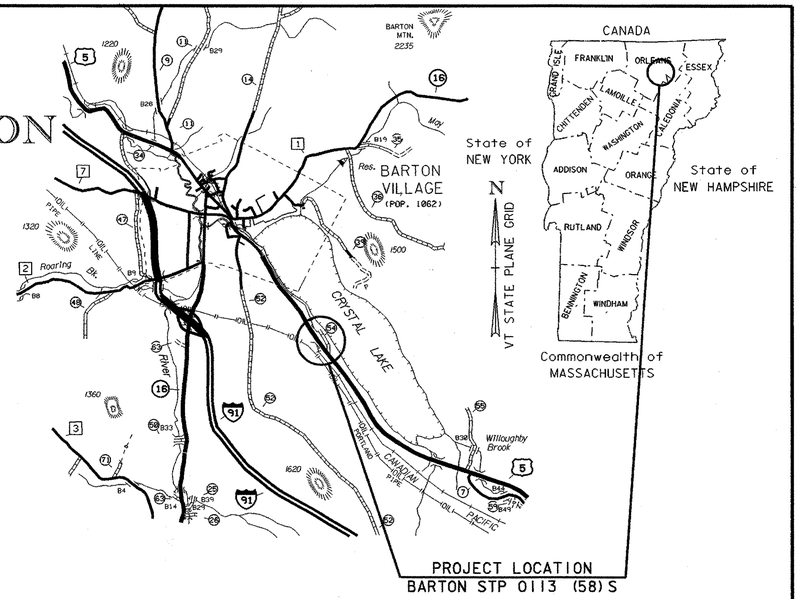
1. TITLE SHEET
2. PRELIMINARY INFORMATION SHEET (INDEX OF SHEETS)

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

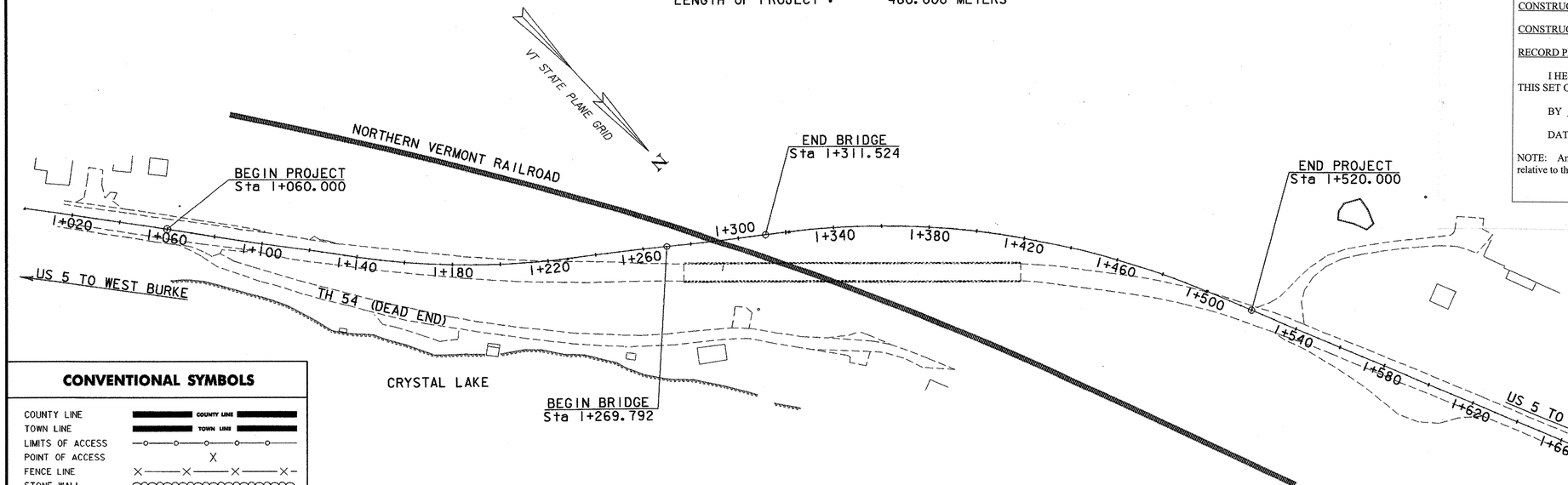
TOWN OF BARTON
COUNTY OF ORLEANS

ROUTE NO : US ROUTE 5 BRIDGE NO : 161

PROJECT LOCATION : On US 5, beginning 1.10 km from Barton Village line continuing toward Barton for 0.460 km.

PROJECT DESCRIPTION : Reconstruction of US 5 including removal of existing bridge over Northern Vermont Railroad and construction of a new bridge.

LENGTH OF STRUCTURE : 41.732 METERS
LENGTH OF ROADWAY : 418.268 METERS
LENGTH OF PROJECT : 460.000 METERS



RECORD PLANS

CONTRACTOR:	WINTERSET - LYNDONVILLE
RESIDENT ENGINEER:	DAVE SARGENT
CONSTRUCTION BEGAN:	AUGUST 22, 2002
CONSTRUCTION COMPLETE:	SEPTEMBER 17, 2004
RECORD PLANS BY:	D. SARGENT & K. McCLURE

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

BY Kevin McClure ASST RESIDENT ENGINEER

DATE 9/9/05

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.

CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS (SR SR SR)
TOP OF CUT
TOE OF SLOPE

SURVEYED BY : R. BULLOCK, R. GILMAN
SURVEYED DATE : AUGUST 1996, MAY 1999

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

0 20 40 60
SCALE 1:1000

Metric
UNLESS NOTED OTHERWISE
STATIONS ARE IN KILOMETERS
ELEVATIONS ARE IN METERS
DIMENSIONS ARE IN MILLIMETERS

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROJECT DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1995, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON AUGUST 21, 1995 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DIRECTOR OF PROJECT DEVELOPMENT
APPROVED _____ DATE 11/9/01

PROJECT MANAGER : C.P. WILLIAMS

PROJECT NAME : BARTON
PROJECT NUMBER : AC STP 0113 (58)S

SHEET 1 OF 120 SHEETS

PLOTTED 08-NOV-2001 96c116/structures/sc116bdr.dgn sc116tit.i

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

VAOT Metric

INDEX OF SHEETS

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4.	Quantity Sheet #1	96.	Relocate US 5 Cross Section Sheet #8
5.	Quantity Sheet #2	97.	Relocate US 5 Cross Section Sheet #9
6.	Quantity Sheet #3	98.	Relocate US 5 Cross Section Sheet #10
7.	Tie Sheet #1	99.	Relocate US 5 Cross Section Sheet #11
8.	Tie Sheet #2	100.	Relocate US 5 Cross Section Sheet #12
9.	Layout Sheet #1	101.	Relocate US 5 Cross Section Sheet #13
10.	Layout Sheet #2	102.	Relocate US 5 Cross Section Sheet #14
11.	Layout Sheet #3	103.	Relocate US 5 Cross Section Sheet #15
12.	Layout Sheet #4	104.	Relocate US 5 Cross Section Sheet #16
13.	Layout Sheet #5	105.	Relocate US 5 Cross Section Sheet #17
14.	U.S. 5 Profile Sheet #1	106.	Relocate US 5 Cross Section Sheet #18
15.	U.S. 5 Profile Sheet #2	107.	Relocate US 5 Cross Section Sheet #19
16.	U.S. 5 Profile Sheet #3	108.	Relocate US 5 Cross Section Sheet #20
17.	U.S. 5 Profile Sheet #4	109.	Relocate US 5 Cross Section Sheet #21
18.	T.H. 54 Profile Sheet	110.	Relocate US 5 Cross Section Sheet #22
19.	One Way Detour Sheet	111.	Relocate US 5 Cross Section Sheet #23
20.	Phased Construction Sheet	112.	Relocate US 5 Cross Section Sheet #24
21.	Detour Layout Sheet #1	113.	Relocate US 5 Cross Section Sheet #25
22.	Detour Layout Sheet #2	114.	Relocate US 5 Cross Section Sheet #26
23.	Detour Layout Sheet #3	115.	Relocate US 5 Cross Section Sheet #27
24.	Detour Layout Sheet #4	116.	Relocate US 5 Cross Section Sheet #28
25.	Detour Layout Sheet #5	117.	Relocate US 5 Cross Section Sheet #29
26.	Detour Layout Sheet #6	118.	Relocate US 5 Cross Section Sheet #30
27.	Detour Layout Sheet #7	119.	Relocate US 5 Cross Section Sheet #31
28.	Detour Layout Sheet #8	120.	T.H. 54 Coss Section Sheet
29.	Detour Layout Sheet #9		
30.	Detour Layout Sheet #10		
31.	Boring Layout Sheet		
32.	Boring Log Sheet #1		
33.	Boring Log Sheet #2		
34.	Boring Log Sheet #3		
35.	Boring Log Sheet #4	STANDARDS	
36.	Boring Log Sheet #5		
37.	Plan and Elevation Sheet	B-5 M	1/3/2000
38.	Erosion Control Layout Sheet #1	B-71 M	6/13/1997
39.	Erosion Control Layout Sheet #2	BR1-97M	8/6/1998
40.	Erosion Control Layout Sheet #3	C-1M	1/3/2000
41.	Erosion Control Layout Sheet #4	D-2M	6/13/1997
42.	Erosion Control Layout Sheet #5	D-4M	6/13/1997
43.	Drainage Profile Sheet #1	D-6M	6/13/1997
44.	Drainage Profile Sheet #2	D-9M	6/13/1997
45.	Drainage Profile Sheet #3	D-15M	6/13/1997
46.	Drainage Detail Sheet	D-16M	6/13/1997
47.	Gabion Wall Detail Sheet	E-100M	6/13/1997
48.	Traffic Sign Summary Sheet	E-101M	6/13/1997
49.	General Note Sheet	E-102AM	6/13/1997
50.	Typical Bridge Section Sheet	E-102M	6/13/1997
51.	Framing Plan & Girder Elevation Sheet	E-106M	6/13/1997
52.	Structural Steel Detail Sheet #1	E-107AM	6/13/1997
53.	Structural Steel Detail Sheet #2	E-107M	6/13/1997
54.	Expansion Bearing Detail Sheet	E-108M	6/13/1997
55.	Fixed Bearing Detail Sheet	E-110M	6/13/1997
56.	Bearing Note Sheet	E-121M	6/13/1997
57.	Expansion Joint Typical Section Sheet	E-123M	6/13/1997
58.	Expansion Joint Plan Sheet	E-134M	6/13/1997
59.	Curb Plate Detail Sheet	E-136AM	6/13/1997
60.	Down Spout Details	E-136BM	6/13/1997
60A.	Scupper Details	E-138M	6/13/1997
61.	Approach and Base Slab Typical Sections	E-140M	6/13/1997
62.	Approach Slab Details	E-142M	6/13/1997
63.	Base Slab Details	E-143M	6/13/1997
64.	Abutment 1 Detail Sheet #1	E-152M	6/13/1997
65.	Abutment 1 Detail Sheet #2	E-160M	6/13/1997
66.	Abutment 2 Detail Sheet #1	E-162M	6/13/1997
67.	Abutment 2 Detail Sheet #2	E-170M	11/4/1999
68.	Miscellaneous Detail Sheet	E-171AM	6/13/1997
69.	Abutment 1 MSE Wall Plan and Elevation Sheet	E-171BM	6/13/1997
70.	Abutment 2 MSE Wall Plan Sheet	E-172M	6/13/1997
71.	Abutment 2 MSE Wall Elevation Sheet	E-173M	6/13/1997
72.	MSE Wall Detail Sheet #1	E-175M	6/13/1997
73.	MSE Wall Detail Sheet #2	G-1M	1/3/2000
74.	MSE Wall Note Sheet	G-1dM	1/3/2000
75.	Reinforced Soil Slope Detail Sheet #1	T-1M	6/13/1997
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82.	Right of Way Sheet #1		
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88.	Right of Way Sheet #7		
89.	Relocate US 5 Cross Section Sheet #1		
90.	Relocate US 5 Cross Section Sheet #2		
91.	Relocate US 5 Cross Section Sheet #3		
92.	Relocate US 5 Cross Section Sheet #4		

FINAL HYDRAULIC REPORT

LFD LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	SA. SEMI
INVENTORY	39	41					
POSTED	55	57	63		57	57	60
OPERATING		69	75	84	68	68	

COMMENTS: Servicibility Governs Load Rating

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2000	950	130	50	4	70
2020	1290	180	50	3	70

20 year ESAL for flexible pavement 2000 to 2020 : 834,000
40 year ESAL for flexible pavement 2000 to 2040 : 2,07,000
Design Speed : 80 km/h

DESIGN CRITERIA

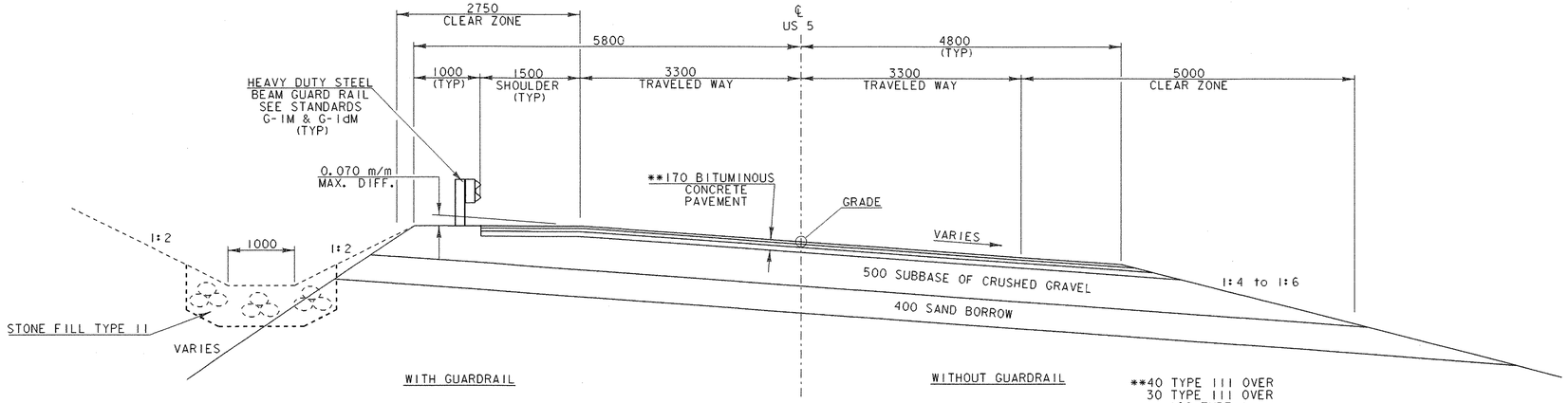
1. DESIGN LIVE LOAD AASHTO: MS 22.5
2. DESIGN SPAN: 40 METERS CENTERLINE TO CENTERLINE OF BEARING
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL: 192 kPa
   ON LEDGE: N/A
4. ALLOWABLE LOAD FOR PILING: N/A
   TYPE: N/A
   ESTIMATED LENGTH: N/A
5. STRUCTURAL STEEL AASHTO GRADE: M270M GR 345 W
6. REINFORCING STEEL GRADE: 420 Mpa
7. CONCRETE CLASS A (HPC-A) f'c : 30 Mpa
   CONCRETE CLASS B (HPC-B) f'c : 25 Mpa
   CONCRETE CLASS D f'c : 20 Mpa
8. SOIL UNIT WEIGHT: 22.00 kN/m3
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL: (SEE MSE WALL NOTES)

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? YES
   IF YES, ON EXISTING STRUCTURE: YES
   OR ON TEMPORARY BRIDGE: NO
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OF TWO WAY: N/A
   TRAFFIC CONTROL SIGNALS REQUIRED: YES
   MINIMUM CLEAR SPAN (NORMAL TO STREAM): N/A
   WATERWAY OF FULL OPENING: N/A
   VERTICAL CLEARANCE ABOVE STREAMBED: N/A
   ARE SIDEWALKS REQUIRED? NO
   IF SO, ON WHAT SIDE? N/A
   STRUCTURE TYPE: N/A

PROJECT NAME: **Barton**
PROJECT NUMBER: **STP 0113 (58)s**

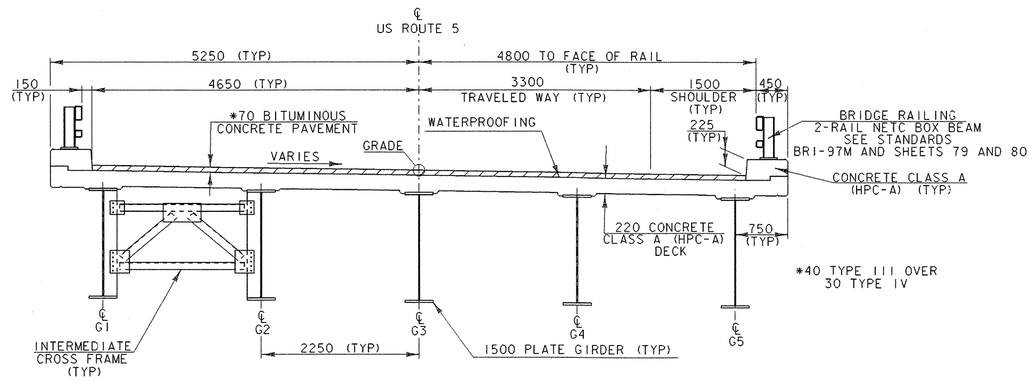
FILE NAME: **sc116pi.xls** PLOT DATE: **11/2/01**
PROJECT LEADER: **C.P. Williams** DRAWN BY: **P.G. Jarvis**
DESIGNED BY: **W.B. Symonds** CHECKED BY: **W.B. Symonds**
PRELIMINARY INFORMATION SHEET SHEET **2** OF **120**



US 5 TYPICAL ROADWAY SECTION

0 1 2 3 4

SCALE = 1:40

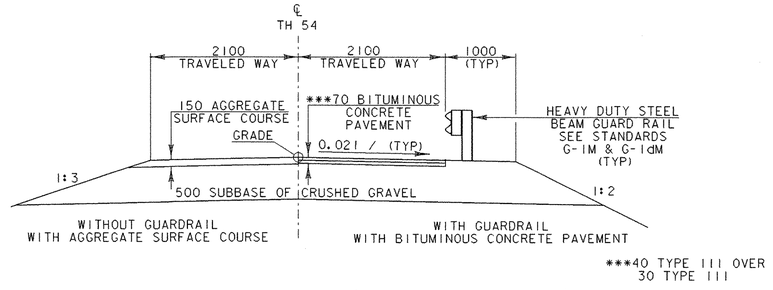


TYPICAL BRIDGE SECTION

0 1 2 3 4

SCALE = 1:40

MATERIAL ITEM	TOLERANCE
PAVEMENT	±5 mm TOTAL THICKNESS
AGGREGATE SURFACE COURSE	± 10 mm
BASE COURSE	± 10 mm
SUBBASE	± 30 mm
SAND BORROW	± 30 mm
GRANULAR BORROW	± 30 mm



TH 54 TYPICAL ROADWAY SECTION

0 1 2 3 4

SCALE = 1:40

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BARTON	Bridge No. 161
Highway No. US ROUTE 5	Log Sta. / Surv. Sta.
US ROUTE 5 OVER NORTHERN VERMONT RAILROAD	
TYPICAL SECTIONS	
Designed By W.B. SYMONDS	Drawn By P.G. JARVIS
Checked By W.B. SYMONDS Date 12/98	Bridge Design Supervisor C.P. WILLIAMS Date 12/98
PROJECT BARTON	PROJECT NO. STP 0113(58)S
I.G.C. Info. 96c116/structures/sc116typ.dgn	sc116typ.i
Bridge Sheet No.	Sheet 3 of 120

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

BRIDGE

Roadway		Super-Structure		Abutment #1		Abutment #2		Approach Slabs		Base Slabs			Erosion Control	Full C & E	Employee Traineeship
1.5															
6600															
100															
320															
22270															
2065															
3720															
~~474~~ 368													~~40~~ 0		
40															
185															
2790															
25															
670															
1937															
		119						4		10					
~~18~~ 19.03				~~40~~	+	~~43~~	+	~~48~~	+	~~59~~	=	199.98			
38															
69															
720															
		74732													
		100													
						10.6									
~~785~~ 827				~~1625~~	+	~~2093~~	3963								
		14925		233		233		4186		4558					
		1													
		1													
		1													
		39		35		52									
						12.200									
		382						116							
		31.3						7		22.7					
		167													
				~~216~~	~~222~~	~~494~~	~~491.4~~								
1															
		1030													
		1													
				5											
						5									
1															
1															
1															
101.4															
101.4															
101.4															

TOTALS

BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL
		1.5 ✓	1.5
		~~6600~~	8207
		~~100~~	346.5
		~~320~~	261.4
		~~22270~~	23093
		~~2065~~	1976.6
		~~3720~~	7453.7
		~~184~~	368
		~~40~~	72.7
		~~185~~	216.0
		~~2790~~	2804.4
		~~25~~	22.9
		~~670~~	2706
		~~1937~~	1963.8
		~~133~~	132.94
		~~208~~	219.01
		~~38~~	39.29
		~~69~~	68.69
		~~720~~	131
		~~74732~~	74815
		~~100~~	108
		~~10.5~~	9.60
		~~4801~~	4790
		~~24135~~	25426
		1 ✓	1
		1 ✓	1
		1 ✓	1
		126 ✓	126
		~~12.200~~	12.12
			10.78
		~~498~~	493.7
		~~61~~	63
		~~167~~	166.97
		~~710~~	713.40
		1 ✓	1
		1030 ✓	1030
		1 ✓	1
		5 ✓	5
		5 ✓	5
		1 ✓	1
		1 ✓	1
		1 ✓	1
		101.4	
		101.4	
		101.4	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
HA	CLEARING AND GRUBBING (Including Individual Trees And Stumps)	201.11
CM	COMMON EXCAVATION	203.15
CM	SOLID ROCK EXCAVATION	203.16
CM	EXCAVATION OF SURFACES AND PAVEMENTS	203.28
CM	EARTH BORROW	203.30
CM	SAND BORROW	203.31
CM	GRANULAR BORROW	203.32
CM	TRENCH EXCAVATION OF EARTH	204.20
CM	GRANULAR BACKFILL FOR STRUCTURES	204.30
SM	COLD PLANING-BIT.PAVEMENT	210.10
CM	SUBBASE OF CRUSHED GRAVEL (COARSE GRADED)	301.25
CM	AGGREGATE SURFACE COURSE	401.10
KG	EMULSIFIED ASPHALT	404.65
T	BITUMINOUS CONCRETE PAVEMENT (PG 98-34)	406.25
CM	CONCRETE, CLASS A (HPC-A)	501.22
CM	CONCRETE, CLASS B (HPC-B)	501.26
CM	CONCRETE CLASS D (MOD)	501.31
SM	PERMANENT STEEL SHEET PILING	505.35
SM	TEMPORARY STEEL SHEET PILING (MOD)	505.36
KG	STRUCTURAL STEEL (PLATE GIRDER)	506.55
KG	STRUCTURAL STEEL	506.60
M	DRAIN TROUGH (MOD)	506.80
KG	REINFORCING STEEL	507.15
KG	EPOXY COATED REINFORCING STEEL	507.17
LS	SHEAR CONNECTORS (1260 - 22 Dia. x 178)	506.15
LS	STRUCTURAL PAINTING,SHOP APPLIED (4.1 Metric Tons)	513.25
LS	SURFACE PREPARATION,SHOP (4.1 Metric Tons)	513.40
L	WATER REPELLENT	514.10
M	BRIDGE EXPANSION JOINT	516.10
M	BRIDGE EXPANSION JOINT (MOD) ASPHALTIC PLUG JOINT C.O. #8 11-17-03	516.10
SM	SHEET MEMBRANE WATERPROOFING (MOD - TORCH APPLIED)	519.20
M	JOINT SEALER, POLYURETHANE	524.21
M	BRIDGE RAILING - NETC 2 RAIL	525.33
SM	MECHANICALLY STABILIZED EARTH (MSE) WALL	526.20
LS	MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS	527.10
SM	REMOVAL OF BRIDGE PAVEMENT	529.10
EACH	REMOVAL OF STRUCTURE	529.15
EACH	BEARING DEVICE ASSEMBLY (FIXED)	531.10
EACH	BEARING DEVICE ASSEMBLY (EXPANSION)	531.10
LS	CULVERT LINING (450 w/ PVC LINER)	575.20
LS	CULVERT LINING (600 w/ PVC LINER)	575.20
LS	CULVERT LINING (900 w/ GROUTED PEP LINER)	575.20
	BEGIN 450 mm PIPE OPTIONS	
M	450 mm CAAP 2.67 mm (68 mm X 12 mm)	601.0217
M	450 mm PCCSP 2.01 mm (68 mm X 12 mm)	601.0416
M	450 mm CPEP	601.0815
	END 450 mm PIPE OPTIONS	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

ARCHIVED ON CADD

PROJECT NAME: Barton
PROJECT NUMBER: STP 0113(58)s

FILE NAME: sc116qua.xls
PROJECT LEADER: C.P. Williams
DESIGNED BY: W.B. Symonds
QUANTITY SHEET #1

PLOT DATE: 3/11/02
DRAWN BY: R.S. Young
CHECKED BY: W.B. Symonds
SHEET 4 OF 120

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

Roadway		Super-Structure		Abutment #1		Abutment #2		Approach Slabs		Base Slabs			Erosion Control	Full C & E	Employee Traineeship
2.2															
40.0															
18															
18															
8															
8															
8															
9															
1															
2															
5															
110															
2															
10															
~~10~~ 5													~~10~~ 23		
4															
100															
2600															
9098															
				~~3.5~~ 29		~~3.5~~ 29									
~~48~~ 90.8													~~10~~ 27.3		
5860															
72															
51															
155															
10															
30															
85															
465															
2															
1															
4															
4															
429															
400															
48															
500															
100															
														1	
														1	
														1	
														1	

TOTALS

BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL
		~~2.2~~	3.0
		~~40~~	60.54
		18	
		~~18~~	18
		8	
		8	
		~~8~~	8
		~~9~~	0
		~~1~~	0
		~~2~~	1
		~~5~~	5
		~~110~~	142.4
		2 ✓	2
		~~10~~	0
		~~20~~	28
		~~4~~	1.36
		~~100~~	96.00
		~~2600~~	2685.1
		~~9098~~	7293
		~~7~~	5.8
		~~98~~	268.1
		~~5860~~	5579.9
		~~72~~	131.76
		~~51~~	50.4
		~~155~~	174.5
		~~10~~	18
		~~30~~	0
		~~85~~	70
		~~465~~	486.9
		~~2~~	1
		1 ✓	1
		~~4~~	5
		4 ✓	4
		~~429~~	439
		~~400~~	458.2
		~~48~~	0
		~~500~~	1912.5
		~~100~~	223.5
		1 ✓	1
		1 ✓	1
		1 ✓	1
		~~1~~	1.23

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
M	600 mm PCCSP 2.01 mm (68 mm X 12 mm)	601.0426
M	600 mm CPEP	601.0920
	BEGIN 1200 mm PIPE OPTIONS	
M	1200 mm CAAP 2.67 mm (68 mm X 12 mm) (MOD)	601.0257
M	1200 mm PCCSP 2.77 mm (68 mm X 12 mm) (MOD)	601.0457
	END 1200 mm PIPE OPTIONS	
	BEGIN 450 mm ELBOW OPTIONS	
EACH	450 mm CAAP ELBOW 1.52 mm (68 mm X 12 mm) (MOD)	601.5215
EACH	450 mm PCCSP ELBOW 1.63 mm (68 mm X 12 mm) (MOD)	601.5415
EACH	450 mm CPEP ELBOW	601.5814
	END 450 mm ELBOW OPTIONS	
M	CLEANING CULVERT PIPE IN PLACE (0-600 mm INCLUSIVE)	601.995
EACH	REHABING DI CB OR MH CLASS II	604.415
EACH	CAST IRON GRATE WITH FRAME, TYPE D	604.47
EACH	CAST IRON GRATE WITH FRAME, TYPE E	604.48
M	150 mm UNDERDRAIN	605.10
EACH	UNDERDRAIN FLUSHING BASINS	605.95
HR	POWER GRADER RENTAL	606.15
HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	609.25
T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15
CM	GABION RETAINING WALL	612.10
SM	REINFORCED SOIL SLOPE (MOD1)	612.20
SM	REINFORCED SOIL SLOPE (MOD2) (MOD3) C.O. #1 3-24-03	612.20
CM	STONE FILL, TYPE I (MOD1)	613.10
CM	STONE FILL, TYPE I (MOD2)	613.10
CM	STONE FILL TYPE II	613.11
CM	STONE FILL TYPE IV	613.13
M	CAST-IN PLACE CEMENT CONCRETE CURB, TYPE B	616.26
M	TREATED TIMBER CURB	616.35
EACH	STEEL MARKER POSTS	619.16
M	REMOVING AND RESETTING FENCE	620.50
M	SNOW FENCE	620.70
M	HEAVY DUTY STEEL BEAM GUARD RAIL	621.21
EACH	MANUFACTURED TERMINAL SECTION	621.505
EACH	ENERGY ABSORPTION ATTENUATOR	621.56
EACH	ANCHOR FOR STEEL BEAM RAIL	621.60
EACH	GUARD RAIL APPR. SECTION,NETC 2 RAIL	621.72
M	REMOVL AND DISP OF GUARD RAIL	621.80
M	TEMPORARY TRAFFIC BARRIER	621.90
HR	UNIFORMED TRAFFIC OFFICERS	630.10
HR	FLAGGERS	630.15
HR	FLAGGERS(MOD)	630.15
LS	FIELD OFFICE-ENGINEERS	631.10
LS	TESTING EQUIPMENT - CONCRETE	631.16
LS	TESTING EQUIPMENT - BITUMINOUS	631.17
LU	FIELD OFFICE - TELEPHONE (NABI)	631.25

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

ARCHIVED ON CADD

PROJECT NAME:	Barton
PROJECT NUMBER:	STP 0113(58)S
FILE NAME:	sc116qus.xls
PROJECT LEADER:	C.P. Williams
DESIGNED BY:	W.B. Symonds
QUANTITY SHEET #2	
PLOT DATE:	3/11/02
DRAWN BY:	R.S. Young
CHECKED BY:	W.B. Symonds
SHEET	5 OF 120

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

Roadway		Super-Structure		Abutment #1		Abutment #2		Approach Slabs		Base Slabs			Erosion Control	Fall C & E	Employee Traineeship	BRIDGE QUANTITY
															1040	
1																
1085																
1080																
2000																
120																
9																
83																
													9850			
215																
													1170			
													82			
													82			
													655			
													5			
													5			
													300			
													10			
													8875			
													10			
10																
10																
2.957																
30.0																
13																
7																
4																
1																
2																

TOTALS

ROUND	GRAND TOTAL	FINAL
	1040 ✓	1040
	1 ✓	1
	1085	1058
	1080	1058
	2000	2503
	120	2256
	9	14
	83	75.5
	9850	10381
	215	322
	1170	307
	82	
	82	0
	655	
	5	
	5	
	300	23
	10	
	8875	8428
	10	635.4
	10	6
	10	1
	2.957	5.28
	30.0	54.9
	13 ✓	13
	7	5
	4	0
	1 ✓	1
	2 ✓	2
		1
		1
		1
		1
		1

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
HR	EMPLOYEE TRAINEESHIP	634.10
LS	MOBILIZATION	635.10
M	DURABLE 100 mm WHITE LINE (MOD) C.O. #7 10-9-03	646.40
M	DURABLE 100 mm YELLOW LINE (MOD) C.O. #7 10-9-03	646.41
M	TEMPORARY 100 mm WHITE LINE	646.60
M	TEMPORARY 100 mm YELLOW LINE	646.61
M	TEMPORARY 600 mm STOP BAR	646.66
SM	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85
SM	GEOTEXTILE UNDER STONE FILL	649.31
SM	GEOTEXTILE FOR UNDERDRAIN TRENCH LINING	649.41
SM	GEOTEXTILE FOR SILT FENCE	649.51
KG	SEED	651.15
KG	SEED-WINTER RYE	651.17
KG	FERTILIZER	651.18
T	AGRICULTURAL LIMESTONE	651.20
T	HAY MULCH	651.25
EACH	HAY BALES FOR EROSION CONTROL	651.26
CM	TOPSOIL	651.35
SM	GRUBBING MATERIAL	651.40
SM	EROSION MATTING C.O. #11 12-11-03	654.10
EACH	EVERGREEN TREES (b/b Abies Balsamea - 3000 mm)(Balsam Fir)	656.20
EACH	DECIDUOUS TREES (50 mm b/b Acer Saccharum)(Sugar Maple)	656.30
SM	TRAFFIC SIGNS, TYPE A	675.20
M	FLANGED CHANNEL SIGN POSTS	675.301
EACH	REMOVING SIGNS	675.50
EACH	ERECTING SALVAGED SIGNS	675.60
EACH	SETTING SALVAGED POSTS	675.61
EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM	678.40
EACH	TEMPORARY DETECTOR	678.42
LS	EROSION & SEDIMENT CONTROL PLAN C.O. #5 06-20-03	652.10
HR	MONITORING EROSION & SEDIMENT CONTROL PLAN C.O. #5 06-20-03	652.20
LU	FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN C.O. #5 06-20-03	652.30
EA	600 MM CPEP ELBOW (SL) C.O. #3 05-16-03	601.5826
EA	PRC PIPE DROP INLET W/ CAST IRON GRATES C.O. #4 05-16-03	604.25
LS	EXTRA WORK ORDER #6 C.O. #6 10-9-03	900.06

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

ARCHIVED ON CADD

PROJECT NAME: Barton
PROJECT NUMBER: STP 0113(58)s

FILE NAME: sc116qua.xls
PROJECT LEADER: C.P. Williams
DESIGNED BY: W.B. Symonds
QUANTITY SHEET #3

PLOT DATE: 3/11/02
DRAWN BY: R.S. Young
CHECKED BY: W.B. Symonds
SHEET 6 OF 120

GEODETIC CONTROL INFORMATION

Metric

GENERAL LOCATION: Barton, VT. From the intersection of US Route 5 and VT Route 16 South in Barton at the Veterans War Memorial go south on US Route 5 for 2.9 km (1.8 mi) to the mark on the left. The mark is 20 m (65.6 ft) southeast of the centerline of TH 54, 19 m (62.3 ft) west southwest of the edge of Crystal Lake, 8.3 m (27.2 ft) south of a 0.1 m (0.3 ft) Poplar tree, 7.1 m (23.3 ft) east northeast of and 0.3 m (1.0 ft) lower than the centerline of US Route 5 and 0.3 m (1.0 ft) west southwest of a fiberglass witness post.

"CRYSTAL LAKE"
(NOT SHOWN)
N = 247,879.948 m
E = 527,065.609 m
Z = 243.120 m
Survey Disk set into the top of a
7' x 4' rock outcrop.

POINT #2

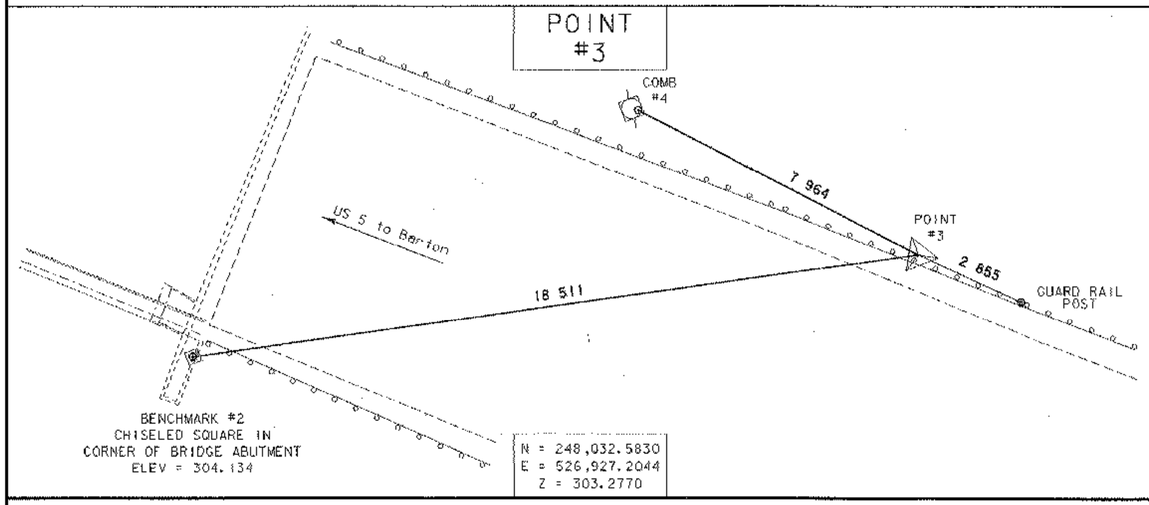
GENERAL LOCATION: Barton, VT. From the intersection of US Route 5 and VT Route 16 South in Barton at the Veterans War Memorial go south on US Route 5 for 3.7 km (2.3 mi) to the mark on the left. The mark is 7.5 m (24.6 ft) east of and 0.3 m (1.0 ft) lower than the centerline of US Route 5, 2.4 m (7.9 ft) southwest of a metal pipe property corner, 1.3 m (4.3 ft) south southeast of the furtheat north metal guardrail post, 0.5 m (1.6 ff) east of a three cable guardrail and 0.3 m (1.0 ft) west of a fiberglass witness post.

"CRYSTAL LAKE AZ MK"
(NOT SHOWN)
N = 247,222.181 m
E = 527,565.638 m
Z = Approximately 300.000 m
Survey Disk set into the top of an
irregular mass of concrete.

POINT #1

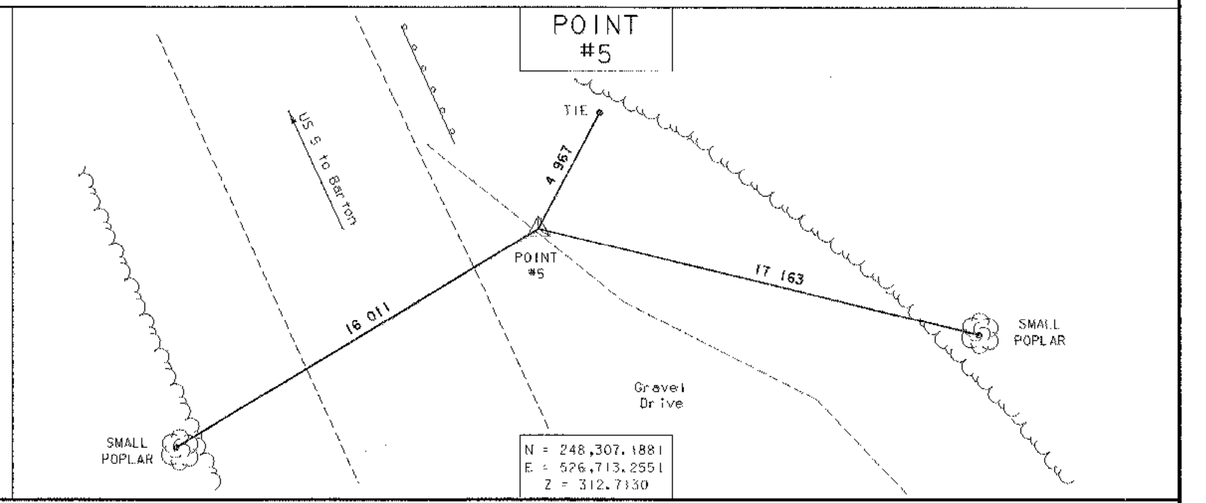
TRAVERSE TIE INFORMATION

POINT #3



N = 248,032.5830
E = 526,927.2044
Z = 303.2770

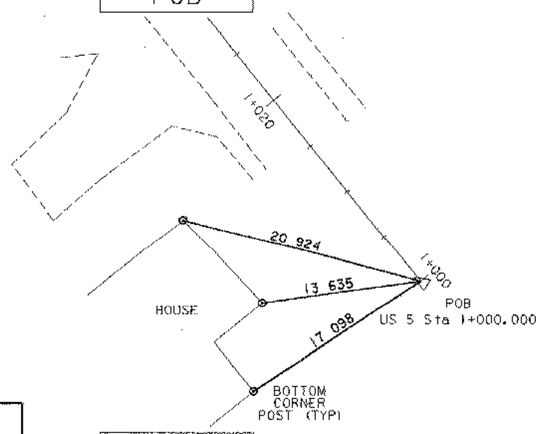
POINT #5



N = 248,307.1881
E = 526,713.2551
Z = 312.7130

NEW ALIGNMENT TIE INFORMATION

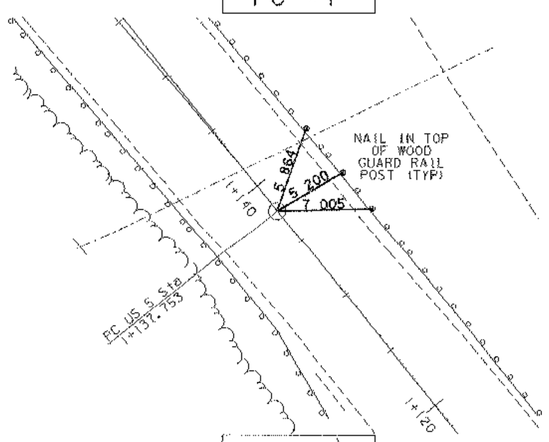
MAINLINE POB



DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

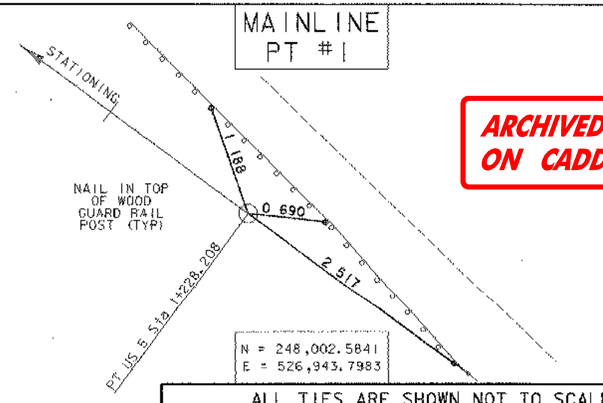
N = 247,832.9440
E = 527,095.3830

MAINLINE PC #1



N = 247,940.2258
E = 527,008.9745

MAINLINE PT #1



N = 248,002.5841
E = 526,943.7983

ARCHIVED ON CADD

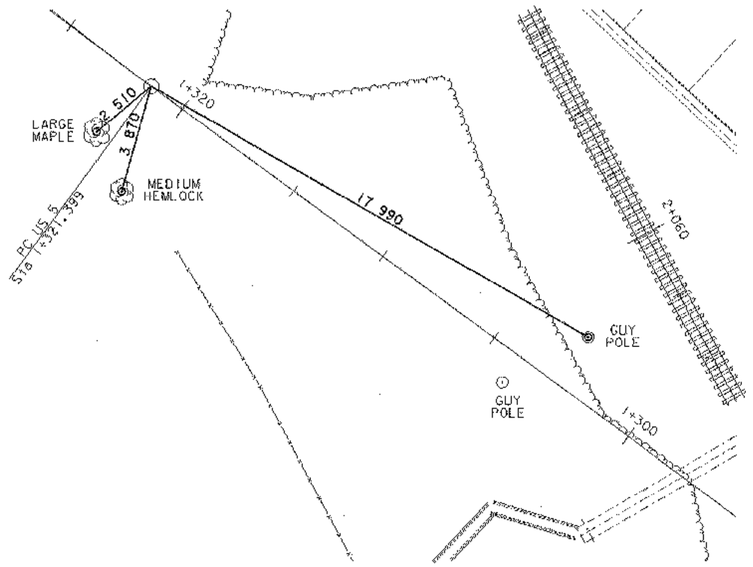
ALL TIES ARE SHOWN NOT TO SCALE

PROJECT: BARTON	PROJECT NO.: STP 0113(58)S
DESIGN FILE NAME: 96cl16/structures/scl16tie.dgn	
IPARM FILE NAME: scl16tie.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96, 5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
TIE SHEET	SHEET: 7 OF 120

NEW ALIGNMENT TIE INFORMATION

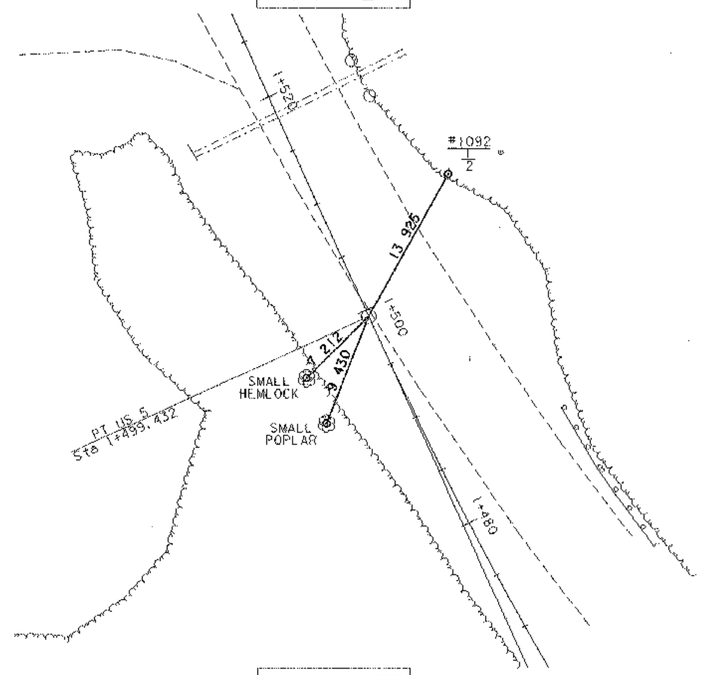
Metric

MAINLINE PC #2



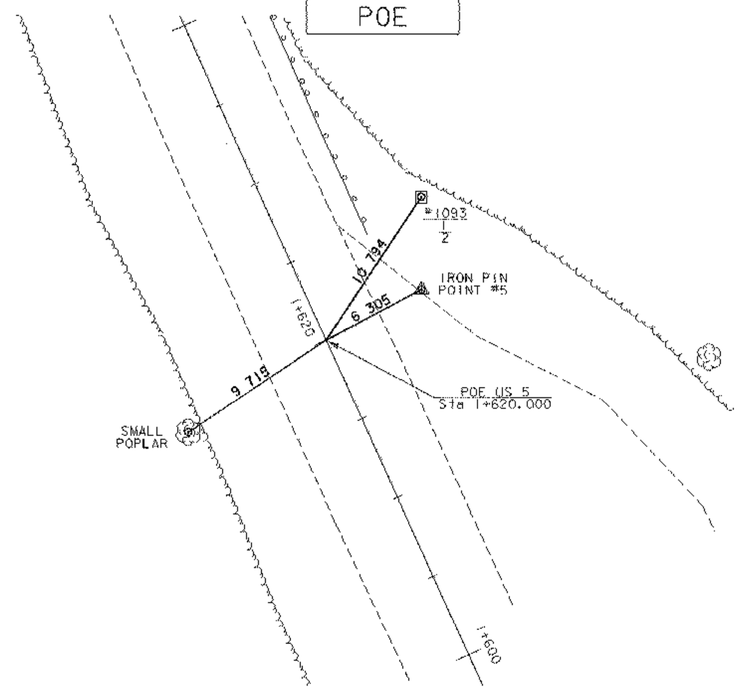
N = 248,057.7779
E = 526,868.7097

MAINLINE PT #2



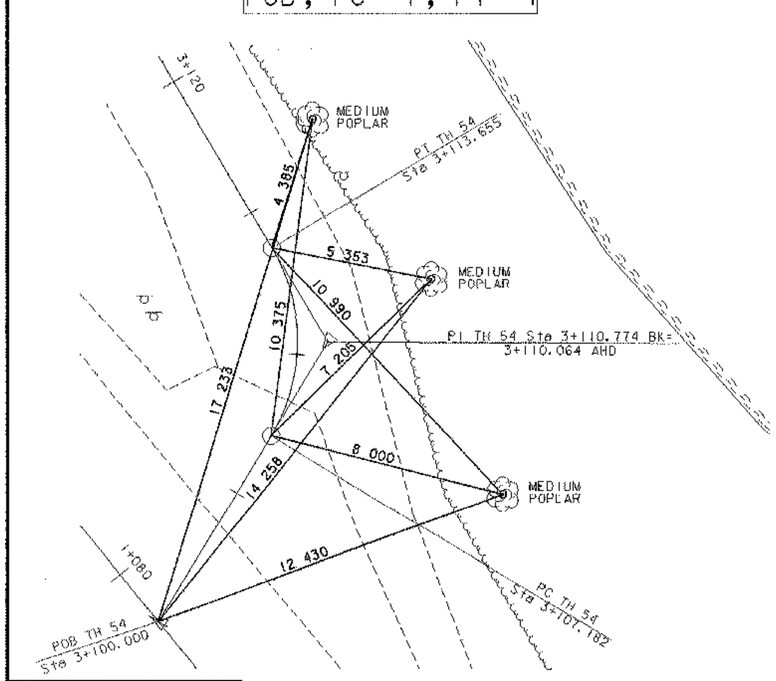
N = 248,194.4787
E = 526,757.6750

MAINLINE POE



N = 248,369.5700
E = 526,677.9260

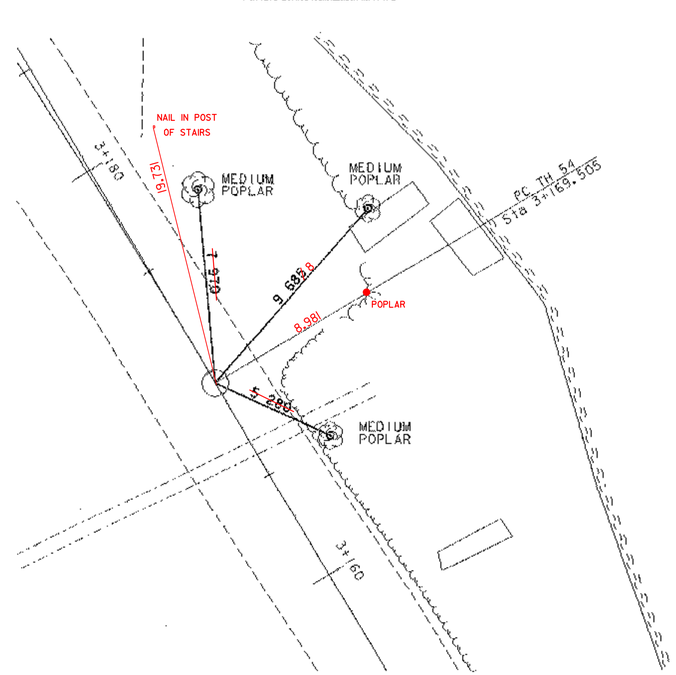
TH 54 POB, PC #1, PT #1



DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

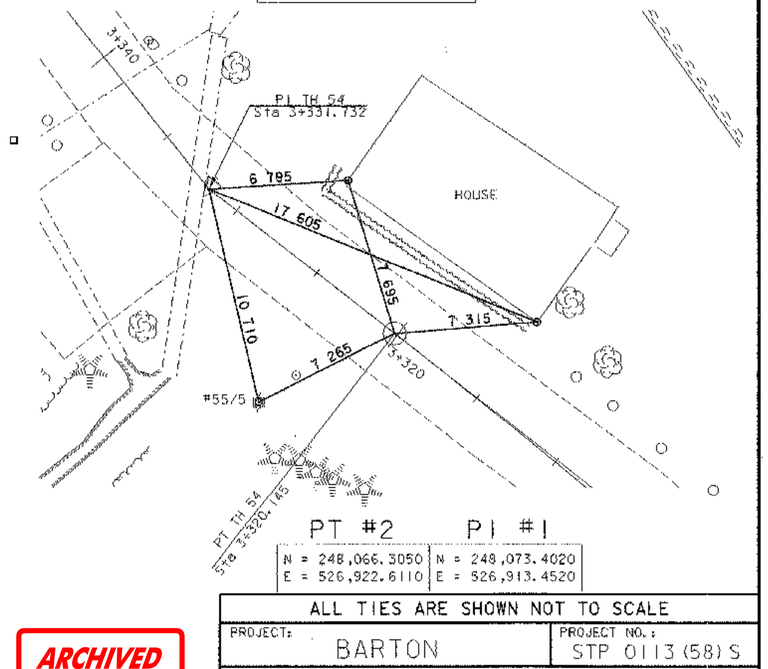
POB	PC #1	PT #1
N = 247,893.6900	N = 247,899.8370	N = 247,906.0000
E = 527,046.4560	E = 527,050.1720	E = 527,050.1990

TH 54 PC #2



N = 247,954.0460
E = 527,021.7250

TH 54 PT #2, PI #1



PT #2	PI #1
N = 248,066.3050	N = 248,073.4020
E = 526,922.6110	E = 526,913.4520

ALL TIES ARE SHOWN NOT TO SCALE

ARCHIVED ON CADD

PROJECT: BARTON	PROJECT NO.: STP 0113(58)S
DESIGN FILE NAME: 96cl60/structures/scl16tie.dgn	
IPARM FILE NAME: scl16t12.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96, 5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
TIE SHEET	SHEET: 8 OF 120

Metric

N ✓

NEXT 1500 FEET

R & S N

1+097.000

VT STATE PLANE GRID

APPROXIMATE AERIAL RELOCATION
ROUTE BY BARTON VILLAGE, INC. AND
NEW ENGLAND TELEPHONE & TELEGRAPH CO.

ALL NECESSARY EASEMENTS AND/OR AGREEMENTS FOR AERIAL UTILITIES WITHIN THE RAILROAD RIGHT-OF-WAY SHALL BE OBTAINED BY NEW ENGLAND TELEPHONE & TELEGRAPH CO.

TELE. #1087 OVERHEAD TELEPHONE LINE

NORTHERN VERMONT RAILROAD

TELE. #9 OVERHEAD TELEGRAPH LINE

TELE. #2020

ROW WOVEN WIRE FENCE FOR RAILROAD

OVERHEAD ELECTRIC LINE

IRON PIN RLS #409

ELEC. #3B

S. MAPLE

HOUSE

CABIN

SHRUB

CABIN

SHRUB

SHRUB

GRAVEL DRIVE

CONCRETE BOUNDARY MARKER

STREET LIGHT

CEDAR HEDGE

EXISTING 460 RCP

1100 DIA. TERRACED DI

S. MAPLE

US 5 Sta 1+078.000=
TH 54 Sta 3+100.000
Δ = 70°

POB US 5 Sta 1+000.005

1+000

BEGIN APPROACH Sta 1+020.000

PAVED SHOULDER

USS TO WEST BURKE

1+020

1+040

PAVED SHOULDER

1+060

CONCRETE BOUNDARY MARKER

POINT #2

CONCRETE BOUNDARY MARKER

BEGIN PROJECT Sta 1+060.000

1+080

70°

PC TH 54 Sta 1+01.182 1+100

1+120

R L Tan 80

TH 54 (GRAVEL)

STONE FILL, TYPE II

3+120

3+140

END OF PAVEMENT

WOODS

GABION WALL

END PROJECT TH 54 Sta 3+130.000

END APPROACH TH 54 Sta 3+150.000

PT TH 54 Sta 3+135.855

PI #1 TH 54 Sta 3+110.774 6R= 3+116.064 A=D

SEE SHEET 47 OF 120

MATCH LINE STA 1+130

CRYSTAL LAKE

1+ 101.4
HEAVY DUTY STEEL BEAM GUARDRAIL
Sta ~~1+087.100~~ RT - Sta 1+130.000 RT
Sta 1+115.300 LT - Sta 1+130.000 LT
Sta ~~1+058.~~100 RT - Sta 3+150 RT ✓
1+ 055

ANCHOR FOR STEEL BEAM RAIL
Sta ~~1+115.300~~ LT 1+ 112.1LT
Sta 1+058.~~8~~00 RT
STA 3 + 146.2 RT

MANUFACTURED TERMINAL SECTION (TANGENT)
Sta ~~1+087.100~~ RT 1+ 086.2 ~ 1+ 101.4 RT
~~Sta 3+150.000 RT~~

TREATED TIMBER CURB
Sta 1+118.~~900~~ LT - Sta 1+130.000 LT
8

CONSTRUCT TOWN HIGHWAY RAMP ✓
Sta 1+078.000 RT

1+ 084.28 REMOVE EXISTING GUARDRAIL ✓
Sta ~~1+091.000~~ RT - Sta 1+130.000 RT
Sta 1+124.~~000~~ LT - Sta 1+130.000 LT
38

CONSTRUCT GABION WALL
Sta 3+~~108.600~~ RT - Sta 3+150.000 RT
3 + 109 RT

DURABLE 100mm WHITE LINE ✓
Sta 1+020.000 LT - Sta 1+130.000 LT
Sta 1+020.000 RT - Sta 1+066.900 RT
Sta 1+083.100 RT - Sta 1+130.000 RT

DURABLE 100mm YELLOW LINE (DOUBLE CENTERLINE) ✓
Sta 1+020.000 - Sta 1+068.900
Sta 1+081.100 - Sta 1+130.000

REMOVING SIGNS
Sta 1+036.400 RT ✓
Sta 1+067.000 RT (2) ✓
Sta 1+085.500 RT (3) ✓

TH54 CURVE #1 DATA

Radius:	6.000
Delta:	61°48'28"
Length:	6.472
Tangent:	3.591
Chord:	6.163
Mid Ordinate:	0.852
External:	0.993
Max. Bank Rate:	NORMAL

N ✓ SPEED LIMIT 50
1+036.400

N ✓ SPEED LIMIT 50 R ✓

N ✓ S. BARTON RD
LAKESIDE LN
1+066.000

N ✓ S. BARTON RD R ✓
LAKESIDE LN R ✓

N ✓ LEGAL LOAD LIMIT 24,000 POUNDS
1+078.800

N ✓ STOP
0050
1002
0390
1+084.600

B-B ✓
LEGAL LOAD LIMIT 24,000 POUNDS R
STOP R
0050 ✓
1002 R
0390

* PLANIMETERED AREAS FOR TH54 FROM EDGE OF ROADWAY TO 3+100

60.4
60.5
120.0
60.4 m²
KRM
2-20-04
60.0
60.3
120.6

ARCHIVED ON CADD

SEE SHEET 46
FOR DRAINAGE DETAILS

SEE SHEET 48
FOR SIGN SUMMARY

LAYOUT #1

0 10 20

SCALE 1 : 250

LEGEND
ALL SIGNS AND POSTS WILL BE NEW UNLESS OTHERWISE NOTED:

R - REMOVE
R&S - REMOVE & SALVAGE
S - SALVAGE
RET - RETAIN

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(93)

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116lal.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
LAYOUT #1	SHEET: 9 OF 120

HEAVY DUTY STEEL BEAM GUARDRAIL
Sta 1+130.000 RT - Sta 1+235.000 RT
Sta 1+130.000 LT - Sta 1+235.000 LT

TREATED TIMBER CURB
Sta 1+130.000 LT - Sta 1+234.800 LT

REMOVE EXISTING GUARDRAIL
Sta 1+130.000 RT - Sta 1+235.000 RT
Sta 1+130.000 LT - Sta 1+235.000 LT

DURABLE 100mm WHITE LINE
Sta 1+130.000 LT - Sta 1+235.000 LT
Sta 1+130.000 RT - Sta 1+235.000 RT

DURABLE 100mm YELLOW LINE (DOUBLE CENTERLINE)
Sta 1+130.000 - Sta 1+235.000

R&S
DO NOT PASS
1+147.000

B-8
END NO PASSING
NO PASSING ZONE
R&S
1+147.000

MATCH LINE STA 1+130

PORTLAND OIL PIPELINE (BURIED)
TELE. #1088
OVERHEAD TELEPHONE LINE
EXISTING 600 x 500 PIPE TAPERING TO 500 x 200
100' R.R. ROW
WOODS
TELE. #1
OVERHEAD TELEGRAPH LINE
NORTHERN VERMONT RAILROAD
OVERHEAD ELECTRIC LINE
NO NUMBER
EXISTING 600 x 500 CMP ELEC. #3A
EXISTING 610 ACCMP
STONE FILL, TYPE II
NEW ANCHOR
NEW POLE
PC US 6 Sta 1+137.753
PT US 6 Sta 1+160.585
L. POPLAR
NO NUMBER ELEC. METER
PI #1 US 6 Sta 1+183.27 Δ=14°49'59" (RT) D=16.417° Sta 1+182.737 AHD
PT US 6 Sta 1+228.208
TH 54 (GRAVEL)
EXISTING 380 ACCMP PIPE
PI #2 TH 54 Sta 3+245.728 Δ=21°34'39" (RT) D=38.197° Sta 3+243.922 AHD
APPROXIMATE AERIAL RELOCATION
ROUTE BY BARTON VILLAGE, INC. AND NEW ENGLAND TELEPHONE & TELEGRAPH CO.
CRYSTAL LAKE
MATCH LINE STA 1+235

VT STATE PLANE GRID

SUMMER CAMP AREA
R&S
40 M. P. H.
1+222.000

US6 CURVE #1 DATA
Radius: 349.400
Delta: 14°49'59"
Length: 90.455
Tangent: 45.482
Chord: 90.203
Middle Ordinate: 2.923
External: 2.948
Max. Bank Rate: 0.070

TH54 CURVE #2 DATA
Radius: 400.000
Delta: 21°34'39"
Length: 150.640
Tangent: 76.223
Chord: 149.752
Middle Ordinate: 7.070
External: 7.198
Max. Bank Rate: NONE

SEE SHEET 46
FOR DRAINAGE DETAILS

SEE SHEET 48
FOR SIGN SUMMARY

LEGEND
ALL SIGNS AND POSTS WILL BE NEW UNLESS OTHERWISE NOTED:
R - REMOVE
R&S - REMOVE & SALVAGE
S - SALVAGE
RET - RETAIN

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(93)

LAYOUT #2
0 10 20
SCALE 1 : 250

ARCHIVED ON CADD

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116dgn.dgn	
IPARM FILE NAME: sc1161a2.1	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
LAYOUT #2	SHEET: 10 OF 120

Metric

WOODS

VT STATE PLANE GRID N

RAILROAD CURVE #1 DATA
Radius: 1565.000
Delta: 4° 16' 27"
Length: 116.745 1+324.700
Tangent: 58.400
Middle Ordinate: 1.088
External: 1.089

BRIDGE 161 US5 N ✓

PC US 5 Sta 1+321.339

PORTLAND OIL PIPELINE (BURIED)

DI/ JUNCTION BOX 1+ 339

SNOW FENCE

TELE. #1089

WOODS

OVERHEAD TELEPHONE LINE

ROW WOVEN WIRE FENCE FOR RAILROAD

20 RR Sta 2+00.543

BENCHMARK #2 CHISELED SQUARE SOUTHWEST CORNER ABUTMENT ELEV 304.134

END BRIDGE US 5 Sta 1+311.524 FC = 309.076

TELE. #1090

STONE FILL, TYPE II

DITCH

TELE. #3

COMB #55

1+260

1+240

1+280

1+300

1+320

1+340

1+360

1+380

COMB #2

COMB #55

TELE. #176 1081 55

L. MAPLE

CONCRETE BLOCK

STONE FILL, TYPE II

BEGIN BRIDGE US 5 Sta 1+269.792 FC = 306.791

BRIDGE 161 US5 N ✓

1+265.000

POINT #3

COMB #4

EXISTING TRAFFIC CONTROL SIGNALS (SEE NOTE 32 SHEET 49)

EXISTING 600 x 1000 S TYPE

ROUTE 5 NORTHBOUND ROADWAY COMMON AS SOUTHBOUND LEFT

PI #1 TH 54 Sta 2+058.948

PERMANENT SHEET PILING

PT TH 54 Sta 3+390.145

OVERHEAD ELECTRIC LINE

STONE FILL, TYPE II

WOODS

S. SPRUCES

WOOD FENCE

S. SPRUCE

IP

TH 54 (GRAVEL)

3+280

3+300

3+320

3+340

3+360

3+380

3+400

3+418

M. ASH

L. POPLAR

SHED

SHRUBS

HOUSE

EXISTING 160 ACRE

MAPLE

EXISTING STONE BOX (PLUGGED)

PI #3 TH 54 Sta 3+331.732 Δ=16° 31' 42" RT

APPROXIMATE AERIAL RELOCATION ROUTE BY BARTON VILLAGE, INC. AND NEW ENGLAND TELEPHONE & TELEGRAPH CO.

PI #4 TH 54 Sta 3+374.816 Δ=15° 10' 23" LT

GRAVEL DRIVE

EXISTING 610 ACCESS

SHRUB

COMB #55

COMB #6

TELE. #6

OVERHEAD TELEGRAPH LINE

PI #5 TH 54 Sta 3+389.5 RT Δ=28° 21' 23"

EXISTING 610 X 480 TAPERING TO 1000 X 800 CONCRETE BOX WINGWALL PLUGGED

PI #6 TH 54 Sta 3+405.285 Δ=4° 20' 02" RT

STONE WALK

HOUSE

NORTHERN VERMONT RAILROAD

MATCH LINE STA 1+235

MATCH LINE STA 1+395

CRYSTAL LAKE

SEE SHEET 46 FOR DRAINAGE DETAILS

SEE SHEET 48 FOR SIGN SUMMARY

US5 CURVE #2 DATA
Radius: 349.400
Delta: 29° 11' 40"
Length: 178.033
Tangent: 90.994
Chord: 176.113
Middle Ordinate: 11.278
External: 11.654
Max. Bank Rate: 0.070

LAYOUT #3

0 10 20

SCALE 1 : 250

ARCHIVED ON CADD

LEGEND
ALL SIGNS AND POSTS WILL BE NEW UNLESS OTHERWISE NOTED:

R - REMOVE
R&S - REMOVE & SALVAGE
S - SALVAGE
RET - RETAIN

CAST IN PLACE CONCRETE CURB, TYPE B
Sta 1+239.000 LT - Sta 1+247.300 LT
Sta 1+253.900 RT - Sta 1+266.500 RT
Sta 1+323.600 RT - Sta 1+336.000 RT LT
Sta 1+356.900 LT - Sta 1+369.700 LT RT

FLUSHING BASINS ✓
Sta 1+355.000 RT

SNOW FENCE ✓
STA ~~1+295.000~~ 1+ 310 LT - STA ~~1+380.000~~ 1+ 378 LT

150 mm UNDERDRAIN ✓
Sta 1+358.000 RT - Sta 1+381.000 RT
Sta 1+382.000 LT - Sta 1+384.500 RT
Sta 1+383.000 LT - Sta 1+395.000 LT

DURABLE 100mm WHITE LINE ✓
Sta 1+235.000 LT - Sta 1+395.000 LT
Sta 1+235.000 RT - Sta 1+395.000 RT

DURABLE 100mm YELLOW LINE ✓ (DOUBLE CENTERLINE)
Sta 1+235.000 - Sta 1+395.000

PERMANENT SHEET PILING ✓
STA 1+307.000 RT - STA 1+315.000 RT

ANCHOR FOR STEEL BEAM RAIL
Sta ~~1+394.000 LT~~ 1+ 401.7 LT

REMOVE & RESET FENCE
STA 1+287.000 LT - STA 1+317.000 LT
STA 3+284.000 LT - STA 3+385.000 LT

HEAVY DUTY STEEL BEAM GUARDRAIL ✓
Sta 1+235.000 RT - Sta 1+257.600 RT
Sta 1+235.000 LT - Sta 1+238.400 LT
Sta 1+366.000 RT - Sta 1+395.000 RT
Sta 1+332.500 LT - Sta ~~1+392.500 LT~~ 1+ 405.5 LT

NETC BRIDGE RAIL
Sta 1+247.300 LT - Sta 1+323.700 LT
Sta 1+266.500 RT - Sta 1+356.900 RT

GUARD RAIL APPROACH SECTION, NETC 2 RAIL
Sta 1+238.400 LT - Sta 1+247.300 LT ✓
Sta 1+257.600 RT - Sta 1+266.500 RT ✓
Sta 1+323.700 LT - Sta 1+332.500 LT ✓
Sta 1+356.900 RT - Sta 1+366.000 RT ✓

TREATED TIMBER CURB ✓
Sta 1+369.700 RT - Sta 1+395.000 RT

REMOVE EXISTING GUARDRAIL ✓
Sta 1+235.000 LT - Sta ~~1+276.~~000 LT (2) 1+ 278

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (93)

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116ia3.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
LAYOUT #3	SHEET: 11 OF 120

ALL NECESSARY EASEMENTS AND/OR AGREEMENTS FOR AERIAL UTILITIES WITHIN THE RAILROAD RIGHT-OF-WAY SHALL BE OBTAINED BY NEW ENGLAND TELEPHONE & TELEGRAPH CO.

MANY L. BOULDERS

WOODS

EXISTING 610 x 610 CONCRETE BOX

US S.P.L. #2 Sta 1+376.393 INC. Sta 1+408.438 AHD

CONCRETE BOUNDARY MARKER

UTILITY POLE TELE. JCT. BOX

NO NUMBER

COMB. #1092

CONCRETE BOUNDARY MARKER

POND

M. WILLOW

M. POPLAR

SOUTH 5 1+517

MATCH LINE STA 1+395

1+400

1+420

1+440

1+460

1+480

1+500

1+520

1+540

1+560

1+565

6 SQ. STEEL POST

S. POPLAR

S. HEMLOCK Sta 1+495.432

POINT #4

EXISTING 460 RCP PIPE

1+524

PAVED DRIVE

TELE. #1093

S. WHITE BIRCH

END PROJECT Sta 1+520.000

R 10m

END APPROACH Sta 1+560.000

US ROUTE 5 TO BARTON (PAVED)

SPEED LIMIT 50

1+396.000

US 5 CURVE #2 DATA

Radius:	349.400
Delta:	29° 11' 40"
Length:	178.033
Tangent:	90.994
Chord:	176.113
Middle Ordinate:	11.278
External:	11.654
Max. Bearing Rate:	0.070

EXISTING TRAFFIC CONTROL SIGNALS (SEE NOTE 32 SHEET 49)

COMB. #1092

NEW ANCHOR

NEW POLE

EXISTING 370 PIPE

R

R

OVERHEAD TELEGRAPH LINES

VT STATE PLANE GRID

EXISTING POLE #8

APPROXIMATE AERIAL RELOCATION ROUTE BY BARTON VILLAGE, INC. AND NEW ENGLAND TELEPHONE & TELEGRAPH CO.

NEW POLE

NEW ANCHOR

NEW ANCHOR

EXISTING 460 STEEL PIPE

NORTHERN VERMONT RAILROAD

100' R.R. R.O.W.

SOUTH 5 WRONG SIDE 1+530.000

EXCAVATION OF PAVEMENT
1+420.000 RT - 1+520.000 RT

FLUSHING BASINS
Sta 1+430.000 LT

150 mm UNDERDRAIN
Sta 1+395.000 LT - Sta 1+430.000 LT

CONSTRUCT PAVED DRIVE
Sta 1+533.000 LT w/70 PAVED APRON

ANCHOR FOR STEEL BEAM RAIL
Sta ~~1+412.000~~ RT 1+ 427.6

TREATED TIMBER CURB
Sta 1+395.000 RT - Sta ~~1+408.600~~ RT 1+ 427.0

HEAVY DUTY STEEL BEAM GUARDRAIL
Sta 1+395.000 RT - Sta ~~1+412.300~~ RT 1+ 437.4

REMOVE EXISTING GUARDRAIL 1+ 453.7
Sta 1+422.000 RT - Sta ~~1+451.000~~ RT
Sta 1+423.000 RT - Sta ~~1+486.000~~ RT

REMOVING SIGNS 1+ 485.18
Sta 1+421.000 RT ✓
Sta 1+422.000 RT ✓

DURABLE 100mm WHITE LINE
Sta 1+395.000 LT - Sta 1+560.000 LT
Sta 1+395.000 RT - Sta 1+560.000 RT

DURABLE 100mm YELLOW LINE (DOUBLE CENTERLINE)
Sta 1+395.000 - Sta 1+560.000

LEGEND
ALL SIGNS AND POSTS WILL BE NEW UNLESS OTHERWISE NOTED:

R - REMOVE
R&S - REMOVE & SALVAGE
S - SALVAGE
RET - RETAIN

SEE SHEET 46 FOR DRAINAGE DETAILS

SEE SHEET 48 FOR SIGN SUMMARY

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (93)

LAYOUT #4

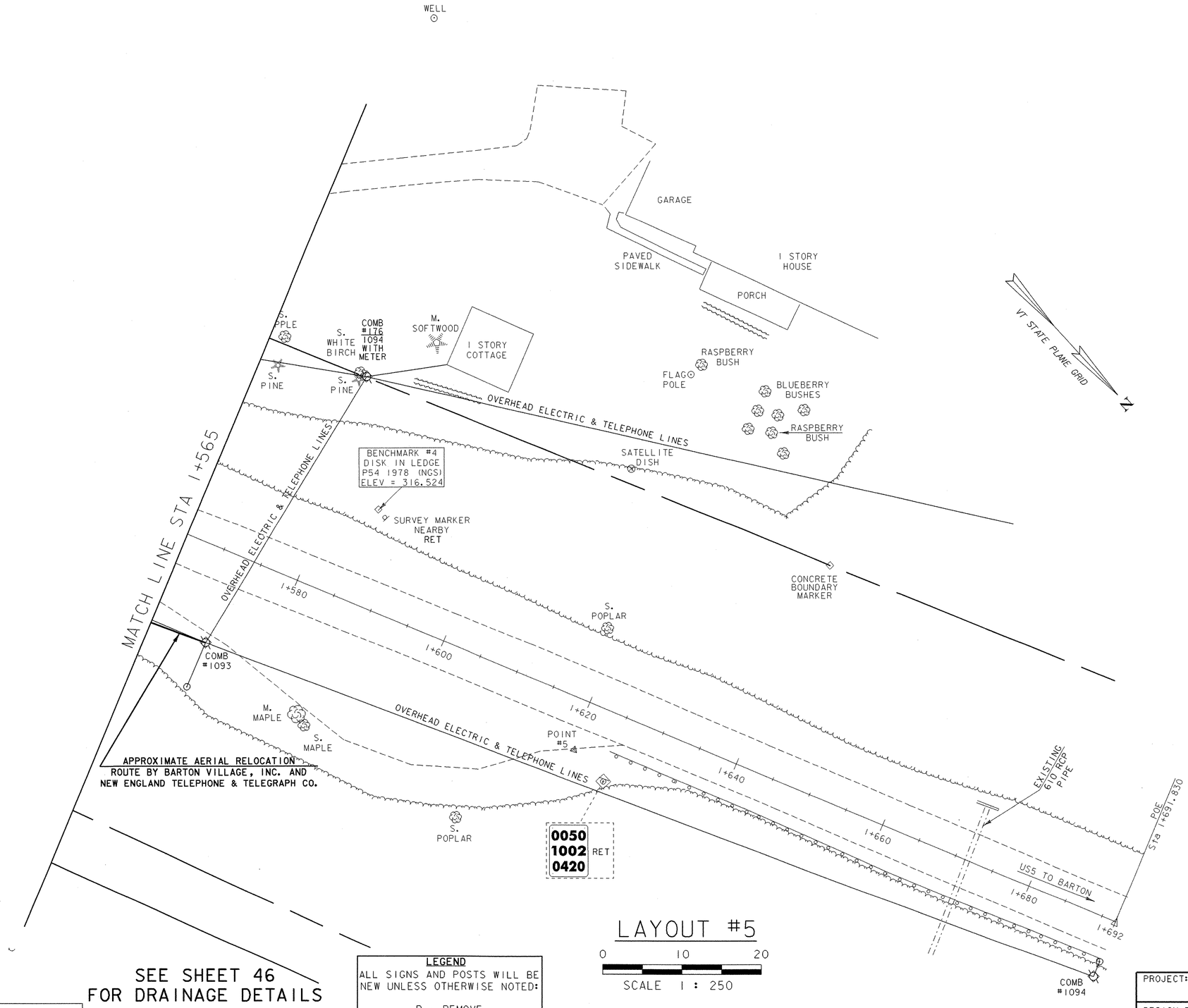
0 10 20

SCALE 1 : 250

ARCHIVED ON CADD

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116ie4.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
LAYOUT #4	SHEET: 12 OF 120

VAOT Metric



LAYOUT #5

0 10 20

SCALE 1 : 250

SEE SHEET 46 FOR DRAINAGE DETAILS

SEE SHEET 48 FOR SIGN SUMMARY

LEGEND

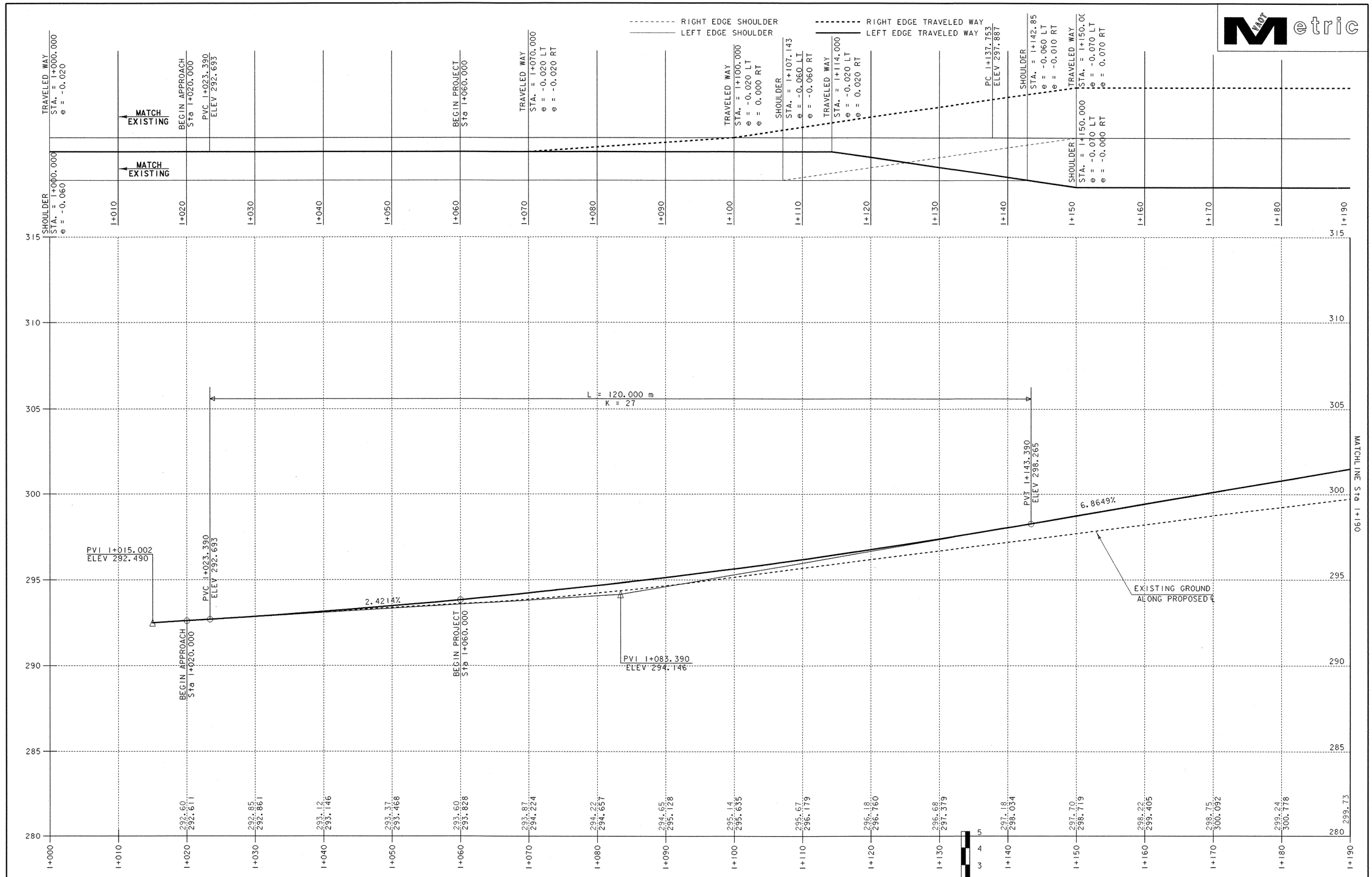
ALL SIGNS AND POSTS WILL BE NEW UNLESS OTHERWISE NOTED:

R - REMOVE
R&S - REMOVE & SALVAGE
S - SALVAGE
RET - RETAIN

DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (93)

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116la5.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
LAYOUT #5	SHEET: 13 OF 120



PROFILE AND BANKING DIAGRAM
US ROUTE 5

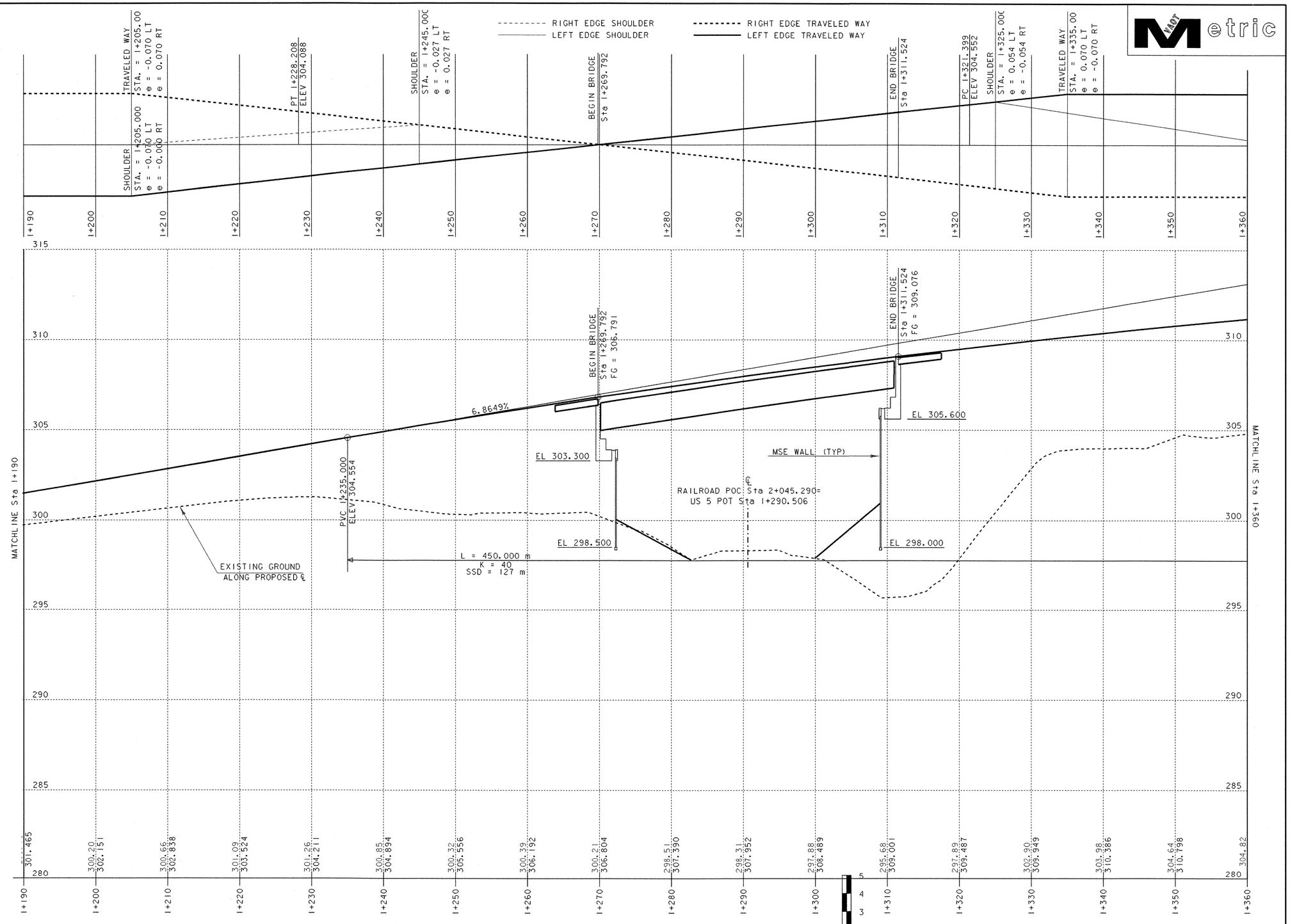
NOTE: EXISTING CENTERLINE ELEVATIONS ARE SHOWN TO THE HUNDREDTH.
PROPOSED CENTERLINE ELEVATIONS ARE SHOWN TO THE THOUSANDTH.

HORIZONTAL SCALE = 1 : 250
VERTICAL SCALE = 1 : 100

DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (93)

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116pr1.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
PROFILE #1 US ROUTE 5	SHEET: 14 OF 120



PROFILE AND BANKING DIAGRAM
US ROUTE 5

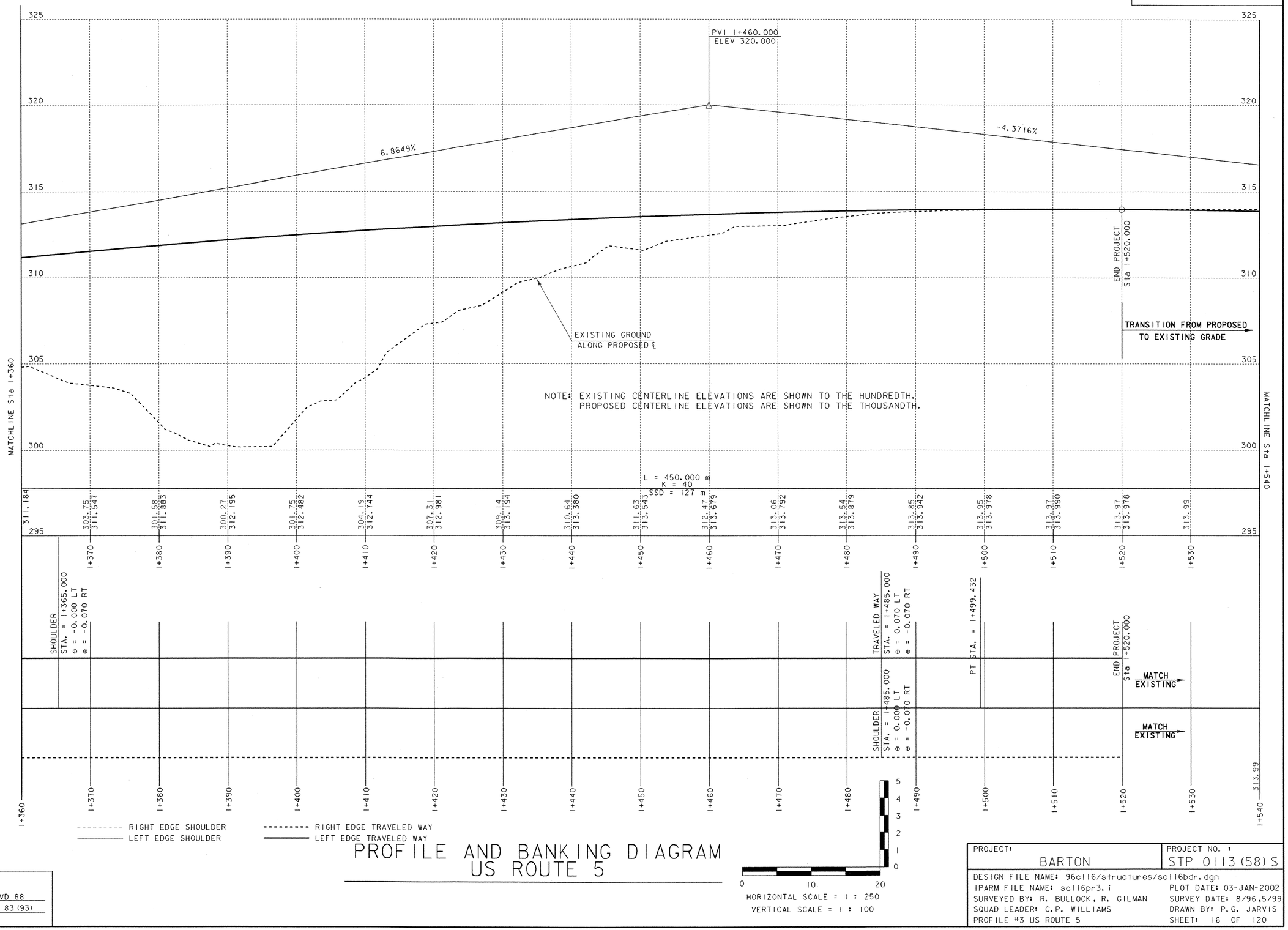
NOTE: EXISTING CENTERLINE ELEVATIONS ARE SHOWN TO THE HUNDREDTH.
PROPOSED CENTERLINE ELEVATIONS ARE SHOWN TO THE THOUSANDTH.

DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (93)

PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116pr2.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
PROFILE #2 US ROUTE 5	SHEET: 15 OF 120

VAOT Metric

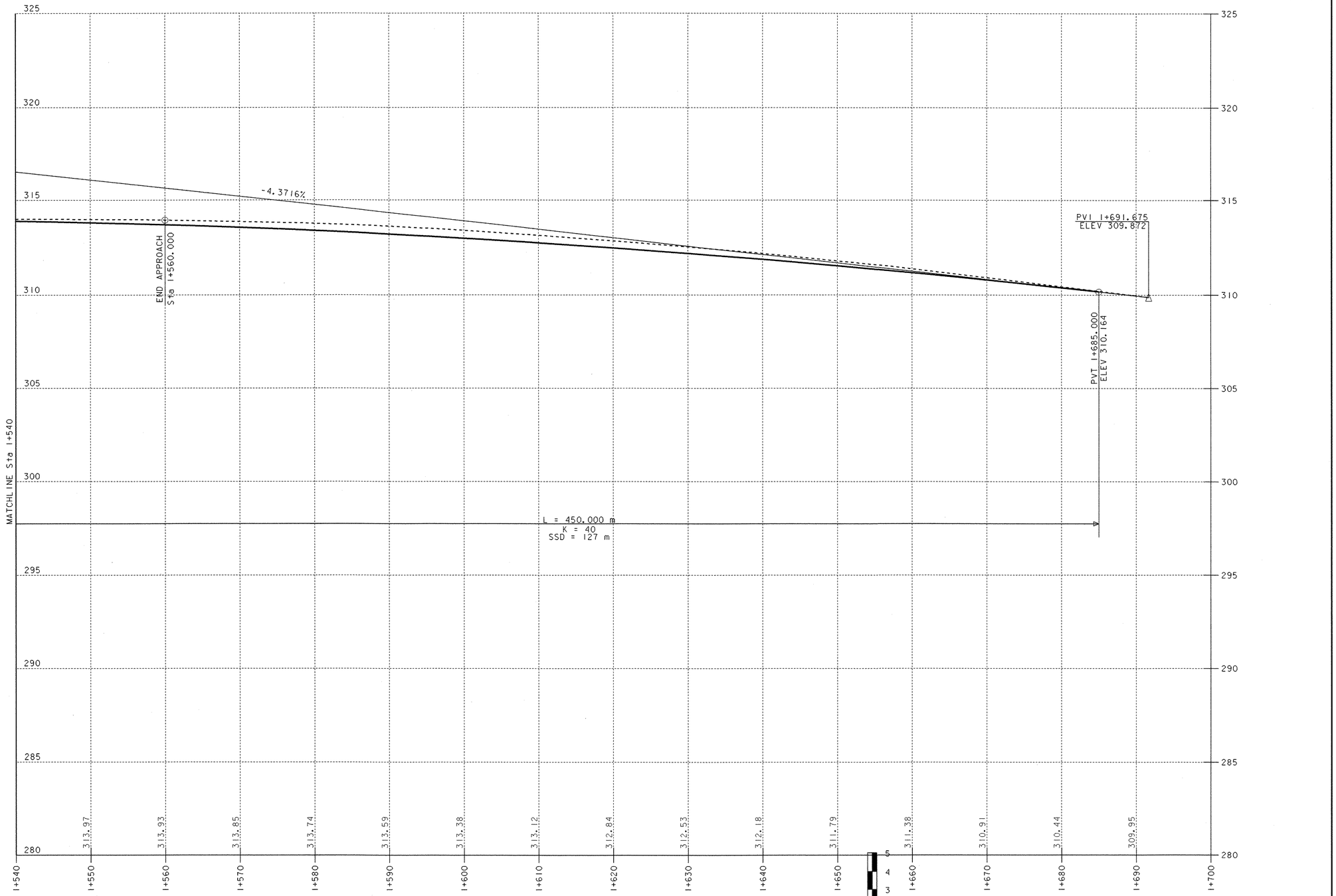


PROFILE AND BANKING DIAGRAM
US ROUTE 5

DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (93)

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116pr3.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
PROFILE #3 US ROUTE 5	SHEET: 16 OF 120



PROFILE US ROUTE 5

NOTE: EXISTING CENTERLINE ELEVATIONS ARE SHOWN TO THE HUNDREDTH.
PROPOSED CENTERLINE ELEVATIONS ARE SHOWN TO THE THOUSANDTH.

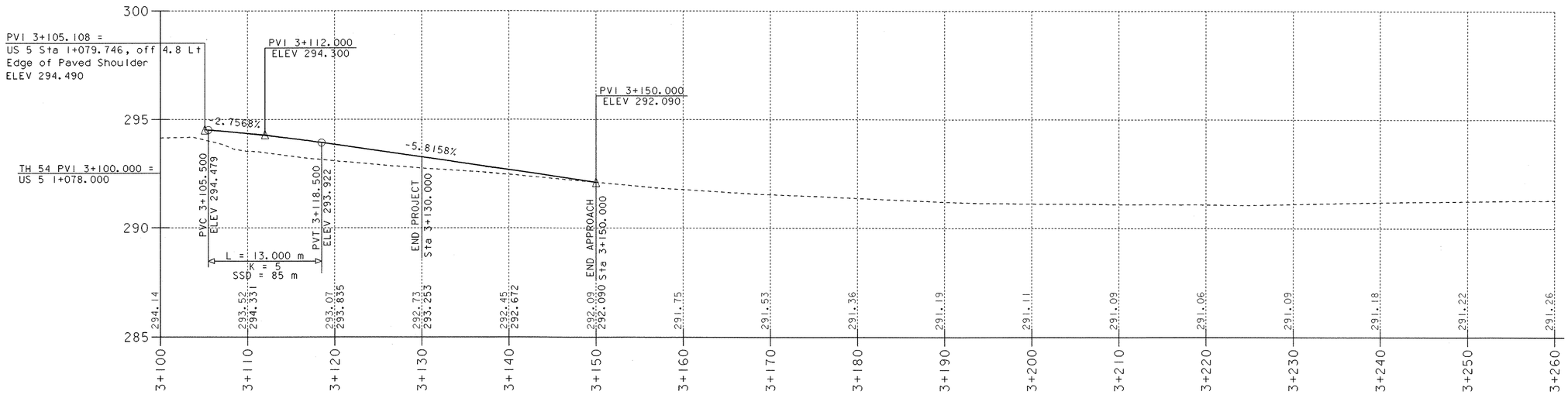
0 10 20
HORIZONTAL SCALE = 1 : 250
0 1 2 3 4 5
VERTICAL SCALE = 1 : 100

DATUM

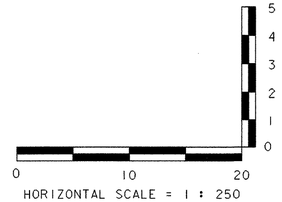
VERTICAL NAVD 88
HORIZONTAL NAD 83 (93)

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96cl16/structures/scl16bdr.dgn	
IPARM FILE NAME: scl16pr4.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
PROFILE #4 US ROUTE 5	SHEET: 17 OF 120

Metric



TH 54 PROFILE



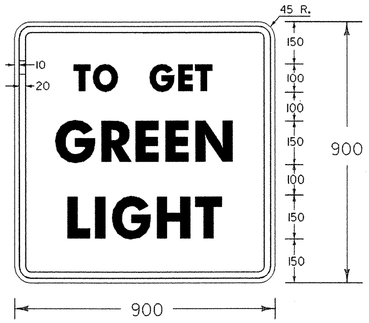
HORIZONTAL SCALE = 1 : 250
VERTICAL SCALE = 1 : 100

NOTE: EXISTING CENTERLINE ELEVATIONS ARE SHOWN TO THE HUNDREDS
PROPOSED CENTERLINE ELEVATIONS ARE SHOWN TO THE THOUSANDTH

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (93)

PROJECT:	PROJECT NO.:
BARTON	STP 0113(58)S

DESIGN FILE NAME: 96cl16/structures/scl16t54.dgn	
IPARM FILE NAME: scl16p54.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 08/96.05/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: M. CERUTTI
TH 54 PROFILE	SHEET: 18 OF 120



COLORS: BLACK TEXT & BORDER
WHITE REFL. BACKGROUND
MATERIALS: PER STD. E-142M

PHASING DIAGRAM AND SPECIAL NOTES FOR EACH LOCATION

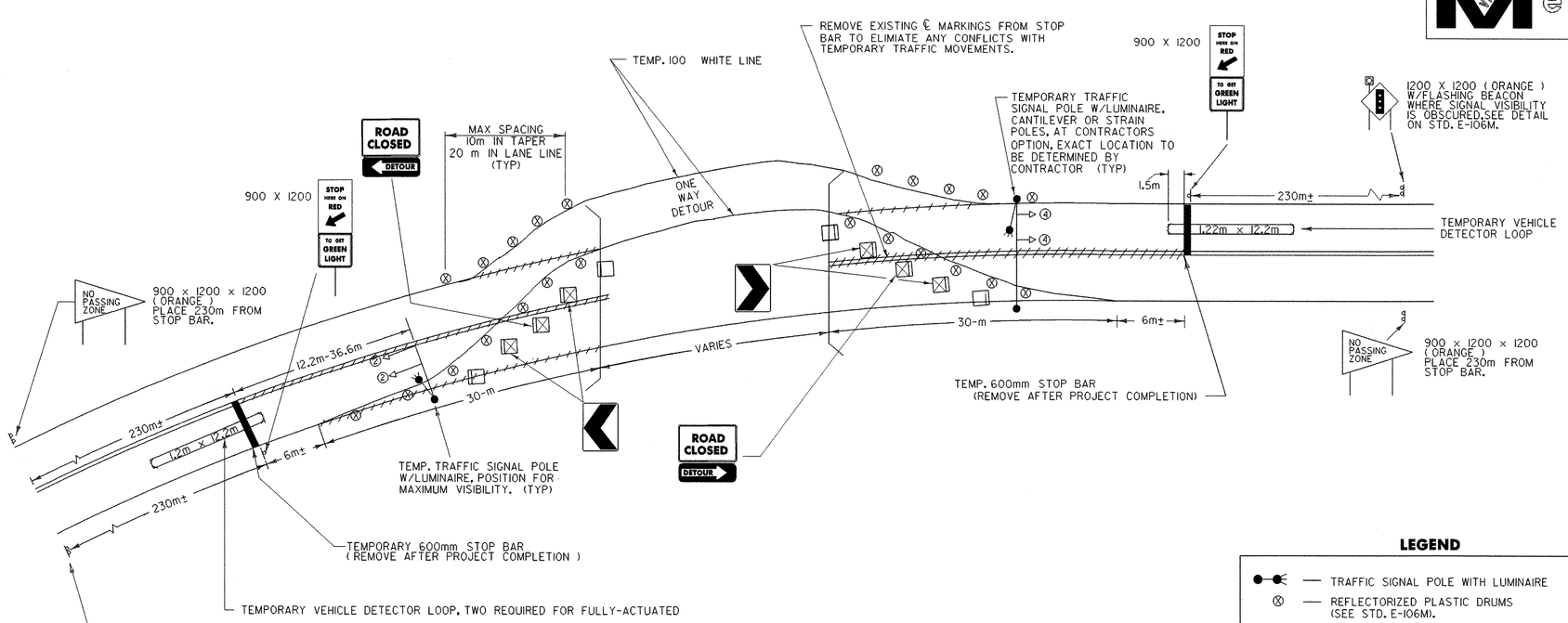
PHASE	2			6			4		
MINIMUM	12	4	50				12	4	50
EXTENSION	2						2		
MAXIMUM	16						16		
HEAD 2	G	Y	R				R	R	R
HEAD 6									
HEAD 4	R	R	R				G	Y	R

APPROACH 4 IS A SIDE STREET APPRAOCH-IF REQUIRED

SPECIAL REQUIREMENTS

APPROACH	TEMPORARY VEHICLE DETECTOR	FLASHING BEACON ON ADVANCED WARNING SIGN
2	X	
6		
4	X	

ENTER CHECK MARK IN APPROPRIATE BOX WHEN REQUIRED ON THIS PROJECT



LEGEND

- —●—●— TRAFFIC SIGNAL POLE WITH LUMINAIRE
- ⊗ — REFLECTORIZED PLASTIC DRUMS (SEE STD. E-106M).
- ☐ — TYPE III BARRICADES SEE STD.E-107AM
- ☒ — TYPE III BARRICADES (MOD.) SEE STD. E-107AM
- L — LENGTH, 30m MIN. (60m MIN. IF BARRIER IS USED FOR CHANNELIZATION)
- /// — PAVEMENT MARKING REMOVAL

ITEM LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONFIRM ANY MEASUREMENTS IN THE FIELD.

STANDARD SHEETS FOR USE WITH THIS SHEET INCLUDE :

E-100M E-110M E-170M
E-101M E-121M E-171AM
E-102M E-140M E-171BM
E-106M E-152M E-172M
E-107M E-160M E-173M
E-107AM E-162M

NOTE: THIS DETAIL FOR RELATIVE SIGNAL SIGN, AND BARRICADE PLACEMENT. SEE SHEETS 21- 30 FOR ADDITIONAL DETAILS.

NOT TO SCALE

GENERAL

TEMPORARY TRAFFIC SIGNAL NOTES

1. THE CONTRACTOR SHALL INSURE THAT THE SIGNAL INSTALLATION CONFORMS TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH THE SUPPORTING STRUCTURES AS PER AASHTO'S STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS. CERTIFICATION SHALL NOT BE NECESSARY FOR TEMPORARY TRAFFIC SIGNAL EQUIPMENT.
2. SIGNAL TIMING/TIMING ADJUSTMENTS REQUESTED BY THE RESIDENT ENGINEER SHALL BE ACCOMPLISHED WITHIN A 48 HOUR PERIOD AND PAYMENT SHALL BE SUBSIDIARY TO ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM". THE ALL-RED CLEARANCE INTERVAL IS BASED ON AN ASSUMED SPEED OF 16-32 KM/H, THE RESIDENT ENGINEER SHALL MAKE SEVERAL TRIAL RUNS TO DETERMINE THE PROPER ALL-RED CLEARANCE INTERVAL.
3. SIGNAL FACES SHALL CONSIST OF 300 mm LENSES. (RED, YELLOW, AND GREEN)
4. THE BOTTOM OF THE HOUSING OF A SIGNAL FACE SUSPENDED OVER A ROADWAY SHALL NOT BE LESS THAN 5m NOR MORE THAN 5.8m ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. THE BOTTOM OF A SIGNAL FACE NOT MOUNTED OVER A ROADWAY, SHALL NOT BE LESS THAN 2.4m NOR MORE THAN 4.5m ABOVE THE GROUND. CAUTION SHOULD BE USED TO INSURE COMPLIANCE WITH THE HEIGHT REQUIREMENTS IN THE EVENT THE NEW APPROACH GRADES DIFFER SIGNIFICANTLY FROM THE OLD ROAD GRADE.
5. SIGNAL FACES FOR ANY ONE APPROACH SHALL NOT BE LESS THAN 2.44M APART MEASURED HORIZONTALLY BETWEEN CENTER OF FACES.
6. SIGNAL HEADS MAY BE HUNG ON A SPAN WIRE OR ON A CANTILEVER MAST ARM. AT LEAST ONE SIGNAL HEAD SHALL BE UNMISTAKABLY IN LINE WITH THE CENTER OF APPROACHING TRAFFIC AT ALL TIMES. THE SECOND SIGNAL HEAD MAY BE POST MOUNTED, LOCATED AT A DISTANCE NO GREATER THAN 4.42M FROM THE CENTER OF THE APPROACH LANE WHEN THE STOP BAR IS 12.2M FROM THE SIGNAL HEAD. CONSULT THE M.U.T.C.D. FOR ADDITIONAL INFORMATION CONCERNING SIGNAL PLACEMENT.
7. SIGNAL HEAD PLACEMENT IS CRITICAL. HEADS SHALL BE ADJUSTED TO REFLECT LANE LOCATION CHANGES.
8. THE SIGNAL SYSTEM SHALL CONSIST OF POLES, SIGNS AND POSTS, WARNING SIGN, LUMINAIRES, FLASHING BEACONS, AND SIGNAL EQUIPMENT TO PROVIDE FOR AN ADEQUATE DESIGN. IT ALSO INCLUDES PERMITS AND COST ASSOCIATED WITH PROVIDING ELECTRICAL POWER.
9. THE CONTRACTOR SHALL PROVIDE AN ACTUATED CONTROLLER. THE APPROACHES NOTED SHALL HAVE A TEMPORARY VEHICLE DETECTOR. THE TYPE OF DETECTION SHALL BE INDUCTANCE. THE CONTROLLER, VEHICLE AND ALL OTHER SIGNAL EQUIPMENT SHALL MEET OR EXCEED ALL NEMA STANDARDS.
10. VEHICLE DETECTOR LOOPS SHALL BE 1.22M X 12.2M FOR PRESENCE DETECTION AT THE STOP BAR WITH THE NEAR PORTION LOCATED 1.5M BEYOND THE STOP BAR.
11. ALL SIGNAL RELATED SIGNS SHALL BE REMOVED OR COVERED WHEN THE SIGNAL IS NOT OPERATING.
12. INTERVAL TIMING SHOWN IN SECONDS.
13. INTERCONNECT BETWEEN SIGNAL POLES BY WHATEVER MEANS POSSIBLE OR CONVENIENT TO PROVIDE FOR A SAFE INSTALLATION.
14. PLACE TEMPORARY POLES BEHIND GUARDRAIL WHERE POSSIBLE.
15. POLES SUPPORTING SPAN WIRES AND/OR MAST ARMS SHALL BE ADEQUATELY BRACED OR GUYED AND SHALL NOT BE PLACED SO AS TO CREATE A HAZARD TO THE TRAVELLING PUBLIC.
16. ALL TEMPORARY SIGNAL EQUIPMENT, SIGNS, ETC., SHALL BELONG TO THE CONTRACTOR AT THE END OF THE PROJECT AND THEY SHALL BE RESPONSIBLE FOR THEIR REMOVAL, INCLUDING ANY TEMPORARY PAVEMENT MARKINGS, UTILITY POLES, WIRES, VEHICLE DETECTOR LOOPS, ETC.
17. A 250 WATT MER/150 WATT HPS LUMINAIRE AND MAST ARM SHALL BE PROVIDED ON A POLE ON EACH APPROACH AT A MOUNTING HEIGHT OF 9.1M ABOVE ROADWAY CENTERLINE. THE INTENT IS TO LIGHT UP THE AREA AROUND THE SIGNAL HEADS AND STOP BAR FOR INCREASED VISIBILITY. THE RESIDENT ENGINEER SHALL DETERMINE THE ADEQUACY OF THE LIGHTING AND DIRECT CHANGES IF THE LIGHTING IS INSUFFICIENT.
18. STOP BARS SHALL BE LOCATED A MINIMUM OF 12.2M AND A MAXIMUM OF 36.6M FROM THE NEAREST SIGNAL HEAD.
19. PAYMENT FOR THE TEMPORARY VEHICLE DETECTOR LOOP ITEM SHALL BE MADE UNDER ITEM 678.42 "TEMPORARY DETECTOR".
20. PAYMENT FOR THE TEMPORARY 600 STOP BAR SHALL BE MADE UNDER ITEM 646.66 "TEMPORARY 600mm STOP BAR".
21. SEE STD. E-140M FOR ''STOP HERE ON RED'' SIGN DETAIL AND E-152M FOR ''SIGNAL AHEAD'' SYMBOL SIGN. THE ''SIGNAL AHEAD'' SIGN SHALL HAVE AN ORANGE BACKGROUND (REFLECTORIZED). SEE STANDARD E-121M FOR SIGN PLACEMENT. SEE STANDARD E-170M THROUGH E-172M FOR ADDITIONAL INFORMATION ON SIGNALS AND DETECTORS.
22. A ''SIGNAL AHEAD'' SIGN SHALL BE PLACED AT LEAST 230M FROM THE SIGNAL OR AT A POSITION TO BE DETERMINED BY THE ENGINEER.
23. THE ''NO PASSING'' SIGN SHALL BE USED TO PREVENT PASSING FOR 230M IN ADVANCE OF THE STOP BAR. THE SIGN SHALL BE PER STANDARD E-152M, EXCEPT THE COLOR SHALL BE A BLACK TEXT AND BORDER ON A REFLECTORIZED ORANGE BACKGROUND.
24. ALL ELECTRICAL WORK SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND STATE INSPECTOR.
25. TWO-WAY TRAFFIC SHALL BE MAINTAINED ON THE DETOUR WHENEVER POSSIBLE. DURING TWO-WAY TRAFFIC, THE SIGNALS SHALL BE SET ON FLASHING YELLOW.
26. APPROACH WIDTHS SHALL BE AS DETAILED IN SECTION 528.04 TO MINIMIZE VEHICLE DELAY.
27. PAYMENT FOR ALL SIGNS AND POSTS FOR CONSTRUCTION APPROACH SIGNS, DETOUR SIGNS AND TRAFFIC CONTROL SIGNAL SIGNS SHALL BE MADE UNDER ITEM 527.10 "MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS".
28. THE ''TO GET GREEN LIGHT'' SIGN IS TO BE USED ON ALL APPROACHES WITH TEMPORARY VEHICLE DETECTOR LOOPS.
29. IN SITUATIONS WHERE EXISTING PASSING ZONES EXTEND THROUGH THE AREA BETWEEN THE STOP BAR AND THE "NO PASSING ZONE" SIGN, THEN TEMPORARY DOUBLE YELLOW LINES SHALL BE INSTALLED FROM THE STOP BAR TO THE "NO PASSING ZONE" SIGN. PAYMENT FOR THESE MARKINGS SHALL BE MADE UNDER ITEM 646.61 "TEMPORARY 100mm YELLOW LINE"
30. TEMPORARY TRAFFIC BARRIER SHOULD BE SUBSTITUTED FOR THE CHANNELIZING DEVICES SHOWN WHEN IN THE JUDGEMENT OF THE RESIDENT ENGINEER TEMPORARY BARRIER IS NEEDED.
31. WHEN TEMPORARY BARRIER IS USED, BARRIER ENDS FACING ONCOMING TRAFFIC SHALL BE TAPERED BEYOND THE CLEAR ZONE,OR PROTECTED WITH AN APPROVED END TREATMENT.
32. PAYMENT FOR TEMPORARY BARRIER USED SHALL BE MADE UNDER ITEM 621.90 "TEMPORARY TRAFFIC BARRIER".

REFER TO SHEETS 20 - 30 FOR SITE SPECIFIC DETAILS

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S
DESIGN FILE NAME: 96cl16/structures/scl16trf.dgn	
IPARM FILE NAME: scl16trafdet.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: D.G. BASSETT
ONE WAY DETOUR SHEET	SHEET: 19 OF 120

Metric

TRAFFIC PHASE DESCRIPTION :

PHASE #1: (NOT DETAILED)

MAINTAIN 2-WAY TRAFFIC ON EXISTING STRUCTURE AND US 5 ALLIGNMENT, WHILE CONSTRUCTING NEW MSE WALLS, NEW ABUTMENTS, NEW SUPERSTRUCTURE, NEW APPROACH SLABS, AND NORTHERN APPROACH.

