

REVIEWER NOTES

- 1: CULVERT IS CURRENTLY IN THE PROCESS OF FAILING.
- 2. ADDITIONAL R.O.W. ACQUISITION IS ANTICIPATED TO BE REQUIRED.
- 3: STRUCTURE WILL BE REPLACED USING A TWO DAY BRIDGE CLOSURE PERIOD.
- 4: TRAFFIC WILL BE DETOURED DURING THE BRIDGE CLOSURE PERIOD.
- 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.

STATE OF VERMONT AGENCY OF TRANSPORTATION



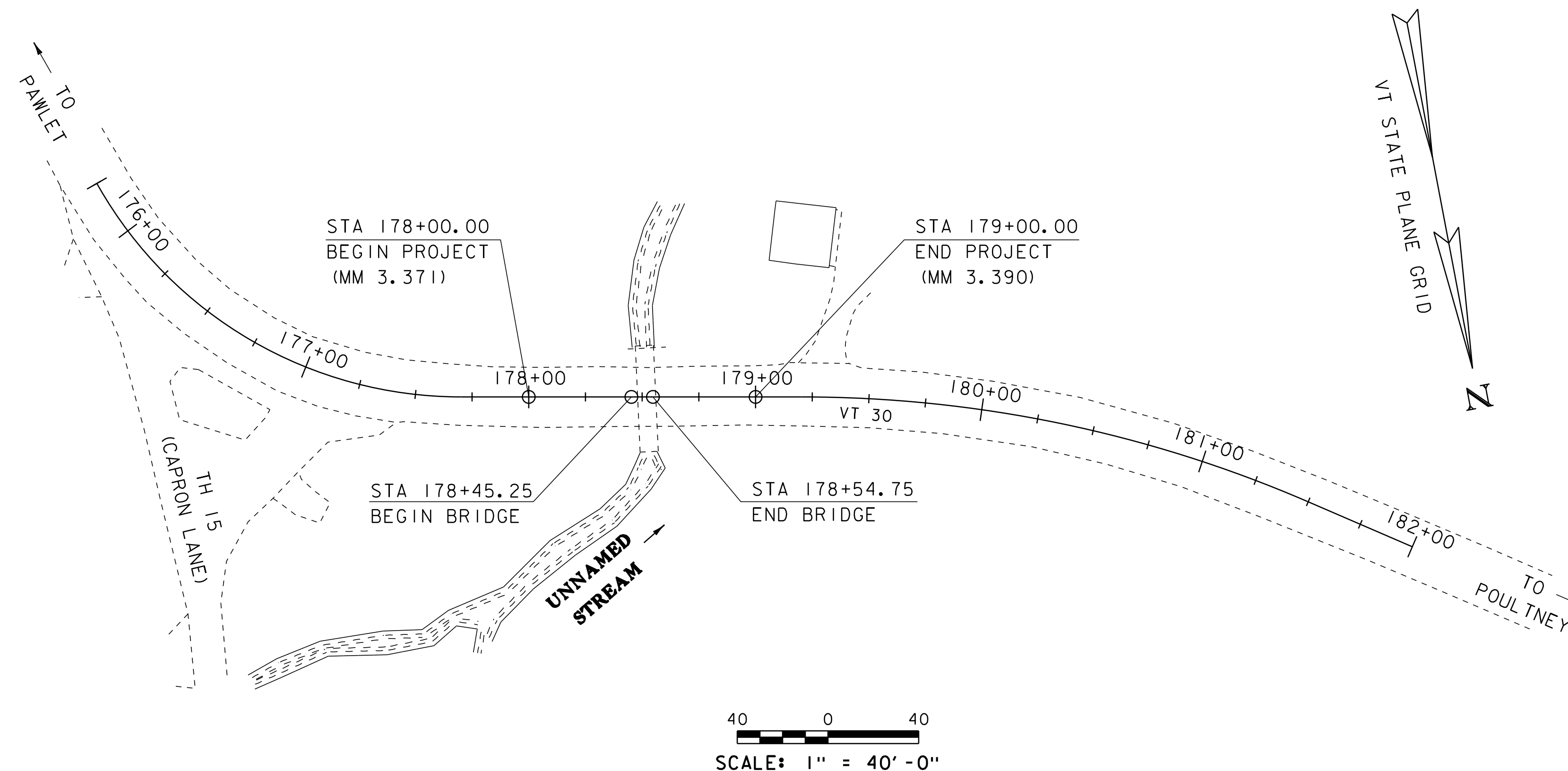
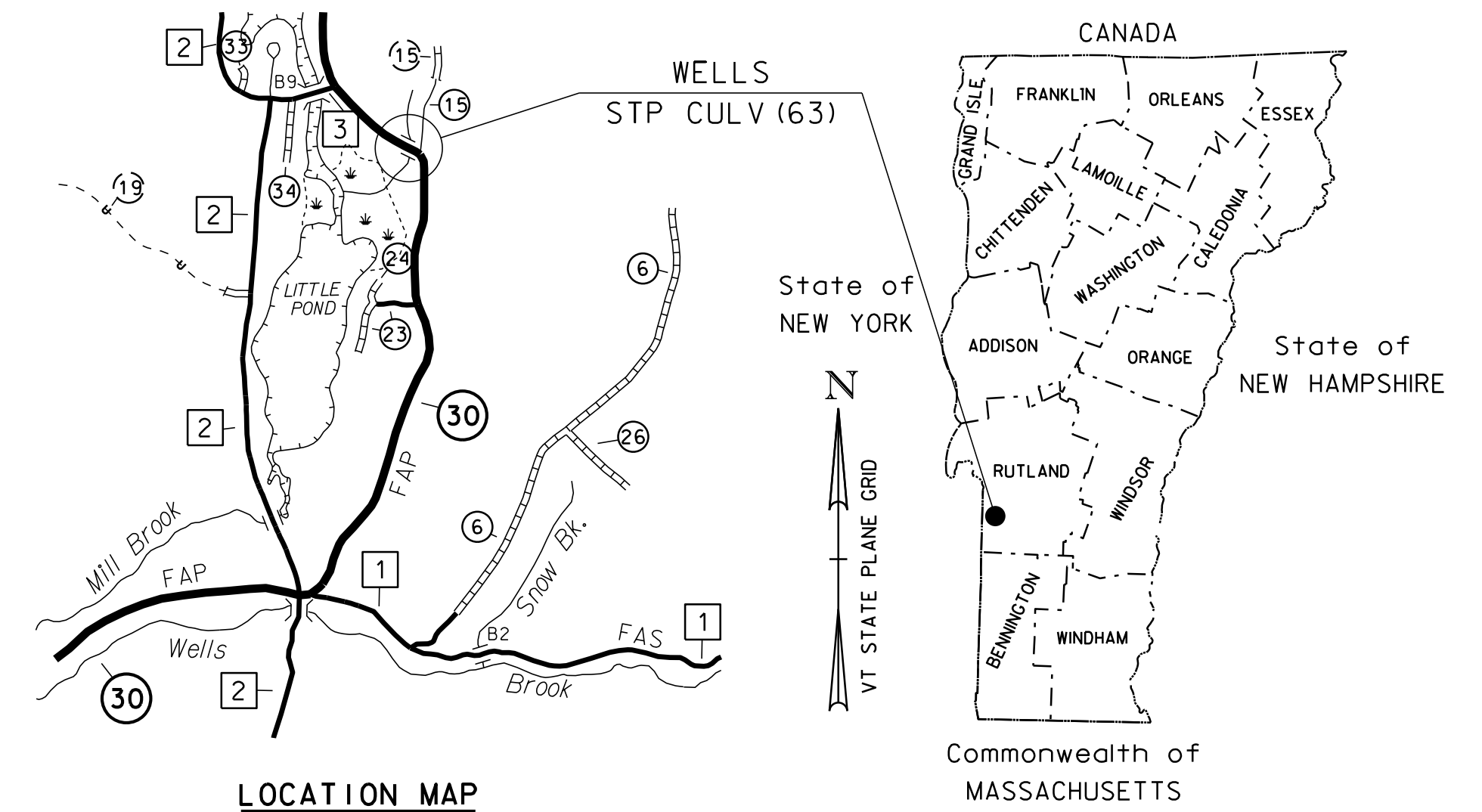
PROPOSED IMPROVEMENT BRIDGE PROJECT TOWN OF WELLS COUNTY OF RUTLAND

ROUTE NO : VT 30; MINOR ARTERIAL BRIDGE NO : 83

PROJECT LOCATION : ON VT 30 BEGINNING APPROXIMATELY 1.90 MILE NORTHERLY FROM ITS INTERSECTION WITH TH 1 (EAST WELLS RD) AND EXTENDING NORTHERLY APPROXIMATELY 0.019 MILE.

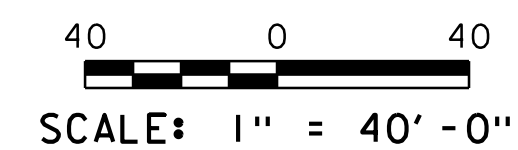
PROJECT DESCRIPTION : REPLACEMENT OF EXISTING CULVERT ALONG WITH RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE : 9.50 FEET
LENGTH OF ROADWAY : 90.50 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 4	
SURVEYED BY :	R. GILMAN
SURVEYED DATE :	5/14/2019
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (2011)



PRELIMINARY PLANS
06-JUN-2019

HIGHWAY DIVISION, CHIEF ENGINEER
APPROVED _____ DATE _____
PROJECT MANAGER : J. B. MCCARTHY, PE
PROJECT NAME : WELLS
PROJECT NUMBER : STP CULV (63)
SHEET 1 OF 22 SHEETS

INDEX OF SHEETS

PLAN SHEETS

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DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES	5/7/2010
SD-502.00	CONCRETE DETAILS AND NOTES	05-07-2010
HSD-400.01	SAFETY EDGE DETAILS	01-05-2018
HSD-621.06	MISCELLANEOUS GUARDRAIL DETAILS	02-27-2017

STANDARDS LIST

S-366	LONGSPAN STEEL BEAM GUARDRAIL, GALVANIZED	02-10-2014
G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	11-15-2002
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	03-10-2017

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 06/06/19

DRAINAGE AREA : 0.86 square miles
 CHARACTER OF TERRAIN : Hilly, mostly forested with some open areas
 STREAM CHARACTERISTICS : Straight, incised with some floodplain access
 NATURE OF STREAMBED : Sandy gravel with some cobbles

PEAK FLOW DATA - ANNUAL EXCEEDANCE PROBABILITY (AEP)

43% =	38 cfs	2% =	120 cfs
10% =	72 cfs	1% =	140 cfs
4% =	96 cfs	0.2% =	210 cfs

DATE OF FLOOD OF RECORD : Unknown
 ESTIMATED DISCHARGE : Unknown
 WATER SURFACE ELEV. : Unknown
 NATURAL STREAM VELOCITY : @ 2% AEP = 9.9 fps
 ICE CONDITIONS : Unknown
 DEBRIS : Moderate
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
 IS ORDINARY RISE RAPID? Yes
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
 IF YES, DESCRIBE:

WATERSHED STORAGE : 3% HEADWATERS :
 UNIFORM : X
 IMMEDIATELY ABOVE SITE :

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE : Corrugated Metal Plate Pipe Arch
 YEAR BUILT : 1977
 CLEAR SPAN(NORMAL TO STREAM): 85 inches
 VERTICAL CLEARANCE ABOVE STREAMBED: 54 inches
 WATERWAY OF FULL OPENING: 25 square feet
 DISPOSITION OF STRUCTURE: Removal
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: Sandy gravel

WATER SURFACE ELEVATIONS AT:

43% AEP =	506.1 feet	VELOCITY =	9.4 fps
10% AEP =	507.0 feet	"	10.9 fps
4% AEP =	507.6 feet	"	11.9 fps
2% AEP =	508.1 feet	"	12.7 fps
1% AEP =	508.6 feet	"	13.2 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
 FREQUENCY:
 RELIEF ELEVATION: 510 feet
 DISCHARGE OVER ROAD @ 1% AEP: N/A

UPSTREAM STRUCTURE

TOWN: Wells DISTANCE: 250 feet
 HIGHWAY #: TH-15 STRUCTURE #: N/A
 CLEAR SPAN: 3 feet CLEAR HEIGHT: 3 feet
 YEAR BUILT: N/A FULL WATERWAY: 36 sq. feet
 STRUCTURE TYPE: HDPE pipe

DOWNSTREAM STRUCTURE

TOWN: * DISTANCE:
 HIGHWAY #: STRUCTURE #:
 CLEAR SPAN: CLEAR HEIGHT:
 YEAR BUILT: FULL WATERWAY:
 STRUCTURE TYPE:

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						

CULVERT DESIGN CRITERIA

- PROPOSED CULVERT IS A PRESTRESS CONCRETE STRUCTURE (8'-0" X 8'-0" X 48'-3 1/2" BOX).
- CULVERT ENDS ARE NOT SKEWED.
- CULVERT WILL BE SET AT A SLOPE OF 0.57 IN. ON 1 FT.
- CULVERT WILL NOT REQUIRE FISH PASSAGE ACCOMMODATIONS
- CULVERT CONSTRUCTION WILL NOT REQUIRE A TEMPORARY PIPE

PROPOSED STRUCTURE

STRUCTURE TYPE: Reinforced Precast Concrete Box

CLEAR SPAN(NORMAL TO STREAM): 8 feet
 VERTICAL CLEARANCE ABOVE STREAMBED: 4 feet
 WATERWAY OF FULL OPENING: 32 square feet

WATER SURFACE ELEVATIONS AT:

43% AEP =	505.7 feet	VELOCITY=	6.8 fps
10% AEP =	506.5 feet	"	8.6 fps
4% AEP =	507.0 feet	"	9.1 fps
2% AEP =	507.4 feet	"	10.2 fps
1% AEP =	507.8 feet	"	10.3 fps

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
 FREQUENCY:
 RELIEF ELEVATION: 510 feet
 DISCHARGE OVER ROAD @ 1% AEP: N/A

BRIDGE LOW CHORD ELEVATION: N/A
 FREEBOARD: N/A

SCOUR: No scour calculated

REQUIRED CHANNEL PROTECTION: Stone Fill, Type II for channel banks**

PERMIT INFORMATION

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

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: None required
 CLEAR SPAN (NORMAL TO STREAM):
 VERTICAL CLEARANCE ABOVE STREAMBED:
 WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

* No Downstream Structure, stream outlets to Little Lake approximately 1,500 feet downstream.
 **Stone Fill, Type E2 to build the channel through the Box culvert
 **Stone Fill, Type E2 for rebuilding the channel invert upstream and downstream of the Box culvert

TRAFFIC MAINTENANCE NOTES

- MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.
- TRAFFIC SIGNALS ARE NOT NECESSARY.
- SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	d _p : 3.0 INCH
3. CULVERT OPENING	D: 40.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ: ---
5. PRESTRESSING STRAND	f _y : ---
6. PRESTRESSED CONCRETE STRENGTH	f' _c : ---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f' _{ci} : ---
8. HIGH PERFORMANCE CONCRETE, CLASS PCD	f' _c : 4.0 KSI
9. HIGH PERFORMANCE CONCRETE, CLASS PCS	f' _c : 3.5 KSI
10. CONCRETE HIGH PERFORMANCE, CLASS 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: ---
18. PILE RESISTANCE FACTOR	φ: ---
19. LATERAL PILE DEFLECTION	Δ: ---
20. BASIC WIND SPEED	V _{3s} : ---
21. MINIMUM GROUND SNOW LOAD	p _g : ---
22. SEISMIC DATA	PGA: --- S _s : --- S ₁ : ---
23.	---
24.	---
25.	---
26.	---

PROJECT NAME: **WELLS**
 PROJECT NUMBER: **STP CULV(63)**

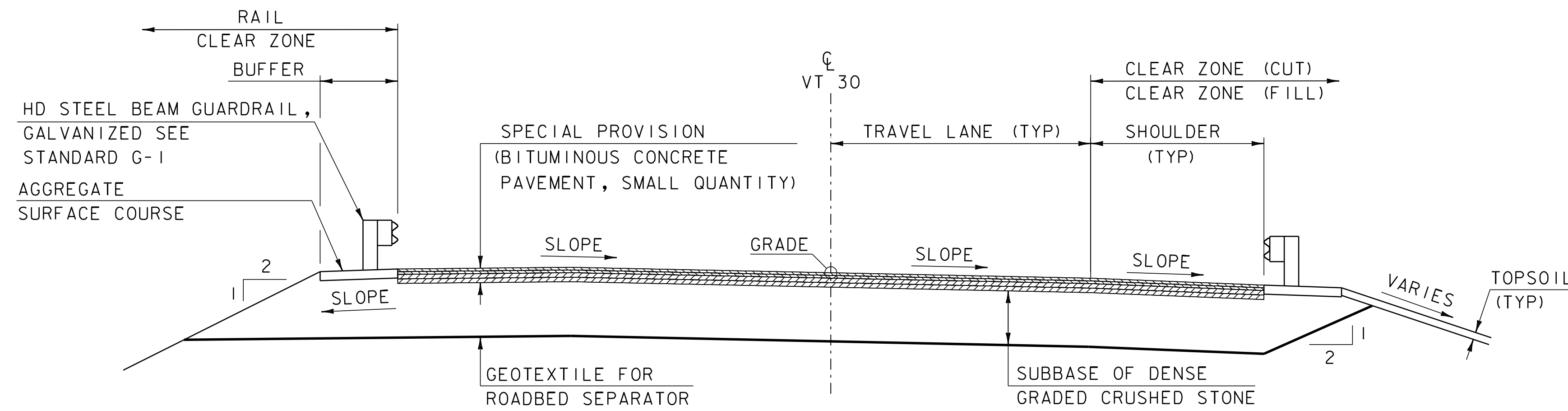
FILE NAME: s19b089pi.dgn PLOT DATE: 3/6/2019
 PROJECT LEADER: J.B. MCCARTHY DRAWN BY: D.D. BEARD
 DESIGNED BY: G. SWEENEY CHECKED BY: G. ROY
PRELIMINARY INFORMATION SHEET 2 OF 22

TRAFFIC DATA

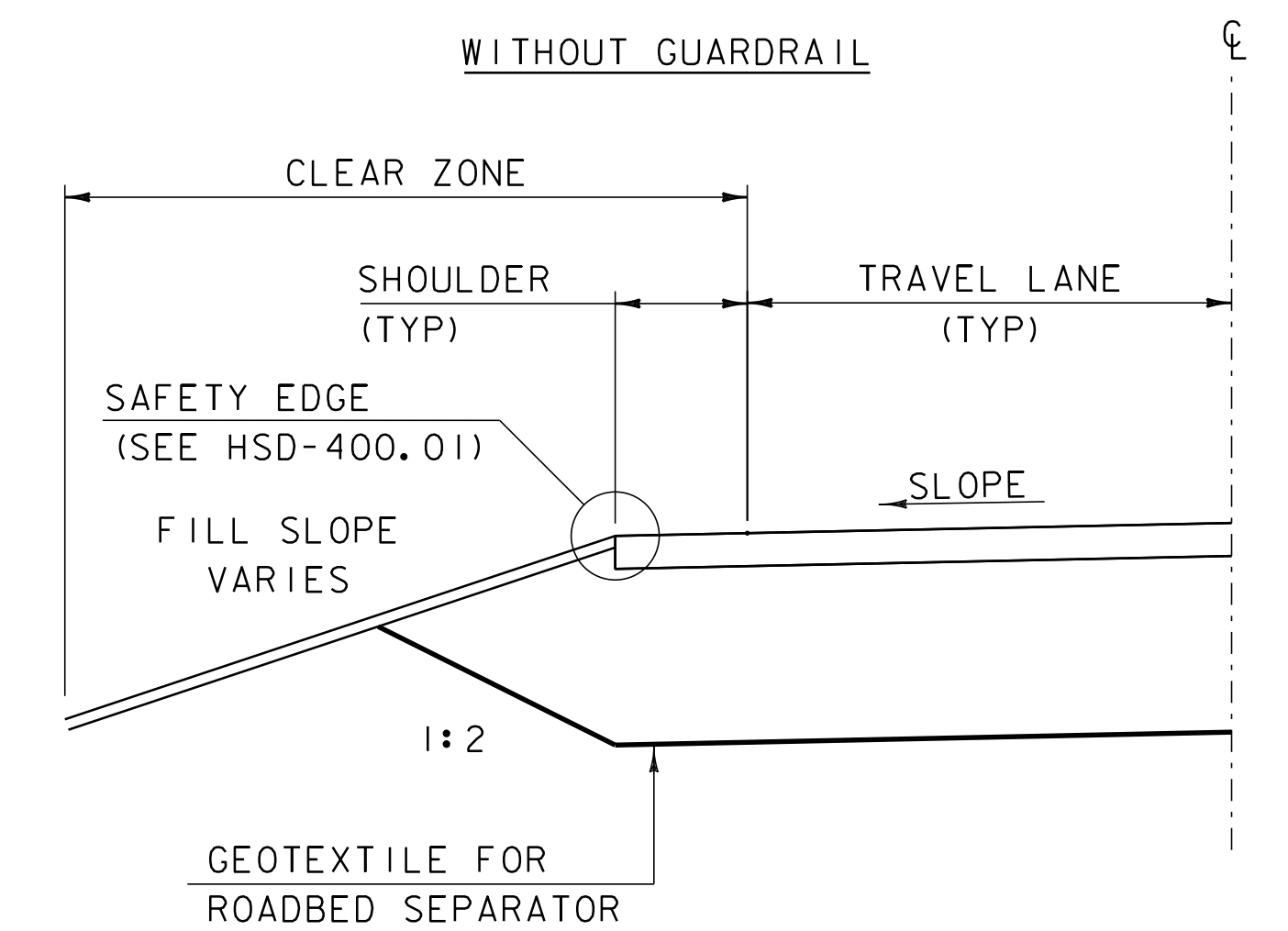
YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2020 to 2040	2020 to 2040	368000
2020	890	140	56	12.5	70	40 year ESAL for flexible pavement from 2020 to 2060	2020 to 2060	861000
2040	980	150	56	20.1	130	Design Speed:	50 mph	

AS BUILT "REBAR" DETAIL

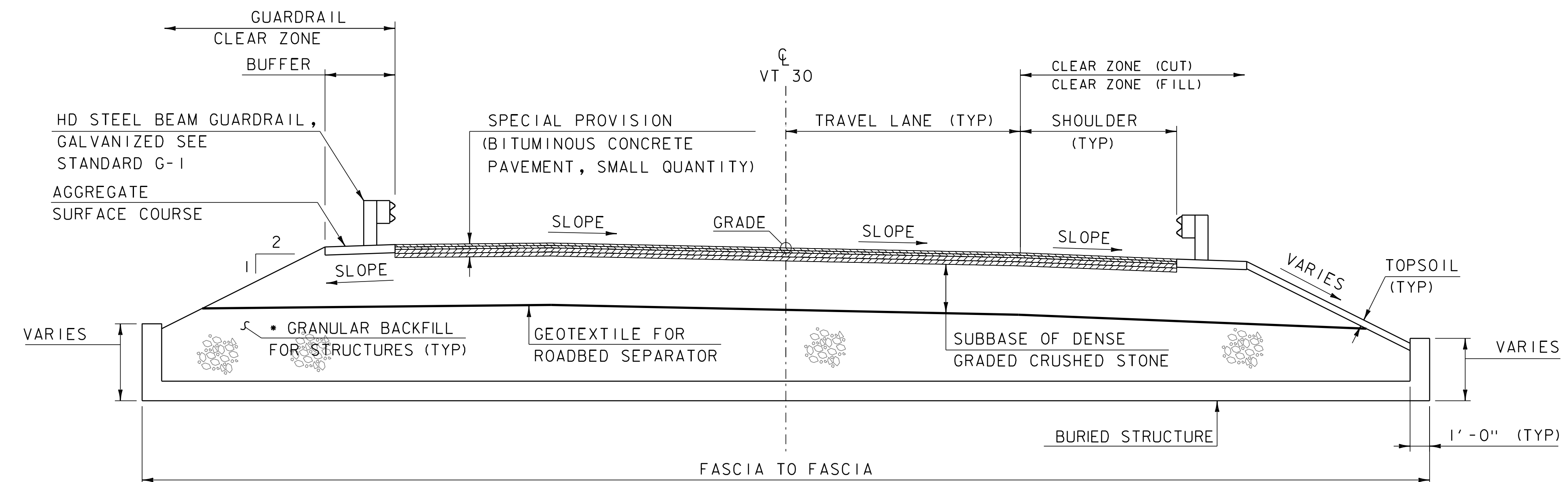
LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:



VT 30 TYPICAL SECTION
SCALE: 1/4" = 1'-0"



ROADWAY TYPICAL SECTION
NOT TO SCALE



VT 30 BURIED STRUCTURE TYPICAL SECTION
SCALE: 1/4" = 1'-0"

ROAD TYPICAL INFORMATION

	LEFT		RIGHT	
	WIDTH	SLOPE	WIDTH	SLOPE
TRAVEL LANE	11'-0"	VARIES	11'-0"	VARIES
SHOULDER	4'-0"	VARIES	4'-0"	VARIES
BUFFER	3'-7"	-0.060	3'-7"	-0.060
FILL SLOPE	---	1:2	---	1:2
CLEAR ZONE (CUT)	9'-0"	---	9'-0"	---
CLEAR ZONE (FILL)	9'-0"	---	9'-0"	---
CLEAR ZONE (GUARDRAIL)	5'-0"	---	5'-0"	---

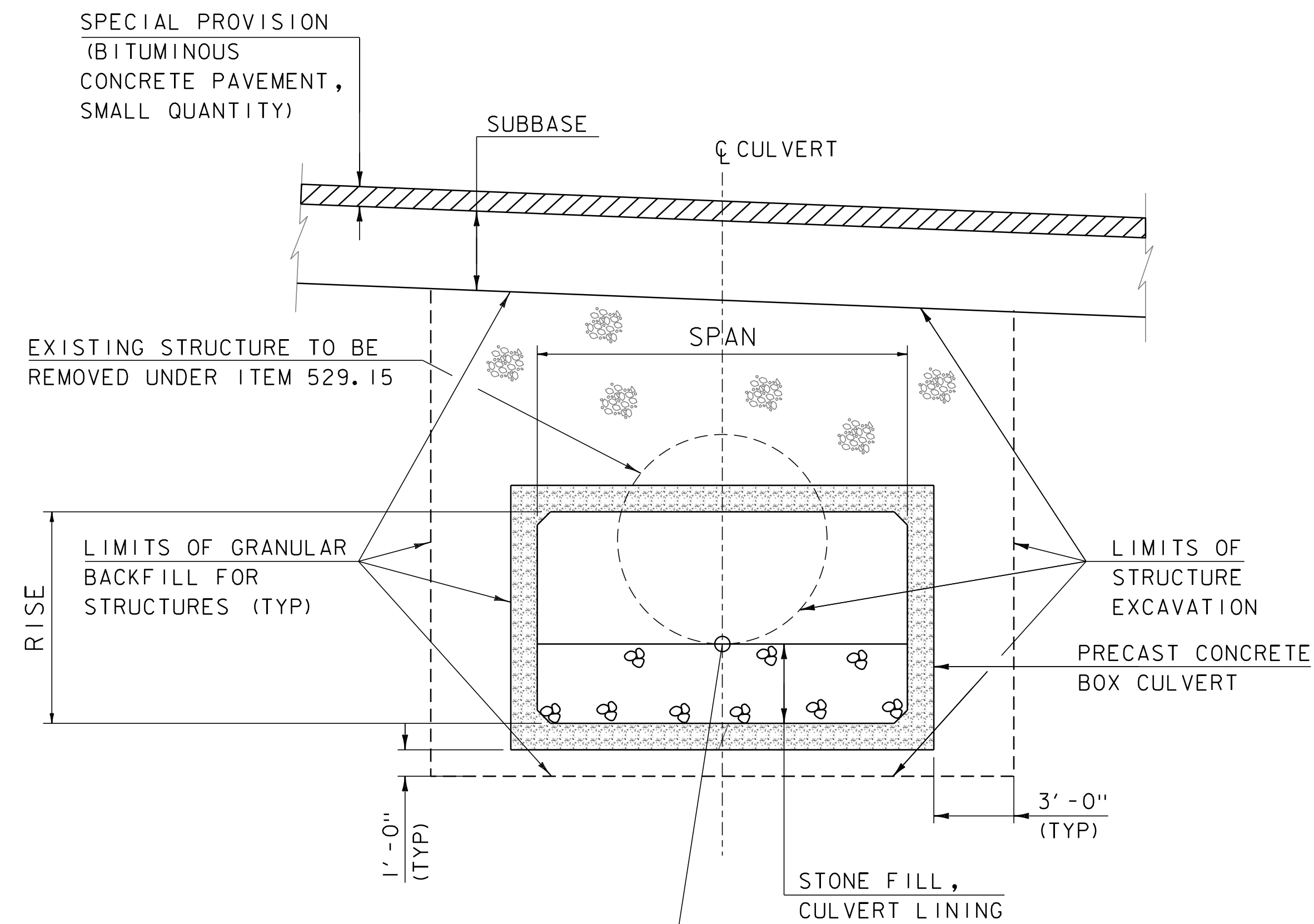
MATERIAL INFORMATION

	THICKNESS	TYPE
WEARING COURSE	1 1/2"	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) (TYPE 1VS)
BINDER COURSE	1 1/2"	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) (TYPE 1VS)
BASE COURSE	3 1/2"	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) (TYPE 1IS)
BUFFER	6"	AGGREGATE SURFACE COURSE
SUBBASE	24"	SUBBASE OF DENSE GRADED CRUSHED STONE
TOPSOIL	4"	TOPSOIL

TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT A RATE OF 0.025 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT AND 0.080 GAL/SY ON COLD PLANED SURFACES AS DIRECTED BY THE ENGINEER.

