

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT

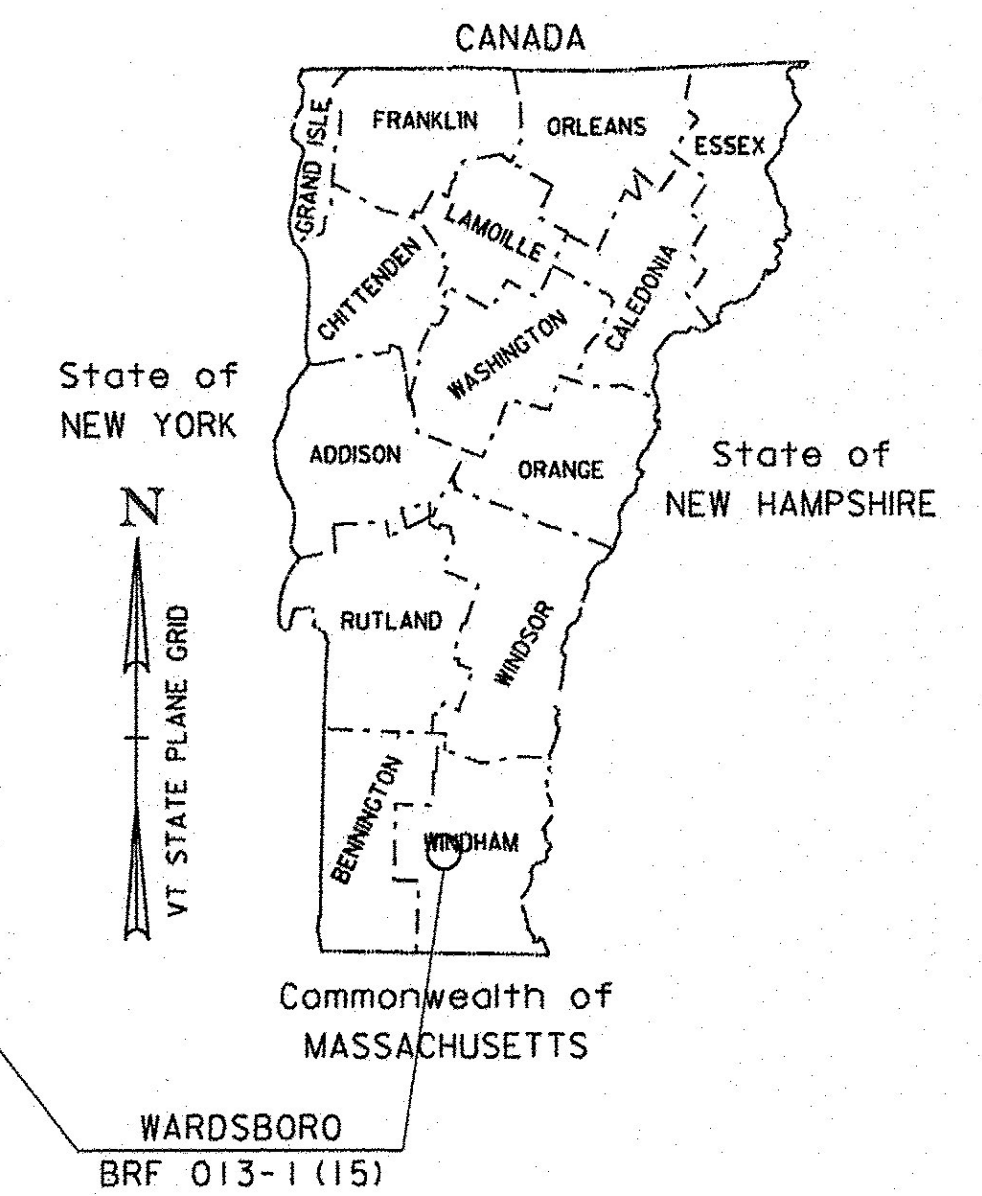
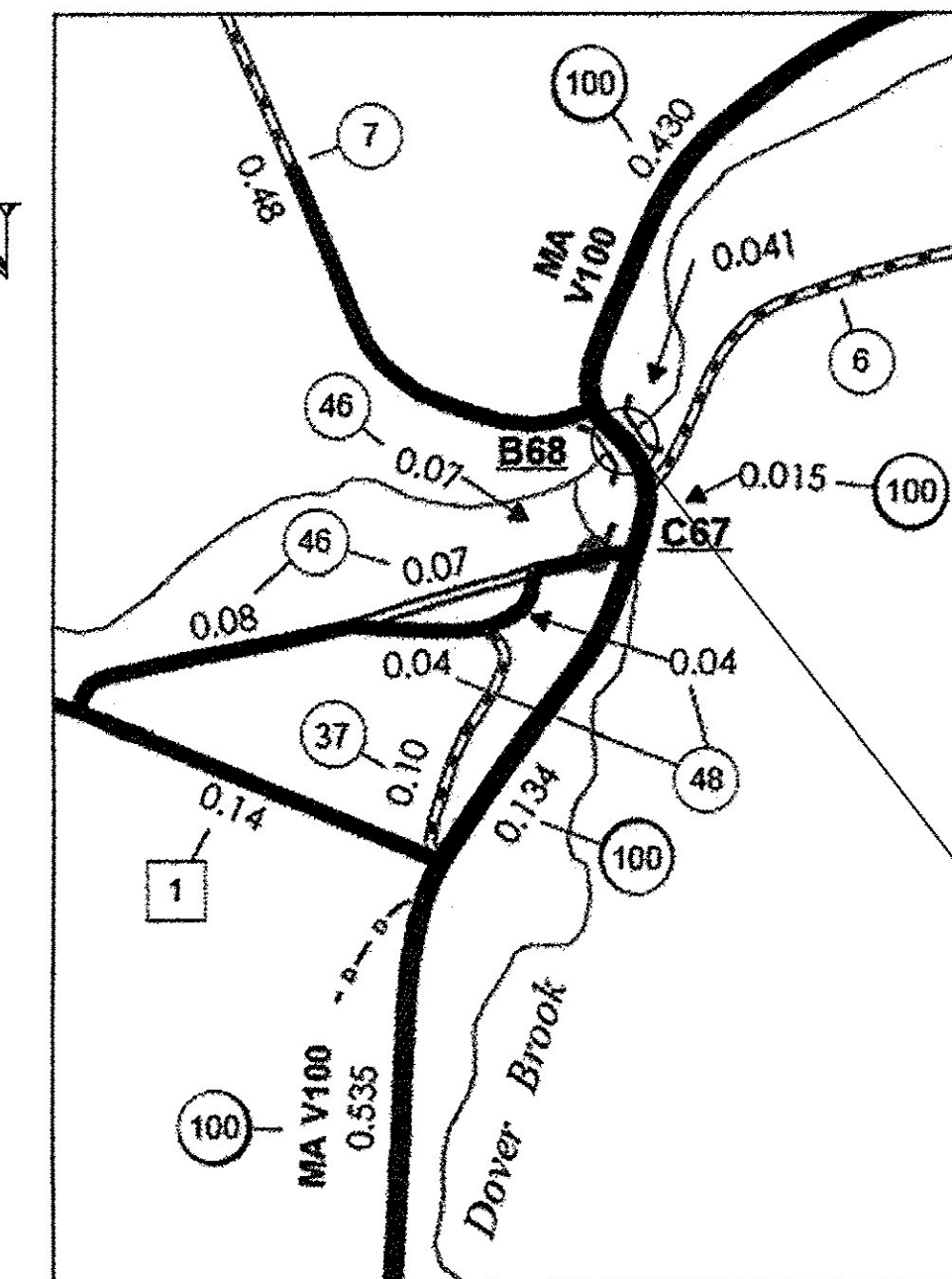
TOWN OF WARDSBORO
COUNTY OF WINDHAM

VT ROUTE 100 - (MINOR ARTERIAL) BRIDGE NO : 68

PROJECT LOCATION: BEGINNING ON VT 100 APPROXIMATELY 0.008 MILE SOUTH OF THE INTERSECTION OF VT 100 AND TH 6 AND EXTENDING NORTHERLY ALONG VT 100 FOR 0.057 MILE.

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

LENGTH OF STRUCTURE: 69.67 FEET
LENGTH OF ROADWAY: 280.33 FEET
LENGTH OF PROJECT: 350.00 FEET



RECORD PLANS

CONTRACTOR: RENAUD BROTHERS, INC. - VERNON, VT
RESIDENT ENGINEER: CHAD GREENWOOD
CONSTRUCTION BEGAN: MARCH 3, 2016
CONSTRUCTION COMPLETE: NOVEMBER 7, 2017
RECORD PLANS BY: CHAD GREENWOOD & AARON WEAVER

I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY Chad Greenwood RESIDENT ENGINEER
DATE 7/17/18

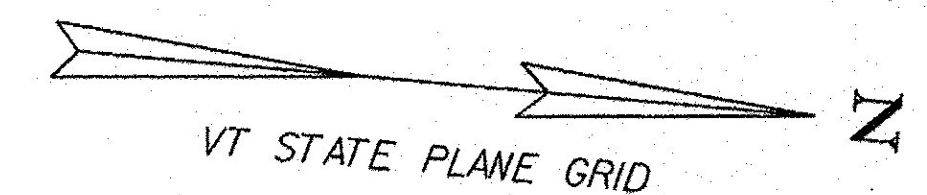
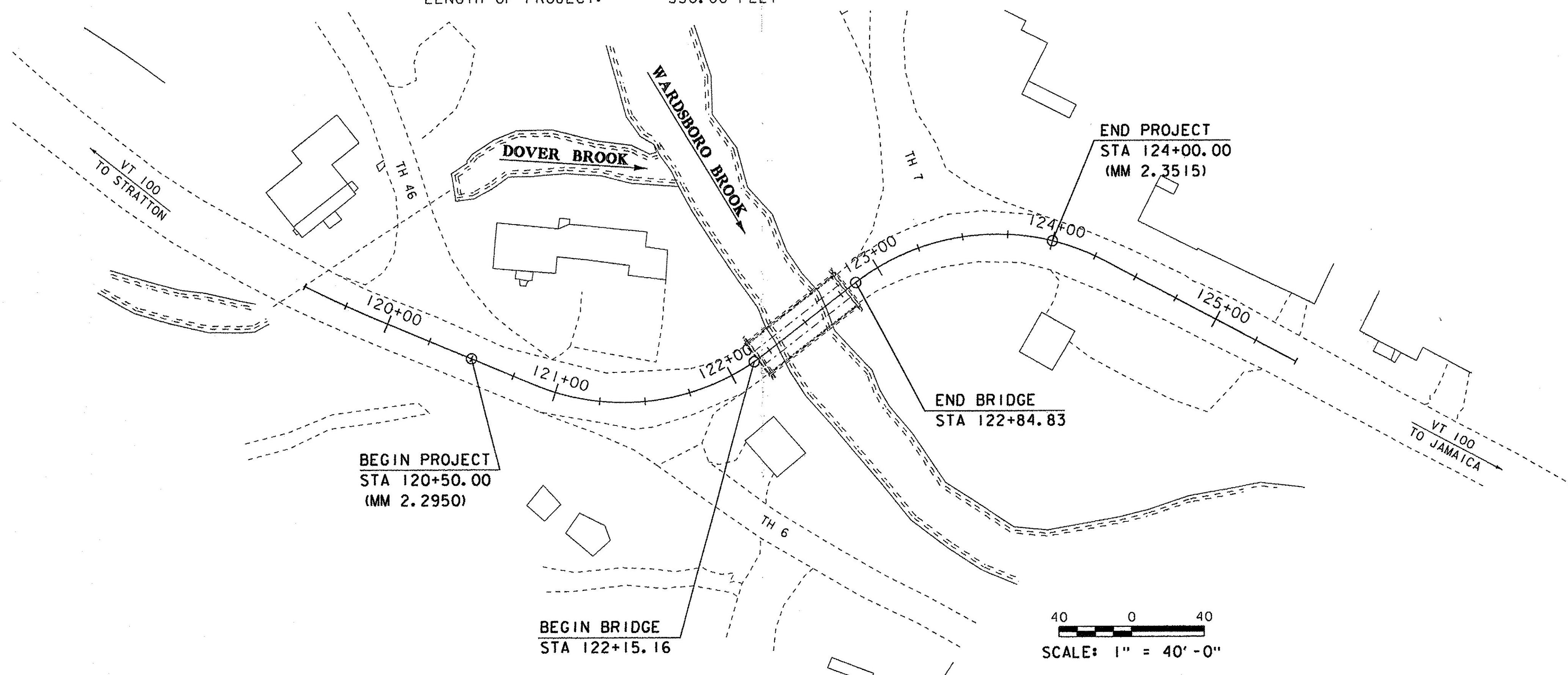
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 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 : L. ORVIS
SURVEYED DATE : 1-12-2009

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (07)



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

DIRECTOR OF PROJECT DELIVERY
APPROVED [Signature] DATE 7/14/2015
PROJECT MANAGER : CAROLYN CARLSON, P.E.
PROJECT NAME : WARDSBORO
PROJECT NUMBER : BRF 013-1 (15)
SHEET 1 OF 51 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

LRFD

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PRECAST REINF CONC. MH-GRATES, CAST IRON GRATE WITH FRAME, TYPE D & E
STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD
REGULATORY SIGN DETAILS
REGULATORY SIGN DETAILS
FLANGED CHANNEL STEEL SIGN POST
W-SHAPED STEEL SIGN POST
TUBULAR ALUMINUM SIGN POST
TUBULAR STEEL SIGN POST
PAVEMENT MARKING DETAILS
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BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM
GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM
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BRIDGE NUMBER PLAQUE
SQUARE TUBE SIGN POST AND ANCHOR

06-01-1994
08-08-1995
09-20-1995
09-20-1995
05-20-1999
08-18-1995
05-20-1999
05-20-1999
02-01-1999
10-12-2000
08-18-1995
06-13-1997
02-10-2014
02-10-2014
02-10-2014
04-23-2012
08-06-2012
08-06-2012
08-06-2012
08-06-2012
04-09-2014
01-02-2013

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: Nov. 2012

DRAINAGE AREA : 9.4 sq. mi.
CHARACTER OF TERRAIN : Hilly to mountainous, mostly forested.
STREAM CHARACTERISTICS : Sinuous, semi-alluvial and probably incised.
NATURE OF STREAMBED : Mostly cobbles and boulders with some gravel.

PEAK FLOW DATA
Q 2.33 = 900 cfs
Q 10 = 1900 cfs
Q 25 = 2800 cfs
Q 50 = 3550 cfs
Q 100 = 4300 cfs
Q 500 = 5800 cfs

DATE OF FLOOD OF RECORD : Unknown
ESTIMATED DISCHARGE : Unknown
WATER SURFACE ELEV. : Unknown
NATURAL STREAM VELOCITY : @ Q50 = 14.2 fps
ICE CONDITIONS : Moderate
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: < 1%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION
STRUCTURE TYPE: Single span steel beam bridge with concrete deck.
YEAR BUILT: 1929
CLEAR SPAN(NORMAL TO STREAM): 59'
VERTICAL CLEARANCE ABOVE STREAMBED: 14'
WATERWAY OF FULL OPENING: 570 sq. ft.
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See boring logs.

WATER SURFACE ELEVATIONS AT:
Q2.33 = 1408.6'
Q10 = 1410.8'
Q25 = 1412.5'
Q50 = 1413.7'
Q100 = 1414.7'
VELOCITY = 9.9 fps
12.2 fps
13.6 fps
14.4 fps
15.1 fps

LONG TERM STREAMBED CHANGES: Comparing current survey to record plans and the flood insurance study, it appears there may have been some degradation in the past.

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 1418.6'
DISCHARGE OVER ROAD @Q100: N/A

UPSTREAM STRUCTURE
TOWN: Wardsboro
HIGHWAY #: TH 29
CLEAR SPAN: 69'
YEAR BUILT: 1939
STRUCTURE TYPE: Single span steel beam bridge with timber deck.
DISTANCE: 3000'
STRUCTURE #: 26
CLEAR HEIGHT: 7.5'
FULL WATERWAY: N/A

DOWNSTREAM STRUCTURE
TOWN: Wardsboro
HIGHWAY #: TH 6
CLEAR SPAN: 96'
YEAR BUILT: 1978
STRUCTURE TYPE: Single span steel beam bridge.
DISTANCE: 8000'
STRUCTURE #: 27
CLEAR HEIGHT: 19'
FULL WATERWAY: N/A

LRFR LOAD RATING FACTORS
LOADING LEVELS
TONNAGE
INVENTORY
POSTING
OPERATING
COMMENTS:

TRUCK
H-20
HL-93
3S2
6 AXLE
3A STR.
4A STR.
5A SEM
20
36
36
66
30
34.5
38

AS BUILT "REBAR" DETAIL
LEVEL I
LEVEL II
LEVEL III
TYPE:
GRADE:
TYPE:
GRADE:
TYPE:
GRADE:

TEMPORARY BRIDGE PROFILE ALONG TEMP CL
BOTTOM OF BEAMS ELEV. = 1414.00 FT
58.00 FT (MIN)
6.80 FT (MIN)
OPENING 395.00 FT (MIN)

PILE DRIVING AND TESTING REQUIREMENTS
1. NOMINAL PILE DRIVING CAPACITY
2. PILE TEST RESISTANCE FACTOR
3. MINIMUM PILE TIP ELEVATION
4. ONE DYNAMIC PILE LOAD TEST REQUIRED PER ABUTMENT.

346.00 KIP
0.65
1377.00 FT

PROPOSED STRUCTURE
STRUCTURE TYPE: Single span steel beam bridge with concrete deck.

CLEAR SPAN(NORMAL TO STREAM): 65'
VERTICAL CLEARANCE ABOVE STREAMBED: 14'
WATERWAY OF FULL OPENING: 590 sq. ft.

WATER SURFACE ELEVATIONS AT:
Q2.33 = 1408.6'
Q10 = 1410.8'
Q25 = 1412.5'
Q50 = 1413.7'
Q100 = 1414.7'
VELOCITY= 9.9 fps
12.2 fps
13.6 fps
14.4 fps
15.1 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 1418.6'
DISCHARGE OVER ROAD @Q100: N/A
AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 1416.2'
VERTICAL CLEARANCE: @ Q50 = 2.5'

SCOUR: Total long term degradation and contraction scour = 2' at Q100 and 4' at Q500.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV

PERMIT INFORMATION
AVERAGE DAILY FLOW: 20 cfs
ORDINARY LOW WATER: 10 cfs
ORDINARY HIGH WATER: 390 cfs
DEPTH OR ELEVATION:
Depth = 0.5'
Depth = 3.0'

TEMPORARY BRIDGE REQUIREMENTS
STRUCTURE TYPE: Single span bridge
CLEAR SPAN (NORMAL TO STREAM): 58' minimum
VERTICAL CLEARANCE ABOVE STREAMBED: Elev. 1414.0' minimum
WATERWAY AREA OF FULL OPENING: 395 sq. ft. minimum

ADDITIONAL INFORMATION

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

DESIGN VALUES
1. DESIGN LIVE LOAD
2. FUTURE PAVEMENT
3. DESIGN SPAN
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)
5. PRESTRESSING STRAND
6. PRESTRESSED CONCRETE STRENGTH
7. PRESTRESSED CONCRETE RELEASE STRENGTH
8. CONCRETE, HIGH PERFORMANCE CLASS AA
9. CONCRETE, HIGH PERFORMANCE CLASS A
10. CONCRETE, HIGH PERFORMANCE CLASS B
11. CONCRETE, CLASS C
12. REINFORCING STEEL
13. STRUCTURAL STEEL AASHTO M270 (WEATHERING)
14. SOIL UNIT WEIGHT
15. NOMINAL BEARING RESISTANCE OF SOIL
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)
17. NOMINAL BEARING RESISTANCE OF ROCK
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)
19. NOMINAL AXIAL PILE RESISTANCE
20. PILE YIELD STRENGTH ASTM A572
21. PILE SIZE
22. EST. PILE LENGTH
23. PILE RESISTANCE FACTOR
24. LATERAL PILE DEFLECTION
25. BASIC WIND SPEED
26. MINIMUM GROUND SNOW LOAD
27. SEISMIC DATA

HL-93
2.5 INCH
68.00 FT

4.0 KSI
3.5 KSI

60 KSI
50 KSI
0.140 KCF
4.0 KSF

346.0 KIPS
50 KSI
HP 12X74
77 FT
0.65
0.37 INCH

PGA: ---

PROJECT NAME: WARDSBORO
PROJECT NUMBER: BRP 013-1(15)

FILE NAME: s92b283pi.xls
PROJECT LEADER: C. CARLSON
DESIGNED BY: D. PETERSON
PRELIMINARY INFORMATION SHEET
PLOT DATE: 7/9/2015
DRAWN BY: R. PELLETT
CHECKED BY: D. PETERSON
SHEET 2A OF 51

SEE REVISED SHEET 2B
DATED 10/5/15

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

LRFD

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STRUCTURES DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES	02-09-2012
SD-502.00	CONCRETE DETAILS AND NOTES	10-10-2012
SD-516.10	BRIDGE JOINT ASPHALTIC PLUG	08-29-2011
SD-601.00	STRUCTURAL STEEL DETAILS AND NOTES	06-04-2010
SD-602.00	STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES	05-02-2011

STANDARDS LIST

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E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-141	REGULATORY SIGN DETAILS	09-20-1995
E-142	REGULATORY SIGN DETAILS	09-20-1995
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E-161	W-SHAPED STEEL SIGN POST	08-18-1995
E-162	TUBULAR ALUMINUM SIGN POST	05-20-1999
E-163	TUBULAR STEEL SIGN POST	05-20-1999
E-191	PAVEMENT MARKING DETAILS	02-01-1999
E-192	PAVEMENT MARKING DETAILS	10-12-2000
E-193	PAVEMENT MARKING DETAILS	08-18-1995
G-18M	BOX BEAM GUARD RAIL	08-13-1997
S-364A	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM	02-10-2014
S-364B	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	02-10-2014
S-364C	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	02-10-2014
S-364D	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	04-23-2012
T-1	TRAFFIC CONTROL GENERAL NOTES	08-06-2012
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T-35	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS	08-06-2012
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FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: Nov. 2012

DRAINAGE AREA: 9.4 sq. mi.
CHARACTER OF TERRAIN: Hilly to mountainous, mostly forested.
STREAM CHARACTERISTICS: Sinuous, semi-alluvial and probably incised.
NATURE OF STREAMBED: Mostly cobbles and boulders with some gravel.

PEAK FLOW DATA

Q 2.33 =	900 cfs	Q 50 =	3550 cfs
Q 10 =	1900 cfs	Q 100 =	4300 cfs
Q 25 =	2800 cfs	Q 500 =	5800 cfs

DATE OF FLOOD OF RECORD: Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY: @ Q50 = 14.2 fps
ICE CONDITIONS: Moderate
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: < 1% HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span steel beam bridge with concrete deck.
YEAR BUILT: 1929
CLEAR SPAN(NORMAL TO STREAM): 59'
VERTICAL CLEARANCE ABOVE STREAMBED: 14'
WATERWAY OF FULL OPENING: 570 sq. ft.
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See boring logs.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	1408.6'	VELOCITY =	9.9 fps
Q10 =	1410.8'	"	12.2 fps
Q25 =	1412.5'	"	13.6 fps
Q50 =	1413.7'	"	14.4 fps
Q100 =	1414.7'	"	15.1 fps

LONG TERM STREAMBED CHANGES: Comparing current survey to record plans and the flood insurance study, it appears there may have been some degradation in the past.

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 1418.6'
DISCHARGE OVER ROAD @Q100: N/A

UPSTREAM STRUCTURE

TOWN: Wardsboro DISTANCE: 3000'
HIGHWAY #: TH 29 STRUCTURE #: 26
CLEAR SPAN: 69' CLEAR HEIGHT: 7.5'
YEAR BUILT: 1939 FULL WATERWAY: N/A
STRUCTURE TYPE: Single span steel beam bridge with timber deck.

DOWNSTREAM STRUCTURE

TOWN: Wardsboro DISTANCE: 8000'
HIGHWAY #: TH 6 STRUCTURE #: 27
CLEAR SPAN: 96' CLEAR HEIGHT: 19'
YEAR BUILT: 1978 FULL WATERWAY: N/A
STRUCTURE TYPE: Single span steel beam bridge.

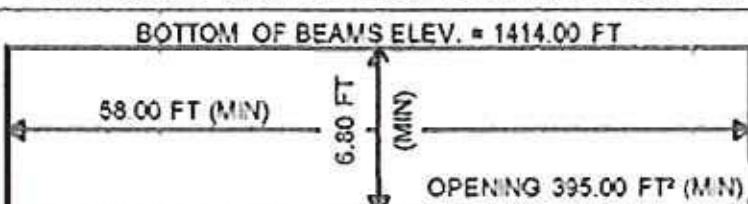
LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK					
	H-20	HL-93	3S2	6 AXLE	3A STR.	5A SEM
TONNAGE	20	36	36	66	30	34.5
INVENTORY Δ	2.40	1.26				
POSTING						
OPERATING Δ	3.19	1.63	2.63	1.74	2.26	2.22
COMMENTS:						

AS BUILT "REBAR" DETAIL

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

TEMPORARY BRIDGE PROFILE ALONG TEMP CL



PILE DRIVING AND TESTING REQUIREMENTS

1. NOMINAL PILE DRIVING CAPACITY	346.00 KIP
2. PILE TEST RESISTANCE FACTOR	0.65
3. MINIMUM PILE TIP ELEVATION	1377.00 FT
4. ONE DYNAMIC PILE LOAD TEST REQUIRED PER ABUTMENT.	

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span steel beam bridge with concrete deck.

CLEAR SPAN(NORMAL TO STREAM): 65'
VERTICAL CLEARANCE ABOVE STREAMBED: 14'
WATERWAY OF FULL OPENING: 590 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	1408.6'	VELOCITY =	9.9 fps
Q10 =	1410.8'	"	12.2 fps
Q25 =	1412.5'	"	13.6 fps
Q50 =	1413.7'	"	14.4 fps
Q100 =	1414.7'	"	15.1 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 1418.6'
DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 1416.2'
VERTICAL CLEARANCE: @ Q50 = 2.5'

SCOUR: Total long term degradation and contraction scour = 2' at Q100 and 4' at Q500.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV

PERMIT INFORMATION

AVERAGE DAILY FLOW: 20 cfs DEPTH OR ELEVATION:
ORDINARY LOW WATER: 10 cfs Depth = 0.5'
ORDINARY HIGH WATER: 390 cfs Depth = 3.0'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single span bridge
CLEAR SPAN(NORMAL TO STREAM): 58' minimum
VERTICAL CLEARANCE ABOVE STREAMBED: Elev. 1414.0' minimum
WATERWAY AREA OF FULL OPENING: 395 sq. ft. minimum

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

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

DESIGN VALUES

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	dp: 2.5 INCH
3. DESIGN SPAN	L: 68.00 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' _c : ---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f' _c : ---
9. CONCRETE, HIGH PERFORMANCE CLASS A	f' _c : 4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f' _c : 3.5 KSI
11. CONCRETE, CLASS C	f' _c : ---
12. REINFORCING STEEL	f _y : 60 KSI
13. STRUCTURAL STEEL AASHTO M270 (WEATHERING)	f _y : 50 KSI
14. SOIL UNIT WEIGHT	γ : 0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	qn: 4.0 KSF
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ : ---
17. NOMINAL BEARING RESISTANCE OF ROCK	qn: 10.0 KSF
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ : ---
19. NOMINAL AXIAL PILE RESISTANCE	qp: 346.0 KIPS
20. PILE YIELD STRENGTH ASTM A572	f _y : 50 KSI
21. PILE SIZE	HP 12X74
22. EST. PILE LENGTH	Lp: 77 FT
23. PILE RESISTANCE FACTOR	ϕ : 0.65
24. LATERAL PILE DEFLECTION	Δ : 0.37 INCH
25. BASIC WIND SPEED	V3s: ---
26. MINIMUM GROUND SNOW LOAD	pg: ---
27. SEISMIC DATA	POA: --- S1: ---

PROJECT NAME: WARDBORO

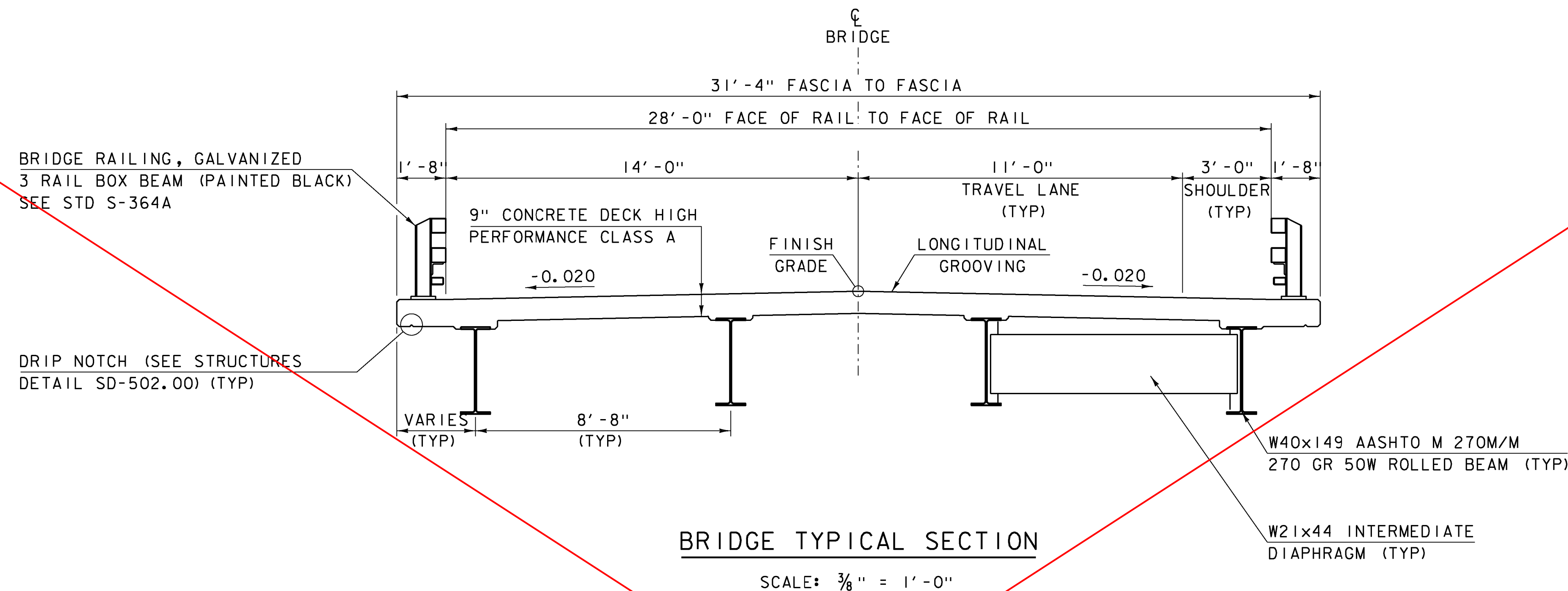
PROJECT NUMBER: BRF 013-1(15)

FILE NAME: s92b283p1.xls PLOT DATE: 10/5/2015
PROJECT LEADER: C. CARLSON DRAWN BY: R. PELLETT
DESIGNED BY: D. PETERSON CHECKED BY: D. PETERSON
PRELIMINARY INFORMATION SHEET SHEET 2 OF 51

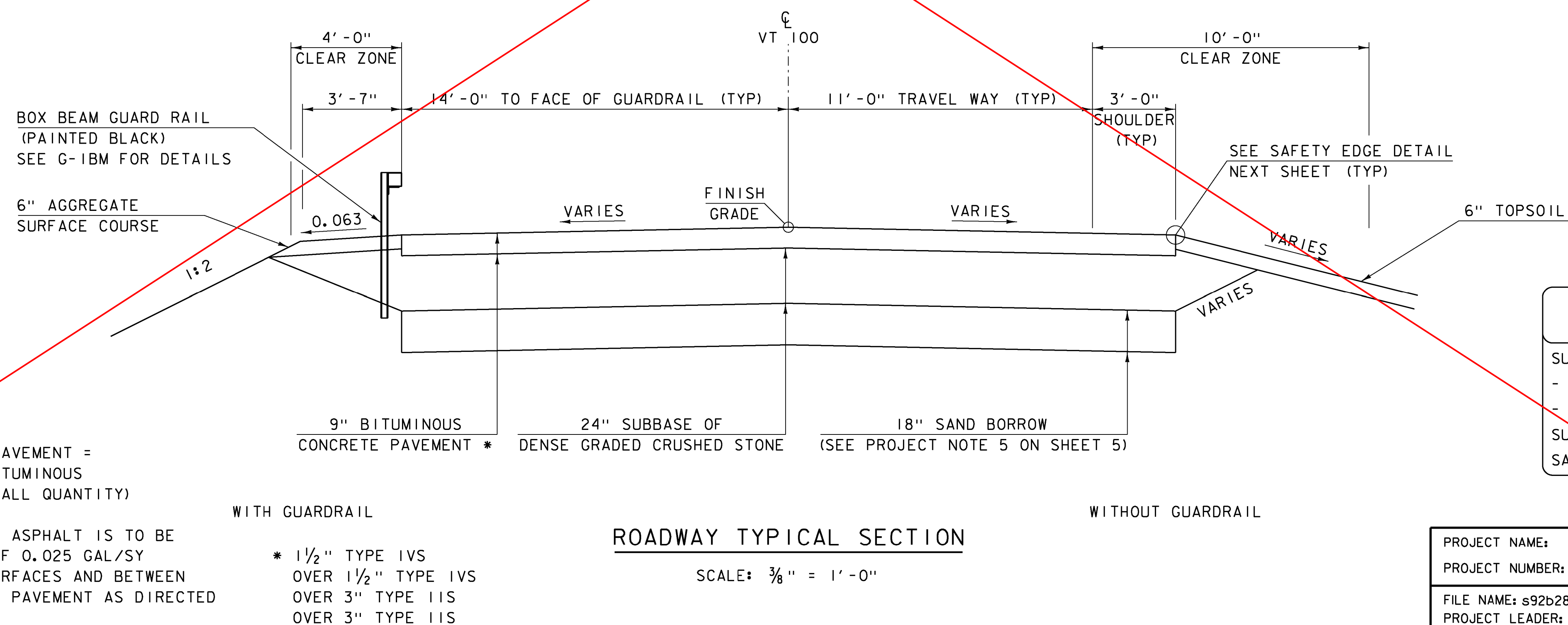
KEY	DATE	BY	REVISION
Δ	10/05/2015	VAOT	MODIFIED LRFR LOAD RATING FACTORS.

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2013 to 2033 : 878000	40 year ESAL for flexible pavement from 2013 to 2053 : 2064000
2013	1300	190	51	11.4	160		
2033	1500	220	51	17.3	270	Design Speed: 30 mph	



SEE REVISED SHEET 3B
DATED 10/5/15



BITUMINOUS CONCRETE PAVEMENT =
SPECIAL PROVISION (BITUMINOUS
CONCRETE PAVEMENT, SMALL QUANTITY)

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

* $1\frac{1}{2}"$ TYPE IVS
OVER $1\frac{1}{2}"$ TYPE IVS
OVER 3" TYPE IIS
OVER 3" TYPE IIS

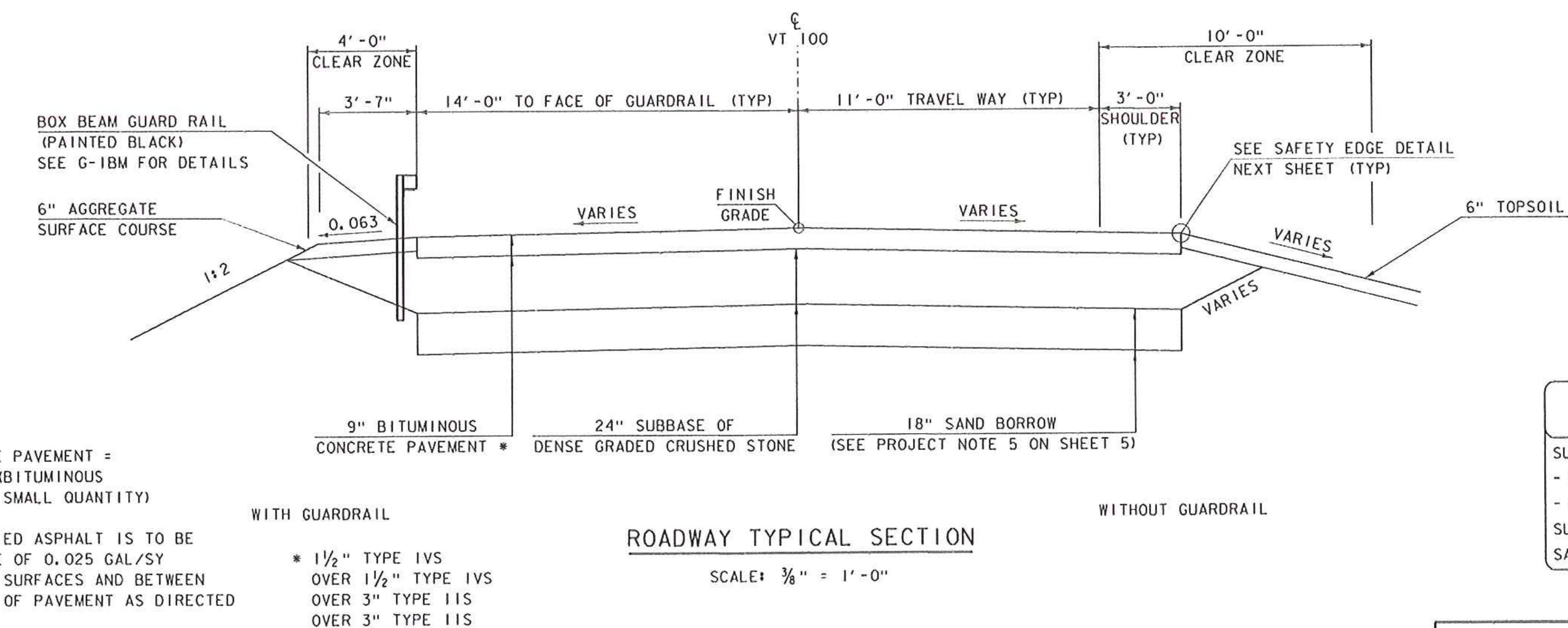
MATERIAL TOLERANCES (IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- $\frac{1}{4}"$
- AGGREGATE SURFACE COURSE	+/- $\frac{1}{2}"$
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

PROJECT NAME: WARDSBORO
PROJECT NUMBER: BRF 013-1(15)

FILE NAME: s92b283typ.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: D. PETERSON
TYPICAL SECTIONS 1

PLOT DATE: 15-JUL-2015
DRAWN BY: R. PELLET
CHECKED BY: D. PETERSON
SHEET 3A OF 51



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

BITUMINOUS CONCRETE PAVEMENT =
SPECIAL PROVISION (BITUMINOUS
CONCRETE PAVEMENT, SMALL QUANTITY)

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

WITH GUARDRAIL

* 1 1/2" TYPE IVS
OVER 1 1/2" TYPE IVS
OVER 3" TYPE IIS
OVER 3" TYPE IIS

WITHOUT GUARDRAIL

ROADWAY TYPICAL SECTION

SCALE: $\frac{3}{8}" = 1' - 0"$

KEY	DATE	BY	REVISION
⚠	10/05/2015	VAOT	MODIFIED ROLLED BEAM TO PLATE GIRDER.

PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-1(15)

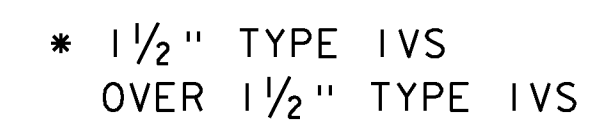
FILE NAME: s92b283+yp.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: D. PETERSON
TYPICAL SECTIONS I

PLOT DATE: 06-OCT-2015
DRAWN BY: R. PELLETT
CHECKED BY: D. PETERSON
SHEET 38 OF 51



SCALE: $\frac{1}{4}'' = 1' - 0''$

STA 124+52.66 LT TO STA 124+56.66 LT
STA 124+79.58 LT TO STA 124+83.58 LT



TH 7 TYPICAL SECTION

SCALE: $\frac{3}{8}'' = 1' - 0''$



NOT TO SCALE

The diagram illustrates the cross-section of a bridge structure and its approach. Key components and dimensions include:

- 50'-0"**: Total length of the approach slab and subbase material.
- 4'-0"**: Thickness of the approach slab and the stone fill layer.
- 3'-0"**: Width of the channel excavation.
- 1:1**: Slope of the channel excavation.
- 1:1.5**: Slope of the stone fill layer.
- 2'-0" (TYP)**: Typical width of the structure excavation.
- 1:1.5**: Slope of the stone fill layer.
- 4'-0" STONE FILL, TYPE IV**: Material used for the channel excavation.
- EXISTING GROUND**: The ground level before construction.
- GRUBBING MATERIAL**: Material used for the channel excavation.
- GEOTEXTILE UNDER STONE FILL**: Material used to separate the stone fill from the subbase material.
- STEEL PILE**: Foundation for the structure.
- LIMITS OF GRANULAR BORROW (IF REQUIRED)**: Boundary for granular borrow material.
- LIMITS OF GRANULAR BACKFILL FOR STRUCTURES**: Boundary for granular backfill.
- LIMITS OF STRUCTURE EXCAVATION**: Boundary for structure excavation.

ABUTMENT EARTHWORK TYPICAL SECTION

NOT TO SCALE



NOT TO SCALE

1. THE EDGE OF PAVEMENT SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE 30 TO 35 DEGREE ANGLE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.
2. THE PAVED SHOULDER EXTENDS FROM THE EDGE OF TRAVELED WAY TO THE EDGE OF THE WEARING COURSE, INCLUDING THE "SAFETY EDGE".

PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-1(15)
FILE NAME: s92b283+yp.dgn	PLOT DATE: 20-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
TYPICAL SECTIONS 2	SHEET 4 OF 51

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011 AND ITS LATEST REVISIONS, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SIXITH EDITION, DATED 2012 AND IT’S LATEST REVISIONS.
2. BRIDGE #68 WAS DESIGNED FOR HL-93 LIVE LOAD.
3. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS OTHERWISE NOTED.
4. THE DETAILS AND DIMENSIONS SHOW ON THE PROJECT SPECIFIC PLAN AND DETAIL SHEETS TAKE PRECEDENCE OVER THE MORE GENERAL “STRUCTURES DETAIL SHEETS” PROVIDED IN THE PLAN SET.

EARTHWORK AND RELATED ITEMS

5. THE CONTRACTOR MAY SUBSTITUTE SUBBASE OF DENSE GRADED CRUSHED STONE FOR THE SAND BORROW SHOWN ON THE PLANS. IF PLACEMENT OF SUBBASE IS IN LIEU OF SAND BORROW, PLACE A GEOTEXTILE MEETING THE REQUIREMENTS OF SECTION 649 FOR “GEOTEXTILE FOR ROAD BED SEPARATOR” BETWEEN THE SUBGRADE AND THE SUBBASE MATERIAL. ANY SUBSTITUTED MATERIAL WILL BE PAID AT THE UNIT PRICE BID FOR ITEM 203.31, "SAND BORROW". ALL COSTS ASSOCIATED WITH THE INSTALLATION OF THE GEOTEXTILE FOR ROADBED SEPARATOR WILL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR ITEM 203.31, “SAND BORROW”.
6. THE STONE FILL UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE GIRDERS ARE SET.
7. THE BACKFILL BEHIND THE ABUTMENTS SHALL NOT BE PLACED HIGHER THAN THE BRIDGE SEATS UNTIL THE ABUTMENTS AND DECK CONSTRUCTION IS COMPLETED. THE DIFFERENCE IN ELEVATION OF FILL BEHIND THE ABUTMENTS AT ANY TIME DURING BACKFILLING OPERATIONS SHALL NOT EXCEED 2 FEET.
8. ITEM 529.15 “REMOVAL OF STRUCTURE” SHALL INCLUDE:
 - THE REMOVAL OF THE EXISTING SUPERSTRUCTURE AND ANY PORTION OF THE EXISTING ABUTMENTS NOT REMOVED UNDER STRUCTURE EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION.

STRUCTURAL STEEL

9. ALL NEW STRUCTURAL STEEL SHALL CONFORM TO SUBSECTION 714.03 FOR AASHTO M 270M/M 270, GRADE 50, WEATHERING STEEL.
10. CHARPY V-NOTCH TEST: TEST STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS IN ACCORDANCE WITH SUBSECTION 714.01.
11. BOLTS FOR ALL BOLTED FIELD CONNECTIONS SHALL BE 7/8 INCH DIAMETER HIGH STRENGTH BOLTS IN 15/16 INCH DIAMETER HOLES UNLESS OTHERWISE NOTED.
12. CONNECTIONS NOT SHOWN IN THE PLANS SHALL BE DETAILED BY THE FABRICATOR IN THE FABRICATION DRAWINGS AND SUBMITTED TO THE RESIDENT ENGINEER FOR APPROVAL.
13. DUE TO STABILITY CONCERNS AT THE ABUTMENTS DURING THE ERECTION OF THE SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT THE ERECTION PLAN A MINIMUM OF 30 WORKING DAYS PRIOR TO ERECTING THE SUPERSTRUCTURE.

14. THE EXISTING STRUCTURAL STEEL IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR’S USE OR DISPOSITION OF THE REMOVED EXISTING STRUCTURAL STEEL.
15. AFTER THE SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF GIRDERS SHALL BE TAKEN UNDER DIRECTION OF THE ENGINEER FOR USE IN DETERMINING THE FINAL GRADE AND HAUNCH DEPTHS.
16. CONCRETE PORTIONS OF ABUTMENTS AND WINGWALLS ABOVE ADJACENT BRIDGE SEAT ELEVATIONS SHALL NOT BE PLACED UNTIL FINISH GRADES HAVE BEEN DETERMINED BY THE ENGINEER.
17. FLEMING BRACKETS OR SIMILAR FALSE WORK: SPACE FLEMING BRACKETS OR SIMILAR FALSEWORK AS REQUIRED BY DESIGN WITH A MAXIMUM SPACING OF 4’-0”. THE BRACKETS SHALL BEAR NEAR THE BOTTOM FLANGE AND IN NO CASE SHALL THEY BEAR ABOVE THE BOTTOM QUARTER OF THE WEB.
18. HOLES IN WEB: FILL ANY BOLT HOLES IN THE WEBS OF THE BEAMS NOT OTHERWISE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS MEETING AASHTO M164 TYPE 3. TIGHTEN THE BOLTS IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS.
19. GIRDER WEBS AND DIAPHRAGMS SHALL BE PLUMB IN THE FINAL POSITION.

CONCRETE AND REINFORCING STEEL

20. INDIVIDUAL POURED SEGMENTS ARE TO BE PLACED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR’S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A CONSTRUCTION JOINT SHALL BE USED BETWEEN ADJACENT POURS. A MINIMUM 96 HOUR DELAY BETWEEN ADJACENT POURS SHALL BE OBSERVED.
21. ITEM 501.33, “CONCRETE, HIGH PERFORMANCE CLASS A” SHALL BE USED FOR THE DECK, INTEGRAL ABUTMENT CURTAIN WALL AND WINGWALLS ABOVE THE PILE CAP CONSTRUCTION JOINT. ALL SUBSTRUCTURE CONCRETE BELOW THE BRIDGE SEATS AND ALL APPROACH SLAB CONCRETE SHALL BE ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B."
22. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES.
23. ALL REINFORCING STEEL IN OR EXTENDING INTO CONCRETE, HPC A SHALL BE LEVEL II UNLESS OTHERWISE NOTED. REINFORCING STEEL IN APPROACH SLABS SHALL BE LEVEL I. ALL OTHER REINFORCING STEEL SHALL BE LEVEL I. PAYMENT FOR REINFORCING STEEL WILL BE MADE UNDER THE APPROPRIATE SECTION 507 CONTRACT ITEM.

SUBSTRUCTURE

24. ITEM 505.16 "STEEL PILING, HP 12 X 74". REINFORCE THE DRIVING TIP ACCORDING TO SUBSECTION 505.04(F).

25. A MINIMUM OF ONE DYNAMIC PILE TEST SHALL BE CONDUCTED PER ABUTMENT. MORE TESTS MAY BE REQUIRED BY THE RESIDENT ENGINEER. ADDITIONAL TEST(S) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR ITEM 505.45 "DYNAMIC PILE LOADING TEST". THE NOMINAL PILE DRIVING RESISTANCE FOR EACH PILE IS 346 KIPS. A PILE RESISTANCE FACTOR OF 0.65 WAS USED BASED ON THE DYNAMIC TESTING REQUIREMENT.
26. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED AND ARE SHOWN ON THE BORING LOGS. THE ACTUAL IN PLACE LENGTHS MAY VARY. PILES SHALL HAVE A MINIMUM EMBEDMENT OF 30 FT MEASURED FROM THE BOTTOM OF THE PILE CAP.

TRAFFIC CONTROL

27. TRAFFIC SHALL BE MAINTAINED ON A TWO-WAY TEMPORARY BRIDGE PLACED UPSTREAM OF THE EXISTING BRIDGE.
28. THE TEMPORARY BRIDGE APPROACHES SHALL BE PAVED. A WOODEN DECK WILL NOT BE ALLOWED.
29. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF A SITE SPECIFIC TRAFFIC CONTROL PLAN. THIS WORK WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.645, “SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)”.
30. FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645, “SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)”.

MISCELLANEOUS

31. THE ARBOR LOCATED AT APPROXIMATELY STA. 120+89 LT SHALL BE MOVED DURING CONSTRUCTION AND THE LANDSCAPING LOCATED AROUND IT SHALL BE SALVAGED AND RESET BEFORE THE END OF THE PROJECT OR COMPLETELY REPLACED TO THE APPROVAL OF THE PROPERTY OWNER. THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 528.11, “TWO-WAY TEMPORARY BRIDGE (1630 SF)”.
32. THE CONTRACTOR SHALL TAKE CARE TO AVOID DISTURBING THE FLOWER GARDEN LOCATED AT STATION 120+95 LT, ALONG THE SIDE OF THE BUILDING.
33. DURING CONSTRUCTION THE SATELLITE LOCATED AT STA. 121+92.80, 23.8’ RT SHALL BE RELOCATED TO A LOCATION WHERE IT CAN RECEIVE A SIGNAL OF SIMILAR QUALITY TO THAT IN IT’S CURRENT LOCATION. THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 528.11, “TWO-WAY TEMPORARY BRIDGE (1630 SF)”.
34. ALL STEEL COMPONENTS OF BRIDGE RAILING, APPROACH RAILING AND BOX BEAM GUARDRAIL SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND SURFACE PREPARED FOR PAINTING IN ACCORDANCE WITH ASTM D 6386. COMPONENTS SHALL BE PAINTED BLACK IN ACCORDANCE WITH SUBSECTION 708.03.
35. ALL BRIDGE, APPROACH AND GUARDRAIL SHALL BE PAINTED BLACK (CHIP COLOR #27038) EXCEPT HARDWARE AND ANCHORAGE CAST IN CONCRETE.
36. THE CONTRACTOR SHALL INSTALL FABRIC FILTER OVER THE EXISTING DRY WELL LOCATED AT STATION 121+50 (+/-), 55 FT (LT) PRIOR TO CONSTRUCTION OF THE TEMPORARY BRIDGE. THE COST OF THE FABRIC WILL BE CONSIDERED INCIDENTAL TO ITEM 528.11, “TWO WAY TEMPORARY BRIDGE”.

PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BRF 013-I(15)	
FILE NAME: s98b283gn.dgn	PLOT DATE: 21-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: STR3
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
GENERAL NOTES	SHEET 5 OF 51

QUANTITY SHEET 1

PROJECT NAME: WARDBORO	
PROJECT NUMBER: BRF 013-I(15)	
FILE NAME: s92b283qs.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: D. KARABEGOVIC
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
QUANTITY SHEET 1	SHEET 6A OF 51

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
							ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				* N A B.I. - NOT A BID ITEM
							1860				1860		CY	COMMON EXCAVATION	203.15				
							780				780		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27				EARTHWORKS SUMMARY
							350				350		CY	SAND BORROW	203.31				FILL AVAILABLE
							484				484		CY	TRENCH EXCAVATION OF EARTH	204.20		1860	CY	COMMON EXCAVATION (1,860 x 1.0)
							28				28		CY	TRENCH EXCAVATION OF ROCK	204.21		234	CY	UNCLASSIFIED CHANNEL EXCAVATION (780 x 0.3)
							1				1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22		123	CY	STRUCTURE EXCAVATION (410 x 0.3)
									410		410		CY	STRUCTURE EXCAVATION	204.25		306	CY	TRENCH EXCAVATION OF EARTH (340 x 0.9)
							290		205		495		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30		7	CY	ROUNDING
							470				470		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10		2530	CY	TOTAL FILL AVAILABLE
							960				960		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35				
							15				15		CY	AGGREGATE SURFACE COURSE	401.10				
							17				17		CWT	EMULSIFIED ASPHALT	404.65				
							1				1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
									121		121		CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33				
									135		135		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34				
									1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10				
									770		770		LF	STEEL PILING, HP 12 X 74	505.16				
									2		2		EACH	DYNAMIC PILE LOADING TEST	505.45				
							44026				44026		LB	STRUCTURAL STEEL, PLATE GRDER	506.55				
							6065				6065		LB	REINFORCING STEEL, LEVEL I	507.11				
							33364				33364		LB	REINFORCING STEEL, LEVEL II	507.12				
							1				1		LS	SHEAR CONNECTORS (824 - 7/8" x 7")	508.15				
							217				217		SY	LONGITUDINAL DECK GROOVING	509.10				
							10				10		GAL	WATER REPELLENT, SLANE	514.10				
							63				63		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10				
							63				63		LF	JOINT SEALER, HOT POURED	524.11				
							146				146		LF	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM (PAINTED BLACK)	525.335				
							1				1		LS	TWO-WAY TEMPORARY BRIDGE (1630 SF)	528.11				
							1				1		EACH	REMOVAL OF STRUCTURE (2112 SF - EST.)	529.15				
									8		8		EACH	BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD	531.17				
														BEGIN OPTION AA					
							245				245		LF	18" CAAP .105 (2-2/3 X 1/2)	601.0217				
							245				245		LF	18" PCCSP .064 (2-2/3 X 1/2)	601.0415				
							245				245		LF	18" CPEP	601.0915				
														END OPTION AA					
							3				3		EACH	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	604.18				
							850				850		CY	STONE FILL, TYPE M	613.13				
							20				20		LF	BOX BEAM GUARDRAIL (PAINTED BLACK)	621.30				
							4				4		EACH	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM (PAINTED BLACK)	621.725				

PROJECT NAME: WARDSBORO
PROJECT NUMBER: BRF 013-1(15)

FILE NAME: s92b283qs.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: D. PETERSON
QUANTITY SHEET 1

PLOT DATE: 06-OCT-2015
DRAWN BY: D. KARABEGOVIC
CHECKED BY: D. PETERSON
SHEET 68 OF 51

KEY	DATE	BY	REVISION
△	10/05/2015	VAOT	MODIFIED PAY ITEM NO AND QUANTITY.

STATE OF VERMONT AGENCY OF TRANSPORTATION												QUANTITY SHEET 2									
SUMMARY OF ESTIMATED QUANTITIES												TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
								ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS	
								112				112		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				* N.A.B.I. - NOT A BID ITEM	
								200				200		HR	UNIFORMED TRAFFIC OFFICERS	630.10					
								400				400		HR	FLAGGERS	630.15					
											1	1		LS	FIELD OFFICE, ENGINEERS	631.10					
											1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16					
											1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17					
											3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26					
								1				1		LS	MOBILIZATION/DEMOBILIZATION	635.11					
								1100				1100		LF	DURABLE 4 INCH WHITE LINE, POLYUREA	646.404					
								1100				1100		LF	DURABLE 4 INCH YELLOW LINE, POLYUREA	646.414					
								50				50		LF	DURABLE 24 INCH STOP BAR	646.480					
								8				8		EACH	DURABLE LETTER OR SYMBOL	646.490					
								130				130		SF	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85					
									810			810		SY	GEOTEXTILE UNDER STONE FILL	649.31					
									66			66		SY	GEOTEXTILE FOR SILT FENCE	649.51					
									95			95		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61					
									20			20		LB	SEED	651.15					
									10			10		LB	SEED, WINTER RYE	651.17					
									100			100		LB	FERTILIZER	651.18					
									0.5			0.5		TON	AGRICULTURAL LIMESTONE	651.20					
									0.5			0.5		TON	HAY MULCH	651.25					
									130			130		CY	TOPSOIL	651.35					
									380			380		SY	GRUBBING MATERIAL	651.40					
									1			1		LS	EPSC PLAN	652.10					
									50			50		HR	MONITORING EPSC PLAN	652.20					
									1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30					
									400			400		SY	TEMPORARY EROSION MATTING	653.20					
									50			50		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25					
									30			30		CY	VEHICLE TRACKING PAD	653.35					
									2			2		EACH	INLET PROTECTION DEVICE, TYPE I	653.40					
									100			100		LF	BARRIER FENCE	653.50					
									700			700		LF	PROJECT DEMARCATION FENCE	653.55					
								6.08				6.08		SF	TRAFFIC SIGNS, TYPE A	675.20					
								35				35		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341					
								14				14		EACH	REMOVING SIGNS	675.50					
								7				7		EACH	ERECTING SALVAGED SIGNS	675.60					
								9				9		EACH	SETTING SALVAGED POSTS	675.61					
								1				1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50					
								10				10		EACH	SPECIAL PROVISION (CPM SCHEDULE)	900.620					
								1				1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645					
PROJECT NAME: WARDSBORO PROJECT NUMBER: BRF 013-I(15) FILE NAME: s92b283qs.dgn DESIGNED BY: D. PETERSON QUANTITY SHEET 2 PLOT DATE: 21-JUL-2015 DRAWN BY: D. KARABEGOVIC CHECKED BY: D. PETERSON SHEET 7 OF 51																					

QUANTITY SHEET 3

[illegible]

BRIDGE QUANTITY SHEET 1

PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-1(I5)
FILE NAME: s92b283qs.dgn	PLOT DATE: 06-OCT-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: D. KARABEGOVIC
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
BRIDGE QUANTITY SHEET	SHEET 98 OF 51

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
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BNDNS	BOUND SET
▣	BNDNS	BOUND TO BE SET
●	IPNS	IRON PIN SET
◎	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 VALUE
⌘	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 RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLGY

UNDERGROUND UTILITIES	
— UT —	UTILITY (GENERIC-UNKNOWN)
— UE —	TELEPHONE
— UC —	ELECTRIC
— UEC —	CABLE (TV)
— UEC —	ELECTRIC+CABLE
— UET —	ELECTRIC+TELEPHONE
— UCT —	CABLE+TELEPHONE
— UECT —	ELECTRIC+CABLE+TELEP.
— G —	GAS LINE
— W —	WATER LINE
— S —	SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)	
— T —	UTILITY (GENERIC-UNKNOWN)
— E —	TELEPHONE
— C —	ELECTRIC
— EC —	CABLE (TV)
— EC —	ELECTRIC+CABLE
— ET —	ELECTRIC+TELEPHONE
— AER E&T —	ELECTRIC+TELEPHONE
— CT —	CABLE+TELEPHONE
— ECT —	ELECTRIC+CABLE+TELEP.
— — —	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 —	BARRIER FENCE
xxxxxxxxxxxxxxxxxxxx	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
+ ——— + ——— + ———	PROPERTY LINE (P/L)
P ——— L ——— 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 —	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: WARDSBORO	
PROJECT NUMBER: BRF 013-1115	
FILE NAME: s92b283legend.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
CONVENTIONAL SYMBOLGY - LEGEND	SHEET 10 OF 51



GPS CONTROL POINTS

HVCTRL #1

H CLARK  
NORTH = 193128.822  
EAST = 1544611.500  
ELEV. = 1478.230

GENERAL LOCATION, WARDSBORO, VT., IN THE VILLAGE OF WEST WARDSBORO. OWNERSHIP, HAROLD CLARK, POST OFFICE BOX 482, SOUTHTON, CT 06489. TO REACH FROM THE INTERSECTION OF VT ROUTE 100 SOUTH AND VT ROUTE 30 IN EAST JAMAICA GO SOUTH ALONG VT ROUTE 100 FOR 8.9 MI (14.3 KM) TO THE INTERSECTION OF THE STRATTON-ARLINGTON ROAD RIGHT, IN WEST WARDSBORO. TURN RIGHT AND GO NORTHWEST ALONG THE STRATTON-ARLINGTON ROAD FOR 0.3 MI (0.5 KM) TO THE SITE OF THE MARK ON THE RIGHT. THE MARK IS SET 4 CM (2 INCHES) BELOW GROUND SURFACE IN THE TOP OF A 30 CM (12 INCHES) DIAMETER CONCRETE MONUMENT. IT IS 10.4 M (34.1 FT) NORTHEAST OF AND ABOUT 0.5 M (1.6 FT) LOWER THAN THE CENTERLINE OF STRATTON - ARLINGTON ROAD, 11.5 M (37.7 FT) WEST OF THE WEST CORNER OF HOUSE NO 284, 16.6 M (54.5 FT) WEST-SOUTHWEST OF THE NORTH CORNER OF THE HOUSE, 24.8 M (81.4 FT) EAST-NORTHEAST OF AND ACROSS THE ROAD FROM POLE NO 7/251/137, 3.2 M (10.5 FT) SOUTHEAST OF THE CENTERLINE OF A HEDGE, AND 13.7 M (44.9 FT) NORTHWEST OF A 15 CM (6 INCHES) MAPLE.

HVCTRL #2

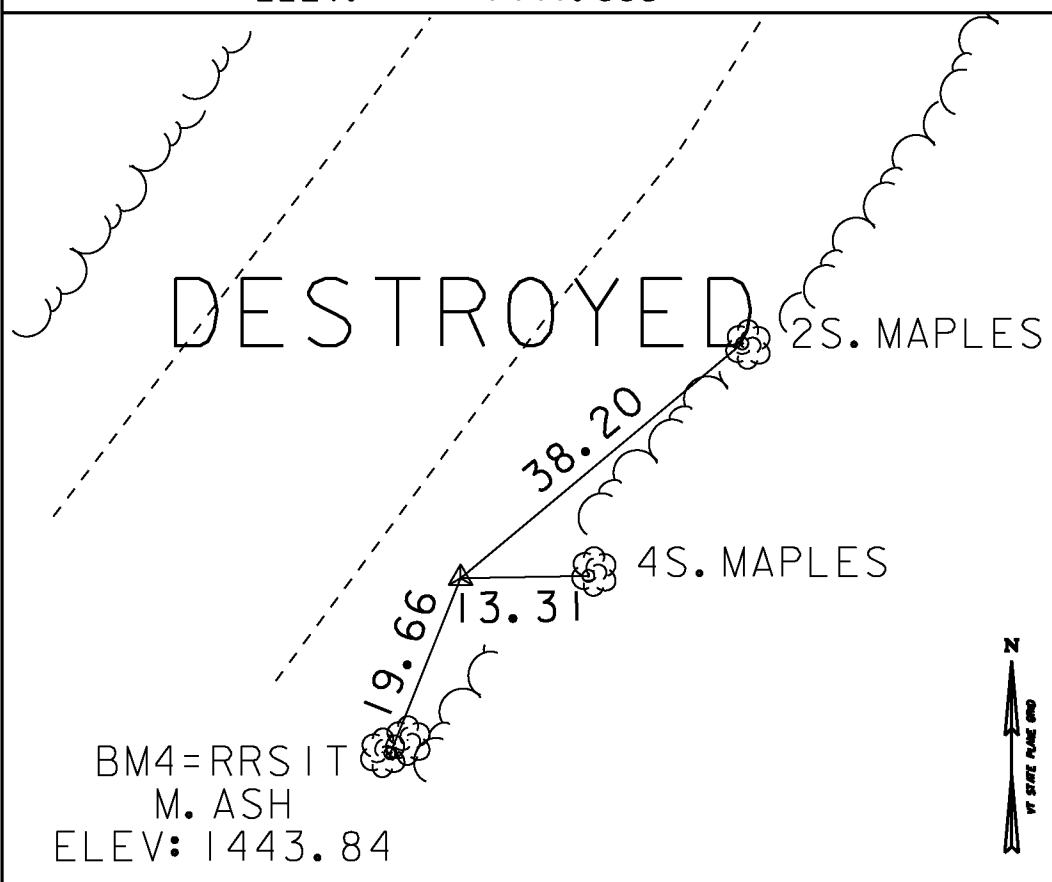
SPENCER  
NORTH = 192833.352  
EAST = 1545545.992  
ELEV. = 1479.278

GENERAL LOCATION, WARDSBORO, VT., IN THE VILLAGE OF WEST WARDSBORO. OWNERSHIP, CATHY KOELSCH, 137 STRATTON-ARLINGTON ROAD, WEST WARDSBORO, VT 05360. TO REACH FROM THE INTERSECTION OF VT ROUTE 100 SOUTH AND VT ROUTE 30 IN EAST JAMAICA GO SOUTH ALONG VT ROUTE 100 FOR 8.9 MI (14.3 KM) TO THE INTERSECTION OF THE STRATTON-ARLINGTON ROAD RIGHT, IN WEST WARDSBORO. TURN RIGHT AND GO NORTHWEST ALONG THE STRATTON-ARLINGTON ROAD FOR 0.1 MI (0.2 KM) TO THE SITE OF THE MARK ON THE LEFT IN A FIELD. IT IS ABOUT 45 M (147.6 FT) SOUTHEAST ALONG THE STRATTON-ARLINGTON ROAD FROM ITS INTERSECTION WITH CROSS ROAD RIGHT. THE MARK IS SET IN THE TOP OF A 0.7 M (2.3 FT) X 0.7 M (2.3 FT) ROCK OUTCROP WHICH PROJECTS ABOUT 0.2 M (0.7 FT) ABOVE GROUND SURFACE. IT IS 23.5 M (77.1 FT) SOUTHWEST OF AND ABOUT 2.2 M (7.2 FT) HIGHER THAN THE CENTERLINE OF STRATTON ARLINGTON ROAD, 53.5 M (175.5 FT) EAST OF THE EAST CORNER OF HOUSE NO 137, 46.4 M (152.2 FT) NORTH NORTHWEST OF A 30 CM (12 INCHES) FIR, AND 28.6 M (93.8 FT) SOUTH OF A SCHOOL BUS STOP AHEAD SIGN.