PHASE #2 (SEE SHEETS 21-25)

MAINTAIN 1-WAY ALTERNATING TRAFFIC ON EXISTING STRUCTURE AND EXISTING US 5 ALIGNMENT, WHILE CONSTRUCTING THE FIRST HALF OF THE SOUTHERN APPROACH.

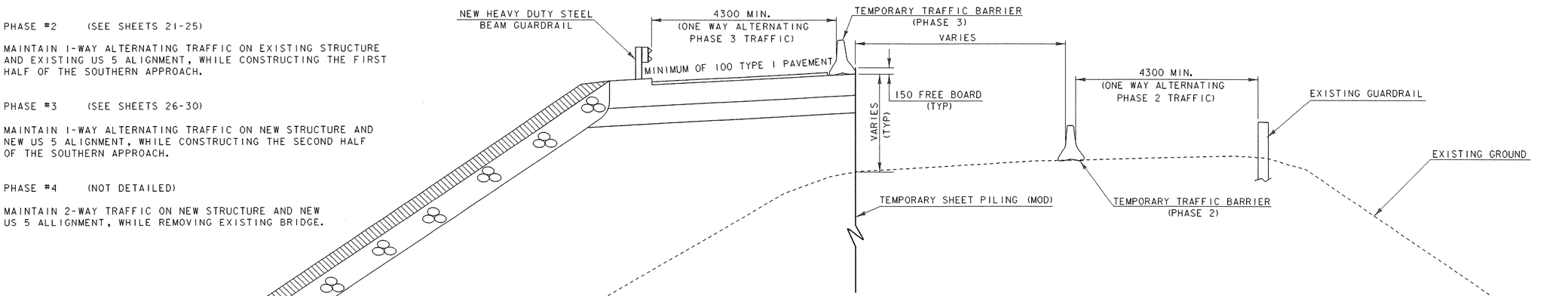
PHASE #3 (SEE SHEETS 26-30)

MAINTAIN 1-WAY ALTERNATING TRAFFIC ON NEW STRUCTURE AND NEW US 5 ALIGNMENT, WHILE CONSTRUCTING THE SECOND HALF OF THE SOUTHERN APPROACH.

PHASE #4 (NOT DETAILED)

MAINTAIN 2-WAY TRAFFIC ON NEW STRUCTURE AND NEW US 5 ALLIGNMENT, WHILE REMOVING EXISTING BRIDGE.

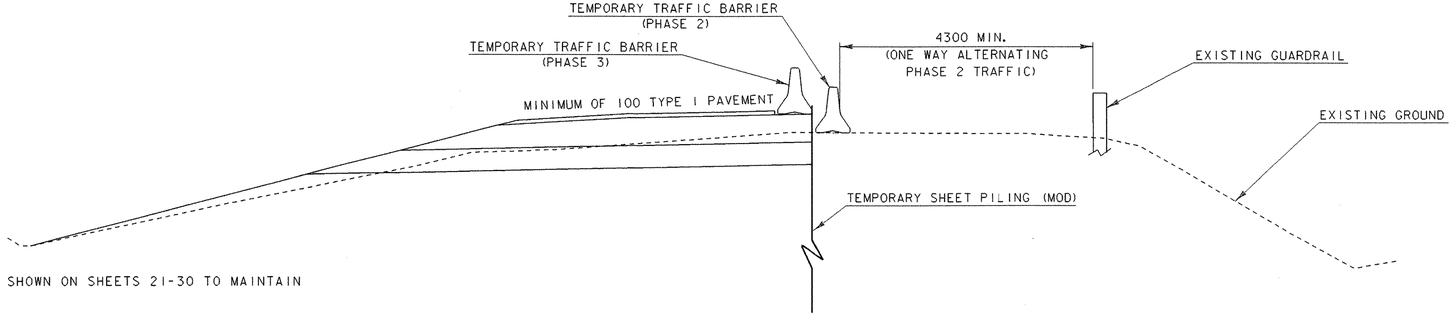
PHASE 3 TRAFFIC PHASE 2 TRAFFIC



ROADWAY DETOUR
STA. 1+220 PHASE #2 & #3

SCALE = 1:50

PHASE 3 TRAFFIC PHASE 2 TRAFFIC



ROADWAY DETOUR
STA. 1+100 PHASE #2 & #3

0 1 2 3 4

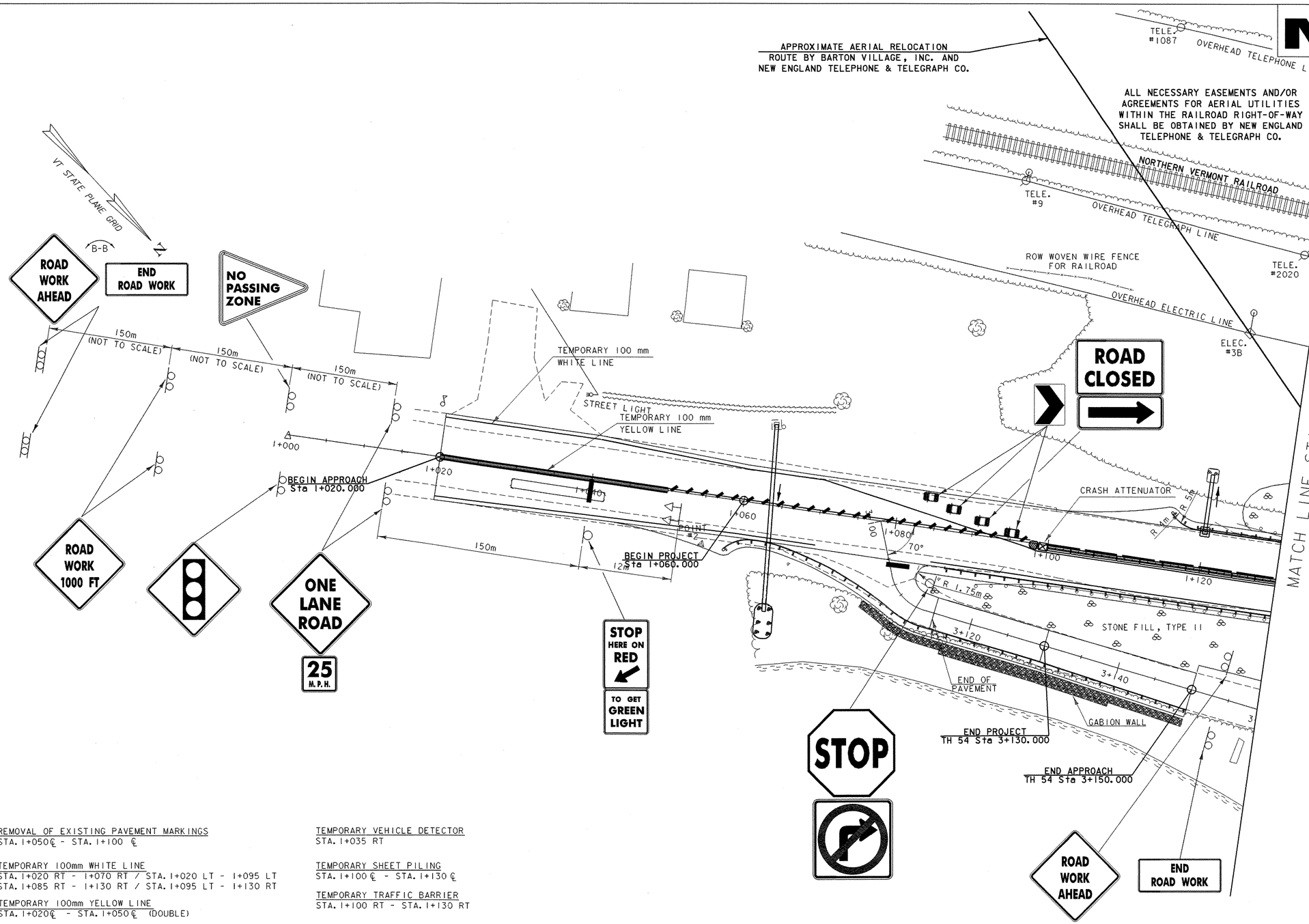
SCALE = 1:50

TEMPORARY SHEET PILE NOTES :

1. TEMPORARY SHEET PILING SHALL BE USED AS SHOWN ON SHEETS 21-30 TO MAINTAIN ONE-WAY TRAFFIC.
2. THE TEMPORARY SHEET PILING SHALL BE PAID UNDER ITEM 505.36 "TEMPORARY SHEET PILING (MOD)". SEE SPECIAL PROVISIONS FOR MODIFICATION INFORMATION.
3. THE TEMPORARY SHEET PILING SHALL BE DESIGNED AND DETAILED BY A REGISTERED PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER.
4. THE TEMPORARY SHEET PILING SHALL BE INSTALLED BETWEEN THE LIMITS SHOWN ON SHEETS 21-30. THE TEMPORARY SHEET PILES SHALL BE LOCATED SUCH THAT ONE-WAY TRAFFIC CAN BE MAINTAINED FOR BOTH PHASE #2 AND #3, AND AS SUCH THE QUANTITY WILL ONLY BE PAID ONCE. EXTRA SHEET PILING FOR CONTRACTOR CONVENIENCE SHALL BE AT HIS/HER EXPENSE.
5. THE TEMPORARY SHEET PILING SHALL NOT DAMAGE DRAINAGE STRUCTURES THAT ARE TO BE LEFT IN PLACE OR RELINED. IF THE STRUCTURES ARE DAMAGED THEY SHALL BE REPLACED AT THE CONTRACTORS EXPENCE.
6. A TEMPORARY TRAFFIC BARRIER WILL PROTECT THE TRAVELLING PUBLIC FROM TEMPORARY SHEET PILING AT ALL TIMES. AN ENERGY ABSORTION ATTENUATOR SHALL PROTECT THE TERMINATION OF THE TEMPORARY SHEET PILING AT STA. 1+100. THE ATTENUATOR SHALL BE PAID UNDER ITEM 621.56 "ENERGY ABSORTION ATTENUATOR". THE ATTENUATOR SHALL BE DESIGNED AND INSTALLED TO SERVE BOTH PHASE #2 AND #3. THE COST FOR THE ATTENUATOR WILL ONLY BE PAID ONCE.
7. THE ATTENUATOR SHALL MEET THE REQUIREMENTS OF THE 1989 ROADSIDE DESIGN GUIDE AND SHALL BE DESIGNED FOR A 4500 LB DESIGN VEHICLE AT 60 KPH.
8. IF THE ATTENUATOR IS DAMAGED BY AN ERRANT VEHICLE, ANY COST TO THE CONTRACTOR FOR REPLACEMENT OF ANY PART OF OR ALL OF THE ATTENUATOR SHALL BE PAID AS "EXTRA WORK" PER SECTION 109.06.
9. THE CONTRACTOR SHALL HAVE, ON THE PROJECT, A SPARE ATTENUATOR FOR THE IMMEADIATE REPLACEMENT OF A DAMAGED ATTENUATOR. THE COST FOR STORAGE OF THE SPARE ATTENUATOR SHALL BE INCLUDED IN THE BID COST OF ITEM 621.56 "ENERGY ABSORPTION ATTENUATOR".

PHASED CONSTRUCTION DETAILS

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96cl16/structures/scl16trf.dgn	
IPARM FILE NAME: scl16phase.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: D.G. BASSETT
PHASED CONSTRUCTION DETAILS	SHEET: 20 OF 120



REMOVAL OF EXISTING PAVEMENT MARKINGS
STA. 1+050℄ - STA. 1+100 ℄

TEMPORARY 100mm WHITE LINE
STA. 1+020 RT - 1+070 RT / STA. 1+020 LT - 1+095 LT
STA. 1+085 RT - 1+130 RT / STA. 1+095 LT - 1+130 RT

TEMPORARY 100mm YELLOW LINE
STA. 1+020℄ - STA. 1+050℄ (DOUBLE)

TEMPORARY STOP BAR
STA. 1+040 RT
STA. 3+106 RT

TEMPORARY VEHICLE DETECTOR
STA. 1+035 RT

TEMPORARY SHEET PILING
STA. 1+100℄ - STA. 1+130℄

TEMPORARY TRAFFIC BARRIER
STA. 1+100 RT - STA. 1+130 RT

ENERGY ABSORPTION ATTENUATOR
STA. 1+100℄

LEGEND
- SIGN POSTS
- TYPE III BARRICADES (MOD.)
- TEMP. TRAFFIC BARRIER
- LUMINARE
- STRAIN POLE
- SIGNAL HEAD
- ENERGY ABSORTION ATTENUATOR
- TEMPORARY SHEET PILING
- REFLECTORIZED BARREL
- PAVEMENT MARKING REMOVAL

PHASE 2
DETOUR LAYOUT #1

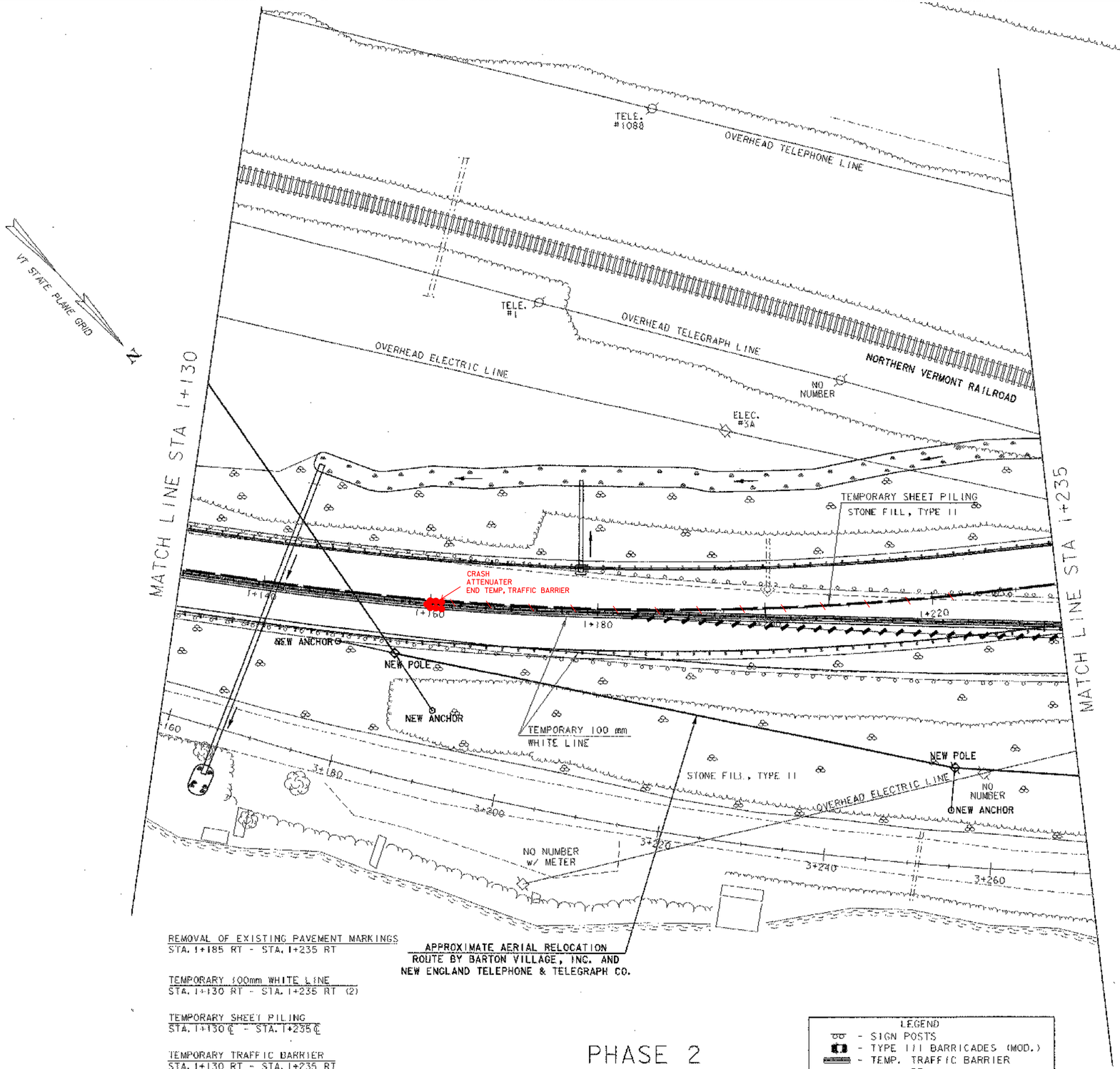
0 10 20
SCALE 1 : 250

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (93)

PROJECT: BARTON
PROJECT NO. : STP 0113(58)S

DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn
IPARM FILE NAME: sc116det1.i
PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN
SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS
DRAWN BY: D.G. BASSETT
DETOUR LAYOUT #1 (PHASE 2)
SHEET: 21 OF 120

Metric



REMOVAL OF EXISTING PAVEMENT MARKINGS
STA. 1+185 RT - STA. 1+235 RT

TEMPORARY 100mm WHITE LINE
STA. 1+130 RT - STA. 1+235 RT (2)

TEMPORARY SHEET PILING
STA. 1+130 ℄ - STA. 1+235 ℄

TEMPORARY TRAFFIC BARRIER
STA. 1+130 RT - STA. 1+235 RT

PHASE 2
DETOUR LAYOUT #2

0 10 20
SCALE 1 : 250

LEGEND
- SIGN POSTS
- TYPE III BARRICADES (MOD.)
- TEMP. TRAFFIC BARRIER
- LUMINARE
- STRAIN POLE
- SIGNAL HEAD
- ENERGY ABSORTION ATTENUATOR
- TEMPORARY SHEET PILING
- REFLECTORIZED BARREL
- PAVEMENT MARKING REMOVAL

ARCHIVED ON CADD

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (93)

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116det2.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: D.G. BASSETT
DETOUR LAYOUT #2 (PHASE2)	SHEET: 22 OF 120

VAOT Metric

TELE. #1089

OVERHEAD TELEPHONE LINE

VT STATE PLANE GRID

TEMPORARY SHEET PILING

END BRIDGE
US 5
Sta 1+311.524
FG = 309.076

TELE. #1090

STONE FILL, TYPE II

TELE. #3

COMB #55 3

1+240 1+260 1+280 1+300 1+320 1+340 1+360 1+380

COMB #2

COMB #55

TELE. #176 1091 55

STONE FILL, TYPE II

TELE. #4

MATCH LINE STA 1+235

MATCH LINE STA 1+395

BEGIN BRIDGE
US 5 Sta 1+269.792
FG = 306.791

POINT #3

COMB #4

EXISTING TRAFFIC CONTROL SIGNALS (SEE NOTE 32 SHEET 49)

OVERHEAD ELECTRIC LINE

STONE FILL, TYPE II

TEMPORARY 100 mm WHITE LINE

TELE. #20 25

NORTHERN VERMONT RAILROAD

COMB #65 5

3+280 3+300 3+320 3+340 3+360 3+380 3+400 3+418

COMB #6

OVERHEAD TELEGRAPH LINES

COMB #55 7

TELE. #6

APPROXIMATE AERIAL RELOCATION
ROUTE BY BARTON VILLAGE, INC. AND
NEW ENGLAND TELEPHONE & TELEGRAPH CO.

REMOVAL OF EXISTING PAVEMENT MARKINGS
STA. 1+235 RT - STA. 1+395 RT

TEMPORARY 100mm WHITE LINE
STA. 1+235 RT - STA. 1+395 RT (2)

TEMPORARY SHEET PILING
STA. 1+235 RT - STA. 1+275 RT

TEMPORARY TRAFFIC BARRIER
STA. 1+235 RT - STA. 1+277 RT

PHASE 2
DETOUR LAYOUT #3

0 10 20
SCALE 1 : 250

LEGEND
- SIGN POSTS
- TYPE III BARRICADES (MOD.)
- TEMP. TRAFFIC BARRIER
- LUMINARE
- STRAIN POLE
- SIGNAL HEAD
- ENERGY ABSORTION ATTENUATOR
- TEMPORARY SHEET PILING
- REFLECTORIZED BARREL
- PAVEMENT MARKING REMOVAL

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (93)

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S

DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn
IPARM FILE NAME: sc116det3.i — PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN — SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS — DRAWN BY: D.G. BASSETT
DETOUR LAYOUT #3 (PHASE2) — SHEET: 23 OF 120

VAOT Metric

ALL NECESSARY EASEMENTS AND/OR AGREEMENTS FOR AERIAL UTILITIES WITHIN THE RAILROAD RIGHT-OF-WAY SHALL BE OBTAINED BY NEW ENGLAND TELEPHONE & TELEGRAPH CO.

VT STATE PLANE GRID

MATCH LINE STA 1+395

1+400

1+420

1+440

1+460

1+480

1+500

1+520

1+540

1+560

NO NUMBER

UTILITY POLE
TELE. JCT. BOX

COMB #1092

POINT #4

ROAD CLOSED

STOP

STOP HERE ON RED

TO GET GREEN LIGHT

TELE. #1093

EXISTING TRAFFIC CONTROL SIGNALS
(SEE NOTE 32 SHEET 49)

TEMPORARY 100 mm WHITE LINE

END PROJECT
Sta 1+520.000

END APPROACH
Sta 1+560.000

COMB #1092

NEW ANCHOR

NEW POLE

OVERHEAD TELEGRAPH LINES

MATCH LINE STA 1+565

EXISTING POLE #8

APPROXIMATE AERIAL RELOCATION
ROUTE BY BARTON VILLAGE, INC. AND
NEW ENGLAND TELEPHONE & TELEGRAPH CO.

NEW POLE

NEW ANCHOR

NEW ANCHOR

NORTHERN VERMONT RAILROAD

TEMPORARY VEHICLE DETECTOR
STA. 1+565 LT

REMOVAL OF EXISTING PAVEMENT MARKINGS
STA. 1+395 ℄ - STA. 1+565 ℄

TEMPORARY 100mm WHITE LINE
STA. 1+395 RT - STA. 1+565 RT (2)

TEMPORARY 100mm YELLOW LINE
STA. 1+550 ℄ - STA. 1+565 ℄ (DOUBLE)

TEMPORARY 600mm STOP BAR
STA. 1+560 LT

LEGEND
- SIGN POSTS
- TYPE III BARRICADES (MOD.)
- TEMP. TRAFFIC BARRIER
- LUMINARE
- STRAIN POLE
- SIGNAL HEAD
- ENERGY ABSORTION ATTENUATOR
- TEMPORARY SHEET PILING
- REFLECTORIZED BARREL
- PAVEMENT MARKING REMOVAL

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (93)

PHASE 2
DETOUR LAYOUT #4

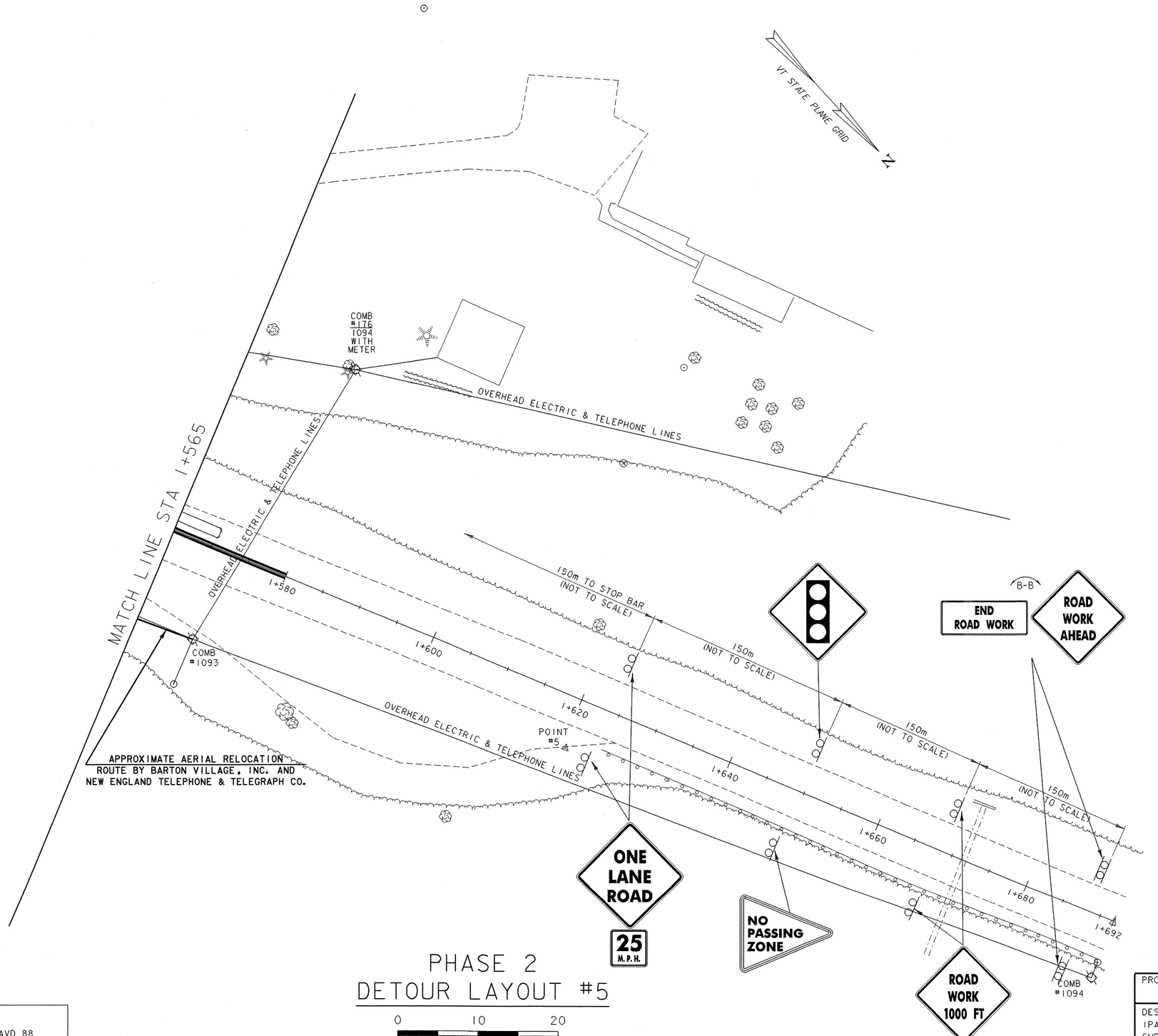
0 10 20

SCALE 1 : 250

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S

DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn
IPARM FILE NAME: sc116det4.i — PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN — SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS — DRAWN BY: D.G. BASSETT
DETOUR LAYOUT #4 (PHASE 2) — SHEET: 24 OF 120

VAOT Metric



TEMPORARY 100mm YELLOW LINE
STA. 1+565 ℄ - STA. 1+1+580 ℄ (DOUBLE)

LEGEND
- SIGN POSTS
- TYPE III BARRICADES (MOD.)
- TEMP. TRAFFIC BARRIER
- LUMINARE
- STRAIN POLE
- SIGNAL HEAD
- ENERGY ABSORTION ATTENUATOR
- TEMPORARY SHEET PILING
- REFLECTORIZED BARREL
- PAVEMENT MARKING REMOVAL

PHASE 2
DETOUR LAYOUT #5

0 10 20
SCALE 1 : 250

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (93)

PROJECT:	PROJECT NO. :
BARTON	STP 0113 (58) S

DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn
IPARM FILE NAME: sc116det5.i — PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN — SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS — DRAWN BY: D.G. BASSETT
DETOUR LAYOUT #5 (PHASE 2) — SHEET: 25 OF 120

VAOT Metric

APPROXIMATE AERIAL RELOCATION
ROUTE BY BARTON VILLAGE, INC. AND
NEW ENGLAND TELEPHONE & TELEGRAPH CO.

TELE. #1087 OVERHEAD TELEPHONE LINE

ALL NECESSARY EASEMENTS AND/OR AGREEMENTS FOR AERIAL UTILITIES WITHIN THE RAILROAD RIGHT-OF-WAY SHALL BE OBTAINED BY NEW ENGLAND TELEPHONE & TELEGRAPH CO.

NORTHERN VERMONT RAILROAD

TELE. #9 OVERHEAD TELEGRAPH LINE

TELE. #2020

ROW WOVEN WIRE FENCE FOR RAILROAD

OVERHEAD ELECTRIC LINE

ELEC. #3B

VT STATE PLANE GRID

B-B

ROAD WORK AHEAD

END ROAD WORK

NO PASSING ZONE

150m (NOT TO SCALE)

150m (NOT TO SCALE)

150m (NOT TO SCALE)

TEMPORARY 100 mm WHITE LINE

TEMPORARY 100 mm YELLOW LINE

STREET LIGHT

ROAD CLOSED

1+000

1+020

BEGIN APPROACH Sta 1+020.000

1+040

1+060

POINT #2

150m

12m

BEGIN PROJECT Sta 1+060.000

1+080

3.00

70°

CRASH ATTENUATOR

R 5m

1+100

1+120

R 1.75m

STONE FILL, TYPE II

3+120

3+140

END OF PAVEMENT

GABION WALL

END PROJECT TH 54 Sta 3+130.000

END APPROACH TH 54 Sta 3+150.000

MATCH LINE STA 1+130

ROAD WORK 1000 FT

ONE LANE ROAD

25 M.P.H.

STOP HERE ON RED

TO GET GREEN LIGHT

STOP

ROAD WORK AHEAD

END ROAD WORK

REMOVAL OF EXISTING PAVEMENT MARKINGS
SEE PHASE 2

TEMPORARY 100mm WHITE LINE
STA. 1+070 LT - 1+130 LT
STA. 1+080 RT - 1+130 LT

TEMPORARY 100mm YELLOW LINE
SEE PHASE 2

TEMPORARY STOP BAR
SEE PHASE 2

TEMPORARY VEHICLE DETECTOR
SEE PHASE 2

TEMPORARY SHEET PILING
SEE PHASE 2

TEMPORARY TRAFFIC BARRIER
STA. 1+100 LT - STA. 1+130 LT

ENERGY ABSORPTION ATTENUATOR
SEE PHASE 2

LEGEND
- SIGN POSTS
- TYPE III BARRICADES (MOD.)
- TEMP. TRAFFIC BARRIER
- LUMINARE
- STRAIN POLE
- SIGNAL HEAD
- ENERGY ABSORTION ATTENUATOR
- TEMPORARY SHEET PILING
- REFLECTORIZED BARREL
- PAVEMENT MARKING REMOVAL

PHASE 3
DETOUR LAYOUT #6

0 10 20

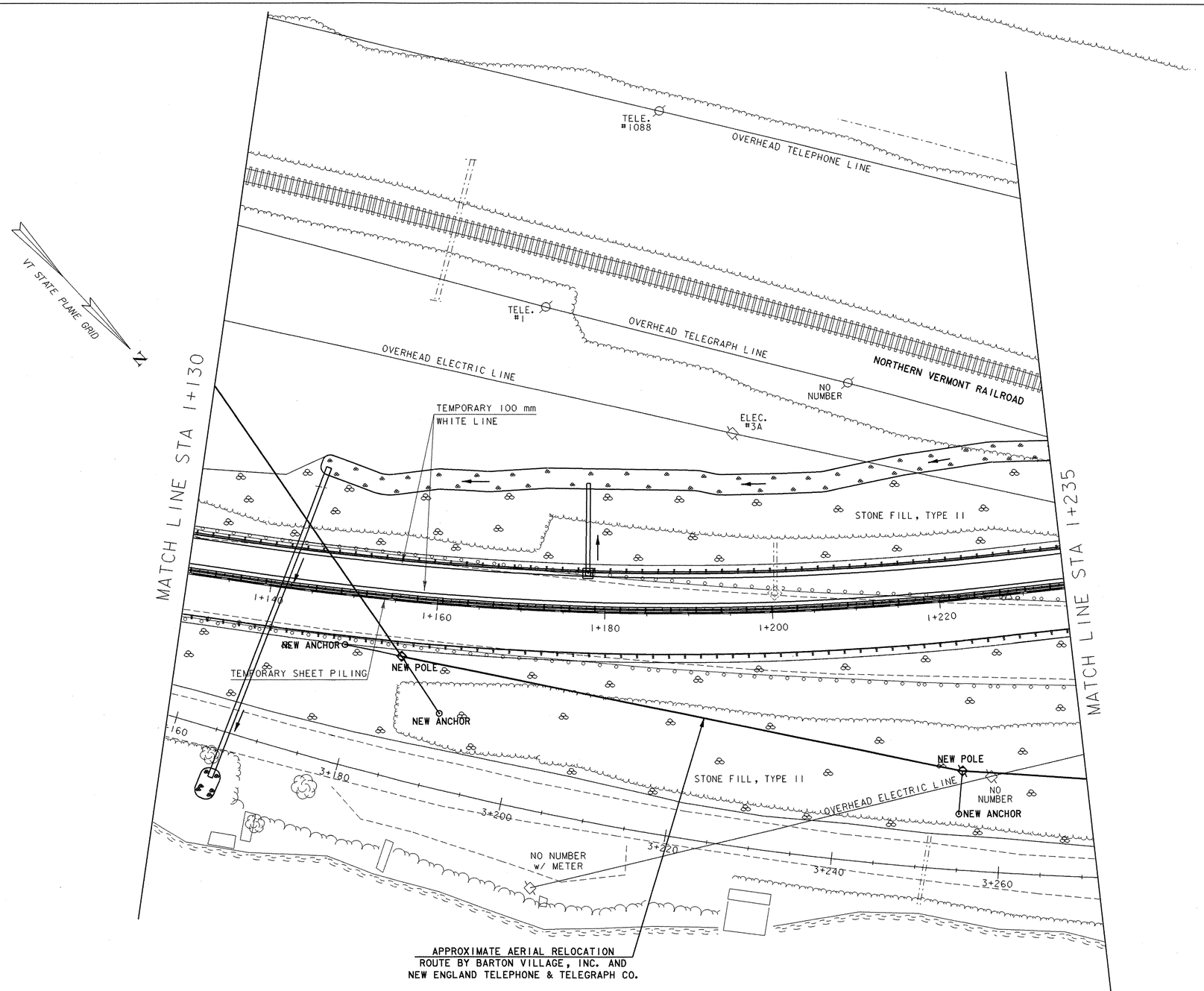
SCALE 1 : 250

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (93)

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S

DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn
IPARM FILE NAME: sc116det6.i — PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN — SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS — DRAWN BY: T.G. ANDERSON
DETOUR LAYOUT #6 (PHASE 3) — SHEET: 26 OF 120

VAOT Metric



TEMPORARY 100mm WHITE LINE
STA. 1+130 LT - STA. 1+235 LT (2)

TEMPORARY SHEET PILING
SEE PHASE 2

TEMPORARY TRAFFIC BARRIER
STA. 1+130 LT - STA. 1+235 LT

PHASE 3
DETOUR LAYOUT #7

0 10 20

SCALE 1 : 250

LEGEND
- SIGN POSTS
- TYPE III BARRICADES (MOD.)
- TEMP. TRAFFIC BARRIER
- LUMINARE
- STRAIN POLE
- SIGNAL HEAD
- ENERGY ABSORTION ATTENUATOR
- TEMPORARY SHEET PILING
- REFLECTORIZED BARREL
- PAVEMENT MARKING REMOVAL

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (93)

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116det7.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: T.G. ANDERSON
DETOUR LAYOUT #7 (PHASE 3)	SHEET: 27 OF 120

VAOT Metric

TELE. #1089

OVERHEAD TELEPHONE LINE

VT STATE PLANE GRID

TEMPORARY SHEET PILING

TEMPORARY 100 mm WHITE LINE

END BRIDGE US 5 Sta 1+311.524 FG = 309.076

TELE. #1090

STONE FILL, TYPE II

MATCH LINE STA 1+235

TELE. #3

COMB #55

1+240

1+260

1+280

1+300

1+320

COMB #2 1+340

1+360

COMB #55

1+380

TELE. #176 1091 55

TELE. #4

STONE FILL, TYPE II

MATCH LINE STA 1+395

BEGIN BRIDGE US 5 Sta 1+269.792 FG = 306.791

POINT #3

COMB #4

OVERHEAD ELECTRIC LINE

EXISTING TRAFFIC CONTROL SIGNALS (SEE NOTE 32 SHEET 49)

STONE FILL, TYPE II

NORTHERN VERMONT RAILROAD

TELE. #20 25

COMB #65 5

OVERHEAD TELEGRAPH LINE

3+280

3+300

3+320

3+340

3+360

COMB #6

3+380

3+400

COMB #55 7

TELE. #6

3+418

APPROXIMATE AERIAL RELOCATION ROUTE BY BARTON VILLAGE, INC. AND NEW ENGLAND TELEPHONE & TELEGRAPH CO.

LEGEND

- SIGN POSTS
- TYPE III BARRICADES (MOD.)
- TEMP. TRAFFIC BARRIER
- LUMINARE
- STRAIN POLE
- SIGNAL HEAD
- ENERGY ABSORTION ATTENUATOR
- TEMPORARY SHEET PILING
- REFLECTORIZED BARREL
- PAVEMENT MARKING REMOVAL

TEMPORARY 100mm WHITE LINE
STA. 1+235 LT - STA. 1+395 LT (2)

TEMPORARY SHEET PILING
SEE PHASE 2

TEMPORARY TRAFFIC BARRIER
STA. 1+235 LT - STA. 1+285 RT

PHASE 3
DETOUR LAYOUT #8

0 10 20

SCALE 1 : 250

DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (93)

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S

DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn
IPARM FILE NAME: sc116det8.i — PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN — SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS — DRAWN BY: T.G. ANDERSON
DETOUR LAYOUT #8 (PHASE 3) — SHEET: 28 OF 120

Metric

ALL NECESSARY EASEMENTS AND/OR AGREEMENTS FOR AERIAL UTILITIES WITHIN THE RAILROAD RIGHT-OF-WAY SHALL BE OBTAINED BY NEW ENGLAND TELEPHONE & TELEGRAPH CO.

VT STATE PLANE GRID

MATCH LINE STA 1+395

1+400 1+420 1+440 1+460 1+480 1+500 1+520 1+540 1+560

TEMPORARY 100 mm WHITE LINE

UTILITY POLE TELE. JCT. BOX

NO NUMBER

COMB #1092

POINT #4

EXISTING TRAFFIC CONTROL SIGNALS (SEE NOTE 32 SHEET 49)

ROAD CLOSED

STOP

STOP HERE ON RED

TO GET GREEN LIGHT

TELE. #1093

END PROJECT Sta 1+520.000

END APPROACH Sta 1+560.000

NEW ANCHOR

NEW POLE

MATCH LINE STA 1+565

OVERHEAD TELEGRAPH LINES

TEMPORARY VEHICLE DETECTOR
SEE PHASE 2

TEMPORARY 100mm WHITE LINE
STA. 1+395 LT - STA. 1+520 LT
STA. 1+395 LT - STA. 1+560 RT

TEMPORARY 100mm YELLOW LINE
SEE PHASE 2

TEMPORARY 600mm STOP BAR
SEE PHASE 2

EXISTING POLE #8

APPROXIMATE AERIAL RELOCATION
ROUTE BY BARTON VILLAGE, INC. AND NEW ENGLAND TELEPHONE & TELEGRAPH CO.

NEW POLE

NEW ANCHOR

NORTHERN VERMONT RAILROAD

NEW ANCHOR

LEGEND
- SIGN POSTS
- TYPE III BARRICADES (MOD.)
- TEMP. TRAFFIC BARRIER
- LUMINARE
- STRAIN POLE
- SIGNAL HEAD
- ENERGY ABSORTION ATTENUATOR
- TEMPORARY SHEET PILING
- REFLECTORIZED BARREL
- PAVEMENT MARKING REMOVAL

PHASE 3
DETOUR LAYOUT #9

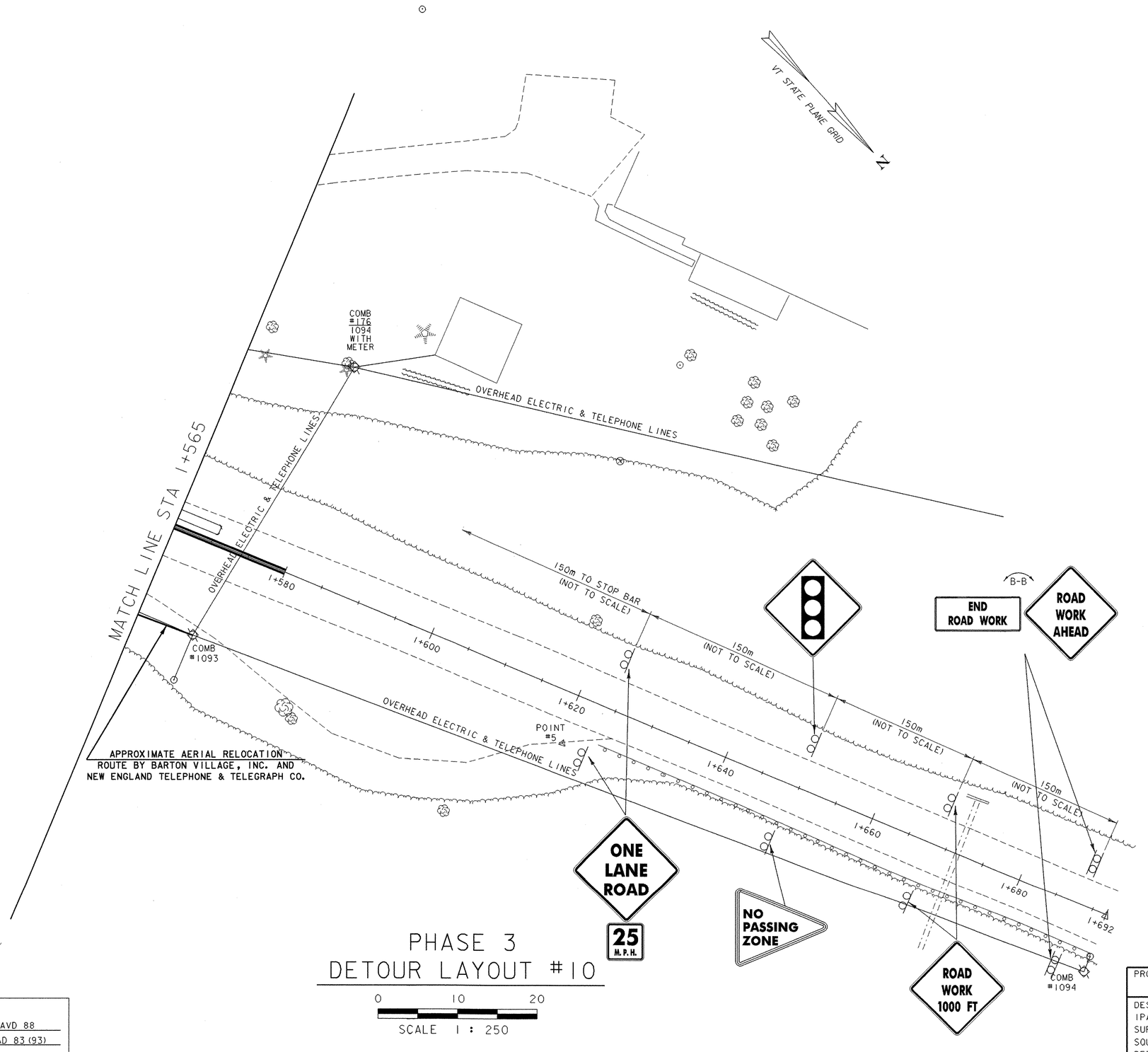
0 10 20
SCALE 1 : 250

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (93)

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S

DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn
IPARM FILE NAME: sc116det9.i — PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN — SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS — DRAWN BY: T.G. ANDERSON
DETOUR LAYOUT #9 (PHASE 3) — SHEET: 29 OF 120

VAOT Metric



TEMPORARY 100mm YELLOW LINE
SEE PHASE 2

LEGEND
- SIGN POSTS
- TYPE III BARRICADES (MOD.)
- TEMP. TRAFFIC BARRIER
- LUMINARE
- STRAIN POLE
- SIGNAL HEAD
- ENERGY ABSORTION ATTENUATOR
- TEMPORARY SHEET PILING
- REFLECTORIZED BARREL
- PAVEMENT MARKING REMOVAL

PHASE 3
DETOUR LAYOUT #10

0 10 20
SCALE 1 : 250

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (93)

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S

DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn
IPARM FILE NAME: sc116det10.i — PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN — SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS — DRAWN BY: T.G. ANDERSON
DETOUR LAYOUT #10 (PHASE 3) — SHEET: 30 OF 120

SOIL CLASSIFICATION

AASHTO	
A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN kPa	CONSISTENCY
<12	Very Soft
12-24	Soft
24-48	Med. Stiff
48-96	Stiff
96-192	Very Stiff
>192	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
◕	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per 300 mm For: 50.8 mm O.D. Sampler 35.0 mm I.D. Sampler Hammer Weight Of 63.5 kg. Hammer Fall Of 762 mm
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 30.1 mm
BX	Core Size 42.0 mm
NX	Core Size 54.7 mm
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
ROD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)

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

DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.

BOULDER - A rock fragment with an average dimension > 304.8 mm.

COBBLE - Rock fragments with an average dimension between 76.2 and 304.8 mm.

GRAVEL - Rounded particles of rock < 76.2 mm and > 2 mm (#10 sieve).

SAND - Particles of rock < 2 mm (#10 sieve) and > 75 μm (#200 sieve).

SILT - Soil < 75 μm (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

HARDPAN - Extremely dense soil, cemented layer, not softened when wet.

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

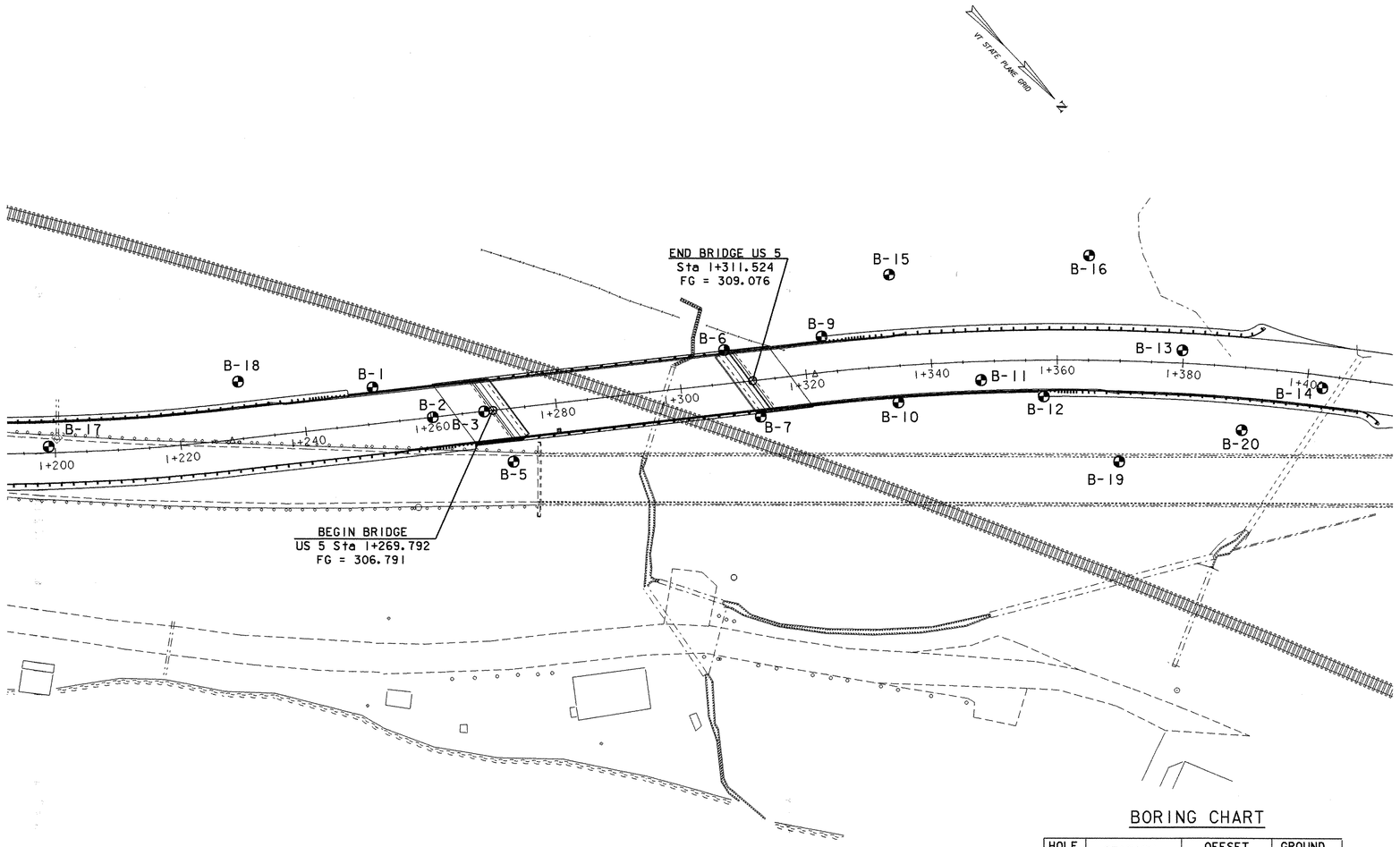
MOISTURE CONTENT - Weight of water divided by dry weight of soil.

FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.

DIP - Inclination of bed with a horizontal plane.

VAOT Metric



BORING LAYOUT

0 10 20

SCALE 1:400

BORING CHART

HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.
B-1	1+251.300	5.800 LT	298.950
B-2	1+260.300	0	300.570
B-3	1+268.500	0	300.340
B-5	1+272.300	8.500 RT	304.043
B-6	1+307.500	5.400 LT	295.994
B-7	1+312.100	5.800 RT	297.700
B-9	1+323.100	5.800 LT	301.037
B-10	1+334.300	5.800 RT	302.723
B-11	1+347.700	3.000 RT	302.851
B-12	1+357.800	5.800 RT	303.104
B-13	1+380.000	2.000 LT	300.355
B-14	1+402.500	2.000 RT	302.132
B-15	1+335.000	14.500 LT	305.362
B-16	1+365.000	16.600 LT	309.403
B-17	1+199.000	1.000 LT	300.132
B-18	1+230.000	9.000 LT	295.981
B-19	1+370.000	16.000 RT	N/A
B-20	1+390.000	10.000 RT	298.026

GENERAL NOTES

1. The subsurface explorations shown herein were made between 11/15/99 and 3/22/00 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116\Structures\sc116bor.dgn	
IPARM FILE NAME: sc116bor.i	PLOT DATE: 03-JAN-2002
US Route 5 Over Northern Vermont Railroad - Bridge 161	
BORING LAYOUT SHEET	SHEET: 31 OF 120

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-01
SHEET 1 OF 1
DATE STARTED: 1/12/00
DATE COMPLETED: 1/13/00

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+25L30
GROUND EL.: 298.95

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: -5.80
G.W. DEPTH: 4.4 m

BORING CREW
CREW CHIEF: R. TALLMAN
DRILLER: R. YOUNG
LOGGER: K. RUSSELL
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No Recovery, Boulders							
		A-2-4,Sa,brn,Moist,rec.=0.25m.	R	12.9	11.7	73.6	14.7		
5		A-4,SaSi,gry,Moist,rec.=0.18m.	R	14.8	8.1	42.9	49		
		A-4,SiSa,brn-gry,Moist,rec.=0.16	R	14.3	4.4	53.1	42.5		
		A-4,GrSaSi,gry,Moist rec.=0.10m.	R	12.3	20.4	38.3	41.3		
		No Sample, Boulders							
		Top of Bedrock at 10.48m							
10			RUN	REC%	ROD%	DIP°			
		RUN#1: BXMDC 10.48m-11.08m rec.=0.60m See Geol. Report	1	100	0				
		RUN#2: BXMDC 11.08-12.60m rec.=1.52m , See Geologist's Report	2	100	100				
		RUN#3: BXMDC 12.60-13.52m rec.=0.80m, See Geologist's Report	3	87	80				
		Hole stopped at 13.52m							

GEOLOGISTS REPORT:

Run #1: Granite, Very hard, Unweathered.
Very closely spaced jointing.
Joints surfaces are unstained.
Breakage may be caused by drilling.

Run #2: Same as Run #1, Competent.

Run #3: Same as Run #1, Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-02
SHEET 1 OF 1
DATE STARTED: 1/9/00
DATE COMPLETED: 1/11/00

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+260.30
GROUND EL.: 300.57

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: 0.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: R. TALLMAN
DRILLER: R. YOUNG
LOGGER: K. RUSSELL
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4,SiGrSa,brn,Moist rec.=0.20m	9	15.2	26.2	52.9	20.9		
		A-1-b,SaGr,brn,Moist rec.=0.18m	19	13.4	42.7	40.8	16.5		
5		A-2-4,SiSa,brn,Moist,rec.=0.40m	58	13.9	1.4	69.4	29.2		
		A-4,SiSa,brn-gry,Moist,rec.=0.30m	R	16.5	0.6	51	48.4		
		A-4,SiSa,brn-gry,Moist,rec.=0.24m	R	13.7	1.8	57.6	40.6		
		A-4,SiSa,gry,Moist,rec.=0.15m	R	14.6	3.2	51.1	45.7		
10		A-4,SiSa,gry,Moist,rec.=0.15m	R	13.9	3.5	51.7	44.8		
		BXDC 11.00m-11.65m, Boulders BXDC 11.00m-11.65m, Boulders							
		Top of Bedrock at 11.88m							
		RUN#1: BXMDC 11.88-13.40m rec.=1.33m,Seam at 12.63-12.70m See Geologist's Report	RUN	REC%	ROD%	DIP°			
			1	88	80				
		RUN#2: BXMDC 13.40-14.92m rec.=1.52m, See Geologist's Report.	2	100	100				
		Hole stopped at 14.92m							

GEOLOGISTS REPORT:

Run #1: Granite, Very hard, Unweathered, Competent.

Run #2: Granite, Very hard, Unweathered, Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-03
SHEET 1 OF 2
DATE STARTED: 12/21/99
DATE COMPLETED: 12/23/99

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+268.50
GROUND EL.: 300.34

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: 0.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: R. TALLMAN
DRILLER: K. RUSSELL
LOGGER:
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No Recovery.							
		A-2-4,Sa,brn,Moist,rec.=0.26m	8	17	19.6	62.1	18.3		
5		A-2-4,SiSa,brn,Moist rec.=0.33m	27	13.3	6.7	70.6	22.7		
		A-2-4,SiSa,brn,Moist rec.=0.45m	57	15	1.7	71.4	26.9		
		A-4,SiSa,brn-gry,Moist rec.=0.22m	R	14	4.5	52.3	43.2		
		A-4,SiSa HP,gry,Moist,rec.=0.06m	R	13.8	12.1	44.3	43.6		
10		A-4, SaSi HP, gry, Moist, rec.=0.10m	R	15.1	10.6	43.8	45.6		
		Top of Bedrock at 12.34m							
		RUN#1: BXMDC 12.34m-13.84m rec.=1.24m, Seam 13.25m-13.43m. See Geologist's Report	RUN	REC%	ROD%	DIP°			
			1	83	55				
		RUN#2: BXMDC 13.84m-15.36m rec.=1.52m See Geologist's Report	2	100	98				
		Hole stopped at 15.36m							

GEOLOGISTS REPORT:

Run #1: Granite, Very hard, Unweathered.
Rock is competent but core run encountered moderately spaced jointing.

Run #2: Same as Run #1, Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-05
SHEET 1 OF 2
DATE STARTED: 3/21/00
DATE COMPLETED: 3/21/00

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+272.30
GROUND EL.: 304.043

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: 8.50
G.W. DEPTH:

BORING CREW
CREW CHIEF: R. MCGLYNN
DRILLER: E. CHABOT
LOGGER: R. YOUNG
ADDITIONAL CREW: K. RUSSELL

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		0.0m-0.19m, Asphalt							
		A-2-4,GrSiSa,brn,Moist rec.=0.21m	17	13.8	21.8	52.2	26		
		A-1-b,SiGrSa,brn/gry,Moist rec.=0.19m	53	10.9	29.2	49.6	21.2		
5		A-1-b,GrSa,brn,Dry, rec.=0.21m	62	9.8	36.7	44.9	18.4		
		A-1-b,GrSa,lt.brn,Moist rec.=0.24m	65	10.3	43.3	44.1	12.6		
		A-1-a,SaGr,brn,Dry,rec.=0.10m	R	8.1	66.4	24.6	9		
		A-2-4,Sa,brn-gry,Moist rec.=0.33m	32	17	8.6	79.1	12.3		
10		A-4,SiSa,dk.gry,Moist rec.=0.58m	9	16.8	2.1	58.7	39.2		
		A-4,SaSi,gry,Moist, rec.=0.48m	63	16.4	1.9	46.7	51.4		
		A-2-4,SiSa,gry,Moist rec.=0.24m	R	15	13.9	65.7	20.4		

GEOLOGISTS REPORT:

PROJECT: BARTON	PROJECT NO.: STP 0113-58(S)
DESIGN FILE NAME: /matres/96c116/mc116bor.dgn	PLOT DATE:
DATE: 04/06/00	DRAWN BY: CHAD A. ALLEN
SQUAD LEADER: CHRISTOPHER C. BENDA	SHEET: 32 OF 120

MAY NOT Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-05
SHEET 2 OF 2
DATE STARTED: 3/21/00
DATE COMPLETED: 3/21/00

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+272.30
GROUND EL.: 304.043

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: 8.50
G.W. DEPTH:

BORING CREW
CREW CHIEF: R. MCGLYNN
DRILLER: E. CHABOT
LOGGER: R. YOUNG
ADDITIONAL CREW: K. RUSSELL

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, SiSa, brn, Moist, rec. = 0.16m	R	11.2	11.6	50.5	37.9		
		Top of Bedrock at 16.45m							
		RUN#1: 16.45m-17.97m rec. = 1.13m, See Geologist's Report		RUN	REC%	ROD%	DIP°		
				1	74	74			
		RUN#2: 17.97-19.49m rec. = 1.39m, See Geologist's Report		2	91	91			
20		Hole stopped at 19.49m							
25									

GEOLOGISTS REPORT:

Run #1: Granite, Very hard, Unweathered.
Very closely spaced jointing. Joint surfaces are unweathered.
Breakage may be caused by drilling.

Run #2: Same as Run #1.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-06
SHEET 1 OF 1
DATE STARTED: 11/29/99
DATE COMPLETED: 11/30/99

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+307.50
GROUND EL.: 295.994

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: -5.40
G.W. DEPTH: 0.3

BORING CREW
CREW CHIEF: R. MCGLYNN
DRILLER: E. CHABOT
LOGGER: R. YOUNG
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No sample, Boulders							
		No sample, Boulders							
5		No sample, Boulders							
		Top of Bedrock at 5.48m							
		Run #1: BXDC, 5.48m-7.02m Rec. = 1.52m, See Geologist's Report.		RUN	REC%	ROD%	DIP°		
				1	99	99	--		
		Run #2: BXDC, 7.02m-8.58m Rec. = 1.55m, See Geologist's Report.		2	99	99	--		
10		Hole stopped at 8.58m							

GEOLOGISTS REPORT:

RUN#1: Granite. Very Hard. Unweathered. Competent.

RUN#2: Same as RUN #1, Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-07
SHEET 1 OF 1
DATE STARTED: 11/24/99
DATE COMPLETED: 11/24/99

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+312.10
GROUND EL.: 297.70

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: 5.80
G.W. DEPTH:

BORING CREW
CREW CHIEF: R. MCGLYNN
DRILLER: E. CHABOT
LOGGER: R. YOUNG
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4, SiSa, brn, MTW rec. = 0.22m	5	20.6	9.6	62.3	28.1		
		A-4, SiSa, brn, MTW, rec. = 0.52m	4	25.5	1.7	50.4	47.9		
5		A-2-4, SiSa, brn, Moist, rec. = 0.39m	24	16.9	4.8	62	33.2		
		A-2-4, GrSiSa, brn, Moist, rec. = 0.27m	80	13.1	24.8	40.5	34.7		
		Top of Bedrock at 7.10m							
		Run #1: BXDC, 7.10m-7.70m, Rec. = 0.35m, See Geol. Report		RUN	REC%	ROD%	DIP°		
				1	58	58	--		
		Run #2: BXDC, 7.70m-9.05m, Rec. = 1.30m, See Geologist's Report.		2	96	96	--		
10		Run #3: BXDC, 9.05m-10.57m, Rec. = 1.52m, See Geologist's Report.		3	100	100	--		
		Hole stopped at 10.57m							

GEOLOGISTS REPORT:

RUN#1: Granite. Very Hard. Unweathered. Competent.

RUN#2: Same as RUN #1, Competent.

RUN#3: Same as RUN #1, Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-09
SHEET 1 OF 1
DATE STARTED: 12/2/99
DATE COMPLETED: 12/2/99

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+323.10
GROUND EL.: 301.037

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: -5.80
G.W. DEPTH: 7.7

BORING CREW
CREW CHIEF: R. MCGLYNN
DRILLER: E. CHABOT
LOGGER: R. YOUNG
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No sample, Boulders							
		A-2-4, SiSa, brn, Moist, rec. = 0.35m	76	11.9	9.5	62.2	28.3		
		No Rec.	R						
5		A-4, GrSaSi, brn, Moist, rec. = 0.37m	62	15.6	23.8	31.2	45		
		A-2-4, SiGrSa, brn, Moist, rec. = 0.04m	R	10.1	29.3	47.3	23.4		
		Top of Bedrock at 7.80m							
		Run #1: BXDC, 7.80m-9.32m, rec. = 1.30m, See Geologist's Report.		RUN	REC%	ROD%	DIP°		
				1	89	89	--		
		Run #2: BXDC, 9.32m-10.84m, rec. = 1.36m, See Geologist's Report.		2	86	86	--		
10		Hole stopped at 10.84m							

GEOLOGISTS REPORT:

RUN#1: Granite. Very Hard. Unweathered. Competent.

RUN#2: Same as RUN #1, Competent.

VADOT Metric

PROJECT: BARTON
PROJECT NO.: STP 0113-58(S)

DESIGN FILE NAME: /matres/96c116/mc116bor.dgn
PLOT DATE:
DATE: 04/06/00
DRAWN BY: CHAD A. ALLEN
SQUAD LEADER: CHRISTOPHER C. BENDA
SHEET: 33 OF 120

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-10
SHEET 1 OF 1
DATE STARTED: 11/15/99
DATE COMPLETED: 11/16/99

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+334.30
GROUND EL.: 302.723

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: 5.80
G.W. DEPTH:

BORING CREW
CREW CHIEF: R. MCGLYNN
DRILLER: E. CHABOT
LOGGER: R. YOUNG
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No sample, Boulders							
		A-4, SaSi, Dk/brn, Moist, rec. = 0.26m	R	18.4	1.8	34.8	63.4		
5		A-4, SiSa, brn, Moist, rec.= 0.45m	R	17.4	2.8	54.8	42.4		
		No sample, Boulders							
		A-2-4, GrSiSa, brn, Moist, rec. = 0.17m	R	11.2	25.1	48.5	26.4		
		A-1-b, GrSa, brn, Dry rec.= 0.25m	87	9.8	32.5	58.4	9.1		
			Top of Bedrock at 10.00m						
10		RUN#1: BXMDC, 10.00m-10.60m, Rec.= 0.51m, See Geol. Report	RUN 1	REC% 85	ROD% 85	DIP° --			
		RUN#2: BXMDC, 10.60m-12.10m, Rec. =1.37m, See Geologist's Report.	2	91	91	--			
		Run #3: BXMDC, 12.10m-13.00m, Rec. = 0.83m, See Geologist's Report.	3	92	92	--			
		Hole Stopped at 13.00m							

GEOLOGISTS REPORT:

RUN#1: Granite. Very Hard. Unweathered. Competent.

RUN#2: Same as RUN #1, Competent.

RUN#3: Same as RUN #1, Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-11
SHEET 1 OF 1
DATE STARTED: 11/22/99
DATE COMPLETED: 11/23/99

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+347.70
GROUND EL.: 302.851

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: 3.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: R. MCGLYNN
DRILLER: E. CHABOT
LOGGER: R. YOUNG
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No sample, Boulders							
		A-4, SiSa, brn, Moist, rec.=0.35m	R	18.5	5.1	52.5	42.4		
5		A-2-4, Sa, brn, Moist rec.= 0.30m	R	12.7	1.4	83.5	15.1		
		A-2-4, SiSa, brn, Moist, rec. = 0.19m	R	13.9	9.9	55.1	35		
		A-1-b, GrSa, brn, Moist, rec. = 0.26m	92	10.4	29.5	58.5	12		
		No Recovery	R						
			Top of Bedrock at 10.30m						
10		Run #1: BXDC, 10.30m-11.52m, Rec.=0.94m, See Geologist's Report.	RUN 1	REC% 77	ROD% 70	DIP° --			
		Run #2: BXDC, 11.52m-13.06m, Rec. =1.54m, See Geologist's Report.	2	100	100	--			
		Run #3: BXDC, 13.06m-13.66m, Rec.=0.59m, See Geologist's Report.	3	98	98	--			
		Hole Stopped at 13.66m							

GEOLOGISTS REPORT:

RUN#1: Granite. Very Hard. Unweathered. Competent.

RUN#2: Same as RUN #1, Competent.

RUN#3: Same as RUN #1, Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-12
SHEET 1 OF 1
DATE STARTED: 11/17/99
DATE COMPLETED: 11/18/99

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+357.80
GROUND EL.: 303.104

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: 5.80
G.W. DEPTH: 5.79

BORING CREW
CREW CHIEF: R. MCGLYNN
DRILLER: E. CHABOT
LOGGER: R. YOUNG
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No sample, Boulders							
		A-2-4, SiSa, brn, Moist, rec.=0.35m	63	13	12.3	56.9	30.8		
5		A-2-4, SiSa, brn, Moist, rec. = 0.41m	70	14	7.9	58	34.1		
		A-2-4, SiSa, brn, Moist, rec. = 0.40m	65	15.4	3.8	68.8	27.4		
		A-1-b, GrSa, brn, Dry, rec.=0.28m	R	9.7	30.1	56.6	13.3		
		A-2-4, SiSa, brn, Moist, rec.=0.32m	R	12.1	18	52.4	29.6		
			Top of Bedrock at 10.10m						
10		RUN#1: BXDC, 10.10m-10.91m, Rec.=0.66m, See Geologist's Report.	RUN 1	REC% 81	ROD% 81	DIP° --			
		RUN#2: BXDC, 10.91m-12.43m, Rec.=1.47m, See Geologist's Report.	2	97	97	--			
		RUN#3: BXDC, 12.43m-13.33m, Rec.= 0.87m, See Geologist's Report.	3	97	97	--			
		Hole Stopped at 13.33m							

GEOLOGISTS REPORT:

RUN#1: Granite, Very Hard. Unweathered. Competent.

RUN#2: Same as RUN #1, Competent.

RUN#3: Same as RUN #1, Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-13
SHEET 1 OF 1
DATE STARTED: 11/18/99
DATE COMPLETED: 11/19/99

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+380.00
GROUND EL.: 300.355

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: -2.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: R. MCGLYNN
DRILLER: E. CHABOT
LOGGER: R. YOUNG
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No sample, Boulders							
		A-2-4, SiGrSa, brn, Moist, rec=0.33m	80	10.7	25.3	49.7	25		
			Top of Bedrock at 3.65m						
		RUN#1: BXDC, 3.65m-4.25m, Rec.=0.57m, See Geol. Report	RUN 1	REC% 95	ROD% 95	DIP° --			
5		RUN#2: BXDC, 4.25m-5.75m, Rec.=1.36m, See Geologist's Report.	2	91	91	--			
		RUN#3: BXDC, 5.75m-7.12m, Rec.=1.47m, See Geologist's Report.	3	100	100	--			
		Hole Stopped at 7.12m							
10									

GEOLOGISTS REPORT:

RUN#1: Granite. Very Hard. Unweathered. Competent.

RUN#2: Same as RUN #1, Competent.

RUN#3: Same as RUN #1, Competent.

PROJECT: BARTON	PROJECT NO.: STP 0113-58(S)
DESIGN FILE NAME: /matres/96c116/mc116bor.dgn	PLOT DATE:
DATE: 04/06/00	DRAWN BY: CHAD A. ALLEN
SQUAD LEADER: CHRISTOPHER C. BENDA	SHEET: 34 OF 120

VTrans Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-14
SHEET 1 OF 1
DATE STARTED: 12/9/99
DATE COMPLETED: 12/14/99

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+402.50
GROUND EL.: 302.32

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: 2.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: R. TALLMAN
DRILLER: R. YOUNG
LOGGER: K. RUSSELL
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No sample, Boulders							
5		A-2-4, GrSiSa, brn, Moist, rec.=0.15m	48	11.6	24.8	46.7	28.5		
		Top of Bedrock at 5.94m							
				RUN	REC%	ROD%	DIP°		
		RUN#1: BXMDC, 5.94m-7.44m, Rec.=1.27m, See Geologist's Report.		1	85	85	--		
		RUN#2: BXMDC, 7.44m-8.94m, Rec.=1.49m, See Geologist's Report.		2	99	99	--		
10		Hole stopped at 8.94m							

GEOLOGISTS REPORT:

RUN#1: Granite. Very Hard. Unweathered. Competent.

RUN#2: Same as RUN #1, Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-15
SHEET 1 OF 1
DATE STARTED: 12/3/99
DATE COMPLETED: 12/7/99

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+335.00
GROUND EL.: 305.362

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: -14.50
G.W. DEPTH: 4.50

BORING CREW
CREW CHIEF: R. MCGLYNN
DRILLER: E. CHABOT
LOGGER: R. YOUNG
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No sample, Boulders							
		A-4, SiSa, brn, Moist, Rec. = 0.08m	R	14.6	8.7	51.1	40.2		
5		No sample, Boulders							
		A-2-4, SiSa, brn, Moist, Rec. = 0.22m	R	13.3	8.2	63.4	28.4		
		No sample, Boulders							
		No Rec.							
		Top of Bedrock at 9.30m							
				RUN	REC%	ROD%	DIP°		
10		Run #1: BXDC, 9.30m-10.82m, Rec.=1.50m, See Geologist's Report.		1	99	99	--		
		RUN#2: BXDC, 10.82m-12.34m, Rec.=1.44m, See Geologist's Report.		2	95	95	--		
		Hole stopped at 12.34m							

GEOLOGISTS REPORT:

RUN#1: Granite. Very Hard. Unweathered. Competent.

RUN#2: Same as RUN #1, Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-16
SHEET 1 OF 1
DATE STARTED: 12/8/99
DATE COMPLETED: 12/8/99

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+365.00
GROUND EL.: 309.403

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: -16.60
G.W. DEPTH:

BORING CREW
CREW CHIEF: R. MCGLYNN
DRILLER: E. CHABOT
LOGGER: R. YOUNG
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No sample, Boulders							
		A-2-4, SiSa, brn, Moist, rec. = 0.16m	37	15.7	2.4	62.6	35		
5		A-4, SiSa, brn, Moist, rec.=0.36m	R	17.4	0.5	53.9	45.6		
		A-2-4, SiSa, brn, Moist, rec. = 0.40m	54	15	8.4	68.3	23.3		
		A-2-4, SiGrSa, brn, Moist, rec. = 0.10m	R	12.9	33.8	40.4	25.8		
		A-1-b, GrSa, brn, Dry rec. = 0.40m	83	8.7	39.7	42.2	18.1		
		Top of Bedrock at 9.60m							
				RUN	REC%	ROD%	DIP°		
10		RUN#1: BXDC, 9.60m-11.12m, Rec.= 1.21m, See Geologist's Report.		1	80	80	--		
		RUN#2: BXDC, 11.12m-12.64m, Rec.=1.52m, See Geologist's Report.		2	100	100	--		
		Hole stopped at 12.64m							

GEOLOGISTS REPORT:

RUN#1: Granite/Pegmatite. Very Hard. Unweathered. Competent.

RUN#2: Granite. Very Hard. Unweathered. Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-17
SHEET 1 OF 1
DATE STARTED: 3/22/00
DATE COMPLETED: 3/22/00

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+199.00
GROUND EL.: 300.132

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: - 1.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: R. MCGLYNN
DRILLER: R. YOUNG
LOGGER: E. CHABOT
ADDITIONAL CREW: K. RUSSELL

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		0.00m-0.15, Asphalt							
		A-2-4,GrSa,brn,Moist,rec.=0.32m	37	10.8	26.1	54.1	19.8		
		A-2-4,Sa,brn-gry,Moist,rec.=0.21m	16	10.5	17	63.3	19.7		
5		A-2-4,SiSa,brn,Moist,rec.=0.22m	17	12.5	13.4	58.9	27.7		
		A-2-4,SiSa,brn-gry,Moist rec.=0.15m	12	14.2	19.4	58.2	22.4		
		A-4,SaSi,brn,MTW,rec.=0.48m	45	25	0.3	29.8	69.9		
		A-4,Si,brn,MTW,rec.=0.21m	73	21.7	0.1	18.1	81.8		
10		A-4,SiSa,brn,Moist,rec.=0.31m	R	14.8	4.7	51.4	43.9		
		A-4,GrSaSi,gry,Moist,rec.=0.23m	R	13.1	23.2	30.6	46.2		
		Top of Bedrock at 12.80m							
				RUN	REC%	ROD%	DIP°		
		RUN#1: BXMDC 12.80m-13.31m Rec.=0.17m, See Geol. Report		1	33	0			
		RUN#2: BXMDC 13.31m-14.52m Rec.=0.40m, See Geologist's Report.		2	56	0			
		RUN#3: BXMDC 14.52m-16.04m Rec.=0.98m, See Geologist's Report.		3	64	0			
		Hole stopped at 16.04m							

GEOLOGISTS REPORT:

Run #1: Granite, Very hard, Unweathered.
Poor recovery. Very closely spaced jointing.

Run #2: Same as Run #1.

Run #3: Same as Run #1.

Metric

PROJECT: BARTON
PROJECT NO.: STP 0113-58(S)

DESIGN FILE NAME: /matres/96c116/mc116bor.dgn
PLOT DATE:
DATE: 04/06/00
DRAWN BY: CHAD A. ALLEN
SQUAD LEADER: CHRISTOPHER C. BENDA
SHEET: 35 OF 120

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-18
SHEET 1 OF 1
DATE STARTED: 3/9/00
DATE COMPLETED: 3/13/00

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+230.00
GROUND EL.: 295.981

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: -9.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: R. TALLMAN
DRILLER: R. YOUNG
LOGGER: K. RUSSELL
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		BXDC 0.91m-1.37m, Boulders							
		No recovery, Boulders	4						
		No recovery, Boulders	22						
5		A-4,SiSa,brn,Moist,rec.=0.46m	38	15.6	2.7	60.8	36.5		
		A-4,SiSa,brn-gry,Moist,rec.=0.25m	R	11.7	3	53.5	43.5		
		A-2-4,SiSa,lt.gry,Dry,rec.=0.26m	R	9.3	9.3	61.3	29.4		
		BXDC 8.68m-9.29m, Boulders							
10			Top of Bedrock at 10.36m						
			RUN	REC%	ROD%	DIP°			
		RUN#1: BXMDC 10.36m-11.88m Rec.=1.41m, See Geologist's Report	1	93	53				
		RUN#2: BXMDC 11.88m-13.40m Rec.=0.52m, See Geologist's Report	2	See Note					
		Hole stopped at 13.40m							

NOTE: RUN#2: Lost part of the core down the hole.
An attempt to retrieve the core was unsuccessful.

GEOLOGISTS REPORT:

Run #1: Granite, Very hard, Unweathered.
Top 0.5 meters very closely spaced jointing.
Competent below 10.86m.

Run #2: Granite, Very hard, Unweathered.
Lost part of core down hole.
Core loss due to mechanical problems.
Rock is competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-19
SHEET 1 OF 1
DATE STARTED: 3/8/00
DATE COMPLETED: 3/9/00

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+370.00
GROUND EL.:

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: 16.00
G.W. DEPTH: 0.00

BORING CREW
CREW CHIEF: R. TALLMAN
DRILLER: R. YOUNG
LOGGER: K. RUSSELL
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4,SiSa,brn,Moist,rec.=0.46m	34	18.8	11.5	52.8	35.7		
		A-1-b,SiGrSa,brn-gry,Moist rec.=0.52m	46	10.1	37.4	42.5	20.1		
			Top of Bedrock at 3.98m						
			RUN	REC%	ROD%	DIP°			
		RUN#1: BXMDC 3.96m-4.57m, Rec.=0.53m, See Geol. Report	1	87	0				
5		RUN#2: BXMDC 4.57m-6.09m, Rec.=1.30m, See Geologist's Report	2	86	86				
		RUN#3: BXMDC 6.09m-7.07m, Rec.=0.98m, See Geologist's Report	3	100	100				
		Hole stopped at 7.07m							
10									

GEOLOGISTS REPORT:

Run #1: Granite, Very hard, Unweathered, Very closely spaced joints.

Run #2: Same as Run #1, Competent.

Run #3: Same as Run #1, Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-20
SHEET 1 OF 1
DATE STARTED: 3/2/00
DATE COMPLETED: 3/6/00

PROJECT NAME: BARTON
SITE NAME: BR 161
STATION: 1+390.00
GROUND EL.: 298.026

PROJECT NUMBER: STP 0113(58)S
SITE NO.: US Rt.5
OFFSET: 10.00
G.W. DEPTH: 1.37

BORING CREW
CREW CHIEF: R. TALLMAN
DRILLER: R. YOUNG
LOGGER: K. RUSSELL
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4,SiGrSa,brn,Moist rec.=0.08m	8	15.7	25.8	49.3	24.9		
		BXDC 2.43m-4.05m, Boulders	17						
			Top of Bedrock at 4.10m						
			RUN	REC%	ROD%	DIP°			
		RUN#1: BXMDC 4.10m-4.71m BXDC 2.43m-4.05m, Boulders Rec.=0.61m, See Geol. Report	1	100	85				
5		RUN#2: BXMDC 4.71m-5.63m Rec.=0.88m, See Geologist's Report	2	96	96				
		RUN#3: BXMDC 5.63m-7.15m Rec.=1.52m, See Geologist's Report	3	100	100				
		Hole stopped at 7.15m							
10									

GEOLOGISTS REPORT:

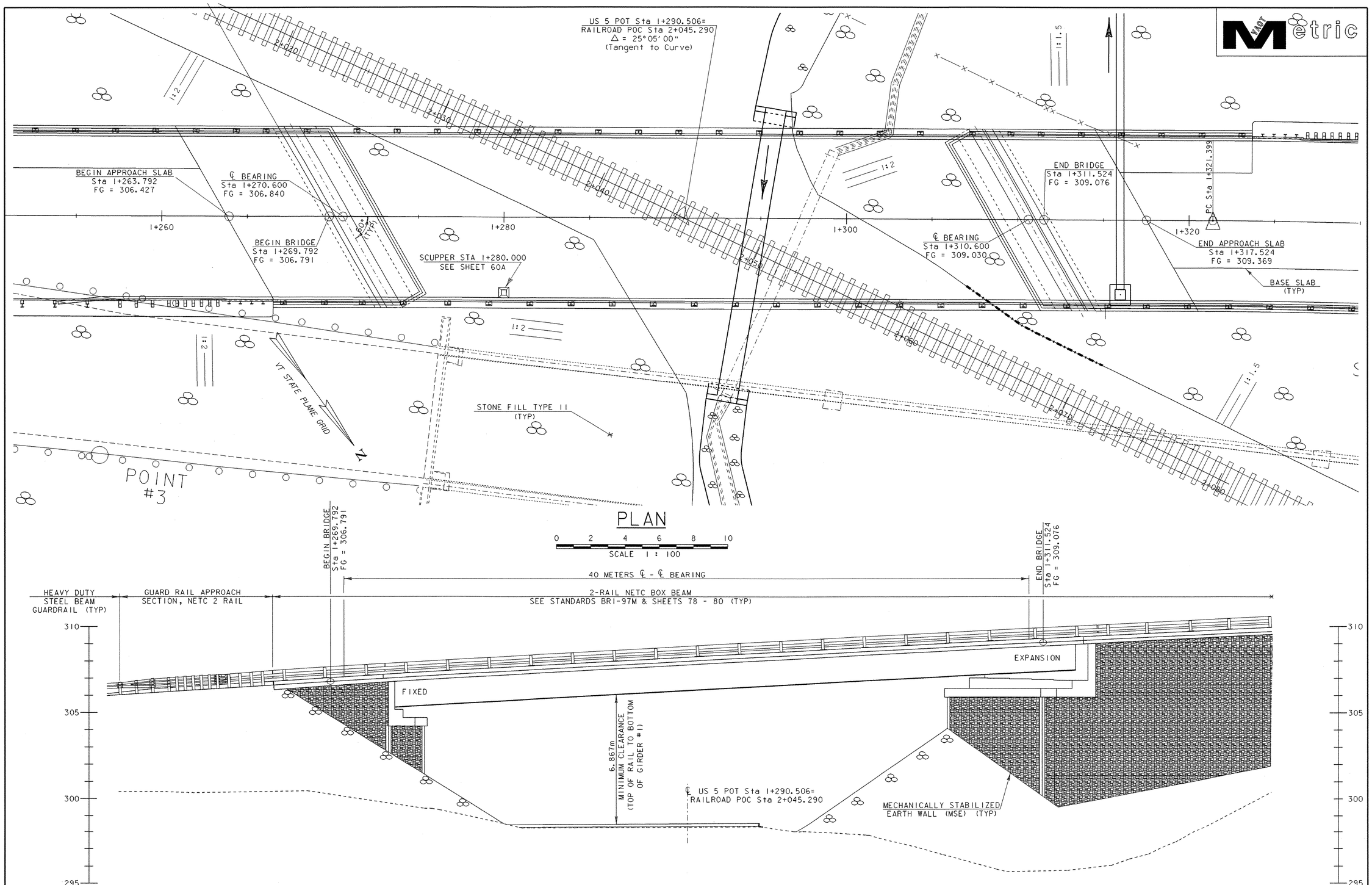
Run #1: Granite, Very hard, Unweathered, Competent.

Run #2: Same as Run #1, Competent.

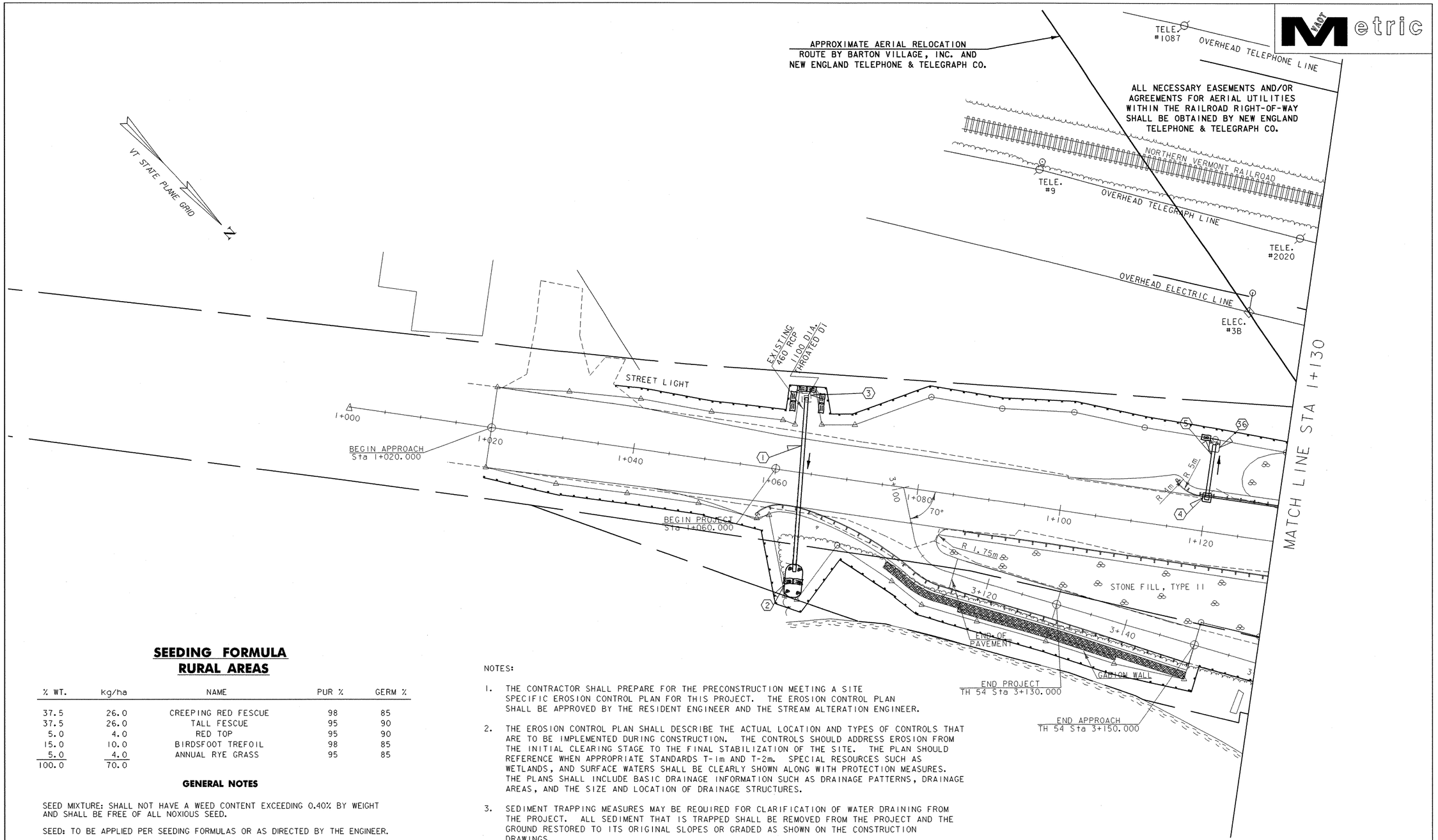
Run #3: Same as Run #1, Competent.

PROJECT: BARTON	PROJECT NO.: STP 0113-58 (S)
DESIGN FILE NAME: /matres/96c116/mc116bor.dgn	PLOT DATE:
DATE: 04/06/00	DRAWN BY: CHAD A. ALLEN
SQUAD LEADER: CHRISTOPHER C. BENDA	SHEET: 36 OF 120

Metric



PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116pe.dgn	
IPARM FILE NAME: sc116pe.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK	SURVEY DATE: AUG 1996
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
PLAN & ELEVATION SHEET	SHEET: 37 OF 120



SEEDING FORMULA
RURAL AREAS

% WT.	Kg/ha	NAME	PUR %	GERM %
37.5	26.0	CREEPING RED FESCUE	98	85
37.5	26.0	TALL FESCUE	95	90
5.0	4.0	RED TOP	95	90
15.0	10.0	BIRDSFOOT TREFOIL	98	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.0	70.0			

GENERAL NOTES

SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.

SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 kg/ha. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

NOTES:

1. THE CONTRACTOR SHALL PREPARE FOR THE PRECONSTRUCTION MEETING A SITE SPECIFIC EROSION CONTROL PLAN FOR THIS PROJECT. THE EROSION CONTROL PLAN SHALL BE APPROVED BY THE RESIDENT ENGINEER AND THE STREAM ALTERATION ENGINEER.

2. THE EROSION CONTROL PLAN SHALL DESCRIBE THE ACTUAL LOCATION AND TYPES OF CONTROLS THAT ARE TO BE IMPLEMENTED DURING CONSTRUCTION. THE CONTROLS SHOULD ADDRESS EROSION FROM THE INITIAL CLEARING STAGE TO THE FINAL STABILIZATION OF THE SITE. THE PLAN SHOULD REFERENCE WHEN APPROPRIATE STANDARDS T-1m AND T-2m. SPECIAL RESOURCES SUCH AS WETLANDS, AND SURFACE WATERS SHALL BE CLEARLY SHOWN ALONG WITH PROTECTION MEASURES. THE PLANS SHALL INCLUDE BASIC DRAINAGE INFORMATION SUCH AS DRAINAGE PATTERNS, DRAINAGE AREAS, AND THE SIZE AND LOCATION OF DRAINAGE STRUCTURES.

3. SEDIMENT TRAPPING MEASURES MAY BE REQUIRED FOR CLARIFICATION OF WATER DRAINING FROM THE PROJECT. ALL SEDIMENT THAT IS TRAPPED SHALL BE REMOVED FROM THE PROJECT AND THE GROUND RESTORED TO ITS ORIGINAL SLOPES OR GRADED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

4. THE CONTRACTOR SHALL USE TEMPORARY OR PERMANENT EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION OR AS ORDERED BY THE RESIDENT ENGINEER. SEE SECTION 105.23 OF THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1995.

EROSION CONTROL LAYOUT #1

0 10 20

SCALE 1 : 250

DATUM

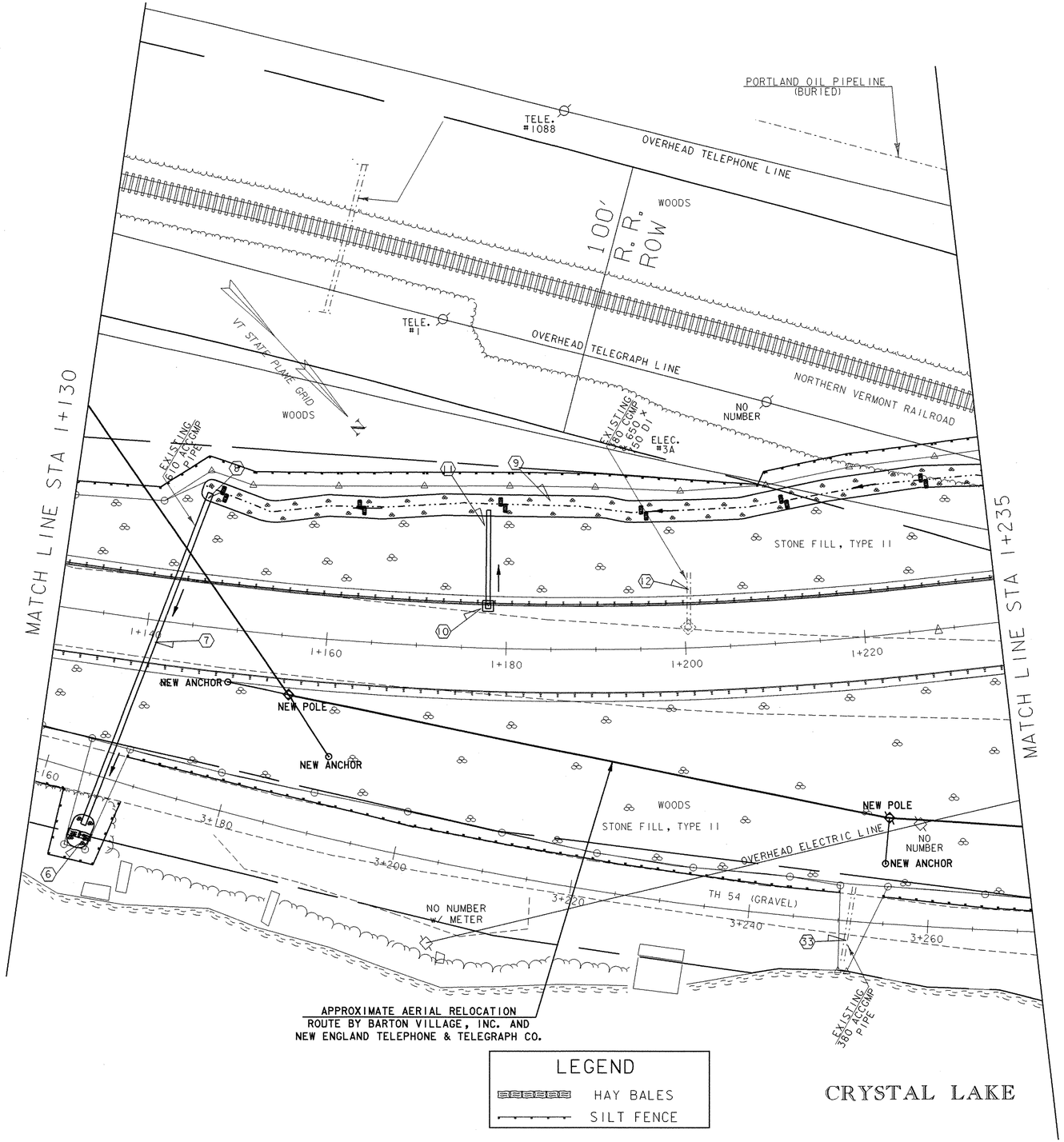
VERTICAL NAVD 88
HORIZONTAL NAD 83 (93)

LEGEND

HAY BALES
SILT FENCE

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116ec1.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
EROSION CONTROL LAYOUT #1	SHEET: 38 OF 120

VAOT Metric



LEGEND

HAY BALES

SILT FENCE

EROSION CONTROL LAYOUT #2

0 10 20

SCALE 1 : 250

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (93)

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116ec2.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
EROSION CONTROL LAYOUT #2	SHEET: 39 OF 120

VT STATE PLANE GRID N

WOODS

TELE. #1089

OVERHEAD TELEPHONE LINE

PORTLAND OIL PIPELINE (BURIED)

SNOW FENCE

ROW WOVEN WIRE FENCE FOR RAILROAD

END BRIDGE US 5 Sta 1+311.524 FG = 309.076

TELE. #1090

STONE FILL, TYPE II

DITCH

R 40

TELE. #3

M. HEMLOCK

L. MAPLE

COMB #2

COMB #55

TELE. #176

091 55

1+220 1+240 1+260 1+280 1+300 1+320 1+340 1+360 1+380

BEGIN BRIDGE US 5 Sta 1+269.792 FG = 306.791

EXISTING 600 x 1000 PIPE

TELE. #4

COMB #4

EXISTING TRAFFIC CONTROL SIGNALS (SEE NOTE 32 SHEET 49)

OVERHEAD ELECTRIC LINE

STONE FILL, TYPE II

WOODS

S. SPRUCES

WOOD FENCE

S. SPRUCE

COMB #65

TH 54 (GRAVEL)

3+280 3+300 3+320 3+340 3+360 3+380 3+400 3+418

M. ASH

L. POPLAR

SHED

SHRUBS

HOUSE

EXISTING 160 RCP

S. MAPLE

EXISTING STONE BOX (PLUGGED)

APPROXIMATE AERIAL RELOCATION
ROUTE BY BARTON VILLAGE, INC. AND NEW ENGLAND TELEPHONE & TELEGRAPH CO.

CRYSTAL LAKE

SPRUCE (SAVE)

GRAVEL DRIVE

EXISTING 610 CMP

WELL LOG DIA. CONCRETE PIPE WITH COVER

S. CEDAR

S. MAPLE (SAVE)

NORTHERN VERMONT RAILROAD

TELE. #20 25

EXISTING 610 ACCMP

OVERHEAD TELEGRAPH LINES

SHRUB

COMB #6

TELE. #6

EXISTING 610 x 460 TAPERING TO 100 x 300 STONE BOX (NEARLY PLUGGED)

STONE WALK

HOUSE

MATCH LINE STA 1+235

MATCH LINE STA 1+395

LEGEND

HAY BALES

SILT FENCE

EROSION CONTROL LAYOUT #3

0 10 20

SCALE 1 : 250

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (93)

PROJECT:	PROJECT NO. :
BARTON	STP 0113 (58) S
DESIGN FILE NAME: 96cl16/structures/scl16bdr.dgn	
IPARM FILE NAME: scl16ec3.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
EROSION CONTROL LAYOUT #3	SHEET: 40 OF 120

ALL NECESSARY EASEMENTS AND/OR AGREEMENTS FOR AERIAL UTILITIES WITHIN THE RAILROAD RIGHT-OF-WAY SHALL BE OBTAINED BY NEW ENGLAND TELEPHONE & TELEGRAPH CO.

VT STATE PLANE GRID

N

MATCH LINE STA 1+395

MATCH LINE STA 1+565

EXISTING 9.0 x 9.0 CONCRETE BOX

NO NUMBER

UTILITY POLE
TELE. JCT. BOX

COMB #1092

1+400

1+420

1+440

1+460

1+480

1+500

1+520

1+540

1+560

28

29

30

31

32

R 5m TYP.

EXISTING 460 RCP PIPE

R 10m

TELE. #1093

END PROJECT
Sta 1+520.000

END APPROACH
Sta 1+560.000

EXISTING 310 x 310 PIPE

EXISTING TRAFFIC CONTROL SIGNALS
(SEE NOTE 32 SHEET 49)

NEW ANCHOR

NEW POLE

OVERHEAD TELEGRAPH LINES

APPROXIMATE AERIAL RELOCATION
ROUTE BY BARTON VILLAGE, INC. AND
NEW ENGLAND TELEPHONE & TELEGRAPH CO.

EXISTING POLE #8

EXISTING 460 STEEL PIPE

NORTHERN VERMONT RAILROAD

100' R. R. R. O. W.

LEGEND

HAY BALES

SILT FENCE

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (93)

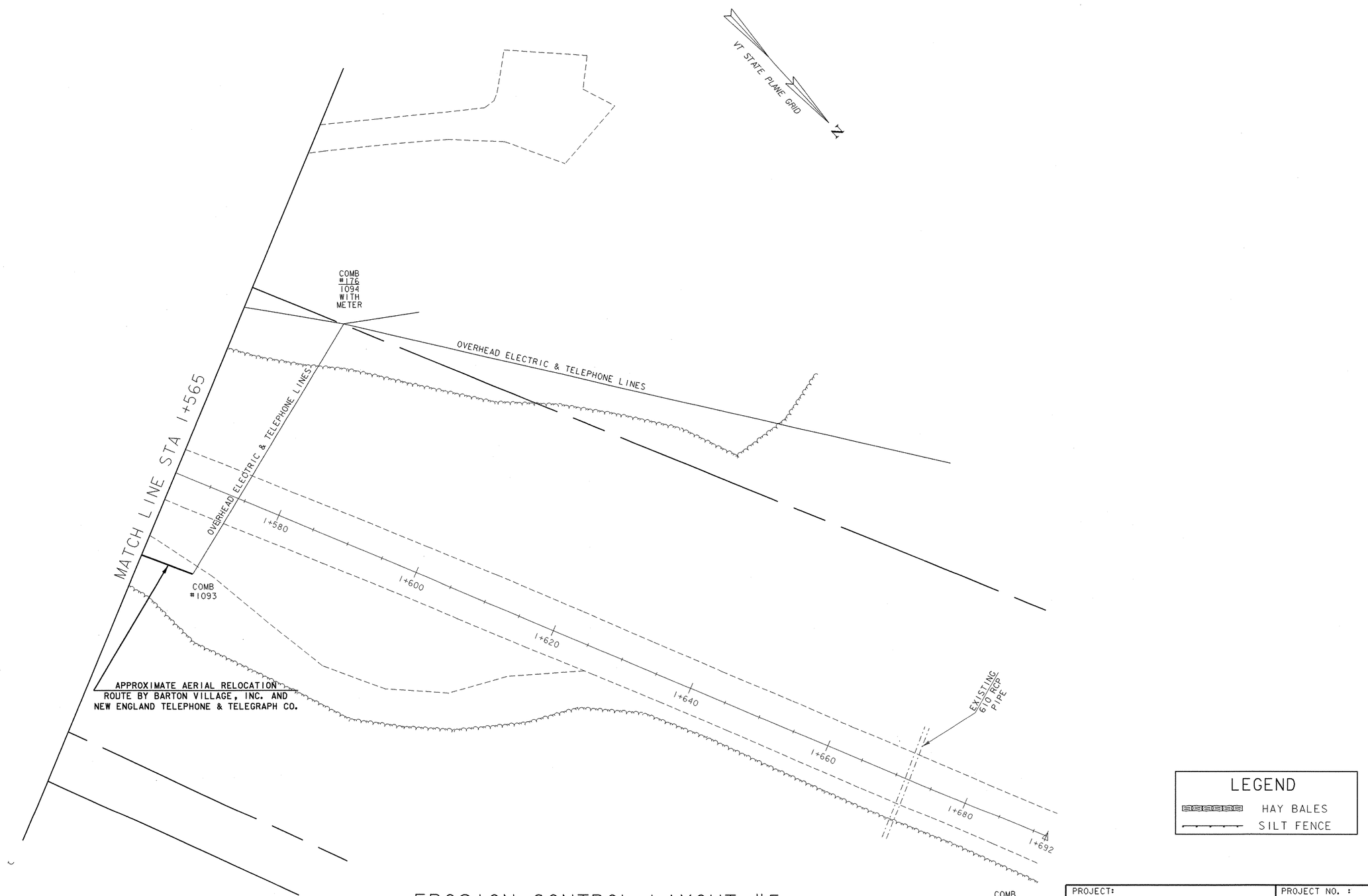
EROSION CONTROL LAYOUT #4

0 10 20

SCALE 1 : 250

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116ec4.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
EROSION CONTROL LAYOUT #4	SHEET: 41 OF 120

VAOT Metric



EROSION CONTROL LAYOUT #5

0 10 20

SCALE 1 : 250

LEGEND

HAY BALES

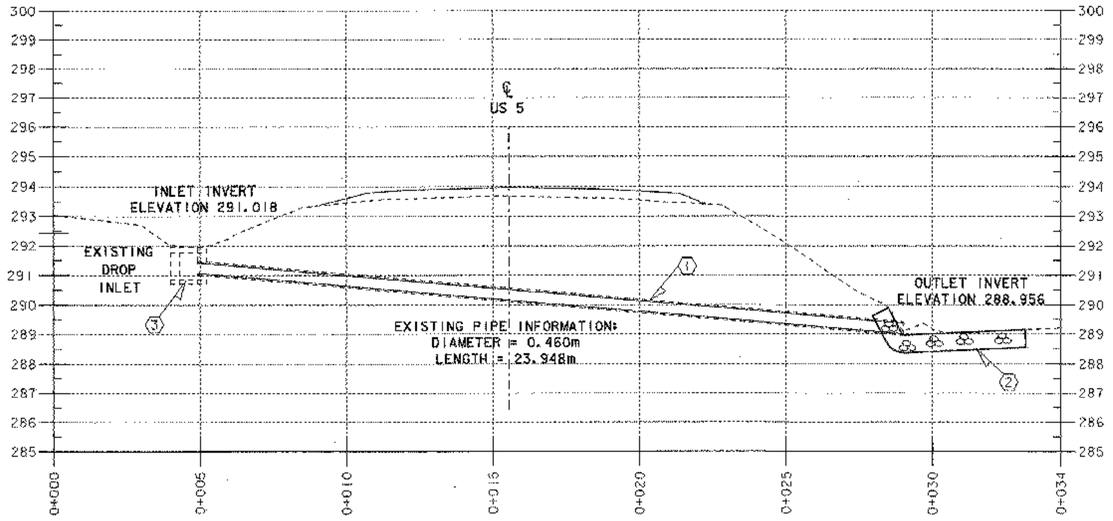
SILT FENCE

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (93)

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S

DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116ec5.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
EROSION CONTROL LAYOUT #5	SHEET: 42 OF 120

Profile Pipe @ STA 1+063.000

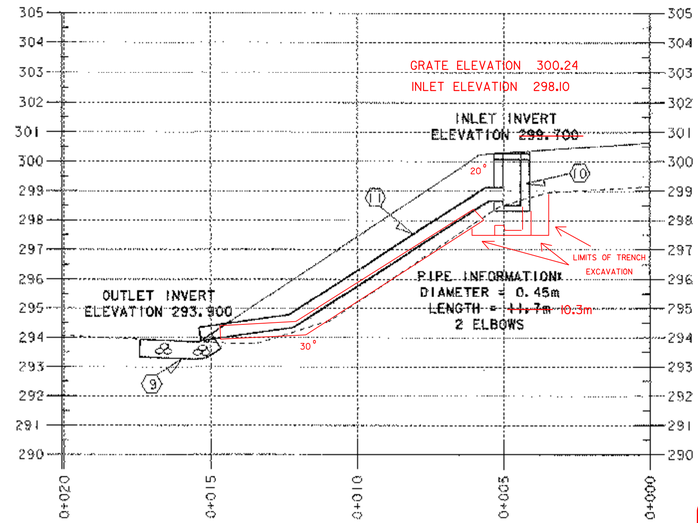


#2
204.20
4.0 x 1.5 x 0.6 = 3.6m³ KRM 6-12-03

613.11
4.0 x 1.5 x 0.6 = 3.6m³

649.31
6.0 x 2.0 = 12.0m²

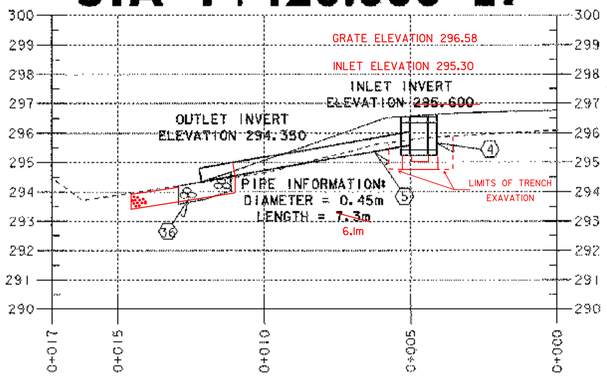
Profile Pipe @ STA 1+177.800 LT



204.20
TRENCH EXCAVATION
1.6 1.6
3.2 1.8 1.7m²
1.8 1.8
3.6
1.7m² x 2.2m = 3.7m³ KRM 8-7-03

ARCHIVED ON CADD

Profile Pipe @ STA 1+120.000 LT



- STONE TYPE II OUTLET PAD (36)
FIELD MEASURED KRM 8-19-03 SEE IDR 8-15-03

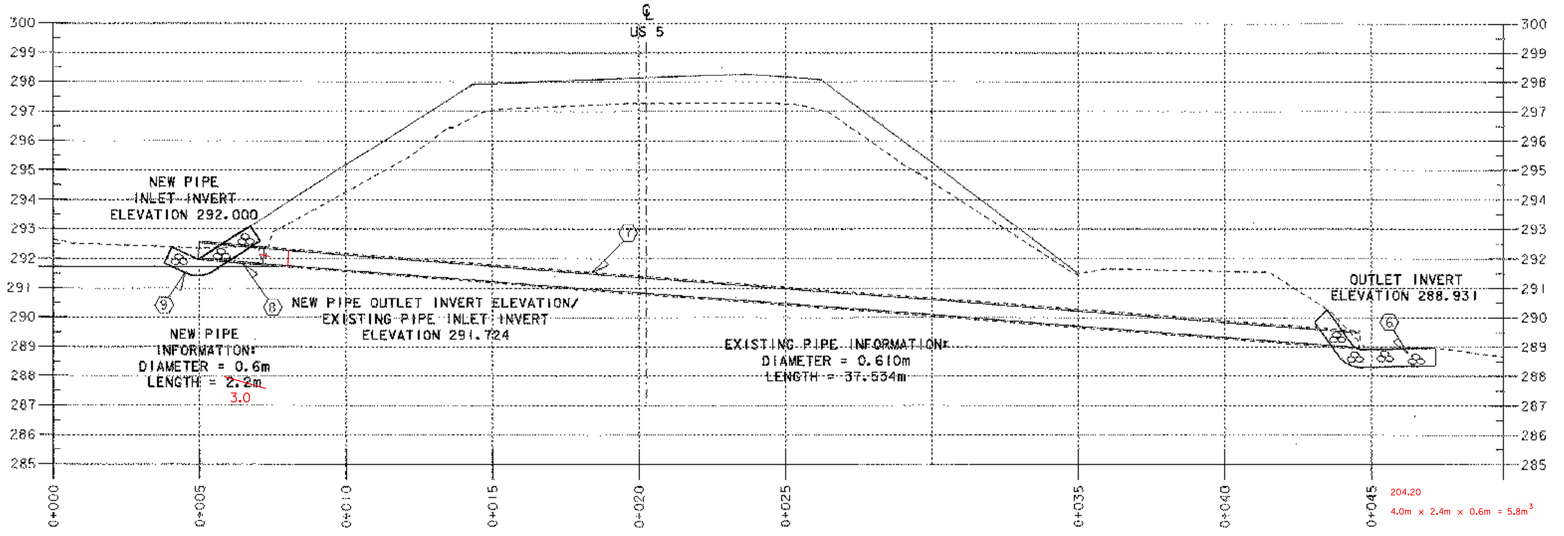
613.11 3.5m x 3.0m x 0.6m = 6.30m³
2 (2.0m x 1.3m x 0.6m) = 3.12m³
9.42m³ KRM 8-26-03

649.31 5.5m x 3.0m = 16.5m²

204.20 TRENCH EXAVATION
- D.I. (4)
2.0
2.0
4.0
2.0m² x 2.2m = 4.4m³ KRM 8-26-03
2.0
2.0
4.0

- PIPE (5)
1.1
1.15
2.3
1.125m² x 1.45m = 1.6m³ KRM 8-26-03
1.1
1.1
2.2

Profile Pipe @ STA 1+142.000



204.20
4.0m x 2.4m x 0.6m = 5.8m³

649.31
4.0m x 2.4m = 9.6m² KRM 7-8-03

613.11
4.0m x 2.4m x 0.6m = 5.8m³

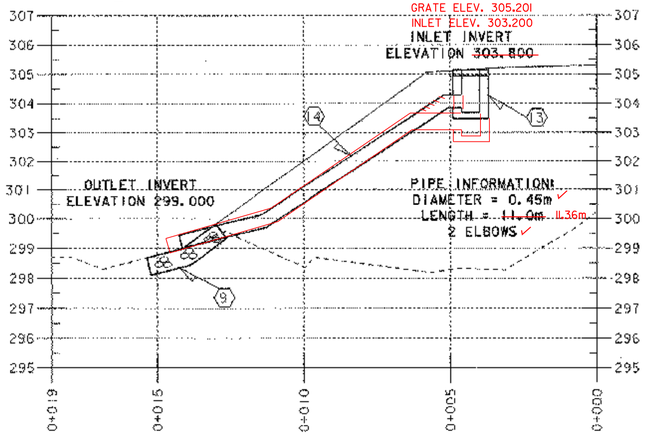
ADDITIONAL DRAINAGE NOTE:

(8) THE EXTENSION TO THE EXISTING PIPE (7) SHALL BE INSTALLED PRIOR TO THE INSTALLATION OF THE PVC FOLD AND FORM LINER. THE FOLD AND FORM LINER SHALL EXTEND WITHOUT INTERUPTION THROUGH BOTH EXISTING AND EXTENSION PIPE.