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

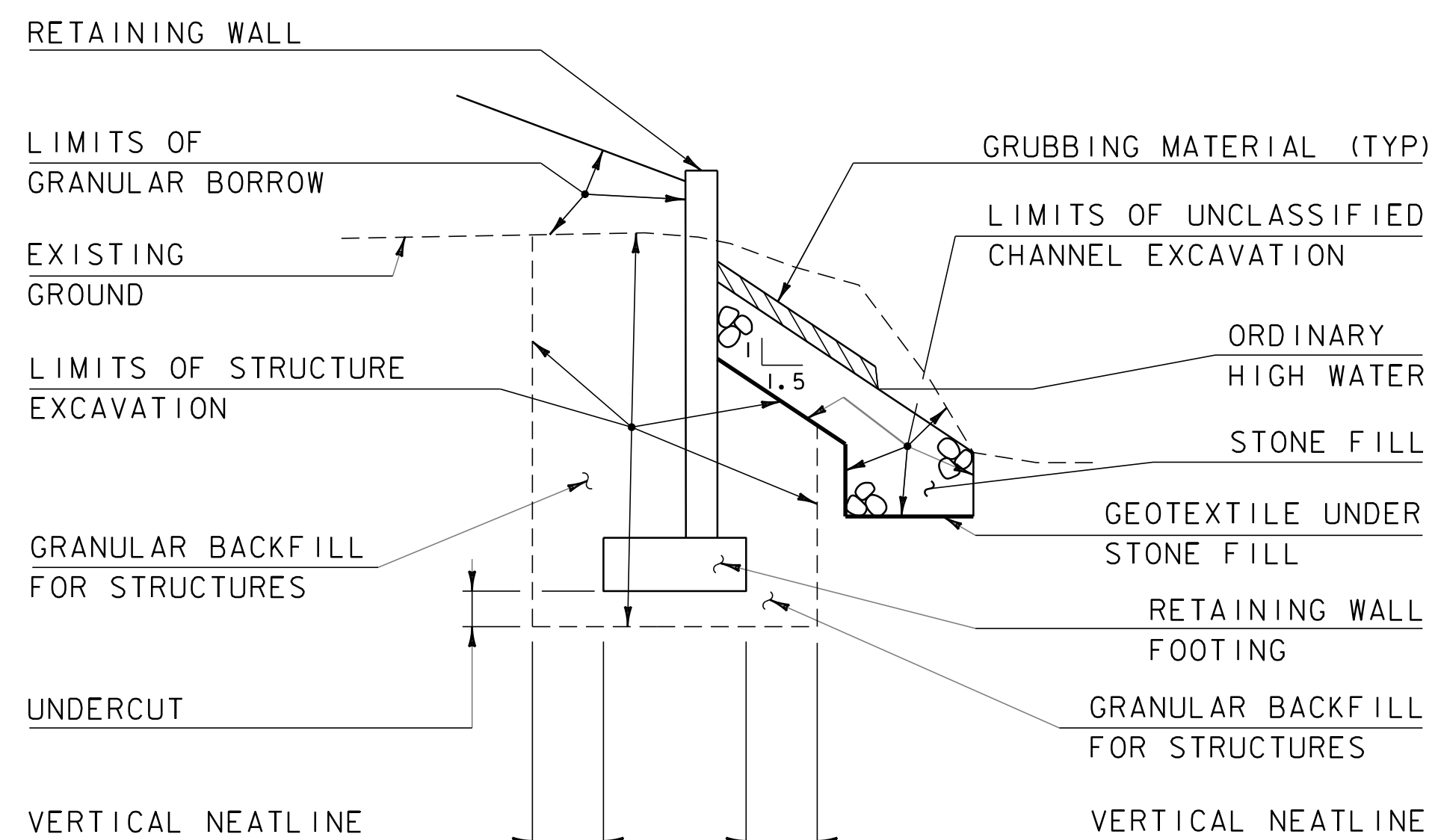
PROJECT NAME: WELLS	PLOT DATE: 06-JUN-2019
PROJECT NUMBER: STP CULV(63)	DRAWN BY: D.D. BEARD
FILE NAME: s19b089typ.dgn	CHECKED BY: G. ROY
PROJECT LEADER: J.B. MCCARTHY	SHEET 3 OF 22
DESIGNED BY: G. SWEENEY	
TYPICAL SECTION SHEET (1)	



SPAN	8' - 0"
RISE	8' - 0"
LENGTH	48' - 3 1/2"

CULVERT TYPICAL SECTION

NOT TO SCALE

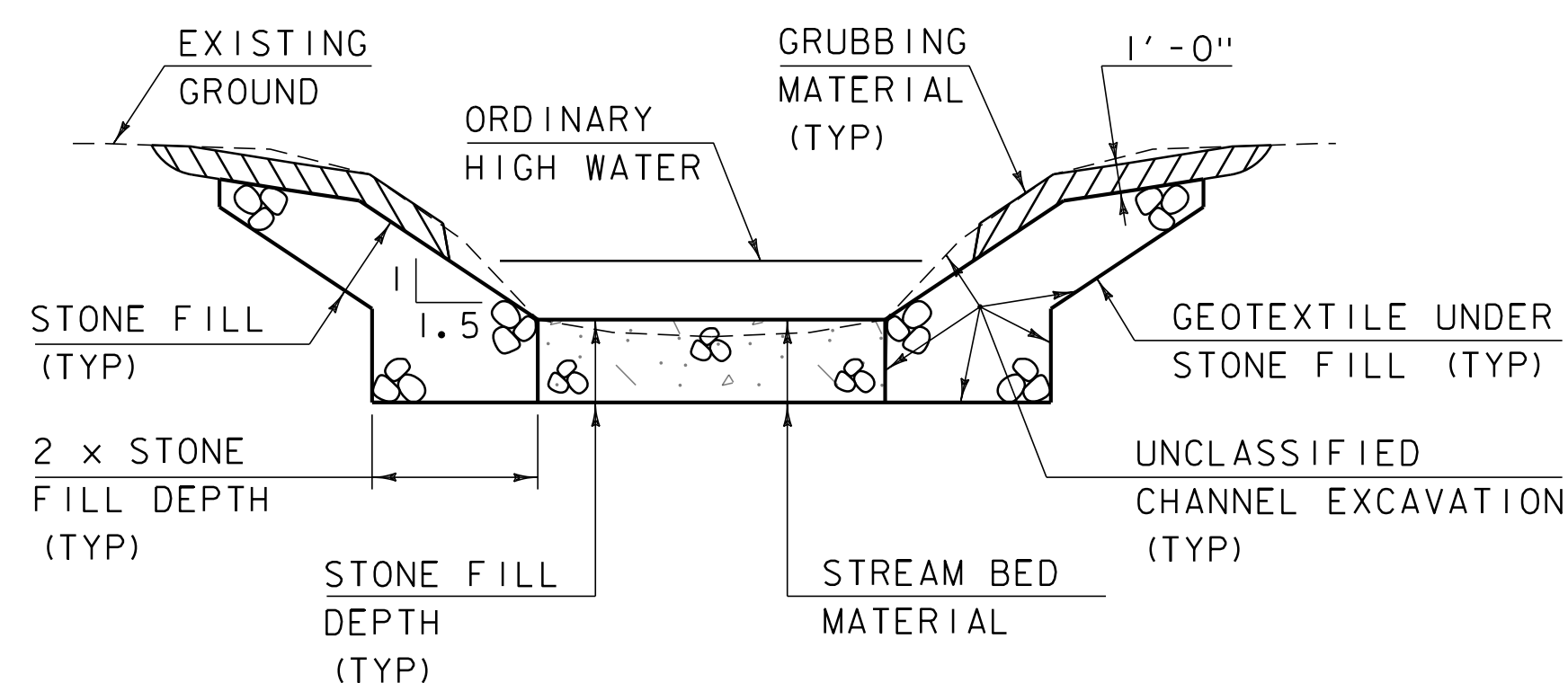


RETAINING WALL EARTHWORK TYPICAL SECTION

NOT TO SCALE

NOTE:

TOP OF RETAINING WALL FOOTING SHALL BE AT OR BELOW BOTTOM OF BOX CULVERT.



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) 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 UNDERNEATH DOWNSPOUTS. SEE THE CHANNEL SECTIONS FOR ADDITIONAL DETAILING.

MATERIAL INFORMATION

	THICKNESS	TYPE
STONE FILL	2'-0"	TYPE II
STONE FILL, CULVERT LINING	4'-0"	E-STONE TYPE II
STONE FILL, STREAM BED MATERIAL	2'-0"	E-STONE TYPE II

RETAINING WALL - ASSUMED DIMENSIONS

LEVELING PAD	
WIDTH	DIMENSION
WIDTH	7' - 6"
TOE	2' - 6"
HEEL	3' - 9"
THICKNESS	2' - 0"
UNDERCUT	1' - 0"
WALL	
THICKNESS	1' - 3"
HEIGHT	VARIES
EXCAVATION LIMITS	
VERTICAL NEATLINE	1' - 6"
UNDERCUT	1' - 0"

PROJECT NAME: WELLS
PROJECT NUMBER: STP CULV(63)

FILE NAME: s19b089typ.dgn
PROJECT LEADER: J.B. MCCARTHY
DESIGNED BY: G. SWEENEY
TYPICAL SECTION SHEET (2)

PLOT DATE: 06-JUN-2019
DRAWN BY: D.D. BEARD
CHECKED BY: G. ROY
SHEET 4 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
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
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
—○—○—○—○—○—○—	SILT FENCE
—x—x—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 — 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: WELLS  
PROJECT NUMBER: STP CULV(63)

FILE NAME: s19b089legend.dgn PLOT DATE: 06-JUN-2019  
PROJECT LEADER: J.B. MCCARTHY DRAWN BY: G. ROY  
DESIGNED BY: G. ROY CHECKED BY: G. SWEENEY  
CONVENTIONAL SYMBOLGY LEGEND SHEET 5 OF 22

PRIMARY CONTROL

HVCTRL #1  
 NORTH = 343343.6370  
 EAST = 1455884.9960  
 ELEV = 522.8070

TO REACH FROM THE INTERSECTION OF VERMONT ROUTES 30 AND 31 IN POULTNEY, GO SOUTHERLY ALONG ROUTE 30 FOR 6.5 MI (10.5 KM) TO THE SITE OF THE MARK ON THE LEFT IN THE SOUTH END OF A FIELD.

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

IT IS 32.1 FT (9.8 M) EAST OF AND 3 FT (0.9 M) HIGHER THAN THE CENTERLINE OF ROUTE 30, 50.3 FT (15.3 M) NORTH-NORTHEAST OF A 14 INCH (36 CM) ASH, 59.8 FT (18.2 M) NORTHWEST OF AN 18 INCH (46 CM) MAPLE, AND 118 FT (36.0 M) SOUTH OF MILE MARKER 0300/1126/0320.

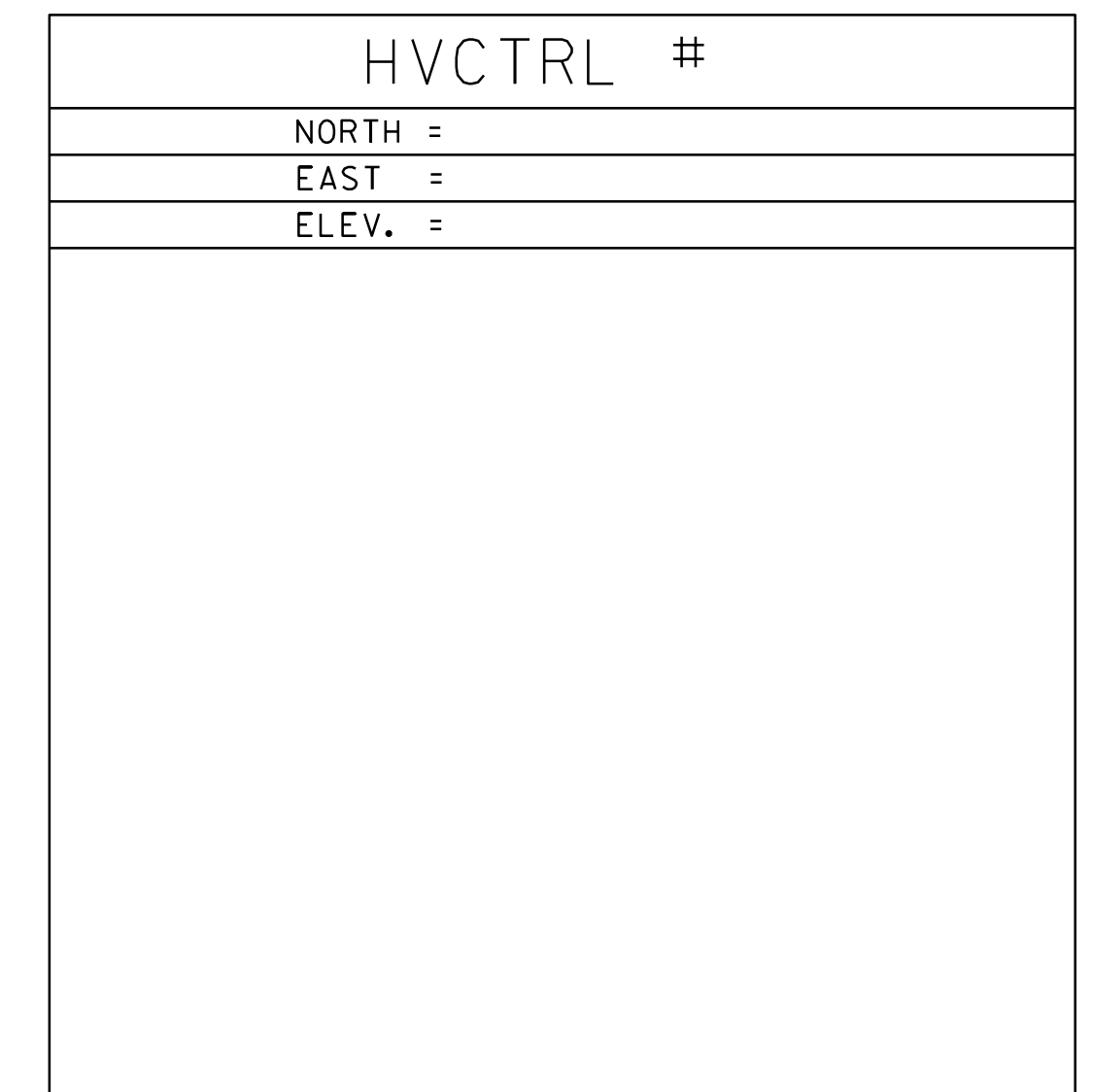
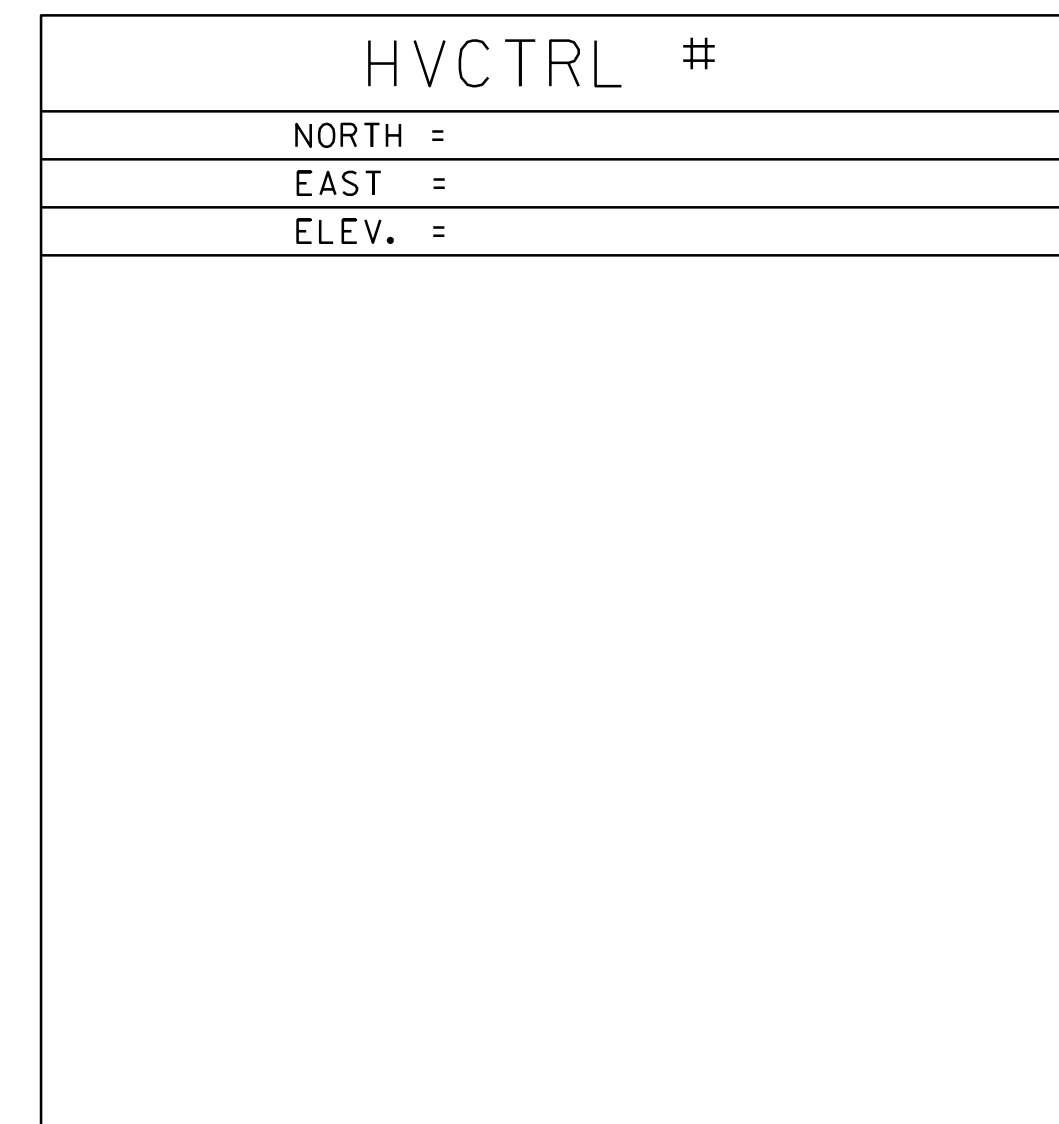
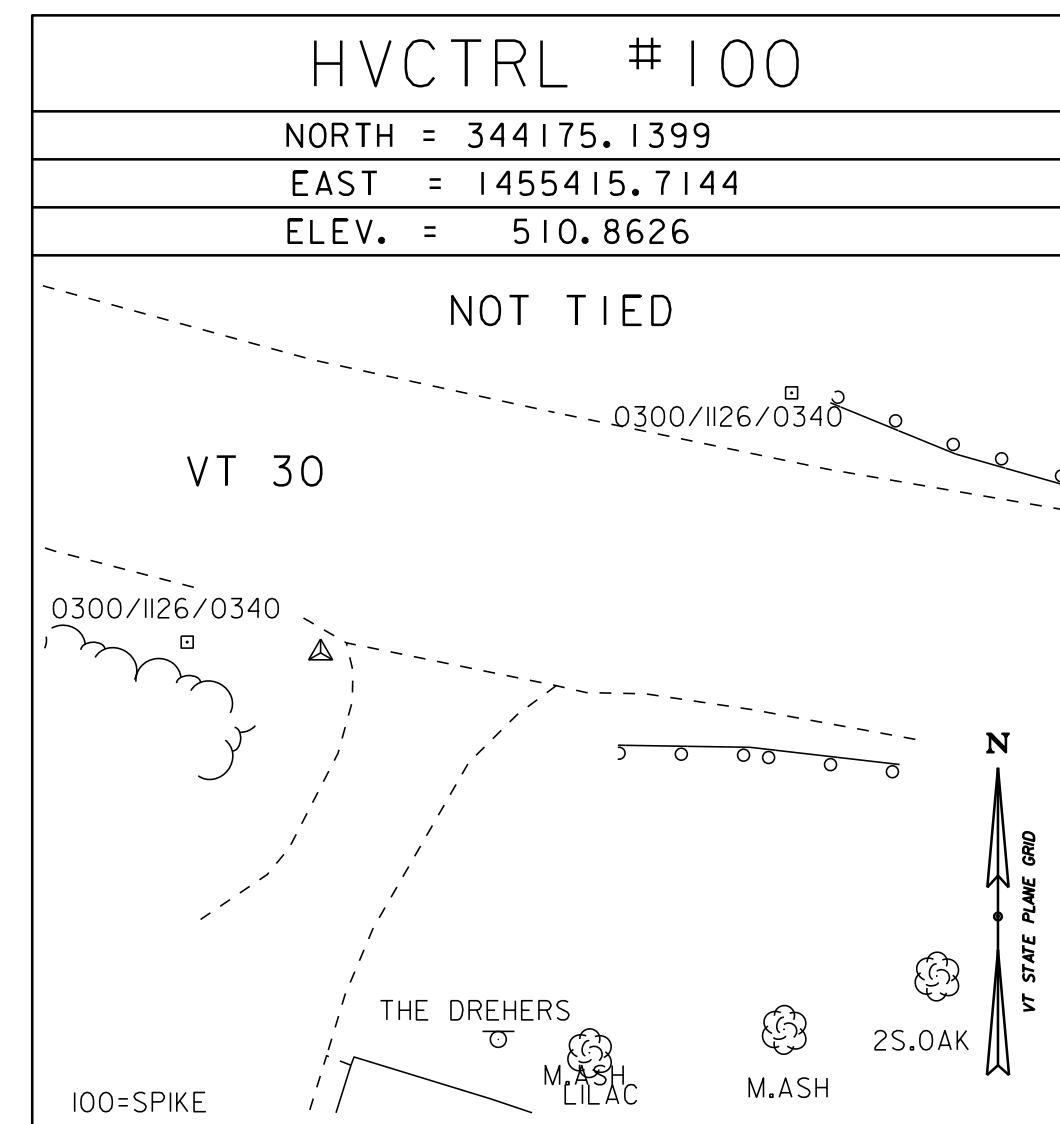
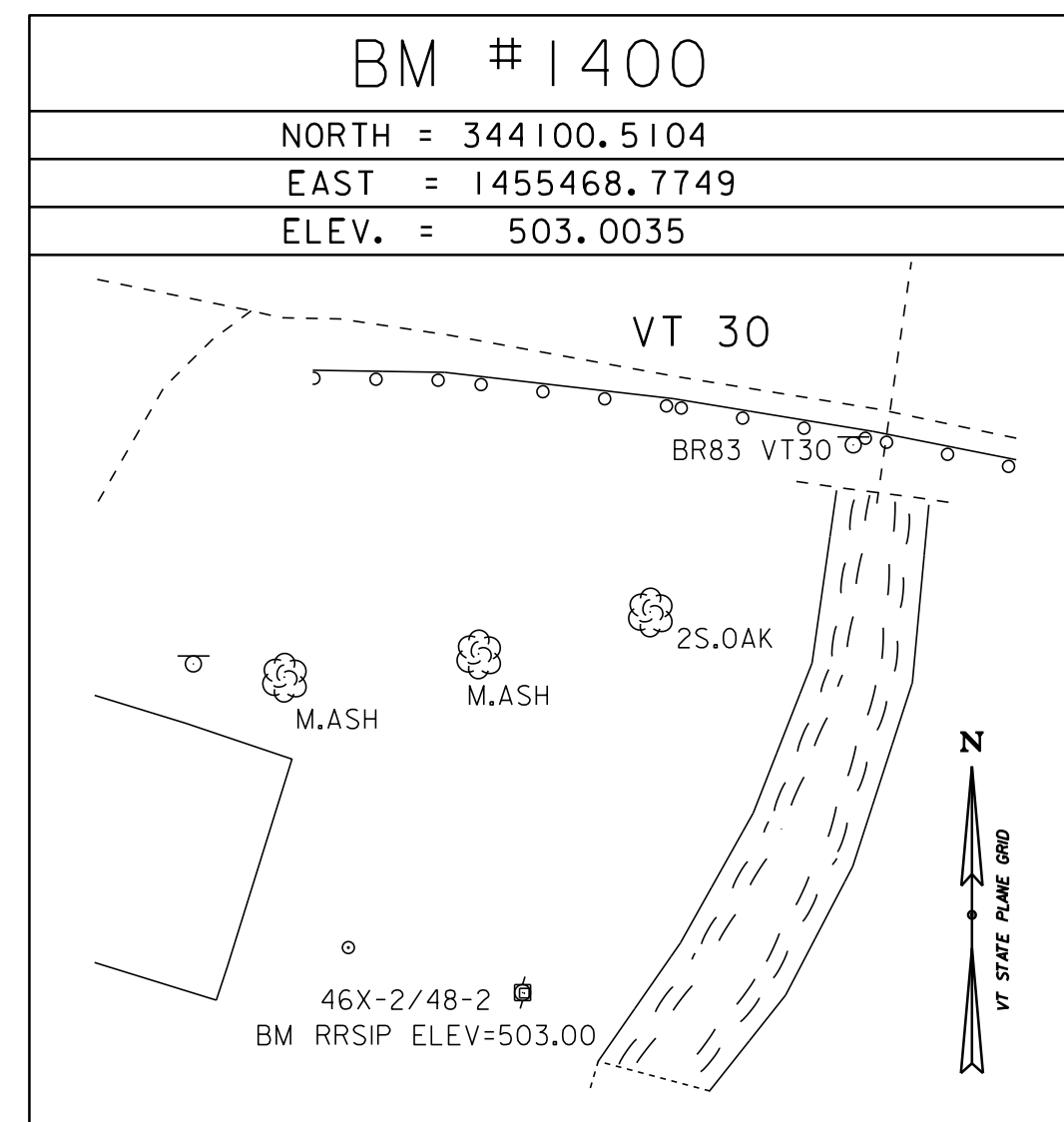
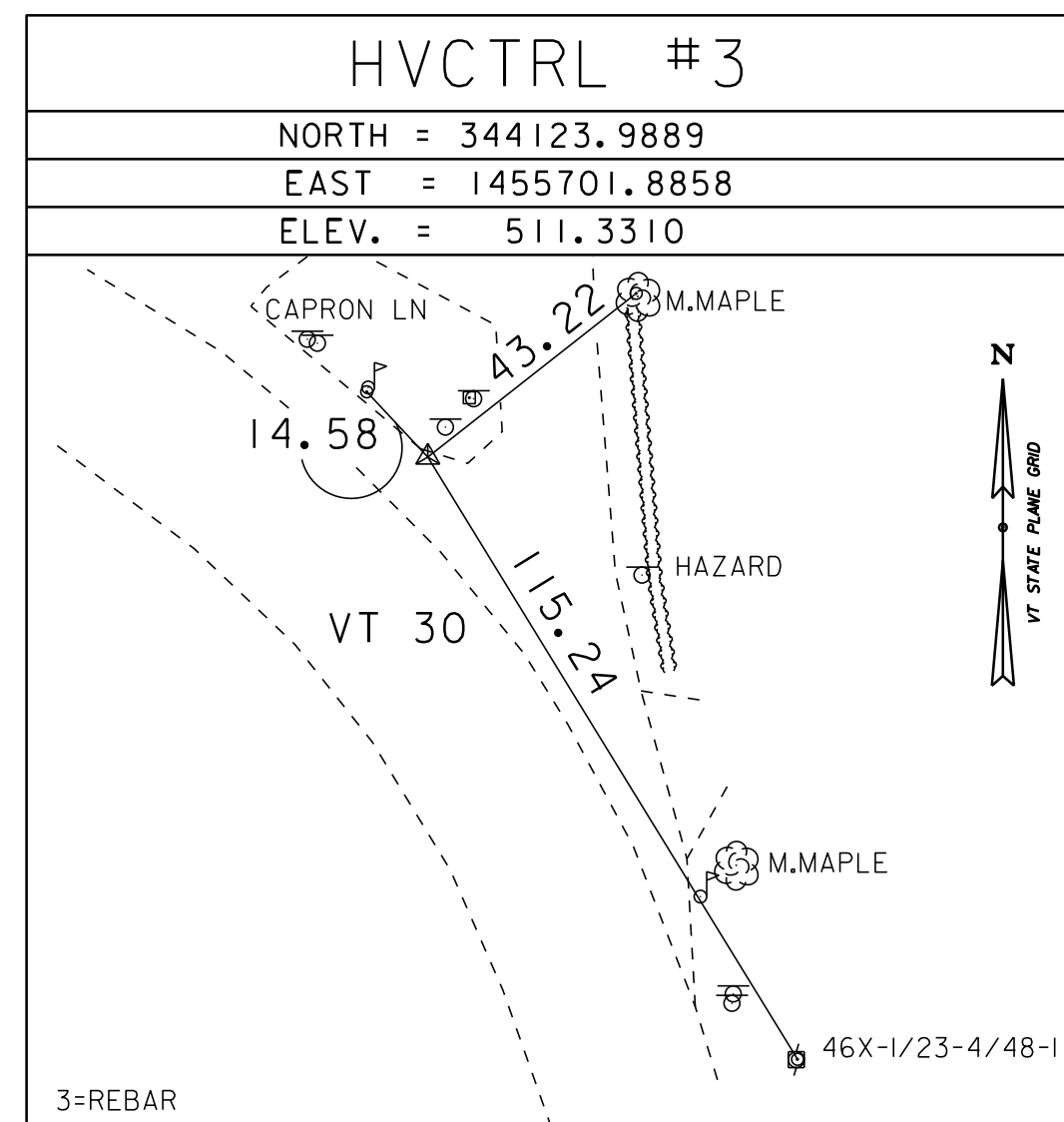
HVCTRL #2  
 NORTH = 344209.8980  
 EAST = 1455485.8550  
 ELEV = 509.9160

TO REACH FROM THE INTERSECTION OF VERMONT ROUTES 30 AND 31 IN POULTNEY, GO SOUTHERLY ALONG ROUTE 30 FOR 6.3 MI (10.1 KM) TO THE SITE OF THE MARK ON THE LEFT, ABOUT 30 M (98.4 FT) WEST OF BRIDGE 83.

