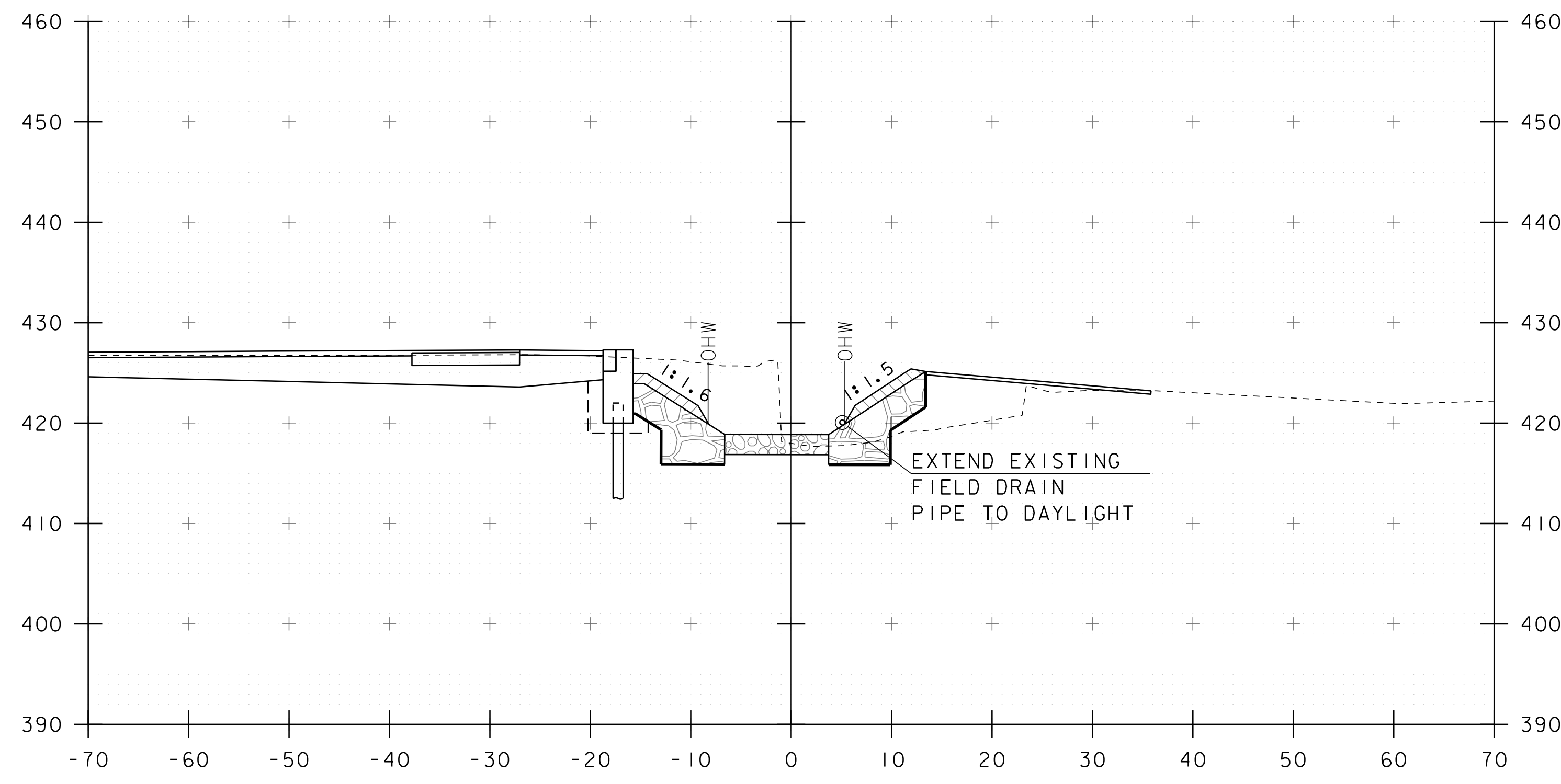


35+00

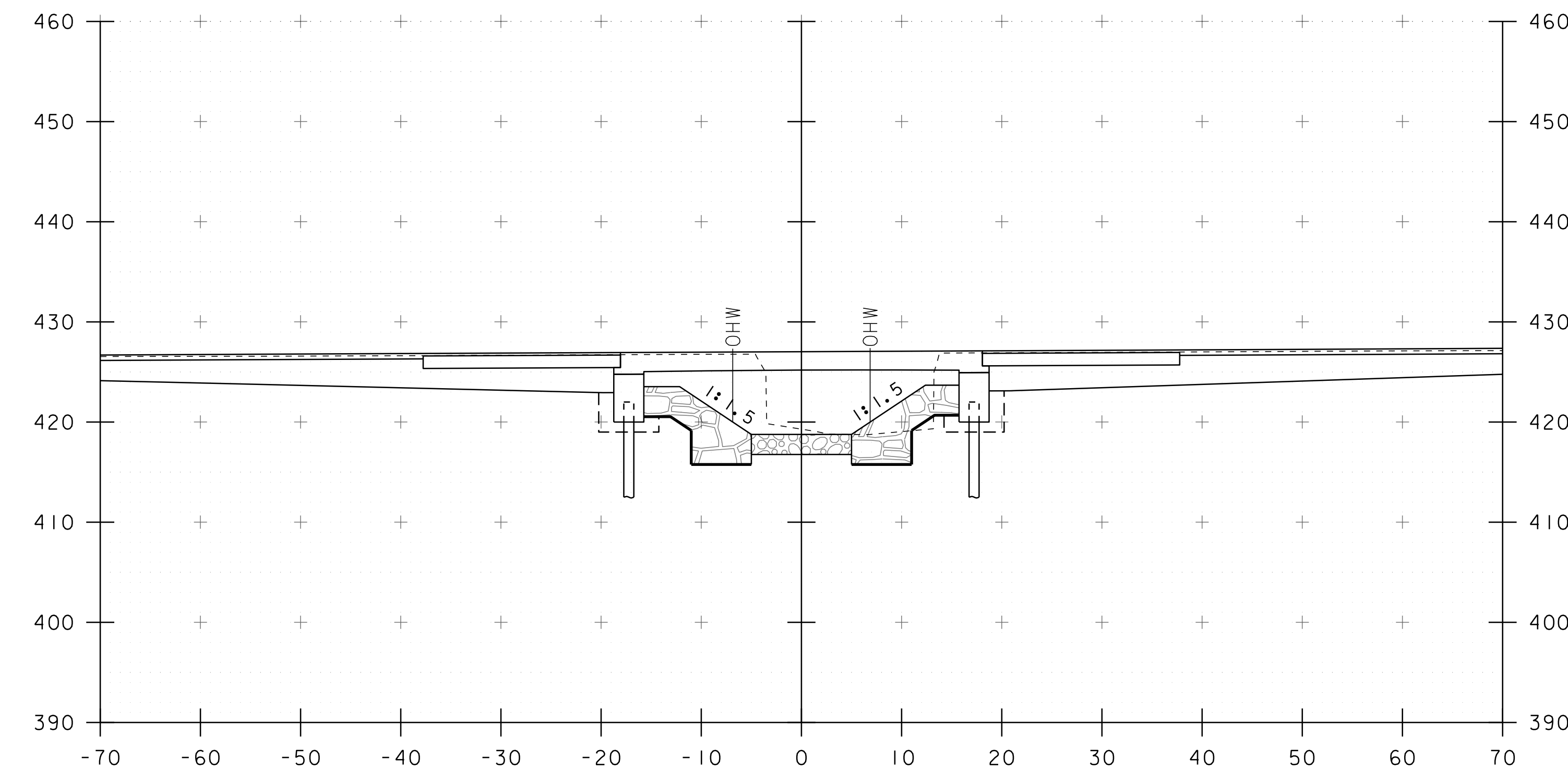
STA. 34+50 TO STA. 35+25

PROJECT NAME: ENOSBURGH	
PROJECT NUMBER: BF 0283 (42)	
FILE NAME: sl2c584xsl.dgn	PLOT DATE: 10-DEC-2019
PROJECT LEADER: R. YOUNG	DRAWN BY: C. FRENCH
DESIGNED BY: S. COLEY	CHECKED BY: S. COLEY
VT 118 CROSS SECTION (5)	SHEET 20 OF 22