TRAVERSE TIES

HVCTRL #4

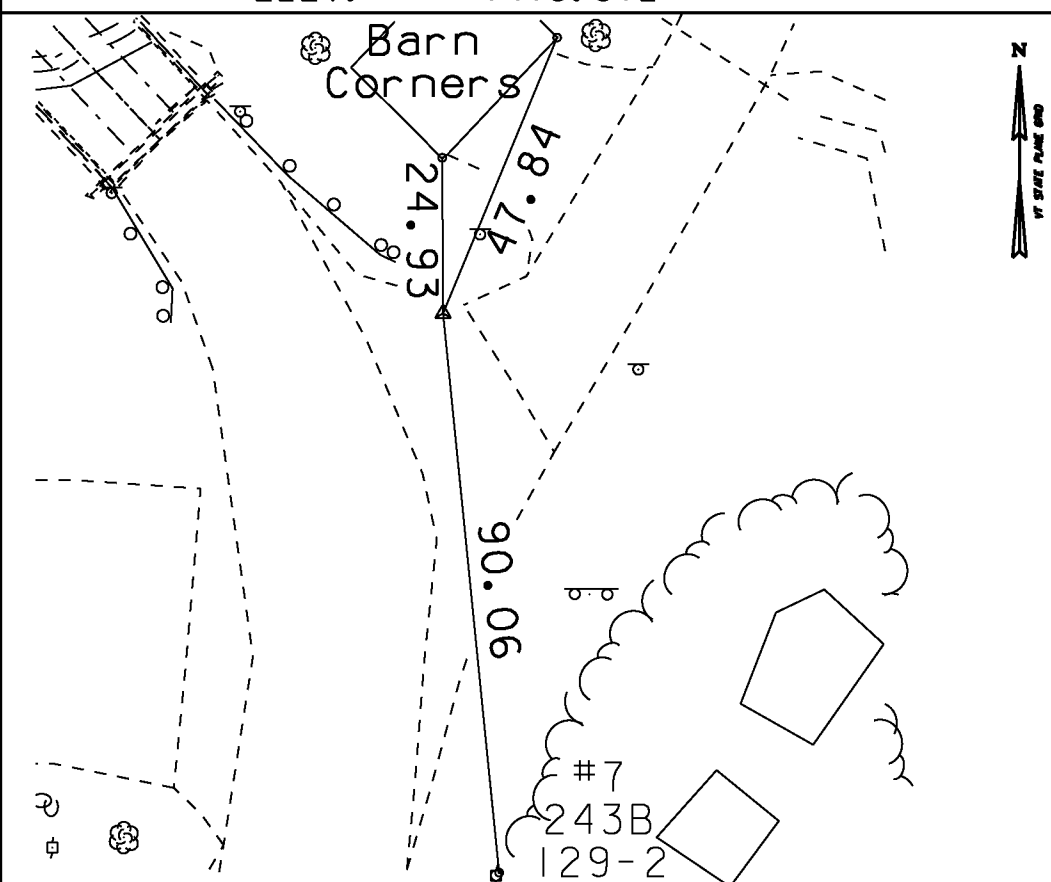
NORTH = 192971.361  
EAST = 1546366.705  
ELEV. = 1441.695



*Main Traverse Completed 1/12/2009 by L.Orvis P.C. & R.Bockus

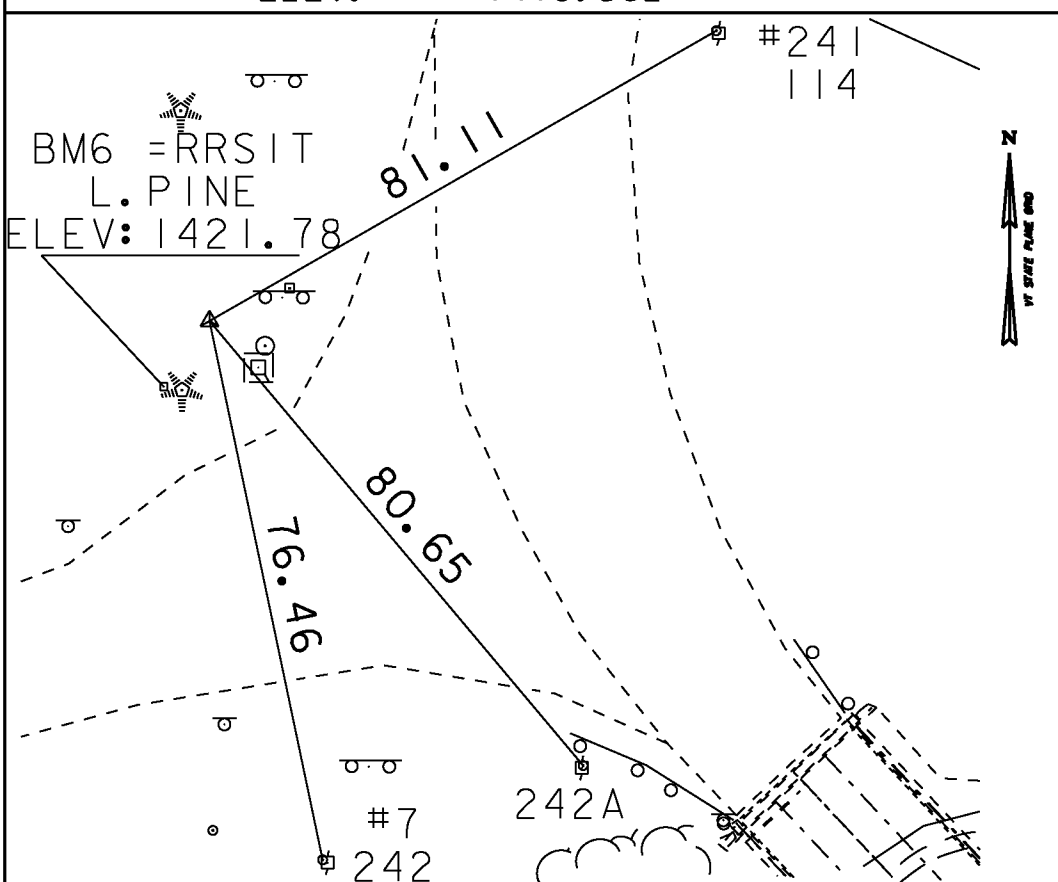
HVCTRL #5

NORTH = 193410.054  
EAST = 1546528.311  
ELEV. = 1419.872



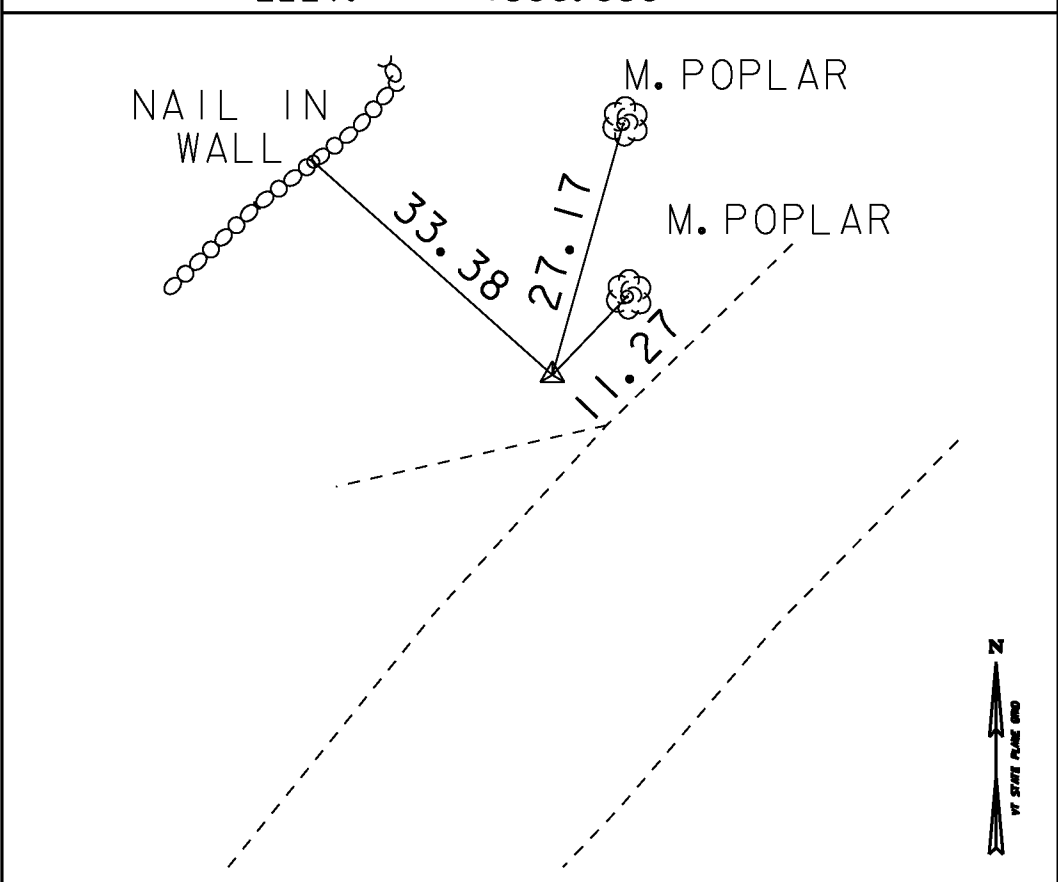
HVCTRL #6

NORTH = 193545.952  
EAST = 1546359.162  
ELEV. = 1419.562



HVCTRL #7

NORTH = 194028.955  
EAST = 1546596.303  
ELEV. = 1396.938



NORTH =  
EAST =  
ELEV. =

ALIGNMENT COORD

Horizontal Alignment Name: VT 100

	STATION	NORTHING	EASTING
PC	119+50.00	193185.51	1546465.31
PI	119+74.67	193208.50	1546474.26
	Radius:	716.20	
	Delta:	3°56'46.42"	Left
	DOC:	7°59'59.99"	
	Length:	49.33	
	Tangent:	24.67	
	Chord:	49.32	
	Middle Ordinate:	0.42	
	External:	0.42	
PT	119+99.33	193232.06	1546481.61
PC	120+87.97	193316.68	1546508.00
PI	121+62.12	193387.47	1546530.07
	Radius:	127.32	
	Delta:	60°25'39.75"	Left
	DOC:	44°59'59.94"	
	Length:	134.28	
	Tangent:	74.15	
	Chord:	128.15	
	Middle Ordinate:	17.30	
	External:	20.02	
PT	122+22.26	193441.60	1546479.41
PC	122+84.61	193487.12	1546436.80

PI	123+66.94	193547.23	1546380.53
	Radius:	127.32	
	Delta:	65°46'41.75"	Right
	DOC:	44°59'59.94"	
	Length:	146.17	
	Tangent:	82.34	
	Chord:	138.28	
	Middle Ordinate:	20.41	
	External:	24.30	
PT	124+30.78	193623.20	1546412.27
POE	125+50.00	193733.21	1546458.22

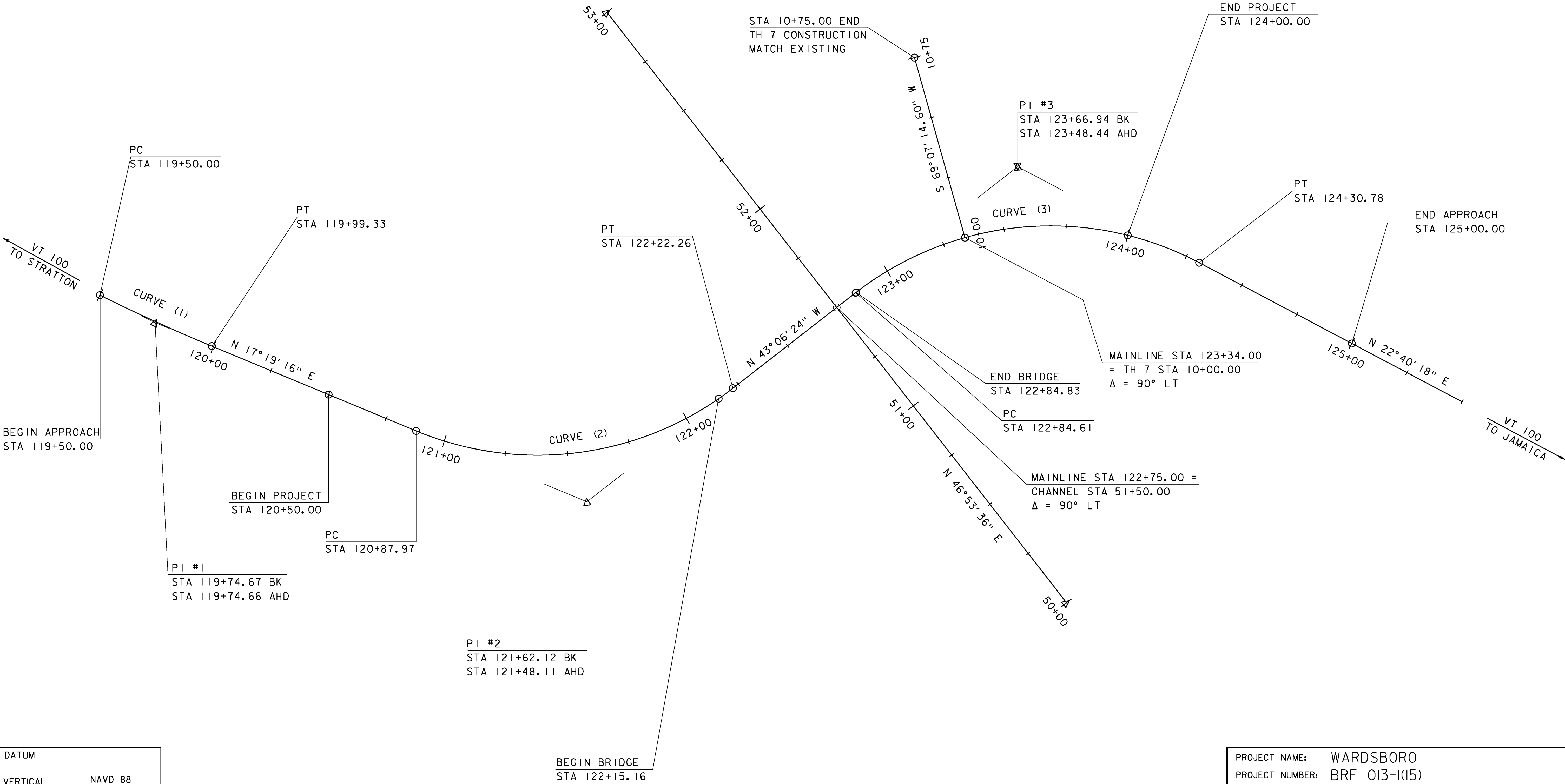
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (07)
ADJUSTMENT	Compass

*ALIGNMENT CURRENT AS OF 4/24/2012

PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-11(15)
FILE NAME: s92b283+1e.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: R. BULLOCK
DESIGNED BY: SURVEY	CHECKED BY: D. PETERSON
TIE SHEET	SHEET 11 OF 51



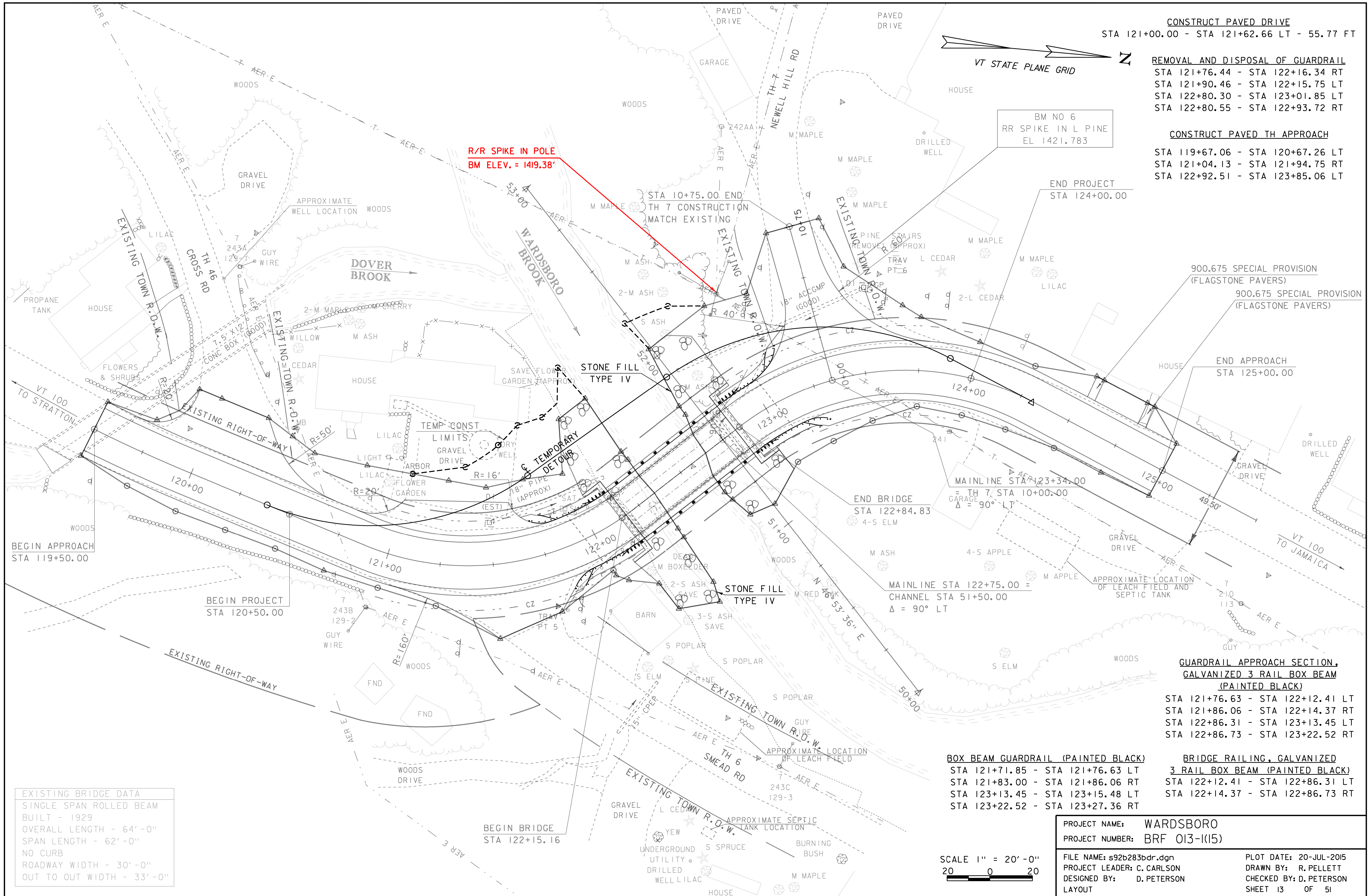
VT 100 CURVE (1)	VT 100 CURVE (2)	VT 100 CURVE (3)
DELTA = 3°56'46"	DELTA = 60°25'40" LT	DELTA = 65°46'42" RT
D = 8°	D = 45°	D = 45°
R = 716.20'	R = 127.32'	R = 127.32'
T = 24.67'	T = 74.15'	T = 82.34'
L = 49.33'	L = 134.28'	L = 146.17'
E = 0.42'	E = 20.02'	E = 24.30'
	BANKING = MAX 3%	BANKING = MAX 3%



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (07)
ADJUSTMENT	Compass

PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-1(15)
FILE NAME:	s92b283bdr.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	D. PETERSON
ALIGNMENT	
PLOT DATE:	15-JUL-2015
DRAWN BY:	R. PELLETT
CHECKED BY:	D. PETERSON
SHEET	12 OF 51





EXISTING BRIDGE DATA	
SINGLE SPAN ROLLED BEAM	
BUILT - 1929	
OVERALL LENGTH - 64'-0"	
SPAN LENGTH - 62'-0"	
NO CURB	
ROADWAY WIDTH - 30'-0"	
OUT TO OUT WIDTH - 33'-0"	

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

PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BRF 013-1(K15)	
FILE NAME: s92b283bdr.dgn	PLOT DATE: 20-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
LAYOUT	SHEET 13 OF 51

CONSTRUCT PAVED DRIVE  
STA 121+00.00 - STA 121+62.66 LT - 55.77 FT

REMOVAL AND DISPOSAL OF GUARDRAIL  
STA 121+76.44 - STA 122+16.34 RT  
STA 121+90.46 - STA 122+15.75 LT  
STA 122+80.30 - STA 123+01.85 LT  
STA 122+80.55 - STA 122+93.72 RT

CONSTRUCT PAVED TH APPROACH  
STA 119+67.06 - STA 120+67.26 LT  
STA 121+04.13 - STA 121+94.75 RT  
STA 122+92.51 - STA 123+85.06 LT

900.675 SPECIAL PROVISION  
(FLAGSTONE PAVERS)  
900.675 SPECIAL PROVISION  
(FLAGSTONE PAVERS)

END APPROACH  
STA 125+00.00

MAINLINE STA 123+34.00  
= TH 7, STA 10+00.00  
Δ = 90° LT

MAINLINE STA 122+75.00 =  
CHANNEL STA 51+50.00  
Δ = 90° LT

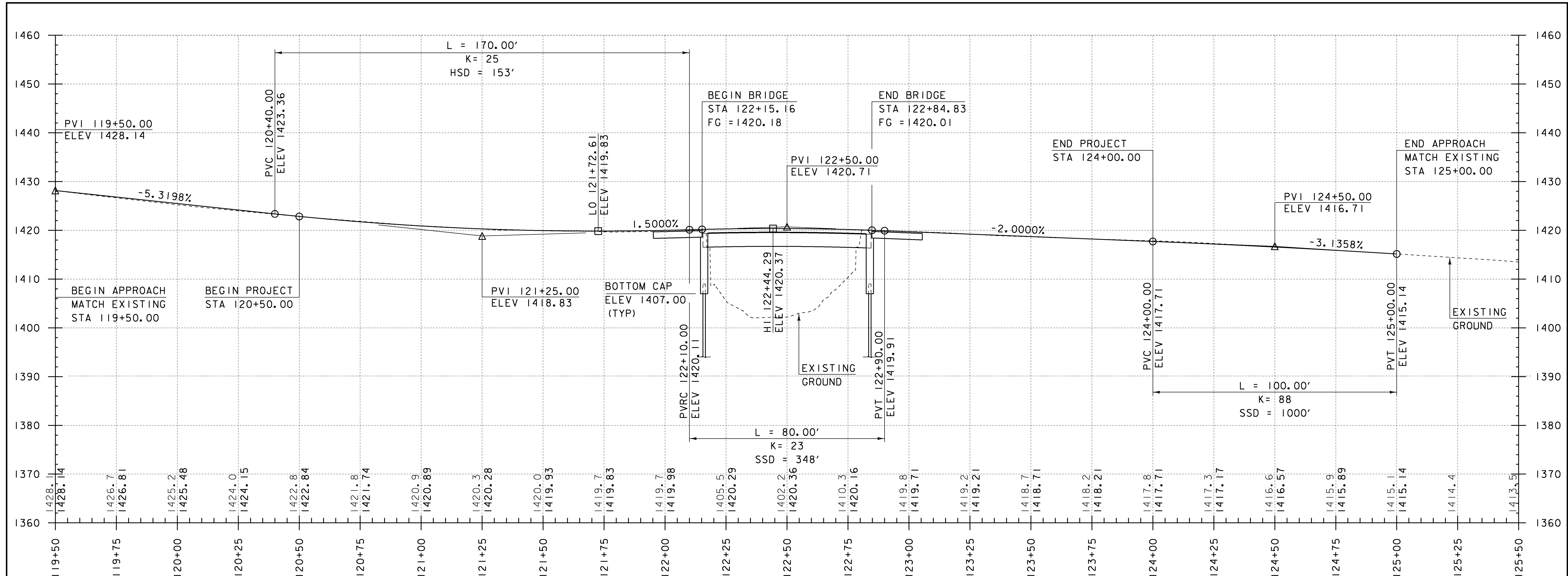
GUARDRAIL APPROACH SECTION,  
GALVANIZED 3 RAIL BOX BEAM  
(PAINTED BLACK)

STA 121+76.63 - STA 122+12.41 LT  
STA 121+86.06 - STA 122+14.37 RT  
STA 122+86.31 - STA 123+13.45 LT  
STA 122+86.73 - STA 123+22.52 RT

BRIDGE RAILING, GALVANIZED  
3 RAIL BOX BEAM (PAINTED BLACK)  
STA 122+12.41 - STA 122+86.31 LT  
STA 122+14.37 - STA 122+86.73 RT

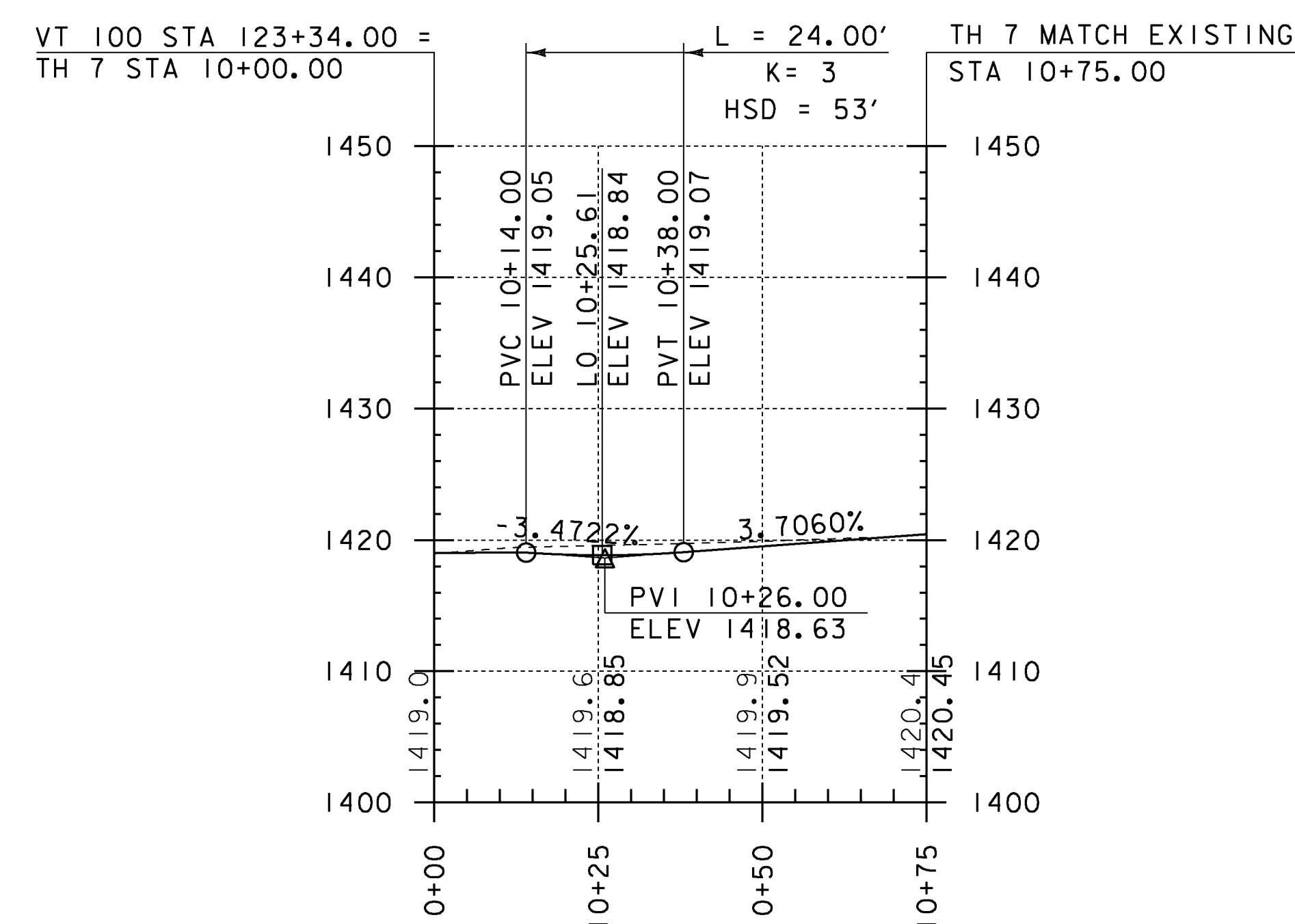
BOX BEAM GUARDRAIL (PAINTED BLACK)  
STA 121+71.85 - STA 121+76.63 LT  
STA 121+83.00 - STA 121+86.06 RT  
STA 123+13.45 - STA 123+15.48 LT  
STA 123+22.52 - STA 123+27.36 RT





### PROFILE ALONG VT 100

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



### PROFILE ALONG TH 7

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

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

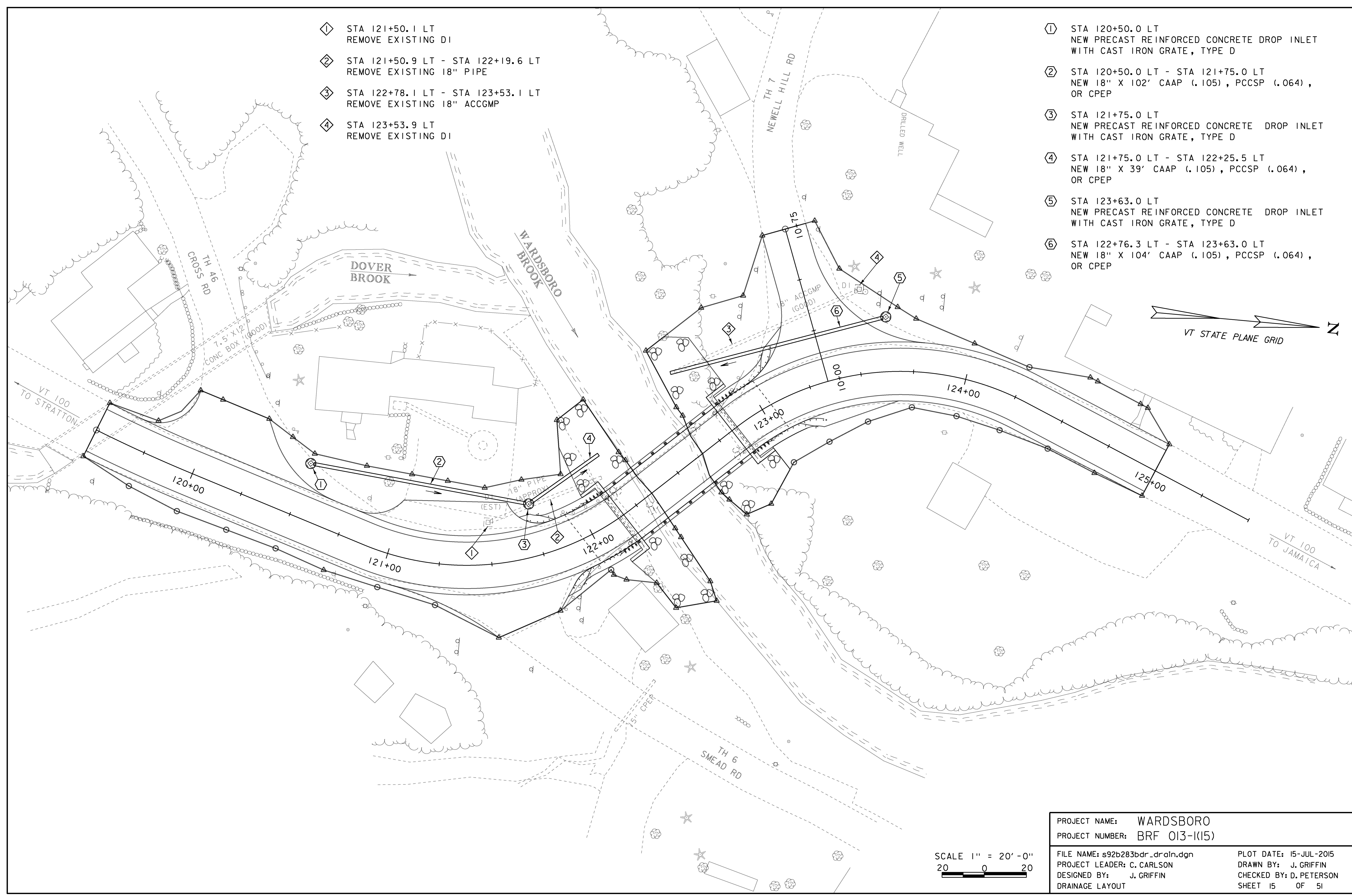
THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE FINISH  
GRADES ALONG THE PROPOSED ALIGNMENT.

PROJECT NAME: WARDBORO	
PROJECT NUMBER: BRF 013-K15)	
FILE NAME: s92b283pro.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
VT 100 AND TH 7 PROFILES	SHEET 14 OF 51



- ① STA 121+50.1 LT  
REMOVE EXISTING DI
- ② STA 121+50.9 LT - STA 122+19.6 LT  
REMOVE EXISTING 18" PIPE
- ③ STA 122+78.1 LT - STA 123+53.1 LT  
REMOVE EXISTING 18" ACCGMP
- ④ STA 123+53.9 LT  
REMOVE EXISTING DI

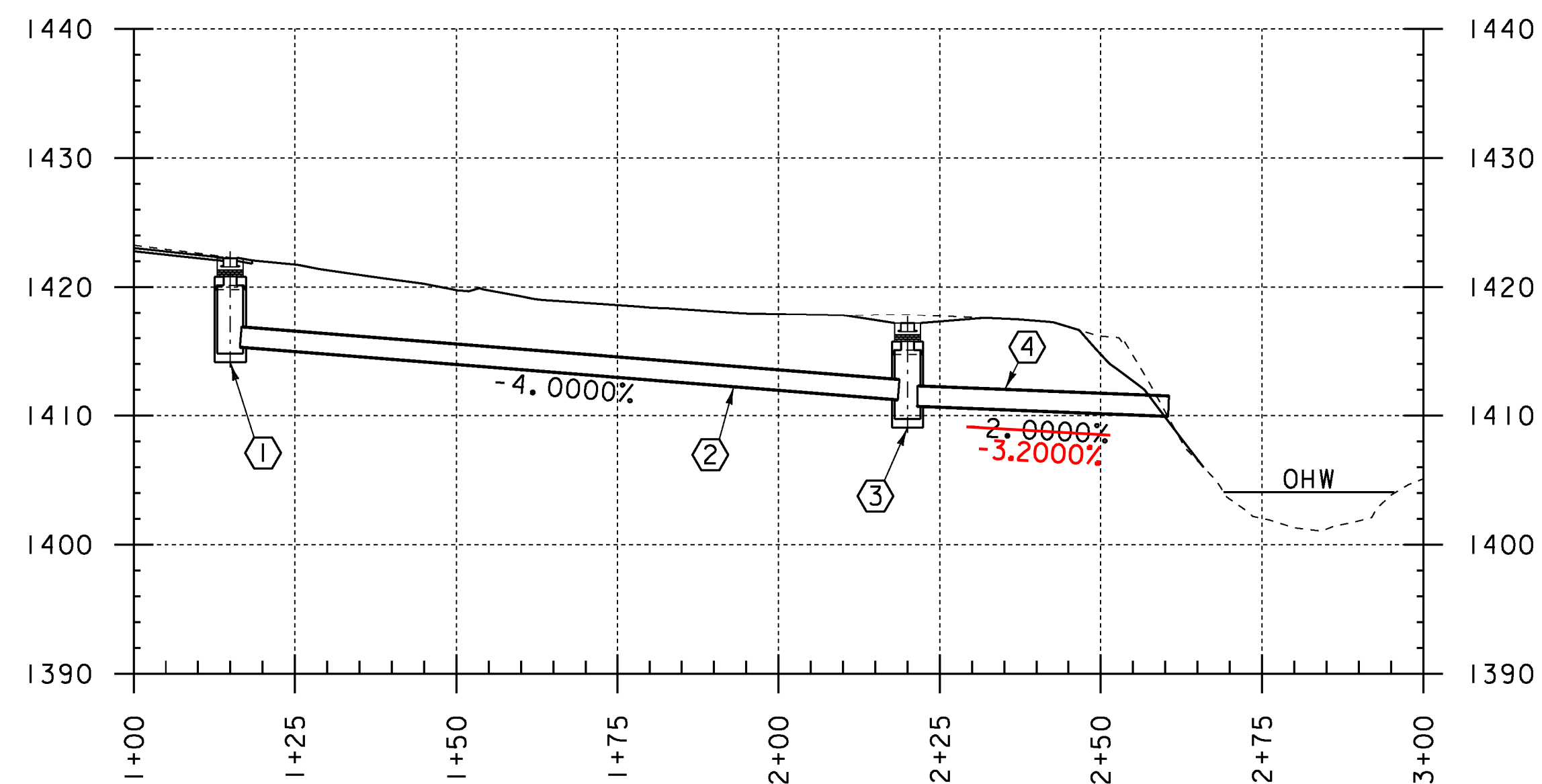
- ① STA 120+50.0 LT  
NEW PRECAST REINFORCED CONCRETE DROP INLET  
WITH CAST IRON GRATE, TYPE D
- ② STA 120+50.0 LT - STA 121+75.0 LT  
NEW 18" X 102' CAAP (.105), PCCSP (.064),  
OR CPEP
- ③ STA 121+75.0 LT  
NEW PRECAST REINFORCED CONCRETE DROP INLET  
WITH CAST IRON GRATE, TYPE D
- ④ STA 121+75.0 LT - STA 122+25.5 LT  
NEW 18" X 39' CAAP (.105), PCCSP (.064),  
OR CPEP
- ⑤ STA 123+63.0 LT  
NEW PRECAST REINFORCED CONCRETE DROP INLET  
WITH CAST IRON GRATE, TYPE D
- ⑥ STA 122+76.3 LT - STA 123+63.0 LT  
NEW 18" X 104' CAAP (.105), PCCSP (.064),  
OR CPEP



PROJECT NAME: WARDBORO	
PROJECT NUMBER: BRF 013-1(15)	
FILE NAME: s92b283bdr_drain.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: J. GRIFFIN
DESIGNED BY: J. GRIFFIN	CHECKED BY: D. PETERSON
DRAINAGE LAYOUT	SHEET 15 OF 51



- ① STA 120+50.0, 26.0' LT  
NEW PRECAST REINFORCED CONCRETE DROP INLET  
WITH CAST IRON GRATE, TYPE D  
RIM ELEV 1422.23; SUMP ELEV 1414.78
- ② STA 120+50.0, 26.3' LT - STA 121+75.0, 25.5' LT  
NEW 18" X 102' CAAP (.105), PCCSP (.064),  
OR CPEP  
INLET INV ELEV 1415.33; OUTLET INV ELEV 1411.25
- ③ STA 121+75.0, 24.8' LT  
NEW PRECAST REINFORCED CONCRETE DROP INLET  
WITH CAST IRON GRATE, TYPE D  
RIM ELEV 1417.17; SUMP ELEV 1409.72
- ④ STA 121+75.0, 25.3' LT - STA 122+25.5, 30.0' LT  
NEW 18" X 39' CAAP (.105), PCCSP (.064),  
OR CPEP  
INLET INV ELEV ~~1410.67~~; OUTLET INV ELEV 1409.88  
1411.17



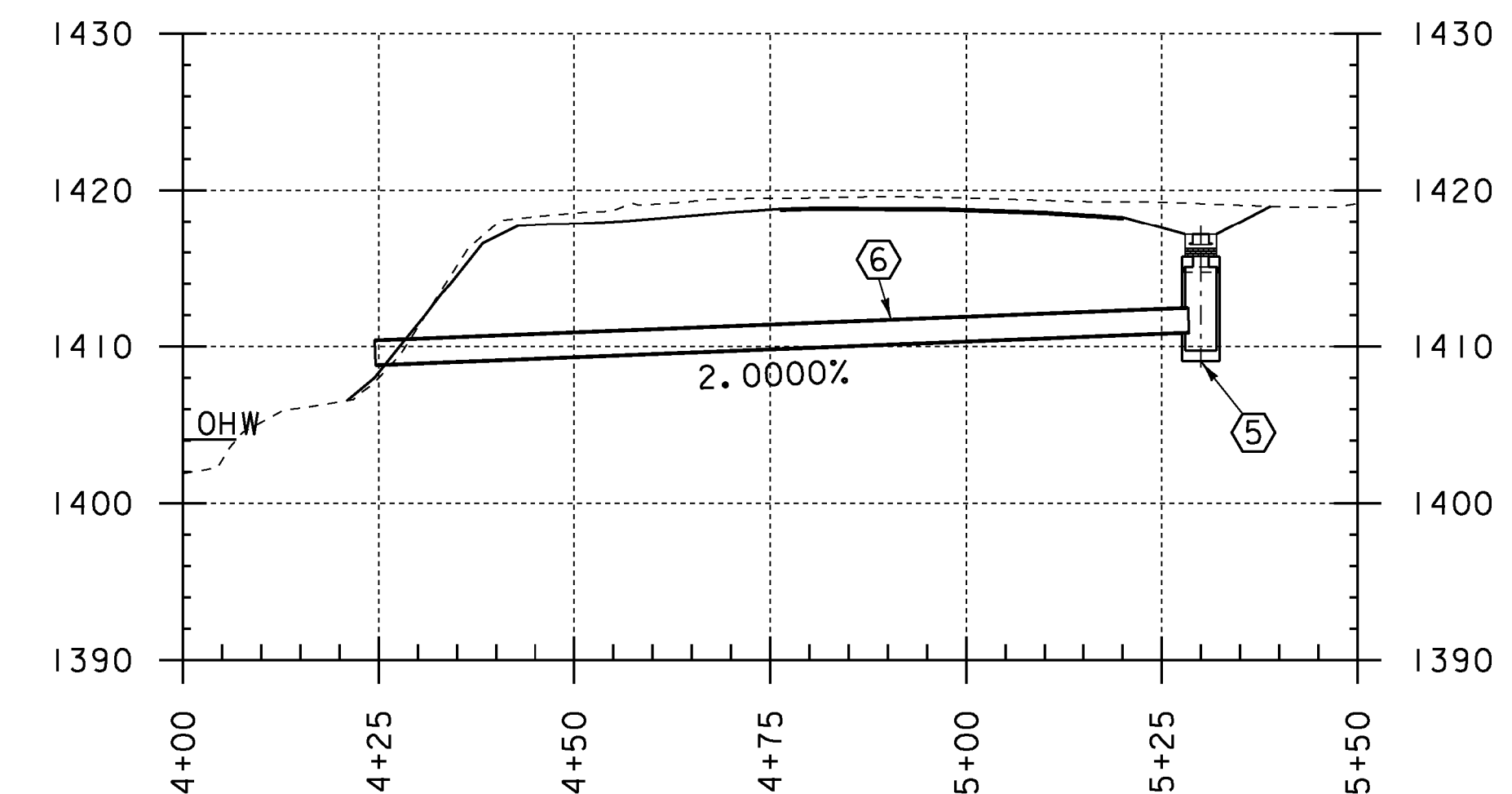
### DRAINAGE 1 PROFILE

STA 120+50.00 TO STA 122+25.50 LT

HORIZONTAL SCALE 1" = 20' - 0"

VERTICAL SCALE 1" = 10' - 0"

- ⑤ STA 123+63.0, 26.0' LT  
NEW PRECAST REINFORCED CONCRETE DROP INLET  
WITH CAST IRON GRATE, TYPE D  
RIM ELEV 1417.17; SUMP ELEV 1409.72
- ⑥ STA 122+76.3, 39.6' LT - STA 123+63.0, 25.7' LT  
NEW 18" X 104' CAAP (.105), PCCSP (.064),  
OR CPEP  
INLET INV ELEV 1410.92; OUTLET INV ELEV 1408.84



### DRAINAGE 2 PROFILE

STA 122+76.3 TO STA 123+63.00 LT

HORIZONTAL SCALE 1" = 20' - 0"

VERTICAL SCALE 1" = 10' - 0"

PROJECT NAME: WARDSBORO  
PROJECT NUMBER: BRF 013-1(15)

FILE NAME: s92b283pro.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: J. GRIFFIN  
DRAINAGE PROFILES

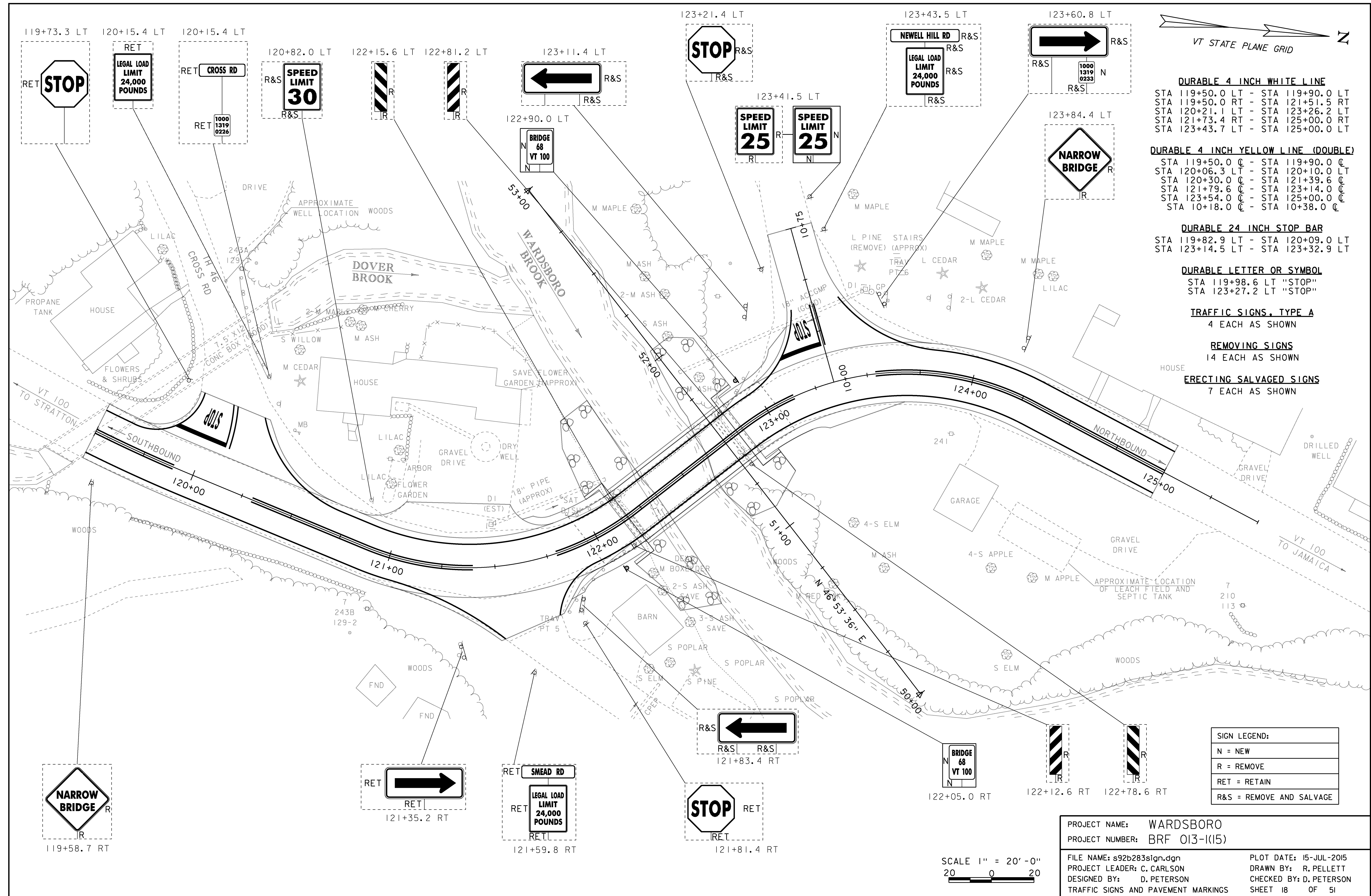
PLOT DATE: 15-JUL-2015  
DRAWN BY: J. GRIFFIN  
CHECKED BY: D. PETERSON  
SHEET 16 OF 51



# DRAINAGE DETAIL SHEET

PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BRF 013-1(I15)	
FILE NAME: s92b283pro.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: J. GRIFFIN
DESIGNED BY: J. GRIFFIN	CHECKED BY: D. PETERSON
DRAINAGE DETAILS	SHEET 17 OF 51

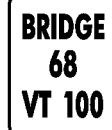
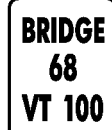
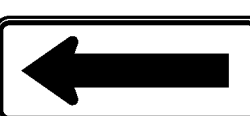




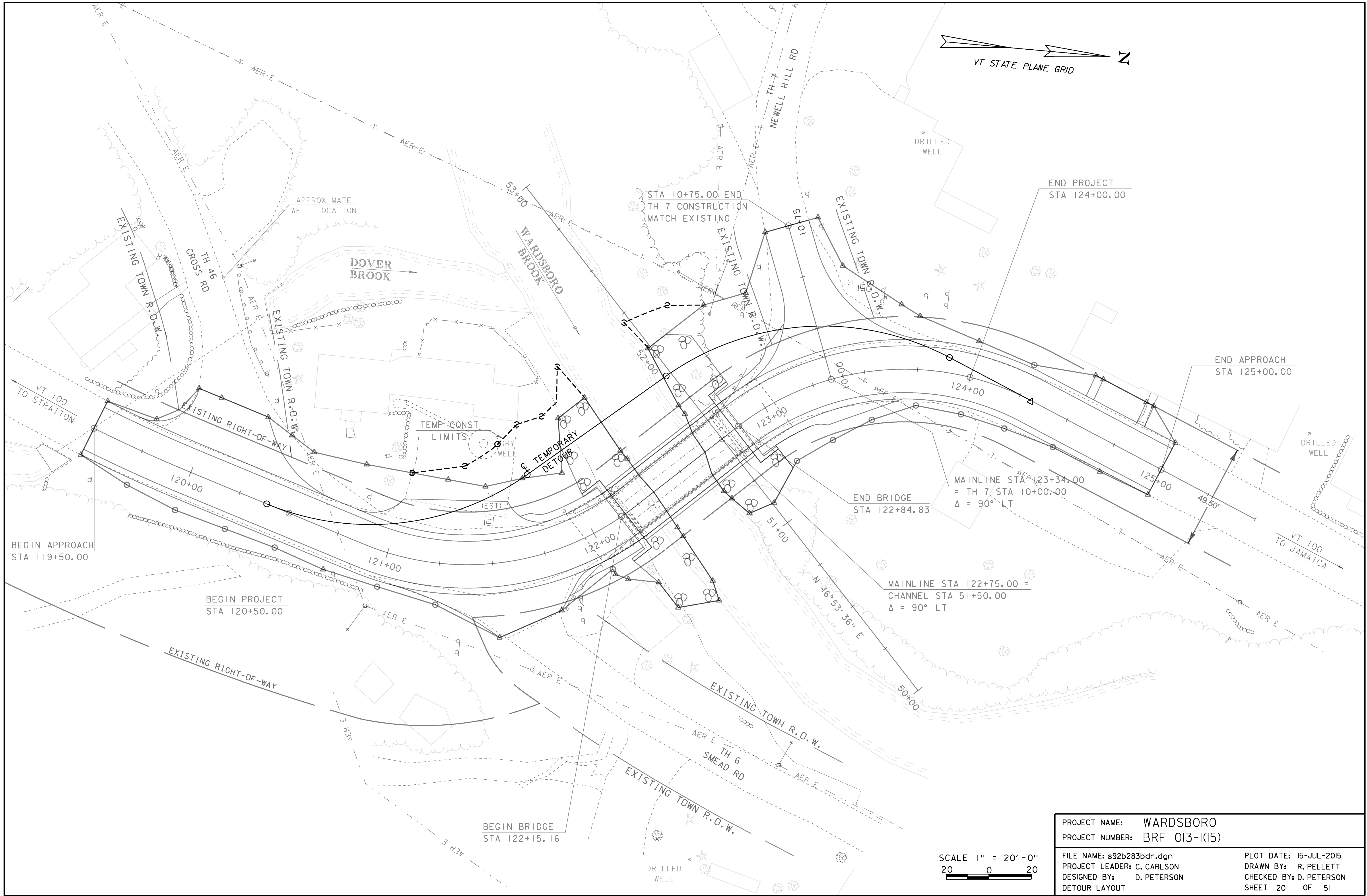


STATE OF VERMONT  
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

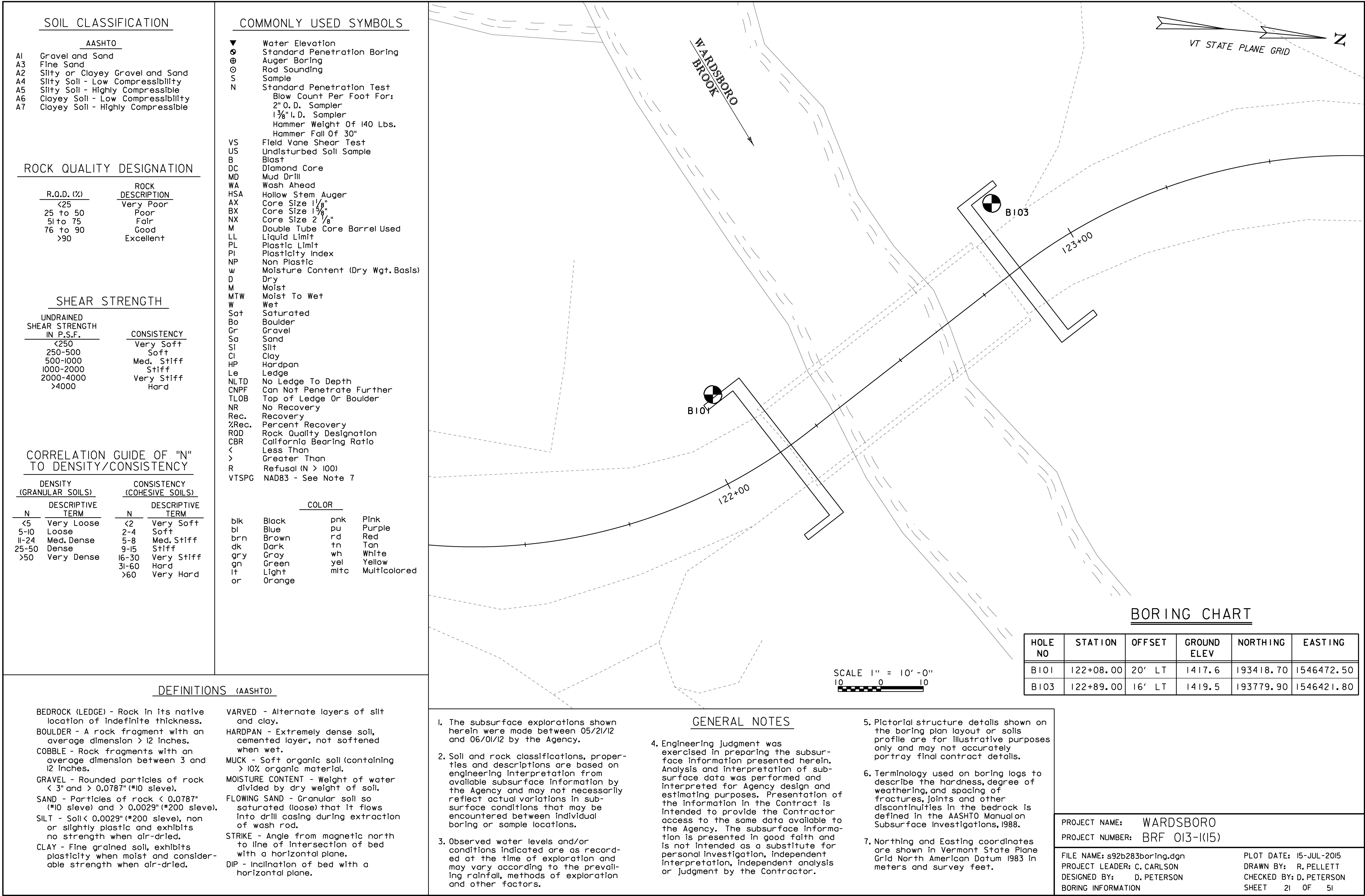
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS		NEW & SALVAGED SIGNS				EXIST POST RE TAIN S AL V A G E	NO. OF P O S T S	NEW SIGN POSTS																	RE M A R K S STANDARD HIGHWAY SIGNS	SIGN DETAIL									
				"A"	"B"	SALV SIGN	SALV TIS			FLANGED CHANNEL			SQUARE STEEL (in)			TUBULAR ALUMINUM Ø (in)			TUBULAR STEEL Ø (in)				W-SHAPE STEEL			DETAIL IN SHS		DETAIL ON SHEET NUMBER	STD. SHEET NUMBER								
		1.12	2.0							3.0	1.75	2.0	2.5	3.0	4.0	4.0 MOD	FOUND- ATION	3.0	3.5	4.0	5.0	FTG. SIZE		WEIGHT	POST SIZE												
																						EA	WIDTH (in)							HEIGHT (in)	lb/ft	1.88	2.42	3.35	ANCHOR SLEEVE	1.3	1.7
											OPTION ITEMS																										
I22+05.0 RT		I	6	8	0.33					I				7.00 X			X																VD-701 BRIDGE 68 VT 100			T-42	
I22+90.0 LT		I	6	8	0.33					I				6.50 X			X															VD-701 BRIDGE 68 VT 100			T-42		
I23+41.5 LT		I	24	30	5.00					I				14.75 X			X															R2-I	X				
I23+60.8 LT		I	6	10	0.42					X																						VD-700 1000 / 1319 / 0233			T-45		
<del>I20+85.0 LT</del> <del>I20+82.0 LT</del>			24	30	5.00		X			X				13.25																							
I23+11.4 LT							X			X				8.00																							
<del>I21+81.4 RT</del> <del>I23+21.4 LT</del>							X			X																											
I23+43.5 LT							X			X																											
<del>I23+45.5 LT</del> <del>I23+43.5 LT</del>							X			X																											
I23+60.8 LT							X			X																											
I21+83.4 RT							X			X																											
		POST TOTALS									FT	FT	FT	FT	FT	FT	EA	LB	LB	LB		LB	LB	LB	LB							PROJECT NAME: WARDSBORO					
		SUB- TOTAL	SF	SF	EA	SF					FT			FT				EA	LB					EA	EA	LB	PROJECT NUMBER: BRF 013-1(I15)										
		TOTALS	SF	SF	EA	SF					FT			FT				EA	LB					EA	EA	LB	FILE NAME: s92b283sign.dgn PROJECT LEADER: C. CARLSON DESIGNED BY: D. PETERSON TRAFFIC SIGN SUMMARY										
																																	PLOT DATE: 15-JUL-2015 DRAWN BY: R. PELLETT CHECKED BY: D. PETERSON SHEET 19 OF 51				





PROJECT NAME: WARDBORO	
PROJECT NUMBER: BRF 013-1(I15)	
FILE NAME: s92b283bdr.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
DETOUR LAYOUT	SHEET 20 OF 51

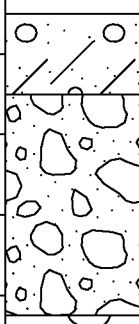
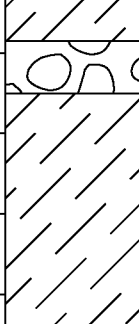
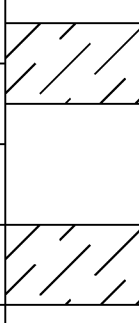
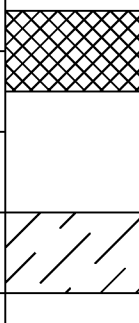
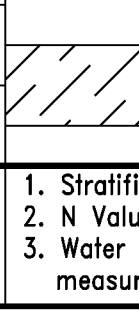




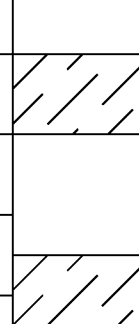
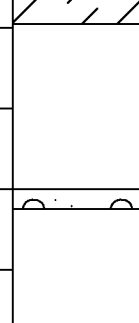
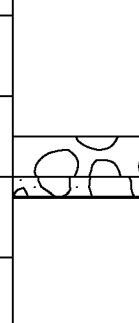
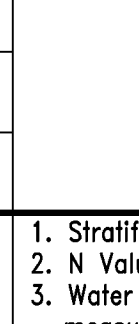


ABUT NO 1  
BOTTOM CAP  
ELEV 1407.00

BORING LOG 2 WARDSBORO BR# 013-1(15).GPJ VERMONT AOT.GDT 9/7/12

  STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS &amp; RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-101			
		WARDSBORO BRF 013-1(15) VT-100 BR-68		Page No.: 1 of 2			
				Pin No.: 92B283			
				Checked By: CEE			
Boring Crew: PORTER, GARROW		Casing		Sampler			
Date Started: 5/21/12 Date Finished: 5/25/12		Type: WB		SS			
VTSPG NAD83: N 193418.70 ft E 1546472.50 ft		I.D.: 4 in		1.5 in			
Station: 122+08 Offset: -20.00		Hammer Wt: N.A.		140 lb.			
Ground Elevation: 1417.6 ft		Hammer Fall: N.A.		30 in.			
		Hammer/Rod Type: Auto/AWJ					
		Rig: CME 45C TRACK		CE = 1.34			
Depth (ft)	Strata (i)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
10		A-2-4, SiGrSa, brn, Moist, Rec. = 1.2 ft	3-2-2-6 (4)	9.0	27.0	46.7	26.3
		A-1-b, SaGr, brn, Moist, Rec. = 1.1 ft	6-8-2-2 (10)	9.9	44.3	42.9	12.8
		A-1-b, GrSa, brn, Moist, Rec. = 1.0 ft, Broken (Cobbles) Rock were within sample.	2-3-3-3 (6)	6.9	44.1	47.4	8.5
		A-1-b, GrSa, brn, Moist, Rec. = 0.7 ft, Broken (Cobbles) Rock were within sample.	7-10-RØ6.0" RØ2.5"	15.5	34.6	49.9	15.5
		Field Note:, NXDC, Cobbles					
		Field Note:, No Recovery					
		Field Note:, NXDC, Boulder & Cobbles					
		A-1-a, SaGr, brn, Moist, Rec. = 0.8 ft	7-8-RØ4.5"	8.7	58.5	31.8	9.7
		Field Note:, NXDC, Cobbles					
		Field Note:, NXDC, Silt					
20		A-4, GrSaSi (Lab Note: HP), gry, Moist, Rec. = 0.5 ft	5-RØ2.5"	11.9	20.9	36.8	42.3
		Field Note:, NXDC, Cobbles	9-11-15-17 (26)	9.9	19.3	36.8	43.9
		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.3 ft	11-15-15-15 (30)	9.7	27.2	33.8	39.0
		A-4, GrSaSi (Lab Note: HP), gry, Moist, Rec. = 1.2 ft	10-20-13-20 (33)	9.8	22.4	35.7	41.9
30		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.3 ft	11-11-30-15 (41)	9.9	18.0	36.9	45.1
		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.4 ft	13-17-17-17 (34)	10.2	16.2	38.2	45.6
40		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.6 ft	9-10-14-15 (24)	10.6	17.7	37.5	44.8
		A-4, GrSaSi (Lab Note: HP), gry, Moist, Rec. = 1.4 ft	11-16-16-14 (32)	11.1	30.0	32.5	37.5
50		No Recovery, 49.0 ft - 51.0 ft, Stone in end of sampler.	13-14-16-40 (30)				
		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.8 ft	8-10-15-30 (25)	12.9	9.4	28.7	61.9
60		A-4, GrSaSi (Lab Note: HP), gry, Moist, Rec. = 1.6 ft	12-13-27-27 (40)	10.8	21.0	39.0	40.0
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.							

BORING LOG 2 WARDSBORO BR# 013-1(15).GPJ VERMONT AOT.GDT 9/7/12

  STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS &amp; RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-101			
		WARDSBORO BRF 013-1(15) VT-100 BR-68		Page No.: 2 of 2			
				Pin No.: 92B283			
				Checked By: CEE			
Boring Crew: PORTER, GARROW		Casing		Sampler			
Date Started: 5/21/12 Date Finished: 5/25/12		Type: WB		SS			
VTSPG NAD83: N 193418.70 ft E 1546472.50 ft		I.D.: 4 in		1.5 in			
Station: 122+08 Offset: -20.00		Hammer Wt: N.A.		140 lb.			
Ground Elevation: 1417.6 ft		Hammer Fall: N.A.		30 in.			
		Hammer/Rod Type: Auto/AWJ					
		Rig: CME 45C TRACK		CE = 1.34			
Depth (ft)	Strata (i)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
70		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.4 ft	11-14-15-20 (29)	11.0	13.0	39.2	47.8
		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.6 ft	15-20-38-40 (58)	11.5	15.4	31.8	52.8
80		A-4, GrSaSi (Lab Note: HP), gry, Moist, Rec. = 1.0 ft	20-32-50-RØ0.0"	10.2	20.8	34.3	44.9
		Field Note:, Changed drill rigs, Sleaved casing down to 3.0 inch					
		A-4, SaSi, gry, Moist, Rec. = 1.6 ft, Lab Note: Not as Hard Packed	13-16-20-30 (36)	18.2	14.2	38.5	47.3
90		A-2-4, SaSiGr (Lab Note: HP), gry, Moist, Rec. = 0.4 ft	RØ5.0"	9.7	45.4	26.6	28.0
		A-4, SaSi, gry, Moist, Rec. = 1.5 ft, Lab Note: Not as Hard Packed	18-33-35-35 (68)	17.6	12.6	26.1	61.3
100		A-4, Si, gry, Moist, Rec. = 1.2 ft	10-35-RØ6.0"	18.2	18.7	18.2	63.1
		A-4, GrSiSa (Lab Note: HP), gry, Moist, Rec. = 0.9 ft	35-RØ5.0"	11.1	22.3	41.0	36.7
110		A-2-4, SaSiGr, gry, Moist, Rec. = 0.5 ft, Broken Rock was within sample.	RØ6.0"	13.0	37.0	28.6	34.4
		A-1-b, SiSaGr, gry, Moist, Rec. = 0.5 ft, Broken Rock was within sample.	RØ6.0"	9.3	44.2	34.6	21.2
		Field Note:, BXDC, Cobbles					
120		A-1-b, SiSaGr, gry, Moist, Rec. = 0.5 ft, Broken Rock was within sample.	RØ6.0"	10.2	46.6	33.0	20.4
		Hole stopped @ 114.5 ft					
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.							