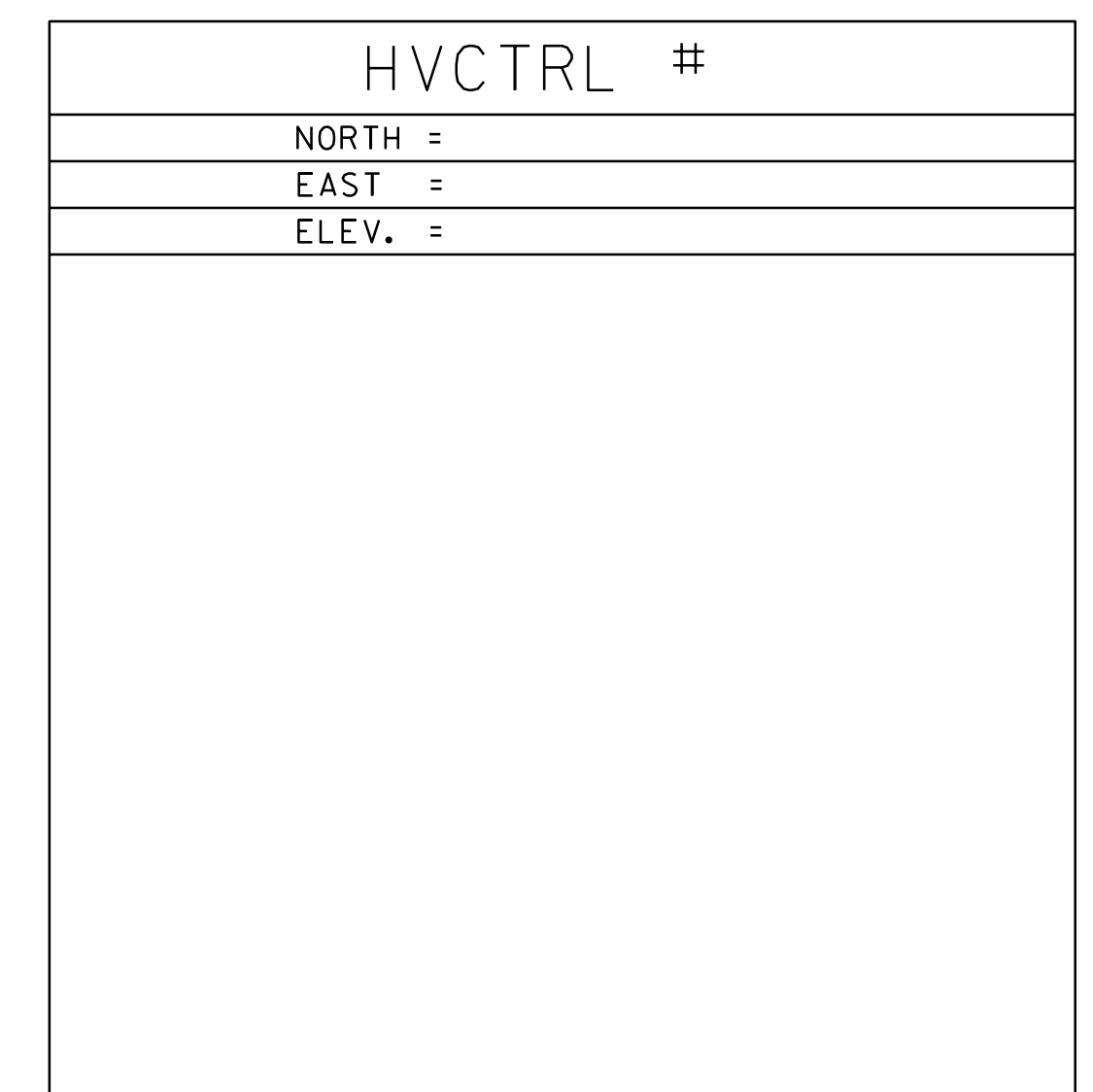
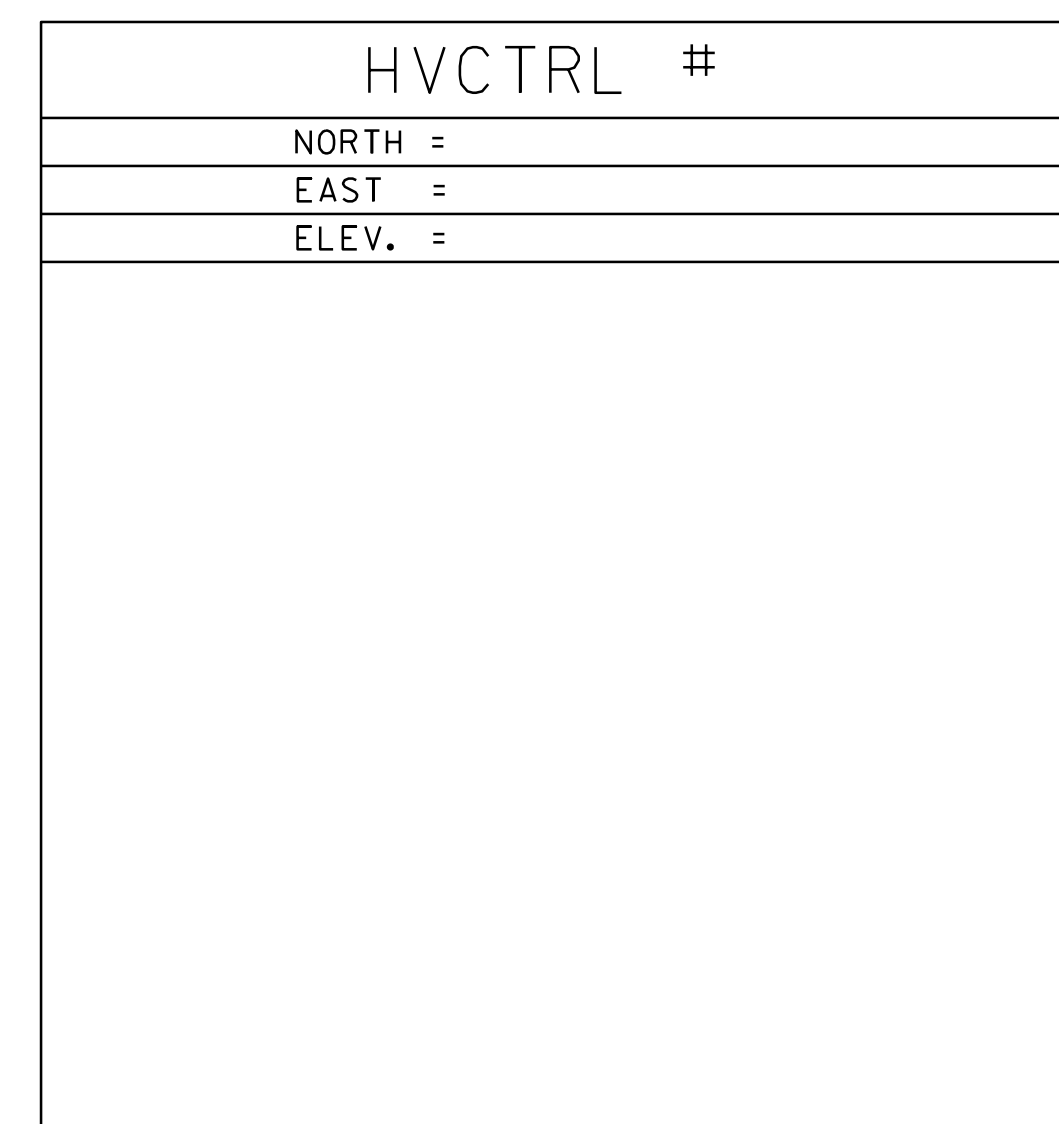
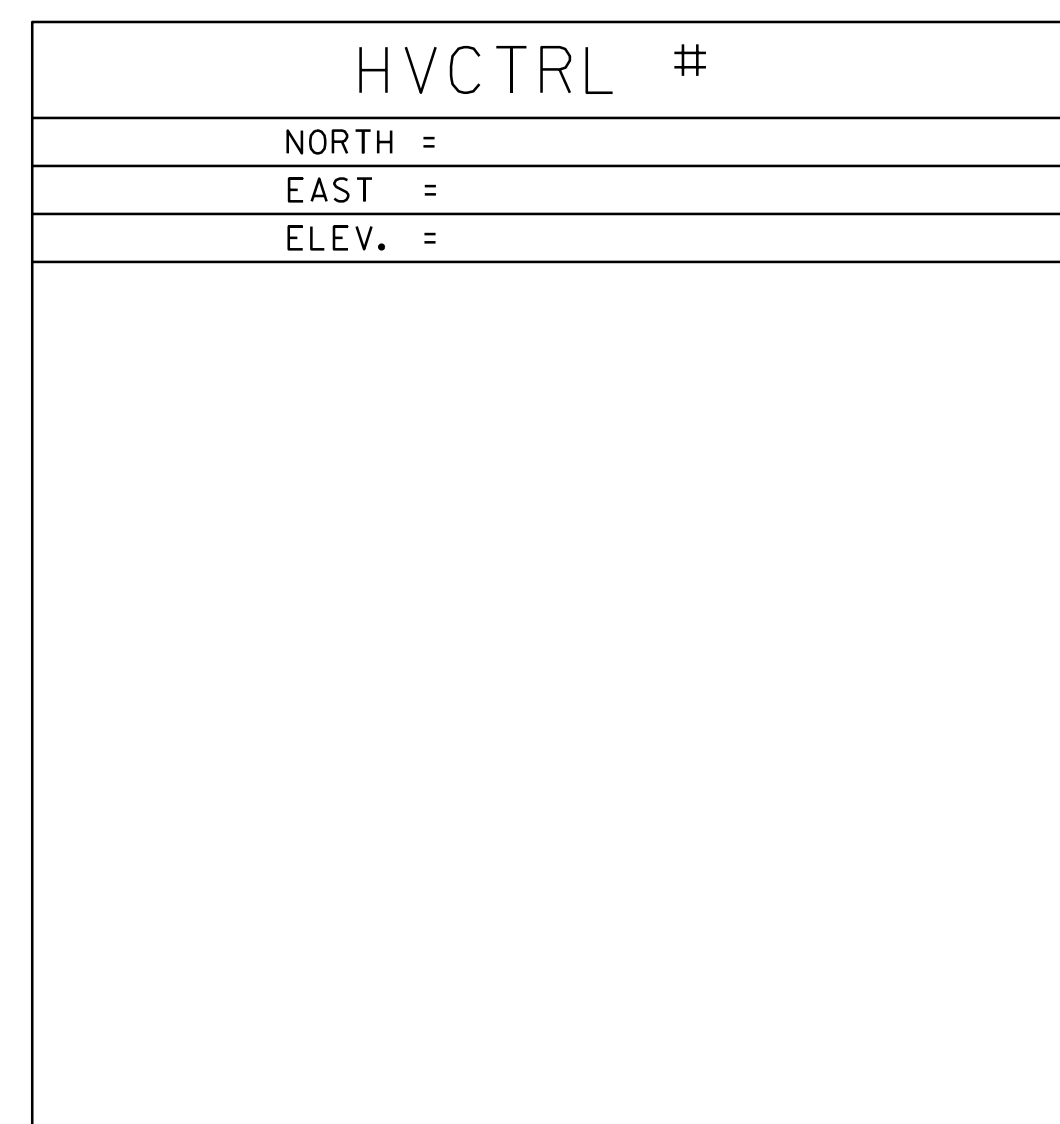
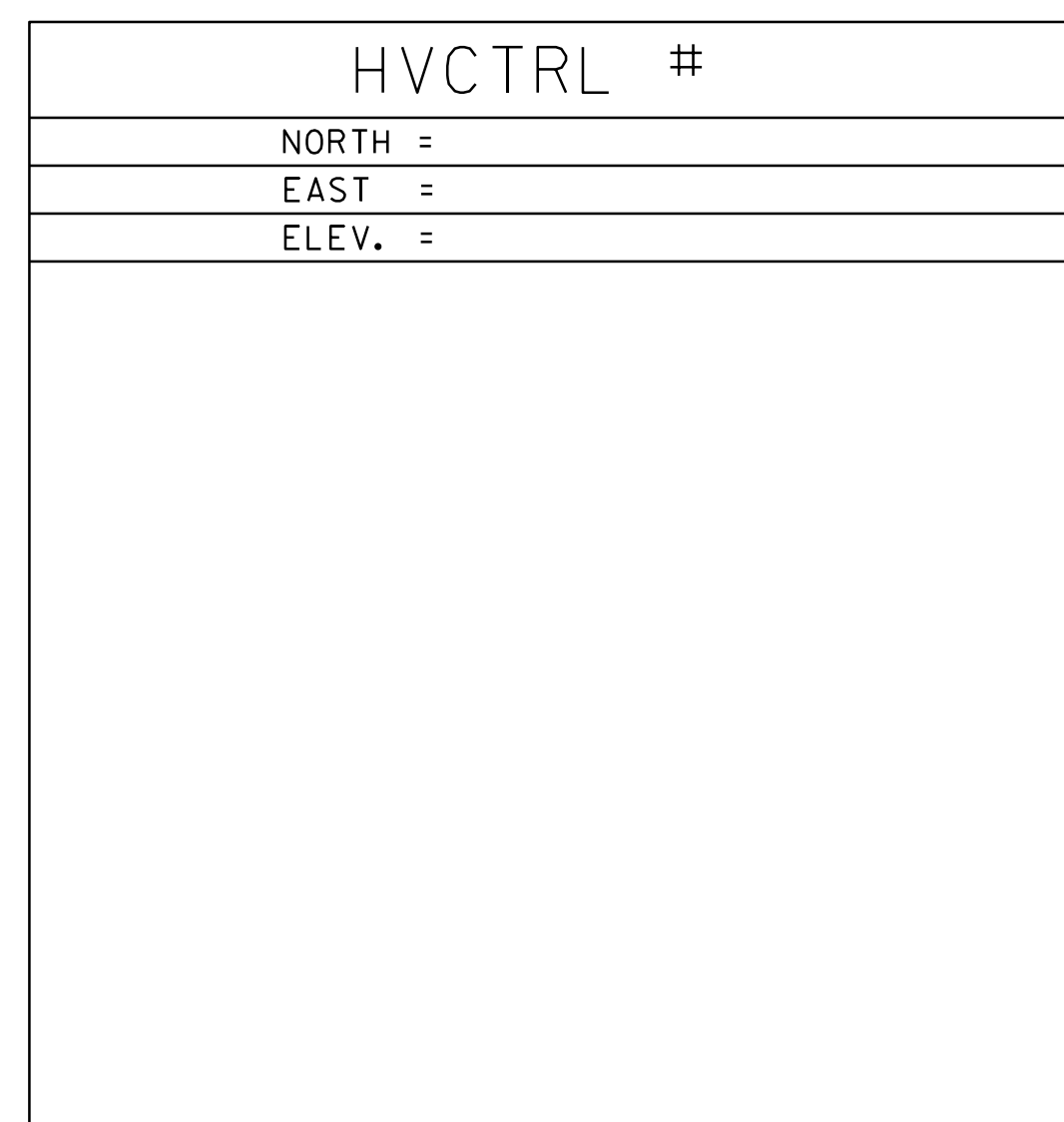
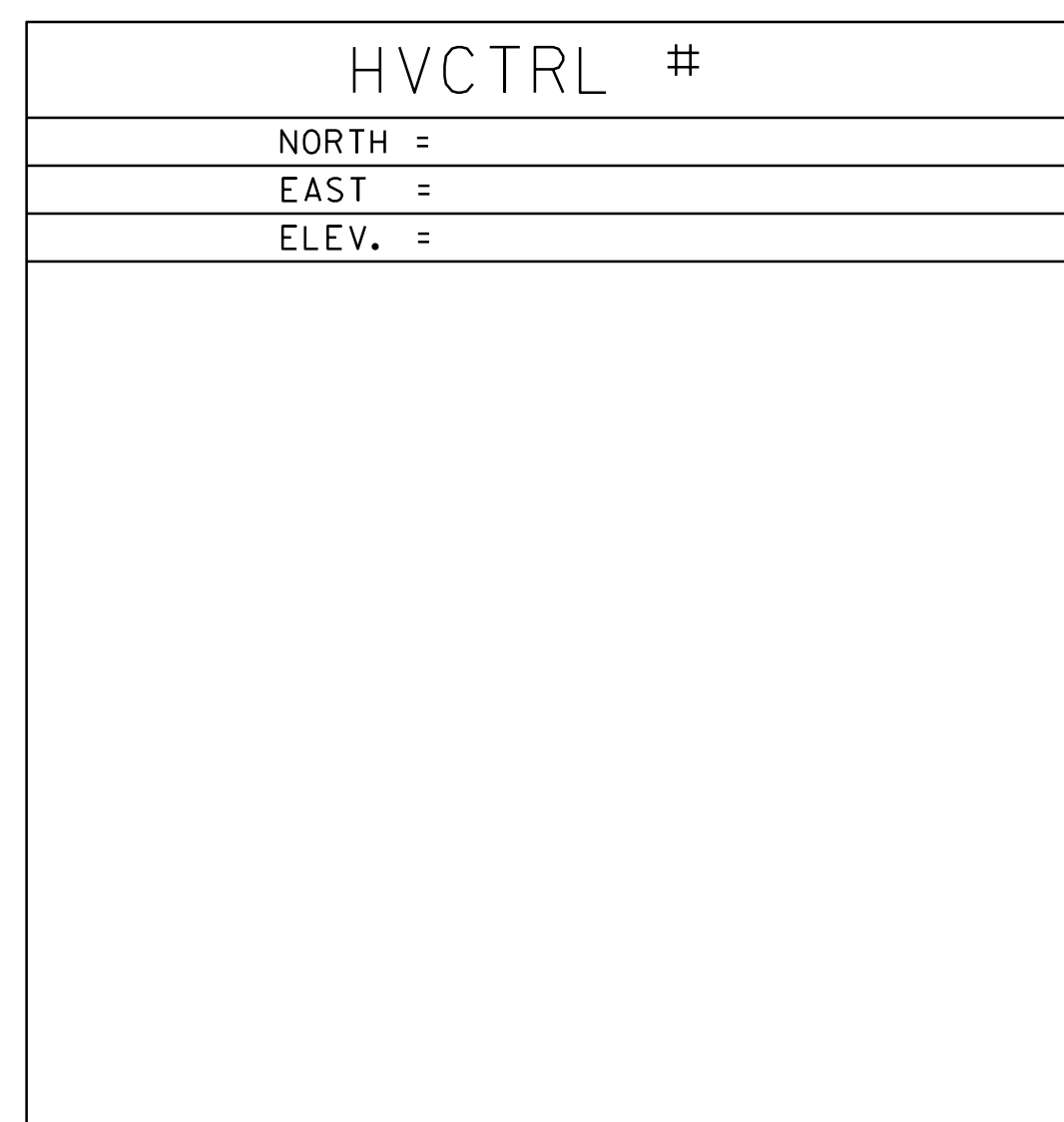
THE MARK IS A 3/4 INCH (19 MM) REBAR WITH RED CAP SET 2 INCHES (5 CM) BELOW GROUND SURFACE.

IT IS 32.0 FT (9.8 M) NORTH OF AND LEVEL WITH THE CENTERLINE OF ROUTE 30, 28.9 FT (8.8 M) NORTHWEST OF THE NORTH INLET END OF A 5 FT (1.5 M) BY 7.5 FT (2.3 M) CORRUGATED METAL PIPE (BRIDGE 83), 85.1 FT (25.9 M) SOUTHWEST OF A 12 INCH (30 CM) MAPLE, AND 21.8 FT (6.6 M) NORTHEAST OF MILE MARKER 0300/1126/0340.

SECONDARY CONTROL

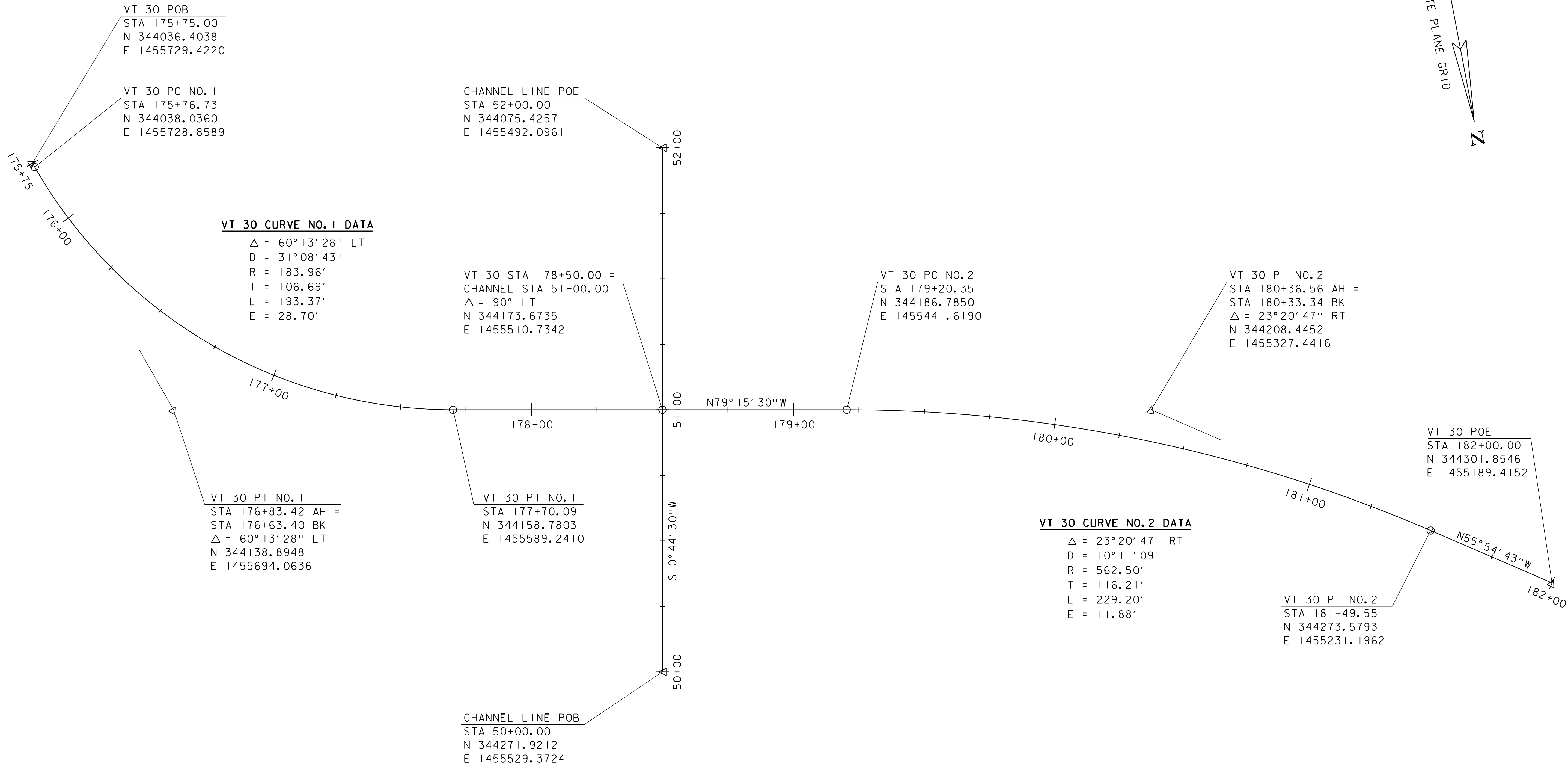
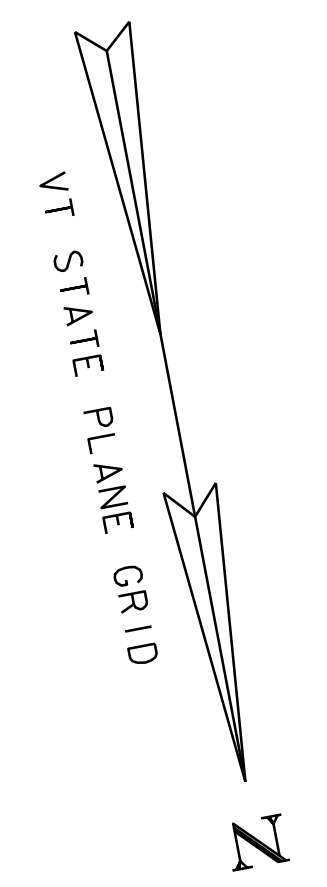


SECONDARY CONTROL



DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83(2011)
ADJUSTMENT	COMPASS

PROJECT NAME:	WELLS	PLOT DATE:	06-JUN-2019
PROJECT NUMBER:	STP CULV (63)	DRAWN BY:	H.MCGOWAN
FILE NAME:	sl9b089+1e.dgn	CHECKED BY:	L.MCACORMACK
PROJECT LEADER:	J.B. MCCARTHY	SHEET	6 OF 22
DESIGNED BY:	G. ROY		
TIES			



VT 30 POB  
 STA 175+75.00  
 N 344036.4038  
 E 1455729.4220

VT 30 PC NO. 1  
 STA 175+76.73  
 N 344038.0360  
 E 1455728.8589

CHANNEL LINE POE  
 STA 52+00.00  
 N 344075.4257  
 E 1455492.0961

**VT 30 CURVE NO. 1 DATA**  
 $\Delta = 60^\circ 13' 28''$  LT  
 $D = 31^\circ 08' 43''$   
 $R = 183.96'$   
 $T = 106.69'$   
 $L = 193.37'$   
 $E = 28.70'$

VT 30 STA 178+50.00 =  
 CHANNEL STA 51+00.00  
 $\Delta = 90^\circ$  LT  
 N 344173.6735  
 E 1455510.7342

VT 30 PC NO. 2  
 STA 179+20.35  
 N 344186.7850  
 E 1455441.6190

VT 30 PI NO. 2  
 STA 180+36.56 AH =  
 STA 180+33.34 BK  
 $\Delta = 23^\circ 20' 47''$  RT  
 N 344208.4452  
 E 1455327.4416

VT 30 PI NO. 1  
 STA 176+83.42 AH =  
 STA 176+63.40 BK  
 $\Delta = 60^\circ 13' 28''$  LT  
 N 344138.8948  
 E 1455694.0636

VT 30 PT NO. 1  
 STA 177+70.09  
 N 344158.7803  
 E 1455589.2410

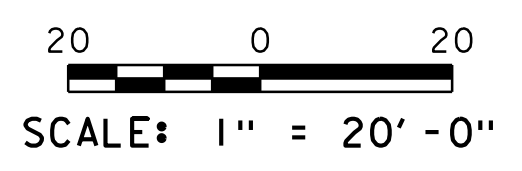
**VT 30 CURVE NO. 2 DATA**  
 $\Delta = 23^\circ 20' 47''$  RT  
 $D = 10^\circ 11' 09''$   
 $R = 562.50'$   
 $T = 116.21'$   
 $L = 229.20'$   
 $E = 11.88'$

VT 30 PT NO. 2  
 STA 181+49.55  
 N 344273.5793  
 E 1455231.1962

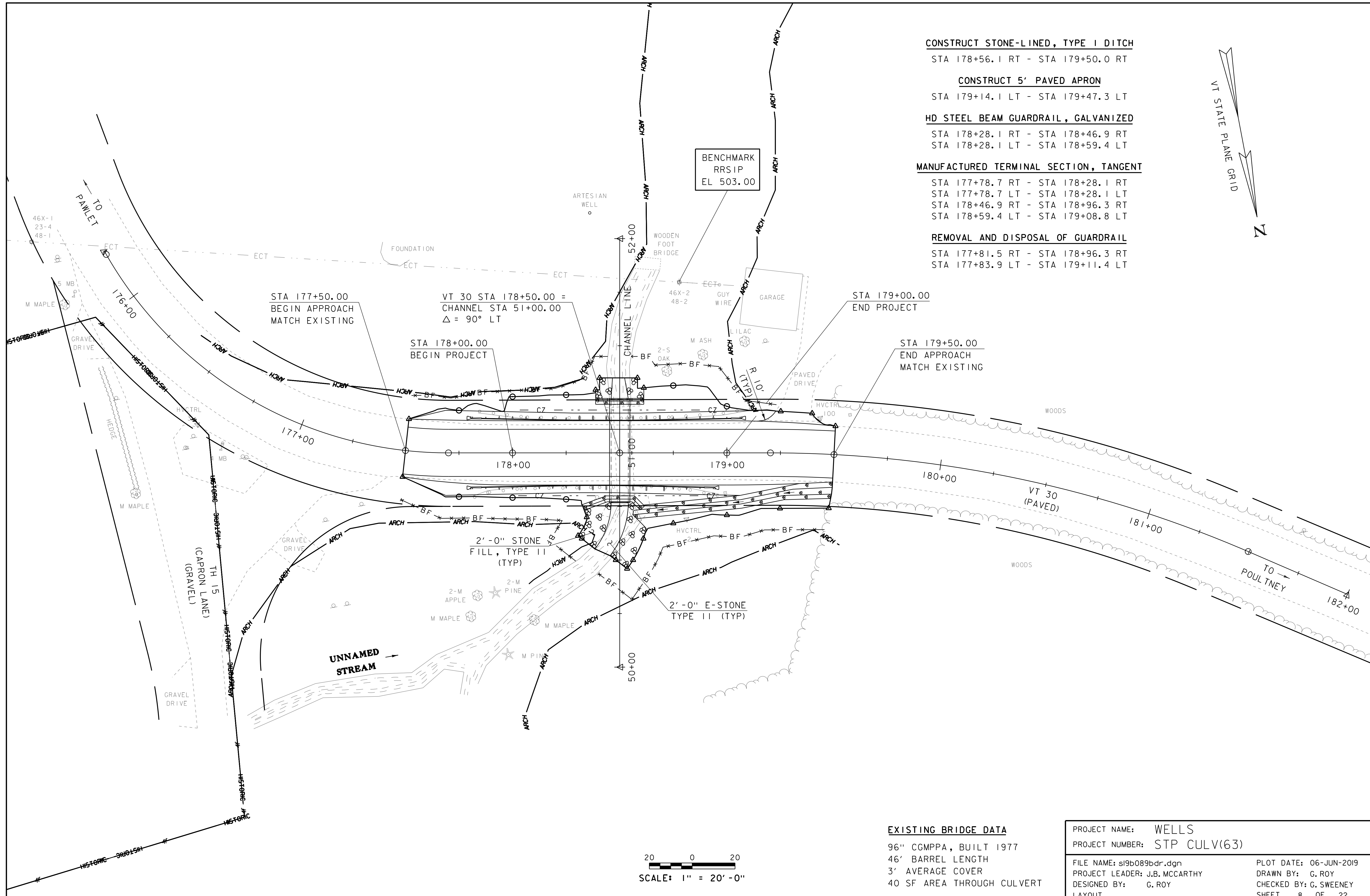
VT 30 POE  
 STA 182+00.00  
 N 344301.8546  
 E 1455189.4152

CHANNEL LINE POB  
 STA 50+00.00  
 N 344271.9212  
 E 1455529.3724

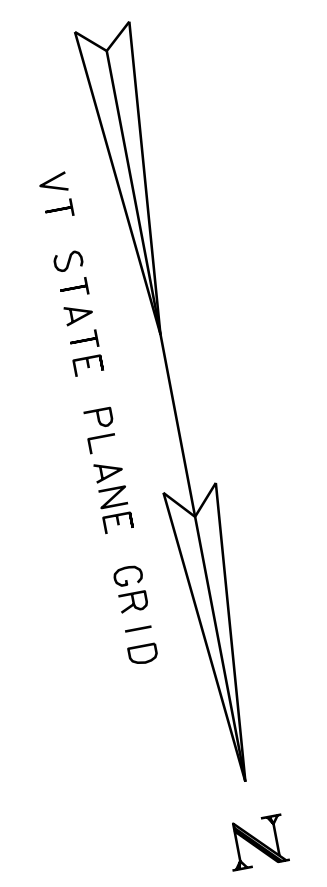
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (2011)
ADJUSTMENT	Compass



PROJECT NAME: WELLS	
PROJECT NUMBER: STP CULV(63)	
FILE NAME: s19b089align.dgn	PLOT DATE: 06-JUN-2019
PROJECT LEADER: J.B. MCCARTHY	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: G. SWEENEY
ALIGNMENT	SHEET 7 OF 22



- CONSTRUCT STONE-LINED, TYPE I DITCH**  
STA 178+56.1 RT - STA 179+50.0 RT
- CONSTRUCT 5' PAVED APRON**  
STA 179+14.1 LT - STA 179+47.3 LT
- HD STEEL BEAM GUARDRAIL, GALVANIZED**  
STA 178+28.1 RT - STA 178+46.9 RT  
STA 178+28.1 LT - STA 178+59.4 LT
- MANUFACTURED TERMINAL SECTION, TANGENT**  
STA 177+78.7 RT - STA 178+28.1 RT  
STA 177+78.7 LT - STA 178+28.1 LT  
STA 178+46.9 RT - STA 178+96.3 RT  
STA 178+59.4 LT - STA 179+08.8 LT
- REMOVAL AND DISPOSAL OF GUARDRAIL**  
STA 177+81.5 RT - STA 178+96.3 RT  
STA 177+83.9 LT - STA 179+11.4 LT



STA 177+50.00  
BEGIN APPROACH  
MATCH EXISTING

VT 30 STA 178+50.00 =  
CHANNEL STA 51+00.00  
Δ = 90° LT

STA 178+00.00  
BEGIN PROJECT

STA 179+00.00  
END PROJECT

STA 179+50.00  
END APPROACH  
MATCH EXISTING

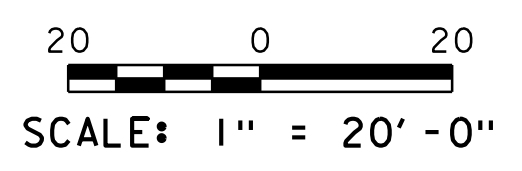
2'-0" STONE  
FILL, TYPE II  
(TYP)

2'-0" E-STONE  
TYPE II (TYP)

UNNAMED  
STREAM

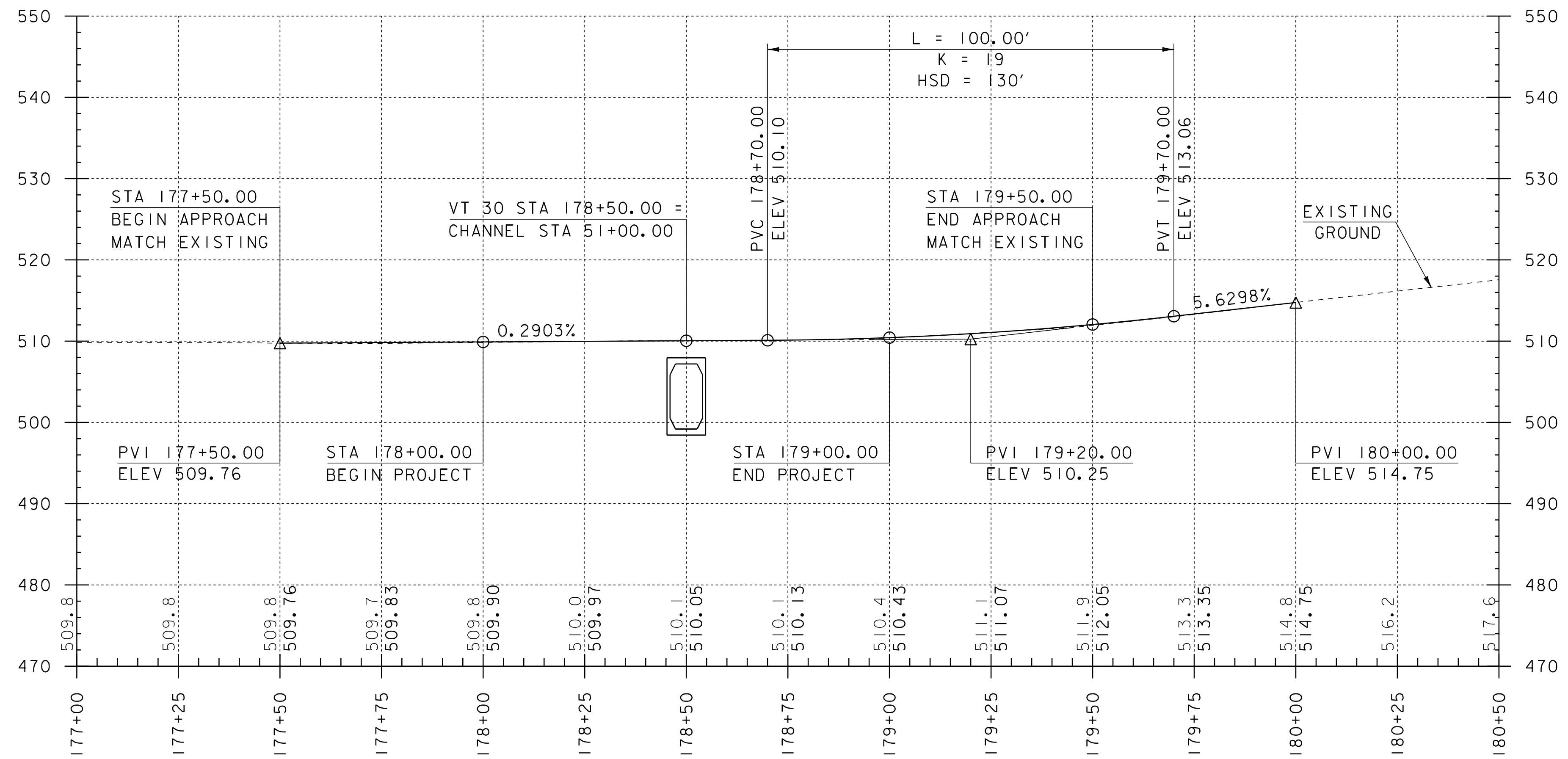
**EXISTING BRIDGE DATA**

96" CGMPA, BUILT 1977  
46' BARREL LENGTH  
3' AVERAGE COVER  
40 SF AREA THROUGH CULVERT



PROJECT NAME: WELLS	PLOT DATE: 06-JUN-2019
PROJECT NUMBER: STP CULV(63)	DRAWN BY: G. ROY
FILE NAME: s19b089bdr.dgn	CHECKED BY: G. SWEENEY
PROJECT LEADER: J.B. MCCARTHY	SHEET 8 OF 22
DESIGNED BY: G. ROY	
LAYOUT	