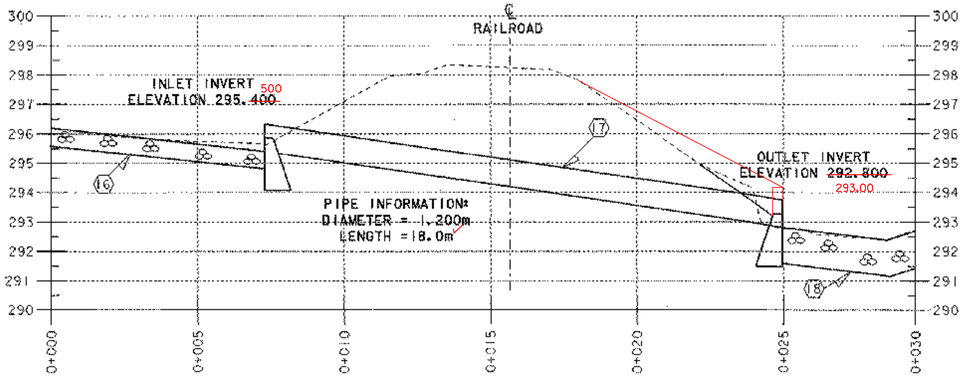
0 2 4 6 8 10
SCALE 1 : 100

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116drain.dgn	
IPARM FILE NAME: sc116dpl.i	PLOT DATE: 03-JAN-2002
	DRAWN BY: R.S. YOUNG
PROJECT LEADER: C.P. WILLIAMS	
DRAINAGE PROFILE	SHEET: 43 OF 120

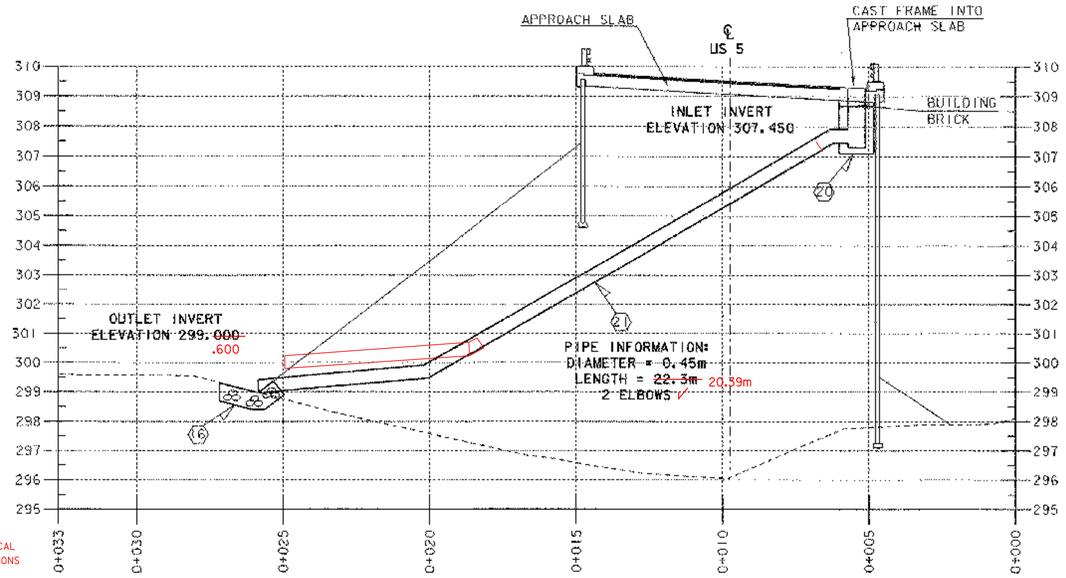
Profile Pipe @ STA 1+246.000 LT



Profile Pipe @ STA 1+295.000



Profile Pipe @ STA 1+316.000

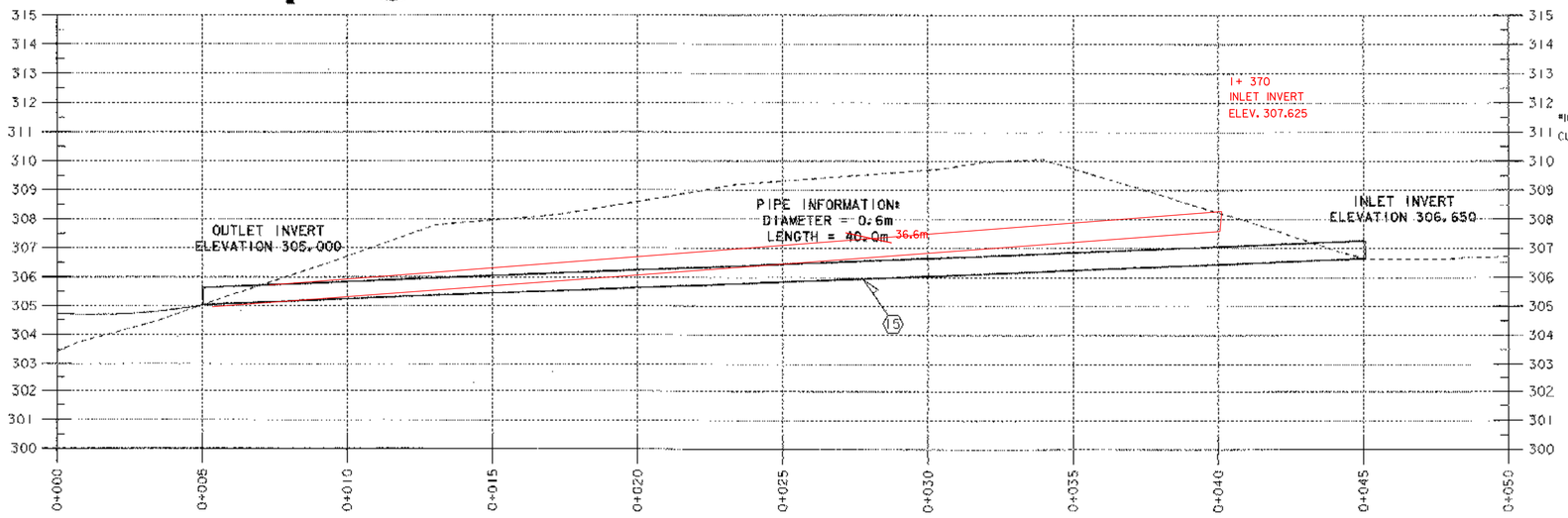


(18) SEE REDESIGNED TYPICAL SECTION IN CALCULATIONS FOLDER

204.20 131.76m³
649.31 147.6m²
613.13 131.76m³

(20) - SEE NOTE 16 SHEET 74

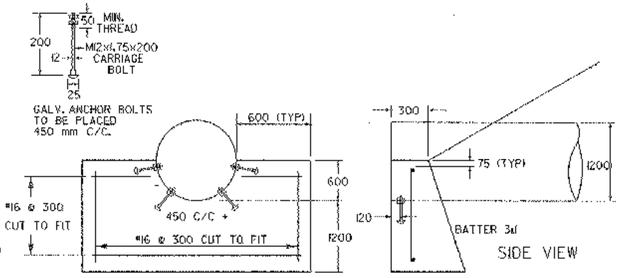
Profile Pipe @ STA 1+335.000 LT TO STA 1+375.000 LT



73.4
74.0 73.6
73.3
73.5
73.6
73.4 73.4
73.3

204.20 TRENCH EXCAVATION OF EARTH
1+ 335 ~ 1+ 370 LT
AREA = 73.5m² WIDTH = 1.7m
73.5m² x 1.7m = 125.0 cm
204.20 125.0 cm

0 2 4 6 8 10
SCALE 1 : 100



M12x1.75x200 ANCHOR BOLTS WITH TWO M12x1.75 HEXAGONAL NUTS. 14-mm Ø HOLES IN PIPE TO BE DRILLED OR PUNCHED, PRIOR TO COATING OF PIPE OR FIELD DRILLED WHEN REQUIRED, DUE TO A FIELD CHANGE. ANCHOR BOLTS ARE INCLUDED IN THE COST OF THE PIPE.

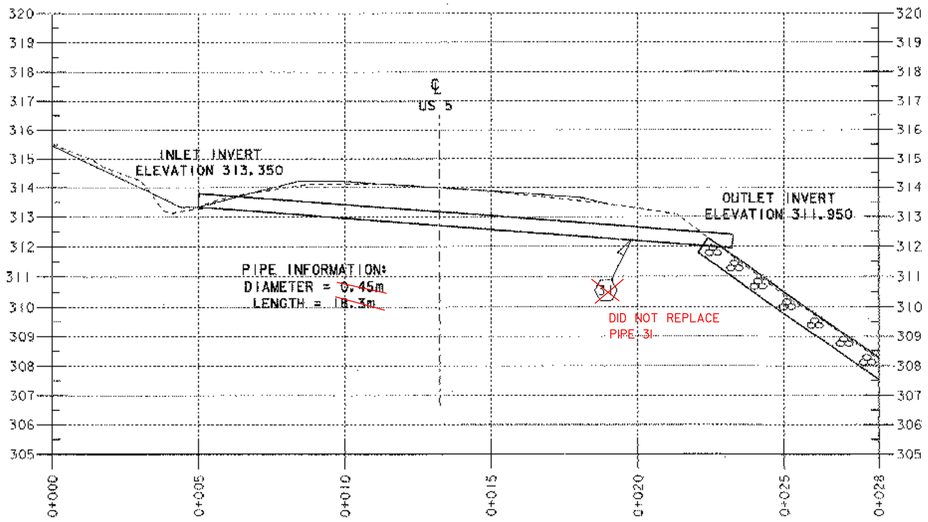
CONCRETE CLASS B CRADLE HEADWALL
NOT TO SCALE

ARCHIVED ON CADD

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96cl16/structures/scl16drain.dgn	
!PARM FILE NAME: scl16dp2.T	PLOT DATE: 03-JAN-2007
	DRAWN BY: R.S. YOUNG
PROJECT LEADER: C.P. WILLIAMS	
DRAINAGE PROFILE	SHEET: 44 OF 120

Metric

Profile Pipe @ STA 1+518.000

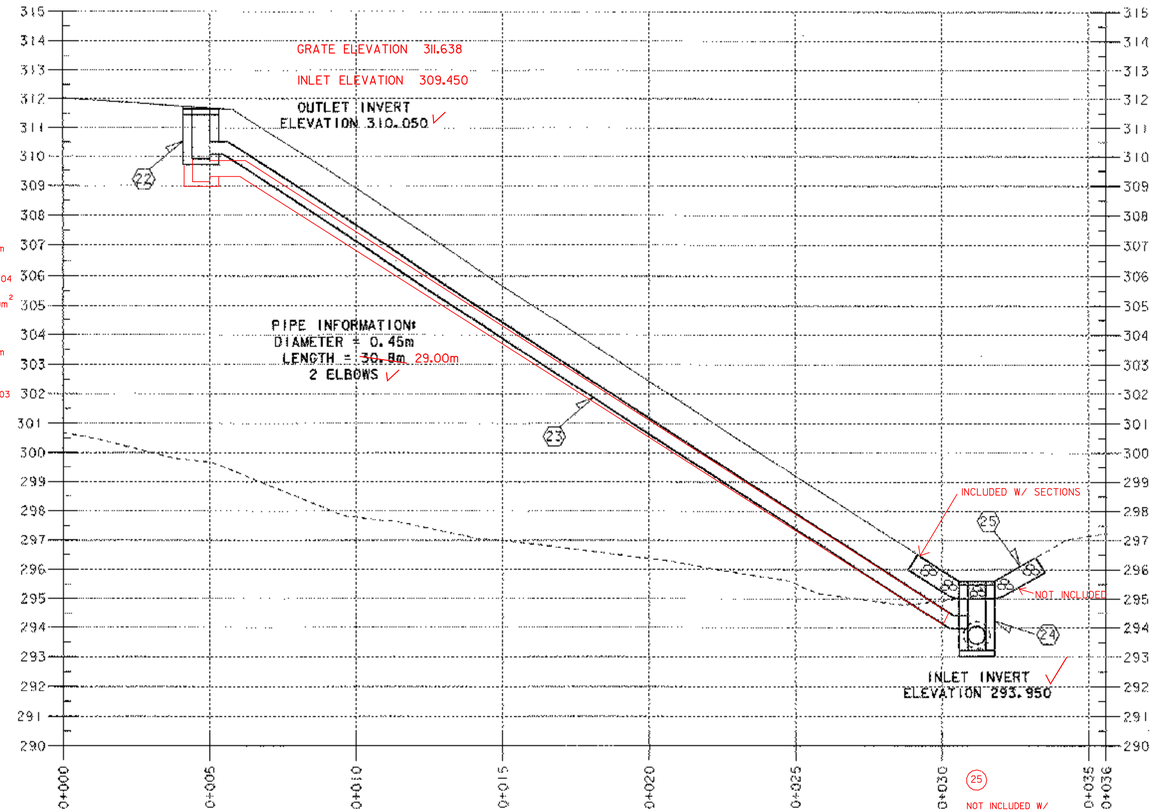


204.20
7.5m x 4.0m x 0.6m
= 18.0m³
KRM 3-5-04

649.31
7.5m x 4.0m = 30.0m²

613.11
7.5m x 4.0m x 0.6m
= 18.0m³
KRM 8-18-03

Profile Pipe @ STA 1+384.500 RT

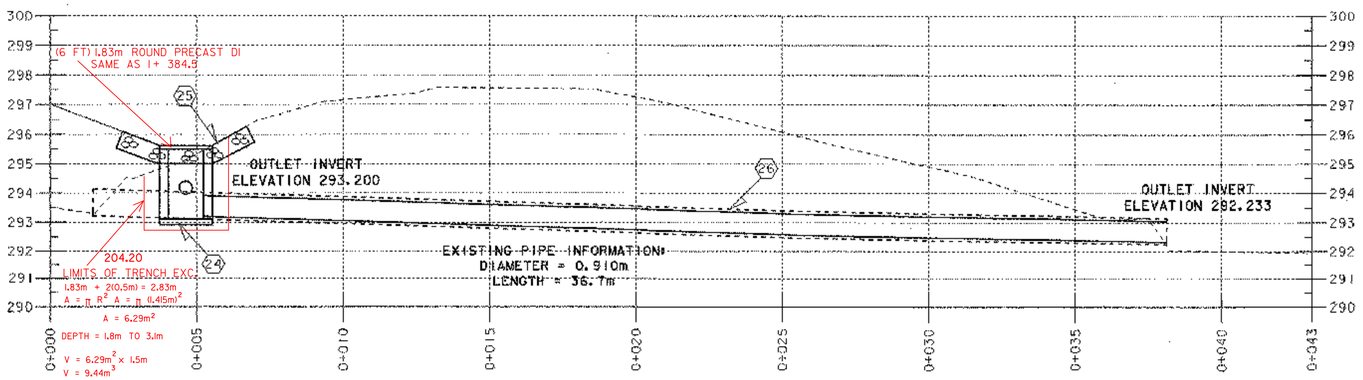


25 NOT INCLUDED W/ SECTIONS

649.31
2.0m x 4.0m = 8.0m²

613.11
2.0m x 4.0m x 0.6m = 4.8m³
KRM 5-12-03

Profile Pipe @ STA 1+365.000 RT



204.20
LIMITS OF TRENCH EXC
1.83m + 2(0.5m) = 2.83m
A = π R² A = π 0.45m²
A = 6.29m²
DEPTH = 1.8m TO 3.1m
V = 6.29m² x 1.5m
V = 9.44m³

BELOW 1.5m DEPTH
1.8m - 1.5m = 0.3m
3.1m - 1.5m = 1.6m
V = 1.5 x 6.29m² x (0.3m + 1.6m)/2
(FACTOR)
V = 8.96m³
9.44m³ + 8.96m³ = 18.4m³
KRM 1-20-04

0 2 4 6 8 10
SCALE 1 : 100

ADDITIONAL DRAINAGE NOTE:

(26) THE EXISTING PIPE SHALL BE CUT TO LENGTH TO LOCATE NEW CAST IN PLACE DI. THE PIPE SHALL BE CUT PRIOR TO THE INSTALLATION OF PEP LINER IN EXISTING PIPE. CUTTING OF THE EXISTING PIPE SHALL BE SUBSIDIARY TO THE ITEM 575.20 "CULVERT LINING (900 W/600 GROUTED PEP LINER)".

ARCHIVED ON CADD

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116drain.dgn	
IPARM FILE NAME: sc116dp3.i	PLOT DATE: 03-JAN-2002
	DRAWN BY: R.S. YOUNG
PROJECT LEADER: C.P. WILLIAMS	
DRAINAGE PROFILE	SHEET: 45 OF 120

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE DETAIL SHEET

Metric

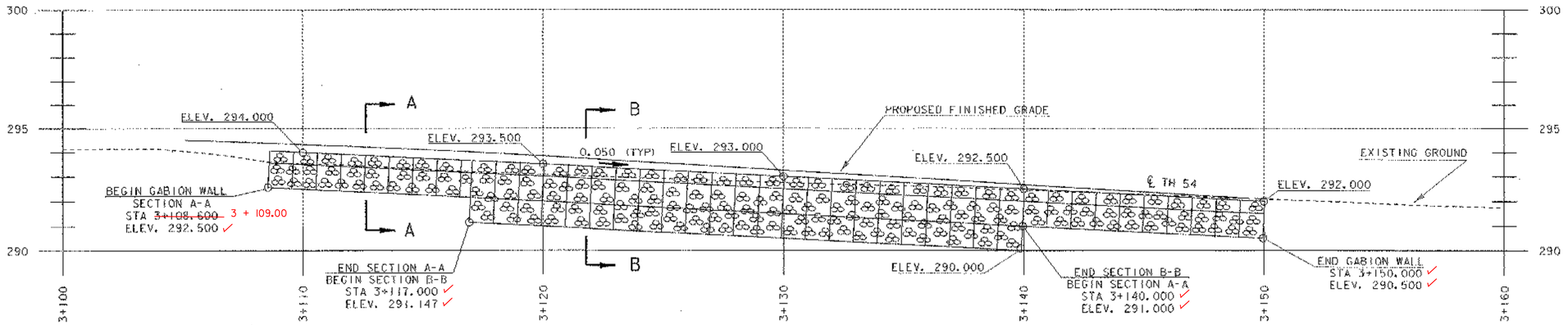
STATION km + m	STATION km + m	POS.	ASKEW no. deg.	INLET/OUTLET TYPE INLET	INLET/OUTLET TYPE OUTLET	DITCH IN	DITCH OUT	PIPE ARCH SPAN mm	PIPE ARCH RISE mm	PIPE ARCH L m	PIPE D mm	PIPE L m	ALLOWABLE OPTIONS PCCSP mm	ALLOWABLE OPTIONS CAAP mm	ALLOWABLE OPTIONS RCP CL	ALLOWABLE OPTIONS CSP mm	ALLOWABLE OPTIONS CPEP mm	ALLOWABLE OPTIONS PCCSP Pl mm	PIPE ELBOW no. deg.	ES ea	CB ea	PNCCDI	DEPTH DI mm	CONC CLASS B m³	REINF STEEL kg	DI GRATE type	CHAN ELEV ea	CRM m²	TRENCH EXCAVATION EARTH m³	TRENCH EXCAVATION ROCK m³	COMMN EXC m³	UNC CHAN EXC m³	STRUCT EXCAV m³	GRAN BKFILL STRUCT m³	GRAN BORR m³	EROS MATT m²	STONE FILL m³	STONE FILL type	MARKER POSTS LT ea	MARKER POSTS RT ea		Drainage Flag	REMARKS
1+062.800	1+064.400	LT - RT		DI	DITCH		X																													X ✓	X ✓		1	LINE EXISTING 460 PIPE ✓ ITEM 575.20 CULVERT LINING (450 w/ PVC LINER)
1+064.400		RT		PIPE																							3.6							3.6 6	II				2	NEW STONE FILL TYPE II LINED DITCH ✓
1+062.800		LT		DITCH	PIPE	X																																	3	~~REHABILITATE DROP INLET~~ ~~ITEM 604.415 REHABING DI CB OR MH CLASS II~~
1+120.000		LT			PIPE																	900 1200	1.22 1.55	67 86	E ✓			2 4.4												4	NEW 1200 X 1200 CAST IN PLACE CONCRETE DI ✓
1+120.000		LT		DI	DITCH		X				450	6.10 7.30	2.01	2.67			X ✓											1.6 1										X ✓		5	NEW 450 OPTION PIPE ✓
3+166.000		RT		PIPE																									5.8							5.8 10	II IV				6	NEW STONE FILL ~~TYPE IV~~ LINED DITCH TYPE II ✓
1+144.600	3+166.000	LT - RT		PIPE	DITCH		X																															X		7	LINE EXISTING 610 PIPE ✓ ITEM 575.20 CULVERT LINING (600 w/ PVC LINER)
1+144.600	1+146.000	LT		DITCH	PIPE	X					600	3.0 2.2	2.01 ✓															2									X ✓		8	NEW 600 PCCSP PIPE ✓
1+144.000	1+234.700	LT		PIPE	PIPE																											OTY INCLUDED W/ SECTIONS			143	II				9	NEW STONE FILL TYPE II LINED DITCH ✓
1+177.800		LT			PIPE																	1800 2250	1.87 2.68	103 141	E ✓			1 3.7												10	NEW 1200 X 1200 CAST IN PLACE CONCRETE DI ✓
1+177.800		LT		DI	DITCH		X				450	10.30 11.70	2.01	2.67			X ✓		1 - 33 1 - 25																				X ✓		11	NEW 450 OPTION PIPE ✓
1+200.400		LT																																						12	REMOVE EXISTING DI & 380 PIPE ✓
1+246.000		LT			PIPE																	1500 1950	1.87 2.36	103 124	E ✓															13	NEW 1200 X 1200 CAST IN PLACE CONCRETE DI ✓
1+246.000		LT		DI	DITCH		X				450	11.36 11.00	2.01	2.67			X ✓		1 - 33 1 - 20																				X ✓		14	NEW 450 OPTION PIPE ✓
1+336.000	1+375.000	LT		DITCH	DITCH	X	X				600	36.60 40.00					X ✓												145	125									X		15	NEW 600 CPEP PIPE ✓
1+ 316.0	1+ 337.6	LT									600	23.94					x																							15A	NEW 600 CPEP PIPE
1+285.000	1+317.000	LT		PIPE	PIPE																														32	II				16	NEW STONE FILL TYPE II LINED DITCH ✓
1+293.000	1+296.200	RT - LT		DITCH	DITCH	X	X				1200	18.00 ✓	2.77 ✓	2.67									5.2 5.9	88 ✓ + 37.6				4 15.5												17	NEW 1200 OPTION PIPE WITH CRADDLE ✓ HEADWALL AT INLET AND OUTLET
3+327.600	3+329.500	LT		PIPE																								13.76							62 13.76	IV				18	NEW STONE FILL TYPE IV LINED DITCH ✓
1+293.000	1+299.200	LT - RT																																						19	FILL EXISTING 600 X 1000 PIPE ✓ ITEM 501.31 CONCRETE CLASS D (MOD)
1+316.000		RT			PIPE																	1500 1750	1.87 2.20	103 120	E ✓															20	NEW 1200 X 1200 CAST IN PLACE CONCRETE DI ✓
1+316.000		RT - LT		DI	DITCH		X				450	20.39 22.30	2.01	2.67			X ✓		1-30 1-25				1.66	89	D ✓														X X ✓		21	I+ 315 LT UNDERDRAIN OUTLET ✓ NEW 450 OPTION PIPE ✓
1+384.500		RT			PIPE																	1500 2250	1.87 2.68	103 141	E ✓														X	22	I+ 339 LT JUNCTION BOX PIPE 15 & 15A NEW 1200 X 1200 CAST IN PLACE CONCRETE DI ✓
1+384.000	1+384.500	RT		DI	DI						450	29.00 30.80	2.01	2.67			X ✓		1 - 33 1 - 33																						23	NEW 450 OPTION PIPE ✓
1+384.000		RT		PIPE	PIPE																	2400	3.76	198	2-D			19	18.4									X ✓		24	~~NEW 1200 X 1800 CAST IN PLACE CONCRETE DI~~ ~~PRECAST 1524mm~~ ✓ PRECAST DI SEE C.O. #4 DATED 5-16-03
1+384.000		RT			DI																														4.8	11	II				25	NEW STONE FILL TYPE II LINED DITCH ✓
1+348.000	1+384.000	RT		DI	DITCH		X																															X	X	26	LINE EXISTING 910 PIPE ✓ ITEM 575.20 CULVERT LINING ✓ (900 w/ GROUTED 600 PEP LINER)
1+380.000	1+414.000	RT																																							
1+392.000	1+408.000	RT - LT		DITCH	DITCH	X	X																																	27	ABANDON EXISTING 310 X 310 PIPE ✓
1+460.000	1+520.400	LT			PIPE																														96.0	88	II				28	FILL EXISTING 910 X 910 CONCRETE BOX ✓ ITEM 501.31 CONCRETE CLASS D (MOD)
1+518.000	1+518.600	LT - RT		DITCH		X																																		29	NEW STONE FILL TYPE II LINED DITCH ✓
1+517.400	1+518.000	LT - RT																																						30	~~REMOVE EXISTING 450 PIPE~~
1+517.400	1+518.000	LT - RT		DITCH	DITCH	X	X				450	18.30	2.01	2.67			X											5									X ✓	X ✓	31	~~NEW 450 OPTION PIPE~~
1+518.000		RT		PIPE																								18.0							18.0 10	II				32	NEW STONE FILL TYPE II LINED DITCH ✓
3+281.200		LT - RT		DITCH		X																																X		33	~~CLEAN EXISTING 380 PIPE~~ ~~ITEM 603.905 CLEANING CULVERT PIPE IN PLACE~~
3+410.000		LT																																						34	FILL REMAINING AREA IN EXISTING 610X460 STONE BOX ITEM 501.31 CONCRETE CLASS D (MOD) ✓
3+380.000	3+382.000	LT																											34.0							38.7 2	II				35	NEW STONE FILL TYPE II LINED DITCH ✓
1+120.000		LT																											6.3							9.42 2	II				36	NEW STONE FILL TYPE II LINED DITCH ✓
																																						X			I+ 430 LT UNDERDRAIN FLUSHING BASIN ✓
																																						X			I+ 355 RT UNDERDRAIN FLUSHING BASIN ✓
					TOTALS						460 600 600 1200	101.4 17.2 2.2 3.0 40 18	2.01 2.01 60.54 2.77	2.67 1.91	V		X		450mm 4-33 2-25 1-20 1-30				17.66 19.03	765 827	5-E 2-D				171 368							290 72	II IV	6 14	4			

SEE SPECIAL PROVISIONS FOR ITEM MODIFICATION INFORMATION

ARCHIVED ON CADD

PROJECT NAME:	Barton
PROJECT NUMBER:	STP 0113(58)S
FILE NAME:	sc11ddds.xls
PROJECT LEADER:	C.P. Williams
DESIGNED BY:	W.B. Symonds
DRAWING DETAIL SHEET	
PLOT DATE:	11/1/01
DRAWN BY:	R.G. YOUNG
CHECKED BY:	W.B. Symonds
SHEET	46 OF 120

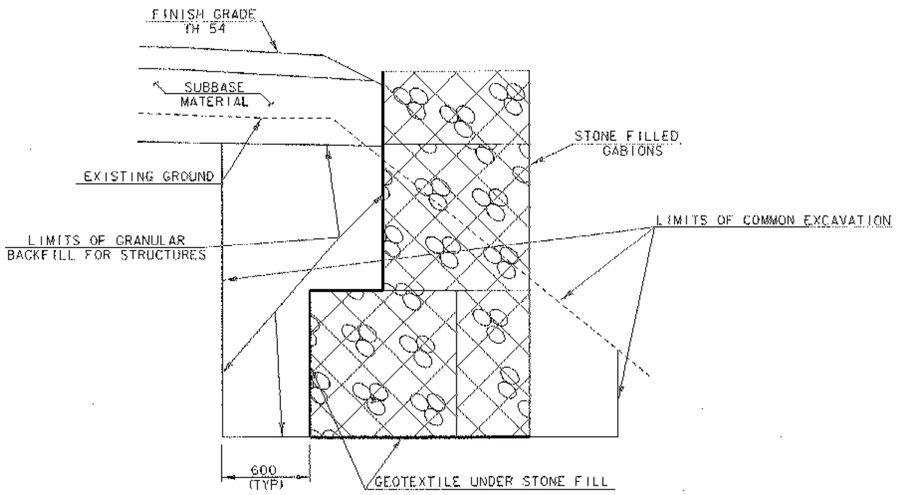
Metric



ELEVATION VIEW OF GABION WALL ALONG ℄ OF T.H. 54

0 1 2 4 6 8 10

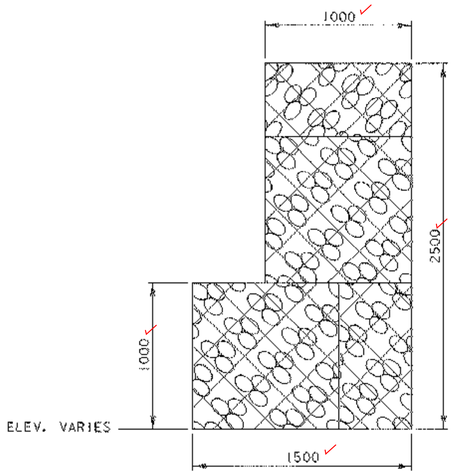
SCALE = 1:100



TYPICAL SECTION

0 1 2

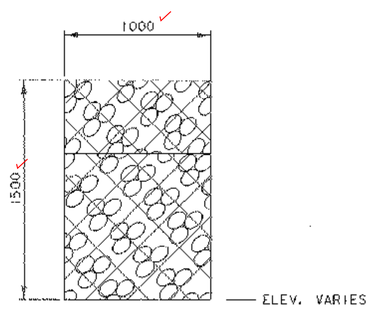
SCALE = 1:20



SECTION B-B

0 1 2

SCALE = 1:20



SECTION A-A

0 1 2

SCALE = 1:20

NOTE: THE FRONT FACE OF THE GABION RETAINING WALL SHALL BE BATTERED BACK AT A RATE OF 0.021 mm/mm.

ARCHIVED ON CADD

PROJECT: BARTON	PROJECT NO.: STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116gabion.dgn	
IPARM FILE NAME: sc116gabion.i	PLOT DATE: 03-JAN-2002
DESIGNED BY: R.S. YOUNG	DRAWN BY: R.S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	CHECKED BY: W.B. SYMONDS
GABION WALL DETAILS	SHEET: 47 OF 120

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

Next Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD. 2.5	FOUNDATION	TUBULAR STEEL Ø (mm) kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																									
1+036.400	SPEED LIMIT 50	1	600	750	0.450						1			X																				R2-1		E-142M
1+066.000	S. BARTON RD	1	900	230	0.207						1			X																				STREET NAME SIGN		E-123M
	LAKESIDE LN	1	900	230	0.207																													STREET NAME SIGN		E-123M
1+078.800	LEGAL LOAD LIMIT 24,000 POUNDS	1	600	750	0.450						1			X																				VR-017		E-141M
1+084.600	STOP	1	750	750	0.563						1			X																				R1-1		E-143M
	0050 1002 0390	1	150	200	0.030																													REFERENCE PLAQUE		E-138M
LAVALLE SUMMER CAMP AREA SEE BOOK IA PG 87	2	2 2	750 600	750 300	1.125 0.36						2			X																				DUE TO THE REMOVAL OF THE PEDESTRIAN SIGN @ 1+097 AND THE SUMMER CAMP SIGN @ 1+222, 2 PED. SYMBOL AND 2 ARROW SIGNS WERE ADDED TO THE CONTRACT TO PROTECT THE LAVALLE SUMMER CAMP AREA.		
1+097.000	NOW MID-RIDE		750 600	750 450	0.563 0.270		2			X	1			X																				ERECT SALVAGED SIGNS AND POST NEW		
1+147.000	END NO PASSING (R-6) NO PASSING ZONE						2			X	1			X																				ERECT SALVAGED SIGNS AND POST NEW		
1+147.000	DO NOT PASS						1			X	1			X																				ERECT SALVAGED SIGN AND POST NEW		
1+222.000	NO PASSING ZONE 40						2			X	1			X																				ERECT SALVAGED SIGNS AND POST NEW		
1+266.000	BRIDGE 161 US5	1	150	200	0.030						1	~~X~~		X																				VD-701		E-134M
1+324.000	BRIDGE 161 US5	1	150	200	0.030						1	~~X~~		X																				VD-701		E-134M
1+396.000	SPEED LIMIT 50	1	600	750	0.450									X																				R2-1		E-142M
~~1+530.000~~ 1+517.0	5	1	600	600	0.360						1			X																				1 DIGIT ROUTE MARKER		E-136AM
	SOUTH	1	600	300	0.180						1			X																				M3-3		E-136AM
												m 4	m	m ~~30.0~~ 54.9	m	m	m		EA	kg	kg	kg		kg	kg	kg	kg								
				TOTALS	m2 ~~2.957~~ 5.28	m2	EA. ~~7~~ 5	m2				m ~~30.0~~ 54.9			m					kg			EA.	kg				EA.	EA.	kg					

ARCHIVED ON CADD

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

PROJECT:	PROJECT NO.:
BARTON	STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116tsl.dgn	
IPARM FILE NAME: sc116tss.1	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK	SURVEY DATE: AUG 1996
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
TRAFFIC SIGN SUMMARY SHEET	SHEET: 48 OF 120

GENERAL NOTES

Metric

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 1995, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 1996, AND ITS LATEST REVISIONS.

2. DESIGN IS FOR MS-22.5 LIVE LOADING.

3. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES CELSIUS OR AS NOTED OTHERWISE.

4. EXISTING SIGNS NOT REUSED SHALL BE THE PROPERTY OF THE STATE OF VERMONT. THESE SIGNS SHALL BE STOCKPILED ON THE PROJECT AND THEN LOADED ON A TRUCK SUPPLIED BY THE DISTRICT. CONTACT THE DISTRICT 9 DTA, DALE PERRON AT 334-4340 TO ARRANGE REMOVAL FROM THE PROJECT.

5. ACCESS TO ALL DRIVES WITHIN THE PROJECT/APPROACH LIMITS SHALL BE MAINTAINED AT ALL TIMES.

6. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:

SPACING	+/- 25 MILLIMETERS
CLEARANCE	+/- 6 MILLIMETERS

7. THE MINIMUM COVER FOR REINFORCING STEEL IN THE SUBSTRUCTURES SHALL BE 50 ALONG WALL FACES AGAINST EARTH, AND 75 mm ELSEWHERE UNLESS DETAILED OTHERWISE.

8. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. UPWARD KEYS SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.

9. JOINTS AND SCORE MARKS IN THE CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

10. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25mm X 25mm.

11. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE BRIDGE DECK BETWEEN DRIP NOTCHES AND THE MSE WALL.

12. TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT A RATE OF 0.068 KG/SM BETWEEN SUCCESSIVE COURSES OF PAVEMENT OR AS DIRECTED BY THE ENGINEER.

13. ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE USED FOR REMOVAL OF THE EXISTING STRUCTURE INCLUDING THE SUPERSTRUCTURE, PIERS, AND ABUTMENTS. PIERS LOCATED AT STA 1+358 RT AND 1+388 RT SHALL BE REMOVED TO THE BOTTOM OF THE STONE FILL. ALL OTHER PIERS AND ABUTMENTS SHALL BE REMOVED TO A MINIMUM OF 1000mm BELOW THE FINISHED GRADE.

14. PAYMENT FOR THE REMOVAL OF EXISTING BITUMINOUS CONCRETE PAVEMENT ON THE BRIDGE SHALL BE MADE UNDER THE ITEM 529.10 "REMOVAL OF BRIDGE PAVEMENT". THE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY AT AN OFF-SITE LOCATION.

15. THE STONEFILL TYPE II UNDER THE BRIDGE SHALL BE PLACED BEFORE THE BEAMS ARE SET.

16. NO CONCRETE ABOVE BRIDGE SEATS SHALL BE POURED UNTIL THE GIRDERS HAVE BEEN PLACED AND THE BEAM PROFILES HAVE BEEN TAKEN AND THE FINISH GRADES HAVE BEEN DETERMINED BY THE RESIDENT ENGINEER.

17. ALL FIELD CONNECTIONS SHALL BE MADE USING M22 X 2.5 TYPE 3 BOLTS MEETING THE AASHTO M 164M REQUIREMENTS. ANY CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE PROJECT MANAGER FOR APPROVAL.

18. FLEMMING BRACKETS SHALL BE DESIGNED BY THE CONTRACTOR, BUT SHALL BE LIMITED TO A MAXIMUM SPACING OF 1200 MILLIMETERS.

19. ANY HOLES IN THE FASCIA BEAMS NOT OTHERWISE FILLED SHALL BE FILLED WITH BOLTS CONFORMING TO AASHTO M 164M TYPE 3.

20. THE DECK POUR IS TO BE PLACED IN ONE CONTINUOUS PLACMENT WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTORS CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, AN ADDITIONAL CONSTRUCTION JOINT SHALL BE USED. A 96 HOUR DELAY BETWEEN THE COMPLETION OF ONE DAYS PLACEMENT AND THE BEGINNING OF ANOTHER PLACEMENT SHALL BE OBSERVED.

21. ALL REINFORCING STEEL IN THE CONCRETE DECK AND CURBS SHALL BE EPOXY COATED AND PAID FOR UNDER THE ITEM 507.17 "EPOXY COATED REINFORCING STEEL". WHEN EPOXY COATED REINFORCING STEEL IS CUT THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REINFORCING STEEL WILL NOT BE PERMITTED.

22. ALL VERTICAL CONCRETE SURFACES SHALL BE GIVEN A RUBBED FINISH PER VAOT STANDARD SPECIFICATIONS SUB-SECTION 501.16 (a) 2. PAYMENT FOR THE RUBBED FINISH SHALL BE SUBSIDIARY TO THE APPLICABLE CONCRETE ITEM.

23. THE CONCRETE IN THE DECK AND ALL CURBS SHALL BE CONCRETE, CLASS A (HPC-A). ALL OTHER CONCRETE SHALL BE CLASS B (HPC-B) UNLESS NOTED OTHERWISE.

24. THE STEEL BEAMS IN THE EXISTING STRUCTURE SHALL BE DISPOSED OF AS FOLLOWS:

    i) FOUR 29 METER GIRDER LENGTHS OF THE MAIN GIRDERS WILL REMAIN THE PROPERTY OF THE STATE OF VERMONT. THESE LENGTHS SHALL BE SELECTED AND MARKED PRIOR TO THEIR REMOVAL. THEY SHALL BE CUT BY THE CONTRACTOR AT APPROXIMATELY THE CENTERLINE OF BEARING OVER THE PIERS.

    ii) FIFTEEN OF THE FLOOR BEAMS WILL REMAIN THE PROPERTY OF THE STATE OF VERMONT. THESE FLOOR BEAMS WILL BE SELECTED AND MARKED PRIOR TO THEIR REMOVAL. THEY SHALL BE REMOVED AS TO MINIMIZE THE DAMAGE.

    iii) THE REMAINDER OF THE STEEL SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

    THE RETAINED STEEL SHALL BE DELIVERED TO THE DISTRICT GARAGE IN BARTON. STATE FORCES WILL BE AVAILABLE TO UNLOAD THE STEEL AT THE DISTRICT GARAGE. CONTACT DALE PERRON DISTRICT 9 TRANSPORTATION ADMINISTRATOR TO MAKE ARRANGEMENTS FOR STEEL DELIVERY AT (802) 334-4340.

    PAYMENT FOR THE SALVAGE AND DELIVERY OF STEEL TO THE DISTRICT GARAGE WILL BE INCLUDED IN THE BID PRICE FOR THE ITEM 529.15 "REMOVAL OF STRUCTURE."

25. THE STEEL IN THE EXISTING STRUCTURE IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. ANY STEEL THAT IS NOT RETAINED BY THE STATE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND CAN BE DISPOSED OF OR RETAINED FOR FUTURE USE. THE CONTRACTOR SHALL INFORM THE ENGINEER OF HIS/HER PLANS FOR THE DISPOSAL OR RETAINAGE PRIOR TO ITS REMOVAL.

26. THE TELEGRAPH LINE OWNED BY AND RUNNING PARALLEL TO THE NORTHERN VERMONT RAIL ROAD MAY BE REMOVED WITHIN THE PROJECT LIMITS WHEN NECCESSARY TO CONSTRUCT THE PROPOSED PROJECT. THE COST OF REMOVING POLES, LINES, ANCHORS AND ASSOCIATED MATERIAL SHALL BE SUBSIDIARY TO THE ITEM 201.11 "CLEARING AND GRUBBING".

27. PORTLAND OIL PIPELINE SHALL BE NOTIFIED BY THE CONTRACTOR WHEN WORK IS BEING CONDUCTED WITHIN 2 METERS OF THE PIPELINE. A CONSTRUCTION FENCE SHALL BE INSTALLED INSIDE OF THE SILT FENCE FROM STA 1+295.000 LT TO 1+380.000 LT. THE FENCE WILL BE PAID FOR UNDER THE ITEM 620.70 "SNOW FENCE".

28. THE EXISTING GROUND ALONG THE PROPOSED NEW ALIGNMENT CONTAINS MANY BOULDERS AT THE SURFACE. THESE BOULDERS SHALL BE REMOVED PRIOR TO PLACING FILL. THE COST OF REMOVAL SHALL BE PAID UNDER THE ITEM 203.16 "SOLID ROCK EXCAVATION" IF THE BOULDERS ARE LARGER THAN 1.5 CUBIC METERS. IF THE BOULDERS ARE SMALLER THAN 1.5 CUBIC METERS REMOVAL SHALL BE PAID UNDER THE ITEM 203.15 "COMMON EXCAVATION".

29. PERMANENT SHEET PILING SHALL BE INSTALLED AS SHOWN ADJACENT TO ABUTMENT #2. THE SHEET PILING SHALL EXTEND FROM THE BOTTOM OF THE STONE FILL TO THE TOP OF LEDGE. NO FILL SHALL BE PLACED FOR THE CONSTRUCTION OF ABUTMENT #2 UNTIL THE SHEET PILING IS INSTALLED. THE SHEET PILING SHALL BE PZ-27 OR GREATER.

30. THE RESIDENT ENGINEER SHALL MONITOR THE VERTICAL AND HORIZONTAL ALIGNMENT OF THE RAILROAD TRACKS DURING THE PLACEMENT OF THE FILL FOR ABUTMENT #1 AND #2, AND DURING THE CONSTRUCTION OF THE BRIDGE. IF ANY MOVEMENT IS DETECTED THE WORK SHALL BE HALTED IMMEDIATELY AND THE ROAD MASTER OF THE NORTHERN VERMONT RAILROAD RANDY WHITE @ 802-334-6540 AND THE GEOTECHNICAL ENGINEER SHALL BE NOTIFIED.

31. THE SPACE BETWEEN THE CAST IN PLACE COPING ON TOP OF THE MSE WALL AND THE TOE OF THE ABUTMENTS SHALL BE FILLED WITH 20mm WASHED STONE. PAYMENT FOR THE 20mm WASHED STONE SHALL BE MADE UNDER THE ITEM 613.10 "STONE FILL, TYPE I (MOD1)".

32. THE EXISTING TRAFFIC LIGHT SYSTEM ON THE PROJECT MAY NOT BE USED DURING THE CONSTRUCTION OF THIS PROJECT. AS SOON AS THE TEMPORARY TRAFFIC SIGNAL SYSTEM IS OPERATIONAL, THE EXISTING TRAFFIC LIGHT SYSTEM SHALL BE CAREFULLY DISMANTLED AND STOCK PILED ON THE PROJECT FOR REMOVAL BY THE THE STATE OF VERMONT. THE PAYMENT FOR DISMANTLING THE EXISTING TRAFFIC SIGNAL SYSTEM SHALL BE SUBSIDIARY TO THE ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM." TO SCHEDULE THE REMOVAL OF THE TRAFFIC SIGNAL COMPONENTS CONTACT DALE PERRON DISTICT 9 TRANSPORTATION ADMINISTRATOR AT (802) 334-4340.

33. DURING THE BID PERIOD CONTRACTORS MAY VIEW THE RECORD PLANS OF THE EXISTING BRIDGE IN THE CONTRACT ADMINISTRATION OFFICE BY APPOINTMENT.

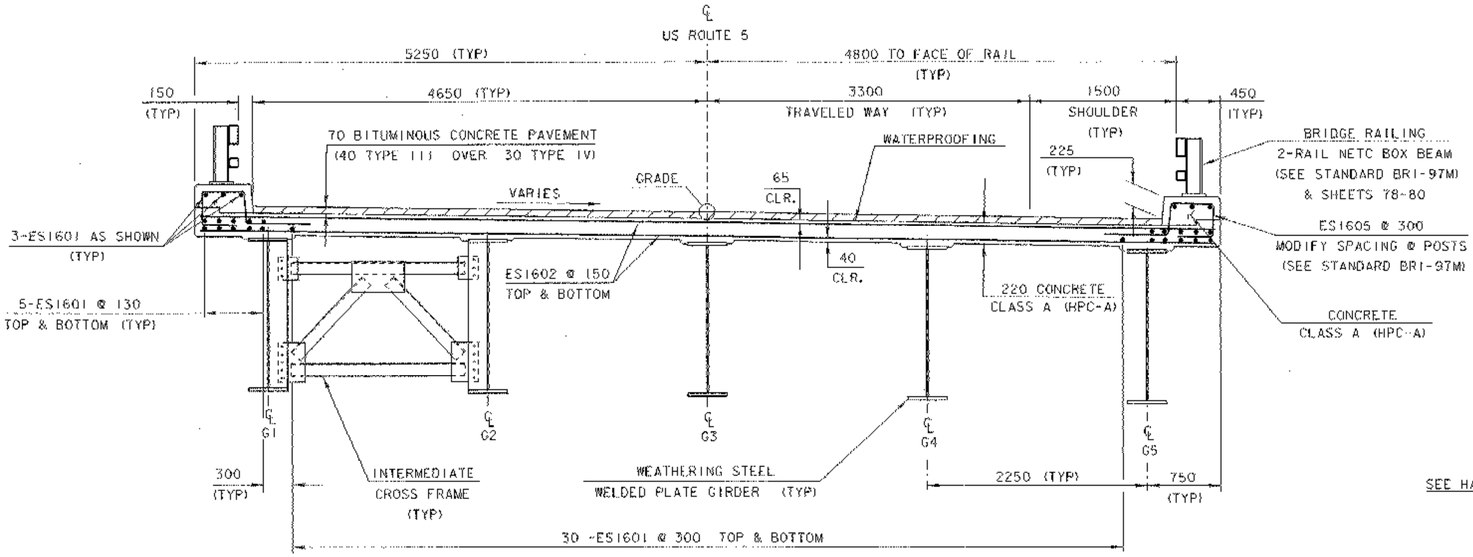
34. THE 150mm UNDERDRAIN AT THE BASE OF EMBANKMENT FILL SHALL BE INSTALLED AS THE EMBANKMENT IS CONSTRUCTED. TRENCH EXCAVATION WILL NOT BE PAID FOR THE INSTALLATION OF THE UNDERDRAIN UNLESS EXISTING GROUND MUST BE EXCAVATED FOR SATISFACTORY INSTALLATION.

35. THE 150 UNDERDRAIN SHALL BE BACKFILLED WITH 10mm STONE. THE 10mm STONE SHALL BE PAID UNDER THE ITEM 613.10 "STONE FILL TYPE I (MOD 2)".

36. THE ITEM 203.28 "EXCAVATION OF SURFACES AND PAVEMENTS" SHALL BE USED IN LOCATIONS WHERE EXISTING APPROACH PAVEMENT WOULD NOT OTHERWISE BE REMOVED UNDER THE ITEM 203.15 "COMMON EXCAVATION". IT SHALL BE USED TO PREVENT EXISTING PAVEMENT FROM BEING EXPOSED OR BURIED IN THE PROPOSED EMBANKMENTS.

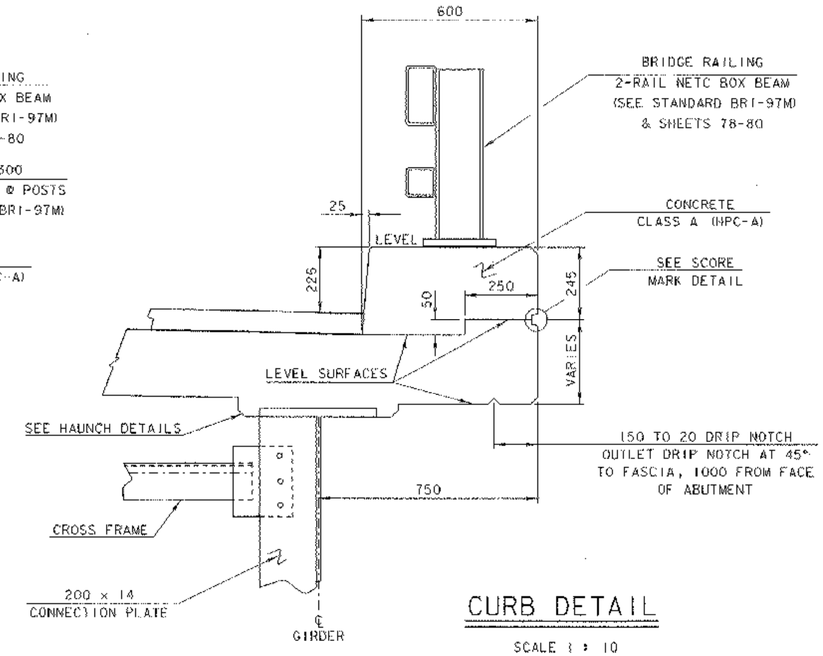
PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116note.dgn	
IPARM FILE NAME: sc116note.i	PLOT DATE: 03-JAN-2002
DESIGNED BY: R.S. YOUNG	DRAWN BY: R.S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	CHECKED BY: W.B. SYMONDS
NOTE SHEET	SHEET: 49 OF 120

Metric



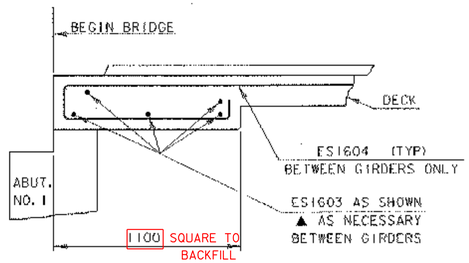
TYPICAL BRIDGE SECTION

SCALE 1 : 30



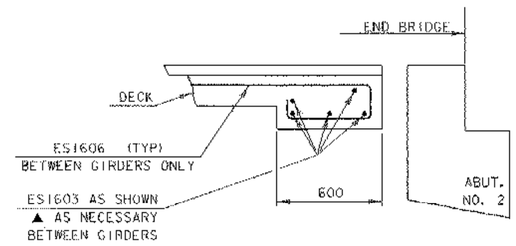
CURB DETAIL

SCALE 1 : 10



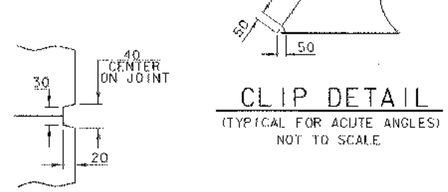
SECTION A-A

NOT TO SCALE



SECTION B-B

NOT TO SCALE

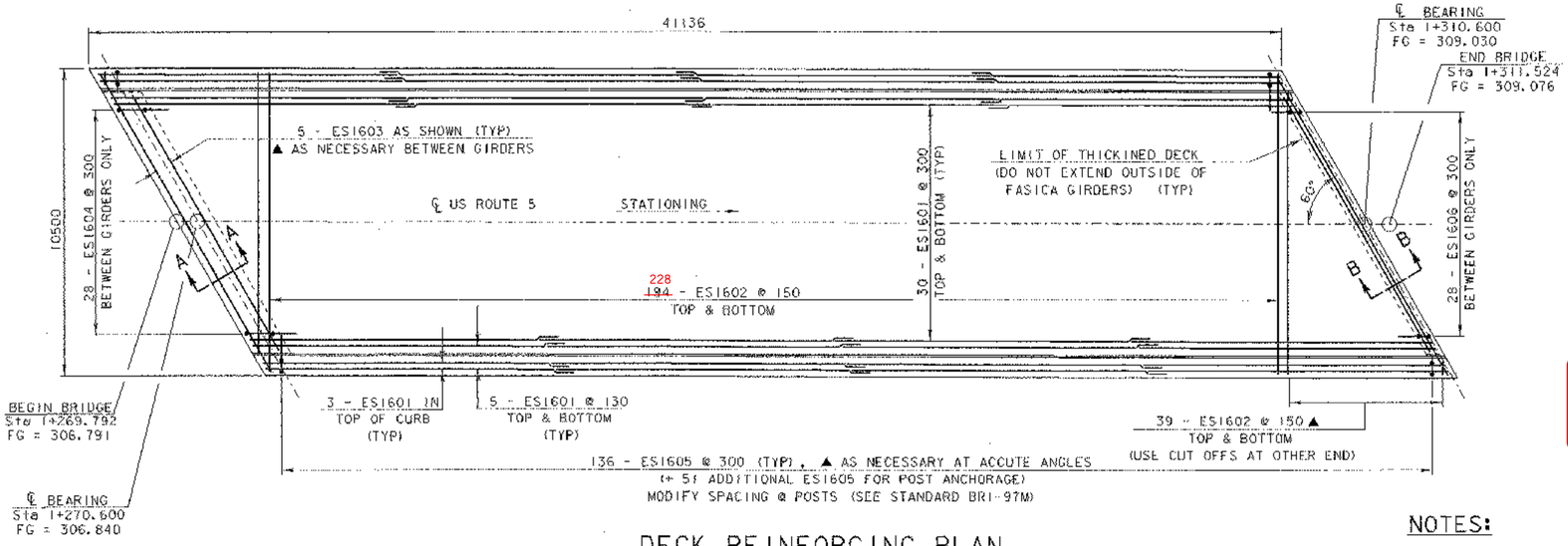


CLIP DETAIL

(TYPICAL FOR ACUTE ANGLES)
NOT TO SCALE

SCORE MARK DETAIL

NOT TO SCALE



DECK REINFORCING PLAN

SCALE 1 : 100

ARCHIVED ON CADD

0 0.5 1
SCALE = 1:10

0 1 2 3
SCALE = 1:30

0 1 2 4 6 8 10
SCALE = 1:100

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

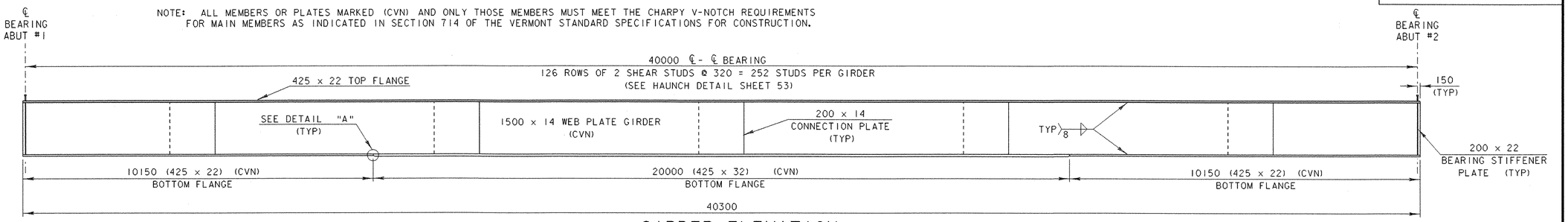
ALL LAPS SHALL BE 660 UNLESS NOTED OTHERWISE

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113 (58) S

FILE NAME: 98c116/STRUCTURES/sc116dgn.dgn
IPARM NAME: 98c116/STRUCTURES/sc116deck.i
PROJECT LEADER: C. P. WILLIAMS
DESIGNED BY: W. B. SYMONDS
TYPICAL BRIDGE SECTION

PLOT DATE: 03-JAN-2002
DRAWN BY: T. G. ANDERSON
CHECKED BY: W. B. SYMONDS
SHEET 50 OF 120

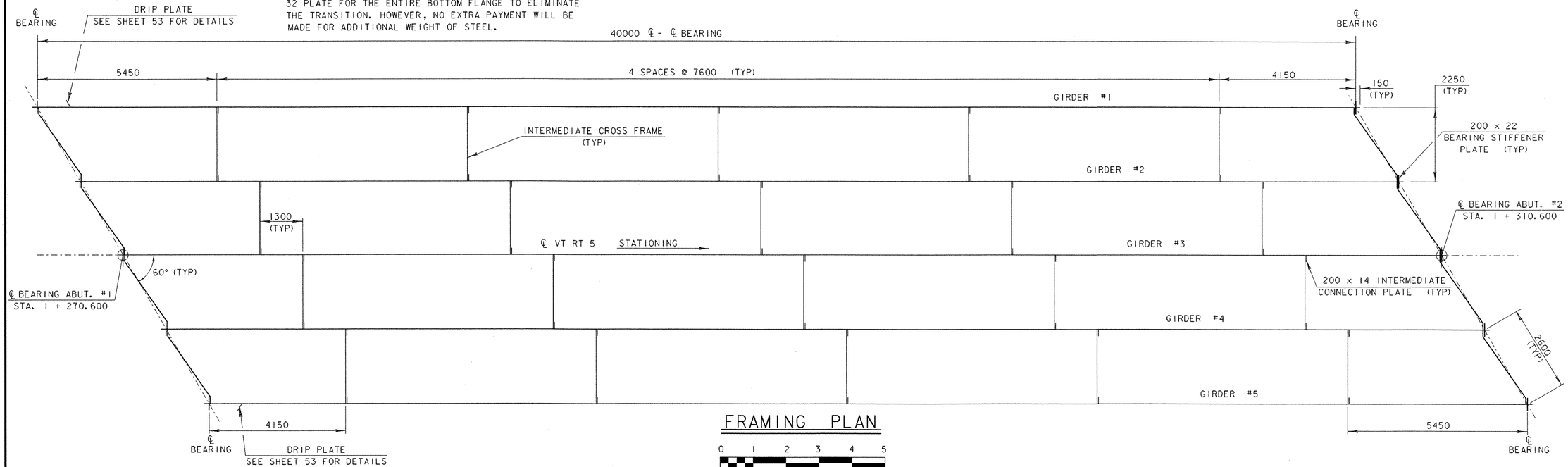
NOTE: ALL MEMBERS OR PLATES MARKED (CVN) AND ONLY THOSE MEMBERS MUST MEET THE CHARPY V-NOTCH REQUIREMENTS FOR MAIN MEMBERS AS INDICATED IN SECTION 714 OF THE VERMONT STANDARD SPECIFICATIONS FOR CONSTRUCTION.



GIRDER ELEVATION

SCALE = 1:60

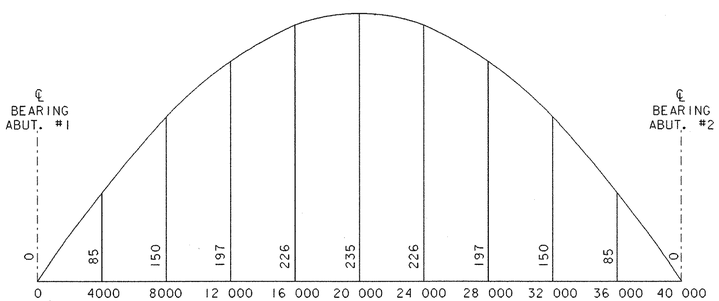
NOTE: THE CONTRACTOR/FABRICATOR MAY SUBSTITUTE 32 PLATE FOR THE ENTIRE BOTTOM FLANGE TO ELIMINATE THE TRANSITION. HOWEVER, NO EXTRA PAYMENT WILL BE MADE FOR ADDITIONAL WEIGHT OF STEEL.



FRAMING PLAN

0 1 2 3 4 5

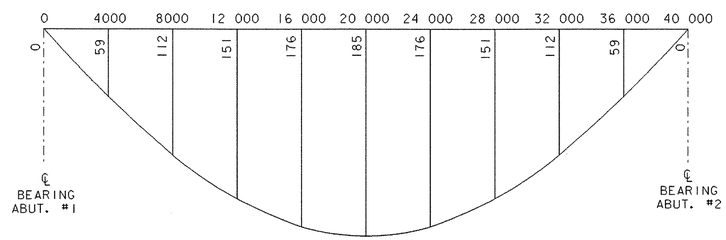
SCALE = 1:60



CAMBER DIAGRAM

NTS

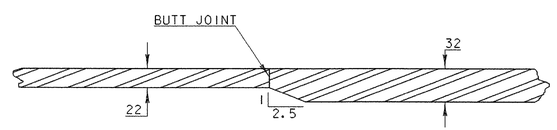
NOTE: CAMBER DIAGRAM INCLUDES 32 mm DEAD LOAD DEFLECTION @ MIDSPAN DUE TO BEAM SELFWEIGHT. TOTAL CAMBER @ MIDSPAN MEASURED WHEN BEAM IS SUPPORTED ONLY AT ℄ BEARING POINTS SHALL BE 203.



DEAD LOAD DEFLECTION DIAGRAM

NTS

NOTE: DEAD LOAD DEFLECTION DIAGRAM INCLUDES 32 mm DEAD LOAD DEFLECTION @ MIDSPAN DUE TO BEAM SELFWEIGHT.



DETAIL "A"

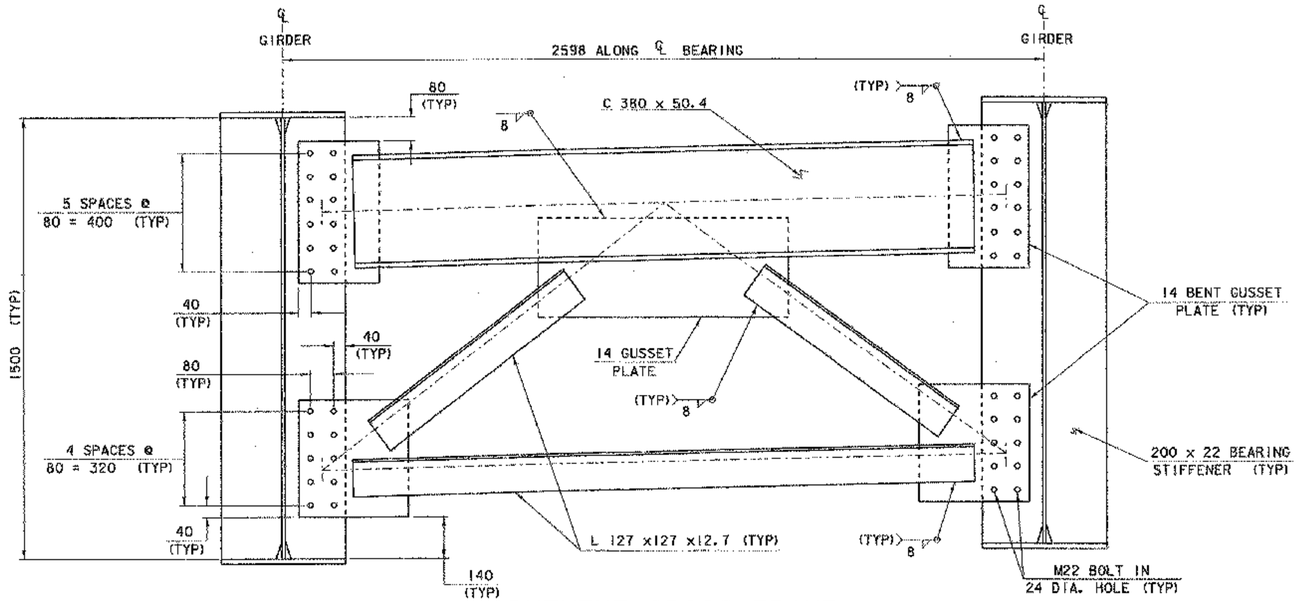
NTS

NOTE: ALL NEW STEEL PAID FOR UNDER THE ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER)" SHALL CONFORM TO M270/M270M GRADE 345W.

PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58)S

FILE NAME: 96c116/STRUCTURES/sc116ssd.dgn
IPARM NAME: 96c116/STRUCTURES/sc116sfraplan.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
FRAMING PLAN & GIRDER ELEVATION

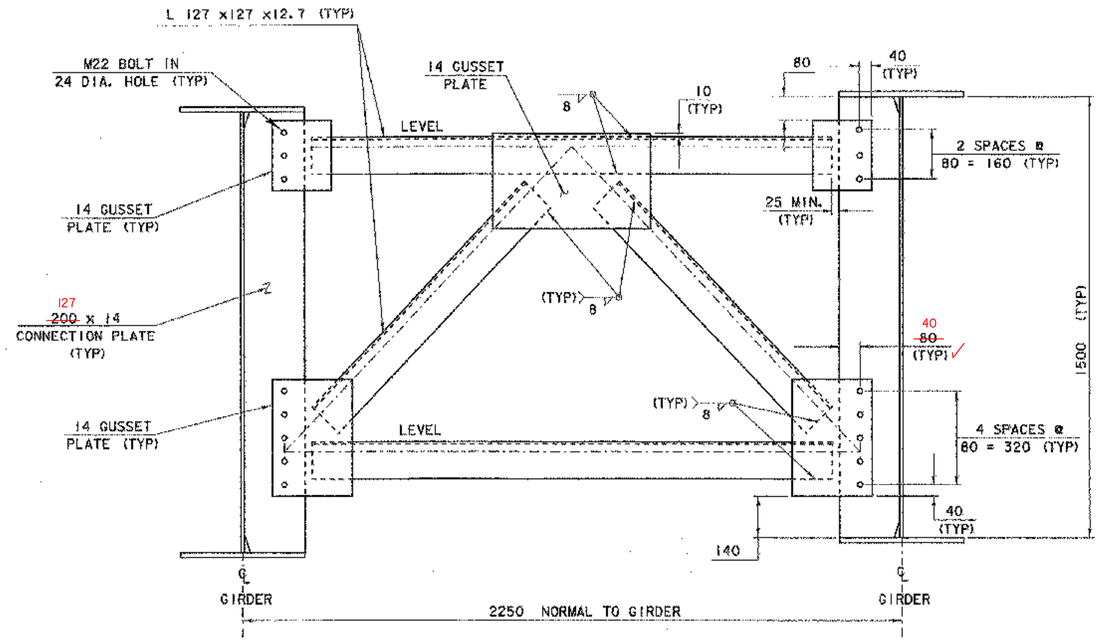
PLOT DATE: 03-JAN-2002
DRAWN BY: T. ANDERSON
CHECKED BY: W.B. SYMONDS
SHEET 51 OF 120



ABUTMENT CROSS FRAME

0 0.5 1

SCALE = 1:10



INTERMEDIATE CROSS FRAME DETAIL

0 0.5 1

SCALE = 1:10

STRUCTURAL STEEL NOTES :

1.) ALL STRUCTURAL STEEL INCLUDING BUT NOT LIMITED TO GIRDERS, CROSS FRAMES AND CONNECTION PLATES SHALL CONFORM TO AASHTO M 270 M/M 270 GRADE 345W. ALL STRUCTURAL STEEL SHALL BE PAID UNDER THE ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER)".

2.) ALL FIELD CONNECTIONS IN UNPAINTED AREAS SHALL BE MADE USING M22 DIAMETER TYPE 3 BOLTS MEETING THE AASHTO M 164M/M 164, TYPE 3 SPECIFICATION. IN PAINTED AREAS ALL FIELD CONNECTIONS SHALL BE MADE USING M22 DIAMETER TYPE 1 BOLTS MEETING AASHTO M 164M/M 164 SPECIFICATION. ANY CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITED TO THE PROJECT MANAGER FOR APPROVAL. ALL TYPE 1 BOLTS SHALL BE GALVANIZED PER AASHTO M232 M/M 232.

3.) ANY HOLES IN THE FASCIA BEAMS NOT OTHERWISE FILLED SHALL BE FITTED WITH BOLTS CONFORMING TO AASHTO M 164M/M 164, TYPE 3.

4.) ALL MEMBERS AND OR PLATES MARKED (CVN) AND ONLY THOSE MEMBERS MUST MEET THE CHARPY V-NOTCH REQUIRMENTS FOR MAIN MEMBERS AS INDICATED IN SECTION 714 OF THE VERMONT AGENCY OF TRANSPORTATION SPECIFICATIONS FOR CONSTRUCTION.

5.) THE EXPANSION END OF THE GIRDERS SHALL BE GIVEN A SHOP APPLIED PAINT SYSTEM AND GREASED AFTER INSTALLATION FOR A DISTANCE EQUAL TO THE DEPTH OF THE GIRDER PER SUPPLEMENTAL SPECIFICATION 513. THE ABUTMENT CROSSFRAMES IN THIS AREA SHALL ALSO BE PAINTED AND GREASED. THE PAINT SHALL BE BROWN COLOR CHIP #20059.

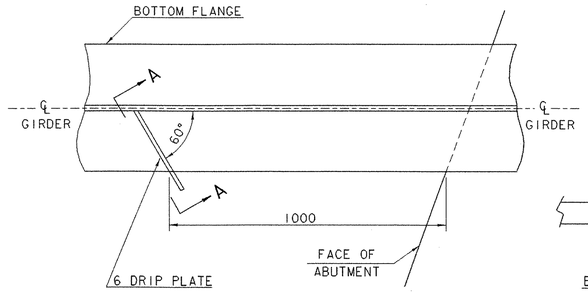
6.) THE FABRICATOR MAY ELECT TO DESIGN AND FABRICATE A FIELD SPLICE WITHIN THE SIMPLE SPAN. ANY FIELD SPLICE MUST BE DESIGNED BY A PROFESSIONAL ENGINEER. THE LOCATION OF AND THE DESIGN OF THE FIELD SPLICE SHALL BE SUBMITTED TO THE PROJECT MANAGER FOR APPROVAL. THE WEIGHT OF THE SPLICE PLATES SHALL BE PAID UNDER THE ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER)". THE CONTRACTOR SHALL BE DUE NO ADDITIONAL COMPENSATION BEYOND PAYMENT FOR THE SPLICE PLATES FOR PROVIDING THE OPTIONAL FIELD SPLICE.

ARCHIVED ON CADD

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113 (58) S

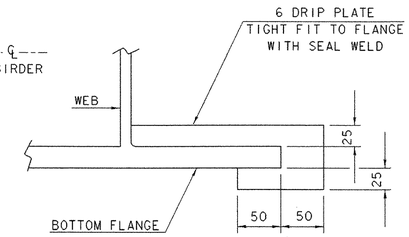
FILE NAME: 95o116/STRUCTURES/so116sed.dgn
IPARM NAME: 95o116/STRUCTURES/so116xfrm.t
PROJECT LEADER: C. P. WILLIAMS
DESIGNED BY: W. B. SYMONDS
STRUCTURAL STEEL DETAILS

PLOT DATE: 03-JAN-2002
DRAWN BY: T. ANDERSON
CHECKED BY: W. B. SYMONDS



DRIP PLATE PLAN VIEW

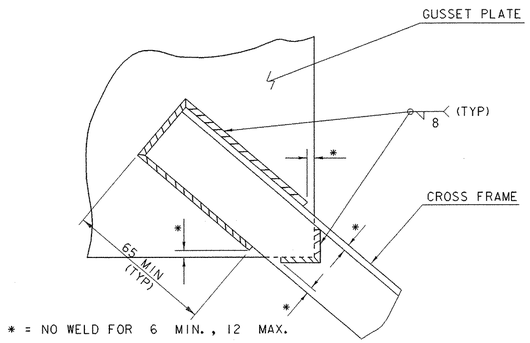
NTS



SECTION A - A

NTS

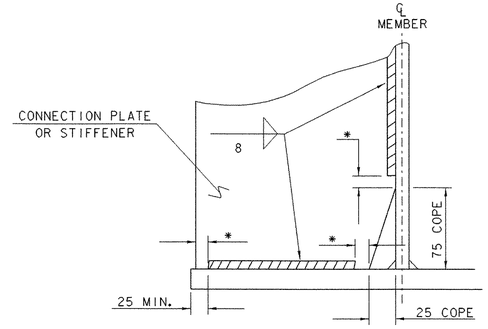
NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF ALL PIERS AND ABUTMENTS OR AS INDICATED ON PROJECT PLANS.



* = NO WELD FOR 6 MIN., 12 MAX.

WELD LOCATION DETAIL AT CROSS FRAMES AND LATERAL BRACING

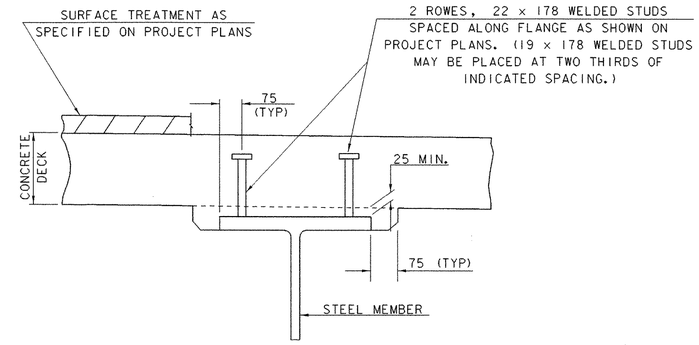
NTS



* = NO WELD FOR 6 MIN., 12 MAX.
(EXCEPT MUST MAINTAIN 25 MINIMUM FROM EDGE OF FLANGE)

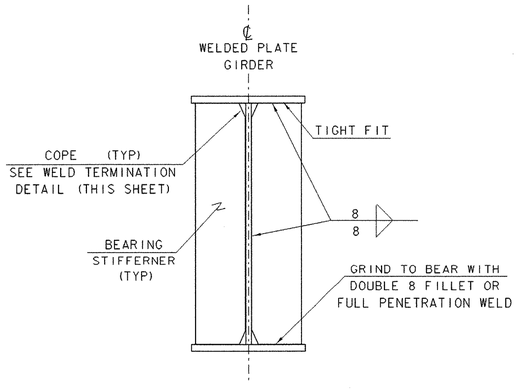
WELD TERMINATION AND COPING DETAILS FOR STEEL MEMBERS

NTS



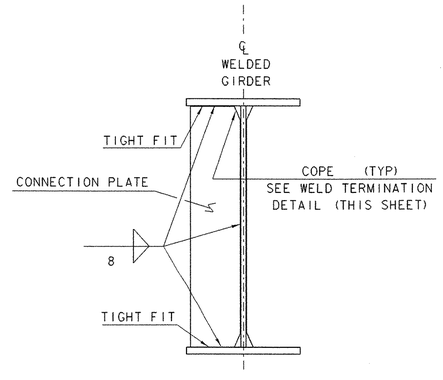
HAUNCH AND SHEAR CONNECTOR DETAILS

NTS



ABUTMENT BEARING STIFFENERS FOR WELDED PLATE GIRDERS

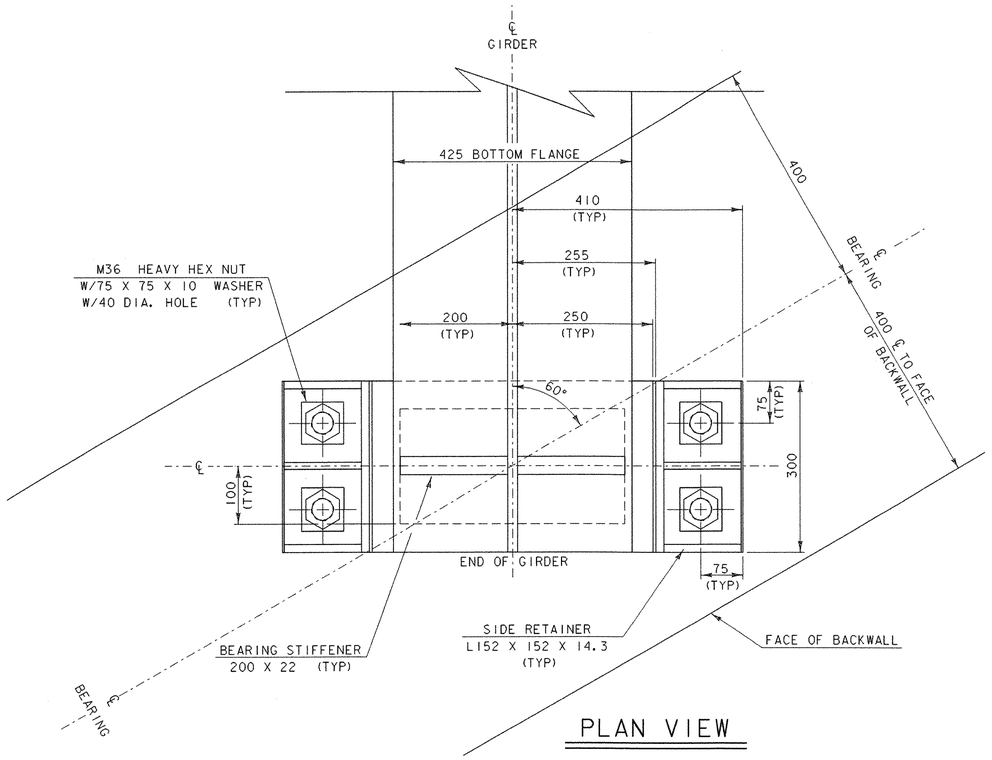
NTS



INTERMEDIATE CONNECTION PLATES AND/OR STIFFENERS FOR WELDED PLATE GIRDERS

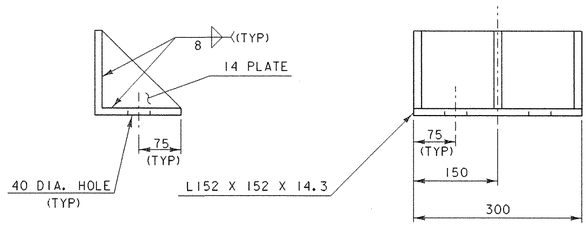
NTS

PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58)S
FILE NAME: 96c116/STRUCTURES/sc116ssd.dgn IPARM NAME: 96c116/STRUCTURES/sc116misc.i PROJECT LEADER: C.P. WILLIAMS DESIGNED BY: W.B. SYMONDS STRUCTURAL STEEL DETAILS	PLOT DATE: 03-JAN-2002 DRAWN BY: T. ANDERSON CHECKED BY: W.B. SYMONDS SHEET 53 OF 120



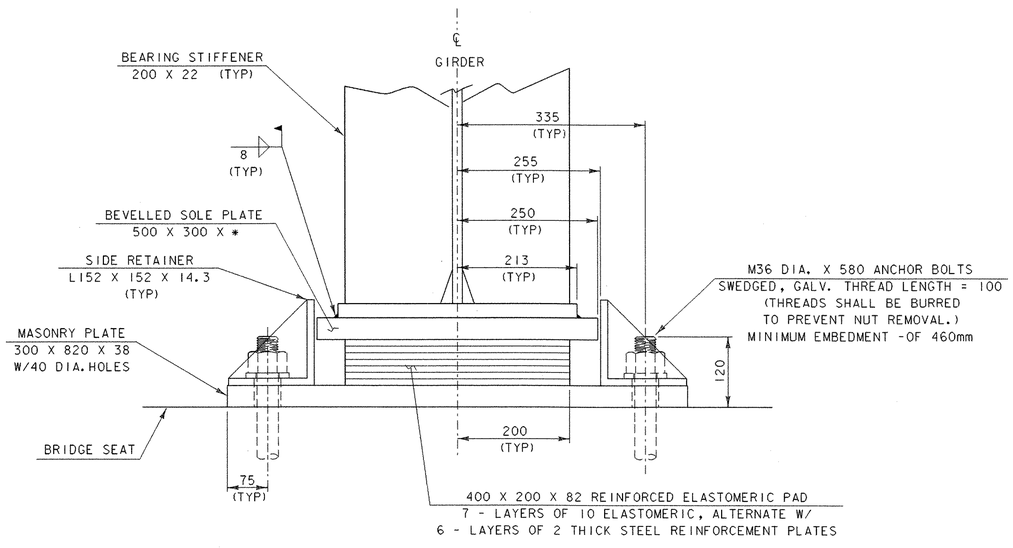
PLAN VIEW

SCALE 1 : 5



SIDE RETAINER

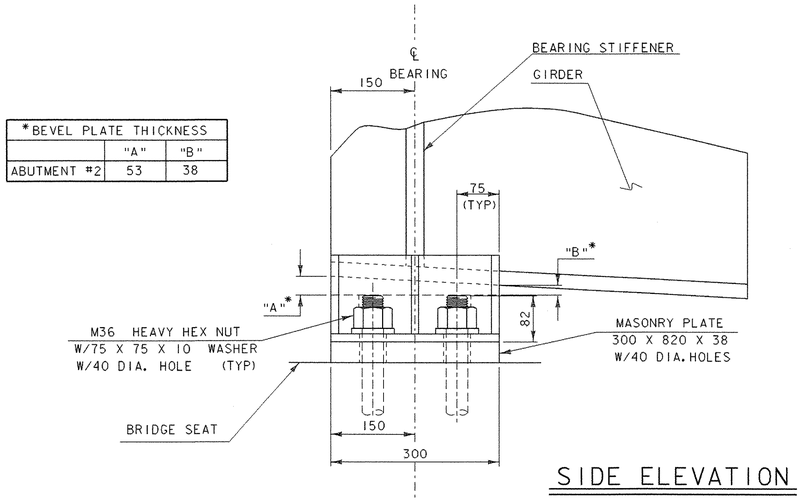
SCALE 1 : 5



END ELEVATION

SCALE 1 : 5

*BEVEL PLATE THICKNESS		
	"A"	"B"
ABUTMENT #2	53	38



SIDE ELEVATION

SCALE 1 : 5

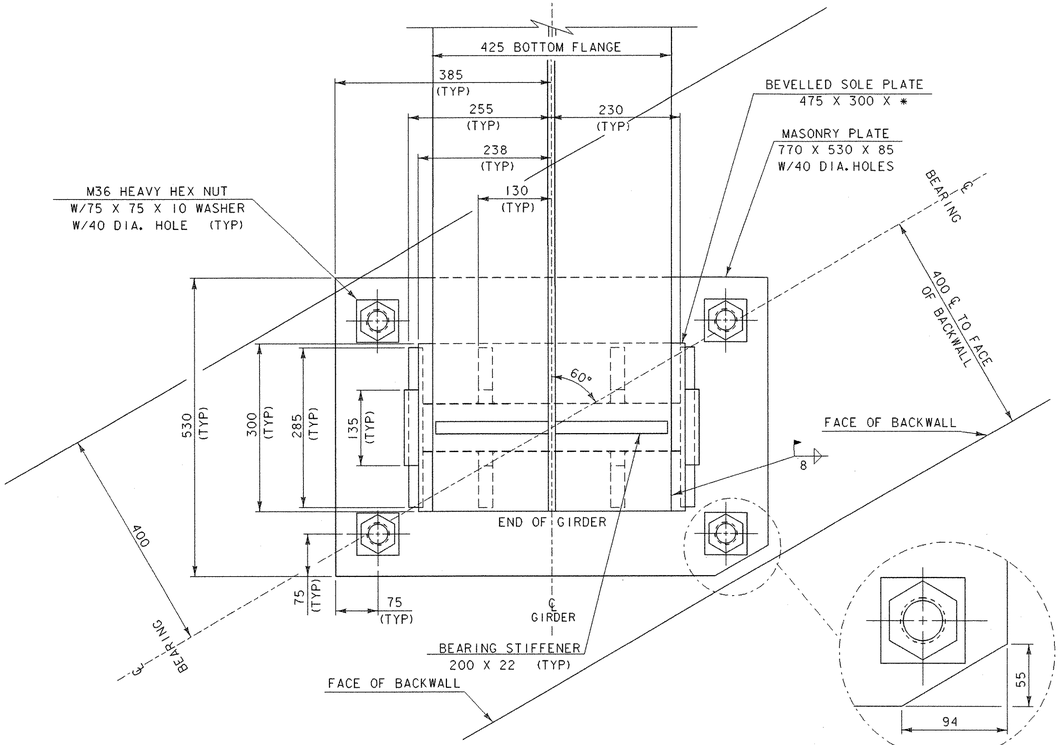
0 0.25 0.5

SCALE = 1:5

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113 (58) S

FILE NAME: 96c116/STRUCTURES/sc116bearing.dgn
IPARM NAME: 96c116/STRUCTURES/sc116expbrg.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
ABUTMENT #2 - EXPANSION BEARINGS

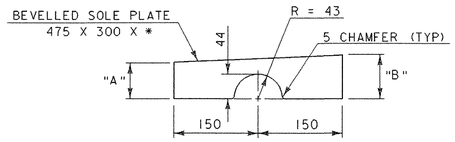
PLOT DATE: 03-JAN-2002
DRAWN BY: T.G. ANDERSON
CHECKED BY: W.B. SYMONDS
SHEET 54 OF 120



PLAN VIEW

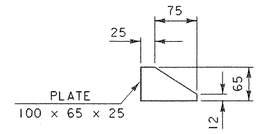
SCALE 1 : 5

SOLE PLATE CLIP DETAIL
NOT TO SCALE



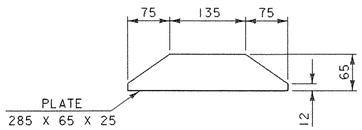
SOLE PLATE DETAIL*

SCALE 1 : 5



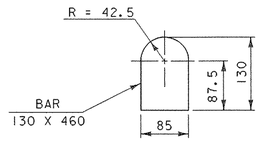
INNER COLUMN BRACE DETAIL

(4 REQUIRED)
SCALE 1 : 5



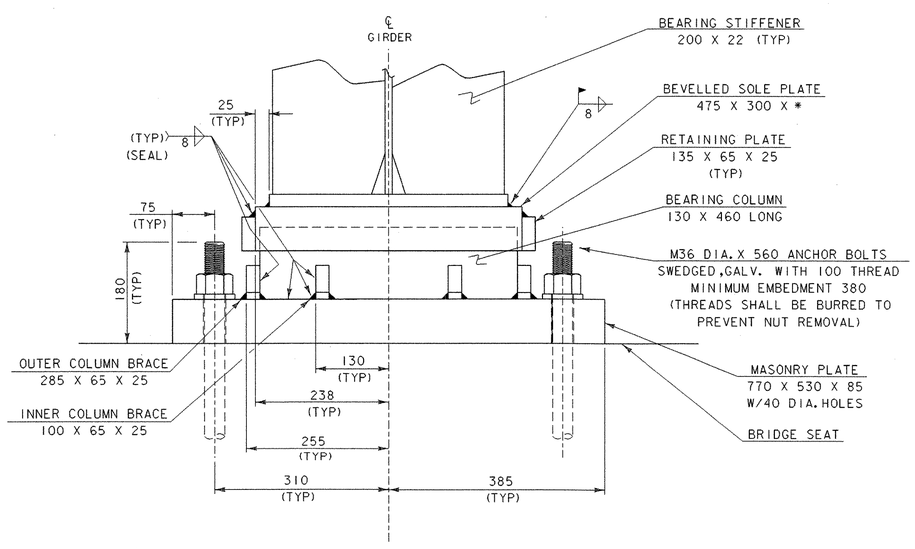
OUTER COLUMN BRACE DETAIL

(2 REQUIRED)
SCALE 1 : 5



BEARING COLUMN DETAIL

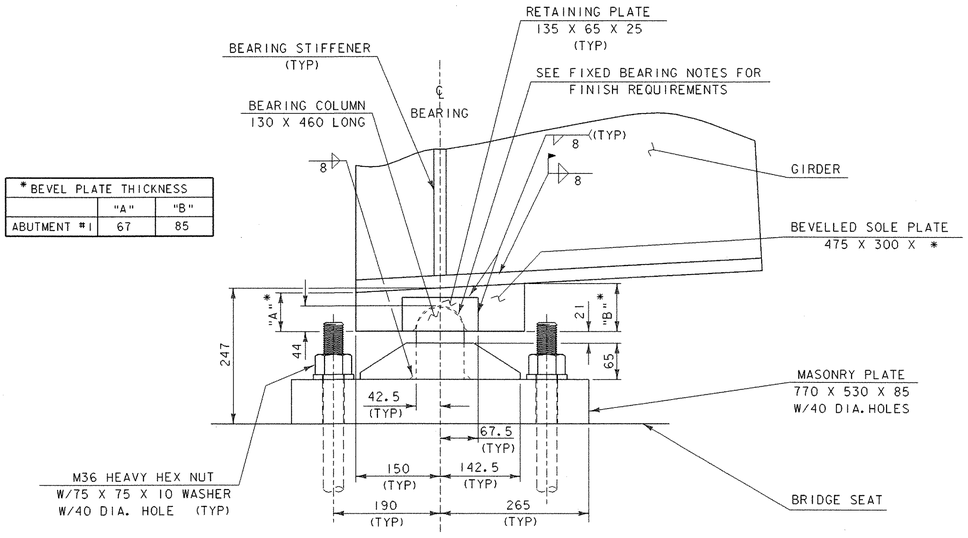
SCALE 1 : 5



FRONT ELEVATION

SCALE 1 : 5

*BEVEL PLATE THICKNESS		
	"A"	"B"
ABUTMENT #1	67	85



SIDE ELEVATION

SCALE 1 : 5

0 0.25 0.5

SCALE = 1:5

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113 (58)S

FILE NAME: 96c116/STRUCTURES/sc116bearing.dgn
IPARM NAME: 96c116/STRUCTURES/sc116fixedbrg.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
ABUTMENT #1 - FIXED BEARINGS

PLOT DATE: 03-JAN-2002
DRAWN BY: T.G. ANDERSON
CHECKED BY: W.B. SYMONDS
SHEET 55 OF 120

Metric

EXPANSION BEARING NOTES

1. EXPANSION BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.10 "BEARING DEVICE ASSEMBLY (EXPANSION)" AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731.

2. THE FIELD WELD CONNECTING THE BOTTOM FLANGE WITH THE BEARING DEVICE SHALL BE MADE WITH E7018 RODS. AREAS OF METALIZING DAMAGED BY WELDING AND/OR HANDLING SHALL BE REPAIRED BY METALIZING IN ACCORDANCE WITH ASTM A 760/A 760M.

3. SHOP DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED AND INCLUDE ANY NECESSARY WELDING OR BONDING PROCEDURES. THE EXPANSION BEARINGS REQUIRE A TYPE D CERTIFICATION PER SECTION 700.02 (C).

4. ALL STEEL COMPONENTS SHALL BE METALIZED AS PER SECTION 531.04(b) AND 506.15. AFTER THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED PRIMER AS SPECIFIED IN SUBSECTION 506.15(c). ALL WASHERS SHALL BE 10 PLATE MINIMUM. PAYMENT FOR ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "BEARING DEVICE ASSEMBLY (EXPANSION)". ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER AASHTO M 232/M 232M.

5. ALL STEEL IN BEARING DEVICES SHALL BE AASHTO M 270M/M 270 GRADE 345.

6. ALL REINFORCEMENT BETWEEN LAYERS OF ELASTOMERIC SHALL BE STEEL ASTM A36. ALL INTERNAL STEEL PLATES SHALL BE SAND BLASTED AND FREE OF COATINGS, RUST, AND MILL SCALE. THE PLATES SHALL BE FREE OF SHARP EDGES AND BURRS.

7. STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM OF 3mm EDGE SEAL OF ELASTOMER INTEGRAL WITH THE BEARING OVER ALL INTERNAL PLATES.

8. FOR ELASTOMERIC BEARINGS, ALL MATERIALS AND FABRICATION SHALL BE PER AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, EDITION 1996 AND ITS LATEST REVISIONS AND AASHTO M 251/M 251M.

9. ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET. THE ALTERNATE SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN AND SHALL BE DESIGNED PER AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 1996 EDITION AND ITS LATEST REVISIONS.

10. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATIVE CONFIGURATION.

11. DESIGN CRITERIA:
    - A. MASONRY PLATE TO CONCRETE DESIGN PRESSURE = 2.4 MPA
    - B. DESIGN ROTATION = 0.18 RAD
    - C. HORIZONTAL CAPACITY SHALL BE MINIMUM OF 20% VERTICAL LOAD IN ANY RESTRAINED DIRECTION.
    - D. DESIGN LOAD PER BEARING
      RDL = 414.65 KN
      RLL = 282.63 KN
    - E. TEMPERATURE RANGE = -34° TO 49° C
    - F. ELASTOMER SHALL HAVE NOMINAL HARDNESS OF 60 ON SHORE 'A' SCALE. ELASTOMER SHALL HAVE A SHEAR MODULUS BETWEEN 0.896 MPA AND 1.207 MPA THE RAW ELASTOMER SHALL BE VIRGIN NEOPRENE CLASSIFIED AS LOW TEMPERATURE GRADE 4 AS DEFINED IN TABLE 18.4.5.1 - 1A OF AASHTO, DIVISION II, SECTION 18.
    - G. NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS

12. THE STEEL SOLE PLATES AND MASONRY PLATES SHALL BE HOT BONDED TO THE REINFORCED ELASTOMERIC PAD DURING THE VULCANIZATION PROCESS. THE STEEL SURFACES TO BE BONDED TO THE PAD SHALL NOT BE METALIZED.

13. THE BEARING TOLERANCES SHALL MEET THOSE GIVEN IN AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED 1996 AND ITS LATESTS REVISIONS, DIVISION II SECTION 18.

14. THE ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF A 307 GR. C. THEY SHALL BE GALVANIZED PER AASHTO M 232M/M 232.

FIXED BEARING NOTES

1. FIXED BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.10 "BEARING DEVICE ASSEMBLY (FIXED)", AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF 531 AND 731.

2. THE FIELD WELD CONNECTING THE BOTTOM FLANGE WITH THE BEARING DEVICE SHALL BE MADE WITH E7018 RODS. AREAS OF METALIZING DAMAGED BY WELDING AND/OR HANDLING SHALL BE REPAIRED BY METALIZING IN ACCORDANCE WITH ASTM A 760/A 760M.

3. SHOP DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED AND INCLUDE ANY NECESSARY WELDING PROCEDURES.

4. ALL STEEL COMPONENTS SHALL BE METALIZED AS PER SECTION 531.04(b) AND 506.15(c). AFTER THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED PRIMER AS SPECIFIED IN SUBSECTION 506.15(c). ALL WASHERS SHALL BE 10 PLATE MINIMUM. PAYMENT FOR ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "BEARING DEVICE ASSEMBLY (FIXED)". ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER AASHTO M 232/M 232M.

5. ALL STEEL IN FIXED BEARING DEVICES SHALL BE AASHTO M 270M/M 270 GRADE 375.

6. DESIGN CRITERIA:
    - A. DESIGN ROTATION = 0.18 RAD
    - B. MASONRY PLATE TO CONCRETE DESIGN PRESSURE IS 1.7 MPA
    - C. HORIZONTAL CAPACITY SHALL BE A MINIMUM OF 20% DEAD LOAD IN ANY RESTRAINED DIRECTION.
    - D. DESIGN LOAD PER BEARING
      RDL = 414.65 KN
      RLL = 282.63 KN

7. ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET. THE ALTERNATE SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN AND SHALL BE DESIGNED PER AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 1996 EDITION AND ITS LATEST REVISIONS.

8. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATE CONFIGURATION.

9. THE BEARING TOLERANCES SHALL MEET THOSE GIVEN IN AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED 1996 AND ITS LATEST REVISIONS, DIVISION II SECTION 18. THE CONTACT SUFACES OF THE CURVED BEARING SURFACES OF THE BEARING COLUMN AND SOLE PLATES SHALL MEET THE TOLERANCES AND FINISH REQUIREMENTS OF BEARING PINS AND BUSHINGS.

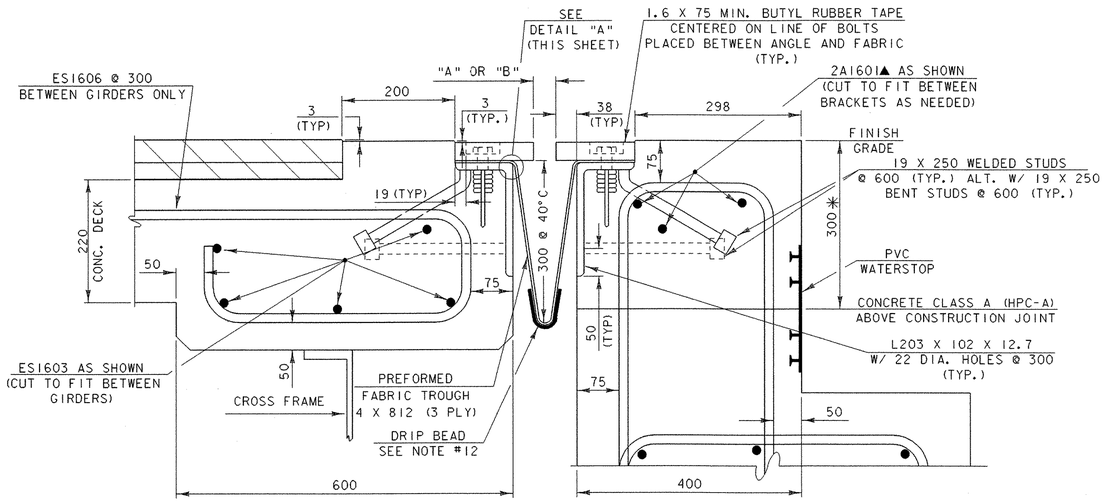
10. THE CURVED CONTACT SURFACES SHALL NOT BE METALIZED.

11. THE ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF A 307 GR. C. THEY SHALL BE GALVANIZED PER AASHTO M 232M/M 232.

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113 (58)S

FILE NAME: 96c116/STRUCTURES/sc116bearing.dgn
IPARM NAME: 96c116/STRUCTURES/sc116brgnotes.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
BEARING NOTES

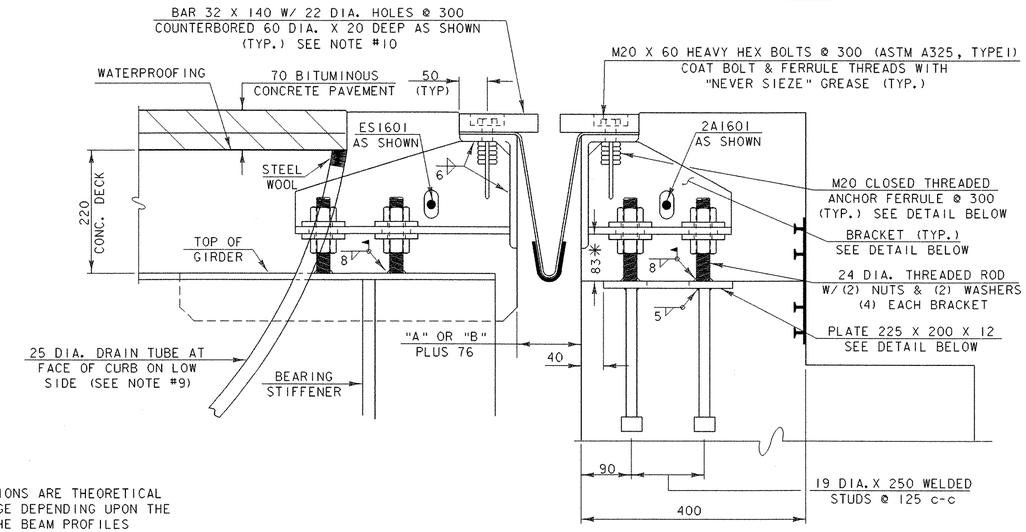
PLOT DATE: 03-JAN-2002
DRAWN BY: T.G. ANDERSON
CHECKED BY: W.B. SYMONDS
SHEET 56 OF 120



TYPICAL SECTION BETWEEN GIRDERS

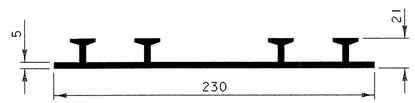
(NORMAL TO ℄ BEARING)
SCALE 1 : 5

✳ THESE DIMENSIONS ARE THEORETICAL AND MAY CHANGE DEPENDING UPON THE OUTCOME OF THE BEAM PROFILES



TYPICAL SECTION AT GIRDERS

(NORMAL TO ℄ BEARING)
SCALE 1 : 5



P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS

NOT TO SCALE

THE COST FOR P.V.C. WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.

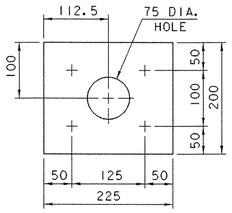
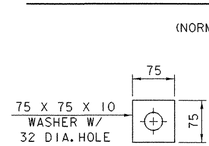


PLATE PLAN

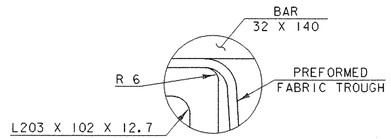
SCALE = 1 : 5
(NO GALVANIZING REQUIRED)



WASHER FOR BRACKET

SCALE = 1 : 5

ALL PLATES 12 THICK



DETAIL "A"

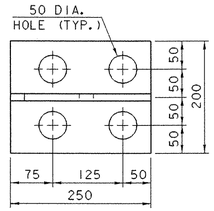
NOT TO SCALE

EXPANSION JOINT NOTES

1. DETAILS ON THIS SHEET ARE FOR ITEM 516.10 "BRIDGE EXPANSION JOINT".
2. PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS AND SHALL CONFORM TO SUBSECTION 707.07
3. BUTYL RUBBER TAPE SHALL CONFORM TO AASHTO SPECIFICATION M-198, TYPE II.
4. THE FINAL FINISH OF THE EXPANSION DEVICE SHALL BE COVERED DURING THE PLACING OF BRIDGE DECK CONCRETE.
5. ALL STEEL COMPONENTS SHALL BE AASHTO M270/M270M GRADE 250 GALVANIZED OR METALIZED AS PER SUBSECTION 506.15 (a) OR (b) UNLESS OTHERWISED SPECIFIED.
6. THE ITEM "BRIDGE EXPANSION JOINT" SHALL INCLUDE THE FABRICATION AND ERECTION OF THE COMPLETE JOINT ASSEMBLY INCLUDING ALL STEEL PLATES, BRACKETS, ANGLES, WELDED STUDS OR RODS, PREFORMED FABRIC DRAIN TROUGH MATERIAL AND PLASTIC DRAIN TUBES, BUTYL RUBBER TAPE AND ANY OTHER MISCELLANEOUS MATERIAL NECESSARY TO INSTALL THE JOINT.
7. THE 102 X 203 X 12.7 ANGLES SHALL BE FURNISHED AS ONE CONTINUOUS PIECE. THE 32 X 140 BARS EACH SIDE OF THE JOINT SHALL BE PROVIDED IN TWO EQUAL LENGTHS.
8. COAT CONCRETE CONTACT SURFACES WITH EPOXY BONDING COMPOUND MEETING THE REQUIREMENTS OF SUBSECTION 719.02. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 516.10 "BRIDGE EXPANSION JOINT".
9. A 25 DIAMETER PLASTIC DRAIN TUBE SHALL BE INSTALLED AS SHOWN AT THE FACE OF CURB. THE UPPER END IS TO BE PLUGGED WITH STEEL WOOL AND THE LOWER END IS TO EXTEND BELOW THE BOTTOM OF THE ADJACENT STRINGER. THE DRAIN TUBES SHALL BE FASTENED TO THE STRINGERS USING A METHOD APPROVED BY THE ENGINEER. THE PLASTIC DRAIN TUBE SHALL MEET THE REQUIREMENTS OF SECTION 740.01.
10. FILL COUNTERBORED HOLES WITH HOT POURED JOINT SEALER AFTER BOLT INSTALLATION. PAYMENT FOR THE WORK SHALL BE SUBSIDIARY TO ITEM 516.10.
11. PAYMENT FOR WATERSTOP SHALL BE SUBSIDIARY TO CONCRETE PAY ITEM.
12. A DRIP BEAD OF 6 X 180 STRIP OF PREFORMED MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FABRIC TROUGH USING AN ADHESIVE APPROVED BY THE MANFACTURER. THE DRIP BEAD SHALL BE APPILED 25mm FROM THE DOWNSPOUT END OF THE TROUGH.
13. FABRIC TROUGH SHALL BE THOROUGHLY CLEANED AND FLUSHED AFTER PAVING OPERATIONS.
14. THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT.
15. THE THREADED RODS SHALL MEET THE REQUIREMENTS OF A 307, GR.C.

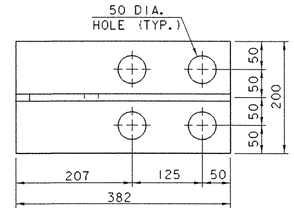
ANCHOR FERRULE

SCALE 1 : 5



BACKWALL BRACKET PLAN

SCALE = 1 : 5



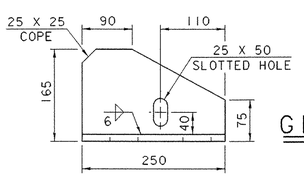
GIRDER BRACKET PLAN

SCALE = 1 : 5

TEMP	"A" DIST.	"B" DIST.
-15°C	79	55
-5°C	74	50
5°C	69	45
15°C	64	40
25°C	59	35
35°C	54	30
45°C	49	25

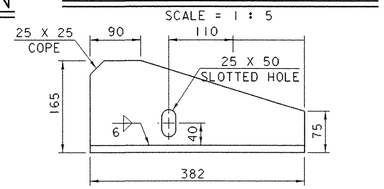
"A" IS THE SETTING BEFORE ANY DEAD LOADS ARE IN PLACE.

"B" IS THE FINAL SETTING AFTER ALL DEAD LOADS ARE IN PLACE.



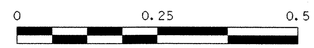
BACKWALL BRACKET ELEVATION

SCALE = 1 : 5



GIRDER BRACKET ELEVATION

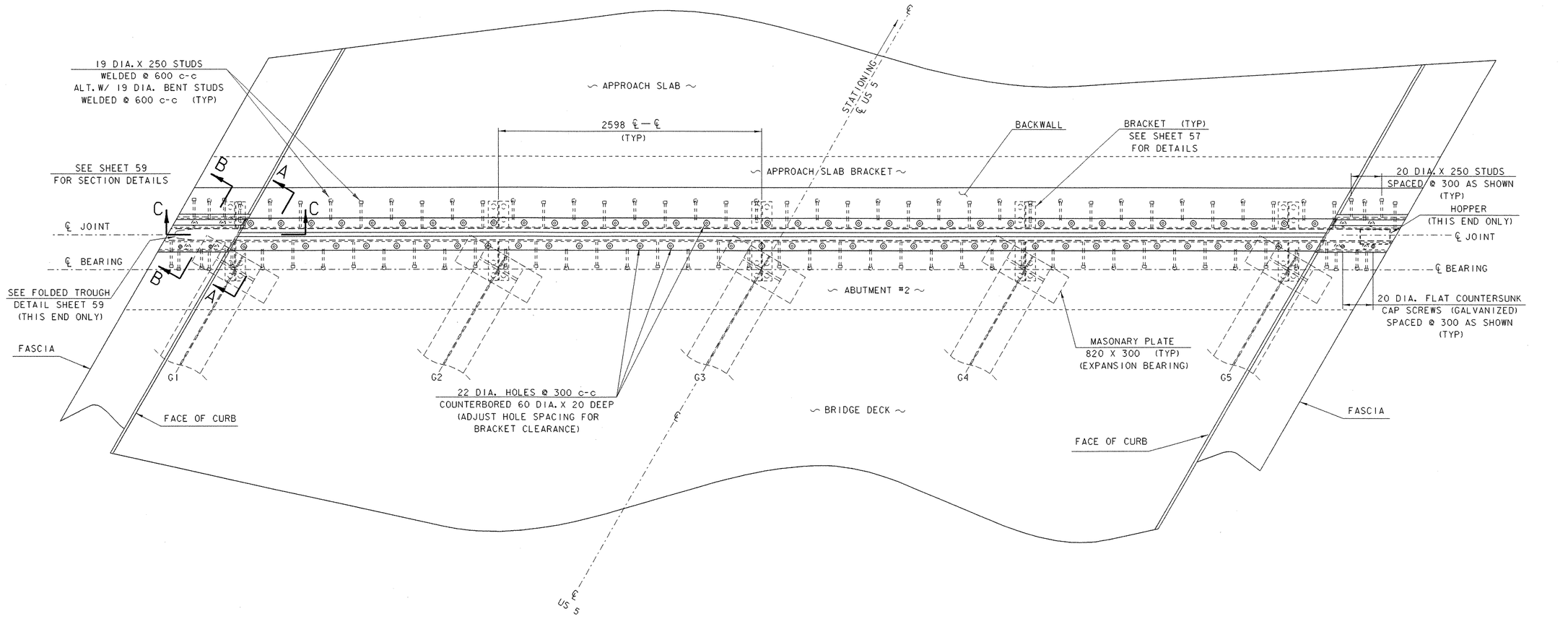
SCALE = 1 : 5



PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58) S

FILE NAME: 96c116/STRUCTURES/sc116joint.dgn
IPARM NAME: 96c116/STRUCTURES/sc116expjt3.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
EXPANSION JOINT TYPICAL SECTION

PLOT DATE: 03-JAN-2002
DRAWN BY: W.B. SYMONDS
CHECKED BY: W.B. SYMONDS
SHEET 57 OF 120



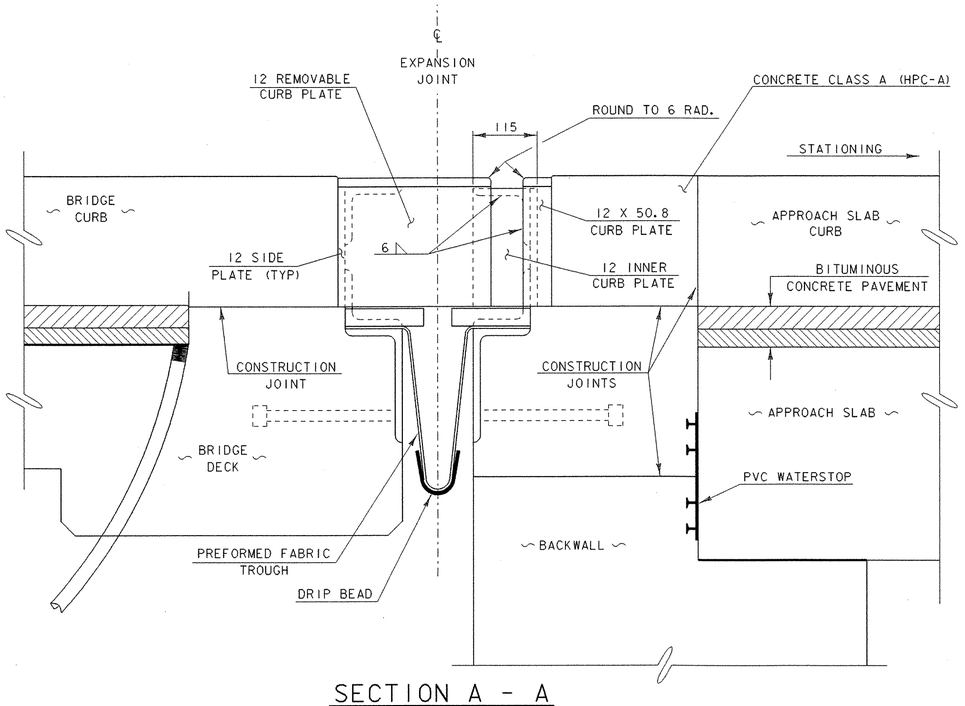
EXPANSION JOINT @ ABUTMENT #2

0 1 2

SCALE = 1:20

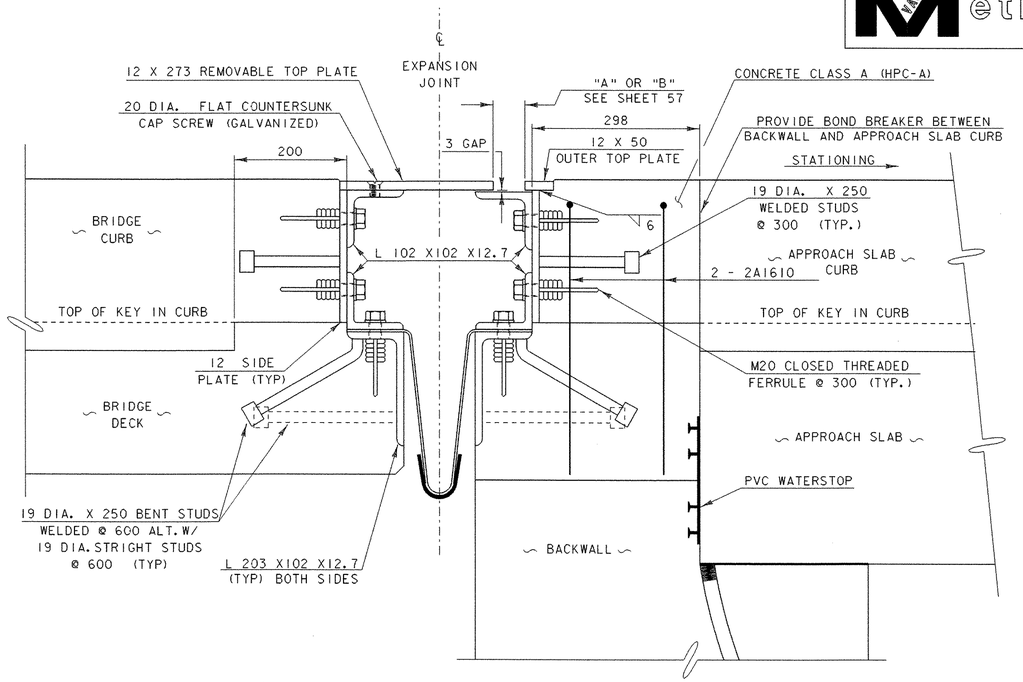
PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58)S
FILE NAME: 96c116/STRUCTURES/sc116joint.dgn	PLOT DATE: 03-JAN-2002
IPARM NAME: 96c116/STRUCTURES/sc116expjt1.i	DRAWN BY: T. G. ANDERSON
PROJECT LEADER: C. P. WILLIAMS	CHECKED BY: W. B. SYMONDS
DESIGNED BY: W. B. SYMONDS	SHEET 58 OF 120
EXPANSION JOINT PLAN	

Metric



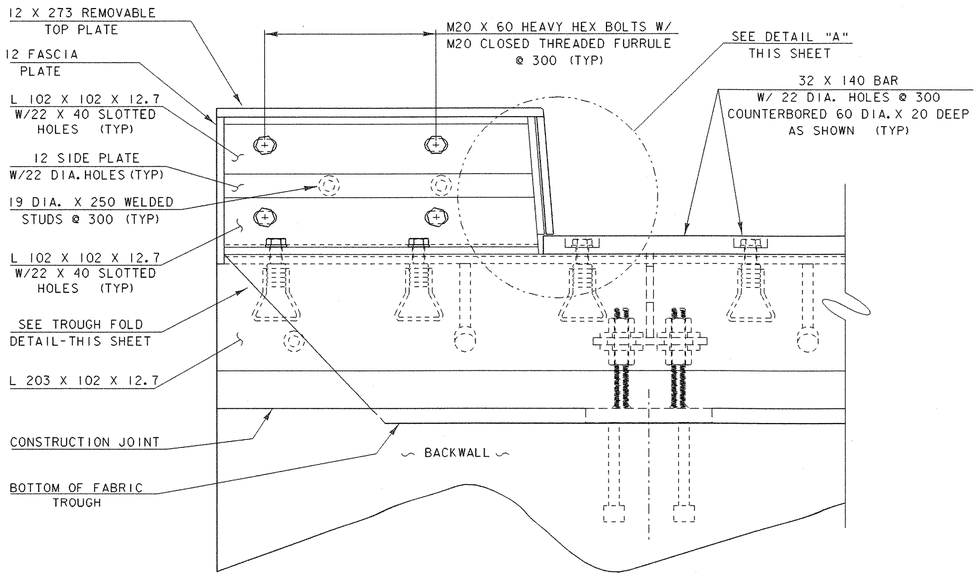
SECTION A - A

SCALE 1 : 5



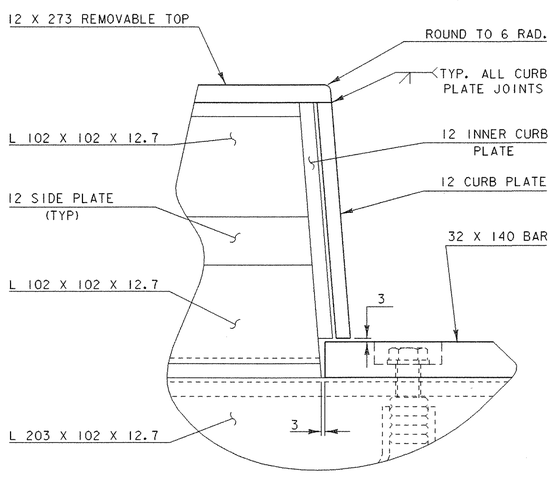
SECTION B - B

SCALE 1 : 5



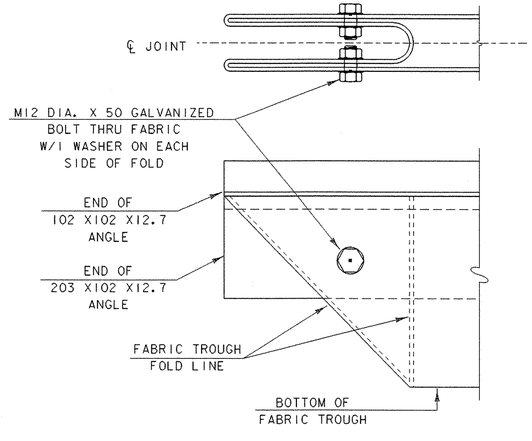
SECTION C - C

SCALE 1 : 5



DETAIL "A"

NOT TO SCALE



FOLDED TROUGH END DETAILS

NOT TO SCALE

NOTE: TROUGH FOLDED ON HIGH SIDE OF BRIDGE ONLY

0 0.25 0.5

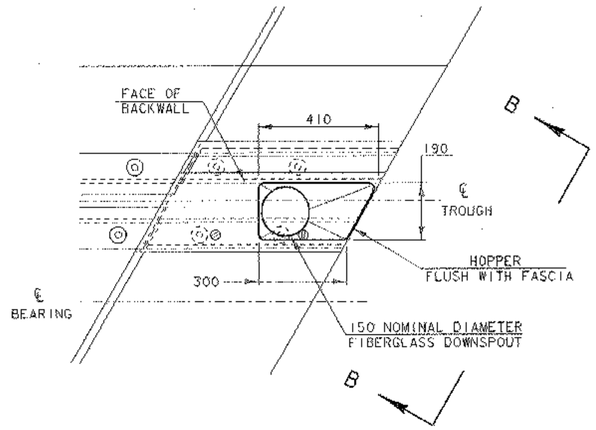
SCALE = 1:5

NOTE:
1. SEE SHEET 58 FOR LOCATION OF SECTIONS FOR DETAILS ON THIS SHEET.