EST PILE TIP  
ELEV 1332.00

PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BRF 013-1(15)	
FILE NAME: s92b283bor_log.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: MATERIALS & RESEARCH	CHECKED BY: D. PETERSON
BORING LOGS I	SHEET 22 OF 51



<span></span>  <span></span>      <span></span>  <span></span>      <span></span>  <span></span>      <span></span>     VTTrans  Working to Get You There   Vermont Agency of Transportation   STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS &amp; RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-103					
		WARDSBORO BRF 013-1(15) VT-100 BR-68		Page No.: 1 of 2					
				Pin No.: 92B283					
				Checked By: CEE					
Boring Crew: PORTER, GARROW		Casing	Sampler	Groundwater Observations					
Date Started: 5/30/12 Date Finished: 6/01/12		Type: WB	SS	Date	Depth (ft)				
VTSPG NAD83: N 193479.90 ft E 1546421.80 ft		I.D.: 4 in	1.5 in	05/31/12	12.9				
Station: 122+89 Offset: -16.00		Hammer Wt: N.A.	140 lb.	05/31/12	2.5' Above ground				
Ground Elevation: 1419.5 ft		Hammer Fall: N.A.	30 in.						
		Hammer/Rod Type: Auto/AWJ							
		Rig: CME 45C TRACK	CE = 1.34						
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)			Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
10		A-1-b, GrSa, brn, Moist, Rec. = 1.0 ft			1-1-2-8 (3)	9.9	38.6	52.2	9.2
		A-1-a, SaGr, brn, Moist, Rec. = 0.8 ft			3-4-6-11 (10)	9.1	57.8	36.1	6.1
		Field Note:, NXDC, Cobbles							
		A-1-a, SaGr, brn, Moist, Rec. = 1.1 ft, Broken (Cobbles) Rock were within sample.			18-33-18-21 (51)	8.7	60.7	31.0	8.3
		Field Note:, NXDC, Boulder							
		A-1-b, GrSa, brn, Moist, Rec. = 1.5 ft, Broken (Cobbles) Rock were within sample.			9-12-20-16 (32)	9.6	38.6	47.1	14.3
20		A-1-a, SaGr, brn, Moist, Rec. = 1.0 ft			11-22-R@2.5"	10.3	59.7	29.1	11.2
		Field Note:, NXDC, Boulder							
		A-1-b, SaGr, brn, Moist, Rec. = 0.8 ft			14-R@6.0"	11.2	41.4	40.6	18.0
		Field Note:, NXDC, Cobbles							
		A-4, GrSaSi (Lab Note: HP), gry, Moist, Rec. = 0.8 ft			30-R@6.0"	10.2	24.4	35.2	40.4
		Field Note:, NXDC, Appears to be GrSaSi							
30		A-4, GrSaSi (Lab Note: HP), gry, Moist, Rec. = 1.3 ft			26-40-R@6.0"	8.5	31.4	32.3	36.3
		Field Note:, NXDC, Appears to be GrSaSi							
		Field Note:, NXDC, Appears to be GrSaSi							
		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.6 ft			20-28-33-R@2.5" (61)	9.5	17.6	37.7	44.7
		Field Note:, NXDC, Appears to be GrSaSi							
		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.7 ft			21-30-25-28 (55)	9.8	17.6	37.9	44.5
40		Field Note:, NXDC, Appears to be SaSi							
		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.8 ft			15-22-26-30 (48)	10.0	15.0	38.7	46.3
		Field Note:, NXDC, Appears to be SaSi							
		A-4, GrSaSi, gry, Moist, Rec. = 1.6 ft			8-13-17-33 (30)	11.6	21.8	29.0	49.2
		Field Note:, NXDC, Appears to be SaSi							
		Field Note:, Roller Coned ahead. Appears to be SaSi							
50		Visual Description:, SaSi, gry, Moist, Rec. = 0.2 ft, Insufficient sample for testing.			7-14-17-20 (31)	14.6			
		Field Note:, Roller Coned ahead. Appears to be GrSa							
		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.7 ft			6-10-16-22	14.5	12.0	30.9	57.1
		Field Note:, Roller Coned ahead. Appears to be GrSa							
		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.7 ft							
		Field Note:, Roller Coned ahead. Appears to be GrSa							
Notes:  1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.									

ABUT NO 2  
BOTTOM CAP  
ELEV I407.00

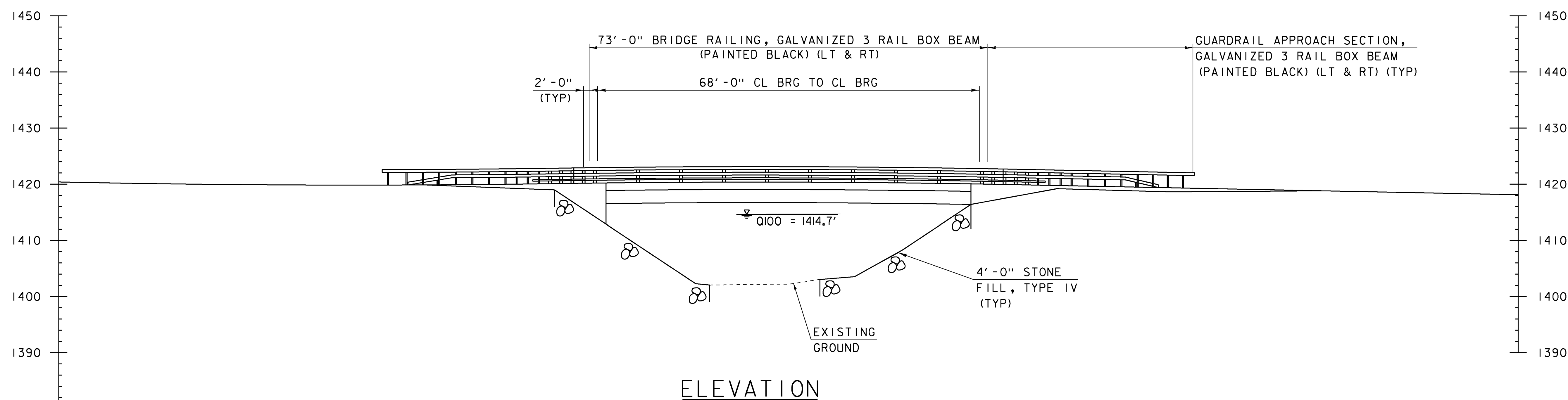
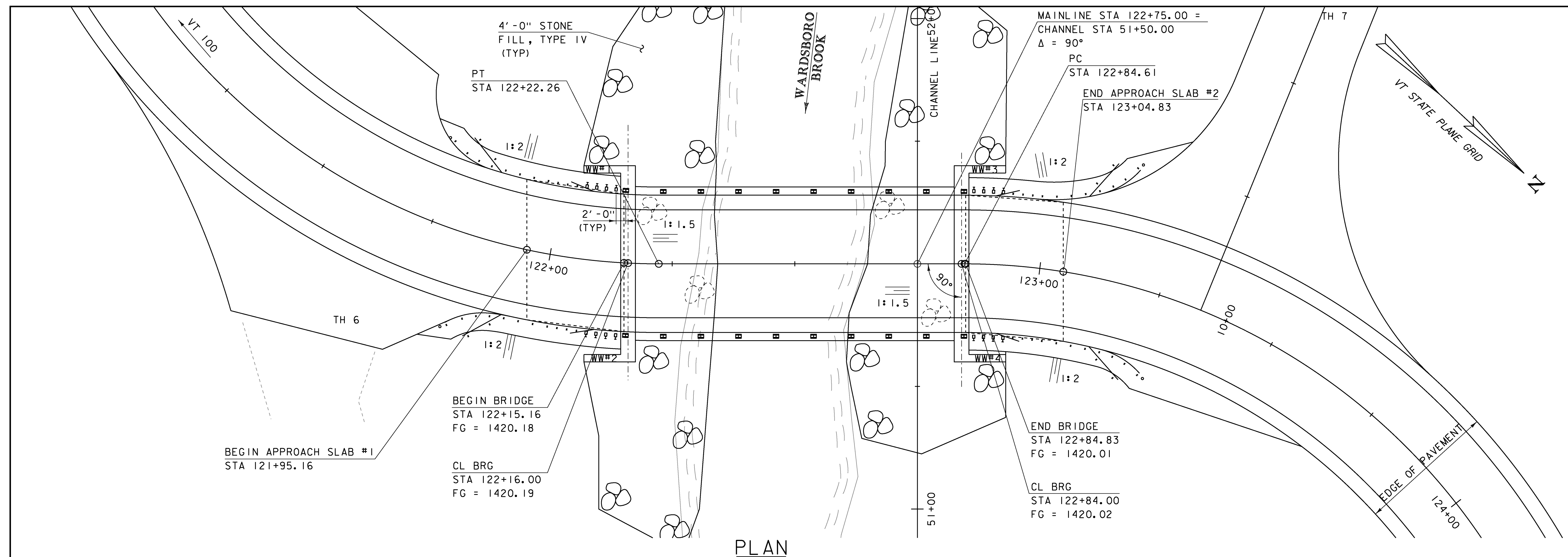
BORING LOG 2 WARDSBORO BRF 013-1(15).GPJ VERMONT AOT.GDT 9/7/12

<span></span>  <span></span>      <span></span>  <span></span>      <span></span>     VTTrans  Working to Get You There   Vermont Agency of Transportation   STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS &amp; RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-103					
		WARDSBORO BRF 013-1(15) VT-100 BR-68		Page No.: 2 of 2					
				Pin No.: 92B283					
				Checked By: CEE					
Boring Crew: PORTER, GARROW		Casing	Sampler	Groundwater Observations					
Date Started: 5/30/12 Date Finished: 6/01/12		Type: WB	SS	Date	Depth (ft)				
VTSPG NAD83: N 193479.90 ft E 1546421.80 ft		I.D.: 4 in	1.5 in	05/31/12	12.9				
Station: 122+89 Offset: -16.00		Hammer Wt: N.A.	140 lb.	05/31/12	2.5' Above ground				
Ground Elevation: 1419.5 ft		Hammer Fall: N.A.	30 in.						
		Hammer/Rod Type: Auto/AWJ							
		Rig: CME 45C TRACK	CE = 1.34						
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)			Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
70		Field Note:, Roller Coned ahead. Appears to be SaSi			(26)				
		Field Note:, No Recovery							
		Field Note:, Roller Coned ahead. Appears to be GrSaSi							
		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.6 ft			28-30-35-R@5.0" (65)	12.2	17.8	37.4	44.8
		Field Note:, NXDC, Appears to be GrSaSi							
		A-4, SaSi (Lab Note: HP), gry, Moist, Rec. = 1.1 ft			25-32-35-R@2.0" (67)	14.2	10.9	29.0	60.1
80		Field Note:, NXDC, Appears to be GrSaSi							
		Field Note:, Roller Coned ahead. Appears to be GrSiSa							
		Field Note:, No Recovery							
		NXDC, Appears to be GrSiSa, 107.0 ft - 108.0 ft							
		A-1-b, GrSa, gry, Moist, Rec. = 0.5 ft, Lab Note: Broken Weathered Rock was within sample							
		Hole stopped @ 108.5 ft Sand was locking up the casing.							
Notes:  1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.									

EST PILE TIP  
ELEV I332.00

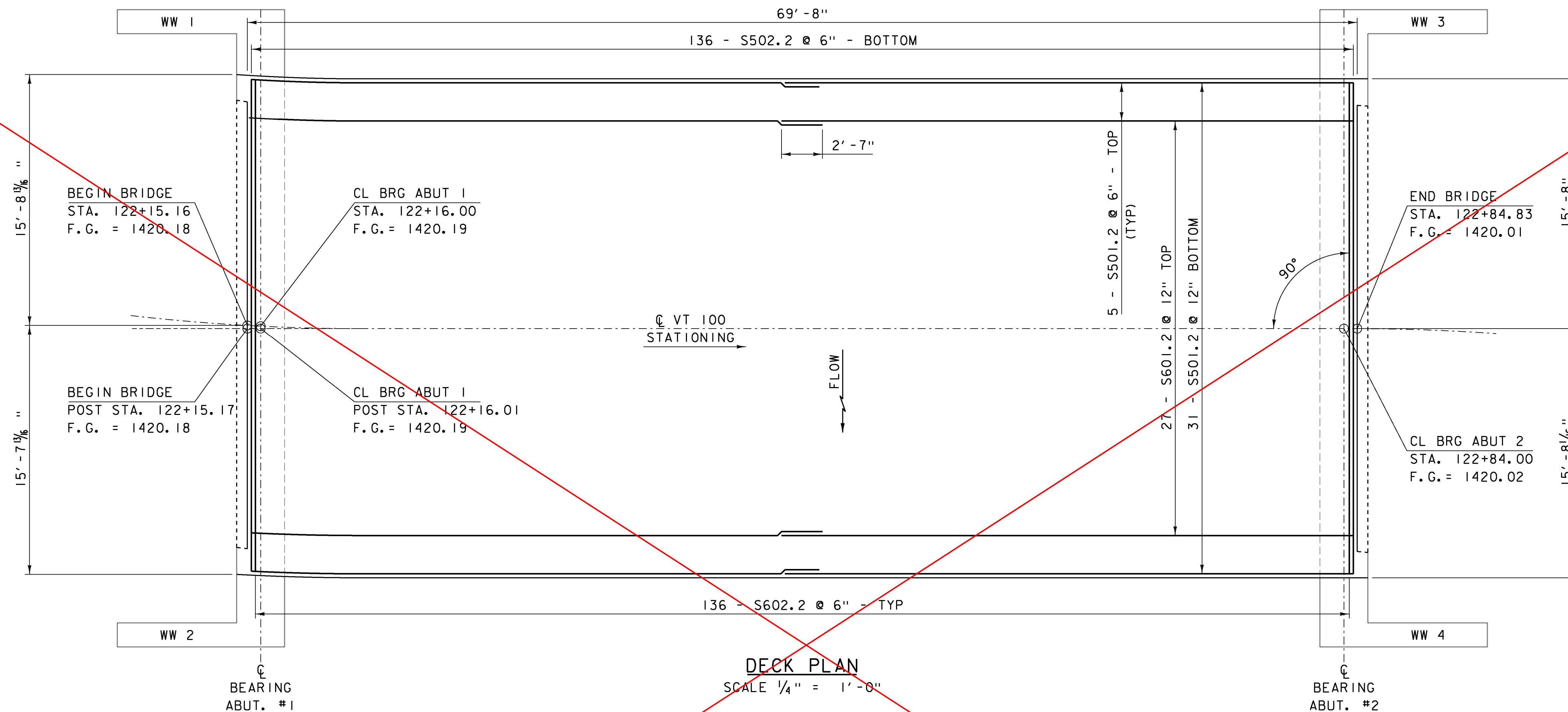
BORING LOG 2 WARDSBORO BRF 013-1(15).GPJ VERMONT AOT.GDT 9/7/12



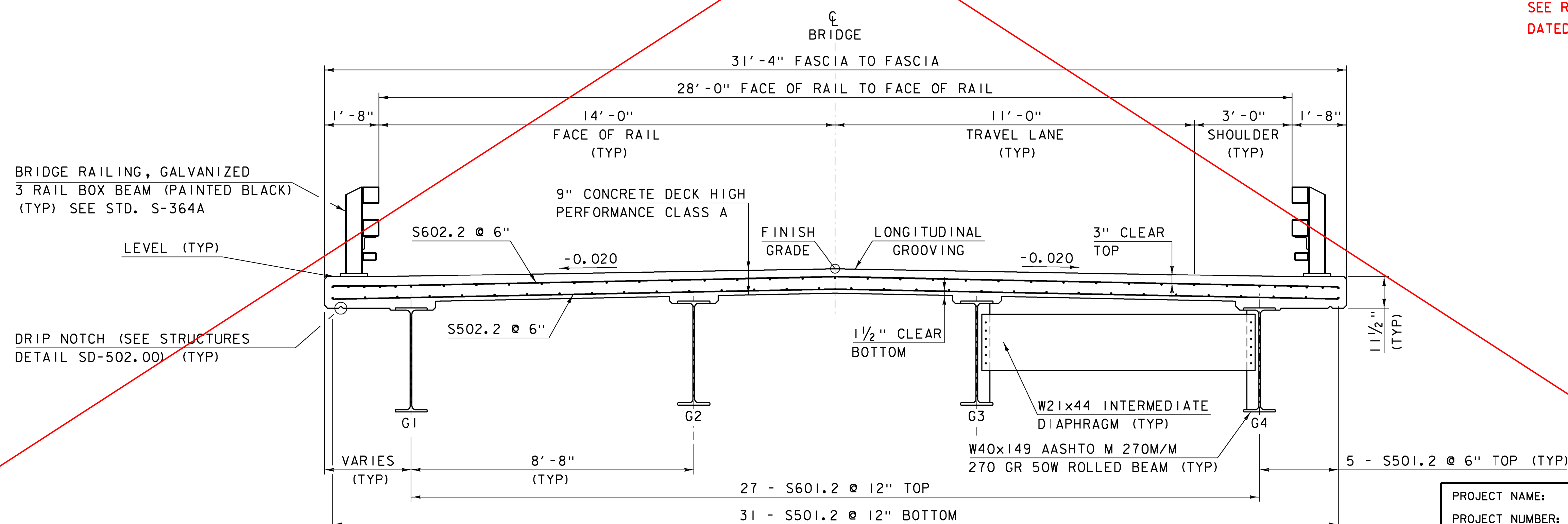


PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-1(15)
FILE NAME:	s92b283pe.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	D. PETERSON
PLAN AND ELEVATION	
PLOT DATE:	15-JUL-2015
DRAWN BY:	R. PELLETT
CHECKED BY:	D. PETERSON
SHEET	24 OF 51





SEE REVISED SHEET 25B  
DATED 10/5/15



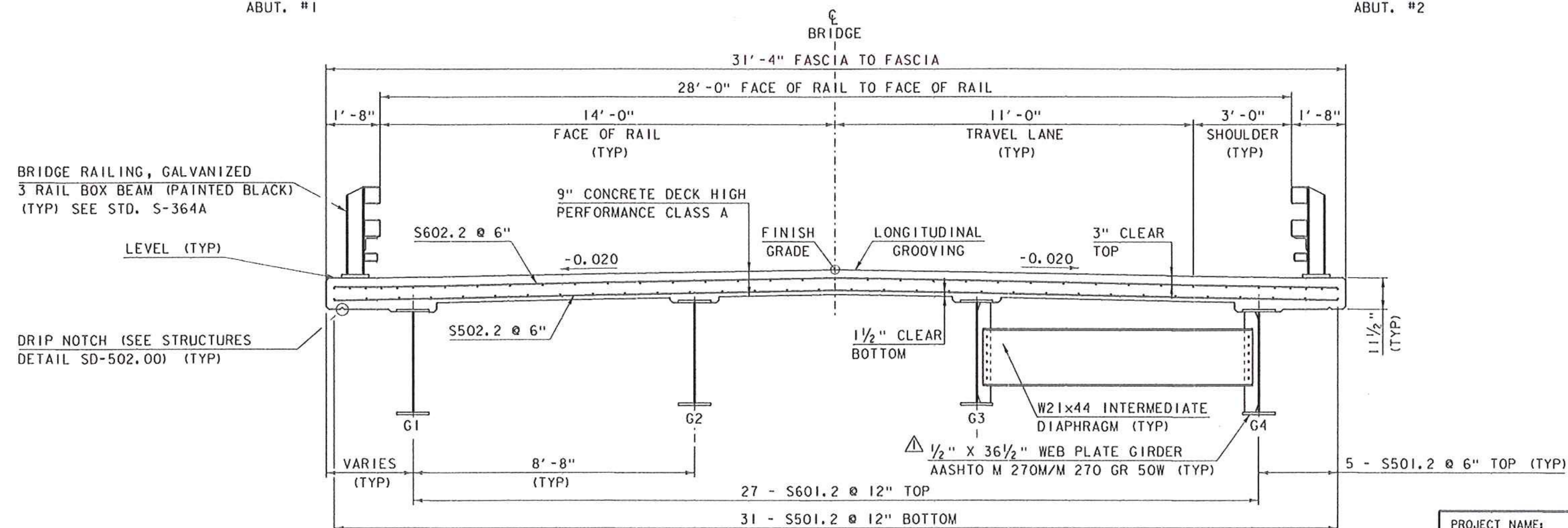
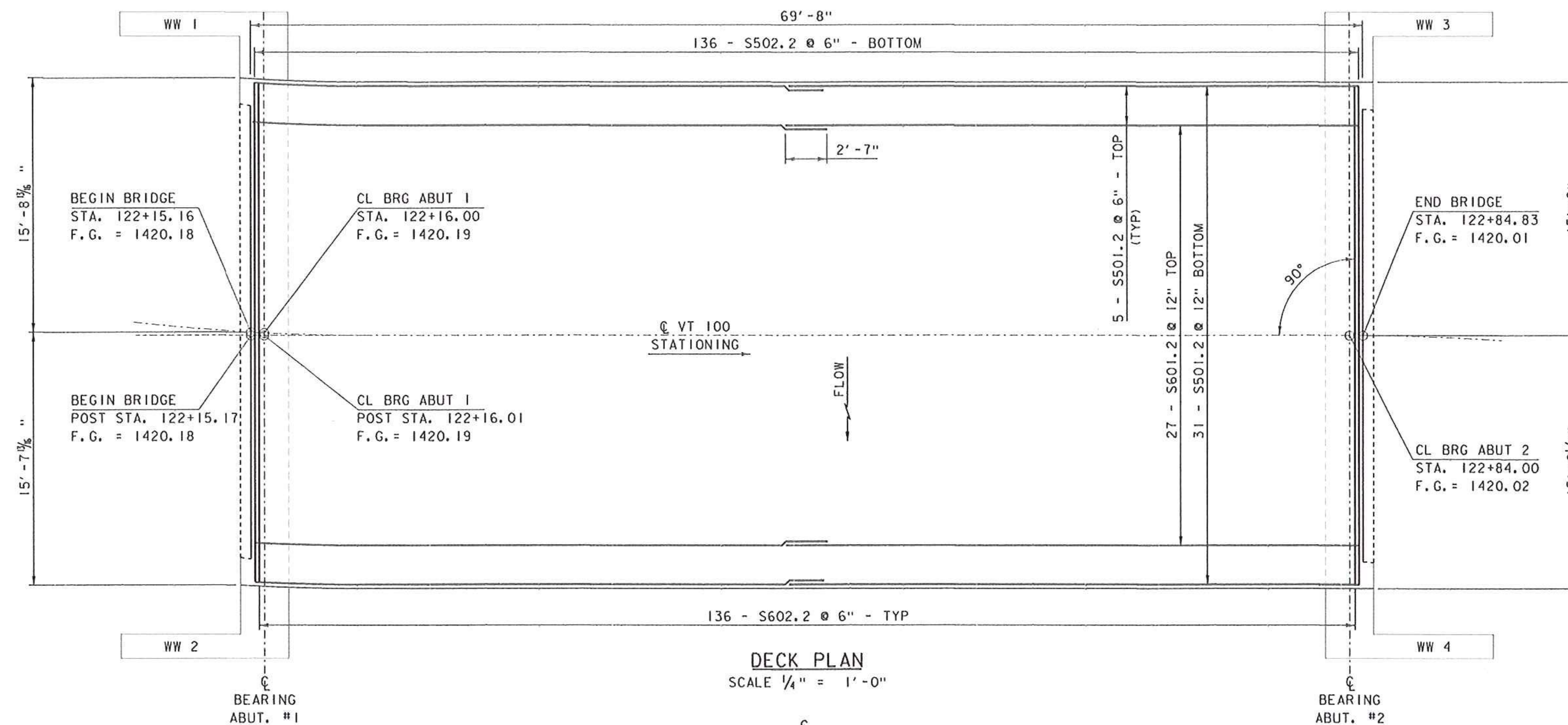
NOTE:  
NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE  
▲ = CUT TO FIT IN FIELD  
3" CLEAR, UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.  
2'-2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.

PROJECT NAME: WARDSBORO  
PROJECT NUMBER: BRF 013-1(15)

FILE NAME: s92b283sup.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
DECK REINFORCING PLAN & TYPICAL

PLOT DATE: 15-JUL-2015  
DRAWN BY: R. PELLET  
CHECKED BY: D. PETERSON  
SHEET 25A OF 51





**NOTE:**  
NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE  
▲ = CUT TO FIT IN FIELD  
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.  
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

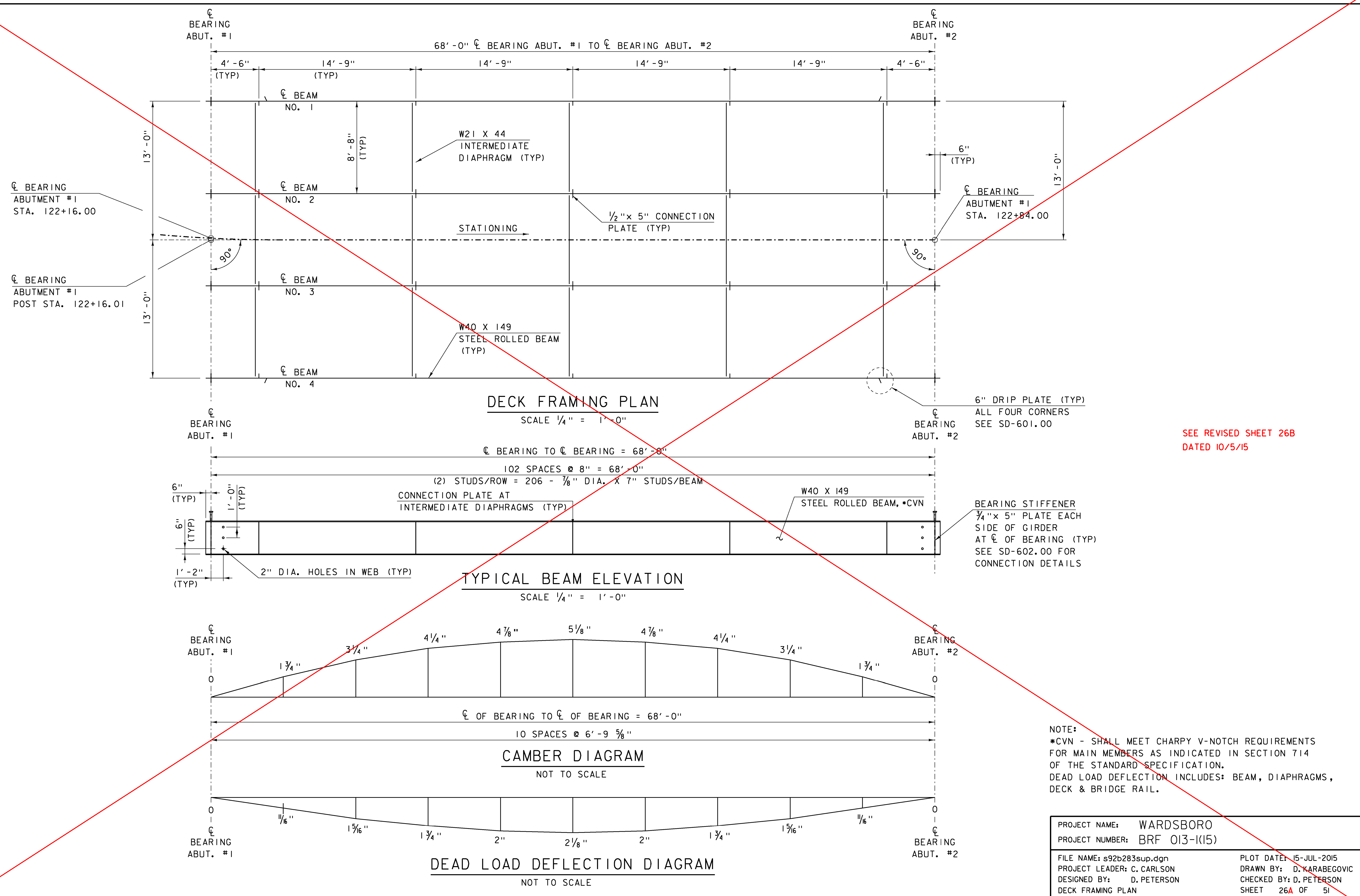
PROJECT NAME: WARDSBORO  
PROJECT NUMBER: BRF 013-115

FILE NAME: s92b283sup.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
DECK REINFORCING PLAN & TYPICAL

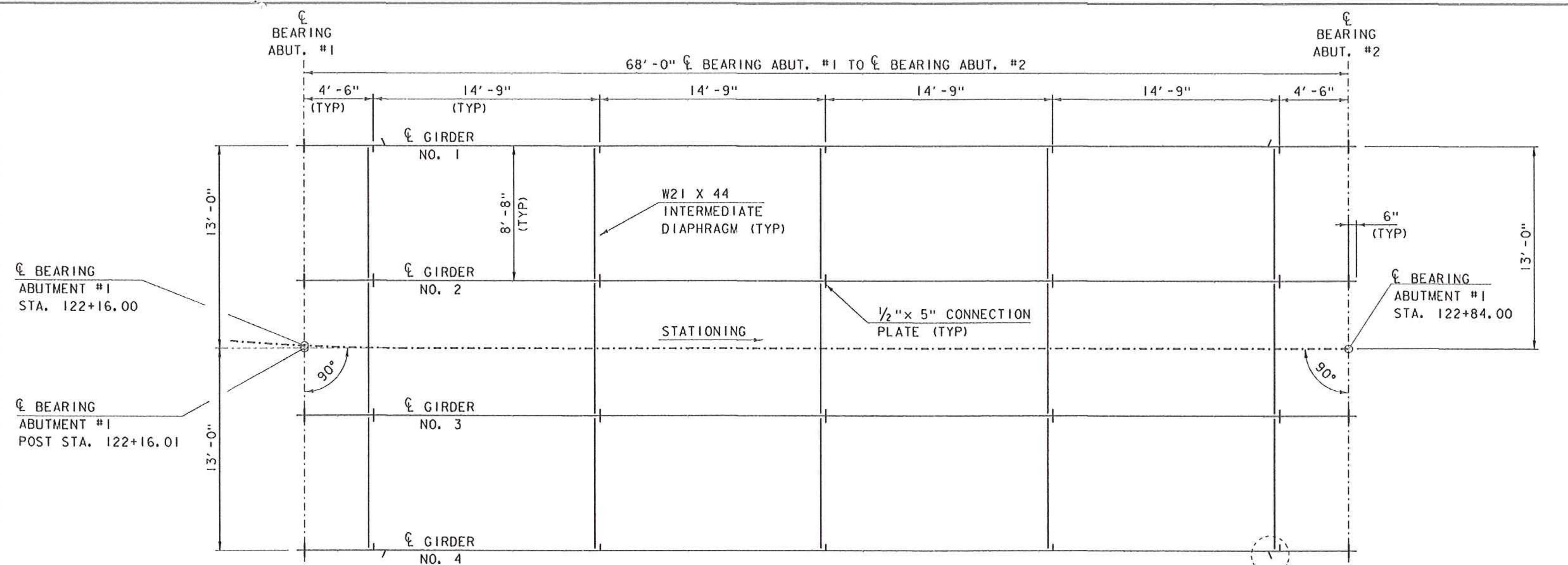
PLOT DATE: 06-OCT-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 25 OF 51

KEY	DATE	BY	REVISION
▲	10/05/2015	VAOT	MODIFIED ROLLED BEAM TO PLATE GIRDER.



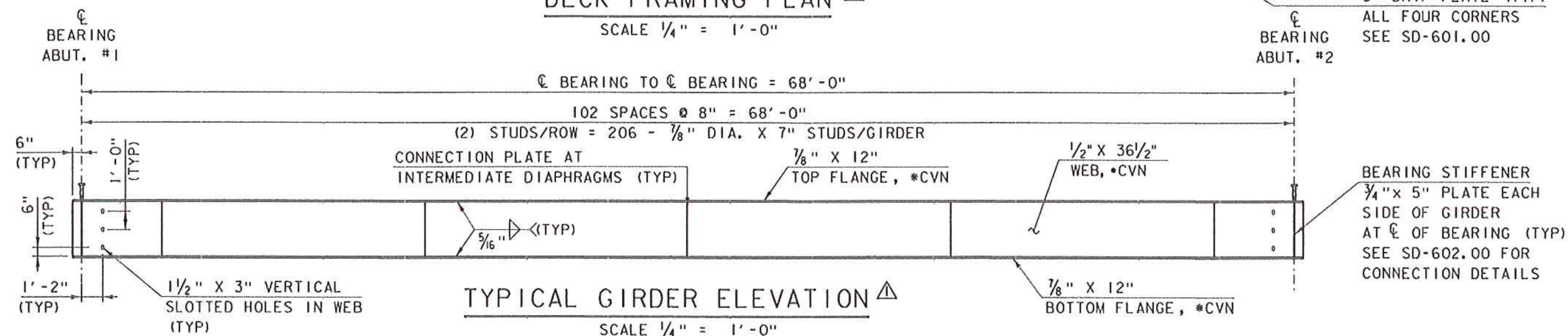






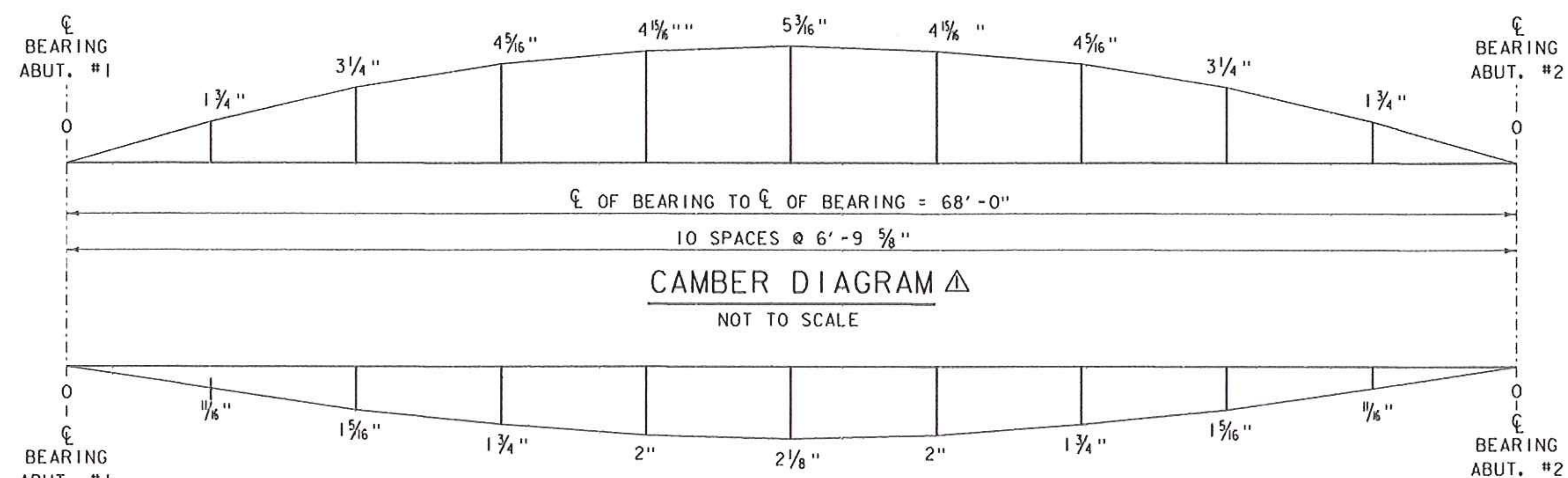
DECK FRAMING PLAN

SCALE 1/4" = 1'-0"



TYPICAL GIRDER ELEVATION

SCALE 1/4" = 1'-0"



CAMBER DIAGRAM

NOT TO SCALE

DEAD LOAD DEFLECTION DIAGRAM

NOT TO SCALE

NOTE:

*CVN - SHALL MEET CHARPY V-NOTCH REQUIREMENTS FOR MAIN MEMBERS AS INDICATED IN SECTION 714 OF THE STANDARD SPECIFICATION. DEAD LOAD DEFLECTION INCLUDES: GIRDER, DIAPHRAGMS, DECK & BRIDGE RAIL.

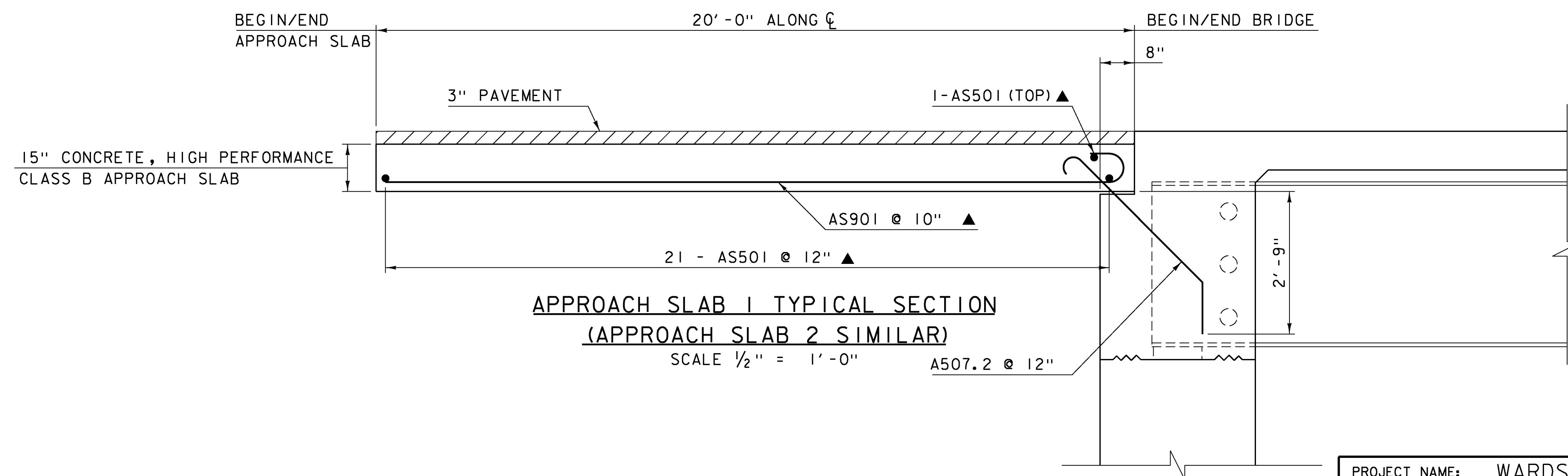
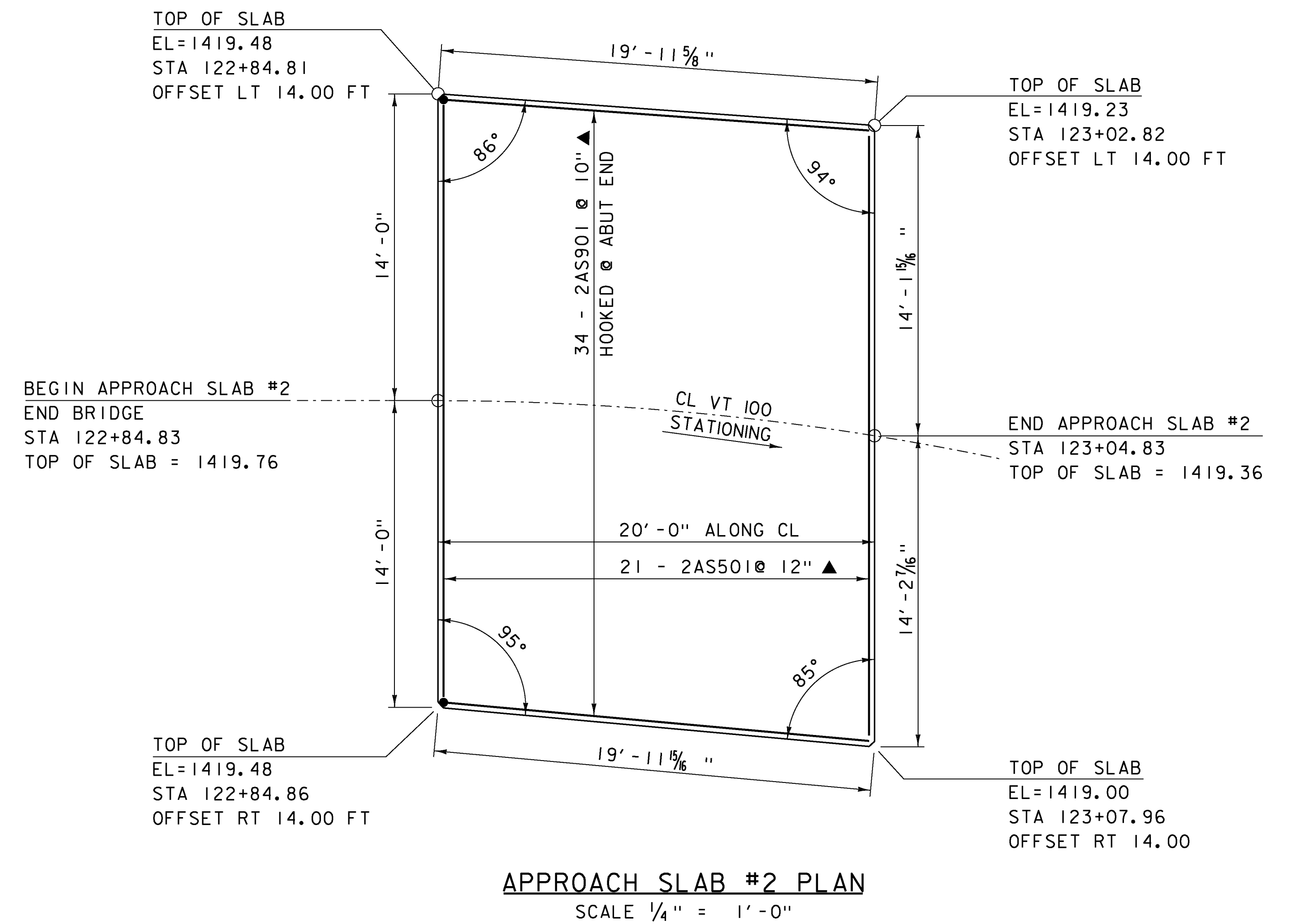
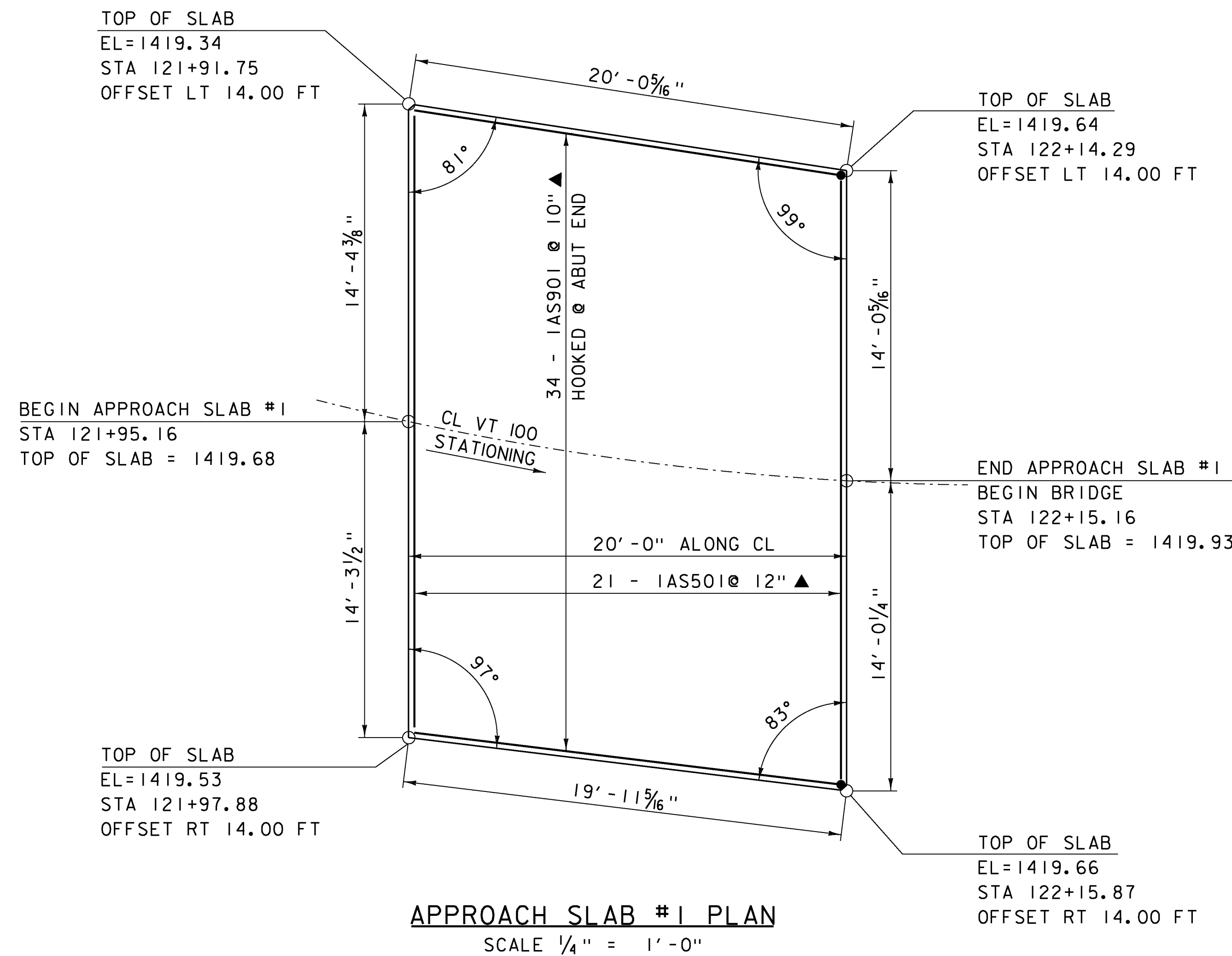
PROJECT NAME: WARDSBORO  
PROJECT NUMBER: BRF 013-1115

FILE NAME: s92b283sup.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
DECK FRAMING PLAN

PLOT DATE: 08-OCT-2015  
DRAWN BY: D. KARABEGOVIC  
CHECKED BY: D. PETERSON  
SHEET 26 OF 51

KEY	DATE	BY	REVISION
△	10/05/2015	VAOT	MODIFIED ROLLED BEAM TO PLATE GIRDER.

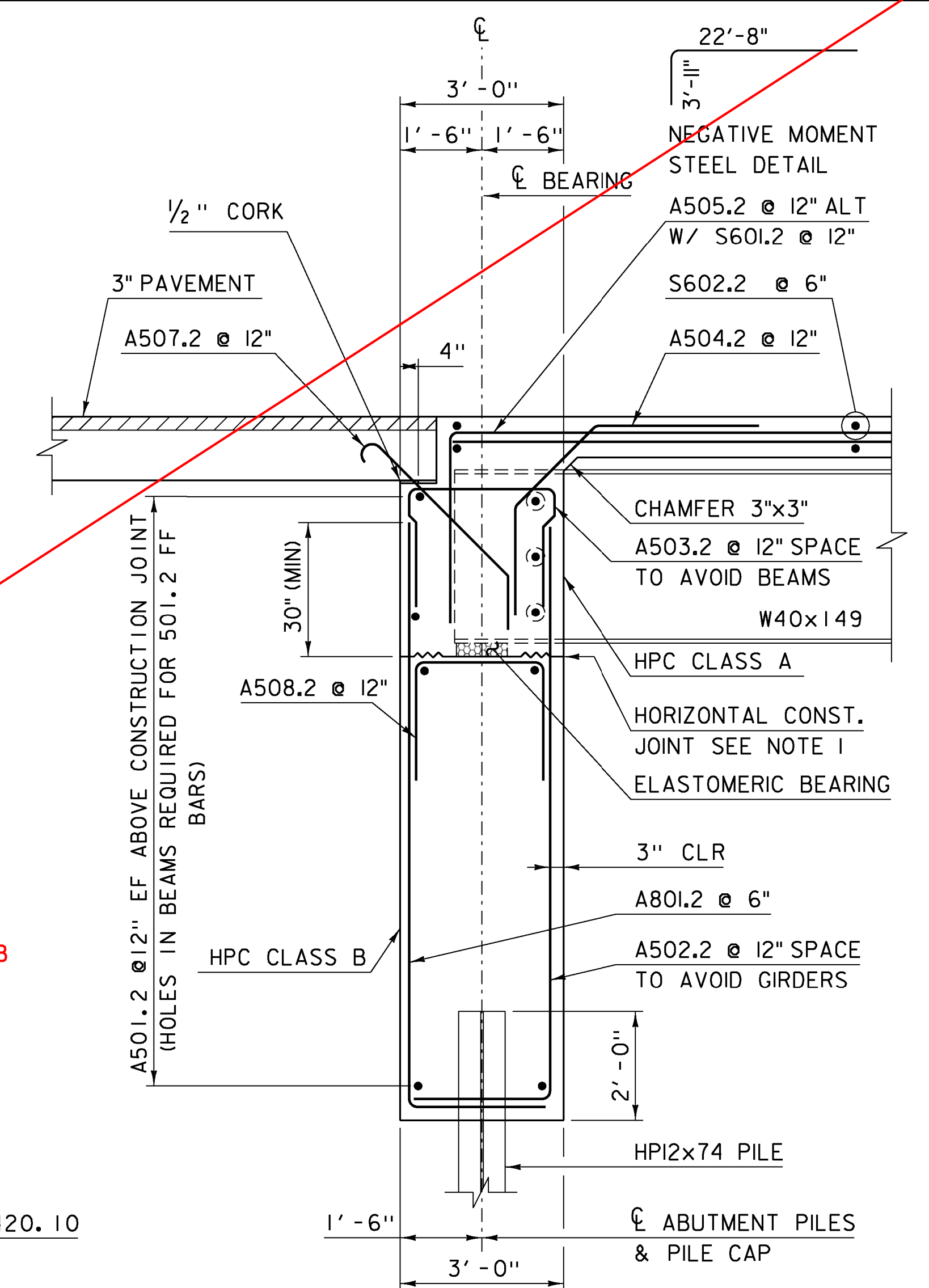




**NOTE:**  
 NF = NEAR FACE  
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 EF = EACH FACE  
 ▲ = CUT TO FIT IN FIELD  
 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.  
 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BRF 013-1(15)	
FILE NAME: s92b283sup.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
APPROACH SLAB PLANS & TYPICAL	SHEET 27 OF 51



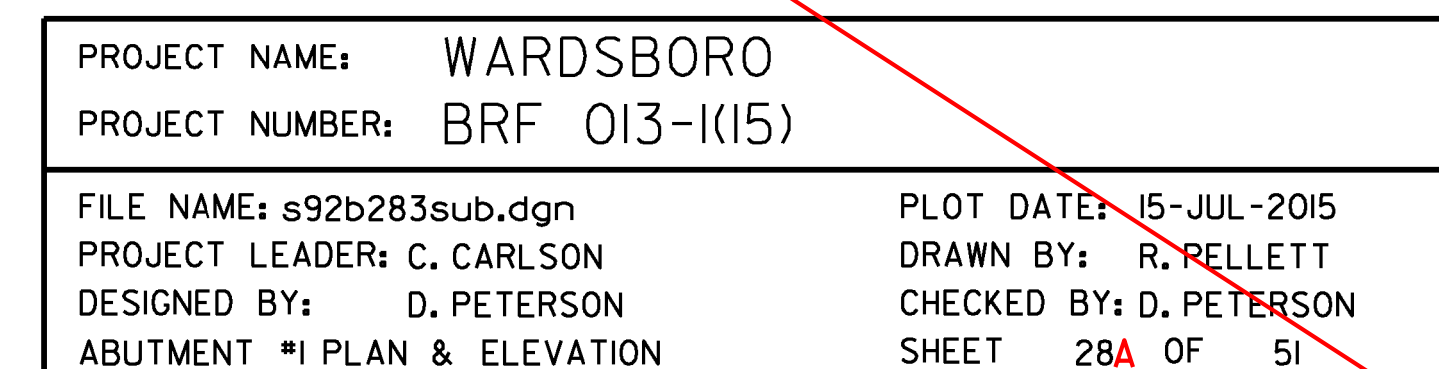


ABUTMENT 1 & 2 TYPICAL

SCALE: 1/2" = 1'-0"

- 1) HORIZONTAL CONSTRUCTION JOINT  
SHALL BE ROUGHENED AS SHOWN  
IN STRUCTURES DETAIL SHEET  
SD-501.00. SURFACE SHALL BE  
ROUGHENED TO WITHIN 3" OF EACH  
FACE OF CONCRETE AND WITHIN 3" OF  
ELASTOMERIC BEARING PADS. SURFACE  
UNDER EACH BEARING PAD SHALL  
REMAIN SMOOTH.
- 2) SEE STRUCTURES DETAIL SHEET  
SD-502.00 FOR BRIDGE PLAQUE DETAILS.

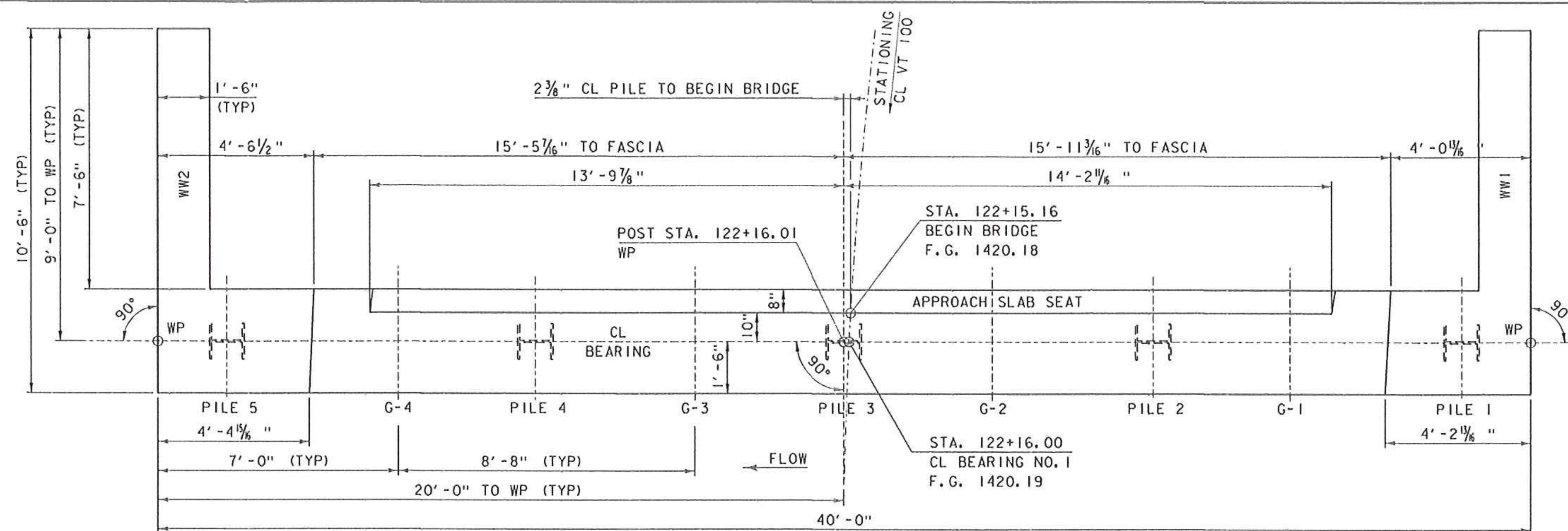
NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE  
▲ = CUT TO FIT IN FIELD  
3" CLEAR, UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.  
2' - 2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.



PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-1(I15)
FILE NAME:	s92b283sub.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	D. PETERSON
ABUTMENT #1 PLAN & ELEVATION	
PLOT DATE:	15-JUL-2015
DRAWN BY:	R. RELLETT
CHECKED BY:	D. PETERSON
SHEET	28A OF 51

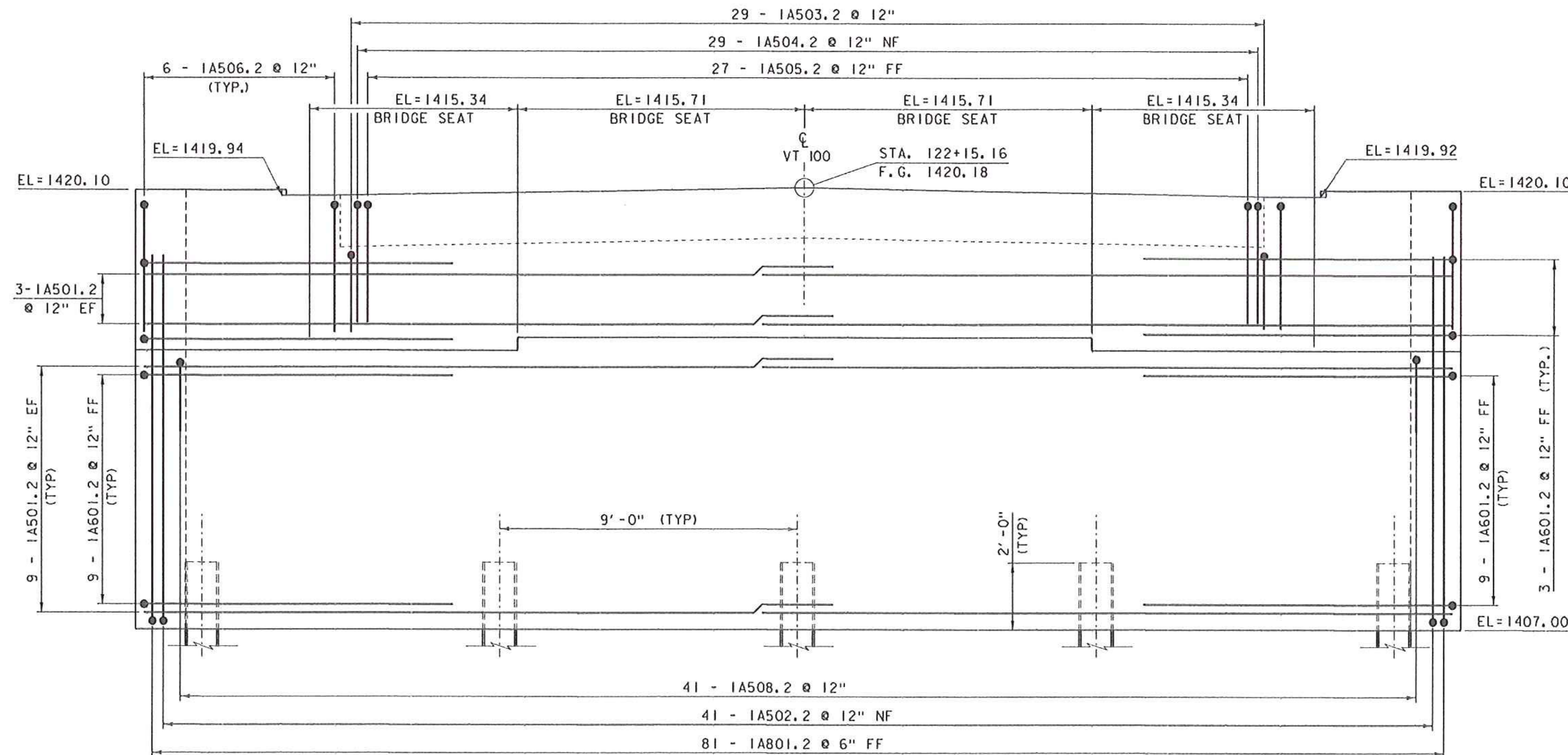
PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-1(I15)
FILE NAME:	s92b283sub.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	D. PETERSON
ABUTMENT #1 PLAN & ELEVATION	
PLOT DATE:	15-JUL-2015
DRAWN BY:	R. RELLETT
CHECKED BY:	D. PETERSON
SHEET	28A OF 51





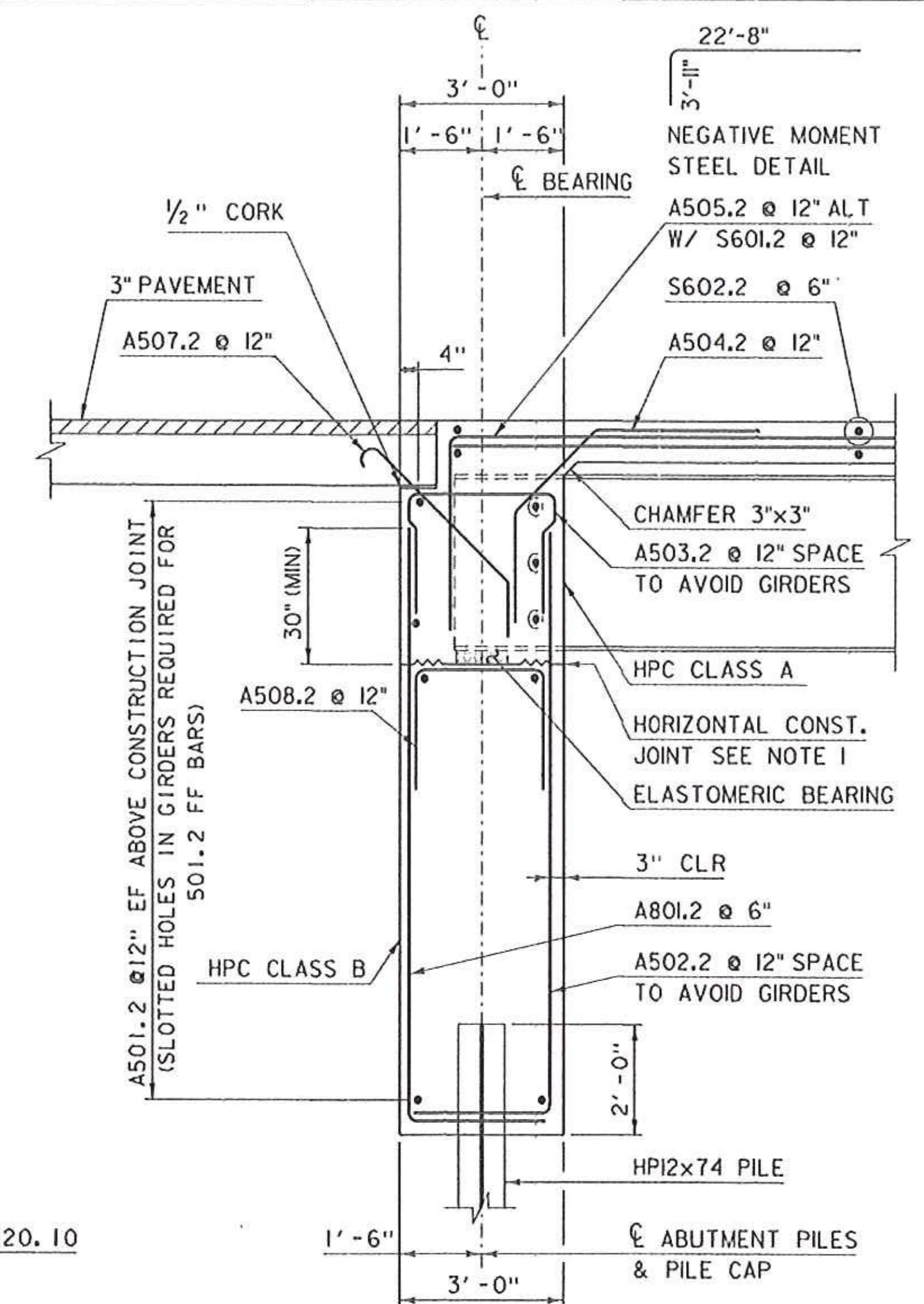
INTEGRAL ABUTMENT NO. 1 PLAN

SCALE 1/2" = 1'-0"



INTEGRAL ABUTMENT NO. 1 ELEVATION

SCALE 1/2" = 1'-0"



ABUTMENT 1 & 2 TYPICAL

SCALE: 1/2" = 1'-0"

- 1) HORIZONTAL CONSTRUCTION JOINT SHALL BE ROUGHENED AS SHOWN IN STRUCTURES DETAIL SHEET SD-501.00. SURFACE SHALL BE ROUGHENED TO WITHIN 3" OF EACH FACE OF CONCRETE AND WITHIN 3" OF ELASTOMERIC BEARING PADS. SURFACE UNDER EACH BEARING PAD SHALL REMAIN SMOOTH.
- 2) SEE STRUCTURES DETAIL SHEET SD-502.00 FOR BRIDGE PLAQUE DETAILS.