**PROFILE ALONG VT 30**

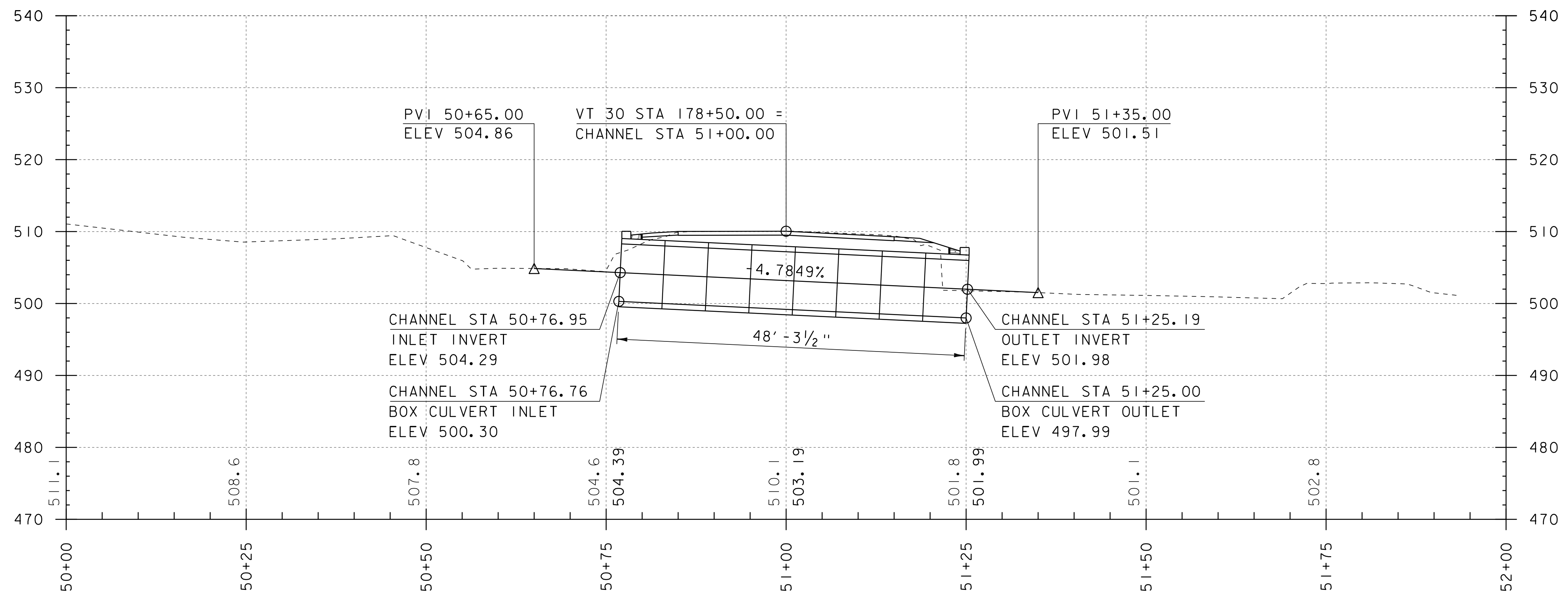
HORIZONTAL SCALE: 1" = 20'-0"  
 VERTICAL SCALE: 1" = 10'-0"

**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: WELLS	
PROJECT NUMBER: STP CULV (63)	
FILE NAME: sl9b089pro.dgn	PLOT DATE: 06-JUN-2019
PROJECT LEADER: J.B. MCCARTHY	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: G. SWEENEY
VT 30 PROFILE	SHEET 9 OF 22



**PROFILE ALONG CHANNEL LINE**

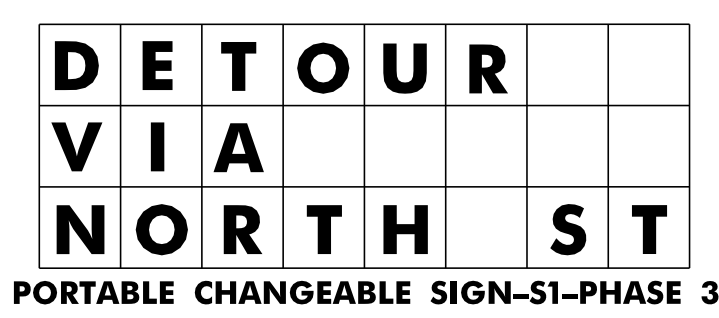
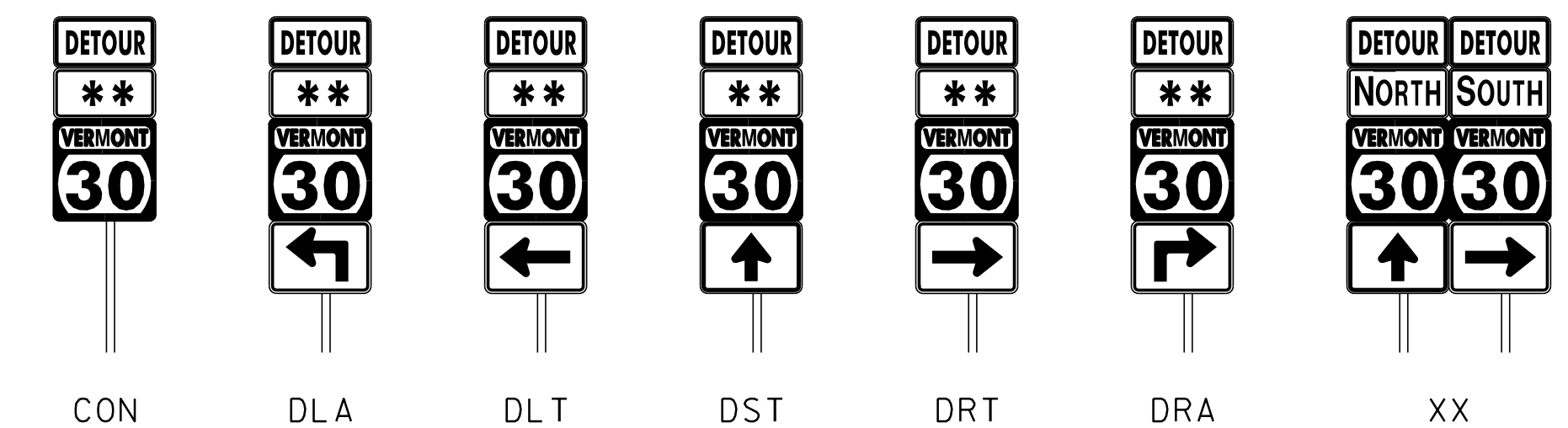
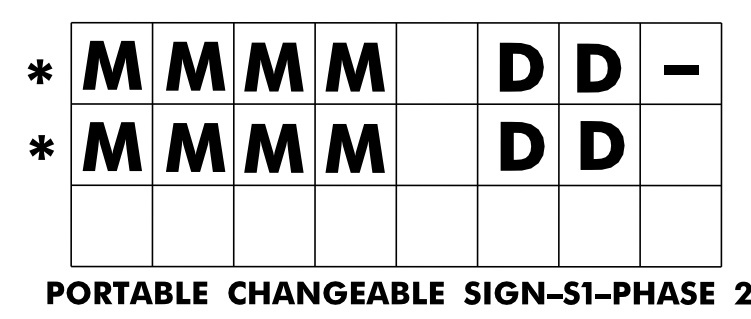
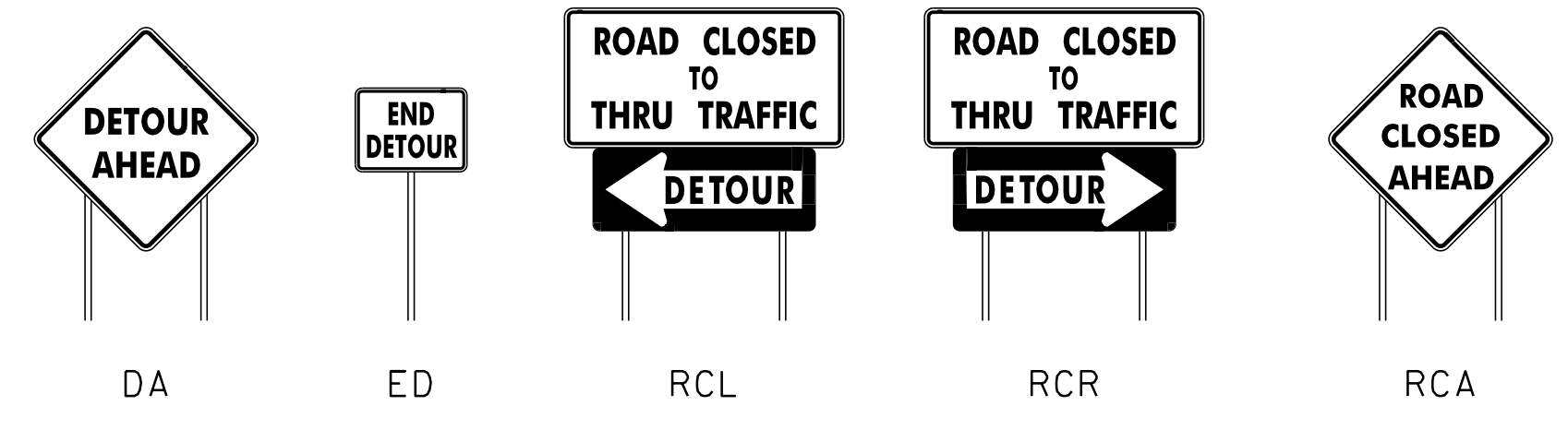
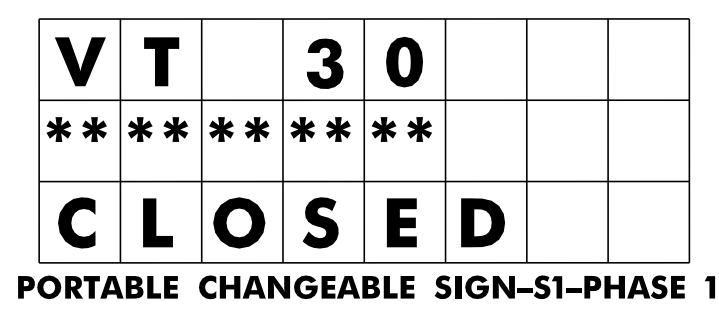
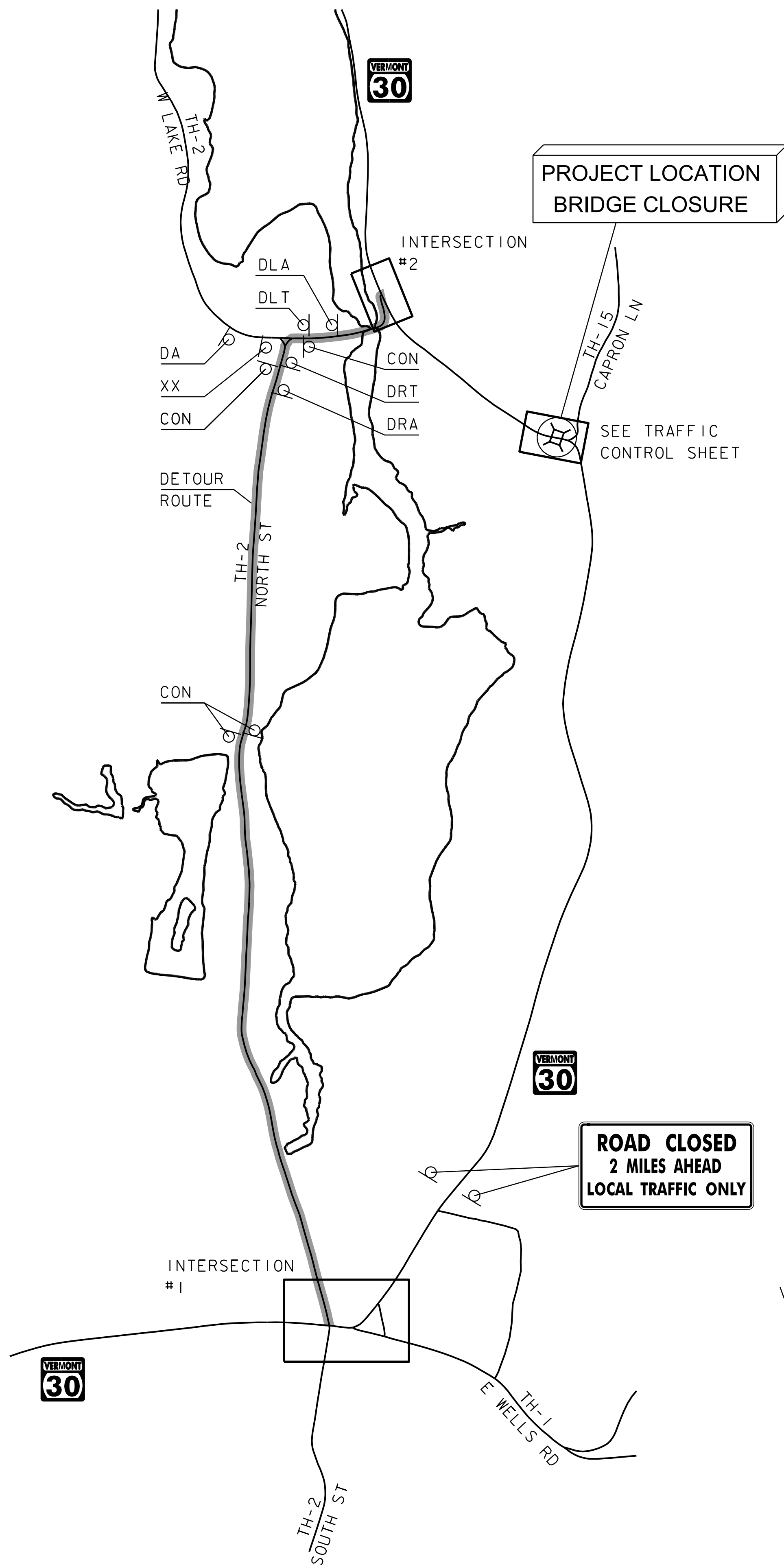
HORIZONTAL SCALE: 1" = 10'-0"  
 VERTICAL SCALE: 1" = 10'-0"

**NOTE:**

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

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

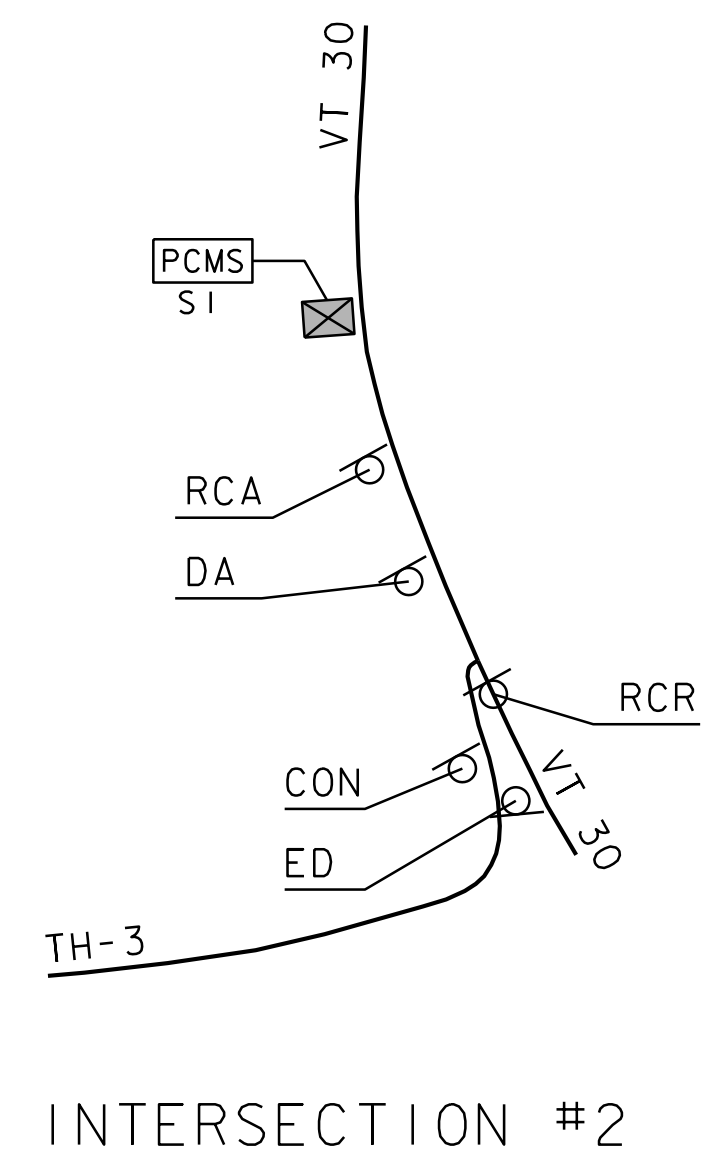
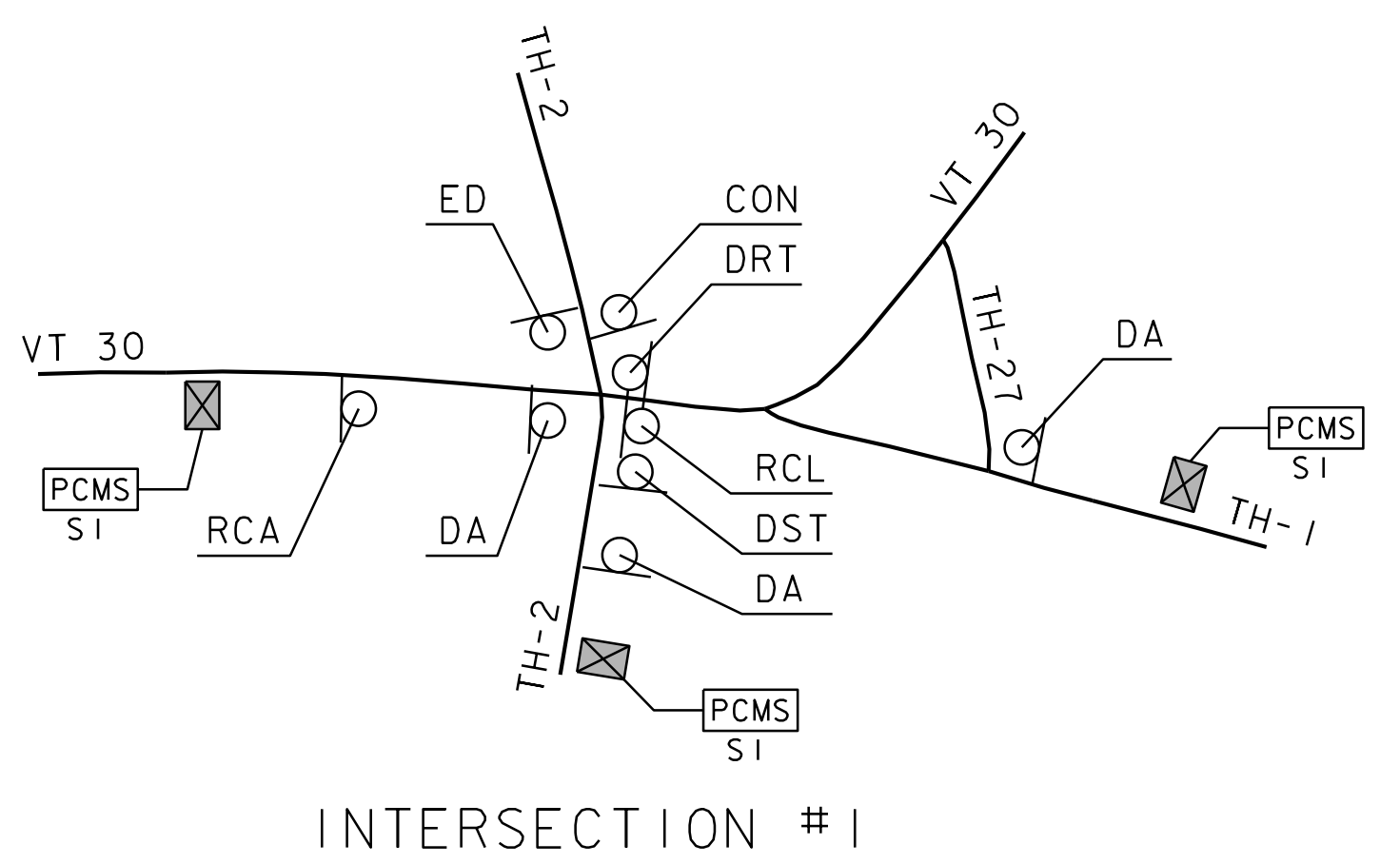
PROJECT NAME: WELLS	PLOT DATE: 06-JUN-2019
PROJECT NUMBER: STP CULV (63)	DRAWN BY: G. ROY
FILE NAME: s19b089pro.dgn	CHECKED BY: G. SWEENEY
PROJECT LEADER: J.B. MCCARTHY	SHEET 10 OF 22
DESIGNED BY: G. ROY	
CHANNEL LINE PROFILE	



DURING ACTUAL CLOSURE, REMOVE PHASE 2 FROM ALL PCMS  
 * M: MONTH, D: DAY  
 ** NORTH/SOUTH

**TRAFFIC CONTROL NOTES**

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF A SITE SPECIFIC TRAFFIC CONTROL PLAN FOR ALL STAGES OF CONSTRUCTION. THE PLAN SHALL CLEARLY DETAIL HOW TRAFFIC WILL BE MAINTAINED. THE PLAN SHALL SPECIFY ALL CONSTRUCTION ACTIVITIES REQUIRING ALTERNATING ONE WAY TRAFFIC, RELATE THOSE ACTIVITIES TO THE CONSTRUCTION SCHEDULE, AND SHOW APPROPRIATE TEMPORARY TRAFFIC CONTROL. THIS SHALL BE DONE PER SECTION 641, AND PAID FOR UNDER ITEM 641.11 "TRAFFIC CONTROL, ALL-INCLUSIVE".
2. VT ROUTE 30 WILL BE CLOSED AT THE BRIDGE FOR THE ENTIRE BRIDGE CLOSURE PERIOD (BCP). A SIGNED DETOUR SHALL BE PROVIDED AS SHOWN IN THE PLANS. PAYMENT FOR THE DETOUR SIGNING SHALL BE INCLUDED IN ITEM 641.11 "TRAFFIC CONTROL, ALL-INCLUSIVE". PORTABLE MESSAGE SIGNS SHALL BE INCLUDED UNDER ITEM 641.11 "TRAFFIC CONTROL, ALL-INCLUSIVE".
3. ALL SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD. FOR ADDITIONAL SIGNING INSTRUCTIONS, SEE THE T SERIES OF THE STANDARD DRAWINGS. WHERE CONFLICTS EXIST, THE MUTCD SHALL GOVERN.
4. CONFLICTING SIGNS SHALL BE COVERED.



PROJECT NAME: WELLS	
PROJECT NUMBER: STP CULV(63)	
FILE NAME: s19b089detour.dgn	PLOT DATE: 06-JUN-2019
PROJECT LEADER: J.B. MCCARTHY	DRAWN BY: D.D. BEARD
DESIGNED BY: G. SWEENEY	CHECKED BY: G. ROY
DETOUR SHEET	SHEET 11 OF 22



STA 167+25



STA 172+25

**ROAD  
CLOSED**  
STA 172+25

**ROAD  
CLOSED**  
STA 179+20



STA 184+25



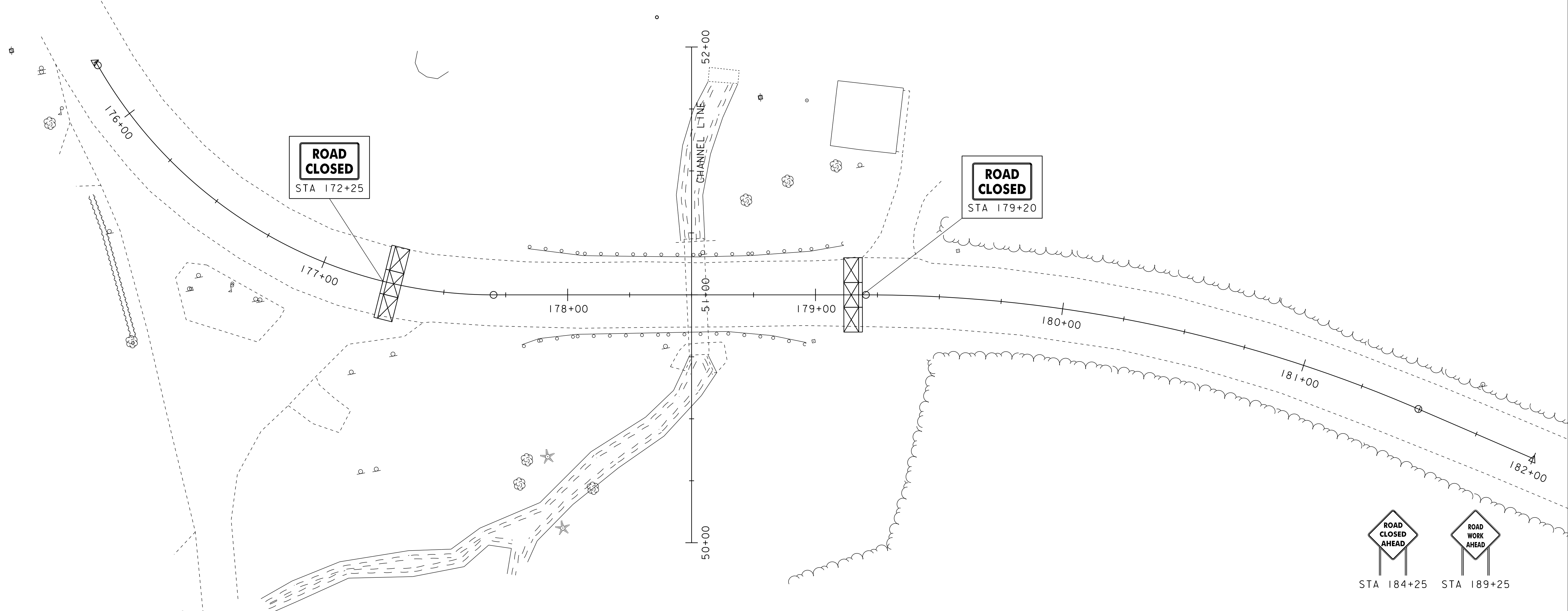
STA 189+25

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

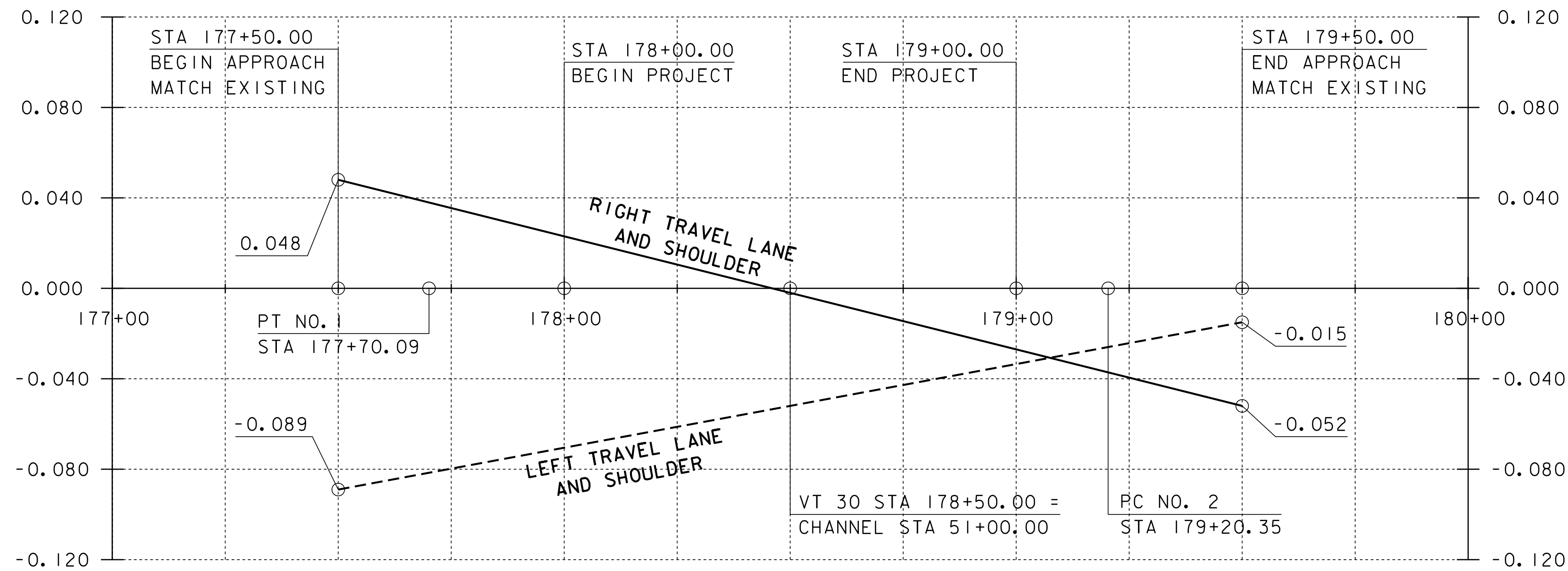
PROJECT NAME: WELLS  
PROJECT NUMBER: STP CULV(63)

FILE NAME: s19b089detour.dgn  
PROJECT LEADER: J.B. MCCARTHY  
DESIGNED BY: G. SWEENEY  
TRAFFIC CONTROL LAYOUT

PLOT DATE: 06-JUN-2019  
DRAWN BY: D.D. BEARD  
CHECKED BY: G. ROY  
SHEET 12 OF 22

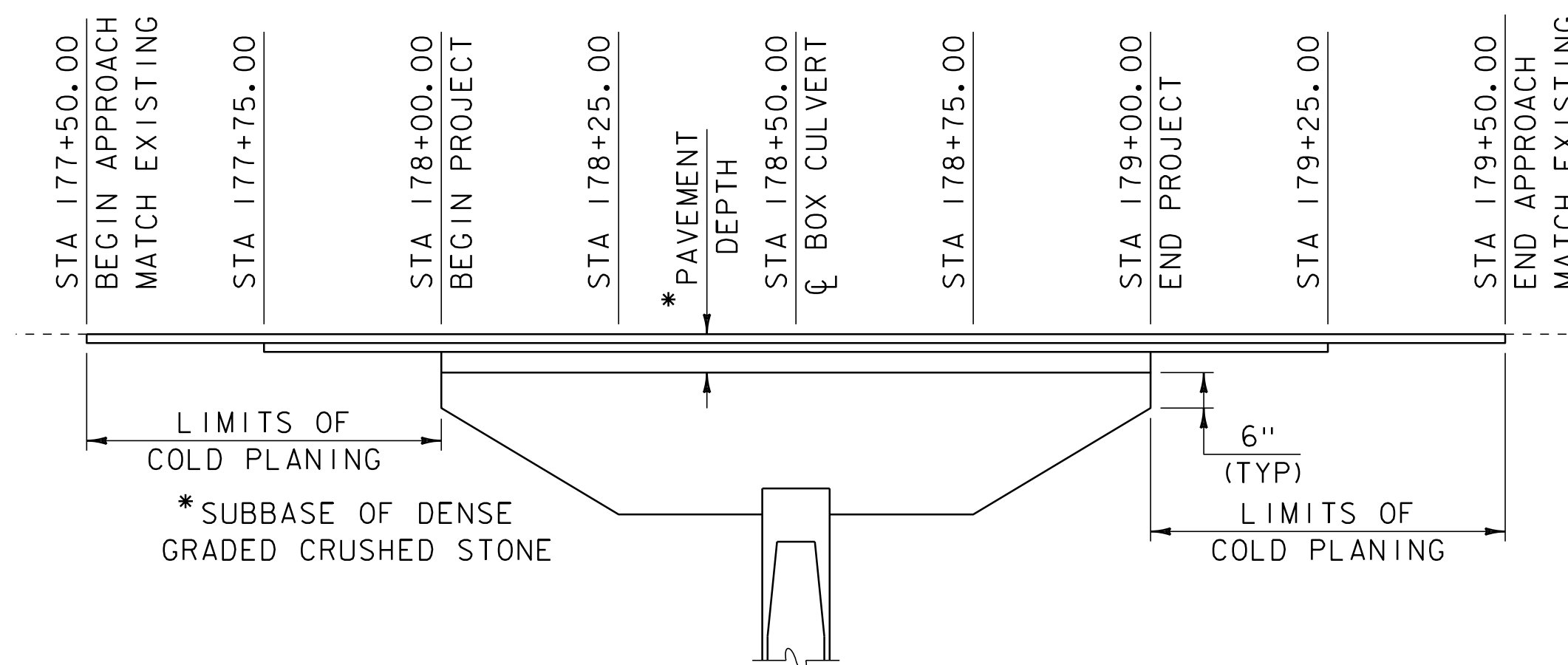






### VT 30 BANKING DIAGRAM

HORIZONTAL SCALE: 1" = 20' - 0"  
 VERTICAL SCALE: 1" = 0.040' /'