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113 (58)S

FILE NAME: 96c116/STRUCTURES/sc116joint.dgn
IPARM NAME: 96c116/STRUCTURES/sc116expj12.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
CURB PLATE DETAILS

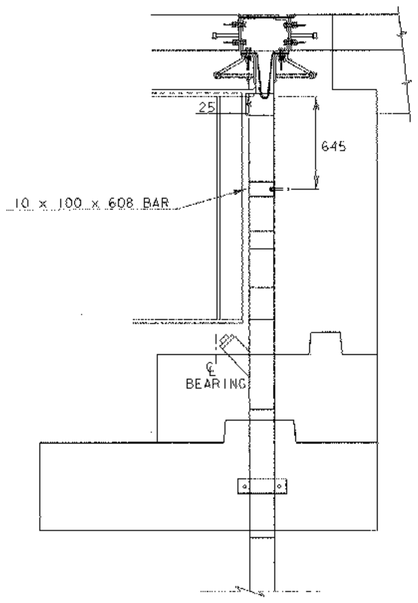
PLOT DATE: 03-JAN-2002
DRAWN BY: T.G. ANDERSON
CHECKED BY: W.B. SYMONDS
SHEET 59 OF 120



PLAN VIEW OF DOWNSPOUT

0 0.5 1

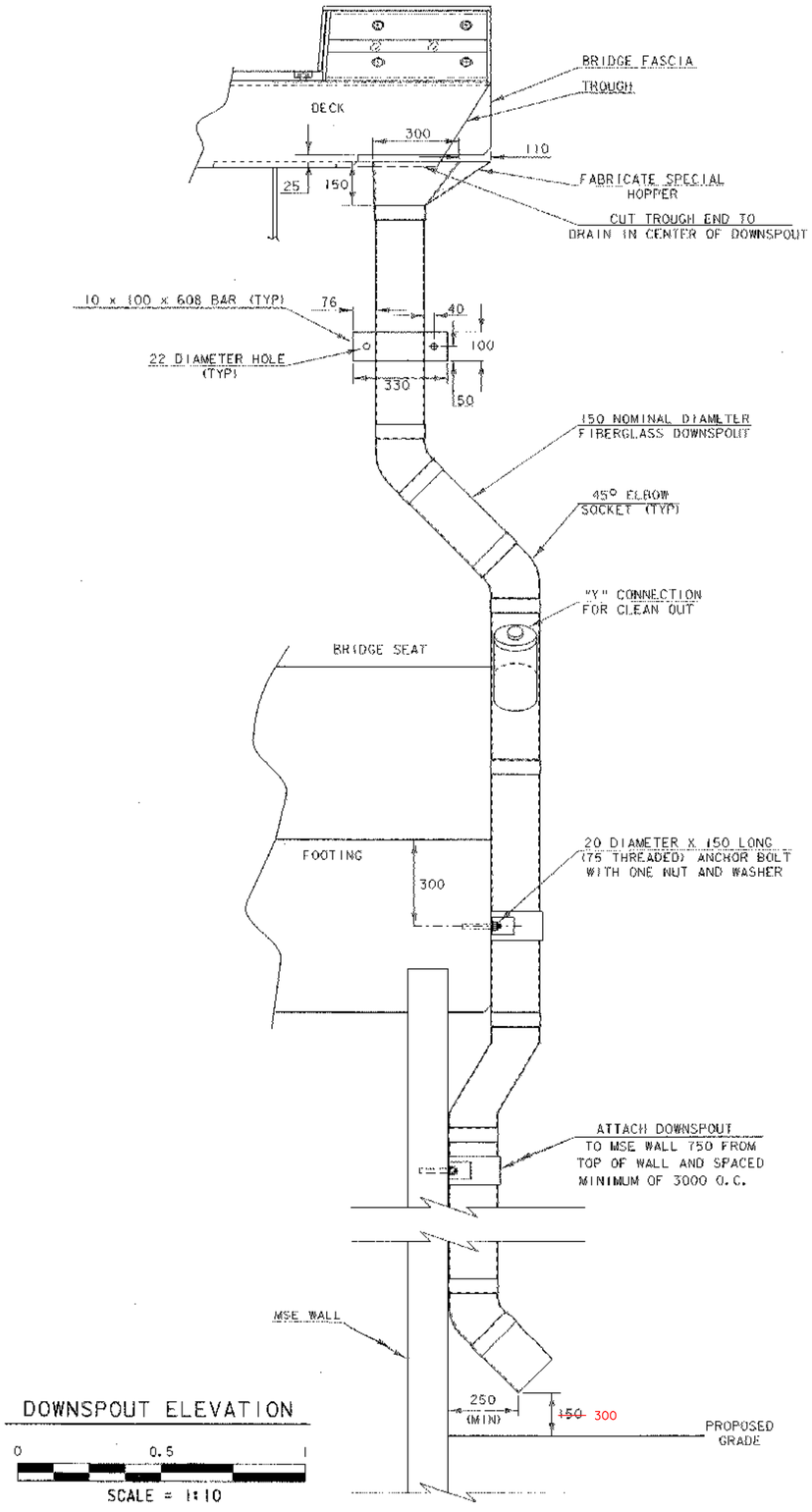
SCALE = 1:10



SECTION B- B

0 1 2

SCALE = 1:20



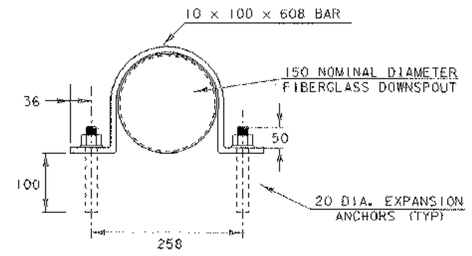
DOWNSPOUT ELEVATION

0 0.5 1

SCALE = 1:10

DOWNSPOUT NOTES

1. ALL PLATES, BARS, AND ANGLES SHALL CONFORM TO AASHTO M 270M/M 270 GRADE 250 AND SHALL BE GALVANIZED PER AASHTO M 111M/M 111.
2. ALL BOLTS AND RELATED HARDWARE SHALL BE ASTM A 307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232M/M 232.
3. HOPPER, DOWNSPOUT, BARS, AND DOWNSPOUT JOINTS SHALL BE PAID FOR UNDER THE ITEM 506.80 "DRAIN TROUGH (MOD)".
4. REINFORCING STEEL IN MSE WALL PANELS SHALL BE LOCATED BEFORE INSTALLING EXPANSION ANCHORS FOR DOWNSPOUT. ANCHORS SHALL BE LOCATED 25 FROM PANEL REINFORCEMENT.
5. SEE SPECIAL PROVISIONS FOR MORE INFORMATION



DETAILS FOR ATTACHING DOWNSPOUT TO MSE WALL

0 0.25 0.5

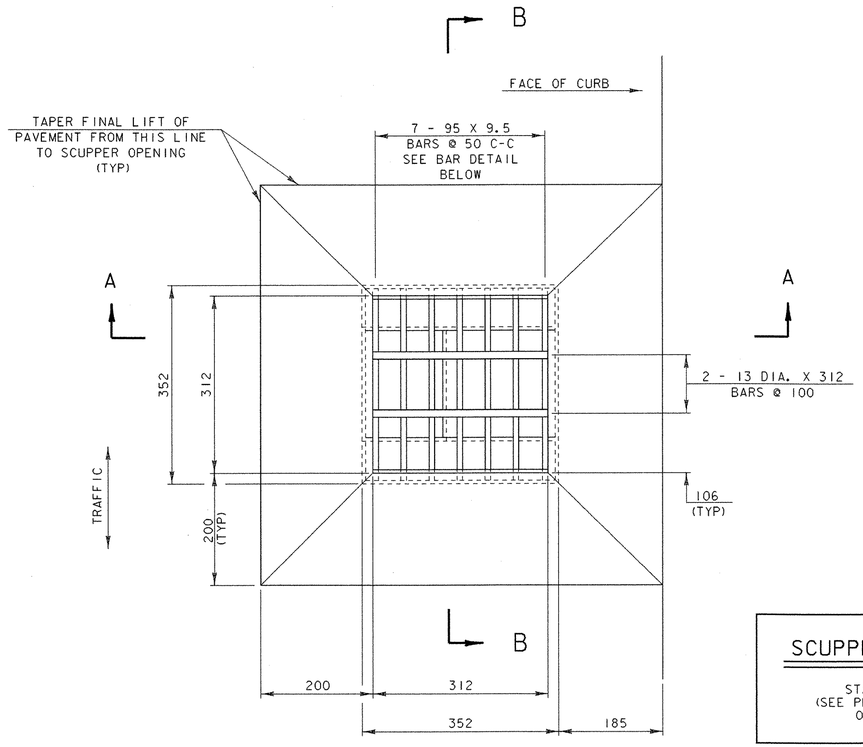
SCALE = 1:5

ARCHIVED ON CADD

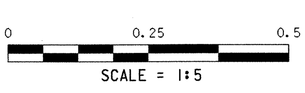
PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58) S

FILE NAME: 96c116/STRUCTURES/sc116ssd.dgn
IPARM NAME: 96c/STRUCTURES/sc116dwnspt.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: D. A. ECKSTEIN
DOWN SPOUT DETAILS

PLOT DATE: 03-JAN-2002
DRAWN BY: D. A. ECKSTEIN
CHECKED BY: W.B. SYMONDS
SHEET 60 OF 120

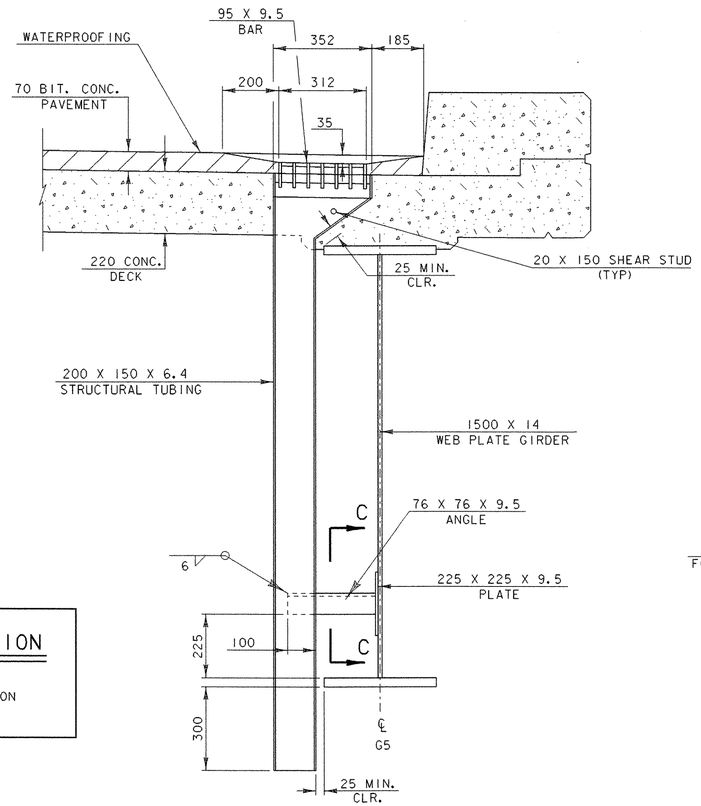


SCUPPER PLAN

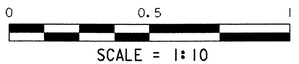


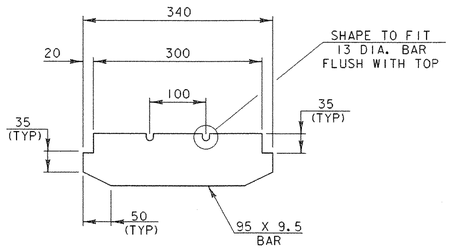
SCUPPER LOCATION

STA. 1+280 RT
(SEE PLAN & ELEVATION ON SHEET 37)

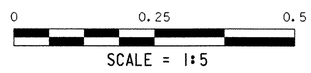


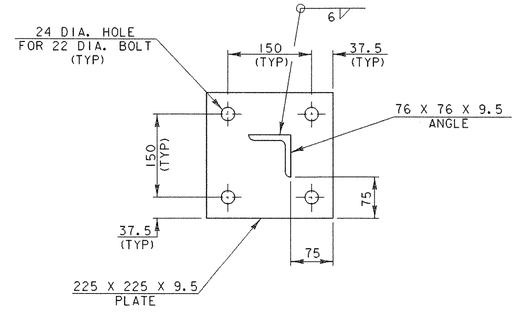
SECTION A - A





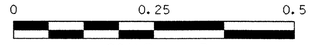
BAR DETAIL FOR GRATE

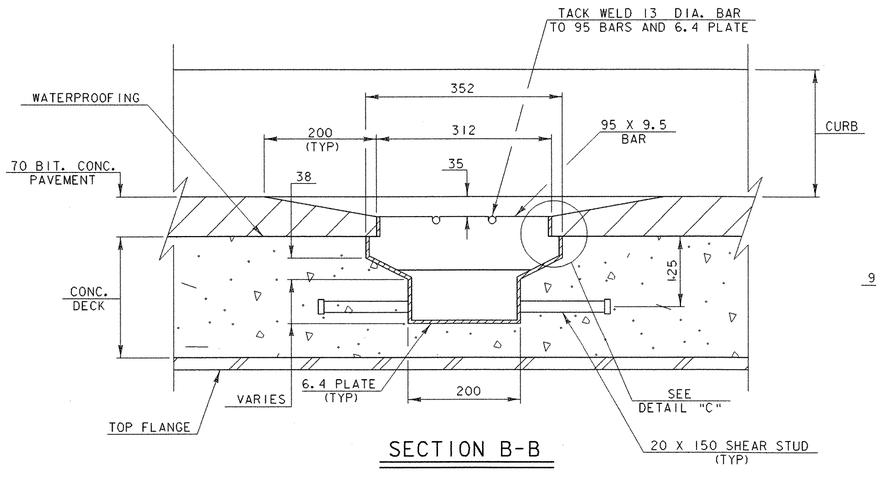




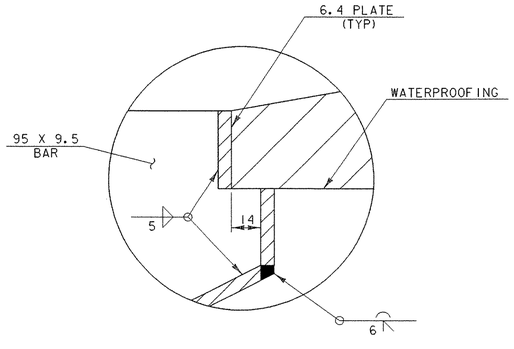
NOTE: HOLES MAY BE FIELD DRILLED IN PLATE GIRDER

SECTION C-C





SECTION B-B



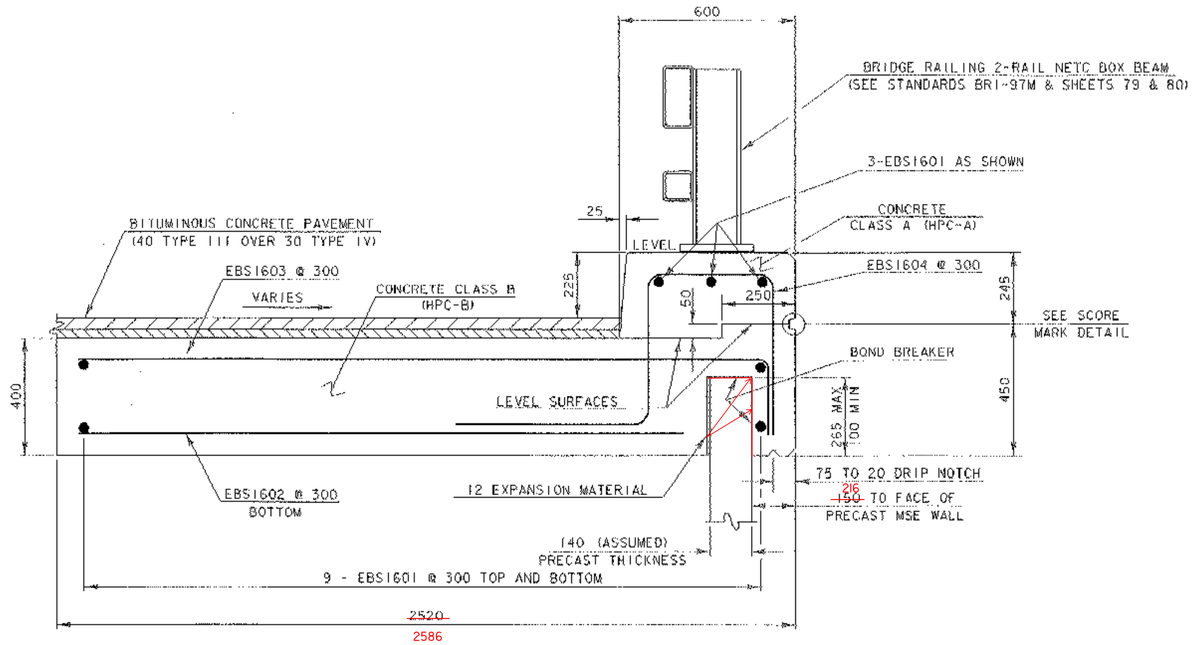
DETAIL "C"

NTS

SCUPPER NOTES

1. HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A-500 GR. B.
2. ALL PLATES, BARS, AND ANGLES SHALL CONFORM TO AASHTO M 270M/M 270 GR. 250.
3. THE SCUPPER SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111M/M 111 AFTER FABRICATION.
4. THE TOP SURFACE OF SCUPPER SHALL BE SLOPED TO MATCH ROADWAY SLOPE AND GRADE.
5. THE BAR AND GRATE SECTION MAY BE PREFABRICATED PROVIDING THE GEOMETRY AND SECTION PROPERTIES ARE EQUIVALENT TO THE DETAILS SHOWN.
6. THE SCUPPER SHALL BE PAID FOR UNDER ITEM 506.60 "STRUCTURAL STEEL".
7. ALL REQUIRED WELDS FOR THE SCUPPER SHALL BE DETAILED ON SHOP DRAWINGS WHICH SHALL ALSO INCLUDE ALL APPLICABLE WELDING PROCEDURES.
8. AFTER ALL PAVING AND CONCRETING OPERATIONS THE SCUPPER SHALL BE CLEANED OF ALL CONTAMINATION BY FLUSHING.
9. SCUPPER CONNECTION BOLTS SHALL BE 22 Ø AASHTO M 164/M 164M, TYPE III.

PROJECT: BARTON	PROJECT NO.: STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116scupper.dgn	
IPARM FILE NAME: sc116scupper.i	PLOT DATE: 03-JAN-2002
DESIGNED BY: R.S. YOUNG	DRAWN BY: R.S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	CHECKED BY: W.B. SYMONDS
SCUPPER DETAILS	SHEET: 60a OF 120



RAILING BASE SLAB TYPICAL SECTION

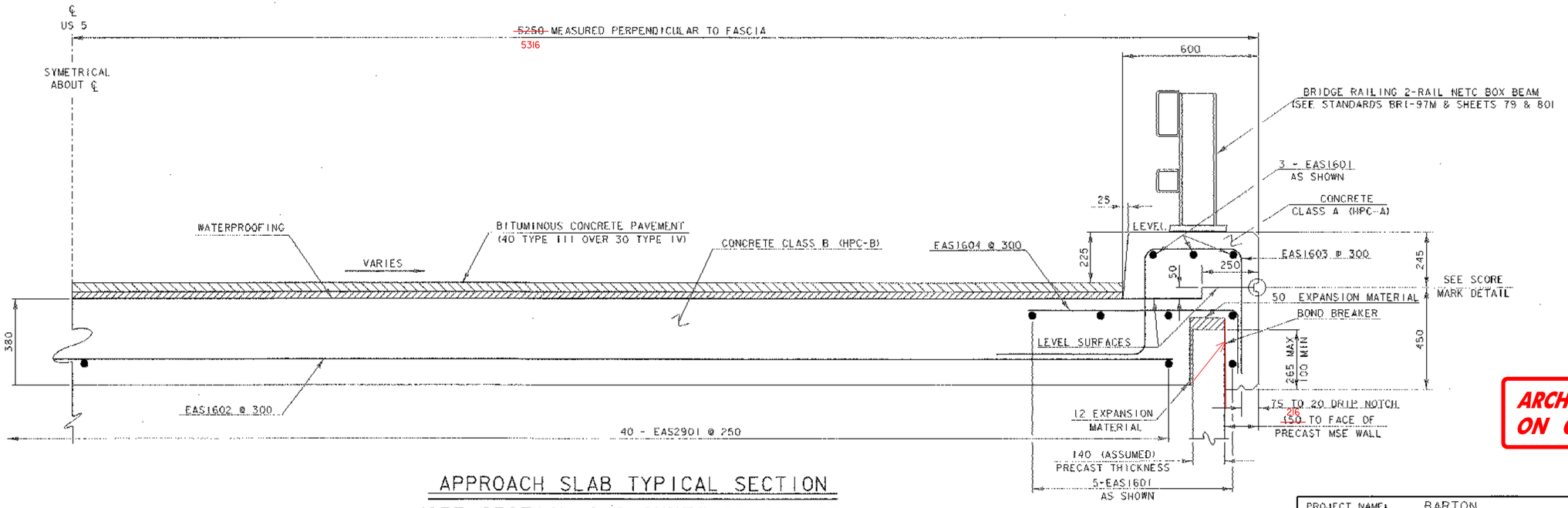
SCALE 1 : 10

NOTE:

NF = NEAR FACE.
FF = FAR FACE.
EF = EACH FACE.
▲ = CUT TO FIT IN FIELD

75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.
ALL LAPS SHALL BE 660 UNLESS NOTED OTHERWISE

ALL REINFORCING STEEL SHALL BE EPOXY COATED.



APPROACH SLAB TYPICAL SECTION

(SEE SECTION C-C SHEET 62 OF 120)

SCALE 1 : 10

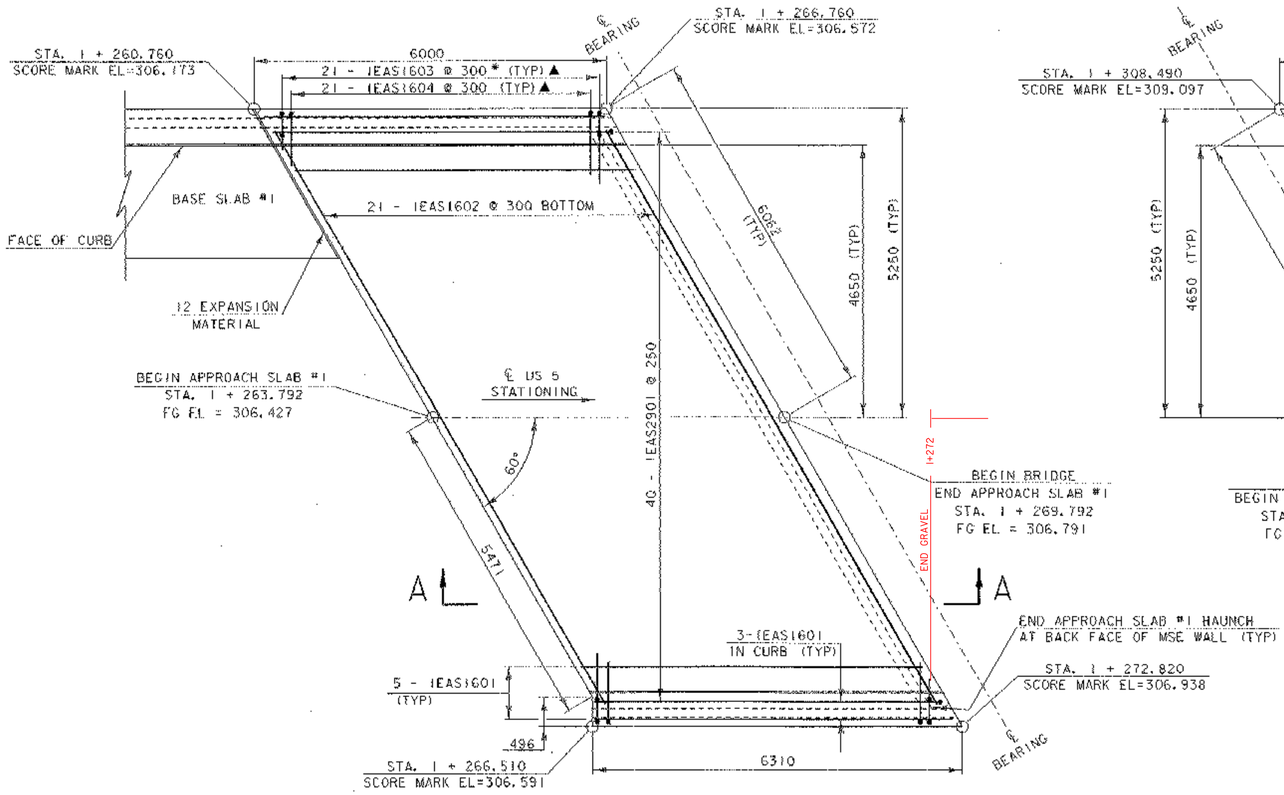
0 0.5 1
SCALE = 1:10

ARCHIVED ON CADD

PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58)S

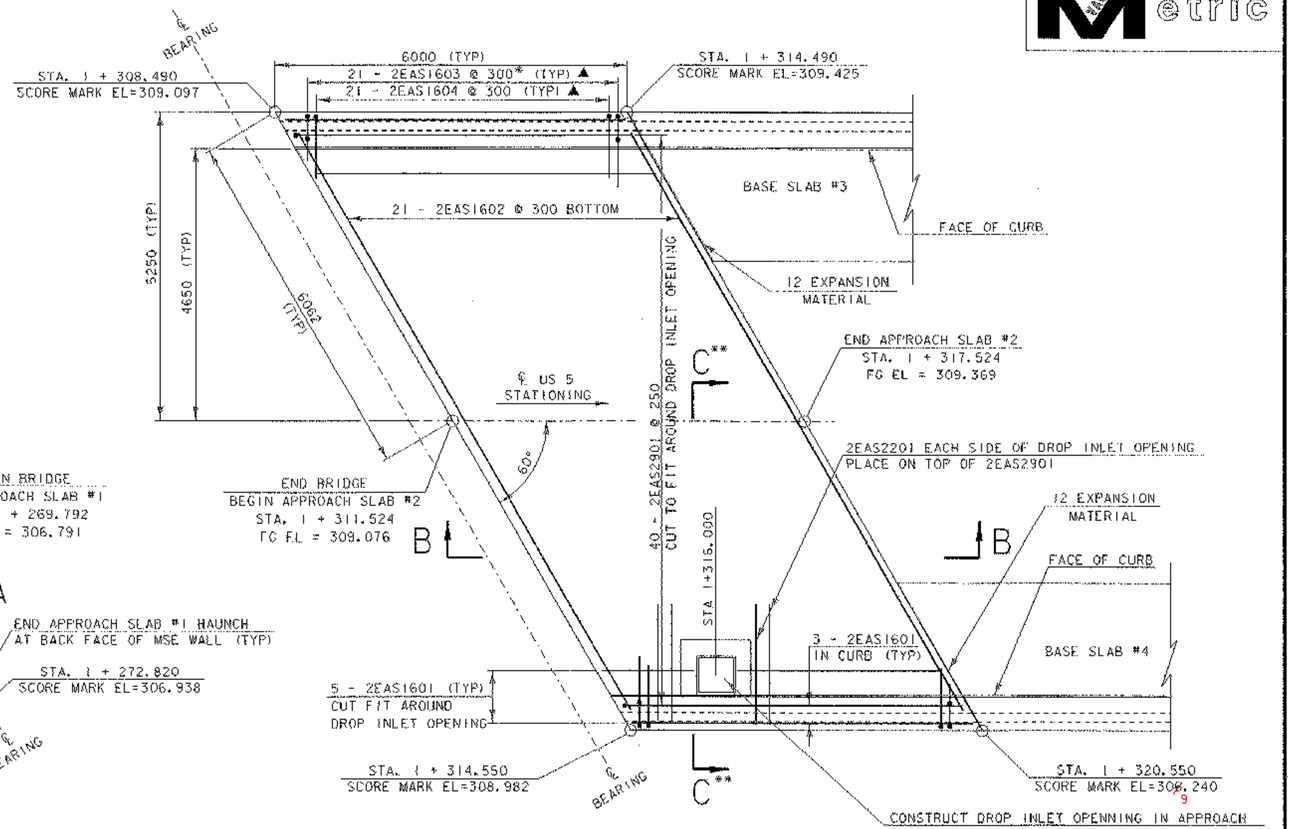
FILE NAME: 96cl16/structures/scl16sup.dgn
IPARM NAME: 96cl16/structures/scl16xsec.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
BASE/APPROACH SLAB TYPICAL SECTIONS

PLOT DATE: 03-JAN-2002
DRAWN BY: D.G. BASSETT
CHECKED BY: W.B. SYMONDS
SHEET 61 OF 120



PLAN VIEW
APPROACH SLAB NO. 1

SCALE 1 : 50

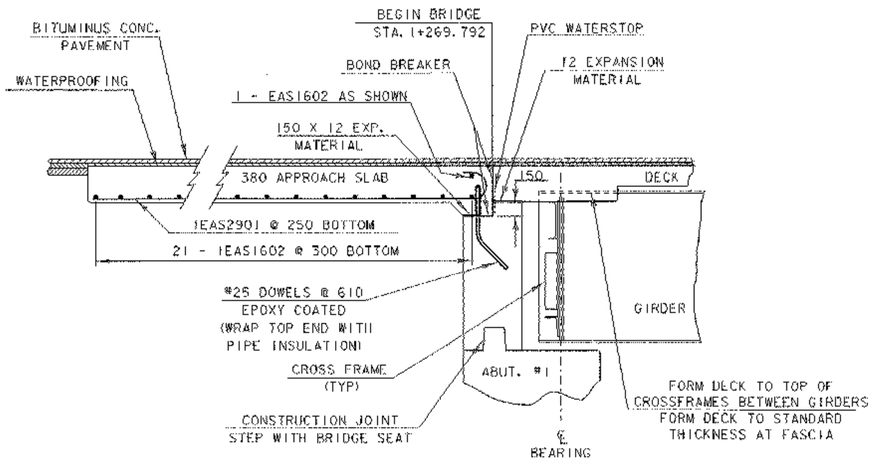


PLAN VIEW
APPROACH SLAB NO. 2

SCALE 1 : 50

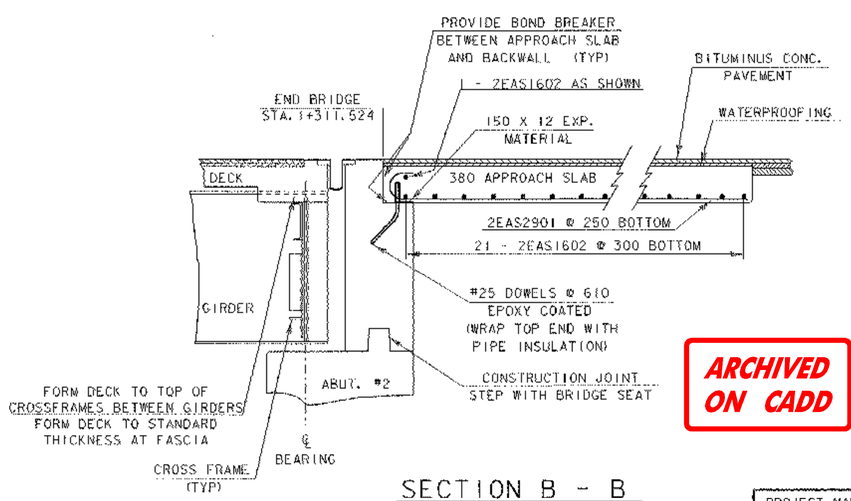
* MODIFY SPACING @ POSTS (+ 9 ADDITIONAL FOR POST ANCHORAGE)
(SEE STANDARD BR1-97M)

** SEE SHEET 61 OF 120 FOR SECTION C-C



SECTION A - A

SCALE 1 : 30



SECTION B - B

SCALE 1 : 30

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ALL LAPS SHALL BE 660 UNLESS NOTED OTHERWISE.

BASE SLAB #2 IS NOT REQUIRED FOR THIS PROJECT.

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

ARCHIVED ON CADD

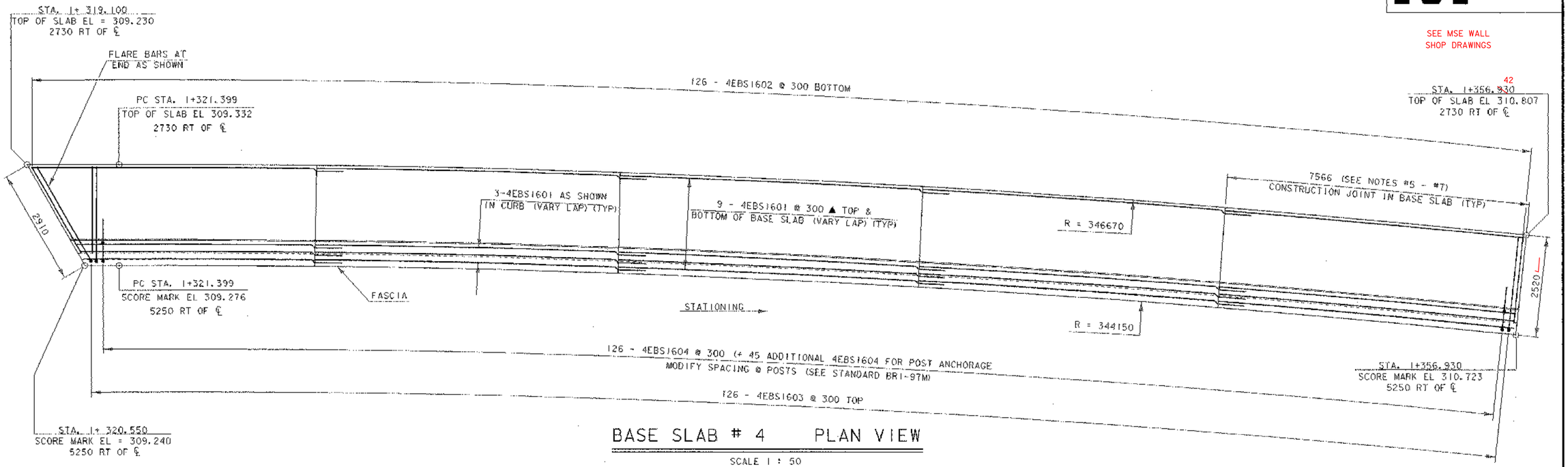
0 1 2 3 4 5
SCALE = 1:50

0 1 2 3
SCALE = 1:30

PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58) S

FILE NAME: 96cl16/Structures/scl16sup.dgn
IPARM NAME: 96cl16/Structures/scl16app1eb.i
PROJECT LEADER: C. P. WILLIAMS
DESIGNED BY: W. B. SYMONDS
APPROACH SLAB DETAILS

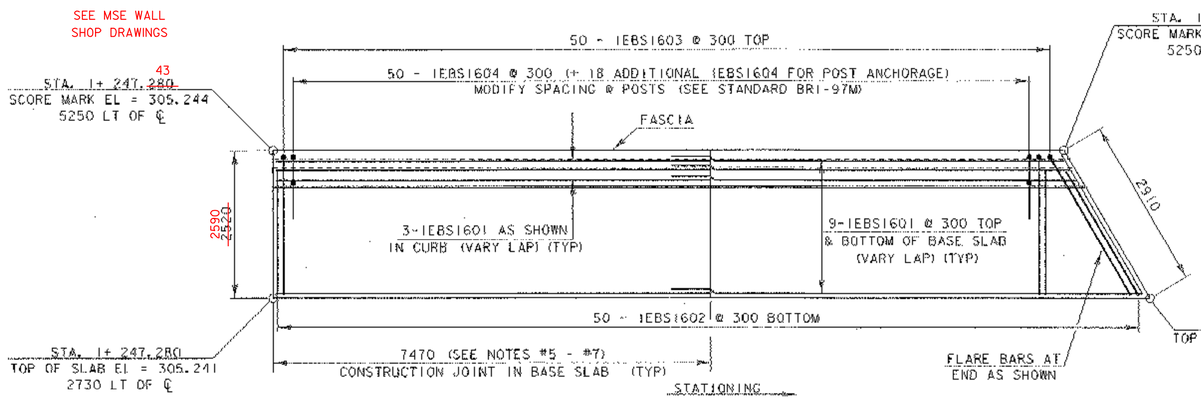
PLOT DATE: 03-JAN-2002
DRAWN BY: T. C. ANDERSON
CHECKED BY: W. B. SYMONDS
SHEET 62 OF 120



BASE SLAB # 4 PLAN VIEW

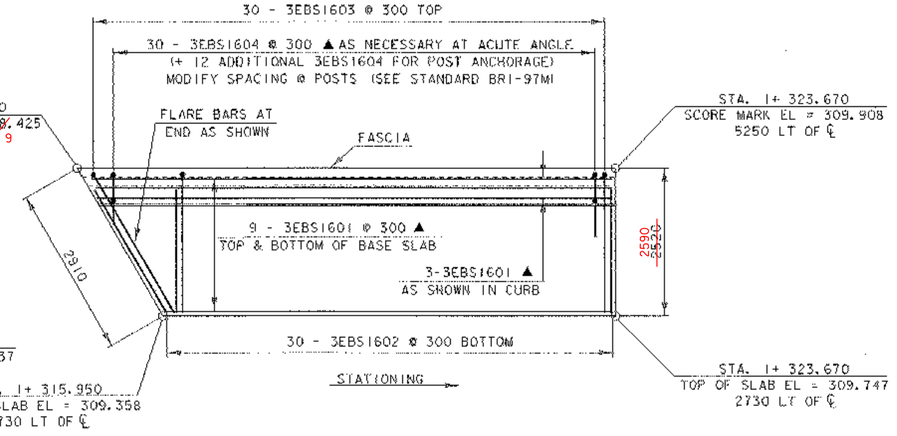
SCALE 1 : 50

SEE MSE WALL SHOP DRAWINGS



BASE SLAB # 1 PLAN VIEW

SCALE 1 : 50



BASE SLAB # 3 PLAN VIEW

SCALE 1 : 50

NOTES:

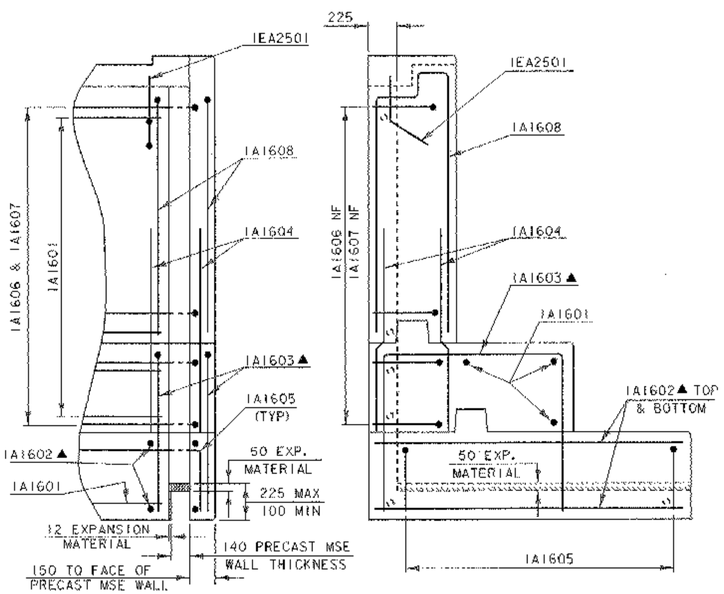
1. NF = NEAR FACE EF = EACH FACE
   FF = FAR FACE ▲ = CUT TO FIT IN FIELD
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. 75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.
4. ALL LAPS SHALL BE 660 UNLESS NOTED OTHERWISE.
5. A CURB CONSTRUCTION JOINT SHALL BE LOCATED OVER ALL BASE SLAB CONSTRUCTION JOINTS.
6. MAXIMUM DISTANCE BETWEEN CONSTRUCTION JOINTS IN CURBS SHALL BE 3000.
7. MAXIMUM DISTANCE BETWEEN CONSTRUCTION JOINTS BASE SLAB SHALL BE 9000.
8. SEE SHEETS 69 AND 70 FOR MORE BASE SLAB DIMENSIONS.
9. BASE SLAB #2 IS NOT REQUIRED FOR THIS PROJECT.
10. CURVED FASCIAS WILL BE FORMED TO RADIUS SHOWN, FORMING ON CHORDS WILL NOT BE ALLOWED.

ARCHIVED ON CADD

0 1 2 3 4 5

SCALE = 1:50

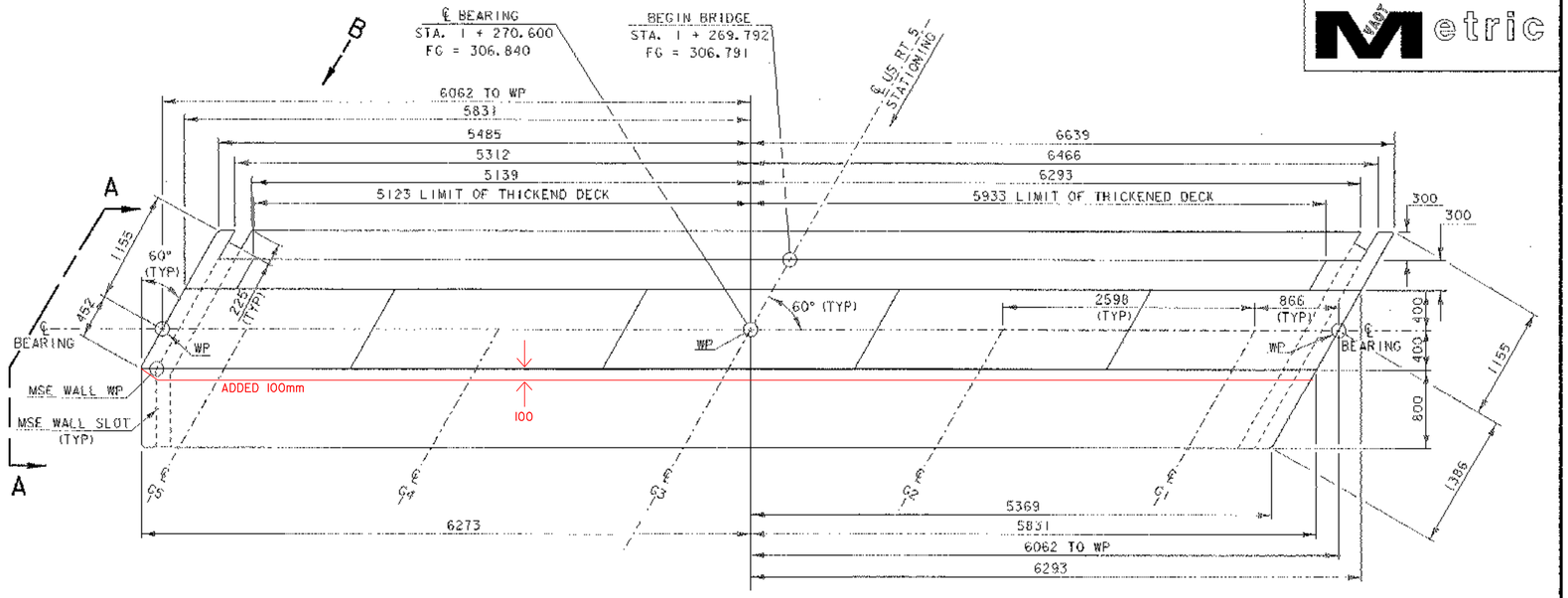
PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58)S
FILE NAME: 86cl16/Structures/scl16sup.dgn	PLOT DATE: 03-JAN-2002
IPARM NAME: 86cl16/Structures/scl16bastab.i	DRAWN BY: T. G. ANDERSON
PROJECT LEADER: C. P. WILLIAMS	CHECKED BY: W. B. SYMONDS
DESIGNED BY: W. B. SYMONDS	SHEET 63 OF 120
BASE SLAB DETAILS	



VIEW B VIEW A - A

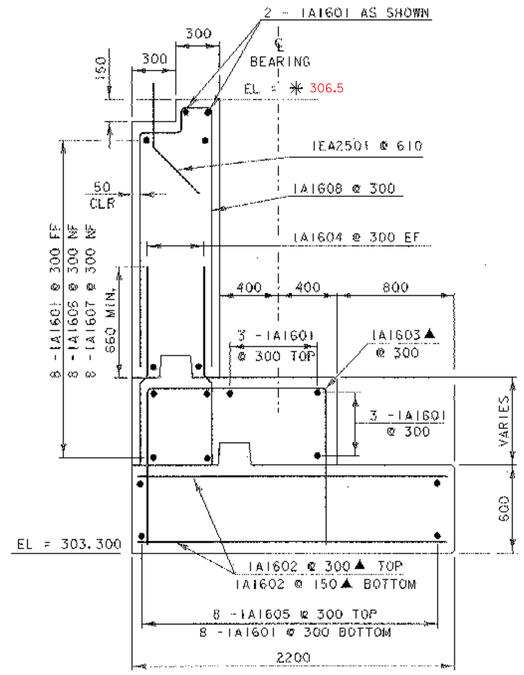
ABUTMENT #1 TYPICAL END SECTION

NOT TO SCALE



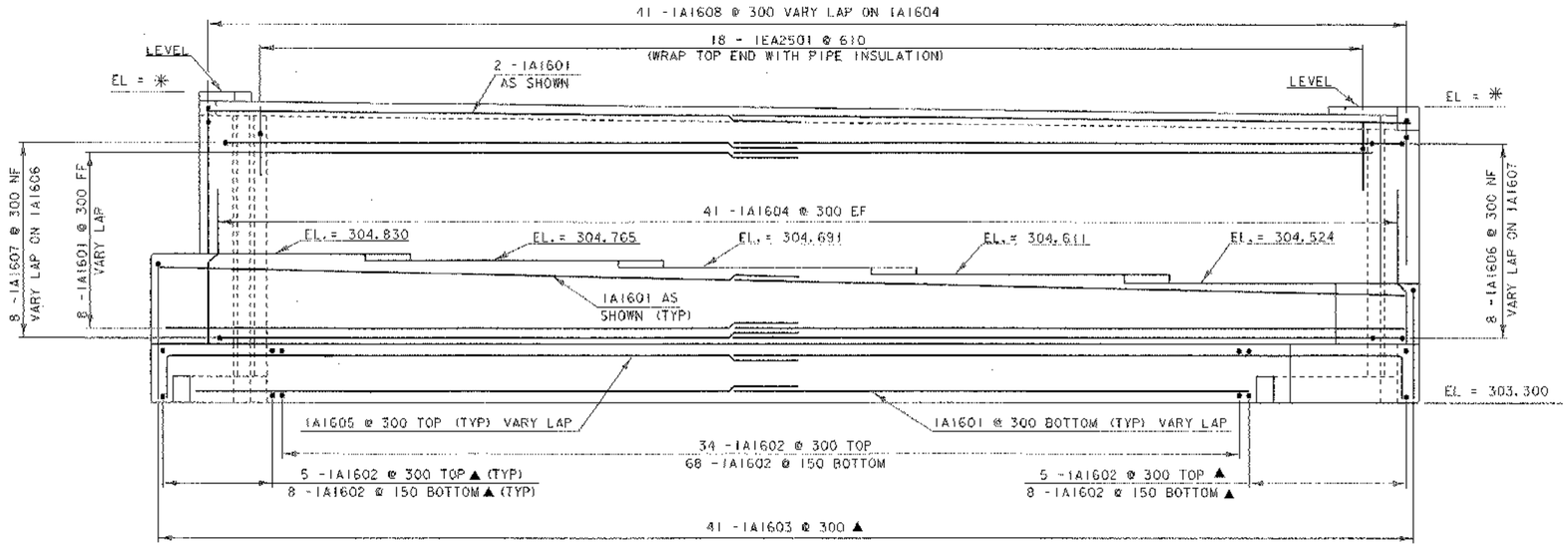
ABUTMENT #1 PLAN

SCALE 1 : 30



ABUTMENT #1 TYPICAL SECTION

SCALE 1 : 20



ABUTMENT #1 ELEVATION

SCALE 1 : 30

ARCHIVED ON CADD

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ALL LAPS SHALL BE 660 UNLESS NOTED OTHERWISE

✳ ELEVATION TO BE DETERMINED AFTER STRUCTURAL STEEL IS SET

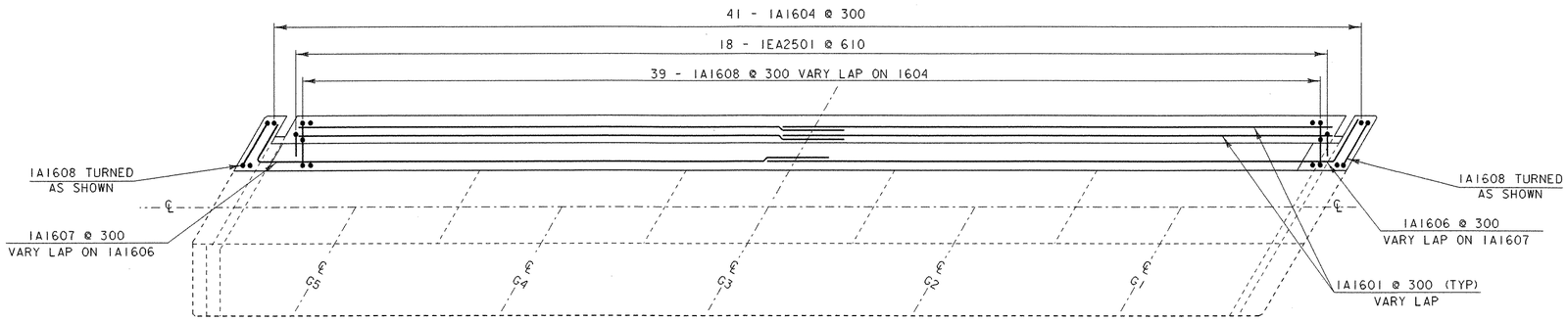
0 1 2 3
SCALE = 1:30

0 1 2
SCALE = 1:20

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113 (58)S

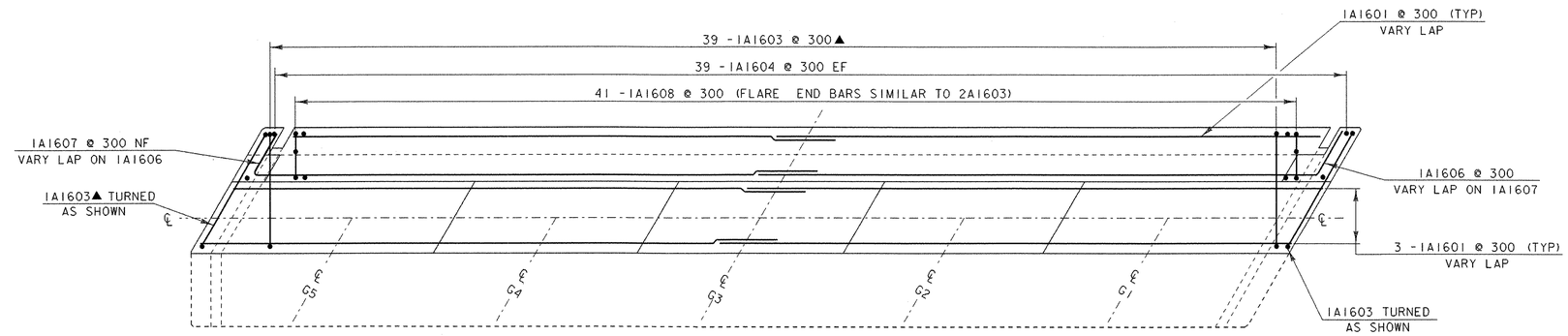
FILE NAME: 96c116/STRUCTURES/sc116 sub.dgn
(PARM NAME: 96c116/STRUCTURES/sc116 abut1.c
PROJECT LEADER: C. P. WILLIAMS
DESIGNED BY: W. B. SYMONDS
ABUTMENT #1 DETAILS

PLOT DATE: 03-JAN-2002
DRAWN BY: T. ANDERSON
CHECKED BY: W. B. SYMONDS
SHEET 64 OF 120



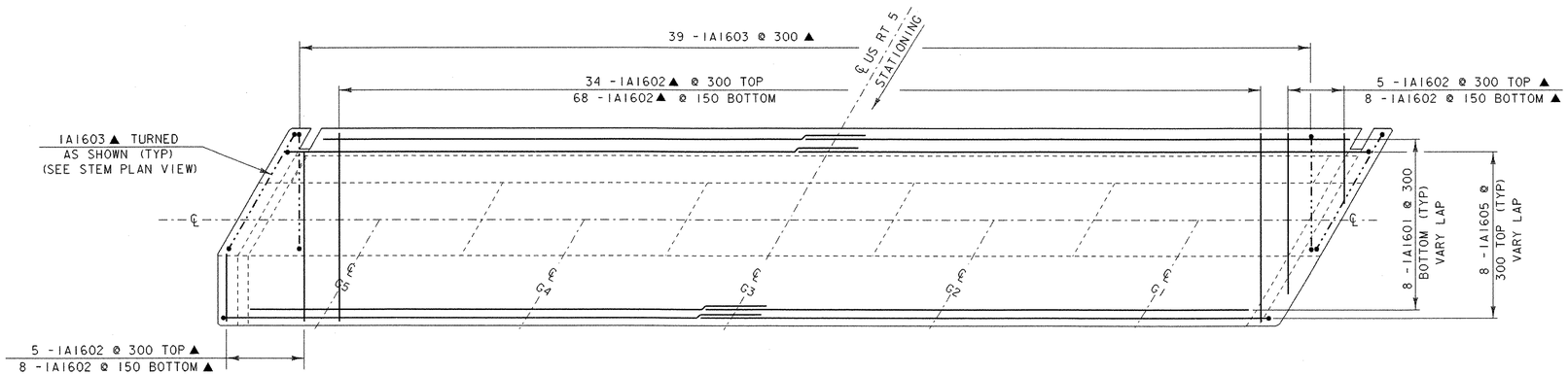
PLAN VIEW
ABUTMENT #1 BACKWALL

SCALE 1 : 30



PLAN VIEW
ABUTMENT #1 STEM

SCALE 1 : 30



PLAN VIEW
ABUTMENT #1 FOOTING

SCALE 1 : 30

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ALL LAPS SHALL BE 660 UNLESS NOTED OTHERWISE

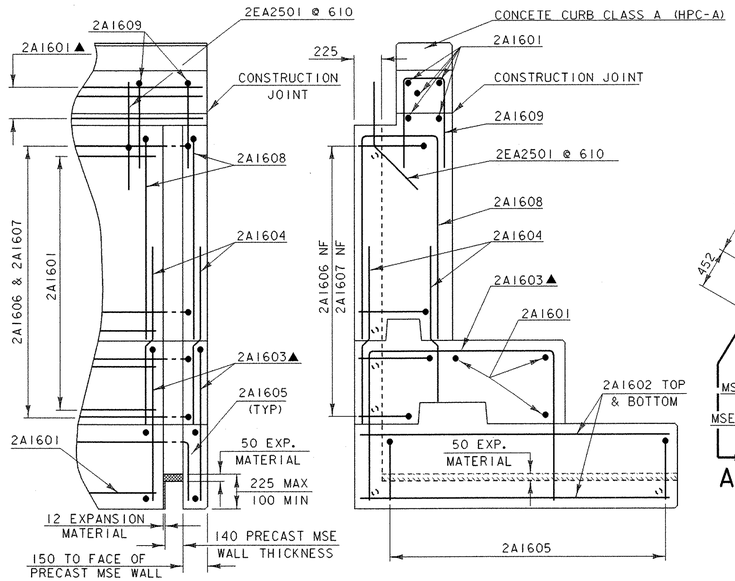
0 1 2 3

SCALE = 1:30

PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58)S

FILE NAME: 96c116/STRUCTURES/sc116 sub.dgn
IPARM NAME: 96c116/STRUCTURES/sc116 abutta.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
ABUTMENT #1 DETAILS

PLOT DATE: 03-JAN-2002
DRAWN BY: T. ANDERSON
CHECKED BY: W.B. SYMONDS
SHEET 65 OF 120

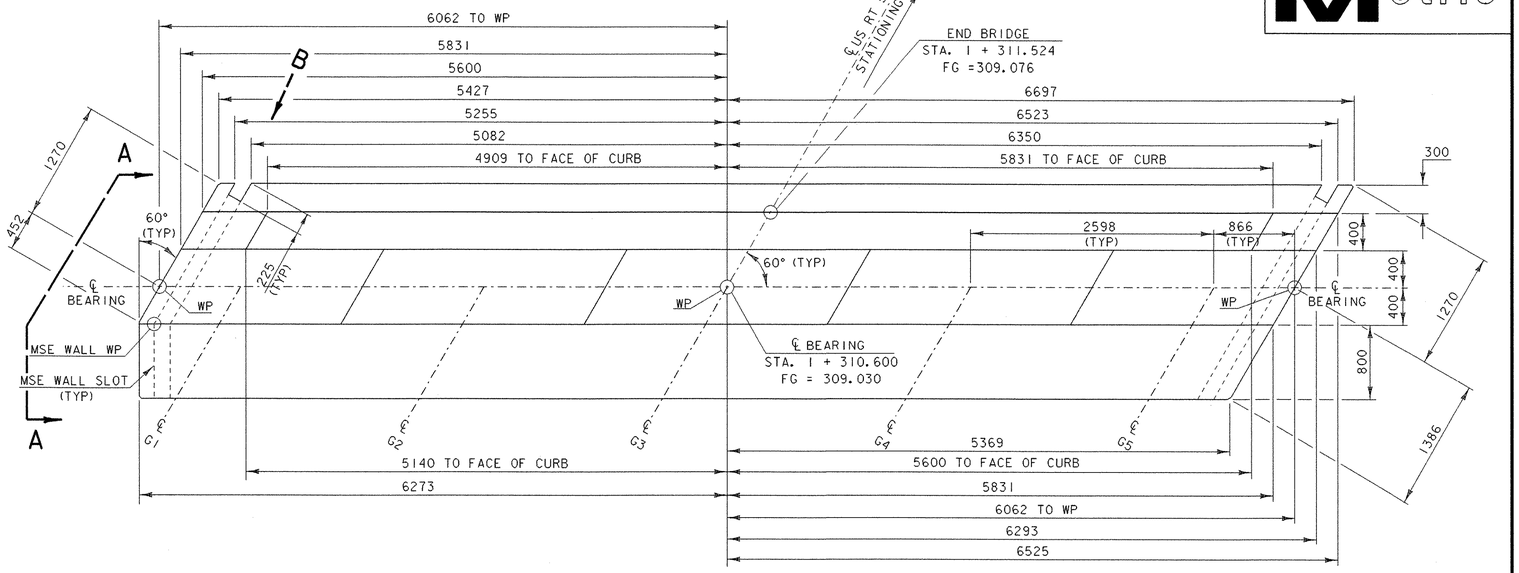


VIEW B

VIEW A - A

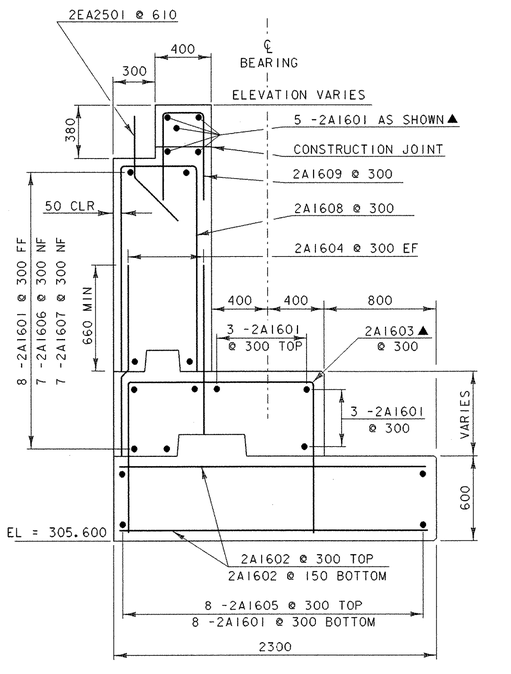
ABUTMENT #2 TYPICAL END SECTION

NOT TO SCALE



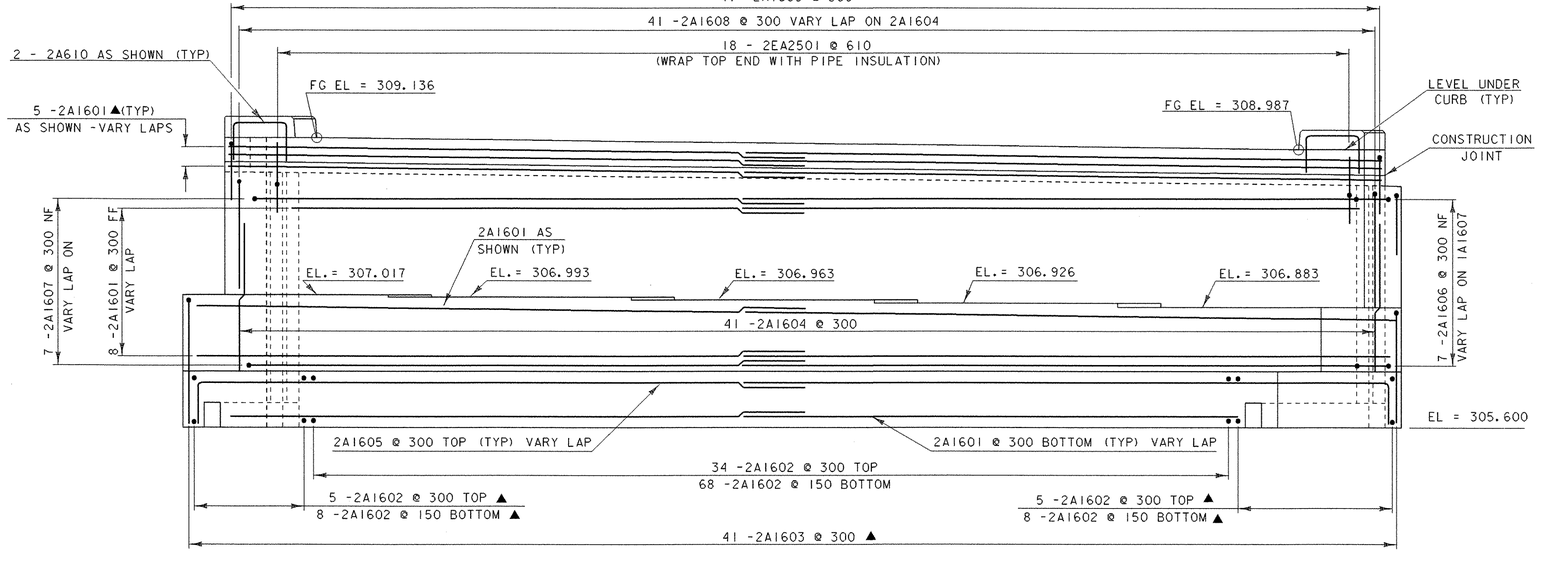
ABUTMENT #2 PLAN

SCALE 1 :30



ABUTMENT #2 TYPICAL SECTION

SCALE 1 :20



ABUTMENT #2 ELEVATION

SCALE 1 :30

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ALL LAPS SHALL BE 660 UNLESS NOTED OTHERWISE

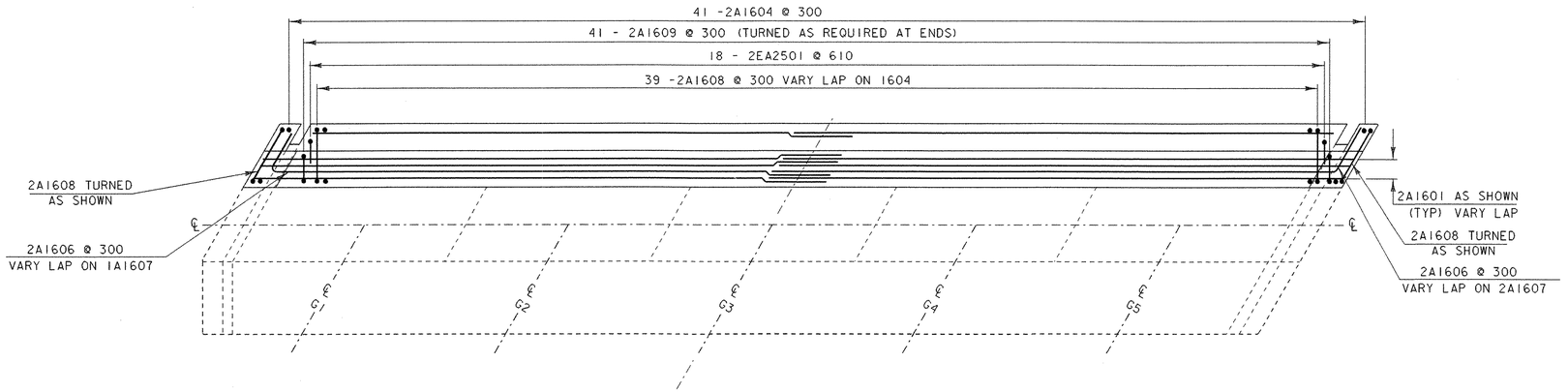
0 1 2 3
SCALE = 1:30

0 1 2
SCALE = 1:20

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113 (58)S

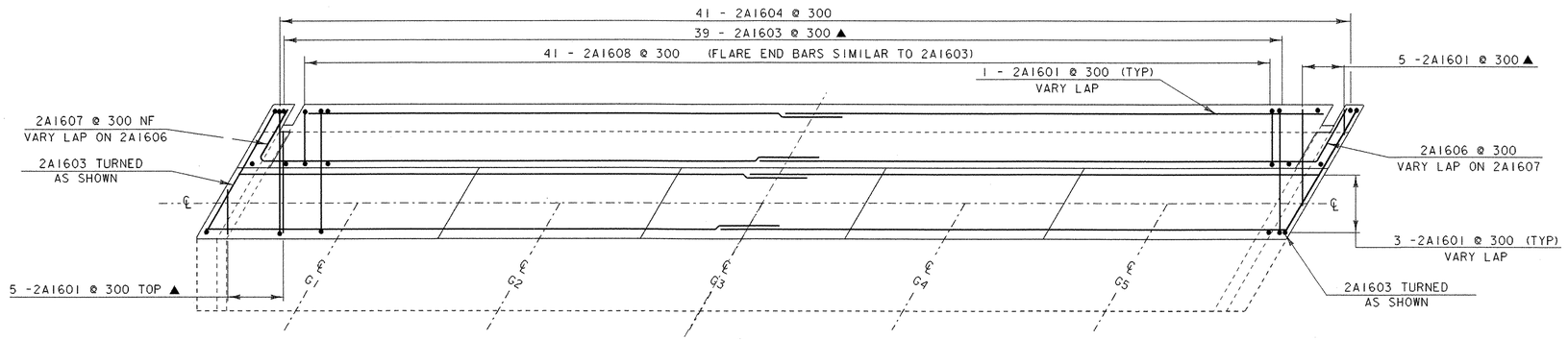
FILE NAME: 96c116/STRUCTURES/sc116 sub.dgn
IPARM NAME: 96c116/STRUCTURES/sc116abut2.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
ABUTMENT #2 DETAILS

PLOT DATE: 03-JAN-2002
DRAWN BY: T. ANDERSON
CHECKED BY: W.B. SYMONDS
SHEET 66 OF 120



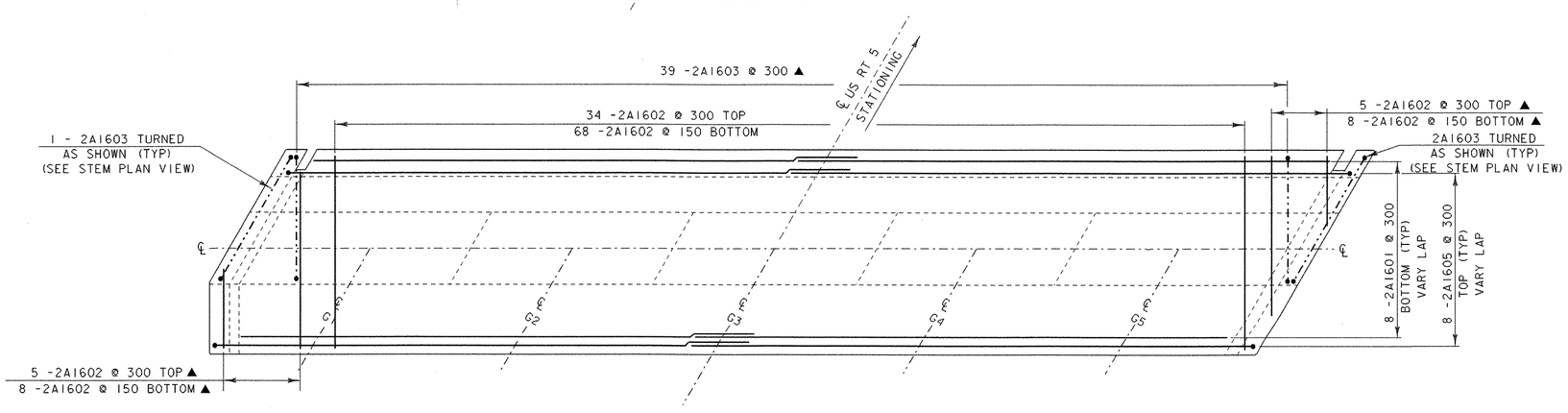
PLAN VIEW
ABUTMENT #2 BACKWALL

SCALE 1 : 30



PLAN VIEW
ABUTMENT #2 STEM

SCALE 1 : 30



PLAN VIEW
ABUTMENT #2 FOOTING

SCALE 1 : 30

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ALL LAPS SHALL BE 660 UNLESS NOTED OTHERWISE

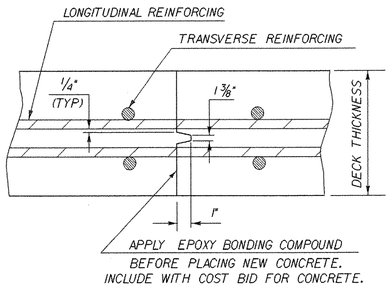
0 1 2 3

SCALE = 1:30

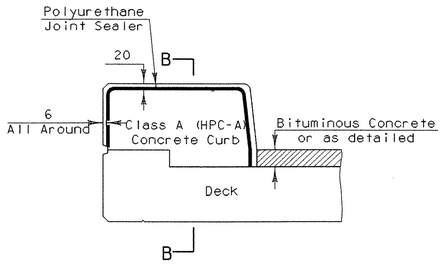
PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58)S

FILE NAME: 96c116/STRUCTURES/sc116sub.dgn
IPARM NAME: 96c116/STRUCTURES/sc116abut2a.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
ABUTMENT #2 DETAILS

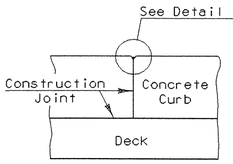
PLOT DATE: 03-JAN-2002
DRAWN BY: T. ANDERSON
CHECKED BY: W.B. SYMONDS
SHEET 67 OF 120



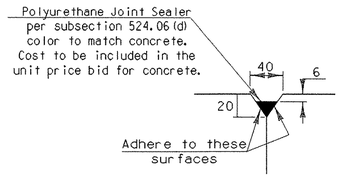
TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS



TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT



SECTION B - B



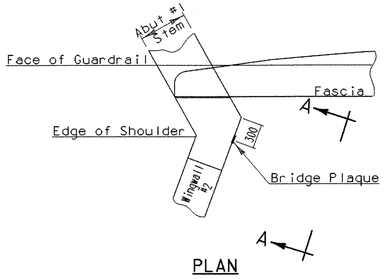
DETAIL "B"

Notes:

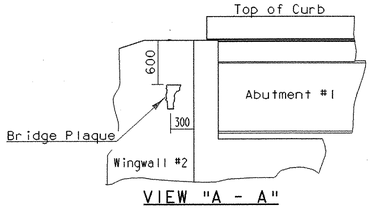
1) Construction joints through concrete curbs shall be spaced maximum 3.0m center to center and shall be 450 minimum from the center of the nearest bridge rail post. Concrete shall be placed in alternating sections with a minimum of 48 hours delay between adjacent pours.

2) Longitudinal reinforcing shall pass through concrete curb construction joints.

3) Construction joints through sidewalks shall be similar to concrete curb construction joints.



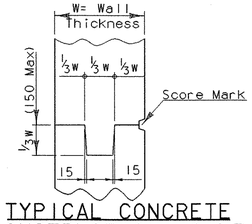
PLAN



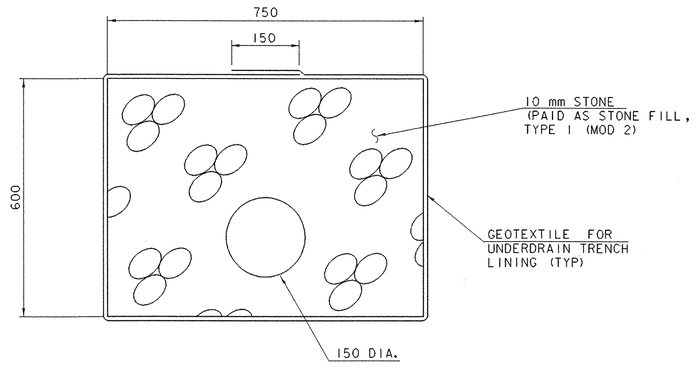
VIEW "A - A"

LOCATE BRIDGE PLAQUE

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.



TYPICAL CONCRETE CONSTRUCTION JOINT

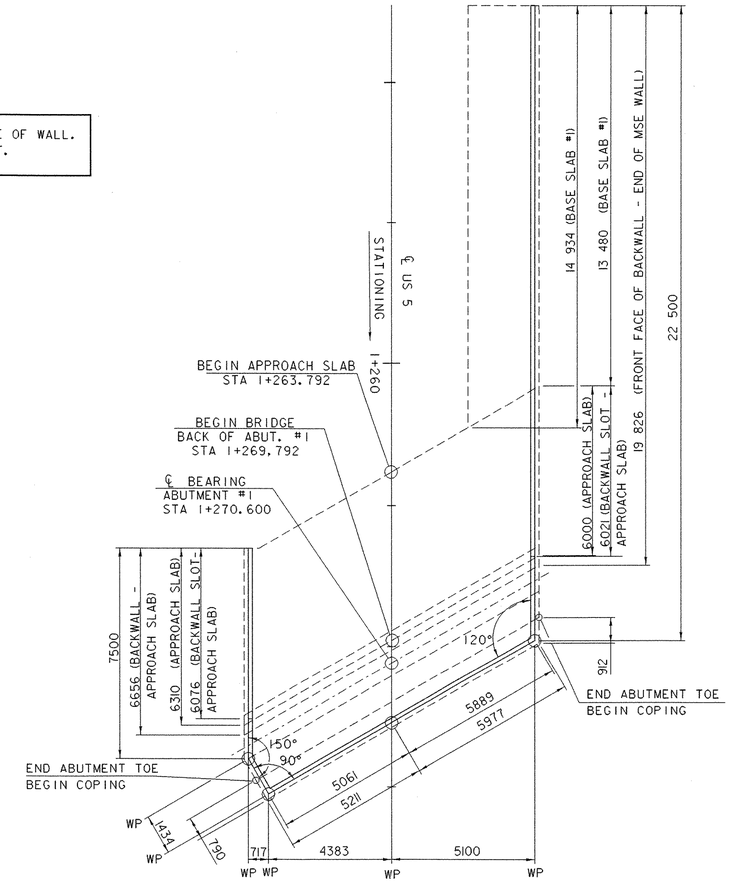


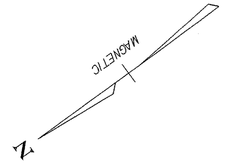
UNDERDRAIN TYPICAL SECTION

DETAILS DRAWN NOT TO SCALE

PROJECT: BARTON	PROJECT NO.: STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116mscdt.dgn	
IPARM FILE NAME: sc116misdetails.i	PLOT DATE: 03-JAN-2002
DESIGNED BY: W.B. SYMONDS	DRAWN BY: D.A. ECKSTEIN
SQUAD LEADER: C.P. WILLIAMS	CHECKED BY: W.B. SYMONDS
MISCELLANEOUS DETAIL SHEET	SHEET: 68 OF 120

NOTE: WP = MSE WALL WORKING POINT ALONG FRONT FACE OF WALL.
ABUTMENT WORKING POINTS ARE NOT SHOWN ON THIS SHEET.





PLAN OF MECHANICALLY STABILIZED EARTH WALL @ ABUTMENT NO. 1

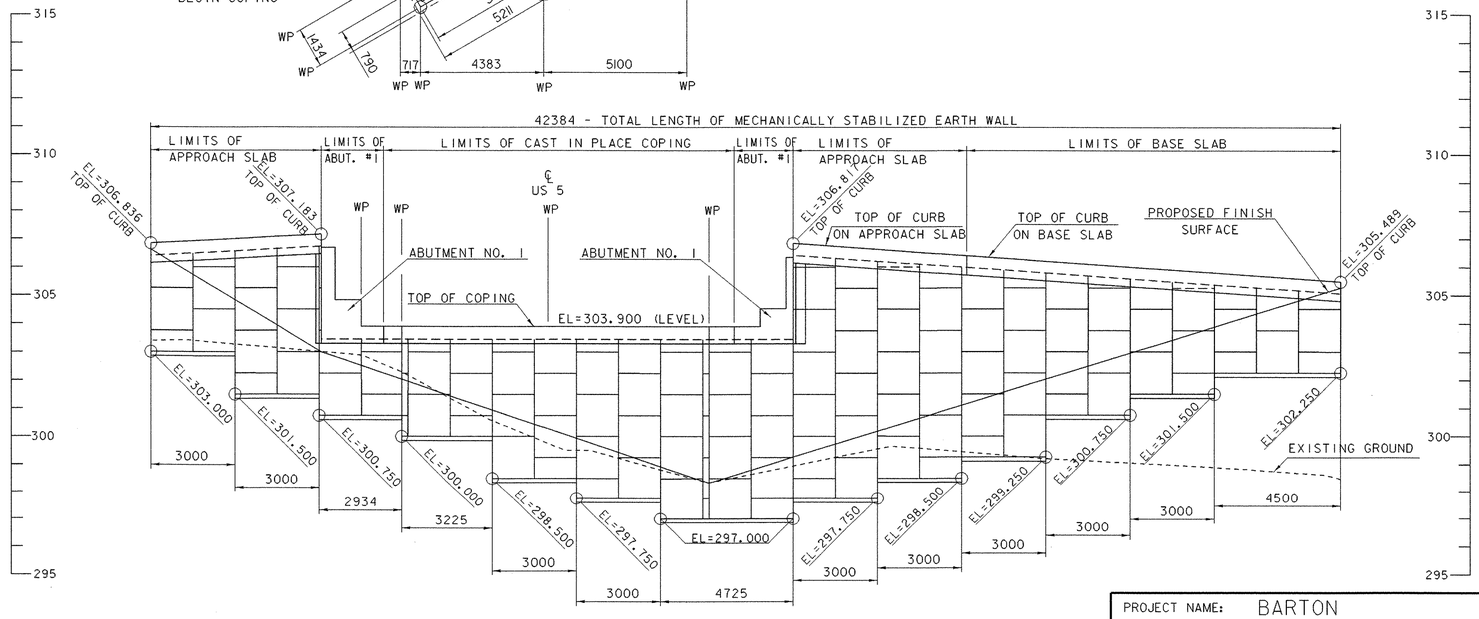
0 2 4 6 8 10
SCALE 1 : 100

NOTES

THE ELEVATIONS SHOWN ARE TO THE TOP OF THE LEVELING PAD AND THE BOTTOM OF THE MSE WALL. THE LEVELING PAD SHALL BE INSTALLED LEVEL.

MSE WALL PANELS ARE SHOWN NOMINALLY SIZED AT 1500 X 1500.

SLIP JOINTS ARE NOT SHOWN ON THE ELEVATION, BUT ARE REQUIRED AT ALL WALL INTERSECTIONS THAT FORM ANGLES. ADDITIONAL SLIP JOINTS SHALL BE PLACED AS REQUIRED BY THE MSE WALL SUPPLIER.



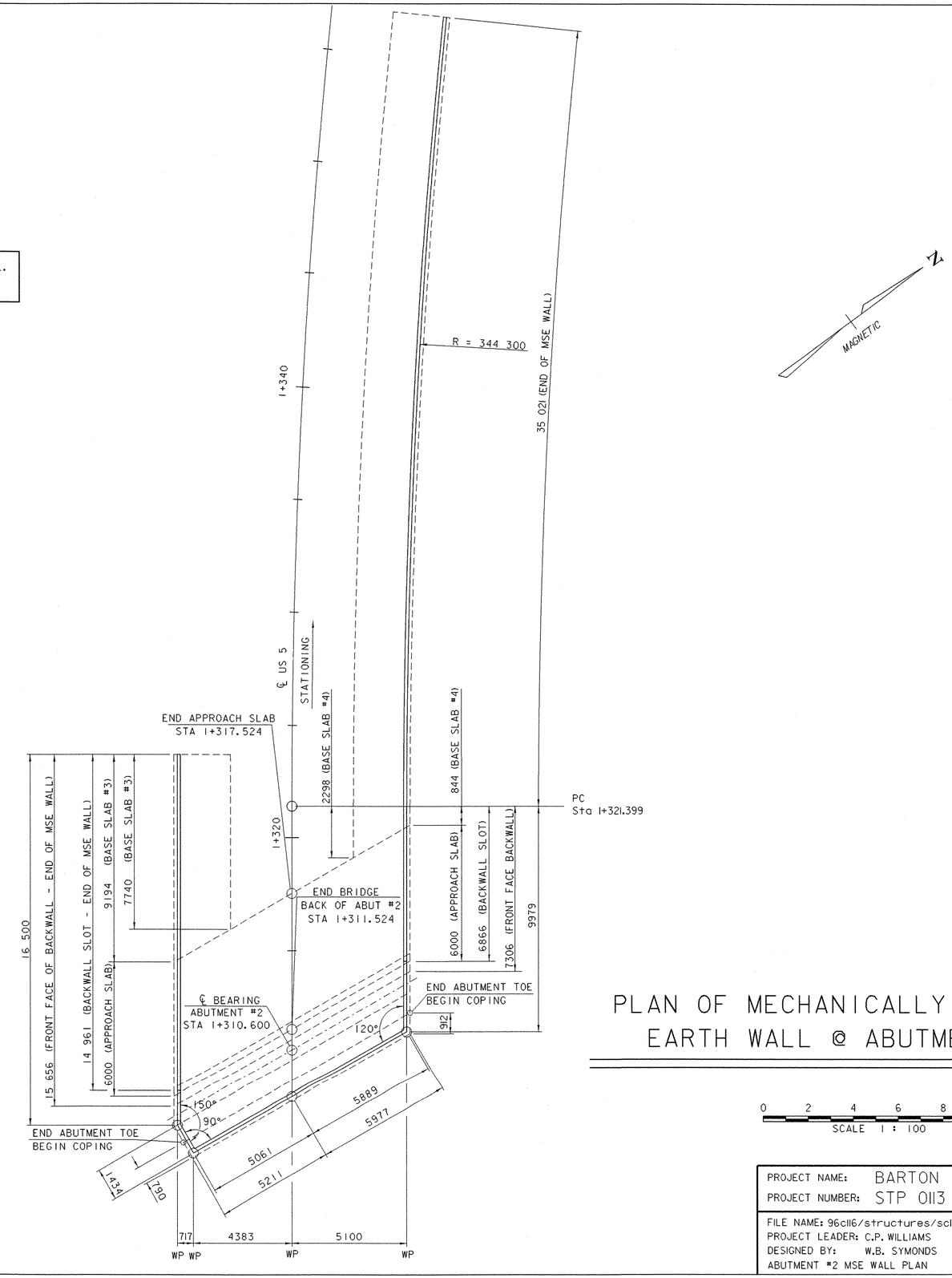
0 2 4 6 8 10
SCALE 1 : 100

ELEVATION ALONG FACE OF MECHANICALLY STABILIZED EARTH WALL @ ABUTMENT NO. 1

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113 (58) S

FILE NAME: 96cl16/structures/scl16msel.dgn PLOT DATE: 03-JAN-2002
PROJECT LEADER: C. P. WILLIAMS DRAWN BY: W.B. SYMONDS
DESIGNED BY: W. B. SYMONDS CHECKED BY: R.S. YOUNG
ABUTMENT #1 MSE WALL PLAN & ELEVATION SHEET 69 OF 120

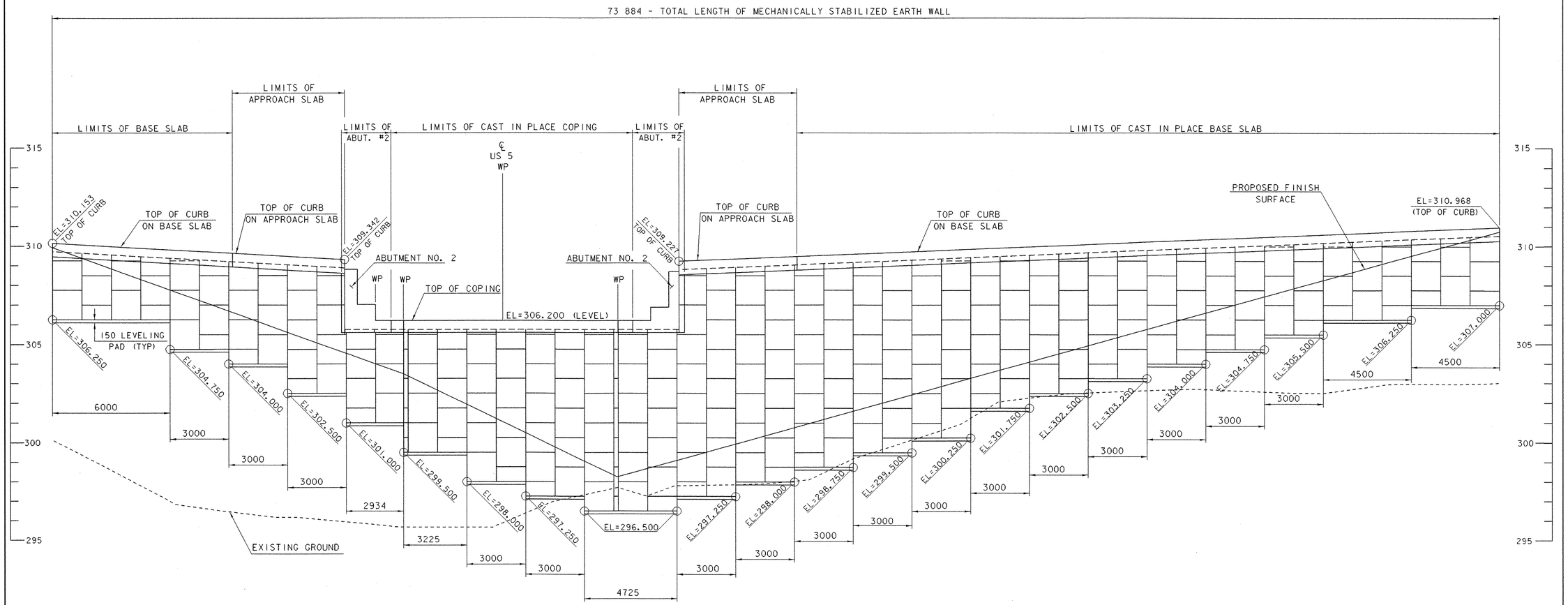
NOTE: WP = MSE WALL WORKING POINT ALONG FRONT FACE OF WALL.
ABUTMENT WORKING POINTS ARE NOT SHOWN ON THIS SHEET.



PLAN OF MECHANICALLY STABILIZED EARTH WALL @ ABUTMENT NO. 2

0 2 4 6 8 10
SCALE 1 : 100

PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58)S
FILE NAME: 96c116/structures/sc116mse	PLOT DATE: 03-JAN-2002
PROJECT LEADER: C.P. WILLIAMS	DRAWN BY:
DESIGNED BY: W.B. SYMONDS	CHECKED BY:
ABUTMENT #2 MSE WALL PLAN	SHEET 70 OF 120



NOTES

THE ELEVATIONS SHOWN ARE TO THE TOP OF THE LEVELING PAD AND THE BOTTOM OF THE MSE WALL. THE LEVELING PAD SHALL BE INSTALLED LEVEL.

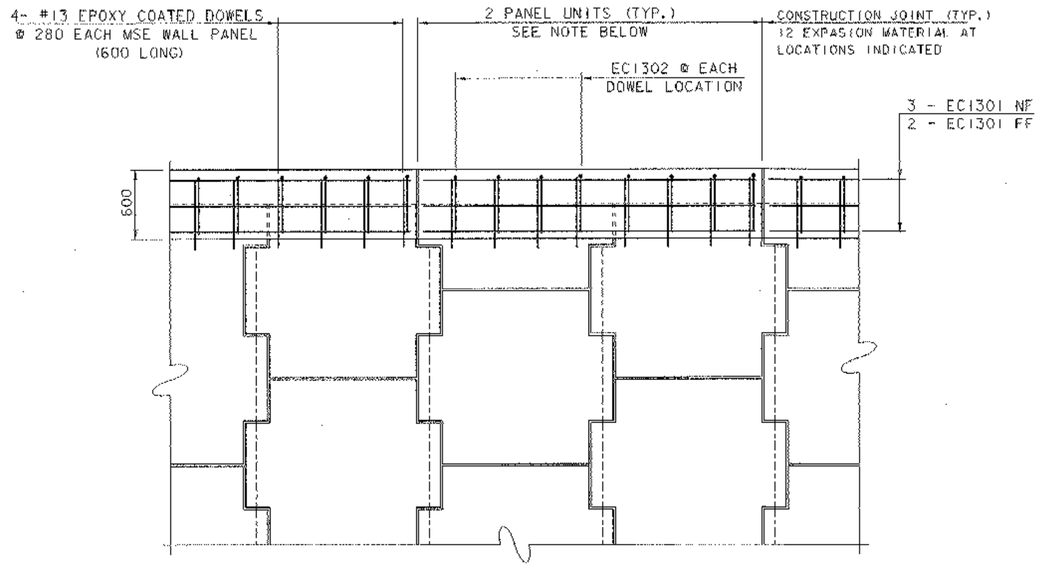
MSE WALL PANELS ARE SHOWN NOMINALLY SIZED AT 1500 X 1500.

SLIP JOINTS ARE NOT SHOWN ON THE ELEVATION, BUT ARE REQUIRED AT ALL WALL INTERSECTIONS THAT FORM ANGLES. ADDITIONAL SLIP JOINTS SHALL BE PLACED AS REQUIRED BY THE MSE WALL SUPPLIER.

ELEVATION ALONG FACE OF MECHANICALLY STABILIZED EARTH WALL @ ABUTMENT NO. 2

0 2 4 6 8 10
SCALE 1 : 100

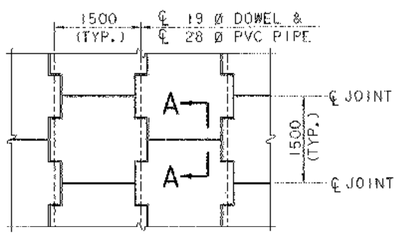
PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58) S
FILE NAME: /96cl16/structures/scl16ms	PLOT DATE: 03-JAN-2002
PROJECT LEADER: C.P. WILLIAMS	DRAWN BY: W.B. SYMONDS
DESIGNED BY: W.B. SYMONDS	CHECKED BY: R.S. YOUNG
ABUTMENT #2 MSE WALL ELEVATION	SHEET 71 OF 120



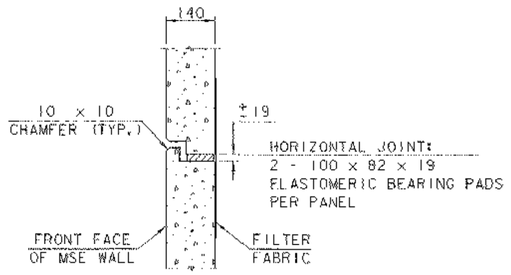
C.I.P. COPING
PARTIAL ELEVATION - FRONT FACE
NTS

NOTE:

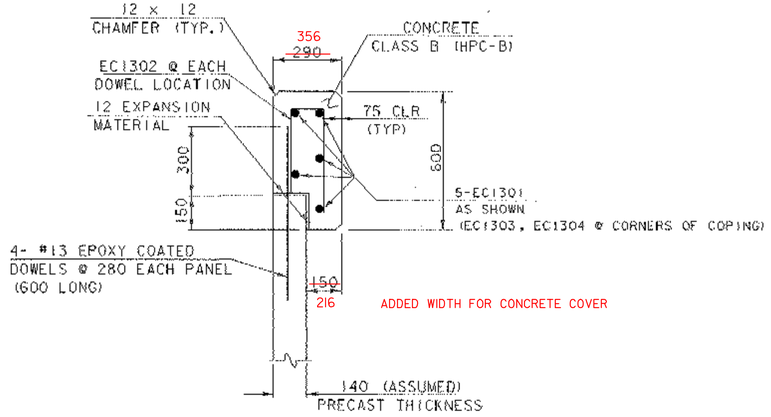
JOINTS IN COPING SHALL BE AT 2 PANEL INTERVALS AND COINCIDE APPROXIMATELY WITH PANEL JOINTS. REINFORCING STEEL SHALL BE STOPPED 75 SHORT OF EITHER SIDE OF THE CONSTRUCTION AND EXPANSION JOINTS. COMPRESSIBLE CORK BOND BREAKER MATERIAL SHALL BE PLACED BETWEEN THE PANELS AND THE COPING TO PREVENT CRACKING.



TYPICAL PANEL LAYOUT
PARTIAL ELEVATION - FRONT FACE
NTS



SECTION A - A
NTS



C.I.P. CONCRETE COPING
NTS

NOTES:

1. THE #13 DOWELS SHALL BE CAST INTO THE PRECAST MSE WALL PANELS. THE DOWELS SHALL BE GRADE 420 EPOXY COATED REINFORCING STEEL.

2. THE CONTRACTOR SHALL EXERCISE CARE NOT TO STAIN THE MSE WALL PANELS WHEN PLACING CAST-IN-PLACE CONCRETE. ANY STAINING AS A RESULT OF CONCRETE PLACEMENT SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE.

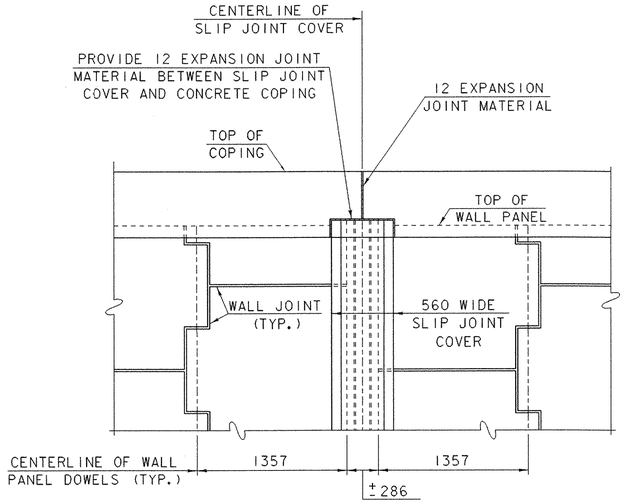
3. THE DRILLING OF HOLES IN THE PRECAST MSE WALL PANELS FOR THE PURPOSE OF FORMING SHALL NOT BE ALLOWED.

ARCHIVED ON CADD

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113(58)S

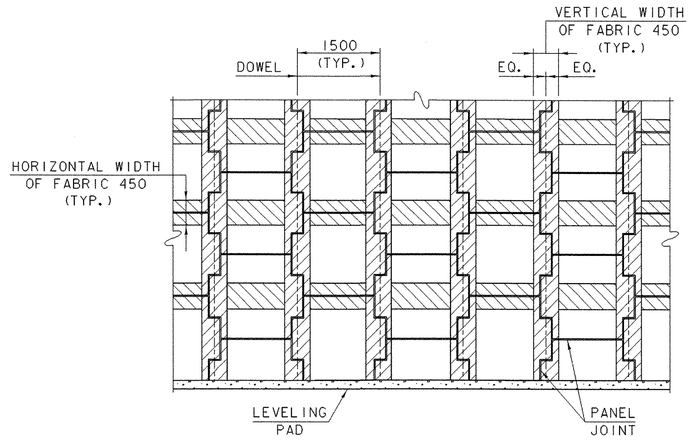
FILE NAME: 96cl16/structures/scl16mse.dgn
IPARM NAME: scl16mse_detl.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
MSE WALL DETAILS

PLOT DATE: 03-JAN-2002
DRAWN BY: W.B. SYMONDS
CHECKED BY: R.S. YOUNG
SHEET 72 OF 120



COPING OVER SLIP JOINT COVER
PARTIAL ELEVATION - FRONT FACE

NTS



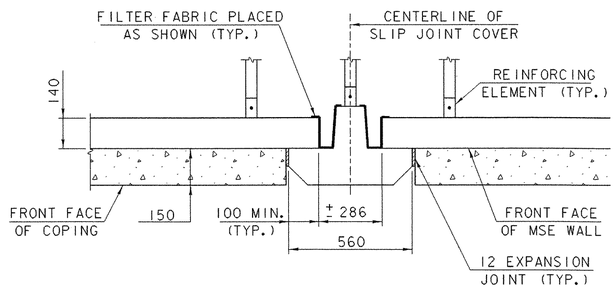
FILTER FABRIC DETAIL
PARTIAL ELEVATION - BACK FACE

NTS

NOTE:

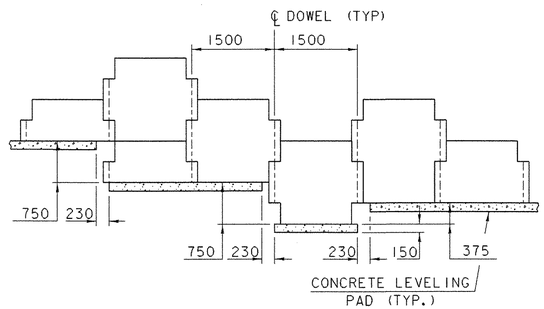
STRIPS OF FILTER FABRIC, MEETING VAOT STANDARD SPECIFICATION 720 FOR GEOTEXTILE UNDER STONE FILL, SHALL BE PLACED ON BACK FACE OF PANEL OVER PANEL JOINTS. FILTER CLOTH SHALL BE ADHERED TO BACK FACE OF PANELS USING AN ADHESIVE COMPOUND SUPPLIED BY THE MANUFACTURER AND APPROVED BY THE PROJECT MANAGER.

THE CONTRACTOR SHALL PROVIDE THE RESIDENT ENGINEER WITH THE MANUFACTURERS TECHNICAL DATA SHEET AND APPLICATION INSTRUCTIONS FOR THE ADHESIVE COMPOUND.



SLIP JOINT COVER PLAN DETAIL

NTS



TYPICAL LEVELING PAD STEP DETAIL

NTS

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113(58)S

FILE NAME:96c116/structures/sc116msel.dgn
IPARM NAME: sc116mse_det2.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
MSE WALL DETAILS

PLOT DATE: 03-JAN-2002
DRAWN BY: W.B. SYMONDS
CHECKED BY: R.S. YOUNG
SHEET 73 OF 120

MECHANICALLY STABILIZIED EARTH WALL NOTES

WALL DESIGN

1. FINAL DRAWINGS SHOWING PROPOSED PANEL SIZE, THE REQUIRED NUMBER OF REINFORCEMENT ELEMENTS PER PANEL, THE REINFORCEMENT ELEMENT LENGTHS, REINFORCEMENT ELEMENT LAYOUT, CONCRETE PANEL REINFORCEMENT DETAILS, PANEL TIE-IN DETAILS WITH COPING AND LEVELING PAD SHALL ALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE PROJECT MANAGER FOR APRROVAL. ALL MATERIALS WITHIN THE MECHANICALLY STABILIZED EARTH (MSE) VOLUME, METHODS OF CONSTRUCTION, AND THE QUALITY OF PREFABRICATED MATERIALS SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISIONS FOR THIS PROJECT.

2. DESIGN CRITERIA:

SOIL PARAMETERS FOR DESIGN OF MSE WALLS:

MATERIAL GRANULAR BORROW - VAOT SPECIFICATIONS SECTION 703.04
EXISTING IN-SITU SOILS - SILTY SANDS AND SANDY GRAVELS

ALLOWABLE BEARING CAPACITIES, qa:	330 kPa
DENSITY:	19.6 kN/m^3
INTERNAL SOIL FRICTION ANGLE, :	32°
COEFFICIENT OF FRICTION, f:	
SOIL AGAINST FORMED CONCRETE:	0.30
CONCRETE CAST AGAINST SOIL:	0.40
FACTOR OF SAFETY AGAINST OVERTURNING:	2.0
FACTOR OF SAFETY AGAINST SLIDING:	1.5
ACTIVE EARTH PRESSURE COEFFICIENT, Ka:	0.31

SELECT FILL MATERIAL FOR MSE WALLS AND ABUTMENTS:

ALLOWABLE BEARING CAPACITIES, qa:	200 kPa
DENSITY:	22.0 kN/m^3
INTERNAL SOIL FRICTION ANGLE, :	34°
COEFFICIENT OF FRICTION, f:	
SOIL AGAINST FORMED CONCRETE:	0.35
CONCRETE CAST AGAINST SOIL:	0.45
FACTOR OF SAFETY AGAINST OVERTURNING:	2.0
FACTOR OF SAFETY AGAINST SLIDING:	1.5
ACTIVE EARTH PRESSURE COEFFICIENT, Ka:	0.28

ROADWAY EMBANKMENTS/APPROACH EMBANKMENTS:

DENSITY:	18.8 kN/m^3
INTERNAL SOIL FRICTION ANGLE, :	30°
COEFFICIENT OF FRICTION, f:	
SOIL AGAINST FORMED CONCRETE:	0.30
CONCRETE CAST AGAINST SOIL:	0.40
FACTOR OF SAFETY AGAINST OVERTURNING:	2.0
FACTOR OF SAFETY AGAINST SLIDING:	1.5
ACTIVE EARTH PRESSURE COEFFICIENT, Ka:	0.33

ABUTMENT DESIGN LOADS (PER METER ALONG WALL) :

VERTICAL LOADS

DEAD LOAD FROM SUPERSTRUCTURE:	171.00 kN/M
DEAD LOAD FROM APPROACH SLAB:	27.56 kN/M
LIVE LOAD FROM SUPERSTRUCTURE:	61.34 kN/M

HORIZONTAL LOADS

LONGITUDINAL FORCES:	2.34 kN/M
WIND ON STRUCTURE:	4.05 kN/M
WIND ON LIVE LOAD:	5.13 kN/M
R+S+T:	15.57 kN/M

(NOTE: THE HORIZONATAL FORCES ACT PERPENDICULAR TO THE AXIS OF THE ABUTMENT CENTERLINE OF BEARING)

MSE WALL LOADS:

HORIZONTAL BRIDGE RAILING LOADS:	45 kN/M @ 850 ABOVE PAVEMENT SURFACE
VERTICAL LIVE LOAD SURCHARGE:	44.00 kN/M^2
ABUTMENT TOE PRESSURE:	194.29 kN/M^2
ABUTMENT HEEL PRESSURE:	90.66 kN/M^2

3. ANY UNSUITABLE FOUNDATION MATERIAL BELOW THE MSE VOLUME, AS DETERMINED BY THE ENGINEER, SHALL BE EXCAVATED AND REPLACED WITH GRANULAR BORROW OR OTHERWISE STABILIZED AS DIRECTED BY THE ENGINEER.

WALL CONSTRUCTION

4. BACKFILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR MSE WALLS TO A LEVEL OF THE CENTER OF THE REINFORCEMENT ELEMENT CONNECTIONS +/- 50. INSTALLATION OF REINFORCING ELEMENTS SHALL BE PERMITTED ONLY AFTER PLACEMENT AND COMPACTION OF THE BACKFILL MATERIAL HAS REACHED THE REQUIRED LEVEL.

5. BACKFILL COMPACTION AND EQUIPMENT OPERATION SHALL BE KEPT TO A MINIMUM FOR A DISTANCE OF 1 METER FROM THE BACK FACE OF THE MSE PANELS. COMPACTION WITHIN 1 METER OF THE PANELS SHALL BE ACHIEVED WITH A MINIMUM OF THREE PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, ROLLER OR VIBRATORY SYSTEM.

6. THE CONTRACTOR SHALL ACCOMMODATE ANY PIPES, GEOMEMBRANE LINER, DRAINAGE STRUCTURES, FOUNDATIONS, AND ANY OTHER SUCH APPURTENANCES THAT ARE WITHIN THE DESIGNED MSE VOLUME.

7. TOP PANELS SHALL HAVE #13 DOWELS PROTRUDING FROM THE TOP EDGE INTO THE CAST IN PLACE COPING ONLY. THE DOWELS SHALL BE CAST INTEGRALLY WITH THE TOP PANELS. THE COST OF THE DOWELS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE ITEM 526.30 "MECHANICALLY STABILIZED EARTH (MSE) WALL".

8. THE CONTRACTOR IS RESPONSIBLE FOR GRADUALLY DEFLECTING UPPER REINFORCING ELEMENTS DOWNWARD TO AVOID CONFLICTS WITH APPROACH SLABS AND/OR BASE SLAB SUBGRADE PREPARATION. THE CONTRACTOR'S ATTENTION IS DIRECTED ESPECIALLY TO THE EFFECTS OF SUPERELEVATION.

9. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING THE STORM WATER DRAINAGE IN THE VICINITY OF THE WALL DURING CONSTRUCTION. STORM WATER RUNOFF IS TO BE COLLECTED AND DISCHARGED AWAY FROM THE WALL AND THE REINFORCED BACKFILL.

10. THE REQUIRED HORIZONTAL LIMIT OF SELECT GRANULAR BACKFILL SHALL EXCEED THE NOMINAL REINFORCEMENT ELEMENT LENGTH BY 300.

MATERIAL NOTES

11. THE SELECT GRANULAR BACKFILL QUANTITY SHALL BE CALCULATED FOR BIDDING AND PAYMENT PURPOSES BY MULTIPLYING THE NOMINAL REINFORCEMENT LENGTH (PLUS 300) BY THE TRIBUTARY WALL SURFACE AREA AND CONVERTING THE RESULT TO A NEATLINE CUBIC METER QUANTITY.

12. THE PRECAST PANELS FOR THIS PROJECT SHALL HAVE AN ASHLAR STONE PATTERN APPROVED BY THE PROJECT MANAGER. THE CONCRETE SHALL BE COLORED IN ACCORDANCE WITH AN APPROVED SUBMITTAL FOR THE CONCRETE PANELS. SEE SPECIAL PROVISIONS.

13. CONCRETE FOR BOTH THE CAST-IN-PLACE COPING AND THE LEVELING PAD SHALL BE CONCRETE CLASS B (HPC-B). CONCRETE FOR THE COPING SHALL BE PAID FOR UNDER THE ITEM 501.25 "CONCRETE, CLASS B (HPC-B)". REINFORCEMENT IN THE COPING SHALL BE PAID FOR UNDER THE ITEM 507.17 "EPOXY COATED REINFORCING STEEL". THE COST OF MATERIALS AND INSTALLATION OF THE LEVELING PADS SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 526.30, " MECHANICALLY STABILIZED EARTH (MSE) WALL".

NOTE TO CONTRACTORS

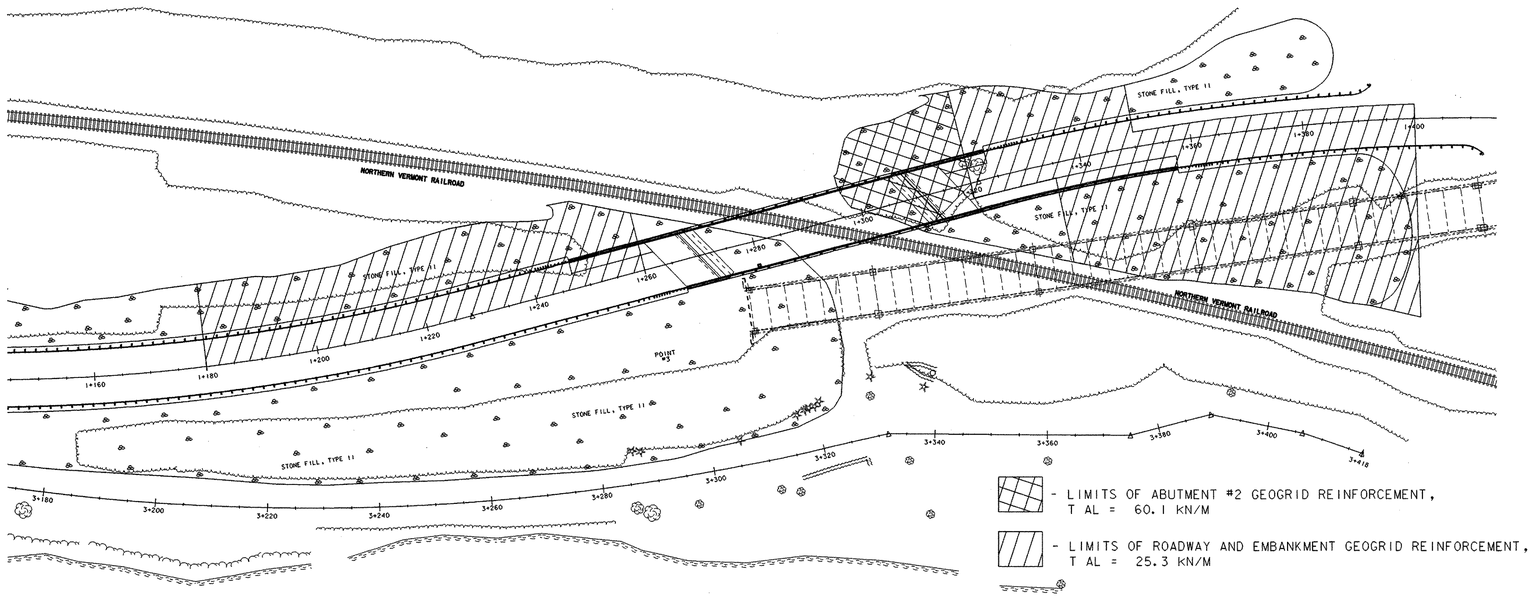
14. THE FOLLOWING MATERIALS SHALL BE SUPPLIED BY THE MSE WALL SYSTEM MANUFACTURER UNDER THE ITEM 526.30 "MECHANICALLY STABILIZED EARTH (MSE) WALL".

PRECAST CONCRETE FACING PANELS
REINFORCING ELEMENTS
ANY NECESSARY HARDWARE FOR ATTACHING PRECAST PANELS TO REINFORCING ELEMENTS
BEARING BLOCKS
RUBBER SHIMS
FILTER FABRIC AND ADHESIVE FOR PANEL JOINTS

15. OTHER MSE WALL MATERIALS SPECIFIED IN THE CONTRACT PLANS SHALL BE SUPPLIED BY THE CONTRACTOR. THIS MAY INCLUDE, BUT IS NOT LIMITED TO, ANY JOINT MATERIAL SHOWN AT THE INTERFACE OF PRECAST PANELS AND CAST-IN-PLACE CONCRETE ELEMENTS, SANDBLASTING, SEALERS OR OTHER SPECIAL APPLIED COATINGS.

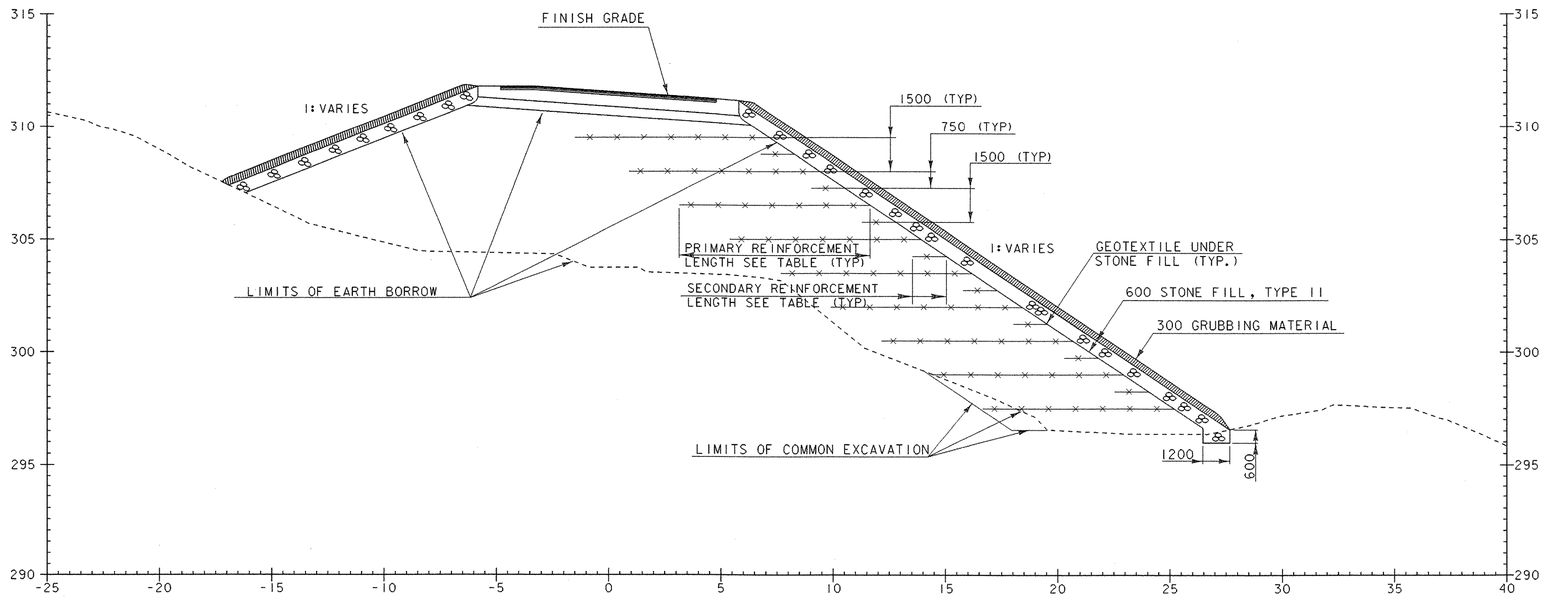
16. THE MSE WALL SYSTEM MANUFACTURER SHALL BE RESPONSIBLE FOR DESIGNING AND DETAILING ANY NECCESSARY ATTACHMENTS OR REINFORCEMENTS AROUND THE CAST-IN-PLACE DROP INLET AT STATION 1+316.000. SEE PIPE PROFILE SHEET 44. THE COST OF DESIGNING, DETAILING, SUPPLY AND INSTALLATION OF THE MODIFIED REINFORCEMENT WILL BE CONSIDERED INCIDENTAL TO THE ITEM 526.30 "MECHANICALLY STABILIZED EARTH (MSE) WALL".

PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113(58)S
FILE NAME:	96c116/structures/sc116mse.dgn
PLOT DATE:	03-JAN-2002
IPARM NAME:	sc116mse_note.i
DRAWN BY:	D.A. ECKSTEIN
PROJECT LEADER:	C.P. WILLIAMS
CHECKED BY:	W.B. SYMONDS
DESIGNED BY:	W.B. SYMONDS
SHEET	74 OF 120
MSE WALL NOTES	



PLAN VIEW - LIMITS OF GEOGRID REINFORCEMENT

NOT TO SCALE



TYPICAL REINFORCED SOIL SLOPE X-SECTION

NOT TO SCALE

REINFORCED SOIL SLOPE GENERAL CONSTRUCTION NOTES:

1. HANDLING AND STORAGE

UPON DELIVERY AT THE SITE, ALL GEOGRID MATERIALS SHALL BE INSPECTED TO ENSURE PROPER MATERIAL STRENGTHS. A PRODUCT CERTIFICATION SHOULD BE PROVIDED WITH EACH SHIPMENT STATING THAT THE MATERIAL CONFORMS TO PRODUCT SPECIFICATIONS PUBLISHED BY THE SUPPLIER. SEE SPECIAL PROVISIONS SECTION 612 FOR MORE INFORMATION.

2. GEOGRID PLACEMENT

PRIOR TO PLACING THE REINFORCEMENT, THE EXCAVATION SHALL BE CLEANED OF ALL EXCESS MATERIAL AND THE FOUNDATION BASE PROOFROLLED. THE GEOGRID STRIPS MUST BE PLACED PERPENDICULAR TO THE SLOPE FACE. THE GEOGRID STRIPS MUST EXTEND BACK FROM THE SLOPE FACE TO THE DISTANCE SPECIFIED ON THE STABILIZED SLOPE CROSS-SECTION. GEOGRID STRIPS MUST BE PLACED AT THE ELEVATIONS SHOWN ON THE STABILIZED SLOPE PROFILE. GEOGRIDS CAN BE PLACED DIRECTLY ON THE EXISTING FILL SURFACE. NO SPECIAL SURFACE TREATMENT, LEVELING OR SMOOTHING IS REQUIRED. AFTER BEING ROLLED OUT, THE GEOGRID SHOULD BE TENSIONED BY HAND UNTIL TAUT, FREE OF WRINKLES, AND LYING FLAT. ADJACENT GEOGRID STRIPS SHOULD BE BUTTED TOGETHER SIDE-BY-SIDE WITHOUT OVERLAP. INDIVIDUAL LAYERS OF GEOGRID SHALL BE PLACED LEVEL AND TERMINATED AS THEY "DAY LIGHT" TO THE PROPOSED GRADES.

3. FILL PLACEMENT AND COMPACTION

FILL CAN BE PLACED AND SPREAD DIRECTLY UPON THE GEOGRIDS. EXTREME CARE SHOULD BE TAKEN TO PREVENT WRINKLES AND/OR SLIPPAGE OF GEOGRID DURING FILL PLACEMENT AND SPREADING. WHEN PRACTICAL, FILL IS TO BE PLACED IN THE DIRECTION IN WHICH THE GEOGRID WAS LAID OUT, TO AID TENSIONING. HOWEVER, IF FILL MUST BE PLACED TRANSVERSE TO THE ROLL LENGTH, SLIGHT (100) OVERLAPS BETWEEN ROLL WIDTHS WITH THE TOP PIECE OF GEOGRID BEING THE FIRST TO RECEIVE FILL, WILL PREVENT PERMANENT FOLDING OF REINFORCEMENT. RUBBER-TIRED EQUIPMENT ARE ALLOWED TO PASS OVER BARE GEOGRID AT SLOW SPEEDS (LESS THAN 10 KPH) AND WITHOUT SUDDEN BRAKING. TRACK EQUIPMENT SHOULD NEVER BE ALLOWED ONTO BARE REINFORCEMENT. THERE MUST BE A MINIMUM OF 150 OF FILL ON TOP OF THE GEOGRID BEFORE TRACKED EQUIPMENT CAN BE OPERATED. EACH FILL LIFT SHALL BE COMPACTED TO 95% OF AASHTO T-99.

4. LIMITS OF GEOGRID REINFORCEMENT

THE PURPOSE OF THE GEOGRID IS TO REINFORCE THE NEW EMBANKMENT FILLS. THE PROPOSED EMBANKMENTS SHALL BE REINFORCED TO THE LIMITS ABOVE AND SHOWN IN THE SECTIONS OR AS ORDERED BY THE ENGINEER.

5. PAYMENT

PAYMENT FOR ABUTMENT #2 GEOGRID WITH UNIAXIAL T AL=60.1 KN/M SHALL BE MADE UNDER THE ITEM 612.20 "REINFORCED SOIL SLOPE (MOD 1)". PAYMENT FOR ROADWAY AND EMBANKMENT GEOGRID WITH UNIAXIAL T AL=25.3 KN/M SHALL BE MADE UNDER THE ITEM 612.20 "REINFORCED SOIL SLOPE (MOD 2)".

EMBANKMENT REINFORCED SOIL SLOPE SCHEDULE

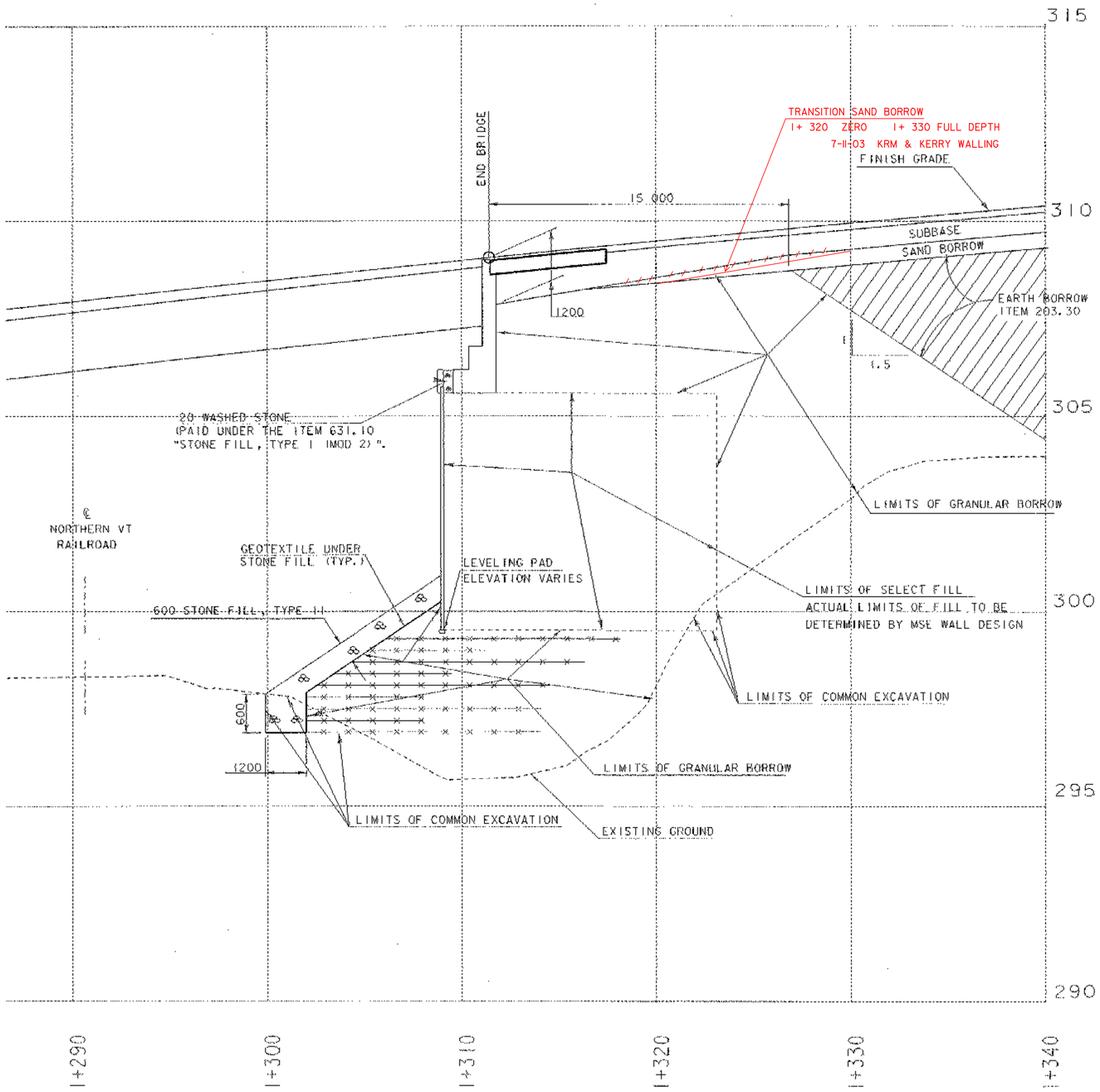
P = PRIMARY REINF. S = SECONDARY REINF.

STATION	SIDESLOPE	LENGTH P (S) (m)	BOTTOM ELEVATION (LAYER TYPE) (m)
1+180	LEFT	2.0 (1.5)	294.50 (P)
1+190	LEFT	3.0 (1.5)	295.25 (S)
1+200	LEFT	4.5 (1.5)	296.75 (S)
1+210	LEFT	4.5 (1.5)	296.75 (S)
1+220	LEFT	4.5 (1.5)	296.75 (P)
1+230	LEFT	4.5 (1.5)	297.50 (P)
1+240	LEFT	4.5 (1.5)	298.25 (S)
1+250	LEFT	4.5 (1.5)	299.00 (P)
1+260	LEFT	4.5 (1.5)	298.25 (S)
1+320	LEFT	8.5 (8.5)	299.00 (P)
1+330	LEFT	4.5 (1.5)	303.50 (P)
1+335	RIGHT	8.5 (1.5)	298.25 (S)
1+340	LEFT	4.5 (1.5)	307.25 (S)
1+340	RIGHT	8.5 (1.5)	298.25 (S)
1+350	LEFT	4.5 (1.5)	308.75 (S)
1+350	RIGHT	8.5 (1.5)	298.25 (S)
1+360	RIGHT	8.5 (1.5)	297.50 (P)
1+370	RIGHT	8.5 (1.5)	296.75 (S)
1+380	RIGHT	8.5 (1.5)	296.00 (P)
1+390	RIGHT	8.5 (1.5)	296.00 (P)
1+400	RIGHT	4.5 (1.5)	299.75 (S)

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113 (58)S

FILE NAME: 96c116/STRUCTURES/sc116geo.dgn
IPARM NAME: 96c116/STRUCTURES/sc116rssl.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: C.A. ALLEN
REINFORCED SOIL SLOPE DETAILS

PLOT DATE: 03-JAN-2002
DRAWN BY: C.A. ALLEN
CHECKED BY: W.B. SYMONDS
SHEET 75 OF 120



ABUTMENT 2 EARTH WORK TYPICAL SECTION

NOT TO SCALE

REINFORCED SOIL SLOPE MATERIAL NOTES:

1. THE GEOGRID USED IN THE REINFORCED SOIL SLOPE SHALL BE COMPOSED OF HIGH TENACITY POLYESTER, HIGH DENSITY POLYETHYLENE, OR HIGH DENSITY POLYPROPYLENE. ALL GEOGRID REINFORCEMENT SHALL HAVE UNIAXIAL DESIGN STRENGTH WITH THE PRIMARY AXIS PLACED PERPENDICULAR TO THE FACE OF THE REINFORCED SOIL SLOPE.

2. THE GEOGRID SHALL BE RESISTANT TO ULTRAVIOLET DEGRADATION. INERT TO BIOLOGICAL DEGRADATION AND RESISTANT TO NATURALY ENCOUNTERED CHEMICALS.

3. THE ROADWAY AND EMBANKMENT GEOGRID SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT AND SHALL MEET THE FOLLOWING REQUIREMENTS:

PROPERTY	REQUIREMENT	TEST METHOD
LONG TERM STRENGTH AT 10% STRAIN	25.3 KN/M (MIN.)	GRI-GG4
PULLOUT RESISTANCE FACTOR (F*)	0.46 (MIN.)	GRI-GG5

4. THE ABUTMENT #2 GEOGRID SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT AND SHALL MEET THE FOLLOWING REQUIREMENTS:

PROPERTY	REQUIREMENT	TEST METHOD
LONG TERM STRENGTH AT 10% STRAIN	60.1 KN/M (MIN.)	GRI-GG4
PULLOUT RESISTANCE FACTOR (F*)	0.46 (MIN.)	GRI-GG5

THE TOTAL LONG TERM STRENGTH (T AL) SHALL BE DETERMINED BY USING THE FOLLOWING FORMULA:

$$T_{AL} = \frac{T_{ULT}}{RFD * RFID * RFCR}$$

WHERE T ULT = THE ULTIMATE (OR YIELD) TENSILE STRENGTH FROM TENSILE STRENGTH TESTS, TESTED IN ACCORDANCE WITH GRI-GG1 AND BASED ON THE MINIMUM AVERAGE ROLL VALUE (MARV) FOR THE PRODUCT.

RFD = THE DURABILTY REDUCTION FACTOR - PRODUCT OF THE PARTIAL SAFETY FACTORS FOR THE BIOLOGICAL AND CHEMICAL DEGRADATION OF THE GEOSYNTHETIC AND THE JOINT SEAM STRENGTH OF THE GEOGRID. (1.1 MIN.)

RFID = THE INSTALLATION DAMAGE REDUCTION FACTOR AS DETERMINED IN ACCORDANCE WITH ASTM D 5818 (MINIMUM VALUE = 1.1)

RFCR = THE CREEP REDUCTION FACTOR AS DETERMINED IN ACCORDANCE WITH ASTM D 5262; BASED ON A 100 YEAR DESIGN LIFE.

REDUCTION FACTORS ARE TO BE PROVIDED BY THE MANUFACTURER AS A DIRECT RESULT OF TESTS PERFORMED IN ACCORDANCE WITH EACH TEST'S CORRESPONDING SPECIFICATION.

5. GRANULAR BORROW SHALL BE USED AS THE EMBANKMENT BACKFILL MATERIAL WHEN THE REINFORCED SOIL SLOPES ARE TO BE LOCATED UNDER OR IN FRONT OF MSE WALLS. EARTH BORROW SHALL BE USED AS THE EMBANKMENT BACKFILL MATERIAL IN ALL OTHER LOCATIONS.

6. THE GEOGRID SHALL BE PLACED AROUND DRAINAGE ELEMENTS AND ANY OTHER UTILITY COMPONENTS IN A MANNER THAT WILL MINIMIZE WRINKLING. A MINIMUM NUMBER OF GEOGRID ELEMENTS SHALL BE CUT TO LOCATE THE DRAINAGE ELEMENTS. EXCAVATION IN PREVIOUSLY BACKFILLED REINFORCED ZONES TO PLACE DRAINAGE ELEMENTS WILL NOT BE PERMITTED.

7. THE LENGTH OF THE GEOGRID AS SPECIFIED SHALL BE MEASURED FROM THE BACK FACE OF THE STONE FILL.

ABUTMENT NO. 2
REINFORCED SOIL SLOPE LAYOUT SCHEDULE

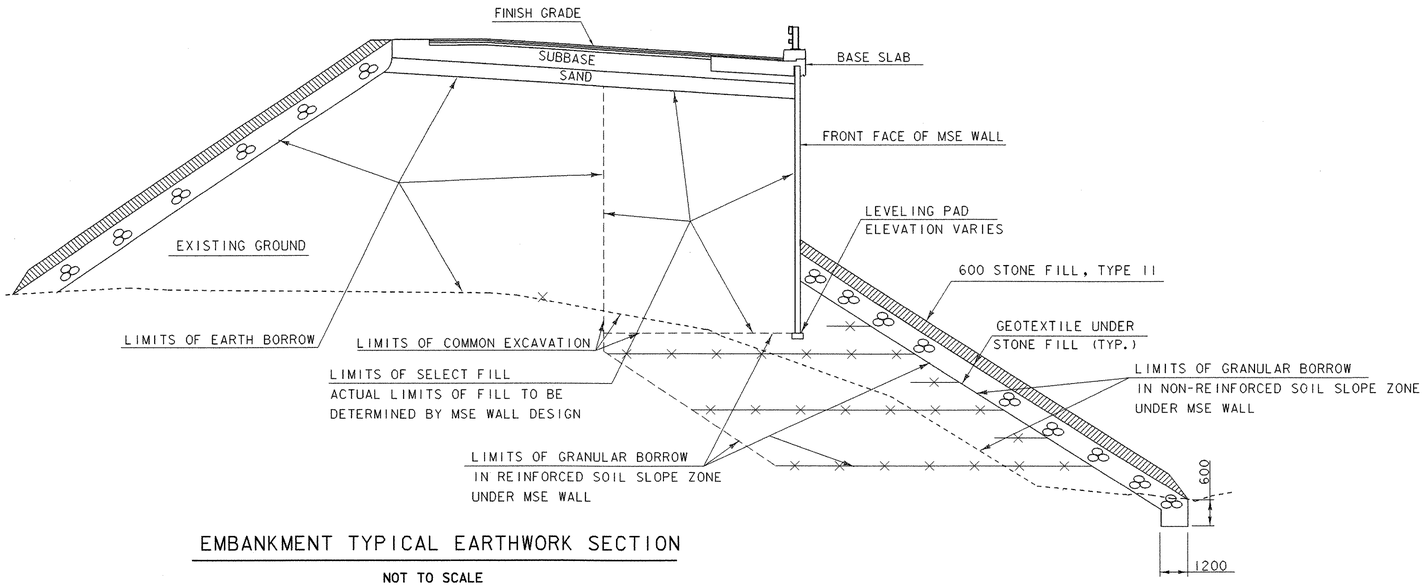
LAYER NO.	ELEVATION	LENGTH
1	296.900	12 000
2	297.200	6000
3	297.500	12 000
4	297.800	6000
5	298.100	12 000
6	298.400	6000
7	298.700	12 000
8	299.000	6000
9	299.300	12 000

ARCHIVED ON CADD

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113 (58)S

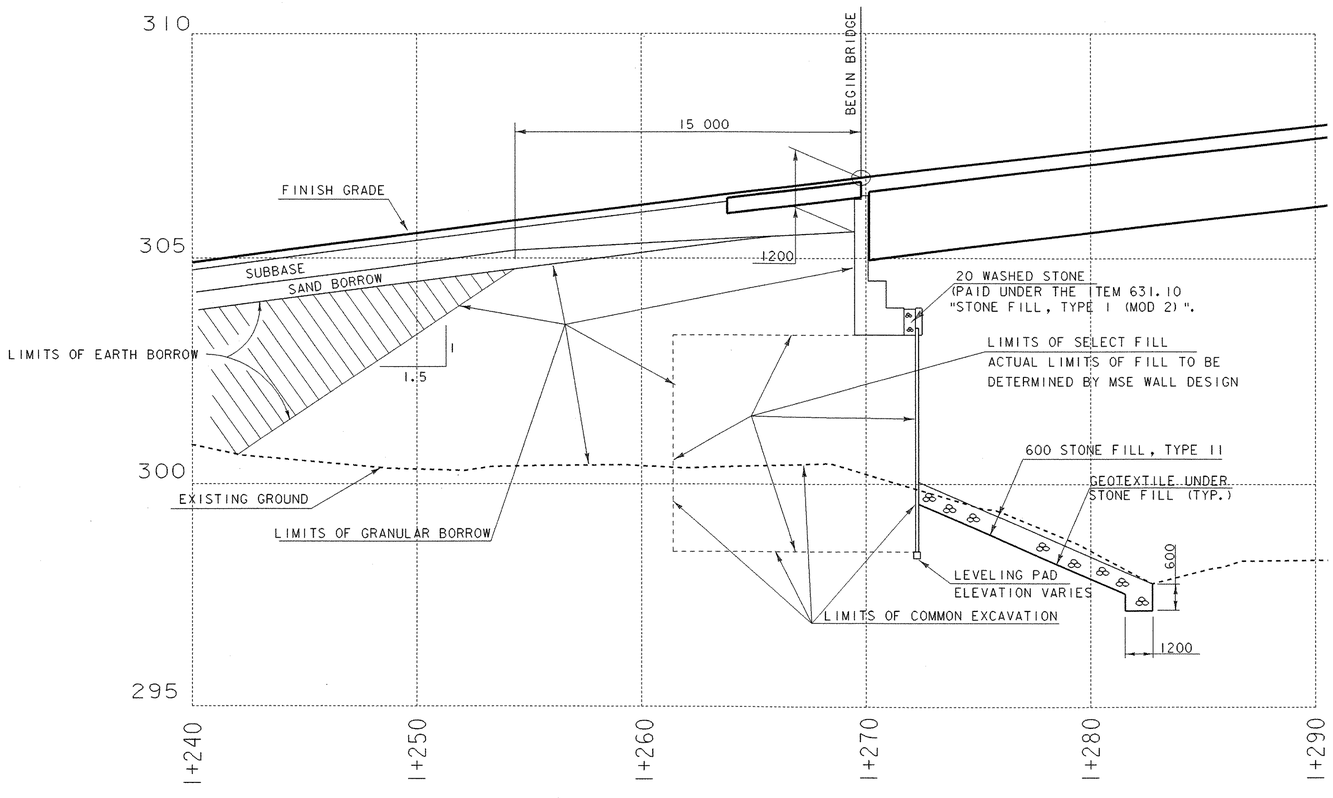
FILE NAME: 96c116/STRUCTURES/sc116geo.dgn
IPARM NAME: 96c116/STRUCTURES/sc116sa2.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: C.A. ALLEN
REINFORCED SOIL SLOPE DETAILS

PLOT DATE: 03-JAN-2002
DRAWN BY: C.A. ALLEN
CHECKED BY: W.B. SYMONDS
SHEET 76 OF 120



EMBANKMENT TYPICAL EARTHWORK SECTION

NOT TO SCALE



ABUTMENT 1 EARTH WORK TYPICAL SECTION

NOT TO SCALE

PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58)S
FILE NAME: 96c116/STRUCTURES/sc116geo.dgn	PLOT DATE: 03-JAN-2002
IPARM NAME: 96c116/STRUCTURES/sc116ew1.i	DRAWN BY: C.A. ALLEN
PROJECT LEADER: C.P. WILLIAMS	CHECKED BY: W.B. SYMONDS
DESIGNED BY: C.A. ALLEN	SHEET 77 OF 120
EARTHWORK TYPICAL SECTIONS	

Not Metric

HEAVY DUTY STEEL BEAM GUARDRAIL
Sta 1+115.300 LT - Sta 1+238.400 LT
1+ 101.4 Sta ~~1+087.100~~ RT - Sta 1+257.600 RT
Sta 1+332.500 LT - Sta ~~1+392.500~~ LT 1+ 405.5
Sta 1+366.000 RT - Sta ~~1+412.300~~ RT 1+ 431.4
1+ 055 Sta ~~1+058.100~~ RT - Sta 3+150.000 RT

GUARD RAIL APPROACH SECTION, NETC 2 RAIL ✓
Sta 1+238.400 LT - Sta 1+247.300 LT
Sta 1+257.600 RT - Sta 1+266.500 RT
Sta 1+323.700 LT - Sta 1+332.500 LT
Sta 1+356.900 RT - Sta 1+366.000 RT

BRIDGE RAILING-NETC 2 RAIL ✓
Sta 1+247.300 LT - Sta 1+323.700 LT
Sta 1+266.500 RT - Sta 1+356.900 RT

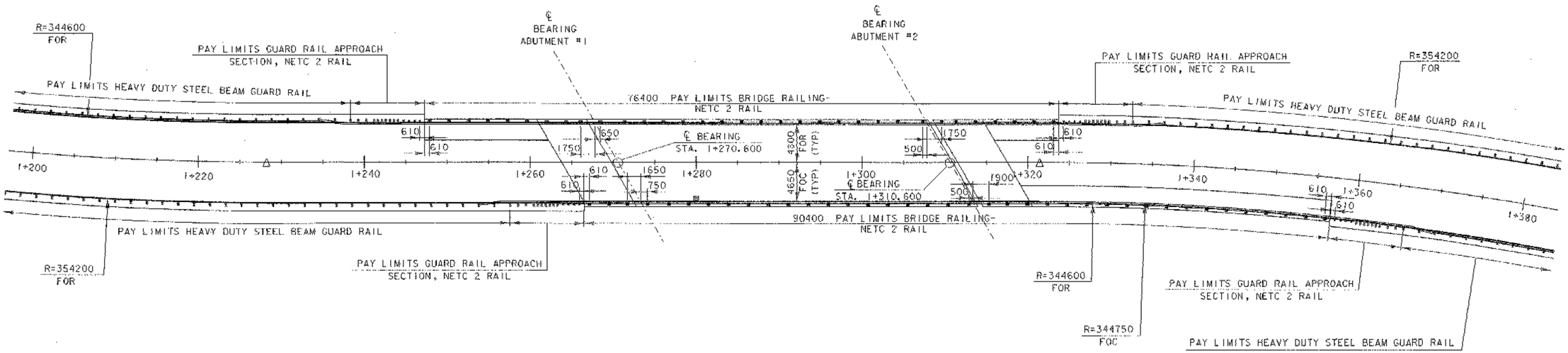
TREATED TIMBER CURB
Sta 1+118.300 LT - Sta 1+234.300 LT
Sta 1+369.700 RT - Sta ~~1+408.600~~ RT
1+ 427.5 RT

CAST-IN-PLACE CEMENT CONCRETE CURB, TYPE B
Sta 1+234.300 LT - Sta 1+247.300 LT
~~Sta 1+253.900 RT - Sta 1+266.500 RT~~ 1+ 254.2 ~ 1+ 266.8 RT
Sta 1+323.600 LT ~ Sta 1+336.000 LT
Sta 1+356.300 RT - Sta 1+369.700 RT

MANUFACTURED TERMINAL SECTION (TANGENT)
~~Sta 1+087.100 RT~~ 1+ 086.2 ~ 1+ 101.4 RT
~~Sta 3+150.000 RT~~

ANCHOR FOR STEEL BEAM RAIL
Sta 1+058.100 RT
Sta ~~1+115.300~~ LT 1+ 112.1
Sta ~~1+394.000~~ LT 1+ 401.7
Sta ~~1+412.000~~ RT 1+ 427.6
TH 54 STA 3 + 150.000 RT

VT STATE PLANE GRID



RAILING LAYOUT

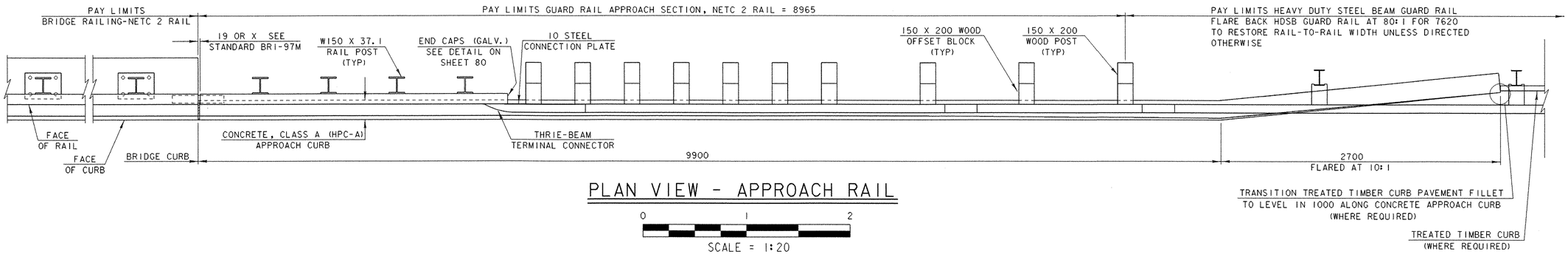
0 10 20
SCALE 1 : 250

FOC = FACE OF CURB
FOR = FACE OF RAIL

ARCHIVED ON CADD

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(93)

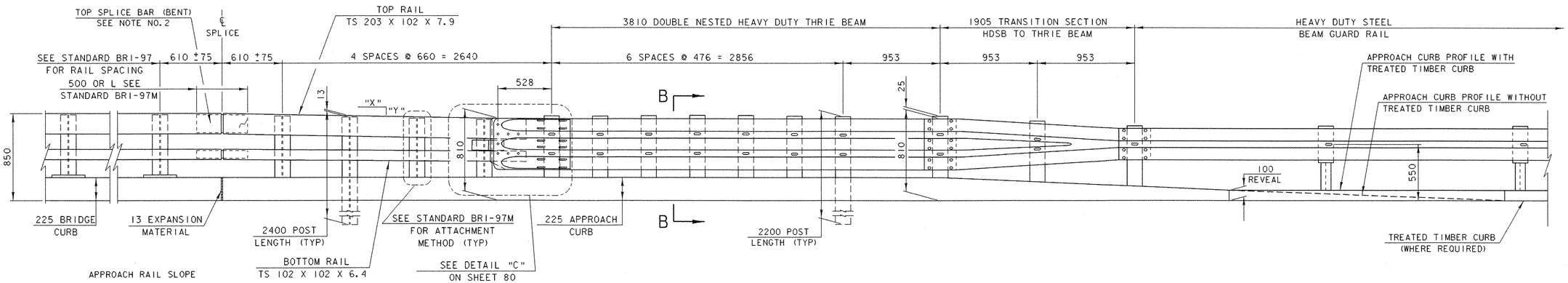
PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116rail.dgn	
IPARM FILE NAME: sc116railkey.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P. ROWE
RAILING LAYOUT	SHEET: 78 OF 120



PLAN VIEW - APPROACH RAIL

0 1 2

SCALE = 1:20



APPROACH RAIL SLOPE

RAIL	"X"	"Y"
TOP	2700	50
BOTTOM	2700	20

ELEVATION VIEW - APPROACH RAIL

0 1 2

SCALE = 1:20

NOTES

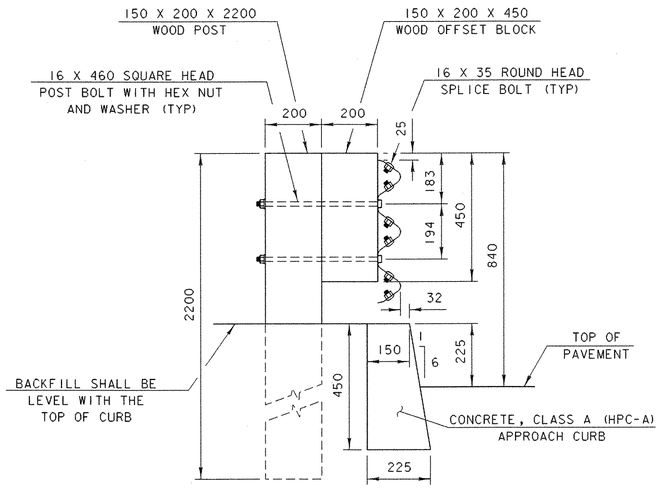
1. ALL GUARD RAIL APPROACH SECTION MATERIALS, DIMENSION SIZES, AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAILING UNLESS OTHERWISE NOTED.
2. WELD TOP SPLICE BAR TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).
3. REFER TO SHEET 80 AND STANDARD BRI-97M FOR ADDITIONAL DETAILS, NOTES, AND MATERIAL SPECIFICATIONS.
4. THE REFLECTORIZED ALUMINUM DELINEATOR IS TO BE ERECTED EVERY 9 METERS (OR THE CLOSEST POST) WITH M16 AASHTO M164 (TYPE 1) BOLTS. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.
5. REFLECTIVE MATERIAL SHALL MEET REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE ENCAPSULATED LENS SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVERS LEFT AND SILVER ON THEIR RIGHT.
6. ON BRIDGES WITH A SIDEWALK, DELINEATORS ARE NOT TO BE INSTALLED ON THE SIDEWALK SIDE OF THE BRIDGE (I.E. DELINEATORS INSTALLED ONLY ON THE CURB SIDE AND ON THE APPROACH ON THE CURB SIDE). PAYMENT SHALL BE SUBSIDIARY TO ALL OTHER ITEMS.
7. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.

PROJECT NAME: BARTON
PROJECT NUMBER: STP 0113 (58)S

FILE NAME: 96c116/STRUCTURES/sc116rail.dgn
IPARM NAME: 96c116/STRUCTURES/sc116rail1.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
APPROACH RAIL DETAILS

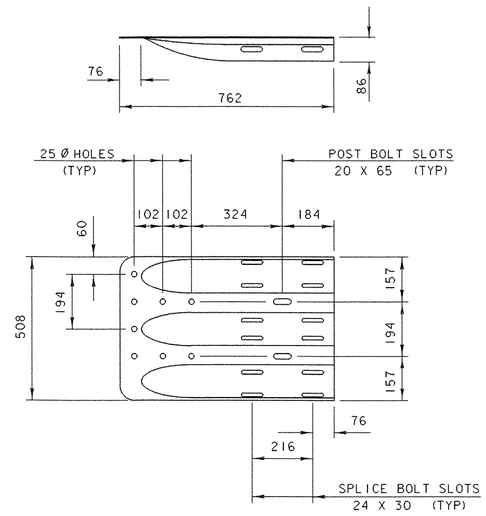
PLOT DATE: 03-JAN-2002
DRAWN BY: T.G. ANDERSON
CHECKED BY: W.B. SYMONDS
SHEET 79 OF 120

Metric



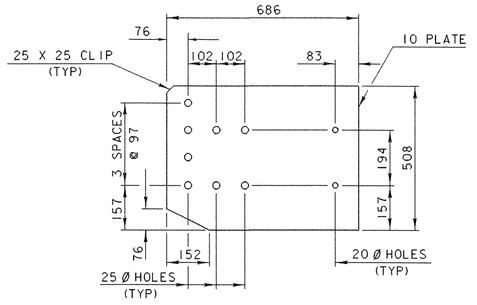
SECTION B-B

SCALE 1 : 10



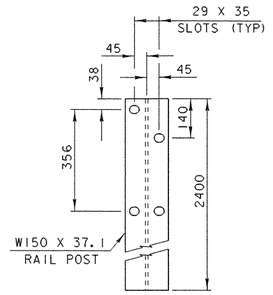
THRIE-BEAM TERMINAL CONNECTOR

SCALE 1 : 10



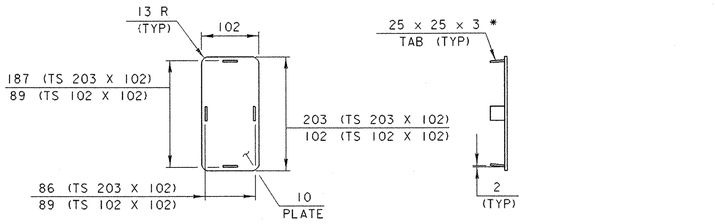
CONNECTION PLATE

SCALE 1 : 10



RAIL POST

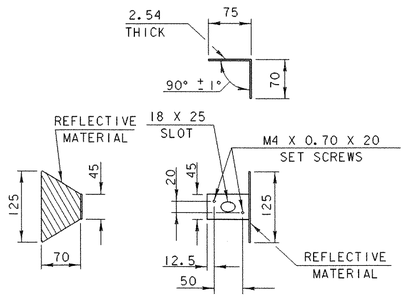
SCALE 1 : 10



* WELD TABS TO END CAP PLATE IN TAPERED POSITION SO CAP CAN BE JAMMED INTO END OF RAIL TUBE.

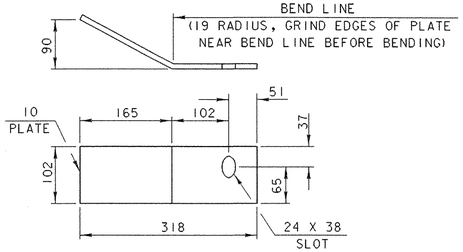
END CAP DETAIL

SCALE 1 : 5



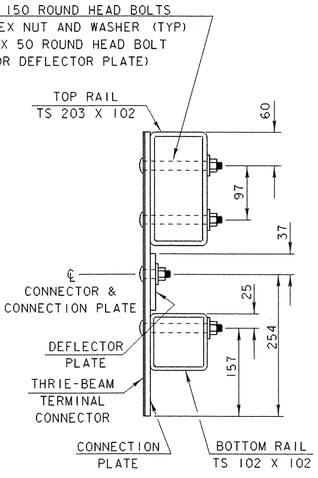
DELINEATION DEVICE DETAIL

SCALE 1 : 5



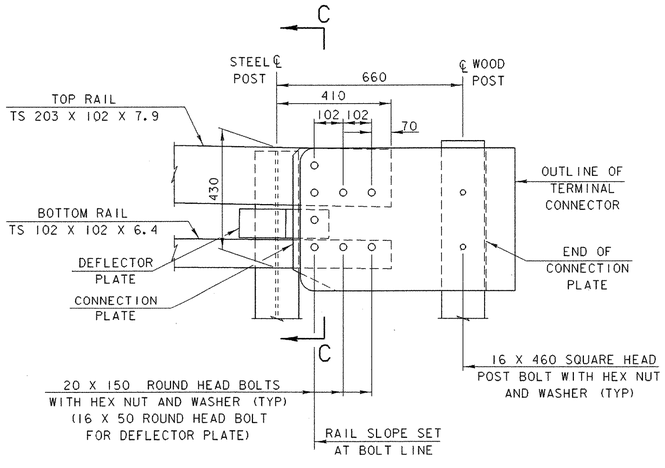
DEFLECTOR PLATE DETAIL

SCALE 1 : 5



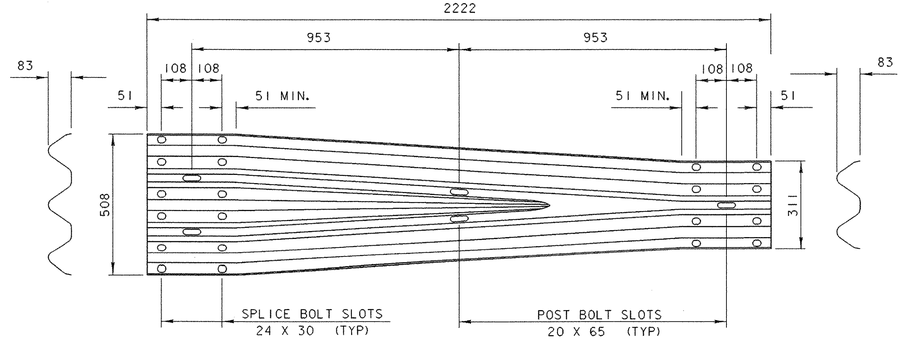
SECTION C-C

SCALE 1 : 5



DETAIL "C"

SCALE 1 : 10



THRIE-BEAM TO W-BEAM TRANSITION SECTION

SCALE 1 : 10

0 0.25 0.5

SCALE = 1:5

0 0.5 1

SCALE = 1:10

PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58) S

FILE NAME: 96c116/STRUCTURES/sc116rail.dgn
IPARM NAME: 96c116/STRUCTURES/sc116rail2.i
PROJECT LEADER: C.P. WILLIAMS
DESIGNED BY: W.B. SYMONDS
APPROACH RAIL DETAILS

PLOT DATE: 03-JAN-2002
DRAWN BY: T.G. ANDERSON
CHECKED BY: W.B. SYMONDS
SHEET 80 OF 120

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

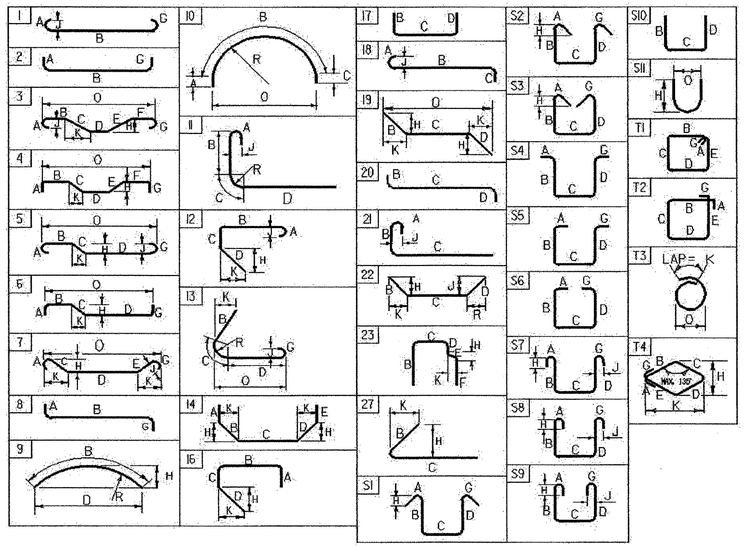
Metric

	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
SUPER STRUCTURE																	
✳	345	16	10740	ES1601	STR												
	466	16	10350	ES1602	STR												
▲ ✳	11	16	11970	ES1603	STR												
	28	16	3050	ES1604	S6	1610	290	950	200			----					
	374	16	2175	ES1605	S5	300	390	430	320			735					
	28	16	2050	ES1606	S6	1110	290	450	200			----					
APPROACH SLAB #1																	
	16	16	5850	1EAS1601	STR												
	22	16	11960	1EAS1602	STR												
▲	60	16	2120	1EAS1603	S5	----	540	430	490			660					
▲ ✳	43	16	1150	1EAS1604	8	----	900					250					
✳	41	29	6515	1EAS2901	1	380	5850					----		285			
APPROACH SLAB #2																	
	16	16	5850	2EAS1601	STR												
	22	16	11960	2EAS1602	STR												
	4	22	2000	2EAS2201	STR												
▲	60	16	2120	2EAS1603	S5	----	540	430	490			660					
▲ ✳	43	16	1150	2EAS1604	8	----	900					250					
✳	41	29	6515	2EAS2901	1	380	5850					----		285			
BASE SLAB #1																	
	42	16	7400	1EBS1601	STR												
✳	51	16	2080	1EBS1602	STR												
	50	16	2620	1EBS1603	8	----	2370					250					
	68	16	2140	1EBS1604	S5	----	540	430	510			660					
BASE SLAB #3																	
▲	21	16	8850	3EBS1601	STR												
✳	31	16	2080	3EBS1602	STR												
	30	16	2620	3EBS1603	8	----	2370					250					
▲	42	16	2140	3EBS1604	S5	----	540	430	510			660					
BASE SLAB #4																	
▲	105	16	8230	4EBS1601	STR												
	126	16	2080	4EBS1602	STR												
✳	127	16	2620	4EBS1603	8	----	2370					250					
	171	16	2140	4EBS1604	S5	----	540	430	510			660					
COPING - ABUTMENT#1																	
✳	11	13	5850	1EC1301	STR												
	36	13	960	1EC1302	S10		370	140	450								
	5	13	2525	1EC1303	22		750	750	----				650		375	---	
	5	13	1280	1EC1304	17		640	640	----								
COPING - ABUTMENT#2																	
✳	11	13	5850	2EC1301	STR												
	36	13	960	2EC1302	S10		370	140	450								
	5	13	2525	2EC1303	22		750	750	----				650	---	375	---	
	5	13	1280	2EC1304	17		640	640	----								

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
ABUTMENT #1																	
	46	16	6320	1A1601	STR												
▲	128	16	2050	1A1602	STR												
✳	83	16	1590	1A1604	STR												
▲	41	16	4030	1A1603	S10		1380	1270	1380								
	16	16	6770	1A1605	17		450	6320	----								
	8	16	7600	1A1606	22		----	6320	540					----	470	----	270
	8	16	7600	1A1607	27		540	6320						470		270	
	41	16	3870	1A1608	23		1550	170	150	300	1400			----		300	
✳	19	25	1540	1EA2501	22		450	450	----					320	----	320	----
ABUTMENT #2																	
▲	52	16	6320	2A1601	STR												
▲	128	16	2150	2A1602	STR												
✳	83	16	1580	2A1604	STR												
▲	41	16	3910	2A1603	S10		1270	1370	1270								
	16	16	6770	2A1605	17		450	6320	----								
	7	16	7600	2A1606	22		----	6320	540					----	470	----	270
	7	16	7600	2A1607	27		540	6320						470		270	
	41	16	3770	2A1608	S10		1600	570	1600								
	41	16	1910	2A1609	S10		830	250	830								
	4	16	1350	2A1610	S10		450	450	450								
✳	19	25	1540	2EA2501	22		450	450	----					320	----	320	----

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, 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 PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL MASS (Kg/m)	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER (mm)	CROSS SECTIONAL AREA (mm^2)	PERIMETER (mm)
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	15.9	199	49.95
#19	2.235	19.1	284	60.00
#22	3.042	22.2	387	69.74
#25	3.973	25.4	510	79.80
#29	5.060	28.7	645	90.16
#32	6.404	32.3	819	101.47
#36	7.907	35.8	1006	112.47
#43	11.380	43.0	1452	135.09
#57	20.240	57.3	2581	180.01

PROJECT NAME:	BARTON
PROJECT NUMBER:	STP 0113 (58)S
FILE NAME:	sc116rss.xls
PROJECT LEADER:	C.P.WILLIAMS
DESIGNED BY:	W.B. SYMONDS
REINFORCING STEEL SCHEDULE SHEET	
PLOT DATE:	11/7/01
DRAWN BY:	T.G. ANDERSON
CHECKED BY:	W.B. SYMONDS
SHEET	81 OF 120

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RIGHT OF WAY PLANS
DETAIL SHEET

TABLE OF PROJECT PROPERTY ACQUISITION

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
1	MENARD, NATHAN F. BUTLER, REBECCA	12,13 14,15	1+308.7 LT. 1+286.9 LT.	1+442.08 LT. 1+453.0 LT.	698.6 S.M.±		CONST. (T) 403.0 S.M.±			BARTON			7,517 S.F.± INCLUDE EROSION CONTROL 4,338 S.F.±
			1+297.3 LT.	1+316.0 LT.			DITCH & DRAINAGE (P) 35.0 S.M.±						377 S.F.±
			1+300.0 LT.	1+386.3 LT.			SLOPE (P) 561.0 S.M.±						6,039 S.F.±
			1+315.0 LT.				CULVERT (P)						
			1+323.6 LT.				CULVERT & DRAINAGE (P)						
			1+330.0 LT.	1+380.0 RT.			SLOPE (T) 176.6 S.M.±						1,901 S.F.±
			1+334.6 LT.				DRAINAGE (P)						
			1+334.6 LT.	1+373.0 LT.			CULVERT (P)						
			1+380.0 LT.	1+447.3 LT.			SLOPE (T) 628.0 S.M.±						6,760 S.F.±
2	LAVALLE, LINDA R.	12	1+060.4 RT. 1+064.6 RT.	1+068.6 RT.			CONST. (T) 20.0 S.M.± DRAINAGE (P)			BARTON			INCLUDE EROSION CONTROL 215 S.F.±
3	LAHAR, TIM G. PALMER, VIRGINIA M.	12,13	TH54 3+161.4 RT.	TH54 3+170.1 RT.			CONST. (T) 33.6 S.M.±			BARTON			INCLUDE EROSION CONTROL 362 S.F.±
			TH54 3+164.5 RT.	TH54 3+166.9 RT.			DITCH & DRAINAGE (P) 3.1 S.M.±						33 S.F.±
4	NEWPORT AND RICHFORD RAILROAD COMPANY	12,13 14,15	1+200.3 LT.	1+409.6 RT.			CONST. (T) .473 HA±			BARTON			INCLUDE EROSION CONTROL. INCLUDES SHEET PILING INCLUDES REMOVING 4 TELEGRAPH POLES & PERTINENCE 1.17 A±
			1+210.0 LT.	1+250.0 LT.			DITCH (P) 128.6 S.M.±						1,384 S.F.±
			1+216.3 LT.	1+291.0 RT.			SLOPE (P) 739.6 S.M.±						7,961 S.F.±
			1+238.3 LT.	1+243.0 LT.			CULVERT (P)						WITH FLUSHING BASINS
			1+245.6 LT.				CULVERT & D.I. (P)						
			1+246.0 LT.	1+269.0 CL.			CULVERT (P)						WITH FLUSHING BASINS
			1+234.4 LT.	1+348.9 RT.			HIGHWAY CROSSING (P) 0.13 HA±						INCLUDE BRIDGE STRUCTURE & ABUTMENTS. 0.33A±
			1+266.6 RT.	1+384.0 RT.			REMOVE (T)						EXISTING BRIDGE
			1+287.0 LT.	1+317.0 LT.			REMOVE & RESET (T)						FENCE
			1+291.6 RT.	1+294.3 RT.			DITCH & DRAINAGE (P) 19.0 S.M.±						205 S.F.±
			1+292.6 RT.	1+296.6 LT.			CULVERT (T)						TO BE MAINTAINED BY RAILROAD
			1+293.0 RT.	1+299.3 LT.			REMOVE OR FILL (T)						EXISTING CULVERT
			1+290.0 LT.	1+300.0 LT.			DITCH & DRAINAGE (P) 17.0 S.M.±						183 S.F.±
			1+296.6 LT.	1+397.5 RT.			SLOPE (P) 1088.6 S.M±						11,718 S.F.±
			1+314.0 LT.	1+326.5 RT.			CULVERT (P)						WITH FLUSHING BASINS
			1+315.6 LT.	1+315.6 RT.			CULVERT & D.I. (P)						
			1+348.0 RT.				DRAINAGE (P)						
			1+348.0 RT.	1+384.0 RT.			CULVERT (T)						SLEEVE EXISTING CULVERT, TO BE MAINTAINED BY RAILROAD
			1+355.0 RT.	1+379.3 RT.			CULVERT (P)						WITH FLUSHING BASIN
			1+386.6 RT.	1+406.0 RT.			SLOPE (T) 62.8 S.M.±						676 S.F.±
			1+380.0 RT.	1+386.6 RT.			DITCH (P) 18.0 S.M.±						194 S.F.±
			1+381.6 RT.	1+383.9 RT.			CULVERT (P)						
			1+381.6 RT.	1+384.0 RT.			CULVERT & D.I. (P)						

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	10,12 13,14 15	PARCEL NO. 1 ROLLINS. CHANGE OWNER TO: MENARD, NATHAN F. BUTLER, REBECCA PER C.O. 9204	07-11-01	M.J.R.	R.P.D.
2	10,14	PARCEL NO. 4 NEWPORT AND RICHFORD RAILROAD COMPANY. ADD TELEPGRAPH TOPO TO LAYOUT. ADD "INCLUDES REMAINING 4 TELEGRAPH POLES & PERTINENCE" TO DETAIL SHEET. PER C.O. 9208.	09-05-01	M.J.R.	R.P.D.
		ELECTRONIC FILES TO STRUCTURES 11-29-01			

ACCT.Repro
\\vaot.cadd\filingcabinet$\96cll6\RightOfWay\rcll6cd.dgn
DATE PLOTTED 03-JAN-2002

DR.(P)- DRAINAGE RIGHT
DIT.(P)- DITCHING RIGHT
CH.(P)- CHANNEL RT.
DRIVE (T)- DRIVE RIGHT
CUL.(P)- CULVERT RIGHT
[W]- WATER SOURCES

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
(P) PERMANENT EASEMENT
(T) TEMPORARY EASEMENT

LEGEND
CZ (P) CLEAR ZONE
CONST. (T) CONSTRUCTION EASEMENT
SR SR SLOPE RIGHTS
PROPERTY LINE
TOP OF CUT
TOE OF SLOPE

APPROVED: ROGER P. DUMAS DATE: 02-26-01
AGENT D, PLANS & TITLES

R.O.W. PLANS

BARTON
STP 0113(58)S
R.O.W. SHEET 10 OF 16 SHEETS
SHEET 82 OF 120

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RIGHT OF WAY PLANS
DETAIL SHEET

TABLE OF PROJECT PROPERTY ACQUISITION

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
5	BARTON, PETER AND CONSTANCE	12,13	TH54 3+161.4 RT.	TH54 3+170.1 RT.			CONST. (T) 33.6 S.M.±			BARTON			INCLUDES EROSION CONTROL 362 S.F.±
			TH54 3+164.5 RT.	TH54 3+166.9 RT.			DITCH & DRAINAGE (P) 3.1 S.M.±						33 S.F.±
6	TOWN OF BARTON	12,13 14	1+059.6 RT.	1+062.0 RT.			INSTALL (T)			BARTON			EROSION CONTROL
			1+063.4 RT.	1+066.0 RT.			DITCH (P) 11.0 S.M.±						118 S.F.±
			1+064.1 RT.	1+064.8 RT.			CULVERT (P)						REMOVE EXISTING
			1+083.5 RT.	TH54 3+150.0 CL.			APPROACH (T)						TH54 INCLUDES EROSION CONTROL
			TH54 3+109.0 RT.	TH54 3+150.0 RT.			INSTALL (T)						GUARDRAIL
			TH54 3+108.6 RT.	TH54 3+150.0 RT.			INSTALL (T)						GABION WALL
			TH54 3+150.0 RT.	TH54 3+317.0 LT.			INSTALL (T) 196.0 S.M.±						EROSION CONTROL, 2,110 S.F.
			TH54 3+164.0 LT.	TH54 3+272.0 LT.			SLOPE (P) 62.2 S.M.±						670 S.F.±
			TH54 3+164.6 RT.	TH54 3+167.0 RT.			DITCH (P) 4.9 S.M.±						16.1 S.F.±
			TH54 3+165.6 RT.	TH54 3+167.0 LT.			CULVERT (P)						REMOVE EXISTING
			TH54 3+251.1 CL.				EASEMENT (T) 41.1 S.M.±						CLEAN CULVERT. 442 S.F.±
			TH54 3+336.6 CL.	TH54 3+381.0 LT.			CONST. (T) 0.05 HA±						0.12A± INCLUDES EROSION CONTROL
7	BARTON VILLAGE, INC.												UTILITY
8	VERIZON NEW ENGLAND, INC.												UTILITY
9	PORTLAND PIPELINE CORP.												UTILITY
	MAINT. AGREEMENT AREA	12	1+079.3	1+083.5									TH54 LENGTH 8.1M (26.6')

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY

ACCT.Repro
\\vaot_cadd\filingcabinet$\96cll6\RightOfWay\rcll6cd.dgn
DATE PLOTTED 03-JAN-2002

DR. (P)- DRAINAGE RIGHT
DIT. (P)- DITCHING RIGHT
CH. (P)- CHANNEL RT.
DRIVE (T)- DRIVE RIGHT
CUL. (P)- CULVERT RIGHT
[W]- WATER SOURCES

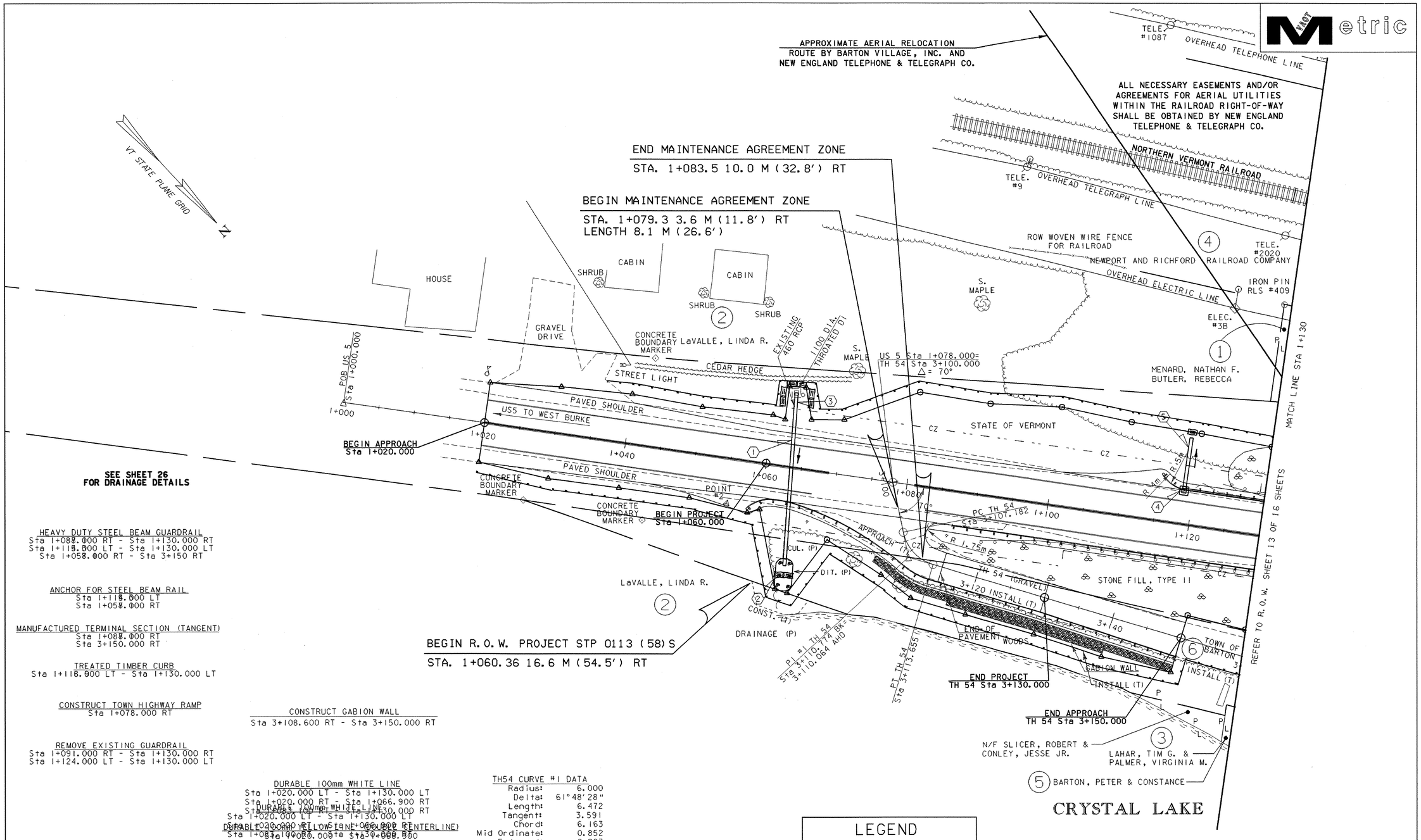
PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
PERMANENT EASEMENT
TEMPORARY EASEMENT

LEGEND
CLEAR ZONE
CONSTRUCTION EASEMENT
SLOPE RIGHTS
PROPERTY LINE
TOP OF CUT
TOE OF SLOPE

APPROVED: ROGER P. DUMAS DATE: 02-26-01
AGENT D. PLANS & TITLES

R. O. W. PLANS

BARTON
STP 0113(58)S
R. O. W. SHEET 11 OF 16 SHEETS
SHEET 83 OF 120



SEE SHEET 26
FOR DRAINAGE DETAILS

HEAVY DUTY STEEL BEAM GUARDRAIL
Sta 1+088.000 RT - Sta 1+130.000 RT
Sta 1+118.000 LT - Sta 1+130.000 LT
Sta 1+058.000 RT - Sta 3+150 RT

ANCHOR FOR STEEL BEAM RAIL
Sta 1+118.000 LT
Sta 1+058.000 RT

MANUFACTURED TERMINAL SECTION (TANGENT)
Sta 1+088.000 RT
Sta 3+150.000 RT

TREATED TIMBER CURB
Sta 1+118.000 LT - Sta 1+130.000 LT

CONSTRUCT TOWN HIGHWAY RAMP
Sta 1+078.000 RT

REMOVE EXISTING GUARDRAIL
Sta 1+091.000 RT - Sta 1+130.000 RT
Sta 1+124.000 LT - Sta 1+130.000 LT

CONSTRUCT GABION WALL
Sta 3+108.600 RT - Sta 3+150.000 RT

DURABLE 100mm WHITE LINE
Sta 1+020.000 LT - Sta 1+130.000 LT
Sta 1+020.000 RT - Sta 1+066.900 RT
Sta 1+083.100 RT - Sta 1+130.000 RT

DURABLE 100mm YELLOW LINE (DOUBLE CENTERLINE)
Sta 1+020.000 LT - Sta 1+130.000 LT

DURABLE 100mm YELLOW LINE (DOUBLE CENTERLINE)
Sta 1+020.000 - Sta 1+068.900
Sta 1+081.100 - Sta 1+130.000

REMOVING SIGNS
Sta 1+036.400 RT (2)
Sta 1+085.500 RT (3)

TEMPORARY 100mm WHITE LINE
Sta 1+020.000 LT - Sta 1+130.000 LT
Sta 1+020.000 RT - Sta 1+066.900 RT
Sta 1+083.100 RT - Sta 1+130.000 RT

TEMPORARY 100mm YELLOW LINE (DOUBLE CENTERLINE)
Sta 1+020.000 - Sta 1+068.900
Sta 1+081.100 - Sta 1+130.000

TH54 CURVE #1 DATA

Radius:	6.000
Delta:	61°48'28"
Length:	6.472
Tangent:	3.591
Chord:	6.163
Mid Ordinate:	0.852
External:	0.993
Max. Bank Rate:	NORMAL

SEE SHEET 46
FOR DRAINAGE DETAILS

SEE SHEET 48
FOR SIGN SUMMARY

LAYOUT #1

0 10 20

SCALE 1 : 250

LEGEND

HAY BALES

SILT FENCE

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

DATUM

VERTICAL	NAVD88 ASSUMED
HORIZONTAL	NAD 83 (93)

FOR R.O.W. USE ONLY

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S

DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn
IPARM FILE NAME: sc116ai.i — PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN — SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS — DRAWN BY: P.G. JARVIS
R.O.W. SHEET 12 OF 16 SHEETS — 84 OF 120

HEAVY DUTY STEEL BEAM GUARDRAIL
Sta 1+130.000 RT - Sta 1+235.000 RT
Sta 1+130.000 LT - Sta 1+235.000 LT

TREATED TIMBER CURB
Sta 1+130.000 LT - Sta 1+238.000 LT

REMOVE EXISTING GUARDRAIL
Sta 1+130.000 RT - Sta 1+235.000 RT
Sta 1+130.000 LT - Sta 1+235.000 LT

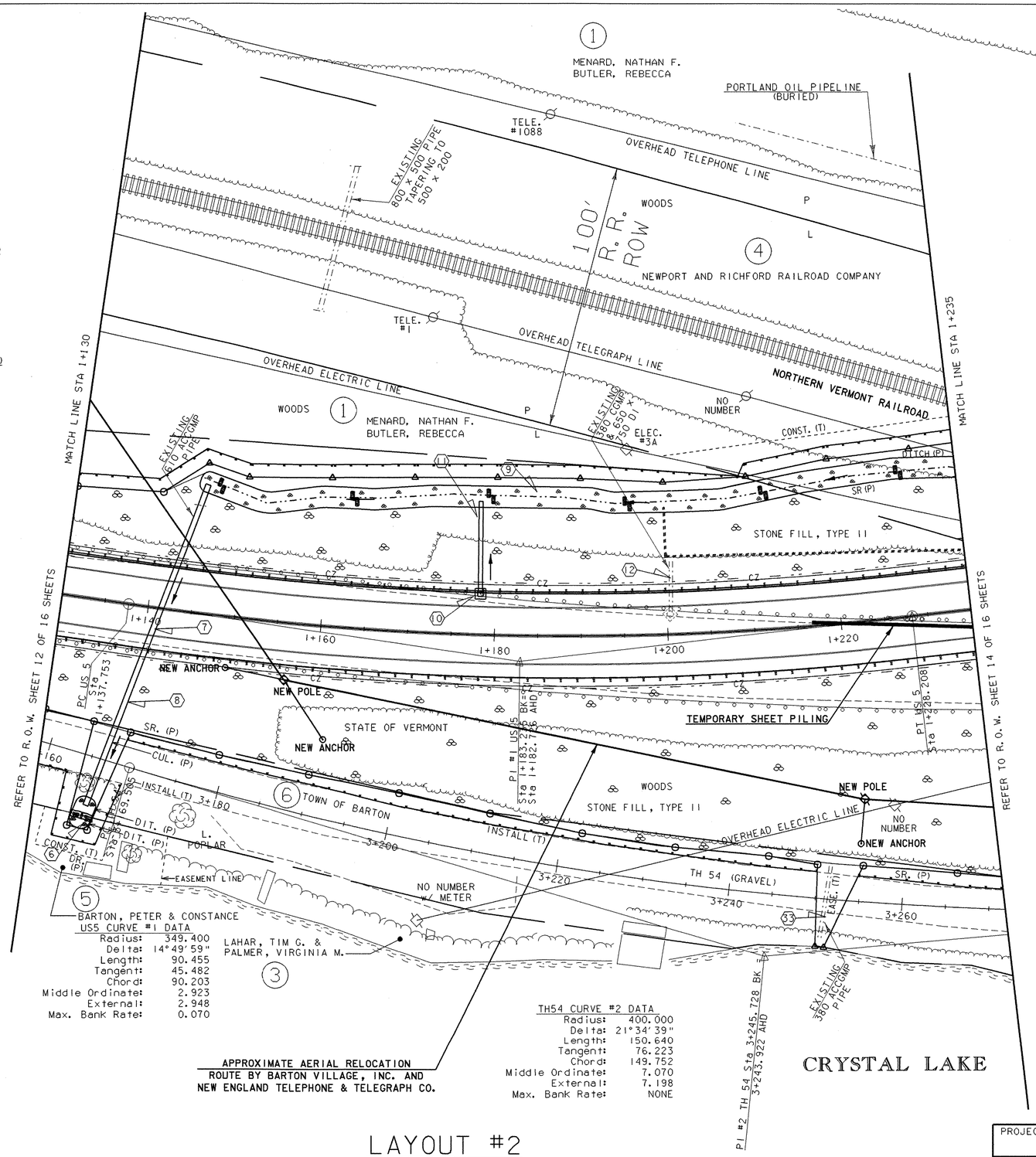
DURABLE 100mm WHITE LINE
Sta 1+130.000 LT - Sta 1+235.000 LT
Sta 1+130.000 RT - Sta 1+235.000 RT

DURABLE 100mm YELLOW LINE (DOUBLE CENTERLINE)
Sta 1+130.000 - Sta 1+235.000

TEMPORARY 100mm WHITE LINE
Sta 1+130.000 LT - Sta 1+235.000 LT
Sta 1+130.000 RT - Sta 1+235.000 RT

TEMPORARY 100mm YELLOW LINE (DOUBLE CENTERLINE)
Sta 1+130.000 - Sta 1+235.000

150 mm UNDERDRAIN
Sta 1+200.000 LT - Sta 1+235.000 LT



US5 CURVE #1 DATA

Radius:	349.400
Delta:	14°49'59"
Length:	90.455
Tangent:	45.482
Chord:	90.203
Middle Ordinate:	2.923
External:	2.948
Max. Bank Rate:	0.070

TH54 CURVE #2 DATA

Radius:	400.000
Delta:	21°34'39"
Length:	150.640
Tangent:	76.223
Chord:	149.752
Middle Ordinate:	7.070
External:	7.198
Max. Bank Rate:	NONE

SEE SHEET 46
FOR DRAINAGE DETAILS

SEE SHEET 48
FOR SIGN SUMMARY

SEE SHEET 26
FOR DRAINAGE DETAILS

LAYOUT #2

0 10 20

SCALE 1 : 250

LEGEND

HAY BALES

SILT FENCE

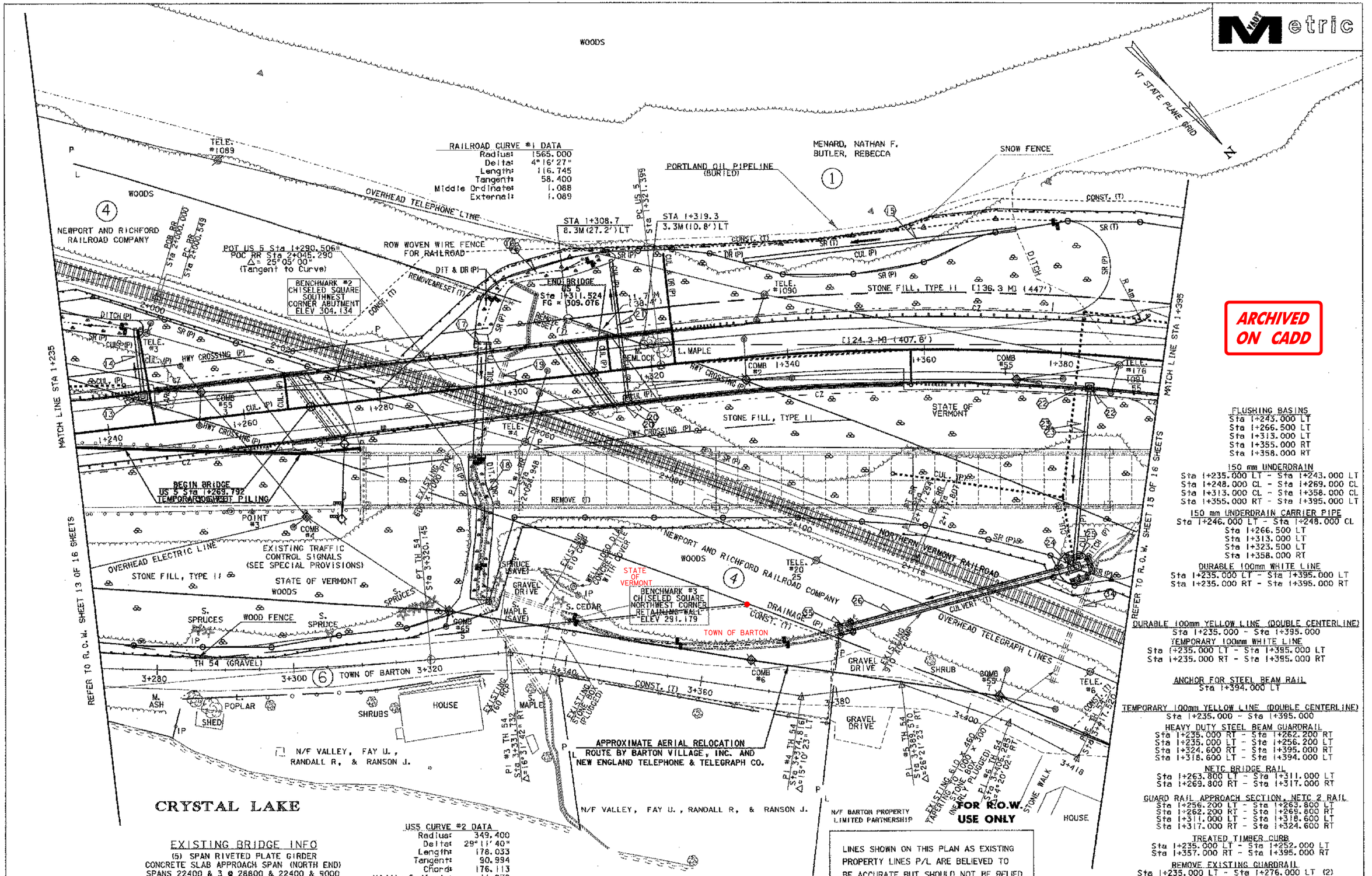
FOR R.O.W. USE ONLY

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

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (93)

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S

DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn
IPARM FILE NAME: sc116la2.i
SURVEYED BY: R. BULLOCK, R. GILMAN
SQUAD LEADER: C.P. WILLIAMS
R.O.W SHEET 13 OF 16 SHEETS
PLOT DATE: 03-JAN-2002
SURVEY DATE: 8/96,5/99
DRAWN BY: P.G. JARVIS
85 OF 120



ARCHIVED ON CADD

EXISTING BRIDGE INFO

(5) SPAN RIVETED PLATE GIRDER
CONCRETE SLAB APPROACH SPAN (NORTH END)
SPANS 22400 & 3 @ 28800 & 22400 & 9000
OVERALL LENGTH = 141500
CONCRETE DECK, ALUMINUM RAIL
24' CURB TO CURB
BUILT FAGH 55J(1) 1934
REPAIRED STO 41-5-5M 1967

US5 CURVE #2 DATA

Radius:	349.400
Delta:	29°11'40"
Length:	178.033
Tangent:	90.994
Chord:	176.113
Middle Ordinate:	11.278
External:	11.654
Max. Bank Rate:	0.070

DATUM

VERTICAL ASSUMED
HORIZONTAL NAD 83 (93)

LEGEND

HAY BALES
SILT FENCE

LAYOUT #3

0 10 20
SCALE 1 : 250

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

SEE SHEET 26 FOR DRAINAGE DETAILS

FLUSHING BASINS

Sta 1+243.000 LT
Sta 1+266.500 LT
Sta 1+313.000 LT
Sta 1+355.000 RT
Sta 1+358.000 RT

150 mm UNDERDRAIN

Sta 1+235.000 LT - Sta 1+243.000 LT
Sta 1+248.000 CL - Sta 1+269.000 CL
Sta 1+313.000 CL - Sta 1+358.000 CL
Sta 1+355.000 RT - Sta 1+395.000 LT

150 mm UNDERDRAIN CARRIER PIPE

Sta 1+246.000 LT - Sta 1+248.000 CL
Sta 1+266.500 LT
Sta 1+313.000 LT
Sta 1+323.500 LT
Sta 1+358.000 RT

DURABLE 100mm WHITE LINE

Sta 1+235.000 LT - Sta 1+395.000 LT
Sta 1+235.000 RT - Sta 1+395.000 RT

DURABLE 100mm YELLOW LINE (DOUBLE CENTERLINE)

Sta 1+235.000 - Sta 1+395.000

TEMPORARY 100mm WHITE LINE

Sta 1+235.000 LT - Sta 1+395.000 LT
Sta 1+235.000 RT - Sta 1+395.000 RT

ANCHOR FOR STEEL BEAM RAIL

Sta 1+394.000 LT

TEMPORARY 100mm YELLOW LINE (DOUBLE CENTERLINE)

Sta 1+235.000 - Sta 1+395.000

HEAVY DUTY STEEL BEAM GUARDRAIL

Sta 1+235.000 RT - Sta 1+262.200 RT
Sta 1+235.000 LT - Sta 1+256.200 LT
Sta 1+324.600 RT - Sta 1+395.000 RT
Sta 1+318.600 LT - Sta 1+394.000 LT

NETC BRIDGE RAIL

Sta 1+263.800 LT - Sta 1+311.000 LT
Sta 1+269.800 RT - Sta 1+317.000 RT

GUARD RAIL APPROACH SECTION, NETC 2 RAIL

Sta 1+256.200 LT - Sta 1+263.800 LT
Sta 1+262.200 RT - Sta 1+269.800 RT
Sta 1+311.000 LT - Sta 1+318.600 LT
Sta 1+317.000 RT - Sta 1+324.600 RT

TREATED TIMBER CURB

Sta 1+235.000 LT - Sta 1+252.000 LT
Sta 1+357.000 RT - Sta 1+395.000 RT

REMOVE EXISTING GUARDRAIL

Sta 1+235.000 LT - Sta 1+276.000 LT (2)

PROJECT: BARTON	PROJECT NO. # STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn	
IPARM FILE NAME: sc116ie3.i	PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN	SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: P.G. JARVIS
R.O.W. SHEET 14 OF 16 SHEETS	86 OF 120

VAOT Metric

END R.O.W. PROJECT STP 0113(58)S
STA. 1+453.0 10.2 M (33.5') LT

MENARD, NATHAN F.
BUTLER, REBECCA

WOODS

MANY L.
BOULDERS

CONST. (T)

SR (T)

EXISTING 510 DIA. CONCRETE BOX

US 5 PI #2
Sta 1+412.393 BK
Sta 1+408.438 AHD

STA 1+442.08
8.3' M (27.2') LT

SR (T)

CZ

136.3 MJ (447')

124.3 MJ (407.8')

1

1+400

1+420

1+440

1+460

1+480

1+500

1+520

1+540

1+560

1+565

MATCH LINE STA 1+395

REFER TO R.O.W. SHEET 14 OF 16 SHEETS

MATCH LINE STA 1+565

REFER TO R.O.W. SHEET 16 OF 16 SHEETS

UTILITY POLE
TELE. JCT. BOX

CONCRETE BOUNDARY MARKER

NO NUMBER

COMB #1092

CONCRETE BOUNDARY MARKER

N/F WOODBRIDGE, ARLENE

POND

M. WILLOW

M. POPLAR

S. POPLAR

S. HEMLOCK PT Sta 1+495.432

S. WHITE BIRCH

TELE. #1093

EXISTING 460 RCP PIPE

PAVED DRIVE

R 10m

END PROJECT
Sta 1+520.000

END APPROACH
Sta 1+560.000

US ROUTE 5 TO BARTON (PAVED)

EXISTING TRAFFIC CONTROL SIGNALS
(SEE SPECIAL PROVISIONS)

POINT #4

R 5m (TYP)

EXISTING 510 X 310 PIPE

SR (P)

CONST. (T)

US 5 CURVE #2 DATA

Radius:	349.400
Delta:	29° 11' 40"
Length:	178.033
Tangent:	90.994
Chord:	176.113
Middle Ordinate:	11.278
External:	11.654
Max. Bearing Rate:	0.070

NEW ANCHOR

NEW POLE

STATE OF VERMONT

TOWN OF BARTON

VT STATE PLANE GRID

OVERHEAD TELEGRAPH LINES

EXISTING POLE #8

N/F BARTON PROPERTY LIMITED PARTNERSHIP

NEW POLE

NEW ANCHOR

NEW ANCHOR

EXISTING 460 STEEL PIPE

NEWPORT AND RICHFORD RAILROAD COMPANY

NORTHERN VERMONT RAILROAD

100' R.R. R.O.W.

SEE SHEET 26
FOR DRAINAGE DETAILS

SEE SHEET 46
FOR DRAINAGE DETAILS

SEE SHEET 48 FOR
SIGN SUMMARY

EXCAVATION OF PAVEMENT
Sta 1+420.000 RT - 1+520.000 RT

FLUSHING BASINS
Sta 1+430.000 LT

150 mm UNDERDRAIN
Sta 1+395.000 LT - Sta 1+430.000 LT

CONSTRUCT PAVED DRIVE
Sta 1+535.000 RT - Sta 1+553.000 PAVED APRON

ANCHOR FOR STEEL BEAM RAIL
Sta 1+412.000 RT

TREATED TIMBER CURB
Sta 1+395.000 RT - Sta 1+408.000 RT

HEAVY DUTY STEEL BEAM GUARDRAIL
Sta 1+395.000 RT - Sta 1+412.000 RT

REMOVE EXISTING GUARDRAIL
Sta 1+422.000 RT - Sta 1+451.000 RT
Sta 1+423.000 RT - Sta 1+486.000 RT

REMOVING SIGNS
Sta 1+421.000 RT
Sta 1+422.000 RT

DURABLE 100mm WHITE LINE
Sta 1+395.000 LT - Sta 1+560.000 LT
Sta 1+395.000 RT - Sta 1+560.000 RT

DURABLE 100mm YELLOW LINE (DOUBLE CENTERLINE)
Sta 1+395.000 - Sta 1+560.000

TEMPORARY 100mm WHITE LINE
Sta 1+395.000 LT - Sta 1+560.000 LT
Sta 1+395.000 RT - Sta 1+560.000 RT

TEMPORARY 100mm YELLOW LINE (DOUBLE CENTERLINE)
Sta 1+395.000 - Sta 1+560.000

DATUM
VERTICAL NGVD88
HORIZONTAL NAD 83 (93)

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

LEGEND
HAY BALES
SILT FENCE

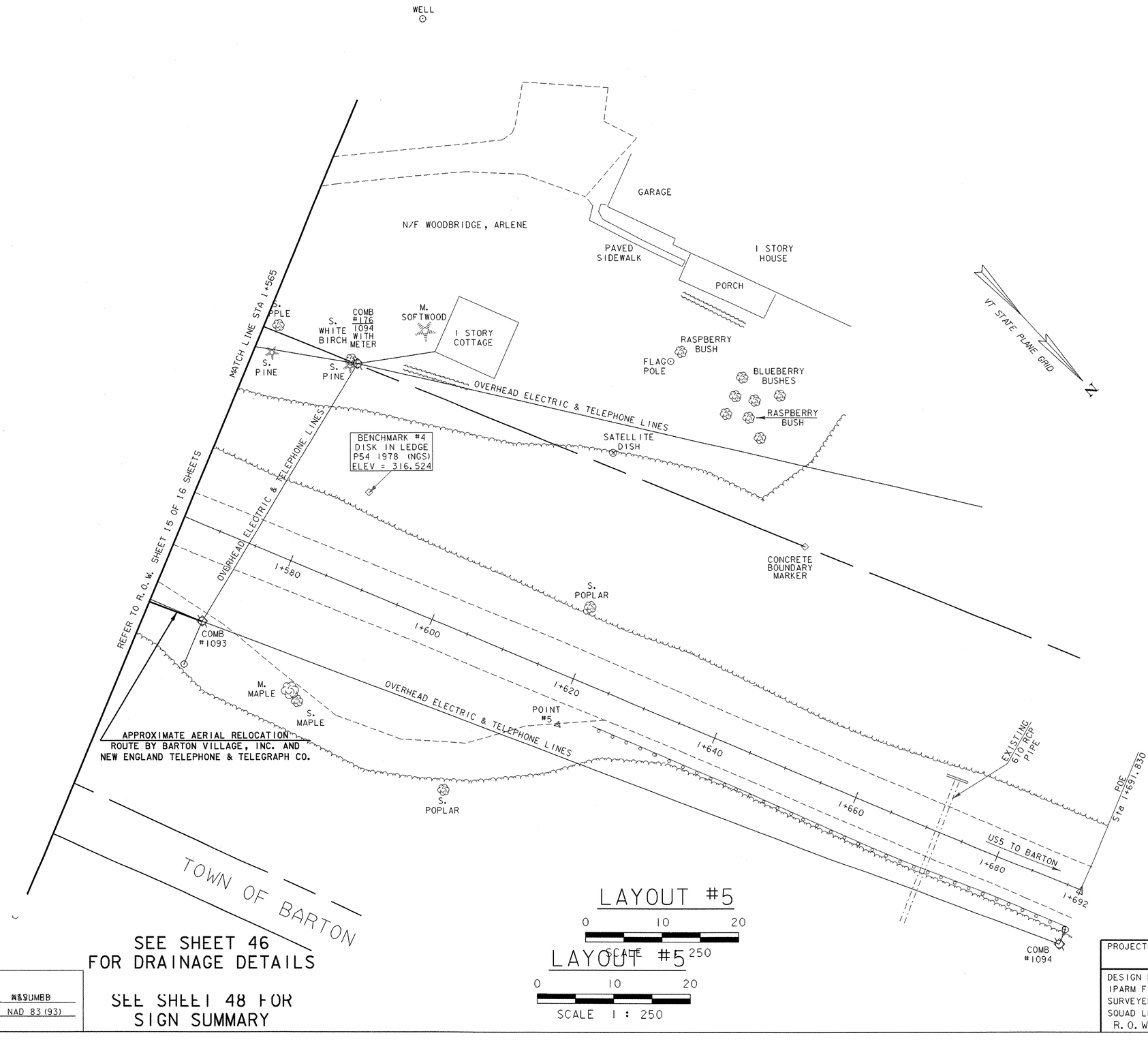
LAYOUT #4
0 10 20
SCALE 1 : 250

FOR R.O.W. USE ONLY

PROJECT:	PROJECT NO. :
BARTON	STP 0113(58)S

DESIGN FILE NAME: 96c116/structures/sc116bdr.dgn
IPARM FILE NAME: sc116ia4.i
PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN
SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS
DRAWN BY: P.G. JARVIS
R.O.W. SHEET 15 OF 16 SHEETS
87 OF 120

VAOT Metric



SEE SHEET 46
FOR DRAINAGE DETAILS

SEE SHEET 48 FOR
SIGN SUMMARY

LAYOUT #5

0 10 20

SCALE 1 : 250

LAYOUT #5

0 10 20

SCALE 1 : 250

FOR R.O.W. USE ONLY

LEGEND

HAY BALES

SILT FENCE

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

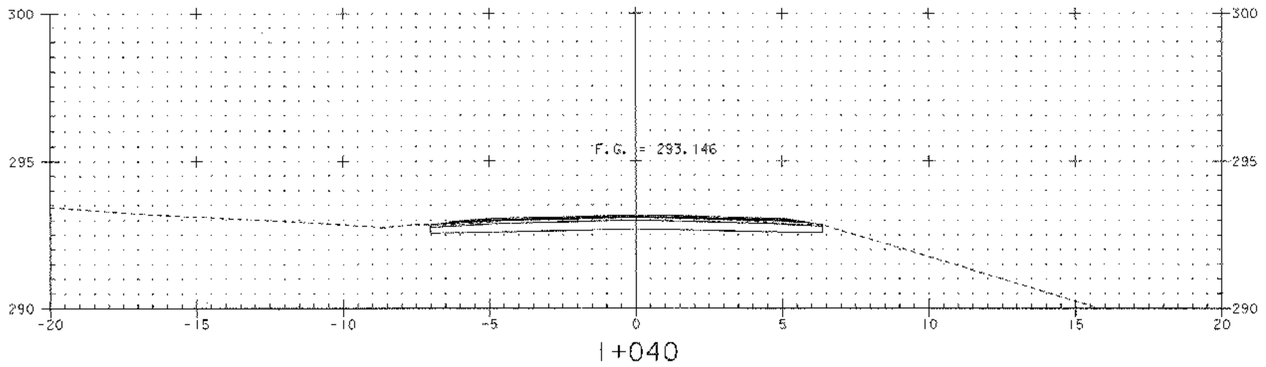
SEE SHEET 26 FOR DRAINAGE DETAILS

DATUM	
VERTICAL	ASSUMED
HORIZONTAL	NAD 83 (93)

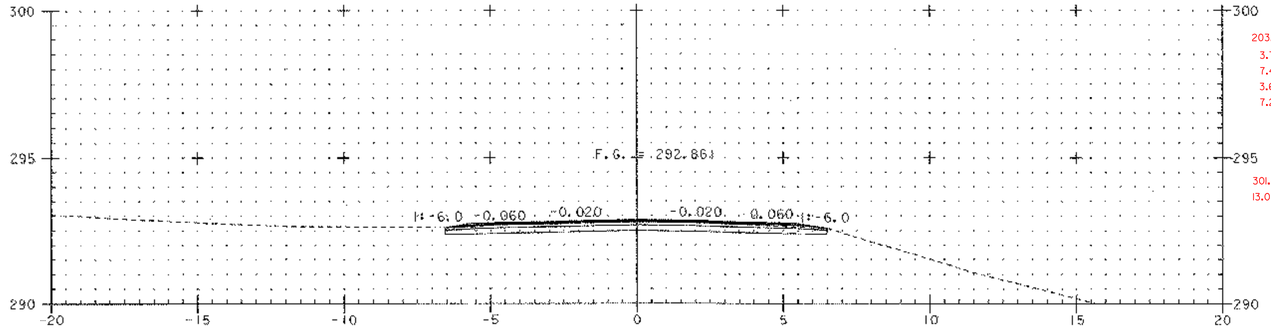
PROJECT:	PROJECT NO. :
BARTON	STP 0113 (58) S

DESIGN FILE NAME: 96cl16/structures/scl16bdr.dgn
IPARM FILE NAME: scl16la5.i — PLOT DATE: 03-JAN-2002
SURVEYED BY: R. BULLOCK, R. GILMAN — SURVEY DATE: 8/96,5/99
SQUAD LEADER: C.P. WILLIAMS — DRAWN BY: P.G. JARVIS
R.O.W. SHEET 16 OF 16 SHEETS — 88 OF 120

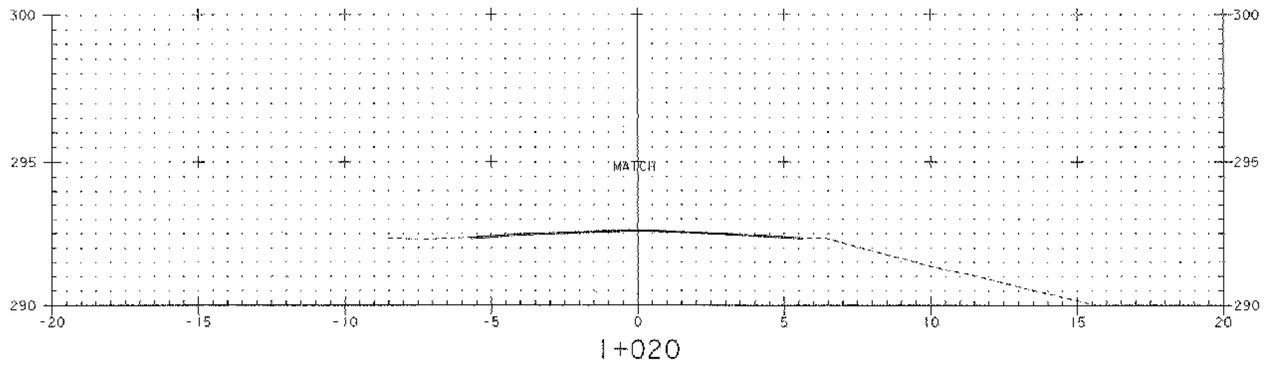
Metric



1+040

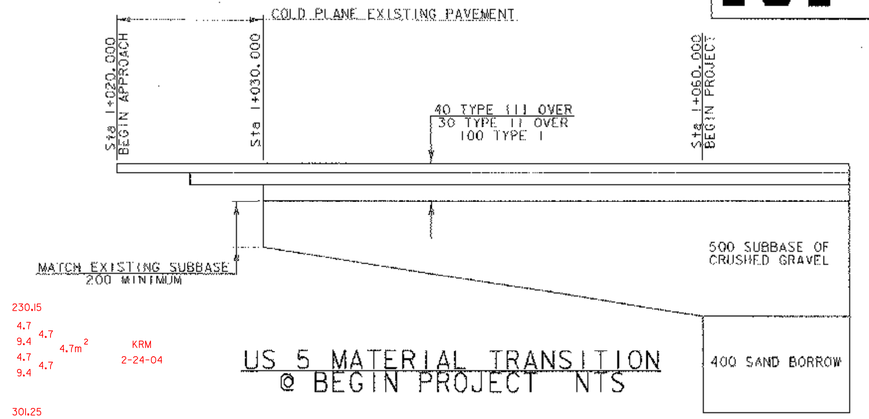


1+030



1+020

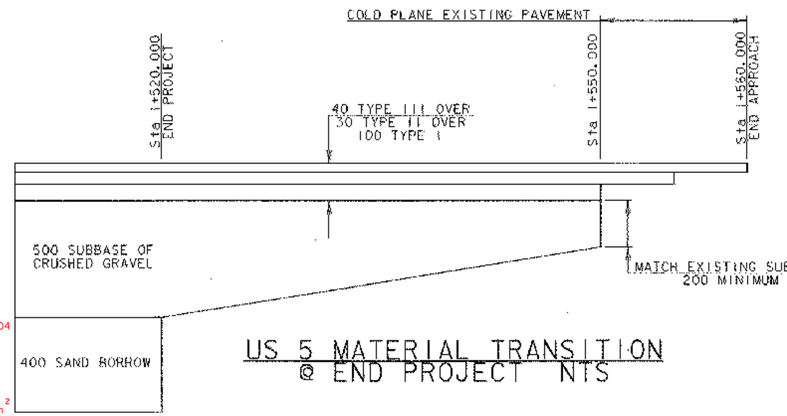
SCALE 1:100



US 5 MATERIAL TRANSITION
@ BEGIN PROJECT NTS

230.15
4.7
9.4 4.7
4.7 4.7
9.4
4.7m²
KRM
2-24-04

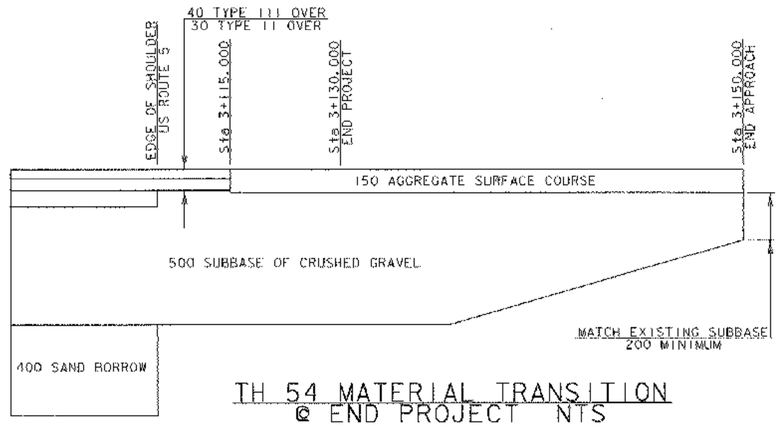
301.25
3.8
7.6 3.8
3.8 3.8
7.6
3.8m²
KRM
3-8-04



US 5 MATERIAL TRANSITION
@ END PROJECT NTS

BUTT
203.15
3.7 3.7
7.4 3.65m²
3.6 3.6
7.2
KRM
2-24-04

301.25
13.0m x 0.2m = 2.6 m²
KRM
3-8-03

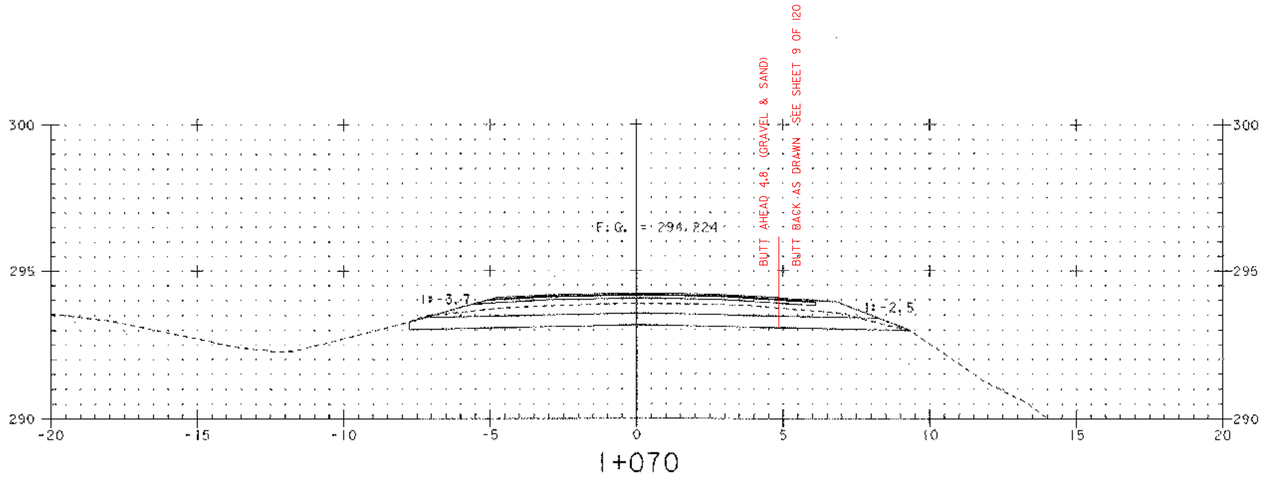


TH 54 MATERIAL TRANSITION
@ END PROJECT NTS

ARCHIVED ON CADD

PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn	
IPARM FILE NAME: sc116501.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+020 Thru 1+040	SHEET: 89 OF 120



1+070

SEE DRAINAGE SHEET FOR DRAINAGE DETAILS

203.15
10.1 10.0
20.0 10.0m²
10.0 10.0
20.0

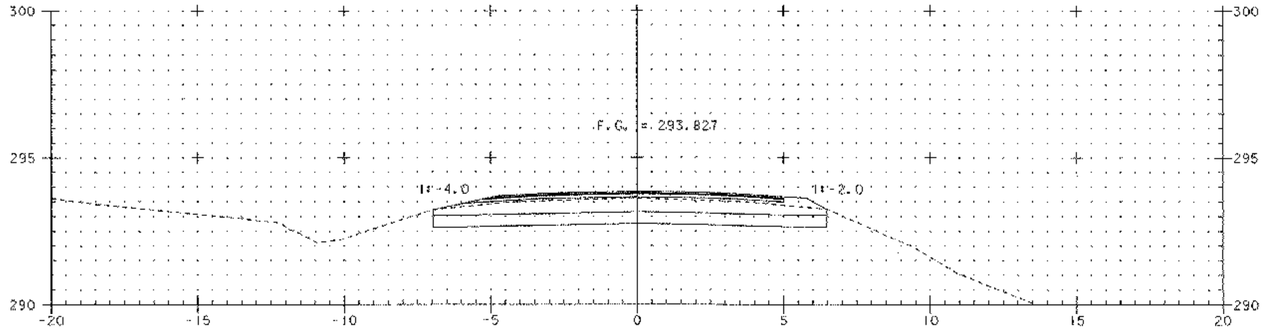
301.25 BUTT BACK
6.8 6.9
13.8 6.9m²
6.8 6.9
13.8

BUTT AHEAD
5.2 5.2
10.4 5.2m²
5.2 5.2
10.4

KRM 3-8-04 SEE SHEET 9 OF 120

203.31
6.4 6.4
12.8 6.4m²
6.4 6.4
12.8

KRM 2-24-04



1+060

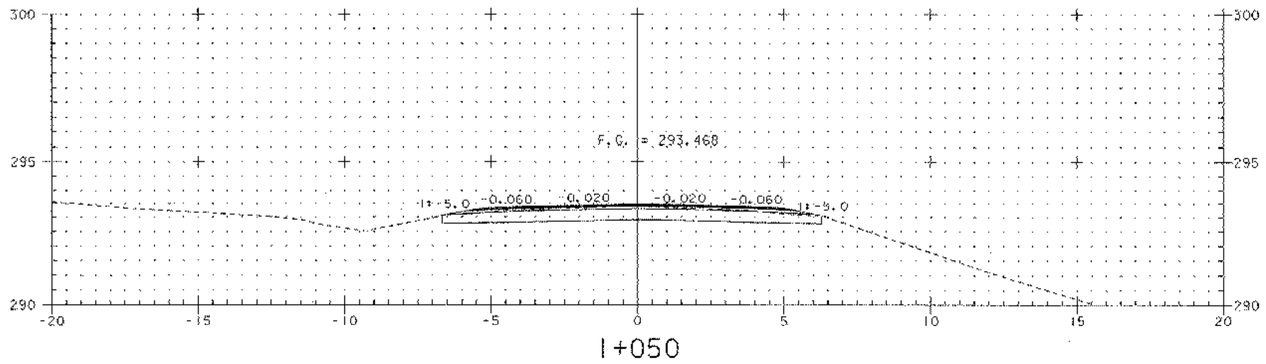
Sta 1+060.000
BEGIN PROJECT

203.15
10.4 10.45
20.9 10.48m²
10.5 10.5
21.0

301.25
6.3 6.3
12.6 6.3m²
6.3 6.3
12.6

203.31
13.4m x 0.4m = 5.36m²

KRM 2-24-04



1+050

0 2 4 6 8 10
SCALE 1:100

203.15
5.2 5.25
10.5 5.28m²
5.4 5.3
10.6

KRM 2-24-04

301.15
4.5 4.5
9.0 4.5m²
4.5 4.5
9.0

KRM 3-8-04

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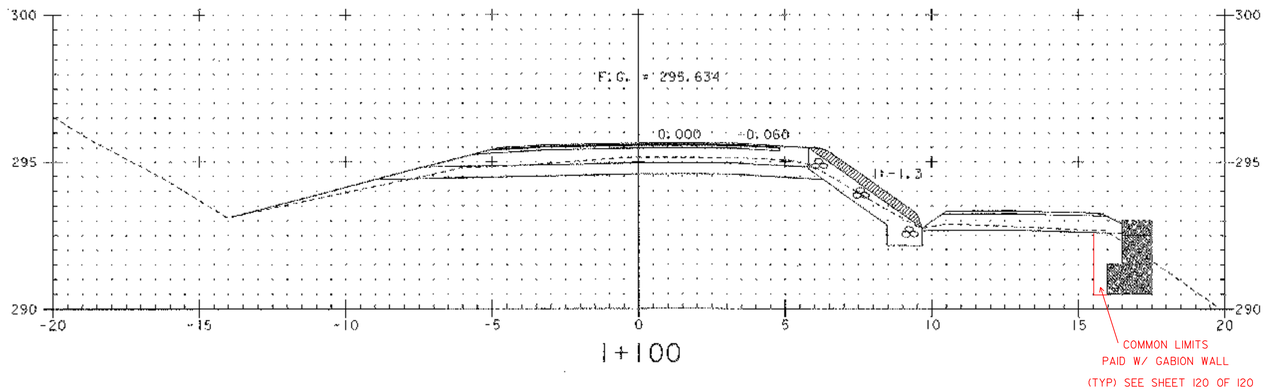
PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96cl16/structures/scl16us.dgn /PARM FILE NAME: scl16502.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+050 Thru 1+070	SHEET: 90 OF 120