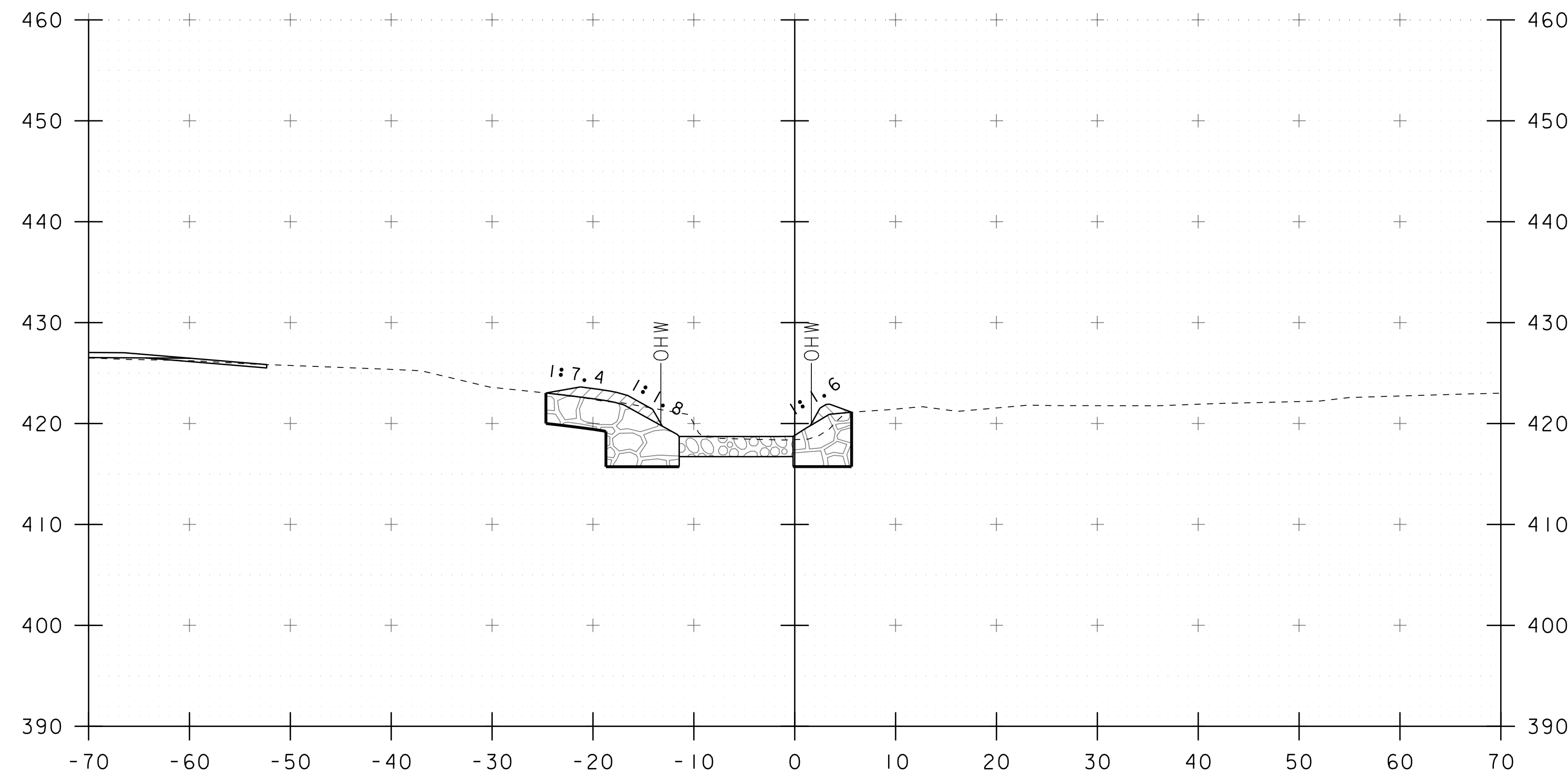




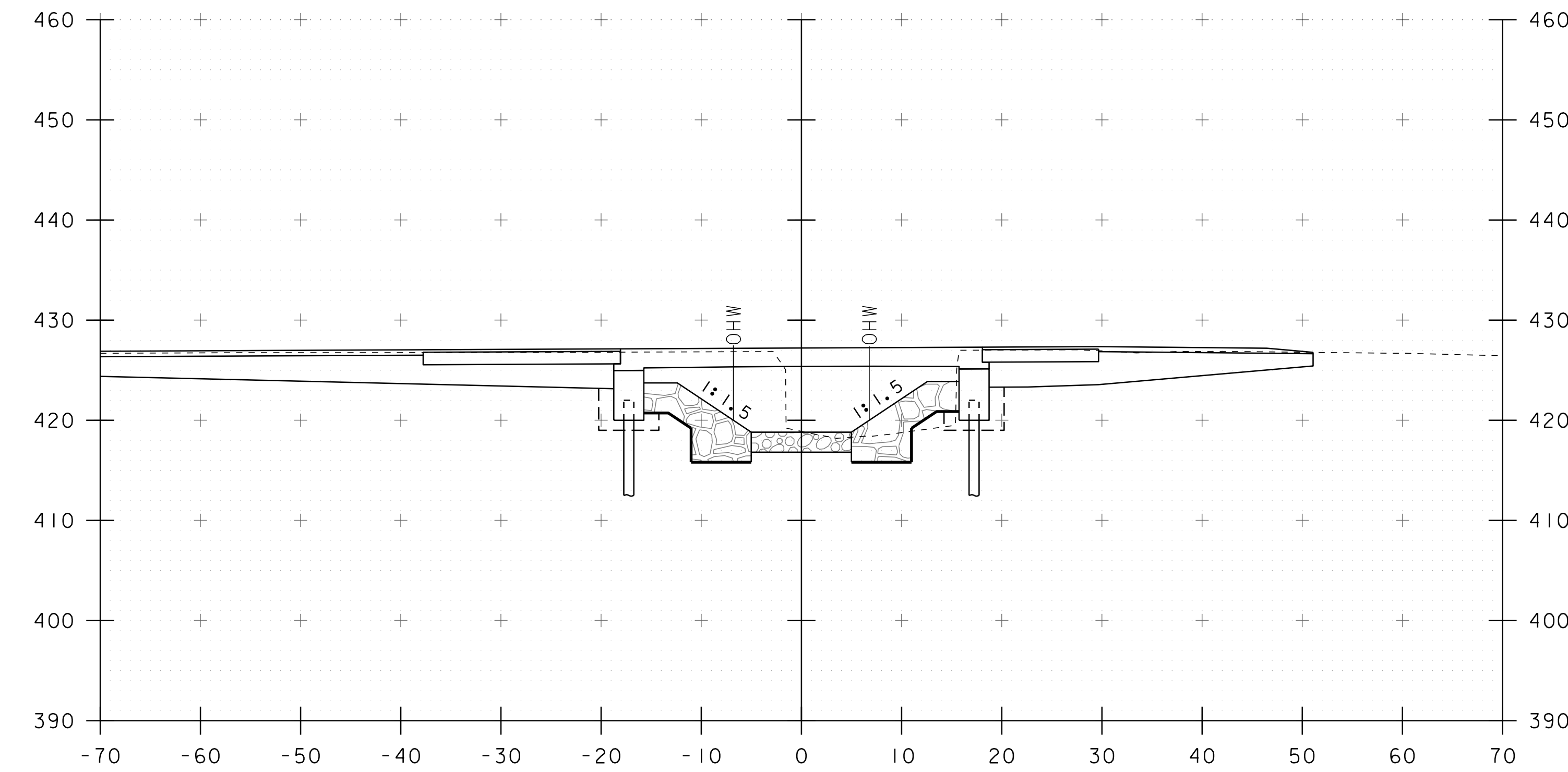
50+80



51+00