### VT 30 MATERIAL TRANSITION

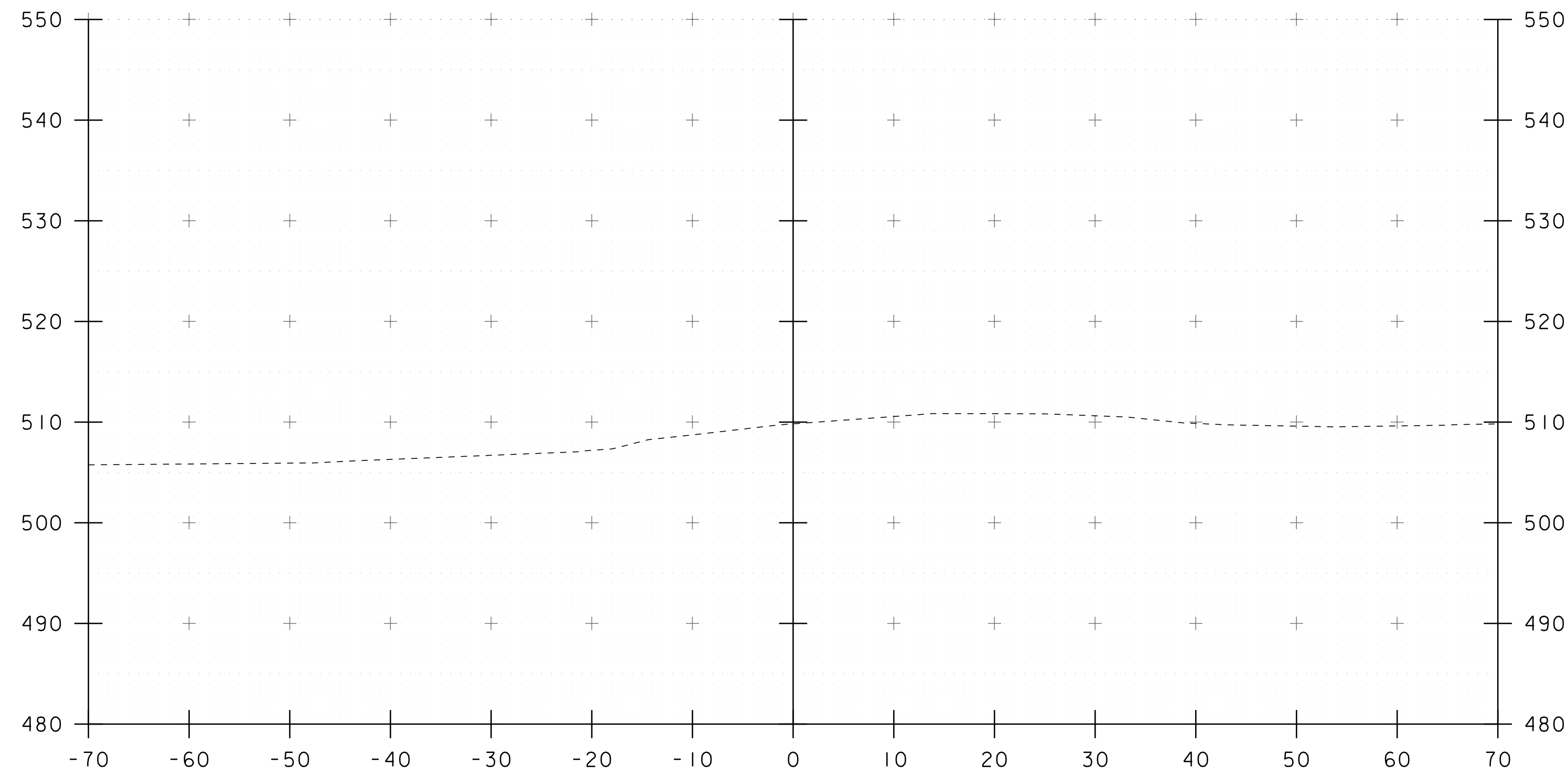
HORIZONTAL SCALE: 1" = 20' - 0"  
 VERTICAL SCALE: 1" = 2' - 0"

*SEE VT 30 ROADWAY TYPICAL SECTION FOR PAVEMENT AND SUBBASE MATERIAL DESIGN INFORMATION.

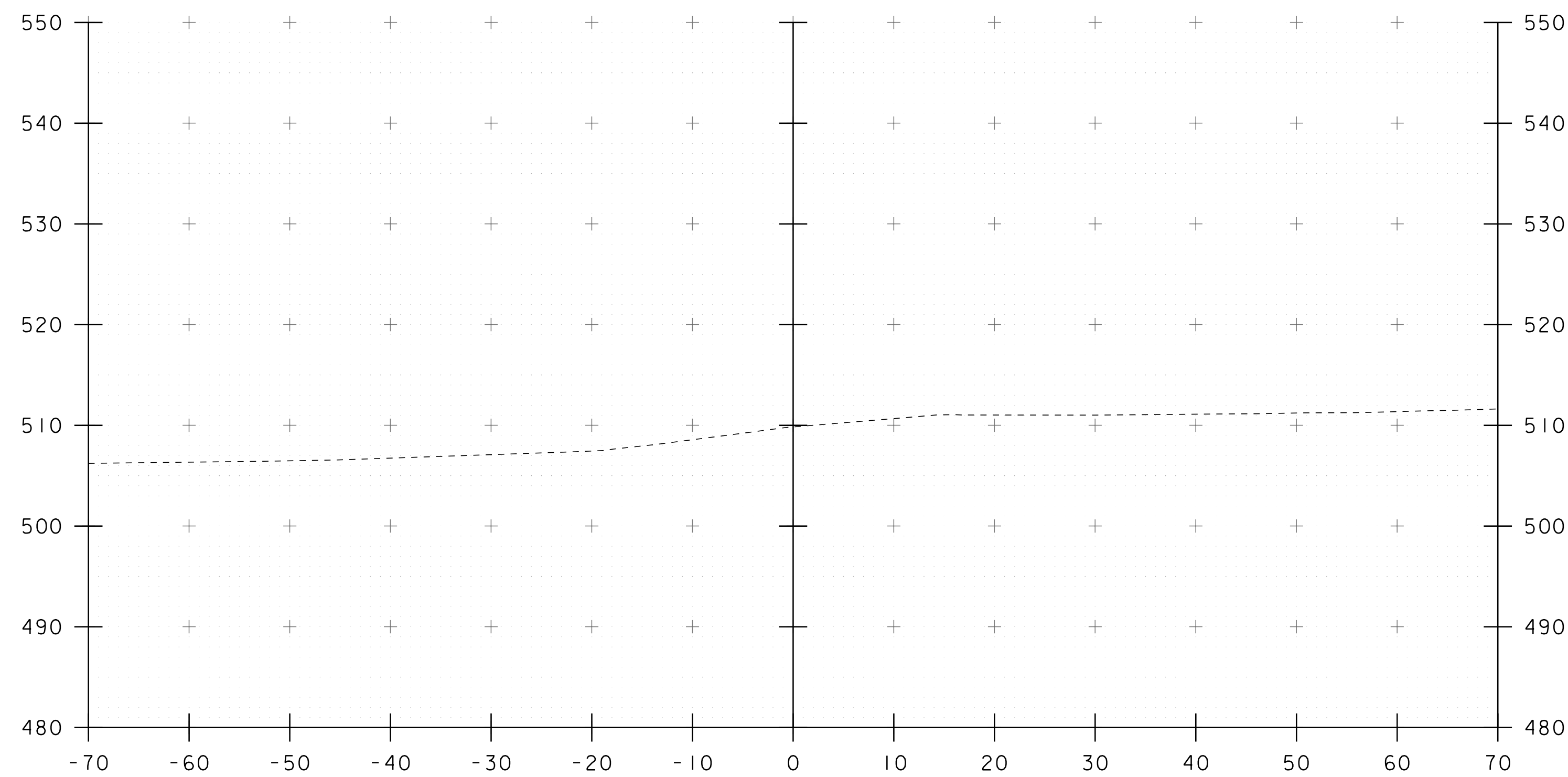
PROJECT NAME: WELLS  
 PROJECT NUMBER: STP CULV (63)

FILE NAME: s19b089pro.dgn  
 PROJECT LEADER: J.B. MCCARTHY  
 DESIGNED BY: G. ROY  
 VT 30 BANKING AND MATERIAL TRANSITION

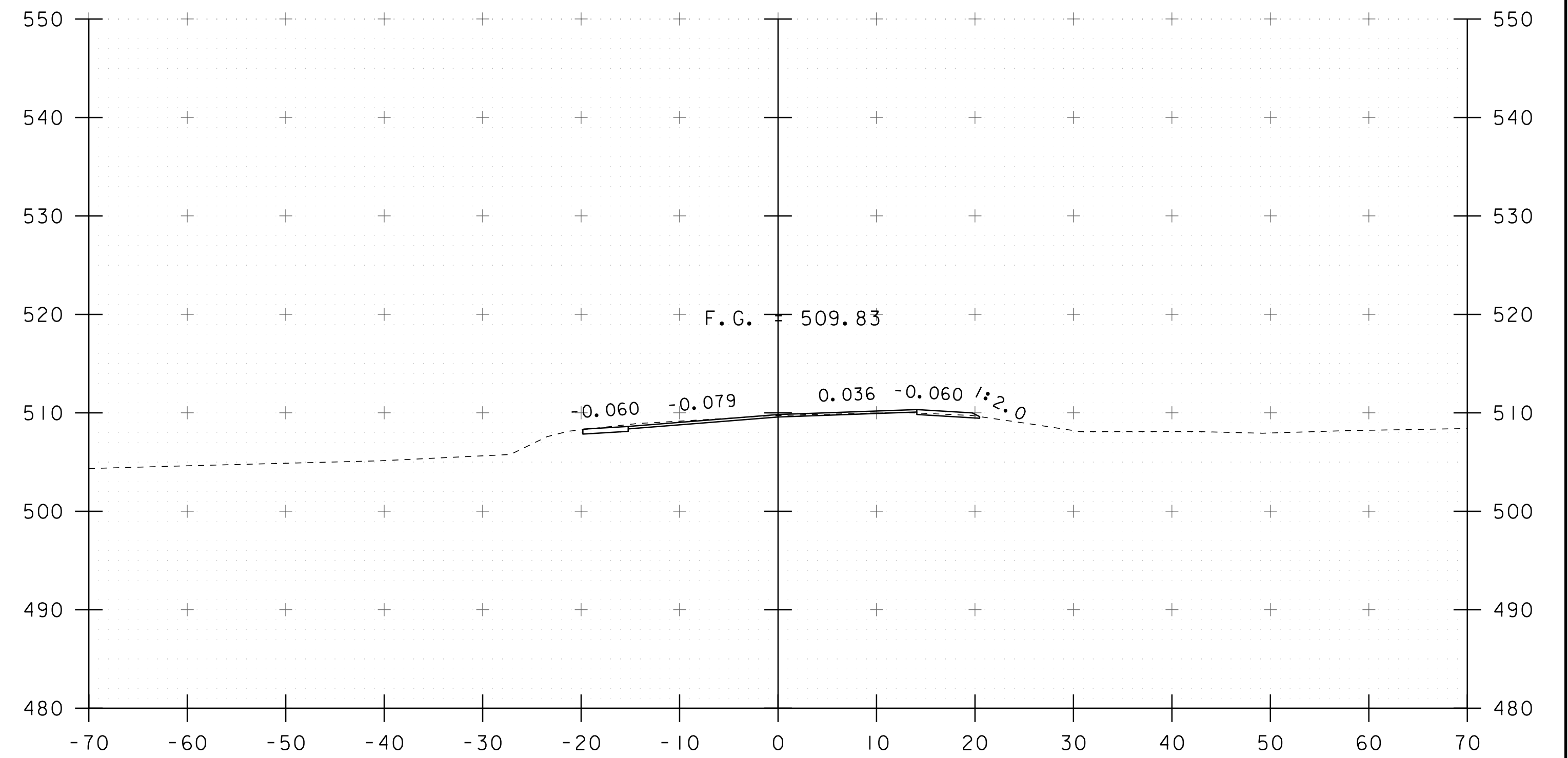
PLOT DATE: 06-JUN-2019  
 DRAWN BY: G. ROY  
 CHECKED BY: G. SWEENEY  
 SHEET 13 OF 22



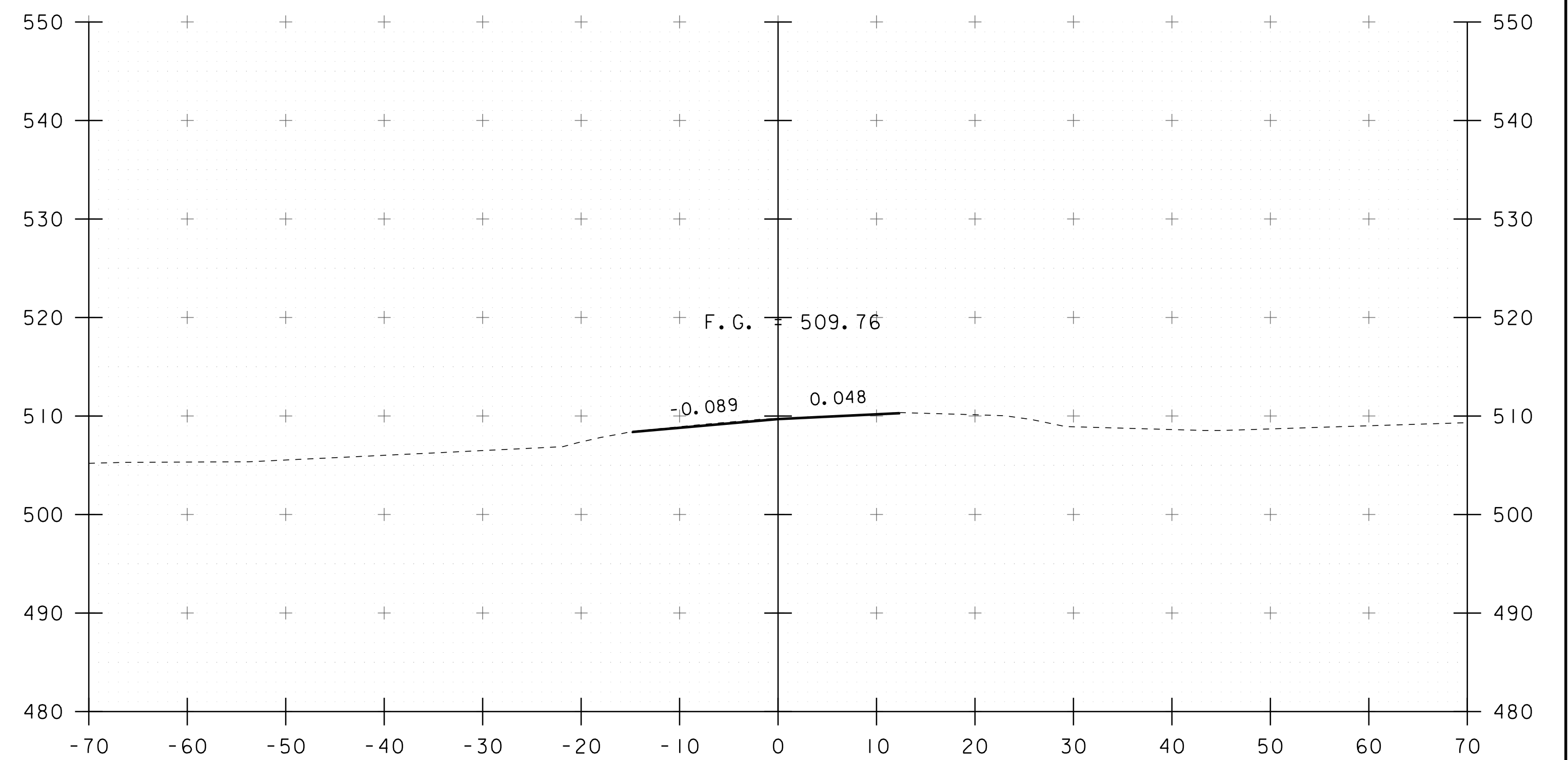
177+25



177+00

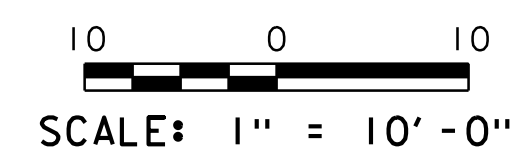


177+75



177+50

STA 177+50.00  
BEGIN APPROACH  
MATCH EXISTING

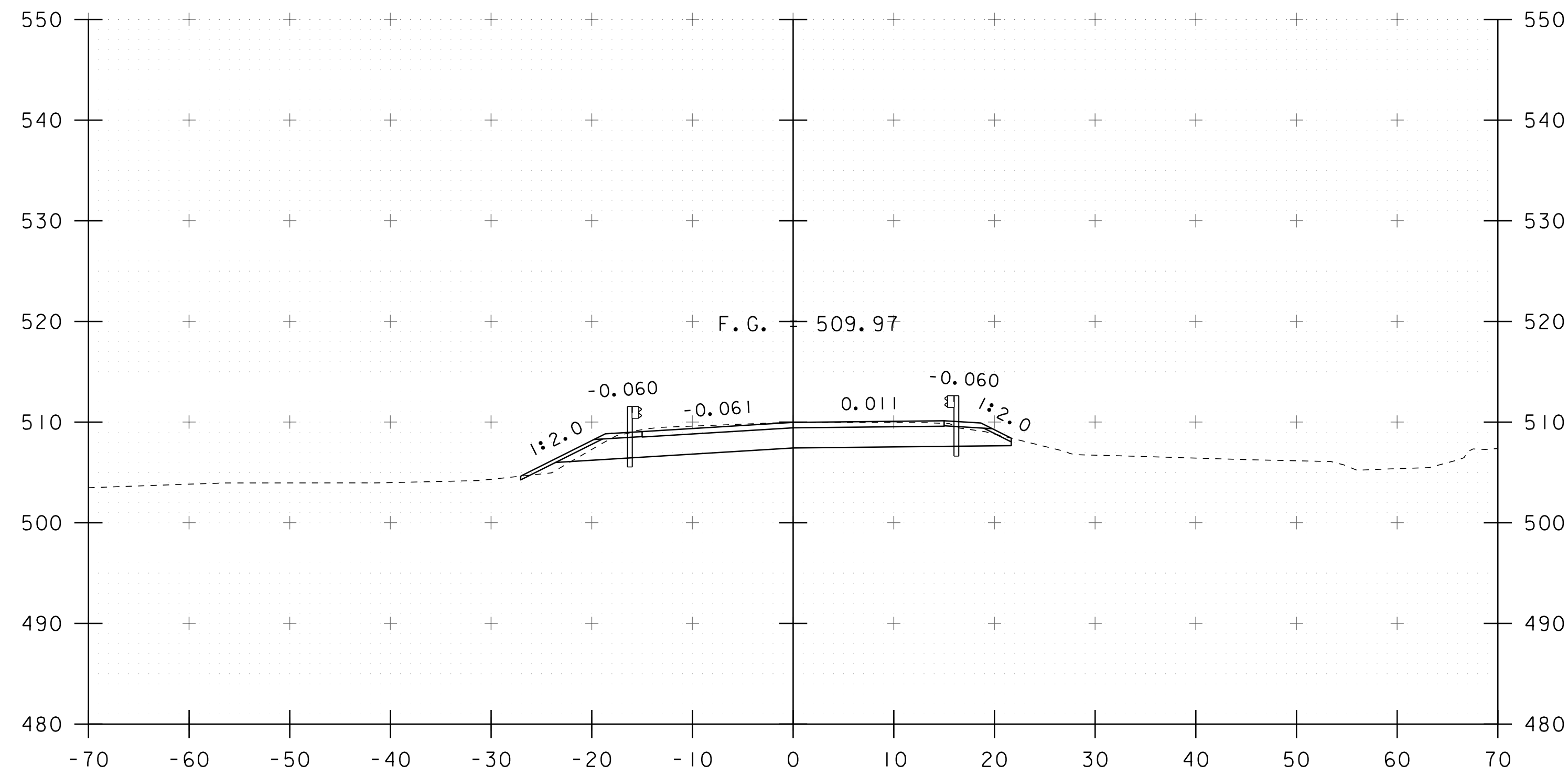


STA. 177+00 TO STA. 177+75

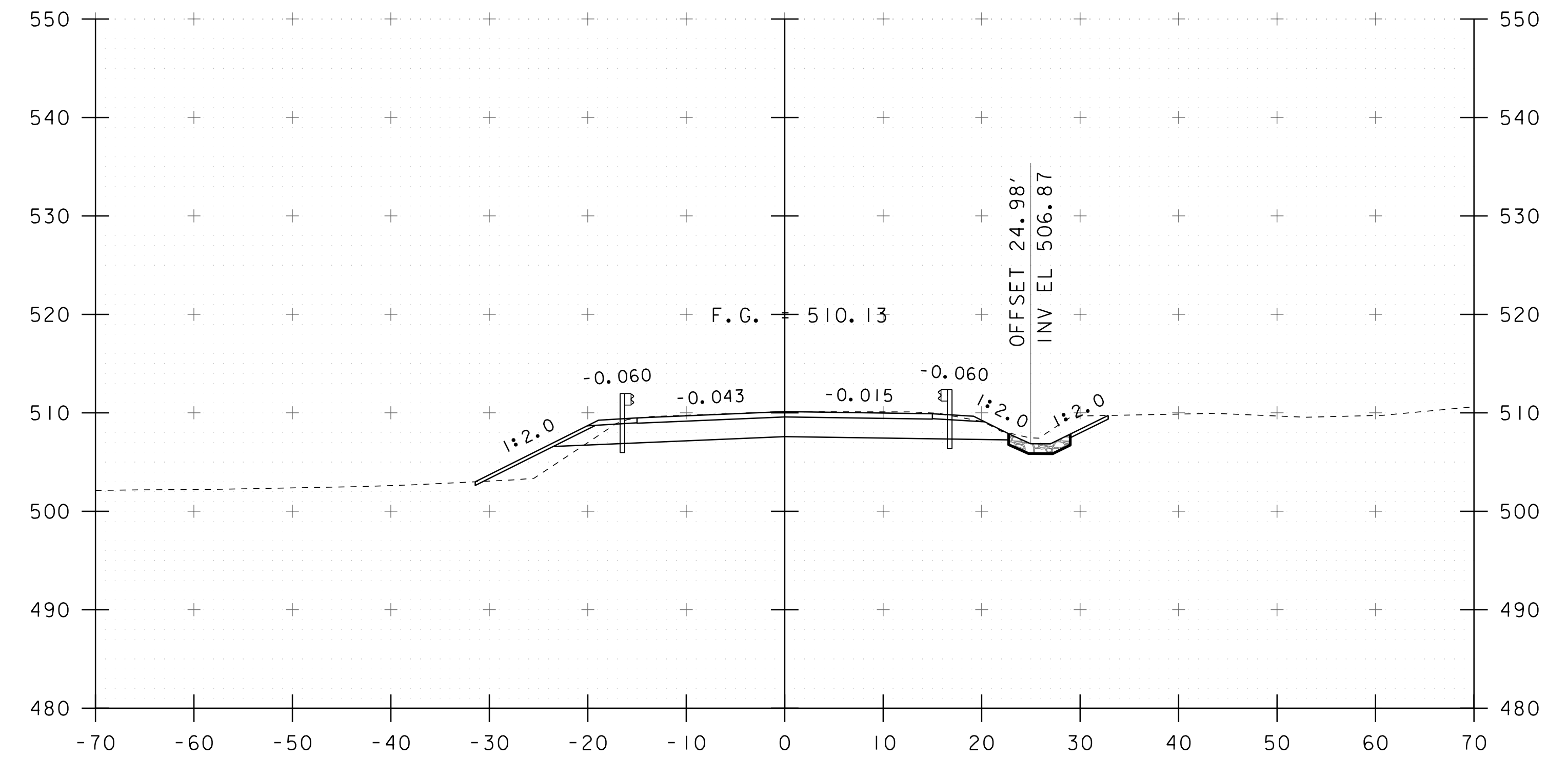
PROJECT NAME: WELLS  
PROJECT NUMBER: STP CULV (63)

FILE NAME: s19b089xsl.dgn  
PROJECT LEADER: J.B. MCCARTHY  
DESIGNED BY: G. ROY  
VT 30 CROSS SECTIONS (1)

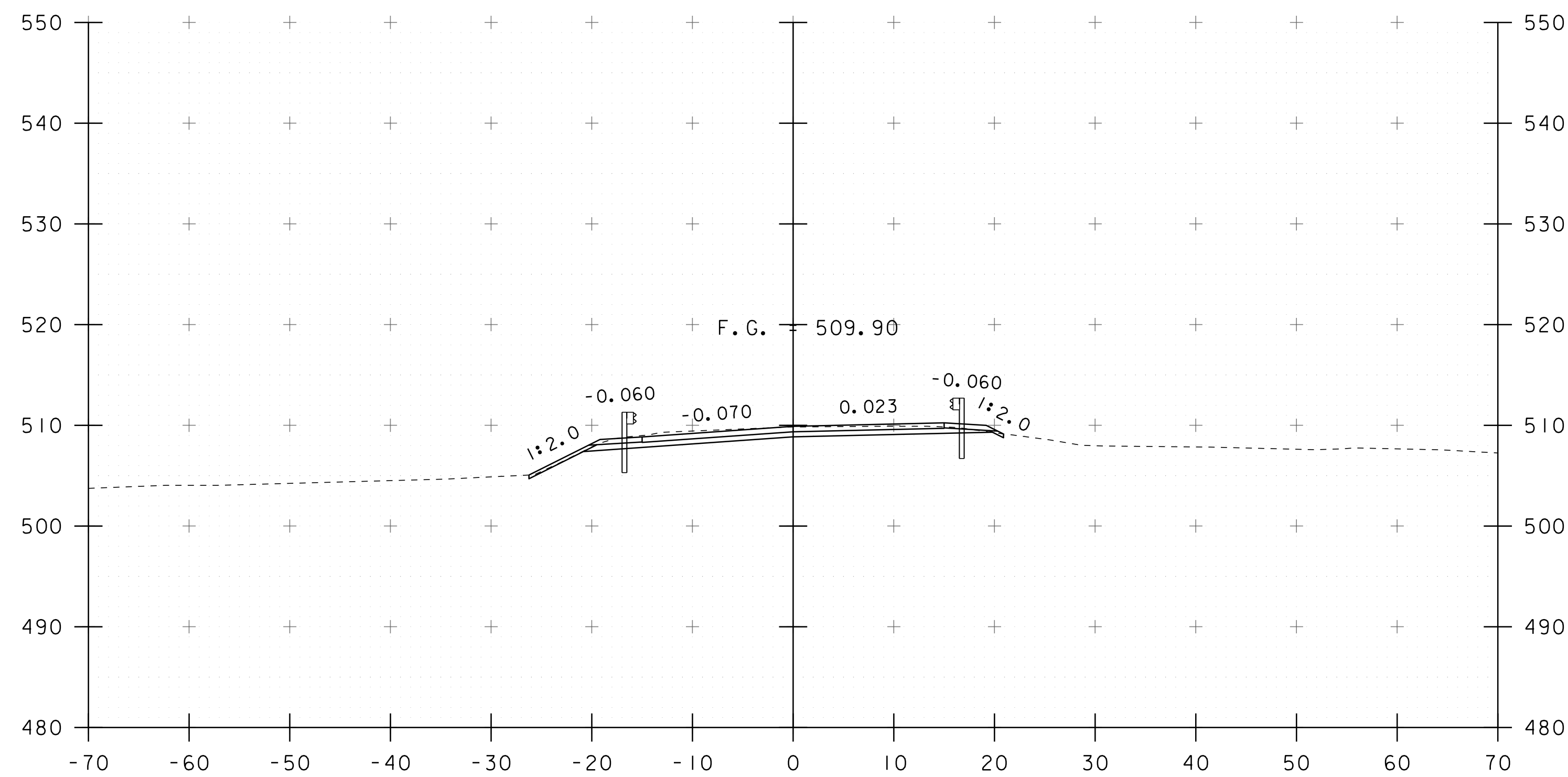
PLOT DATE: 06-JUN-2019  
DRAWN BY: G. ROY  
CHECKED BY: G. SWEENEY  
SHEET 14 OF 22



