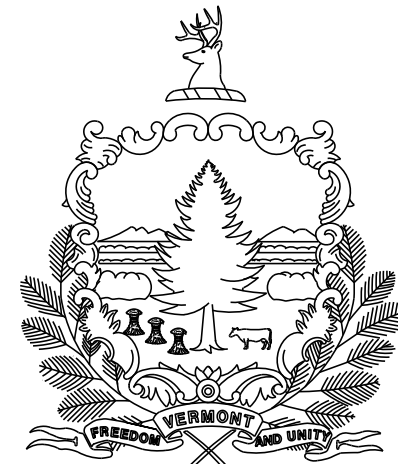


REVIEWER NOTES:

1. A 21-DAY CLOSURE IS ANTICIPATED TO REPLACE EXISTING CONCRETE T-BEAMS. STEEL PLATE ARCH WILL REMAIN IN PLACE. TRAFFIC IS EXPECTED TO BE HANDLED WITH AN OFFSITE DETOUR.
2. ARCH FOOTINGS WILL BE CAPPED WITH CONCRETE , CLASS C. SPECIAL PROVISION, TEMPORARY RELOCATION OF STREAM, IS EXPECTED TO BE USED.
3. RIGHT OF WAY FOR UTILITY RELOCATION AND CONSTRUCTION ACCESS.
4. AERIAL UTILITY RELOCATION NEEDED
5. EPSC = LOW RISK SITE

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF BRAINTREE
COUNTY OF ORANGE

ROUTE NO : VT 12; RURAL MAJOR COLLECTOR BRIDGE NO : 47

PROJECT LOCATION : ON VT 12 APPROXIMATELY 5.1 MILES NORTH OF INTERSECTION WITH VT 66.

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

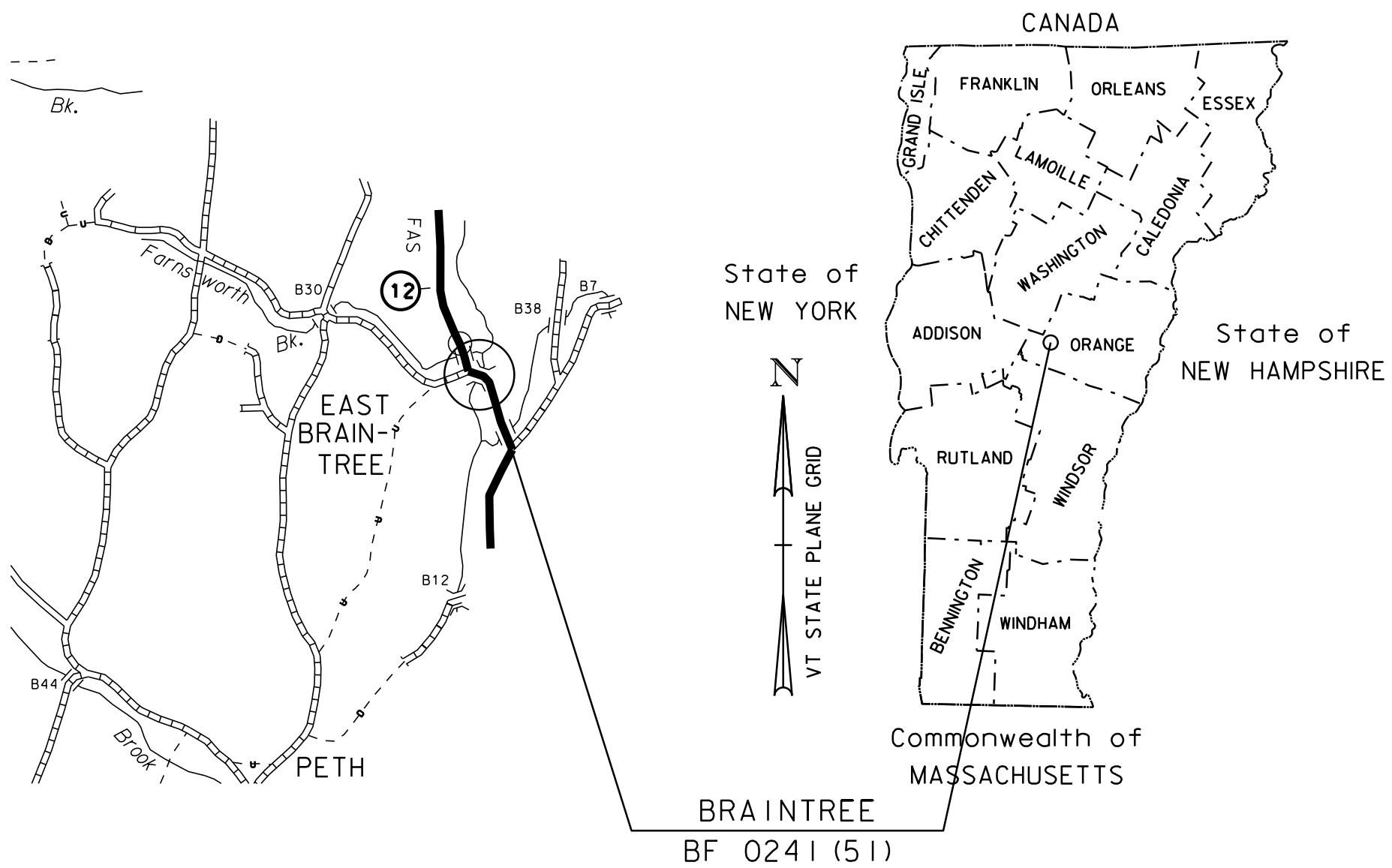
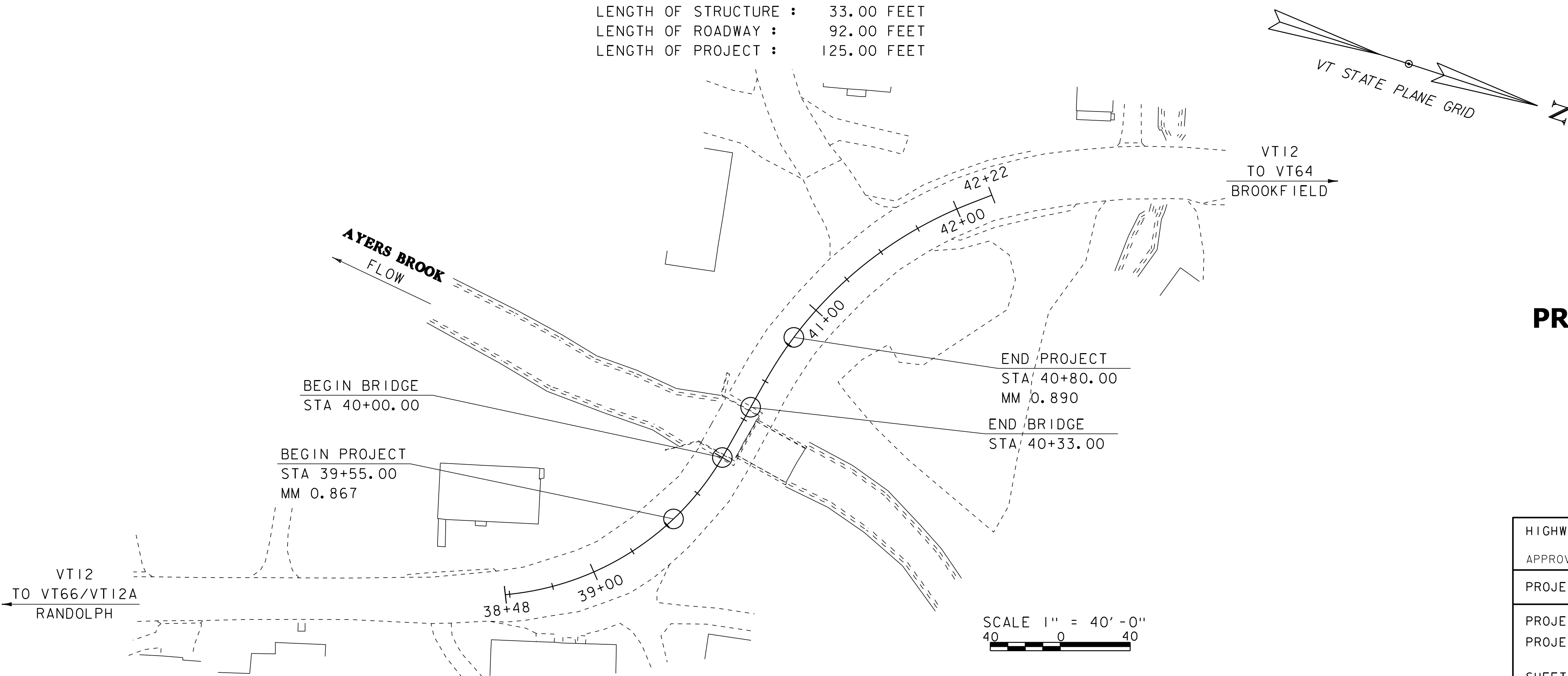
LENGTH OF STRUCTURE : 33.00 FEET
LENGTH OF ROADWAY : 92.00 FEET
LENGTH OF PROJECT : 125.00 FEET

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 3

SURVEYED BY : R. GILMAN
SURVEYED DATE : 10/10/2018

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (2011)



PRELIMINARY PLANS
09-JUN-2020

HIGHWAY DIVISION, CHIEF ENGINEER	
APPROVED _____	DATE _____
PROJECT MANAGER :	ROBERT S. YOUNG, P.E.
PROJECT NAME :	BRAINTREE
PROJECT NUMBER :	BF 0241 (51)
SHEET 1 OF 22 SHEETS	

PRELIMINARY INFORMATION SHEET (BRIDGE)

LRFD

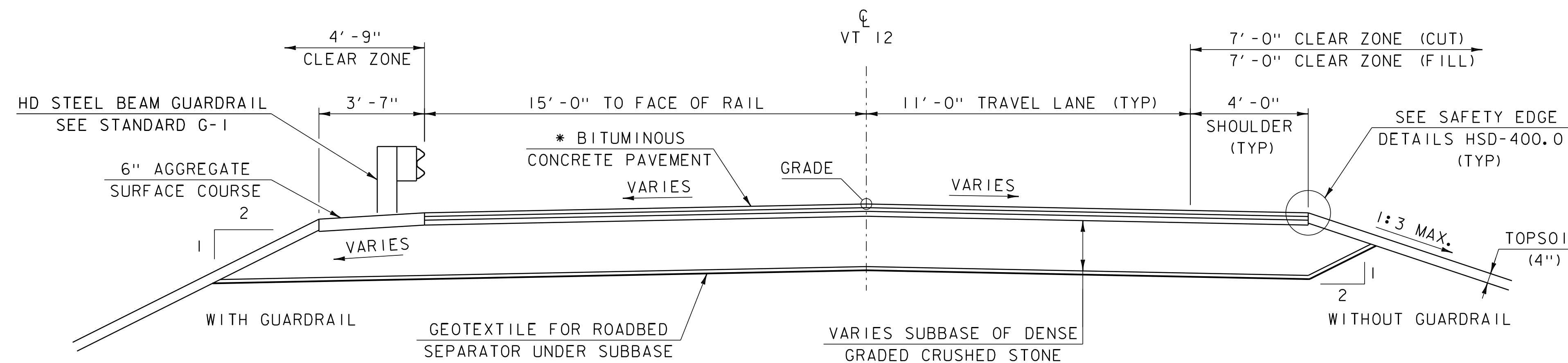
[illegible]

MATERIAL TOLERANCES (IF USED ON PROJECT)

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

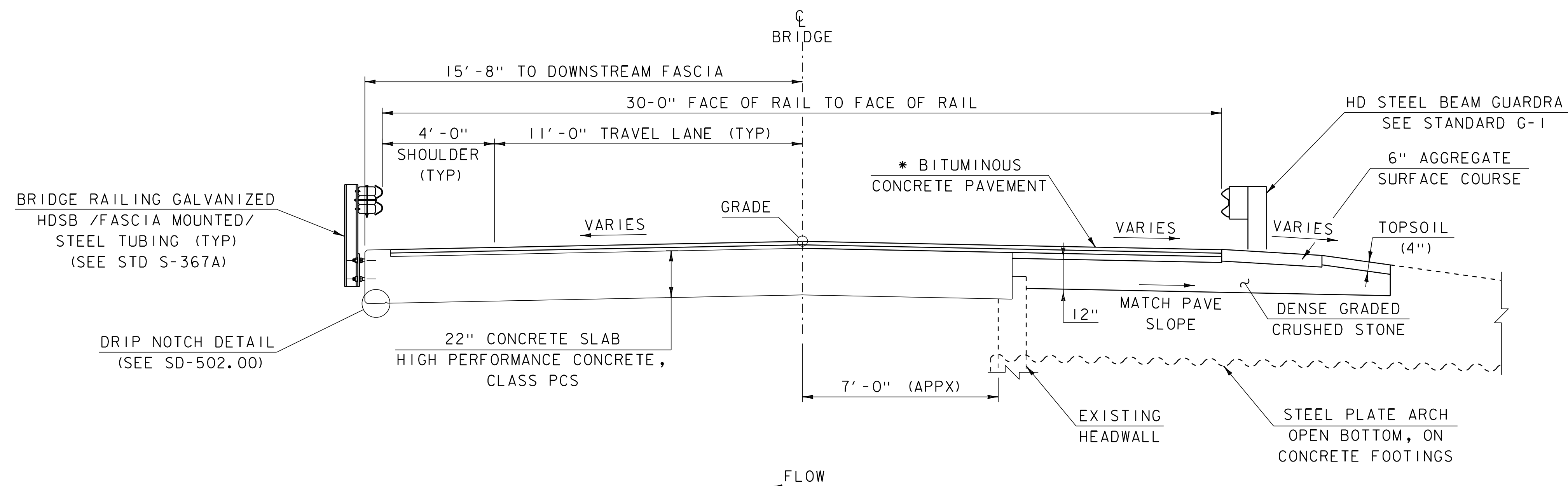
EMULSION SHALL BE APPLIED PER THE APPLICATION RATES IN TABLE 406.12A OF THE STANDARD SPECIFICATIONS.

* BITUMINOUS CONCRETE PAVEMENT
(2) LIFTS 1 1/2" BCP TYPE IVB OVER
(1) LIFT 2" BCP TYPE IIIS



ROADWAY TYPICAL SECTION

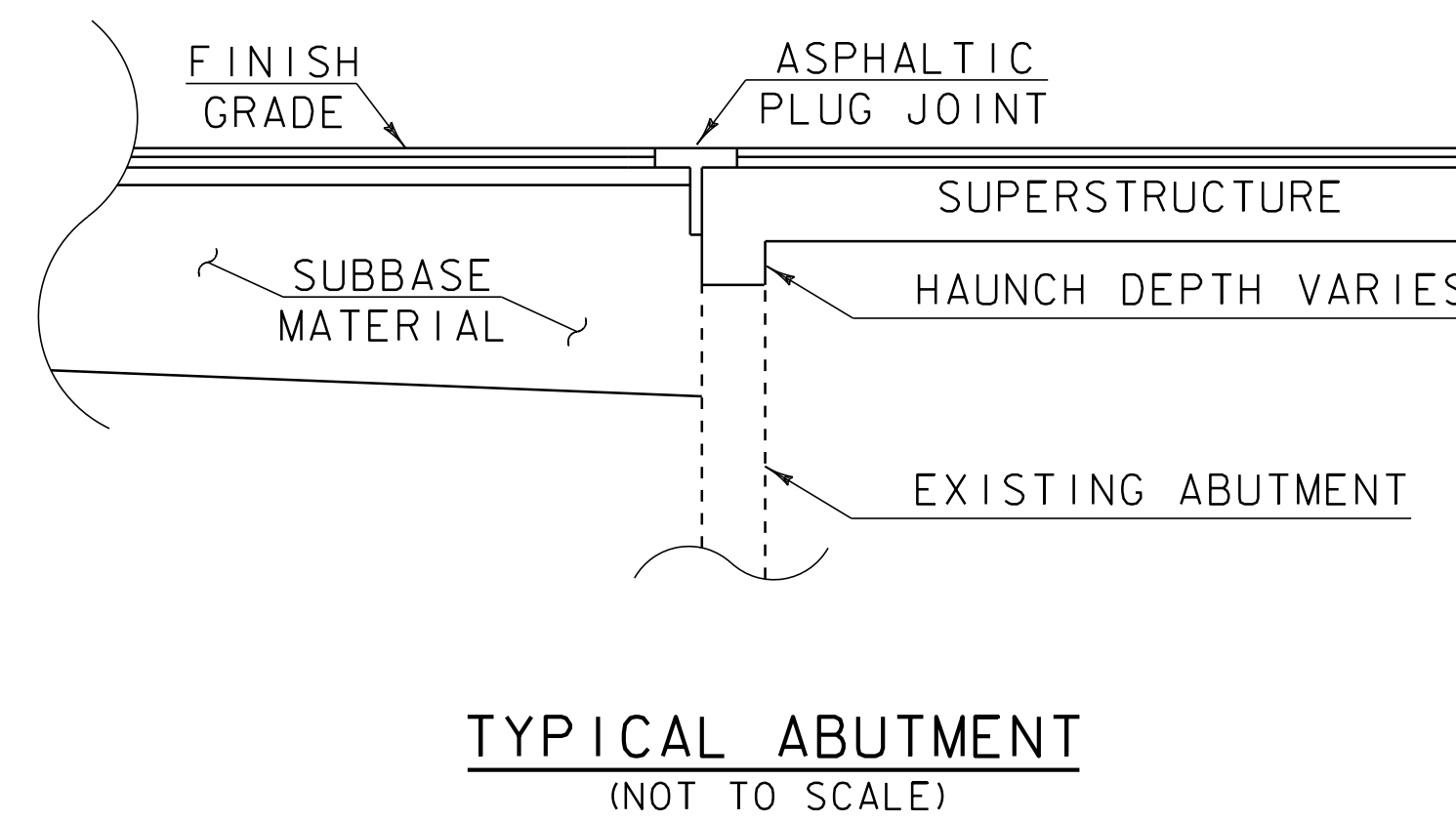
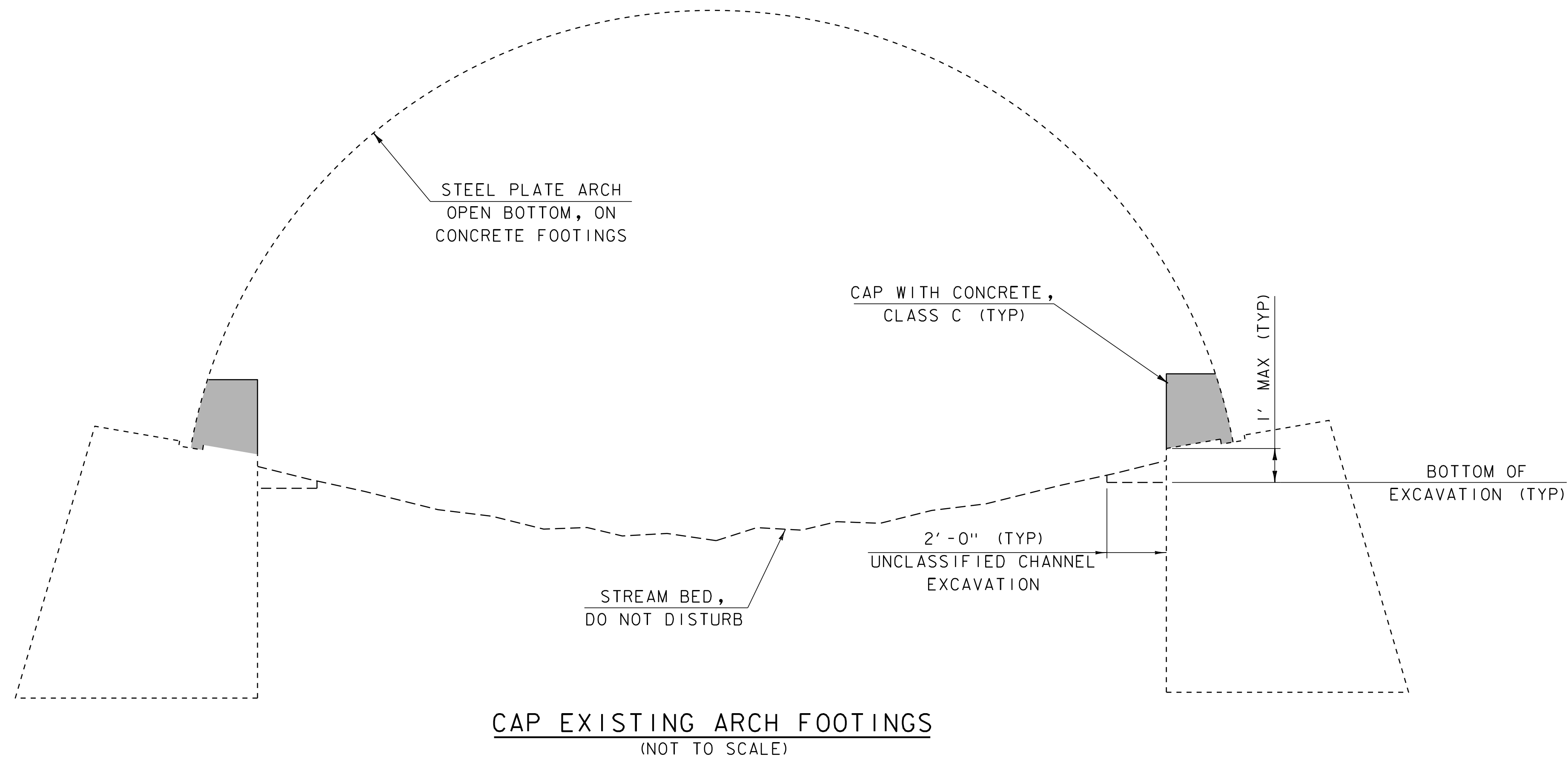
SCALE 3/8" = 1'-0"



PROPOSED BRIDGE TYPICAL SECTION

SCALE 3/8" = 1'-0"

PROJECT NAME: BRAINTREE	
PROJECT NUMBER: BF 0241(51)	
FILE NAME: sl2c578typ.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: R. PELLETT
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
TYPICAL SECTIONS 1	SHEET 3 OF 22



PROJECT NAME:	BRAINTREE	PLOT DATE:	09-JUN-2020
PROJECT NUMBER:	BF 0241(51)	DRAWN BY:	R. PELLETT
FILE NAME:	sl2c578typ.dgn	CHECKED BY:	F. BARROWS
PROJECT LEADER:	R. YOUNG	SHEET	4 OF 22
DESIGNED BY:	F. BARROWS		
TYPICAL SECTIONS	2		