1+100

COMMON LIMITS
PAID W/ GABION WALL
(TYP) SEE SHEET 120 OF 120

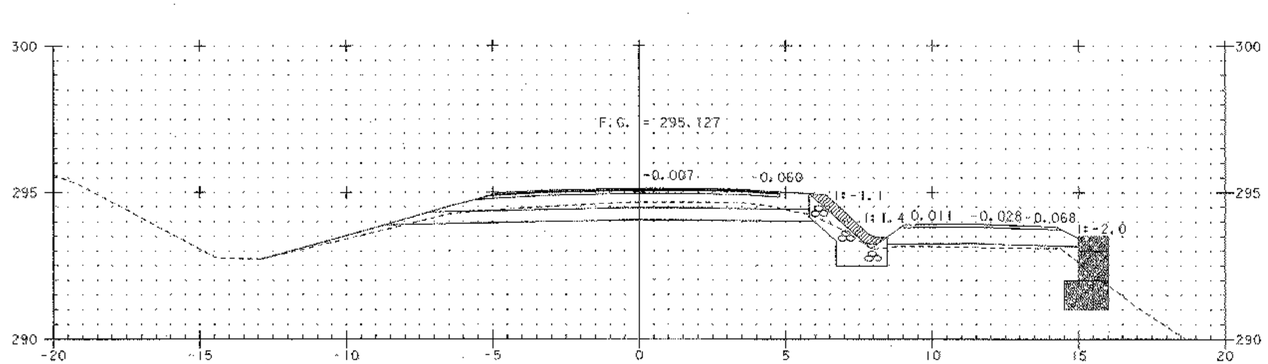
203.15
9.0 9.1
18.2 9.05m²
8.9 9.0
18.0

613.11
3.0 3.0
6.0 3.0m²
3.0 3.0
6.0

KRM 2-24-04

301.25
6.0 6.0
12.0 6.0m²
5.9 6.0
12.0

KRM 3-8-04



1+090

Sta 1+083.000 RT
BEGIN STONE FILL TYPE II
BEGIN GRUBBING MATERIAL

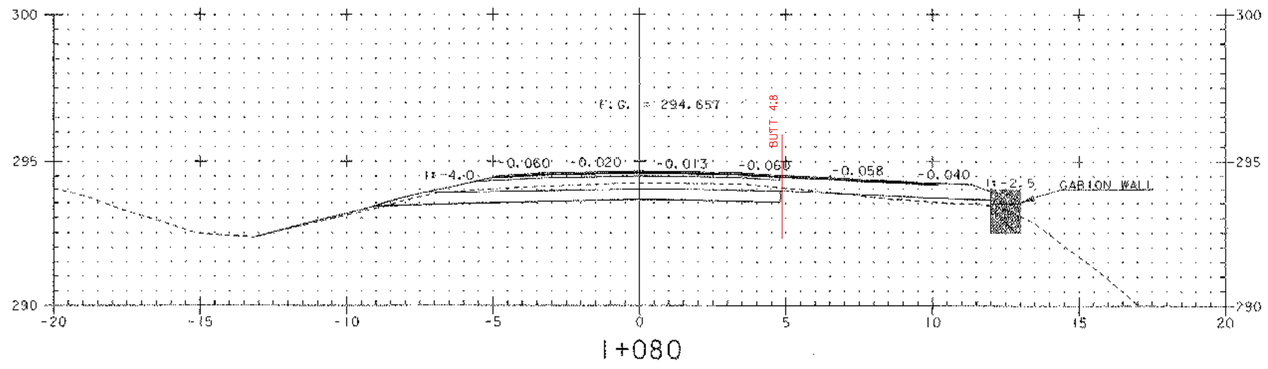
203.15
8.3 8.3
16.6 8.3m²
8.4 8.3
16.6

613.11
2.5 2.5
5.0 2.5m²
2.5 2.5
5.0

KRM 2-24-04

301.25
6.0 5.95
11.9 6.0m²
6.0 6.05
12.1

KRM 3-8-04



1+080

203.15
7.3 7.4
14.8 7.4m²
7.4 7.4
14.8

KRM 2-24-04

301.25
5.2 5.2
10.4 5.2m²
5.2 5.2
10.4

KRM 3-8-04

0 2 4 6 8 10
SCALE 1:100

PLOTTED 03-JAN-2002

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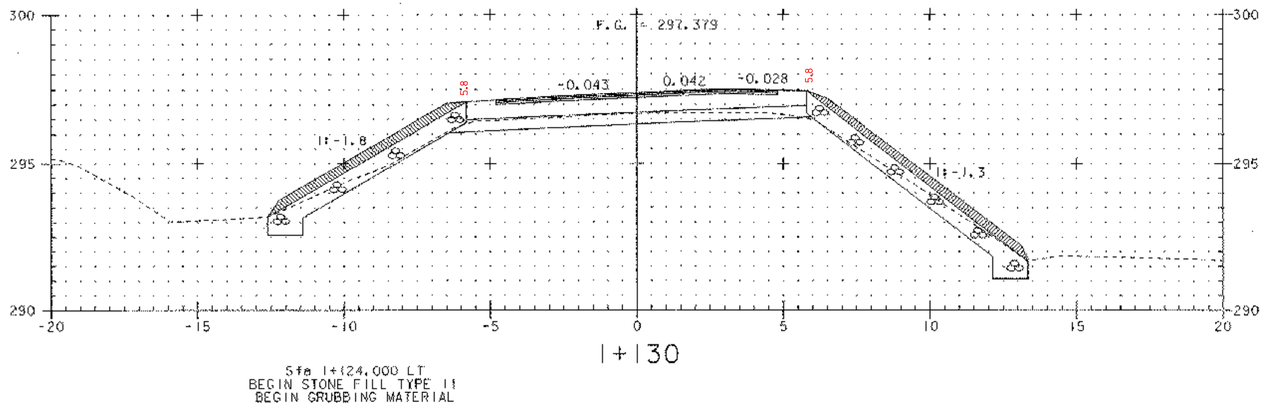
ON CADD

PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn	
PARM FILE NAME: sc116503.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+080 Thru 1+100	SHEET: 91 OF 120



1+130

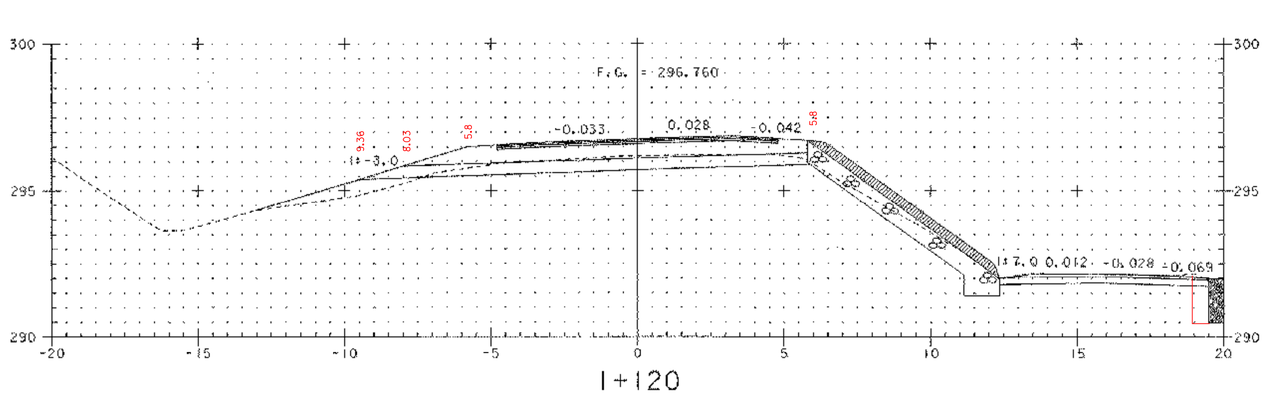
Sta 1+124.000 LT
BEGIN STONE FILL TYPE 1
BEGIN GRUBBING MATERIAL

203.15
8.6
17.4
8.7
8.7
17.4
8.7
8.7m²

301.25
6.0
12.0
6.0
5.9
12.0
6.0
6.0m²

613.11 RT
6.1
12.2
6.1
6.1
12.2
6.1m²

613.11 LT
4.8
9.8
4.9
5.0
9.8
4.9
4.9m²



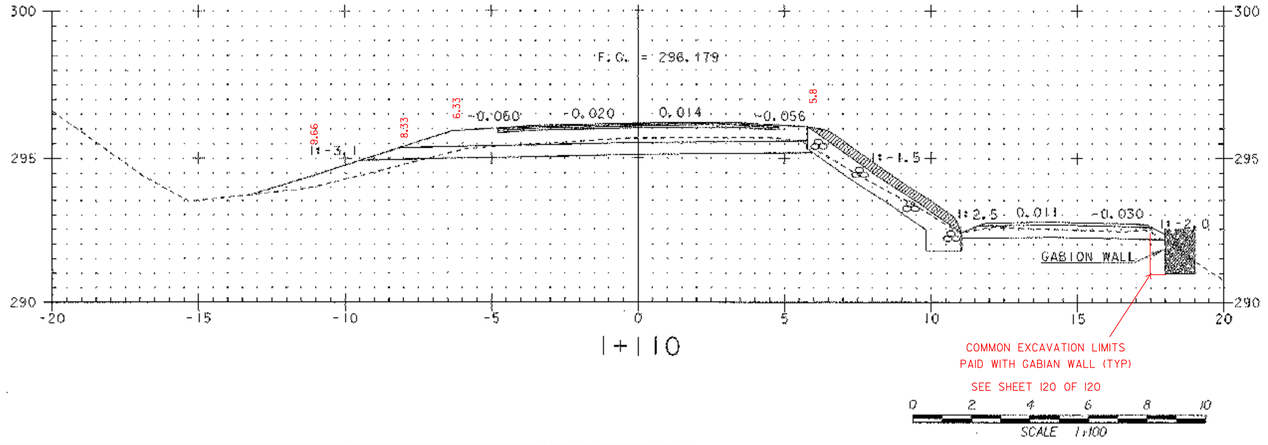
1+120

203.15
10.4
20.8
10.4
10.5
21.0
10.5
10.45m²

301.25
6.5
13.0
6.5
6.5
13.0
6.5
6.5m²

613.11
5.7
11.3
5.65
5.6
11.4
5.7
5.68m²

SEE DRAINAGE SHEET FOR DRAINAGE DETAILS



1+110

COMMON EXCAVATION LIMITS
PAID WITH GABION WALL (TYP)

SEE SHEET 120 OF 120

0 2 4 6 8 10
SCALE 1:100

203.15
10.4
20.7
10.35
10.4
20.9
10.45
10.4m²

301.25
6.7
13.4
6.7
6.6
13.2
6.6
6.65m²

613.11
4.3
8.6
4.3
4.3
8.6
4.3
4.3m²

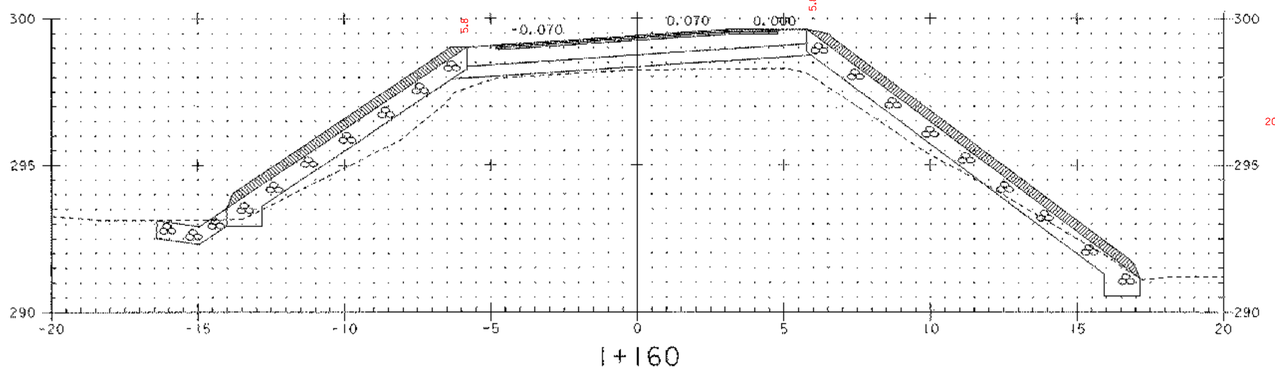
KRM 2-24-04

PLOTTED 03-JAN-2002

ARCHIVED ON CADD

PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn IPARM FILE NAME: sc116504.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+110 Thru 1+130	SHEET: 92 OF 120

F.G. = 299.405



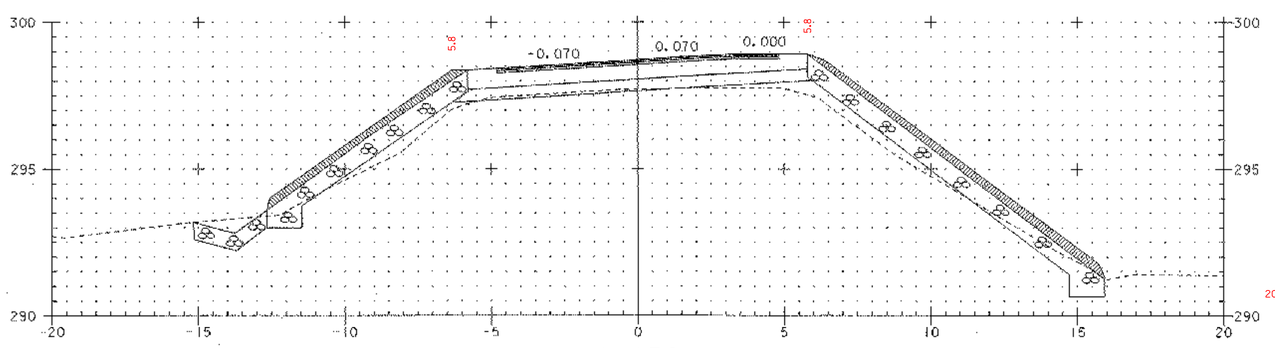
1+160

203.15 RT			613.11 RT		
2.4	2.4		8.7	8.7	
4.8		2.4m²	17.4		8.75m²
2.4	2.4		8.9	8.8	
4.8			17.6		

203.15 LT			613.11 LT		
2.0	2.05		7.2	7.1	
4.1		2.0m²	14.2		7.15m²
1.9	1.95		7.2	7.2	
3.9			14.4		
203.15	4.4m²	DHS	613.11	15.9m²	

301.25		
6.0	6.05	
12.1		6.0m²
5.9	5.95	
11.9		

F.G. = 298.718



1+150

203.15 RT			613.11 RT		
2.4	2.4		8.2	8.2	
4.8		2.4m²	16.4		8.2m²
2.4	2.4		8.1	8.2	
4.8			16.4		

CENTER		
0.5	0.5	
1.0		0.55m²
0.6	0.6	
1.2		

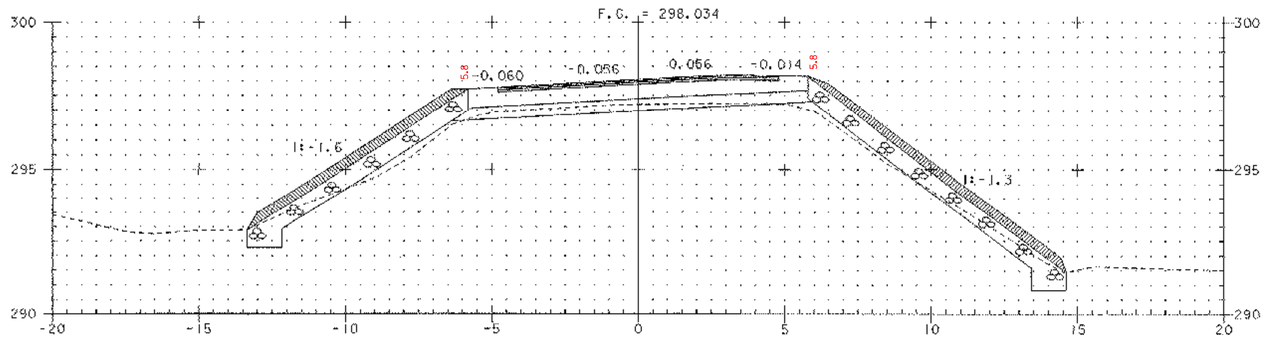
613.11 LT		
6.8	6.85	
13.7		6.88m²
6.9	6.9	
13.8		
613.11	15.08m²	

LT		
3.0	3.0	
6.0		3.0m²
2.9	3.0	
6.0		
203.15	5.95m²	DHS

301.25		
6.0	6.05	
12.1		6.0m²
6.0	5.95	
11.9		

SEE DRAINAGE SHEET FOR DRAINAGE DETAILS

F.G. = 298.034



1+140

203.15			613.11 RT		
5.6	5.6		6.6	6.65	
11.2		5.68m²	13.3		6.7m²
5.7	5.75		6.8	6.75	
11.5			13.5		

301.25		
5.9	5.9	
11.8		5.9m²
5.9	5.9	
11.8		

613.11 LT		
5.2	5.2	
10.4		5.2m²
5.1	5.2	
10.4		
613.11	11.9m²	

0 2 4 6 8 10
SCALE 1:100

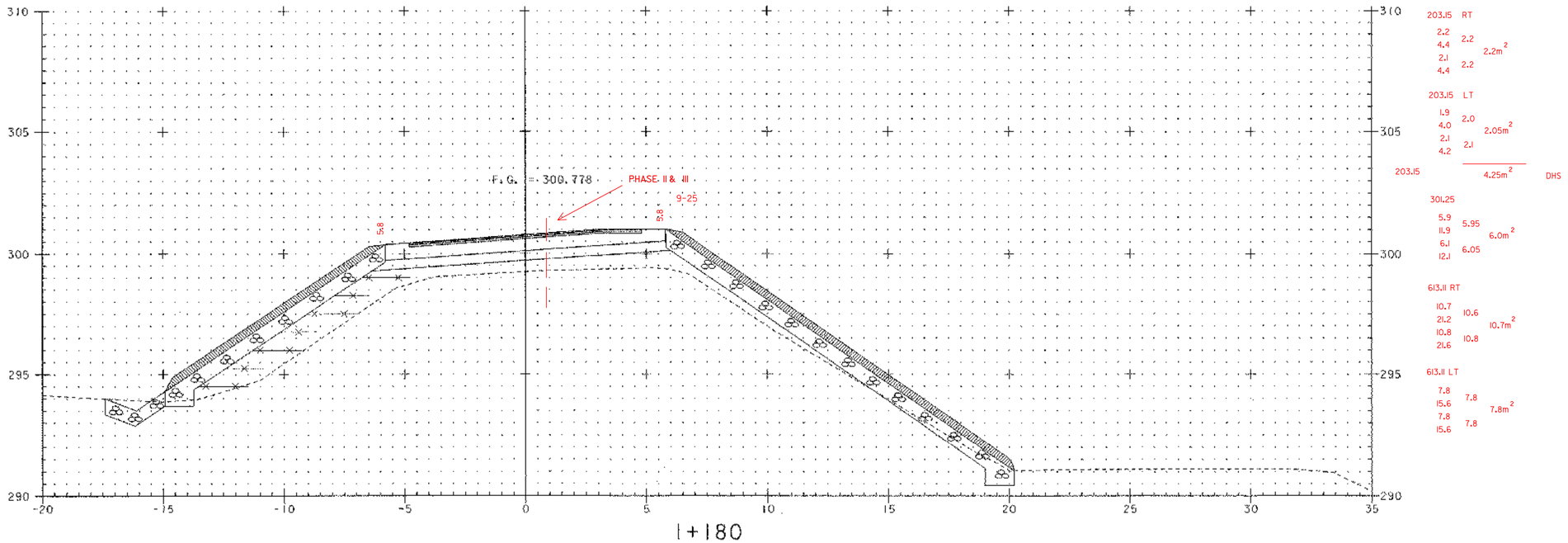
KRM 2-25-04

PLOTTED 03-JAN-2002

ARCHIVED ON CADD

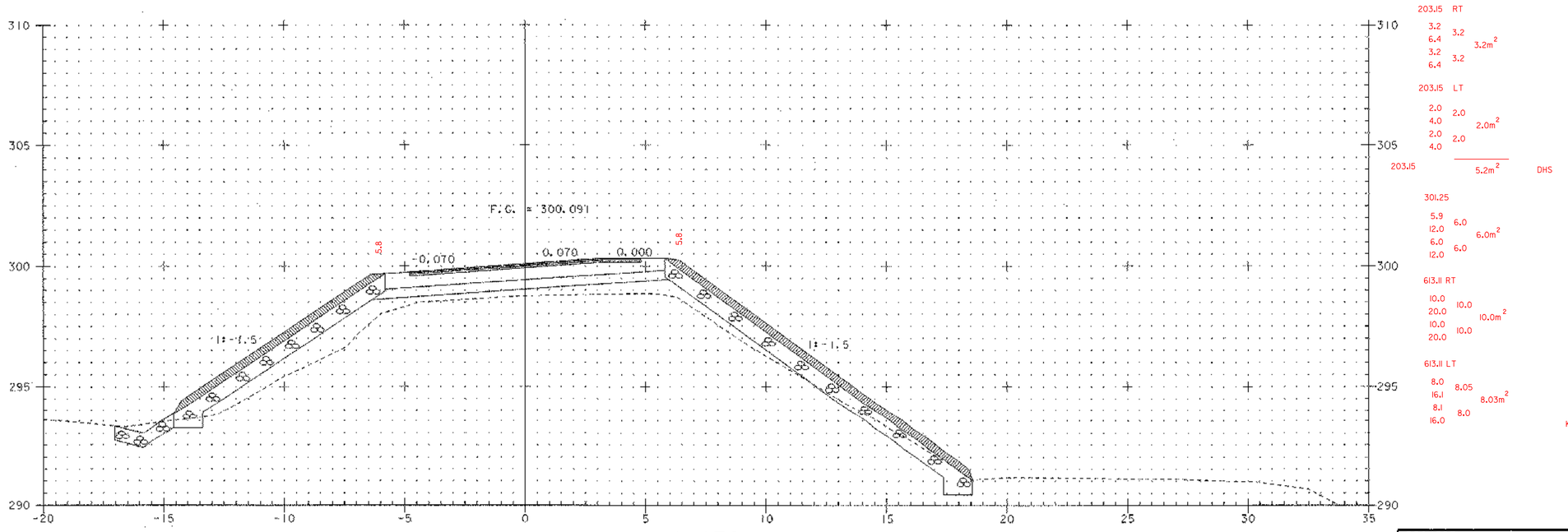
PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116u58.dgn	
IPARM FILE NAME: sc116505.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+140 Thru 1+160	SHEET: 93 OF 120

Metric



1+180

SEE DRAINAGE SHEET FOR DRAINAGE DETAILS



1+170

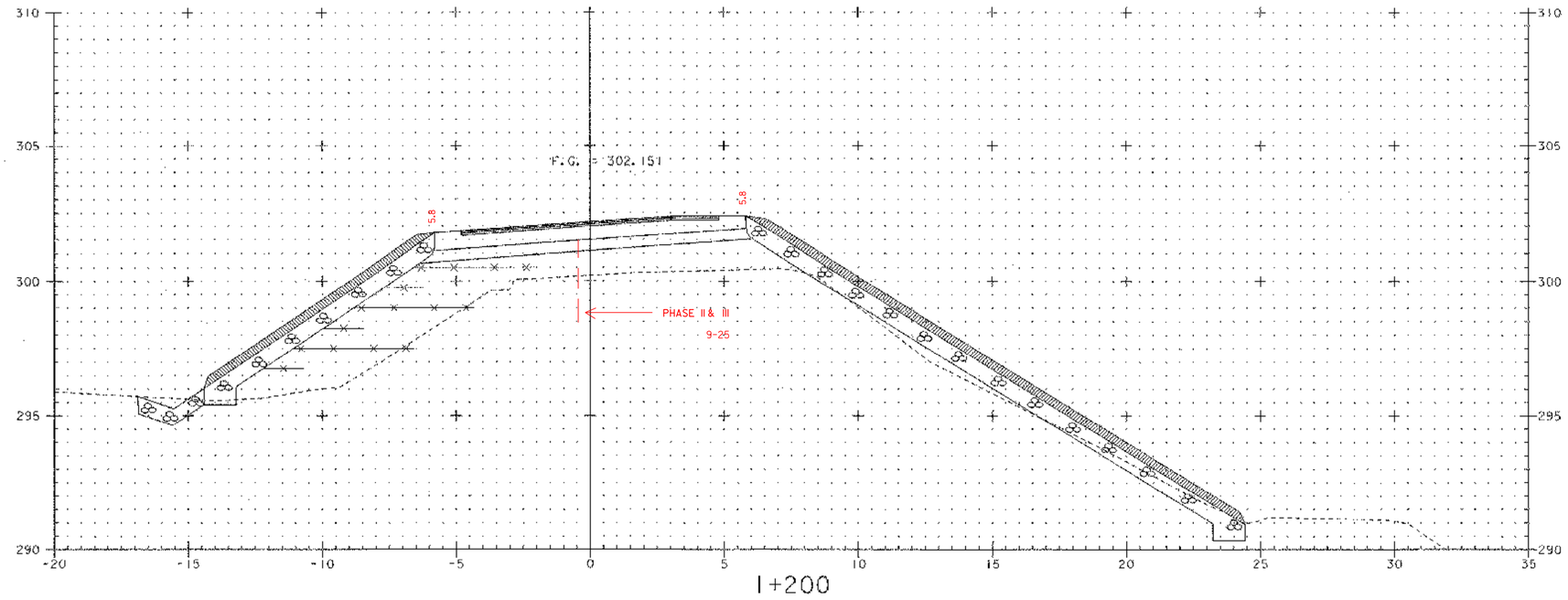
ARCHIVED ON CADD

KRM 2-25-04

0 2 4 6 8 10
SCALE 1:100

PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116s5.dgn	
PARM FILE NAME: sc116506.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+170 THRU Sta 1+180	SHEET: 94 OF 120



1+200

203.15 RT
3.3
6.6
3.2
6.6
3.3
3.3
3.3
3.3m²

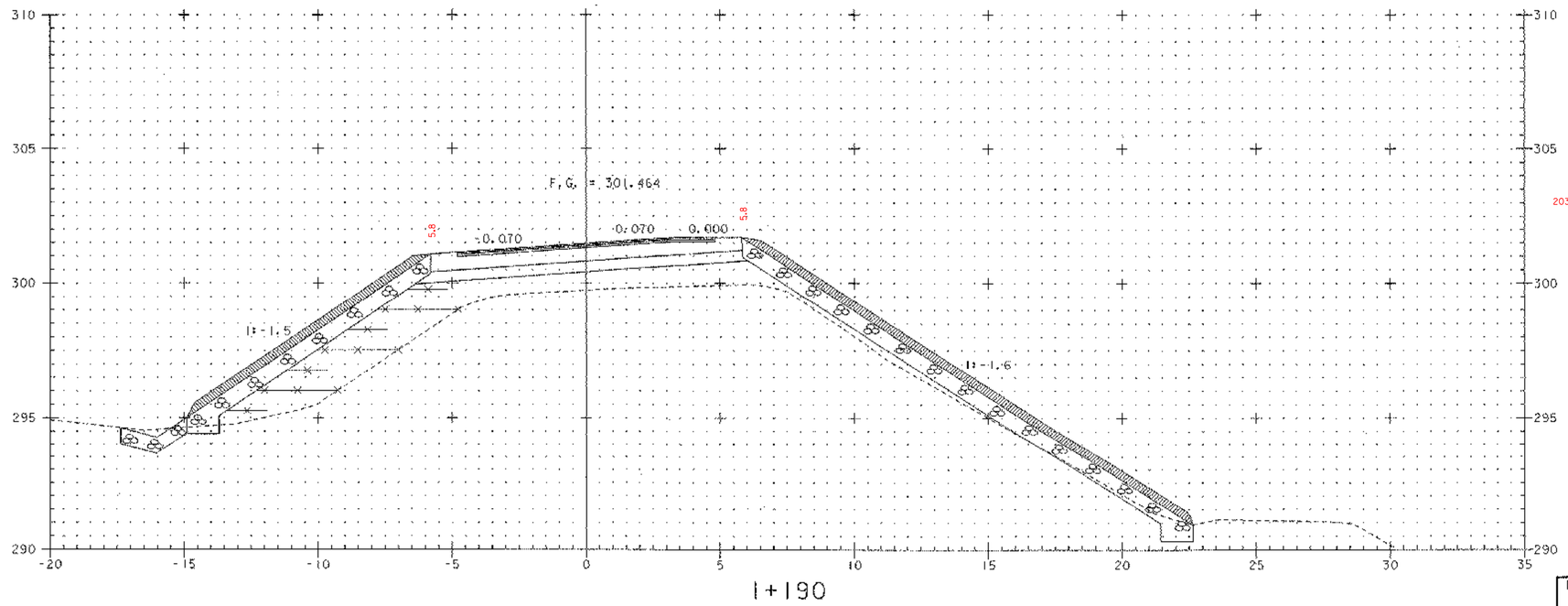
203.15 LT
1.8
3.9
1.9
4.0
1.95
2.0
1.98m²

5.28m² DHS

301.25
5.9
11.8
6.0
11.2
5.9
6.1
6.0m²

613.11 RT
13.4
27.0
13.3
26.7
13.5
13.35
13.43m²

613.11 LT
8.0
16.2
8.1
16.2
8.1
8.1
8.1m²



1+190

203.15 RT
1.6
3.2
1.5
3.2
1.6
1.6
1.6m²

203.15 LT
2.1
4.3
2.2
4.3
2.15
2.25
2.2m²

203.15
3.8m²

301.25
6.0
12.0
6.0
12.0
6.0
6.0
6.0m²

613.11 RT
12.3
24.6
12.2
24.5
12.3
12.25
12.28m²

613.11 LT
8.2
16.5
8.1
16.3
8.25
8.15
8.2m²

KRM 2-25-04

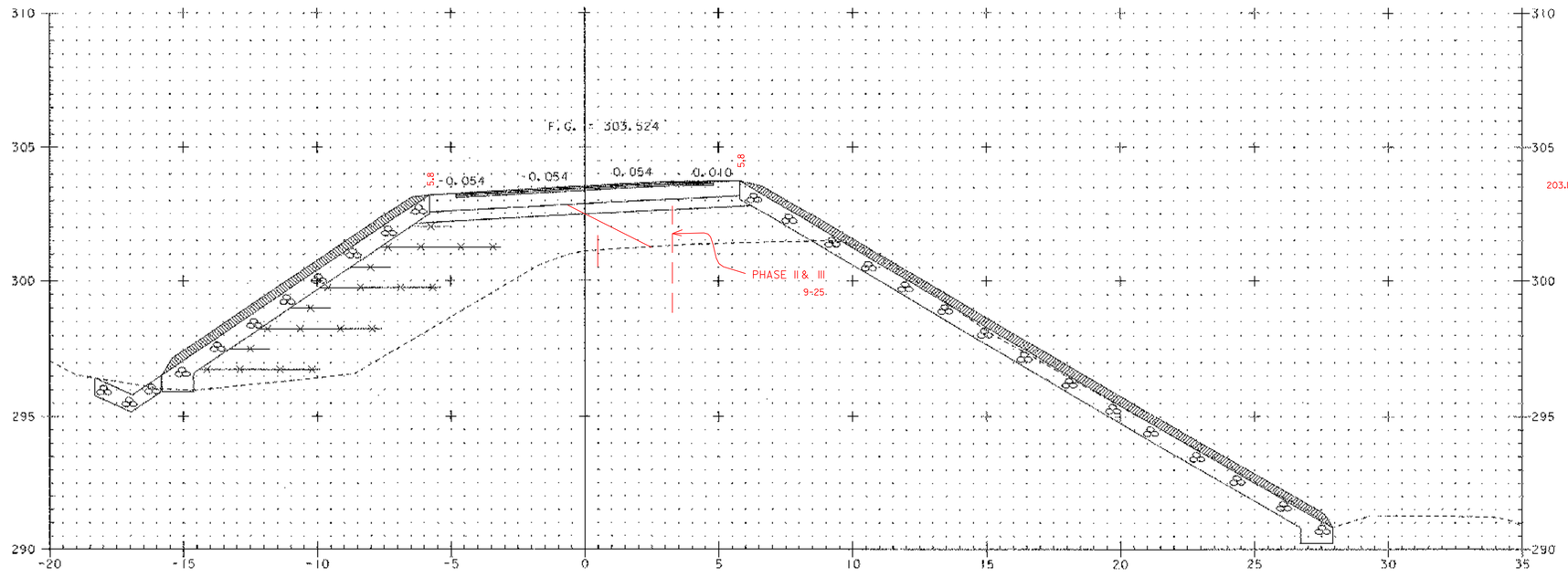
ARCHIVED ON CADD

0 2 4 6 8 10
SCALE 1:100

PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn	
IPARM FILE NAME: sc116507.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+190 THRU Sta 1+200	SHEET: 95 OF 120

Metric



1+220

203.15 RT
13.1
26.0
13.2
26.2
13.0
13.1
13.05m²

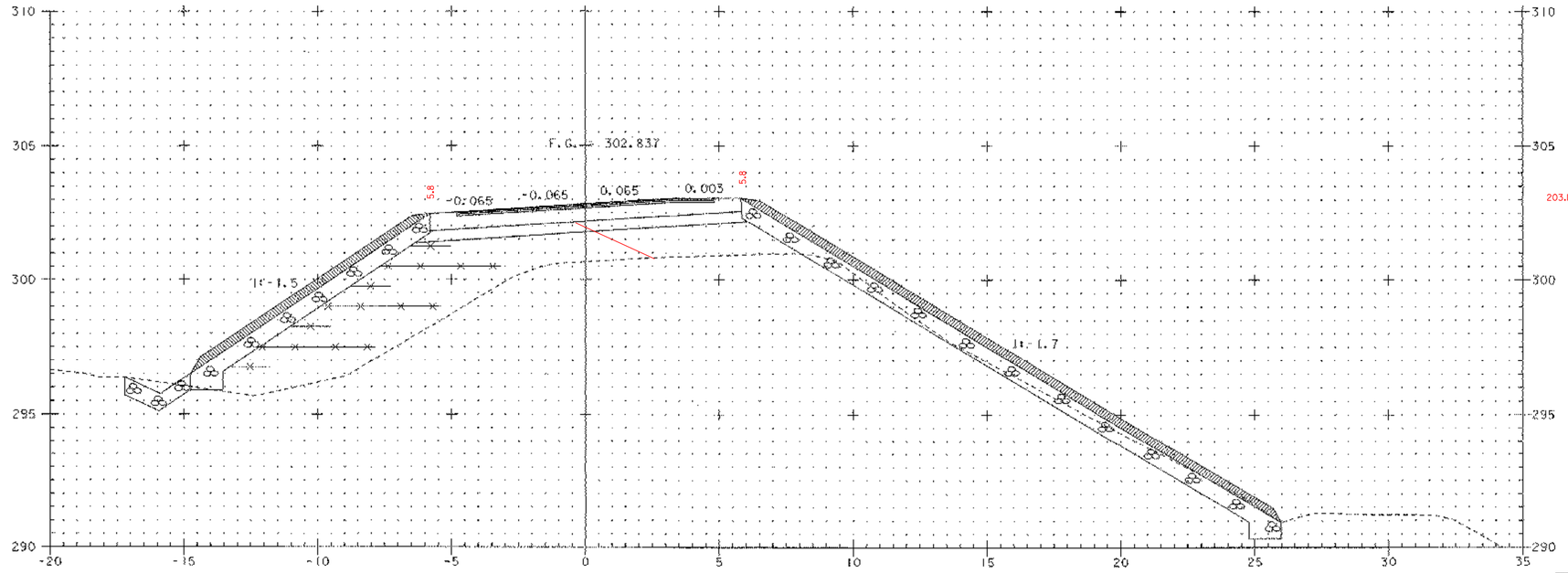
203.15 LT
1.6
3.2
1.6
3.2
1.6
1.6
1.6m²

203.15
14.65m² DHS

301.25
5.9
11.8
5.9
11.8
5.9
5.9
5.9m²

613.11 RT
15.2
30.0
15.1
30.2
15.0
15.1
15.05m²

613.11 LT
9.1
18.3
9.3
18.5
9.15
9.25
9.2m²



1+210

203.15 RT
7.5
15.2
7.5
14.8
7.6
7.4
7.5m²

203.15 LT
2.0
4.0
2.1
4.0
2.0
2.0
2.0m²

203.15
9.5m² DHS

301.25
6.0
12.0
5.8
12.0
6.0
6.0
6.0m²

613.11 RT
14.6
29.4
14.8
29.6
14.7
14.8
14.75m²

613.11 LT
8.0
16.1
8.1
16.2
8.05
8.1
8.08m²

KRM 2-25-04

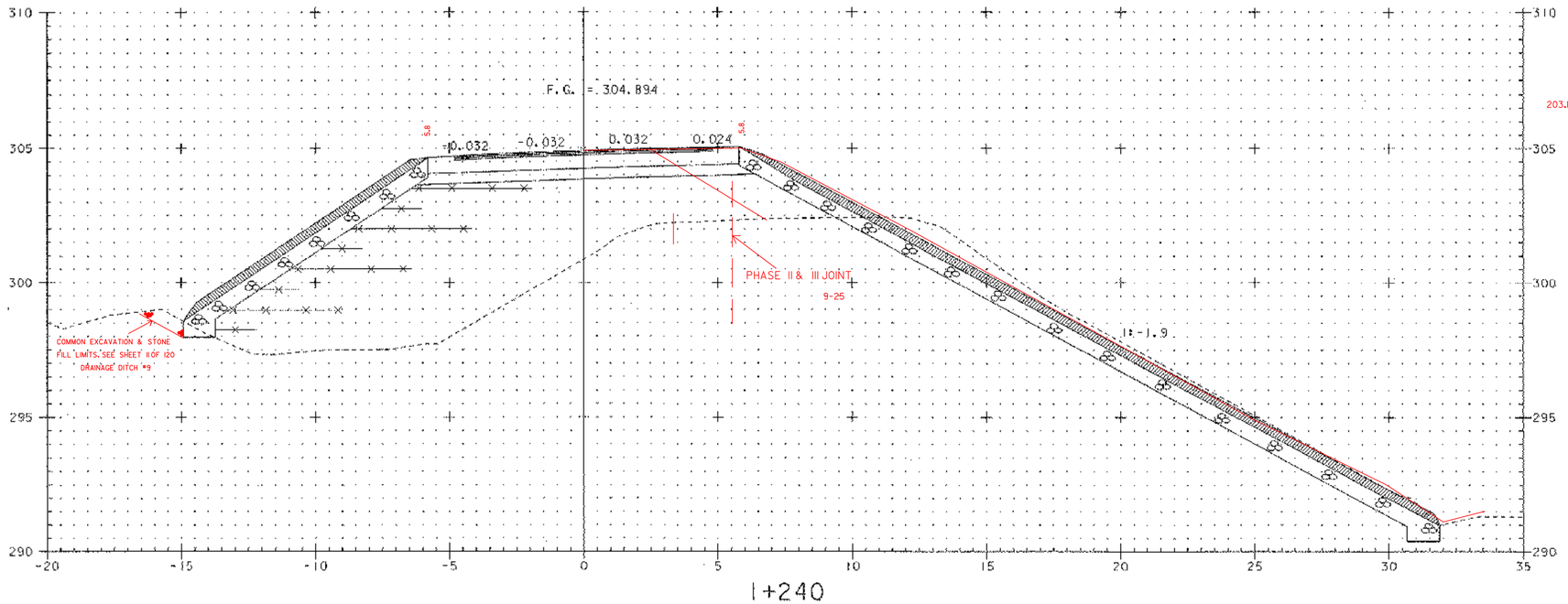
ARCHIVED ON CADD

0 2 4 6 8 10
SCALE 1:100

PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn	
IPARM FILE NAME: sc116508.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+210 THRU Sta 1+220	SHEET: 96 OF 120

Metric



1+240

203.15 LT
1.0 1.0
2.0 1.0m²
1.0 1.0
2.0

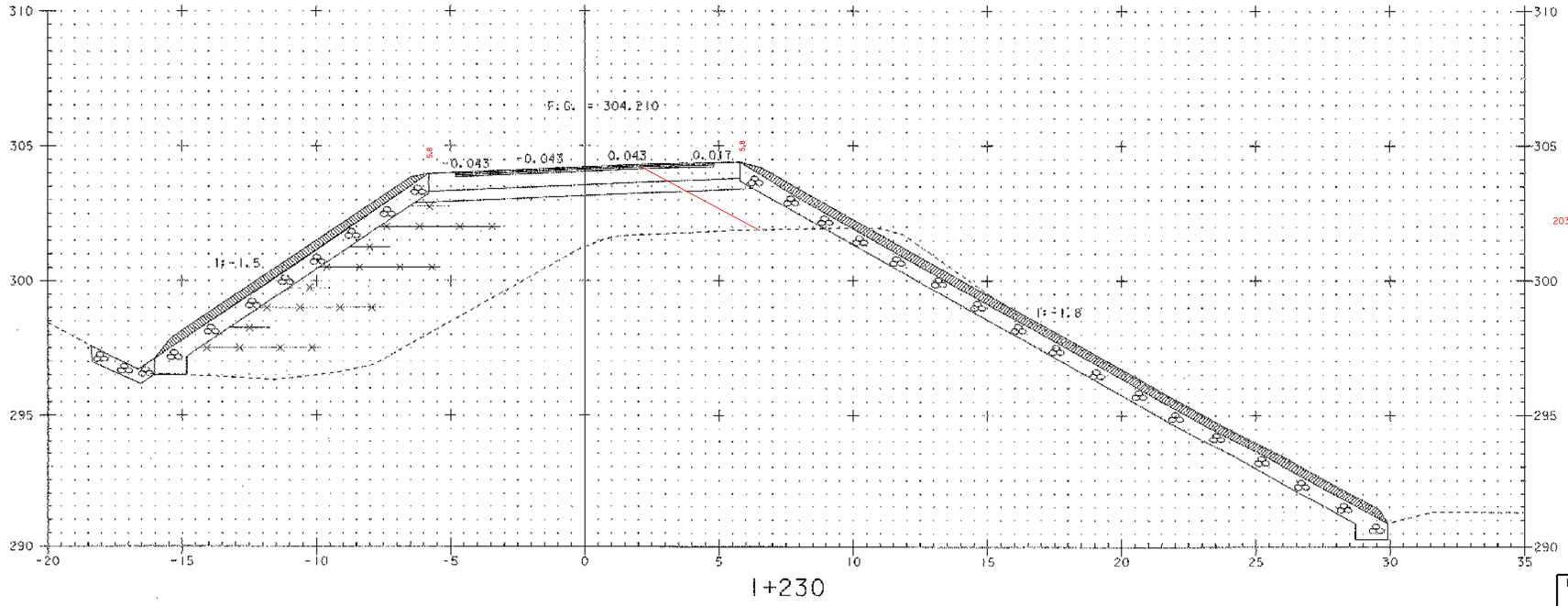
203.15 RT
25.2 25.3
50.6 25.3m²
25.4 25.3
50.6

203.15 26.3m² DHS

301.25
5.9 6.0
12.0 6.0m²
6.0 6.0
12.0

613.11 RT
16.5 16.6
33.2 16.5m²
16.4 16.4
32.8

613.11 LT
7.5 7.4
14.8 7.5m²
7.6 7.6
15.2



1+230

203.15 RT
20.0 20.0
40.0 20.0m²
19.8 20.0
40.0

203.15 LT
1.1 1.1
2.2 1.1m²
1.1 1.1
2.2

203.15 21.1m² DHS

301.25
6.0 6.0
12.0 6.0m²
6.1 6.0
12.0

613.11 RT
15.5 15.5
31.0 15.55m²
15.5 15.6
31.2

613.11 LT
8.5 8.4
16.8 8.4m²
8.4 8.4
16.8

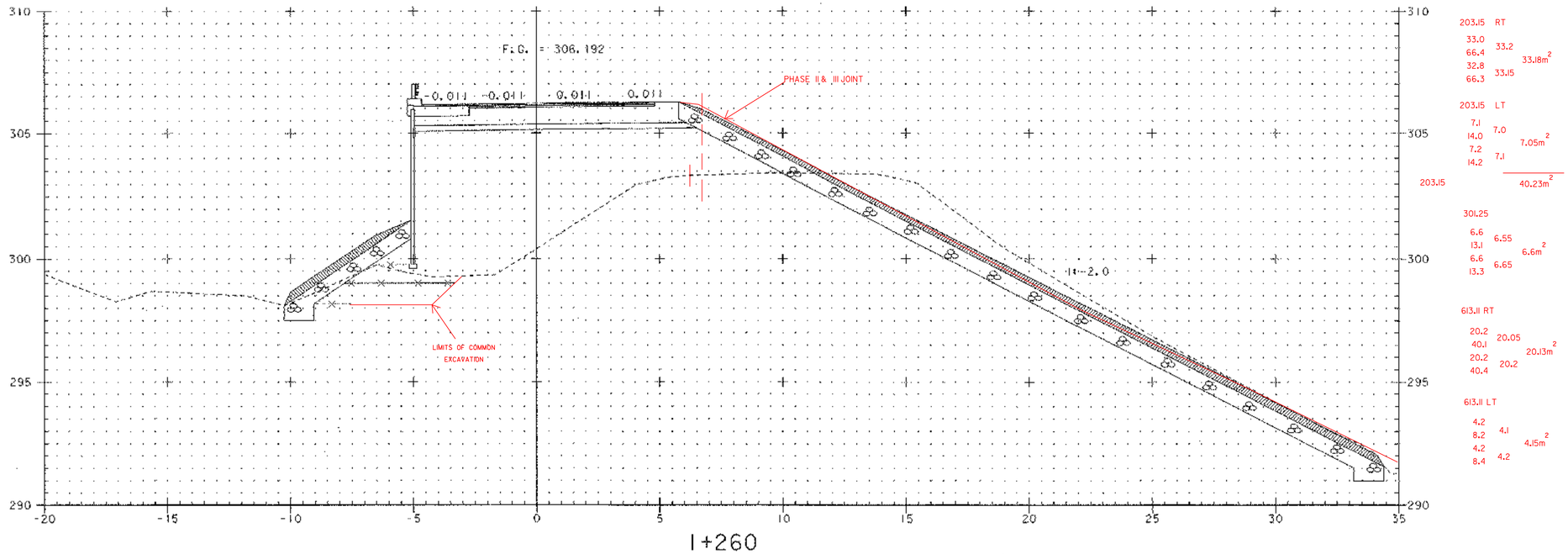
KRM 2-25-04

ARCHIVED ON CADD

0 2 4 6 8 10
SCALE 1:100

PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO.: STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn	
IPARM FILE NAME: sc116509.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+230 THRU Sta 1+240	SHEET: 97 OF 120



1+260

203.15 RT
33.0
66.4
32.8
66.3
33.2
33.15
33.18m²

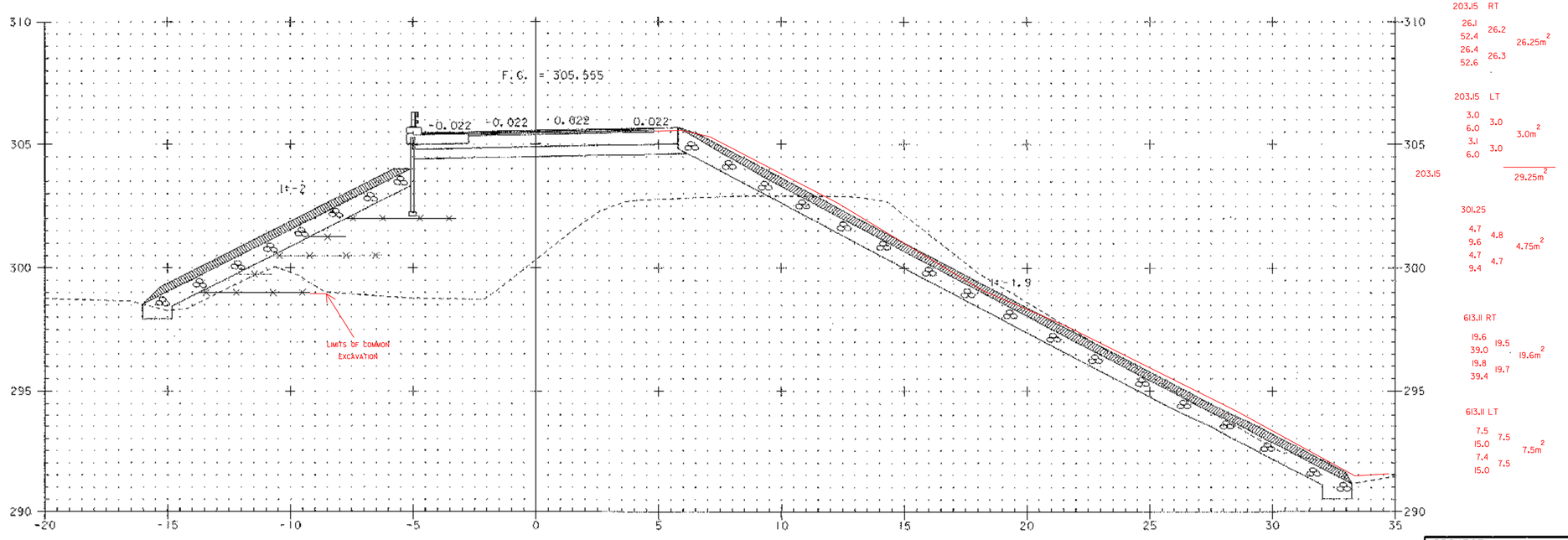
203.15 LT
7.1
14.0
7.2
14.2
7.0
7.1
7.05m²

203.15
40.23m²

301.25
6.6
13.1
6.6
13.3
6.55
6.65
6.6m²

613.11 RT
20.2
40.1
20.2
40.4
20.05
20.2
20.13m²

613.11 LT
4.2
8.2
4.2
8.4
4.1
4.2
4.15m²



1+250

203.15 RT
26.1
52.4
26.4
52.6
26.2
26.3
26.25m²

203.15 LT
3.0
6.0
3.1
6.0
3.0
3.0
3.0m²

203.15
29.25m²
DHS

301.25
4.7
9.6
4.7
9.4
4.8
4.7
4.75m²

613.11 RT
19.6
39.0
19.8
39.4
19.5
19.7
19.6m²

613.11 LT
7.5
15.0
7.4
15.0
7.5
7.5
7.5m²

KRM 2-25-04

ARCHIVED ON CADD

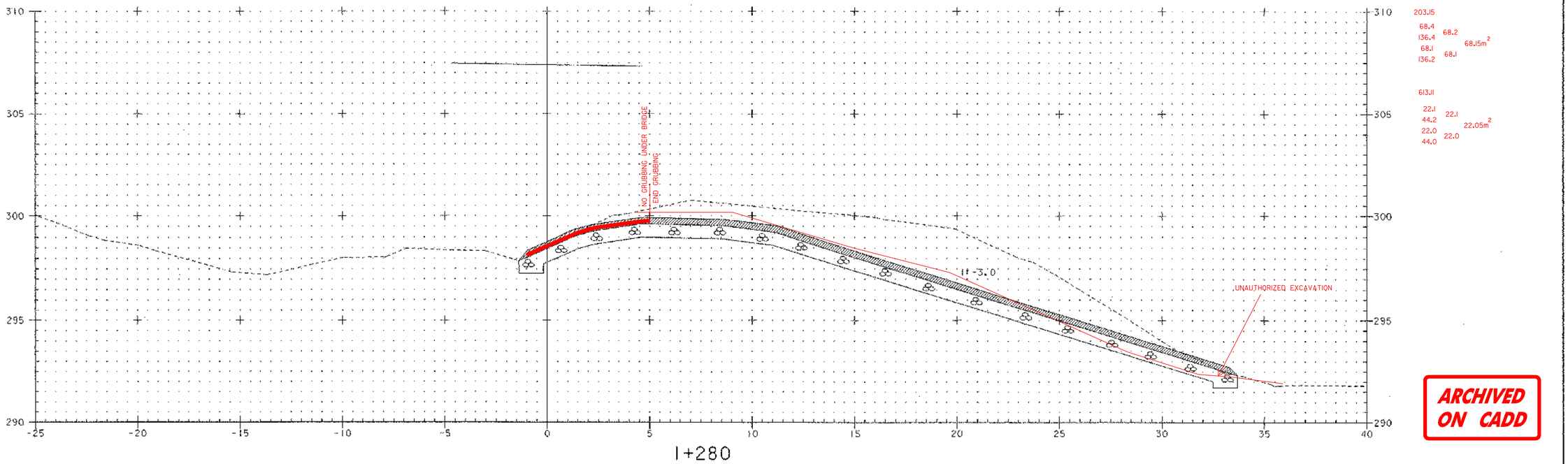
SEE DRAINAGE SHEET FOR DRAINAGE DETAILS

0 2 4 6 8 10
SCALE 1:100

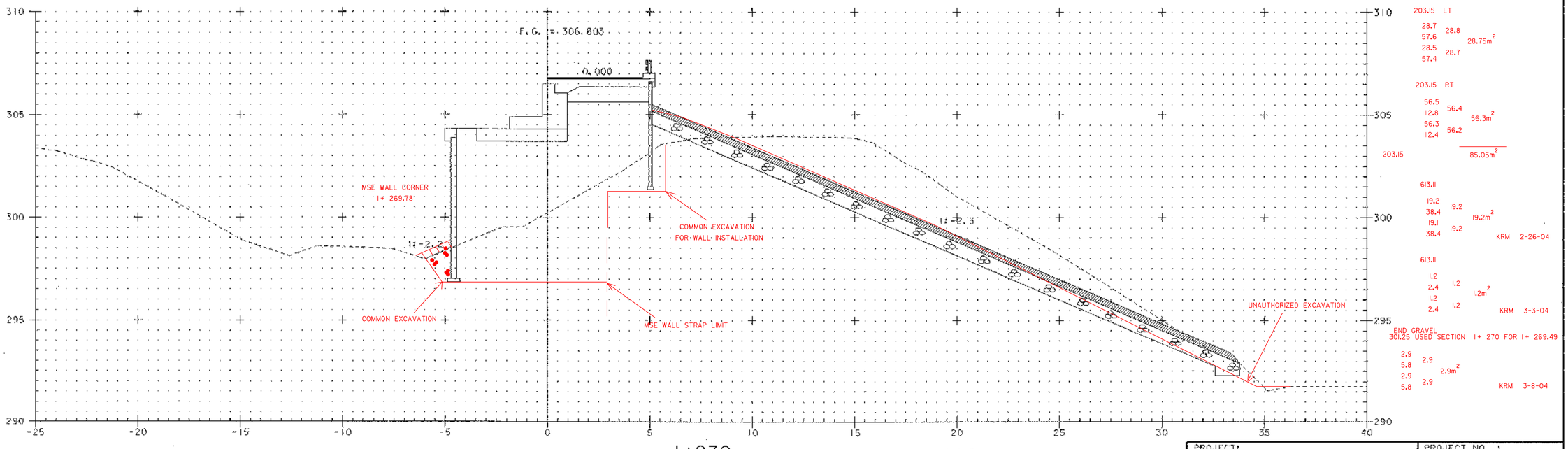
PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO.: STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn	
PARM FILE NAME: sc116510.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+250 THRU Sta 1+260	SHEET: 98 OF 120

Metric



1+280



1+270

Sta 1+269.907
BEGIN BRIDGE

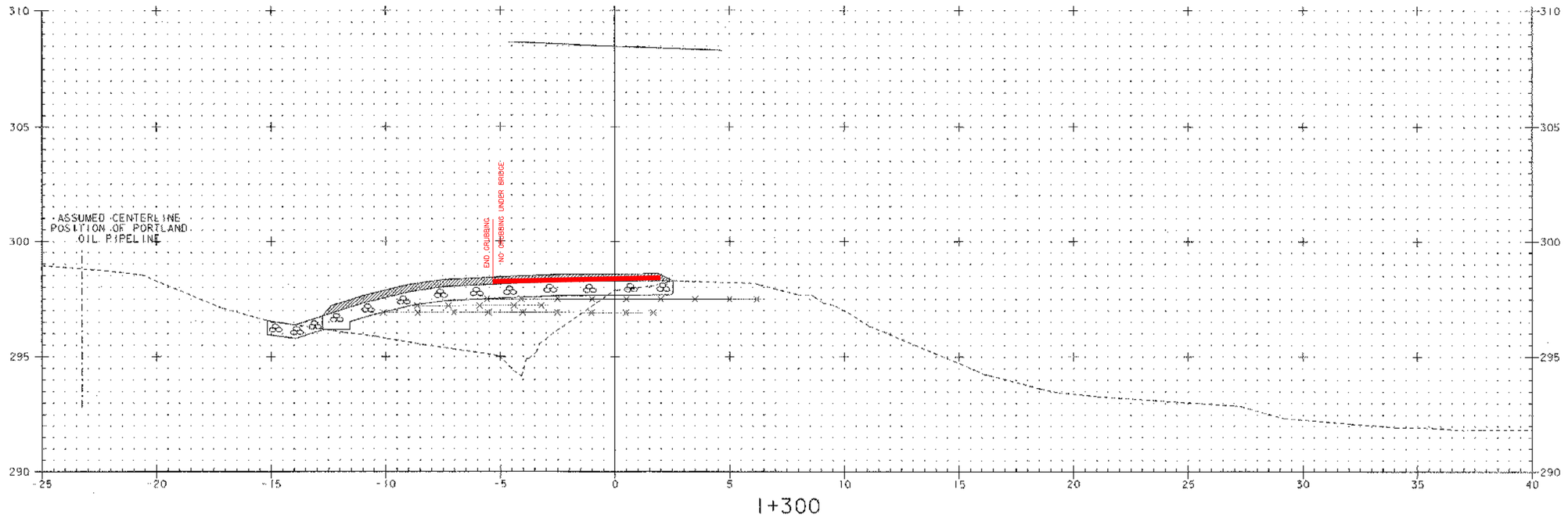
0 2 4 6 8 10
SCALE 1:100

PLOTTED 03-JAN-2002

ARCHIVED ON CADD

PROJECT: BARTON	PROJECT NO.: STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116u5a.dgn	
IPARM FILE NAME: sc116u1.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+270 THRU Sta 1+280	SHEET: 99 OF 120

Metric



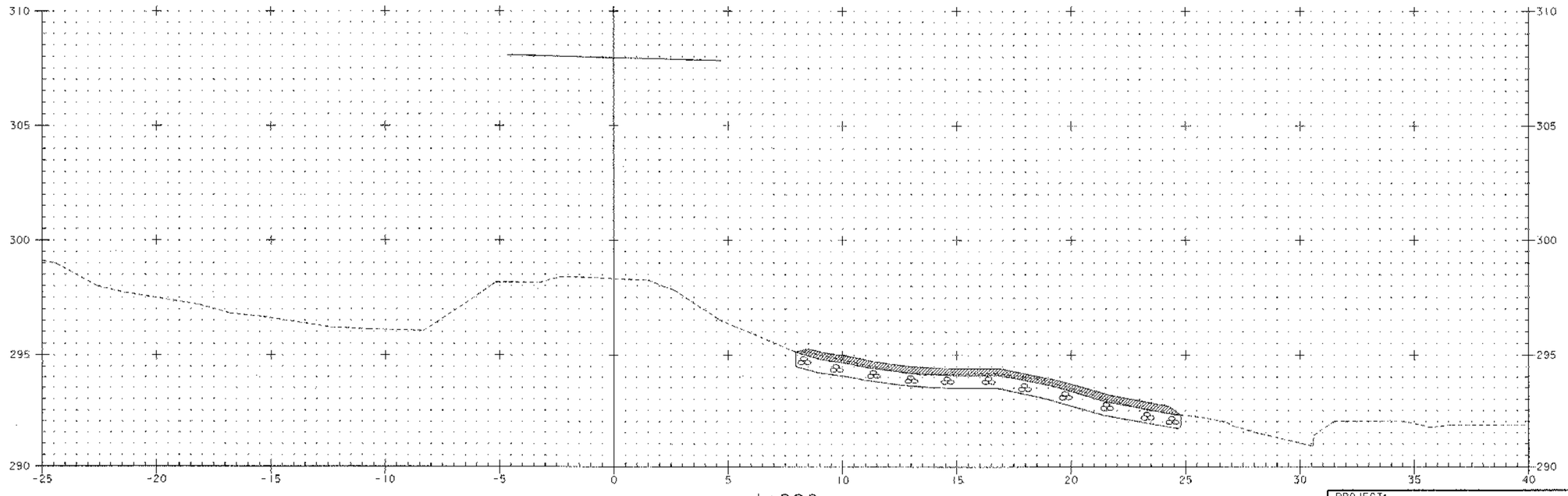
1+300

SEE DRAINAGE SHEET FOR DRAINAGE DETAILS

203.15 LT
1.0 1.0
2.0 1.0m²
1.0 1.0
2.0

RT WAS FIELD MEASURED 12-10-02
SEE COMMON EXCAVATION CALCULATIONS
1+300 ~ 1+313
KRM 2-26-04

613.11
10.1 10.2
20.4 10.25m²
10.3 10.3
20.6



1+290

203.15
11.5 11.5
23.0 11.5m²
11.4 11.5
23.0

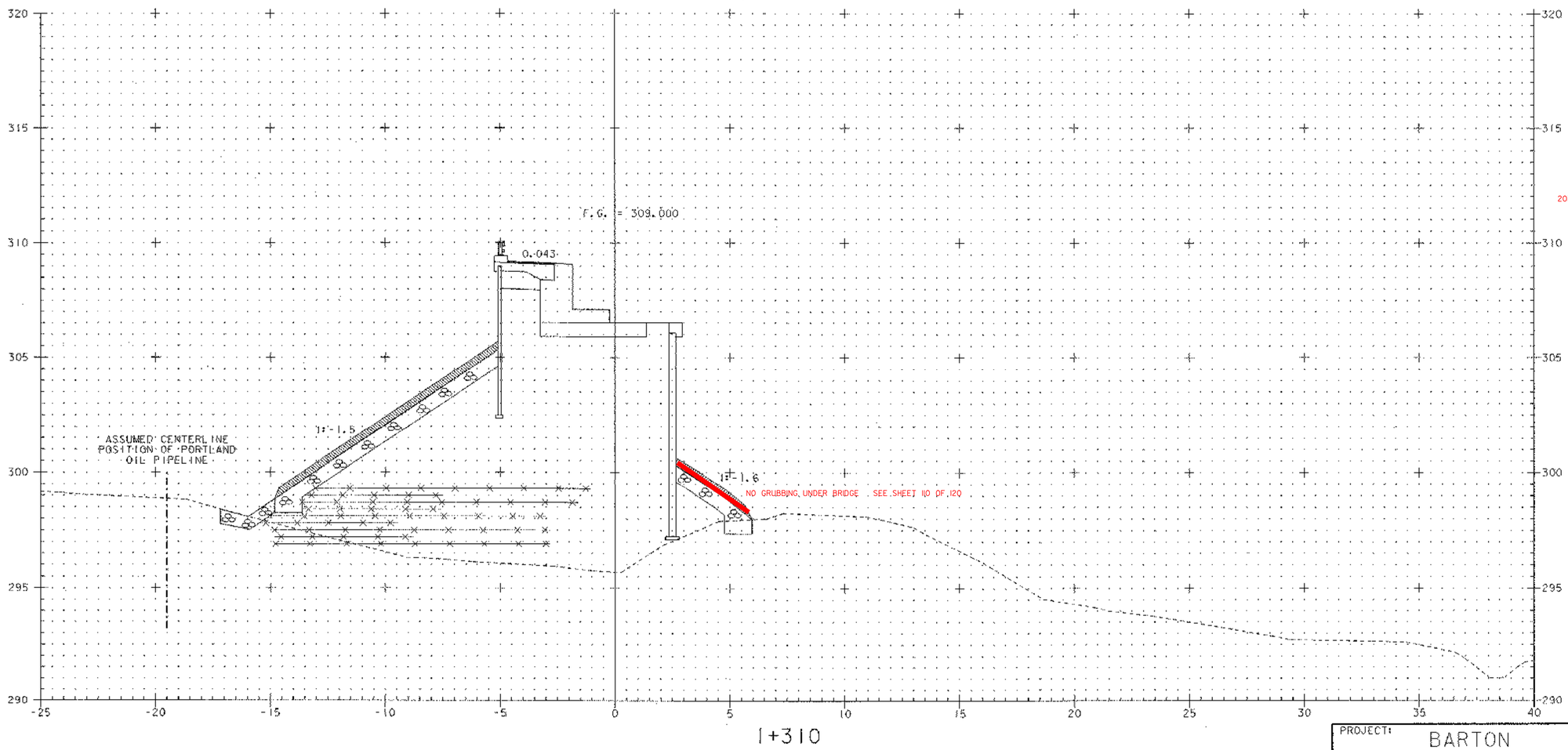
613.11
10.5 10.5
21.0 10.5m²
10.4 10.5
21.0

ARCHIVED ON CADD

0 2 4 6 8 10
SCALE 1:100

PLOTTED 03-JAN-2002

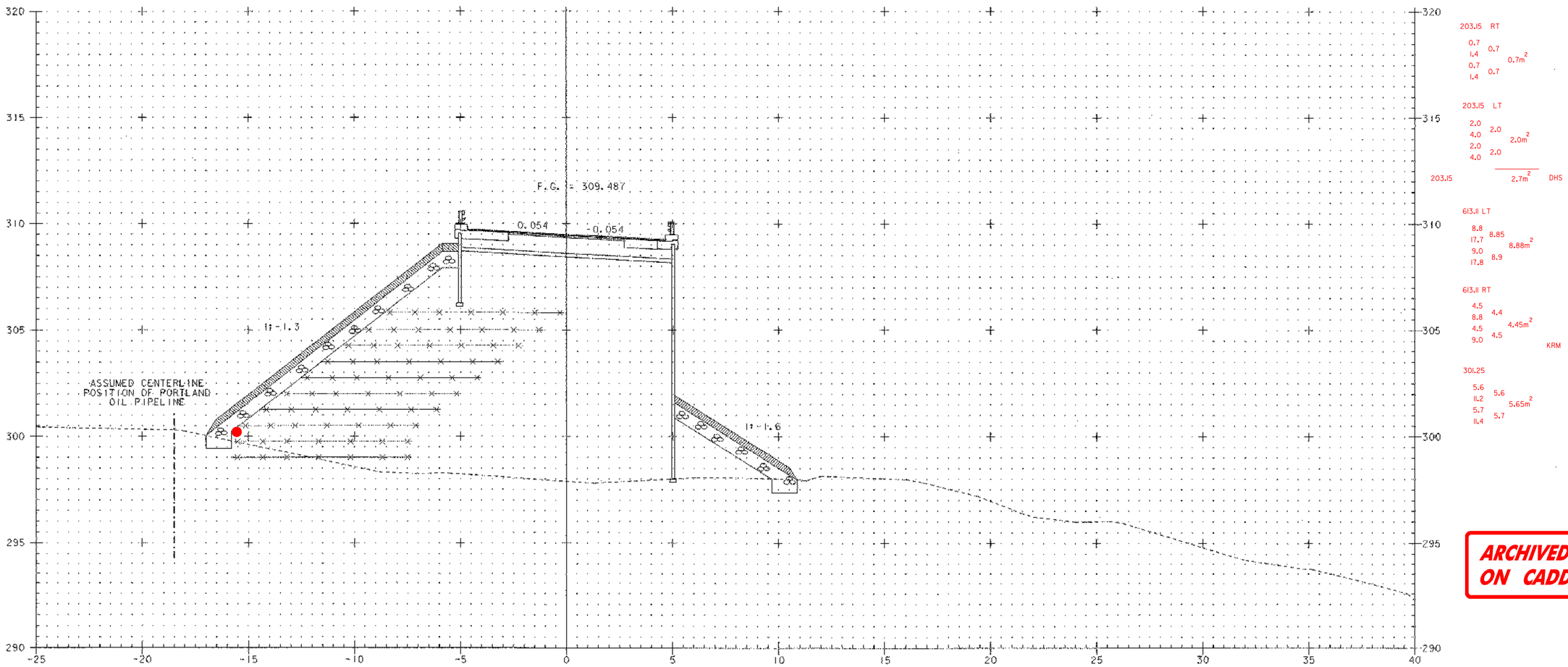
PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn	
IPARM FILE NAME: sc116512.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+290 THRU Sta 1+300	SHEET: 100 OF 120



PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn	
PARM FILE NAME: sc116513.1	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+310	SHEET: 101 OF 120

Metric



ARCHIVED ON CADD

1+320

Sta 1+311.408
END BRIDGE

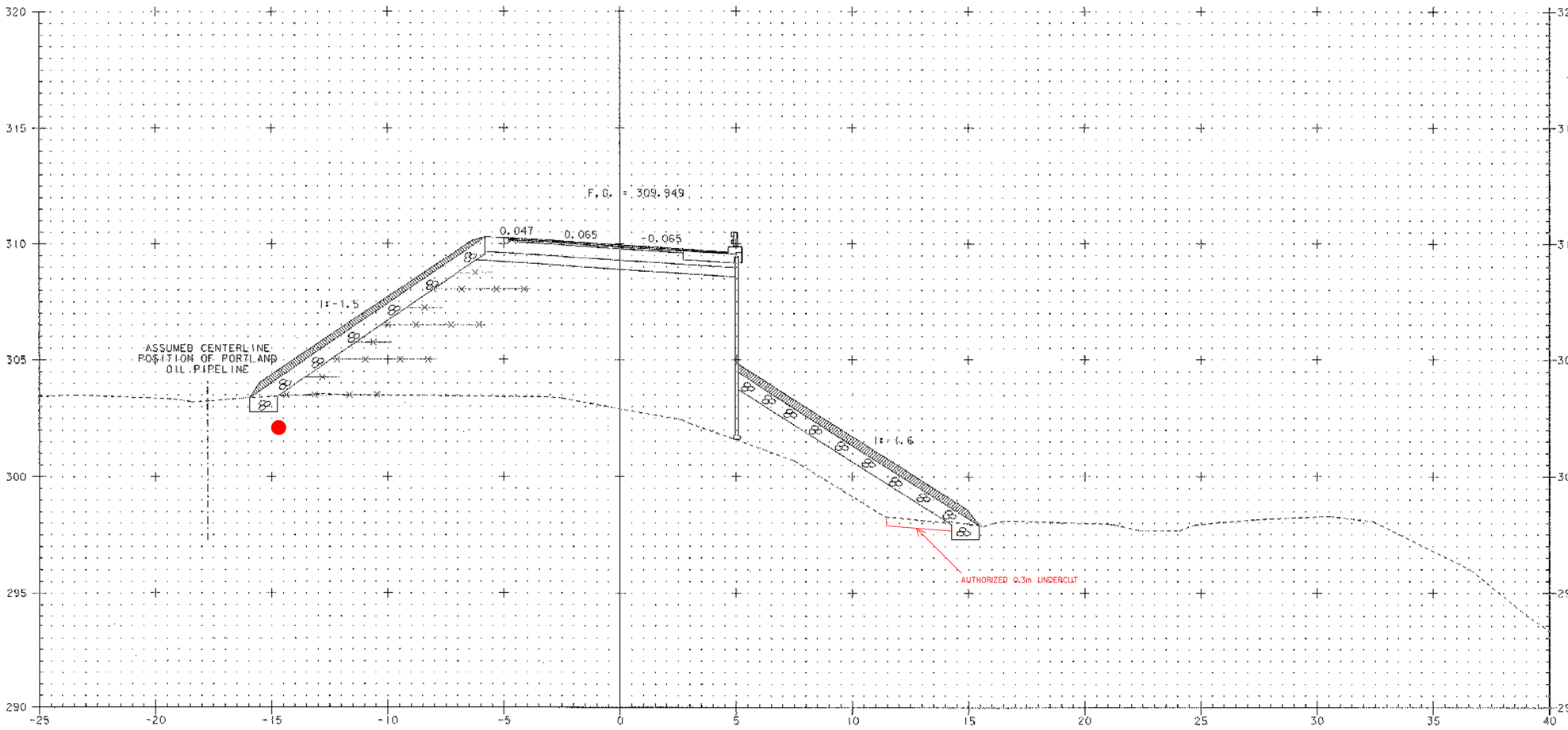
SEE DRAINAGE SHEET FOR DRAINAGE DETAILS

0 2 4 6 8 10
SCALE 1:100

PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO.: STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn	
IPARM FILE NAME: sc116514.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+320	SHEET: 102 OF 120

Metric



203.15 RT
1.5 3.1 1.6 3.1
1.55 1.55
1.55m²

203.15 LT
0.7 1.4 0.7 1.4
0.7 0.7
0.7m²

203.15
2.25m² DHS

613.11 RT
7.4 14.8 7.3 14.8
7.4 7.4
7.4m²

613.11 LT
8.0 16.0 8.0 15.8
8.0 7.9
7.95m²

301.25
4.6 9.4 4.7 9.6
4.7 4.8
4.75m²

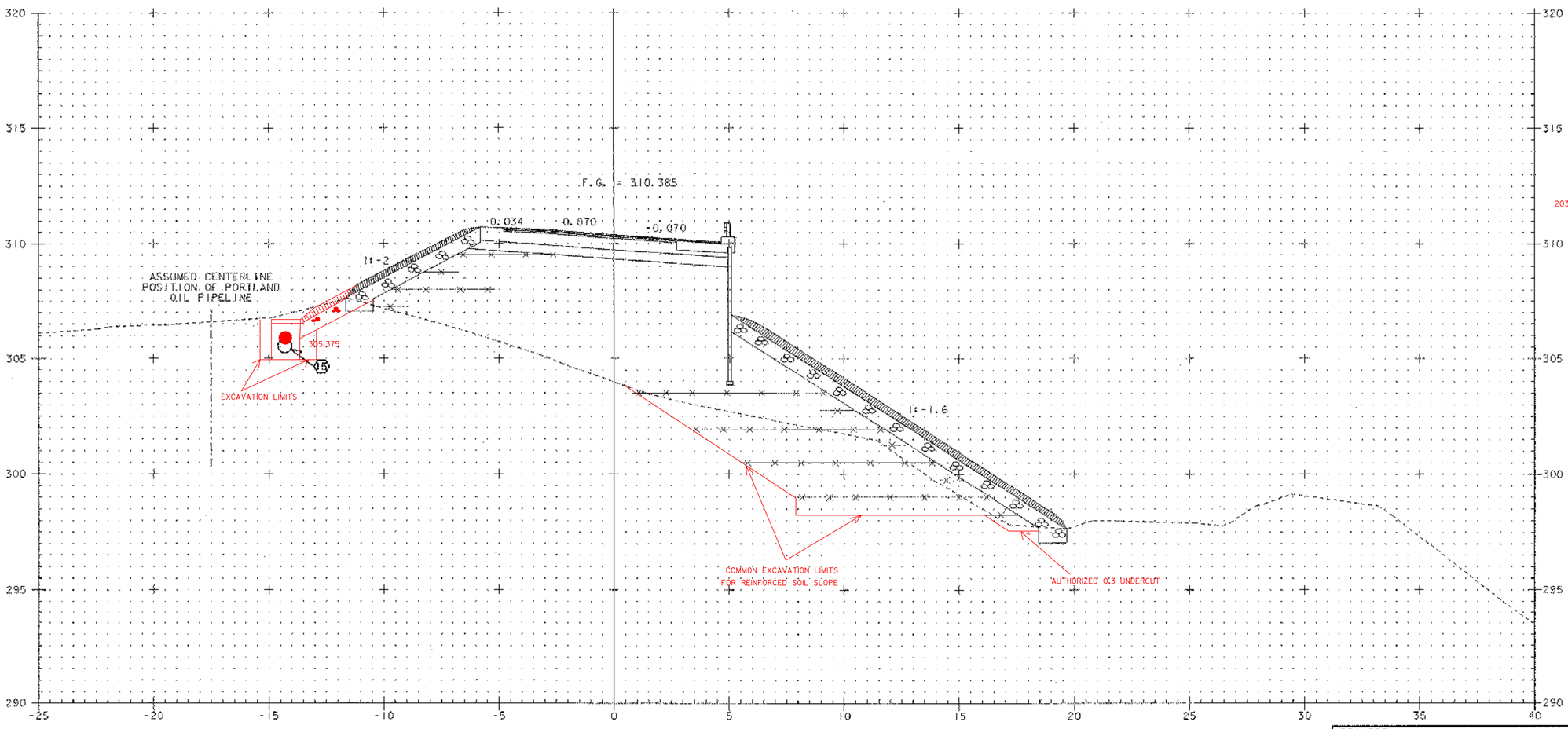
KRM 2-26-04

ARCHIVED ON CADD

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn IPARM FILE NAME: sc116515.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+330	SHEET: 103 OF 120

PLOTTED 03-JAN-2002

Metric



203.15 RT
32.5
65.1 32.55
32.5 32.6m²
65.3 32.65

203.15 LT
6.0
12.0 6.0
6.0 6.0m²
12.0
6.0
38.6m² DHS
203.15

301.25
4.8
9.6 4.8
4.9 4.8m²
9.6 4.8

613.11 RT
10.7
21.5 10.75
10.8 10.8m²
21.7 10.85

613.11 LT
5.0
10.0 5.0
5.1 5.0m²
10.0 5.0

KRM 2-26-04

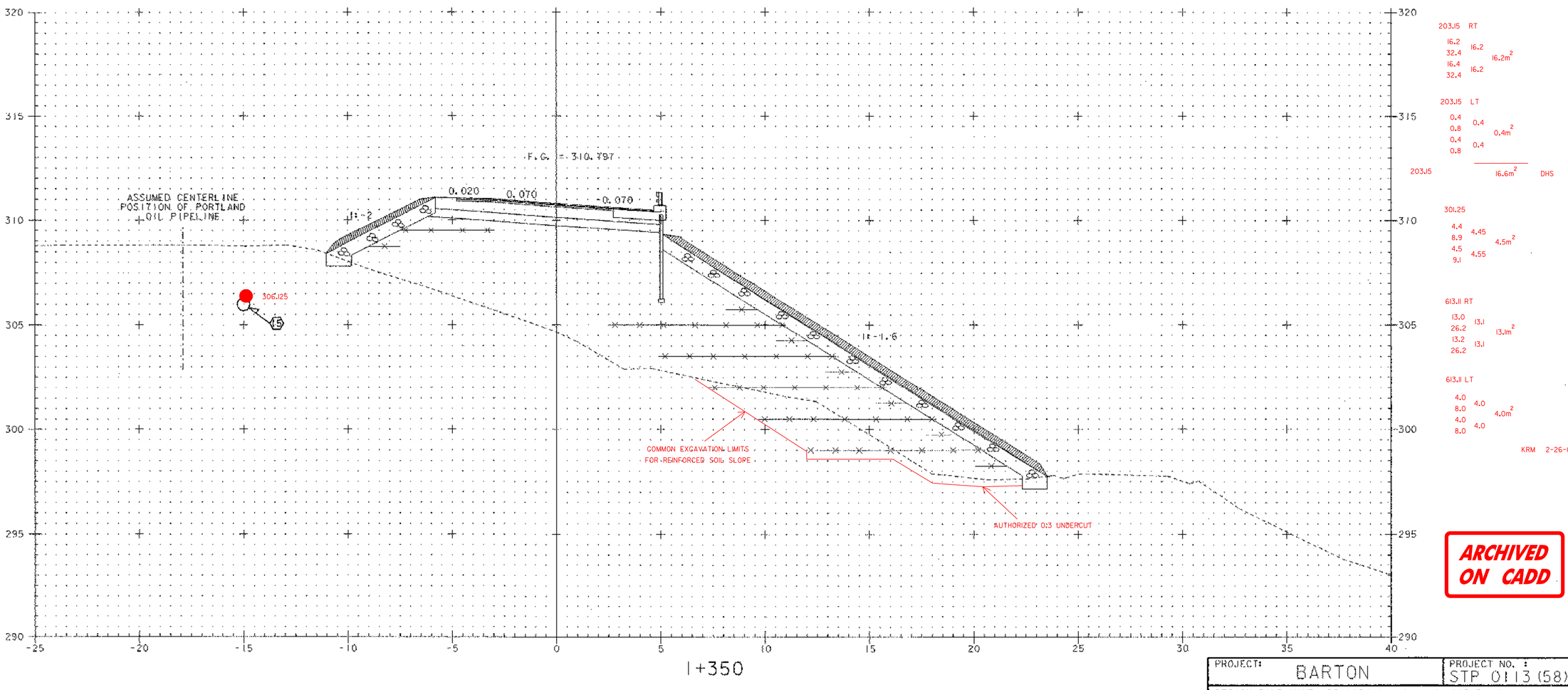
ARCHIVED ON CADD

0 2 4 6 8 10
SCALE 1:100

PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn IPARM FILE NAME: sc116516.I	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+340	SHEET: 104 OF 120

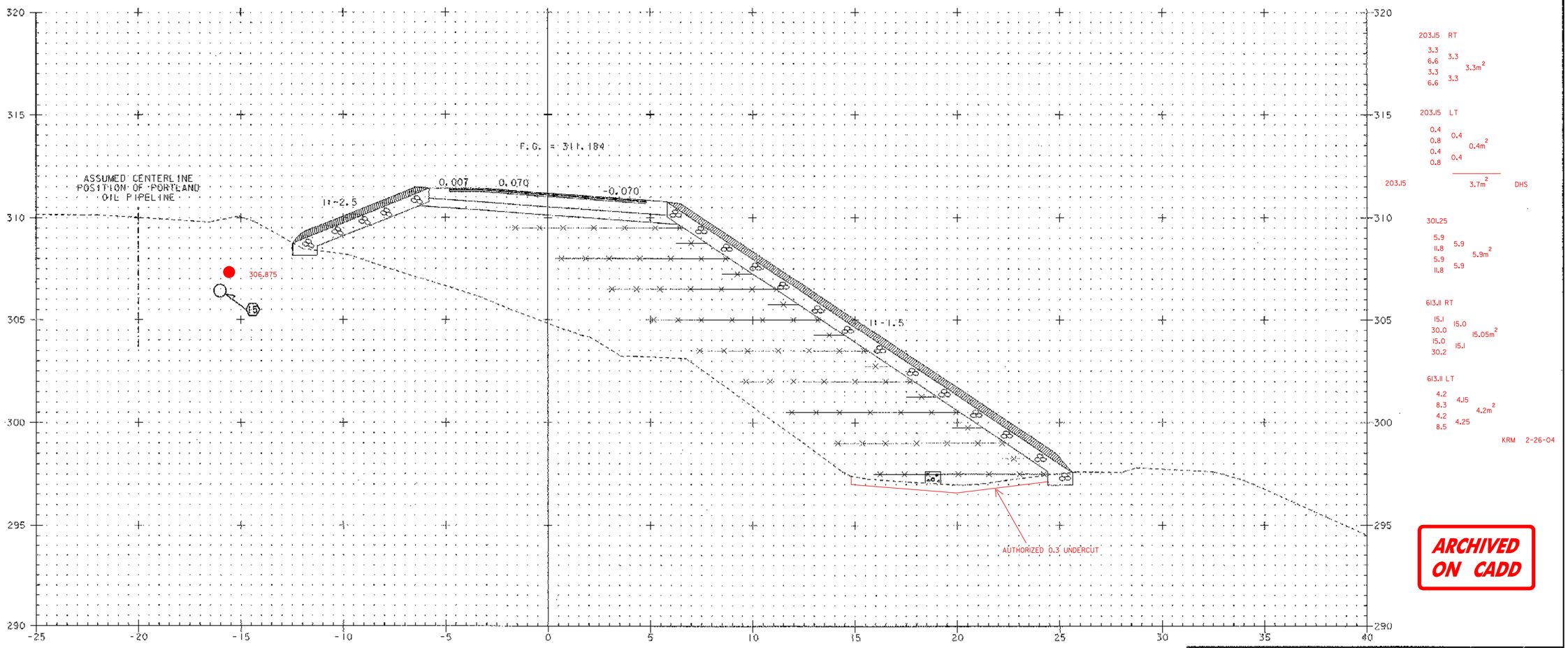
Metric



ARCHIVED ON CADD

PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116u5a.dgn	
IPARM FILE NAME: sc116517.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+350	SHEET: 105 OF 120



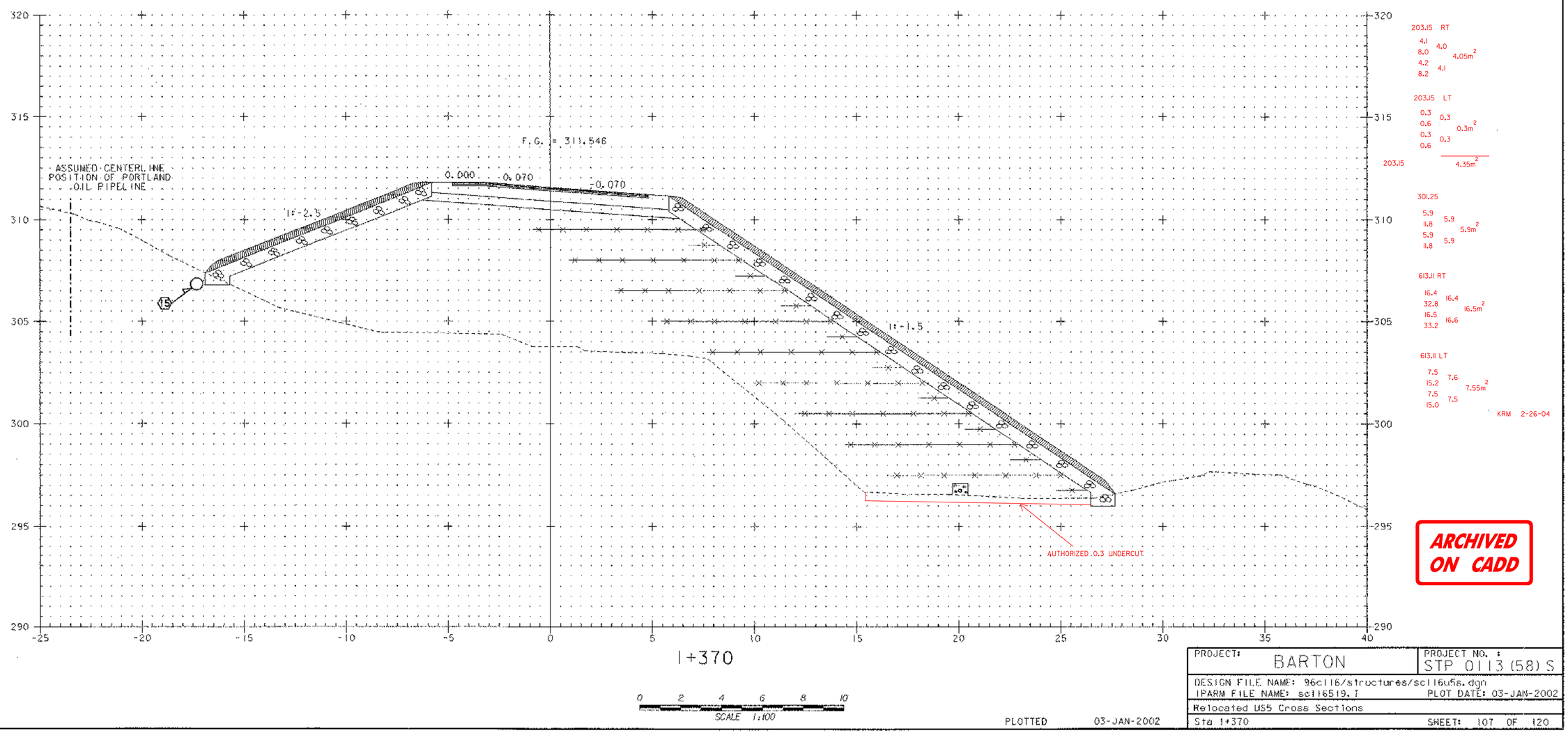
1+360

0 2 4 6 8 10
SCALE 1:100

ARCHIVED ON CADD

PROJECT: BARTON
PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn
IPARM FILE NAME: sc11618.i
PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections
Sta 1+360
SHEET: 106 OF 120
PLOTTED 03-JAN-2002

Metric



203.15 RT
4.1
8.0
4.2
8.2
4.0
4.1
4.05m²

203.15 LT
0.3
0.6
0.3
0.6
0.3
0.3
0.3m²

203.15
4.35m²

301.25
5.9
11.8
5.9
11.8
5.9
5.9
5.9m²

613.11 RT
16.4
32.8
16.5
33.2
16.4
16.6
16.5m²

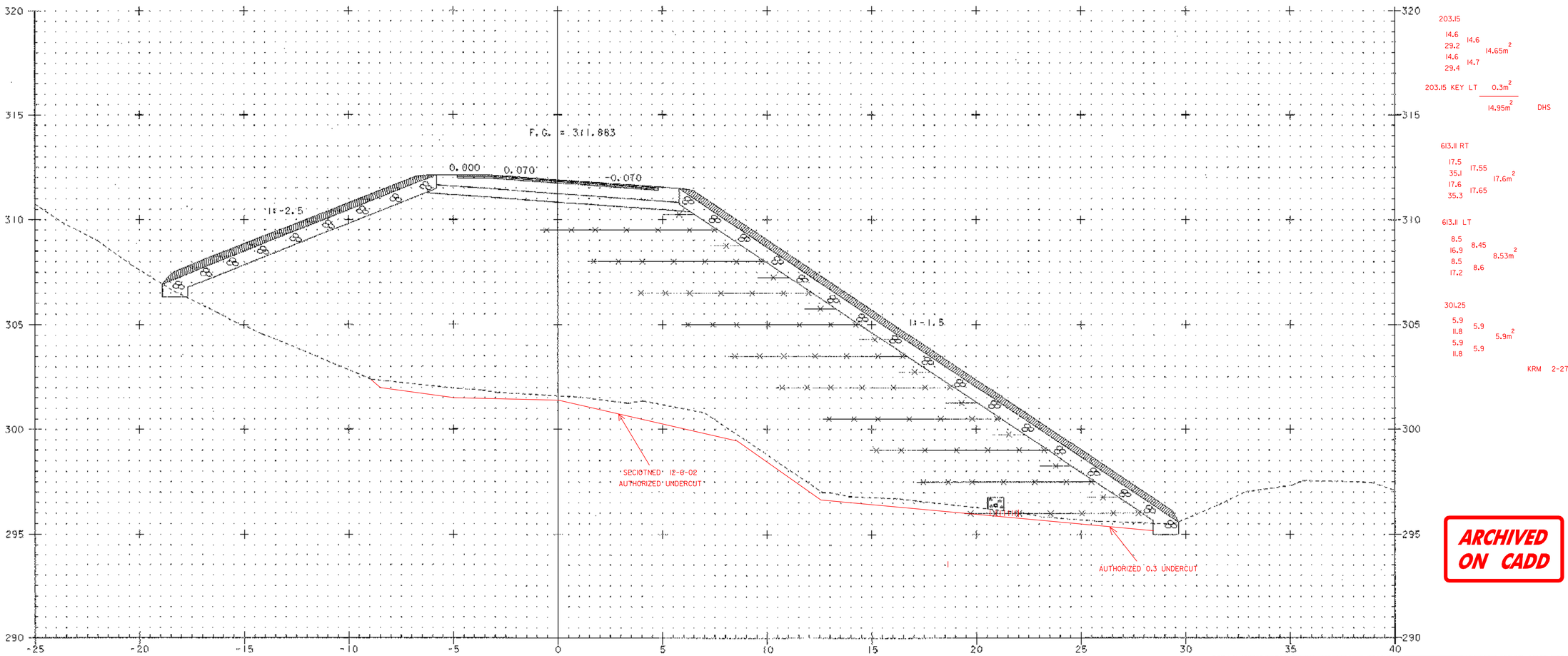
613.11 LT
7.5
15.2
7.5
15.0
7.6
7.5
7.55m²

KRM 2-26-04

ARCHIVED ON CADD

PROJECT: BARTON
PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116u56.dgn
IPARM FILE NAME: sc116519.I
PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections
Sta 1+370
SHEET: 107 OF 120

PLOTTED 03-JAN-2002



1+380

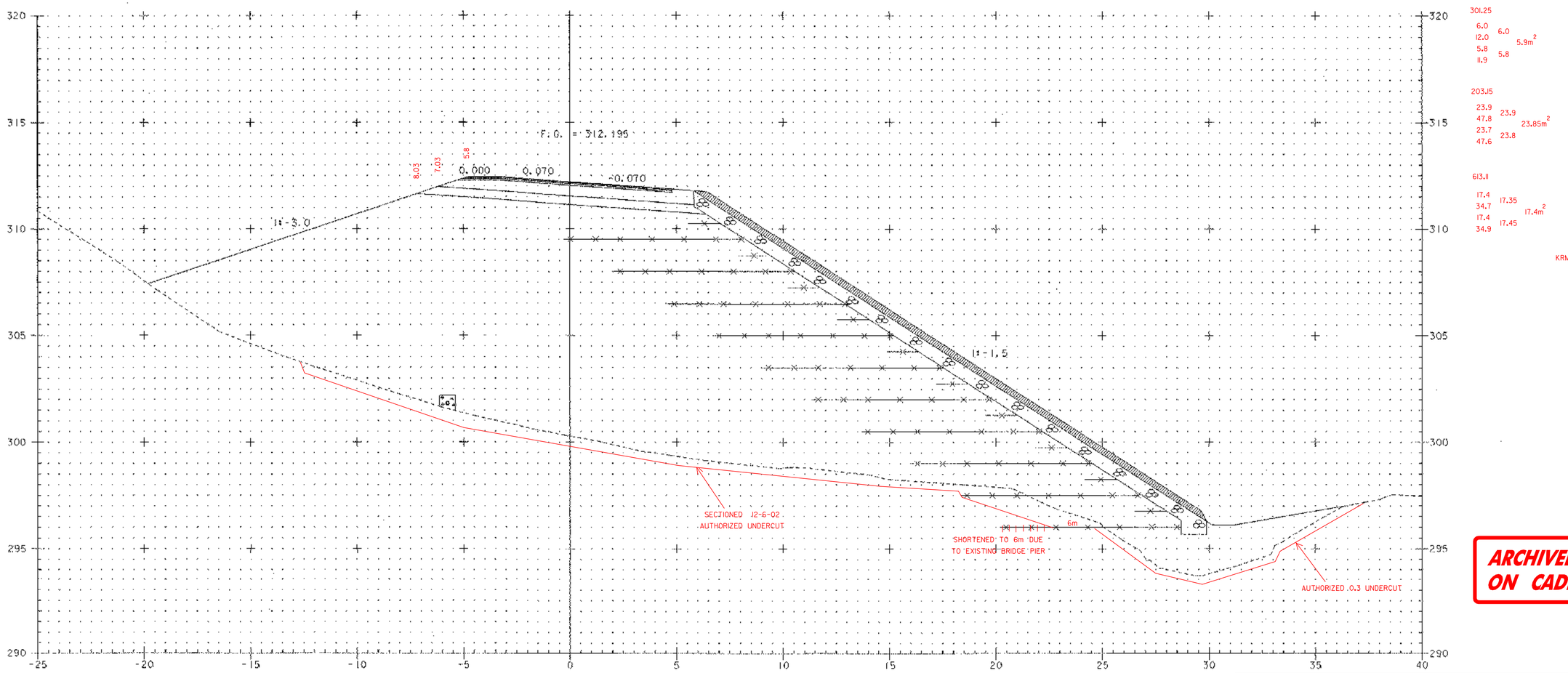
SEE DRAINAGE SHEET FOR DRAINAGE DETAILS

0 2 4 6 8 10
SCALE 1:100

PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116058.dgn	
IPARM FILE NAME: sc116520.1	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+380	SHEET: 108 OF 120

Metric



Sta 1+385.000 LT
END STONE FILL TYPE 1:
END GRUBBING MATERIAL

1+390

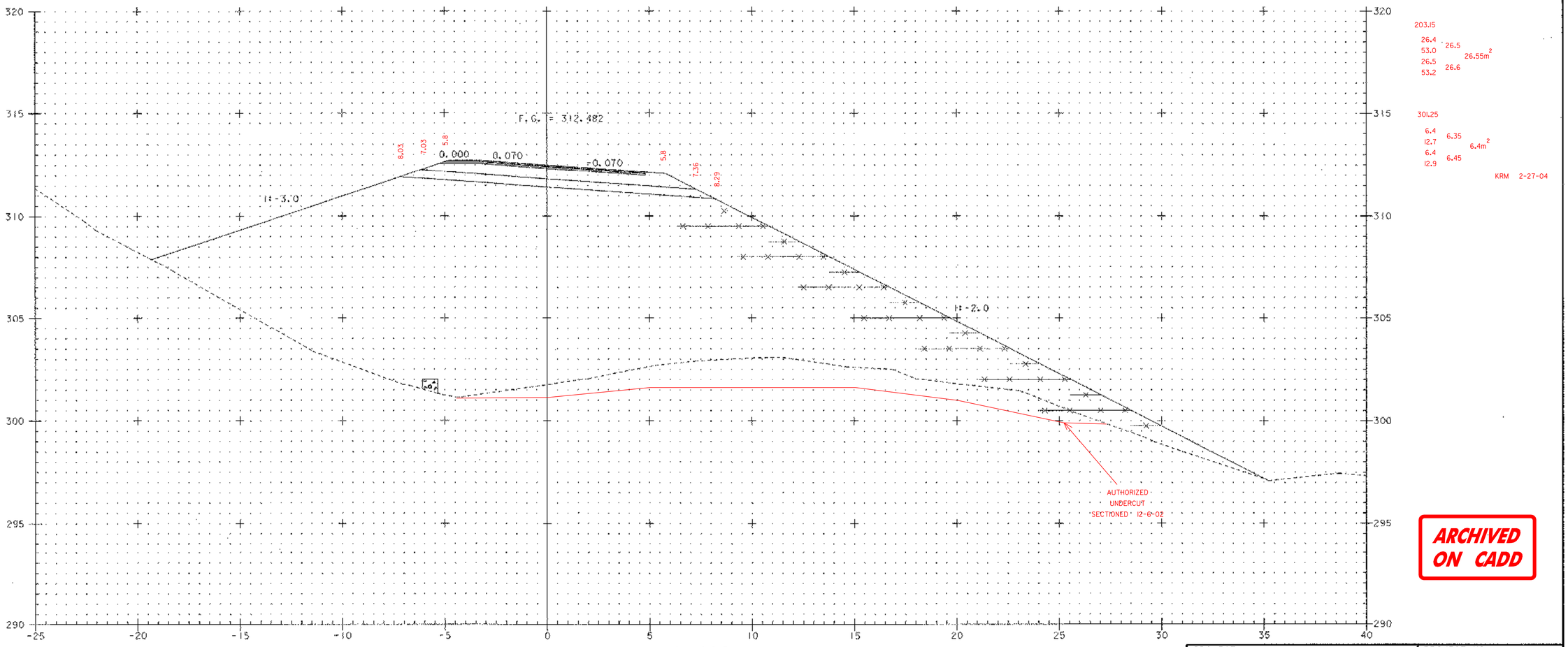
0 2 4 6 8 10
SCALE 1:100

ARCHIVED ON CADD

PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn	
IPARM FILE NAME: sc116521.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+390	SHEET: 109 OF 120

Metric



I+400

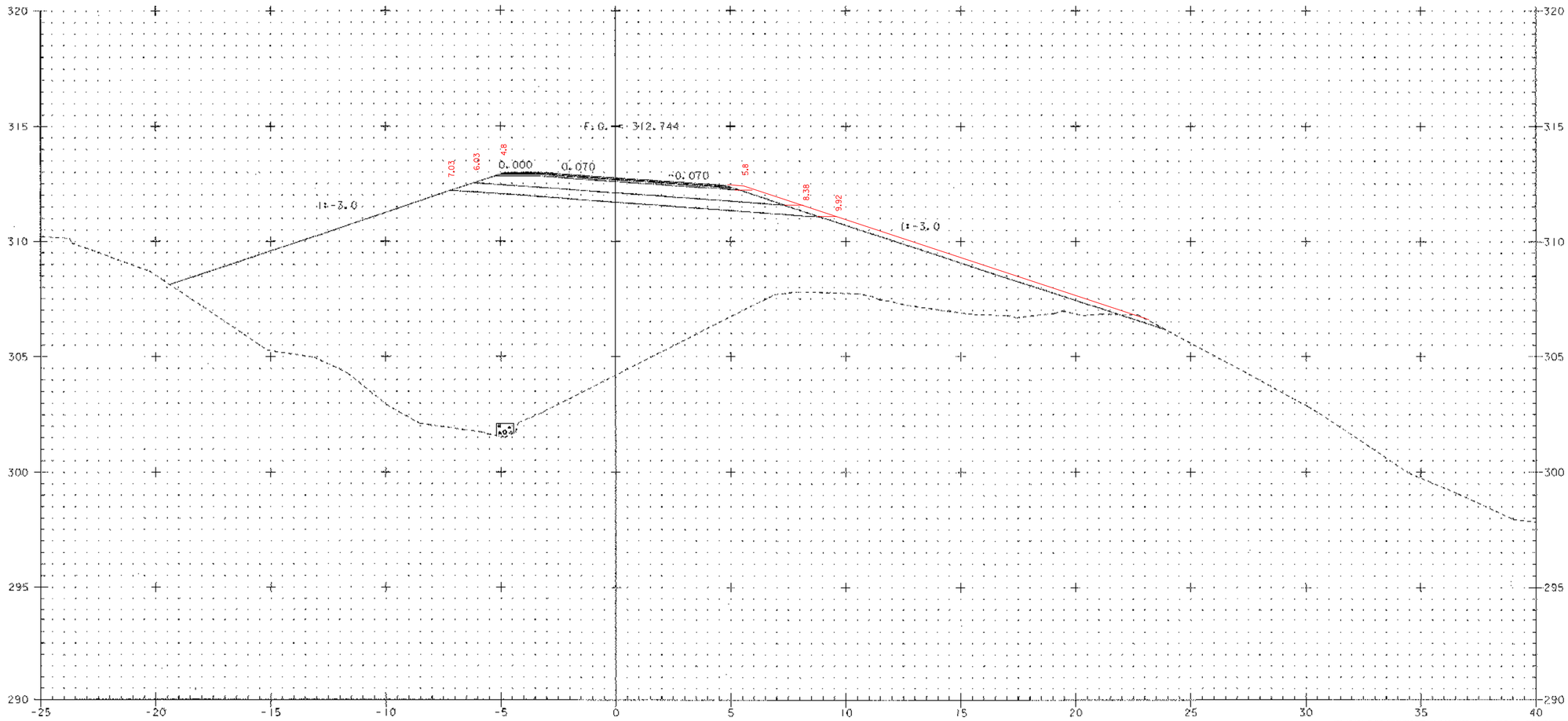
Sta 1+399.000 RT
END STONE FILL TYPE II
END GRUBBING MATERIAL

0 2 4 6 8 10
SCALE 1:100

PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn	
IPARM FILE NAME: sc116522.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+400	SHEET: 110 OF 120

Metric



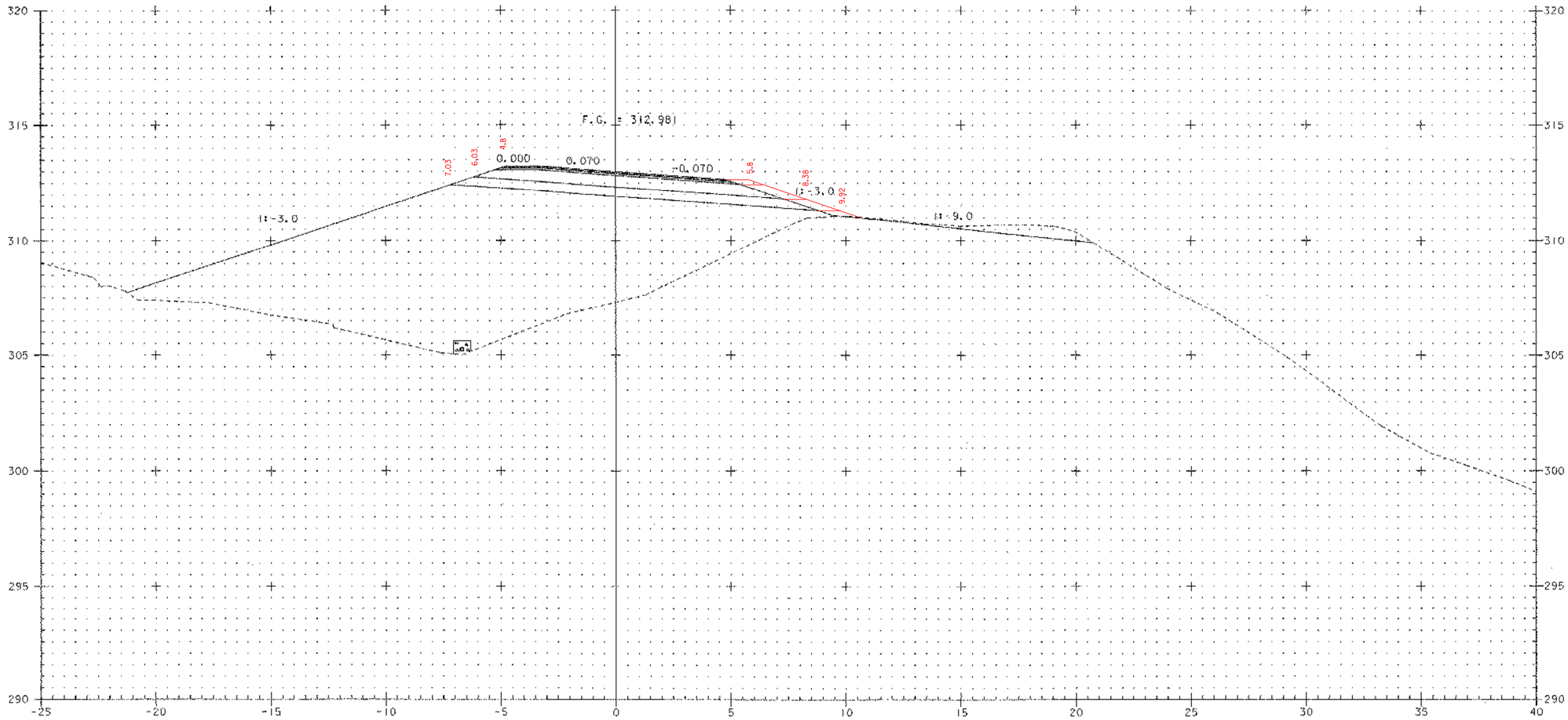
1+410

0 2 4 6 8 10
SCALE 1:100

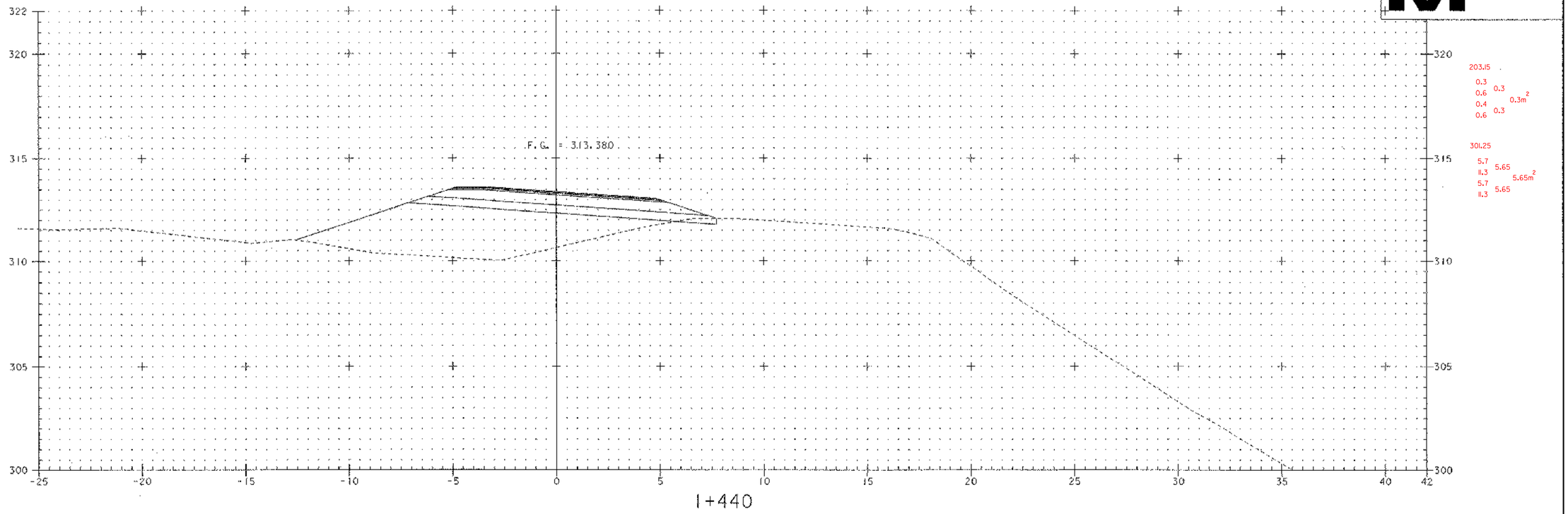
PLOTTED 03-JAN-2002

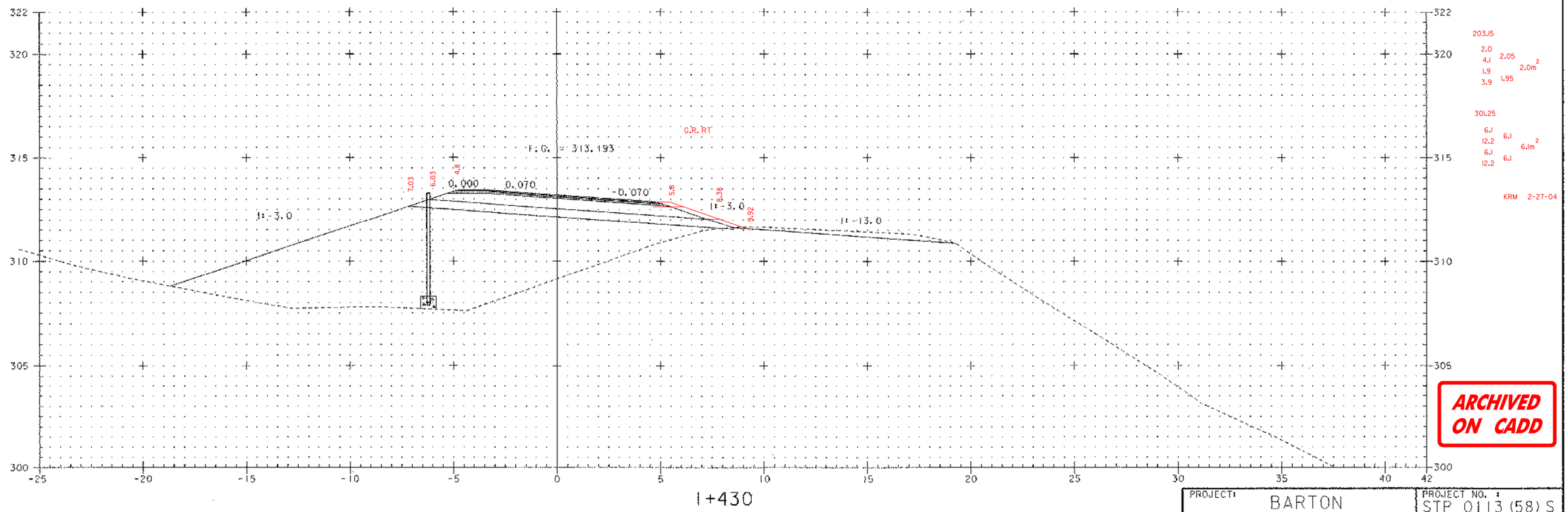
PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116uss.dgn	
IPARM FILE NAME: sc116523.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+410	SHEET: 111 OF 120

Metric



PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116s05s.dgn IPARM FILE NAME: sc116524.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+420	SHEET: 102 OF 120