50+70



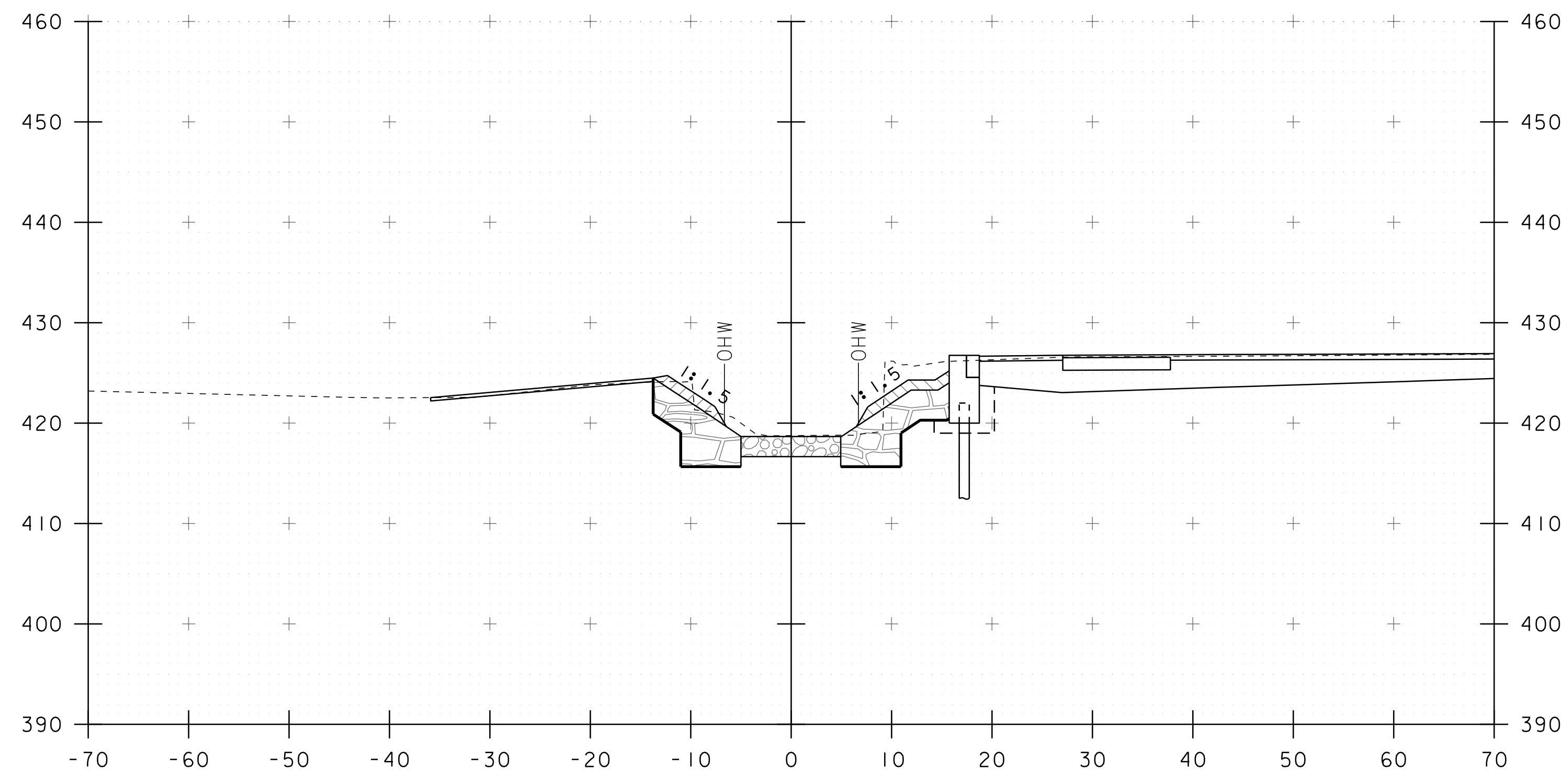
50+90

STA 50+62.8 LT  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 STONE FILL, TYPE III  
 GRUBBING MATERIAL  
 STREAM BED MATERIAL, E-STONE TYPE II