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
■	BDNS	BOUND SET
▣	BDNS	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 — x — BF — x — x —	BARRIER FENCE
xxxxxxxxxxxxxxxxxxxxxxxx	TREE PROTECTION ZONE (TPZ)
//////////	STRIPING LINE REMOVAL
~~~~~	SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLGY

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 ——— — P ———	PROPERTY LINE (P/L)
— L ——— — 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
▣	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: BRAINTREE	
PROJECT NUMBER: BF 024(51)	
FILE NAME: sl2c578leg.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: R. PELLETT
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
SYMBOLGY LEGEND	SHEET 5 OF 22

PRIMARY CONTROL

HVCTRL #1  
SNOWSVILLE AZ MK  
NORTH = 548570.9100  
EAST = 1599865.0000  
ELEV. = NA

TO REACH FROM THE JUNCTION OF VERMONT ROUTE 12 AND VERMONT ROUTE 66 IN RANDOLPH, PROCEED NORTHERLY ALONG ROUTE 12 FOR 5.7 MI (9.2 KM) TO THE MARK ON THE RIGHT. TO REACH FROM THE JUNCTION OF VERMONT ROUTE 12 AND THE ROAD TO WEST BROOKFIELD, PROCEED SOUTH ALONG ROUTE 12 FOR 0.75 MI (1.21 KM) TO THE MARK ON THE LEFT.

THE MARK IS A STATE OF VERMONT SURVEY DISK SET IN THE TOP OF A CONCRETE MONUMENT 30 CM IN DIAMETER, FLUSH WITH THE GROUND SURFACE.

IT IS LOCATED 141 FT (43.0 M) NORTH NORTHEAST OF UTILITY POLE 136/19, 129 FT (39.3 M) SOUTH OF A SIGN (BRAINTREE / BROOKFIELD), 60.5 FT (18.4 M) SOUTH OF A MAILBOX, 22 FT (6.7 M) SOUTHEAST OF THE CENTERLINE OF VERMONT ROUTE 12, AND 3 FT (0.9 M) NORTHWEST OF A FIBERGLASS WITNESS POST.

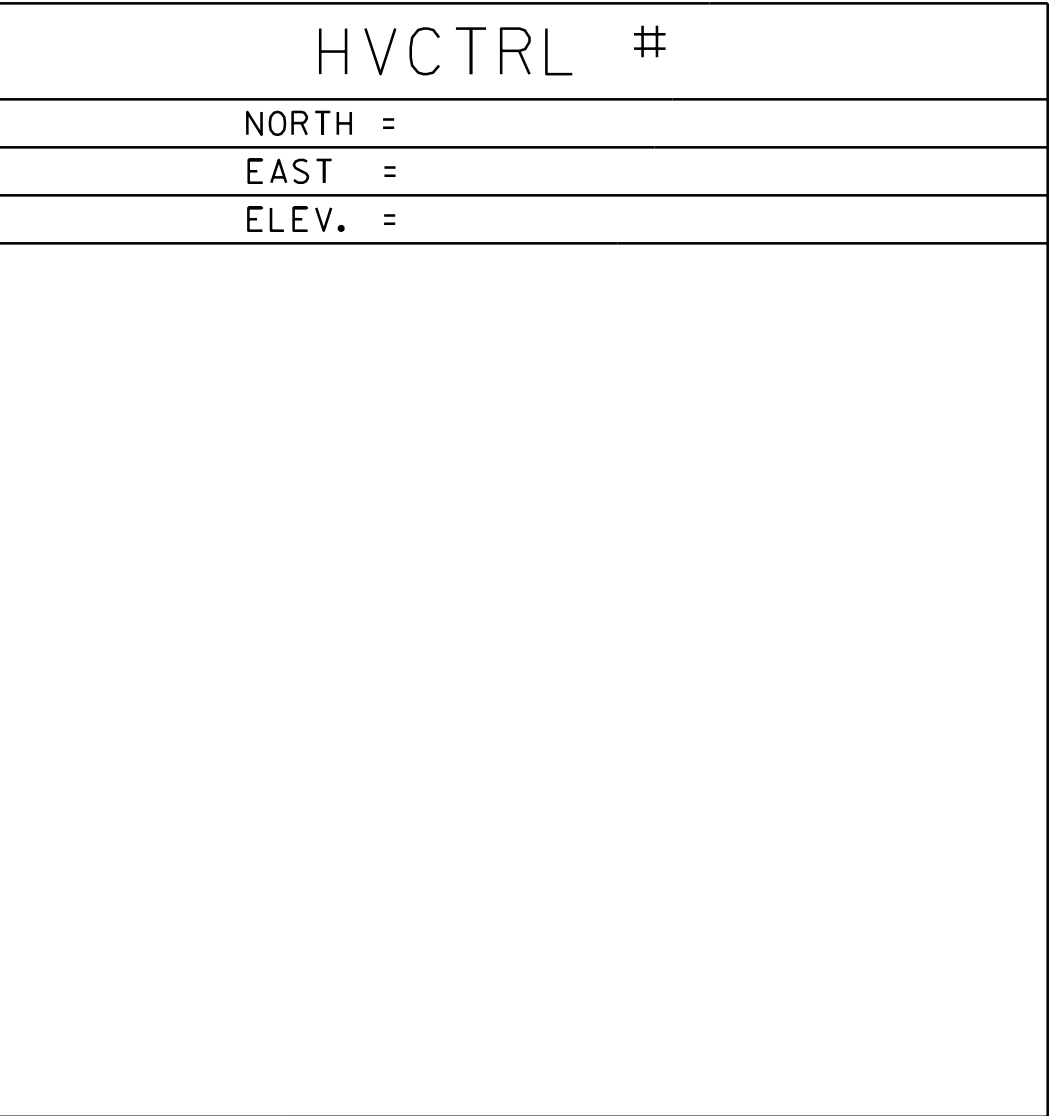
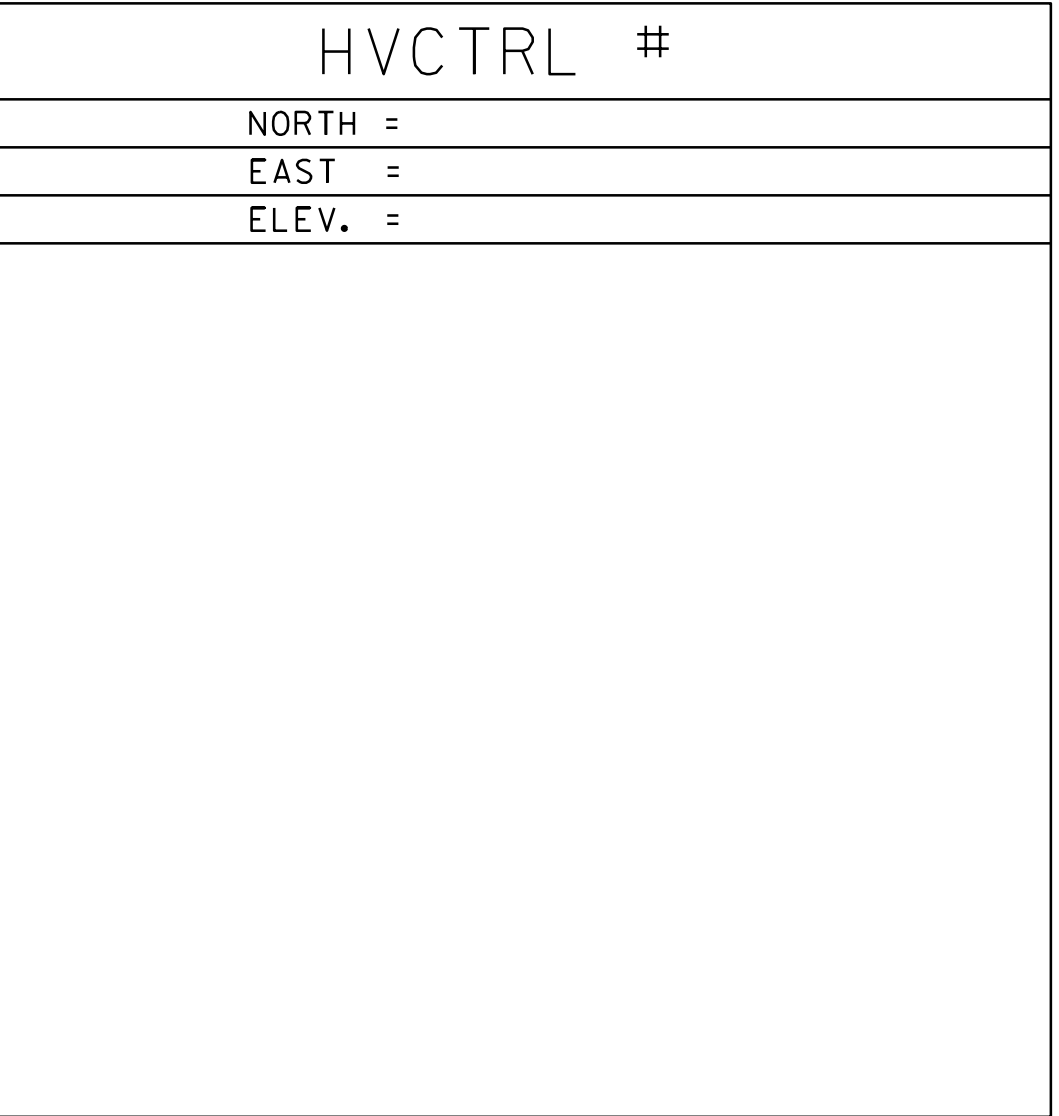
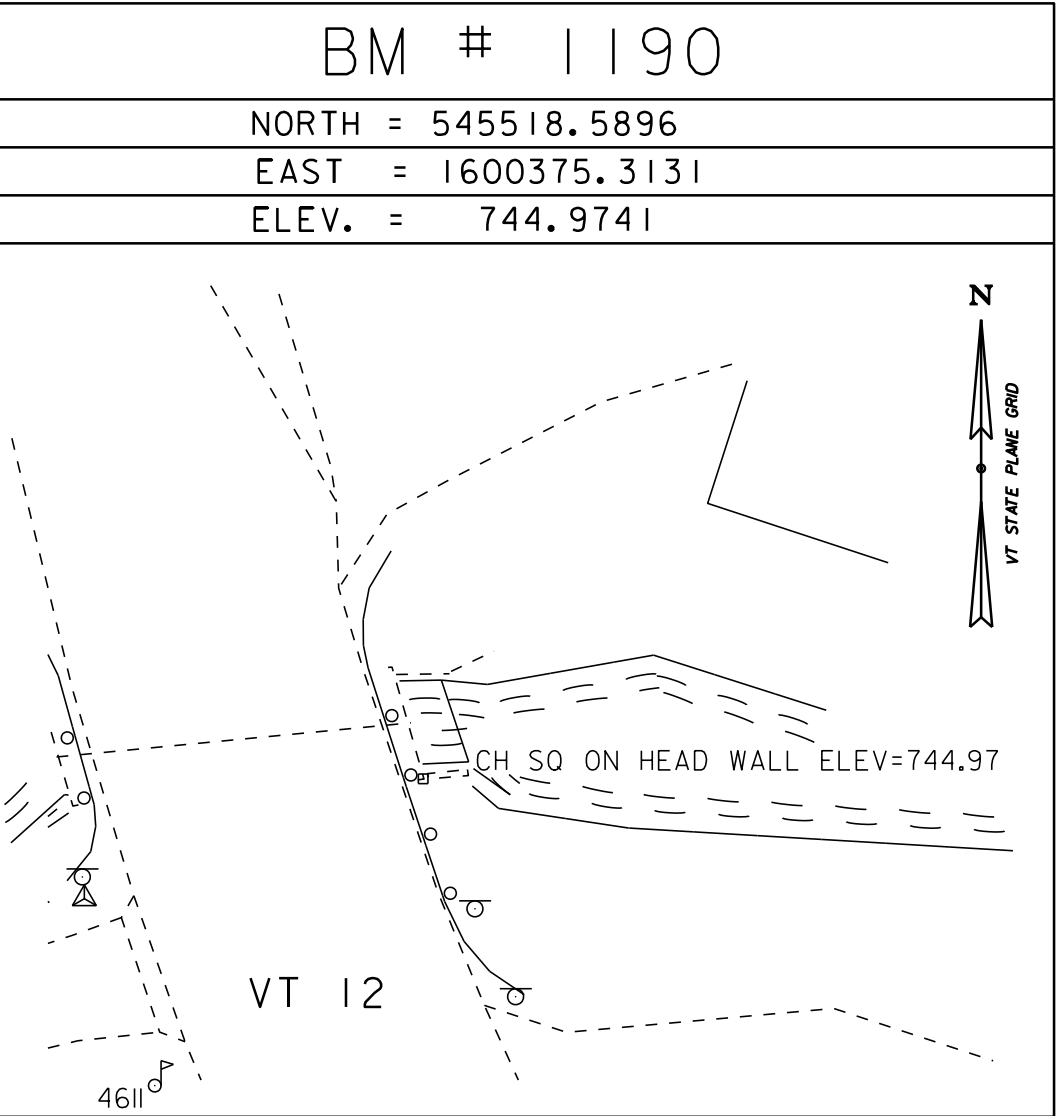
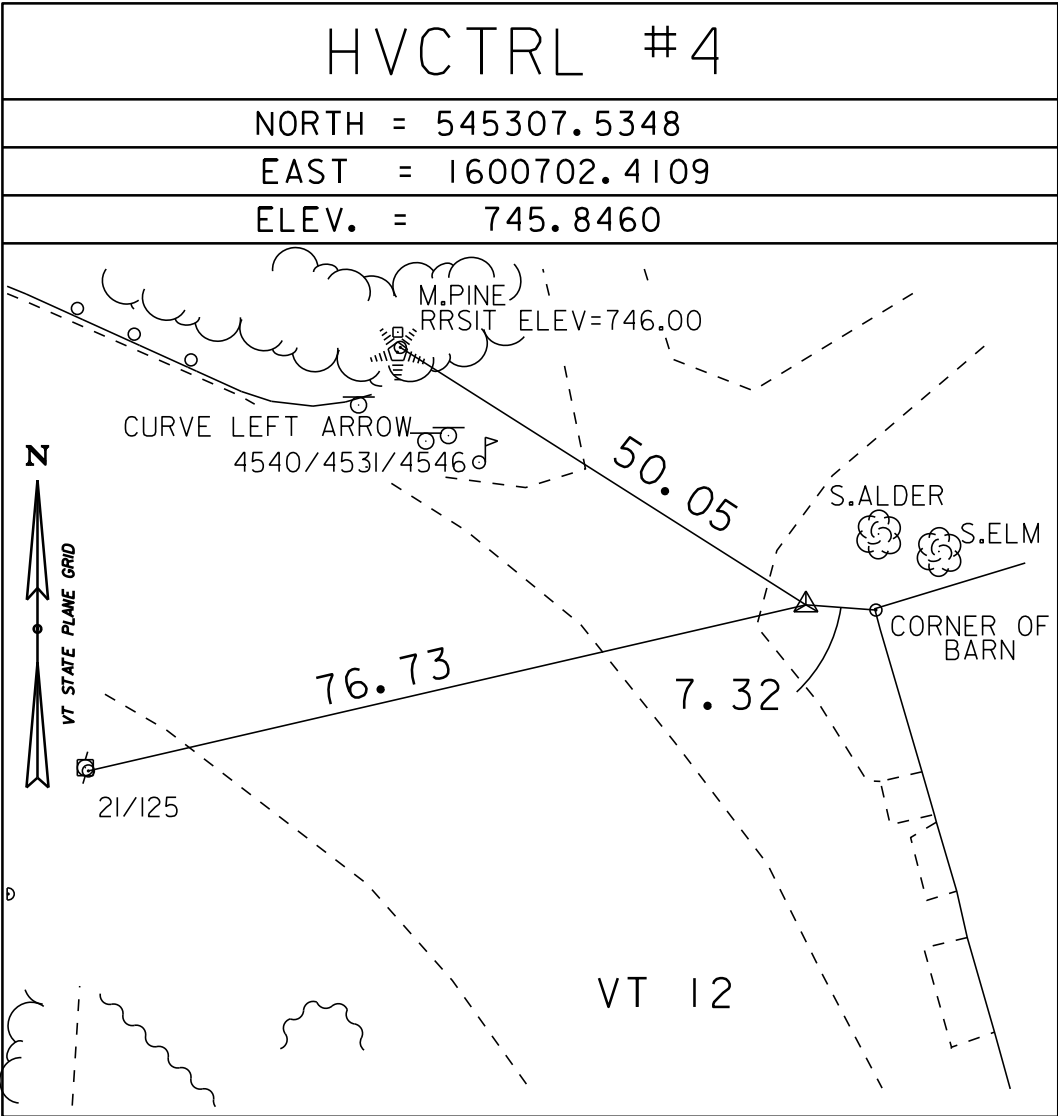
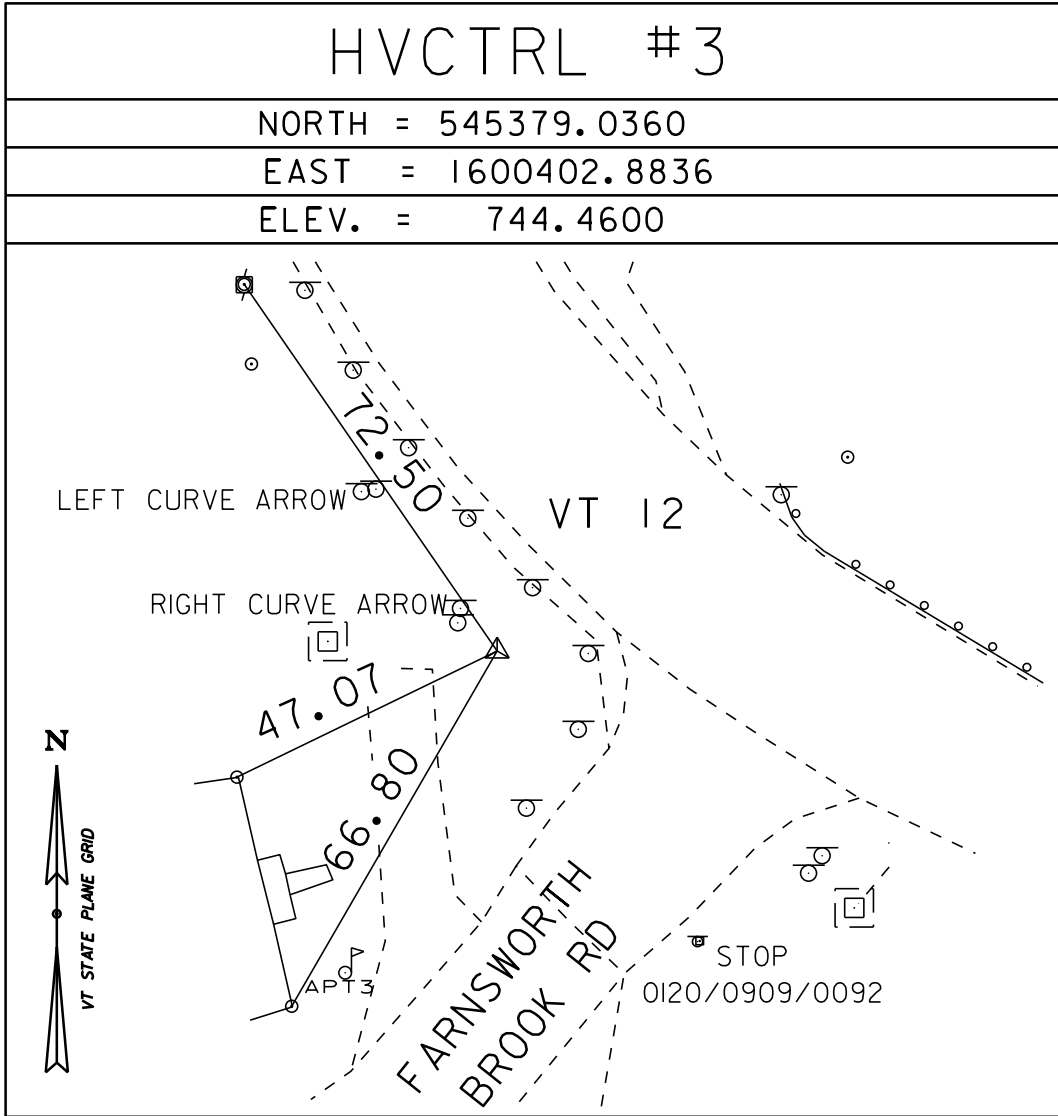
HVCTRL #2  
SNOWSVILLE  
NORTH =546460.5000  
EAST =1600026.4200  
ELEV. =753.7620