NOTE:

NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE  
▲ = CUT TO FIT IN FIELD  
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.  
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

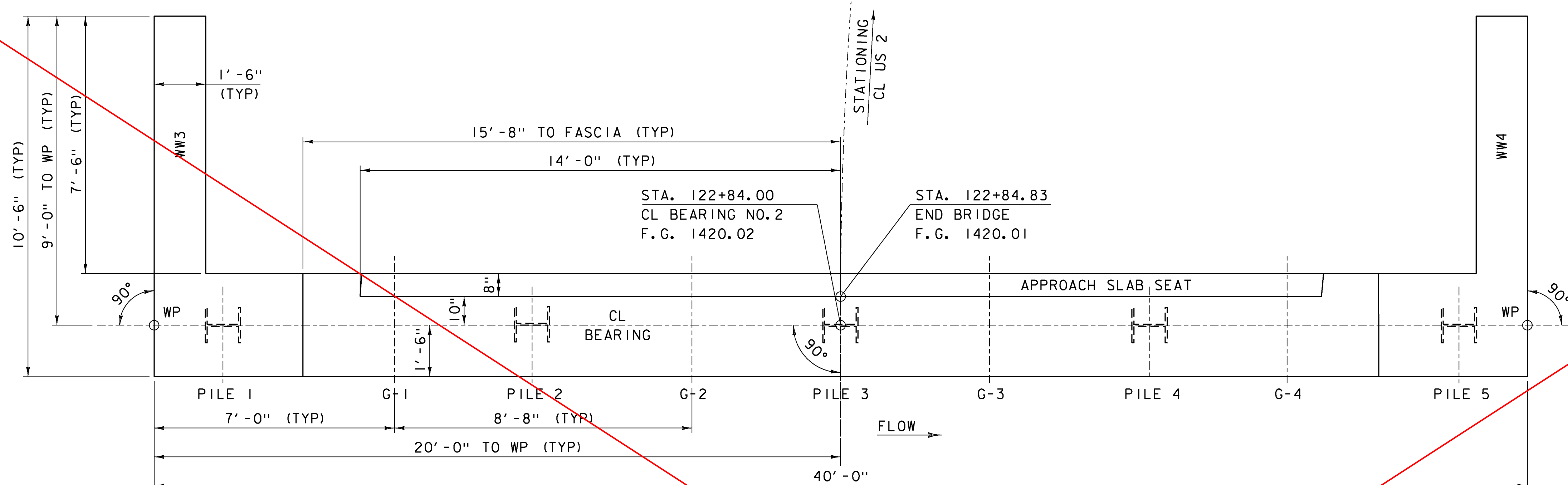
PROJECT NAME: WARDSBORO  
PROJECT NUMBER: BRF 013-1(K15)

FILE NAME: s92b283sub.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
ABUTMENT #1 PLAN & ELEVATION

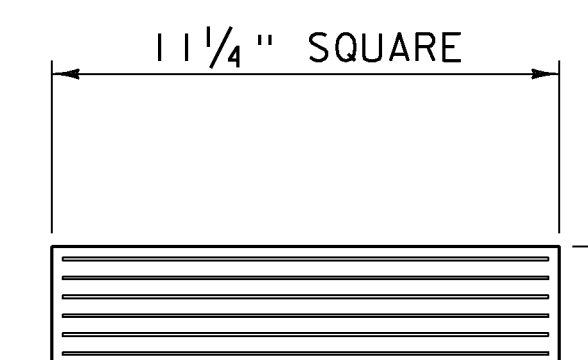
PLOT DATE: 06-OCT-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 28 OF 51

KEY	DATE	BY	REVISION
▲	10/05/2015	VAOT	MODIFIED ROLLED BEAM TO PLATE GIRDER.





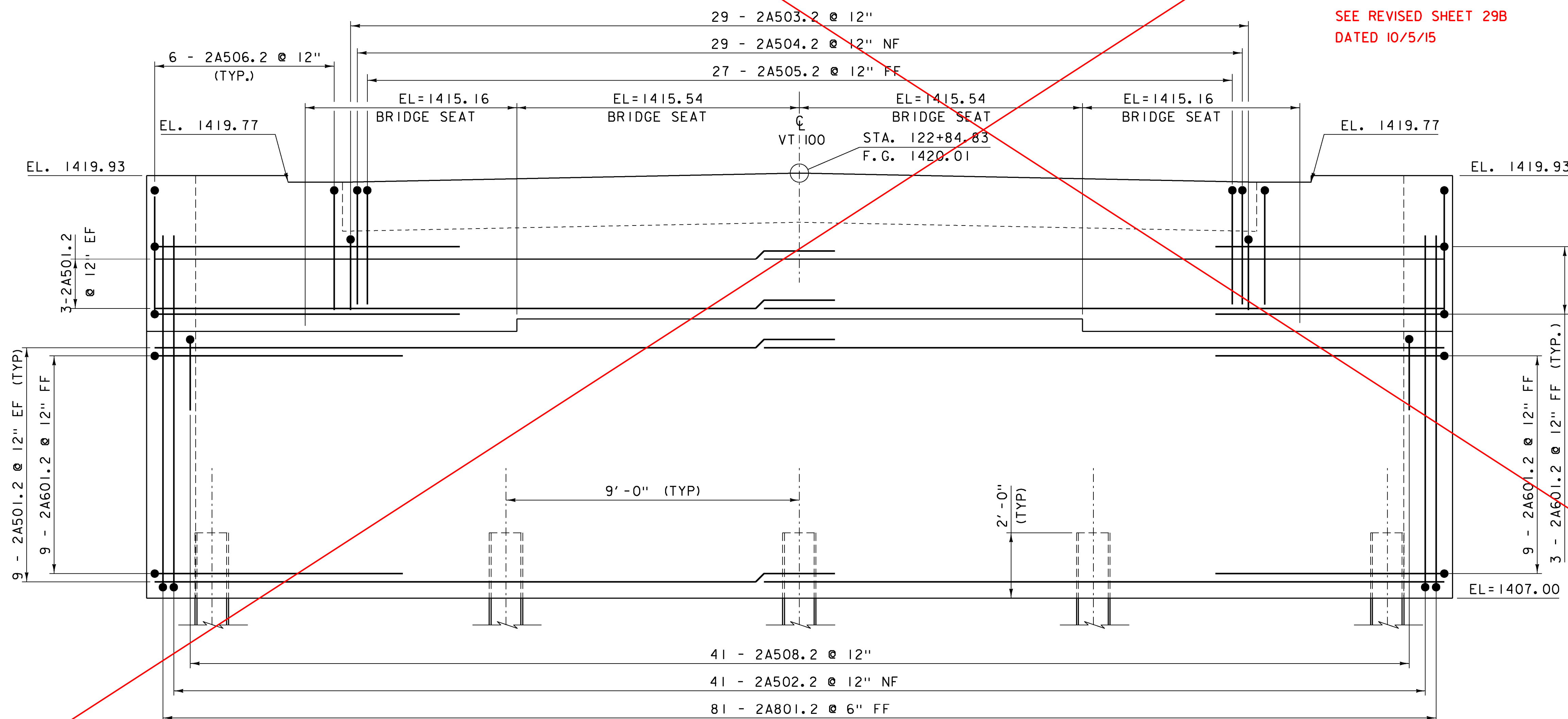
INTEGRAL ABUTMENT NO. 2 PLAN  
SCALE 1/2" = 1'-0"



- 1/4" EXTERIOR ELASTOMER LAYER (TOP, BOTTOM @ ALL-AROUND)  
(5) 3/8" LAYERS OF INTERIOR ELASTOMER  
(6) 0.0625" (16 GAUGE) STEEL REINFORCING PLATES

ELASTOMERIC BEARING  
PAD DETAIL  
NOT TO SCALE

SEE REVISED SHEET 29B  
DATED 10/5/15

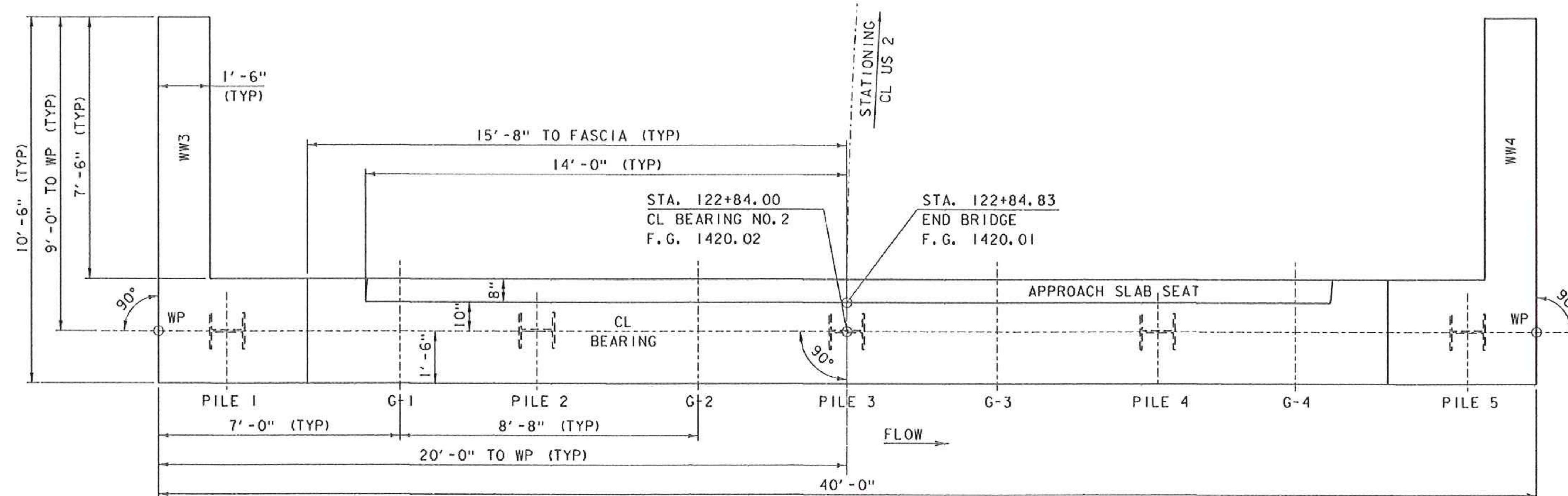


INTEGRAL ABUTMENT NO. 2 ELEVATION  
SCALE 1/2" = 1'-0"

NOTE:  
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2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

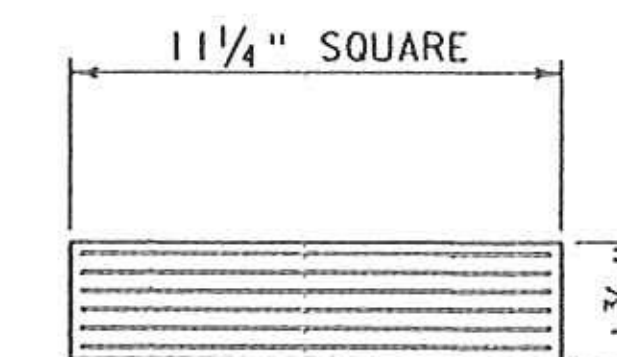
PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-1(15)
FILE NAME:	s92b283sub.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	D. PETERSON
ABUTMENT #2 PLAN & ELEVATION AND BEARING DETAIL SHEET	29A OF 51
PLOT DATE:	15-JUL-2015
DRAWN BY:	R. PELLET
CHECKED BY:	D. PETERSON





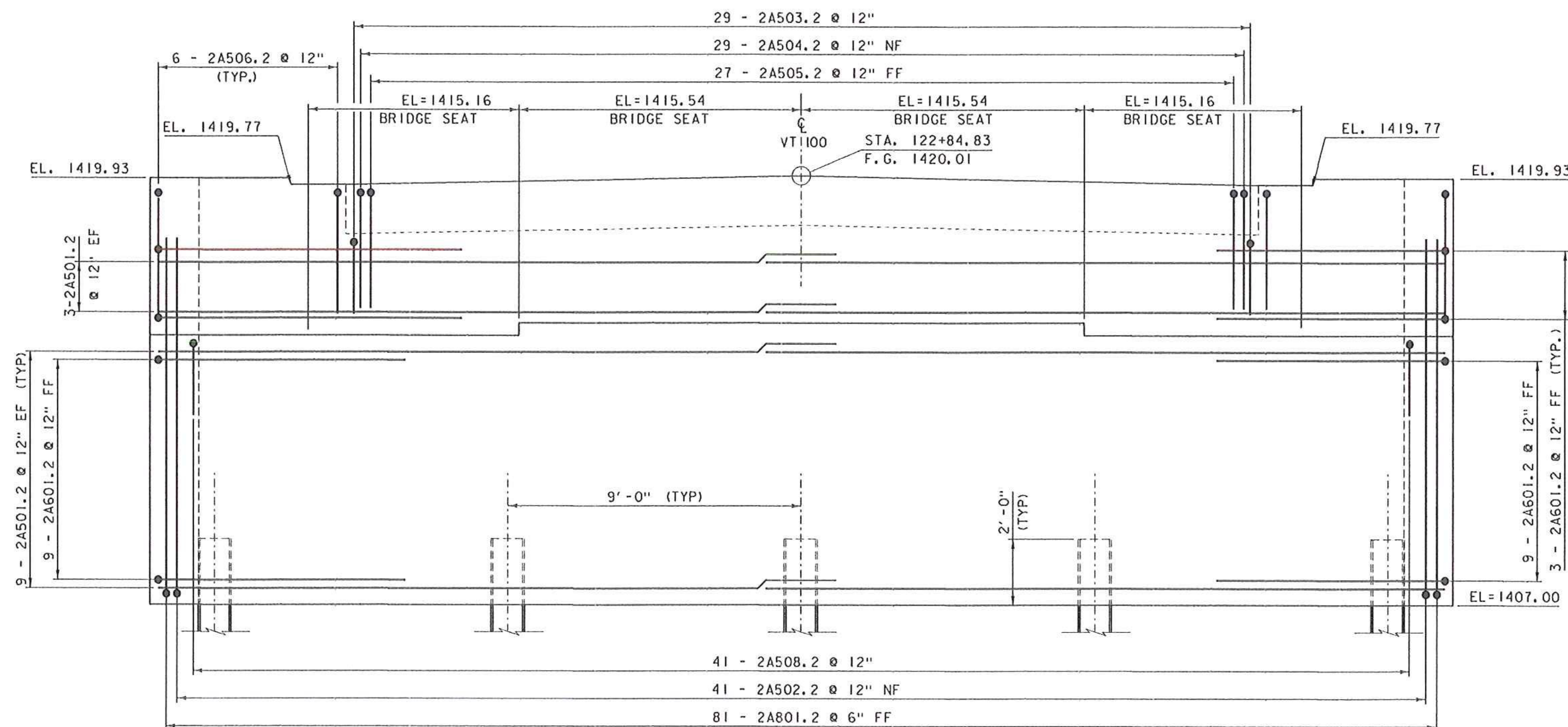
INTEGRAL ABUTMENT NO. 2 PLAN

SCALE 1/2" = 1'-0



ELASTOMERIC BEARING  
PAD DETAIL

NOT TO SCALE



INTEGRAL ABUTMENT NO. 2 ELEVATION

SCALE 1/2" = 1'-0

NOTE:

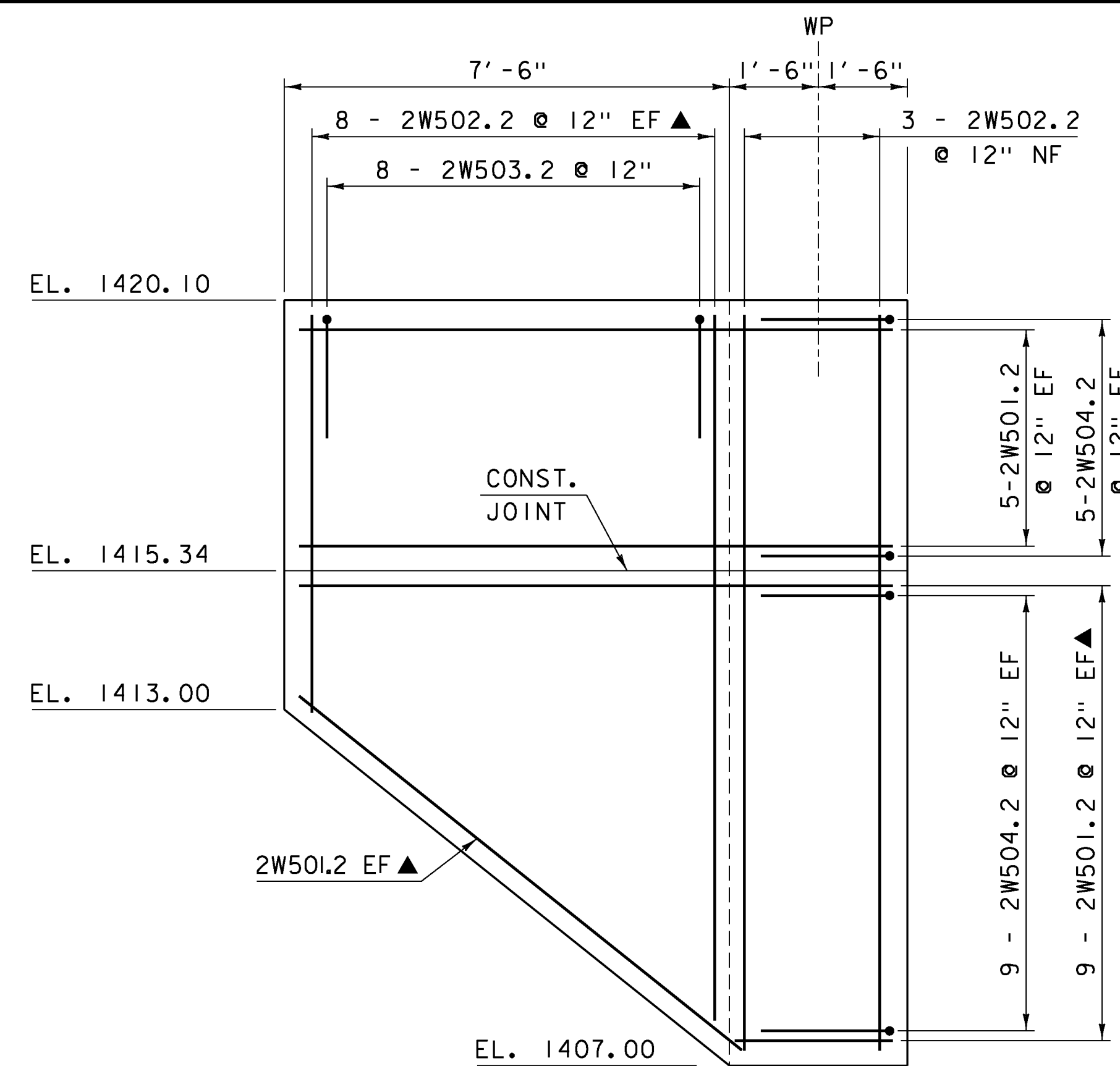
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3" CLEAR, UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.  
2'-2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.

KEY	DATE	BY	REVISION
▲	10/05/2015	VAOT	MODIFIED BEARING THICKNESS

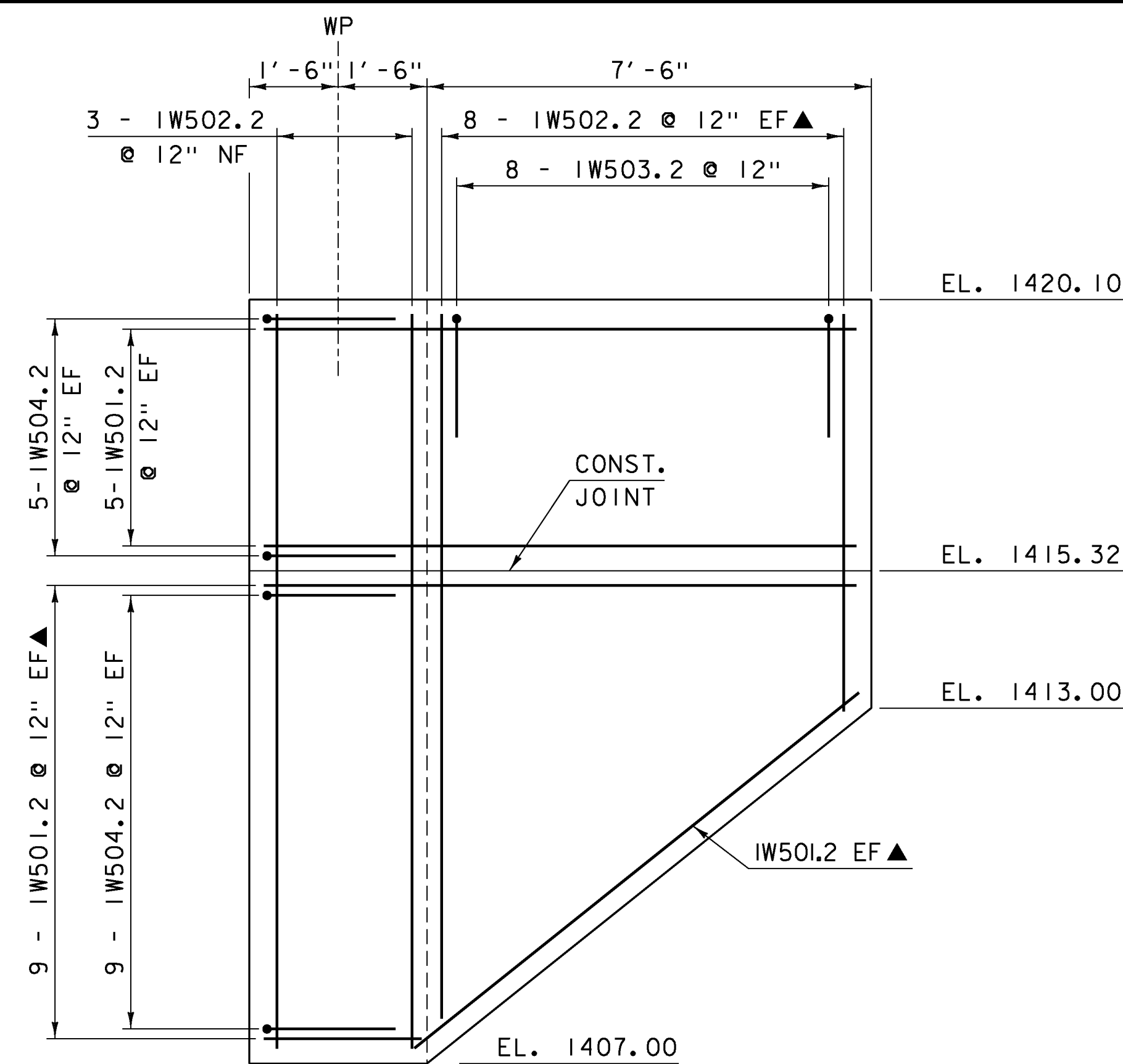
PROJECT NAME: WARDBORO  
PROJECT NUMBER: BRF 013-1(I15)

FILE NAME: s92b283sub.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
ABUTMENT #2 PLAN & ELEVATION AND BEARING DETAIL SHEET 29 OF 51  
PLOT DATE: 07-OCT-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON

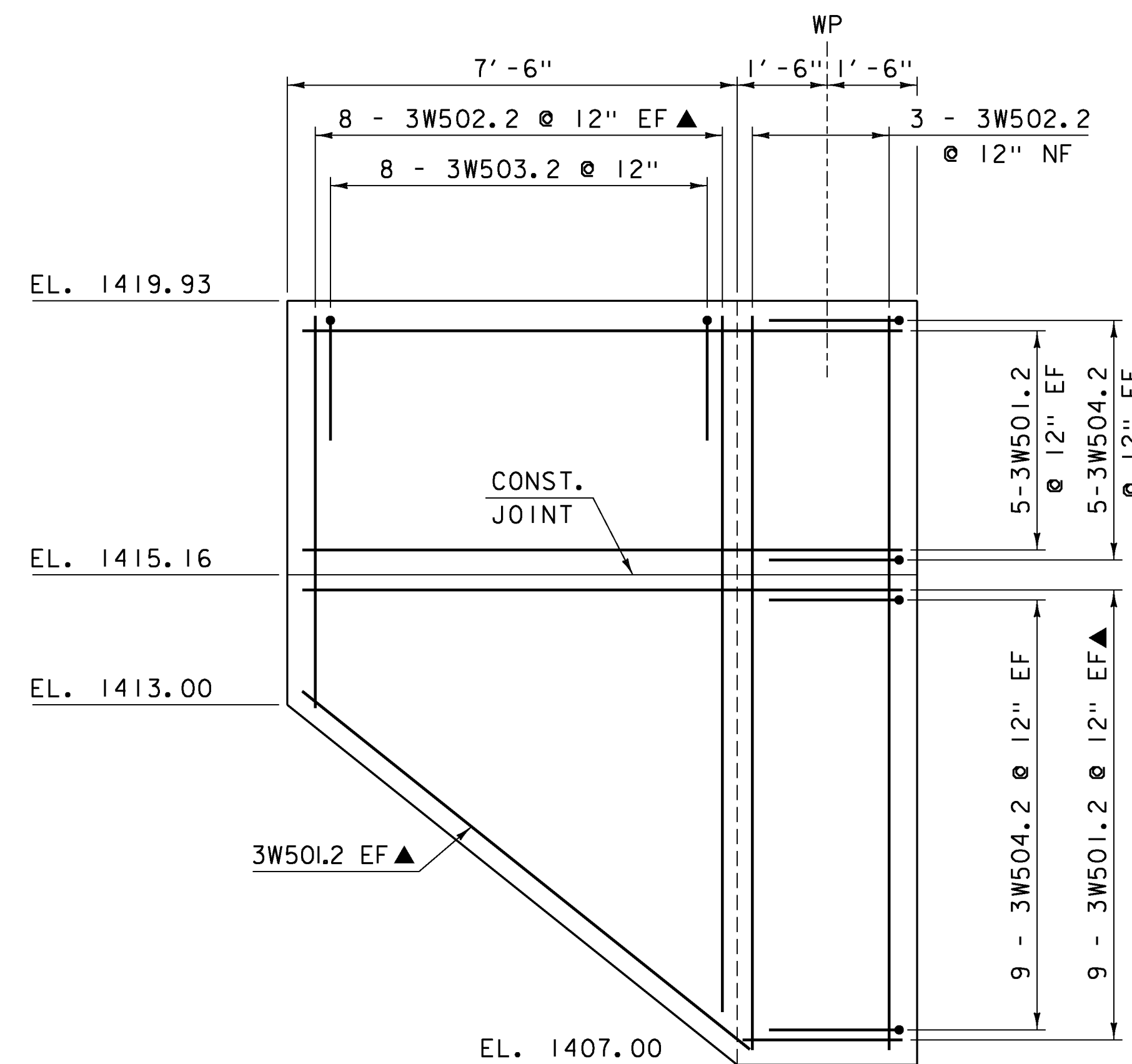




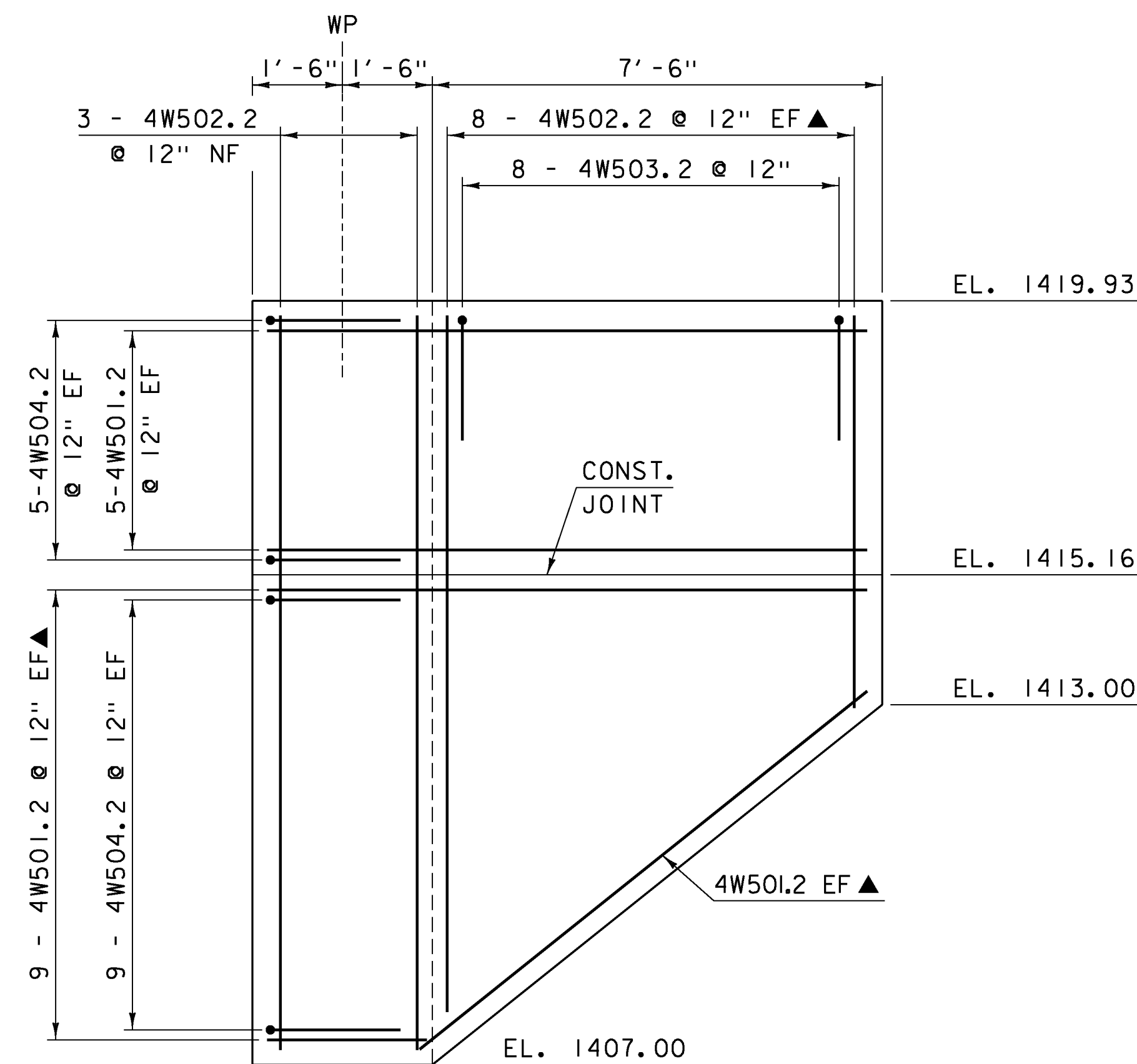
WINGWALL NO. 2 ELEVATION  
SCALE 1/2" = 1'-0



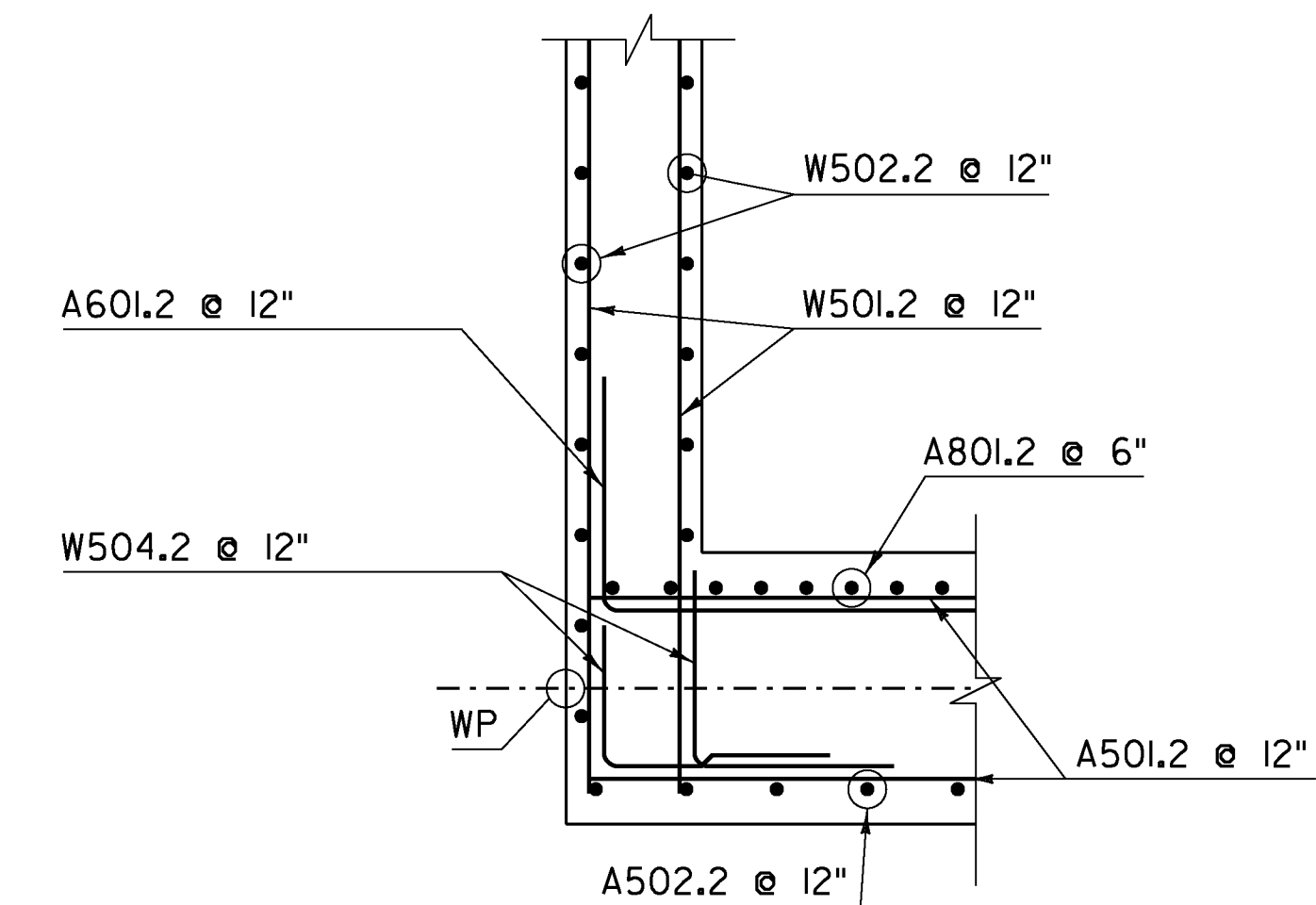
WINGWALL NO. 1 ELEVATION  
SCALE 1/2" = 1'-0



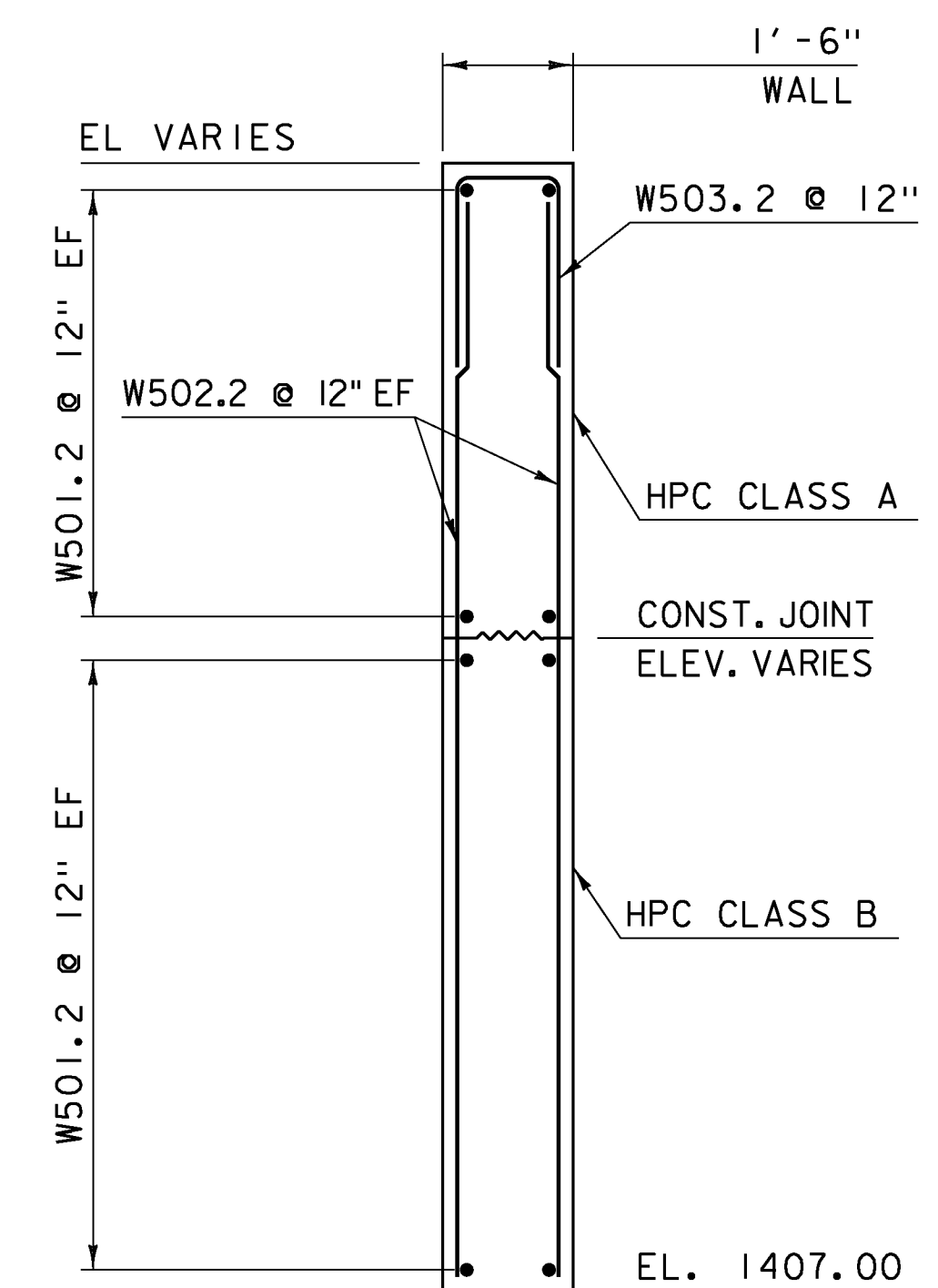
WINGWALL NO. 3 ELEVATION  
SCALE 1/2" = 1'-0



WINGWALL NO. 4 ELEVATION  
SCALE 1/2" = 1'-0



WINGWALL CORNER DETAIL (TYP)  
SCALE 1/2" = 1'-0



WINGWALL SECTION (TYP)  
SCALE 1/2" = 1'-0

NOTE:  
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EF = EACH FACE  
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3" CLEAR, UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.  
2'-2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.

PROJECT NAME:	WARDSBORO	PLOT DATE:	15-JUL-2015
PROJECT NUMBER:	BRF 013-1115	DRAWN BY:	R. PELLETT
FILE NAME:	s92b283sub.dgn	DESIGNED BY:	D. PETERSON
PROJECT LEADER:	C. CARLSON	CHECKED BY:	D. PETERSON
WINGWALLS 1-4 ELEVATIONS & TYPICALS		SHEET	30 OF 51



## REINFORCING STEEL SCHEDULE

## ~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.

## ~ REINFORCING STEEL CORROSION RESISTANCE LEVEL ~

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

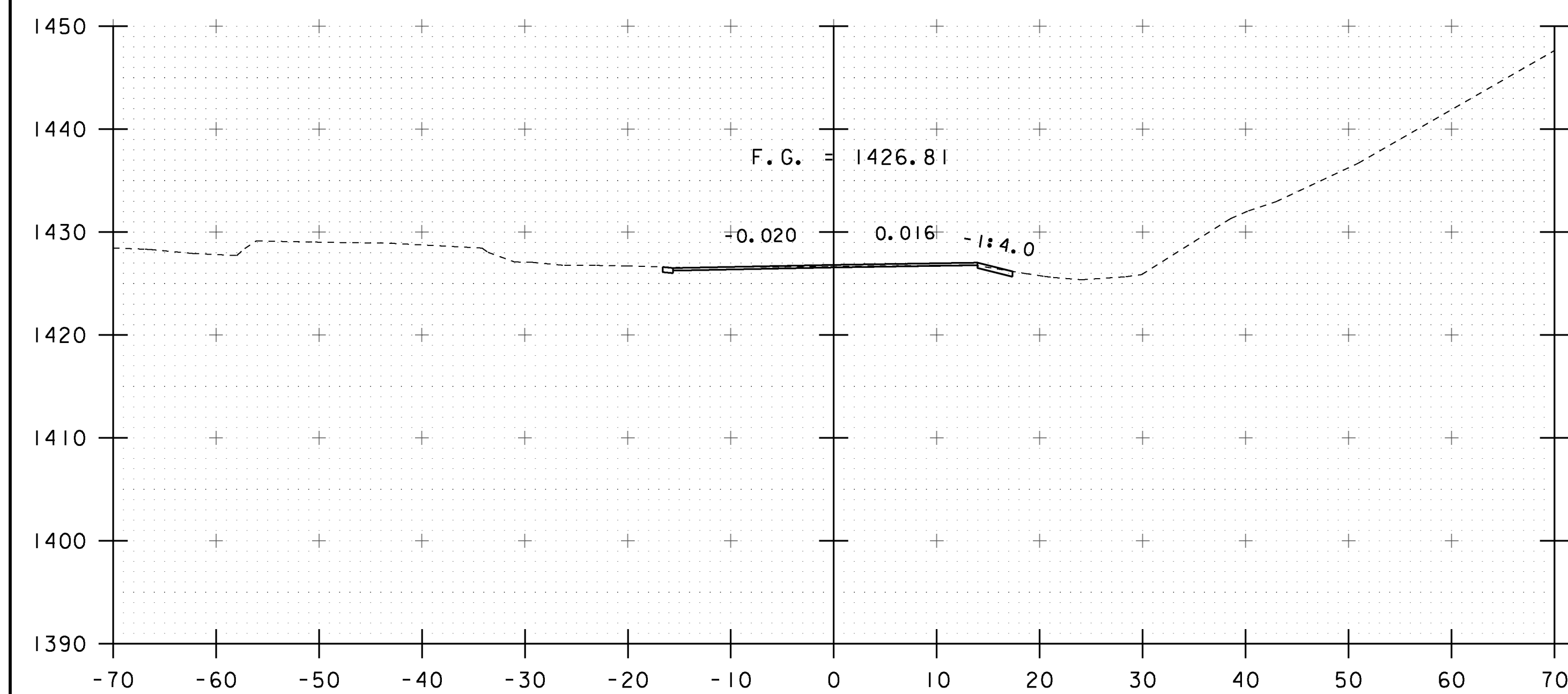
ASTM STANDARD REINFORCING BARS				
BAR SIZE EQUIV. NO.	WEIGHT POUNDS PER FOOT	DIAMETER INCHES	AREA SQUARE INCHES	PERMITS INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.04	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.14
#9	3.400	1.13	1.00	3.54
#10	4.3	1.270	1.27	3.990
#11	5.31	1.410	1.56	4.430
#14	7.65	1.69	2.25	5.32
#18	13.60	2.26	4.00	7.09

PROJECT NAME: **WARDSBORO**  
PROJECT NUMBER: **BRF 013-1(15)**

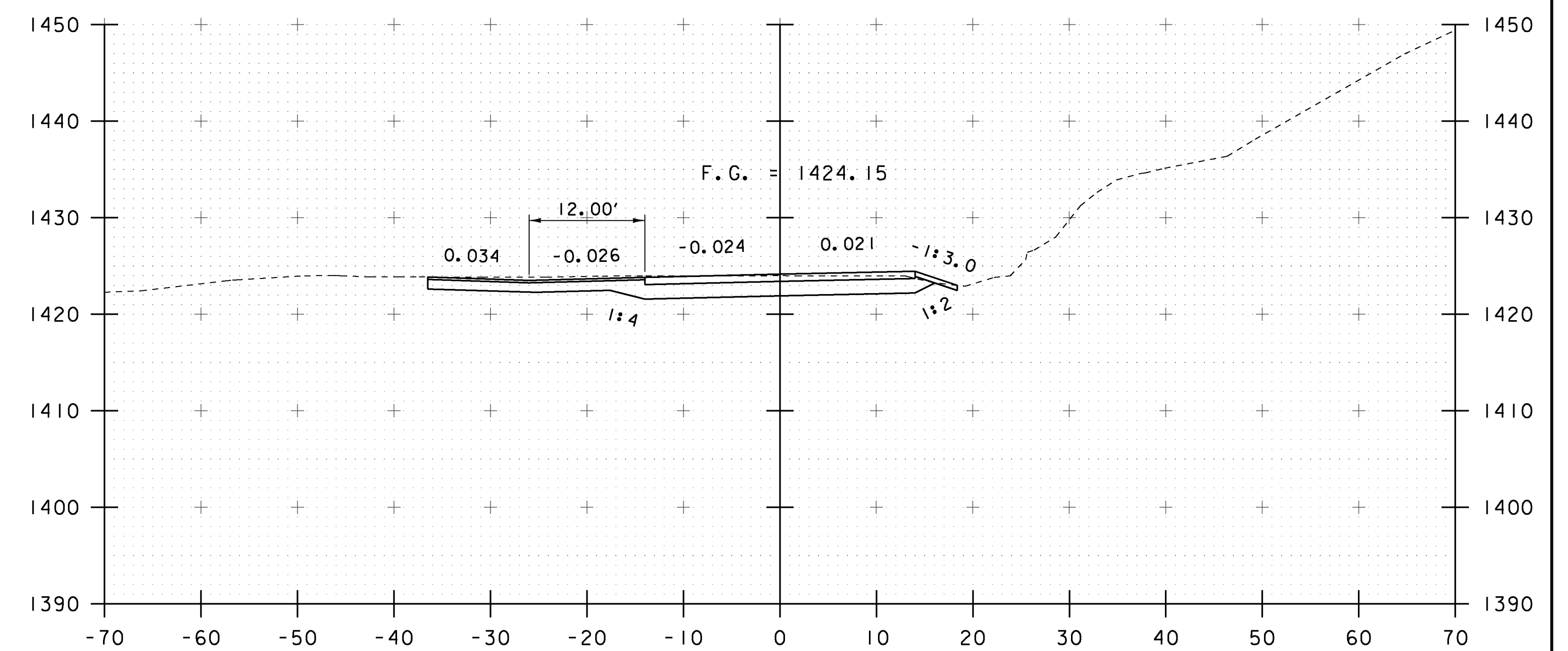
FILE NAME: **s92b283rss.xls**  
PROJECT MANAGER: **C. CARLSON**  
DESIGNED BY: **D. PETERSON**  
**REINFORCING STEEL SCHEDULE**

PLOT DATE: **2/23/2015**  
DRAWN BY: **R. PELLETT**  
CHECKED BY: **D. PETERSON**  
SHEET 31 OF 51

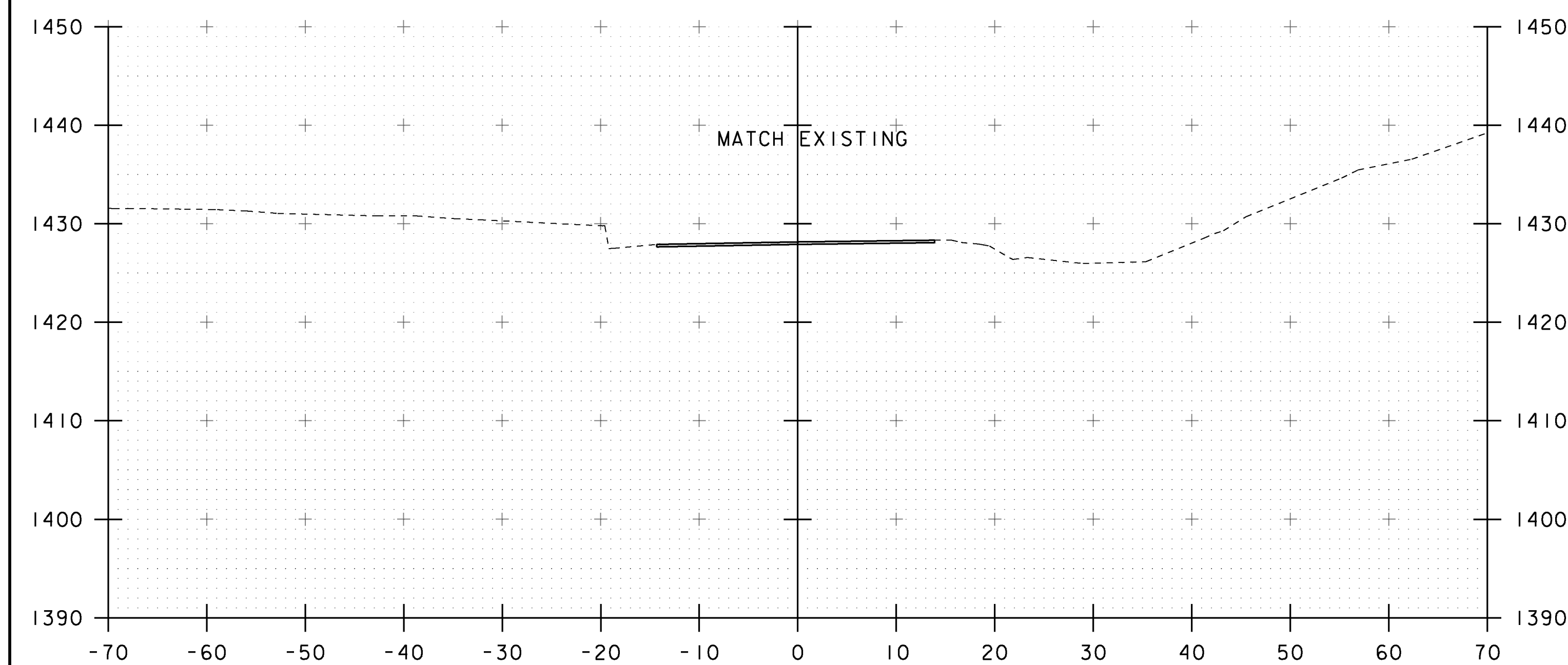




119+75

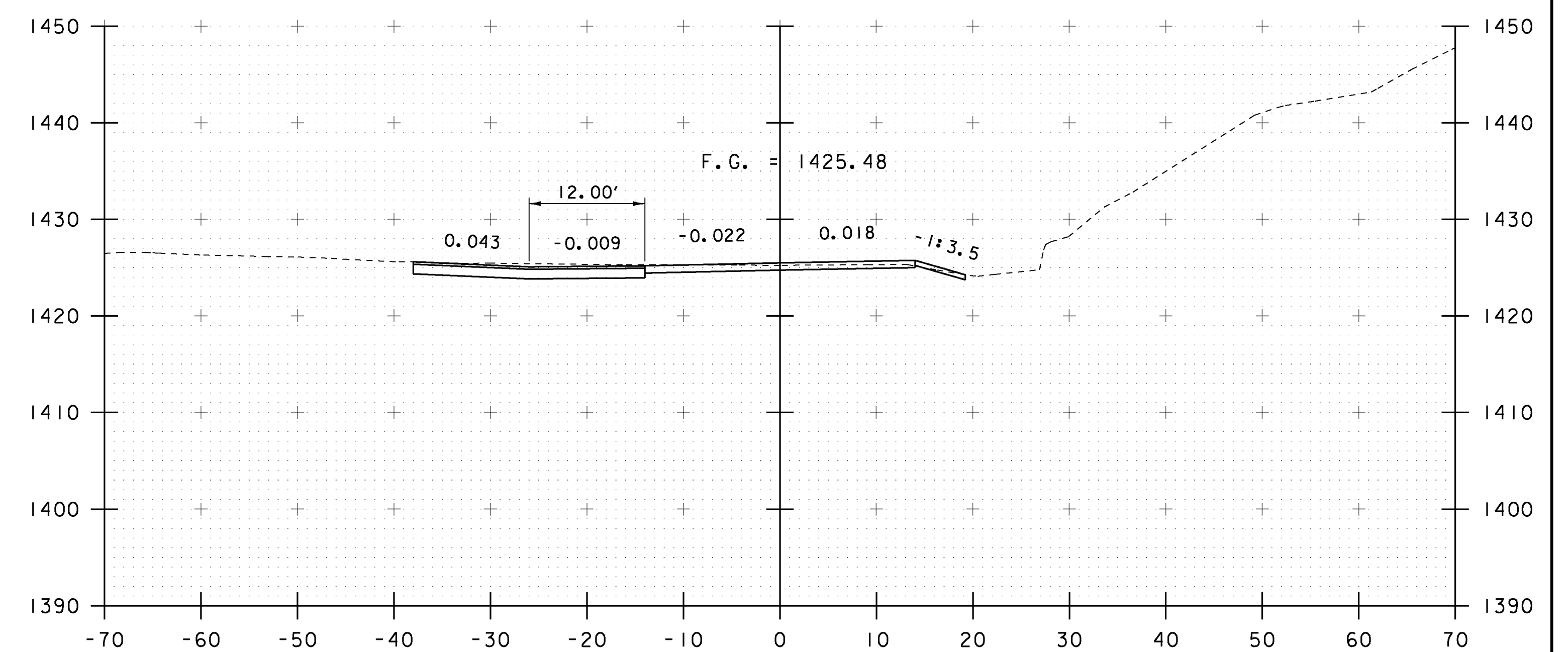


120+25



BEGIN APPROACH

119+50

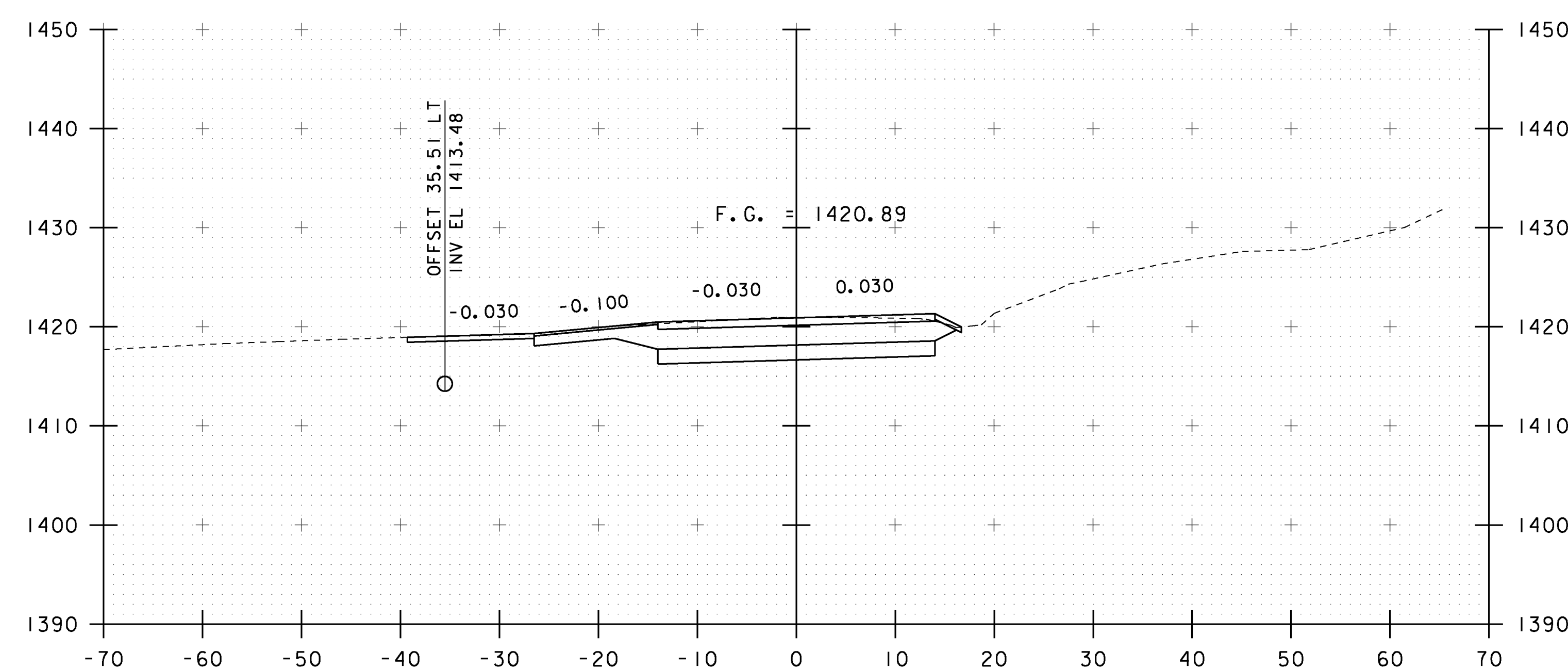
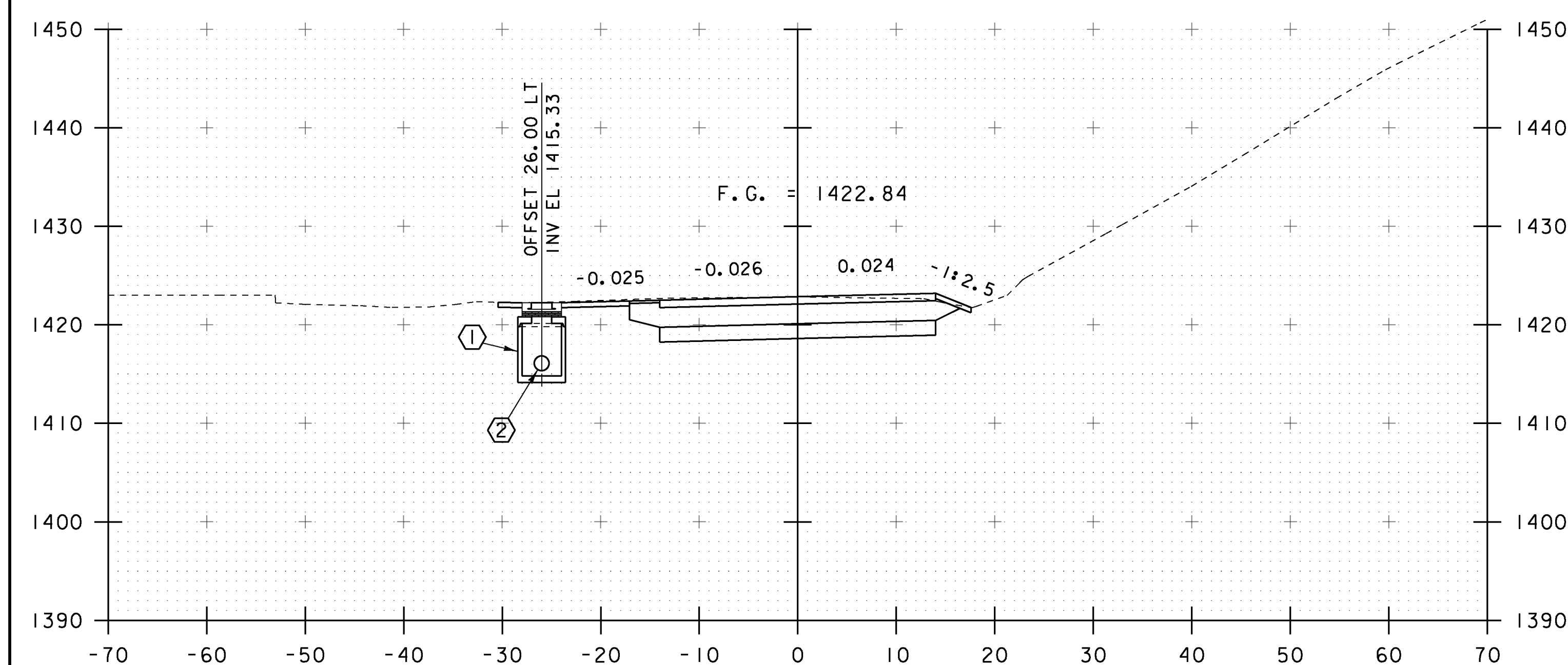
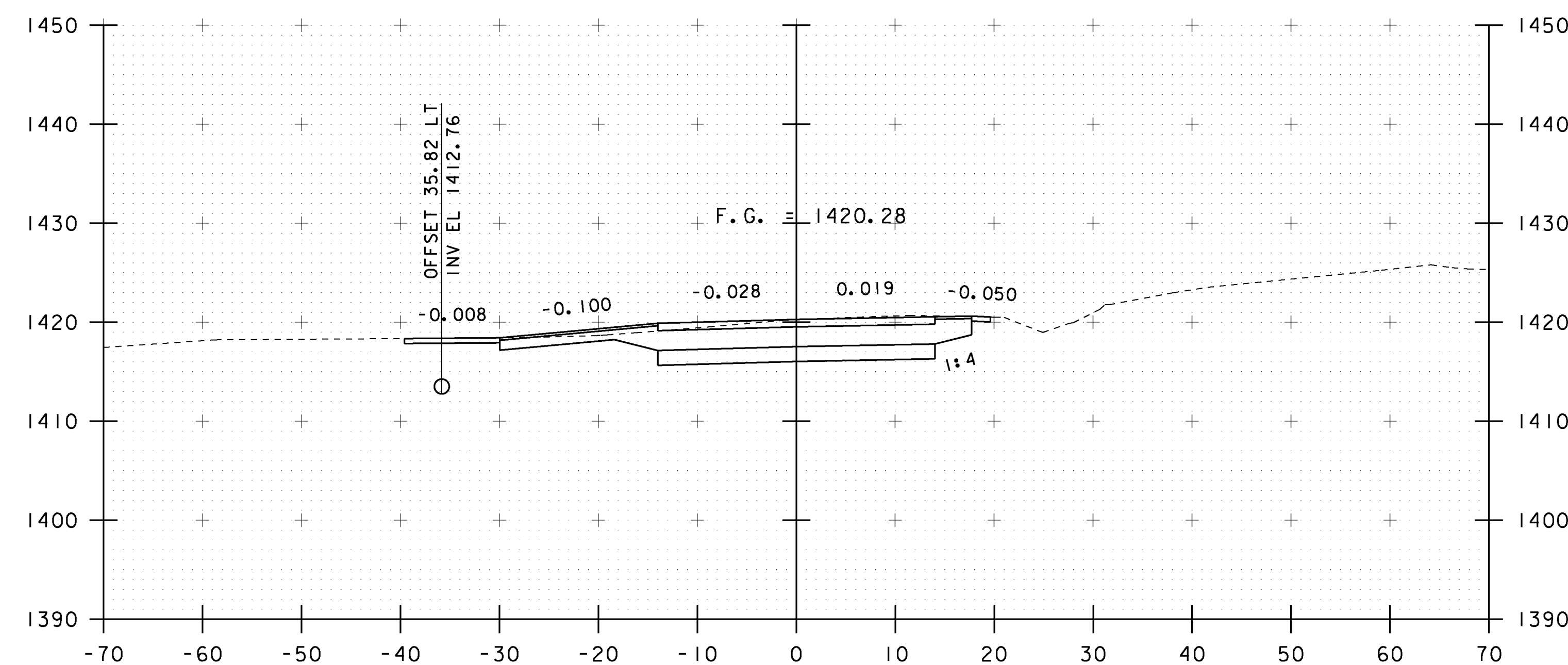
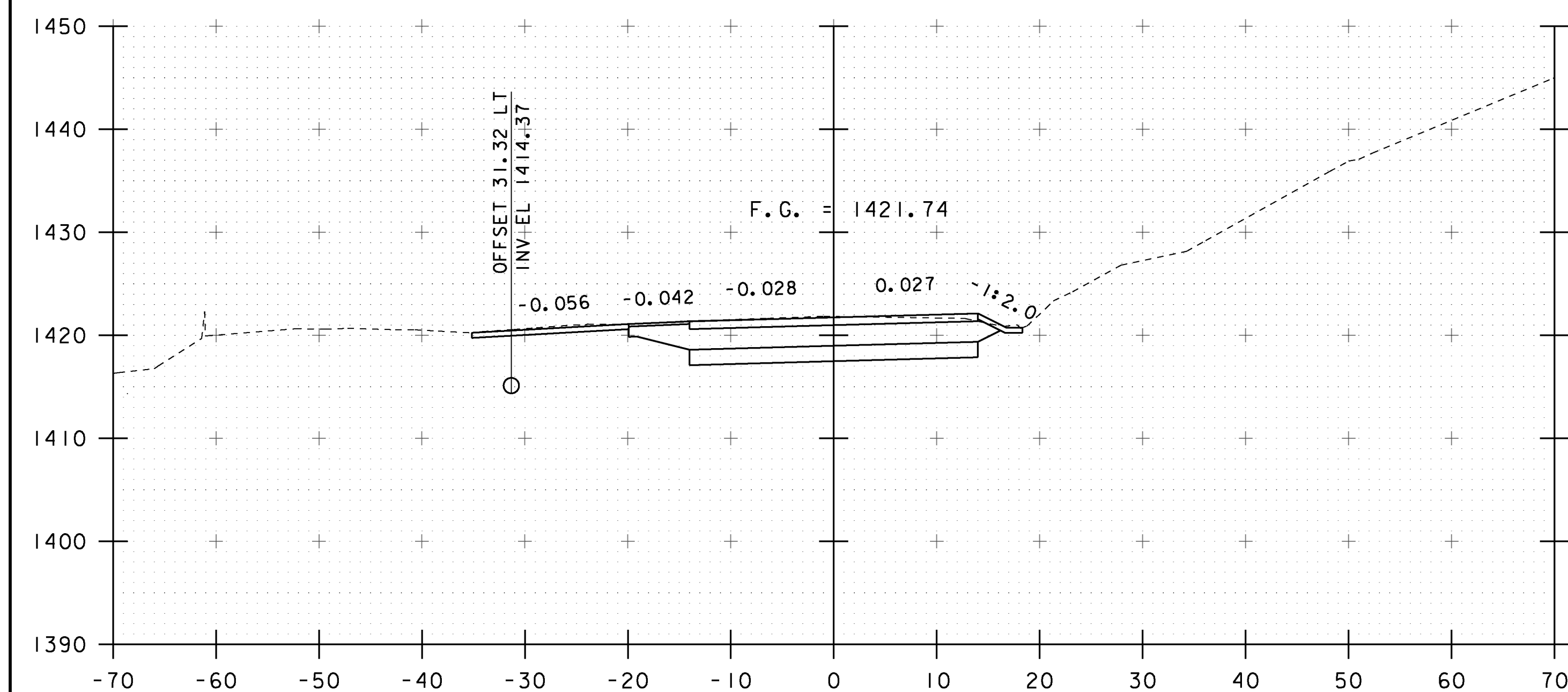


120+00

STA. 119+50 TO STA. 120+25

PROJECT NAME: WARDBORO	
PROJECT NUMBER: BRF 013-1(15)	
FILE NAME: s92b283xsl.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: J. GRIFFIN
DESIGNED BY: J. GRIFFIN	CHECKED BY: D. PETERSON
VT 100 CROSS SECTIONS 1	SHEET 32 OF 51