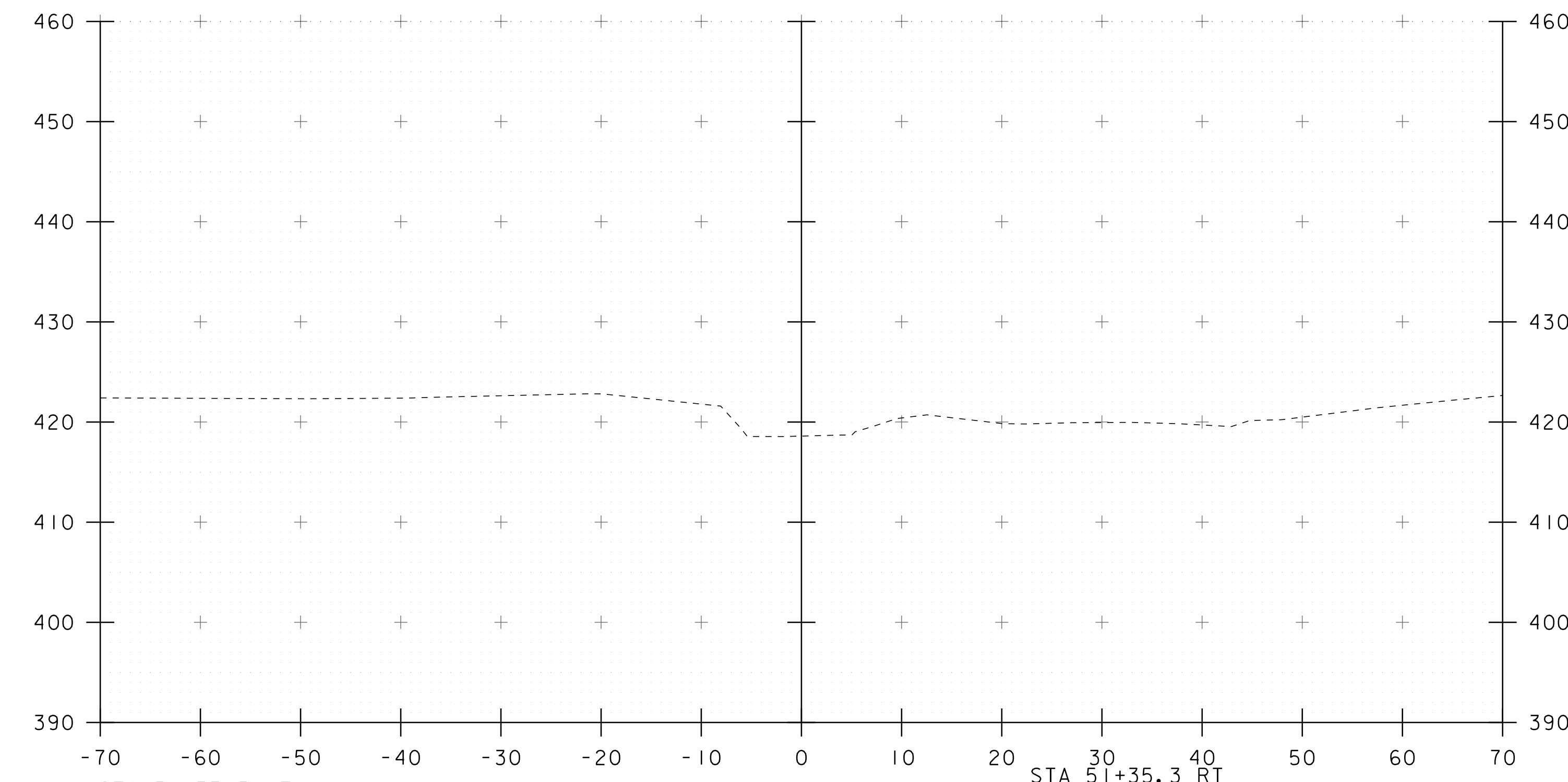
STA 50+61.9 RT  
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION  
 GEOTEXTILE UNDER STONE FILL  
 STONE FILL, TYPE III  
 GRUBBING MATERIAL

STA. 50+70 TO STA. 51+00

PROJECT NAME: ENOSBURGH	
PROJECT NUMBER: BF 0283 (42)	
FILE NAME: sl2c584xsl.dgn	PLOT DATE: 10-DEC-2019
PROJECT LEADER: R. YOUNG	DRAWN BY: C. FRENCH
DESIGNED BY: S. COLEY	CHECKED BY: S. COLEY
CHANNEL CROSS SECTION (I)	SHEET 21 OF 22