TO REACH FROM THE INTERSECTION OF VT ROUTE 12, VT ROUTE 66 AND ELM STREET IN RANDOLPH, GO NORTH ALONG VT ROUTE 12 FOR 0.8 MI (1.3 KM) TO THE INTERSECTION OF WINDOVER ROAD RIGHT. BEAR LEFT AND CONTINUE NORTH ALONG VT ROUTE 12 FOR 1.6 MI (2.6 KM) TO THE INTERSECTION OF PETH ROAD LEFT. CONTINUE STRAIGHT AHEAD AND GO NORTH ALONG VT ROUTE 12 FOR 2.7 MI (4.3 KM) TO THE INTERSECTION OF FARNSWORTH BROOK ROAD LEFT IN EAST BRAINTREE VILLAGE. CONTINUE STRAIGHT AHEAD AND GO NORTH ALONG VT ROUTE 12 FOR 0.2 MI (0.3 KM) TO THE SITE OF THE MARK ON THE RIGHT. IT IS 1.15 MI (1.9 KM) SOUTH OF THE INTERSECTION OF VT ROUTE 12 AND WEST BROOKFIELD ROAD.

THE MARK IS SET FLUSH WITH THE GROUND SURFACE IN THE TOP OF A 30 CM (12 INCH) DIAMETER CONCRETE MONUMENT.

IT IS 5.7 M (18.7 FT) EAST OF AND ABOUT 0.2 M (0.7 FT) LOWER THAN THE CENTERLINE OF VT ROUTE 12, 20.7 M (67.9 FT) SOUTHEAST OF POLE NO 13+1/2/130X, 57.8 M (189.6 FT) NORTH-NORTHEAST OF POLE NUMBER 13/130, 11.5 M (37.7 FT) EAST-SOUTHEAST OF A HIGHWAY SIGN (REDUCED SPEED AHEAD), 21.1 M (69.2 FT) SOUTH OF A CURVE SIGN AND 0.3 M (1.0 FT) WEST OF A FIBERGLASS WITNESS POST.

SECONDARY CONTROL



SECONDARY CONTROL

	VT 12		
	STATION	NORTHING	EASTING
POB	38+47.53	545237.92	1600702.01
PC	38+52.00	545241.98	1600700.15
PI	39+33.64	545316.23	1600666.19
PT	40+02.99	545332.30	1600586.15

Delta:	54°04'02" Left
Degree of Curve:	35°48'36"
Radius:	160.00
Tangent:	81.64
Length:	150.98
External:	19.63

PC	40+49.97	545341.55	1600540.08
PI	41+32.44	545357.78	1600459.22
PT	42+08.35	545421.69	1600407.10

Delta:	39°27'11" Right
Degree of Curve:	24°54'40"
Radius:	230.00
Tangent:	82.47
Length:	158.37
External:	14.34

PC	42+08.35	545421.69	1600407.1
POE	42+21.54	545431.92	1600398.76

DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83(2011)
ADJUSTMENT	COMPASS

*TRAVERSE COMPLETED ON 10/10/2018 BY R.GILMAN, B.HERRING AND H.MCGOWAN

PROJECT NAME:	BRAINTREE
PROJECT NUMBER:	BF 0241(51)
FILE NAME: sl2c578t1e.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: H. MCGOWAN
DESIGNED BY: VTRANS	CHECKED BY: G. HITCHCOCK
TIE SHEET	SHEET 6 OF 22

WINOOSKI - VERY FINE SANDY LOAM  
0% - 3% SLOPES  
HIGH EROSION POTENTIAL  
K = 0.49

BUCKLAND LOAM  
3% - 8% SLOPES  
MODERATE EROSION POTENTIAL  
K = 0.32

BROWN, DENNIS R.

CZAPLA, JOHN & CATHY