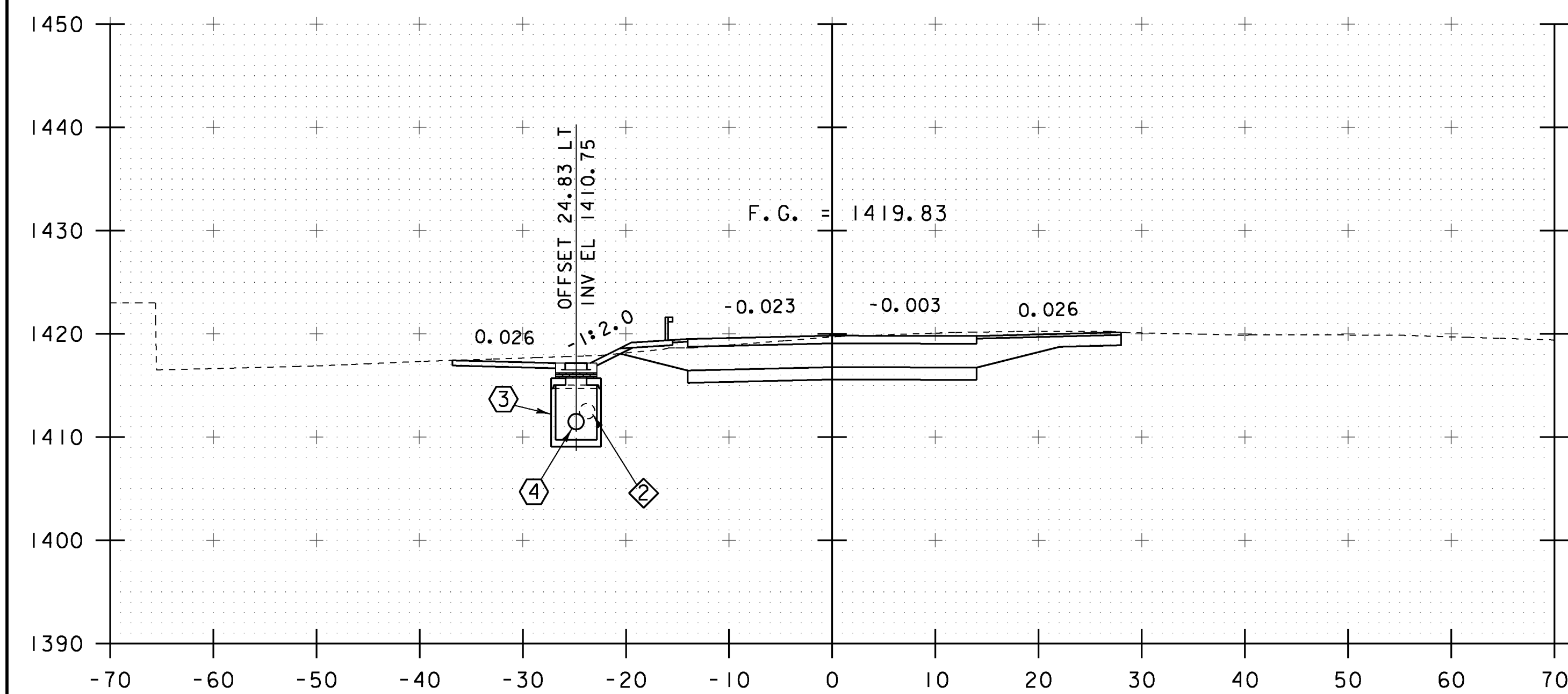


BEGIN PROJECT

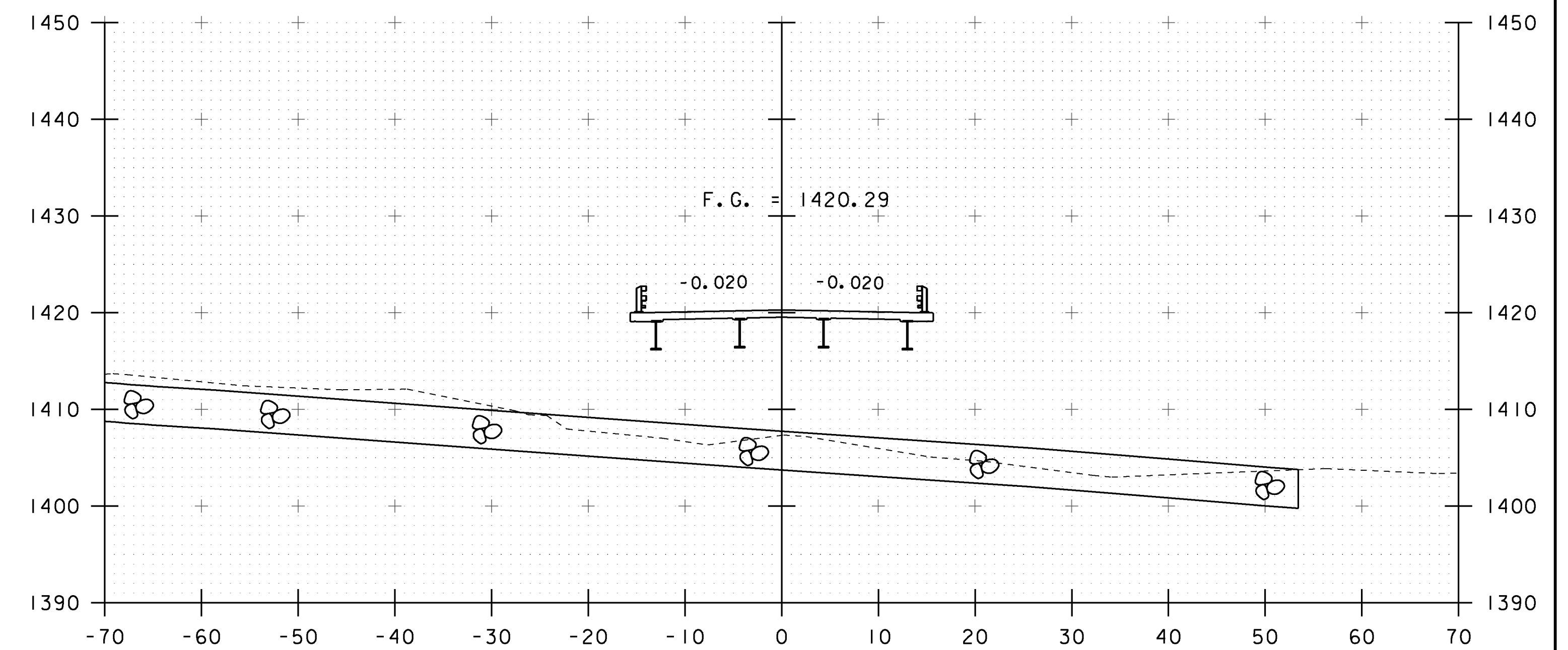
STA. 120+50 TO STA. 121+25

PROJECT NAME: WARDBORO	
PROJECT NUMBER: BRF 013-1(15)	
FILE NAME: s92b283xsl.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: J. GRIFFIN
DESIGNED BY: J. GRIFFIN	CHECKED BY: D. PETERSON
VT 100 CROSS SECTIONS 2	SHEET 33 OF 51



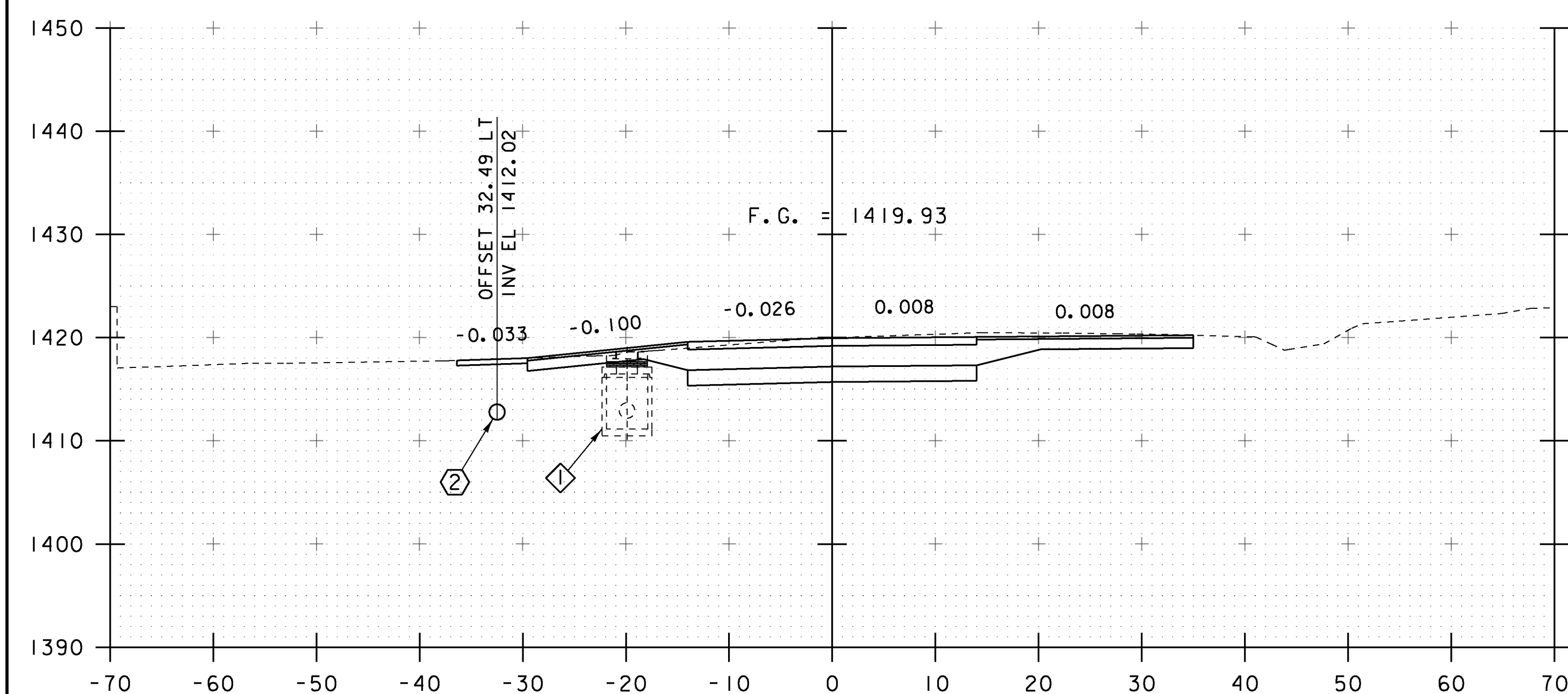


121+75

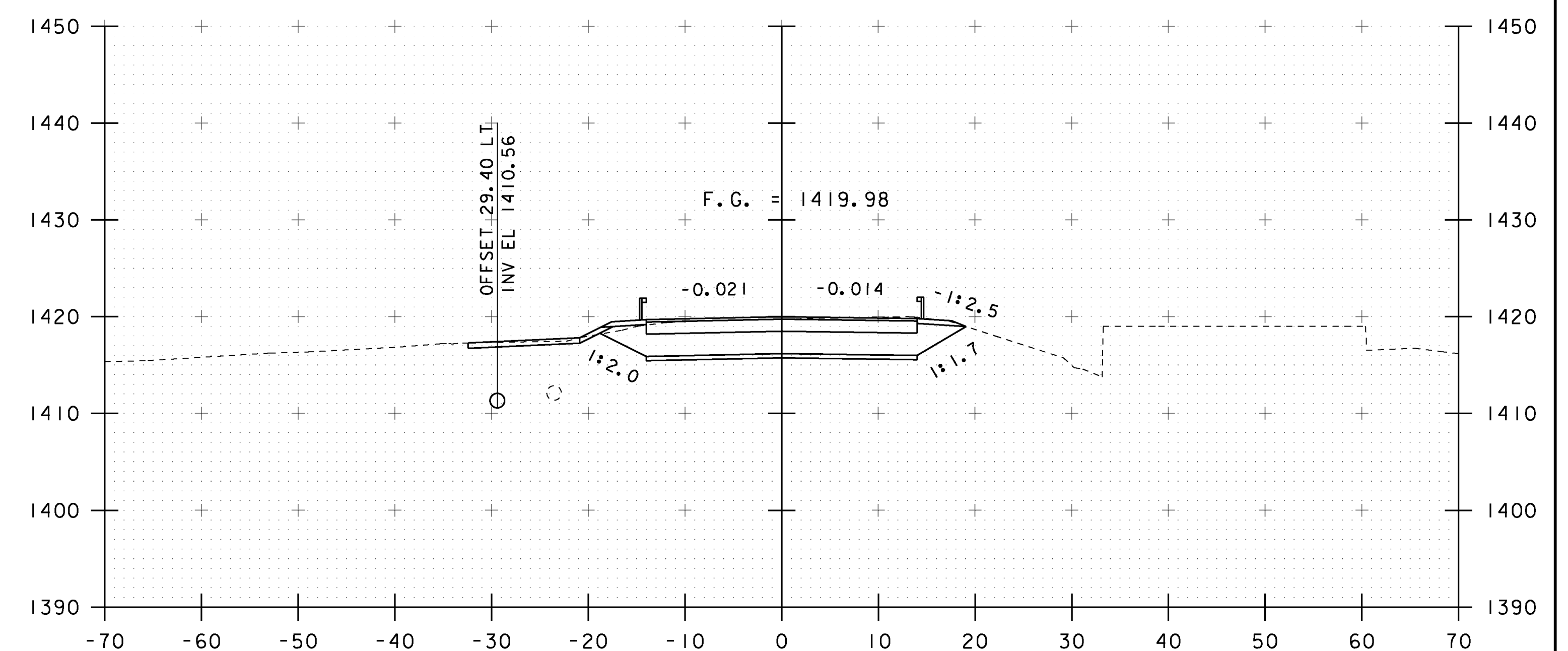


BEGIN BRIDGE  
STA 122+15.16

122+25



121+50

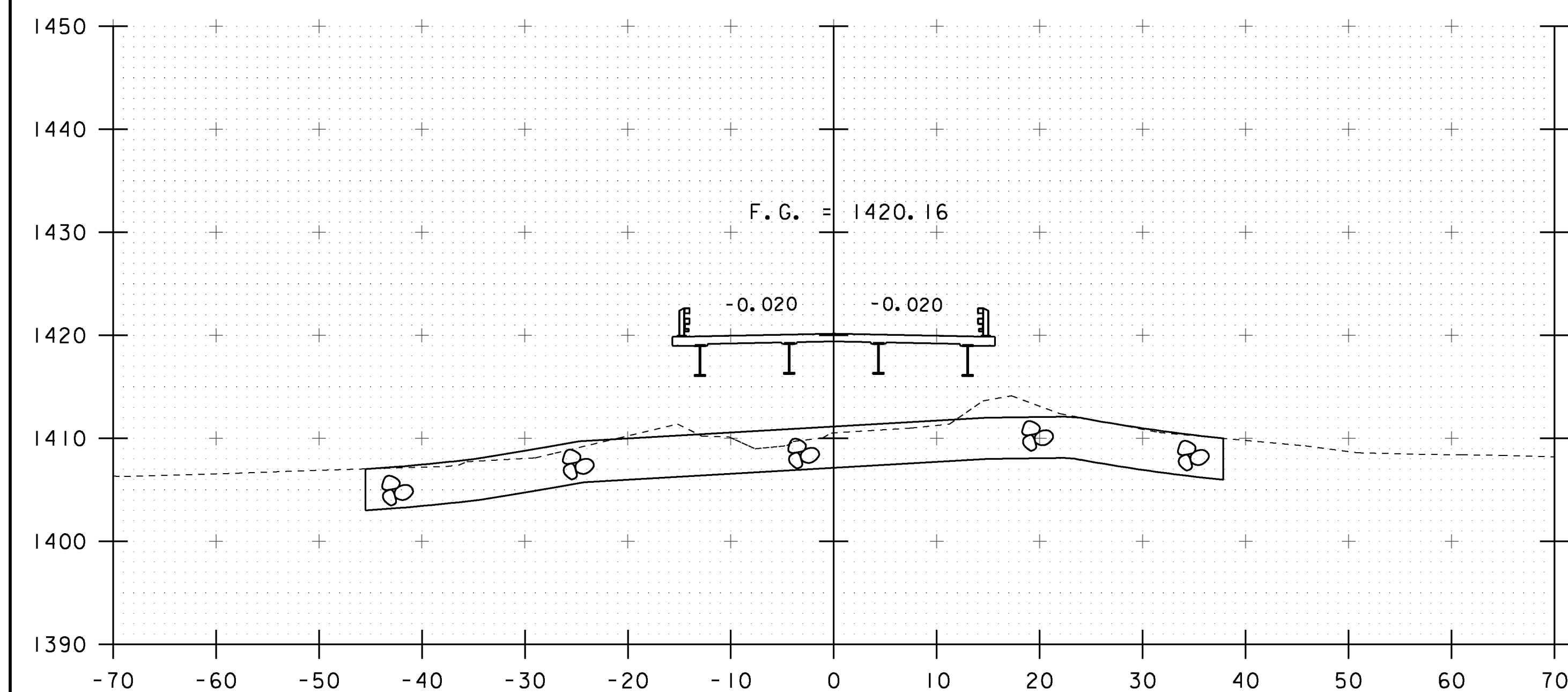


122+00

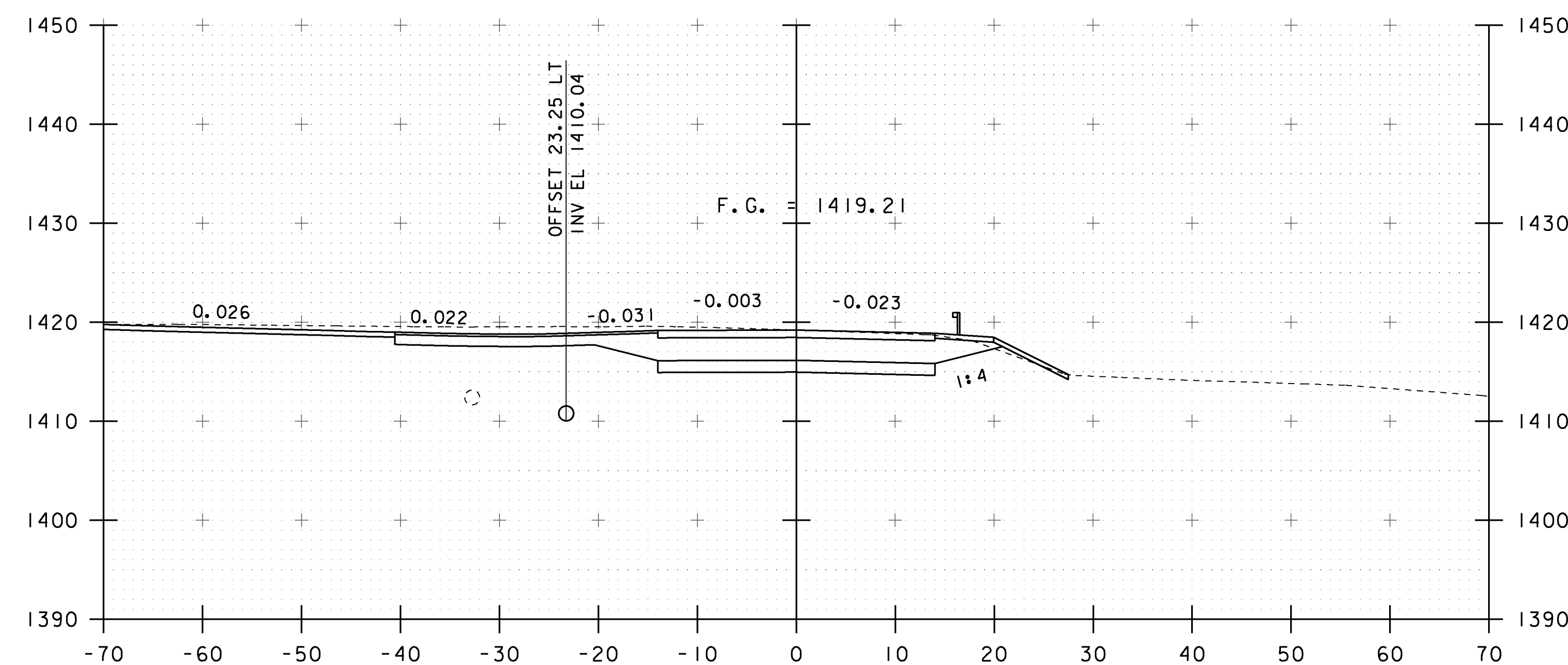
STA. 121+50 TO STA. 122+25

PROJECT NAME: WARDBORO	
PROJECT NUMBER: BRF 013-1(15)	
FILE NAME: s92b283xsl.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: J. GRIFFIN
DESIGNED BY: J. GRIFFIN	CHECKED BY: D. PETERSON
VT 100 CROSS SECTIONS 3	SHEET 34 OF 51

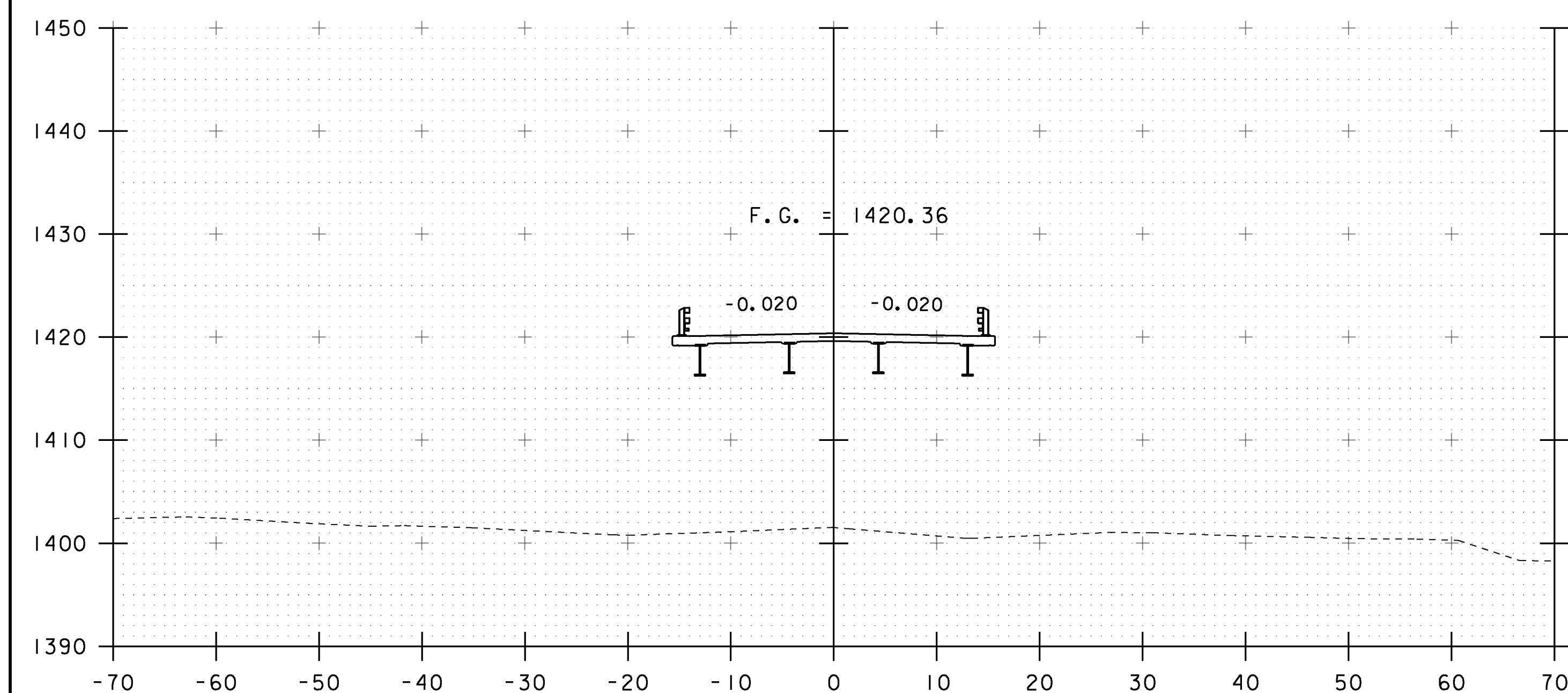




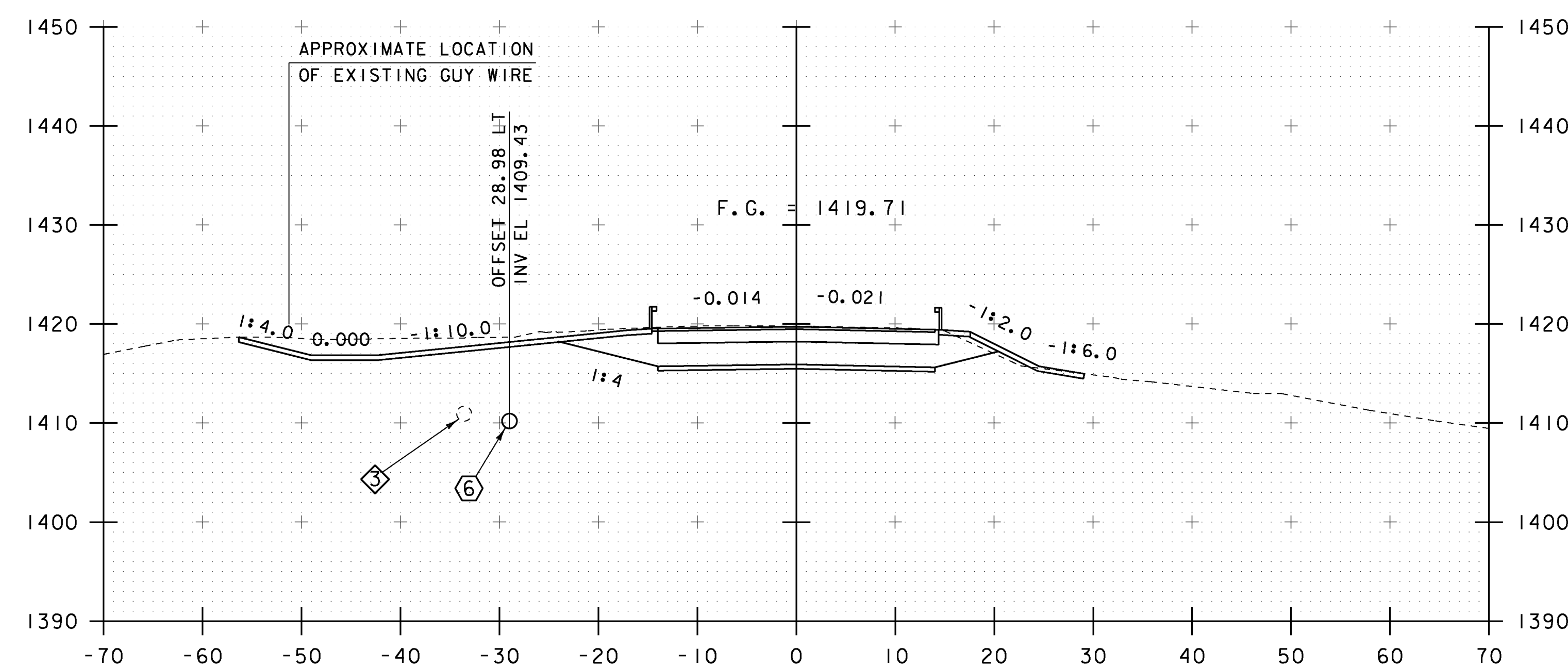
122+75



123+25



122+50



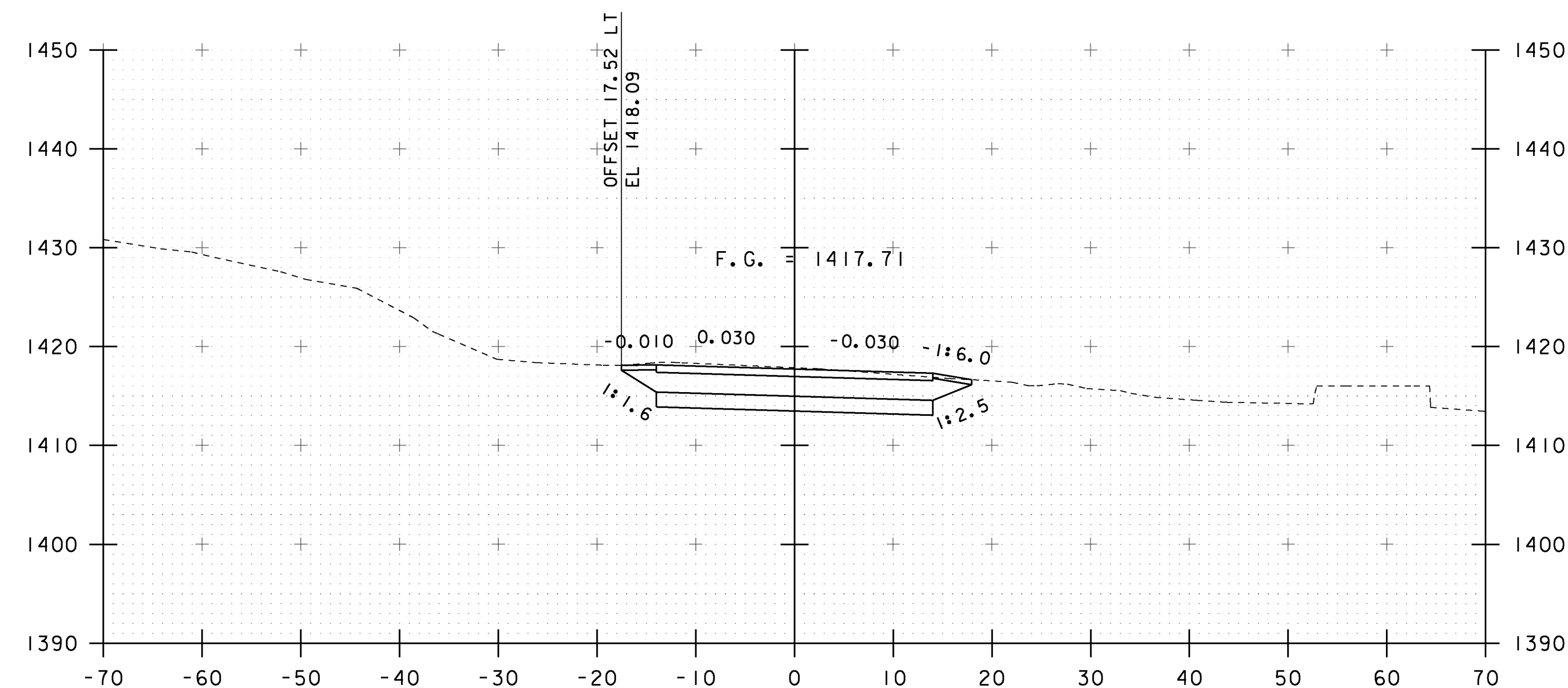
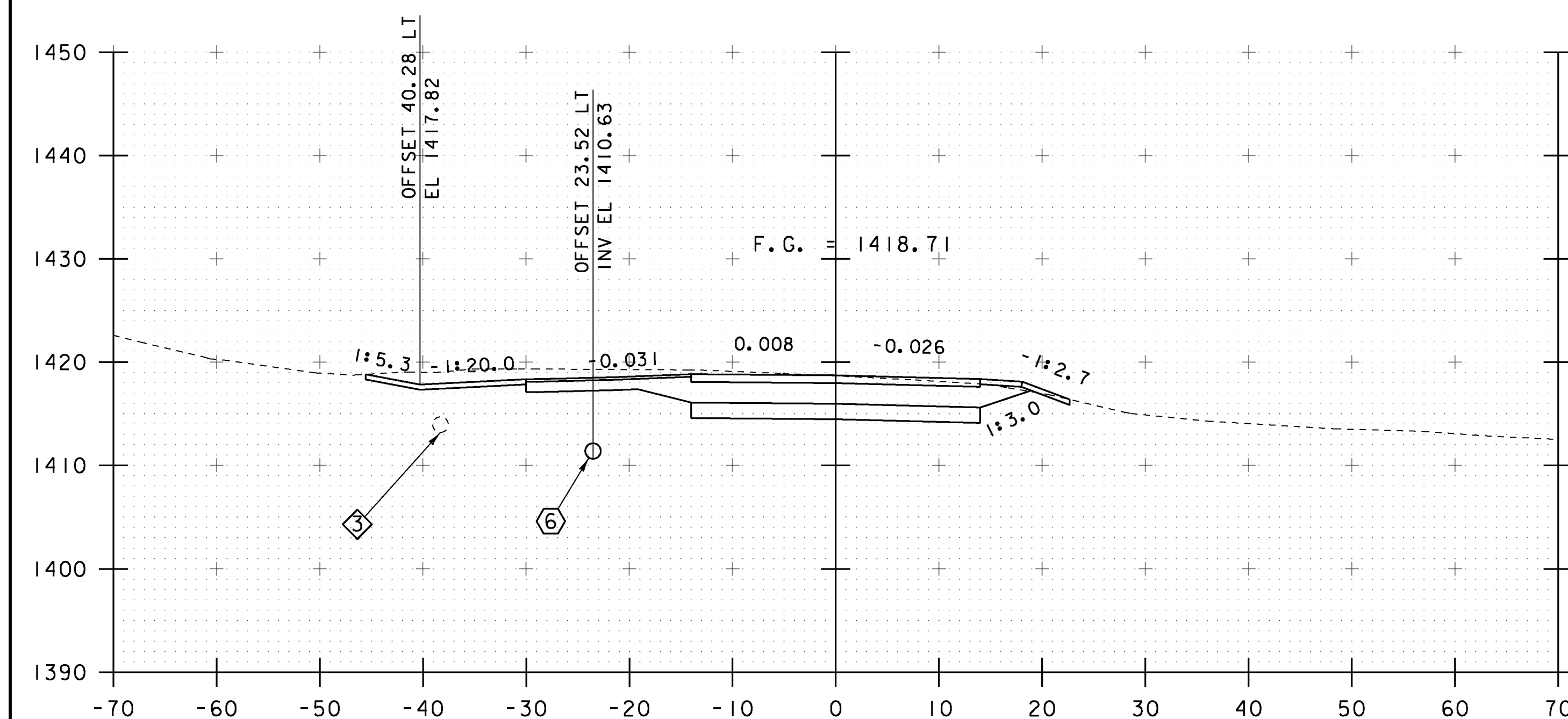
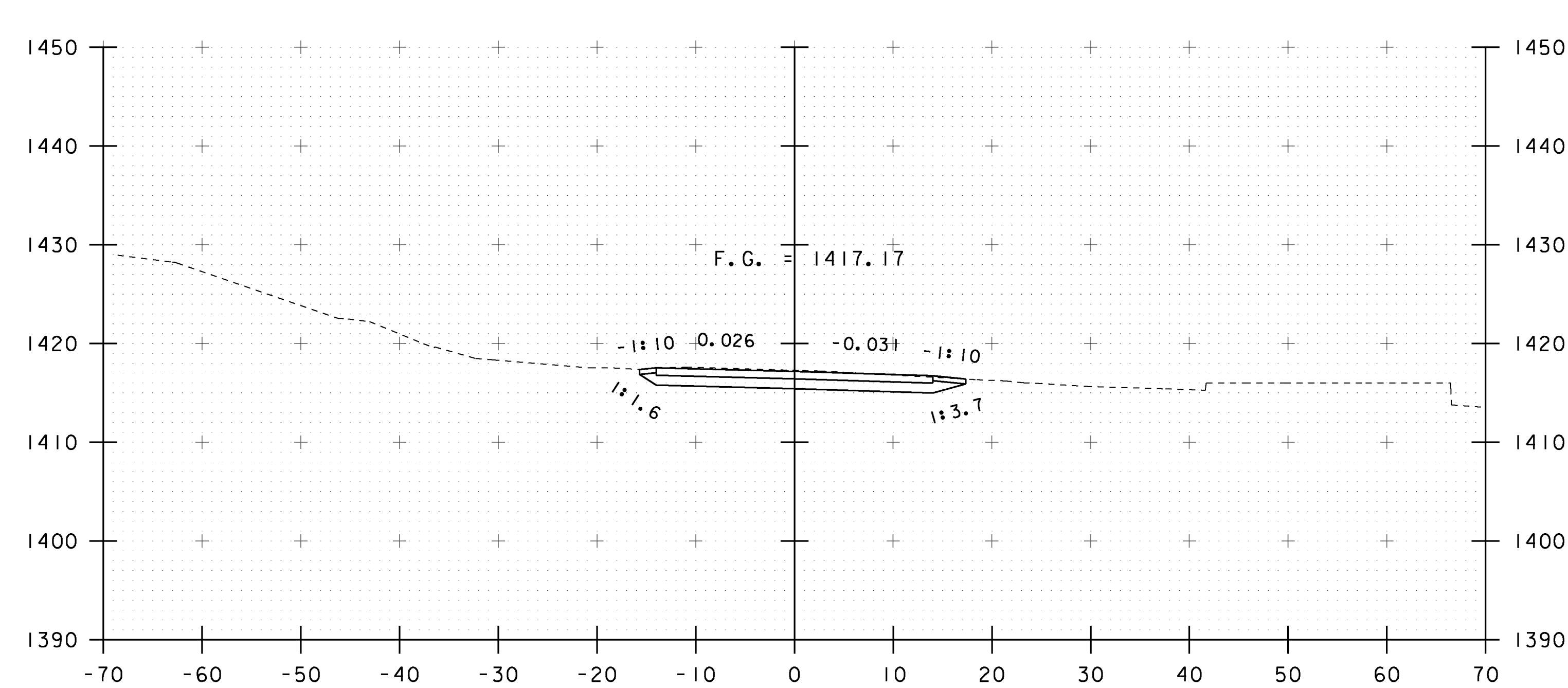
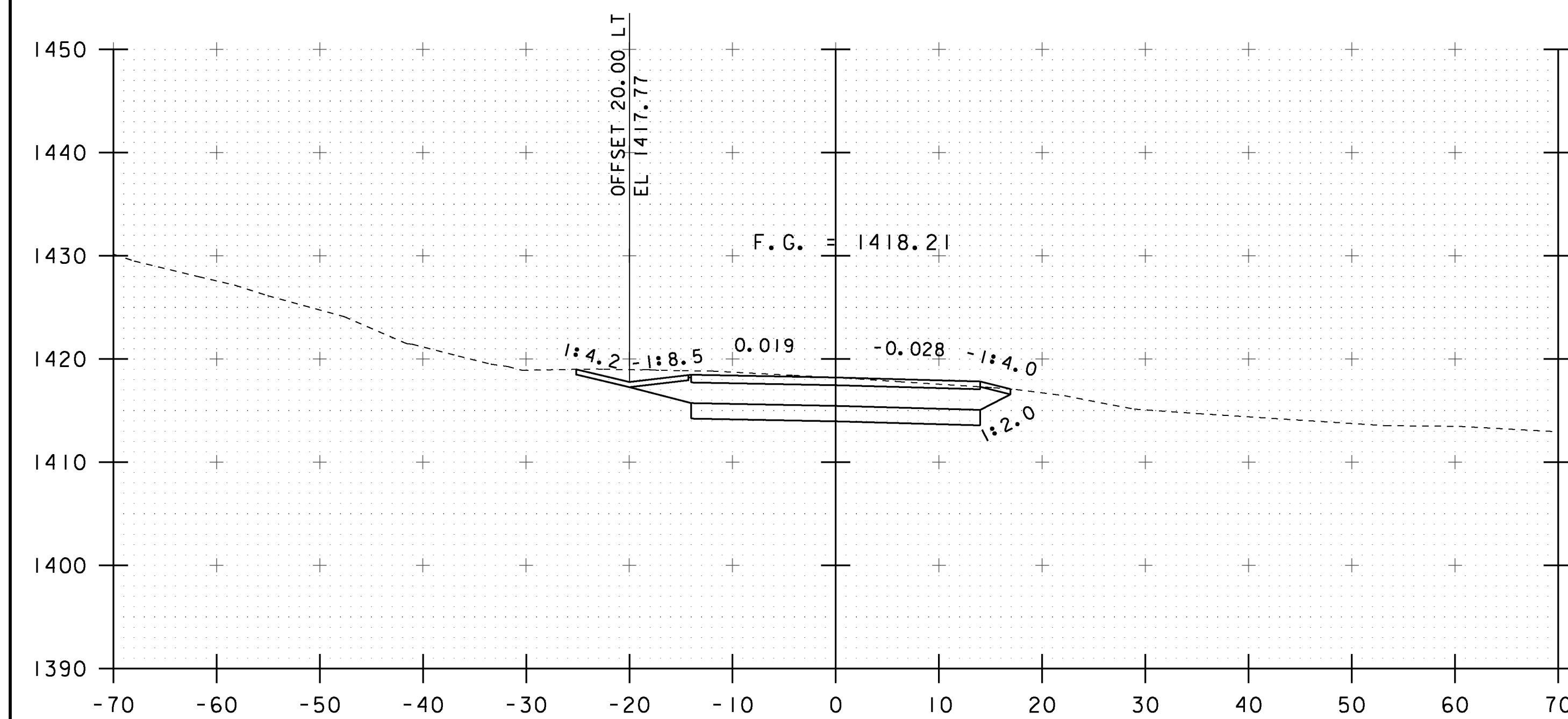
END BRIDGE  
STA 122+84.83

123+00

STA. 122+50 TO STA. 123+25

PROJECT NAME: WARDBORO	
PROJECT NUMBER: BRF 013-1(15)	
FILE NAME: s92b283xsl.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: J. GRIFFIN
DESIGNED BY: J. GRIFFIN	CHECKED BY: D. PETERSON
VT 100 CROSS SECTIONS 4	SHEET 35 OF 51



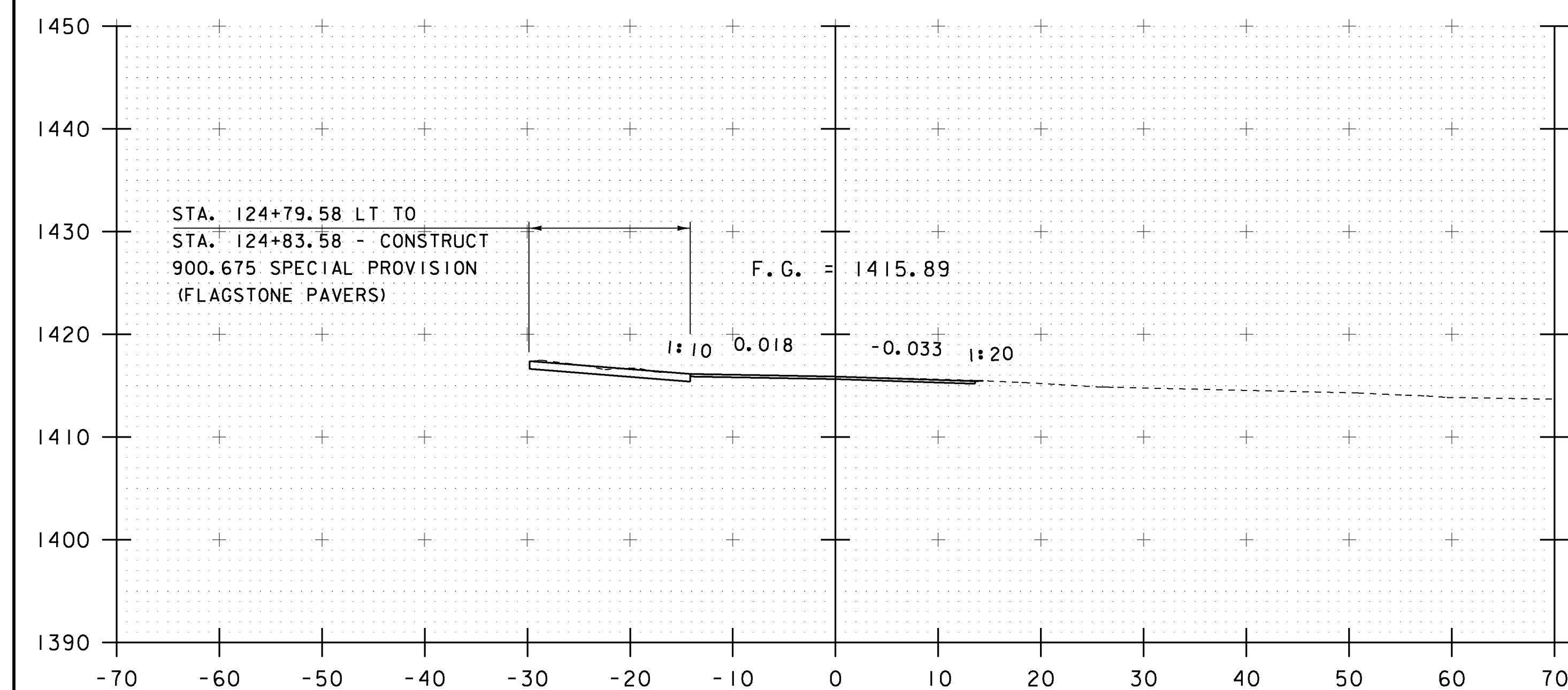


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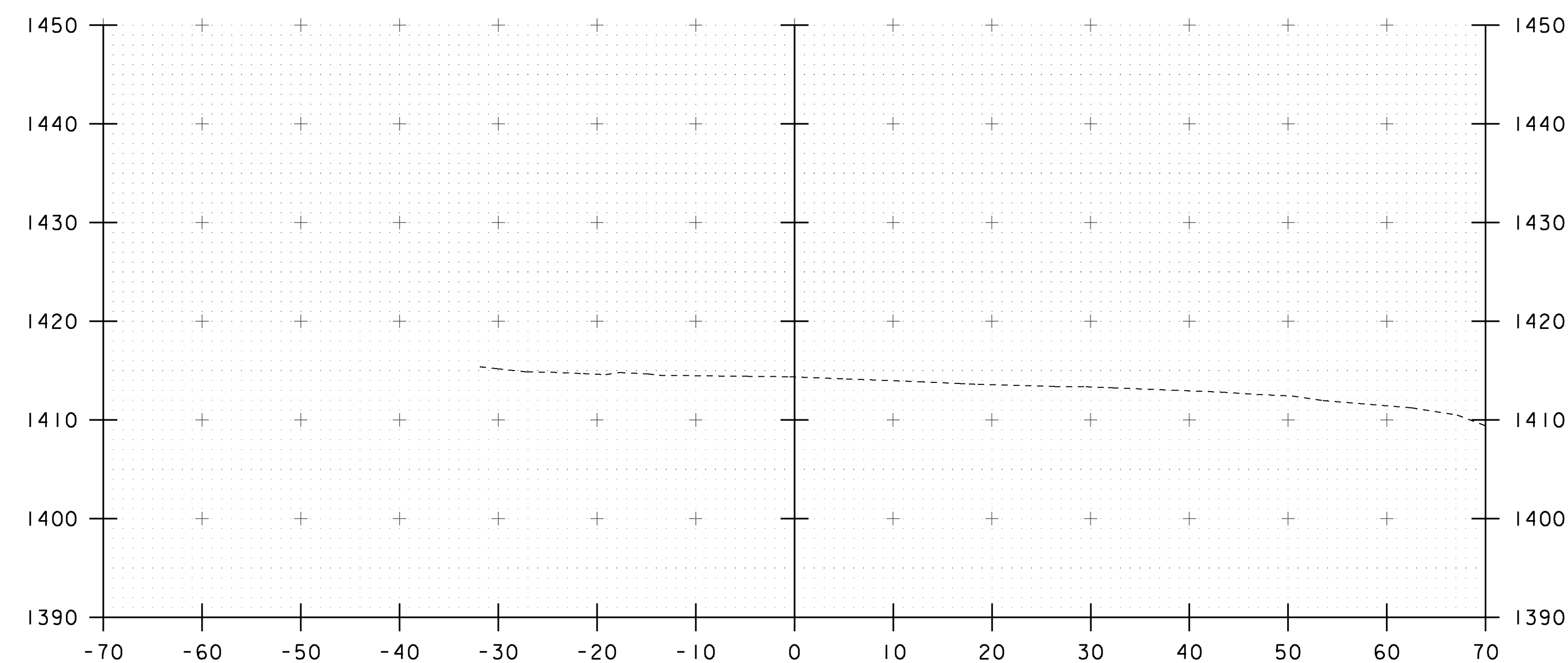
STA. 123+50 TO STA. 124+25

PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-1(15)
FILE NAME:	s92b283xsl.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	J. GRIFFIN
VT 100 CROSS SECTIONS 5	
PLOT DATE:	15-JUL-2015
DRAWN BY:	J. GRIFFIN
CHECKED BY:	D. PETERSON
SHEET	36 OF 51

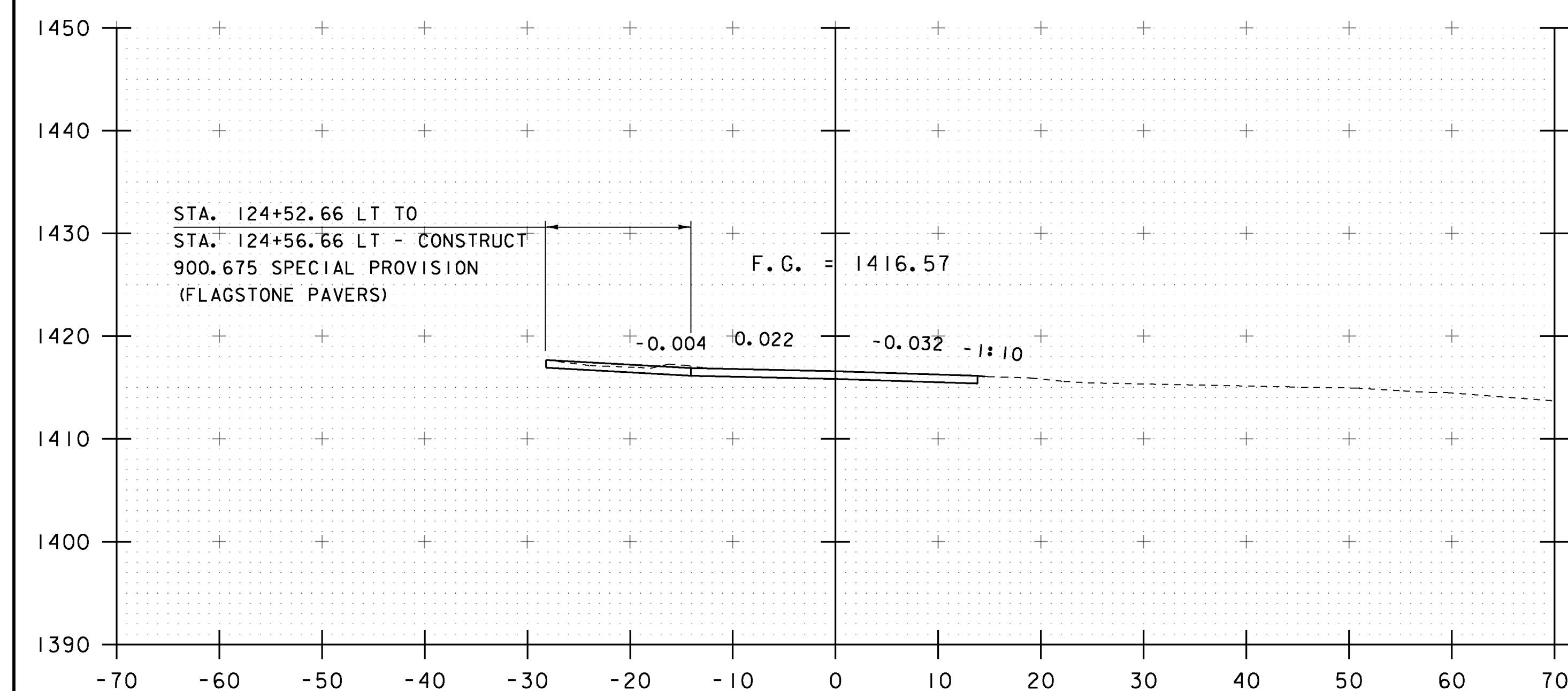




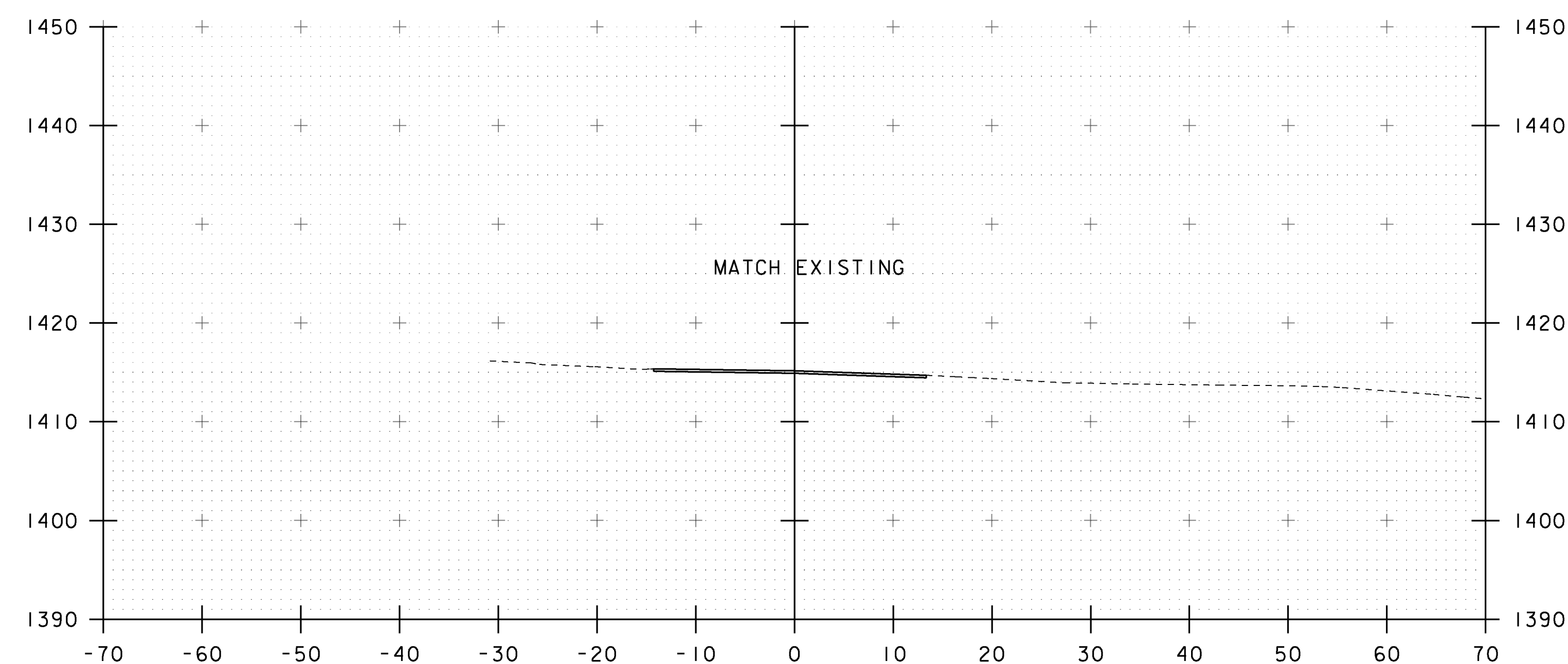
124+75



125+25



124+50

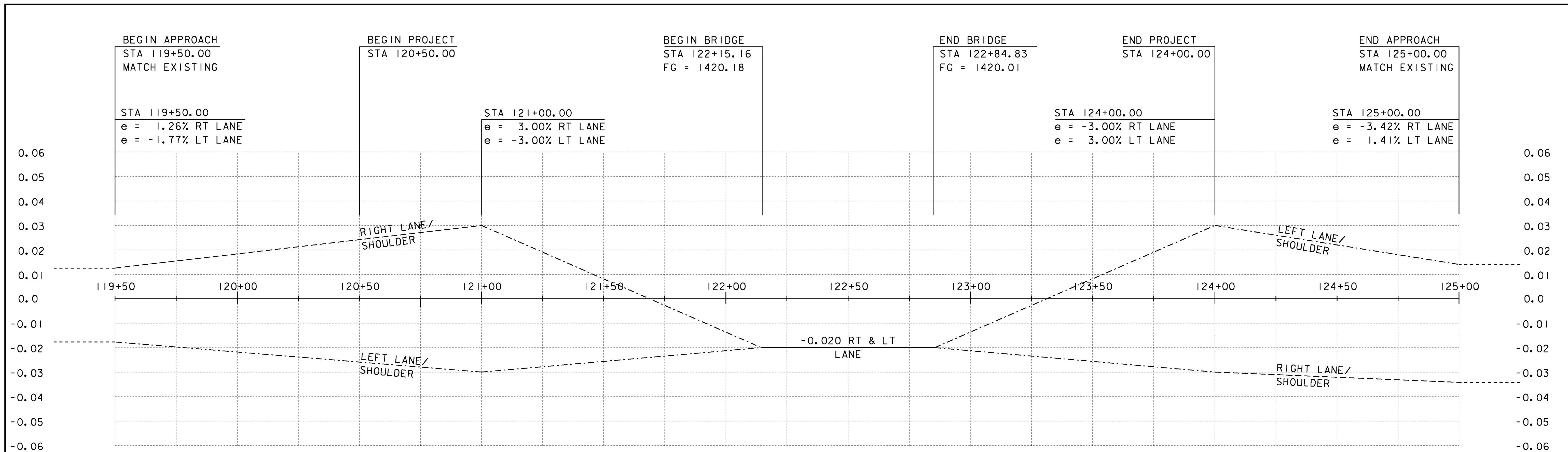


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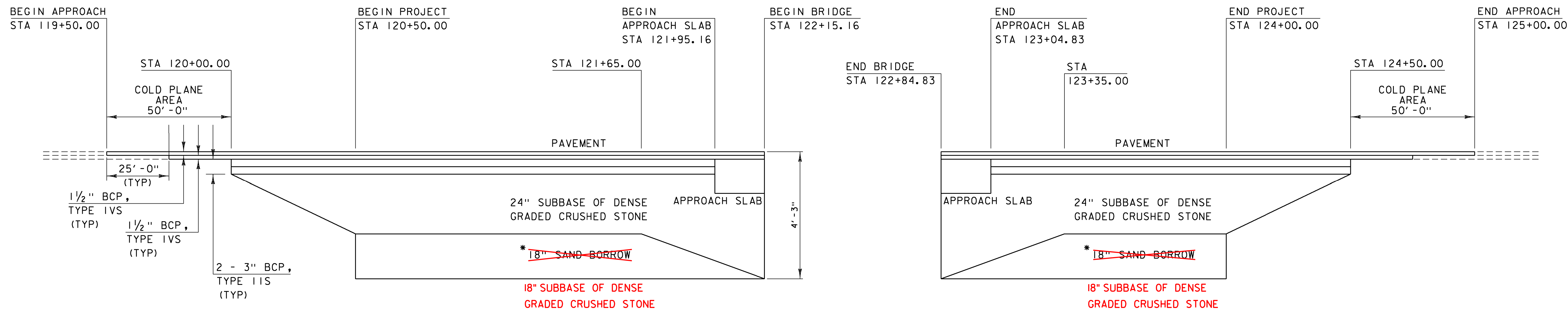
STA. 124+50 TO STA. 125+25

PROJECT NAME: WARDBORO	
PROJECT NUMBER: BRF 013-1(15)	
FILE NAME: s92b283xsl.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: J. GRIFFIN
DESIGNED BY: J. GRIFFIN	CHECKED BY: D. PETERSON
VT 100 CROSS SECTIONS 6	SHEET 37 OF 51





**BANKING DIAGRAM**  
HORIZONTAL SCALE 1" = 20'-0"  
NO VERTICAL SCALE

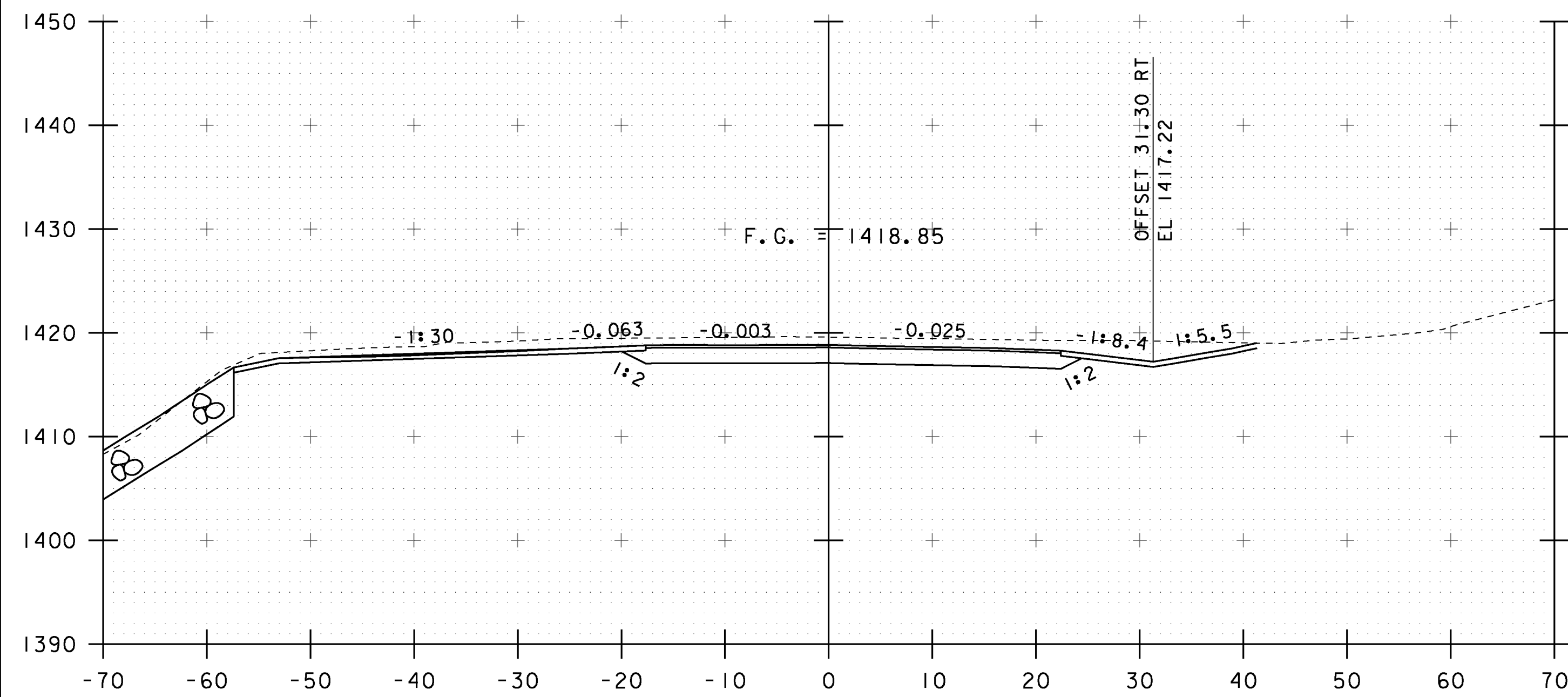


**MATERIAL TRANSITION**  
HORIZONTAL SCALE 1" = 20'-0"  
NO VERTICAL SCALE

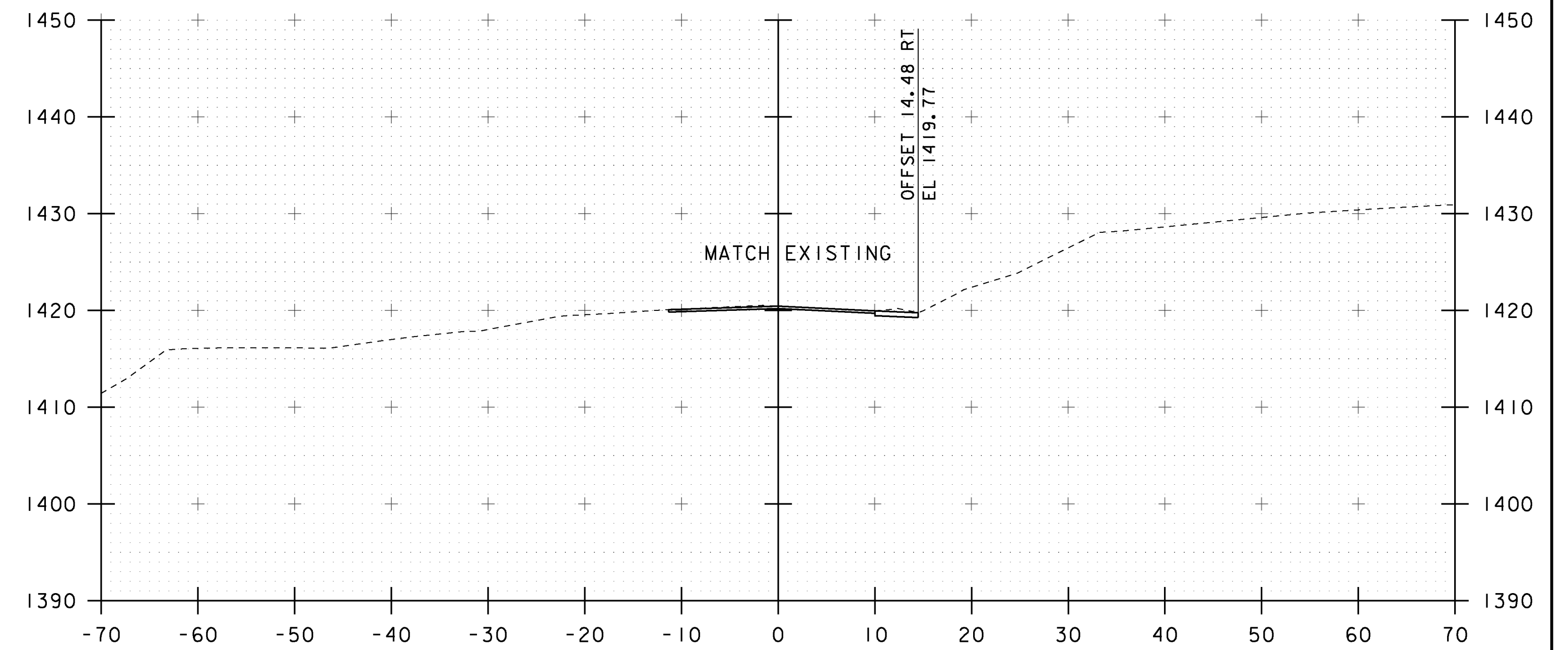
*SEE PROJECT NOTE 5 ON SHEET 5

PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BRF 013-1(I5)	
FILE NAME: s92b283xsl.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
BANKING / MATERIAL TRANSITION	SHEET 38 OF 51