178+25

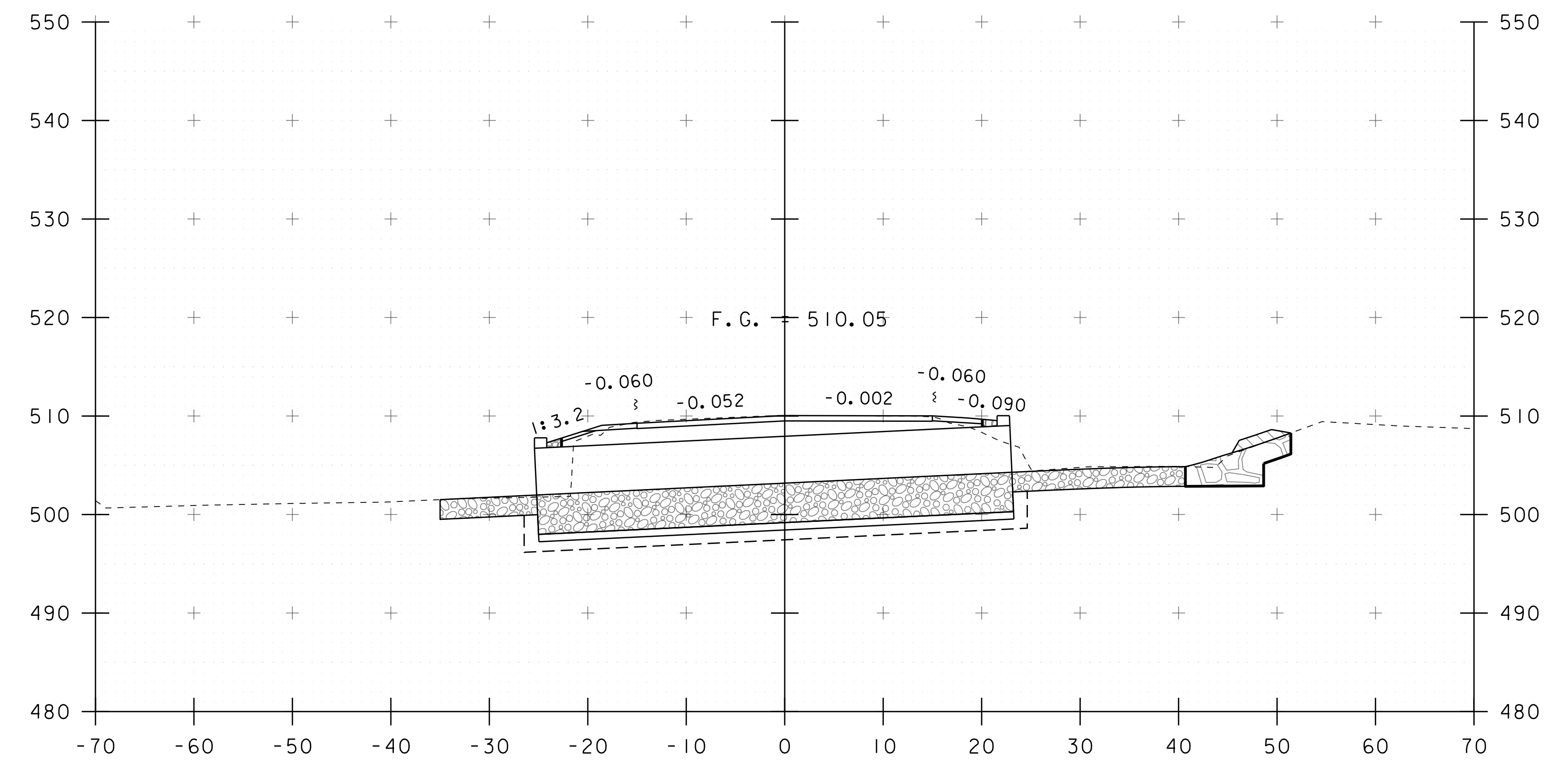


178+75



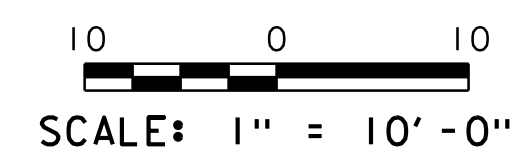
178+00

STA 178+00.00  
BEGIN BRIDGE



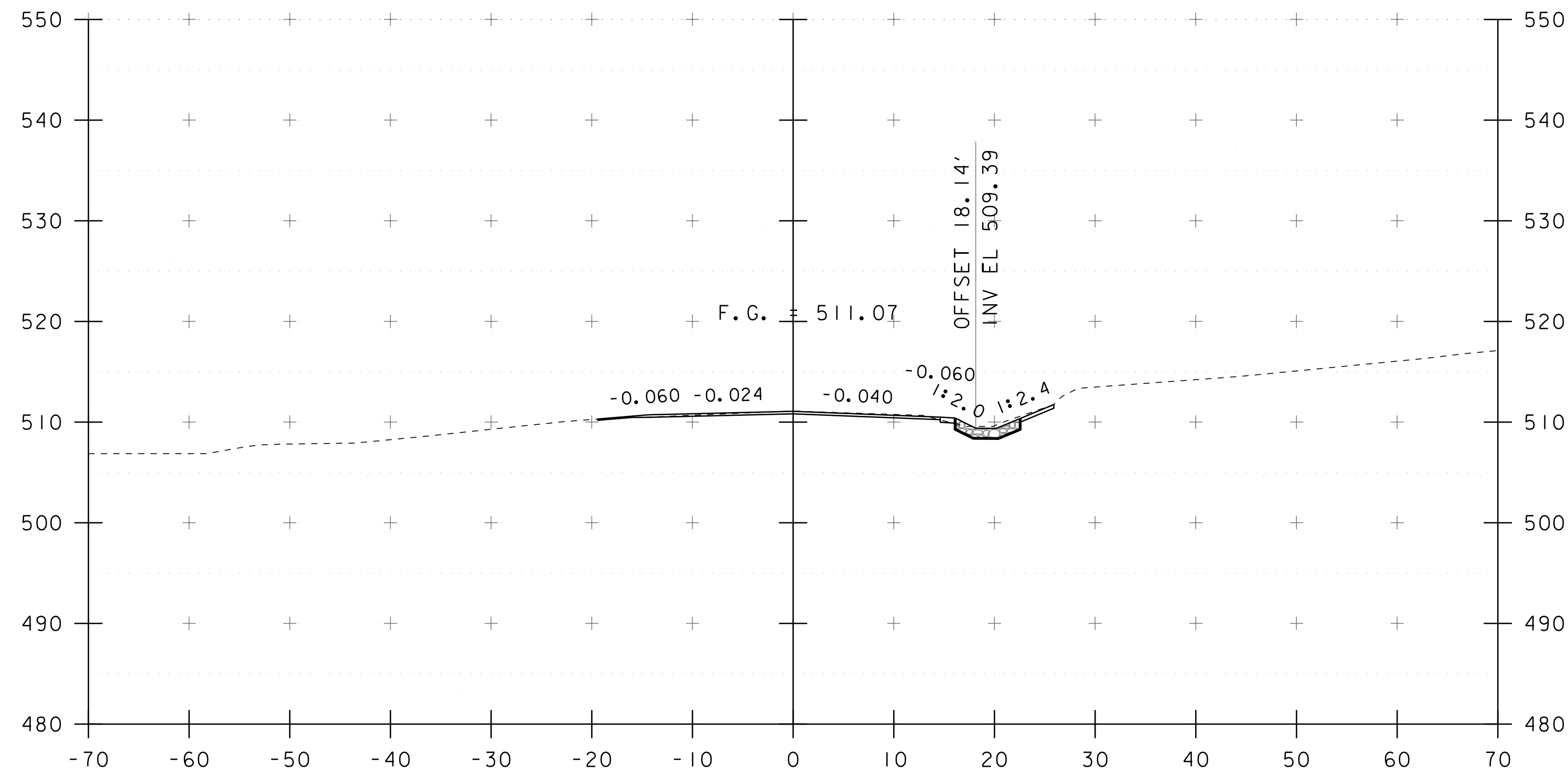
178+50

STA 178+50.00  
CONSTRUCT 8' W X 8' H X 48' - 3/2" BOX

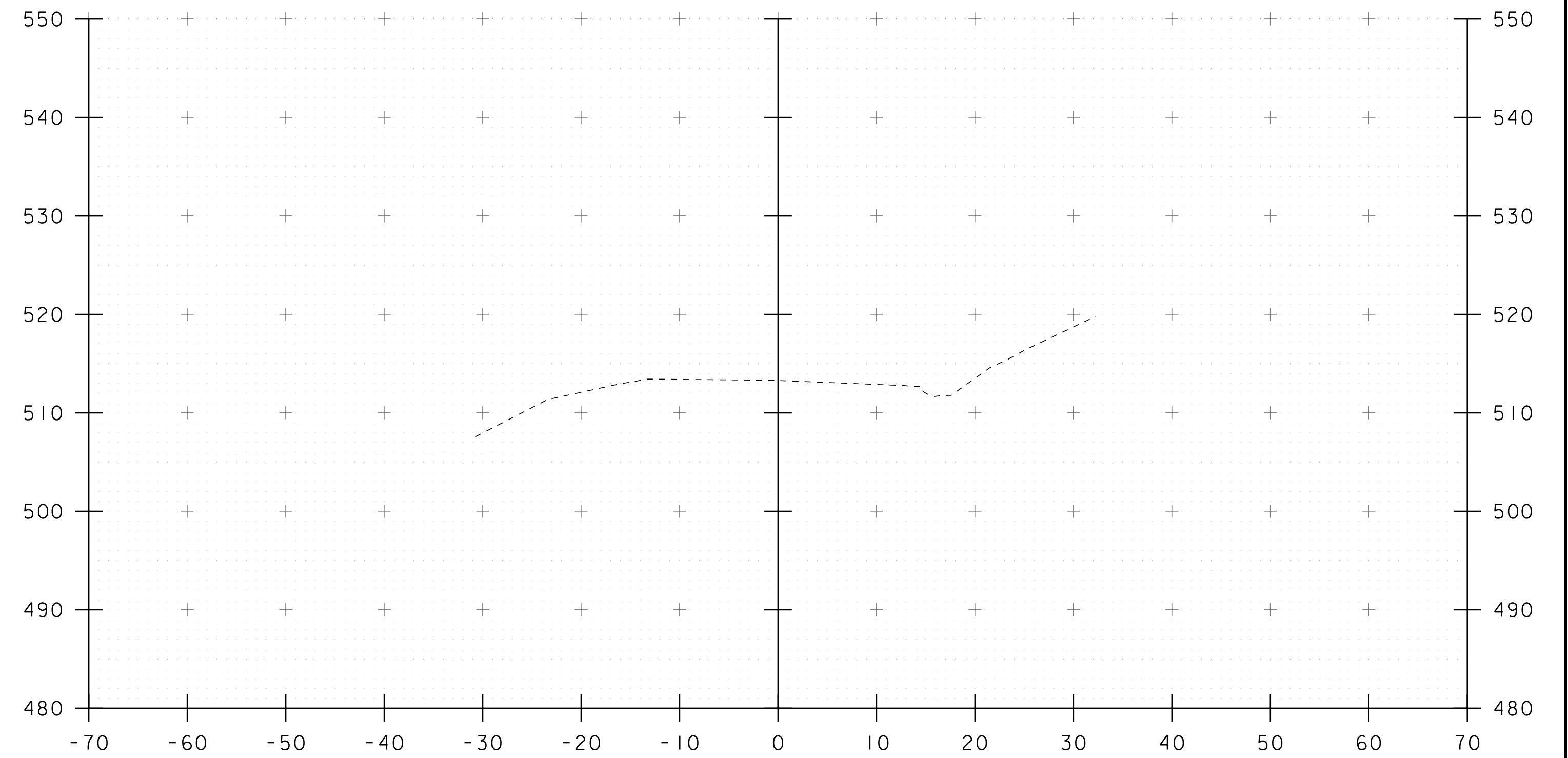


STA. 178+00 TO STA. 178+75

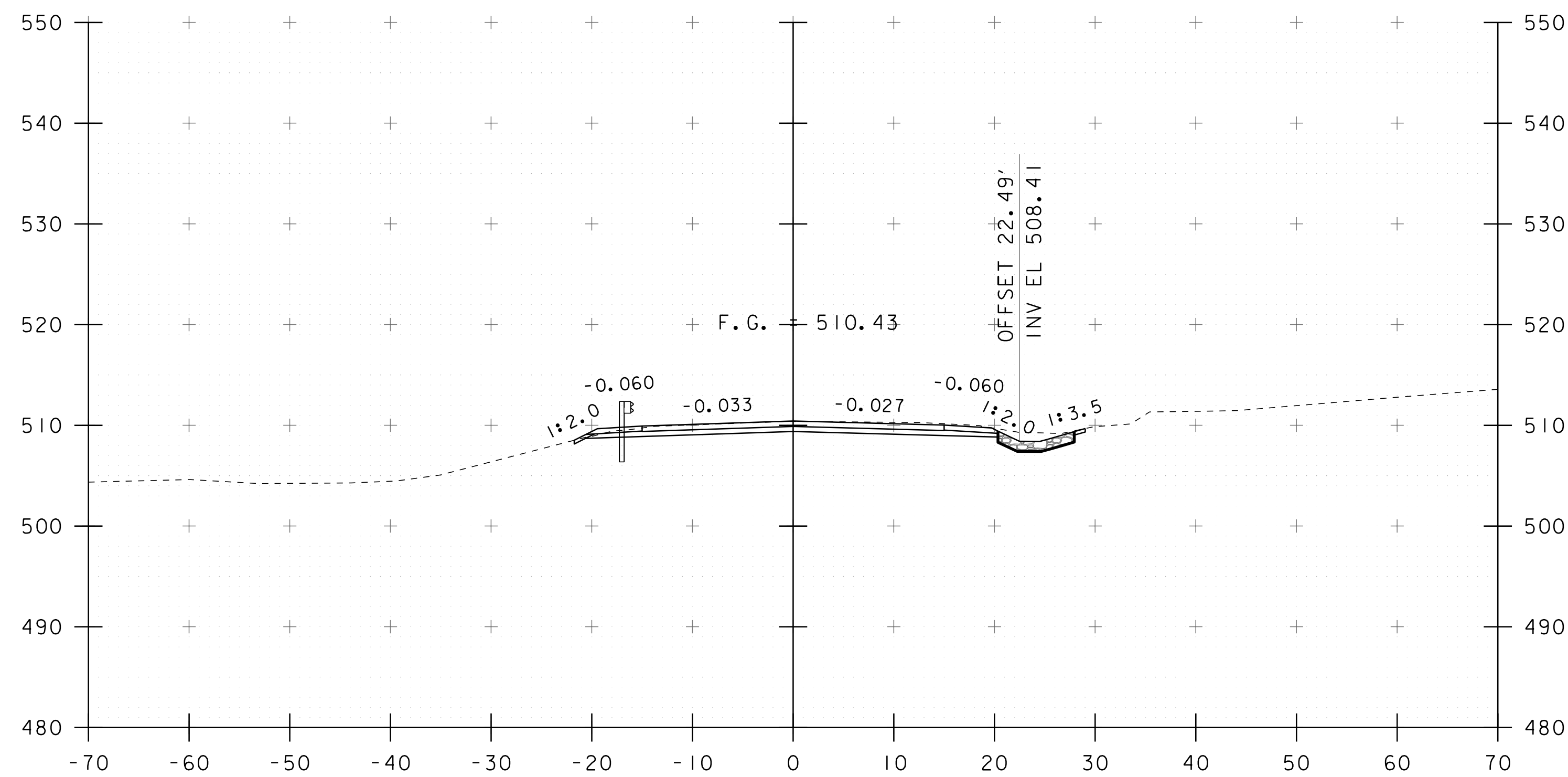
PROJECT NAME: WELLS	
PROJECT NUMBER: STP CULV (63)	
FILE NAME: si9b089xsl.dgn	PLOT DATE: 06-JUN-2019
PROJECT LEADER: J.B. MCCARTHY	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: G. SWEENEY
VT 30 CROSS SECTIONS (2)	SHEET 15 OF 22



179+25

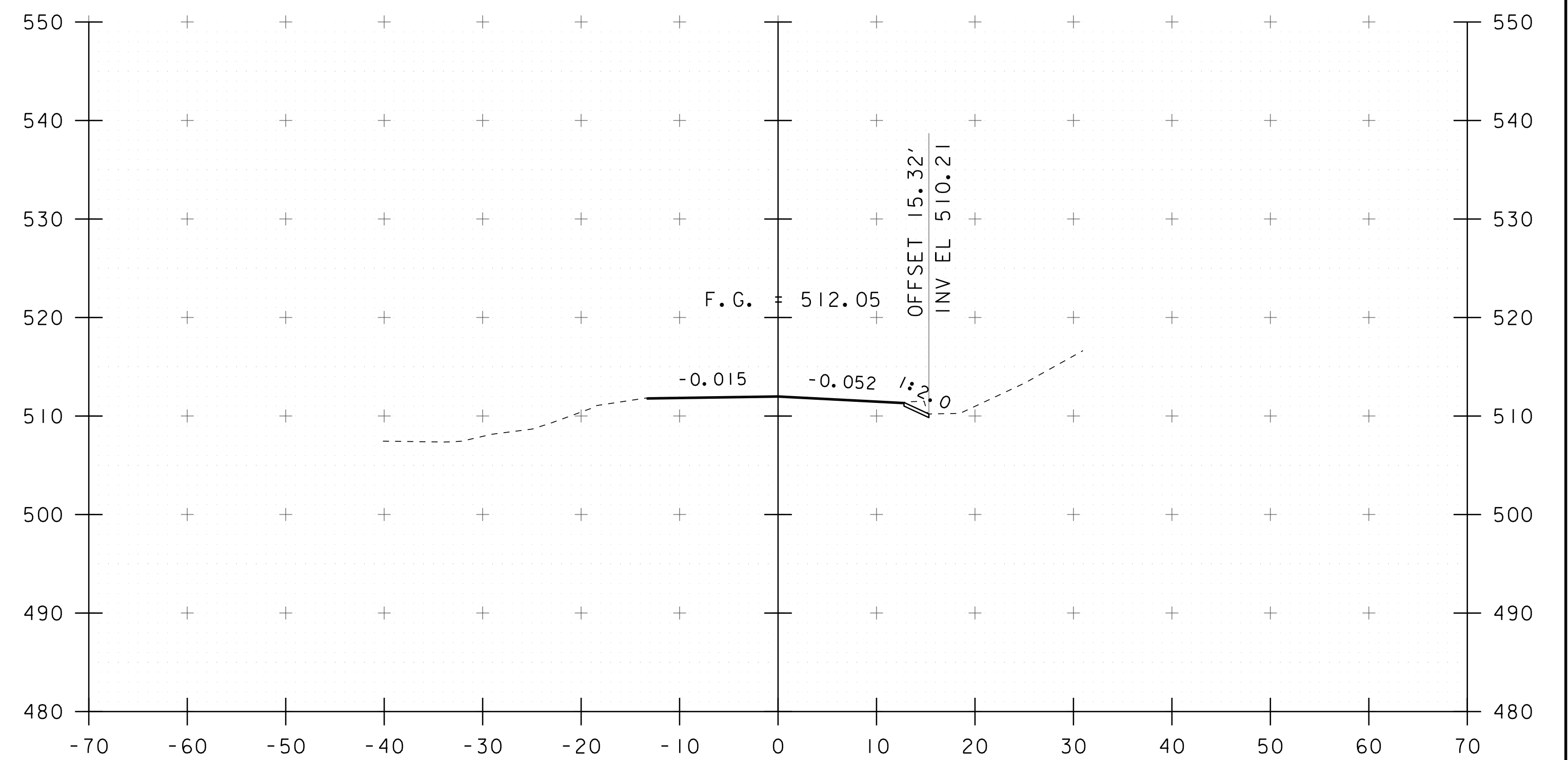


179+75



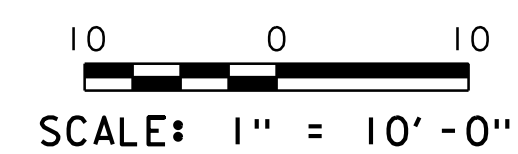
179+00

STA 179+00.00  
END PROJECT



179+50

STA 179+50.00  
END APPROACH  
MATCH EXISTING



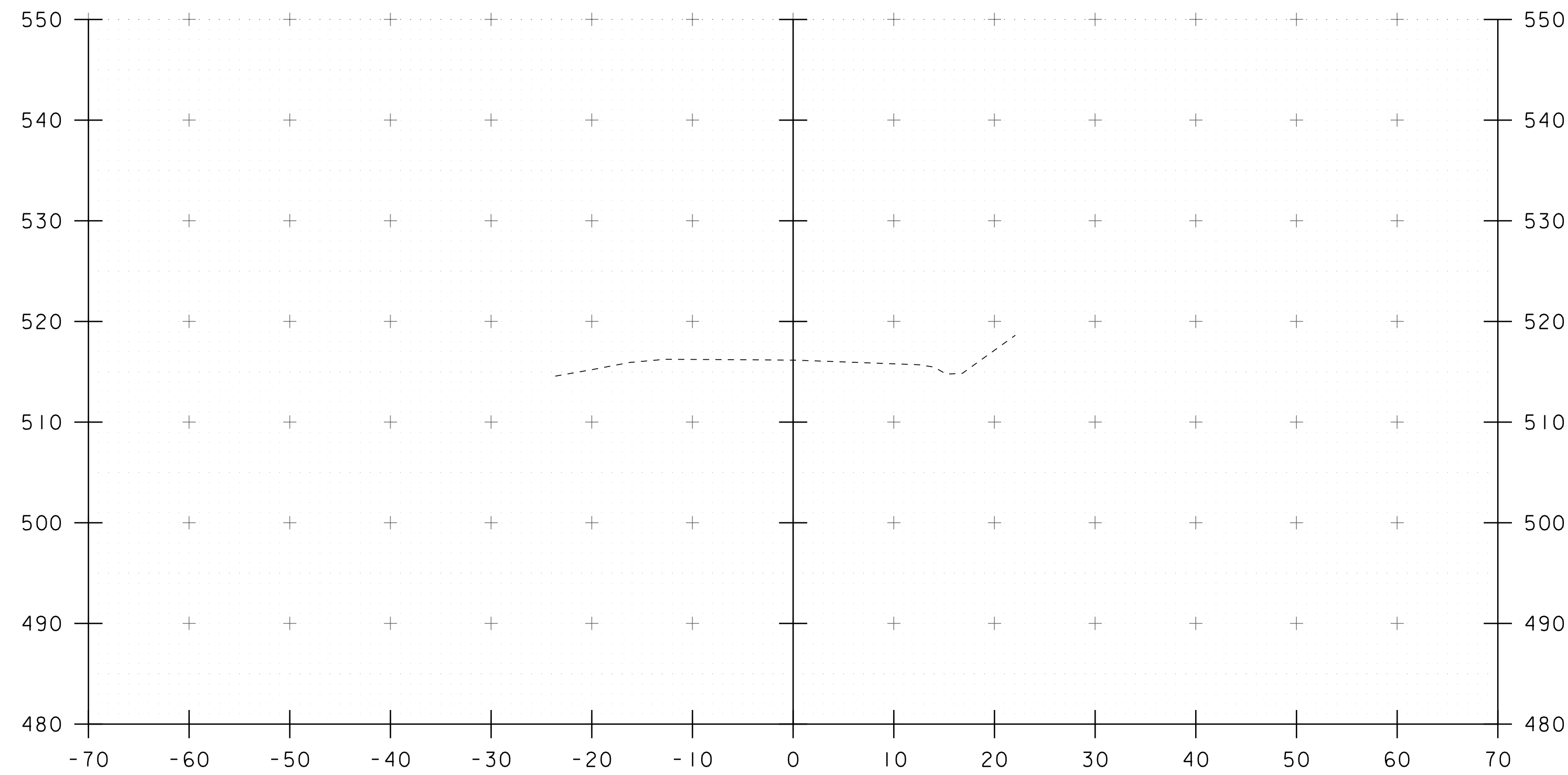
STA. 179+00 TO STA. 179+75

PROJECT NAME: WELLS  
PROJECT NUMBER: STP CULV (63)

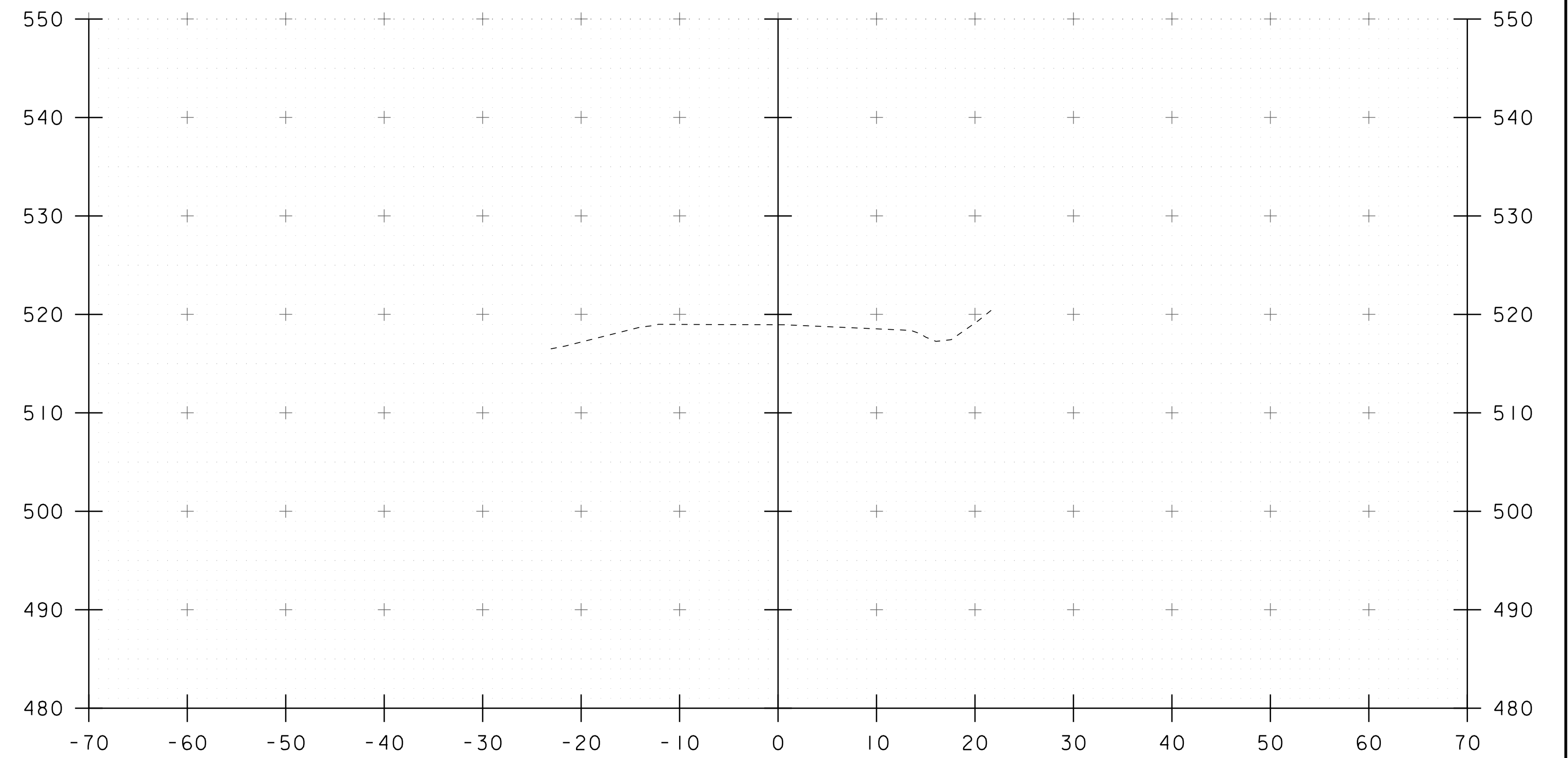
FILE NAME: s19b089xsl.dgn  
PROJECT LEADER: J.B. MCCARTHY  
DESIGNED BY: G. ROY  
VT 30 CROSS SECTIONS (3)