HOYT, JERRY LEE

VERSHIRE-GLOVER COMPLEX  
25% - 50% SLOPES  
MODERATE EROSION POTENTIAL  
K = 0.28/0.32

ROCKY FARM PROPERTIES, LLC

ESTABROOK, DEBORAH A.

BOOSKA,  
EUGENE O.

NEAS, KENNETH A.  
& WENDY C.

CONANT,  
KAYLA

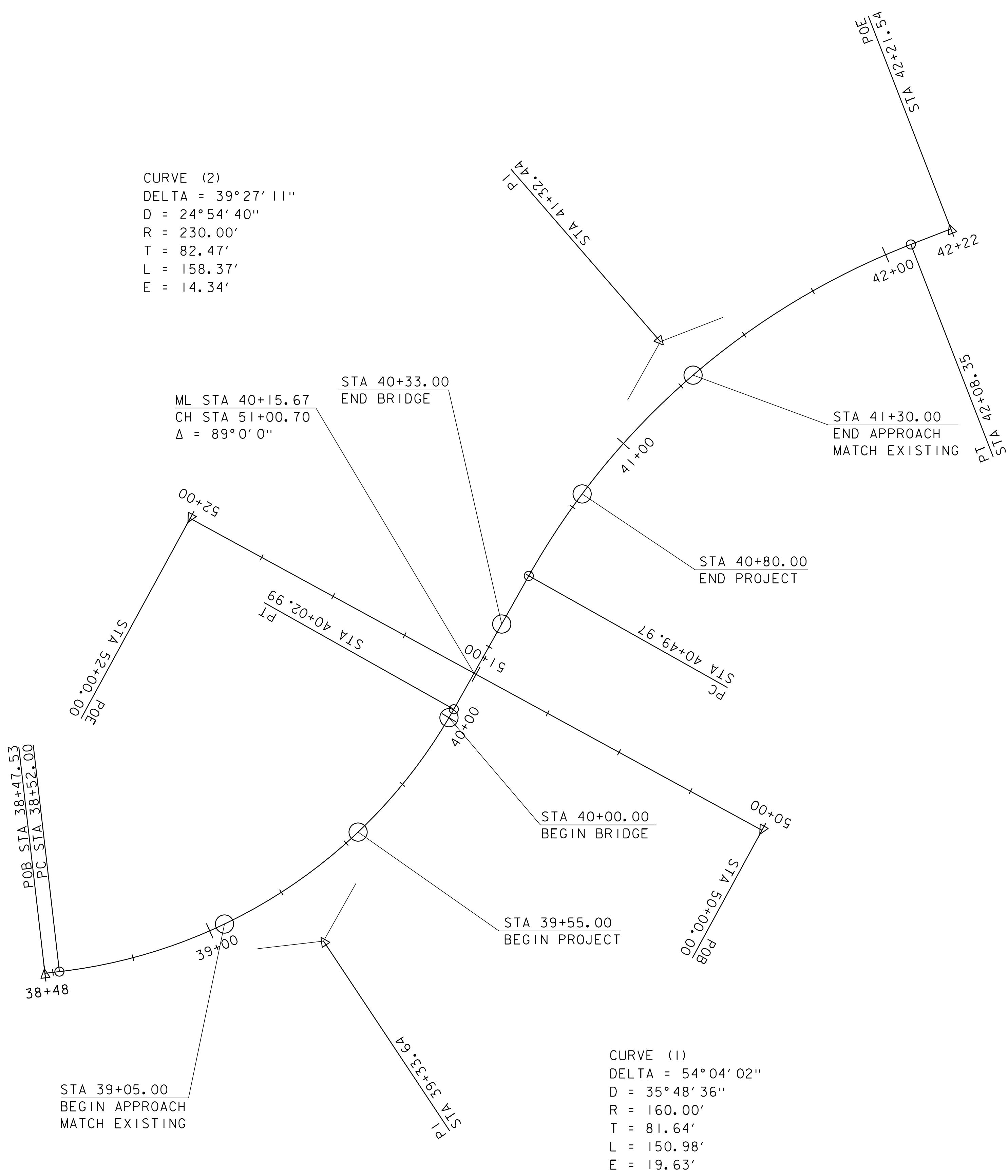
NEAS, EDWARD F. &  
MARTHA ANN

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

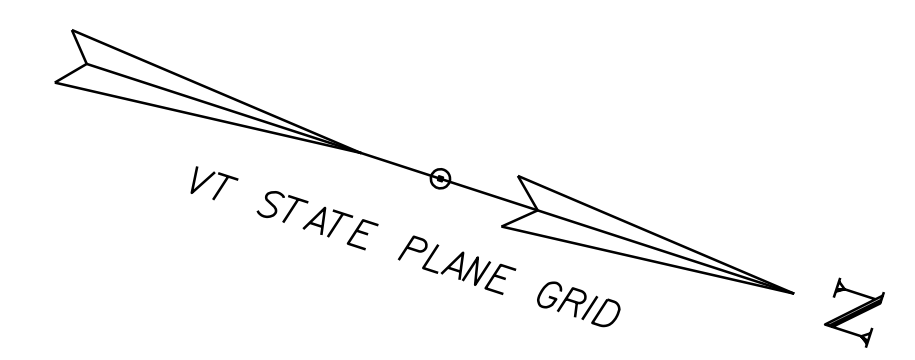
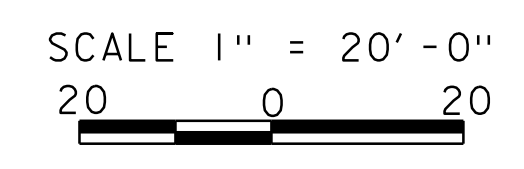
PROJECT NAME: BRAINTREE  
PROJECT NUMBER: BF 024I(5I)

FILE NAME: sl2c578bdr_existing.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: F. BARROWS  
EXISTING CONDITIONS

PLOT DATE: 09-JUN-2020  
DRAWN BY: R. PELLETT  
CHECKED BY: F. BARROWS  
SHEET 7 OF 22



ALIGNMENT LAYOUT



PROJECT NAME: BRAINTREE	
PROJECT NUMBER: BF 024(51)	
FILE NAME: sl2c578bdr_algn.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: R. PELLETT
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
ALIGNMENT LAYOUT	SHEET 8 OF 22

621.21 HD STEL BEAM GUARDRAIL , GALVANIZED  
STA 39+73.47 RT TO 41+25.61 RT

621.60 ANCHOR FOR STEEL BEAM GUARDRAIL  
STA 39+40.45 RT  
STA 39+64.21 LT  
STA 40+81.80 RT  
STA 41+57.62 RT

525.44 BRIDGE RAILING, GALVANIZED  
HDSB/ FASCIA MOUNTED/ STEEL TUBING  
STA 39+97.20 LT TO 40+35.25 LT

621.737 GUARDRAIL APPROACH SECTION,  
GALV. HD STEEL BEAM  
STA 39+69.61 LT TO 39+97.20 LT  
STA 40+35.25 LT TO 40+59.93 LT

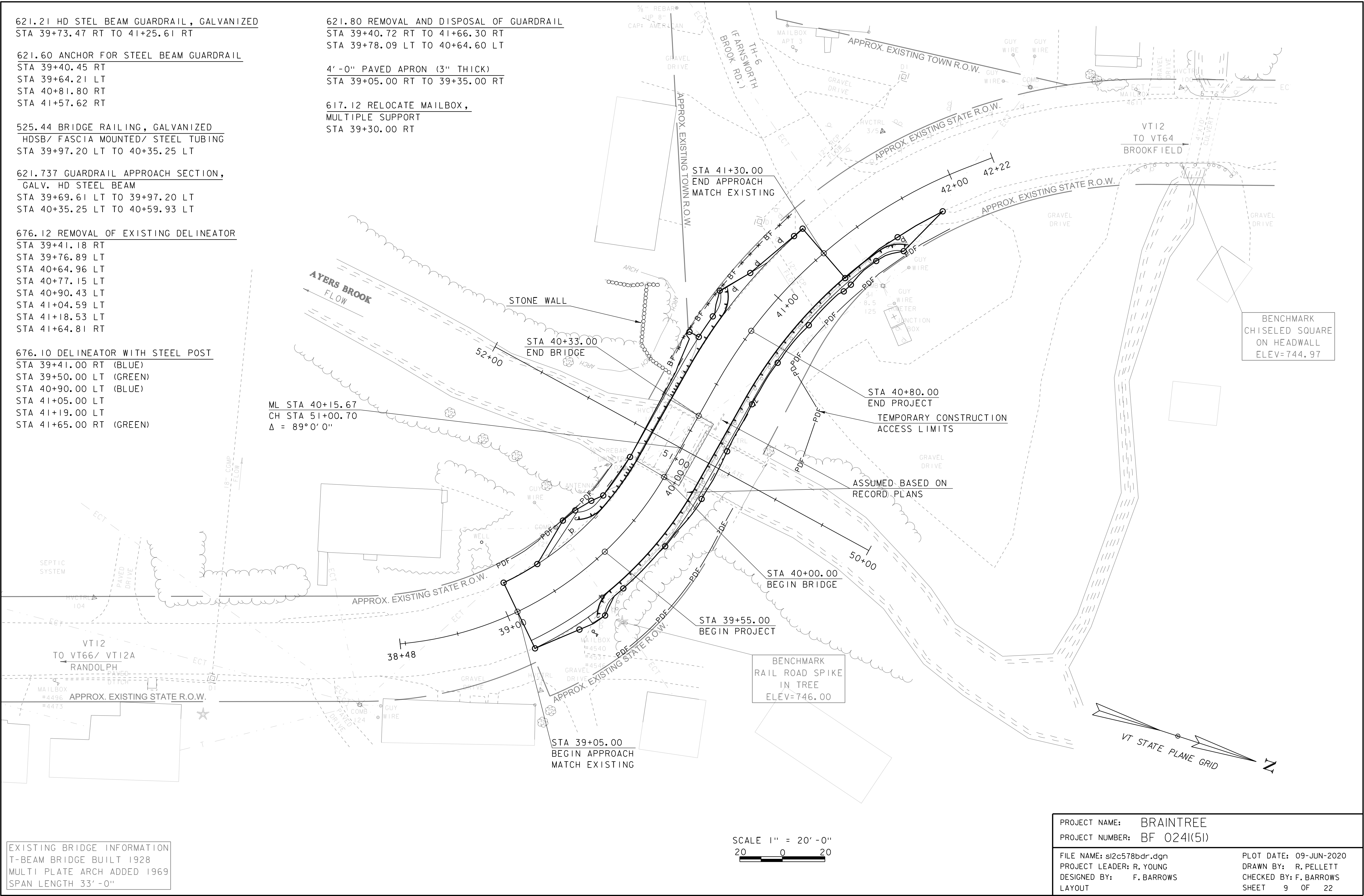
676.12 REMOVAL OF EXISTING DELINEATOR  
STA 39+41.18 RT  
STA 39+76.89 LT  
STA 40+64.96 LT  
STA 40+77.15 LT  
STA 40+90.43 LT  
STA 41+04.59 LT  
STA 41+18.53 LT  
STA 41+64.81 RT

676.10 DELINEATOR WITH STEEL POST  
STA 39+41.00 RT (BLUE)  
STA 39+50.00 LT (GREEN)  
STA 40+90.00 LT (BLUE)  
STA 41+05.00 LT  
STA 41+19.00 LT  
STA 41+65.00 RT (GREEN)

621.80 REMOVAL AND DISPOSAL OF GUARDRAIL  
STA 39+40.72 RT TO 41+66.30 RT  
STA 39+78.09 LT TO 40+64.60 LT

4'-0" PAVED APRON (3" THICK)  
STA 39+05.00 RT TO 39+35.00 RT

617.12 RELOCATE MAILBOX,  
MULTIPLE SUPPORT  
STA 39+30.00 RT



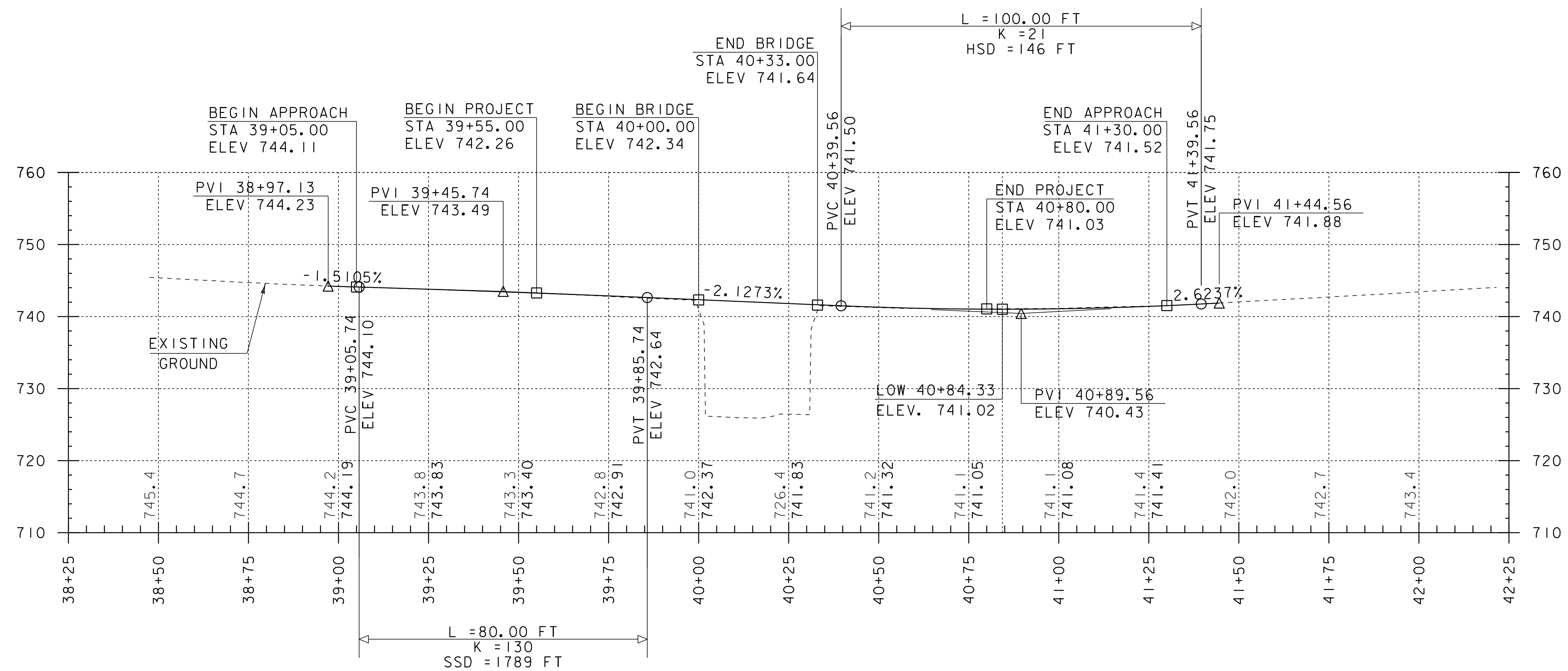
EXISTING BRIDGE INFORMATION  