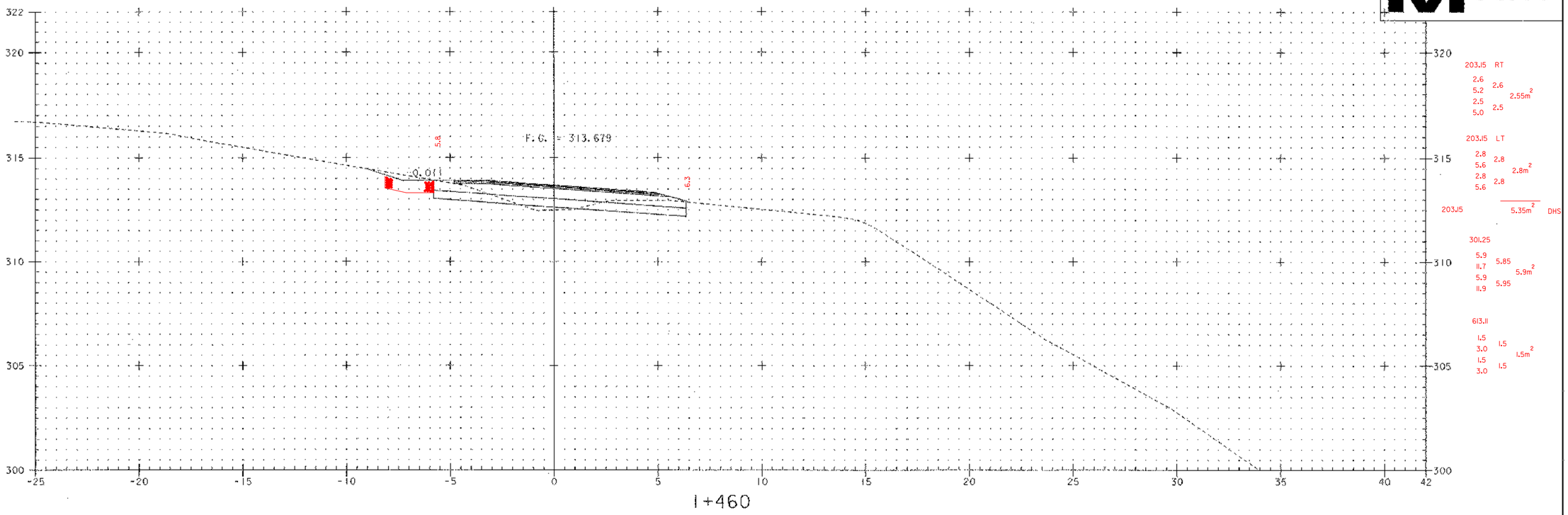




PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96cl16/structures/scl16u5s.dgn	
IPARM FILE NAME: scl16525.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+430 THRU Sta 1+440	SHEET: 113 OF 120

Metric



1+460

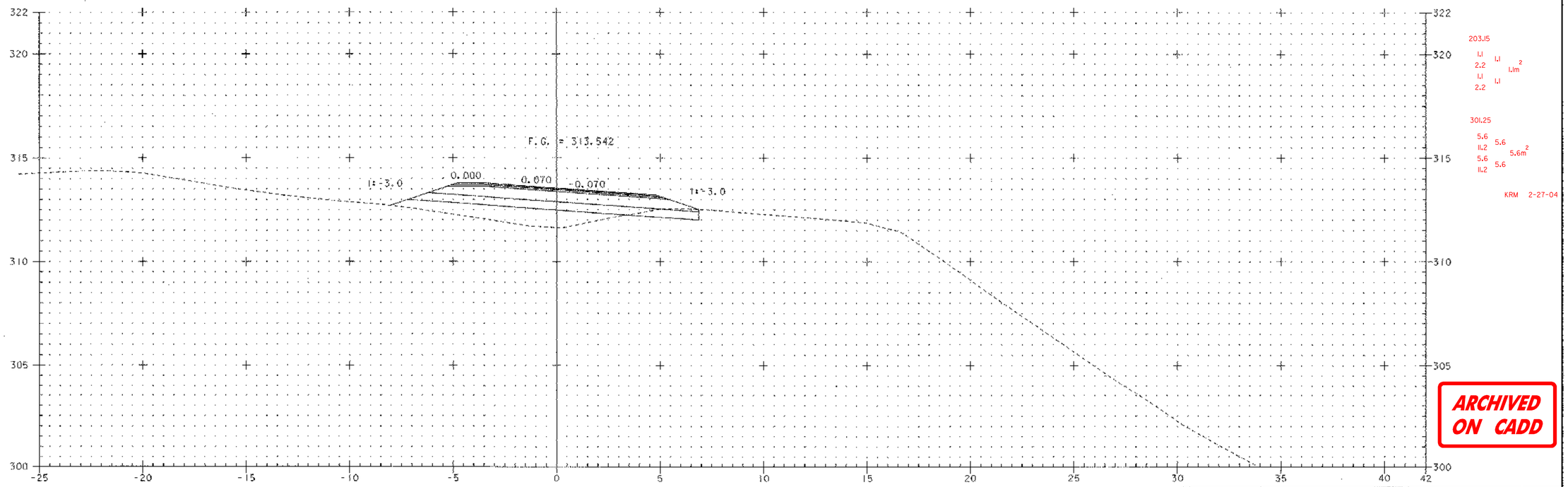
203.15 RT
2.6 2.6
5.2 2.55m²
2.5 2.5
5.0

203.15 LT
2.8 2.8
5.6 2.8m²
2.8 2.8
5.6

203.15 5.35m² DHS

301.25
5.9 5.85
11.7 5.9m²
5.9 5.95
11.9

613.11
1.5 1.5
3.0 1.5m²
1.5 1.5
3.0



1+450

0 2 4 6 8 10
SCALE 1:100

203.15
1.1 1.1
2.2 1.1m²
1.1 1.1
2.2

301.25
5.6 5.6
11.2 5.6m²
5.6 5.6
11.2

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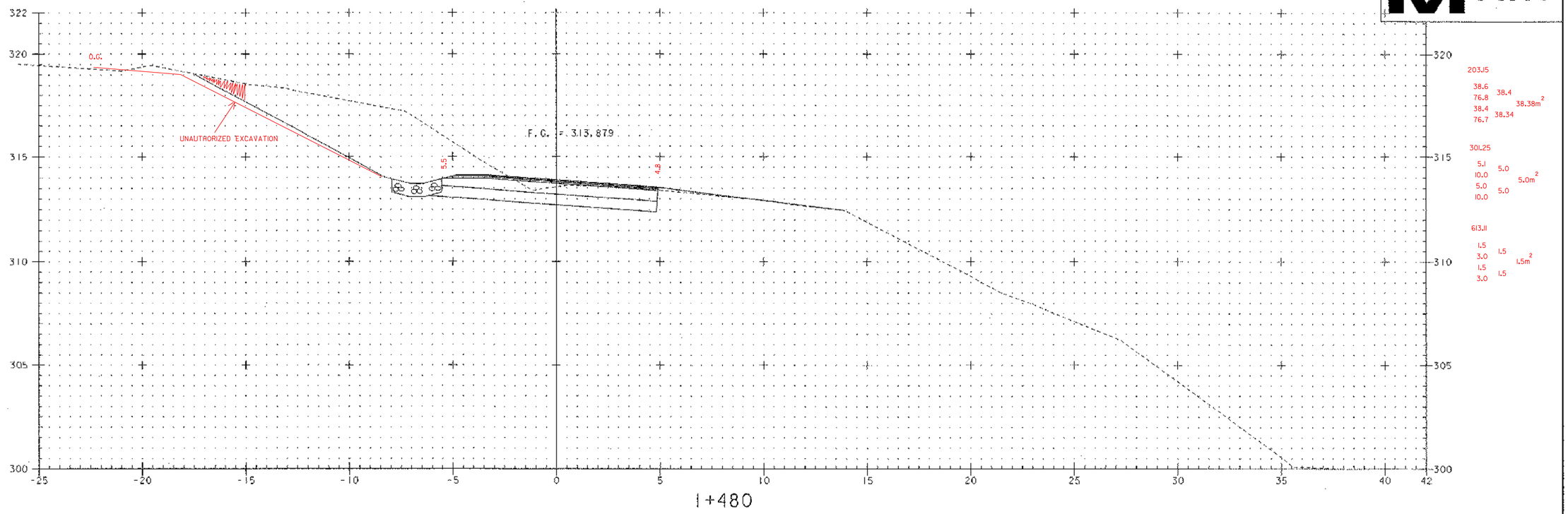
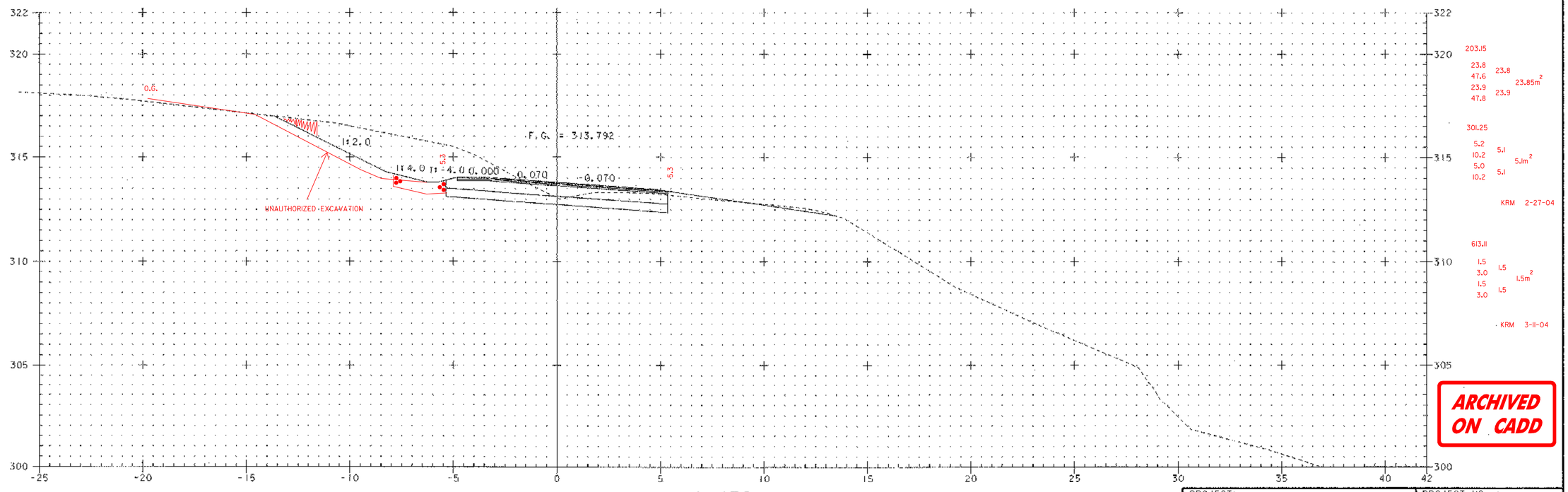
PROJECT: BARTON
PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn
IPARM FILE NAME: sc116526.i
PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections
Sta 1+450 THRU Sta 1+460
SHEET: 114 OF 120

PLOTTED 03-JAN-2002

Metric



1+480



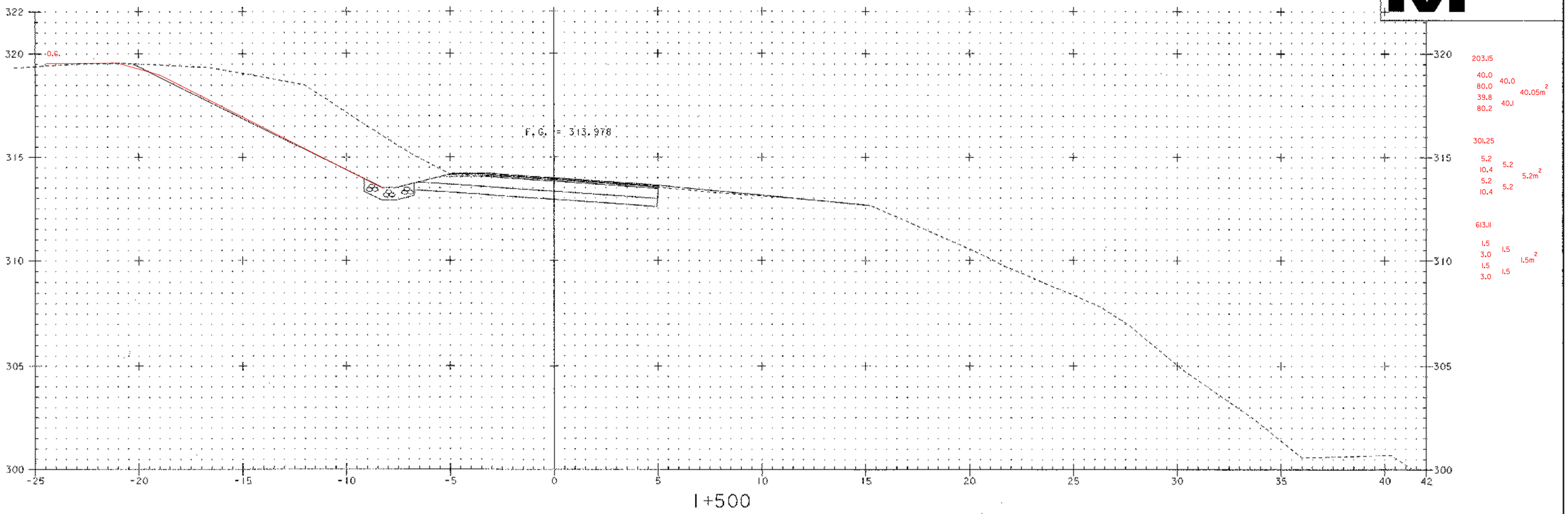
1+470

0 2 4 6 8 10
SCALE 1:100

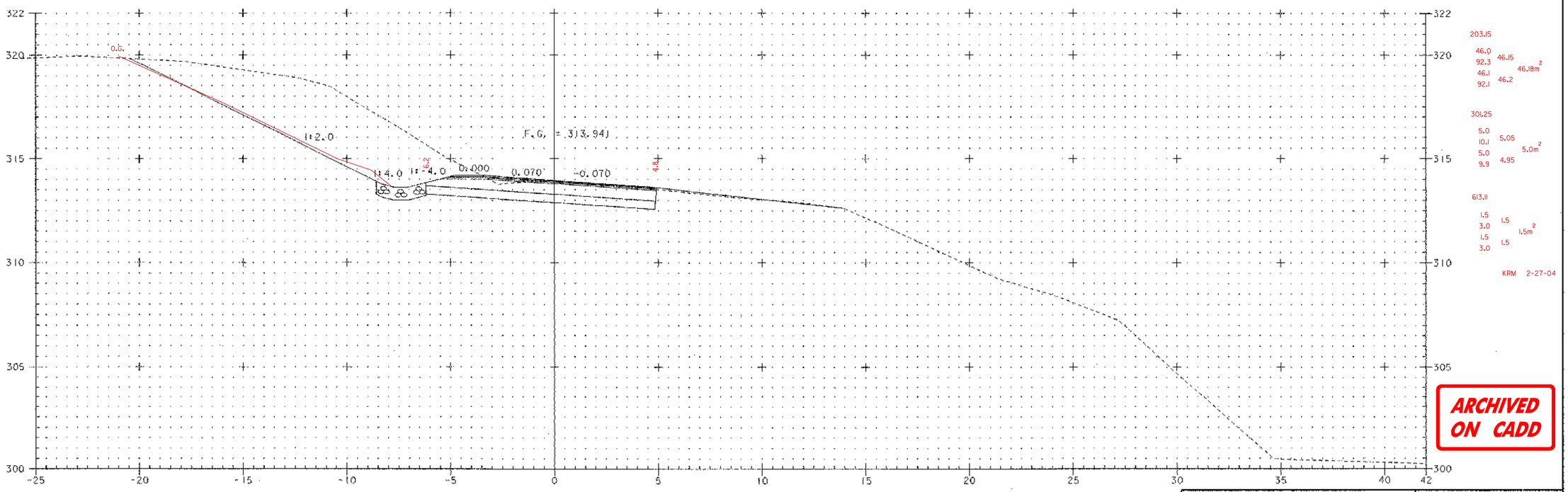
ARCHIVED ON CADD

PROJECT: BARTON	PROJECT NO. : STP 0113 (58) S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn	
/PARM FILE NAME: sc116527.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+470 THRU Sta 1+480	SHEET: 115 OF 120

PLOTTED 03-JAN-2002



1+500



1+490

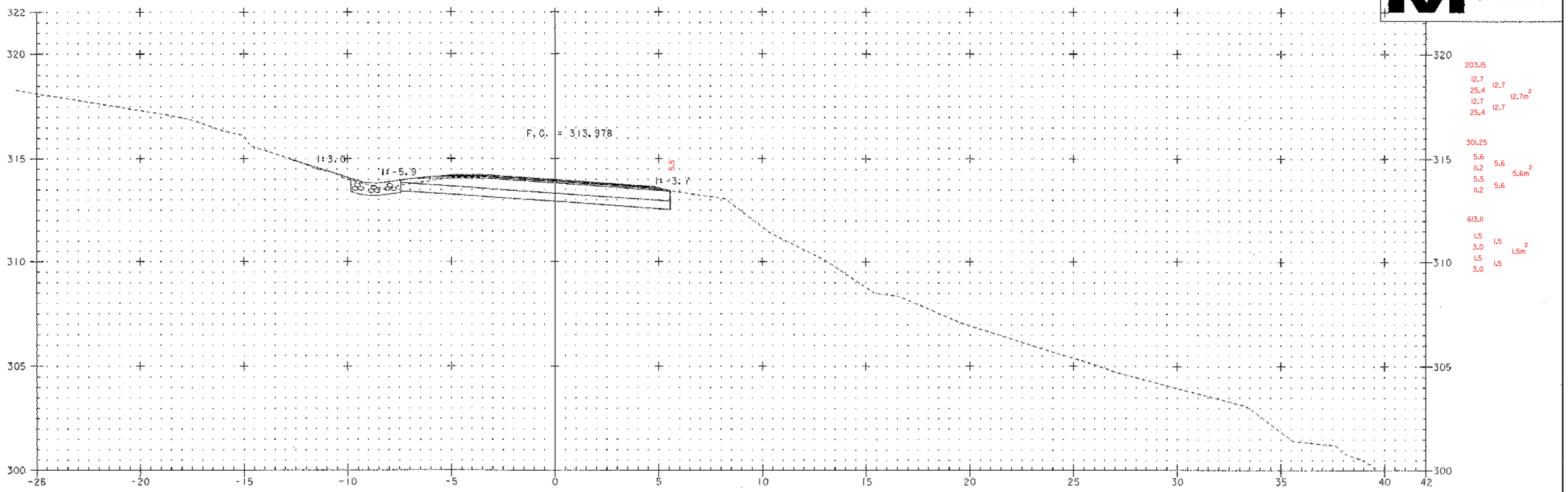
0 2 4 6 8 10
SCALE 1:100

ARCHIVED ON CADD

PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn IPARM FILE NAME: sc116528.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+490 THRU Sta 1+500	SHEET: 116 OF 120

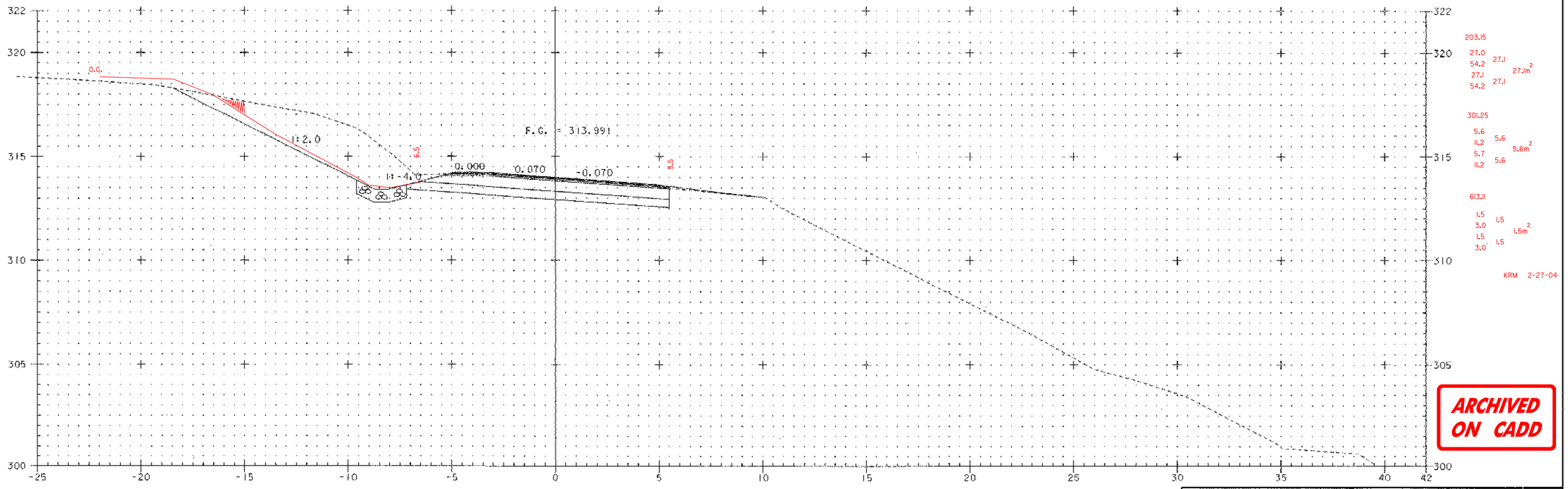
Metric



1+520

SEE DRAINAGE SHEET FOR DRAINAGE DETAILS

Sta 1+520.000
END PROJECT



1+510

0 2 4 6 8 10
SCALE 1:100

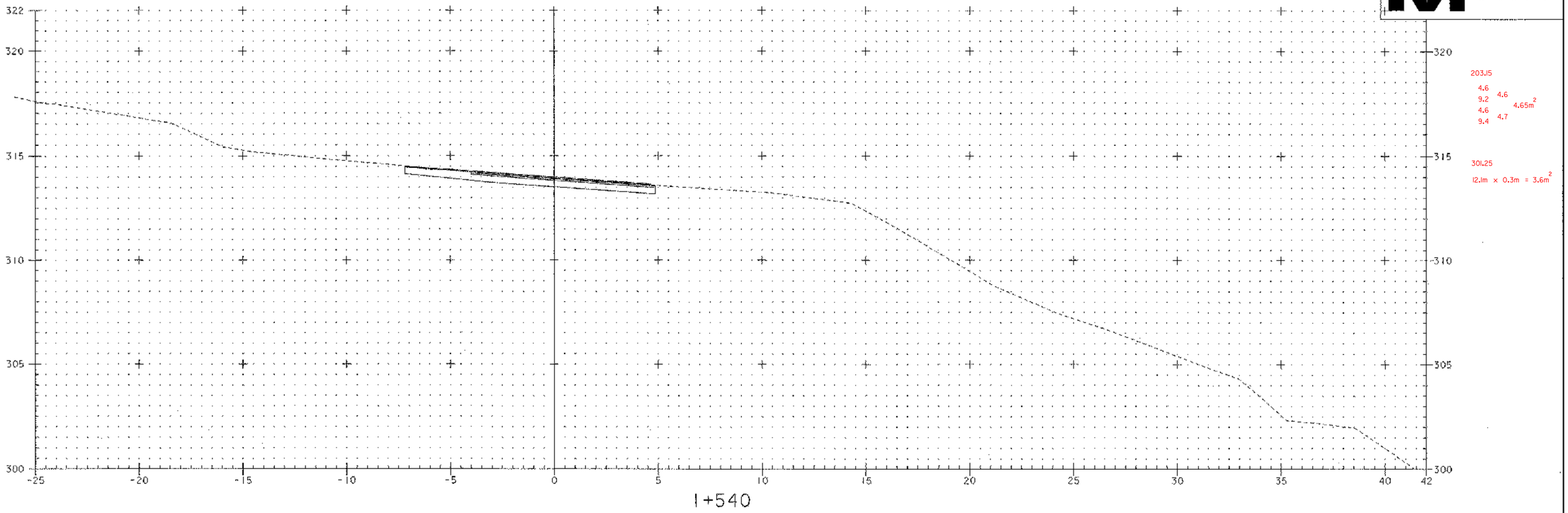
KRM 2-27-04

ARCHIVED ON CADD

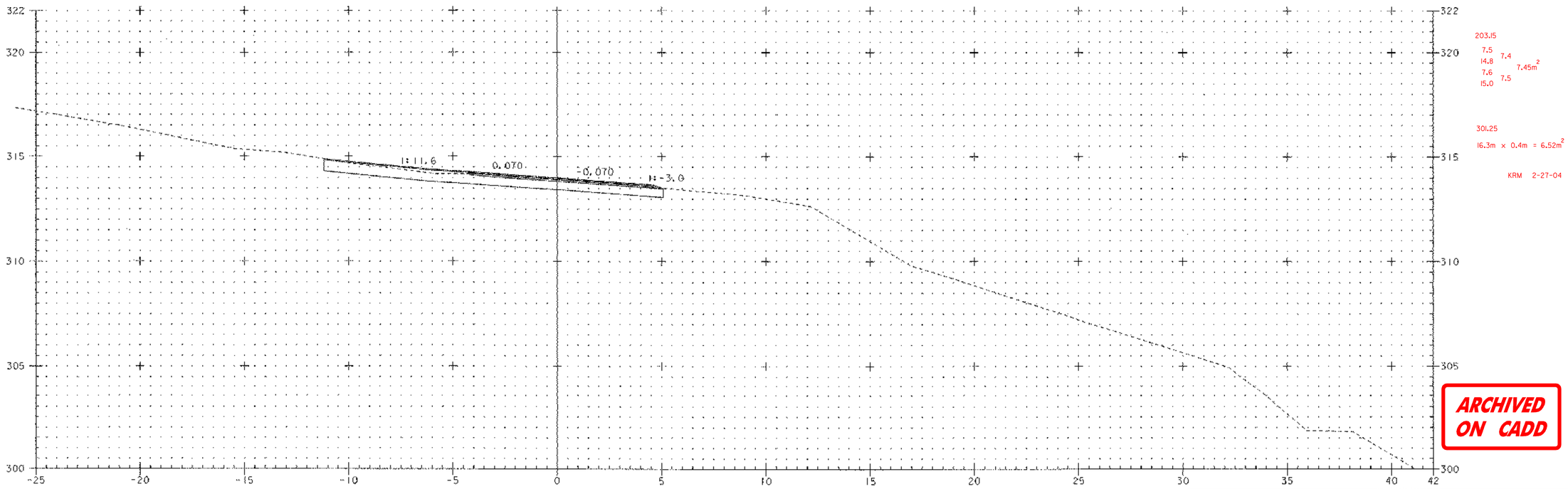
PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96cl16/structures/scl16u5s.dgn IPARM FILE NAME: scl16529.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+510 THRU Sta 1+520	SHEET: 117 OF 120

Metric



1+540



1+530

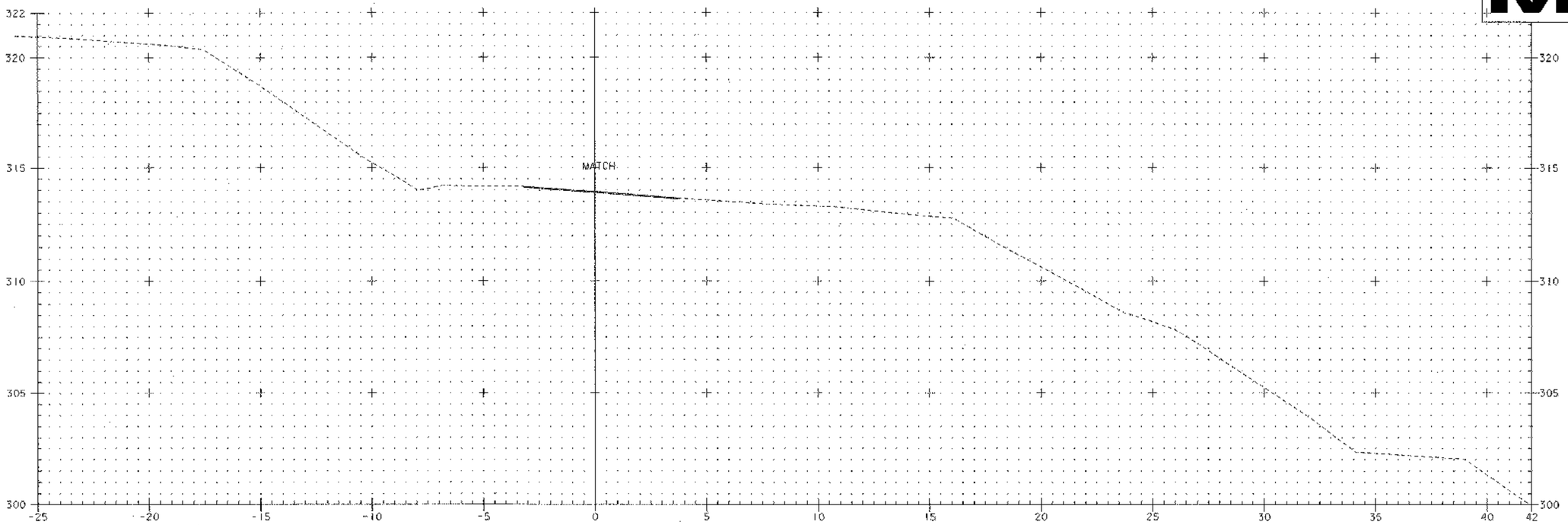
0 2 4 6 8 10
SCALE 1:100

ARCHIVED ON CADD

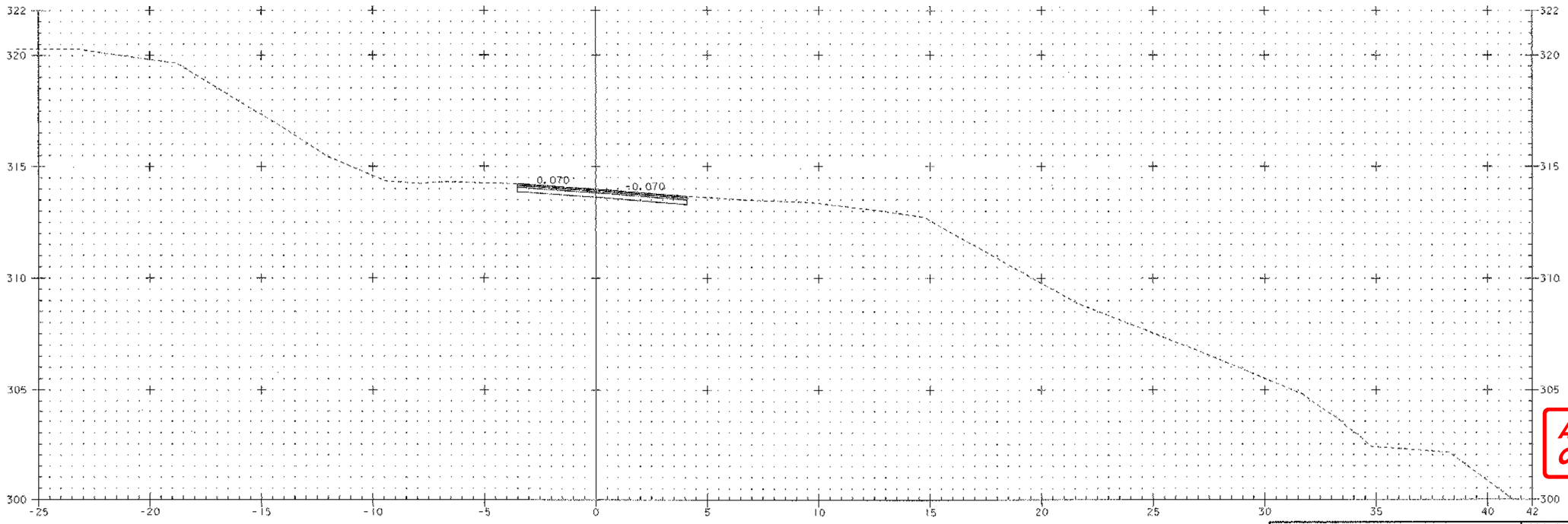
PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116u5s.dgn (PARM FILE NAME: sc116530.t	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+530 THRU Sta 1+540	SHEET: 11B OF 120

Metric



1+560



1+550

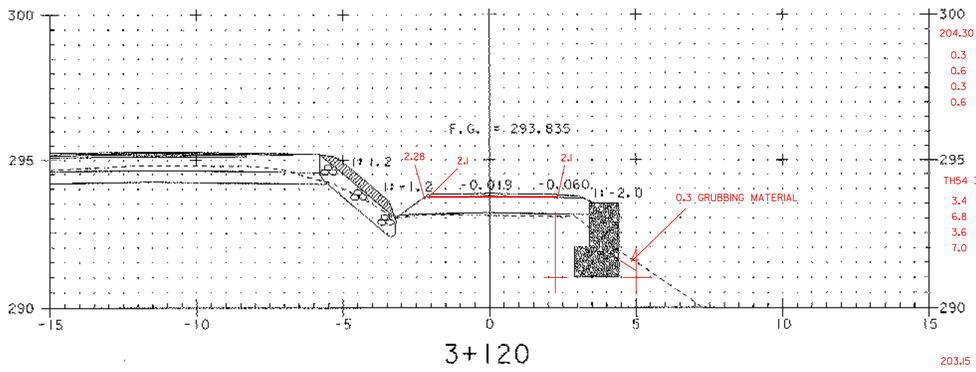
ARCHIVED ON CADD

0 2 4 6 8 10
SCALE 1:100

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116u5a.dgn IPARM FILE NAME: sc116531.i	PLOT DATE: 03-JAN-2002
Relocated US5 Cross Sections	
Sta 1+550 THRU Sta 1+560	SHEET: 119 OF 120

PLOTTED 03-JAN-2002

Metric

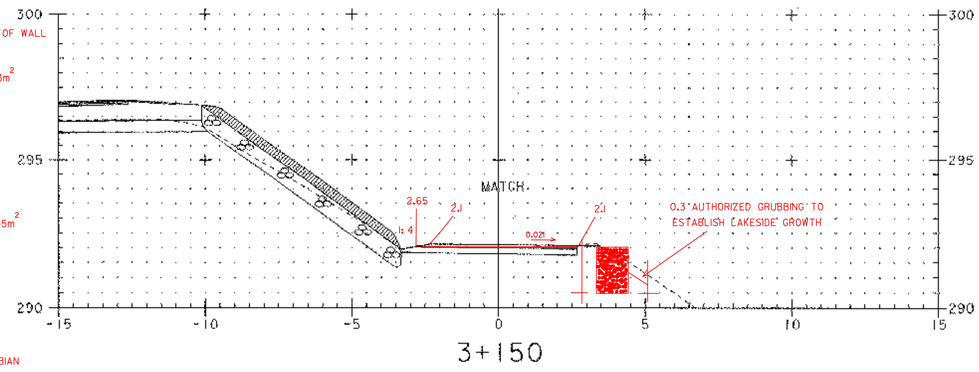


3+120

203.15 FOR GABIAN
4.0 4.0
8.0 3.9m²
3.8 3.8
7.6

204.30 FRONT OF WALL
0.3 0.3
0.6 0.3m²
0.3 0.3
0.6

TH54 301.25
3.4 3.4
6.8 3.45m²
3.6 3.5
7.0



3+150

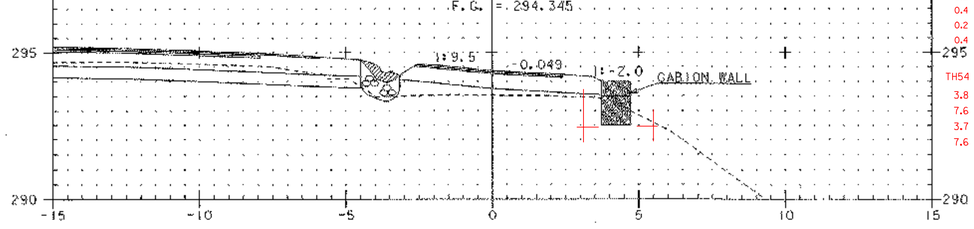
203.15 FOR GABION
3.0 3.0
6.0 3.0m²
3.0 3.0
6.0

204.30 END OF GABION
2.4 2.4
4.8 2.4m²
2.3 2.4
4.8

204.30 FRONT OF WALL
0.4 0.4
0.8 0.4m²
0.4 0.4
0.8

TH54 301.25
1.2 1.15
2.3 1.2m²
1.3 1.25
2.5

3 + 117 F.G. 293.988



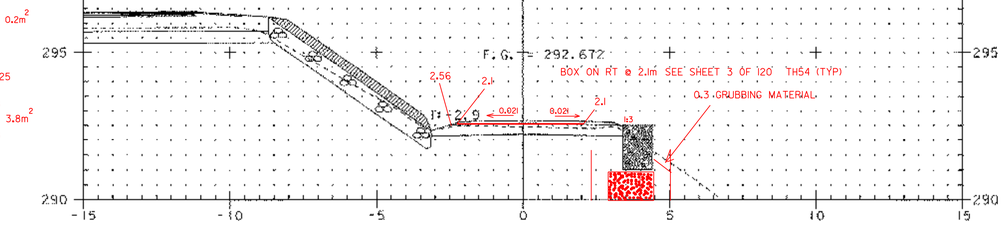
3+110 USED FOR 3 + 109

203.15 FOR GABIAN
1.8 1.8
3.6 1.8m²
1.8 1.8
3.6

204.30 END OF GABION
2.0 2.0
4.0 2.0m²
2.0 2.0
4.0

204.30 FRONT OF WALL
0.2 0.2
0.4 0.2m²
0.2 0.2
0.4

TH54 301.25
3.8 3.8
7.6 3.8m²
3.7 3.8
7.6



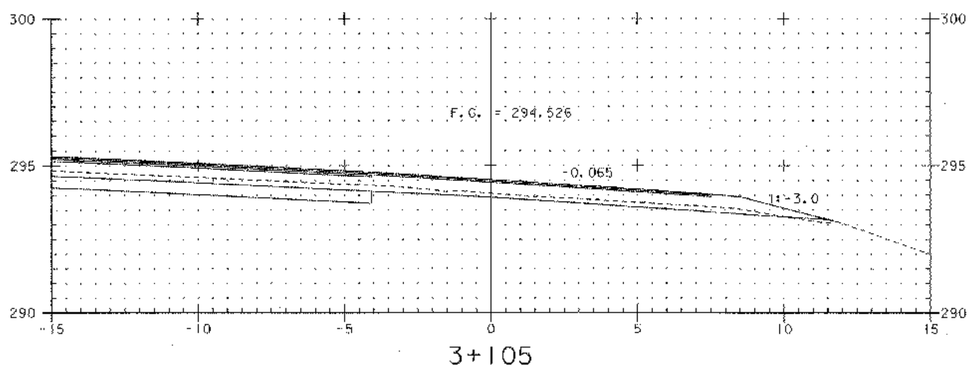
3+140

203.15 FOR GABION
5.5 5.5
11.0 5.55m²
5.5 5.6
11.2

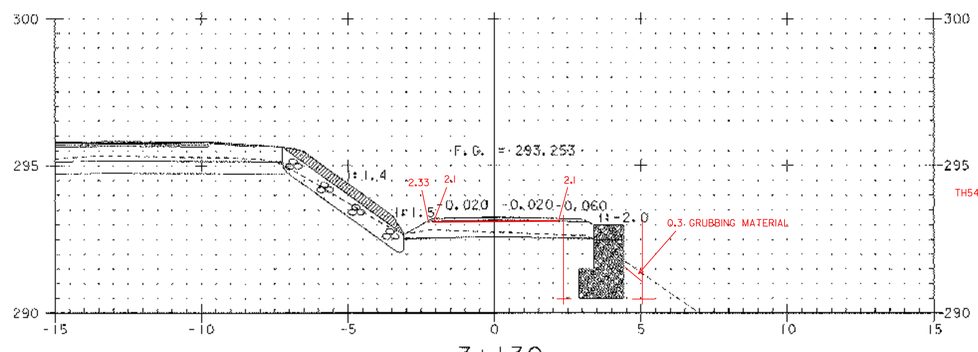
204.30 FRONT OF WALL 1.5m HIGH SECTION
0.1 0.15
0.3 0.15m²
0.1 0.15
0.3

204.30 FRONT OF WALL 2.5m HIGH SECTION
0.8 0.8
1.6 0.8m²
0.8 0.8
1.6

TH54 301.25
2.7 2.7
5.4 2.7m²
2.7 2.7
5.4



3+105



3+130

203.15 FOR GABION
4.6 4.6
9.2 4.6m²
4.6 4.6
9.2

204.30 FRONT OF WALL
0.5 0.5
1.0 0.45m²
0.4 0.4
0.8

TH54 301.25
3.7 3.65
7.3 3.63m²
3.6 3.6
7.2

ARCHIVED ON CADD

0 2 4 6 8 10
SCALE 1 : 100

PLOTTED 03-JAN-2002

PROJECT: BARTON	PROJECT NO. : STP 0113(58)S
DESIGN FILE NAME: 96c116/structures/sc116t54.dgn	
IPARM FILE NAME: sc116th1.i	PLOT DATE: 03-JAN-2002
Town Highway 54 Cross Sections	
Sta 3+105 Thru 3+150	SHEET: 120 OF 120

The Reinforced Earth Company

8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

GENERAL NOTES

DESIGN CRITERIA

1. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE REINFORCED EARTH VOLUME, METHODS OF CONSTRUCTION AND QUALITY OF PREFABRICATED MATERIALS SHALL CONFORM TO THE CONTRACTING AGENCY'S TECHNICAL SPECIFICATIONS FOR REINFORCED EARTH WALLS.

2. SOILS CHARACTERISTICS ASSUMED FOR DESIGN:

   SELECT FILL MATERIAL FOR MSE WALLS
   ϕ = 34 degrees, c = 0 KPa., γ = 22 KN/m^3

   EMBANKMENT BACKFILL
   ϕ = 30 degrees, c = 0 KPa., γ = 18.8 KN/m^3

   FOUNDATION MATERIAL
   ϕ = 32 degrees, c = 0 KPa., γ = 19.6 KN/m^3

3. THE MAXIMUM APPLIED BEARING PRESSURE AT THE FOUNDATION LEVEL IS AS SHOWN ON THE WALL ELEVATIONS FOR EACH DESIGN CASE. IT IS THE RESPONSIBILITY OF THE OWNER TO DETERMINE THAT THIS APPLIED BEARING PRESSURE IS ALLOWABLE FOR THAT LOCATION.

4. ANY UNSUITABLE FOUNDATION MATERIAL BELOW THE REINFORCED EARTH VOLUME, AS DETERMINED BY THE ENGINEER, SHALL BE EXCAVATED AND REPLACED WITH GRANULAR BORROW OR OTHERWISE STABILIZED AS DIRECTED BY THE ENGINEER.

5. REINFORCING STRIPS SHALL BE 50mm WIDE AND 4mm THICK, AND SHALL CONFORM TO THE PHYSICAL AND MECHANICAL PROPERTIES OF ASTM A-572 GRADE 450. GALVANIZATION SHALL BE APPLIED IN ACCORDANCE WITH ASTM A-123 OR AASHTO M111 (610 g/m^2). ⚠1

WALL CONSTRUCTION

6. STATIONS SHOWN ARE ALONG US ROUTE 5 BASELINE

7. REINFORCED EARTH WALLS IN CURVES SHALL BE SET IN CHORDS OF 1.5m EACH TO THE DESIRED WALL ALIGNMENT.

8. FOR LOCATION AND ALIGNMENT OF REINFORCED EARTH WALL. SEE SHEET NO. 2 OF THESE PLANS AND CONTRACT DRAWINGS.

9. IF MANHOLES OR DROP INLETS ARE PRESENT WITHIN THE REINFORCED EARTH VOLUME AND SPECIFIC DETAILS HAVE NOT BEEN INCLUDED IN THESE PLANS, CONTACT THE REINFORCED EARTH COMPANY FOR APPROPRIATE DETAILS.

10. FOR PILES LOCATED WITHIN THE REINFORCED EARTH VOLUME, THEY SHALL BE DRIVEN PRIOR TO CONSTRUCTION OF THE REINFORCED EARTH WALL UNLESS A METHOD TO PROTECT THE STRUCTURE, WHICH IS ACCEPTABLE TO THE ENGINEER AND THE REINFORCED EARTH COMPANY, AND IS PROPOSED AND APPROVED IN WRITING.

11. BACKFILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR REINFORCED EARTH WALLS TO A LEVEL OF 5 cm ± ABOVE THE TIE STRIPS EMBEDDED IN THE PANELS. INSTALLATION OF REINFORCING STRIPS SHALL BE PERMITTED ONLY AFTER PLACEMENT AND COMPACTION OF THE BACKFILL MATERIAL HAS REACHED THE REQUIRED LEVEL.

WALL CONSTRUCTION (CONT.)

12. COMPACTION AND OPERATION EQUIPMENT SHALL BE KEPT A MINIMUM DISTANCE OF 1M FROM THE BACK FACE OF THE REINFORCED EARTH PANELS. COMPACTION WITHIN 1M OF THE REINFORCED EARTH PANELS SHALL BE ACHIEVED WITH AT LEAST THREE (3) PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, ROLLER OR VIBRATORY SYSTEM. NO COMPACTION DENSITY TESTS SHALL BE TAKEN WITHIN THE 1M . ZONE.

13. IF STRUCTURES IN EXCESS OF 6M IN HEIGHT OCCUR, THE FINISHED GRADE IN FRONT OF THE WALL SHALL BE PLACED AND COMPACTED BEFORE WALL CONSTRUCTION EXCEEDS A HEIGHT OF 6M . FINISHED GRADE BACKFILL SHALL BE COMPACTED TO 95% OF ASTM D-698, METHODS 'C' OR 'D', UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

14. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF ANY GUARDRAIL POSTS BEHIND THE REINFORCED EARTH PANELS. PRIOR TO PLACEMENT OF THE TOP LAYER OF REINFORCING STRIPS, INDIVIDUAL STRIPS MAY BE SKEWED TO AVOID THE POST LOCATIONS IF AUTHORIZED BY THE REINFORCED EARTH COMPANY. ANY DAMAGE DONE TO THE REINFORCING STRIPS DUE TO THE INSTALLATION OF THE GUARDRAIL SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

15. IF EXISTING OR FUTURE STRUCTURES, PIPES, FOUNDATIONS OR GUARDRAIL POSTS WHICH ARE WITHIN THE REINFORCED EARTH VOLUME INTERFERE WITH THE NORMAL PLACEMENT OF REINFORCING STRIPS AND SPECIFIC DIRECTION HAS NOT BEEN PROVIDED ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE REINFORCED EARTH COMPANY TO DETERMINE WHAT COURSE OF ACTION SHOULD BE TAKEN.

16. ALL DETAILING AND CHECKING OF REINFORCING STEEL FOR ANY C.I.P. CONCRETE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.

17. IN LOCATIONS OF C.I.P. COPING, TOP PANELS SHALL HAVE #13 (#4 US) PROTRUDING FROM THE TOP EDGE OF THE PANELS.

18. FOR OTHER INFORMATION PERTAINING TO WALL CONSTRUCTION PLEASE REFER TO THE REINFORCED EARTH CONSTRUCTION MANUAL.

19. THE CONTRACTOR IS RESPONSIBLE FOR GRADUALLY DEFLECTING UPPER REINFORCING STRIPS DOWNWARD TO AVOID CONFLICTS WITH PAVING, FOUNDATIONS AND SUBGRADE PREPARATION. THE CONTRACTOR'S ATTENTION IS DIRECTED ESPECIALLY TO SITUATIONS WHERE ROADWAY SUPERELEVATION, IMPERVIOUS MEMBRANES AND/OR SOIL MIXING ARE ANTICIPATED.

20. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING STORM WATER DRAINAGE IN THE VICINITY OF THE WALL DURING CONSTRUCTION. STORM WATER RUNOFF IS TO BE COLLECTED AND DISCHARGED AWAY FROM THE WALL AND REINFORCED BACKFILL.

MATERIALS NOTES

21. NOMINAL STRIP LENGTHS

THE REINFORCING STRIP LENGTHS SHOWN ON THE PLANS, MEASURED FROM BACK FACE OF PANEL, ARE THE NOMINAL LENGTHS REQUIRED BY CALCULATION. THE ACTUAL FABRICATED STRIP LENGTHS ARE OFTEN LONGER (UP TO 15cm) DUE TO MANUFACTURING TOLERANCES. THE REQUIRED HORIZONTAL LIMIT OF GRANULAR BACKFILL IS EQUAL TO THE NOMINAL STRIP LENGTH. ADDITIONAL GRANULAR BACKFILL BEYOND THE NOMINAL STRIP LENGTH IS NOT REQUIRED BY CALCULATION.

MATERIALS NOTES (CONT.)

22. SELECT BACKFILL QUANTITY

THE SELECT BACKFILL QUANTITY IS CALCULATED BY MULTIPLYING THE NOMINAL STRIP LENGTHS SHOWN ON THE PLANS (PLUS 300mm) BY THEIR TRIBUTARY WALL SURFACE AREA AND CONVERTING THE RESULT TO A NEATLINE CUBIC METER QUANTITY. THE CONTRACTOR MUST CALCULATE HIS OWN EXCAVATION AND BACKFILL QUANTITIES BASED UPON THE SPECIFIC CONDITIONS OF THE PROJECT.

23. PANEL FINISH

PRECAST FACING PANELS FOR SHALL HAVE AN ASHLAR STONE FORM LINER FINISH. PANEL TYPES "B" AND "CE" (CORNER ELEMENTS) SHALL HAVE A PLAIN STEEL FORM FINISH. ALL PRECAST PIECES SHALL BE COLORED WITH BAYFERROX 330 3.5% (HEAT STABLE) PIGMENT DYE.

24. NOTE TO CONTRACTORS

ONLY THE FOLLOWING MATERIALS ARE SUPPLIED BY THE REINFORCED EARTH COMPANY:

- PRECAST CONCRETE FACING PANELS
- REINFORCING STRIPS
- BOLT SETS (FOR ATTACHING REINFORCING STRIPS TO PANELS)
- BEARING BLOKS
- RUBBER SHIMS
- FILTER CLOTH AND ADHESIVE (FOR PANEL JOINTS ONLY)

ANY OTHER MATERIALS CALLED FOR IN THE CONTRACT PLANS OR SPECIFICATIONS ARE TO BE SUPPLIED BY THE CONTRACTOR. ANY JOINT MATERIALS SHOWN AT THE INTERFACE OF PRECAST PANELS AND CAST-IN-PLACE CONCRETE STRUCTURES ARE TO BE SUPPLIED BY THE ERECTION CONTRACTOR. ALL SANDBLASTING, PAINTING, SEALERS OR OTHER SPECIAL APPLIED COATINGS ARE ALSO SUPPLIED/INSTALLED BY THE CONTRACTOR IN THE FIELD FOLLOWING PANEL ERECTION.

ALL GEOTEXTILES, GEOGRIDS, IMPERVIOUS MEMBRANES ARE SUPPLIED BY THE CONTRACTOR.

25. THE REINFORCED EARTH COMPANY SUPPLIES PRECAST CONCRETE FACING PANELS AND ACCESSORIES TO BE USED IN CONJUNCTION WITH OTHER MATERIALS IN THE CONSTRUCTION OF THE REINFORCED EARTH® RETAINING WALLS DETAILED HEREIN. THE CONSTRUCTION AND QUALITY CONTROL PROCEDURES MANUAL FURNISHED BY THE REINFORCED EARTH COMPANY IS INTENDED TO PROVIDE A GENERAL EXPLANATION OF THE SYSTEM. IT IS THE CONTRACTOR'S OBLIGATION TO DEVISE AND EXECUTE A PROJECT SPECIFIC ERECTION SEQUENCE, PANEL UNLOADING, HANDLING AND BRACING SYSTEM, AND FALL PROTECTION SYSTEM. THE BRACING SYSTEM SHOWN IN THE CONSTRUCTION AND QUALITY CONTROL PROCEDURES MANUAL IS GENERAL IN NATURE AND DOES NOT ACCOUNT FOR PROJECT SPECIFIC CRITERIA. COMPLIANCE WITH THE GUIDELINES IN THIS MANUAL DOES NOT RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITY TO ADHERE TO THE PROJECT PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS OR COMPLIANCE WITH ALL FALL PROTECTION, SAFETY, LAWS, STANDARDS AND PROCEDURES AT THE JOBSITE. CONTRACTORS SHOULD TAKE SPECIAL PRECAUTIONS TO PREVENT THE PANELS FROM SHIFTING OR FALLING DURING THE ERECTION PROCESS.

⚠1 26. MANUFACTURER'S REPRESENTATIVE

A TECHNICAL REPRESENTATIVE SHALL BE ON THE PROJECT TO SUPERVISE THE INITIAL PLACEMENT OF THE MSE WALL. THE TECHNICAL REPRESENTATIVE SHALL BE ONSITE ANY TIME DURING THE WALL INSTALLATION WHEN REQUESTED BY THE ENGINEER. THE REPRESENTATIVE SHALL BE AVAILABLE FOR AT LEAST 20 WORKDAYS.

INDEX

SHEET NO.	CONTENTS
1	GENERAL NOTES
2	PLAN VIEW – REINFORCED EARTH WALLS
3	ELEVATION – ABUTMENT NO. 1
4	ELEVATION – ABUTMENT NO. 2
5	DETAILS/TYP. SECTIONS
6	DETAILS
7	DETAILS AT DRAINAGE STRUCTURES
8	STANDARD PANEL DETAILS

SUMMARY OF MATERIAL QUANTITIES

	FACING PANEL AREA
ABUT. 1	222.0 SM
ABUT. 2	491.4 SM
TOTAL	713.4 SM

⚠1

STRUCT COPY

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OK'D BY_____ OK'D BY LWS
AUG 15 2002
RESUBMIT_____ APPROVED_____
BY JPW DATE 8/15/02

CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY

STATE OF VERMONT
PETER L. ANDERSON
6161
PROFESSIONAL ENGINEER
8-13-02

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The design contained on these drawings is based on information provided by the owner. On the basis of this information, The Reinforced Earth Company has designed, and is responsible for the internal stability of the structure only. External stability, including foundation and slope stability, is the responsibility of the owner.

The Reinforced Earth Company
8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

"REINFORCED EARTH" is the registered trademark of The Reinforced Earth Company.

DESIGNED BY: KPB				PROJECT NAME	US ROUTE 5 – BARTON PN STP 0113(58)S	DATE 6-11-02
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA	⚠1	8/12/02	REVISED PER VT AOT COMMENTS.	OWNER	VT AOT	DRAWING NO. 1 OF 8
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	GENERAL NOTES – R.E. WALLS	SCALE AS SHOWN

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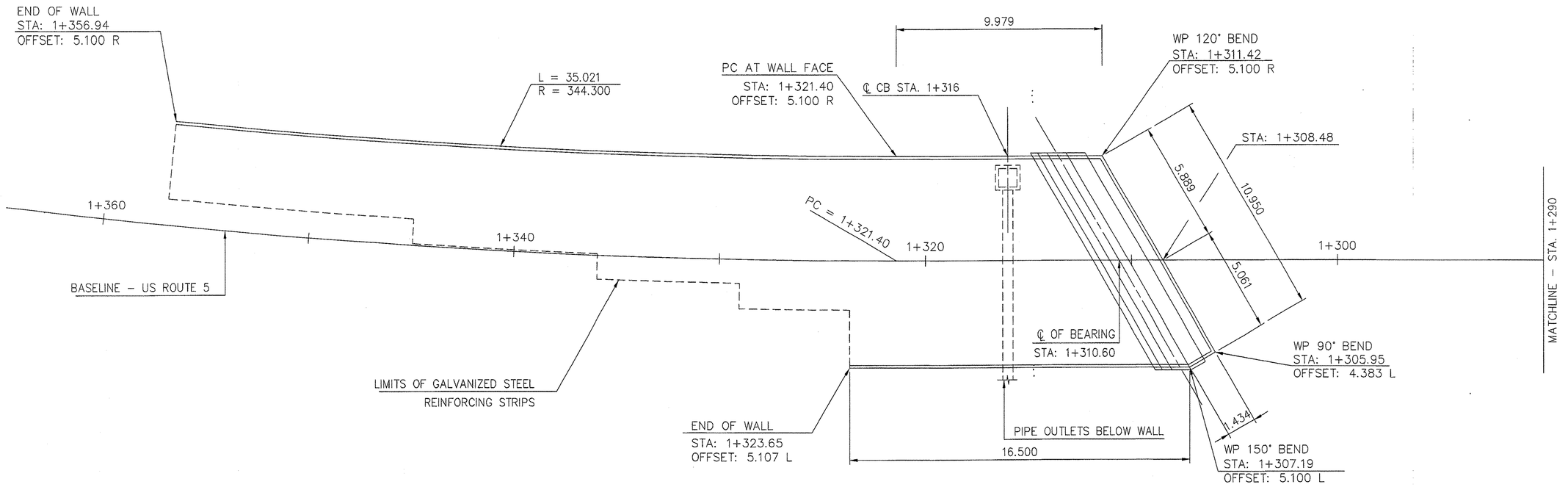

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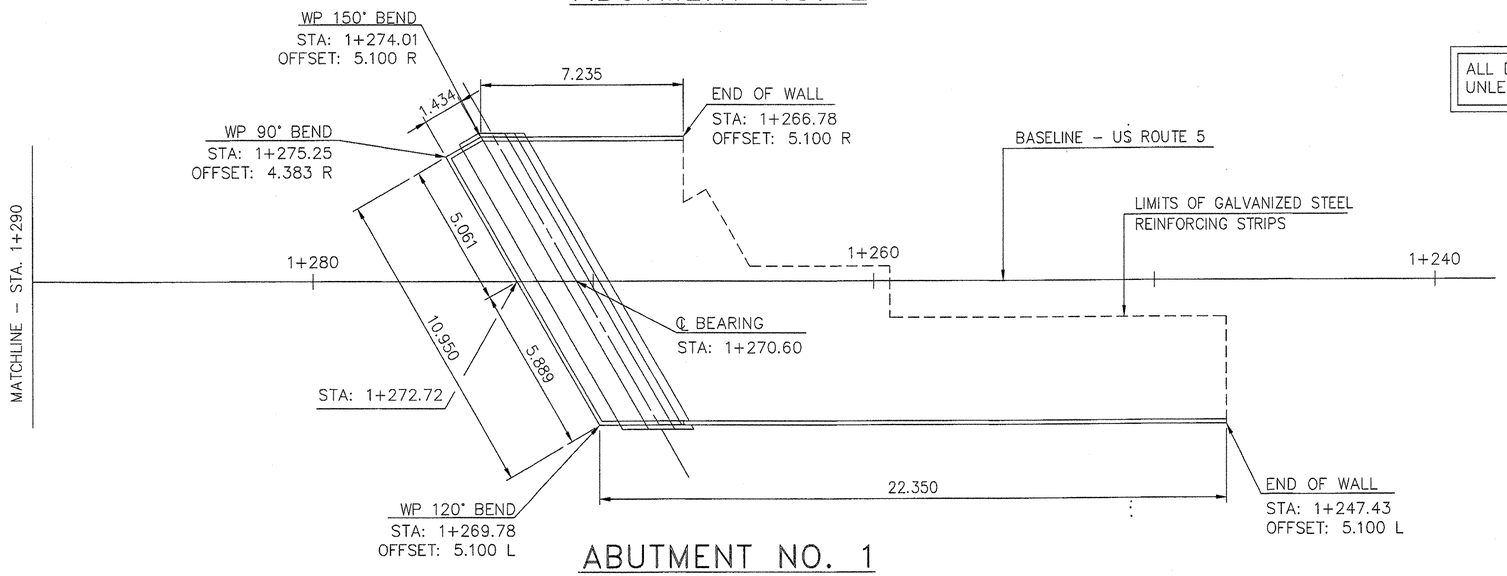

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PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT
CHECKED BY: PLA	1	8/12/02	REVISED PER VT AOT COMMENTS.	OWNER	VT AOT
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PLAN VIEW – R.E. WALLS

DATE	6-11-02
CONTRACT NO.	15765
DRAWING NO.	2 OF 8
SCALE	1:100

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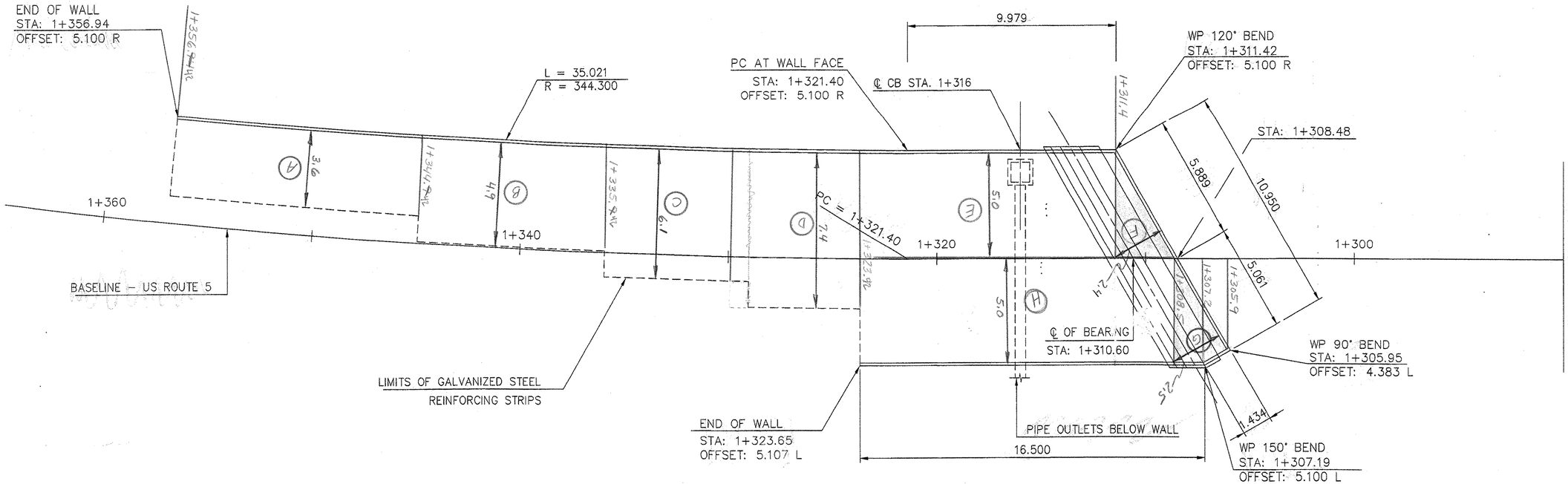

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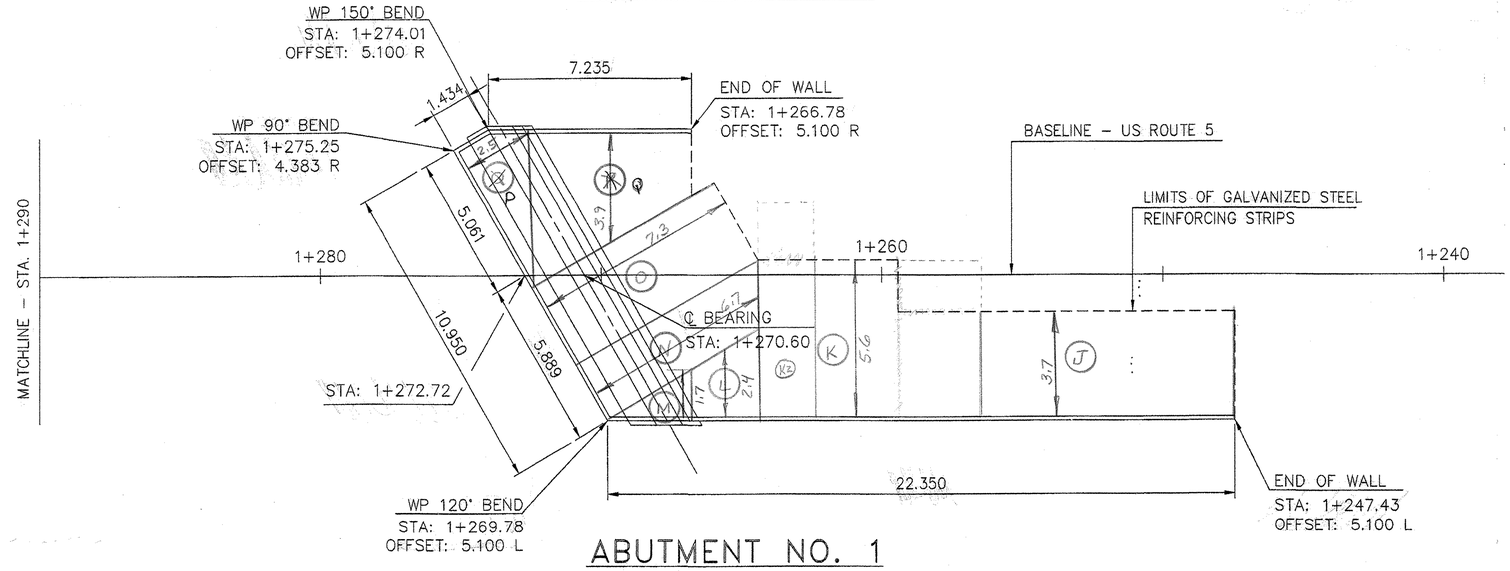

ABUTMENT NO. 1

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STATE OF VERMONT — PETER L. ANDERSON 6161 — PROFESSIONAL ENGINEER

6.11.02

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PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA				OWNER	VT AOT	DRAWING NO. 2 OF 8
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PLAN VIEW – R.E. WALLS	SCALE 1:100

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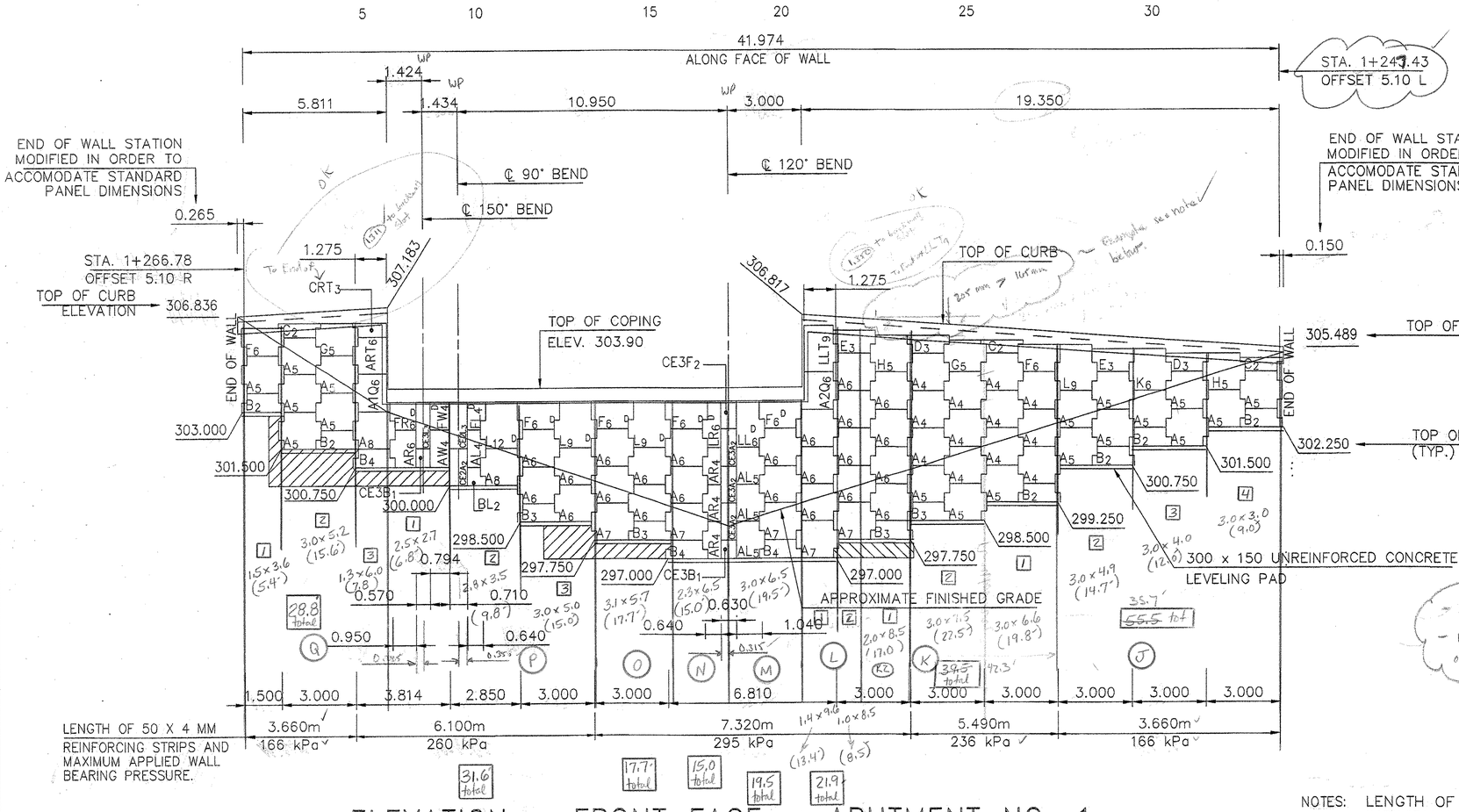

SECTION	AREA	DEPTH	VOLUME
J	35.7 ~~55.5~~	3.96'	141.4 ~~219.78~~
K	42.3 ~~39.5~~	5.79'	244.9 ~~228.71~~
KZ L	17.0 21.9	7.62 2.4	129.5 52.6
M	19.5'	1.7' / 2	16.6
N	15.0'	6.7 ~~7.0~~	100.5 ~~105.0~~
O	17.7'	7.62'	134.9 ~~137.87~~
P	31.6'	2.5' / 2	39.5'
Q	28.8'	3.9'	112.3'
		Total	~~909.36~~ ~~929.66~~ 972.2

ACL 7-3-03

ABUTMENT #1

- Show top of MSE Panel elevations.
- Verify that minimum embedment / maximum embedment of the panels into base slab is met see above.

DEPTH – SEE SHEET 74 OF 120 OF PLANS. NOTE 10 THE REQUIRED HORIZONTAL LIMIT OF SELECT GRANULAR BACKFILL SHALL EXCEED THE NOMINAL REINFORCEMENT ELEMENT LENGTH BY 300;

ELEVATION – FRONT FACE – ABUTMENT NO. 1

SCALE = 1 : 100

NOTES: LENGTH OF LEVELING PAD IS BASED ON INDIVIDUAL PANEL WIDTHS, ℄ OF EAR TO ℄ OF EAR. USE THE STEP DETAIL ON SHEET No. 5 TO DETERMINE THE ACTUAL LEVELING PAD STEP LOCATION.

FOR TYPICAL WALL SECTIONS SEE SHEET No.5 .
FOR ABUTMENT DETAILS – SEE CONTRACT PLANS.
FOR GUIDERAIL AND COPING DETAILS – SEE CONTRACT PLANS (SHEET 68).

NOTE: HATCHED AREAS INDICATE A ZONE OF HYBRID REINFORCED SOIL. STEEL REINFORCING STRIPS FOR THE REINFORCED EARTH WALL WILL BE PLACED CONCURRENTLY WITH THE GEOSYNTHETIC REINFORCEMENT REQUIRED FOR THE STEEPENED SLOPES. UNDER NO CIRCUMSTANCES SHALL STEEL REINFORCING STRIPS COME IN CONTACT WITH GEOSYNTHETIC REINFORCEMENT. SEE DETAIL ON SHEET 6 OF 8 FOR FURTHER INFORMATION.

KEY: PANEL NAME AR–1.355 (D) NO. OF TIE STRIPS; MODIFICATION: SPECIAL WIDTH, COPING DOWEL

RECEIVED
JUN 14 2002
CK'D BY jwm OK'D BY RSY
RESUBMIT ✓ APPROVED
BY CPW DATE 7/8/02

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STATE OF VERMONT PETER L. ANDERSON 6161 PROFESSIONAL ENGINEER
6-11-02

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PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA				OWNER	VT AOT	DRAWING NO. 3 OF 8
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	ELEVATION – ABUTMENT NO. 1	SCALE AS SHOWN

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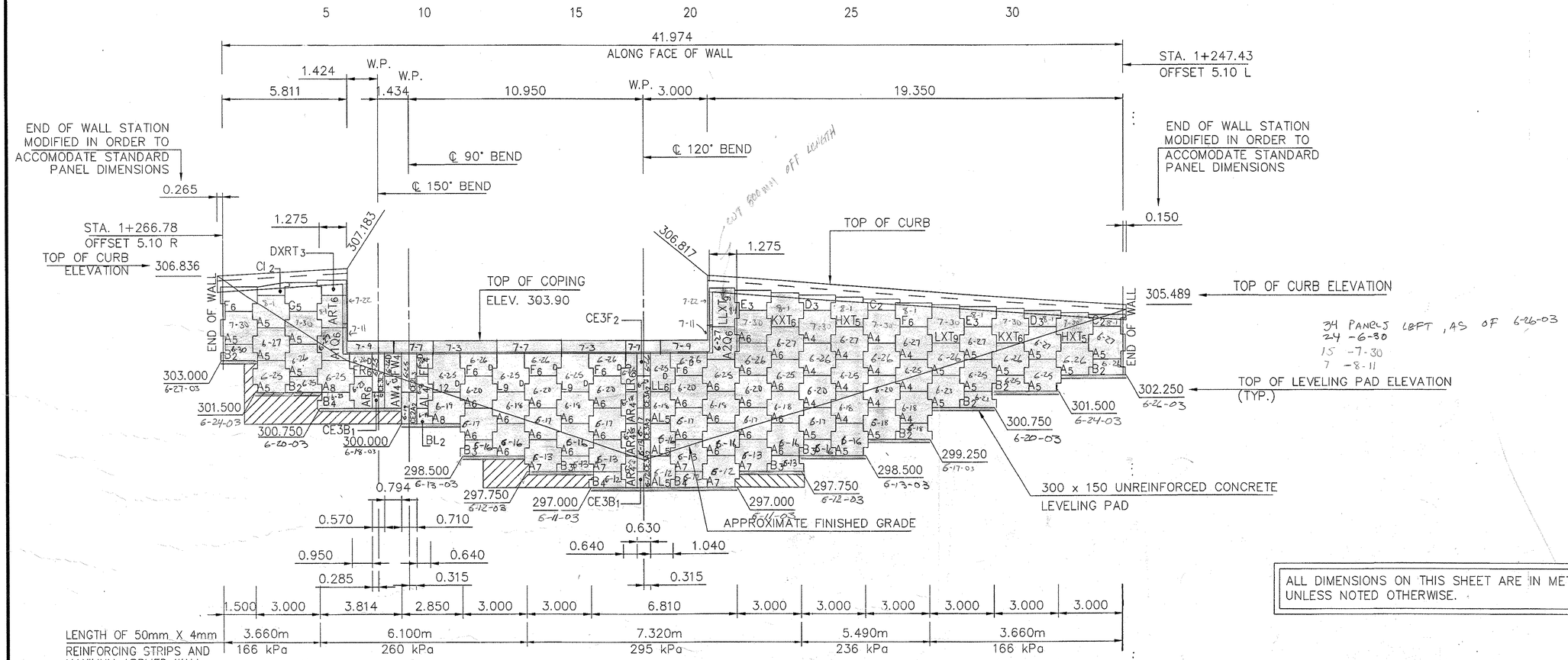

34 PANELS LEFT, AS OF 6-26-03
24 -6-30
15 -7-30
7 -8-11

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ELEVATION – FRONT FACE – ABUTMENT NO. 1

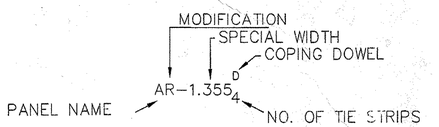
SCALE = 1 : 100

NOTES: LENGTH OF LEVELING PAD IS BASED ON INDIVIDUAL PANEL WIDTHS, ℄ OF EAR TO ℄ OF EAR. USE THE STEP DETAIL ON SHEET No. 5 TO DETERMINE THE ACTUAL LEVELING PAD STEP LOCATION.

FOR TYPICAL WALL SECTIONS SEE SHEET No. 5 .
FOR ABUTMENT DETAILS – SEE CONTRACT PLANS.
FOR GUIDERAIL AND COPING DETAILS – SEE CONTRACT PLANS (SHEET 68).

NOTE: HATCHED AREAS INDICATE A ZONE OF HYBRID REINFORCED SOIL. STEEL REINFORCING STRIPS FOR THE REINFORCED EARTH WALL WILL BE PLACED CONCURRENTLY WITH THE GEOSYNTHETIC REINFORCEMENT REQUIRED FOR THE STEEPENED SLOPES. UNDER NO CIRCUMSTANCES SHALL STEEL REINFORCING STRIPS COME IN CONTACT WITH GEOSYNTHETIC REINFORCEMENT. SEE DETAIL ON SHEET 6 OF 8 FOR FURTHER INFORMATION.

KEY:



RECEIVED
OK'D BY _____ OK'D BY LWB
AUG 15 2002
RESUBMIT _____ APPROVED ✓
BY APW DATE 8/15/02

CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY
STATE OF VERMONT PETER L. ANDERSON 6161 PROFESSIONAL ENGINEER
8-13-02

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The Reinforced Earth Company
8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

"REINFORCED EARTH" is the registered trademark of The Reinforced Earth Company.

DESIGNED BY:	REV.	DATE	DESCRIPTION		
KPB				PROJECT NAME	US ROUTE 5 – BARTON PN STP 0113(58)S
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT
CHECKED BY: PLA	1	8/12/02	REVISED PER VT AOT COMMENTS. REVISED TOP PANELS.	OWNER	VT AOT
ENG. MANAGER				DRAWING COVERS	ELEVATION – ABUTMENT NO. 1

DATE 6–11–02
CONTRACT NO. 15765
DRAWING NO. 3 OF 8
SCALE AS SHOWN

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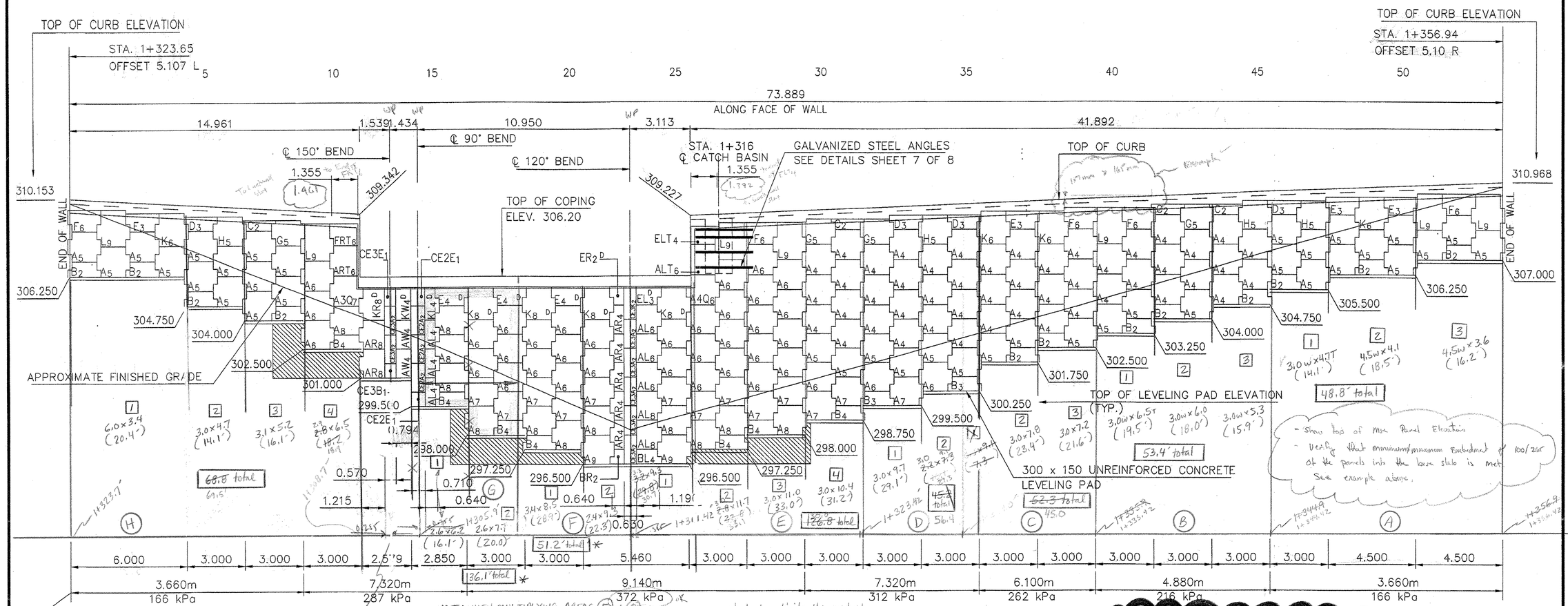

ELEVATION – FRONT FACE – ABUTMENT NO. 2

SCALE = 1 : 100

NOTE: HATCHED AREAS INDICATE A ZONE OF HYBRID REINFORCED SOIL. STEEL REINFORCING STRIPS FOR THE REINFORCED EARTH WALL WILL BE PLACED CONCURRENTLY WITH THE GEOSYNTHETIC REINFORCEMENT REQUIRED FOR THE STEEPENED SLOPES. UNDER NO CIRCUMSTANCES SHALL STEEL REINFORCING STRIPS COME IN CONTACT WITH GEOSYNTHETIC REINFORCEMENT. SEE DETAIL ON SHEET 6 OF 8 FOR FURTHER INFORMATION.

NOTES: LENGTH … INDIVID… TO ℄ … SHEET … LEVELIN… FOR TY… FOR ABU… FOR GU… SEE CO…

KEY: PANEL NAME … AR…

SECTION	AREA (sheet 10)	DEPTH (sheet 8)	VOLUME
A	48.8	3.96′	193.2′
B	53.4′	5.18′	276.6′
C	45.0′ ~~52.3~~	6.4′	288.0′ ~~334.7~~
D	56.4′ ~~45.2~~	7.62′	429.8′ ~~344.4~~
E	130.0′ ~~126.8~~	5.0′ ~~5.3~~	650.0′ ~~672.0~~
F	51.2′	2.4′/2	61.4′
G	36.1′	2.5′/2	45.1′
H	~~61.5~~′ ~~68.8~~	5.0′ ~~5.3~~	~~307.5~~′ ~~364.6~~
		TOTAL	2,292.0′ 2,291.6′

ABUTMENT #2

DEPTH – SEE SHEET 7 OF 20 OF PLANS. NOTE 10 THE REQUIRED HORIZONTAL LIMIT OF SELECT GRANULAR BACKFILL SHALL EXCEED THE NOMINAL REINFORCEMENT ELEMENT LENGTH BY 300.

CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY
STATE OF VERMONT – PETER L. ANDERSON 0181 – PROFESSIONAL ENGINEER
6.11.02

EIVE … OK'D B… 4 20… APPR… DATE 7/18/02

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8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

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DESIGNED BY: KPB			
PROJECT ENGR: KPB			
CHECKED BY: PLA			
ENG. MANAGER	REV.	DATE	

ROUTE 5 – BARTON … 0113(58)S	DATE 6–11–02
…UNTY OF ORLEANS …ERMONT	CONTRACT NO. 15765
…T AOT	DRAWING NO. 4 OF 8
…N – ABUTMENT NO. 2	SCALE AS SHOWN

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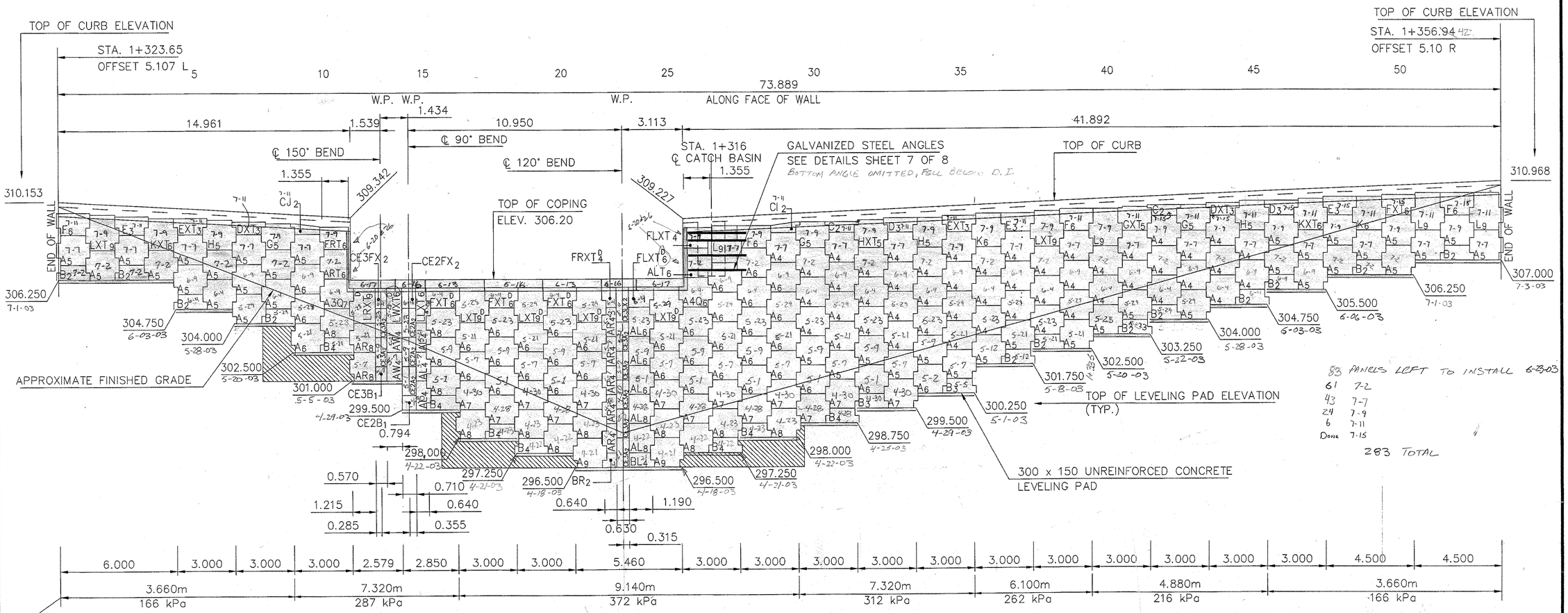
1 of 3

G. Shangraw 6/16/03

170



LENGTH OF 50mm X 4mm REINFORCING STRIPS AND MAXIMUM APPLIED WALL BEARING PRESSURE.

ELEVATION – FRONT FACE – ABUTMENT NO. 2

SCALE = 1 : 100

ALL DIMENSIONS ON THIS SHEET ARE IN METERS UNLESS NOTED OTHERWISE.

NOTES: LENGTH OF LEVELING PAD IS BASED ON INDIVIDUAL PANEL WIDTHS, ℄ OF EAR TO ℄ OF EAR. USE THE STEP DETAIL ON SHEET No. 5 TO DETERMINE THE ACTUAL LEVELING PAD STEP LOCATION.

FOR TYPICAL WALL SECTIONS SEE SHEET No. 5.

FOR ABUTMENT DETAILS – SEE CONTRACT PLANS.

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KEY: PANEL NAME – AR–1.355 (D) 4 – NO. OF TIE STRIPS; MODIFICATION: SPECIAL WIDTH, COPING DOWEL

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CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY
STATE OF VERMONT
PETER L. ANDERSON 6161 PROFESSIONAL ENGINEER
8-13-02

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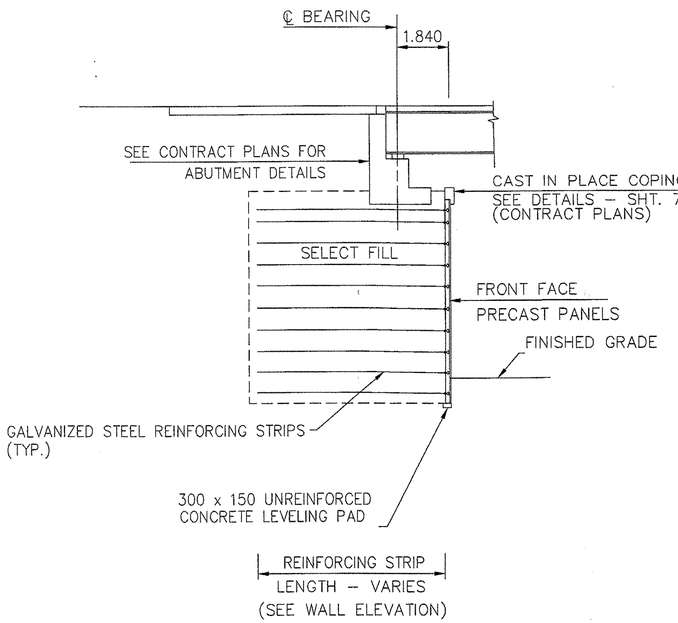
DESIGNED BY: KPB				PROJECT NAME	US ROUTE 5 – BARTON PN STP 0113(58)S
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT
CHECKED BY: PLA	1	8/12/02	REVISED PER VT AOT COMMENTS. REVISED TOP PANELS.	OWNER	VT AOT
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	ELEVATION – ABUTMENT NO. 2

DATE	CONTRACT NO.	DRAWING NO.	SCALE
6-11-02	15765	4 OF 8	AS SHOWN

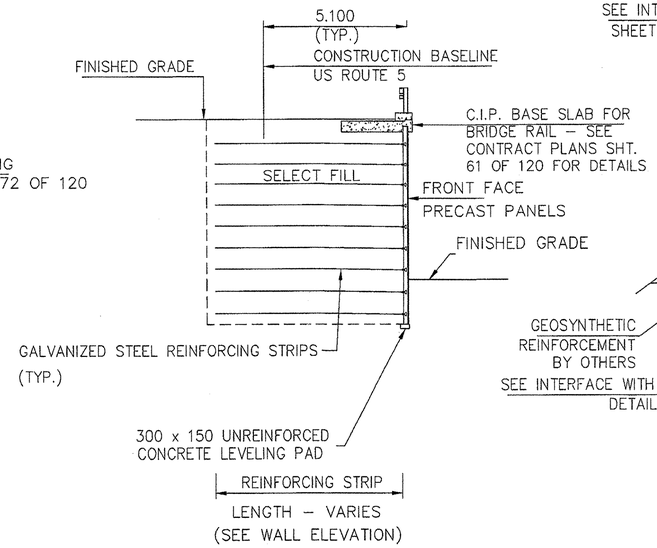
C:\15765\FINAL\15765_E2

171



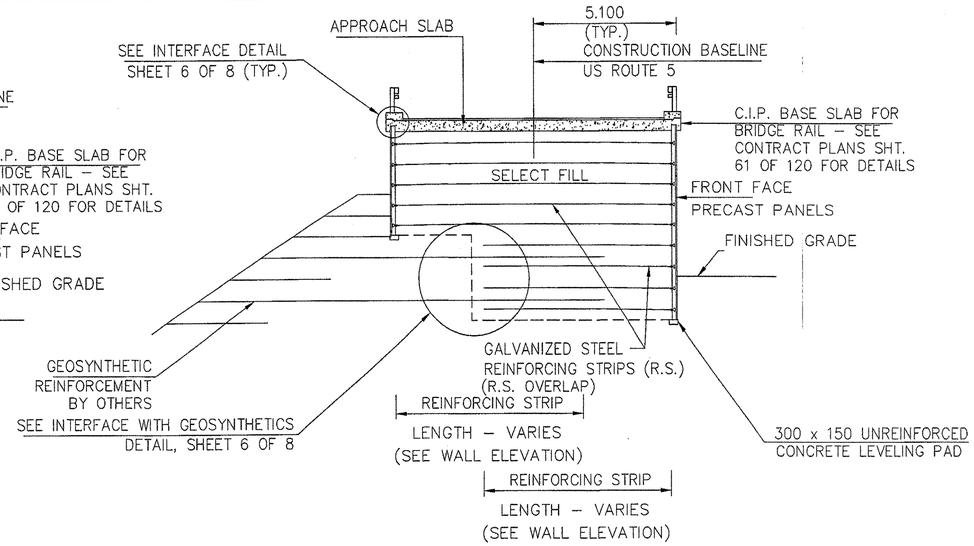
TYPICAL SECTION AT ABUTMENTS

SCALE: 1 : 100



TYPICAL SECTION APPROACH WALLS BEYOND APPROACH SLAB

SCALE: 1 : 100

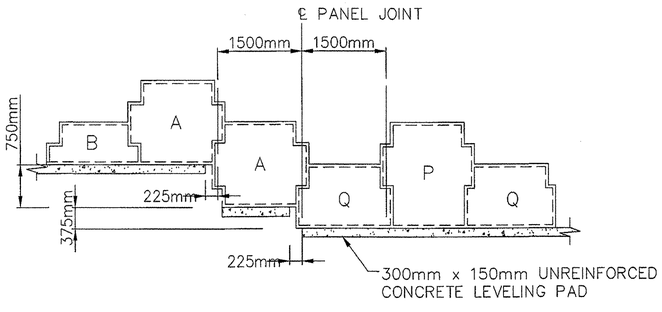


TYPICAL SECTION APPROACH WALLS AT APPROACH SLAB

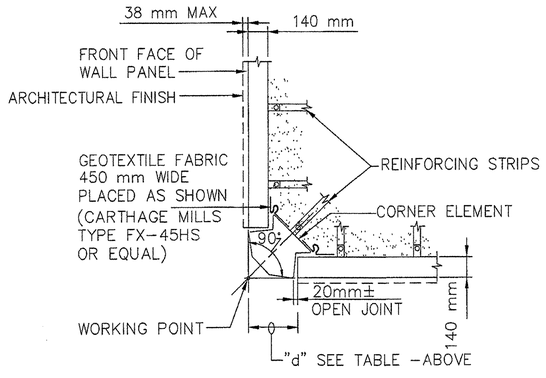
SCALE: 1 : 100

BEND ANGLE α	CORNER ELEMENT TYPE	WORKING DISTANCE "d"
90°	CE2	355 mm
120°	CE3	315 mm
150°	CE3	285 mm

DIMENSIONS ON THIS SHEET ARE IN METERS UNLESS NOTED OTHERWISE

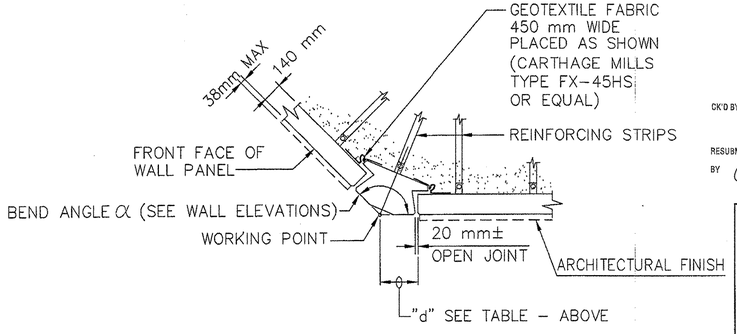


TYPICAL LEVELING PAD STEP DETAIL



90° CORNER ELEMENT DETAIL

SCALE 1:20



OBTUSE CORNER ELEMENT DETAIL

SCALE 1:20

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CK'D BY_____ OK'D BY LMB
AUG 15 2002
RESUBMIT_____ APPROVED ✓
BY CPW DATE 8/15/02

CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY

STATE OF VERMONT
PETER L. ANDERSON
8761
PROFESSIONAL ENGINEER
8-13-02

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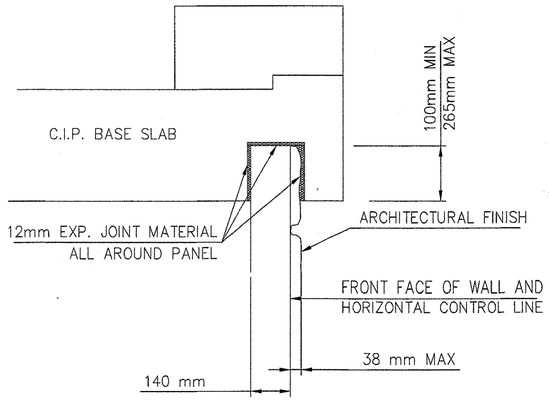
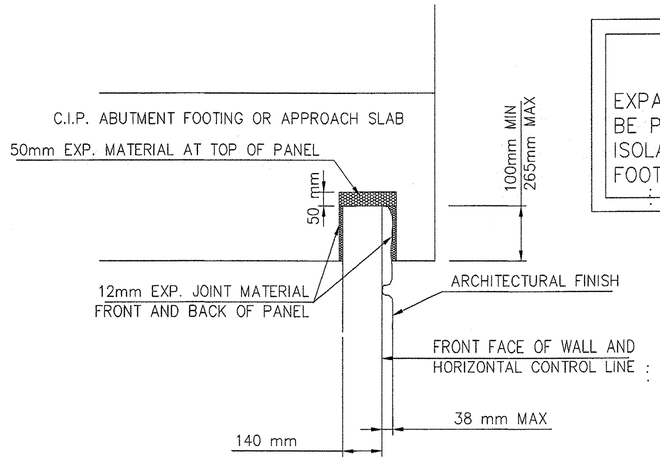
DESIGNED BY: KPB				PROJECT NAME	US ROUTE 5 – BARTON PN STP 0113(58)S	DATE 6–11–02
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA	1	8/12/02	REVISED PER VT AOT COMMENTS.	OWNER	VT AOT	DRAWING NO. 5 OF 8
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	DETAILS – RE WALLS	SCALE AS SHOWN

C:\15765\FINAL\15765_D1



INTERFACE DETAIL AT CAST IN PLACE BASE SLAB

SCALE: 1 : 10



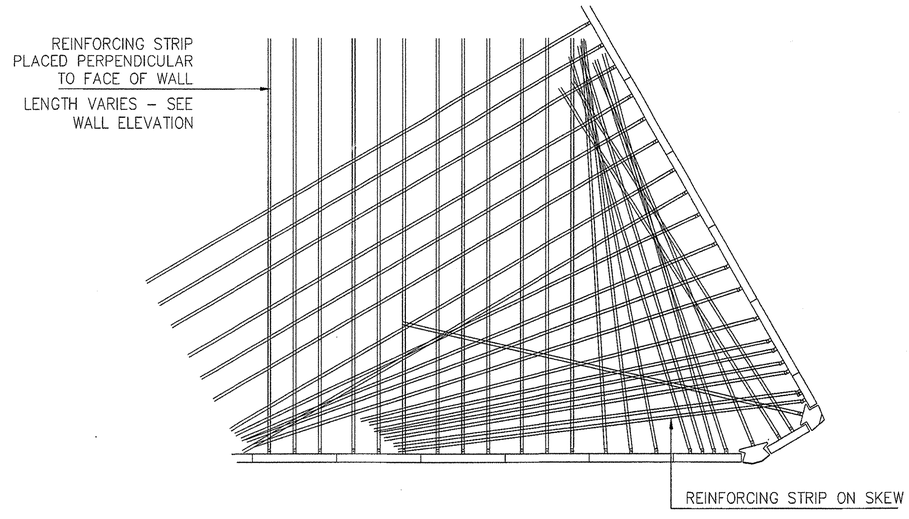
INTERFACE DETAIL AT CAST IN PLACE ABUTMENT FOOTINGS AND APPROACH SLAB AREA

SCALE: 1 : 10

IMPORTANT NOTE

EXPANSION JOINT MATERIAL MUST BE BE PLACED ALL AROUND TOP OF OF PANEL TO ISOLATE PANEL FROM CAST IN PLACE ABUTMENT FOOTINGS AND BASE SLAB.

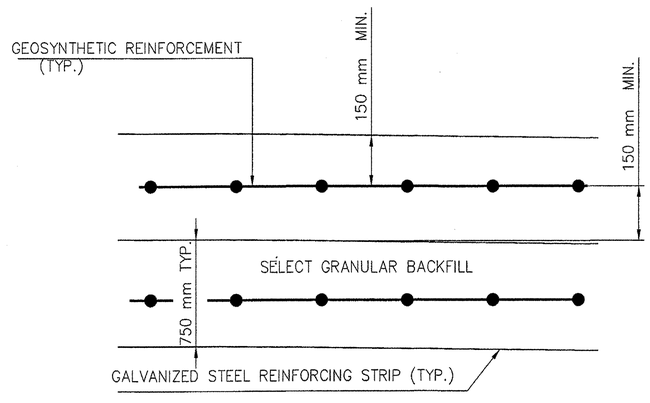
SEE CONTRACT DRAWINGS FOR COPING DETAILS



PARTIAL PLAN VIEW AT ACUTE CORNERS

SCALE: 1 : 50

NOTE: REINFORCING STRIPS SHALL BE PLACED PERPENDICULAR TO FACE OF WALL WHEREVER POSSIBLE. THE NUMBER OF REINFORCING STRIPS PER PANEL HAS BEEN INCREASED IN THE ACUTE CORNER AREA TO ACCOUNT FOR THE ANGLE OF SKEW.



NOTE: PROVIDE 150mm MINIMUM VERTICAL CLEARANCE BETWEEN LAYERS OF GEOSYNTHETIC REINFORCEMENT AND GALVANIZED STEEL REINFORCING STRIPS.

INTERFACE DETAIL STEEL REINFORCING STRIPS AND GEOSYNTHETICS.

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CK'D BY_____ OK'D BY [illegible]
AUG 15 2002
RESUBMIT_____ APPROVED_____
BY OPW DATE 8/15/02

CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY

STATE OF VERMONT
PETER L. ANDERSON
6161
PROFESSIONAL ENGINEER
8-13-02

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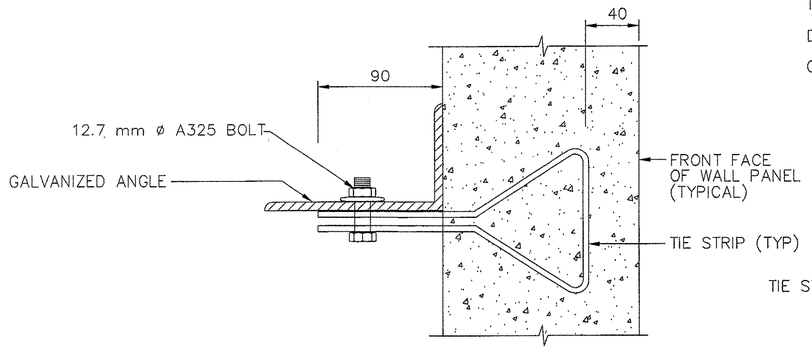
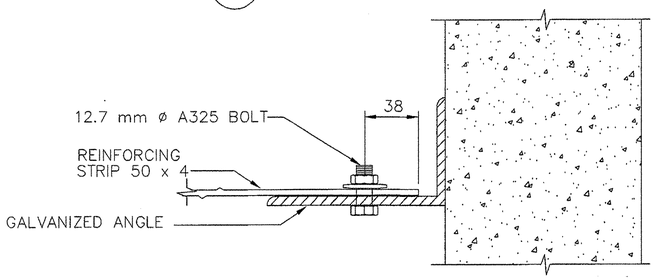
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA	1	8/12/02	REVISED PER VT AOT COMMENTS.	OWNER	VT AOT	DRAWING NO. 6 OF 8
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	DETAILS	SCALE AS SHOWN

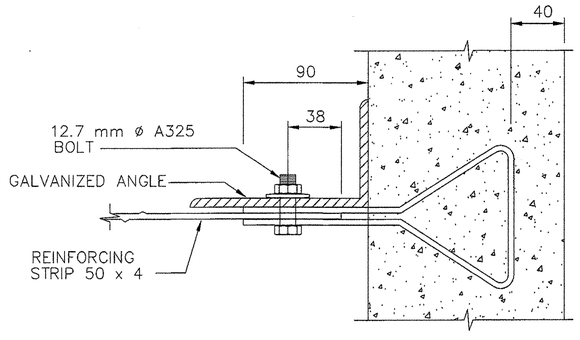
G:\15765\FINAL\15765_D2



(1) ANGLE BOLTED TO TIE STRIP



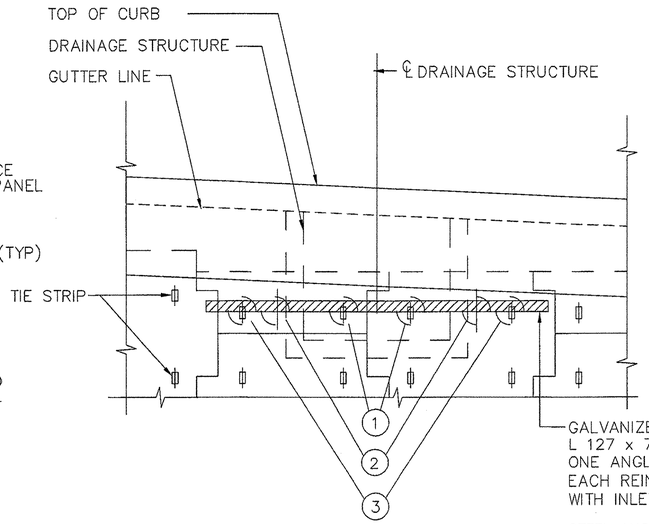
(2) SHIFTED REINF. STRIP BOLTED TO ANGLE



(3) ANGLE BOLTED TO TIE STRIP WITH REINF. STRIP

CONNECTION DETAILS (1) THRU (3)

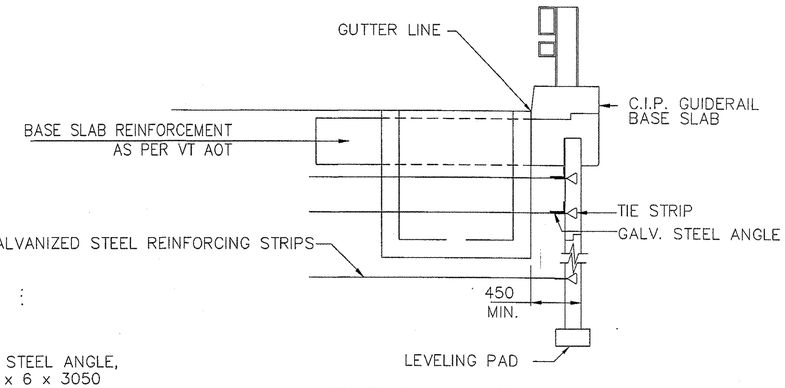
SCALE 1:2



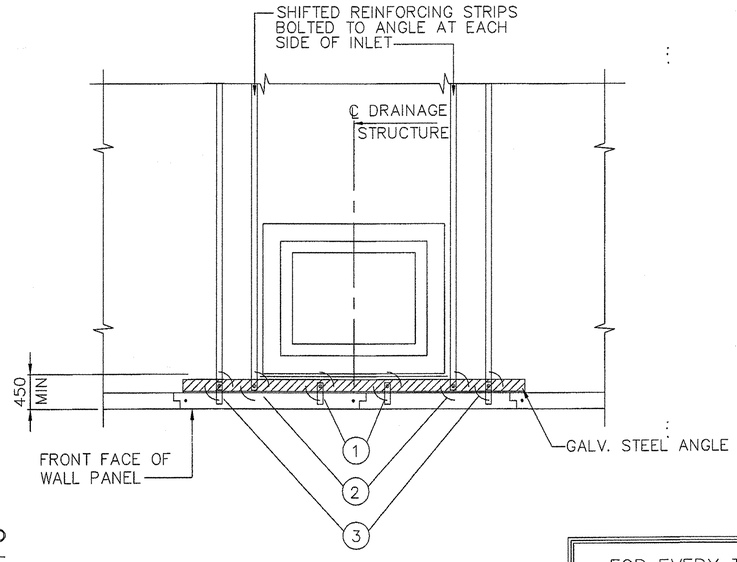
PARTIAL ELEVATION

SCALE 1:25

STEEL ANGLES SHALL BE ASTM A709M GRADE 250. GALVANIZED PER ASTM A-123
FIELD DRILL 14mm HOLES IN ANGLE AT LOCATIONS REQUIRED FOR BOLTED CONNECTIONS. APPLY TWO COATS OF ZINC-RICH GALVANIZING PAINT TO FIELD DRILLED HOLES.

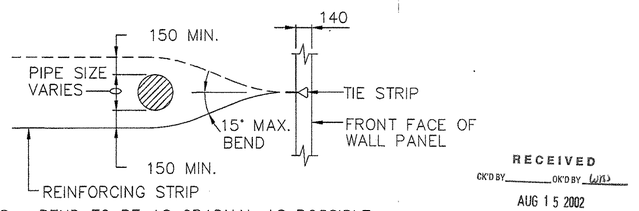


TYPICAL SECTION AT CATCH BASINS



PARTIAL PLAN

SCALE 1:25



NOTES : BEND TO BE AS GRADUAL AS POSSIBLE.
ONE REINFORCING STRIP SHALL BE PLACED EITHER ABOVE OR BELOW PIPE, WHICHEVER HAS THE LOWEST ANGLE OF DEFLECTION.

TYPICAL STRIP BENDING DETAIL AT ANY PROPOSED & EXISTING PIPES

SCALE 1:25

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OK'D BY _____ OK'D BY W/RS
AUG 15 2002
RESUBMIT _____ APPROVED ✓
BY CPW DATE 8/15/02

ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

FOR EVERY TIE STRIP BLOCKED BY CATCH BASIN, SHIFT ASSOCIATED REINFORCING STRIP TO SIDE OF CATCH BASIN, BOLT REINFORCING STRIP TO ANGLE AND PLACE NORMAL TO WALL.

CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY

STATE OF VERMONT PETER L. ANDERSON 6161 PROFESSIONAL ENGINEER
6-15-02

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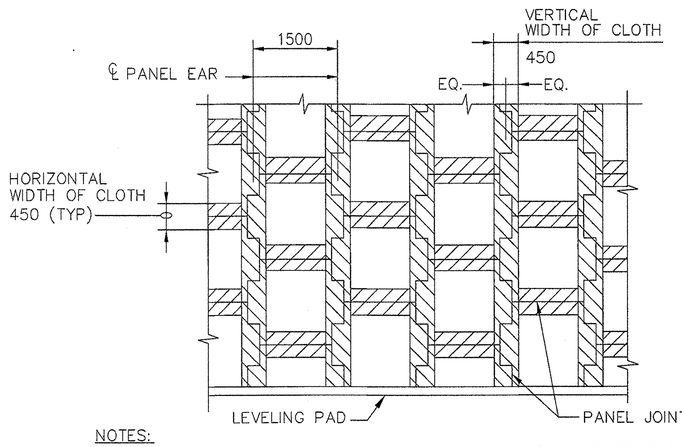
DESIGNED BY:				PROJECT NAME	US ROUTE 5 – BARTON PN STP 0113(58)S	DATE
KPB						6-11-02
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA	1	8/12/02	REVISED PER VT AOT COMMENTS.	OWNER	VT AOT	DRAWING NO. 7 OF 8
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	DETAILS AT DRAINAGE STRUCTURES	SCALE AS SHOWN

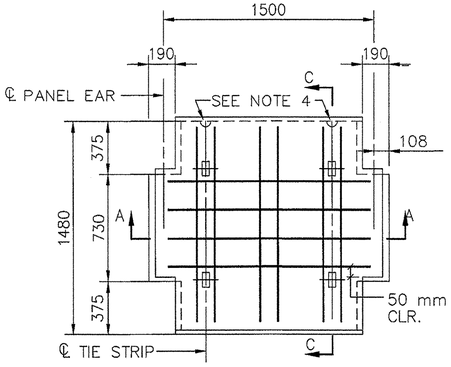
C:\15765\FINAL\15765_D3



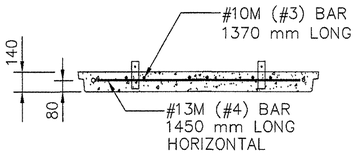
NOTES:

1. STRIPS OF FILTER CLOTH SHALL BE PLACED ON BACK FACE OF PANEL, OVER PANEL JOINTS. FILTER CLOTH SHALL BE ADHERED TO BACK FACE OF PANELS USING AN ADHESIVE COMPOUND SUPPLIED BY THE REINFORCED EARTH COMPANY.
2. ⚠ THE CONTRACTOR SHALL PROVIDE THE RESIDENT ENGINEER WITH THE MANUFACTURERS TECHNICAL DATA SHEET AND APPLICATION INSTRUCTIONS FOR THE ADHESIVE COMPUND.