PLOT DATE: 06-JUN-2019  
DRAWN BY: G. ROY  
CHECKED BY: G. SWEENEY  
SHEET 16 OF 22

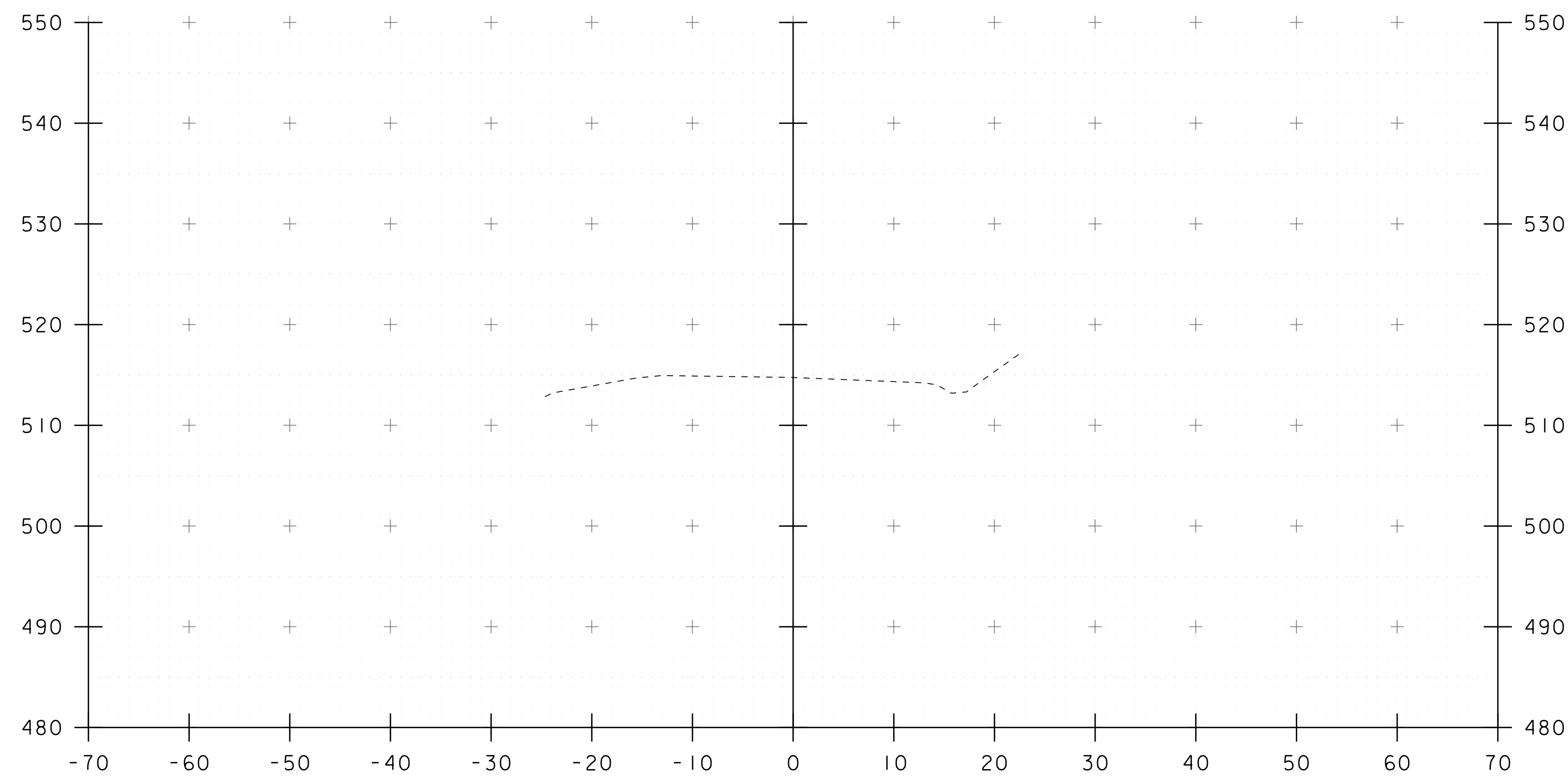




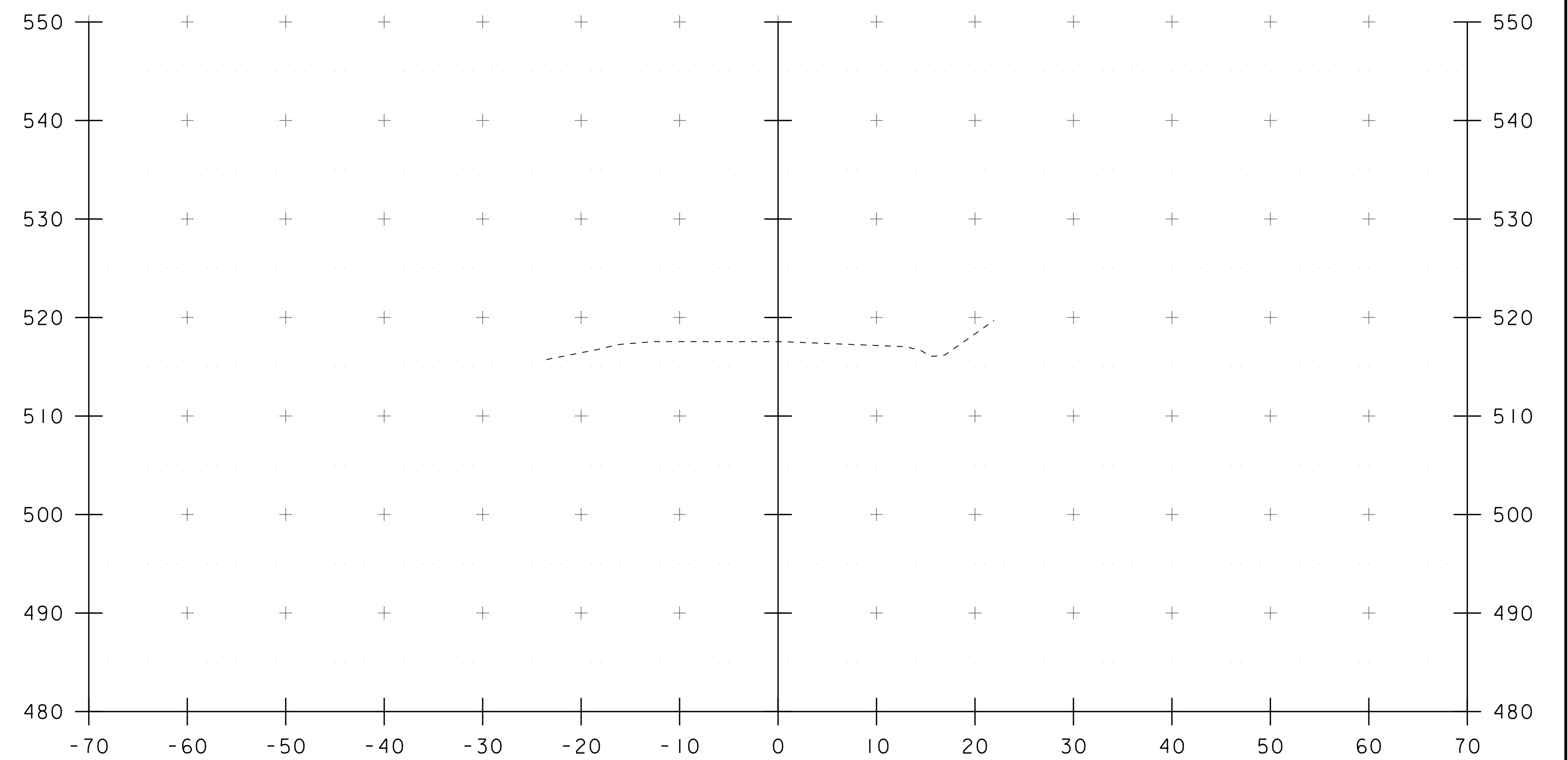
180+25



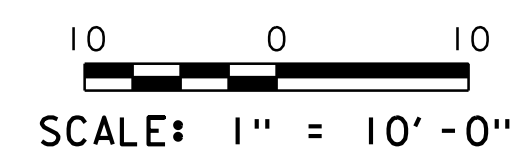
180+75



180+00

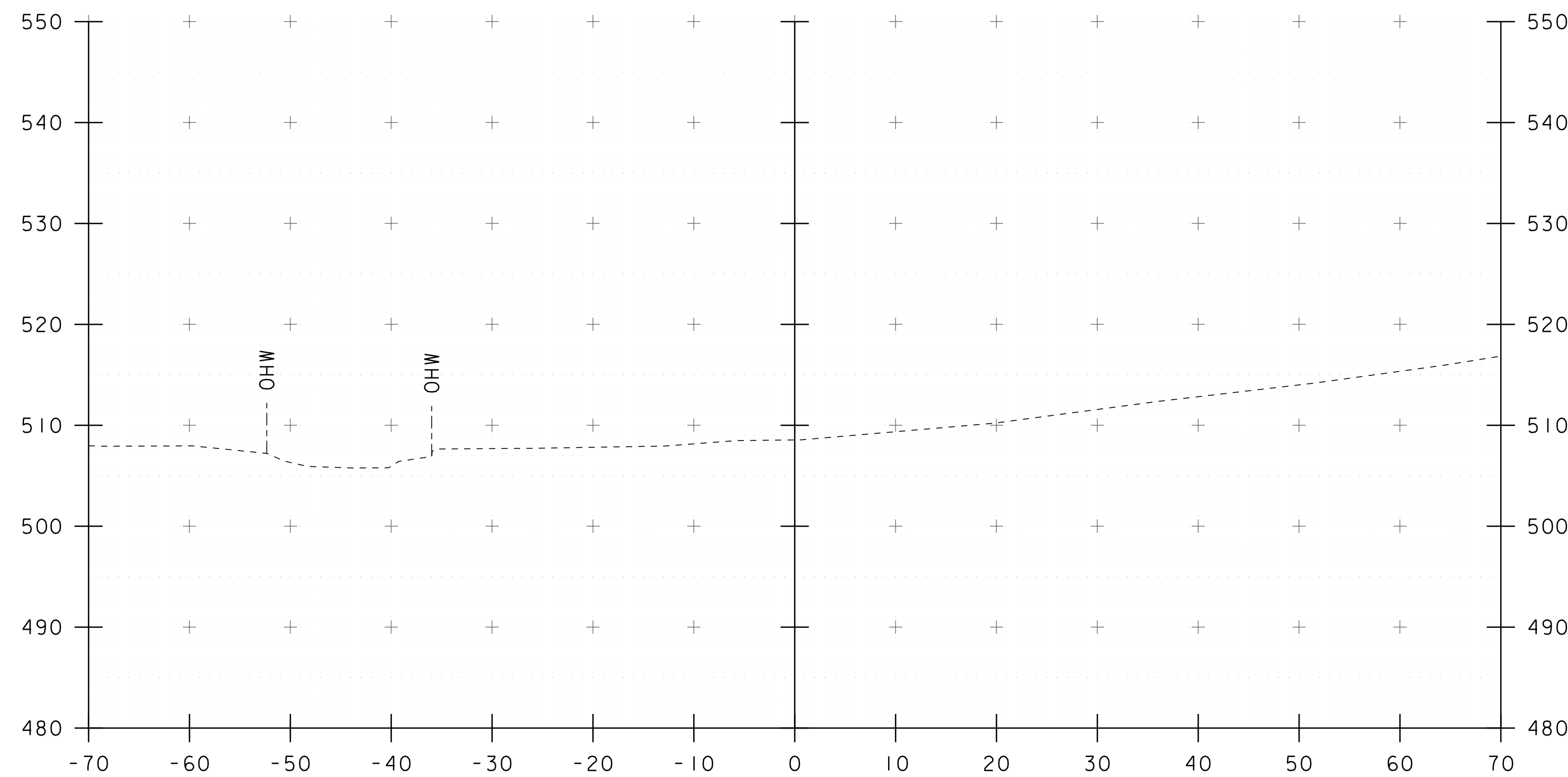


180+50

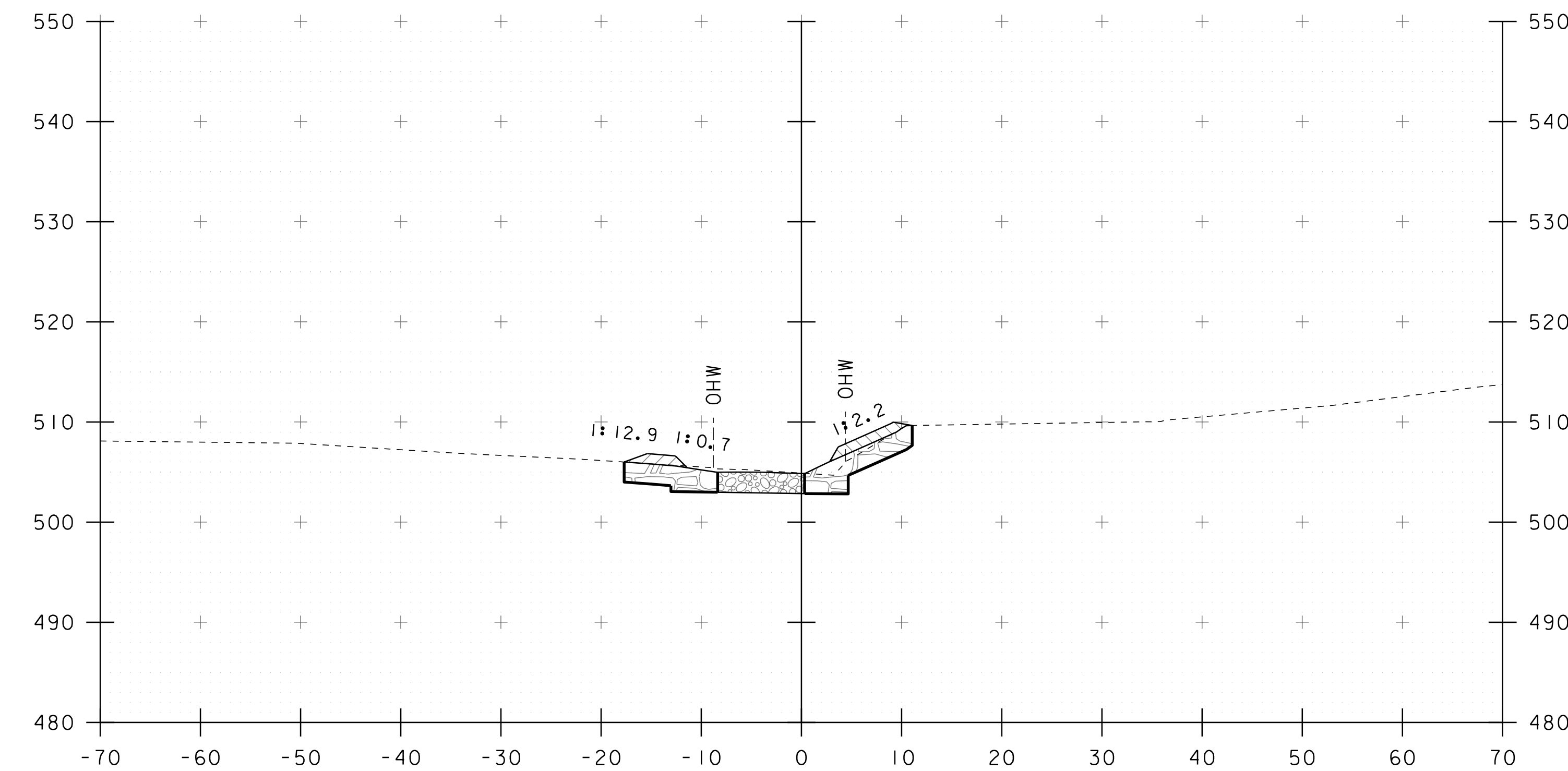


STA. 180+00 TO STA. 180+75

PROJECT NAME: WELLS	
PROJECT NUMBER: STP CULV (63)	
FILE NAME: si9b089xsl.dgn	PLOT DATE: 06-JUN-2019
PROJECT LEADER: J.B. MCCARTHY	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: G. SWEENEY
VT 30 CROSS SECTIONS (4)	SHEET 17 OF 22



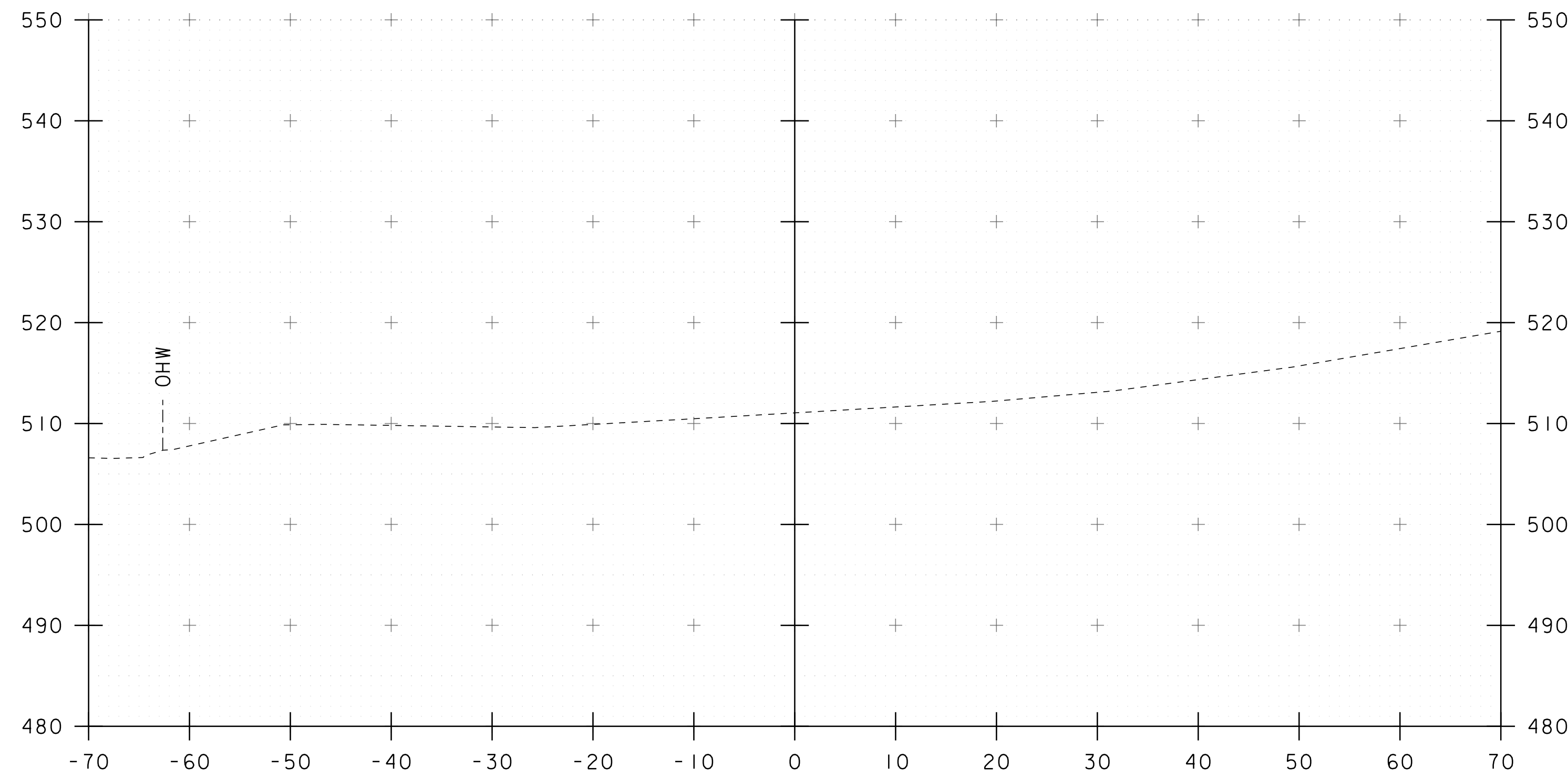
50+25



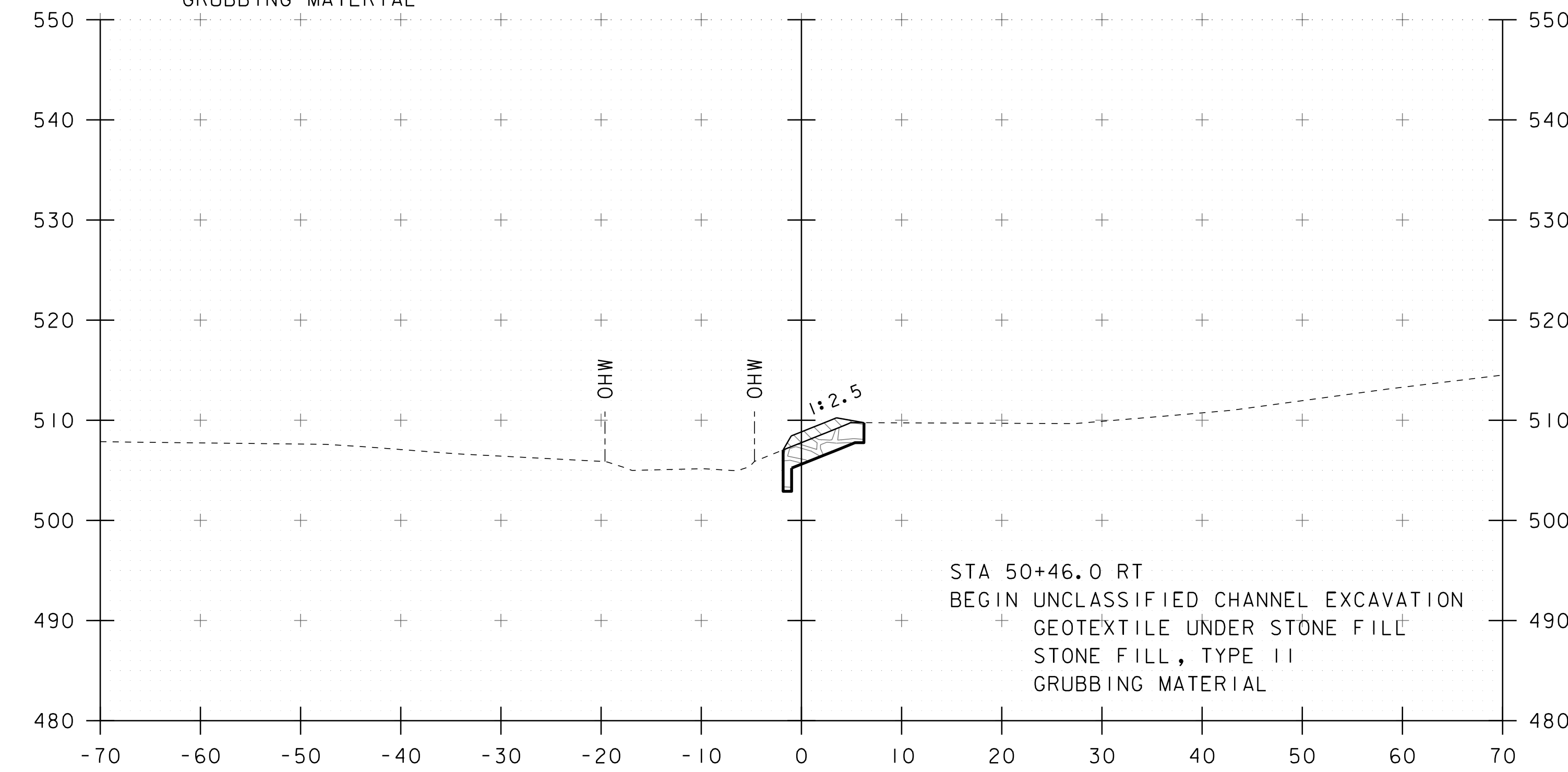
STA 50+55.2 LT  
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION  
 GEOTEXTILE UNDER STONE FILL  
 STONE FILL, TYPE II  
 GRUBBING MATERIAL

50+60

STA 50+52.0 RT  
 BEGIN E-STONE TYPE E2

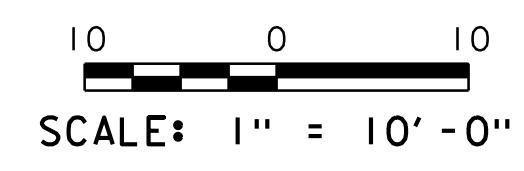


50+00



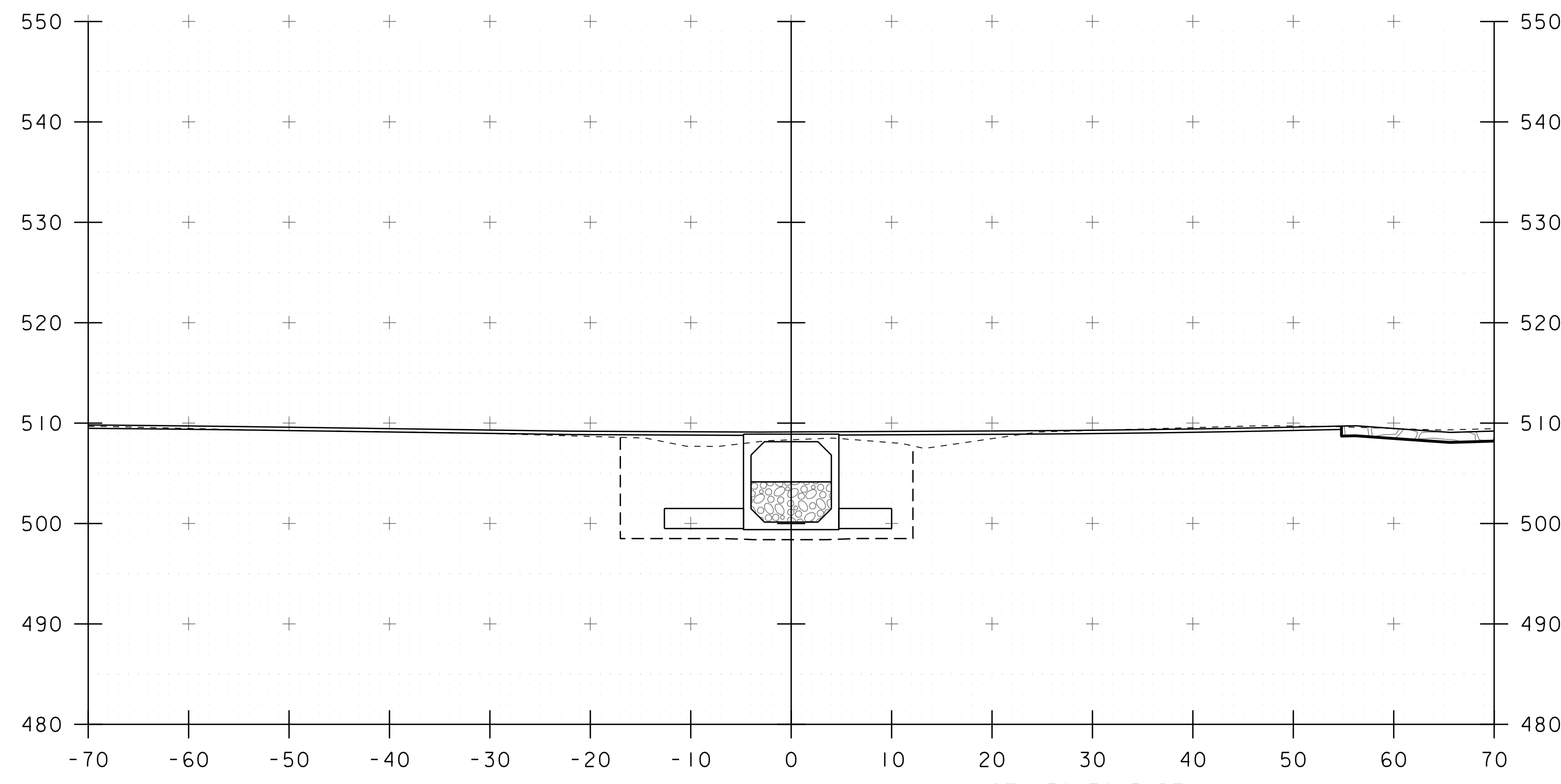
STA 50+46.0 RT  
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION  
 GEOTEXTILE UNDER STONE FILL  
 STONE FILL, TYPE II  
 GRUBBING MATERIAL

50+50



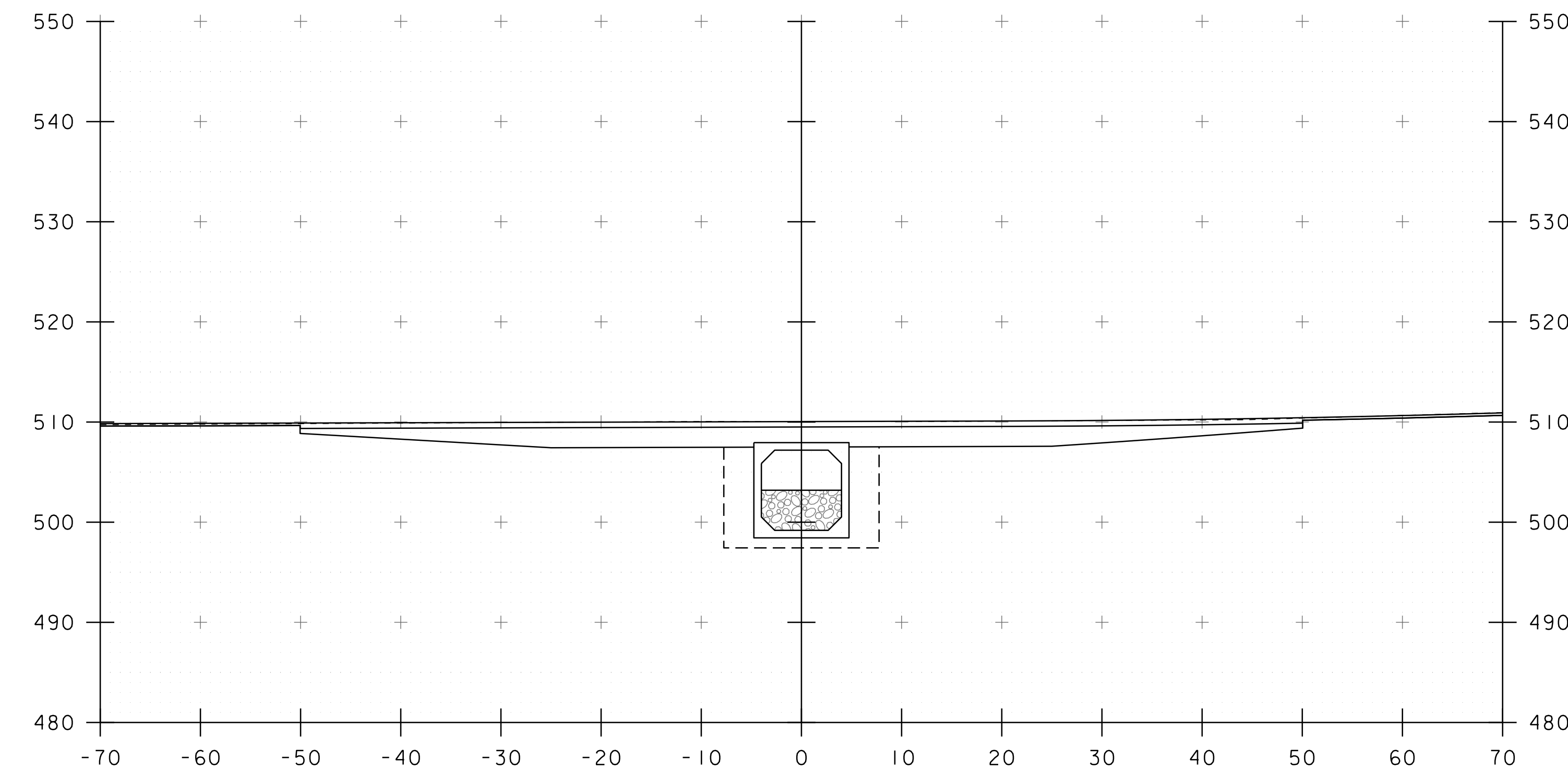
STA. 50+00 TO STA. 50+60

PROJECT NAME: WELLS	
PROJECT NUMBER: STP CULV (63)	
FILE NAME: s19b089xsl.dgn	PLOT DATE: 06-JUN-2019
PROJECT LEADER: J.B. MCCARTHY	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: G. SWEENEY
CHANNEL CROSS SECTIONS (1)	SHEET 18 OF 22