T-BEAM BRIDGE BUILT 1928  
MULTI PLATE ARCH ADDED 1969  
SPAN LENGTH 33'-0"

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

PROJECT NAME: BRAINTREE  
PROJECT NUMBER: BF 0241(51)

FILE NAME: sl2c578bdr.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: F. BARROWS  
LAYOUT

PLOT DATE: 09-JUN-2020  
DRAWN BY: R. PELLETT  
CHECKED BY: F. BARROWS  
SHEET 9 OF 22

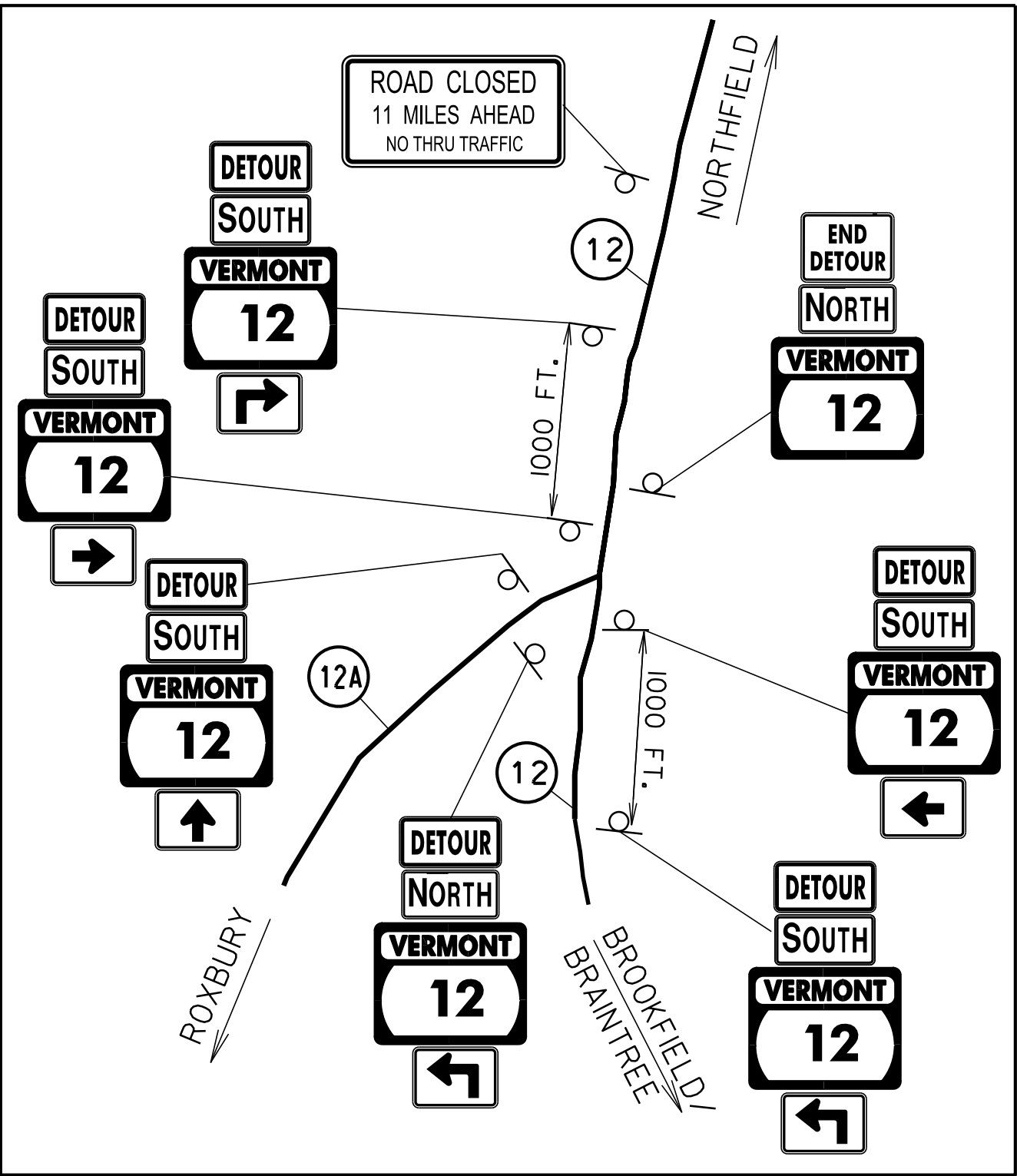


### VT ROUTE 12 PROFILE

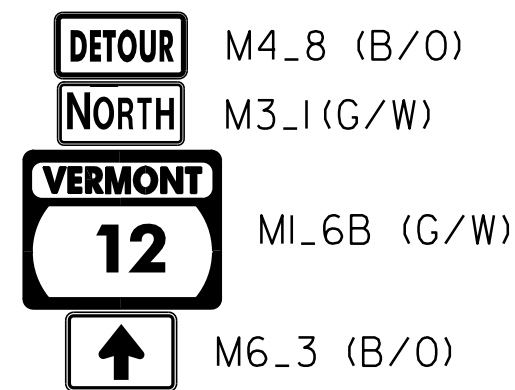
SCALE: HORIZONTAL 1"=20'-0"  
VERTICAL 1"=10'-0"

NOTE:  
GRADES SHOWN TO THE NEAREST  
TENTH ARE EXISTING GROUND ALONG CL  
GRADES SHOWN TO THE NEAREST  
HUNDREDTH ARE FINISH GRADE ALONG CL

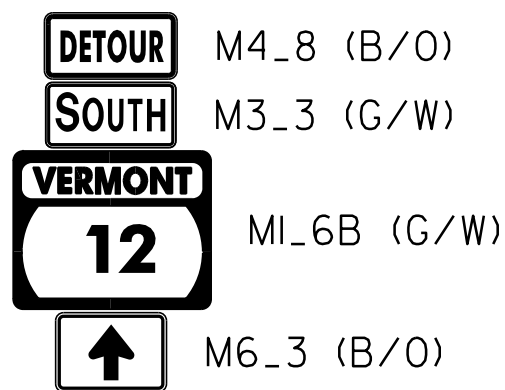
PROJECT NAME: BRAINTREE	
PROJECT NUMBER: BF 024(51)	
FILE NAME: sl2c578profile.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: R. PELLETT
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
PROFILE SHEET	SHEET 10 OF 22



A DETAIL  
NTS



TYPICAL NORTH  
DETOUR ASSEMBLY



TYPICAL SOUTH  
DETOUR ASSEMBLY

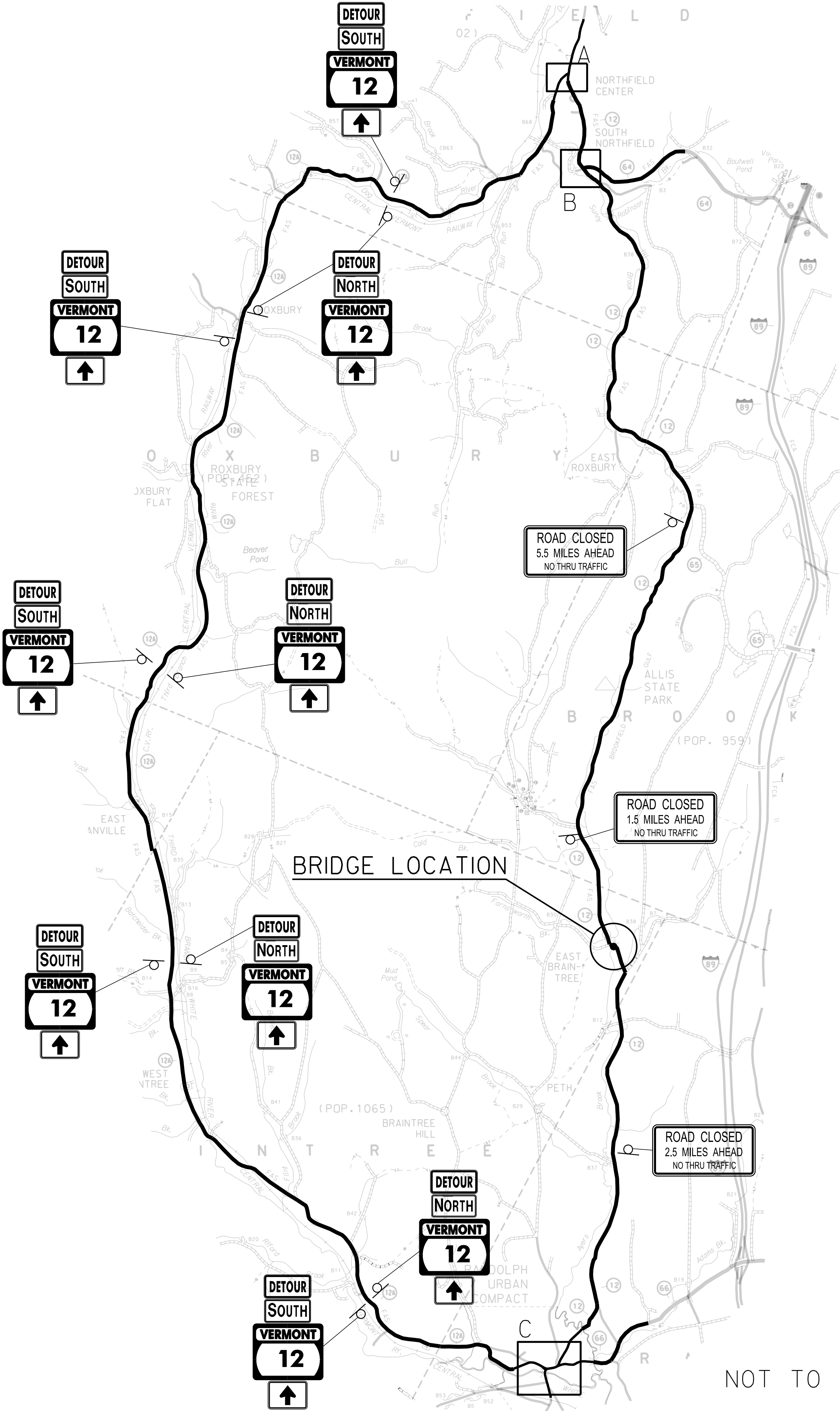
NOTES:

1. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE PLACED OFF THE EDGE OF THE ROADWAY, OUTSIDE THE CLEAR ZONE, BUT SHALL BE VISIBLE FROM THE ROADWAY. ANY VEGETATION THAT INTERFERES WITH VISIBILITY OF THE PCMS SHALL BE REMOVED. REMOVAL OF THE VEGETATION WILL BE INCIDENTAL TO ITEM 641.5, "PORTABLE CHANGEABLE MESSAGE SIGN".

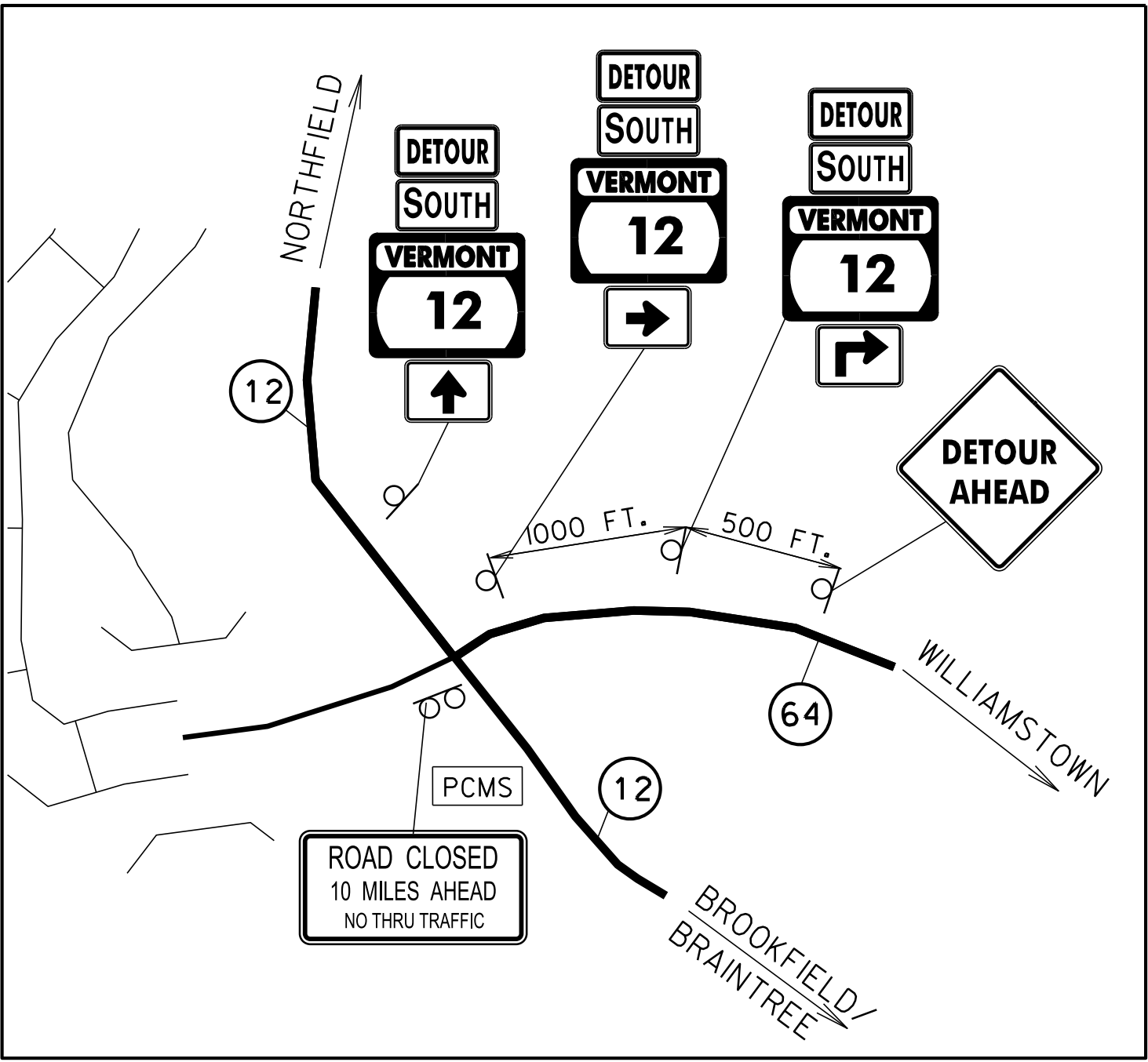
2. ORANGE FLAGS SHALL BE USED WITH TEMPORARY DETOUR SIGNS WITH BLACK LETTERING ON WHITE BACKGROUNDS TO HIGHLIGHT INFORMATION FOR THE TRAVELING PUBLIC EXCEPT THOSE ATTACHED TO TYPE 3 BARRICADES.

3. SEE CONTRACT DOCUMENTS FOR CLOSURE DATES.

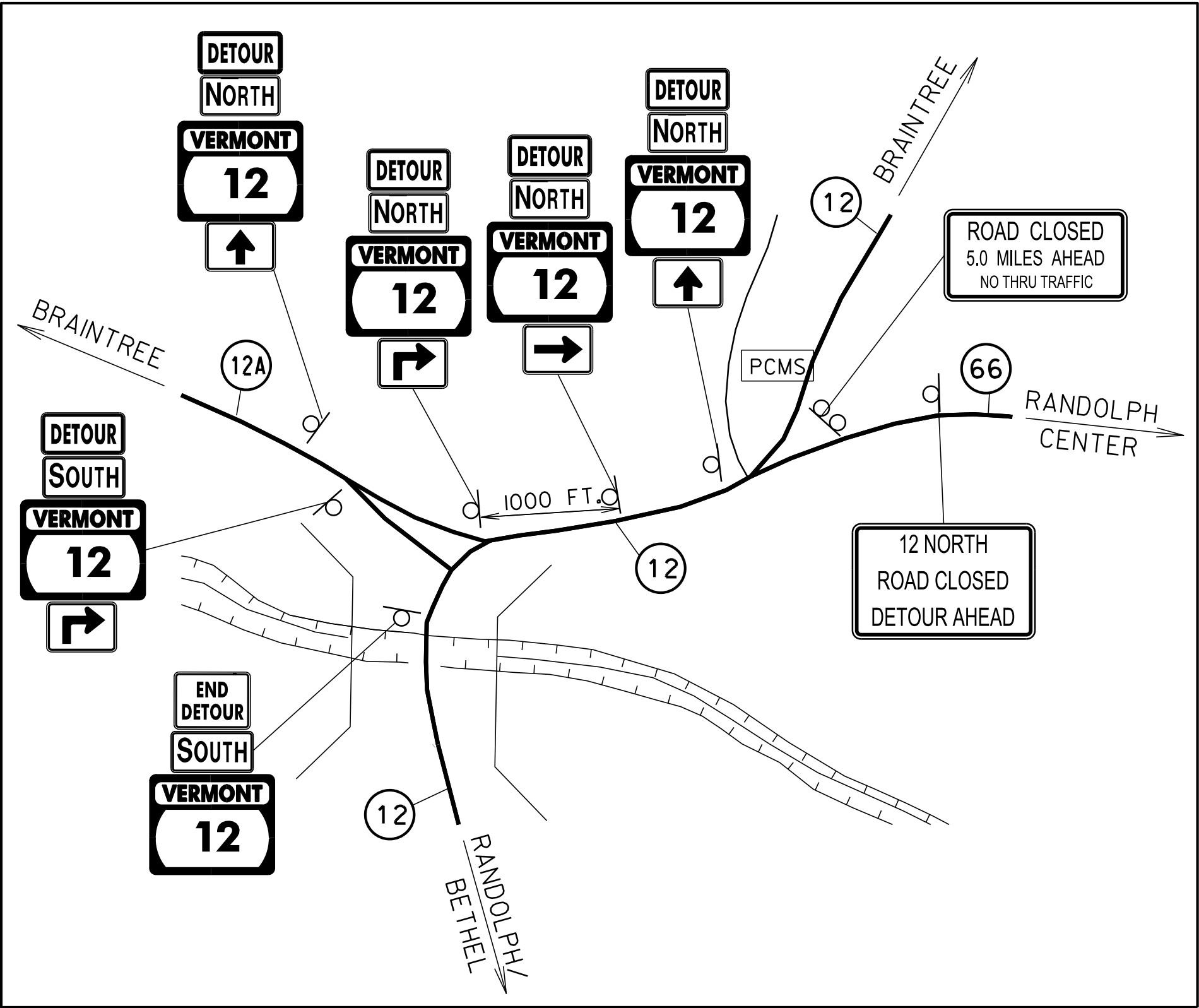
4. COVER ALL SIGNS CONFLICTING WITH DETOUR



NOT TO SCALE



B DETAIL  
NTS

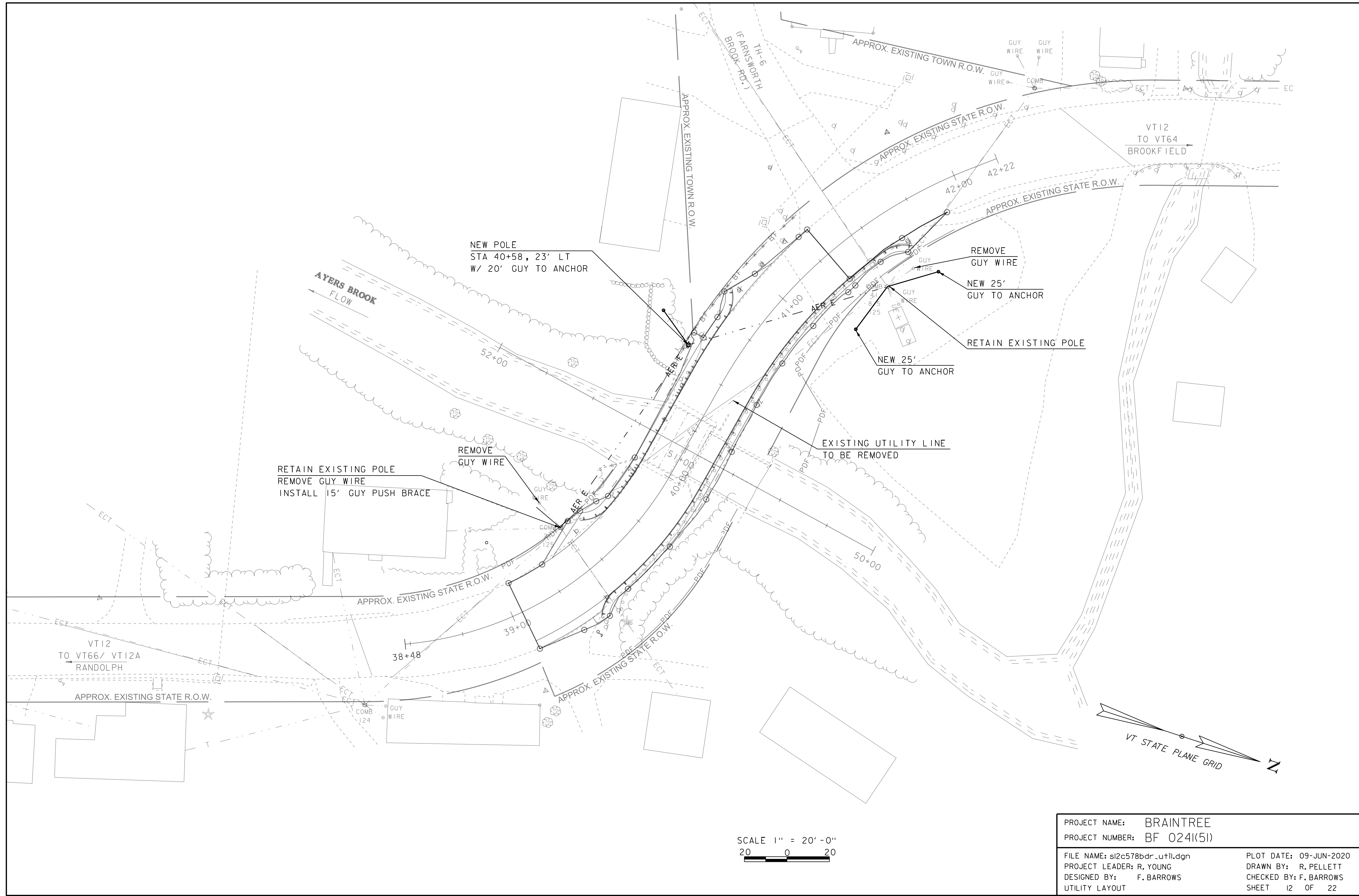


C DETAIL  
NTS

PROJECT NAME: BRAINTREE  
PROJECT NUMBER: BF 0241(51)

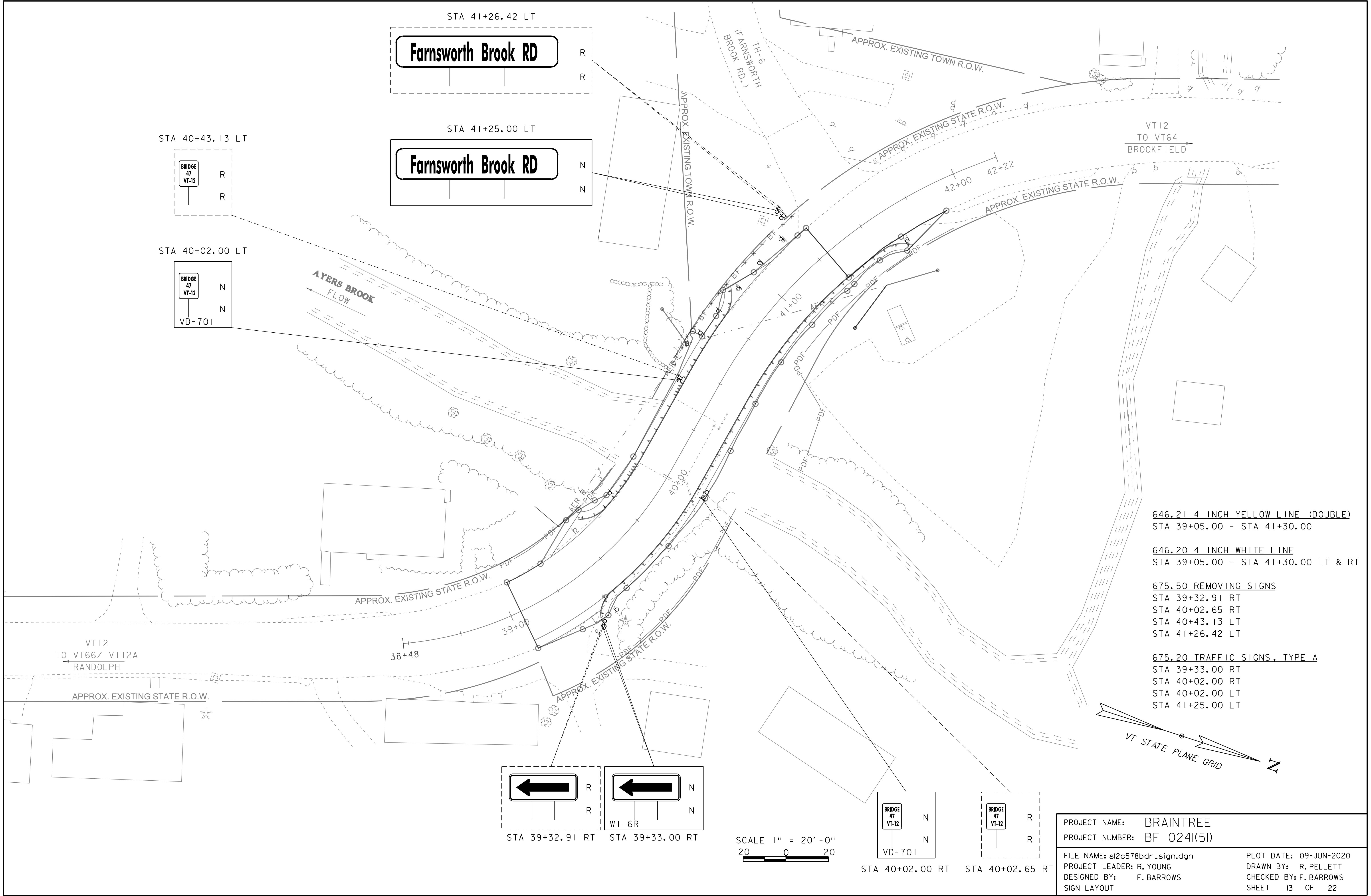
FILE NAME: sl2c578detour.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: F. BARROWS  