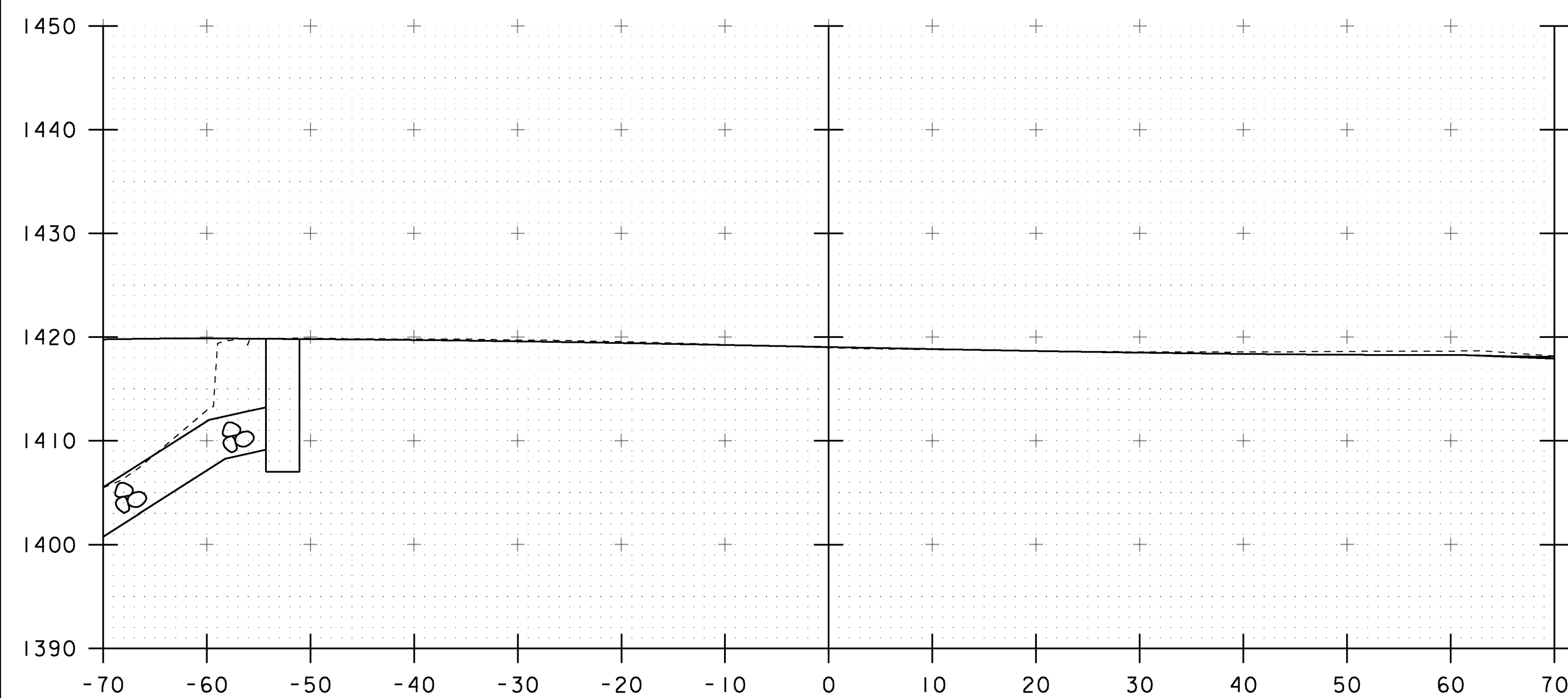




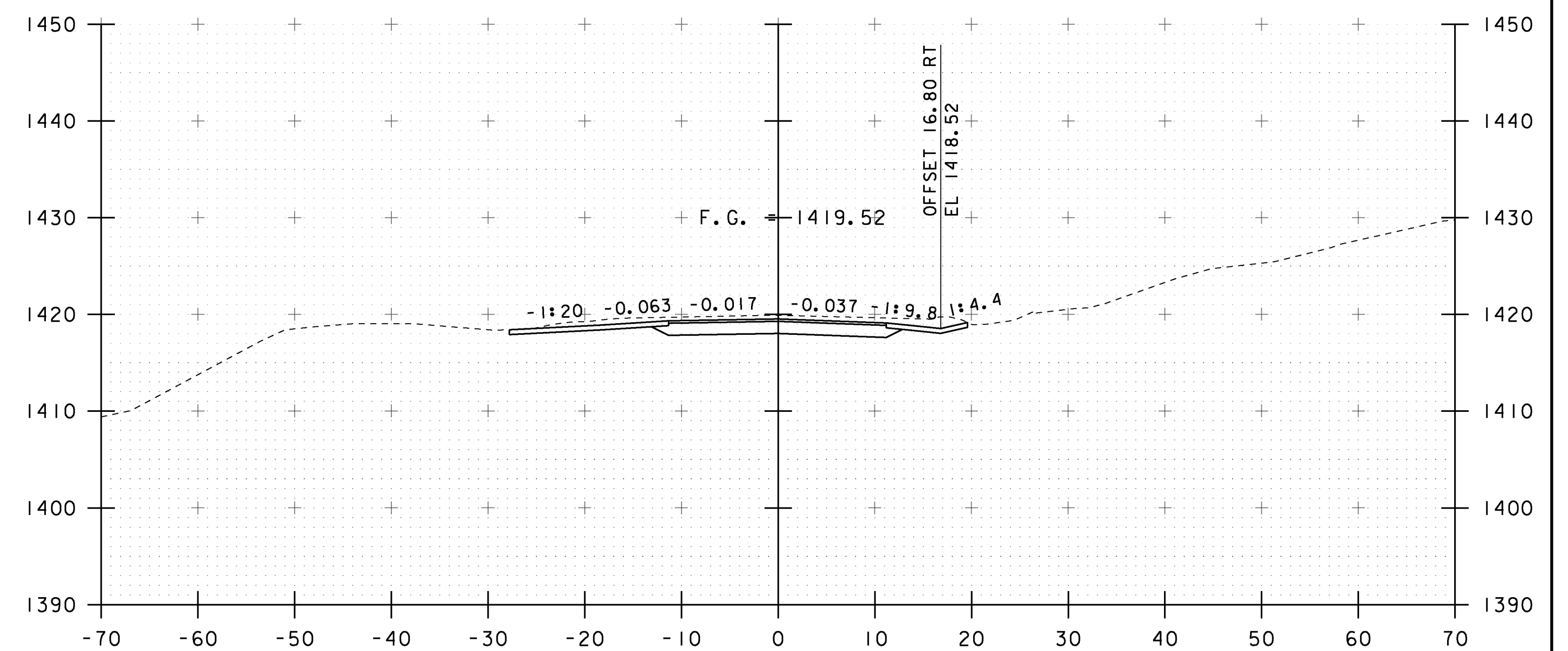
10+25



10+75



10+00



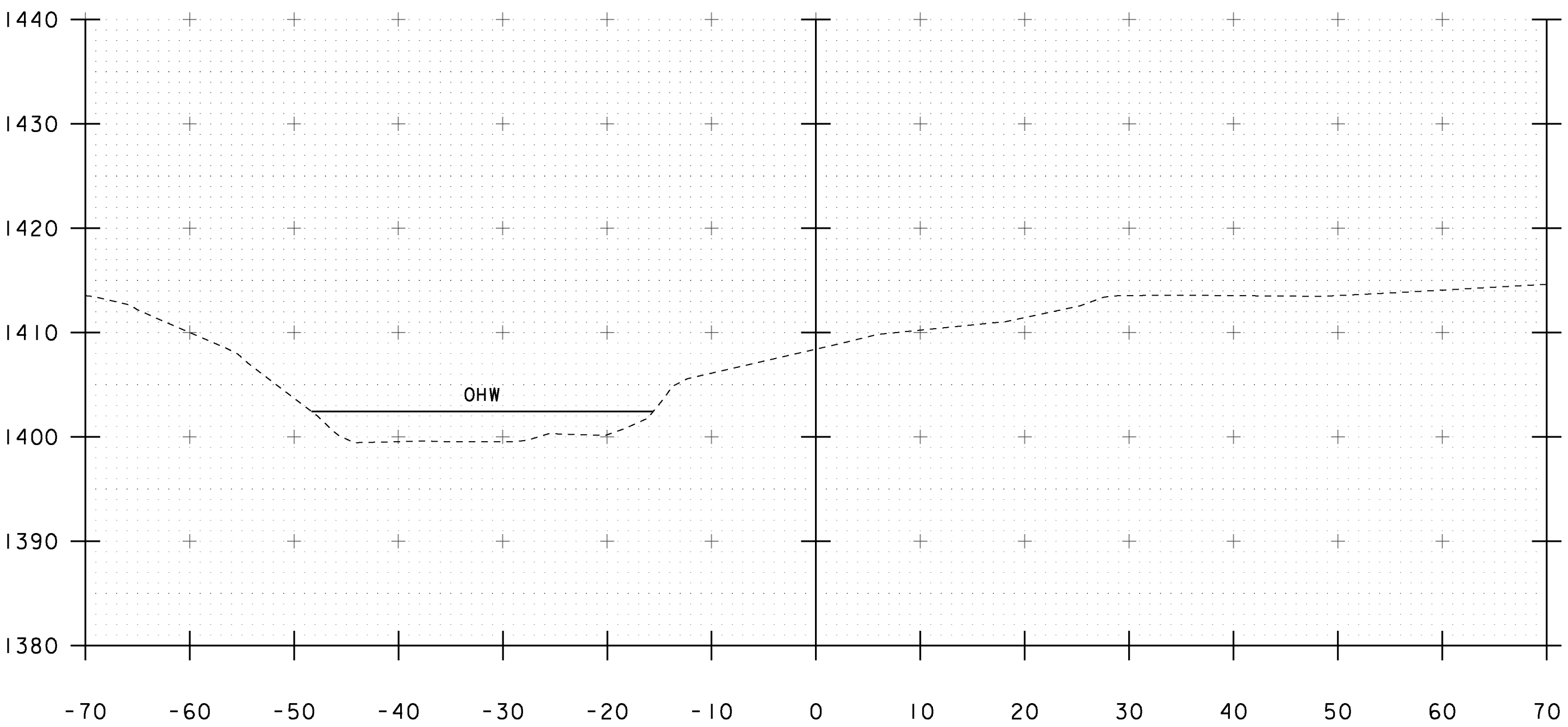
10+50

PROJECT NAME: WARDBORO	
PROJECT NUMBER: BRF 013-1(15)	
FILE NAME: s92b283xsl.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: J. GRIFFIN
DESIGNED BY: J. GRIFFIN	CHECKED BY: D. PETERSON
TOWN HIGHWAY 7 CROSS SECTIONS	SHEET 39 OF 51

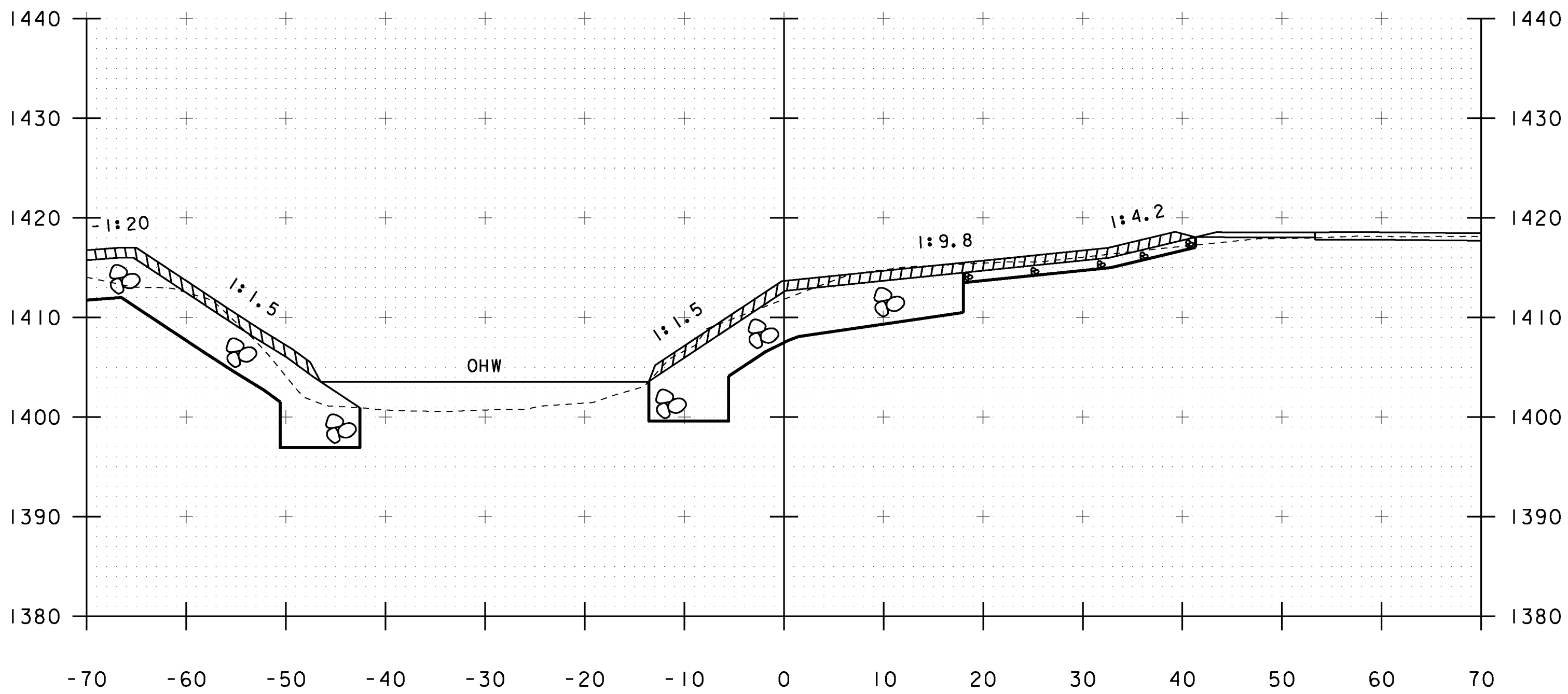
STA. 10+00 TO STA. 10+75



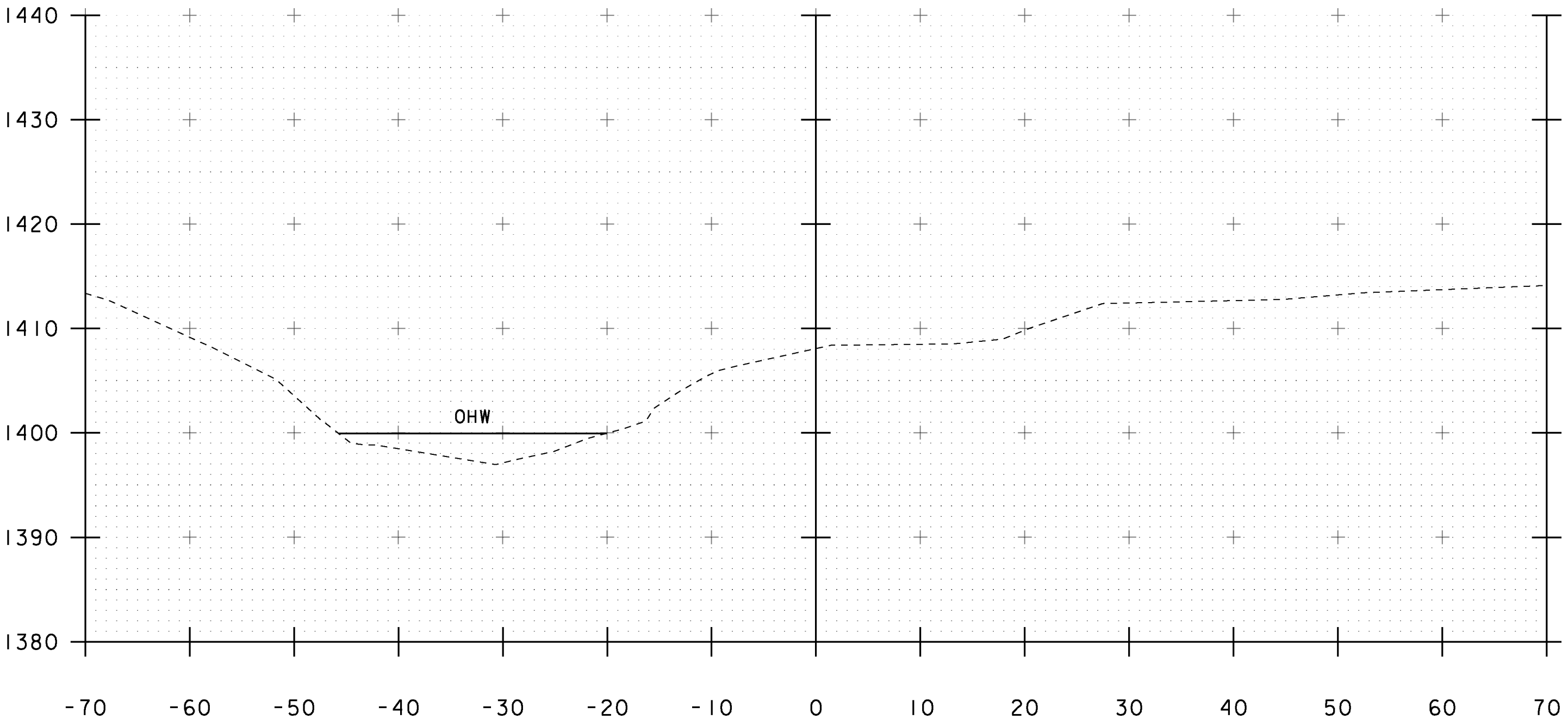
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GEOTEXTILE UNDER STONE FILL,  
STONE FILL TYPE IV,  
GRUBBING MATERIAL.



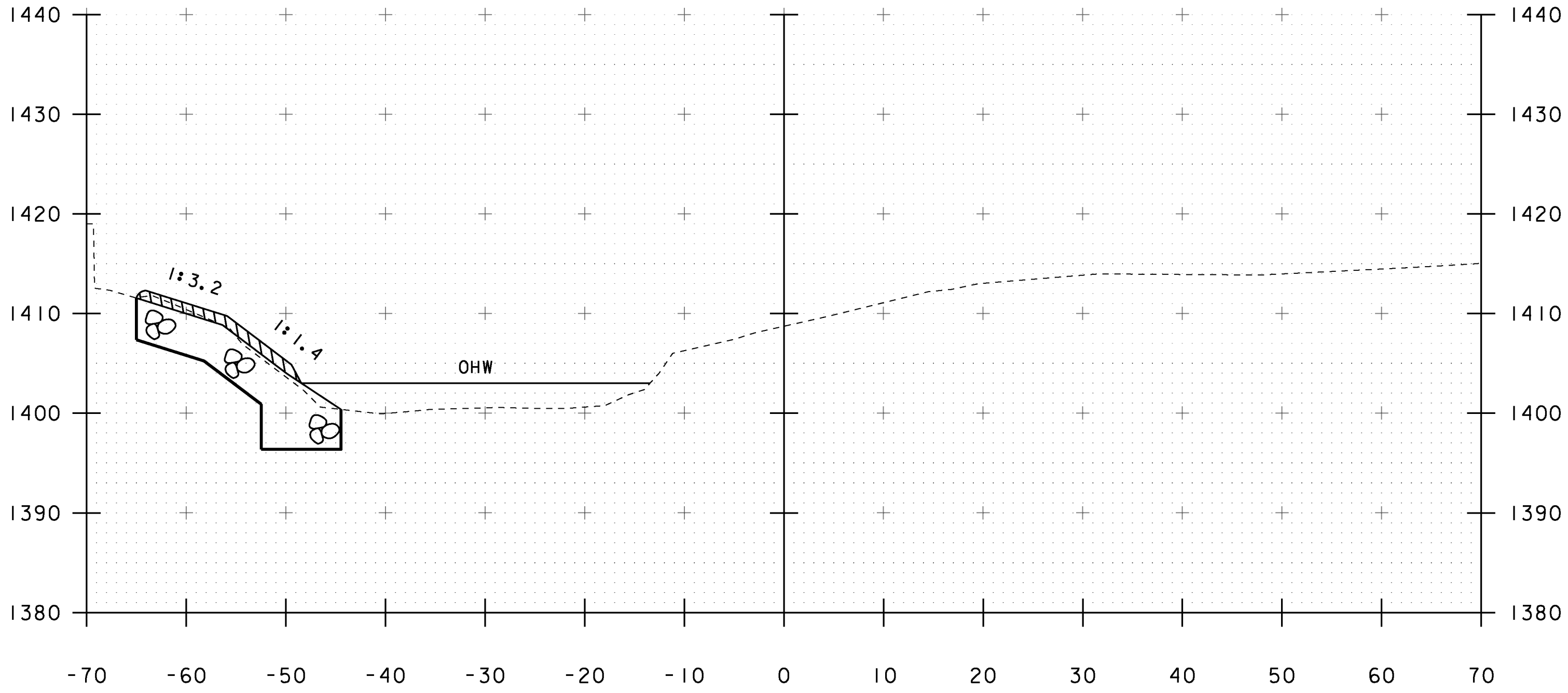
50+90



51+25



50+75



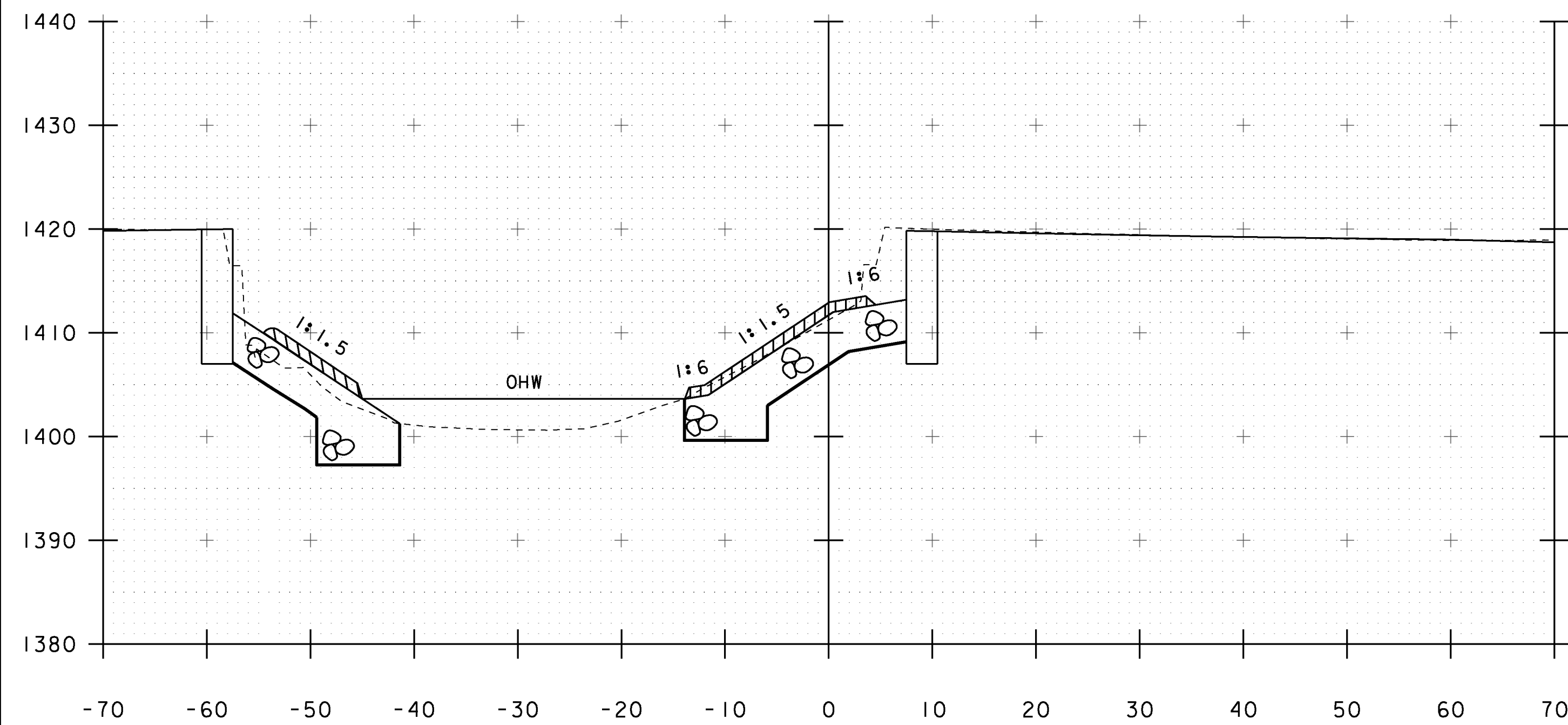
51+00

STA 50+90.83 LT  
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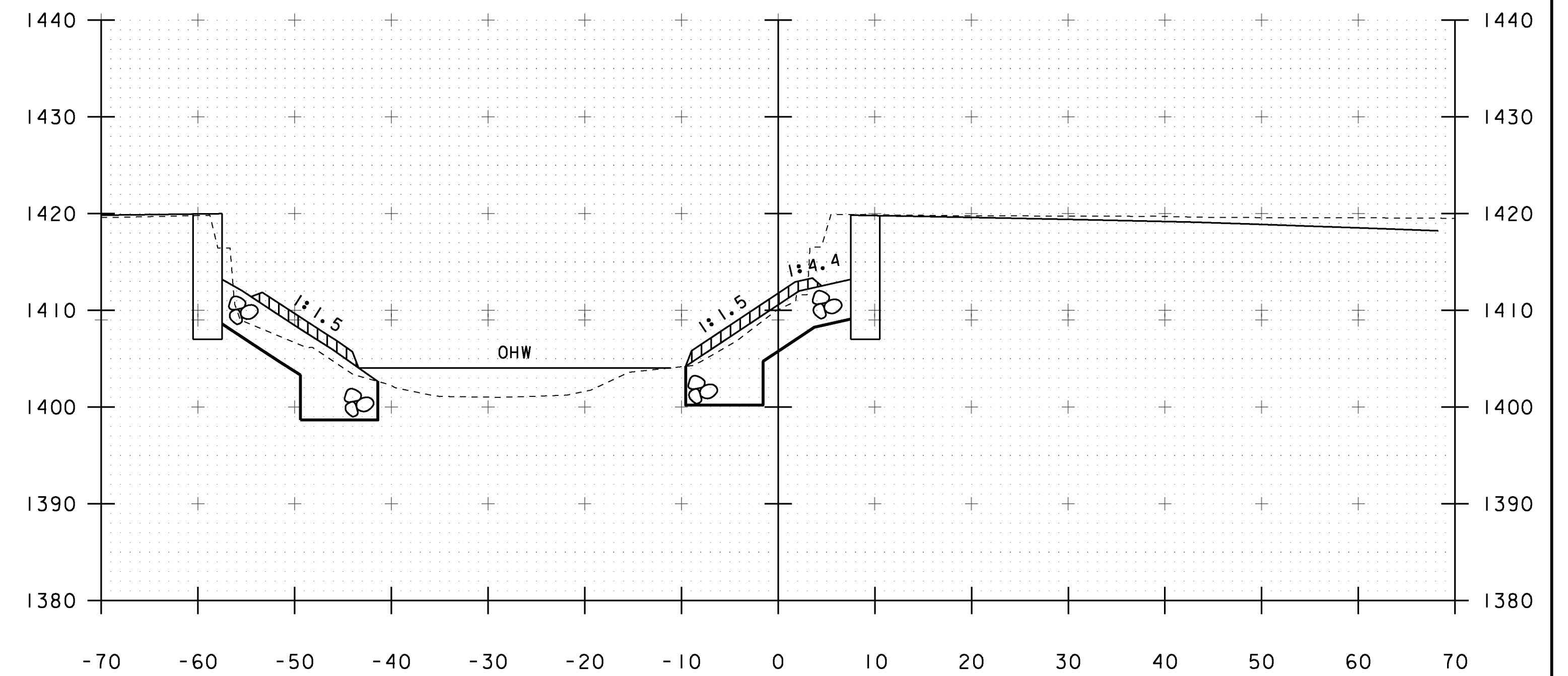
STA. 50+75 TO STA. 51+25

PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-1(15)
FILE NAME:	s92b283xsl.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	J. GRIFFIN
CHANNEL CROSS SECTIONS:	1
PLOT DATE:	15-JUL-2015
DRAWN BY:	J. GRIFFIN
CHECKED BY:	D. PETERSON
SHEET	40 OF 51

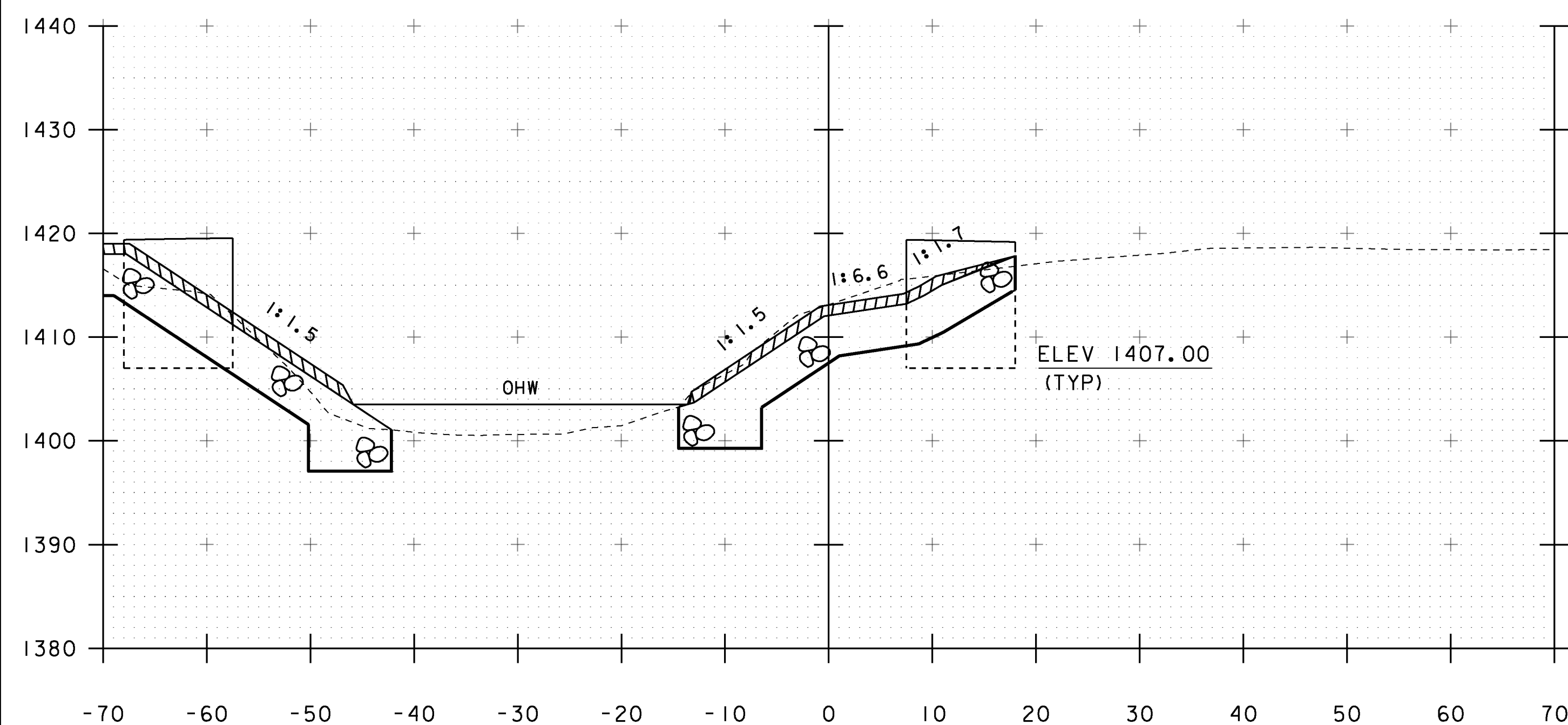




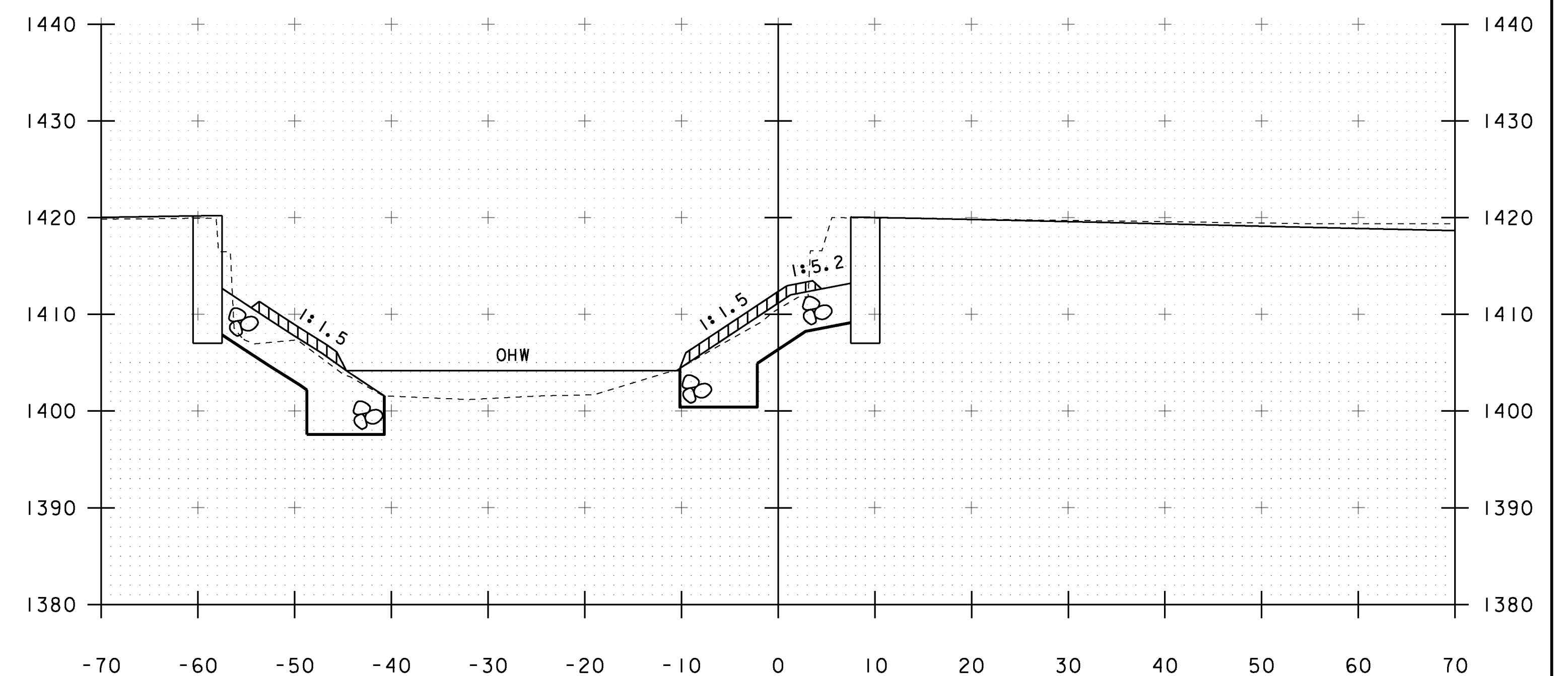
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51+60



51+30

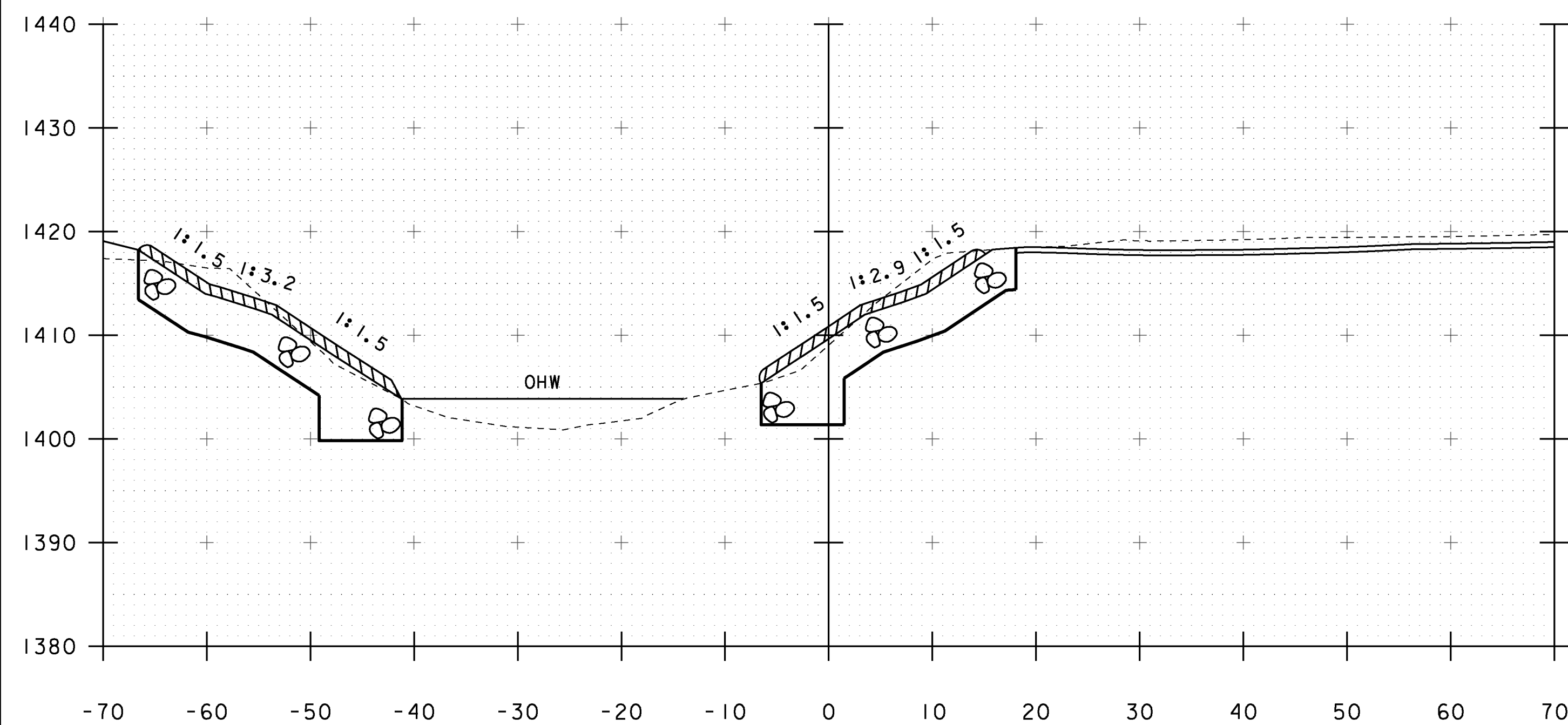


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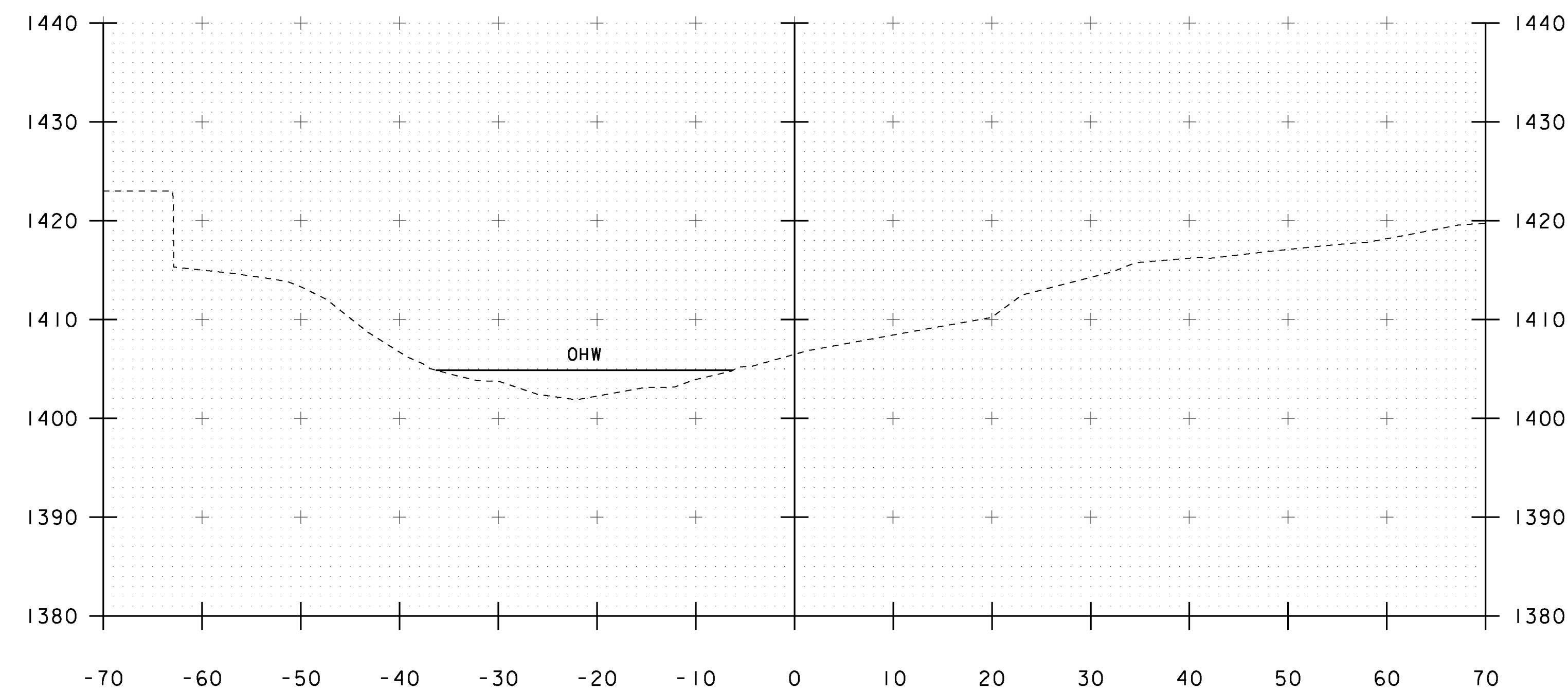
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PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-1(15)
FILE NAME:	s92b283xsl.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	J. GRIFFIN
CHANNEL CROSS SECTIONS 2	
PLOT DATE:	15-JUL-2015
DRAWN BY:	J. GRIFFIN
CHECKED BY:	D. PETERSON
SHEET	41 OF 51

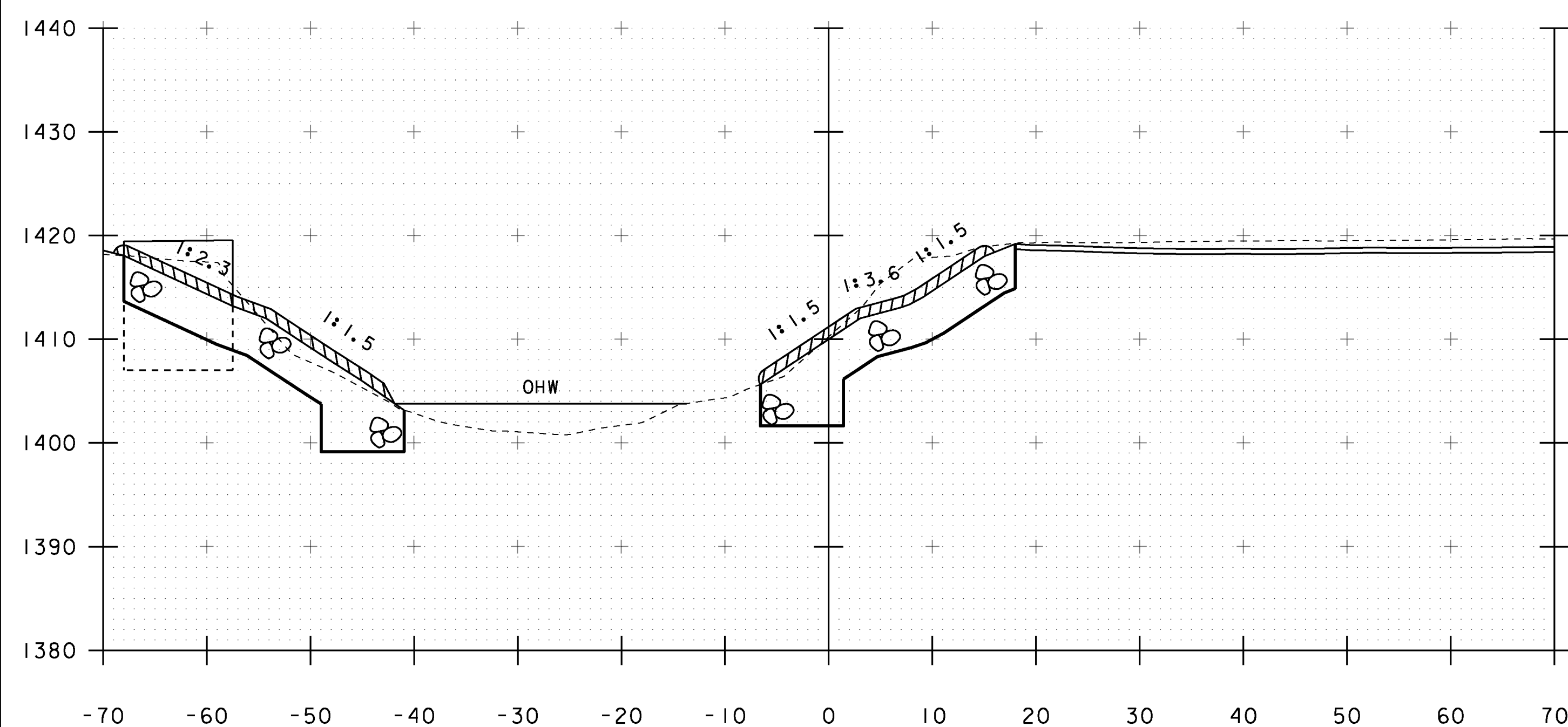




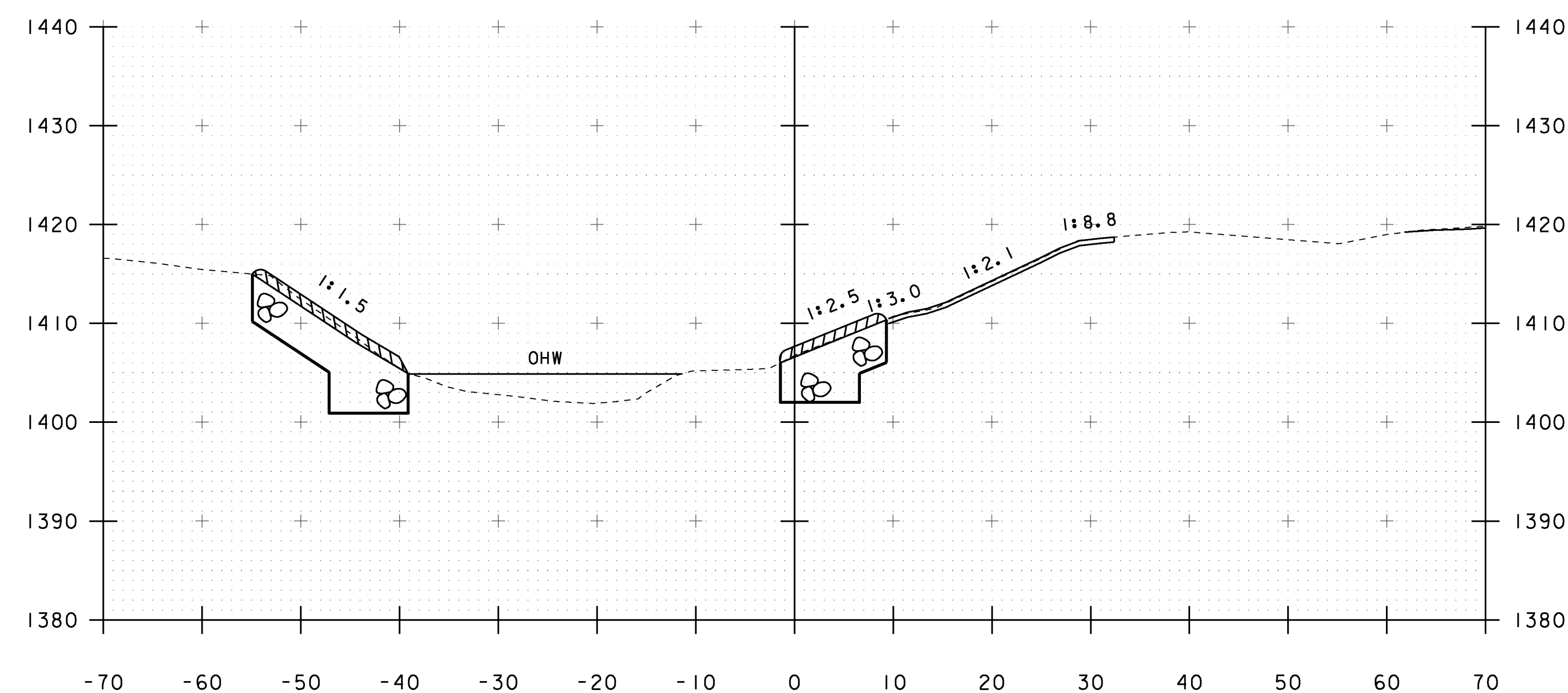
51+75



52+25



51+70



52+05

STA 52+05.00 LT-RT  
END UNCLASSIFIED CHANNEL EX,  
GEOTEXTILE UNDER STONE FILL,  
STONE FILL TYPE IV,  
GRUBBING MATERIAL,

STA. 51+70 TO STA. 52+25

PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-I(15)
FILE NAME:	s92b283xsl.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	J. GRIFFIN
CHANNEL CROSS SECTIONS	3
PLOT DATE:	15-JUL-2015
DRAWN BY:	J. GRIFFIN
CHECKED BY:	D. PETERSON
SHEET	42 OF 51



EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF BRIDGE NO. 68 ON EXISTING ALIGNMENT ALONG WITH RELATED ROADWAY APPROACH AND CHANNEL WORK. BRIDGE NO. 68 WILL BE REPLACED WITH A ROLLED STEEL BEAM BRIDGE, SPANNING 69.66 FEET OVER WARDSBORO BROOK ON NEW SUBSTRUCTURE ALONG THE SAME ALIGNMENT. THE PROJECT IS LOCATED IN THE TOWN OF WARDSBORO ON VT ROUTE 100, AND BEGINS APPROXIMATELY 50 FEET SOUTH OF THE INTERSECTION OF VT 100 AND TH 6 AND EXTENDS NORTHERLY ALONG VT 100 FOR 350 FEET.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.74 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON WITH THE CONTRACTOR HAVING THE OPTION TO INSTALL THE TEMPORARY BRIDGE DURING THE WINTER PRIOR TO THE CONSTRUCITON SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS A SADDLE THAT IS MOSTLY WELL ESTABLISHED FOREST WITH OCCASIONAL OPEN AREAS. VT ROUTE 100, CROSS ROAD (TH 46), SMEAD ROAD (TH 6), NEWELL HILL ROAD (TH 7), A PAVED DRIVEWAY AND A GRAVEL DRIVE ARE WITHIN THE PROJECT SITE. THERE IS A RESIDENCE ON THE SOUTH WEST SIDE, A BARN ON THE SOUTH EAST SIDE, A GARAGE ON THE NORTH EAST SIDE AND A HOUSE ON THE NORTH WEST SIDE OF THE PROJECT.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE WARDSBORO BROOK AND THE DOVER BROOK FEEDING INTO IT ARE THE WATER SOURCES ON THE PROJECT SITE. DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE COULD RECEIVE RUNOFF WATER FROM A FEW NEARBY SLOPES.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING BRIDGE. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE IV AS SPECIFIED ON THE PLANS. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WINDHAM, VERMONT. SOILS ON THE PROJECT SITE ARE COLTON LOAMY FINE SAND WITH 8% TO 15% SLOPES, “K FACTOR” = 0.17. THE SOIL IS CONSIDERED SLIGHTLY ERODIBLE DUE TO THE SLOPES.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:  
0.0-0.23 = LOW EROSION POTENTIAL  
0.24-0.36 = MODERATE EROSION POTENTIAL  
0.37 AND HIGHER = HIGH EROSION POTENTIAL

1.2.5 SENSITIVE RESOURCE AREAS  
CRITICAL HABITATS: YES, IN STREAM  
HISTORICAL OR ARCHEOLOGICAL AREAS: YES ADJACENT TO THE FILL SLOPES  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: NO  
WATER RESOURCE: WARDSBORO BROOK & DOVER BROOK  
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OR DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

1.4.2 LIMIT DISTURBANCE AREA  
PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

1.4.3 SITE ENTRANCE/EXIT STABILIZATION  
TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTOR’S PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

1.4.4 INSTALL SEDIMENT BARRIERS  
SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE, WOVEN WIRE REINFORCED IS NOT USED ON THIS PROJECT.

FILTER CURTAIN SHALL BE INSTALLED AS SHOWN IN THE PLANS.

1.4.5 SLOW DOWN CHANNELIZED RUNOFF  
CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSION POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS. STONE CHECK DAMS AND INLET PROTECTION DEVICES WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

1.4.6 STABILIZE EXPOSED SOILS DURING CONSTRUCTION  
DISTURBED AREAS AND SOIL STOCKPILES THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS SHALL BE TEMPORARILY STABILIZED WITH SEED AND MULCH/RECP WITHIN 48 HOURS.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.7 WINTER STABILIZATION  
IF VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15), REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE. PROJECT IS ANTICIPATED TO REQUIRE WINTER STABILIZATION MEASURES.

1.4.8 STABILIZE SOIL AT FINAL GRADE  
EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.9 DE-WATERING ACTIVITIES  
DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS. DEWATERING IS NOT ANTICIPATED ON THIS PROJECT.

1.4.10 INSPECT YOUR SITE  
INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

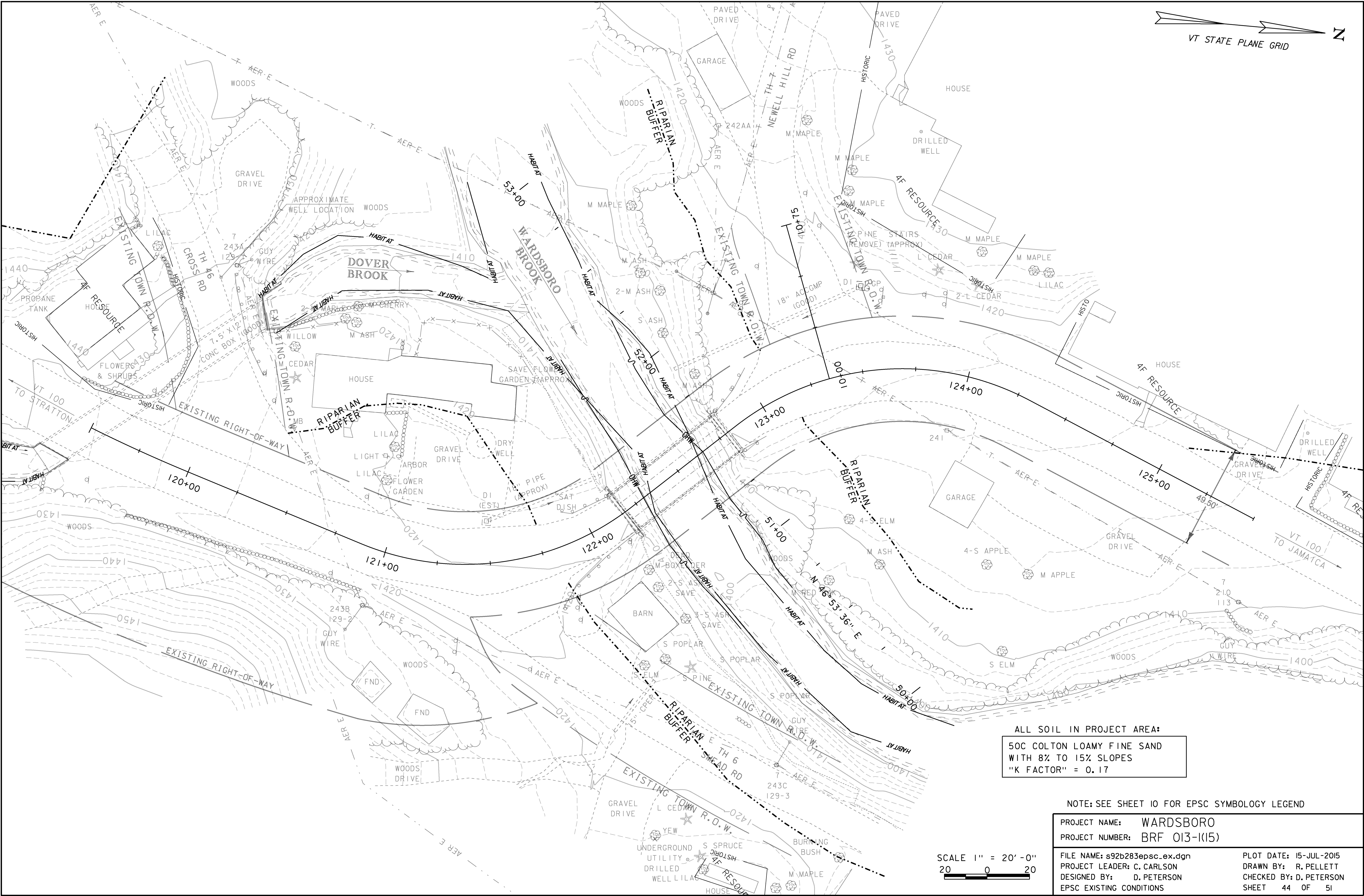
1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

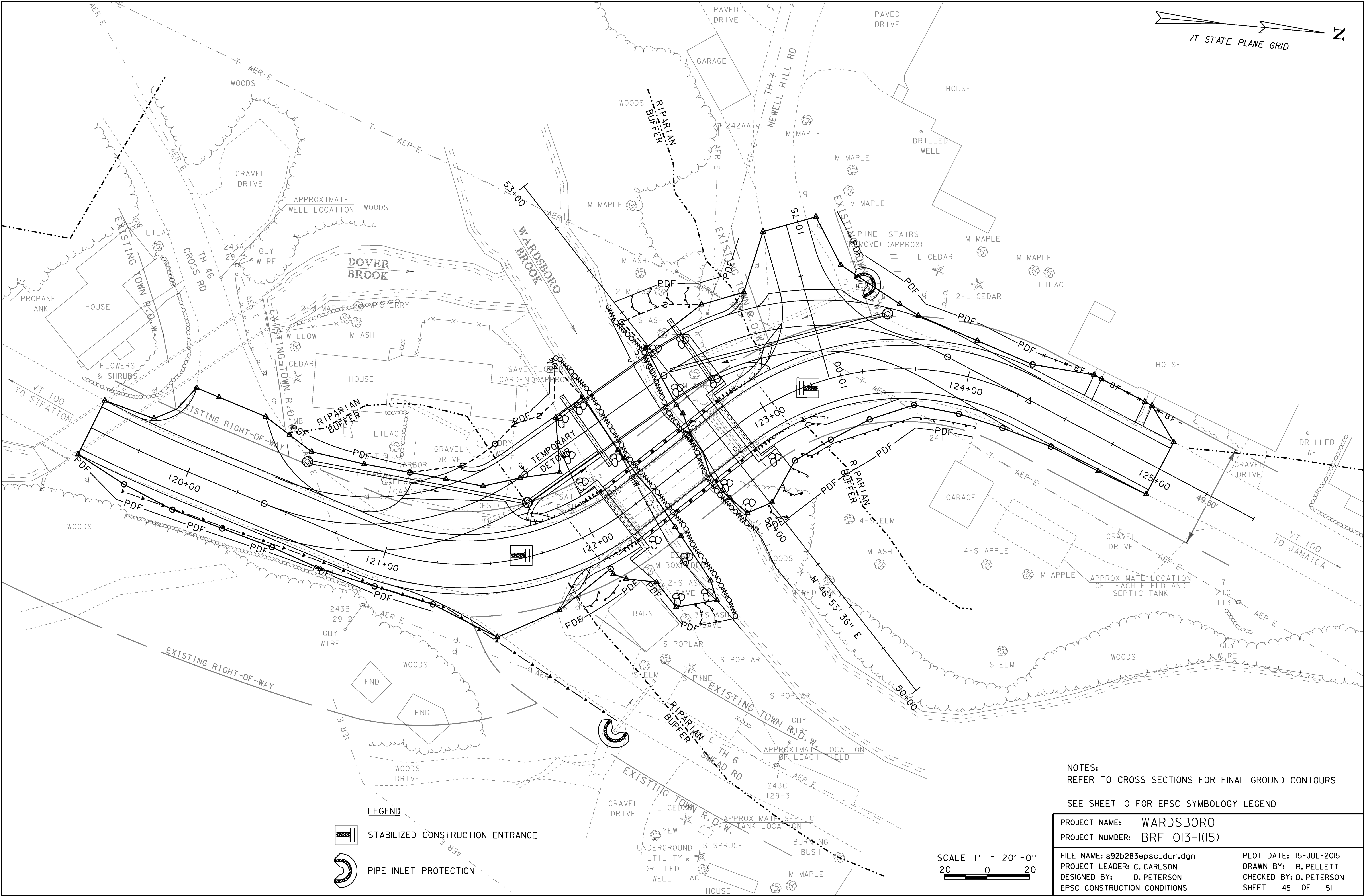
1.5.2 OFF-SITE ACTIVITIES  
IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BRF 013-I(15)	
FILE NAME: s92b283epsc_nar.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
EPSC NARRATIVE	SHEET 43 OF 51

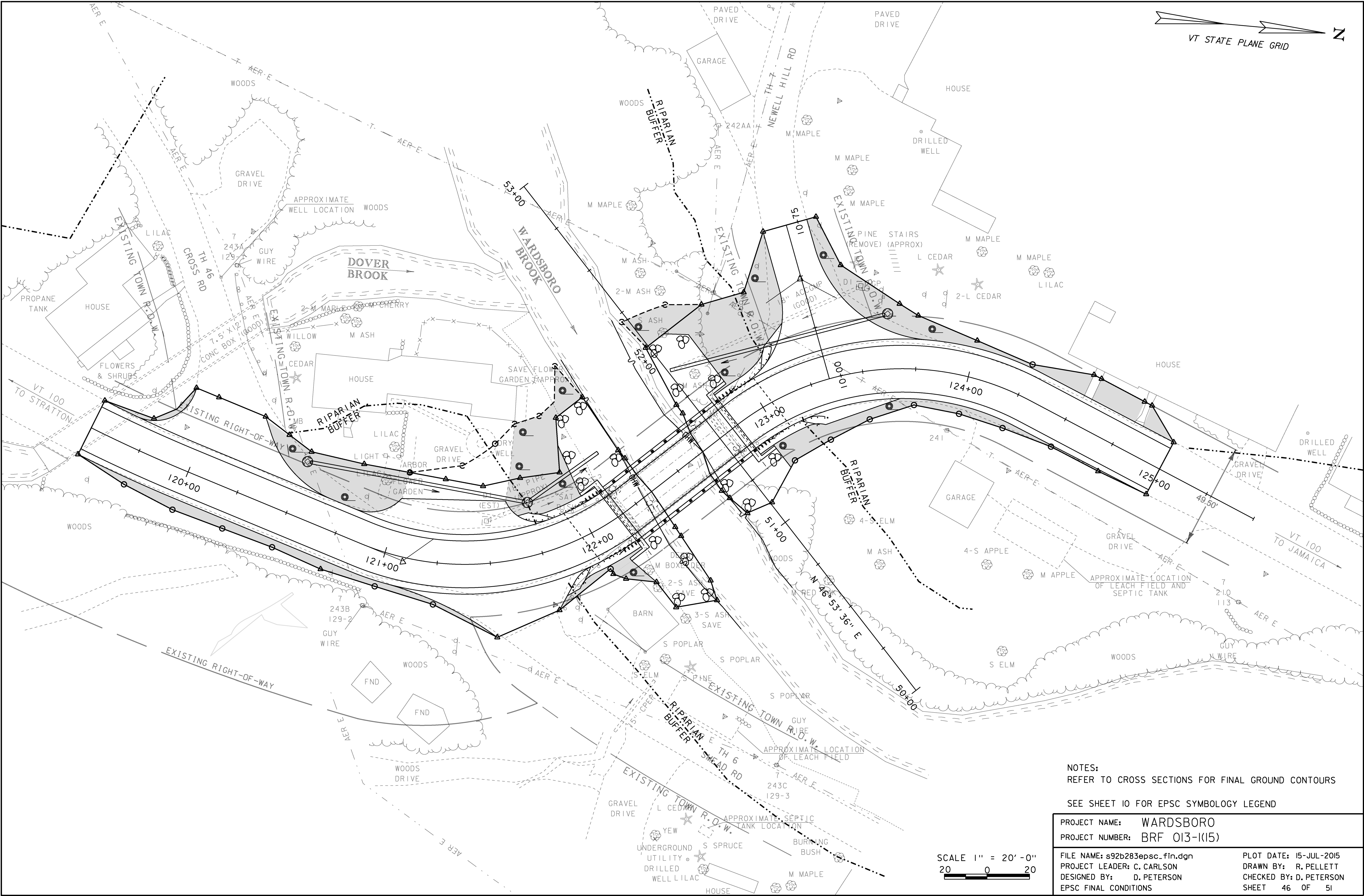








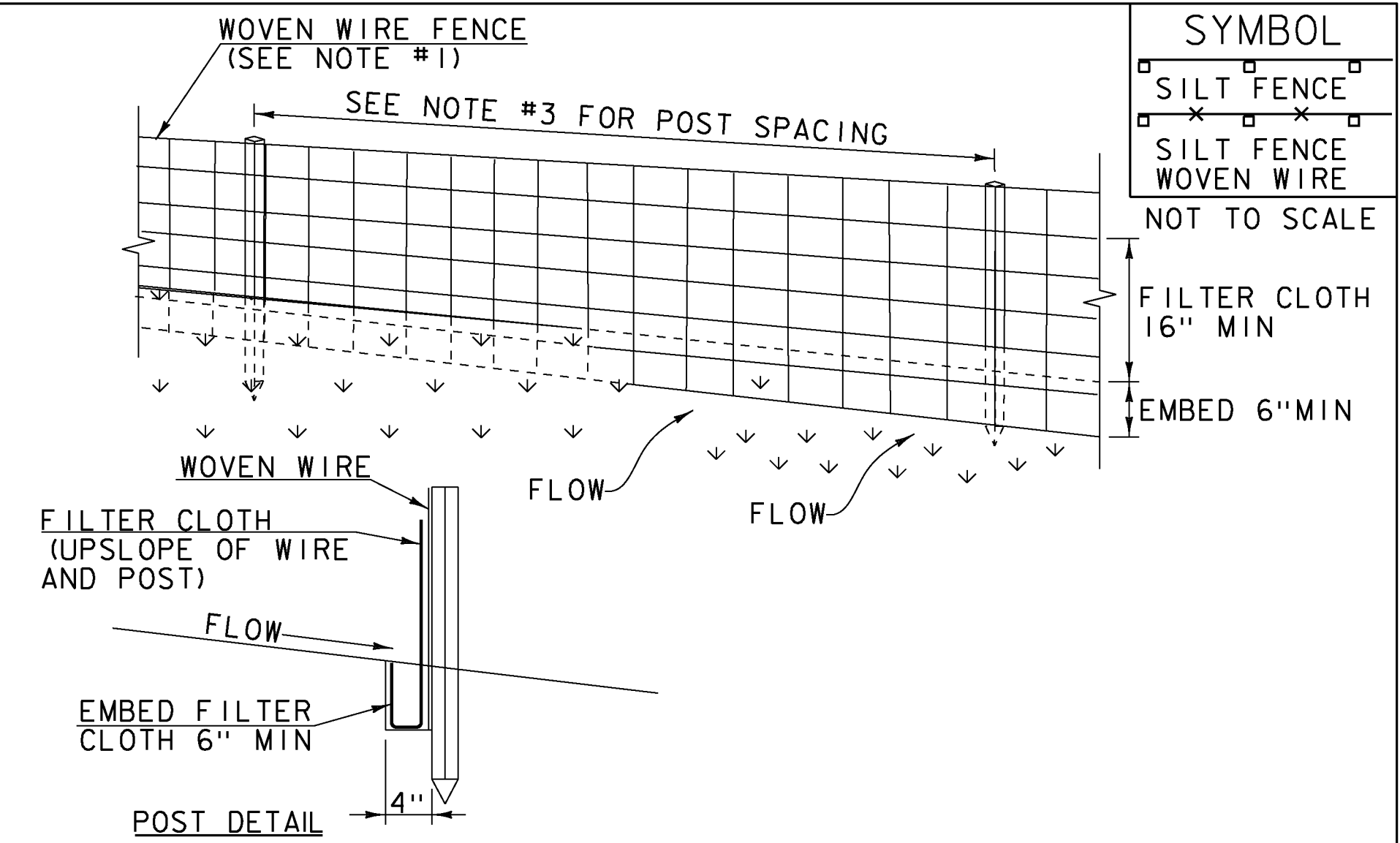




NOTES:  
REFER TO CROSS SECTIONS FOR FINAL GROUND CONTOURS  
SEE SHEET 10 FOR EPSC SYMBOLOGY LEGEND

PROJECT NAME:	WARDSBORO
PROJECT NUMBER:	BRF 013-1(15)
FILE NAME:	s92b283epsc.fin.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	D. PETERSON
EPSC FINAL CONDITIONS	
PLOT DATE:	15-JUL-2015
DRAWN BY:	R. PELLETT
CHECKED BY:	D. PETERSON
SHEET	46 OF 51





1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAF1100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

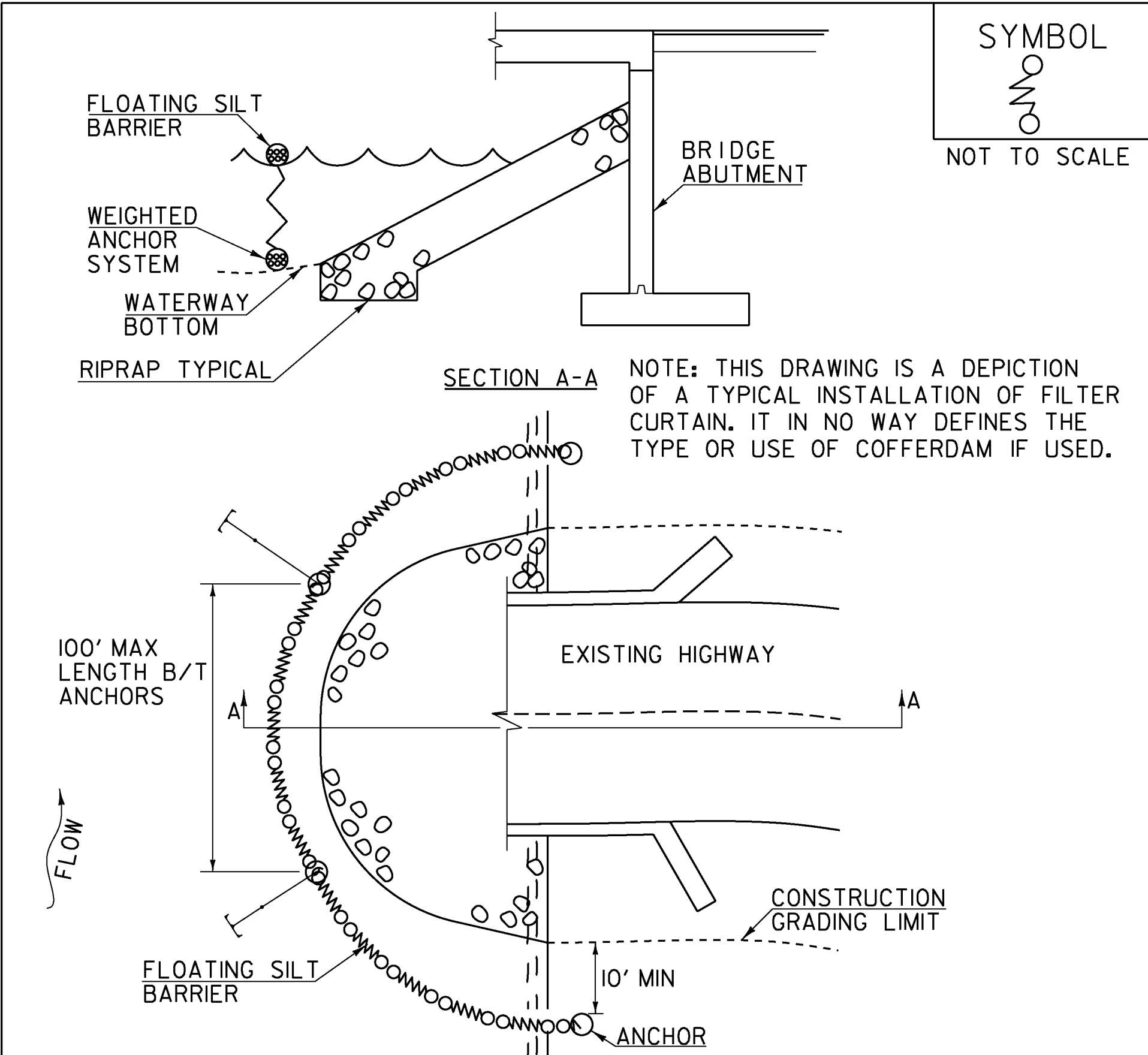
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

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



1. FILTER CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FEET/SECOND.
2. MAXIMUM 100' LENGTH BETWEEN ANCHORS.
3. LAST SECTION SHALL TERMINATE A MINIMUM OF 10' BEYOND LIMIT OF DISTURBANCE.
4. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE WHICH ALLOWS THE CURTAIN TO CONFORM TO THE BOTTOM OF THE WATERWAY.
5. THE CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE MINIMIZING THE ESCAPE OF SEDIMENTS INTO WATERWAY.