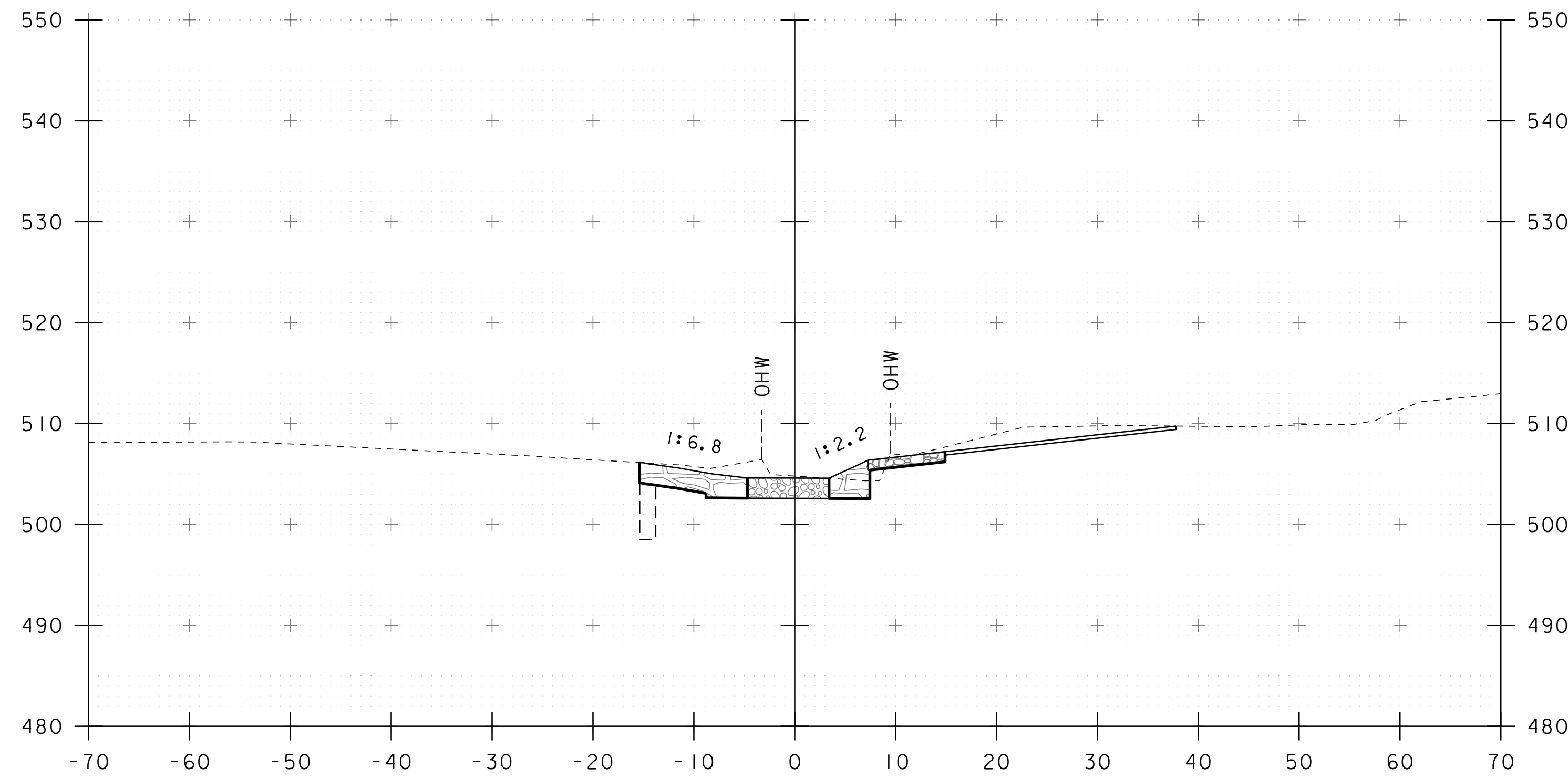


50+80

STA 50+70.5 RT  
 BEGIN STRUCTURE EXCAVATION  
 GRANULAR BACKFILL FOR STRUCTURES

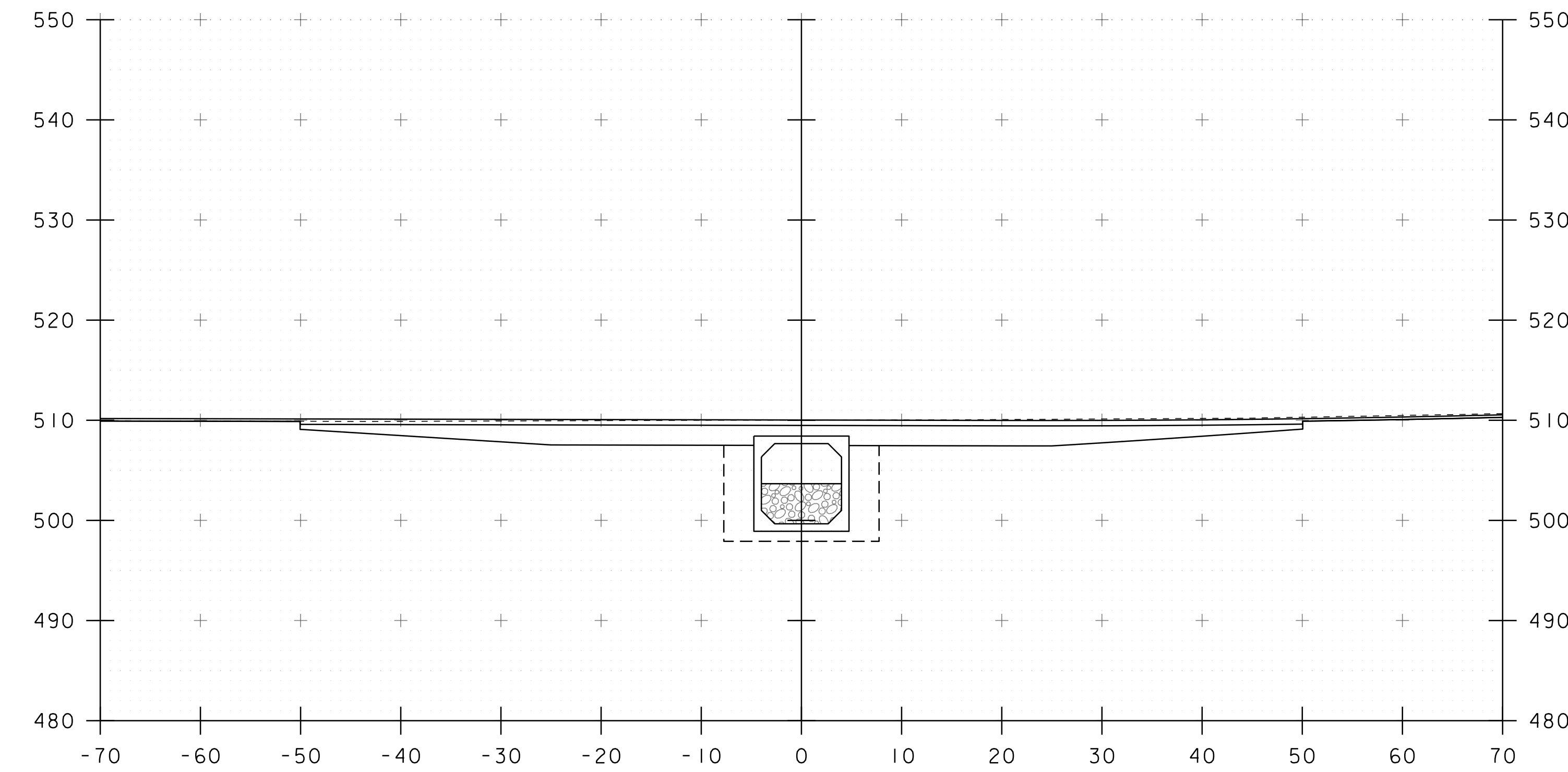


51+00

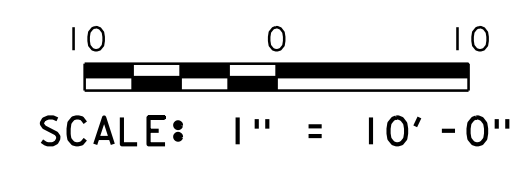


50+70

STA 50+69.5 LT  
 BEGIN STRUCTURE EXCAVATION  
 GRANULAR BACKFILL FOR STRUCTURES

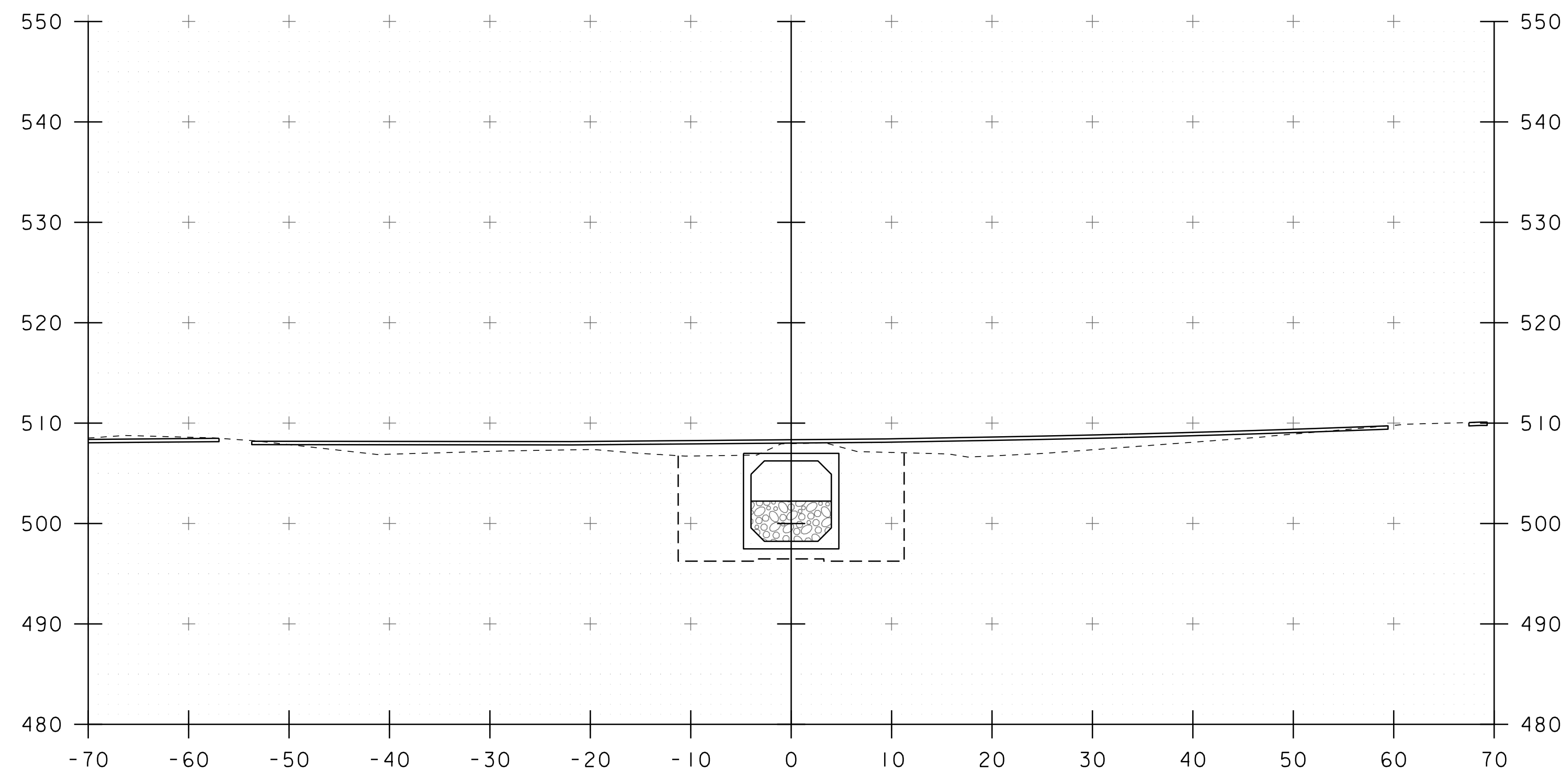


50+90

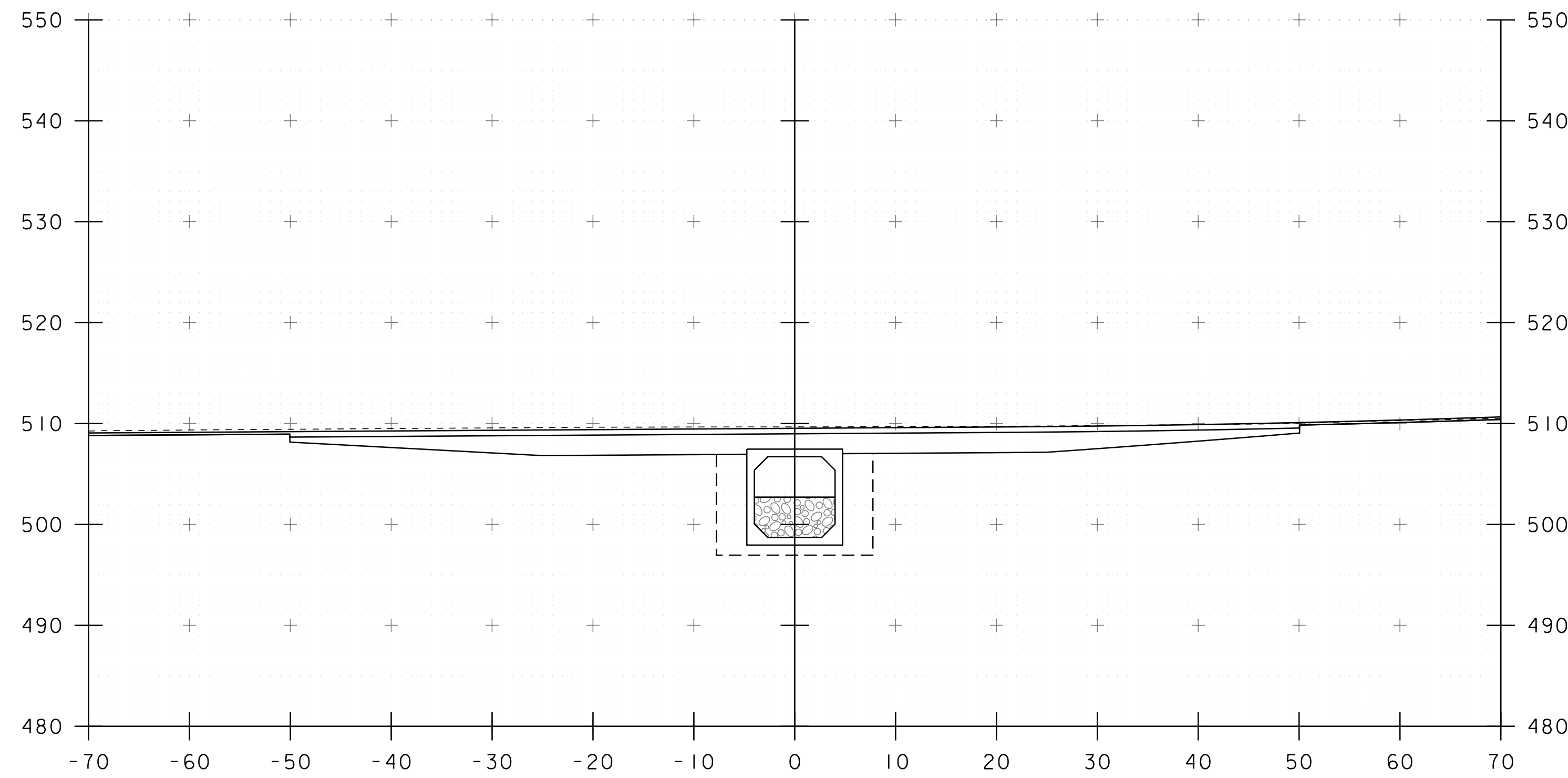


STA. 50+70 TO STA. 51+00

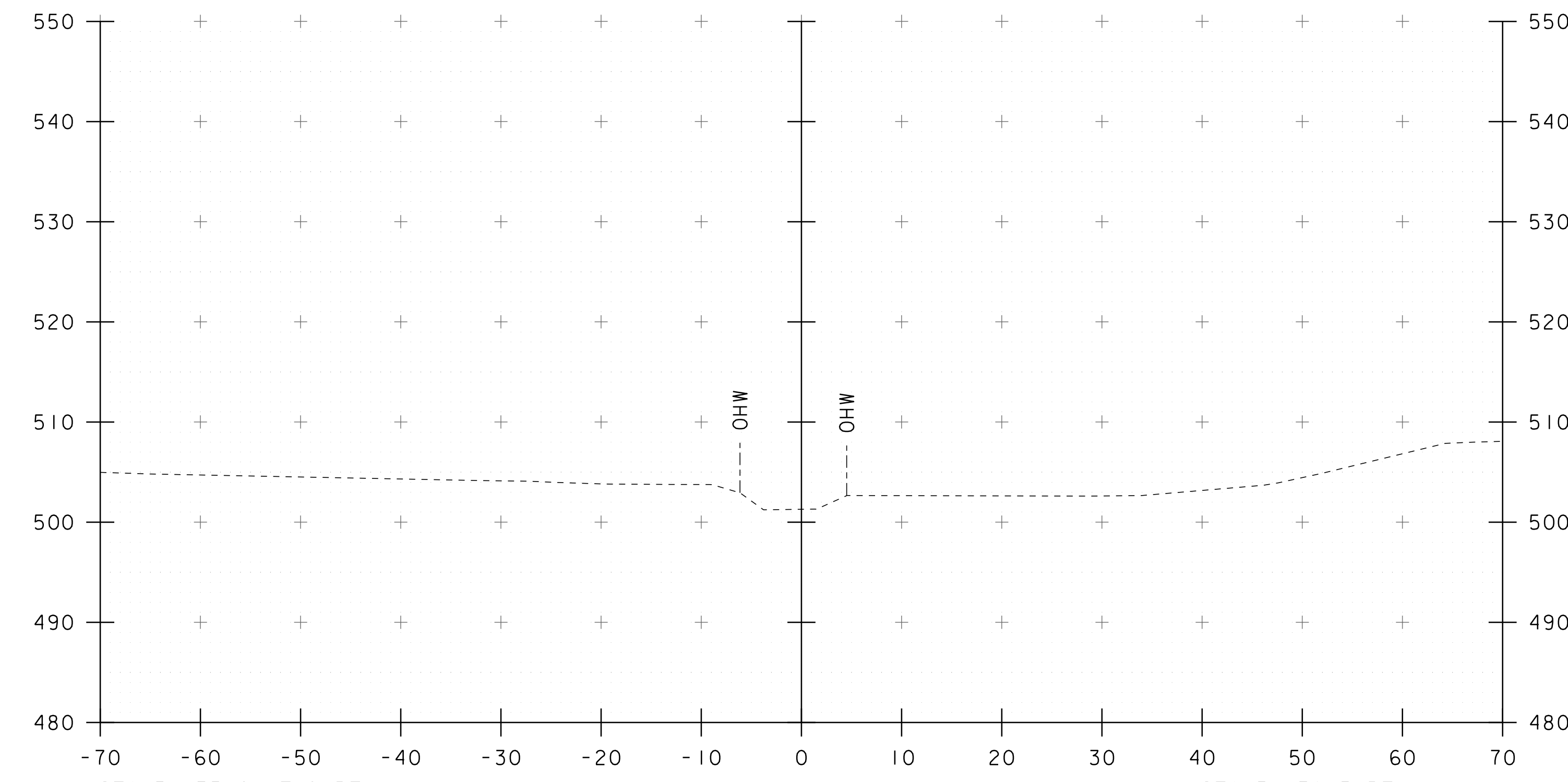
PROJECT NAME: WELLS	
PROJECT NUMBER: STP CULV (63)	
FILE NAME: si9b089xsl.dgn	PLOT DATE: 06-JUN-2019
PROJECT LEADER: J.B. MCCARTHY	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: G. SWEENEY
CHANNEL CROSS SECTIONS (2)	SHEET 19 OF 22



51+20



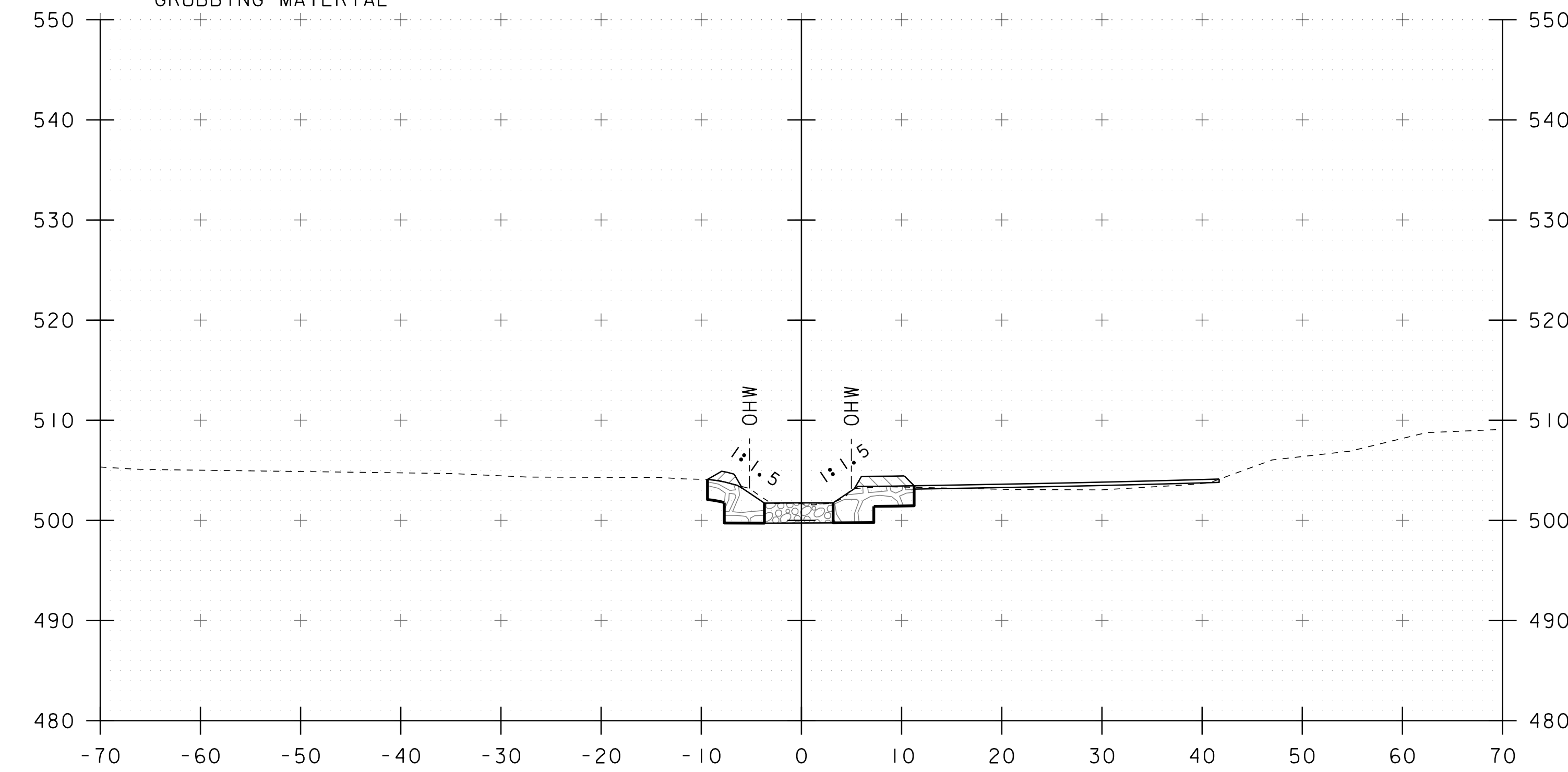
51+10



51+40

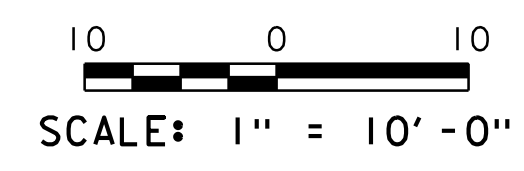
STA 51+35.0 LT & RT  
 END UNCLASSIFIED CHANNEL EXCAVATION  
 GEOTEXTILE UNDER STONE FILL  
 STONE FILL, TYPE II  
 GRUBBING MATERIAL

STA 51+38.5 RT  
 END E-STONE TYPE E2



51+30

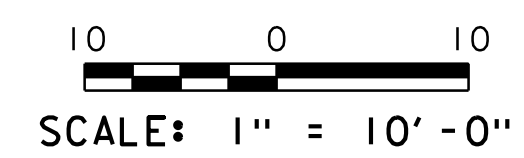
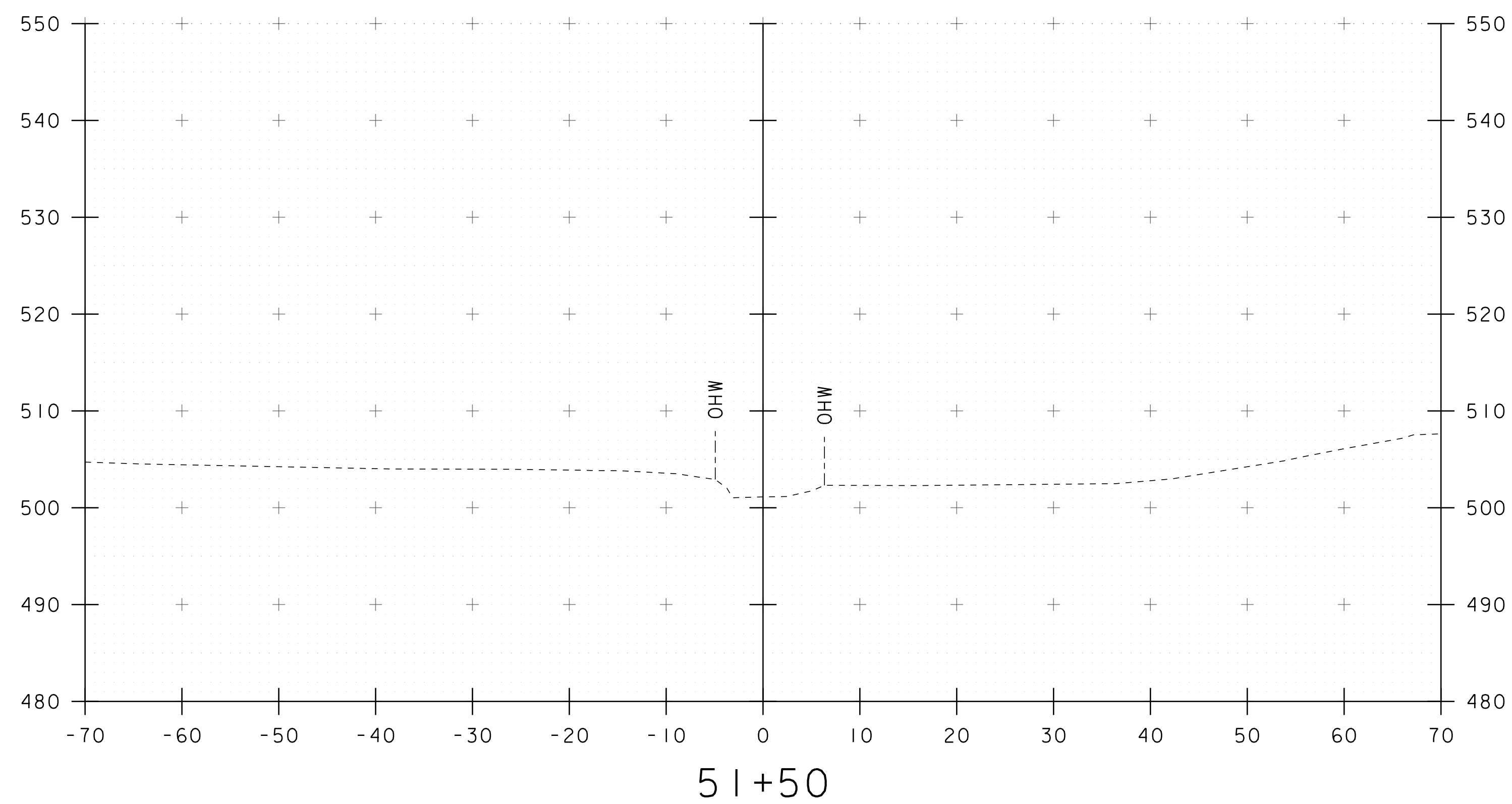
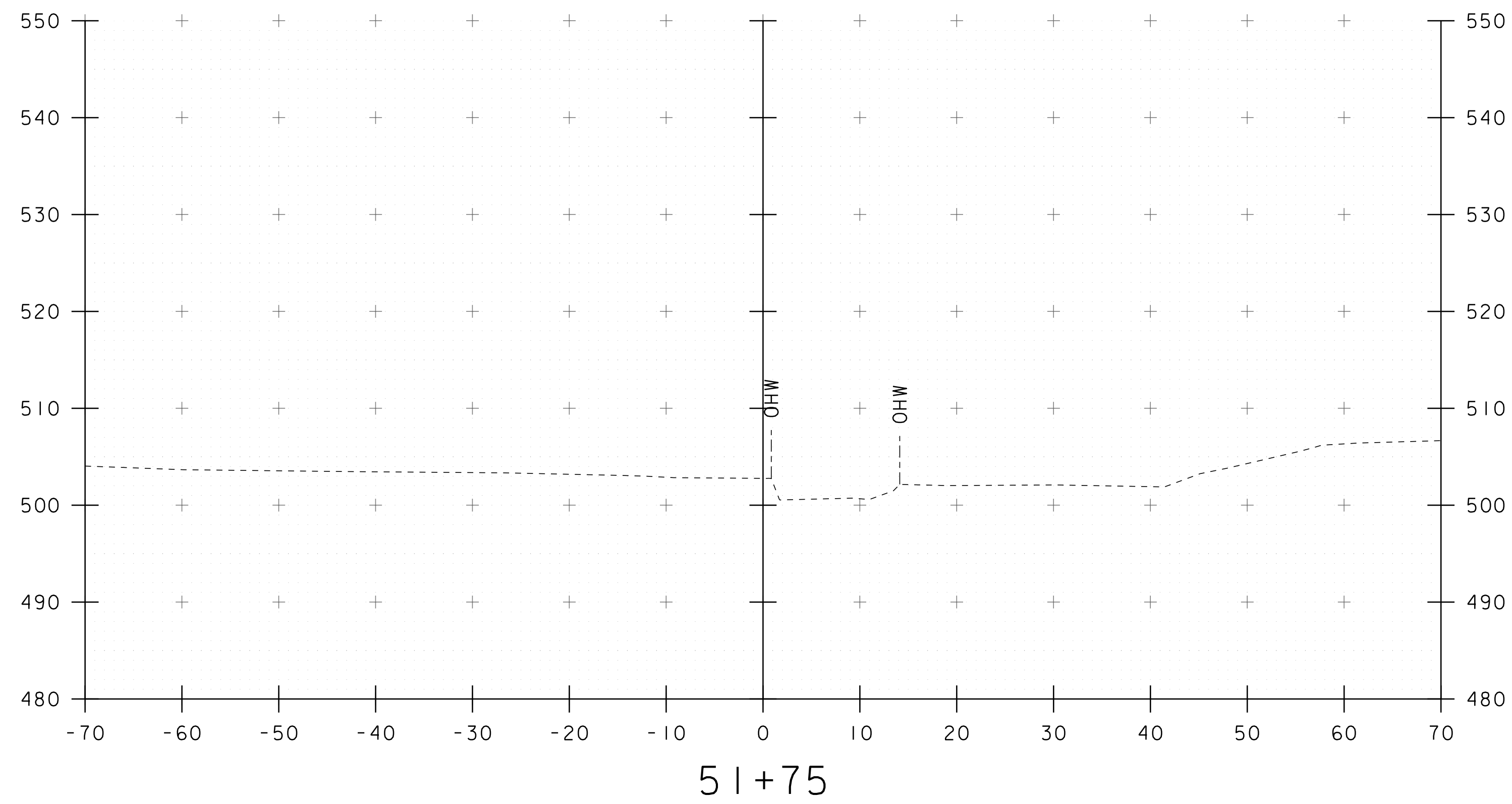
STA 51+29.4 LT & RT  
 END STRUCTURE EXCAVATION  
 GRANULAR BACKFILL FOR STRUCTURES



STA. 51+10 TO STA. 51+40

PROJECT NAME: WELLS	
PROJECT NUMBER: STP CULV (63)	
FILE NAME: si9b089xsl.dgn	PLOT DATE: 06-JUN-2019
PROJECT LEADER: J.B. MCCARTHY	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: G. SWEENEY
CHANNEL CROSS SECTIONS (3)	SHEET 20 OF 22





STA. 51+50 TO STA. 51+75

PROJECT NAME: WELLS  
PROJECT NUMBER: STP CULV (63)

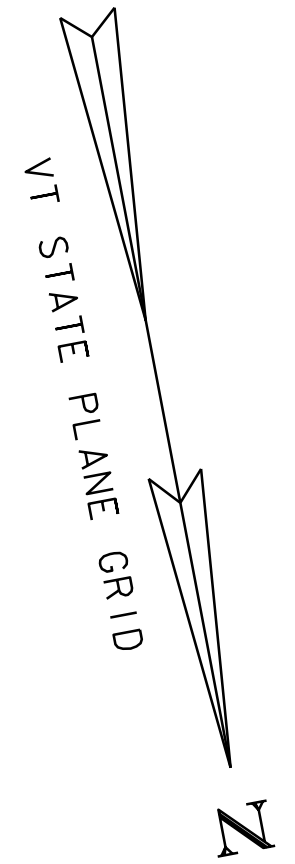
FILE NAME: s19b089xsl.dgn  
PROJECT LEADER: J.B. MCCARTHY  
DESIGNED BY: G. ROY  
CHANNEL CROSS SECTIONS (4)

PLOT DATE: 06-JUN-2019  
DRAWN BY: G. ROY  
CHECKED BY: G. SWEENEY  
SHEET 21 OF 22

WARWICK-QUONSET COMPLEX  
 3%-8% SLOPES  
 MODERATELY ERODIBLE  
 K= 0.24/0.20

FREDON GRAVELLY LOAM  
 0%-3% SLOPES  
 MODERATELY ERODIBLE  
 K= 0.32

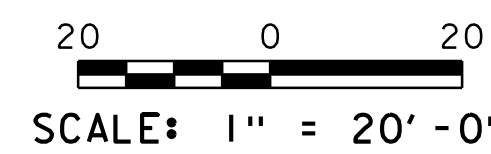
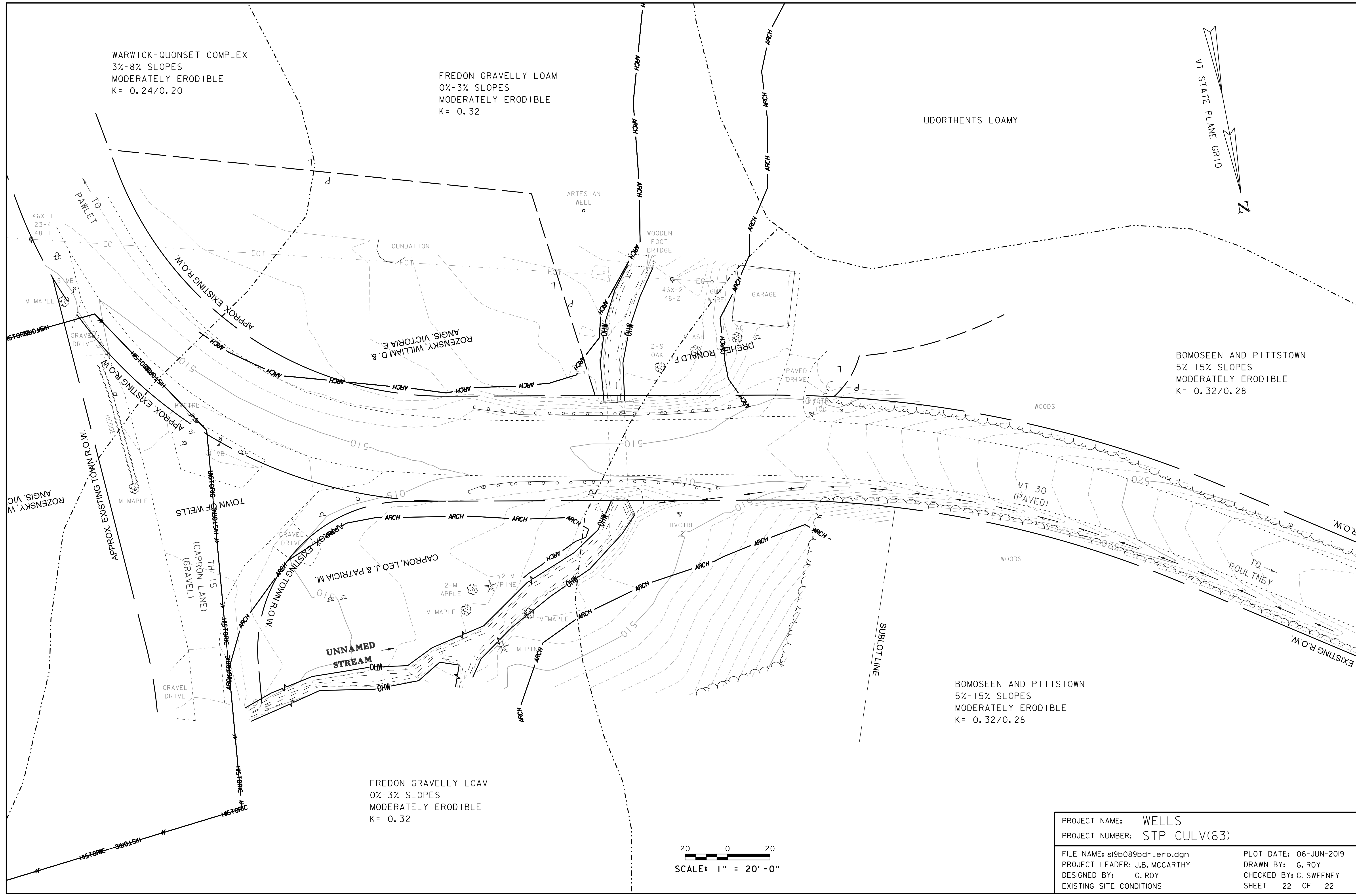
UDORTHENTS LOAMY



BOMOSEEN AND PITTSTOWN  
 5%-15% SLOPES  
 MODERATELY ERODIBLE  
 K= 0.32/0.28

BOMOSEEN AND PITTSTOWN  
 5%-15% SLOPES  
 MODERATELY ERODIBLE  
 K= 0.32/0.28

FREDON GRAVELLY LOAM  
 0%-3% SLOPES  
 MODERATELY ERODIBLE  
 K= 0.32



PROJECT NAME:	WELLS	PLOT DATE:	06-JUN-2019
PROJECT NUMBER:	STP CULV(63)	DRAWN BY:	G. ROY
FILE NAME:	sl9b089bdr_era.dgn	CHECKED BY:	G. SWEENEY
PROJECT LEADER:	J.B. MCCARTHY	SHEET	22 OF 22
DESIGNED BY:	G. ROY		
EXISTING SITE CONDITIONS			