TRAFFIC CONTROL PLAN

PLOT DATE: 09-JUN-2020  
DRAWN BY: F. BARROWS  
CHECKED BY: F. BARROWS  
SHEET II OF 22



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

PROJECT NAME: BRAINTREE	
PROJECT NUMBER: BF 024(51)	
FILE NAME: s12c578bdr_util.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: R. PELLETT
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
UTILITY LAYOUT	SHEET 12 OF 22



PROJECT NAME: BRAINTREE	
PROJECT NUMBER: BF 024(51)	
FILE NAME: s12c578bdr_sign.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: R. PELLETT
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
SIGN LAYOUT	SHEET 13 OF 22

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
gr'y	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.

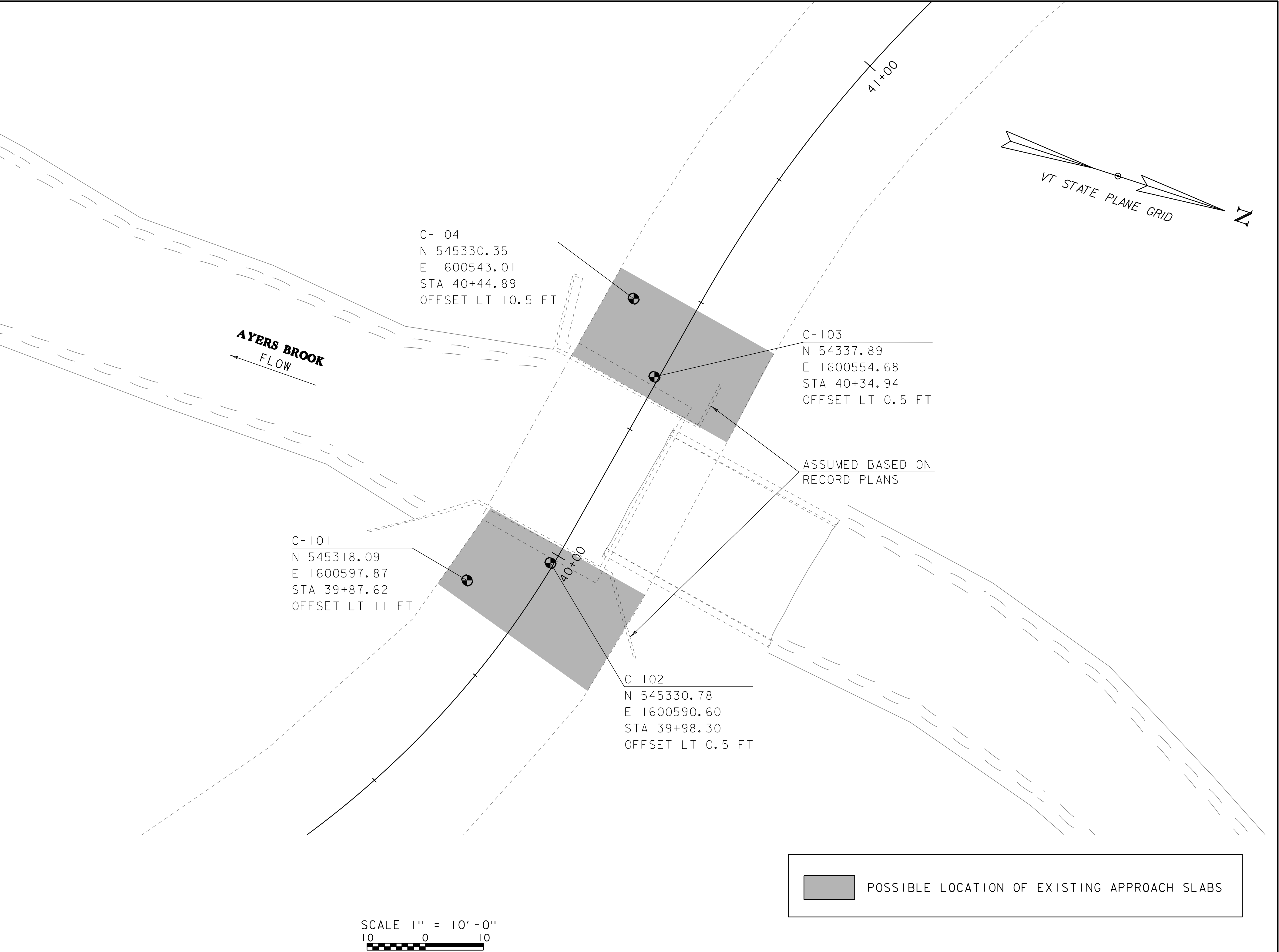
MUCK - Soft organic soil (containing > 10% organic material).

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.



- The subsurface explorations shown herein were made between ----- and ----- 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.

GENERAL NOTES

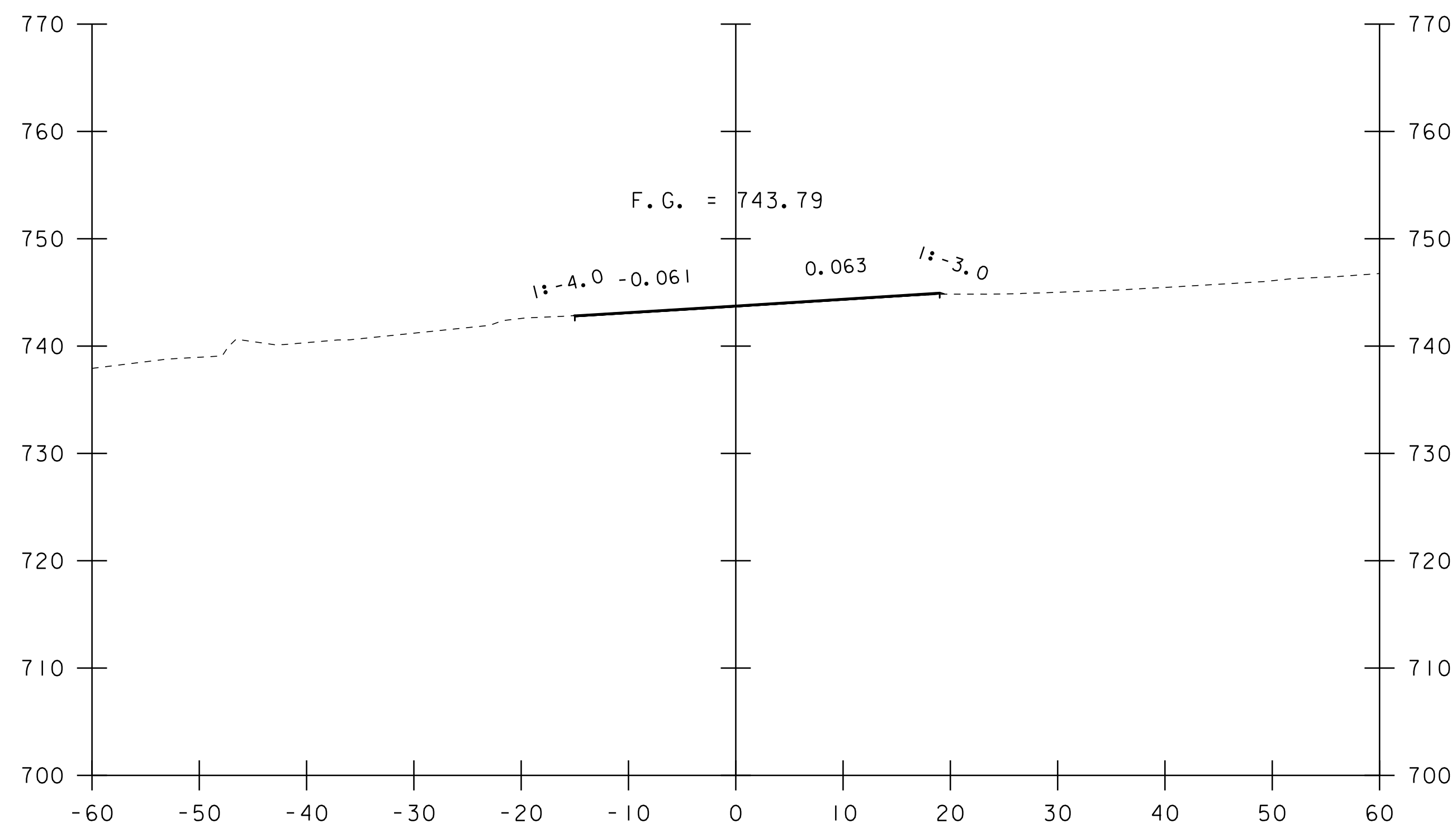
- Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.

- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.
- Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

PROJECT NAME: BRAINTREE  
PROJECT NUMBER: BF 0241(51)

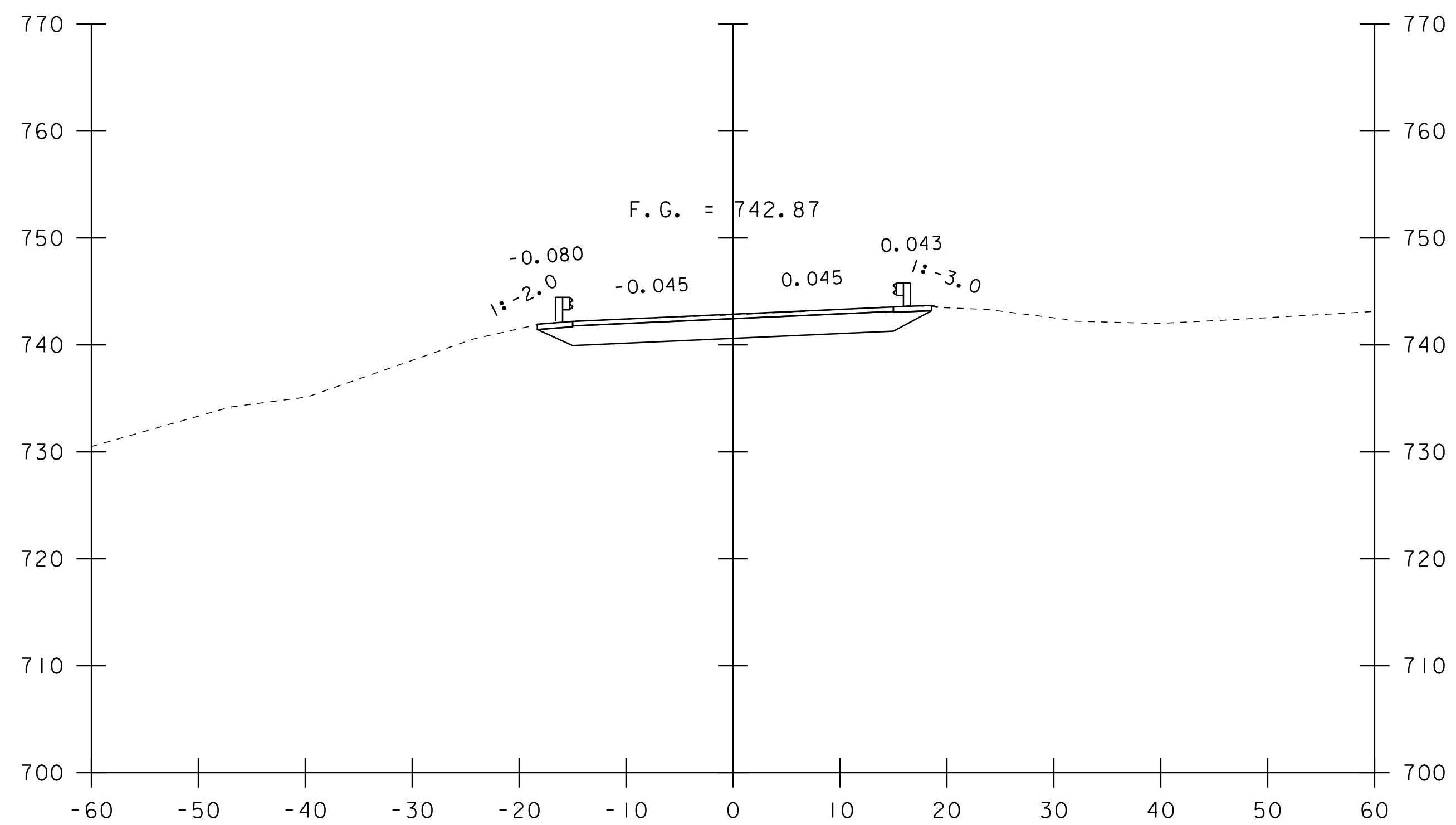
FILE NAME: sl2c578boring.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: F. BARROWS  
BORING INFORMATION SHEET

PLOT DATE: 09-JUN-2020  
DRAWN BY: R. PELLETT  
CHECKED BY: F. BARROWS  
SHEET 14 OF 22



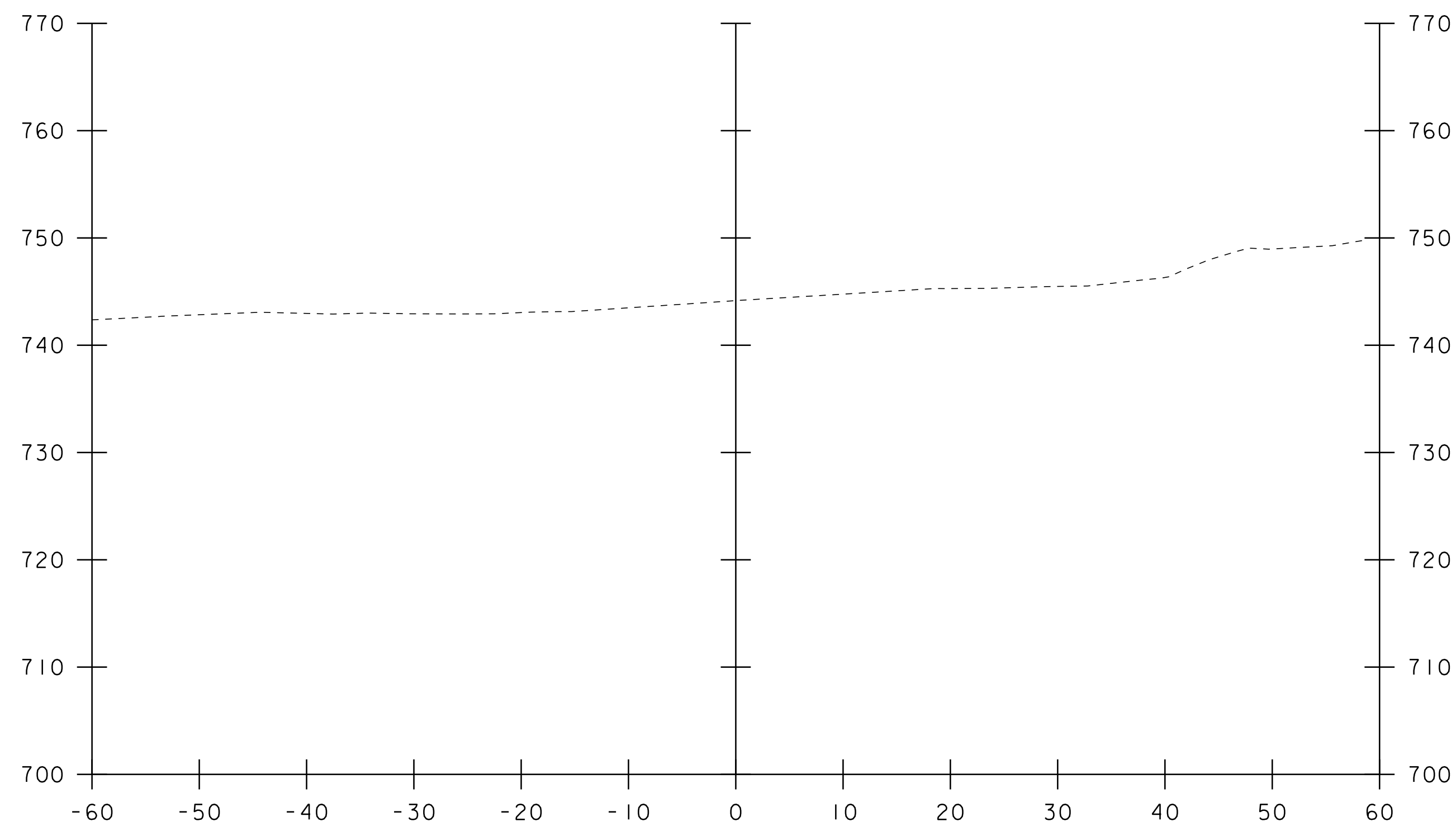
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39+25

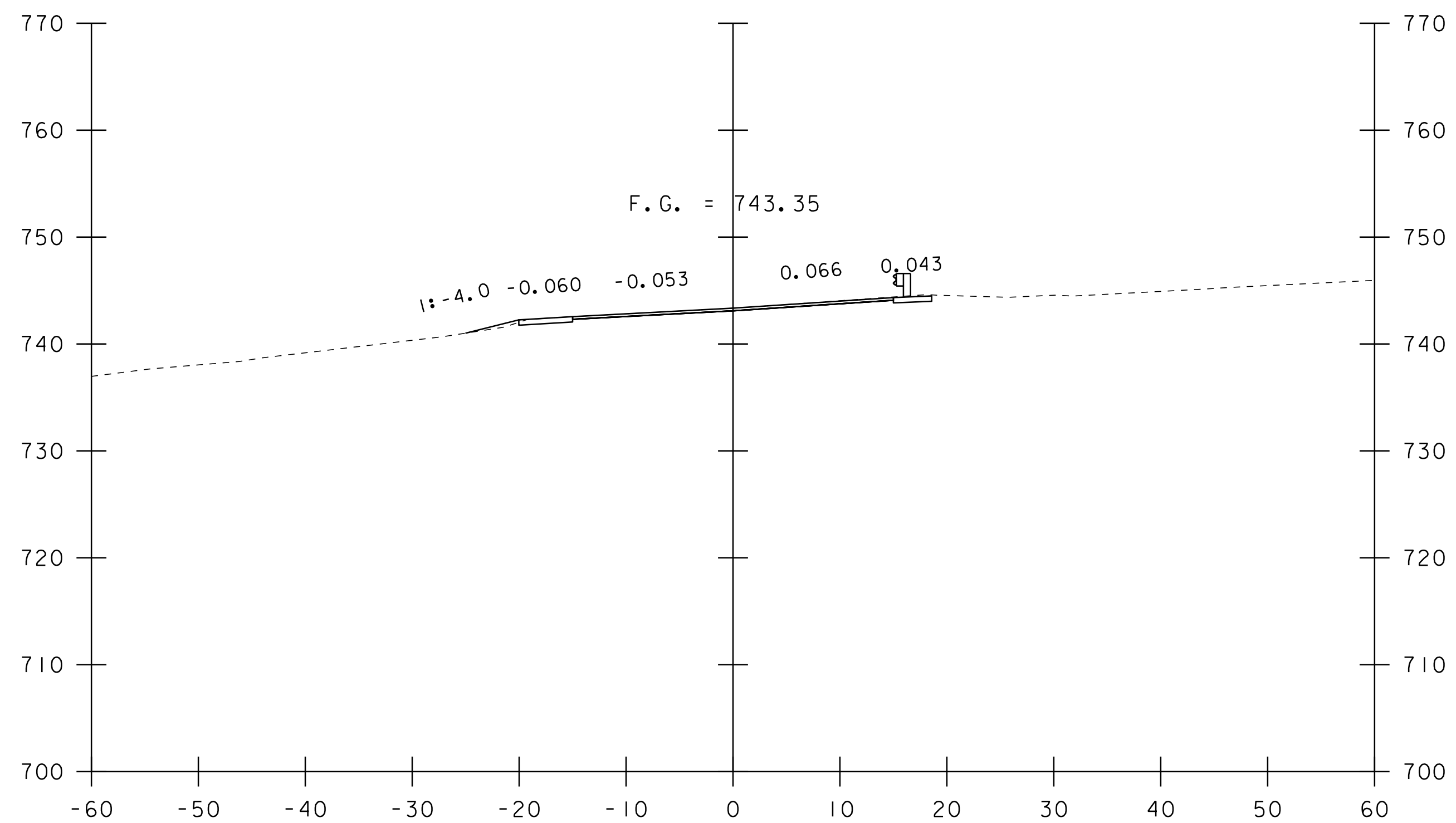


BEGIN PROJECT STA 39+55.00

39+75



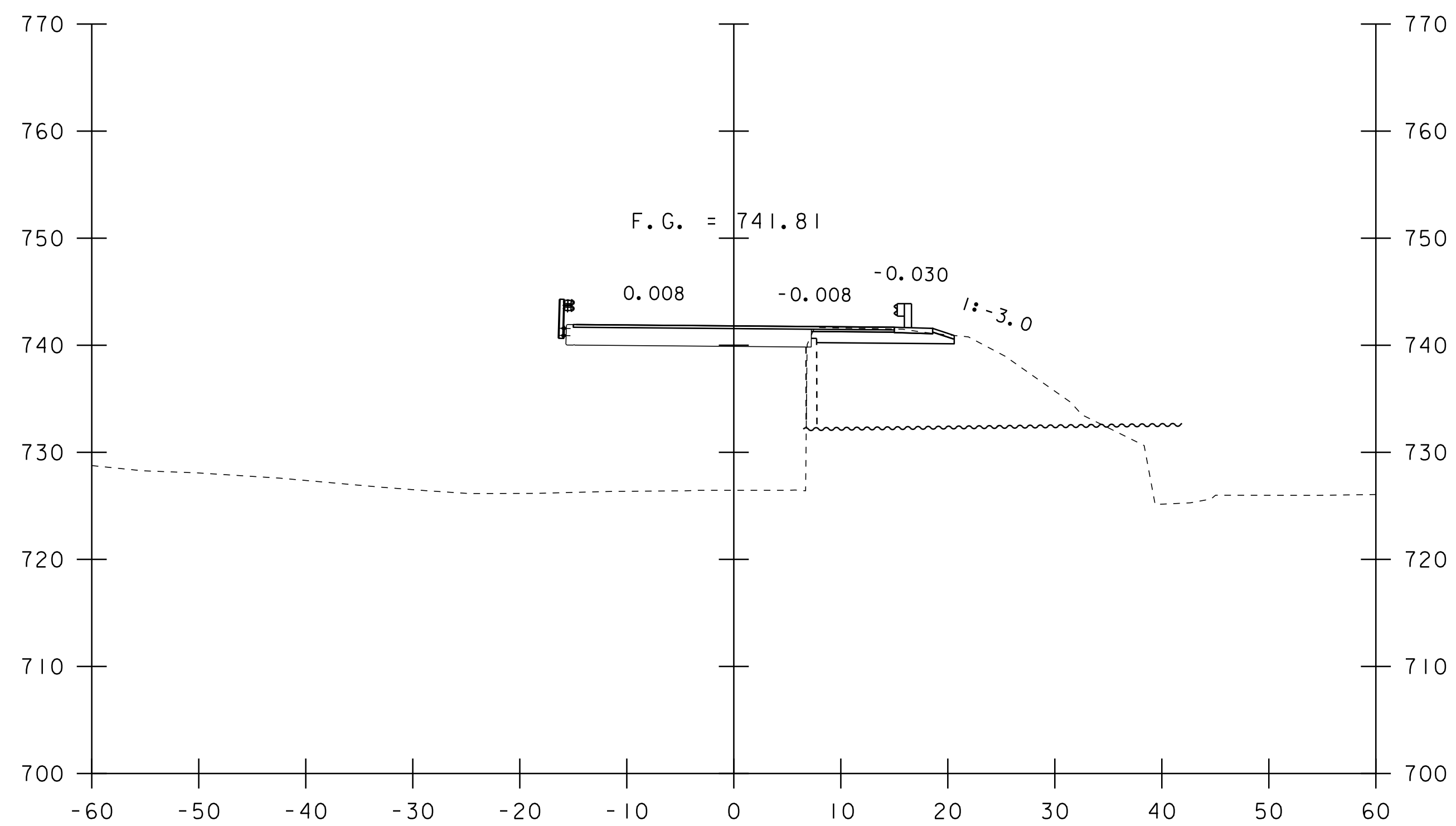
39+00



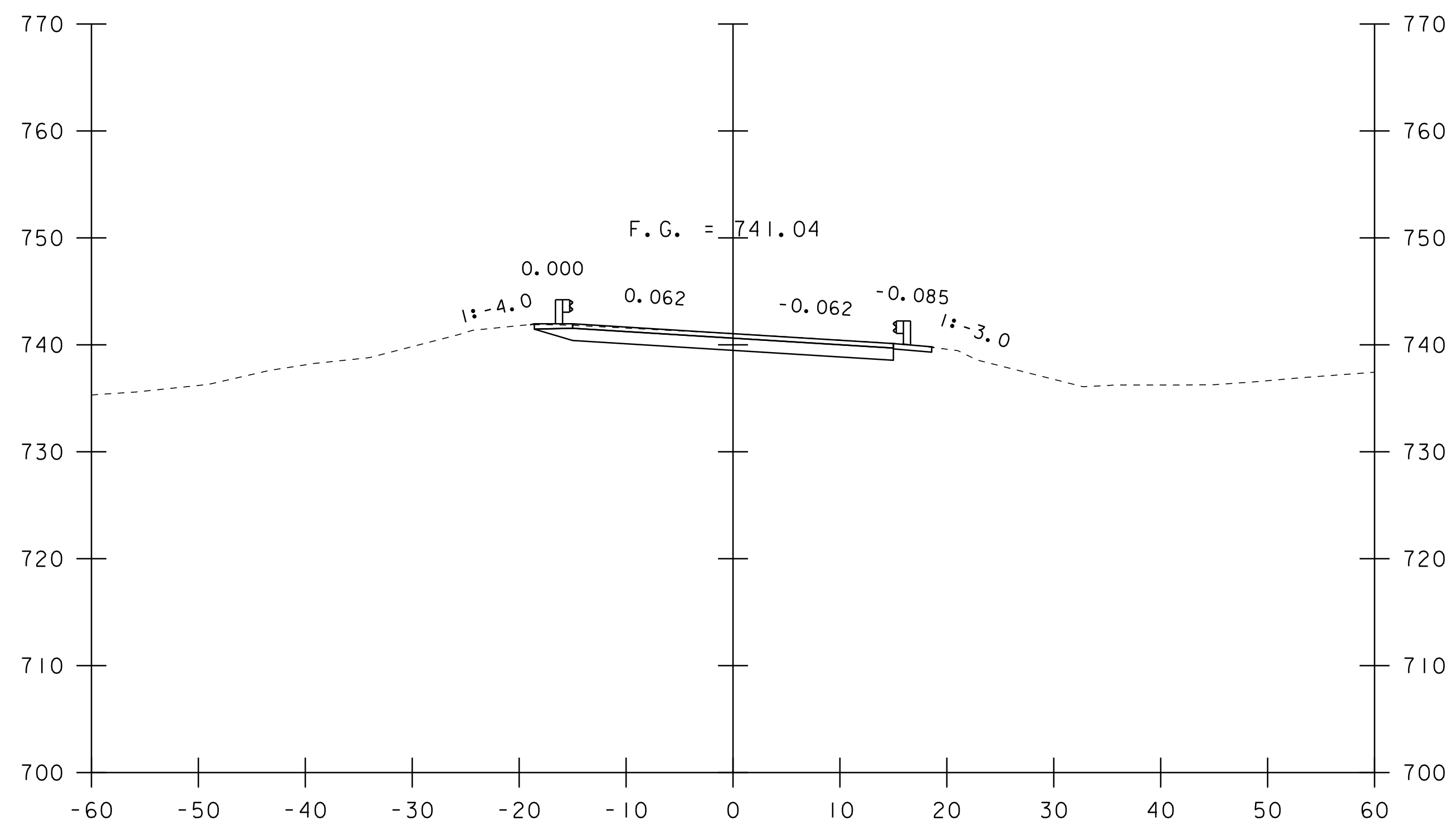
39+50

STA. 39+00 TO STA. 39+75

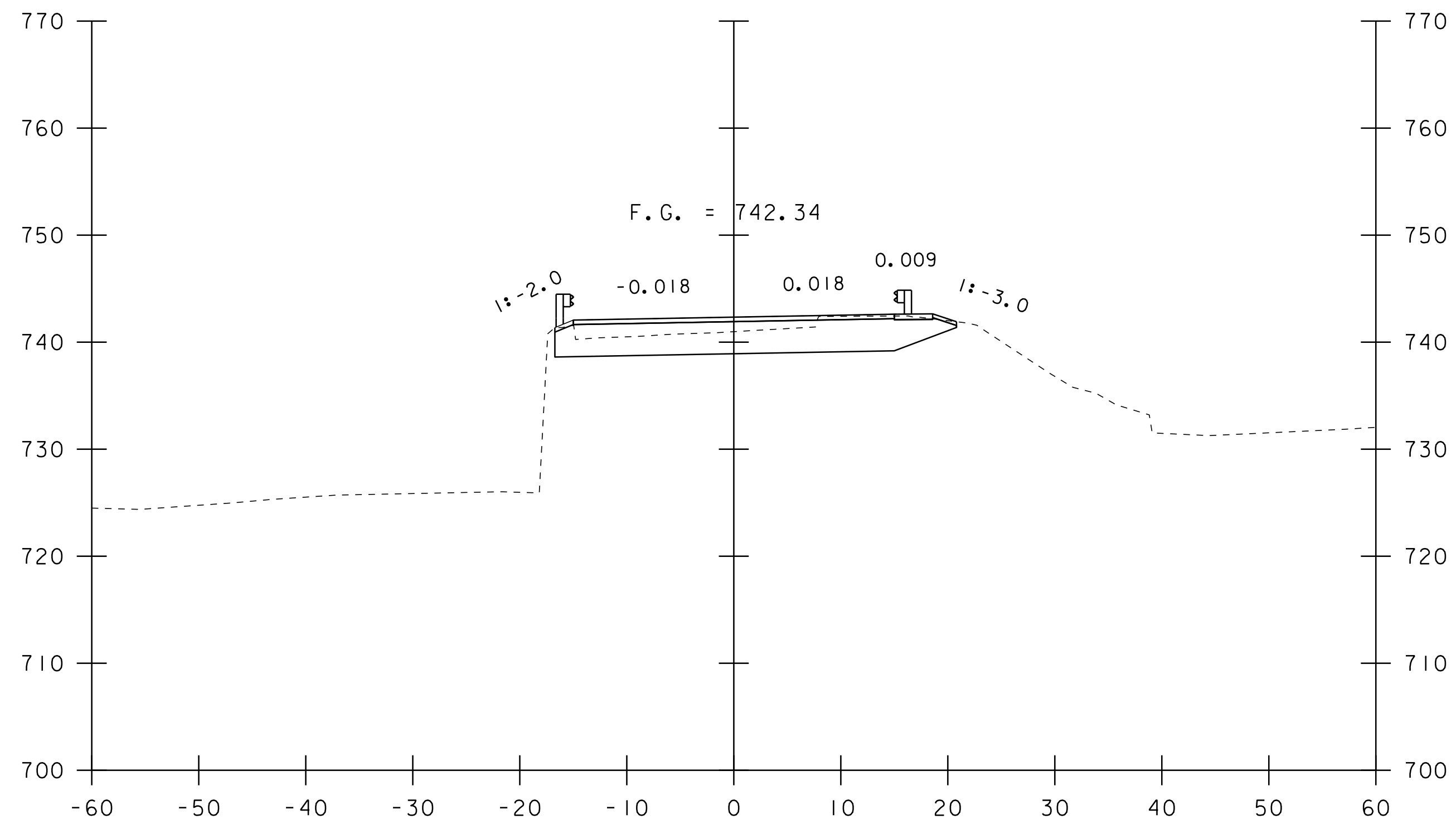
PROJECT NAME: BRAINTREE	
PROJECT NUMBER: BF 024(51)	
FILE NAME: sl2c578xs.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: R. PELLETT