FILTER CURTAIN

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.61).

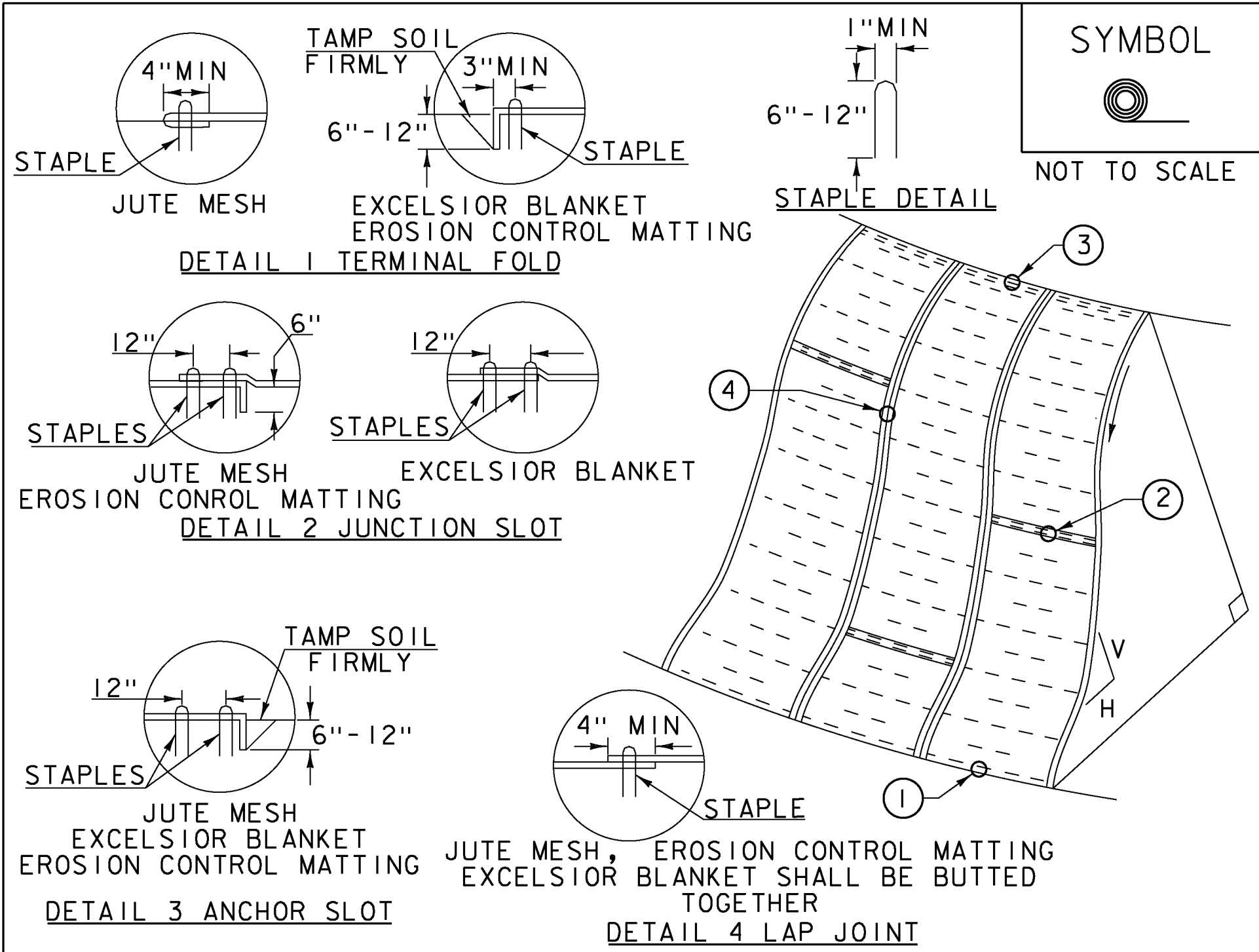
REVISIONS		
APRIL 1, 2008	WHF	
JANUARY 13, 2009	WHF	
SEPTEMBER 4, 2009	WHF	

PROJECT NAME: WARDSBORO  
PROJECT NUMBER: BRF 013-1(15)

FILE NAME: s92b283epsc_details.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: D. PETERSON  
EPSC DETAILS I

PLOT DATE: 15-JUL-2015  
DRAWN BY: R. PELLETT  
CHECKED BY: D. PETERSON  
SHEET 47 OF 51

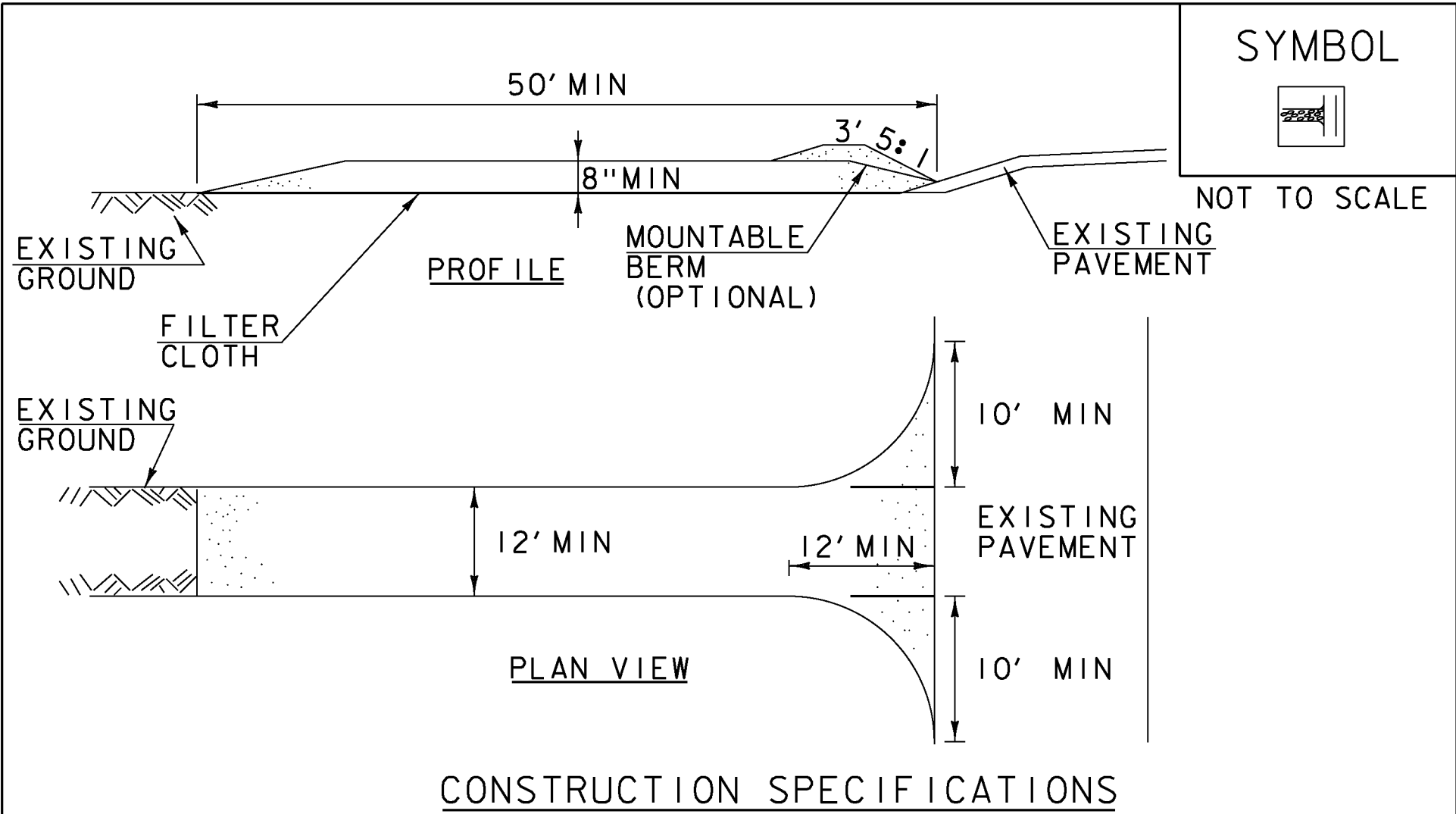




CONSTRUCTION SPECIFICATIONS

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

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



CONSTRUCTION SPECIFICATIONS

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

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

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

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

GENERAL AMENDMENT GUIDANCE

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

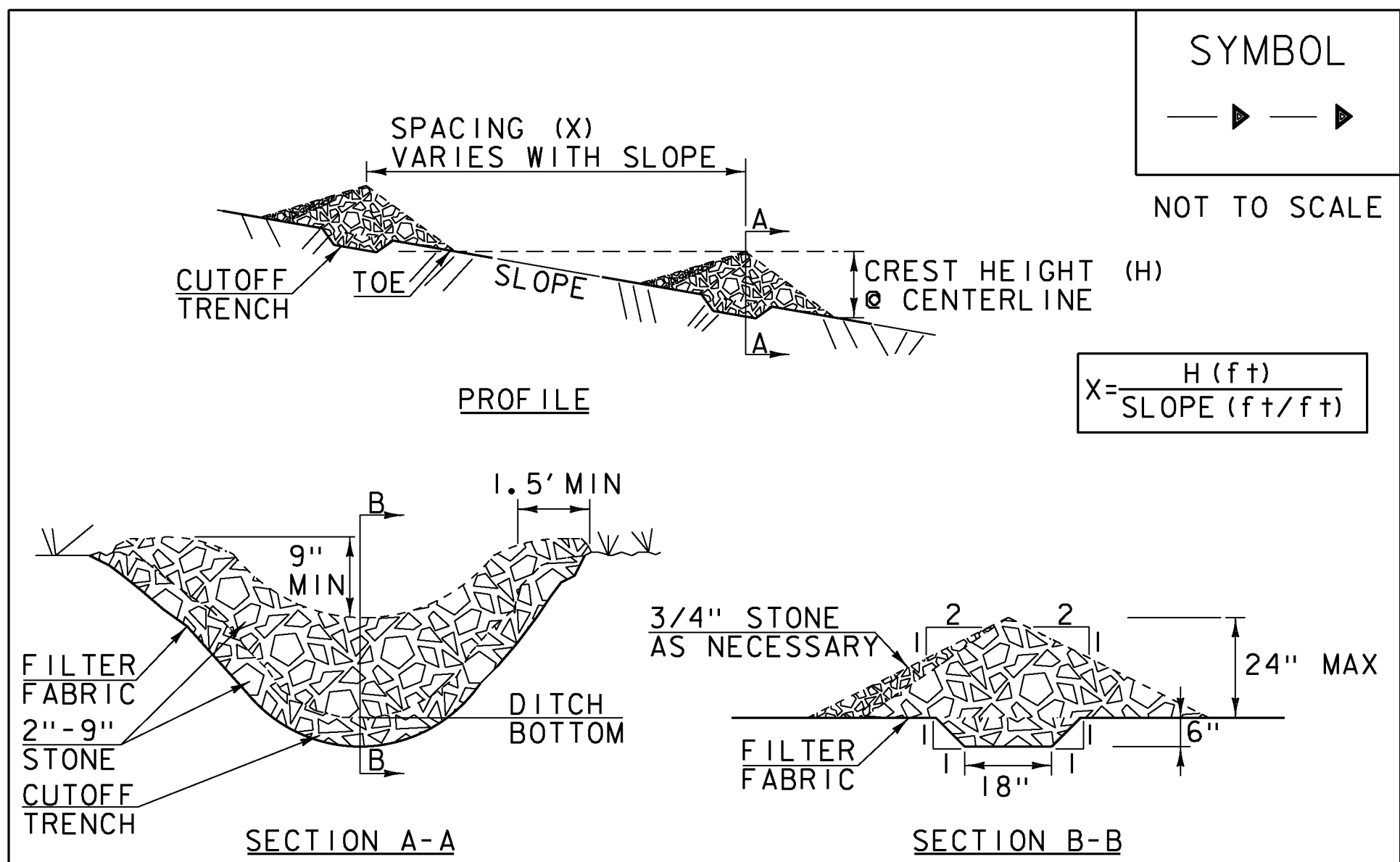
CONSTRUCTION GUIDANCE

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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES	TURF ESTABLISHMENT
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.5)	
REVISIONS JANUARY 12, 2015 WHF	

PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BRf 013-1(15)	
FILE NAME: s92b283epsc_details.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
EPSC DETAILS 2	SHEET 48 OF 51





CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
4. EXTEND THE STONE A MINIMUM OF 1.5' BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA 2 ACRES.

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

CHECK DAM

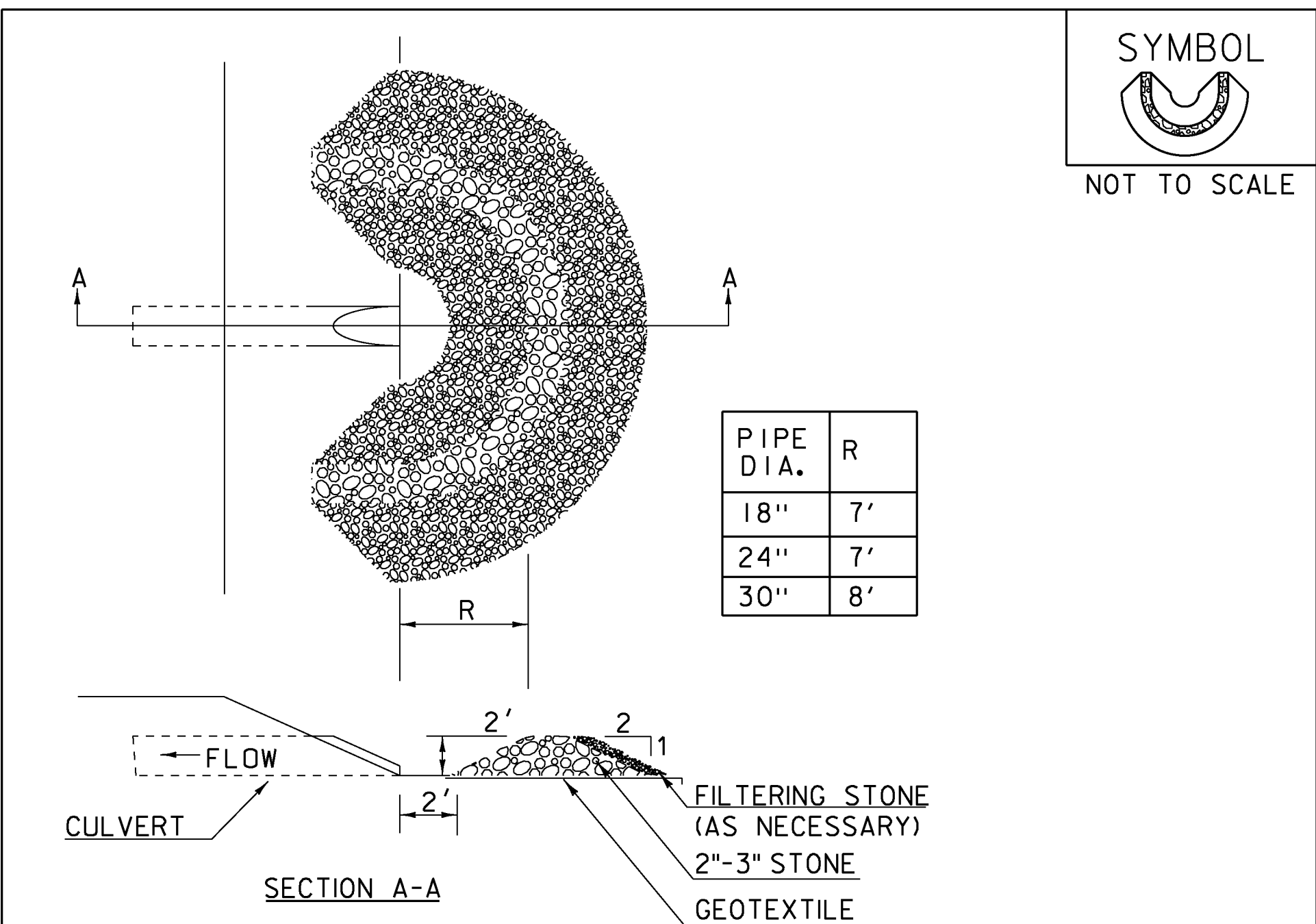
NOTES:

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS

MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF



CONSTRUCTION SPECIFICATIONS

1. USE 2" TO 3" STONE. FILTERING STONE SHALL BE 3/4".
2. PLACE STONE OVER GEOTEXTILE.
3. ONCE THE AREAS UPSTREAM FROM THE CHECK DAM ARE STABILIZED WITH VEGETATION, THE SEDIMENT TRAPPED BEHIND THE DAM SHALL BE DISPOSED OF IN AN APPROVED WASTE AREA.
4. THE CHECK DAM(S) SHALL BE FLATTENED AND GRADED IN A MANNER WHICH PROTECTS THE AREA FROM EROSION AND CHANNEL BLOCKAGE. (GEOTEXTILE MUST BE REMOVED).
5. THE GEOTEXTILE MUST BE DISPOSED OF APPROPRIATELY.
6. THE AREA CONTRIBUTING TO THE CHECK DAM SHALL NOT EXCEED 4 ACRES.

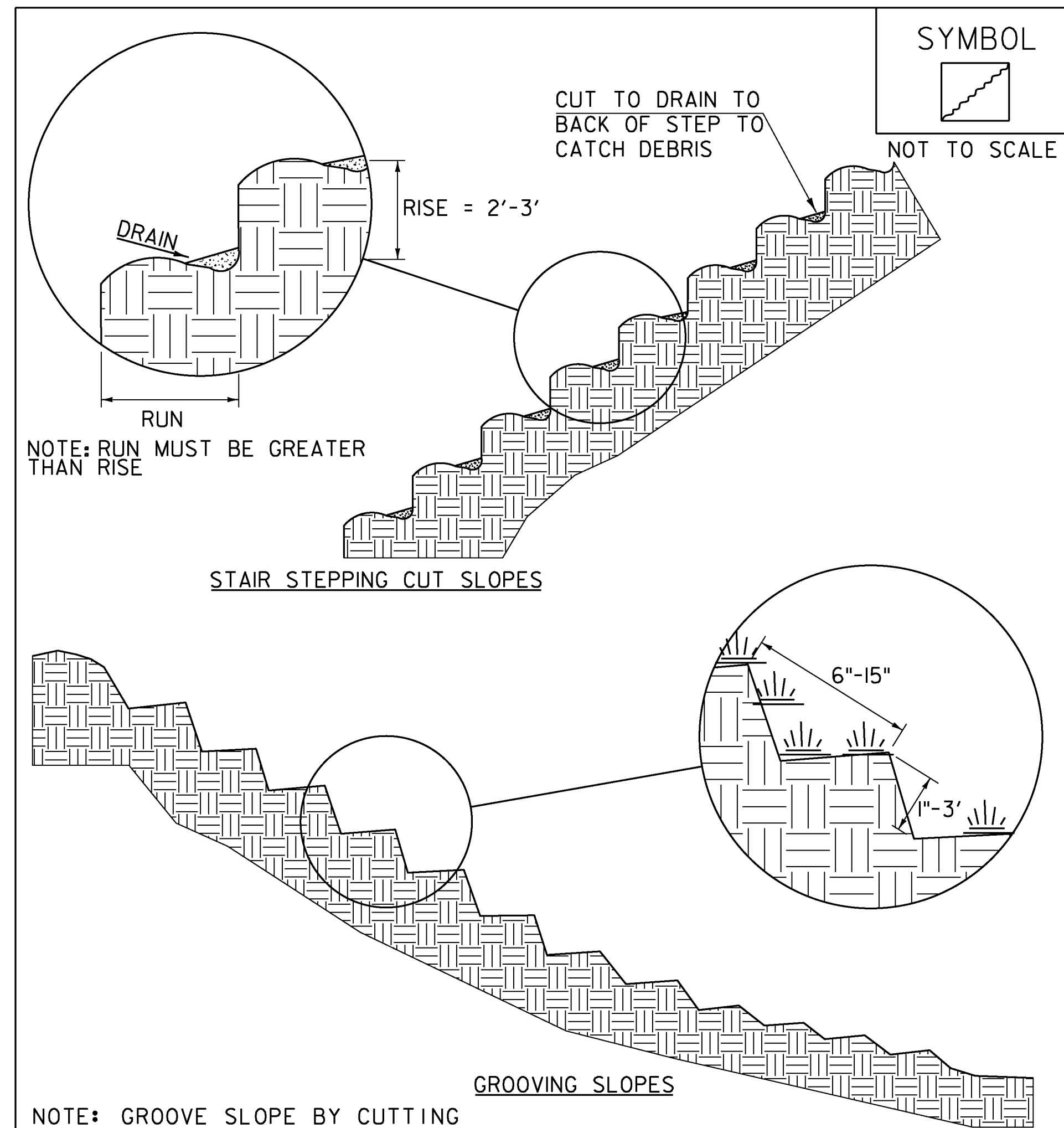
ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS  
ORIGINALLY DEVELOPED BY USDA-NRCS

PIPE INLET PROTECTION

REVISIONS

MARCH 6, 2008	WHF
JANUARY 13, 2009	WHF

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).



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

SURFACE ROUGHENING

NOTES:

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

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS

APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: WARDSBORO  
PROJECT NUMBER: BRF 013-1(15)

FILE NAME: s92b283epsc_details.dgn	PLOT DATE: 15-JUL-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
EPSC DETAILS 3	SHEET 49 OF 51

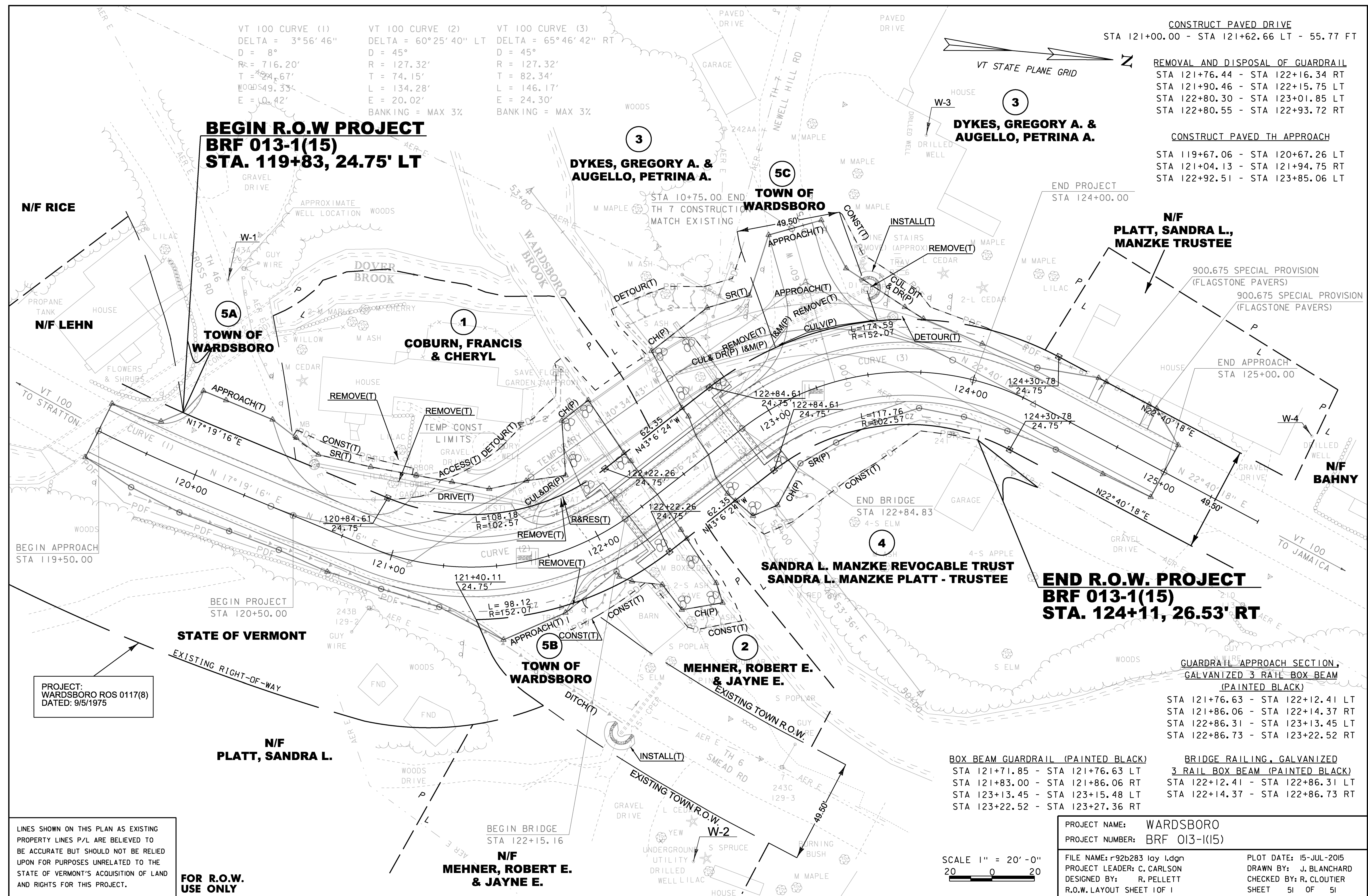


# RIGHT - OF - WAY DETAIL SHEET

[illegible]

PROJECT NAME: <b>WARDSBORO</b>	
PROJECT NUMBER: <b>BRF 013-1 (15)</b>	
FILE NAME: <b>r92b283detail.xls</b>	PLT DATE: <b>15-JUL-2015</b>
PROJECT LEADER: <b>C. CARLSON</b>	DRAWN BY: <b>M. RYAN</b>
DESIGNED BY: <b>J. BLANCHARD</b>	CHECKED BY: <b>R. CLOUTIER</b>
<b>R.O.W. DETAIL SHEET</b>	<b>SHEET 50 OF 51</b>

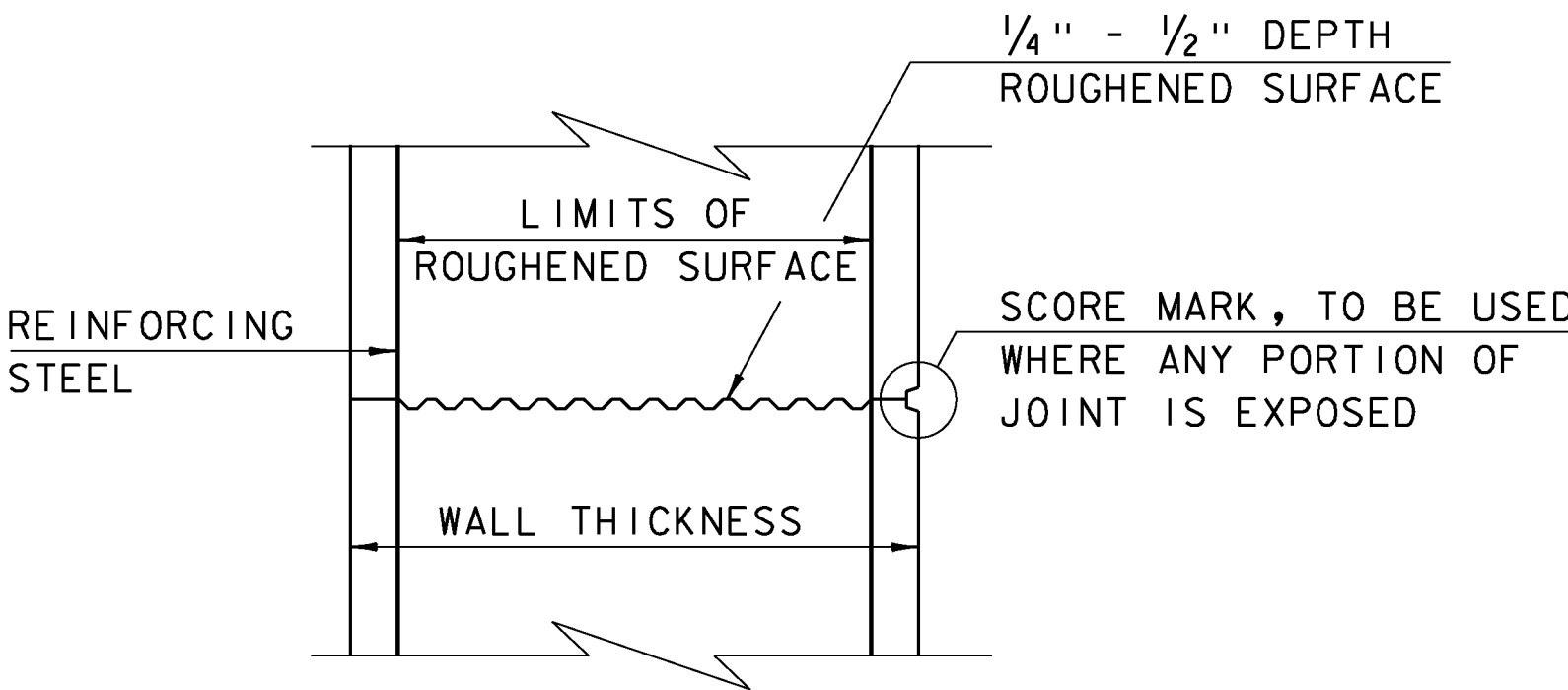






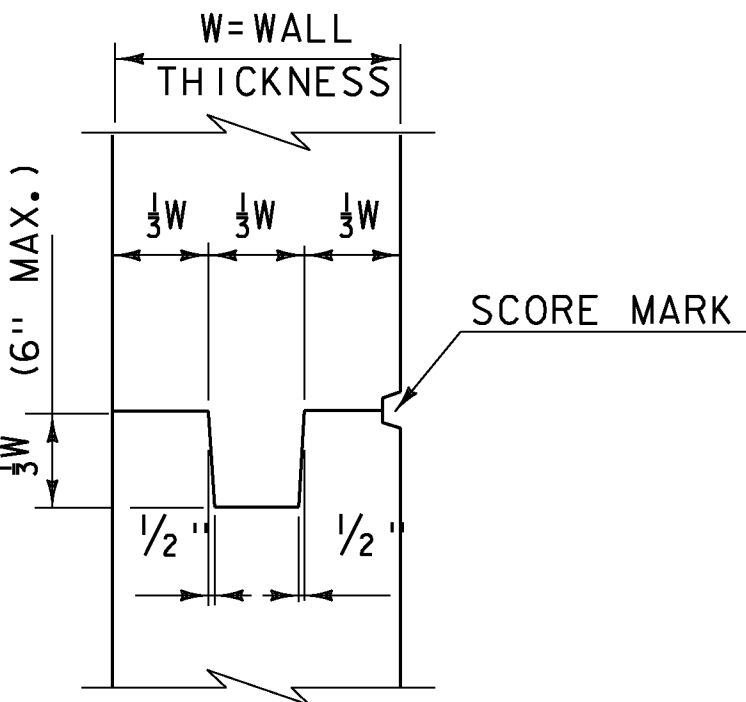
CONCRETE GENERAL NOTES

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

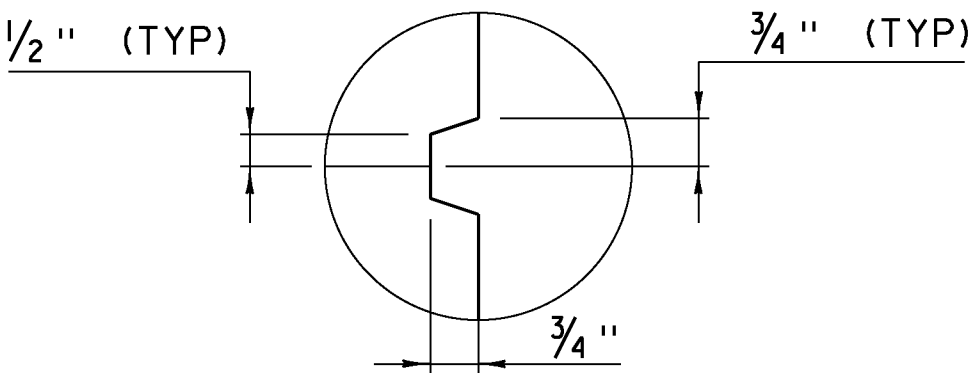


TYPICAL HORIZONTAL CONSTRUCTION JOINT  
(NOT TO SCALE)

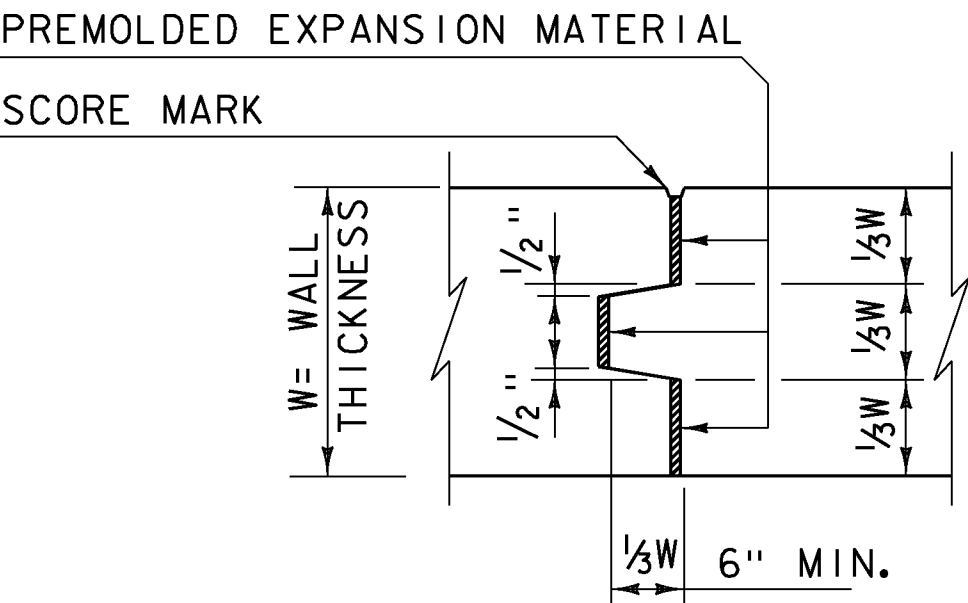
- 1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
- 2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



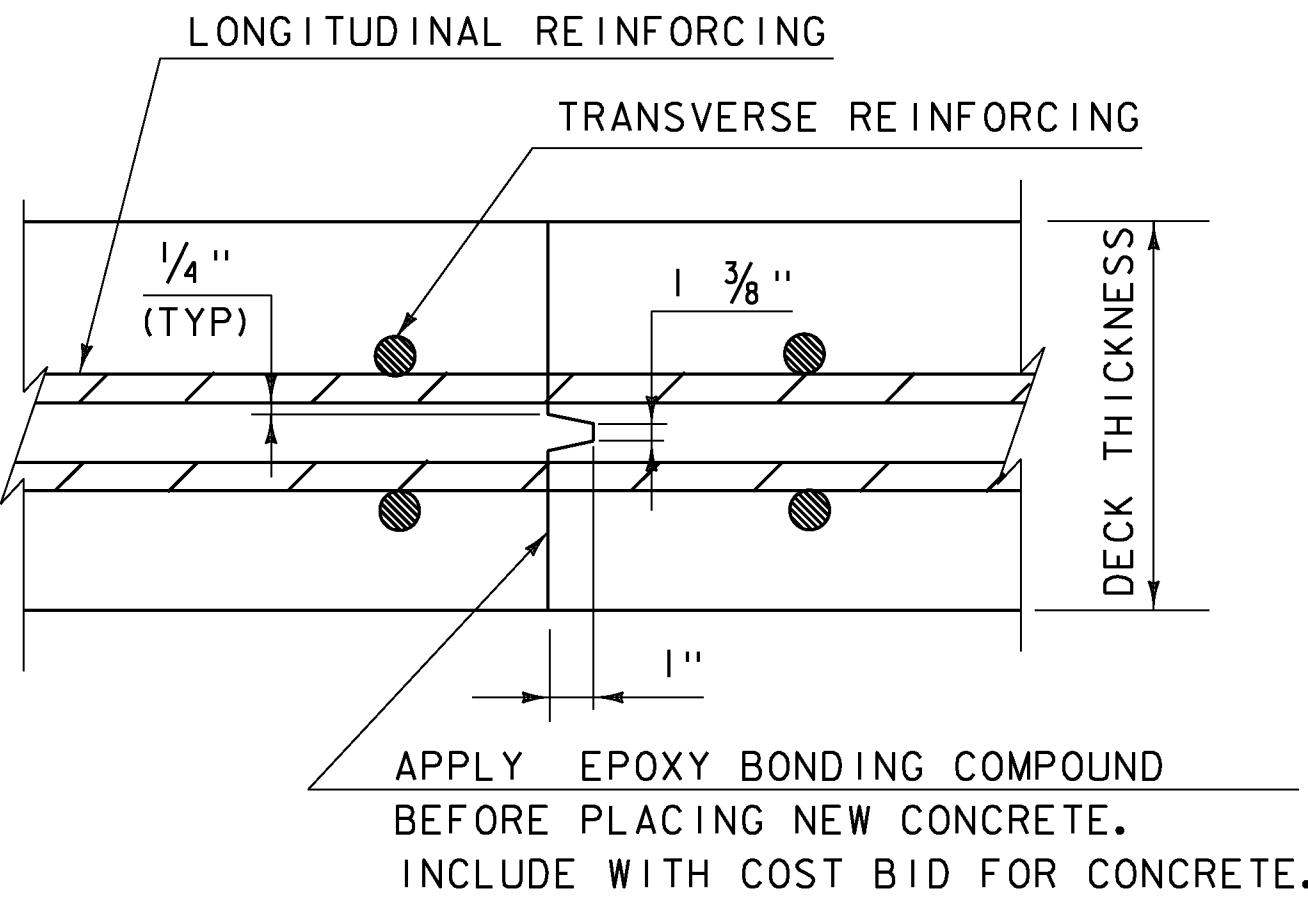
TYPICAL CONCRETE CONSTRUCTION JOINT  
(NOT TO SCALE)



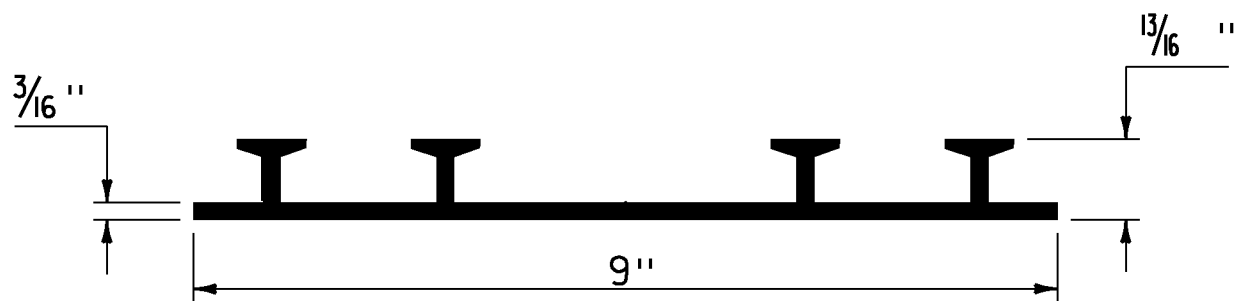
SCORE MARK DETAIL  
(NOT TO SCALE)



TYPICAL CONCRETE EXPANSION JOINT  
(NOT TO SCALE)



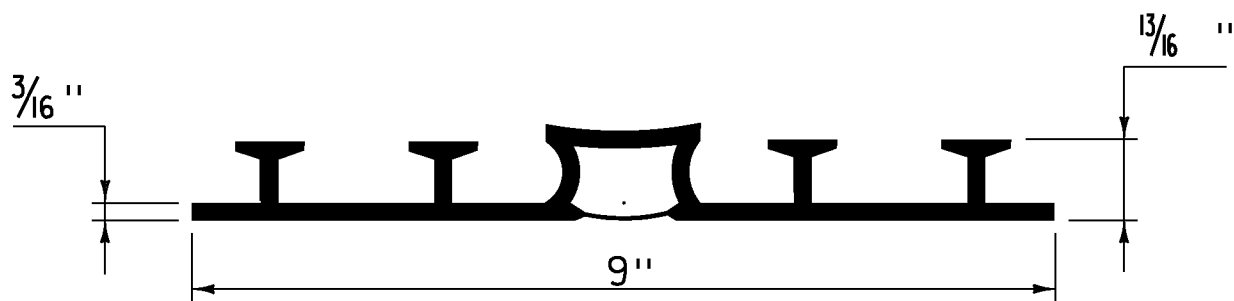
TRANSVERSE BRIDGE SLAB  
CONSTRUCTION JOINT DETAILS  
(NOT TO SCALE)



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

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

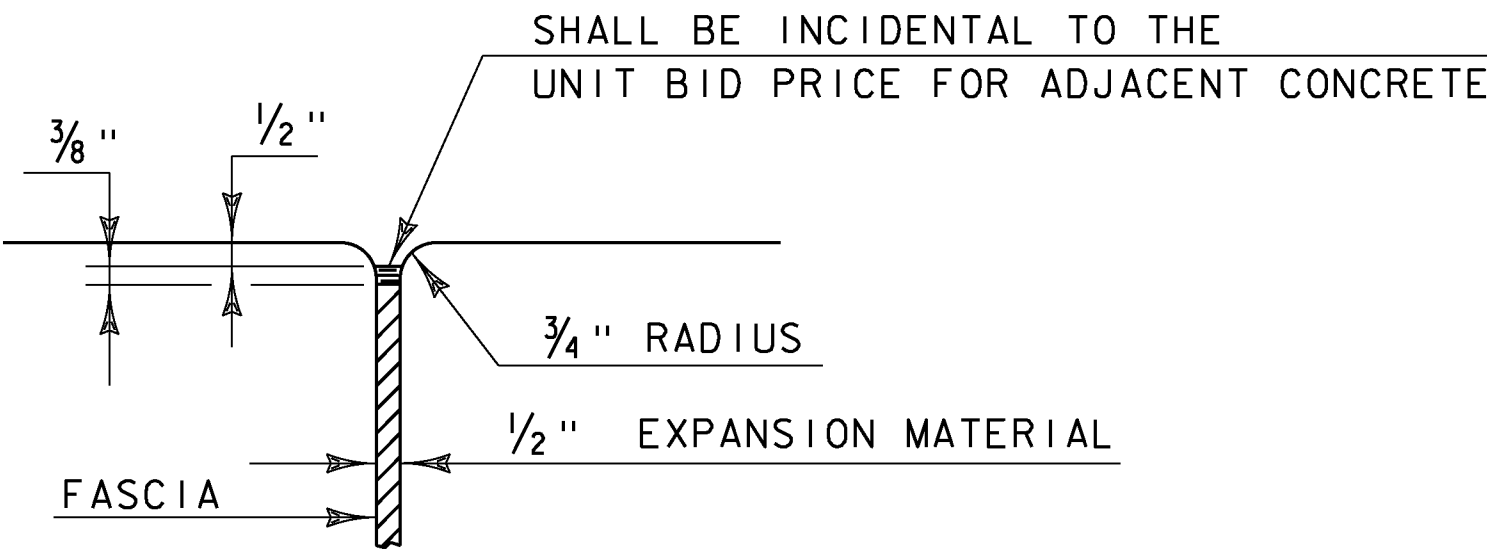
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



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

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

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

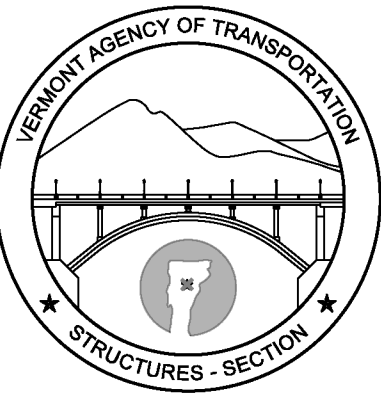


JOINT BETWEEN FASCIA  
AND WINGWALL  
(NOT TO SCALE)

REVISIONS

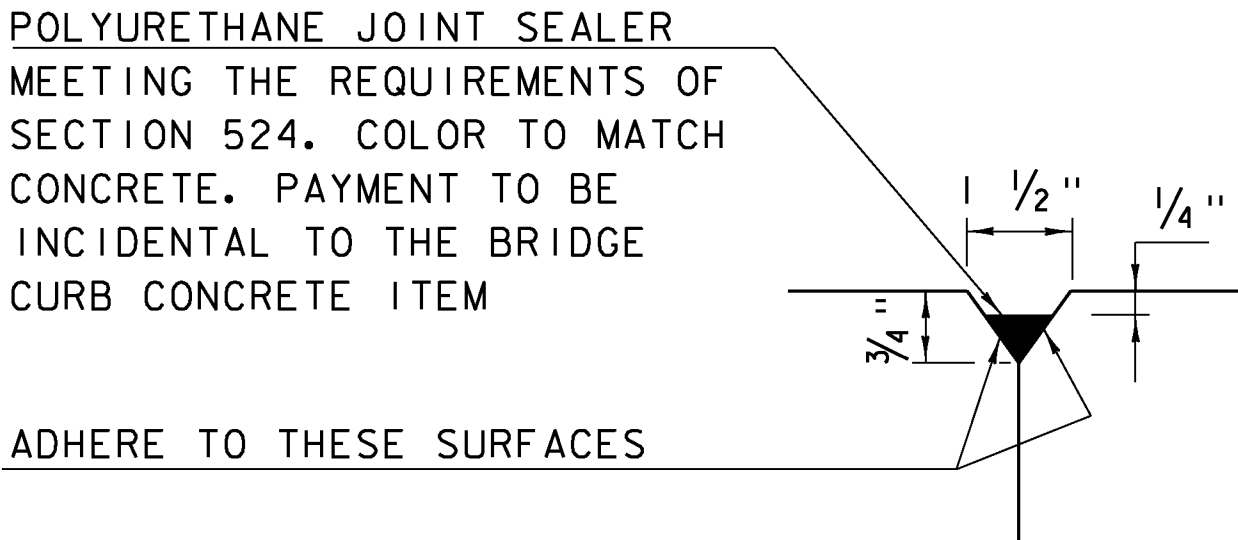
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
FEBRUARY 9, 2012	REBAR SUBSTITUTION ALLOWANCE ADDED TO CONCRETE GENERAL NOTES.

CONCRETE  
DETAILS AND NOTES

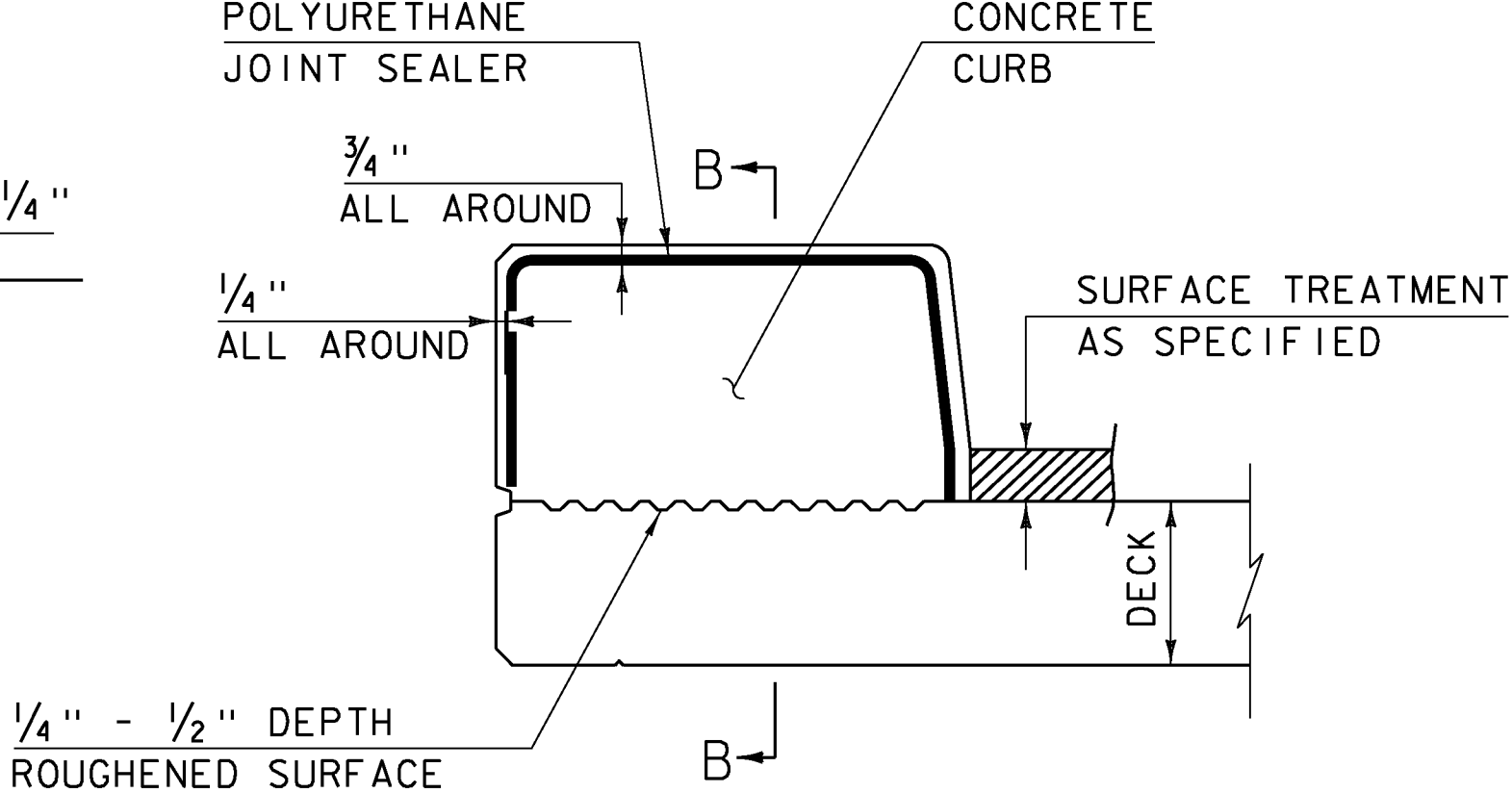


STRUCTURES  
DETAIL  
SD-501.00



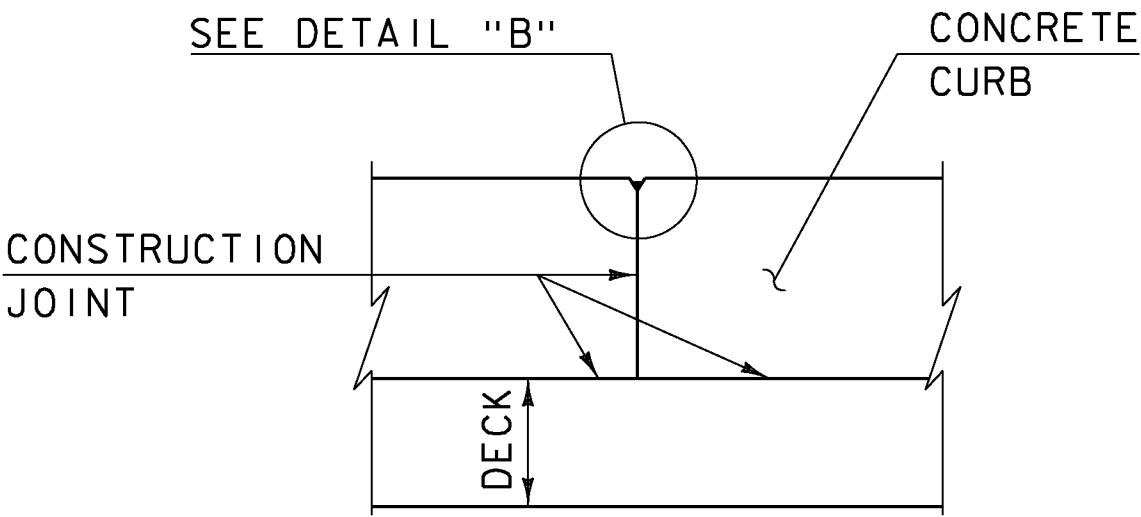


DETAIL "B"  
(NOT TO SCALE)

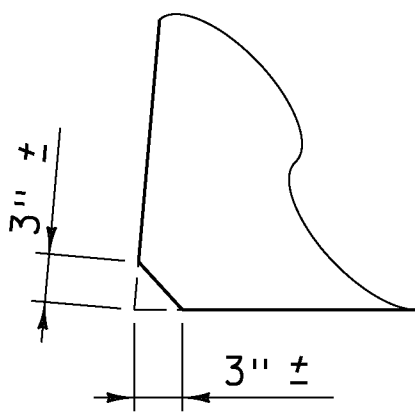


CONCRETE CURB JOINT SECTION  
(NOT TO SCALE)

1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT  
DETAIL FOR ADDITIONAL INFORMATION



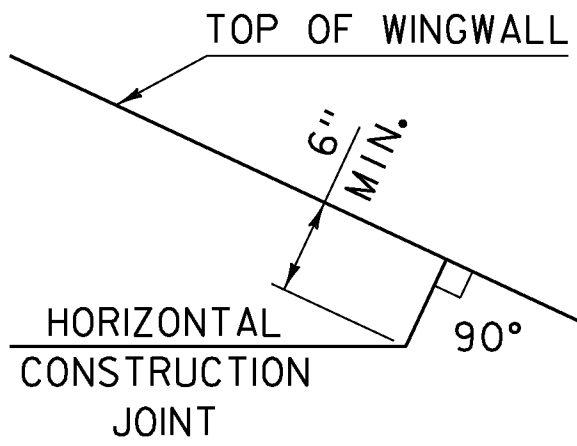
SECTION B - B  
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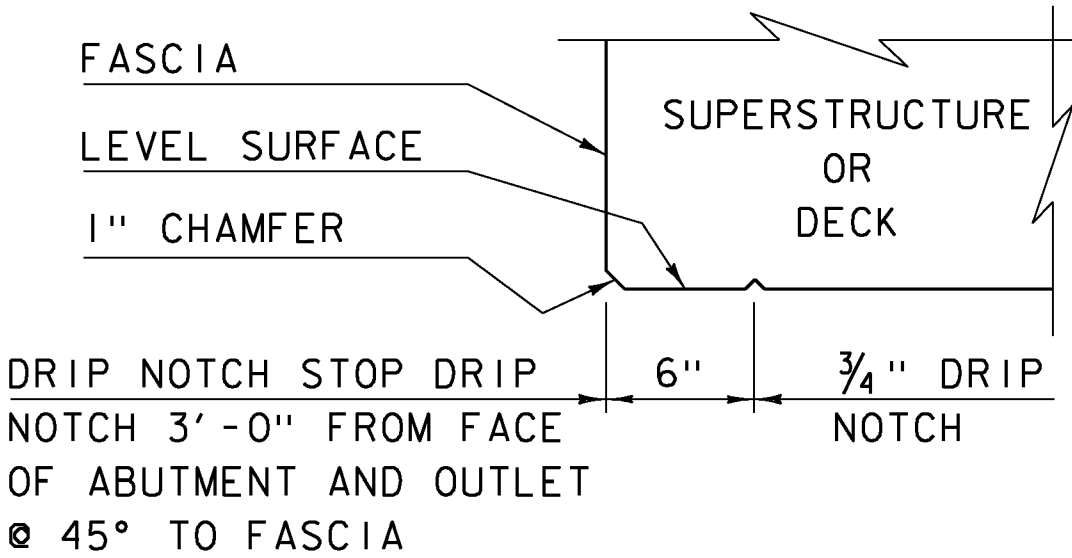
ACUTE ANGLE  
CLIP DETAIL  
(NOT TO SCALE)

CONCRETE CURB JOINT NOTES

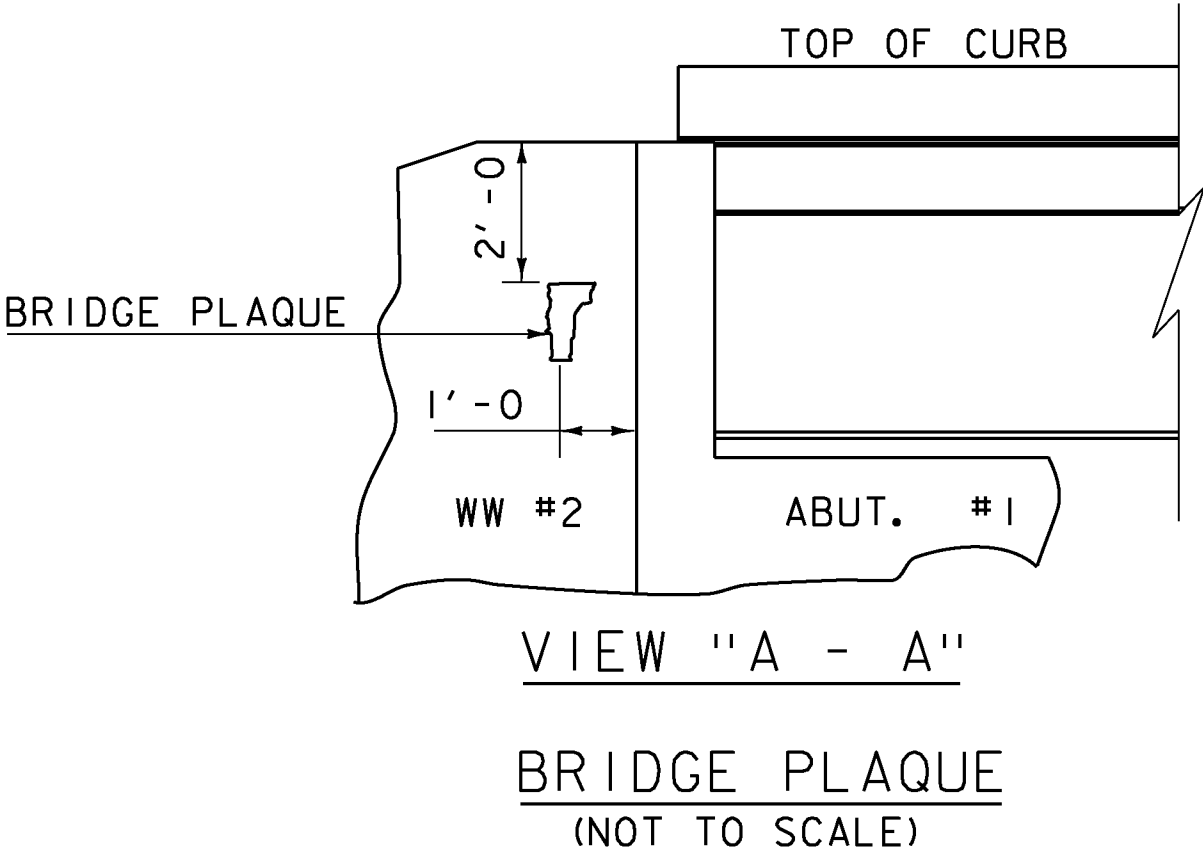
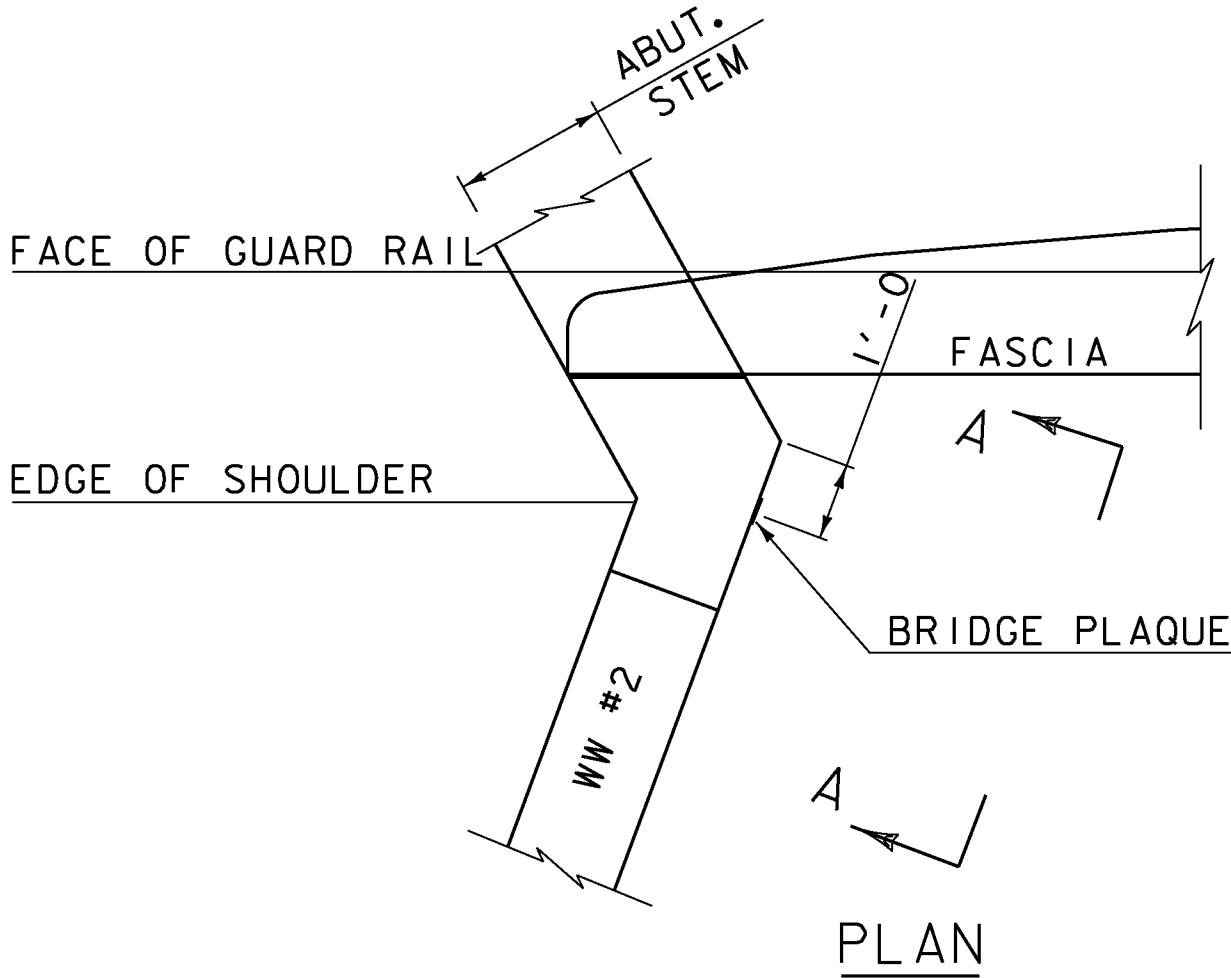
1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 15'-0" CENTER TO CENTER AND 2'-0" MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.
3. ON MULTI-SPAN CONTINUOUS SUPERSTRUCTURES, REGARDLESS OF WHETHER APPROVED SHRINKAGE REDUCING ADMIXTURE IS USED, CURB JOINTS SHALL BE LOCATED OVER THE CENTERLINE OF PIERS AND 7'-0" EACH SIDE OF THE CENTERLINE OF EACH PIER.
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.
5. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS. CURB STIRRUP BARS SHALL BE TURNED AS NECESSARY TO MAINTAIN COVER IN THE FLARED CURB ENDS.
6. THE JOINT SPACING AND DETAILS SHOWN SHALL APPLY TO SIDEWALKS WHEN SHOWN IN THE PLANS.