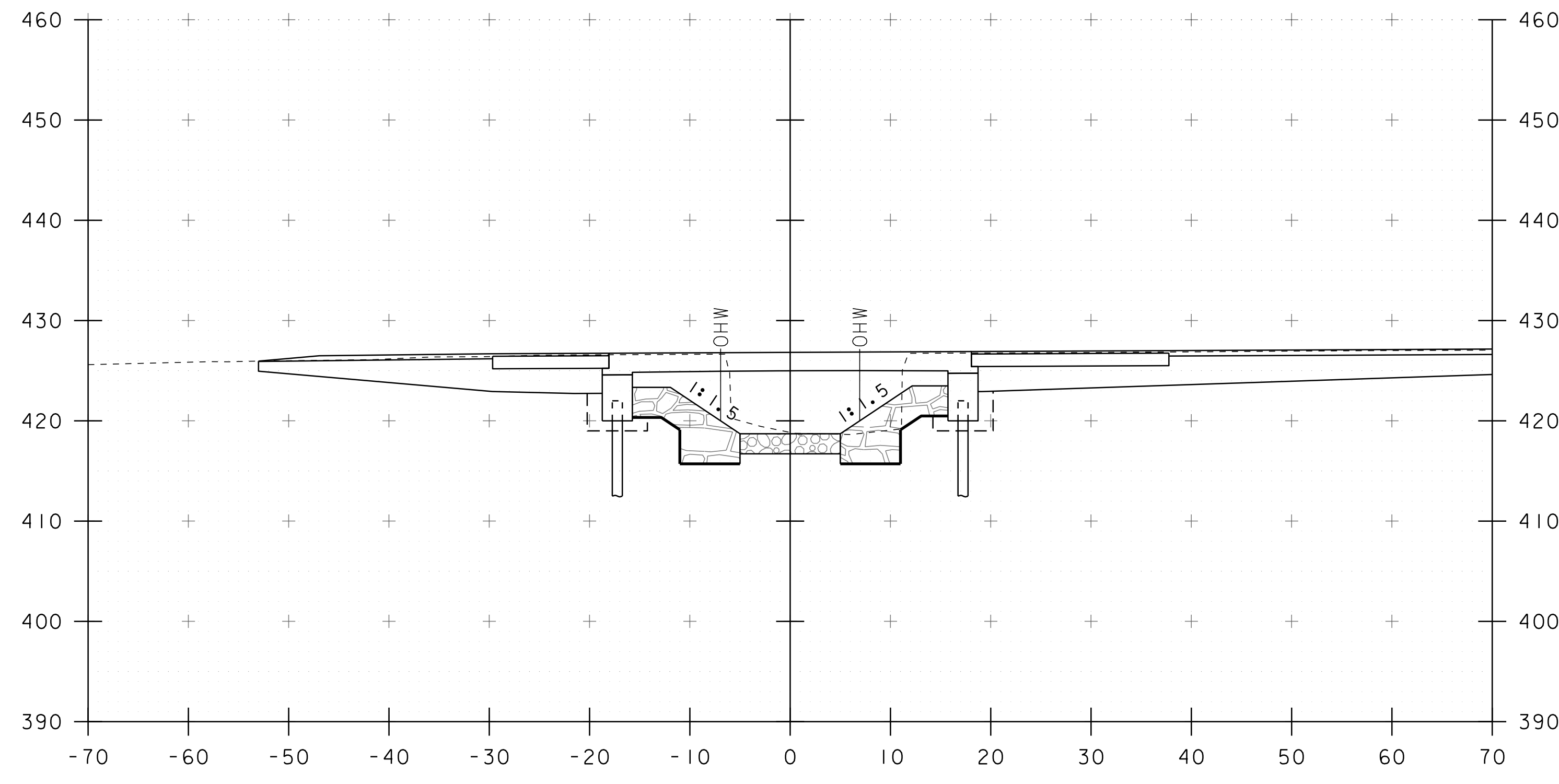
51+20



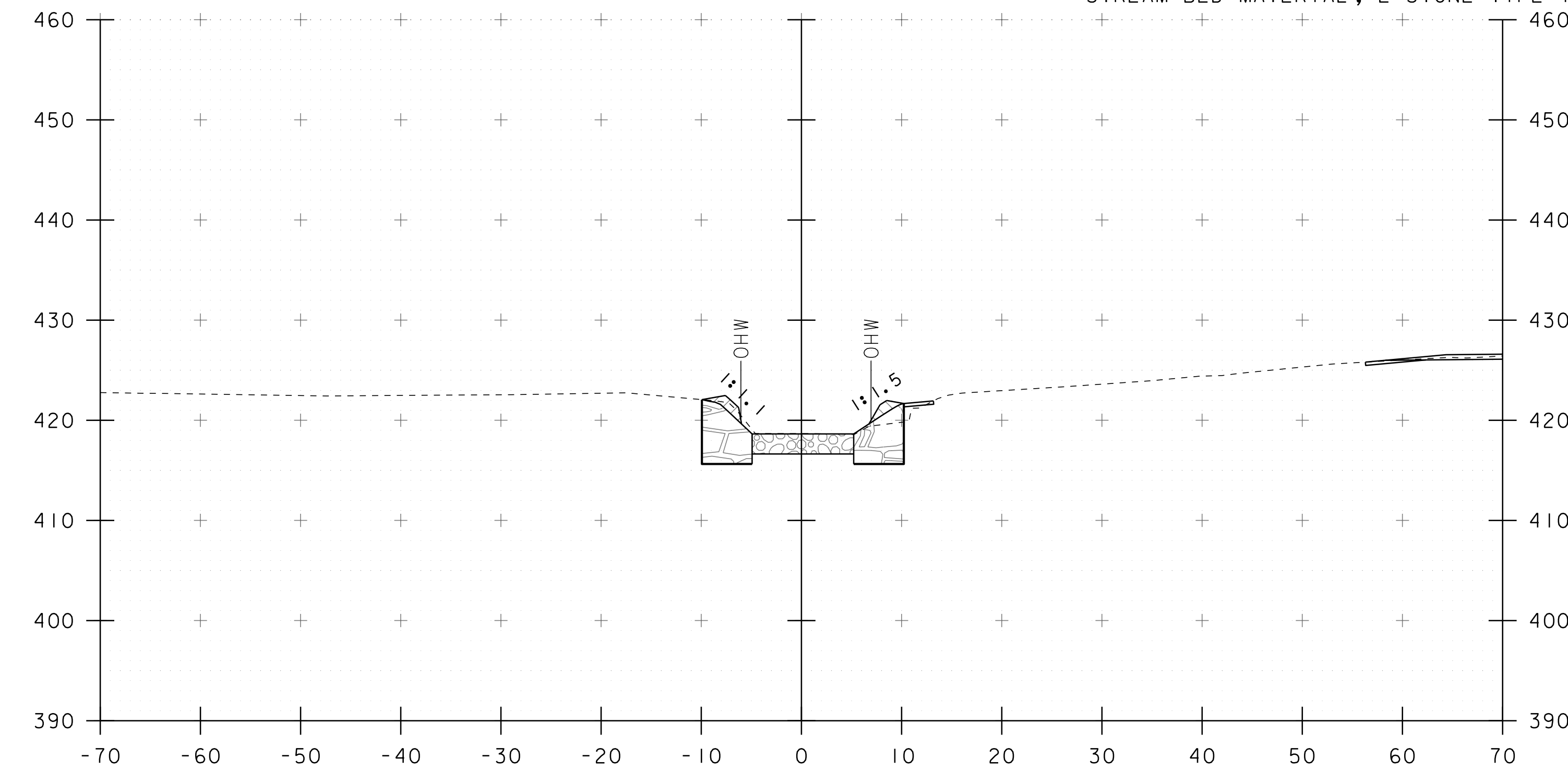
51+40

STA 51+33.5 LT  
 END GEOTEXTILE UNDER STONE FILL  
 STONE FILL, TYPE III  
 GRUBBING MATERIAL

STA 51+35.3 RT  
 END UNCLASSIFIED CHANNEL EXCAVATION  
 GEOTEXTILE UNDER STONE FILL  
 STONE FILL, TYPE III  
 GRUBBING MATERIAL  
 STREAM BED MATERIAL, E-STONE TYPE II



51+10



51+30

STA. 51+10 TO STA. 51+40

PROJECT NAME:	ENOSBURGH	PLOT DATE:	10-DEC-2019	
PROJECT NUMBER:	BF 0283 (42)	DRAWN BY:	C. FRENCH	
FILE NAME:	sl2c584xsl.dgn	DESIGNED BY:	S. COLEY	
PROJECT LEADER:	R. YOUNG	CHANNEL CROSS SECTION (2)	CHECKED BY:	S. COLEY
			SHEET	22 OF 22