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
VT RT 12 CROSS SECTIONS 1	SHEET 15 OF 22



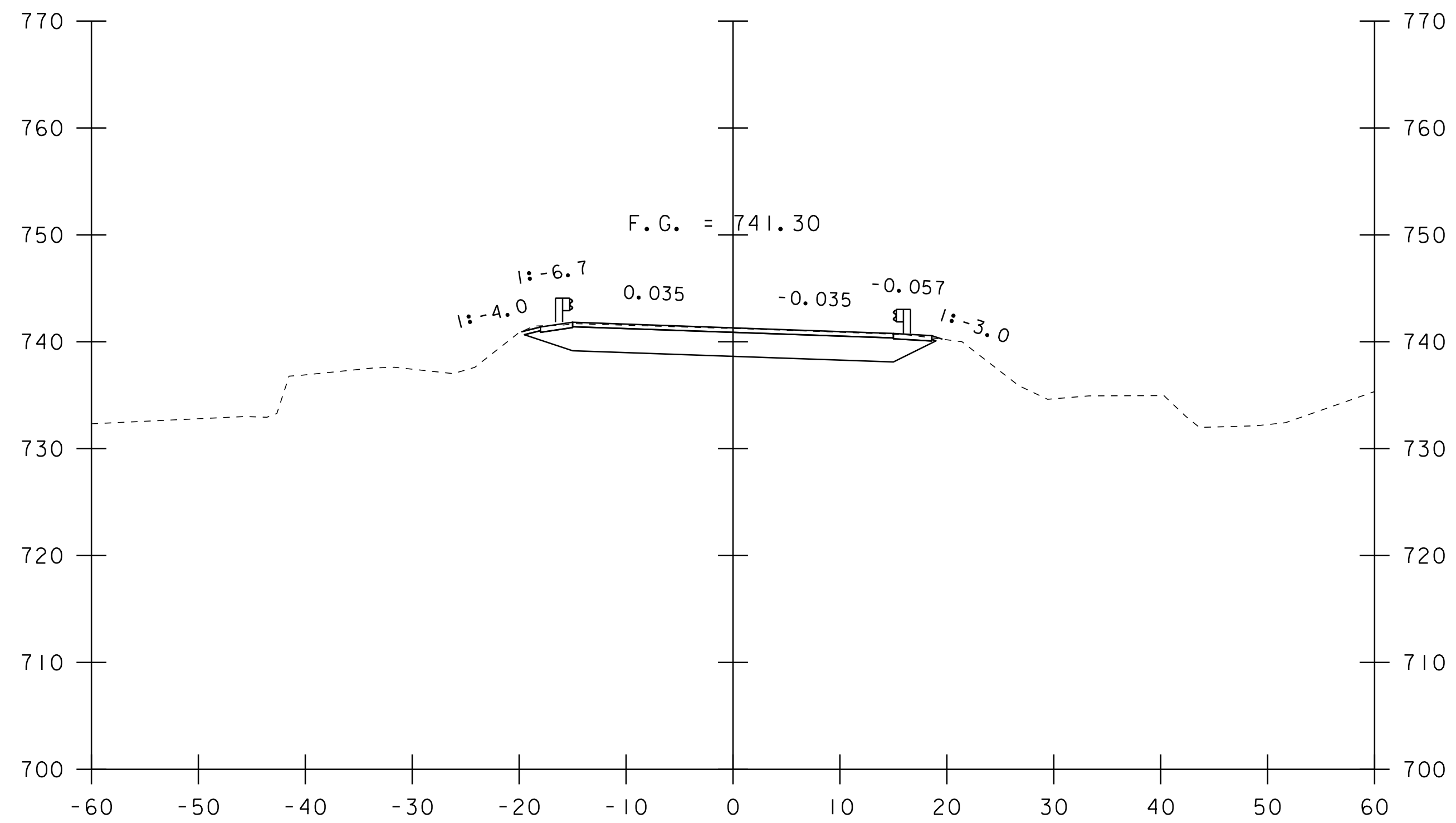
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40+25



END PROJECT STA 40+80.00  
40+75



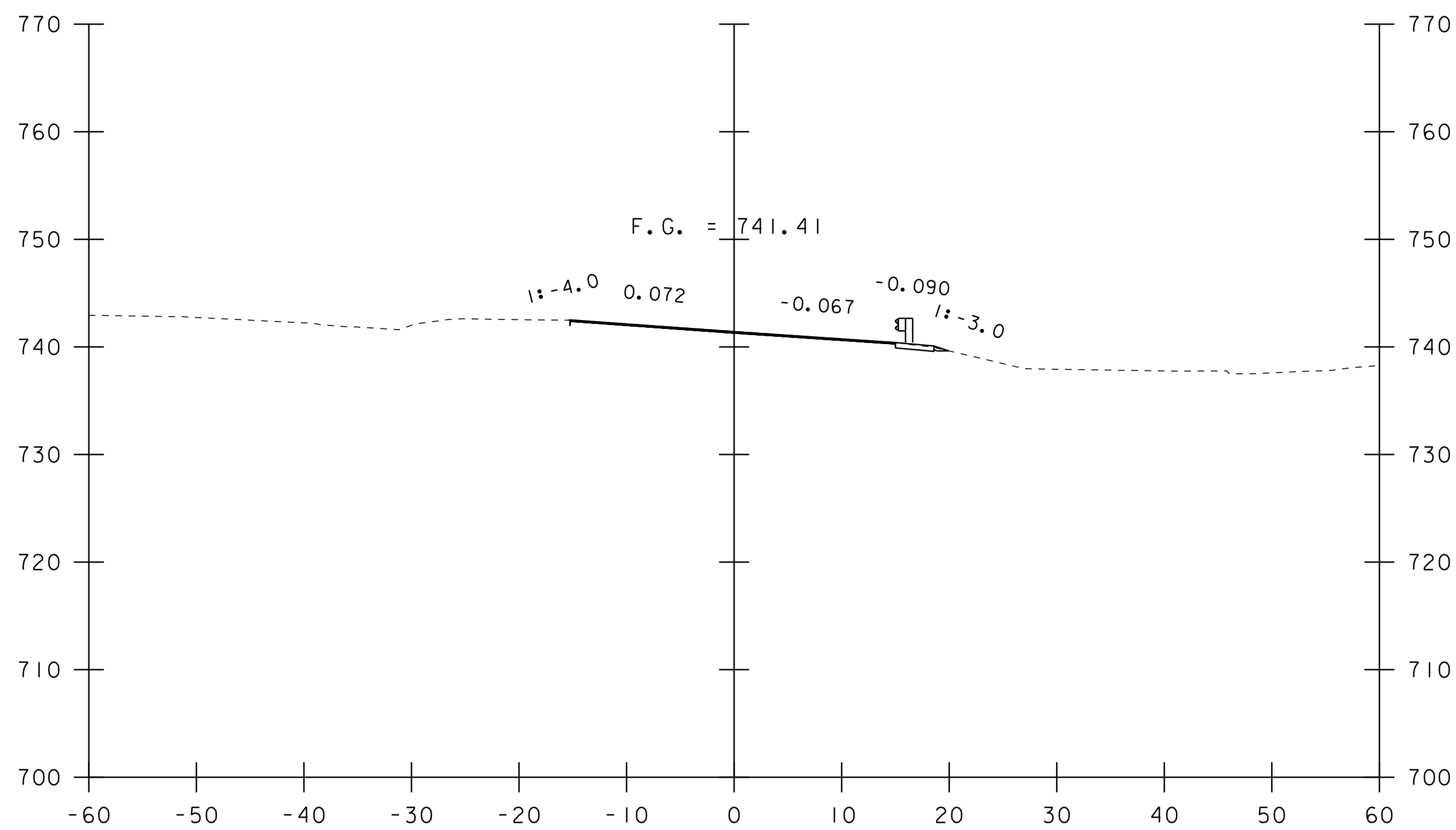
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40+00



40+50

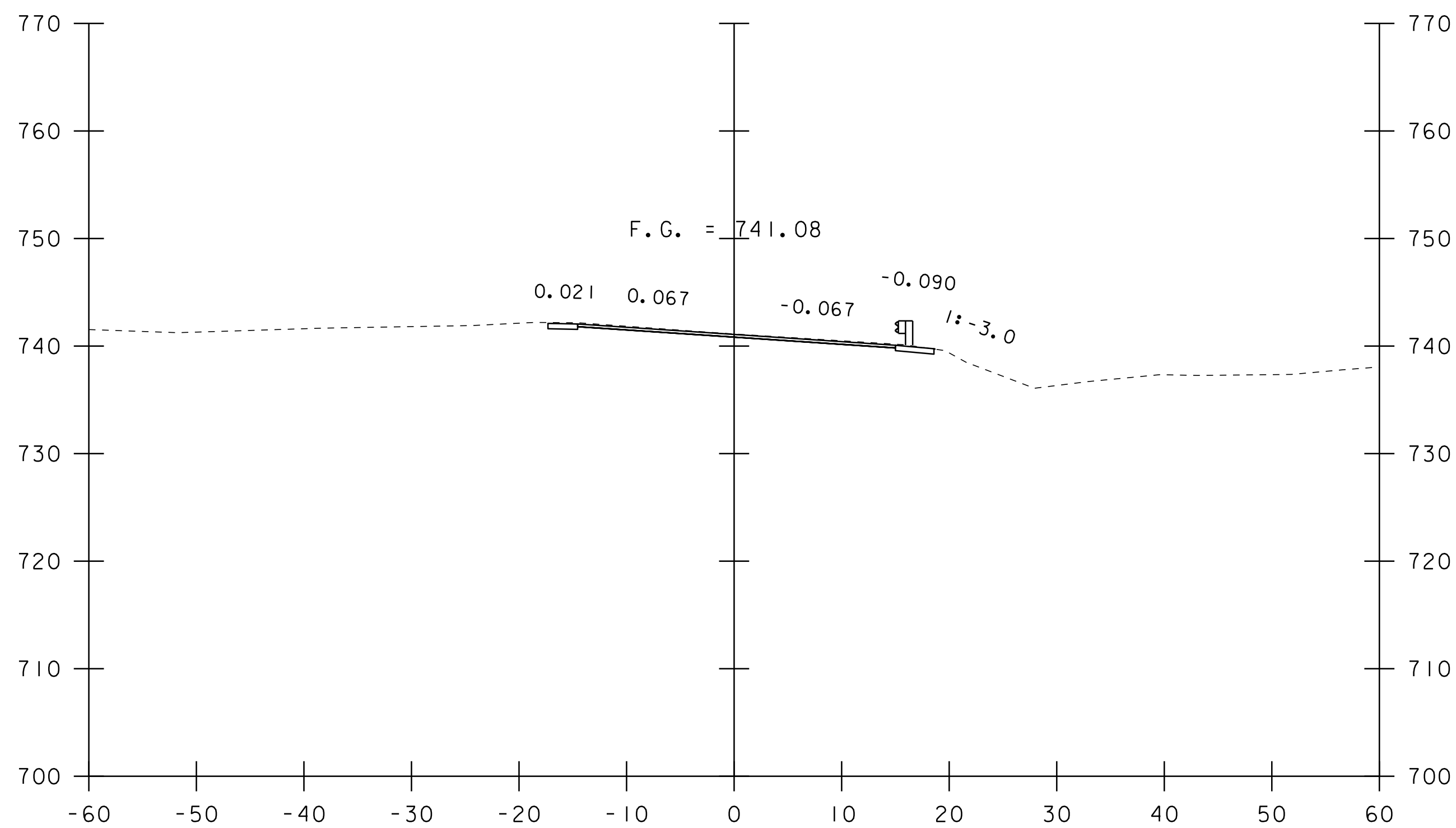
STA. 40+00 TO STA. 40+75

PROJECT NAME: BRAINTREE	
PROJECT NUMBER: BF 024(51)	
FILE NAME: sl2c578xs.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: R. PELLETT
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
VT RT 12 CROSS SECTIONS 2	SHEET 16 OF 22

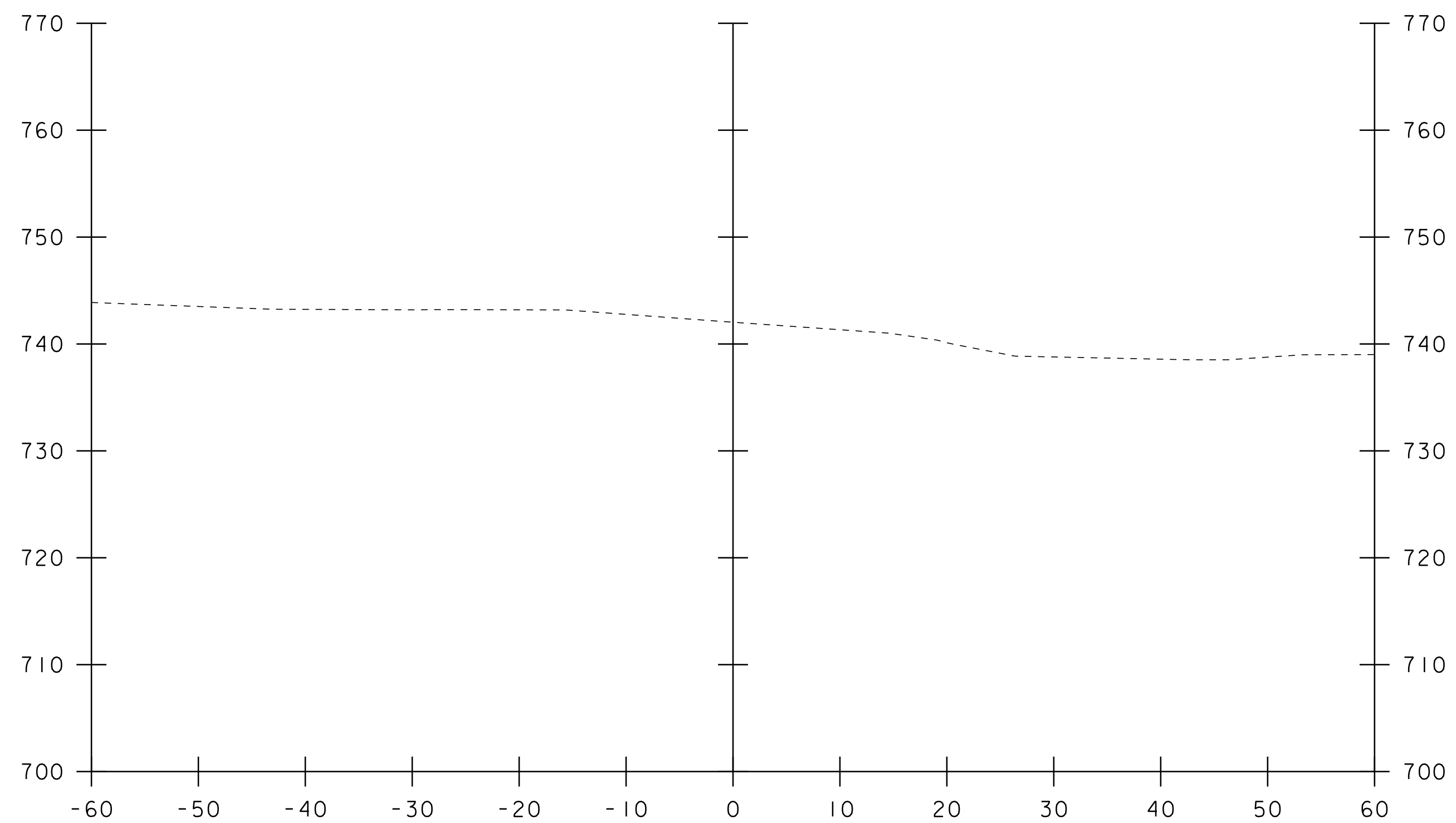


END APPROACH STA 41+30.00

41+25



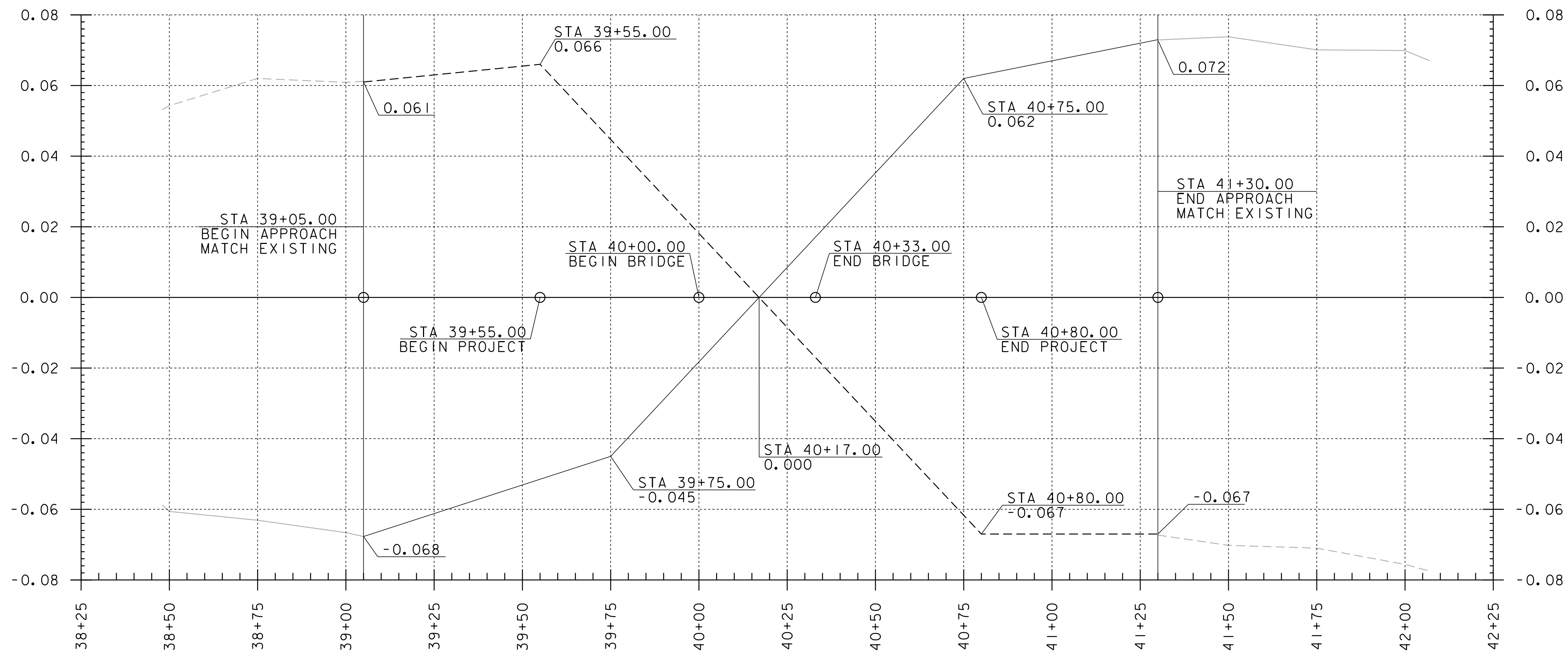
41+00



41+50

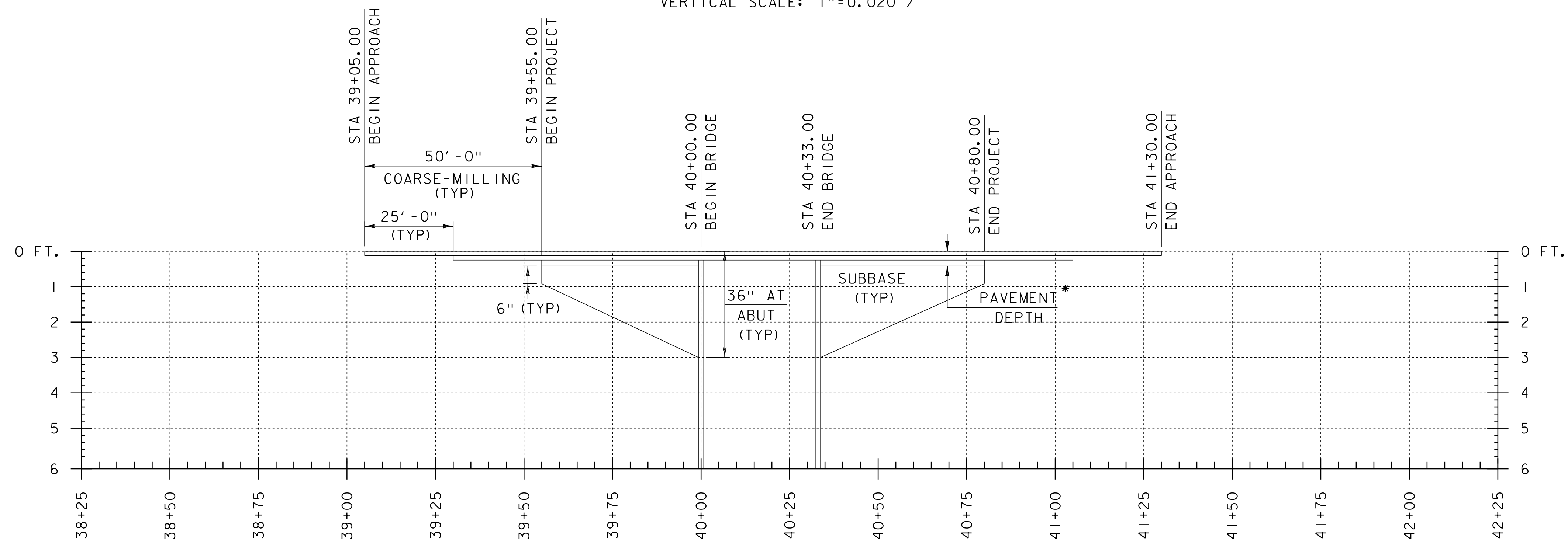
STA. 41+00 TO STA. 41+50

PROJECT NAME: BRAINTREE	
PROJECT NUMBER: BF 0241(51)	
FILE NAME: sl2c578xs.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: R. PELLETT
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
VT RT 12 CROSS SECTIONS 3	SHEET 17 OF 22



### VT 12 BANKING DIAGRAM

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

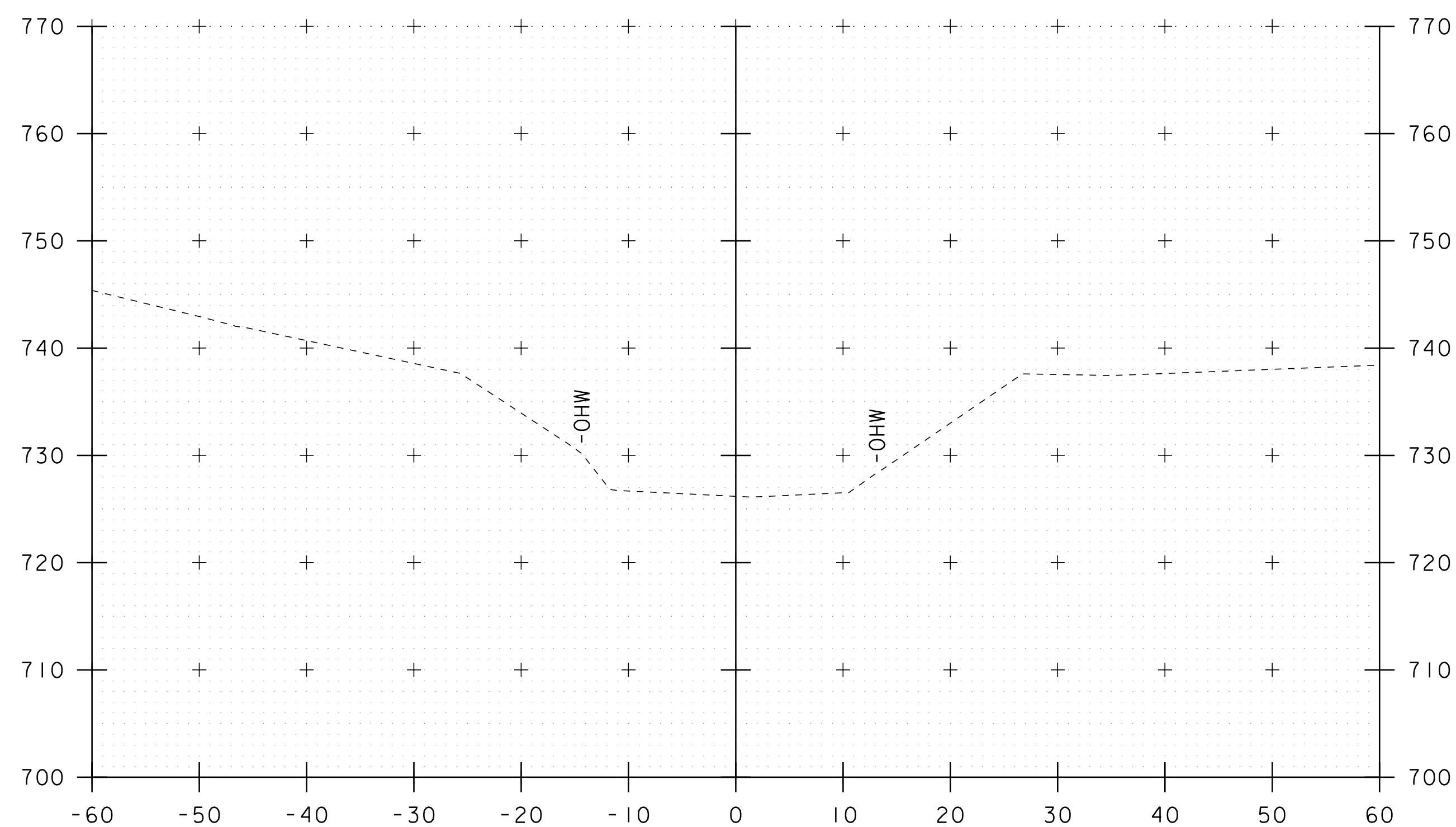


### MATERIAL TRANSITION DIAGRAM

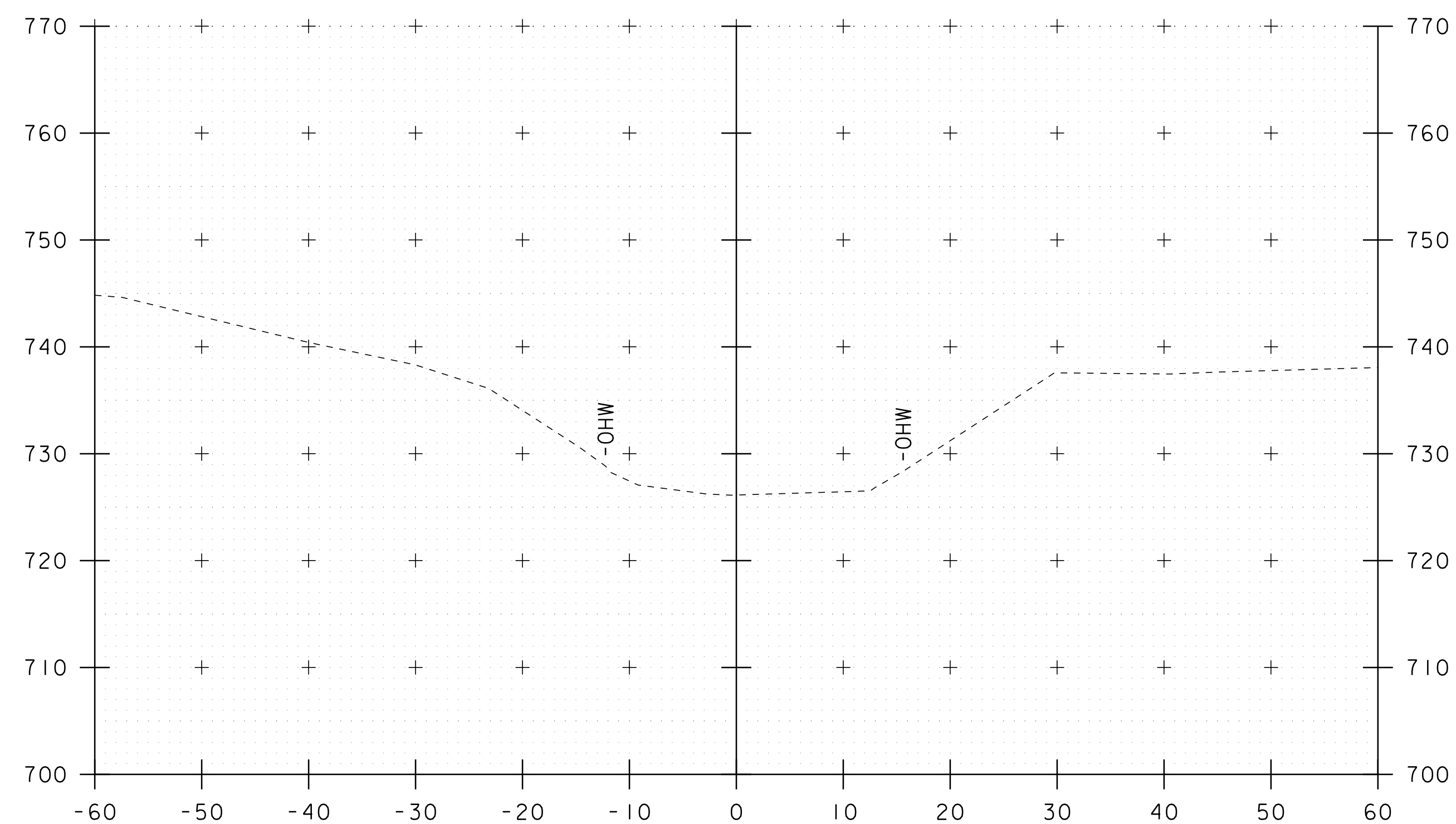
SCALE: HORIZONTAL 1"=20' -0"  
VERTICAL 1"=2' -0"

* PAVEMENT:  
SEE TYPICAL DETAILS

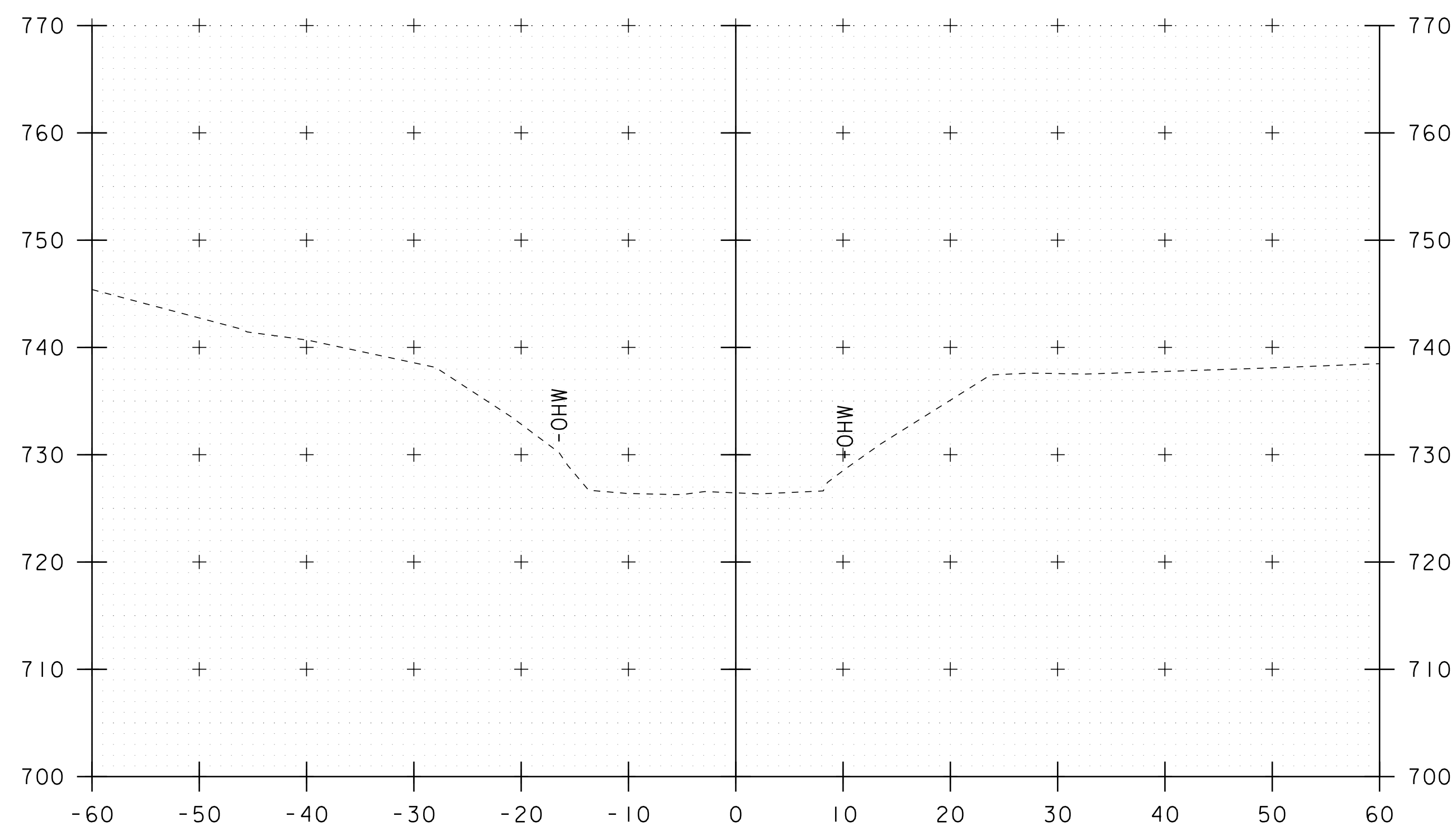
PROJECT NAME:	BRAINTREE	PLOT DATE:	09-JUN-2020
PROJECT NUMBER:	BF 024(51)	DRAWN BY:	R. PELLETT
FILE NAME:	sl2c578mat_bank.dgn	CHECKED BY:	F. BARROWS
PROJECT LEADER:	R. YOUNG	SHEET	18 OF 22
DESIGNED BY:	F. BARROWS		
MATERIAL TRANSITION & BANKING DIAGRAM			



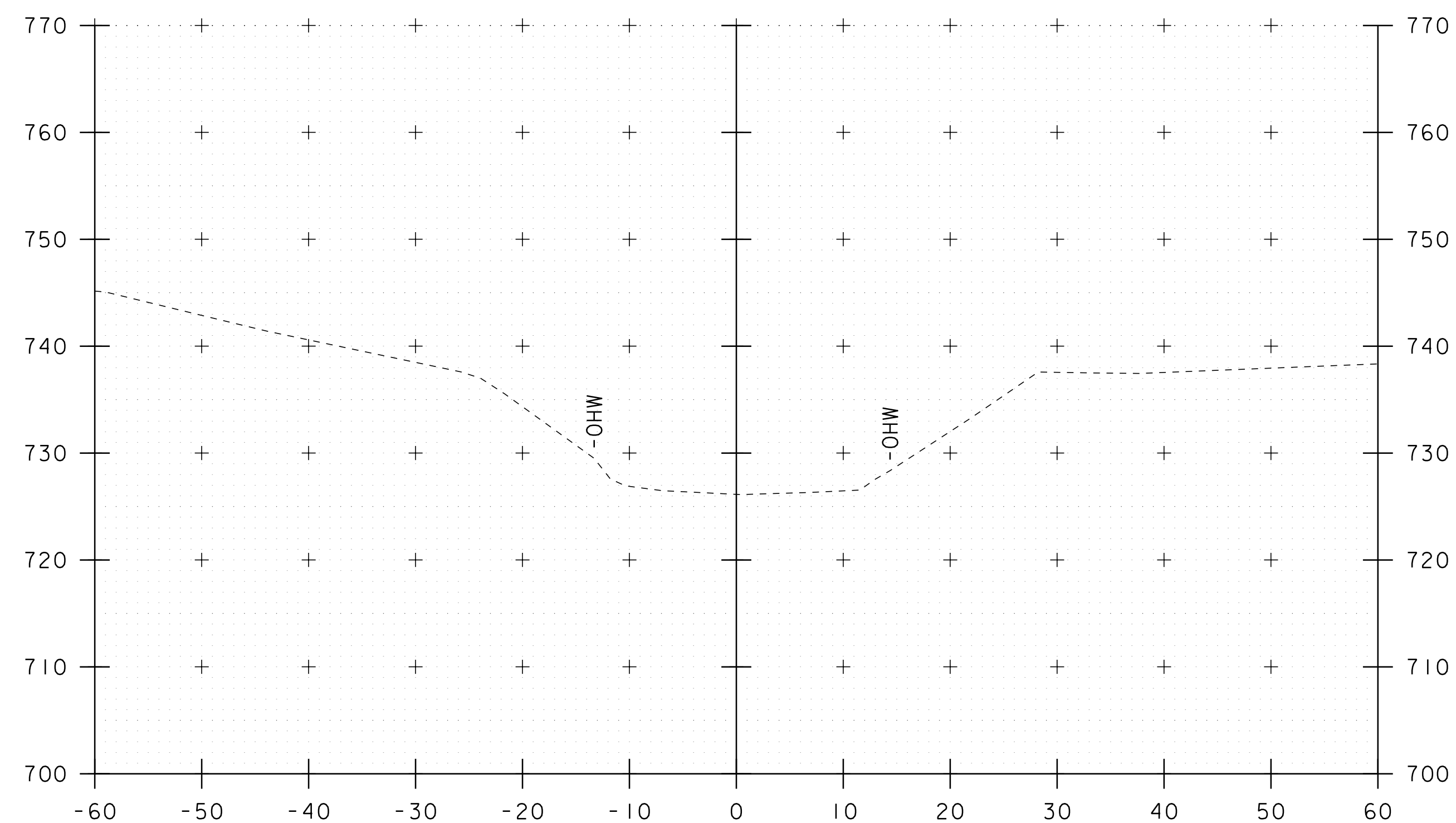
50+10



50+30



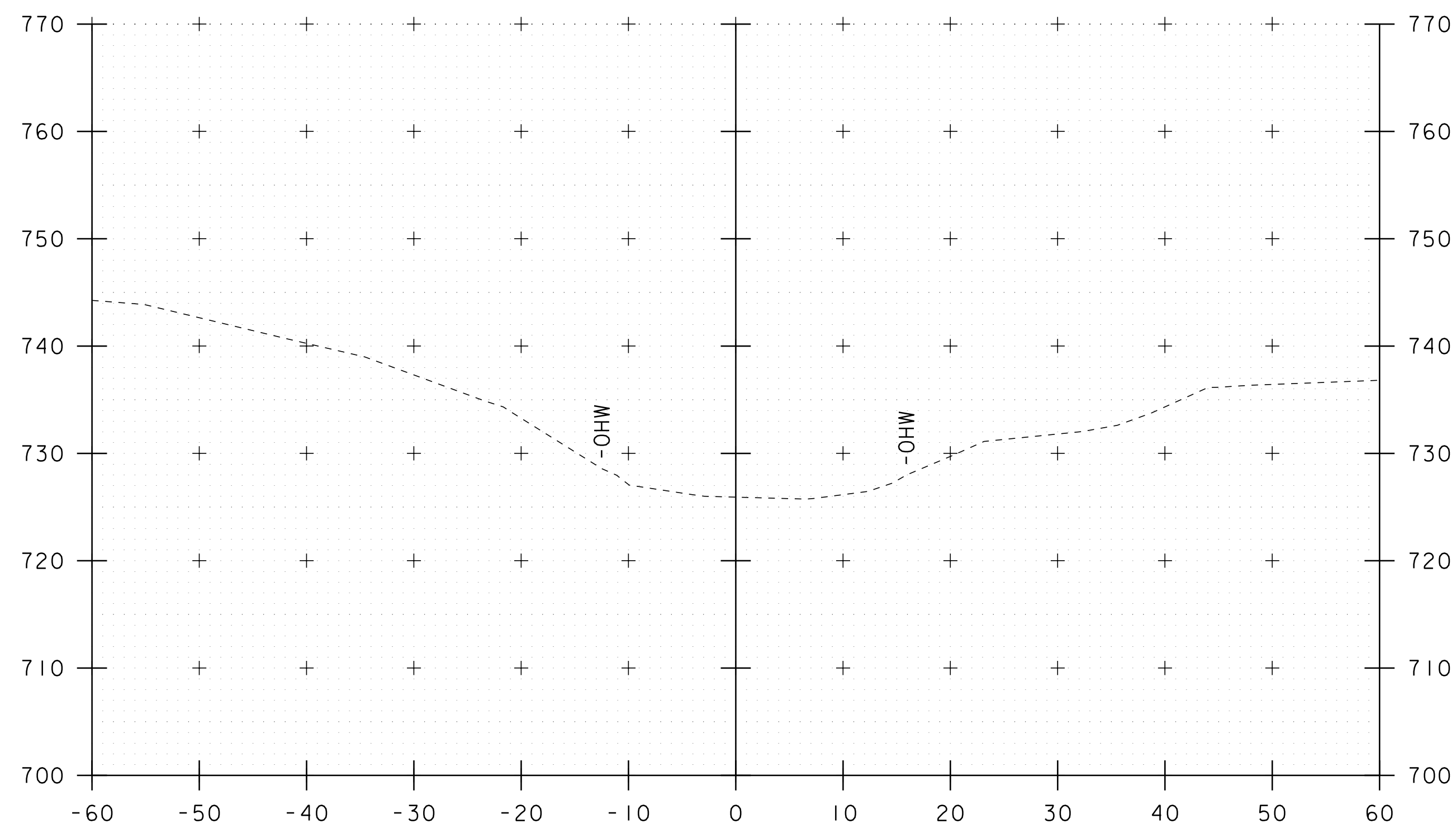
50+00



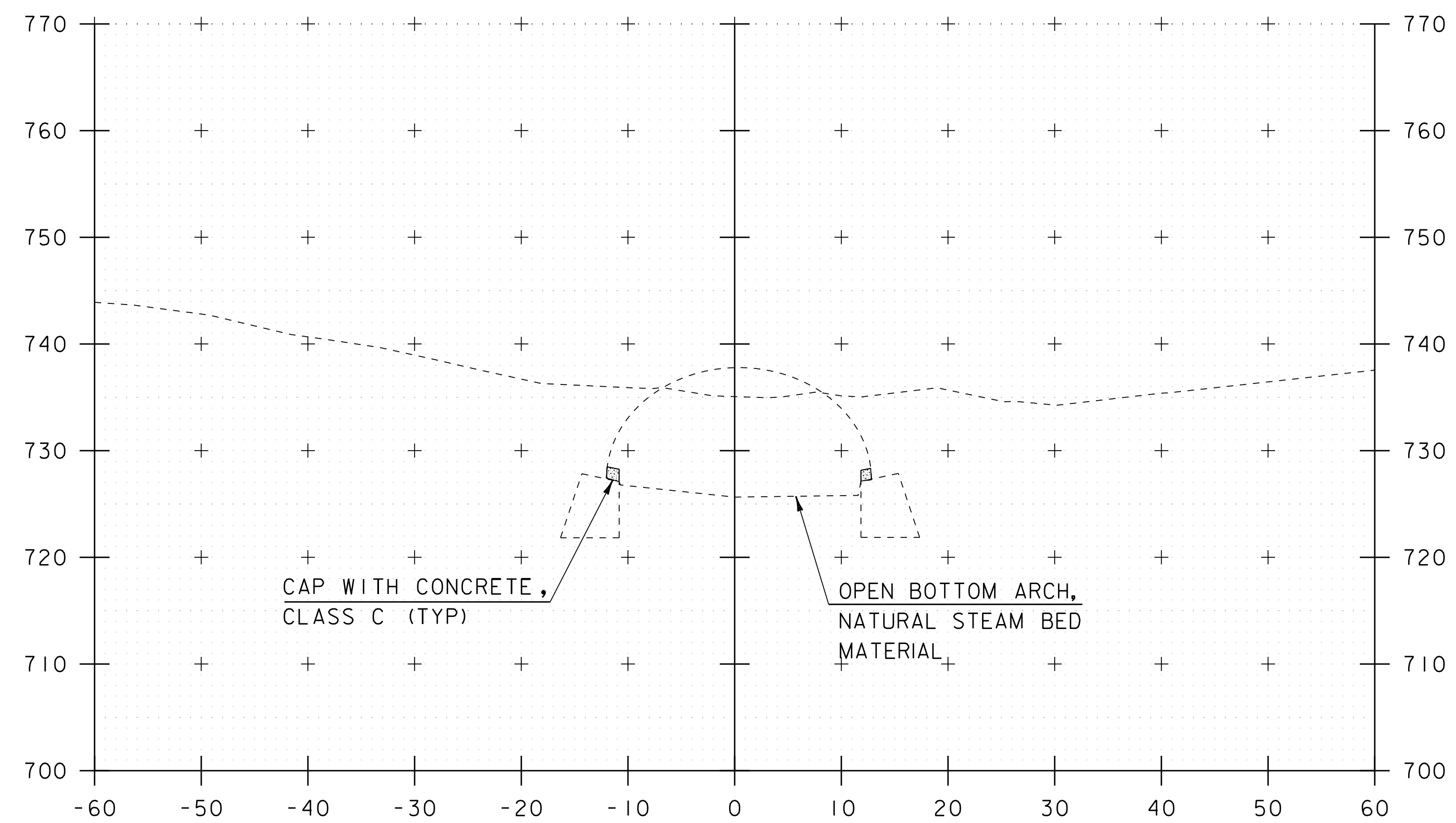
50+20

STA. 50+00 TO STA. 50+30

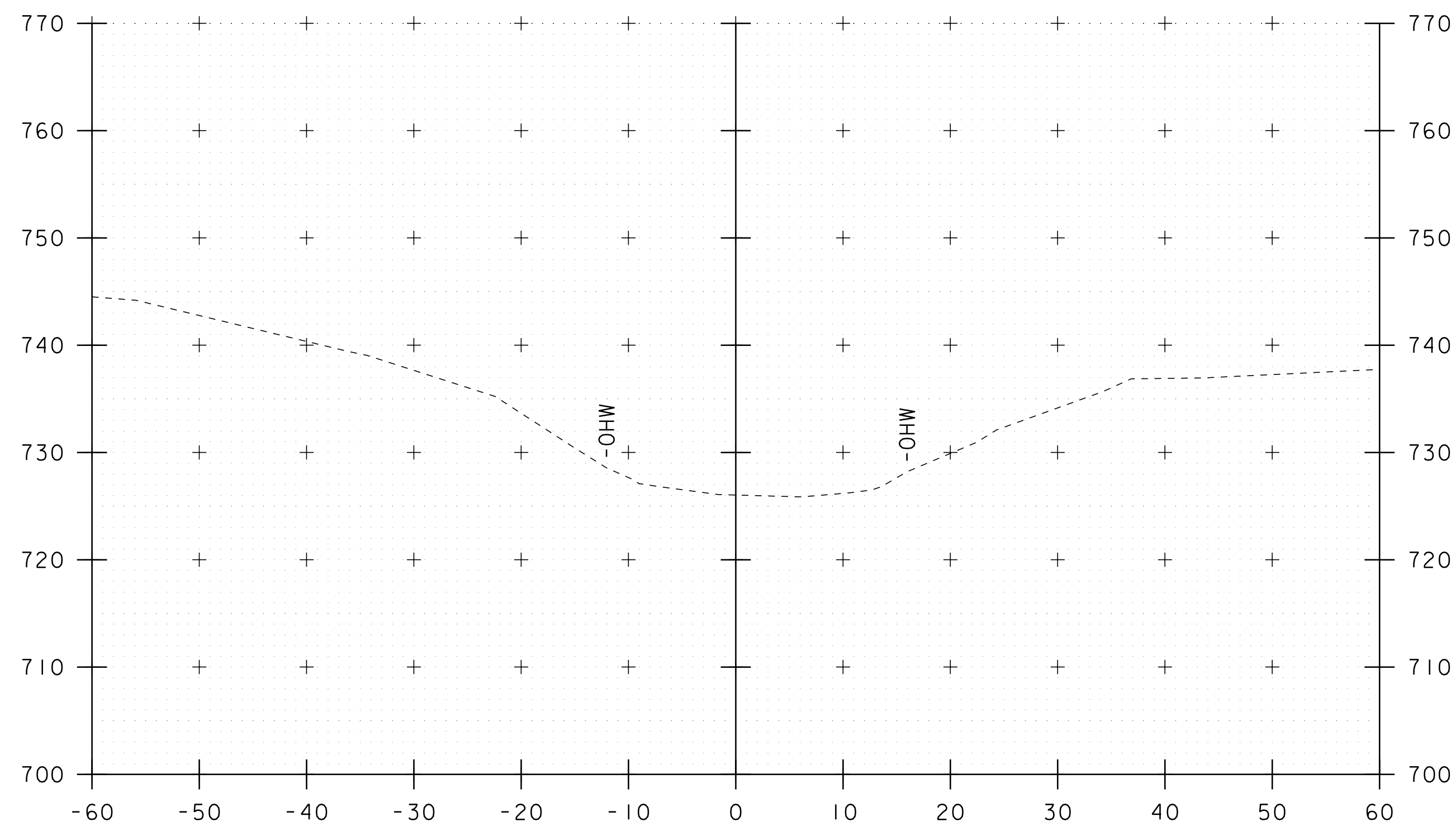
PROJECT NAME: BRAINTREE	
PROJECT NUMBER: BF 024(51)	
FILE NAME: sl2c578xs.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: R. PELLETT
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