HORIZONTAL WINGWALL  
CONSTRUCTION JOINT  
(NOT TO SCALE)



DRIP NOTCH DETAIL  
(NOT TO SCALE)



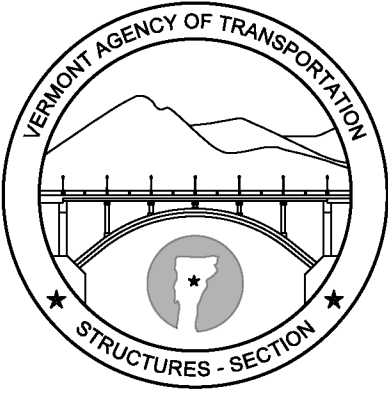
THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF  
TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT  
ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY  
THE ENGINEER.

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

REVISIONS

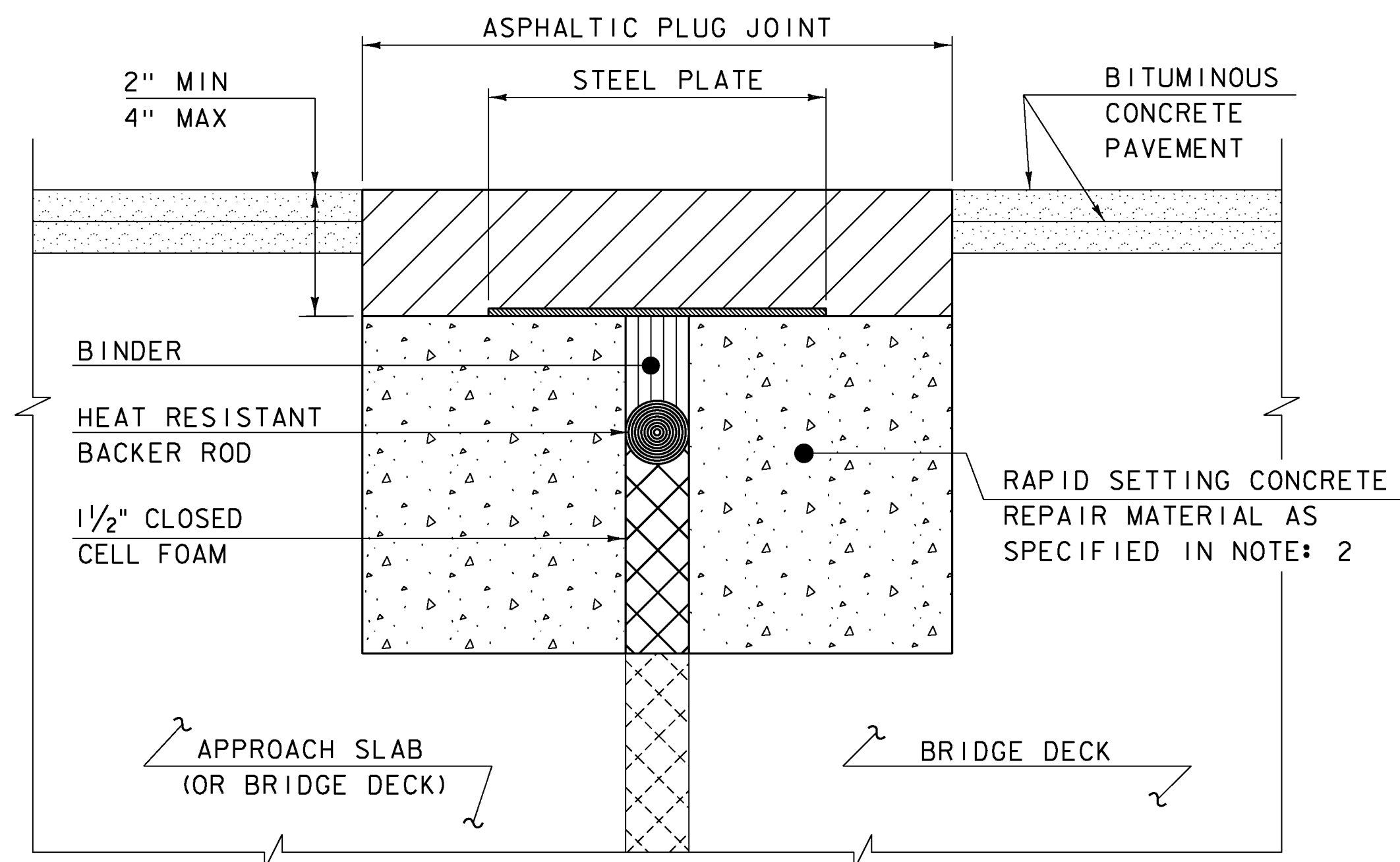
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED AND ADDED TWO DETAILS
OCTOBER 10, 2012	MODIFIED HORZ. JOINT WINGWALL ADD 6" MIN. DIMENSION

CONCRETE  
DETAILS AND NOTES



STRUCTURES  
DETAIL  
SD-502.00

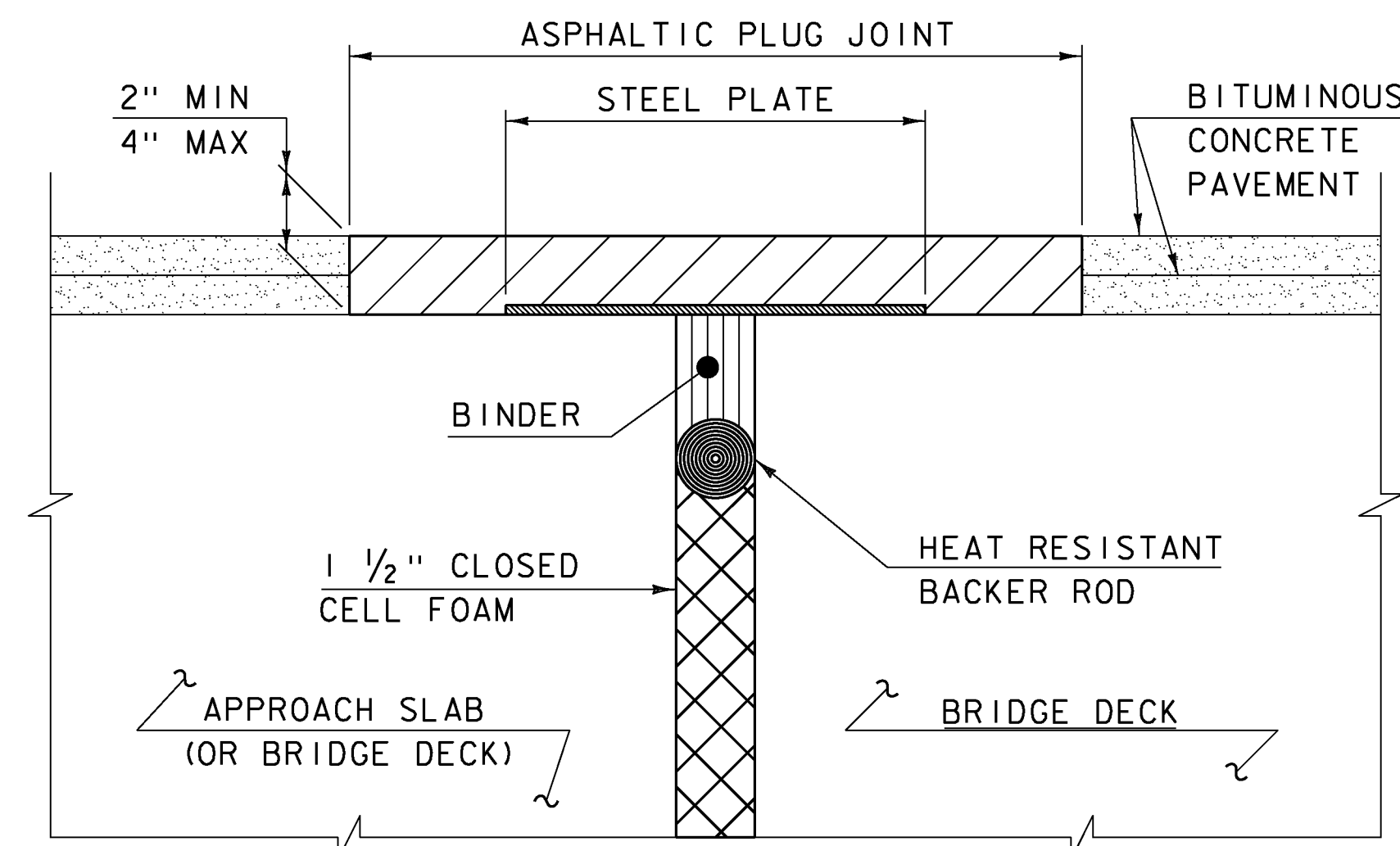




ASPHALTIC PLUG JOINT DETAIL - REHAB

**NOTES:**

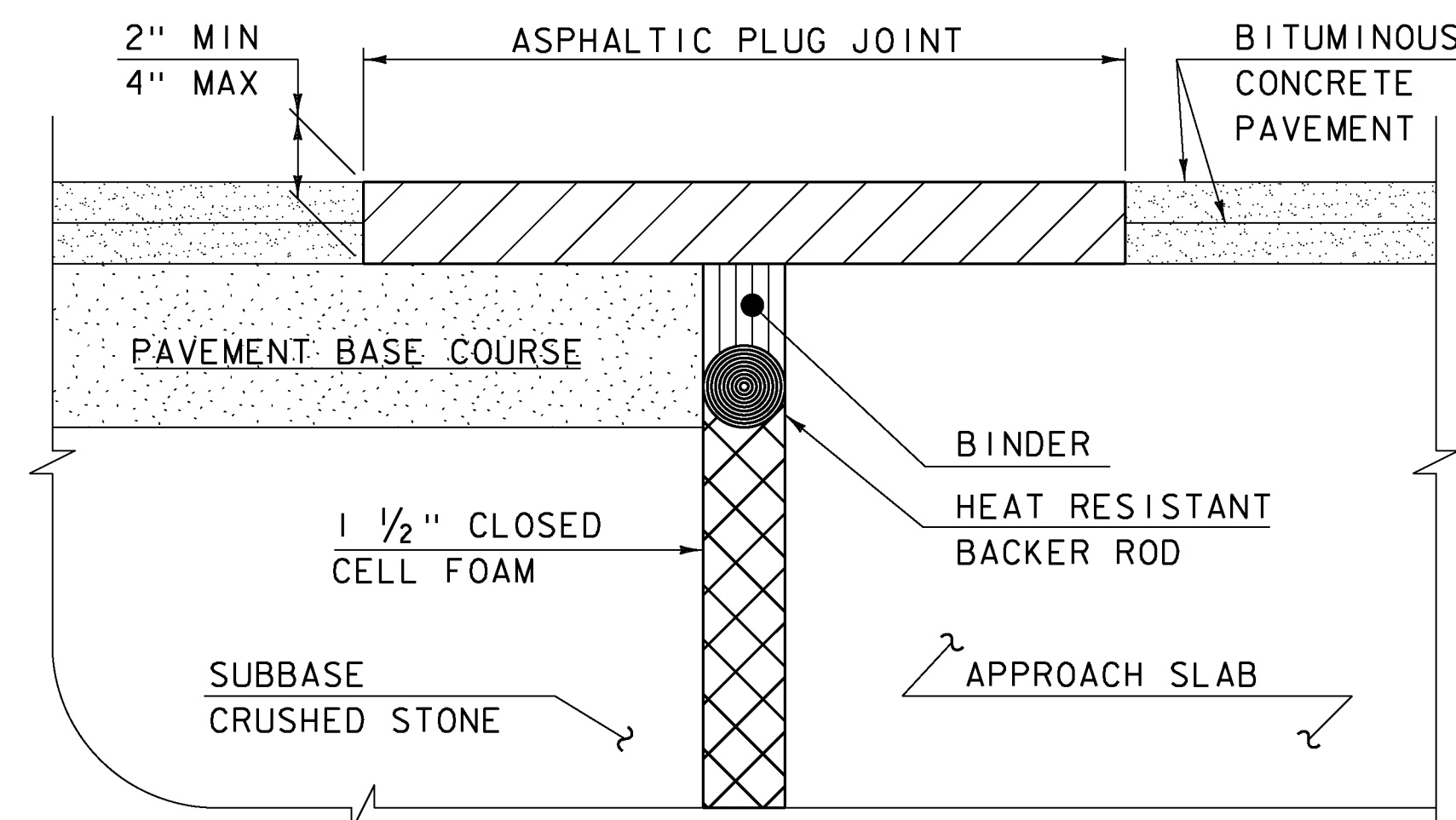
1. THE CONTRACTOR SHALL REMOVE ALL ASPHALTIC PLUG JOINT MATERIAL AND DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER. REMOVAL OF THE FIRST 4 INCHES OF MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 516.10 BRIDGE EXPANSION JOINT, ASPHALTIC PLUG. ANY REMOVAL OF MATERIAL GREATER THAN 4 INCHES SHALL BE INCLUDED IN THE BID PRICE OF ITEM 580.20 RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.
2. THE CONTRACTOR SHALL REPLACE REMOVED MATERIAL THAT IS LESS THAN 4" FROM FINISHED GRADE WITH ASPHALTIC PLUG JOINT MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 707.15. ALL REMOVED MATERIAL THAT IS GREATER THAN 4 INCHES FROM FINISHED GRADE SHALL BE REPLACED WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
3. REINFORCING STEEL NOT SHOWN FOR CLARITY.
4. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.



ASPHALTIC PLUG JOINT DETAIL "A" - NEW

**NOTE:**

PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.



ASPHALTIC PLUG JOINT DETAIL "B" - NEW

**ASPHALTIC PLUG JOINT NOTES**

**INSTALLATION:**

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
5. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
6. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

**WEATHER LIMITATIONS**

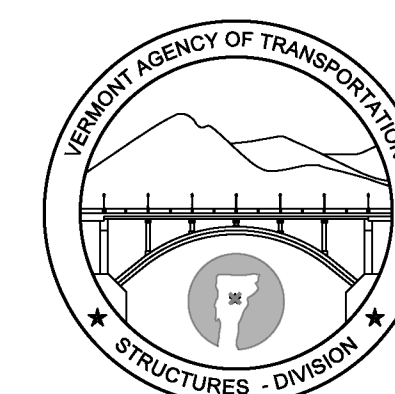
APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:

1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

DETAILS ON THIS SHEET ARE NOT TO SCALE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
AUGUST 29, 2011	ADD DETAIL "B" AND REV. NOTES

BRIDGE JOINT  
ASPHALTIC PLUG

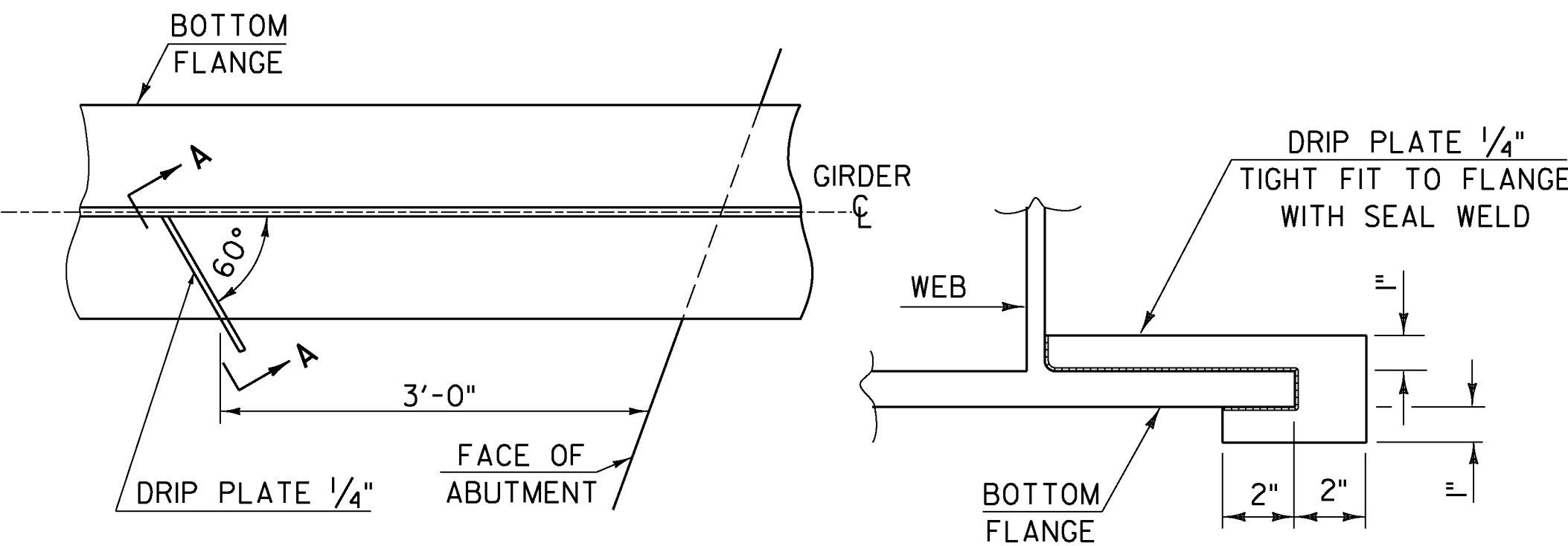


STRUCTURES  
DETAIL  
SD-516.10



STRUCTURAL STEEL GENERAL NOTES:

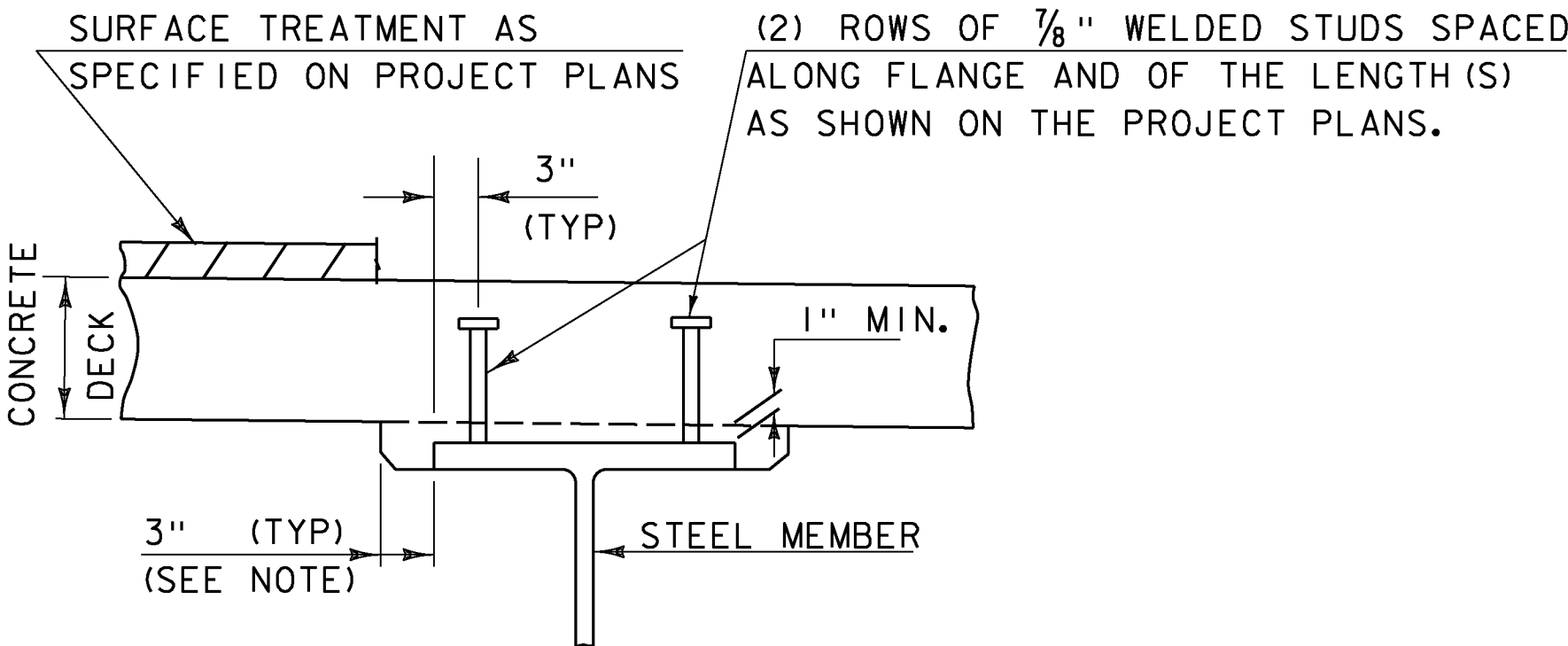
- 1. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH-STRENGTH BOLTS IN 15/16" DIAMETER HOLES, PER SUBSECTION 506.I9, UNLESS OTHERWISE SPECIFIED.
- 2. ALL HOLES IN THE WEBS OF THE FASCIA GIRDERS THAT ARE NOT OTHERWISE FILLED, SHALL BE FILLED WITH EITHER BUTTON HEAD OR HEX HEAD BOLTS. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.I9.
- 3. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.I0.
- 4. ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.
- 5. STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.
- 6. ENDS OF GIRDERS ARE TO BE VERTICAL IN THEIR FINAL POSITION.
- 7. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE GIRDERS SHALL BE TAKEN AS DIRECTED BY THE RESIDENT ENGINEER FOR USE IN DETERMINING FINISHED GRADES.



PLAN DRIP PLATE

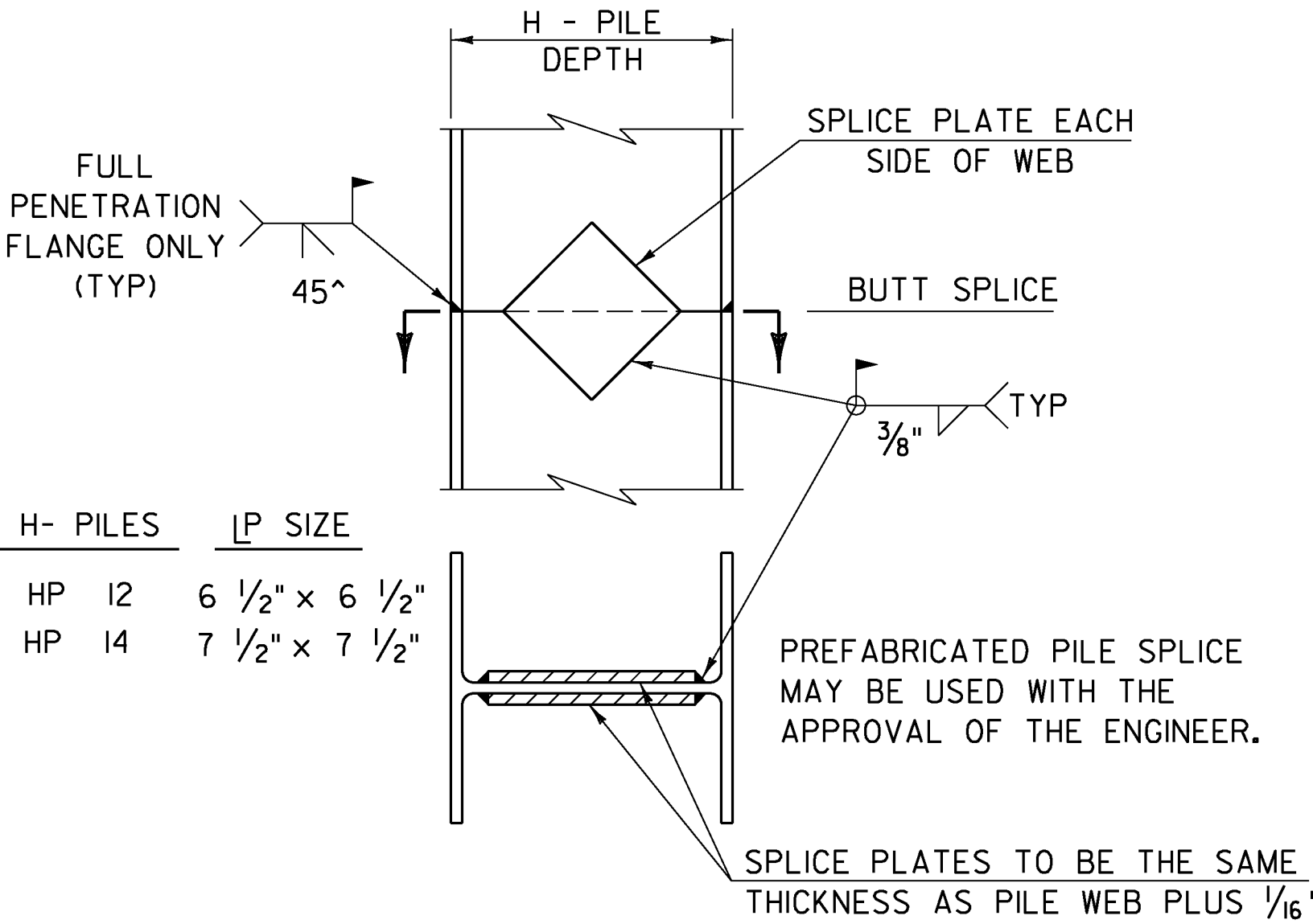
SECTION A - A

NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF ALL PIERS AND ABUTMENTS OR AS INDICATED ON PROJECT PLANS.



NOTE:  
THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. ANY VOIDS RESULTING FROM FORMING SYSTEM ELEMENTS SHALL BE FILLED WITH JOINT SEALER, POLYURETHANE MEETING THE REQUIREMENTS OF SECTION 524. THE COST OF THE JOINT SEALER, POLYURETHANE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

HAUNCH AND SHEAR CONNECTOR DETAIL



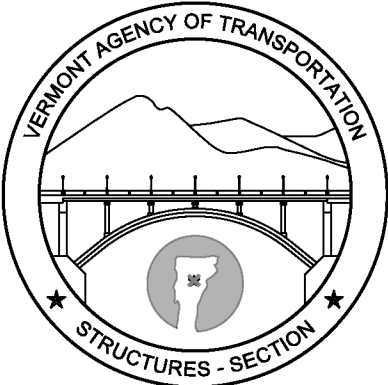
H- PILES	IP SIZE
HP 12	6 1/2" x 6 1/2"
HP 14	7 1/2" x 7 1/2"

DETAIL OF PILE SPLICE

DETAILS ON THIS SHEET ARE "NOT TO SCALE" UNLESS NOTED OTHERWISE.

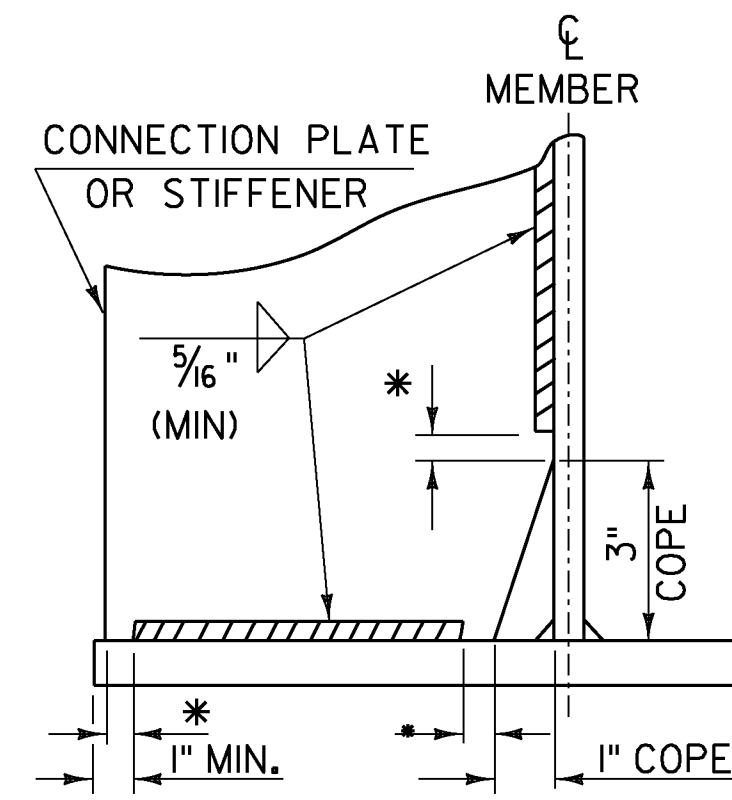
REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED NOTES

STRUCTURAL STEEL  
DETAILS & NOTES



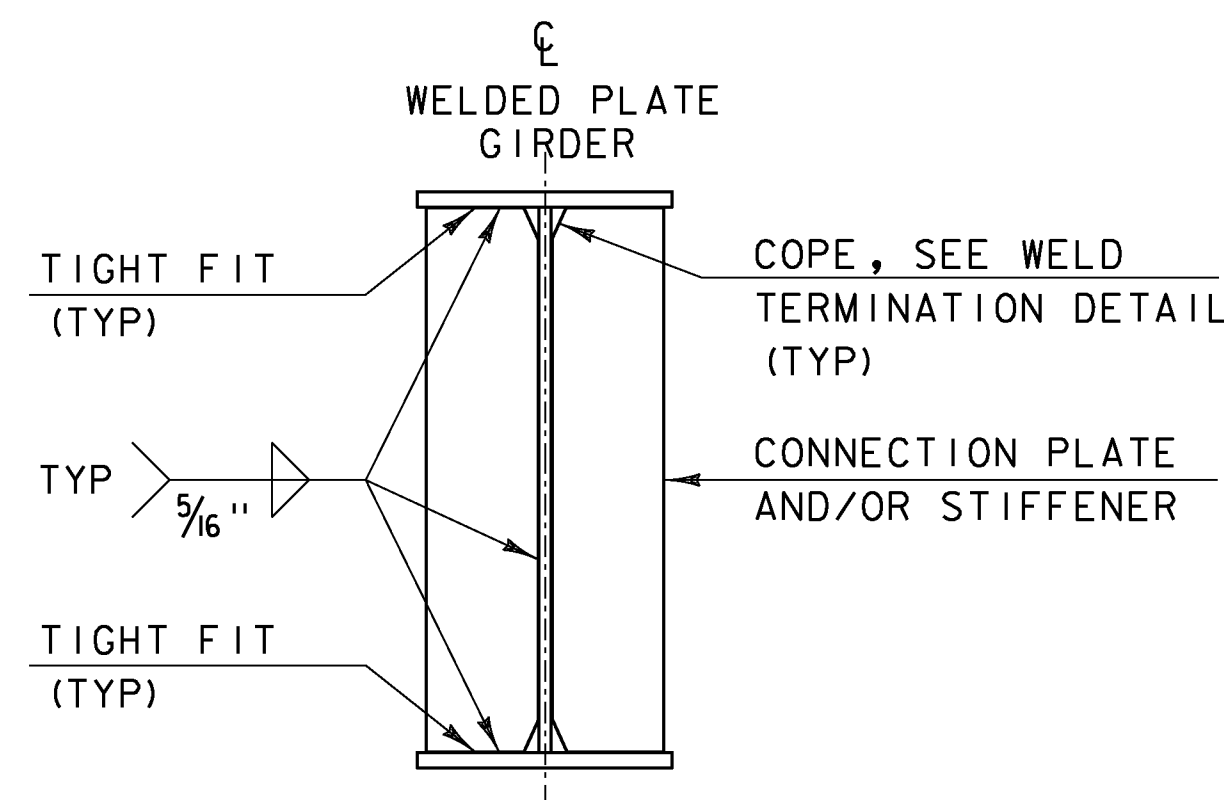
STRUCTURES  
DETAIL  
SD-601.00





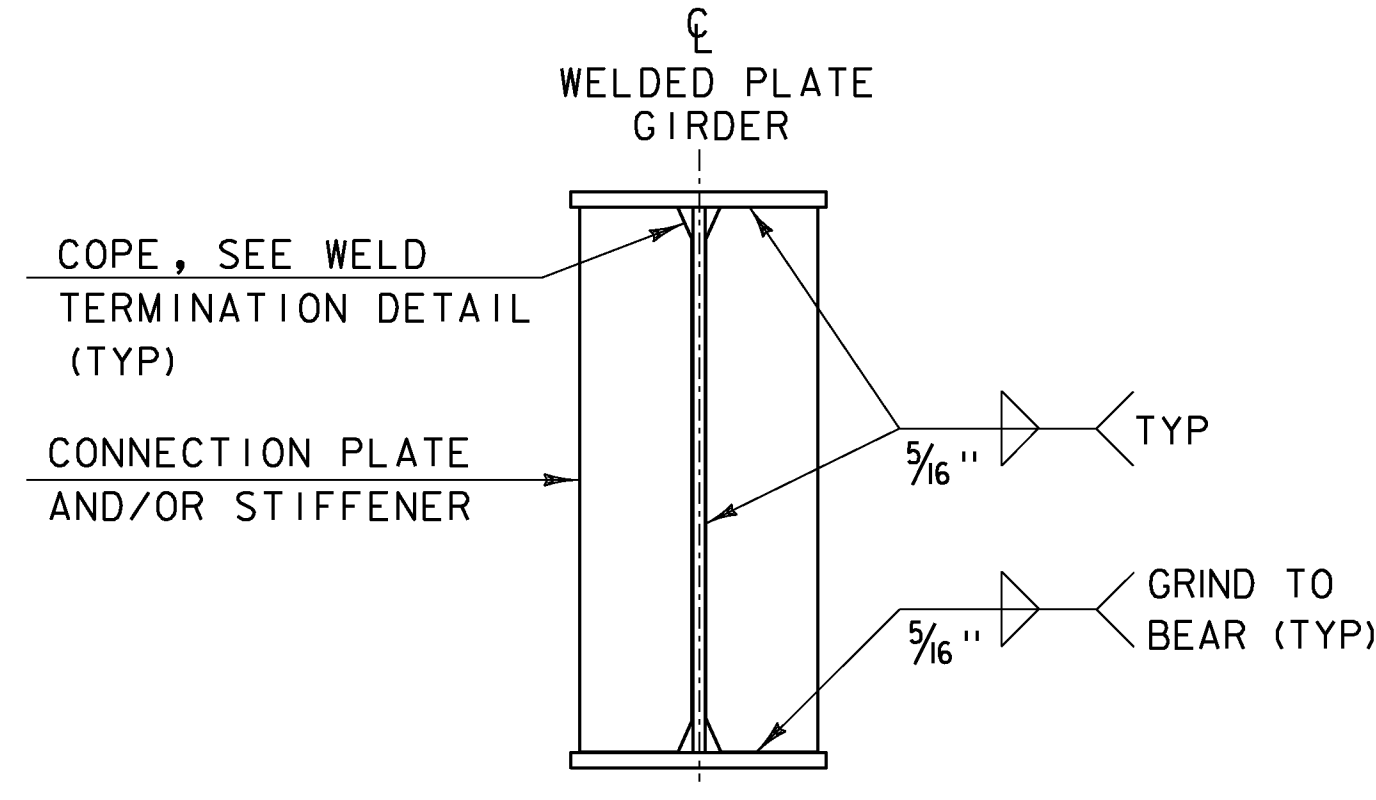
WELD TERMINATION AND COPING  
DETAILS FOR STEEL MEMBERS

*NO WELD FOR 3/8" MIN. 7/8" MAX. (EXCEPT MUST  
MAINTAIN 1" MINIMUM FROM EDGE OF FLANGE)

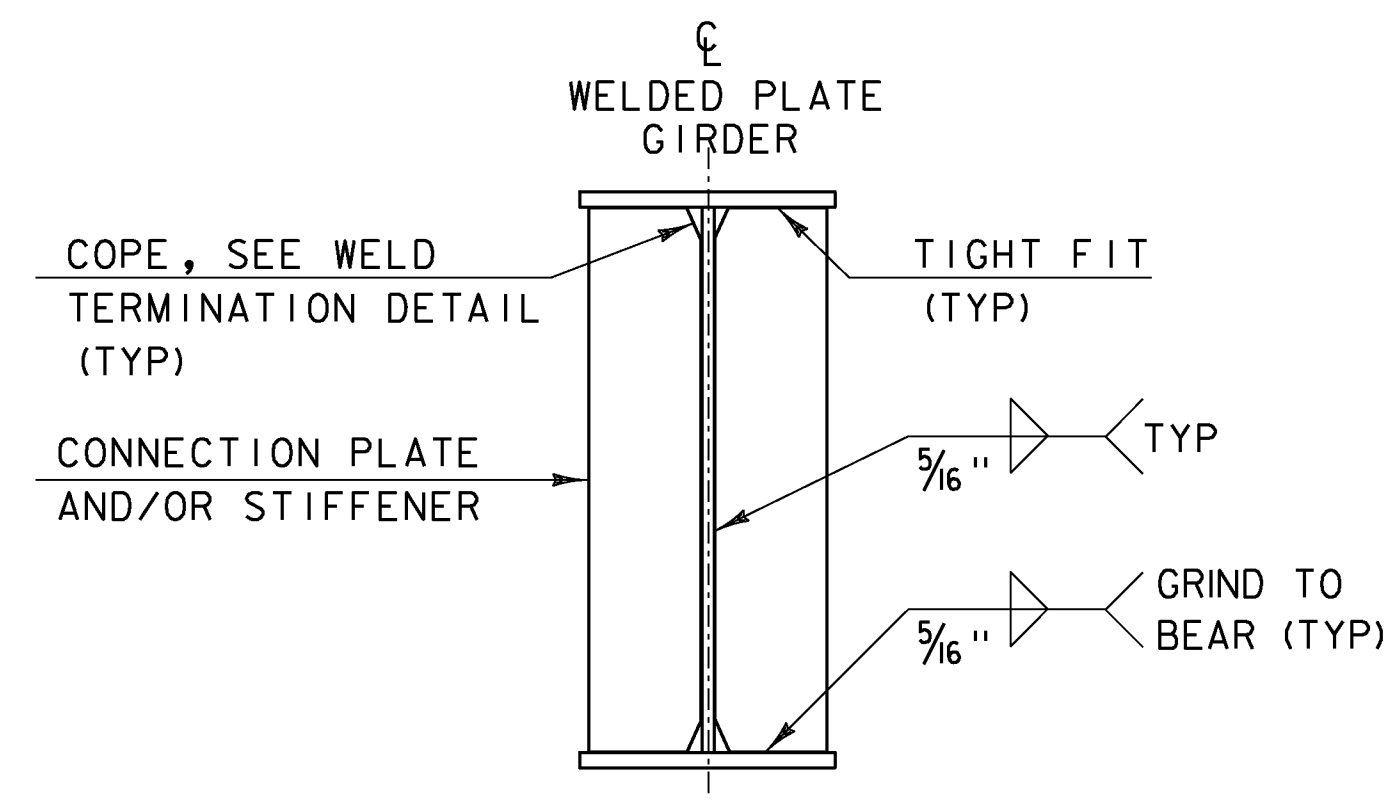


INTERMEDIATE CONNECTION PLATES  
AND/OR STIFFENERS FOR WELDED  
PLATE GIRDERS

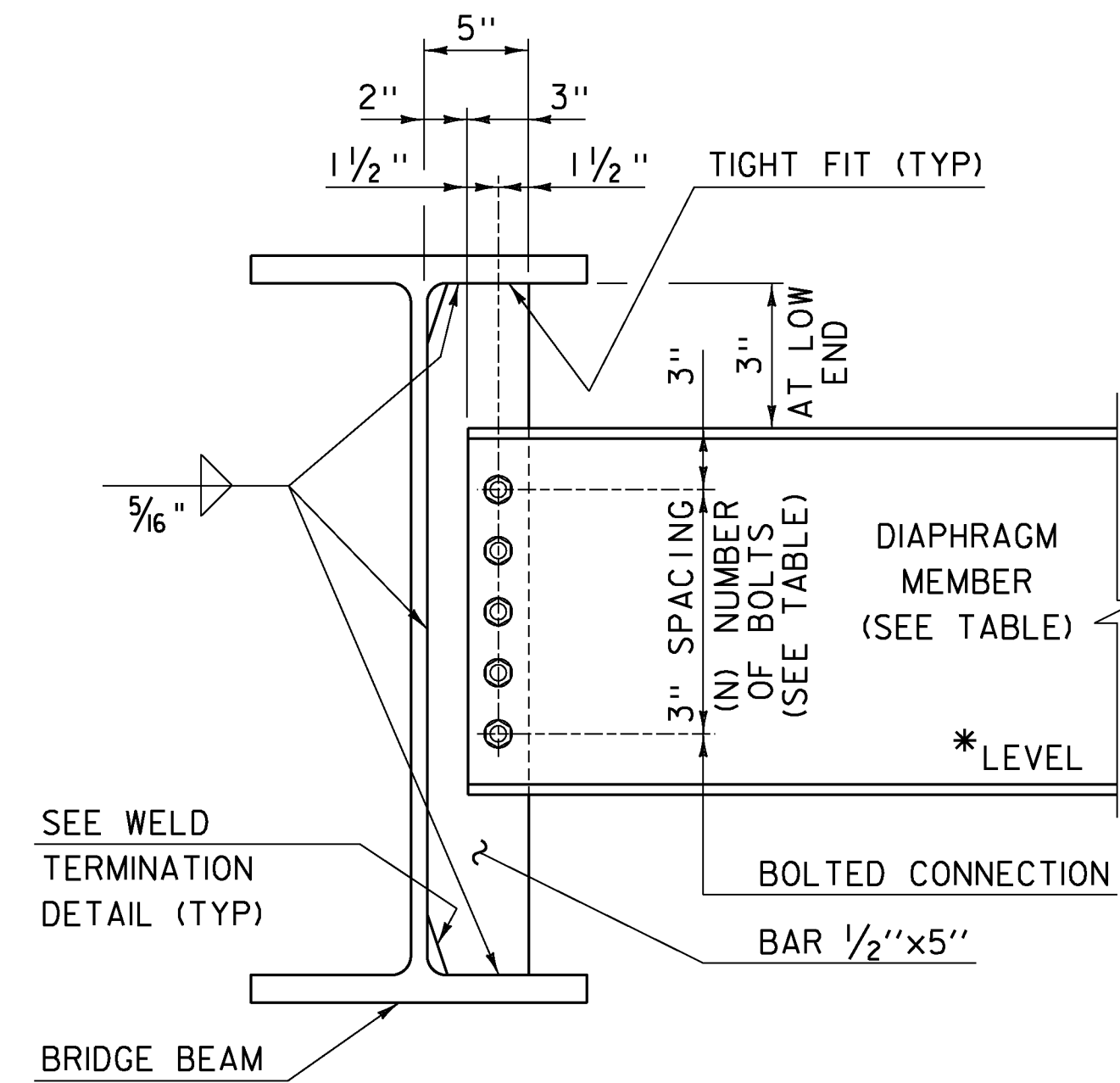
INTERMEDIATE DETAIL IS ONLY USED WHEN PLATE DOES  
NOT OCCUR AT AN ABUTMENT OR PIER.



ABUTMENT BEARING STIFFENERS  
AND/OR CONNECTION PLATES  
FOR WELDED PLATE GIRDERS



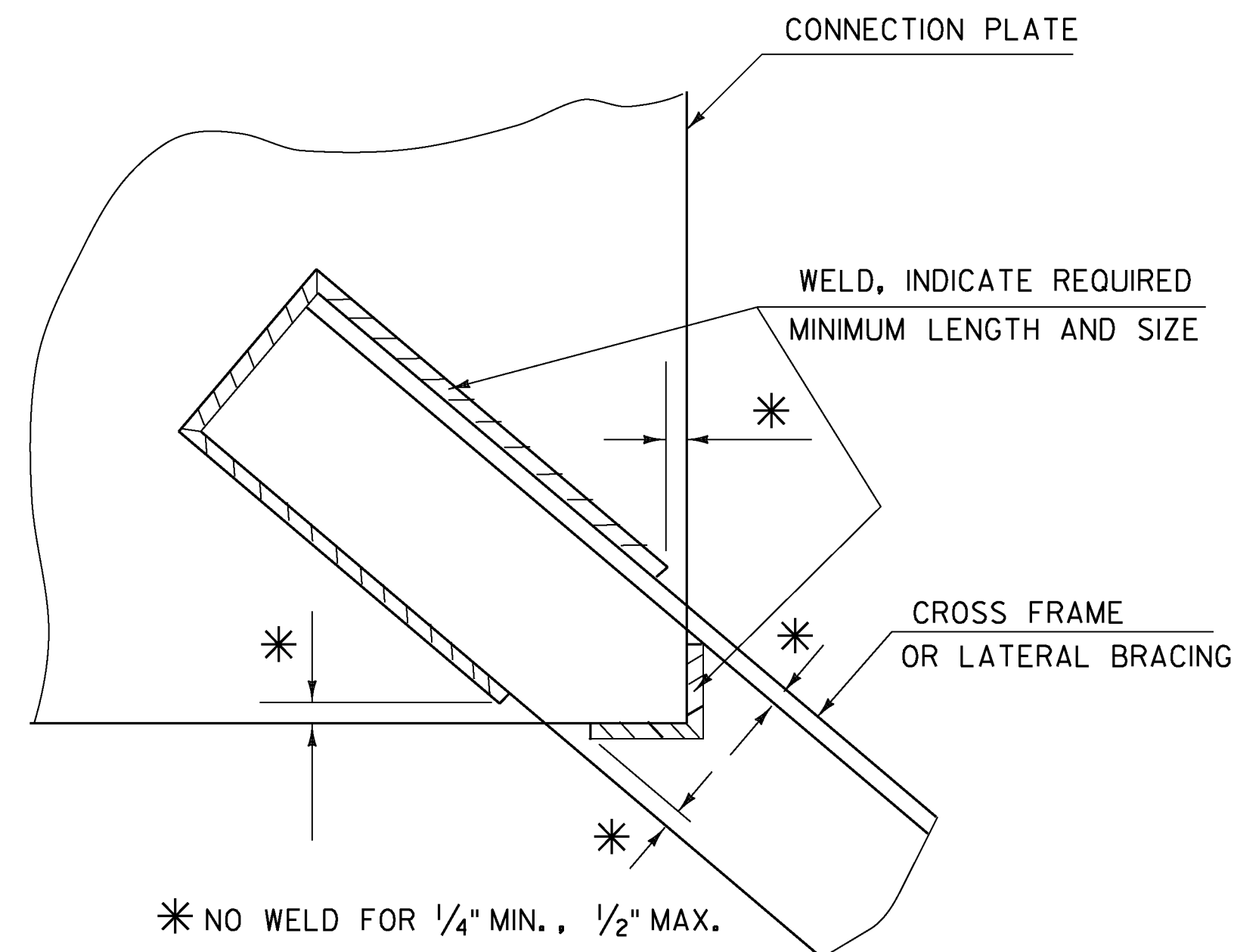
PIER BEARING STIFFENERS  
AND/OR CONNECTION PLATES  
FOR WELDED PLATE GIRDERS



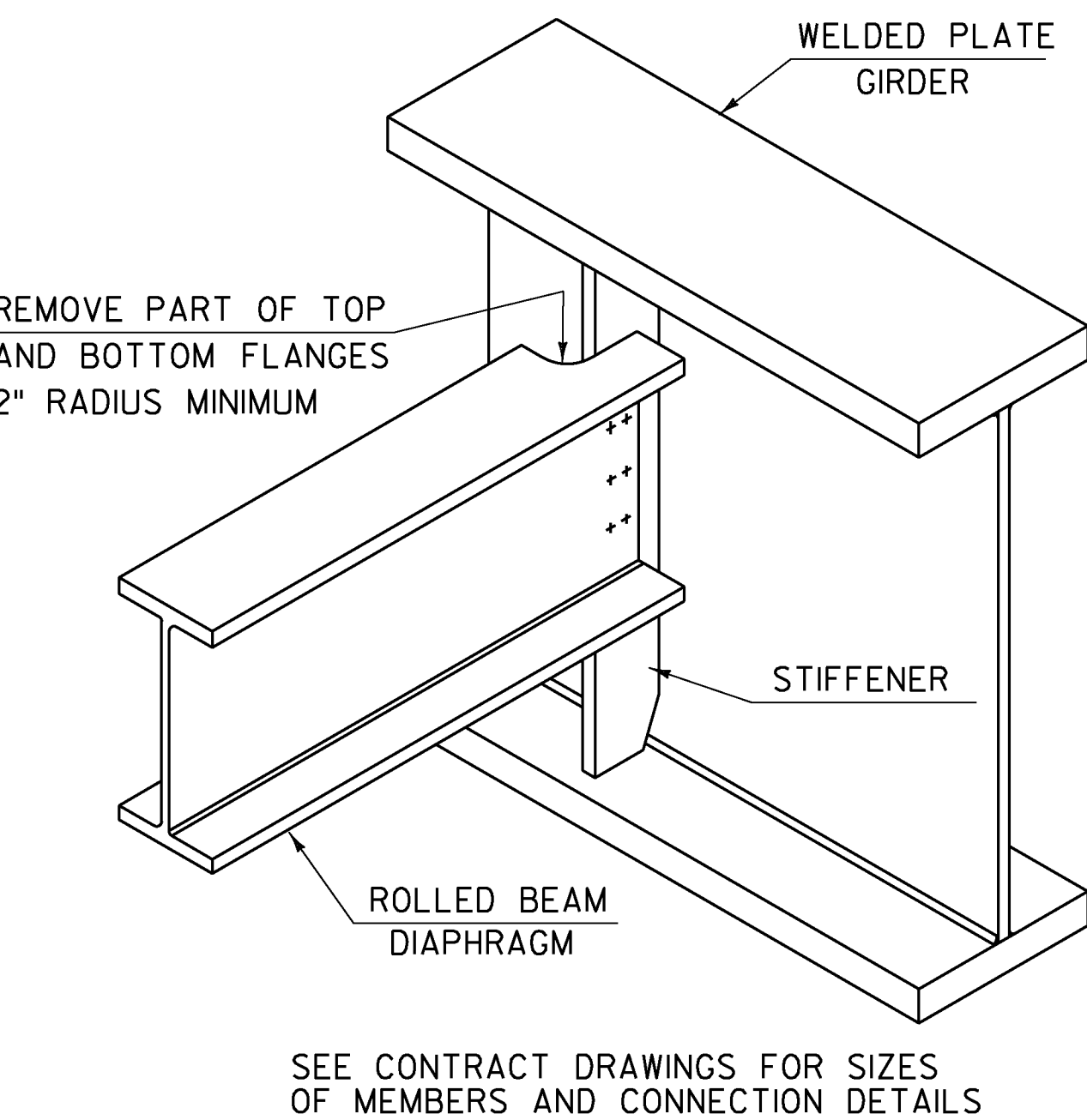
INTERMEDIATE DIAPHRAGMS  
FOR 24" TO 48" BRIDGE BEAMS

* IF CLEARANCE CANNOT BE MET, DIAPHRAGM MAY BE SLOPED.

	DEPTH	DIAPHRAGM MEMBER	(N) BOLTS
ROLLED BEAM	24"	C15x33.9	4
	30"		
	31"	MC18x42.7	5
	36"		
PLATE GIRDER WEB	37"	W21x44	6
	42"		
	31"	W27x84	7
	36"		
	37"	W33x118	9
	42"		
	43"	W36x135	10
	48"		



WELD LOCATION DETAIL AT CROSS  
FRAMES AND LATERAL BRACING

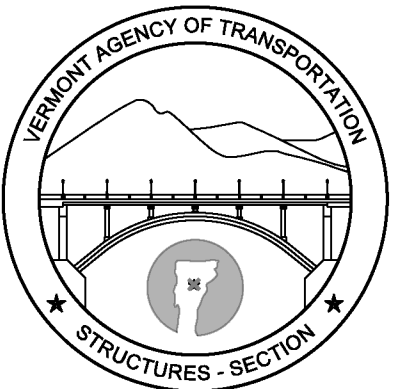


ROLLED BEAM USED AS DIAPHRAGM

DETAILS ON THIS SHEET ARE "NOT TO SCALE" UNLESS NOTED OTHERWISE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
MAY 2, 2011	ADD INTERMEDIATE DIAPHRAGMS DETAIL & ADD NOT TO SCALE NOTE

# STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES



STRUCTURES  
DETAIL  
SD-602.00



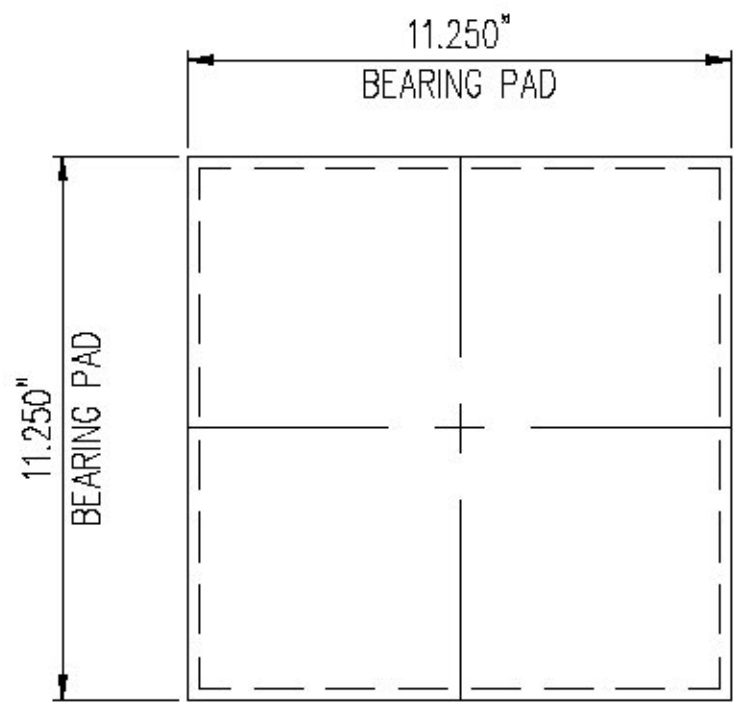
MK	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	WT*	REV
1A	8	ELASTOMERIC BEARING	49531.1103.1			21	
1a1	8	1.750" X 11.250"	NATURAL RUBBER	11.250"	110 PSI +/-15% GR. 3	9	
1a2	24	11 GA. X 10.750"	A1011 GR 36	10.750"	PLAIN	4	A
		*Approx. Gross Wt. Lbs Per Single Unit			4/7/2016 4:19:12 PM		

TOLERANCE TABLE	
DESCRIPTION	TOLERANCE (INCHES U.N.O.)
ELASTOMERIC BEARING DESIGN THICKNESS ≤ 1.250"	-0, +0.1181
ELASTOMERIC BEARING DESIGN THICKNESS > 1.250"	-0, +0.2362
ELASTOMERIC BEARING PLAN DIMENSIONS ≤ 36"	-0, +0.2362
ELASTOMERIC BEARING PLAN DIMENSIONS > 36"	-0, +0.4724
THICKNESS OF INDIVIDUAL LAYERS OF ELASTOMER (LAMINATED BEARINGS ONLY) AT ANY POINT WITHIN THE BEARING	±0.1181
VARIATION FROM A PLANE PARALLEL TO THE THEORETICAL SURFACE (AS DETERMINED BY MEASUREMENTS AT THE EDGE OF THE BEARINGS) (PARALLELISM):	
TOP & BOTTOM	±0.005 RAD
SIDES	±0.2362
POSITION OF EXPOSED CONNECTION MEMBERS	±0.1181
ELASTOMERIC EDGE COVER	-0, +0.1181
ELASTOMERIC BEARING HOLE OR SLOT SIZE	±0.1181
ELASTOMERIC BEARING HOLE OR SLOT LOCATION	±0.1181

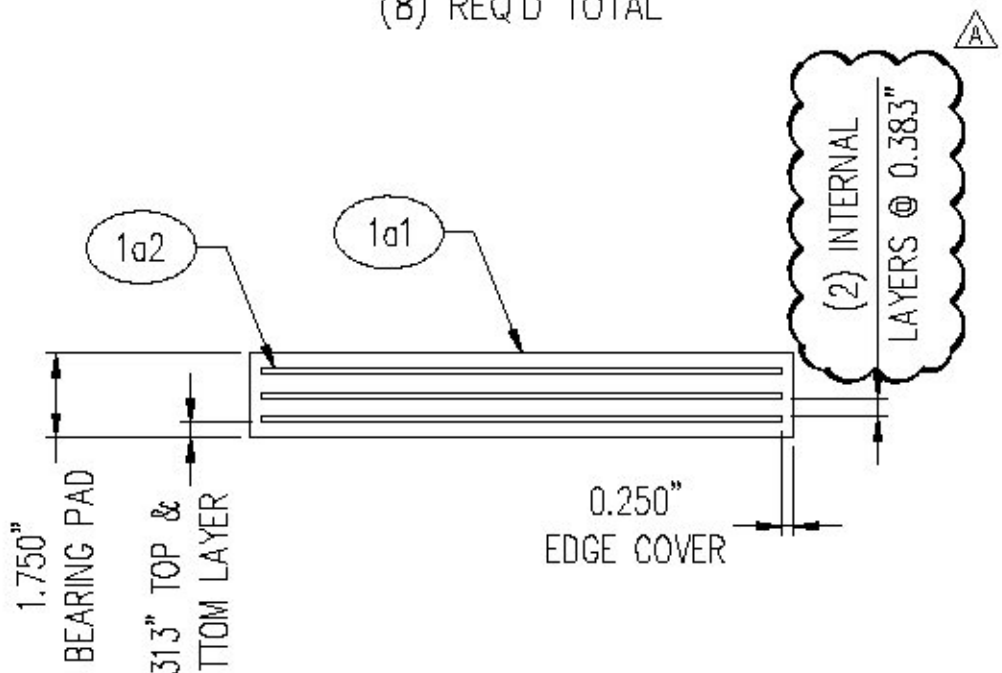
GENERAL NOTES:

1. MATERIALS SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011 AND THE LATEST REVISIONS, INCLUDING SUPPLEMENTARY SPECIFICATIONS, CONTRACT PLANS, AND THE SPECIAL PROVISIONS.
2. THIS SHOP DRAWING WAS PREPARED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. THE D.S. BROWN COMPANY DOES NOT ACCEPT LIABILITY FOR THE DESIGN OF THE PRODUCTS DETAILED IN THIS SHOP DRAWING.
3. THE D.S. BROWN COMPANY TO SUPPLY ONLY THE PARTS SHOWN ON THIS DRAWING.
4. ALL BEARINGS SHALL BE ENCASED IN CONCRETE IN THE FIELD. IN CONFORMANCE WITH THE SPECIAL PROVISIONS NO TESTING IS REQUIRED FOR FULLY ENCASED BEARINGS.
5. IN ACCORDANCE WITH STATE SPECIFICATIONS, THE FABRICATOR SHALL HAVE THE OPTION TO USE NEOPRENE OR NATURAL RUBBER FOR THE ELASTOMER.
6. INTERNAL ALIGNMENT PINS: AFTER FABRICATION, HOLES TO BE FILLED WITH ELASTOMER EQUIVALENT TO THAT USED IN THE MANUFACTURE OF THE PAD.
7. WELDING PROCEDURES, IF APPLICABLE, SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE REACHED BY SURFACES IN CONTACT WITH THE ELASTOMER TO 200°F (93°C). TEMPERATURES SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS.

Δ	SHIM THICKNESS CHANGE	4/7/16	RTP	ECW	
REV.	DESCRIPTION	DATE	DET.	CKD.	
	LOCATION — WARDSBORO		ITEM	QUANTITY	
	BRIDGE — 68		—	—	
	PROJECT — BRF 013-1(15)		—	—	
	—		—	—	
	—		—	—	
	—		—	—	
	—		—	—	
	CUSTOMER — RENAUD BROTHERS		—	—	
			—	—	
DESCRIPTION:	VERSIFLEX ELASTOMERIC BEARING	SCALE: N.T.S.	DRAWN BY: RTP	CHECKED BY: ECW	DATE: 5/23/2016
	WINDHAM CO., VT	PRODUCT NUMBER: 49531	PRODUCT CODE: 1103	RELEASE: 1	BRIDGE SHEET: —
					SHEET: 01



1A — PLAN VIEW  
LAMINATED ELASTOMERIC BEARING  
(4) REQ'D @ BRIDGE 68, ABUTMENT 1  
(4) REQ'D @ BRIDGE 68, ABUTMENT 2  
(8) REQ'D TOTAL



SECTION VIEW

Vermont Agency of Transportation

RECEIVED

CK'D BY D. PETERSON

OK'D BY C. CARLSON

April 11, 2016

RESUBMIT NO

Approved

BY C. CARLSON

DATE 04/11/2016



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