CHANNEL CROSS SECTIONS I	SHEET 19 OF 22



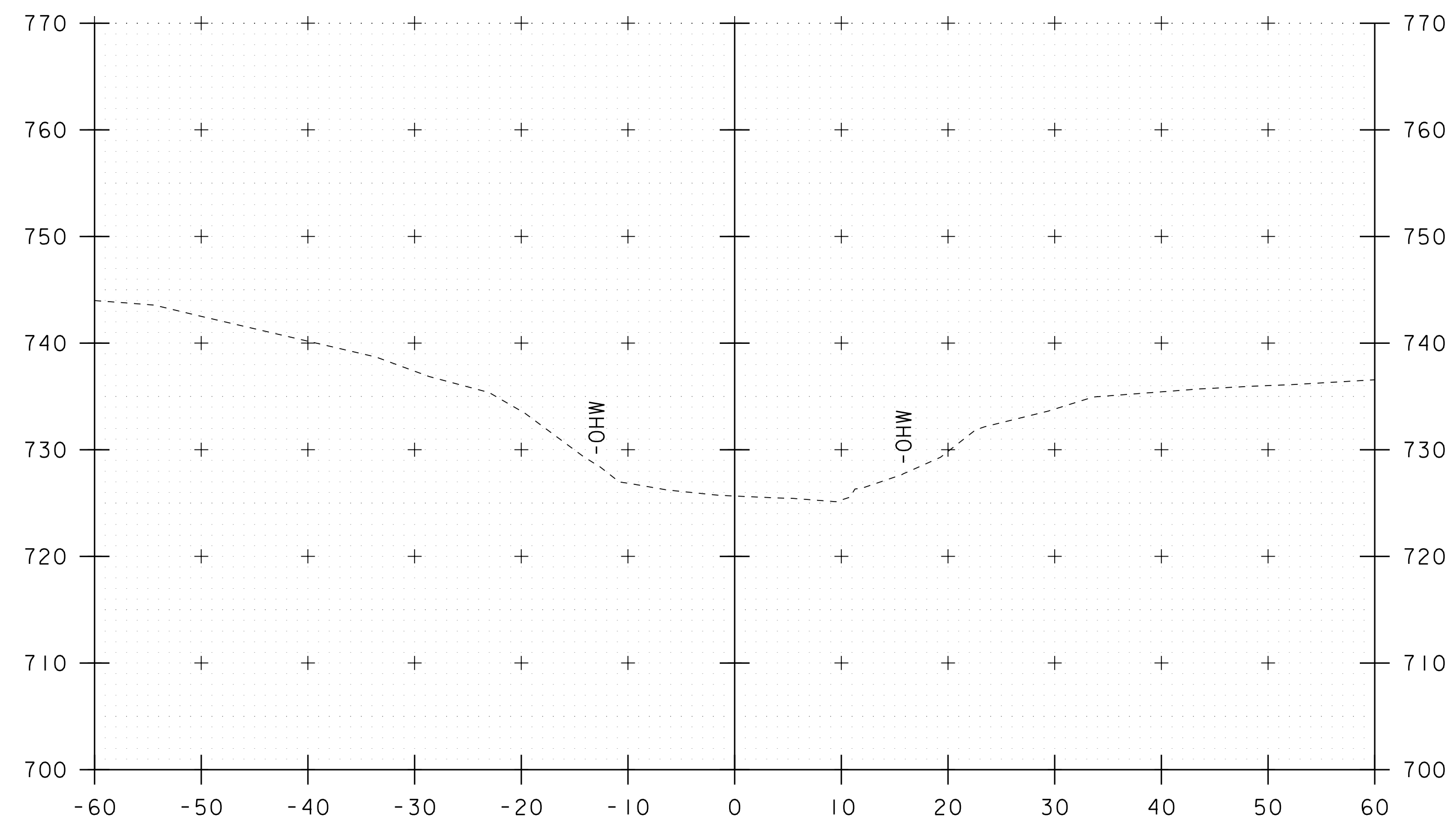
50+50



50+70



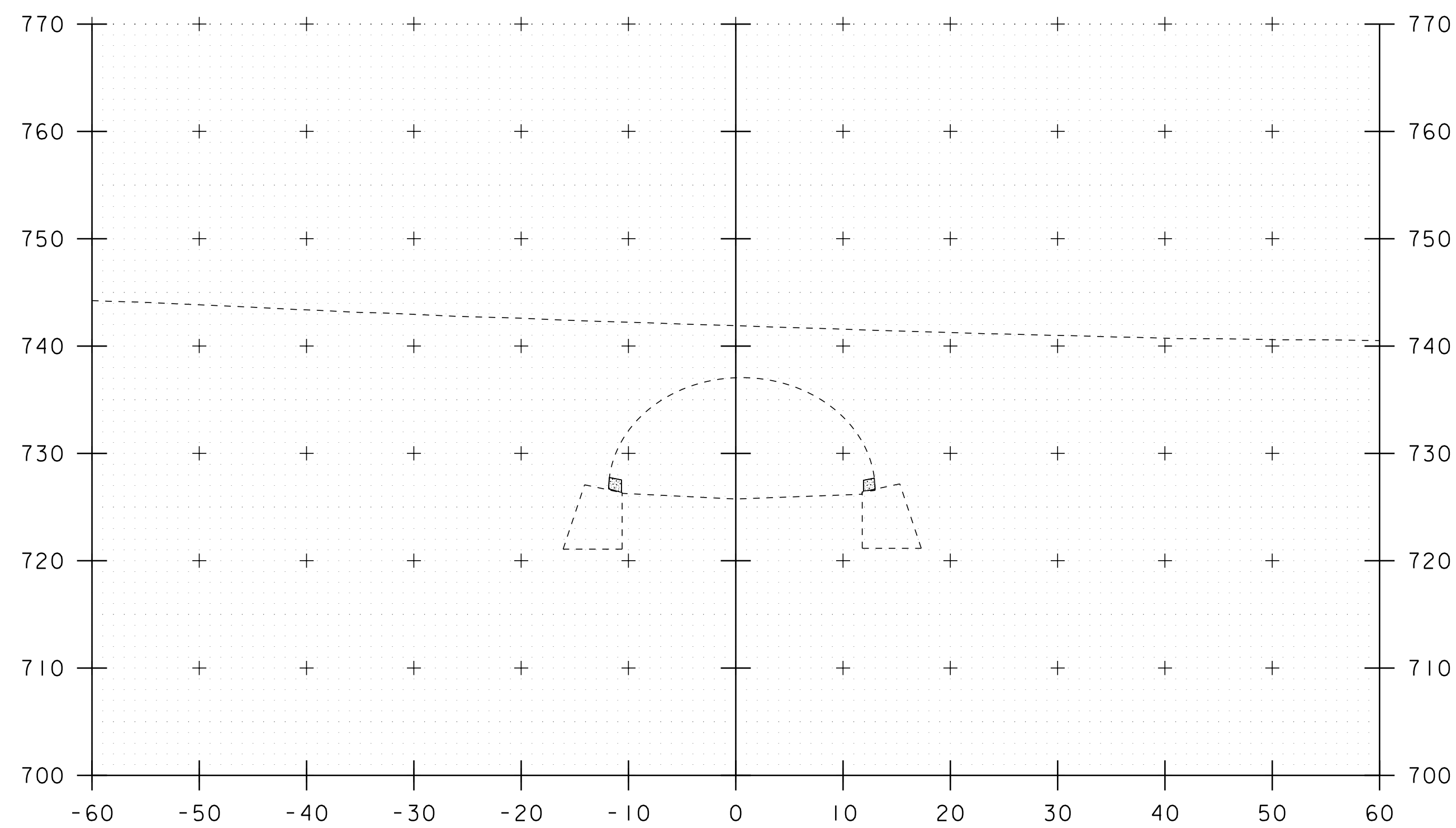
50+40



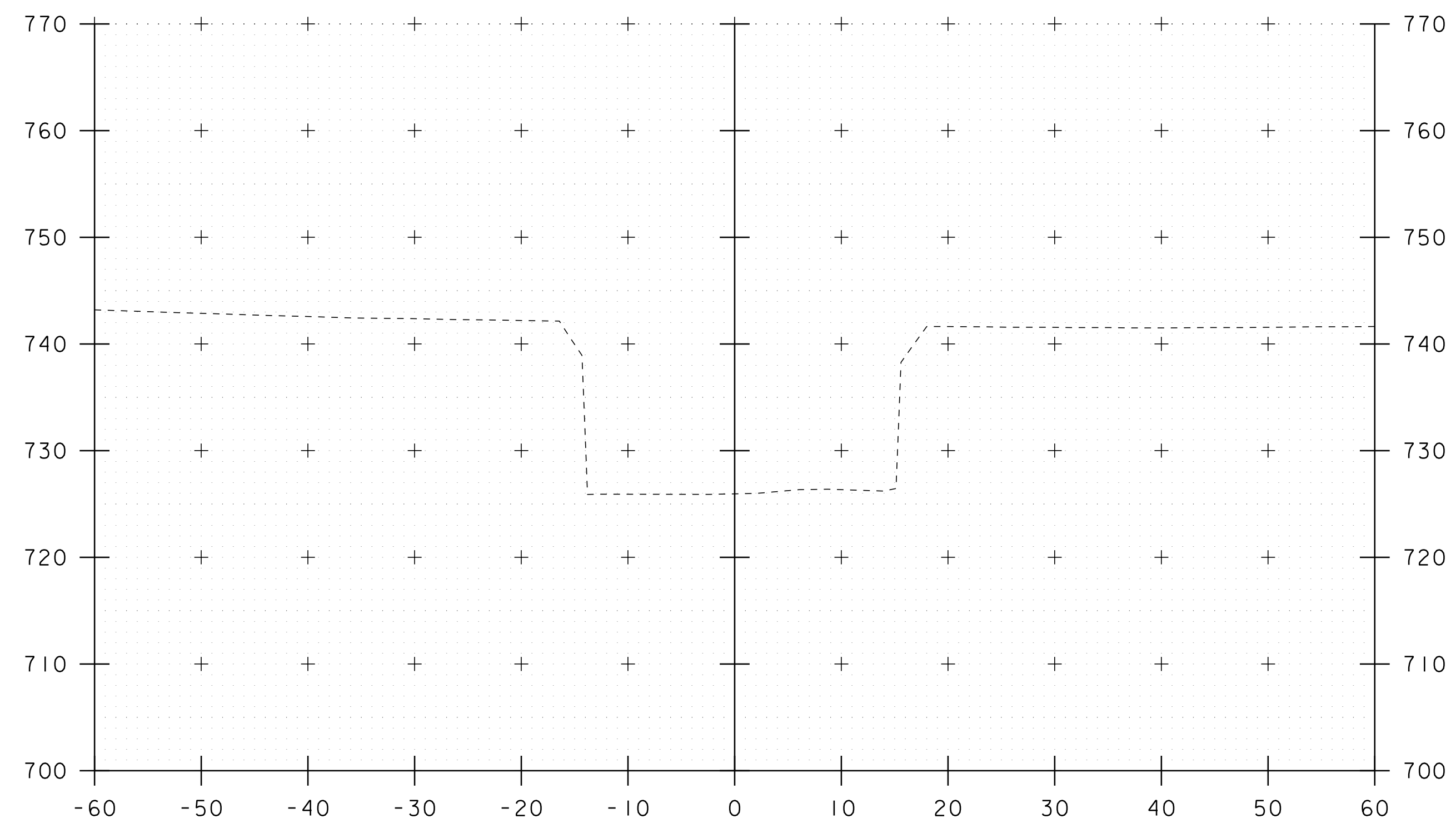
50+60

STA. 50+40 TO STA. 50+70

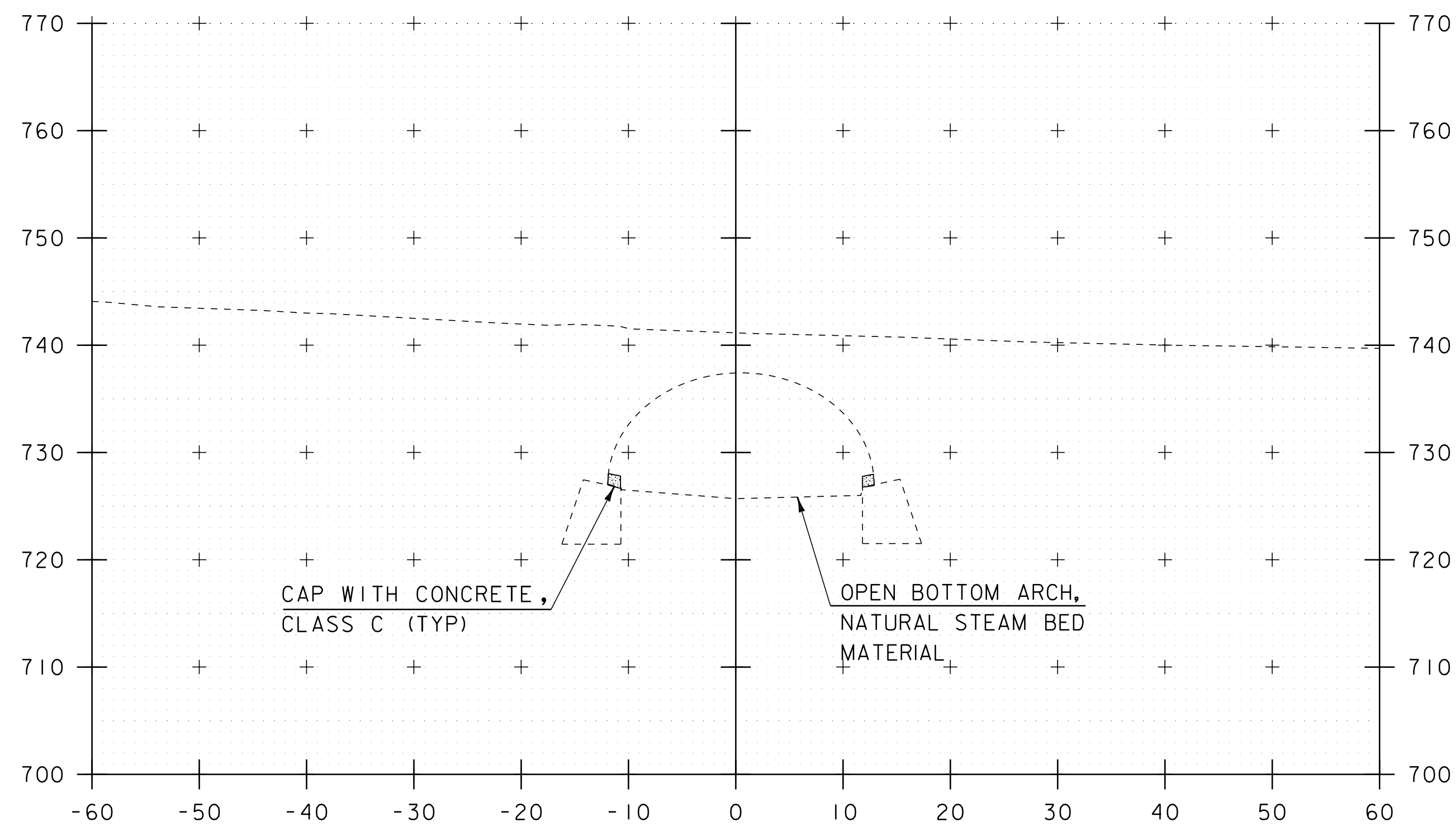
PROJECT NAME: BRAINTREE	
PROJECT NUMBER: BF 024(51)	
FILE NAME: sl2c578xs.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: R. PELLETT
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
CHANNEL CROSS SECTIONS 2	SHEET 20 OF 22



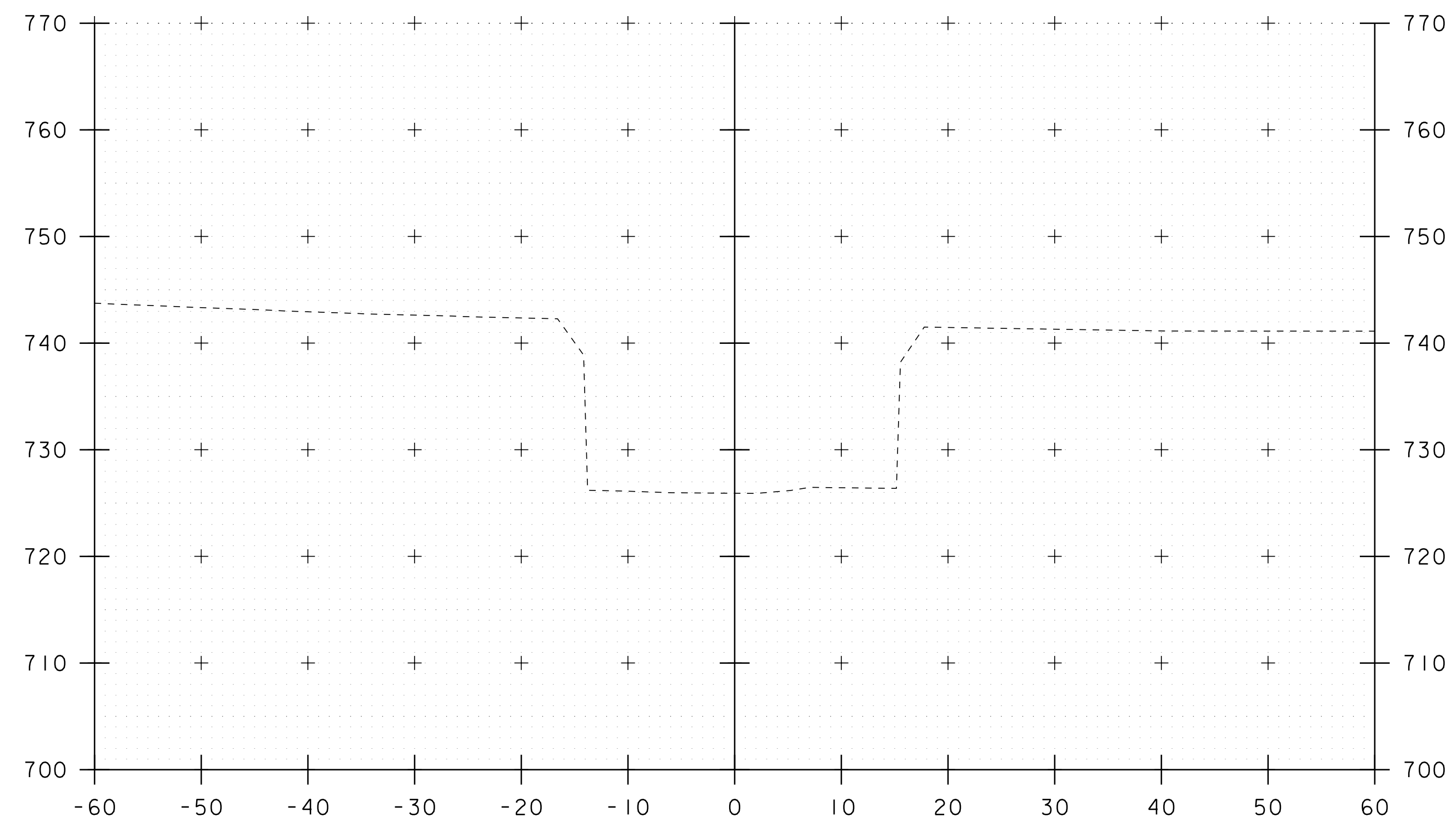
50+90



51+10



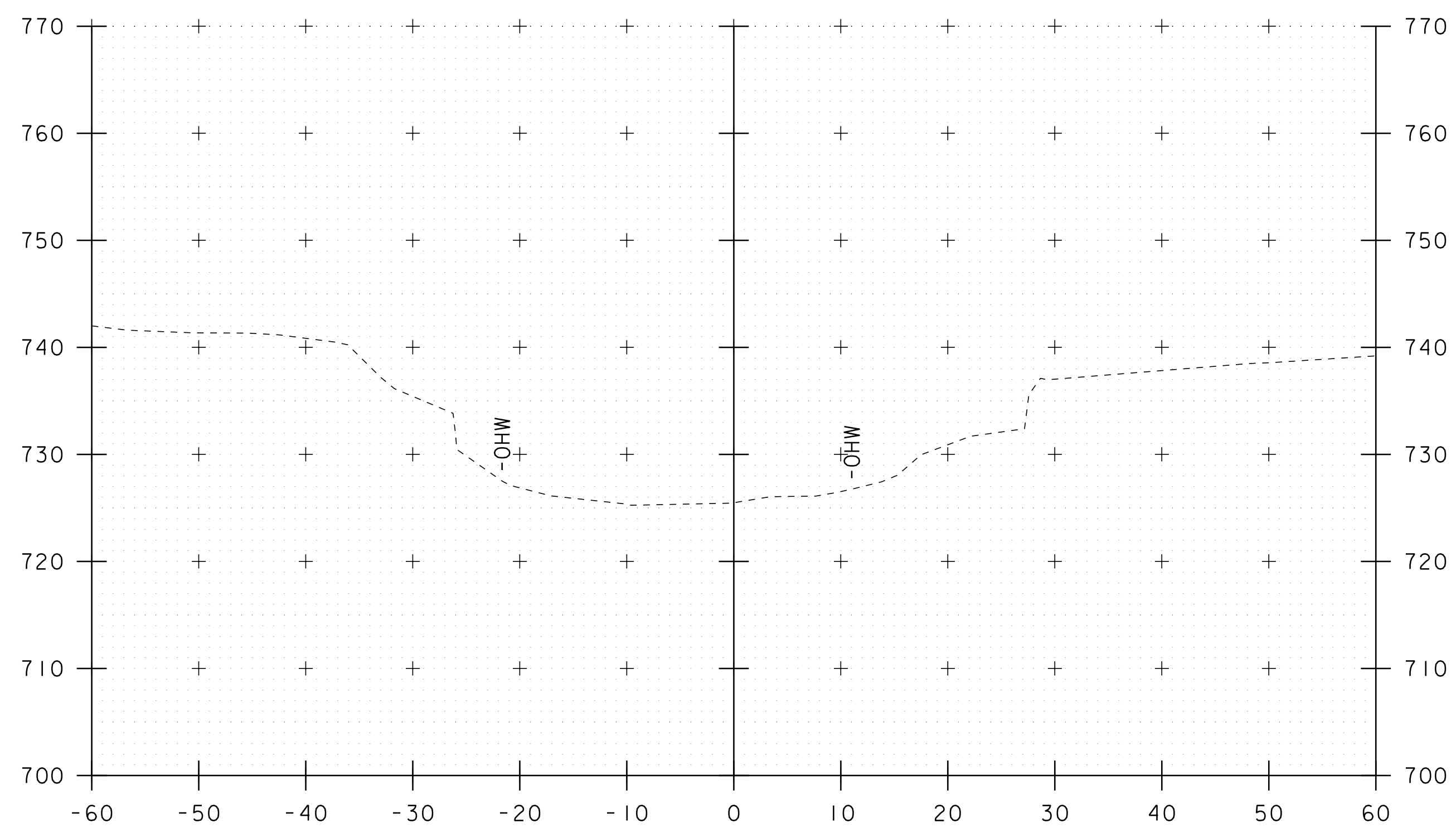
50+80



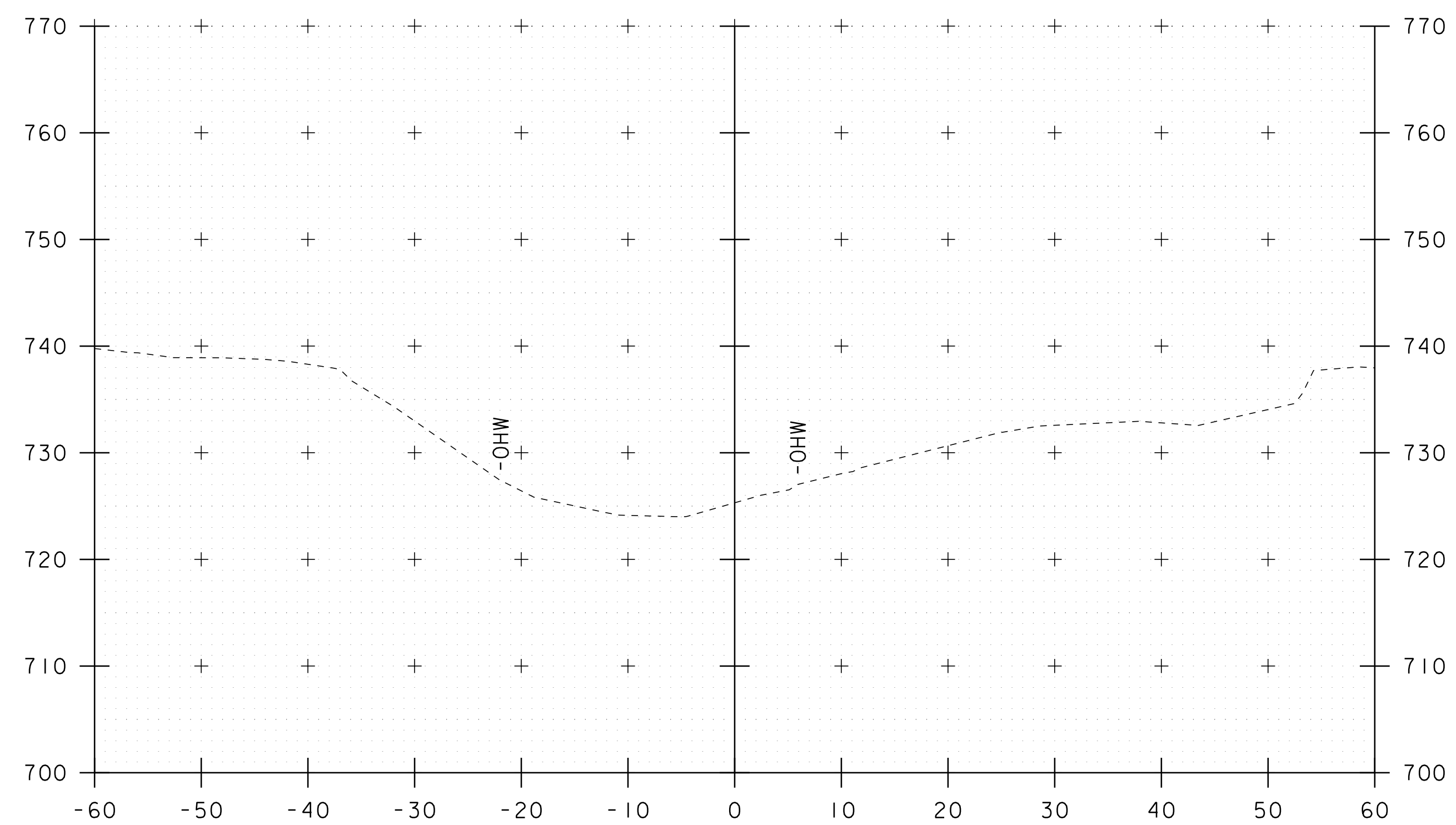
51+00

STA. 50+80 TO STA. 51+10

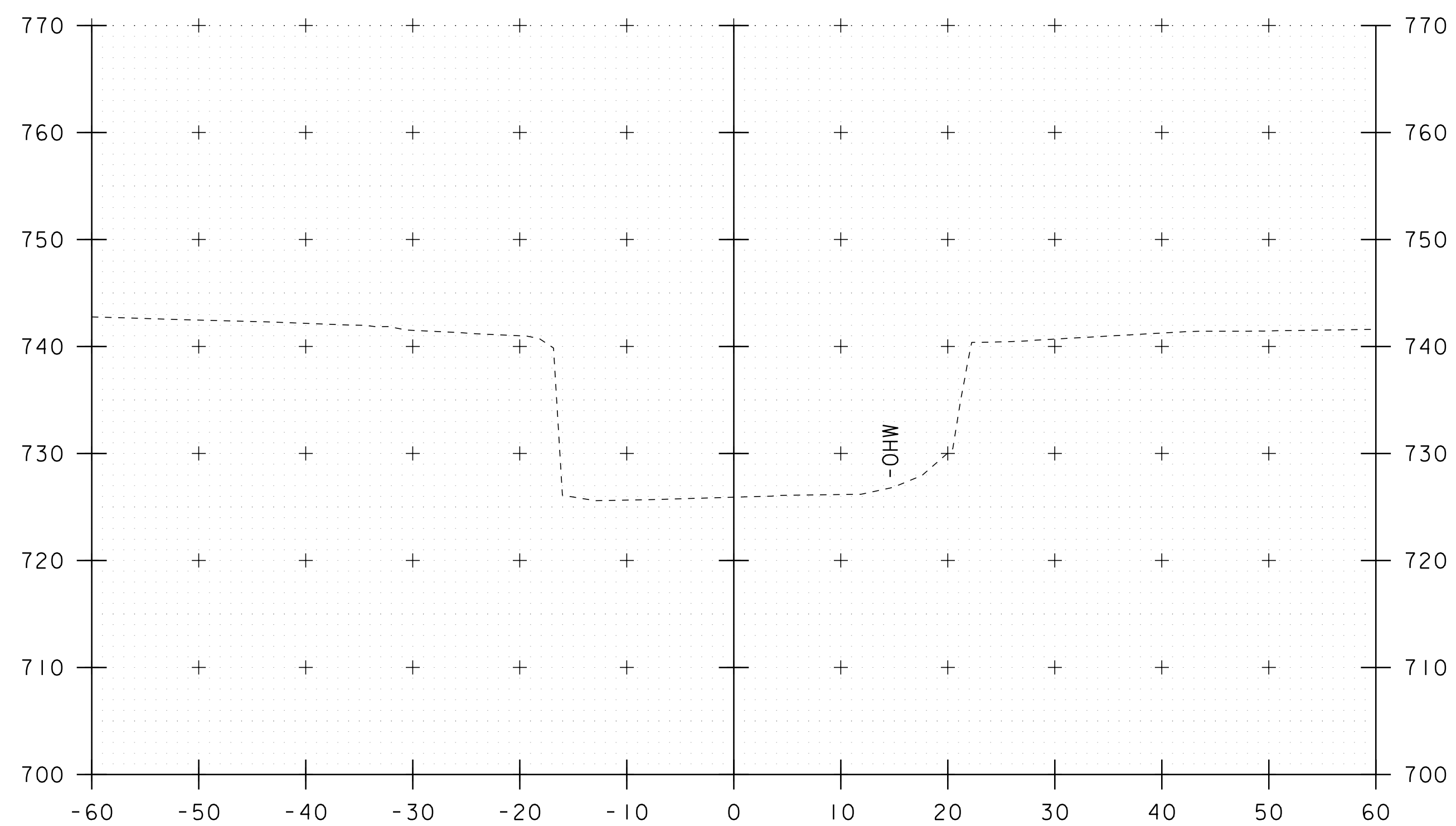
PROJECT NAME: BRAINTREE	
PROJECT NUMBER: BF 024(51)	
FILE NAME: sl2c578xs.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: R. PELLETT
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
CHANNEL CROSS SECTIONS 3	SHEET 21 OF 22



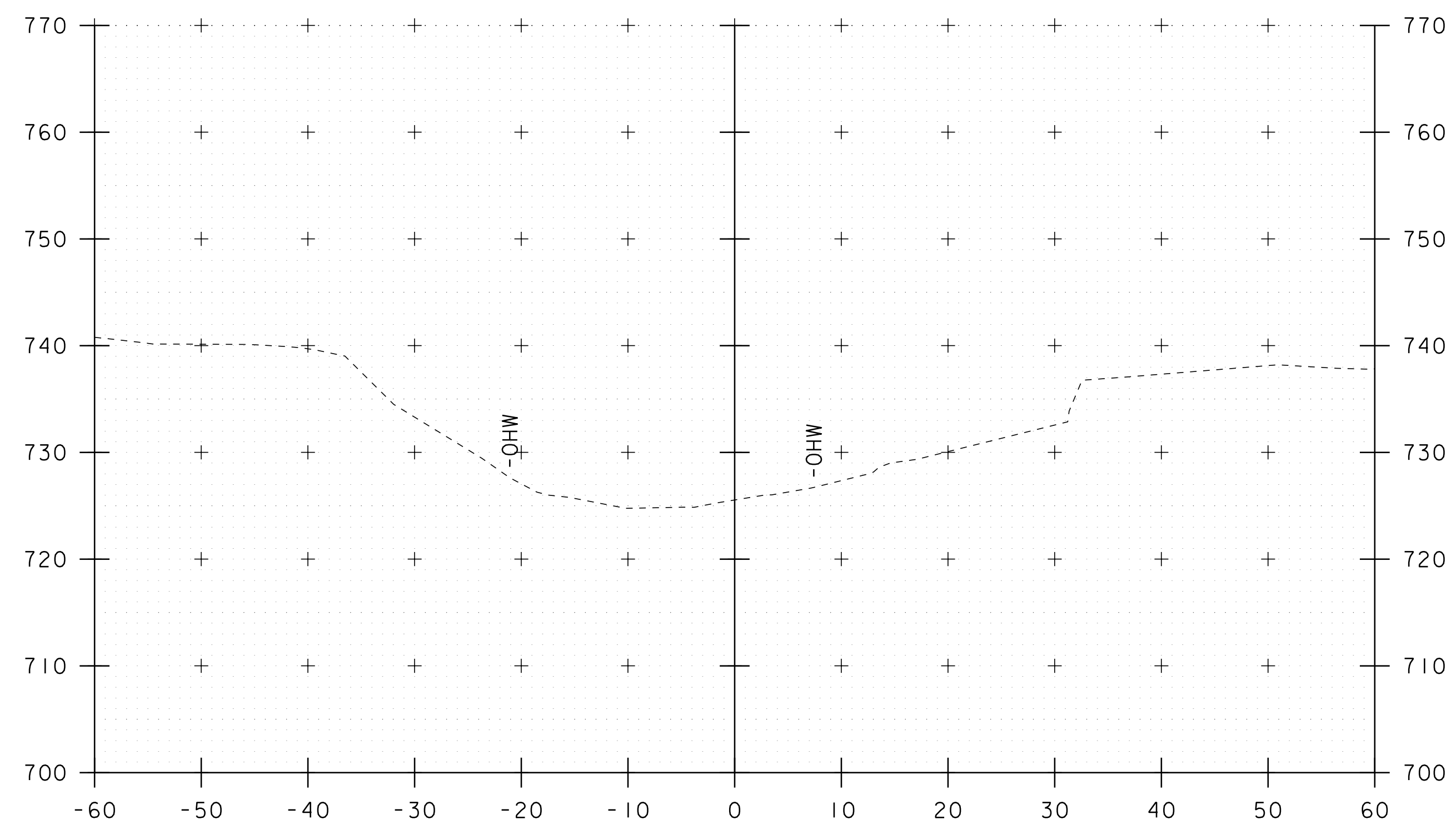
51+30



51+50



51+20

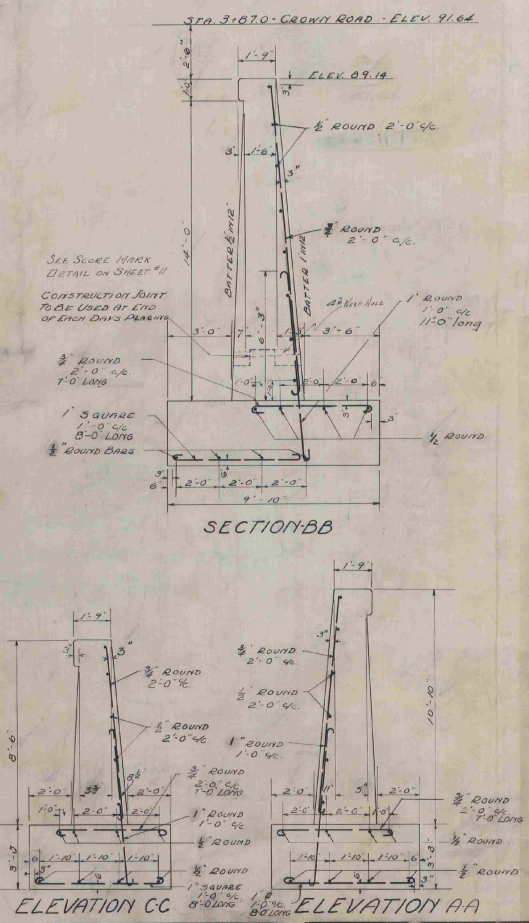


51+40

STA. 51+20 TO STA. 51+50

PROJECT NAME: BRAINTREE	
PROJECT NUMBER: BF 024(51)	
FILE NAME: sl2c578xs.dgn	PLOT DATE: 09-JUN-2020
PROJECT LEADER: R. YOUNG	DRAWN BY: R. PELLETT
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
CHANNEL CROSS SECTIONS 4	SHEET 22 OF 22





FOUNDATION

ABUTMENT NO. 1  
BRIDGE 52-45 DISTRICT 7  
EAST BRAINTREE-VERMONT  
SCALE  $\frac{3}{8}'' = 1'-0''$

ELEVATION CC		ELEVATION AA	
$\frac{1}{2} \times 1000$ $\frac{1}{2} \times 1000$		$\frac{1}{2} \times 1000$ $\frac{1}{2} \times 1000$	
<b>BEST ADJUSTMENT</b>			
1.25-1.3 Conc.	136 C.V. 10	Surveyed by	
3.5000 Exc.	150 C.V. 10	Designed by	W. H. Day
Reinforcement Steel	5500 LBS.	Drawn by	W. H. Day
		Tested by	R. D. J.
		Checked by	April 18
		Series	No. 113-A
			Sheet 52-45
			Sheet 5 of 14 Sheets

Designed by *A. A. Doe*  
Designed by *W. H. Day*  
Drawn by *W. H. Day*  
Traced by *F. E. S.*  
Checked by *M. W. L.*  
Series *F* No. No. *113-A* *3/2/28*  
Sheet *6* of *14* Sheets *File 52-45*