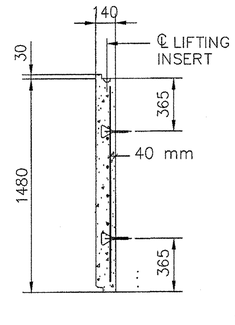
FILTER CLOTH DETAIL
PARTIAL ELEVATION – BACK FACE
SCALE 1:50



PANEL TYPE "A"
WITH R6 REINFORCEMENT
FRONT VIEW
SCALE 1:20



SECTION A–A
SCALE 1:20

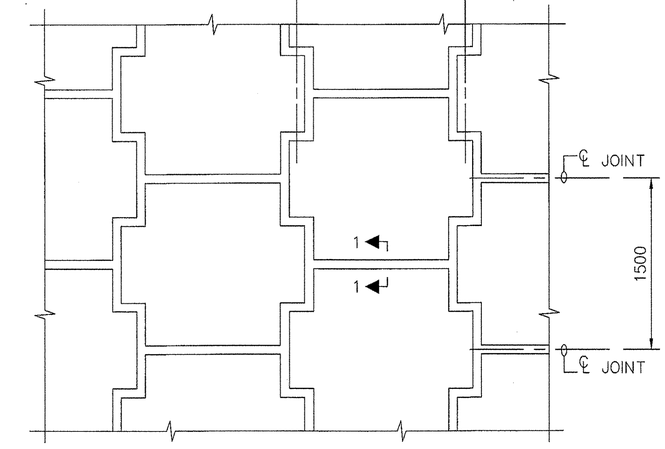


SECTION C–C
SCALE 1:20

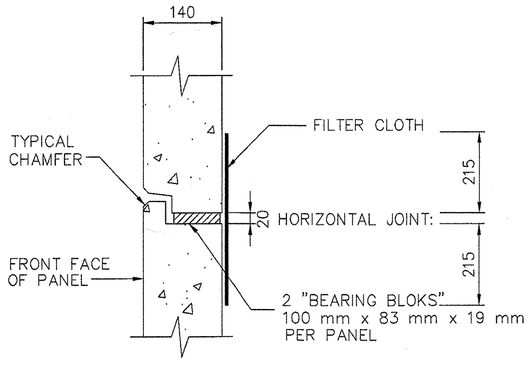
PANEL THICKNESS	REINFORCEMENT DESIGNATION	PANEL REINFORCEMENT	MAXIMUM ALLOWABLE HORIZONTAL STRESS AT FACING (KPa)
140	R6	6–10M(#3) ø VERT. 4–13M(#4) ø HORIZ.	77 kPa
	R7	6–13M(#4) ø VERT. 4–20M(#6) ø HORIZ.	122 kPa

NOTES:

1. REINFORCING STEEL TO BE A615 GRADE 420. EPOXY COATED
2. 28 DAY COMPRESSIVE STRENGTH OF CONCRETE = 27.6 MPa
3. 10 mm x 10 mm CHAMFER SHALL BE PROVIDED ON ALL EXPOSED EDGES (FRONT FACE ONLY).
4. ALL PANEL TYPES AND OTHER RELATED ELEMENTS WILL BE DETAILED ON SHOP DRAWINGS.
5. ALL PANELS SHALL HAVE TWO LIFTING INSERTS OF ONE TON CAPACITY EACH.
6. FACING PANEL FINISH SHALL BE AN ASHLAR STONE FORM LINER FINISH. THE CONCRETE SHALL BE COLORED WITH DYE (BAYFERROX 330, 3.5% – HEAT STABLE).
   ⚠ THE FINISHED PRODUCT SHALL BE DISPLAYED AS A TEST PANEL AND SHALL BE APPROVED BY VTRANS PRIOR TO COMMENCING PRECASTING OF THE PANELS TO BE USED IN THE WALL CONSTRUCTION. THE APPROVED TEST PANEL SHALL BE USED AS A BENCHMARK FOR THE CORRECT COLOR, SHADE THROUGHOUT THE PRECASTING OPERATION.
7. PANEL DESIGN THICKNESS IS 140 mm.
8. BEARING BLOKS SHALL BE EPDM RUBBER PADS WITH DUROMETER HARDNESS OF 80±5, CONFORMING TO ASTM D2000.
9. SHIMS SHALL BE EPDM RUBBER PADS WITH DUROMETER HARDNESS OF 80±5, CONFORMING TO ASTM D2000. NOMINAL DIMENSION OF SHIM IS 50mm X 85mm X 5mm THICK.
10. SEE CONSTRUCTION MANUAL FOR ADDITIONAL INFORMATION.

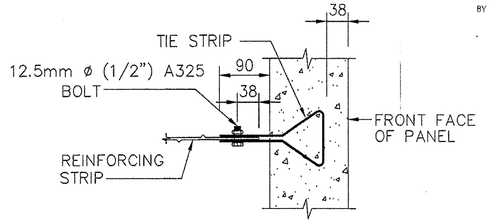


TYPICAL PANEL LAYOUT
PARTIAL ELEVATION – FRONT FACE
SCALE 1:25



SECTION 1–1
SCALE 1:5

ALL DIMENSIONS ARE IN MILLIMETERS
UNLESS NOTED OTHERWISE



CONNECTION DETAIL
SCALE 1:5

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CK'D BY _____ OK'D BY LWS
AUG 15 2002
RESUBMIT _____ APPROVED LWS
BY CPW DATE 8/15/02

CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY

STATE OF VERMONT
PETER L. ANDERSON
8161
PROFESSIONAL ENGINEER
8-13-02

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The Reinforced Earth Company
8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

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DESIGNED BY:				PROJECT NAME	US ROUTE 5 – BARTON PN STP 0113(58)S	DATE
KPB						6–11–02
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA	⚠	8/12/02	REVISED PER VT AOT COMMENTS.	OWNER	VT AOT	DRAWING NO. 8 OF 8
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	STANDARD PANEL DETAILS	SCALE AS SHOWN

C:\15765\FINAL\15765_STD

The Reinforced Earth Company

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PRECAST PANEL SHOP DRAWINGS

PANEL GENERAL NOTES

1. REINFORCING BARS SHALL BE STEEL ASTM A615 GRADE 420. EPOXY COATED IN ACCORDANCE WITH SECTIONS 507 AND 713 OF VT AOT STANDARD SPECIFICATIONS.
2. TIE STRIPS SHALL BE STEEL ASTM A570 GRADE ~~245~~ 345 (GALVANIZED PER ASTM A-123). (610 g/m^2)

2A. LIFTING INSERTS SHALL BE BURKE SPREAD ANCHOR 79050 (OR EQUAL) (GALVANIZED PER ASTM A-123). (610 g/m^2)

3. ALL FRONT EDGES OF PANELS, EXCEPT THE BOTTOM EDGE OF THE BOTTOM PANEL COURSE, SHALL HAVE A 10mm CHAMFER.
4. TIE STRIPS SHALL BE PLACED WITHIN 25mm OF THE DIMENSIONS SHOWN ON THE FABRICATION DRAWINGS.
5. PANEL DESIGN THICKNESS IS 140mm. THE OVERALL THICKNESS OF CONCRETE WILL INCREASE BY UP TO 38 mm FOR THE FORM LINER FINISH.
6. DIMENSIONS SPECIFIED ON INDIVIDUAL FABRICATION DRAWINGS SUPERCEDE THOSE CALLED OUT ON THE STANDARD SECTIONS AND DETAILS.
7. VERTICAL REINFORCING BARS SHALL BE PLACED 38 MIN. - 50 (TYP.) CLEAR FROM THE BACK FACE OF THE 140 PANEL.
8. ALL REINFORCING BARS SHALL BE STOPPED 50 CLEAR FROM ANY EDGE OF PANEL UNLESS NOTED ON INDIVIDUAL FABRICATION DRAWING OR AS INDICATED IN NOTE #9. THE 28 DAY COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 27.6 MPa MINIMUM.
9. IN ALL SLOPED PANELS THE TWO (2) VERTICAL REINFORCING BARS ADJACENT TO A COMMON TIE STRIP SHALL BE OF THE SAME LENGTH.
10. ALL INDIVIDUAL FABRICATION DRAWINGS ARE SHOWN BACK FACE.
11. PRECAST FACING PANELS SHALL HAVE AN ASHLAR STONE FORM LINER FINISH. PANEL TYPES "B" & "CE" (CORNER ELEMENTS) SHALL HAVE A PLAIN STEEL FORM FINISH. ALL PRECAST PANELS SHALL BE COLORED WITH BAYFERROX 330 3.5% (HEAT STABLE) PIGMENT DYE. THE FINISHED PRODUCT SHALL BE DISPLAYED AS A TEST PANEL AND SHALL BE APPROVED BY VTRANS PRIOR TO COMMENCING PRECASTING OF THE PANELS TO BE USED IN THE WALL CONSTRUCTION. THE APPROVED TEST PANEL SHALL BE USED AS A BENCHMARK FOR THE CORRECT COLOR, SHADE THROUGHOUT THE PRECASTING OPERATION.
12. REINFORCING BARS IN A STANDARD "A" PANEL SHALL BE AS FOLLOWS:

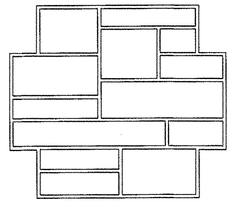
PANEL REINFORCEMENT

PIECE MARK	HORIZONTAL BARS	VERTICAL BARS
XX-XX-R6	4-#13 (#4 US)	6-#10 (#3 US)
XX-XX-R7	4-#20 (#6 US)	6-#13 (#4 US)

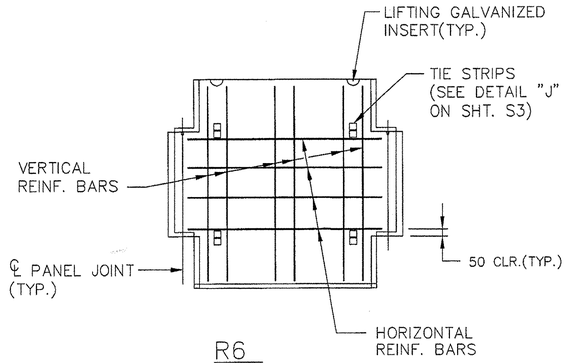
NUMBER OF HORIZONTAL REINFORCEMENT IN THE OTHER PANEL TYPES IS PROPORTIONAL TO THEIR RELATIVE HEIGHT.

13. KEY TO PIECE MARK: AL-4-R4-1.355

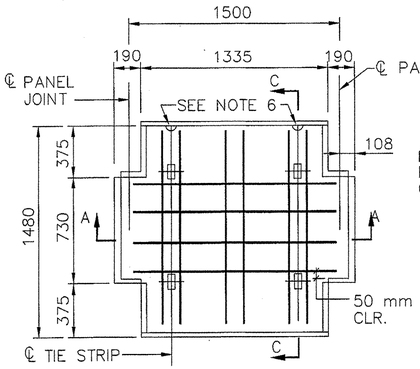
- PANEL TYPE
- MODIFICATION (ONE OR MORE)
- NUMBER OF TIE STRIPS
- PANEL REINFORCEMENT TYPE
- MODIFICATION DIMENSION (PANEL WIDTH)



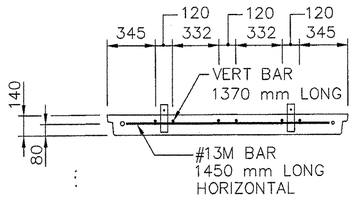
ASHLAR STONE PANEL FINISH
PANEL TYPE A
(LOOKING AT PANEL FACE)



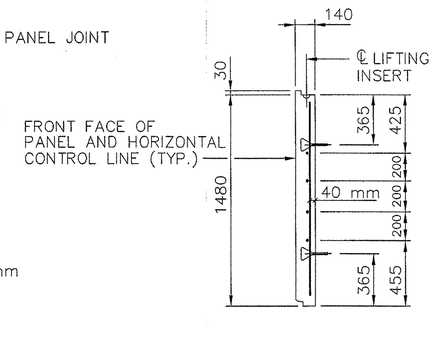
R6
BACK FACE
SCALE: 1=20



PANEL TYPE "A"
WITH R6 REINFORCEMENT
FRONT VIEW
SCALE 1:20



SECTION A-A
SCALE 1:20



SECTION C-C
SCALE 1:20

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BY CPW DATE 8/15/02

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CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY

STATE OF VERMONT
PETER L. ANDERSON 6161
PROFESSIONAL ENGINEER
8-13-02

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DESIGNED BY: KPB				PROJECT NAME	US ROUTE 5 - BARTON PN STP 0113(58)S	DATE 6-11-02
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA	1	8/12/02	REVISED PER VT AOT COMMENTS.	OWNER	VT AOT	DRAWING NO. S1 OF S9
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PANEL CASTING NOTES	SCALE AS SHOWN

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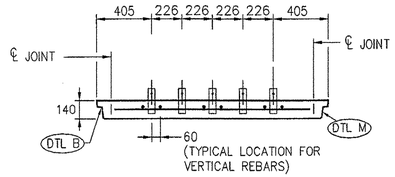
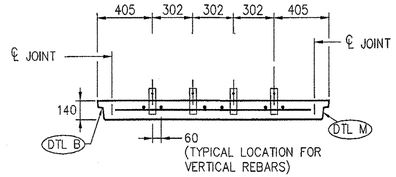


SECTION A–A FOR 5 T.S. PER LEVEL
SCALE 1:20



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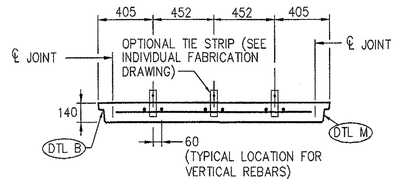

SECTION A–A FOR 2 OR 3 T.S. PER LEVEL
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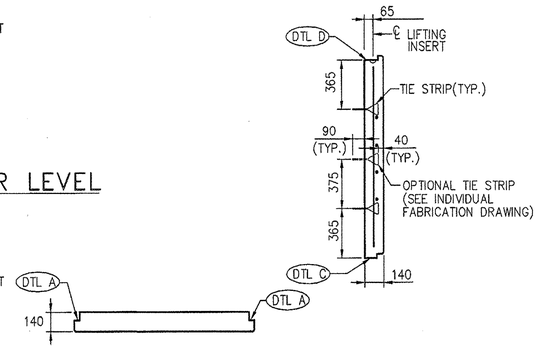
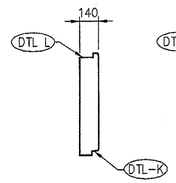


SECTION B–B
SCALE 1:20

SECTION C–C
SCALE 1:20



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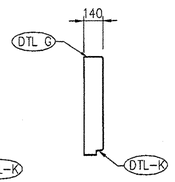

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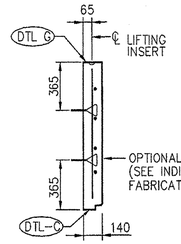

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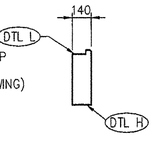

SECTION G–G
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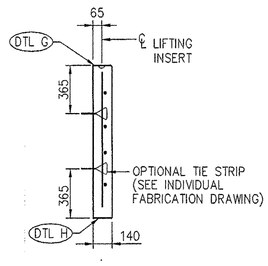

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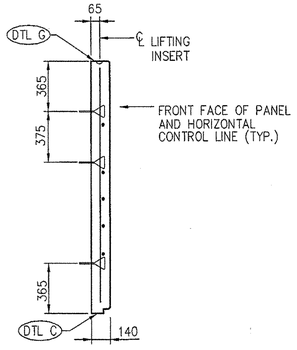

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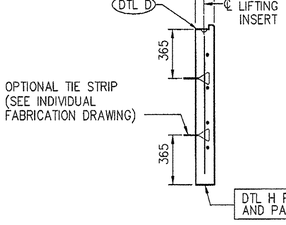

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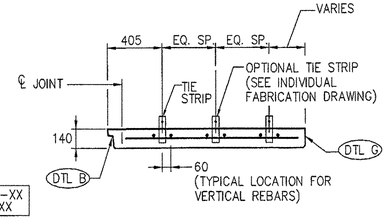

SECTION L–L
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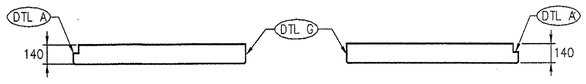

SECTION M–M
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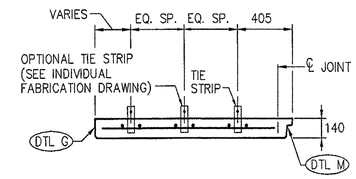
SECTION P–P
SCALE 1:20



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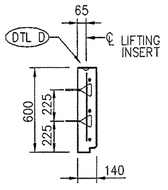

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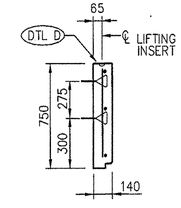

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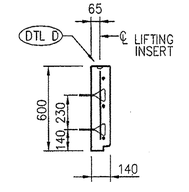

SECTION U–U
SCALE 1:20

SEE INDIVIDUAL FABRICATION DRAWING FOR PLACEMENT OF REBARS.

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BY GPW DATE 8/15/02

STATE OF VERMONT
PETER L. ANDERSON
0161
PROFESSIONAL ENGINEER
8-13-02

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PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA				OWNER	VT AOT	DRAWING NO. S2 OF S9
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PANEL CASTING DETAILS	SCALE AS SHOWN

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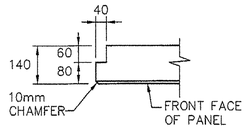

DETAIL "A"
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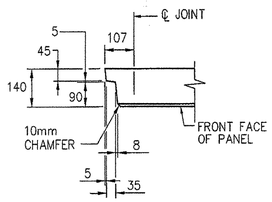

DETAIL "B"
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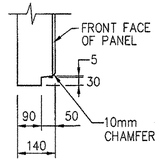

DETAIL "C"
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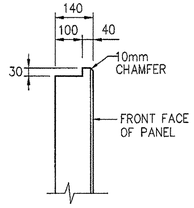

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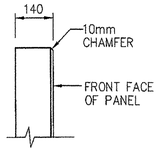

DETAIL "G"
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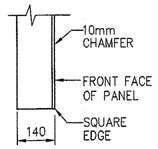
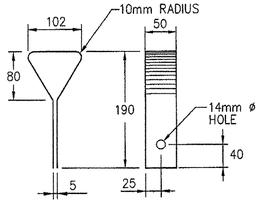
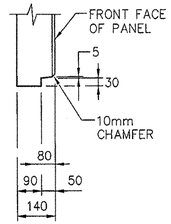


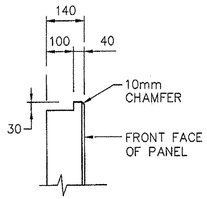
DETAIL "H"
SCALE: 1:10



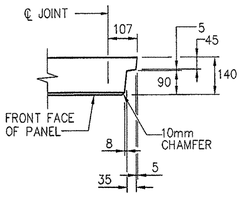
DETAIL "J"
SCALE: NONE
(GENERAL NOTE No. 5)
SHEET S1



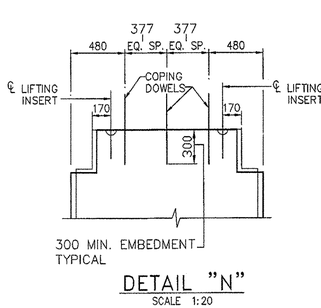
DETAIL "K"
SCALE: 1:10



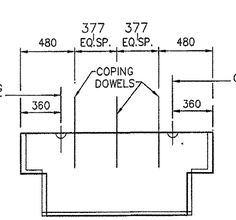
DETAIL "L"
SCALE: 1:10



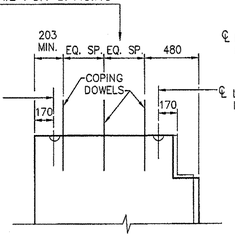
DETAIL "M"
SCALE: 1:10



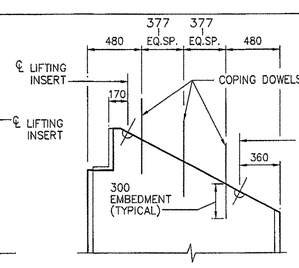
DETAIL "N"
SCALE 1:20



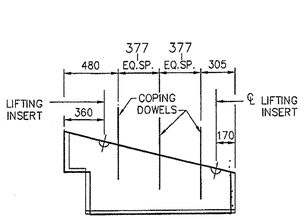
DETAIL "O"
SCALE 1:20



DETAIL "P"
SCALE 1:20



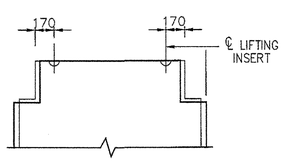
DETAIL "Q"
SCALE 1:20



DETAIL "R"
SCALE 1:20

NOTE: FOR PANELS WITH DOWELS

NOTE: COPING DOWELS SHALL BE 13M (#4) –EPOXY COATED LENGTH = 600mm , EMBED 300mm INTO PANEL TYP.



DETAIL "N"
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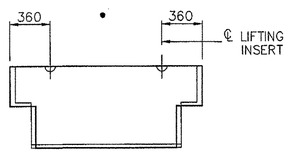
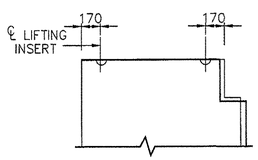


DETAIL "O"
SCALE: 1:20



DETAIL "P"
SCALE: 1:20

NOTE: FOR PANELS WITHOUT DOWELS

RECEIVED
CK'D BY _____ OK'D BY WBS
AUG 15 2002
RESUBMIT _____ APPROVED ✓
BY CPW DATE 8/15/02

CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY

STATE OF VERMONT
PETER L. ANDERSON
8161
PROFESSIONAL ENGINEER
8-13-02

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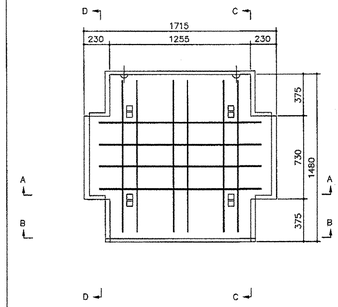
The Reinforced Earth Company
8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

"REINFORCED EARTH" is the registered trademark of The Reinforced Earth Company.

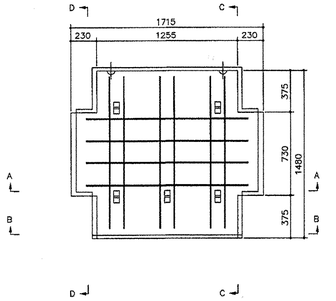
DESIGNED BY: KPB				PROJECT NAME	US ROUTE 5 – BARTON PN STP 0113(58)S	DATE 6–11–02
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA				OWNER	VT AOT	DRAWING NO. S3 OF S9
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PANEL CASTING DETAILS	SCALE AS SHOWN

C:\15765\FINAL\SHOPS\15765_S03.DWG



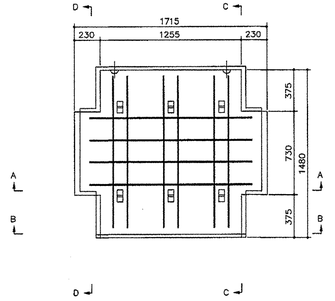
A-4-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



A-5-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



A-6-R6

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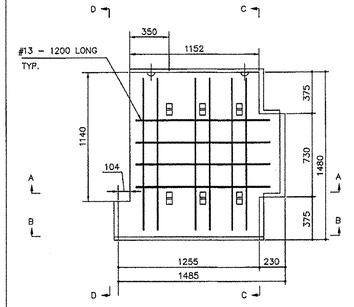
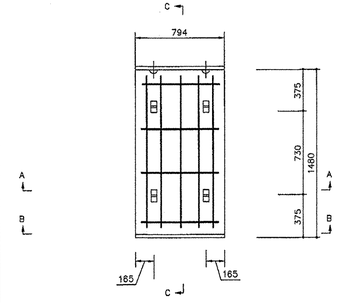


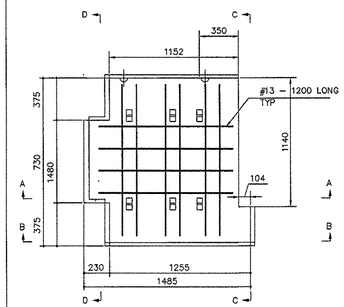
A1Q-6-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



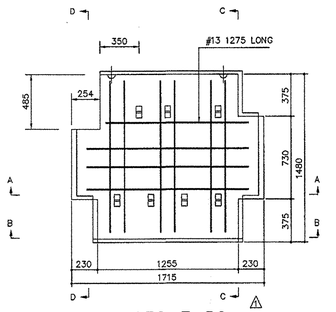
AW-4-R6- 794

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



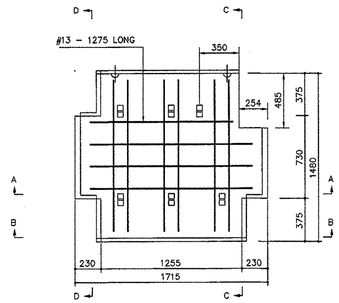
A2Q-6-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



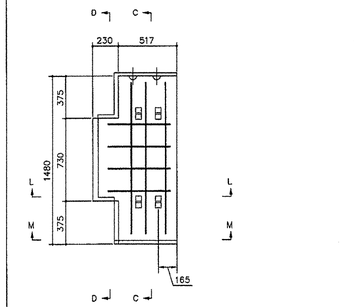
A3Q-7-R6 ⚠

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



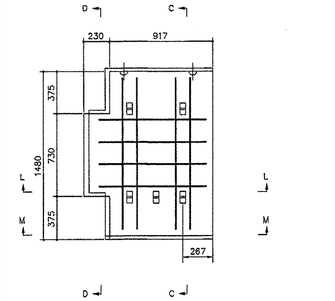
A4Q-6-R6 ⚠

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



AL-4-R6- 640

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



AL-5-R6-1040

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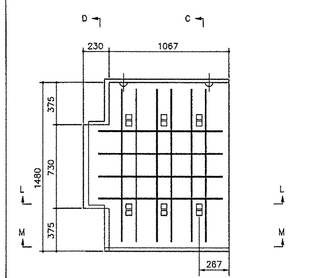
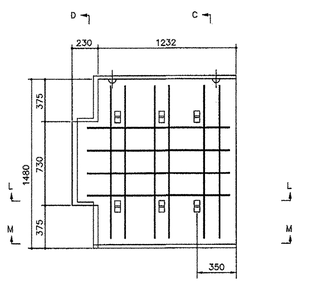


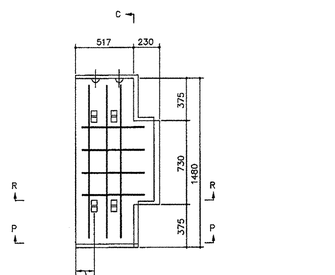
AL-6-R6-1190

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



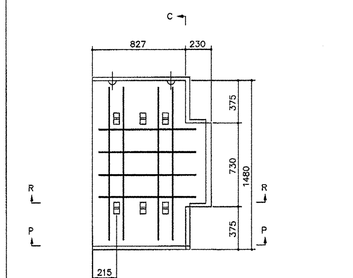
ALT-6-R6-1355

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



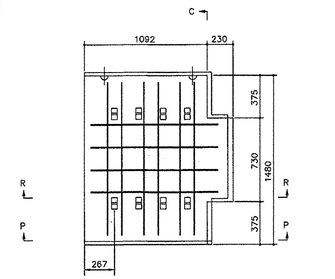
AR-4-R6- 640

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



AR-6-R6- 950

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



AR-8-R6-1215

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P

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CK'D BY _____ OK'D BY 6/05
AUG 15 2002
RESUBMIT _____ APPROVED _____
BY _____ DATE _____

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STATE OF VERMONT
PETER L. ANDERSON
6161
PROFESSIONAL ENGINEER
8-13-02

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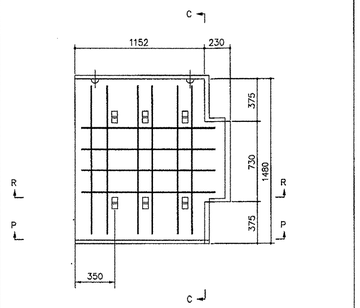
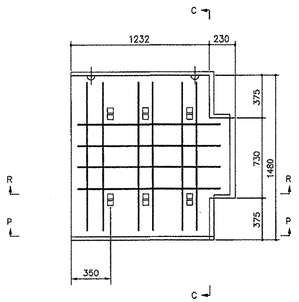
DESIGNED BY:				PROJECT NAME	US ROUTE 5 - BARTON PN STP 0113(58)S	DATE
KPB						6-11-02
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA	⚠	8-12-02	REVISED PER REVISED WALL LAYOUTS	OWNER	VT AOT	DRAWING NO. S4 OF S9
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PANEL CASTING DRAWINGS	SCALE AS SHOWN

C:\15765\FINAL\SHOPS\15765_S04.DWG



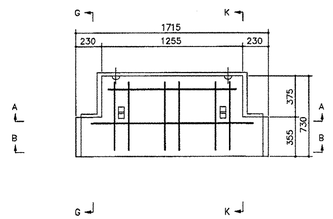
ART-6-R6-1275

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



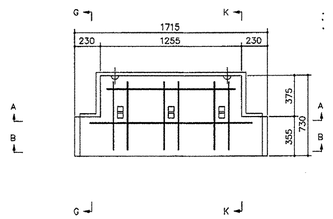
ART-6-R6-1355

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



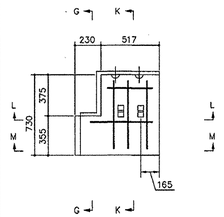
B-2-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



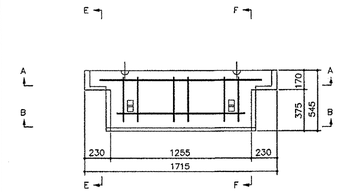
B-3-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



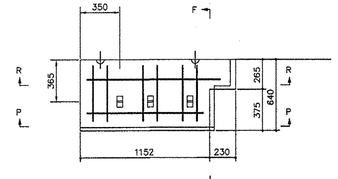
BL-2-R6- 640

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



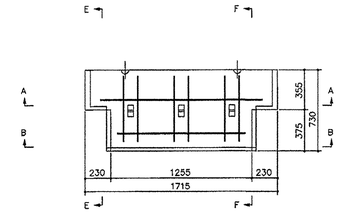
C-2-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL O



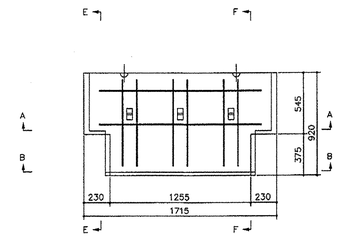
DXRT-3-R6-1275 ⚠

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



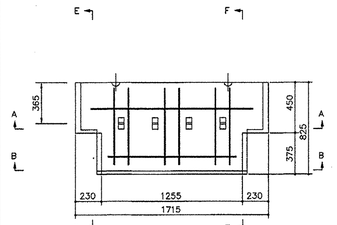
D-3-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL O



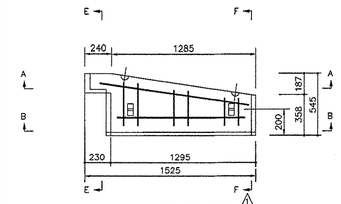
E-3-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL O



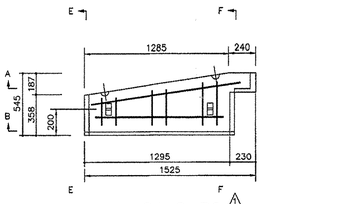
EXT-3-R6 ⚠

NOTE: FOR LOCATION OF LIFTING INSERTS AND COPING DOWELS SEE DETAIL O



CI-2-R6 ⚠

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL O



CJ-2-R6 ⚠

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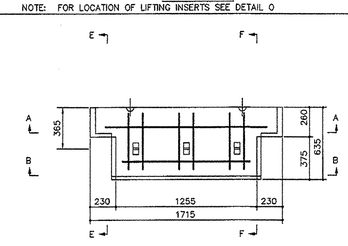
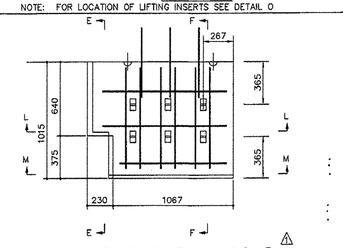


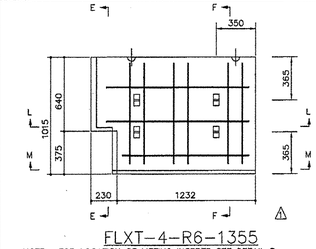
DXT-3-R6 ⚠

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL O



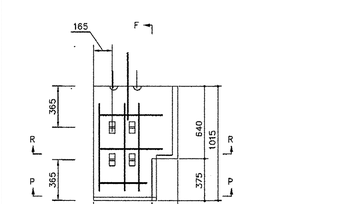
FLXT-6-R6-1190-D ⚠

NOTE: FOR LOCATION OF LIFTING INSERTS AND COPING DOWELS SEE DETAIL P



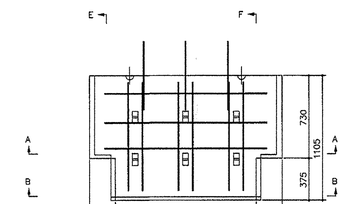
FLXT-4-R6-1355

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



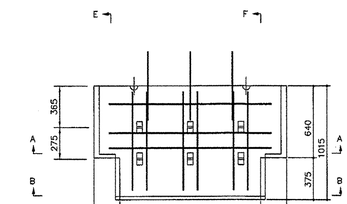
FRXT-4-R6- 640-D ⚠

NOTE: FOR LOCATION OF LIFTING INSERTS AND COPING DOWELS SEE DETAIL P



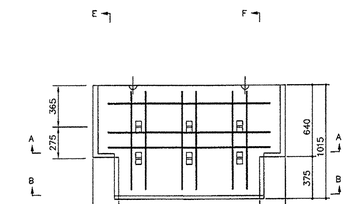
F-6-R6-D

NOTE: FOR LOCATION OF LIFTING INSERTS AND COPING DOWELS SEE DETAIL O



FXT-6-R6-D ⚠

NOTE: FOR LOCATION OF LIFTING INSERTS AND COPING DOWELS SEE DETAIL O



FXT-6-R6 ⚠

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL O

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BY CPW DATE 8/15/02

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STATE OF VERMONT
PETER L. ANDERSON
6161
PROFESSIONAL ENGINEER
8-13-02

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The Reinforced Earth Company
8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

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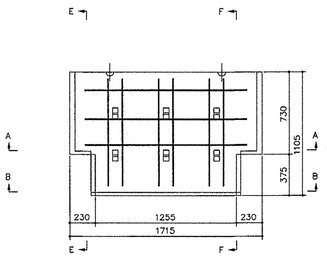
DESIGNED BY: KPB				PROJECT NAME	US ROUTE 5 - BARTON PN STP 0113(58)S	DATE	6-11-02
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO.	15765
CHECKED BY: PLA	⚠	8-12-02	REVISED PER REVISED WALL LAYOUTS	OWNER	VT AOT	DRAWING NO.	S5 OF S9
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PANEL CASTING DRAWINGS	SCALE	AS SHOWN

C:\15765\FINAL\SHOPS\15765_S05.DWG



F-6-R6

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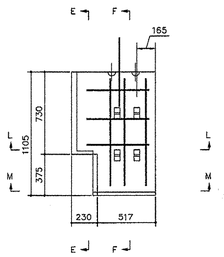

FL-4-R6- 640-D

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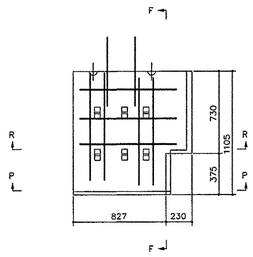

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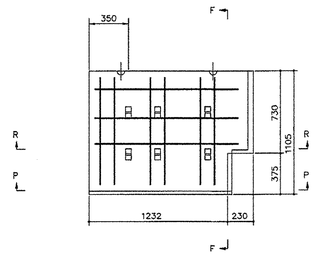

FRT-6-R6-1355

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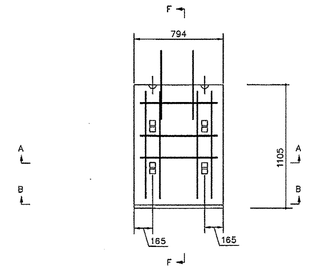

FW-4-R6- 794-D

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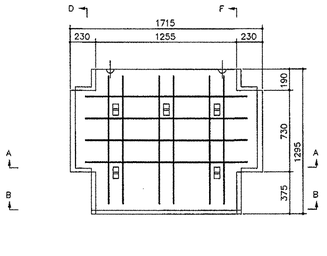

G-5-R6

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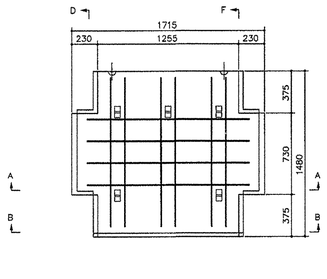

H-5-R6

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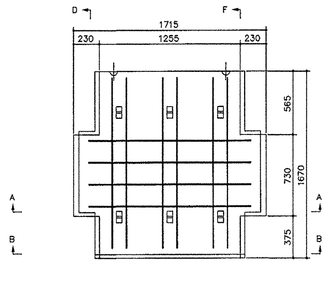

K-6-R6

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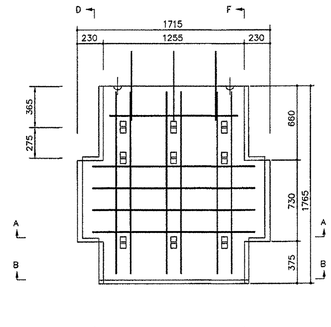

LXT-9-R6-D ⚠

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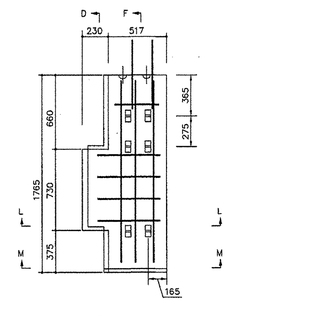

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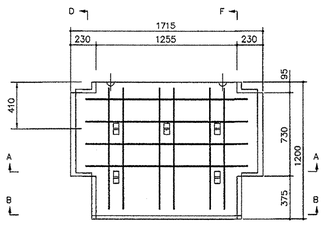

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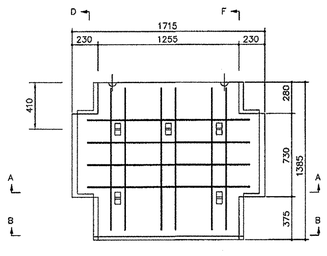

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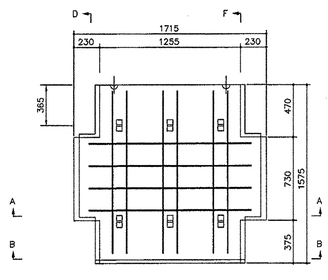

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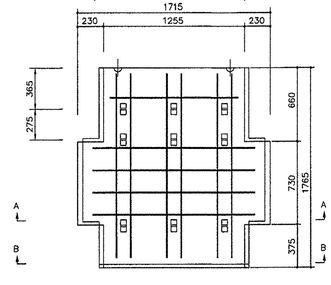

LXT-9-R6 ⚠

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STATE OF VERMONT
PETER L ANDERSON 6161
PROFESSIONAL ENGINEER
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PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT
CHECKED BY: PLA	⚠	8-12-02	REVISED PER REVISED WALL LAYOUTS	OWNER	VT AOT
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PANEL CASTING DRAWINGS

DATE	6-11-02
CONTRACT NO.	15765
DRAWING NO.	S6 OF S9
SCALE	AS SHOWN

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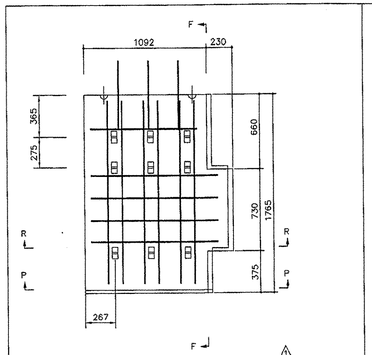

LRXT-9-R6-1215 ⚠

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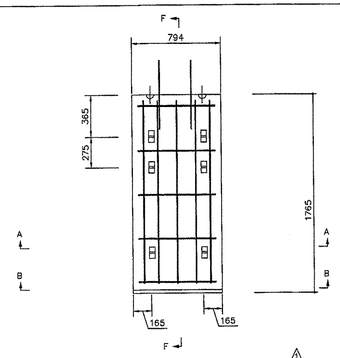

LWXT-4-R6- 794 - D ⚠

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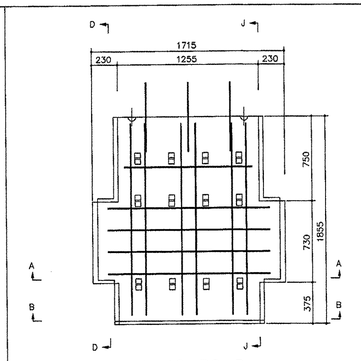

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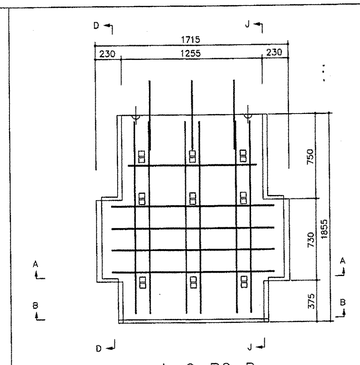

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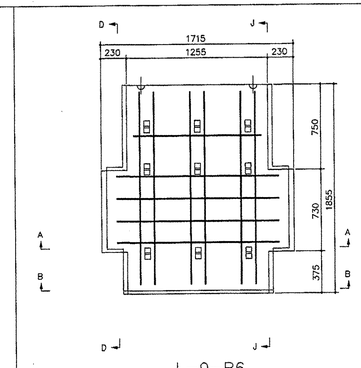

L-9-R6

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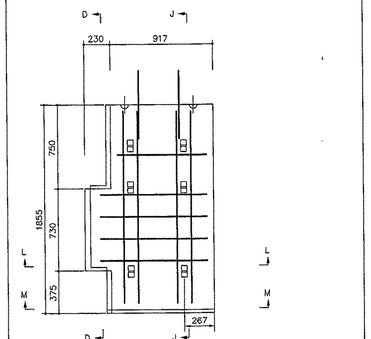

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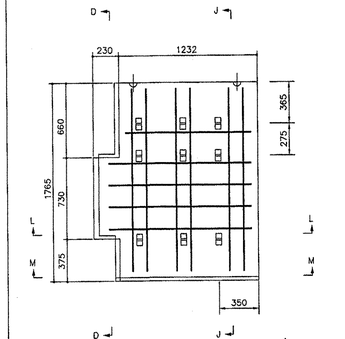

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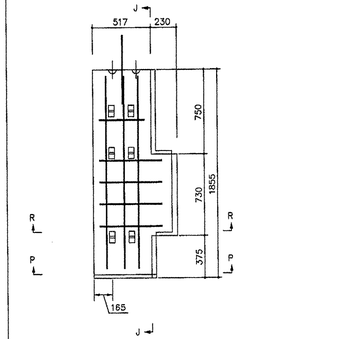

LR-6-R6- 640-D

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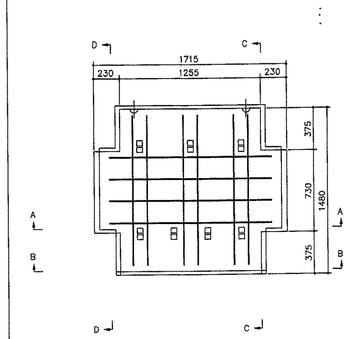

A-7-R7

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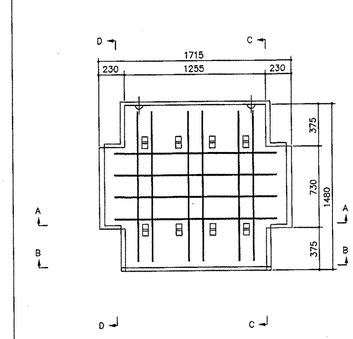

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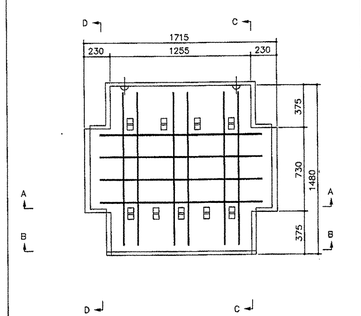

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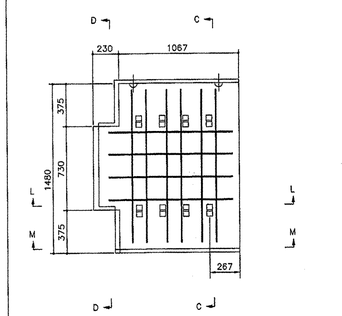

AL-8-R7-1190

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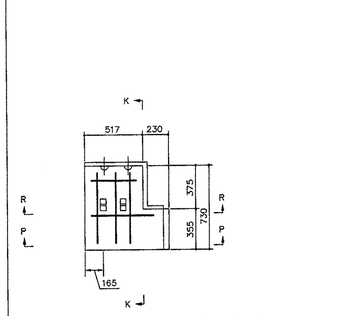

BR-2-R7- 640

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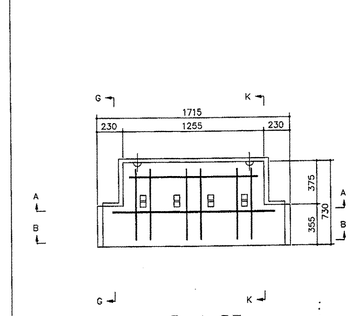

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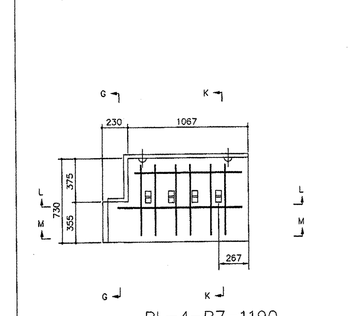

BL-4-R7-1190

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P

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STATE OF VERMONT
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DESIGNED BY: KPB				PROJECT NAME	US ROUTE 5 - BARTON PN STP 0113(58)S	DATE 6-11-02
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA	⚠	8-12-02	REVISED PER REVISED WALL LAYOUTS	OWNER	VT AOT	DRAWING NO. S7 OF S9
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PANEL CASTING DRAWINGS	SCALE AS SHOWN

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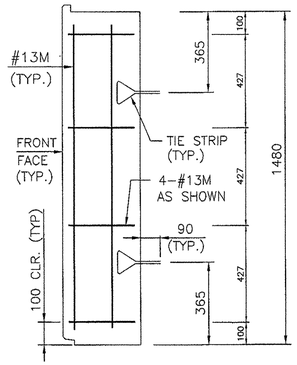
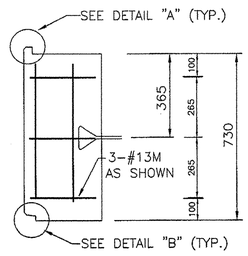
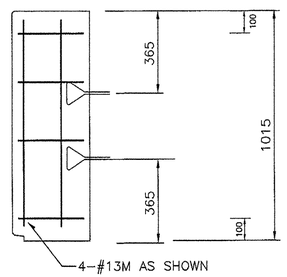


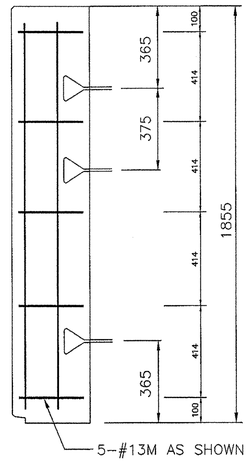
CE2A-2



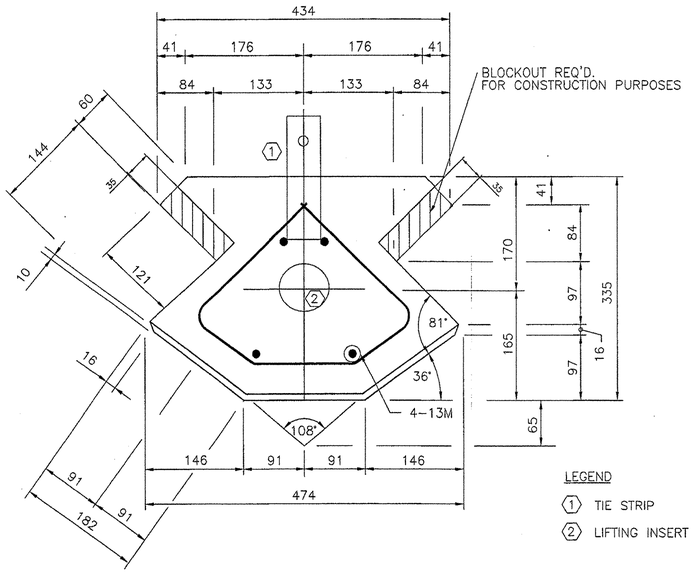
CE2B-1



CE2FX-2

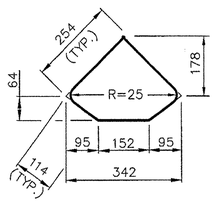


CE2L-3



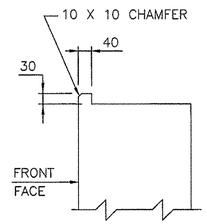
CORNER ELEMENT TYPE 2 90°± - 118°±

SCALE: 1:5



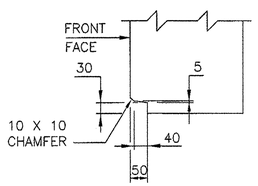
BAR DETAIL

SCALE: 1:20



DETAIL "A"

SCALE: 1:20



DETAIL "B"

SCALE: 1:20

NOTE: 38 MIN.CLR.
ON ALL REBAR.

KEY TO PIECE MARK

CE2A-2-R6

- CE2A-2-R6
  - CORNER ELEMENT
  - TYPE
  - PANEL HEIGHT
  - NO. OF TIE STRIPS
  - PANEL REINFORCEMENT

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CK'D BY _____ OK'D BY _____
AUG 15 2002
RESUBMIT _____ APPROVED ✓
BY CPW DATE 8/15/02

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STATE OF VERMONT
PETER L. ANDERSON
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REGISTERED PROFESSIONAL ENGINEER
8-13-02

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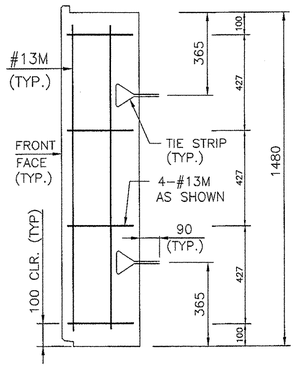
The Reinforced Earth Company
8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

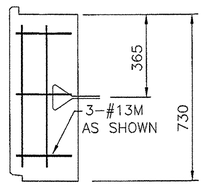
"REINFORCED EARTH" is the registered trademark of The Reinforced Earth Company.

DESIGNED BY: KPB				PROJECT NAME	US ROUTE 5 - BARTON PN STP 0113(58)S	DATE 6-11-02
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA	⚠	8-12-02	REVISED PER REVISED WALL LAYOUTS	OWNER	VT AOT	DRAWING NO. S8 OF S9
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	CORNER ELEMENT DRAWINGS	SCALE AS SHOWN

C:\15765\FINAL\SHOPS\15765_S08.DWG



CE3A-2



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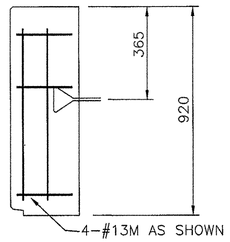

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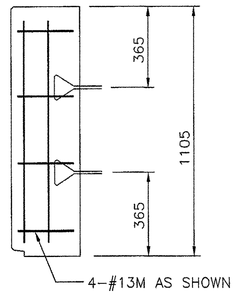

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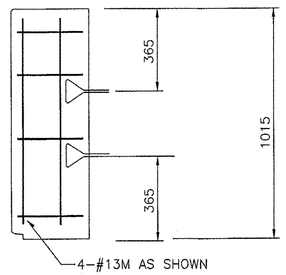
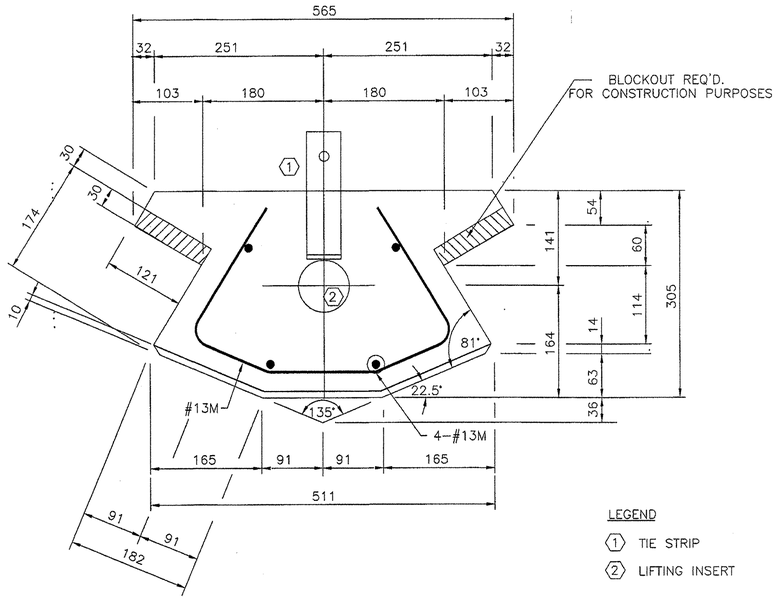
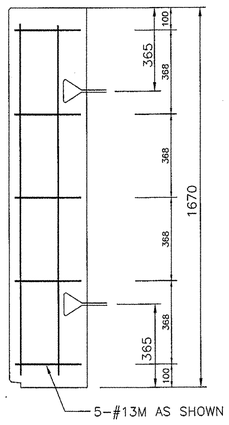


CE3FX-2

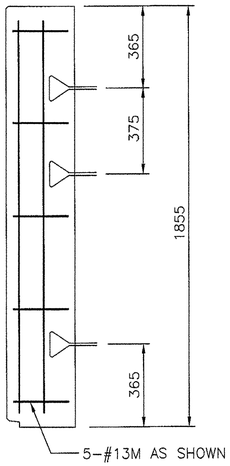


CORNER ELEMENT TYPE 3 118°± - 162°±

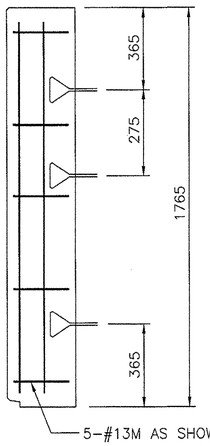
SCALE: 1:5



CE3K-2



CE3L-3

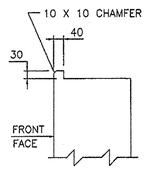


CE3LX-3

CORNER ELEMENT TYPICAL SECTIONS

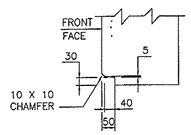
ALL DIMENSIONS ARE IN (mm) MILLIMETERS

NOTE: 38 MIN.CLR.
ON ALL REBAR.



DETAIL "A"

SCALE: 1:20



DETAIL "B"

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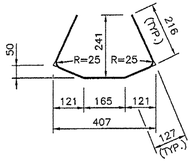

BAR DETAIL

SCALE: 1:20

(DIMENSIONS SHOWN ARE OUT TO OUT)

KEY TO PIECE MARK

CE3A-2-R6

- R6 — PANEL REINFORCEMENT
- 2 — NO. OF TIE STRIPS
- 6 — PANEL HEIGHT
- A — TYPE
- CE3 — CORNER ELEMENT

CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY

STATE OF VERMONT
PETER L. ANDERSON
0161
PROFESSIONAL ENGINEER
8-13-02

RECEIVED
CK'D BY _____ OK'D BY WJS
AUG 15 2002
RESUBMIT _____ APPROVED ✓
BY CPW DATE 8/15/02

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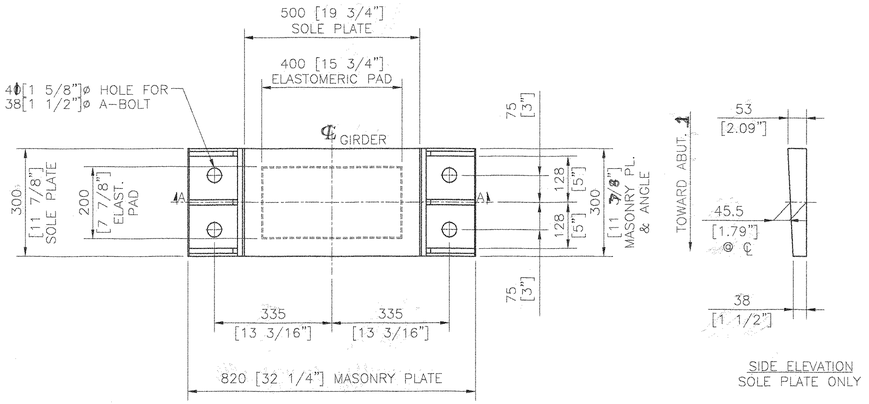
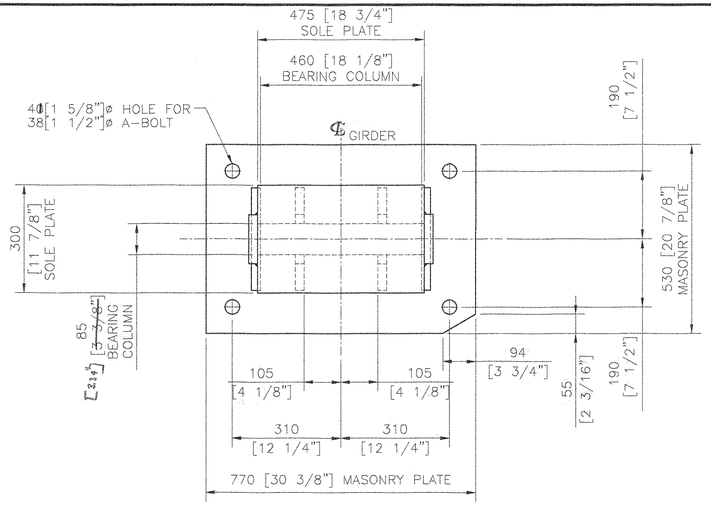
DESIGNED BY: KPB				PROJECT NAME	US ROUTE 5 - BARTON PN STP 0113(58)S	DATE 6-11-02
PROJECT ENGR: KPB				LOCATION	COUNTY OF ORLEANS VERMONT	CONTRACT NO. 15765
CHECKED BY: PLA	⚠	8-12-02	REVISED PER REVISED WALL LAYOUTS	OWNER	VT AOT	DRAWING NO. S9 OF S9
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	CORNER ELEMENT DRAWINGS	SCALE AS SHOWN

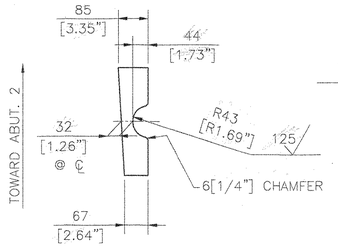
C:\15765\FINAL\SHOPS\15765_S09.DWG



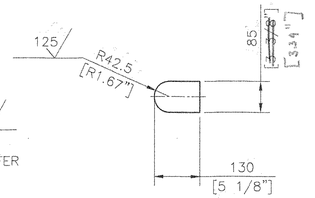
SIDE ELEVATION
SOLE PLATE ONLY



PLAN

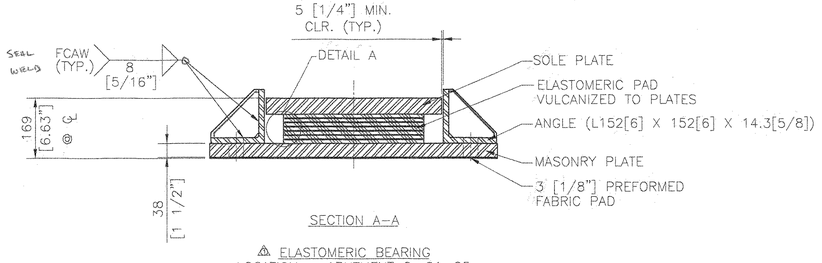


SIDE ELEVATION ⚠
SOLE PLATE ONLY



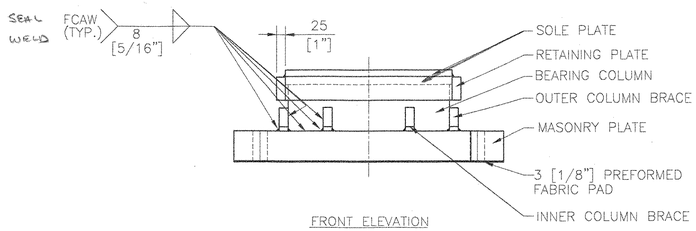
SIDE ELEVATION ⚠
BEARING COLUMN ONLY

PLAN



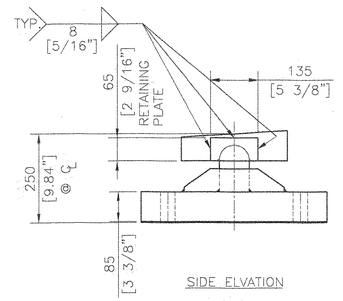
SECTION A-A

⚠ ELASTOMERIC BEARING
LOCATION – ABUTMENT 2, G1-G5
QUANTITY – 5
DESIGN LOAD PER BEARING:
RDL = 414.65 KN[93.22 KIPS]
RLL = 282.63 KN[63.54 KIPS]
DESIGN ROTATION – 0.18 RADS.

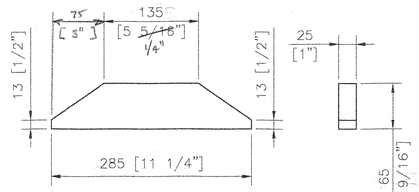


FRONT ELEVATION

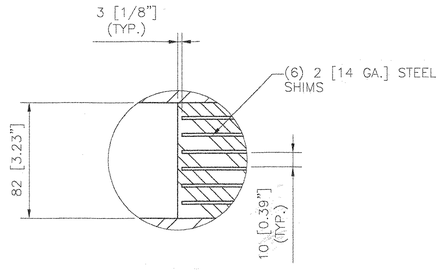
⚠ FIXED ROCKER BEARING
LOCATION – ABUTMENT 1, G1-G5
QUANTITY – 5
RDL = 414.65 KN[93.22 KIPS]
RLL = 282.63 KN[63.54 KIPS]
DESIGN ROTATION – 0.18 RADS.



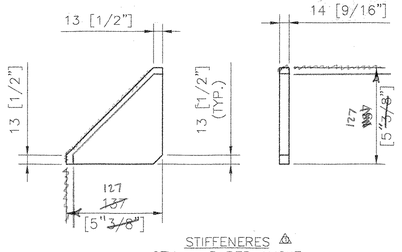
SIDE ELVATION



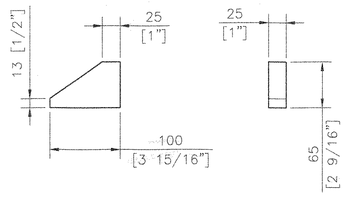
⚠ OUTER COLUMN BRACE DETAIL
QTY. – 2 PER BRG.



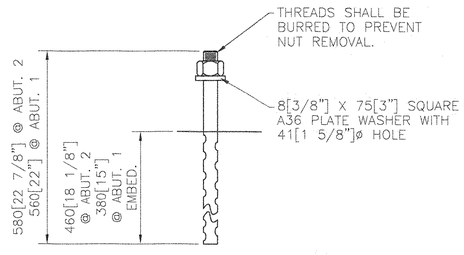
⚠ DETAIL A



STIFFENERES ⚠
QTY. – 3 PER ANGLE



INNER COLUMN ⚠
BRACE DETAIL
QTY. – 4 PER BRG.



⚠ ANCHOR BOLT DETAIL
N.T.S.

38[1 1/2"]ø AASHTO M270 GR 250 [36] (ASTM A709 GR 250 [36]) WITH 102[4"] THREADS ONE END AND REMAINDER SWEDGED, WITH ONE HEAVY HEX NUT AND ONE WASHER. ALL GALVANIZED.

MATERIAL:
STEEL – ASTM A709M GR. 345 ZINC METALIZED (SEE NOTE 2).
THE CURVED CONTACT SURFACES SHALL NOT BE METALIZED.
ELASTOMER – AASHTO 50 DUROMETER NEOPRENE GRADE 3
STEEL SHIMS – ASTM A1011 ~~GR. 36 OR GR. 40~~ GR. 250 [36] or GR. 275 [40]
PREFORMED FABRIC PAD – AASHTO SPEC. 18.4.10.1 DIV. II

NOTES:
⚠1. UNITS: mm[INCH]
2. ALL STEEL COMPONENETS SHALL BE METALIZED AS PER SECTION 531.04(b) AND 506.15. AFTER THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED PRIMER AS SPECIFIED IN SUBSECTION 506.15(c).
3. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER AASHTO M232.
4. LOCATION OF FABRICATION PLANT – 70 SOUTH ST., WALPOLE, MA 02081
5. COSMEC INC. REPRESENTATIVE – MR. MATT McANDREWS (508-668-6600)
6. SEAL WELD WHERE POSSIBLE
7. Prior to metalizing, ALL CORNERS AND EDGES OF STEEL PLATES AND SHAPES SHALL BE GROUND TO 1/16 mm Radius.

RECEIVED
CK'D BY JWISS OK'D BY RSG
AUG 15 2002
RESUBMIT ____ APPROVED As Noted
BY cpw DATE 8/19/02

REV.	REVISED: mm[INCH] WAS INCH[mm]	BY	DATE	CK'D	DATE
⚠		NH	8.12.02		

STATE OF VERMONT
AGENCY OF TRANSPORTATION
PROJECT NAME: BARTON
PROJECT NO.: AC STP 0113 (58) S

STRUCT COPY

COSMEC, INC. 70 SOUTH STREET WALPOLE, MA. 02081

SCALE: 3.175mm=25.4mm	DRAWN BY: NH	CHECKED BY: MCM
SHEET: 1 OF 1	DATE: 7.22.02	DATE: 7.30.02

COSMEC BEARINGS

CUSTOMER	S.O. NUMBER	DRAWING NUMBER	REV.
WINTERSET	59586	3684	1

DWG CURRENT\VT595865\VT595865METRIC.dwg, 08/12/2002 02:09:13 PM

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

1). ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1995 WITH LATEST REVISIONS AND THE SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS

1). AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (A.A.S.H.T.O) STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1996 EDITION WITH LATEST REVISIONS.

MATERIAL SPECIFICATIONS

1). UNLESS NOTED, ALL STEEL TO BE AASHTO M270 GRADE 345W (ASTM A709-345W).

2). HIGH STRENGTH BOLTS: AASHTO M164 (ASTM A325) 7/8" DIA. 22 mm (7/8")
TYPE 3 BOLTS SHALL BE USED FOR UNPAINTED CONNECTIONS.
TYPE 1 (GALV.) BOLTS SHALL BE USED FOR PAINTED CONNECTIONS.

3). GIRDER WEB & BOTTOM FLANGES SHALL BE CHARPY V NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS. DRAWINGS SHALL CALL OUT "H2-3" FOR EACH APPLICABLE ITEM IN THE BILLS OF MATERIAL.

FABRICATION

1). ALL HOLES SHALL BE PUNCHED OR DRILLED FULL SIZE (UN).
2). STUDS ARE FURNISHED AND FIELD APPLIED BY OTHERS.

WELDING

1). THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-02 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

2). WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES. ALL WELDS ARE CONTINUOUS U.N.

3). NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.

CLEANING:

1). ALL STEEL SHALL BE BLAST CLEANED AS PER SSPC SP-10 PER SPEC. 506.14(a)
2). 2mm RADIUS ON ALL EDGES OF PAINTED SURFACES.

PAINTING

1). ALL STEEL COMPONENTS WITHIN 1500mm OF THE ABUTMENT 2 END OF GIRDERS SHALL BE COATED WITH THE PROTECTIVE SYSTEM ACCORDING TO SECTION 513 OF THE SPECIFICATION.(SEE SKETCH "P1") THE PAINT COLOR SHALL BE BROWN. PAINT SYSTEM MUST BE SYSTEM LISTED ON THE QUALIFIED PRODUCT LIST SECTION 513.02 BROWN COLOR CHIP #20059.
PROTECTIVE GREASE SHALL BE APPLIED IN THE FIELD BY OTHERS.

FIELD CONNECTIONS

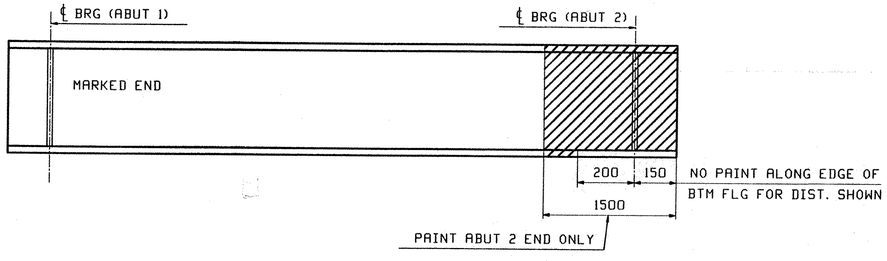
1). ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" (22mm) DIAMETER HIGH STRENGTH A-325 BOLTS, INSTALLED PER SECTION 506.19(c). 22mm (7/8")

2). BOLTS SHALL HAVE HEAVY HEX NUT, HEX HEAD, & ONE FLAT WASHER EACH (WASHER TO BE PLACED UNDER TURNED ELEMENT).

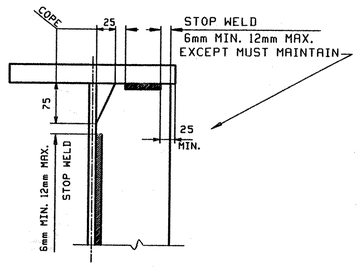
3). PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS.

4) THE RECOMMENDED ERECTION SEQUENCE IS TO INSTALL @ MIDSPAN CROSS FRAME FIRST IN EACH BAY. THE REMAINING CROSS FRAMES IN EACH BAY SHOULD BE INSTALLED WORKING TOWARDS EACH END. SOME DISTORTION AND TWISTING OF THE GIRDERS IS NECESSARY AND EXPECTED AT THE ENDS.

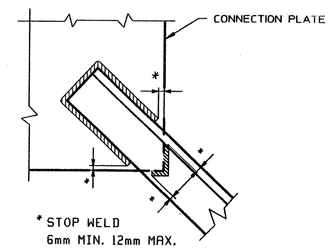
5) AT OVERSIZED HOLE LOCATIONS A HARDENED WASHER SHALL BE PLACED UNDER BOTH THE HEAD AND NUT.



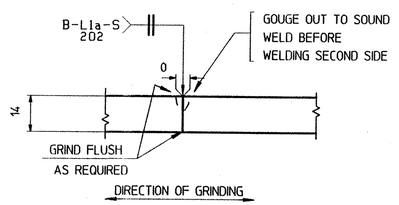
PAINT SKETCH "P1"



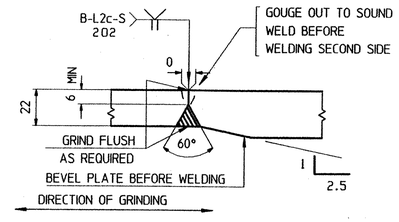
DETAIL "WSI"



TYP. WELD TERMINATION



WEB PLATE SPLICE DETAIL "WA"



FLANGE PLATE SPLICE DETAIL "FA"

NOTE TO ENGINEER:
THESE NOTES ARE NOT INTENDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVANT SPECIFICATIONS REMAIN UNCHANGED

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	8/7/02									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24 mm (15/16)Ø	

SURFACE PREP. & PAINT:
-STEEL WITHIN 1500 OF ABUT. 2 END OF GIRDERS SHALL BE PAINTED (SEE GN1)
-ALL OTHER STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

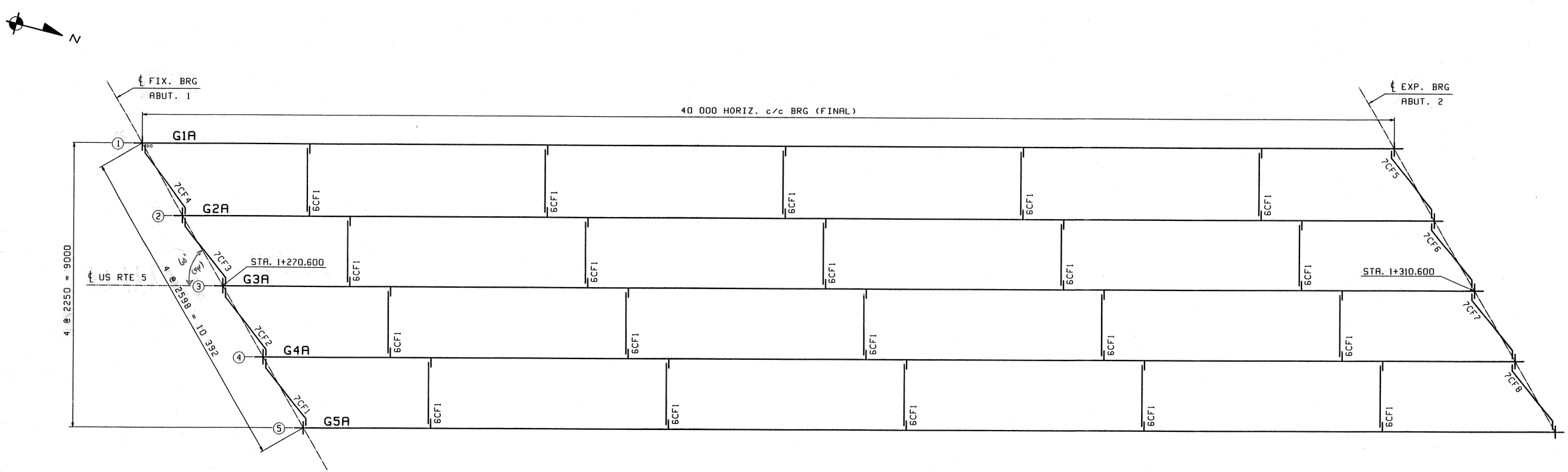
DESCRIPTION:	GENERAL NOTES	DRAWN BY	DATE
JOB:	US Route 5 over Northern Vermont RR	WL	08/02
	BRIDGE NO. 161	CHKD BY	
	BARTON, VERMONT (ORLEANS COUNTY)	JAK	08/05
TENSOR 2256	CONTRACTOR: WINTERSET	APPROV BY	
		SUPERVISOR	W. J. GATTI
PROJ NO.	AC STP 0113 (58) S	Q.A.	
CUSTOMER:	VERMONT AGENCY OF TRANSPORTATION		

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
163	GN1
	REV. △

RECEIVED
CK'D BY GMS CK'D BY RSY
SEP 04 2002
RESUBMIT ____ APPROVED As Noted
BY CPW DATE 9/17/02

Thu Aug 29 05:51:17 EDT 2002 /users/jaks/2256/GN1.dgn



FRAMING PLAN

FIELD BOLT LIST						A325 Type 3 BOLTS								
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
1														INT. CROSSFRAMES
2	120	7/8	2 1/2	3	40	28	14	14					1	TOP GUSSET TO STIFF
3	200	7/8	2 1/2	5	40	28	14	14					1	BTM GUSSET TO STIFF
4														
5														END CROSSFRAME @ ABUT 1
6	96	7/8	2 3/4	12	8	36	14	22					1	TOP GUSSET TO STIFF
7	80	7/8	2 3/4	10	8	36	14	22					1	BTM GUSSET TO STIFF

1: 1 Hard Flat Washer

FIELD BOLT LIST						A325-1 GALV BOLTS								
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
8														END CROSSFRAME @ ABUT 2
9														(PAINTED)
10	96	7/8	2 3/4	12	8	36	14	22					1	TOP GUSSET TO STIFF
11	80	7/8	2 3/4	10	8	36	14	22					1	BTM GUSSET TO STIFF

1: 1 Hard Flat Washer

FIELD BOLT SUMMARY			2% + 3 ADDED, MIN. 2 EXTRA			
LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	329	7/8	A325 Type 3	2 1/2	320	
2	183	7/8		2 3/4	176	
3						
4	512	Hard Flat Washers		for 7/8 ø BOLT		
5						
6						
7	183	7/8	A325-1 GALV	2 3/4	176	
8						
9	183	Hard Flat Washers		for 7/8 ø BOLT		
10						
11						
12						

RECEIVED
CK'D BY WGS OK'D BY RSY
SEP 04 2002
RESUBMIT ____ APPROVED As Noted
BY CPW DATE 9/17/02

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	8-30	CL								
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24 plcs (15/16)ø	

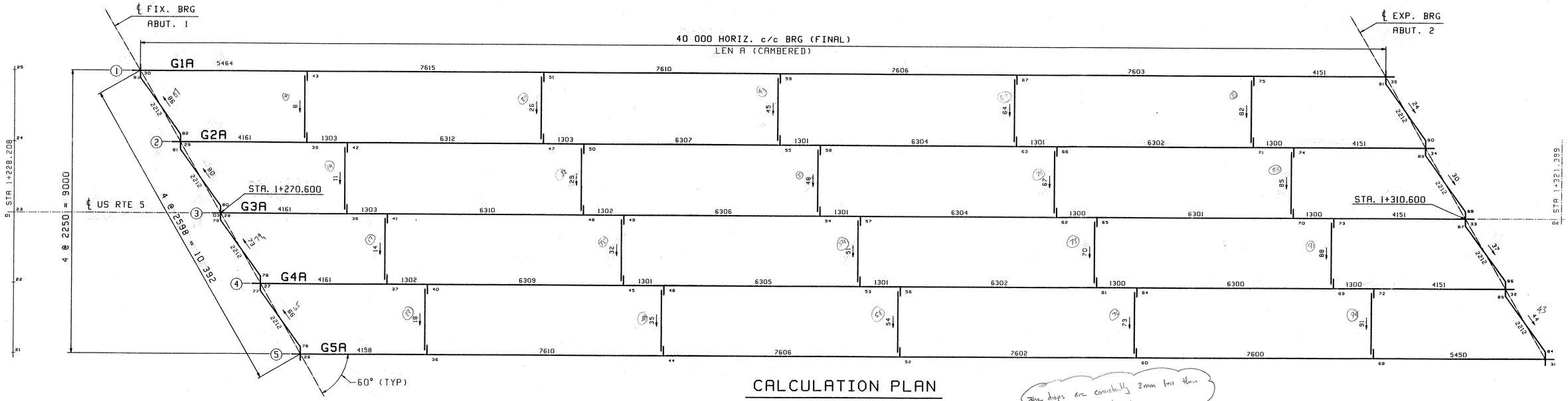
SURFACE PREP. & PAINT:
-STEEL WITHIN 1500 OF ABUT. 2 END OF GIRDERS SHALL BE PAINTED (SEE GN1)
-ALL OTHER STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

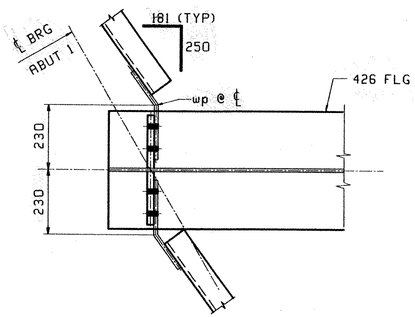
DESCRIPTION: FRAMING PLAN	DRAWN BY	DATE
JOB: US Route 5 over Northern Vermont RR	PHG	08/23
BRIDGE NO. 161	CHKD BY	
BARTON, VERMONT (ORLEANS COUNTY)	JB	08/27
TENSOR 2256 CONTRACTOR: WINTERSET	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. AC STP 0113 (58) S	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
163	E1
	REV. △

PHG Wed Aug 28 13:28:27 EDT 2002 c:\steel\jobs\2256\E1.r Rev0





TYPICAL END CROSSFRAME WORKPOINTS

ABUT 1 AS SHOWN, ABUT 2 ROTATE 180°

CALCULATION PLAN

	CAMB. LEN @ BTM OF WEB	FINAL GRADE @ BRGS	
Line	LEN A	ABUT 1	ABUT 2
1	40 049	.0669	.0526
2	40 045	.0648	.0495
3	40 039	.0621	.0467
4	40 032	.0593	.0440
5	40 026	.0562	.0419

The drops are consistently 3mm less than what I calc, but ok

RECEIVED
CK'D BY Was OK'D BY KSF
SEP 04 2002
RESUBMIT _____ APPROVED As Noted
BY CPW DATE 9/17/02

**** NOTE ****
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

NOTES
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTT OF WEB. WITH CORRECTIONS MADE FOR VERTICAL CURVE & CAMBER (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZ. PLANE (UN).
3. ARROW POINTS TOWARDS LOW END OF MEMBER.
4. ENDS OF GIRDERS AND BRG. STIFF'S ARE VERTICAL AFTER DL ROTATION.
5. CROSSFRAME STIFF ARE NORMAL TO GRADE.
6. BOTT PT NUMBERS =TOP PT NUMBERS + 100.
7. FOR LAYOUTS SEE DWG TD1.
8. COMBINE INT. CROSSFRAMES FOR DIFF IN DROPS OF +/- 3mm.
9. CROSSFRAMES DROPS ARE CALCULATED IN THEIR FINAL POSITION.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	5-X-02									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24 mm (15/16"ø)	

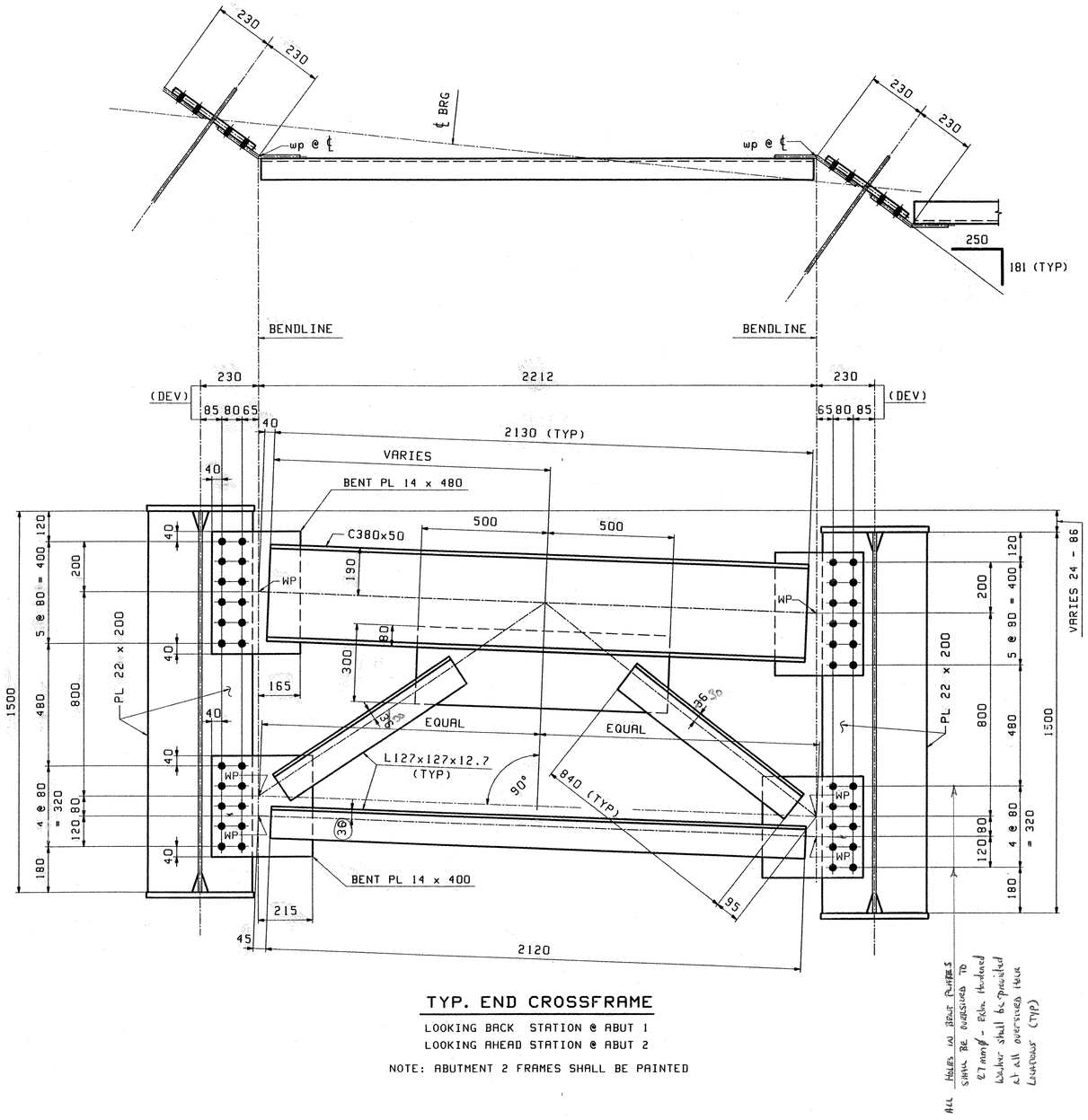
SURFACE PREP. & PAINT:
-STEEL WITHIN 1500 OF ABUT. 2 END OF GIRDERS SHALL BE PAINTED (SEE GN1)
-ALL OTHER STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: CALCULATION PLAN	DRAWN BY	DATE
JOB: US Route 5 over Northern Vermont RR	WL	08/01
BRIDGE NO. 161	CHKD BY	
BARTON, VERMONT (ORLEANS COUNTY)	JAK	08/05
TENSOR 2256 CONTRACTOR: WINTERSET	APPROV BY	
	SUPERVISOR	W. J. GAITI
PROJ NO. AC STP 0113 (58) S	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
163	WS1
	REV. △

/users/jobs-2256/dgn | Rev9
Wed Aug 28 13:28:28 CDT 2002

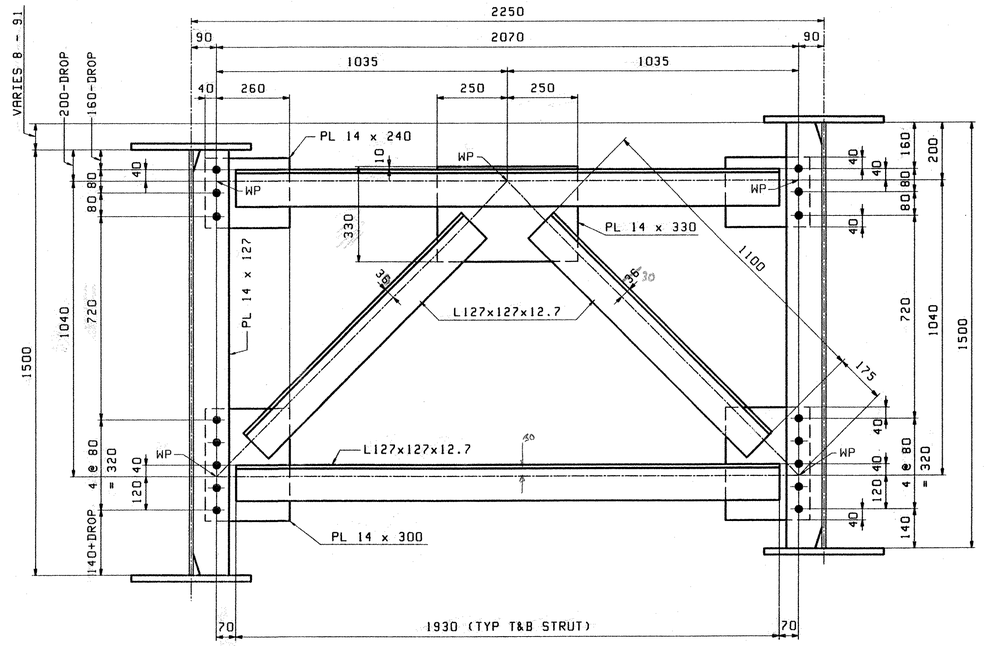


TYP. END CROSSFRAME

LOOKING BACK STATION @ ABUT 1
LOOKING AHEAD STATION @ ABUT 2

NOTE: ABUTMENT 2 FRAMES SHALL BE PAINTED

All holes in bent plates shall be oversized to 27 mm ø. Bolts tightened under shall be specified at all oversized hole locations (TYP)



TYP. INTERMEDIATE CROSSFRAME

LOOKING BACK-STATION

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.
	OUT FOR APPROVAL	5-7-02				
	OUT FOR APPROVAL					
	ISSUED TO SHOP					
	FIELD & OFFICE					

NO.	DIA.	LGT	TYPE	WASHER

MATERIAL: M270-50W

ELECTRODES:

HOLES: 24 dia (15/16)ø (UN)

SHOP BOLTS: 22 dia (7/8)ø A325-3

SURFACE PREP. & PAINT:
-STEEL WITHIN 1500 OF ABUT. 2 END OF GIRDERS SHALL BE PAINTED (SEE GN1)
-ALL OTHER STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

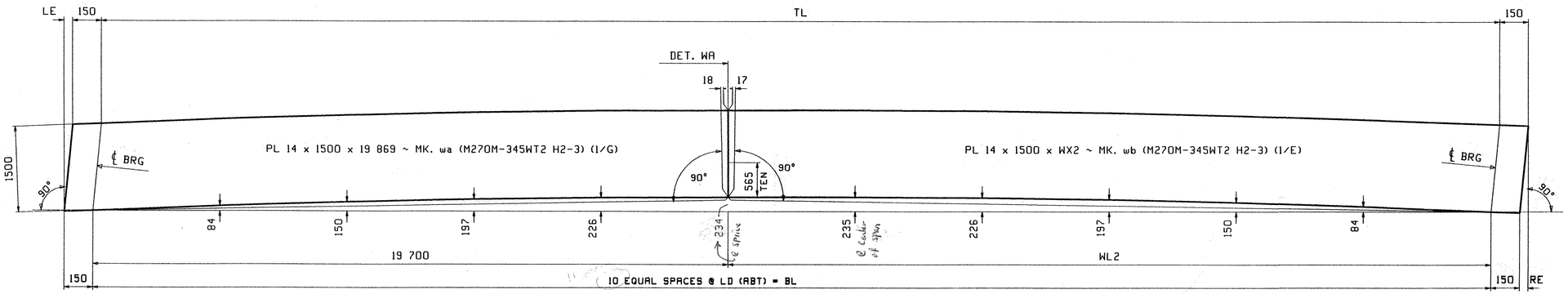
RECEIVED
CK'D BY LWSS OK'D BY RSF
SEP 04 2002
RESUBMIT ____ APPROVED
BY QPW DATE 9/17/02

**** NOTE ****
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

SCALE 1:10

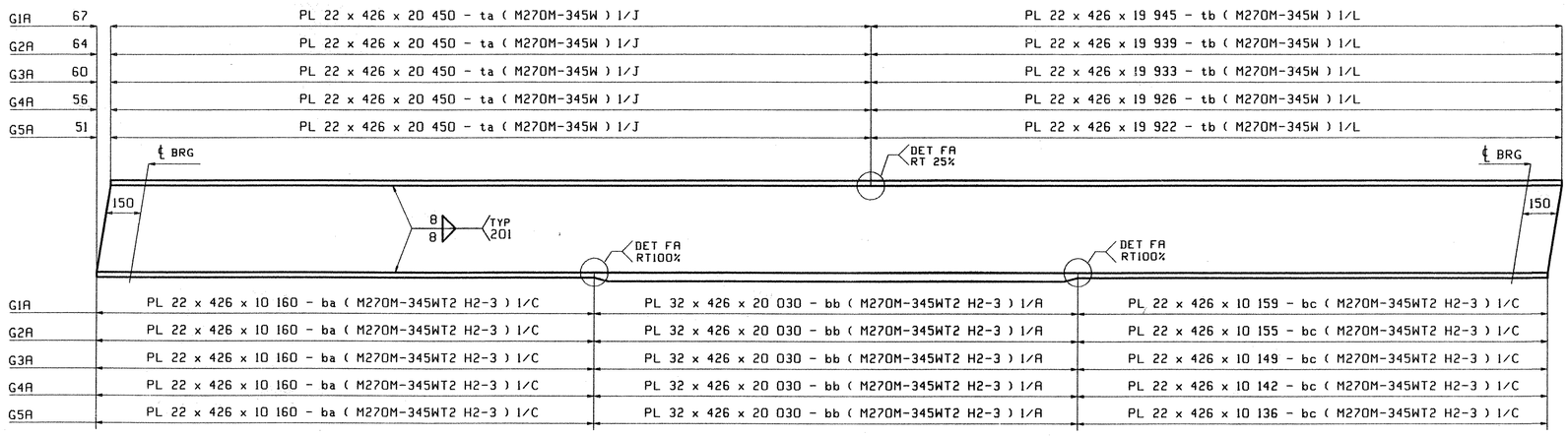
DESCRIPTION:	CROSSFRAME LAYOUTS	DRAWN BY	DATE
JOB:	US Route 5 over Northern Vermont RR	WL	08/01
	BRIDGE NO. 161	CHKD BY	
	BARTON, VERMONT (ORLEANS COUNTY)	JAK	08/05
TENSOR 2256	CONTRACTOR: WINTERSET	APPROV BY	
		SUPERVISOR	W. J. GATTI
PROJ NO.	AC STP 0113 (58) S	Q.A.	
CUSTOMER:	VERMONT AGENCY OF TRANSPORTATION		
CASCO BAY STEEL STRUCTURES, INC.		JOB NO.	DRG. NO.
75 SPRING HILL ROAD	SACO, MAINE 04072	163	TD1
PHONE (207) 282-7360	FAX. (207) 282-1179		REV. △

JAK Mon Aug 12 13:27:51 EDT 2002 /users/jaks/2256-TD1.Rev0



WEB CUTTING DIAGRAM FOR G1A THRU G5A

MARK	TL	BL	LE	RE	WL2	WX2	LD
G1A	40 095	40 049	67	113	20 349	20 613	4005
G2A	40 089	40 045	64	108	20 345	20 604	4005
G3A	40 083	40 039	60	104	20 339	20 594	4004
G4A	40 076	40 032	56	100	20 332	20 583	4003
G5A	40 072	40 026	51	97	20 326	20 574	4003



FLANGE DIAGRAM FOR G1A THRU G5A

RECEIVED
CK'D BY WAS OK'D BY KSH
SEP 04 2002
RESUBMIT ____ APPROVED
BY CPW DATE 9/17/02

NOTES:

1. FOR GENERAL NOTES AND WELD DETAILS SEE SHT. GN1.
2. H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2 OF 20 J @ 4° C

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	5-30-02									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270-50W		24mm (15/16)ø (UN)	22mm (7/8)ø A325-3

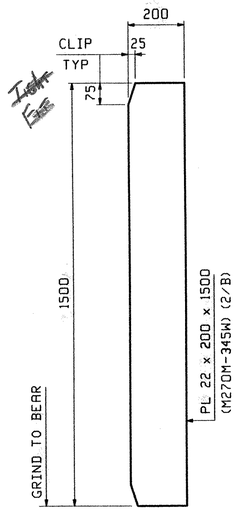
SURFACE PREP. & PAINT:
-STEEL WITHIN 1500 OF ABUT. 2 END OF GIRDERS SHALL BE PAINTED (SEE GN1)
-ALL OTHER STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION:	CAMBER AND FLANGE DIAGRAMS	DRAWN BY	DATE
JOB:	US Route 5 over Northern Vermont RR	WL	08/01
	BRIDGE NO. 161	CHKD BY	
	BARTON, VERMONT (ORLEANS COUNTY)	JAK	08/05
TENSOR 2256	CONTRACTOR: WINTERSET	APPROV BY	
		SUPERVISOR	W. J. GATTI
PROJ NO.	AC STP 0113 (58) S	Q.A.	
CUSTOMER:	VERMONT AGENCY OF TRANSPORTATION		

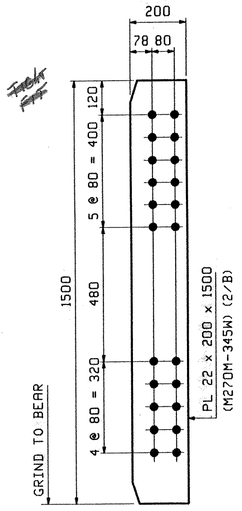
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
163	C1
	REV. △

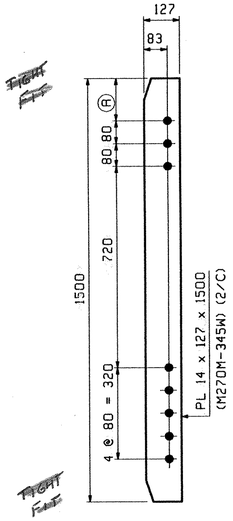
JAK Mon Aug 12 15:29:46 EDT 2002 /users/jak/2256/C1.1 Rev0



4 ~ x1a
FASCIA BRG STIFF

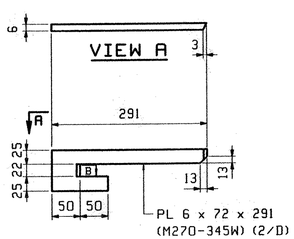


16 ~ x1b
BRG STIFF



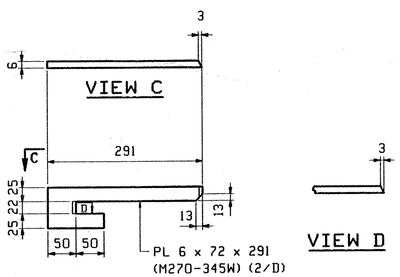
INT. STIFFENER

MARK	REQ'D	Ⓐ
x1c	20	160
x1d	3	149
x1f	1	142
x1g	3	131
x1h	1	125
x1k	3	112
x1m	1	106
x1n	3	93
x1p	1	87
x1s	3	75
x1t	1	69



ONE ~ x1v
DRIP PL

VIEW B



ONE ~ x1w
DRIP PL

VIEW D

RECEIVED
CK'D BY LMW OK'D BY RSY
SEP 04 2002
RESUBMIT ____ APPROVED
BY GPW DATE 9/17/02

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	8/30/02									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL: M270M-345W
ELECTRODES:
HOLES: (24 mm) 15/16" ø
SHOP BOLTS:

SURFACE PREP. & PAINT:
-STEEL WITHIN 1500 OF ABUT. 2 END OF GIRDERS SHALL BE PAINTED (SEE GN1)
-ALL OTHER STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: GIRDER STANDARDS
JOB: US Route 5 over Northern Vermont RR
BRIDGE NO. 161
BARTON, VERMONT (ORLEANS COUNTY)
CONTRACTOR: WINTERSET
PROJ NO. AC STP 0113 (58) S
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION

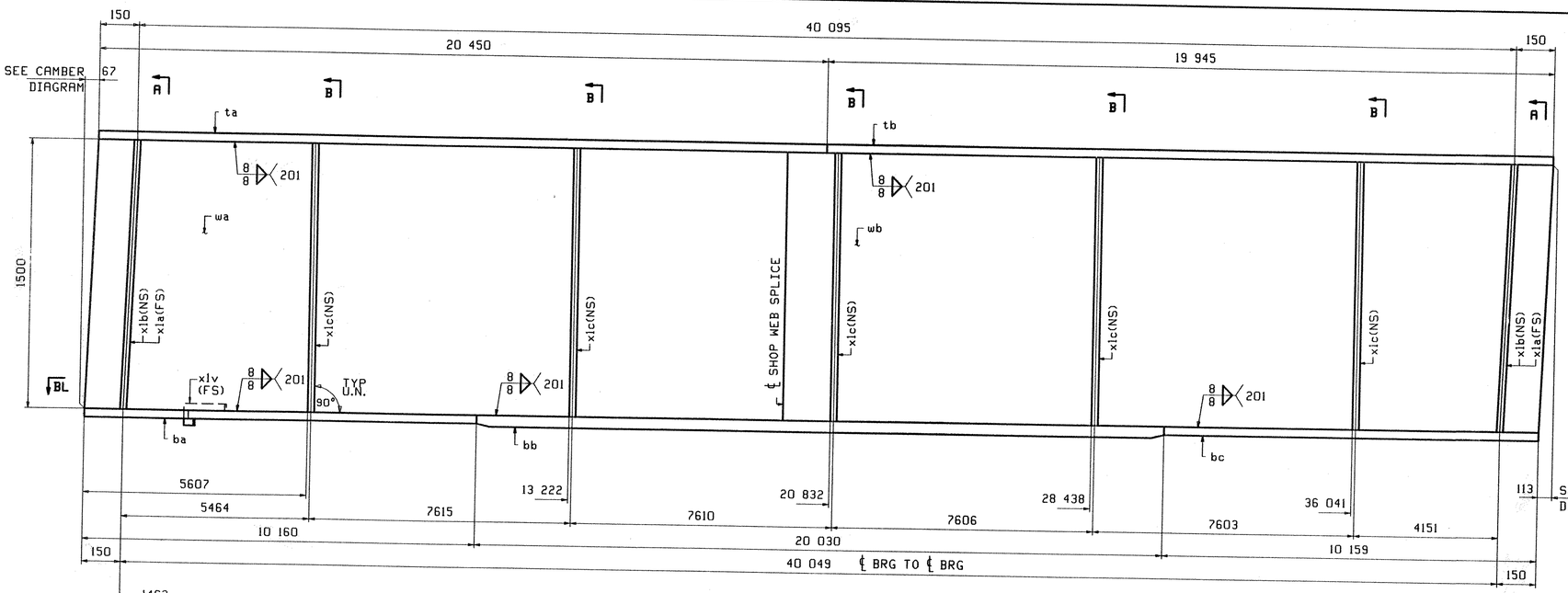
TENSOR 2256

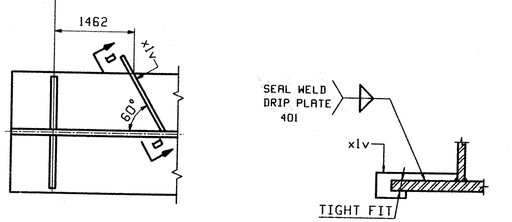
DRAWN BY	DATE
PHG	08/22
CHKD BY	
JB	08/26
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
163	X1
	REV. △

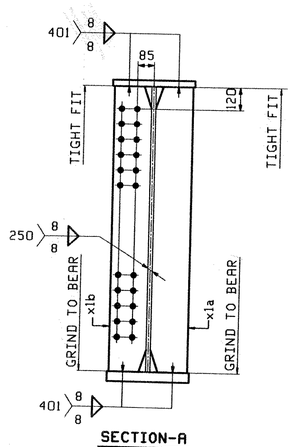
PHG Wed Aug 28 13:37:32 EDT 2002 /cwork4/jobs/2256/X1 : Rev0



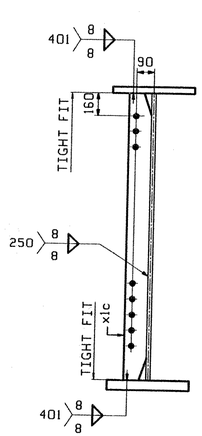


SECTION-BL

SECTION-D



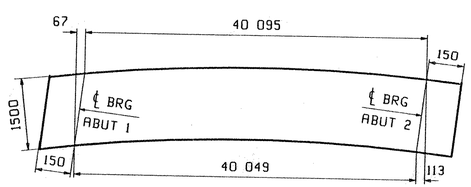
SECTION-A



SECTION-B

ONE - GIRDER - GIA

1. FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
2. FOR CAMBER AND FLANGE DIAGRAMS SEE DRAWING C1.
3. FOR GENERAL NOTES SEE DRAWING GN1.



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG. C1

RECEIVED
CK'D BY LWS OK'D BY RSY
SEP 04 2002
RESUBMIT ____ APPROVED A. Nibl
BY GPW DATE 9/17/02

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
									1	
		GIA	1		GIRDER				13848 kg 30529 lbs	
1	G		1	wa	PL 14x1555	19	869	(M270M-345HT2)	(H2-3)	
1	E		1	wb	PL 14x1558	20	613	(M270M-345HT2)	(H2-3)	
1	J		1	ta	PL 22x426	20	450			
1	L		1	tb	PL 22x426	19	945			
1	C		1	ba	PL 22x426	10	160	(M270M-345HT2)	(H2-3)	
1	A		1	bb	PL 32x426	20	030	(M270M-345HT2)	(H2-3)	
1	C		1	bc	PL 22x426	10	159	(M270M-345HT2)	(H2-3)	
2	B		2	x1b	PL 22x200	1	500			
2	B		2	x1a	PL 22x200	1	500			
2	C		5	x1c	PL 14x127	1	500			
2	D		1	x1v	PL 6x72	0	291	DRIP BAR		

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	8-30	02								
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL: M270M-345W
ELECTRODES:
HOLES: (24 mm) (15/16)ø
SHOP BOLTS:

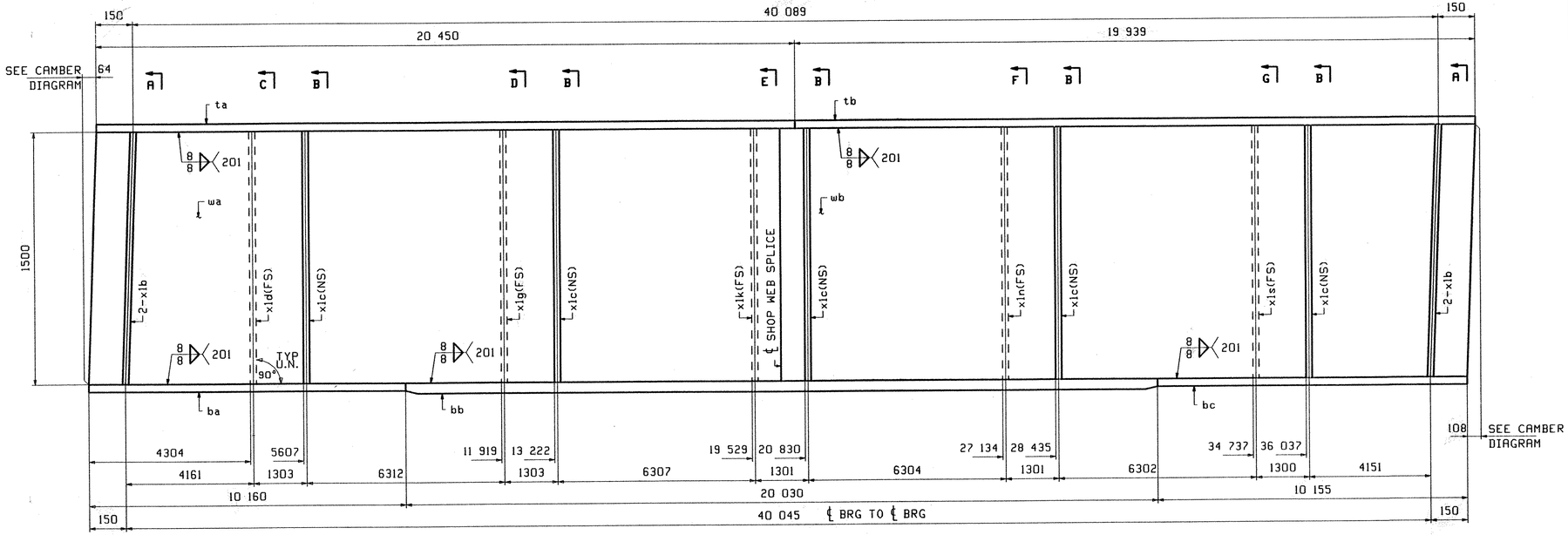
SURFACE PREP. & PAINT:
-STEEL WITHIN 1500 OF ABUT. 2 END OF GIRDERS SHALL BE PAINTED (SEE GN1)
-ALL OTHER STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: GIRDER - GIA	DRAWN BY	DATE
JOB: US Route 5 over Northern Vermont RR	PHG	08/23
BRIDGE NO. 161	CHKD BY	
BARTON, VERMONT (ORLEANS COUNTY)	JB	08/25
CONTRACTOR: WINTERSET	APPROV BY	
	SUPERVISOR	M. J. GATTI
PROJ NO. AC STP 0113 (58) S	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		

TENSOR 2256

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

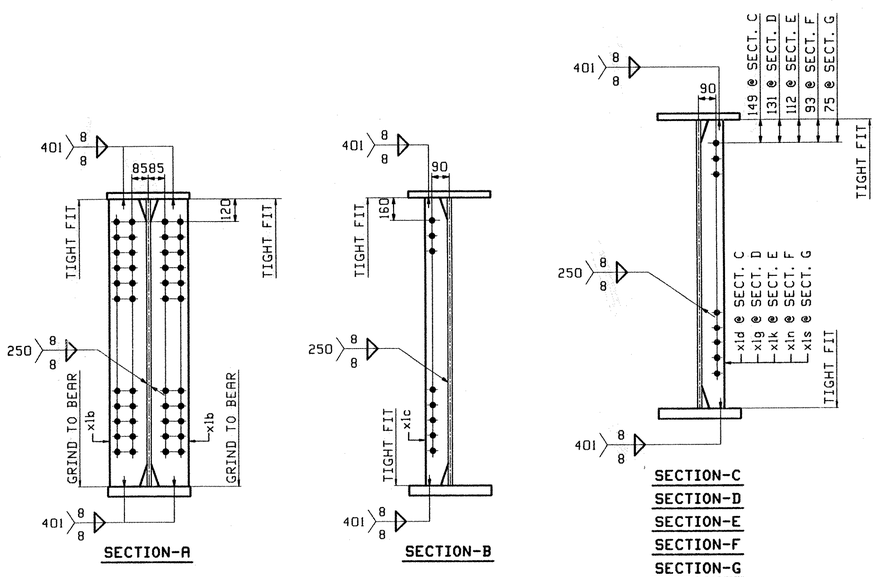
JOB NO.	DRG. NO.
163	1
	REV. △

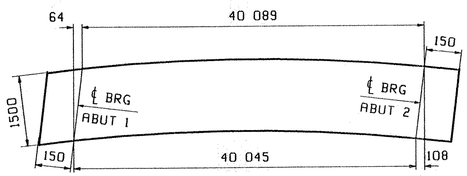


ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		G2A	1		GIRDER				13952 kg 30758 lbs	
1	G		1	wa	PL 14x1555	19	869	(M270M-345HT2)	(H2-3)	
1	E		1	wb	PL 14x1559	20	604	(M270M-345HT2)	(H2-3)	
1	J		1	ta	PL 22x426	20	450			
1	L		1	tb	PL 22x426	19	939			
1	C		1	ba	PL 22x426	10	160	(M270M-345HT2)	(H2-3)	
1	A		1	bb	PL 32x426	20	030	(M270M-345HT2)	(H2-3)	
1	C		1	bc	PL 22x426	10	155	(M270M-345HT2)	(H2-3)	
2	B		4	x1b	PL 22x200	1	500			
2	C		1	x1d	PL 14x127	1	500			
2	C		5	x1c	PL 14x127	1	500			
2	C		1	x1g	PL 14x127	1	500			
2	C		1	x1k	PL 14x127	1	500			
2	C		1	x1n	PL 14x127	1	500			
2	C		1	x1s	PL 14x127	1	500			

ONE - GIRDER - G2A

1. FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
2. FOR CAMBER AND FLANGE DIAGRAMS SEE DRAWING C1.
3. FOR GENERAL NOTES SEE DRAWING GN1.





ORIENTATION DIAGRAM
FOR CAMBER SEE DWG. C1

RECEIVED
OK'D BY SWA OK'D BY RSF
SEP 04 2002
RESUBMIT_____ APPROVED
BY CPW DATE 9/17/02

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	5/30/02									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL: M270M-345W
ELECTRODES:
HOLES: Ø24 mm (15/16)Ø
SHOP BOLTS:

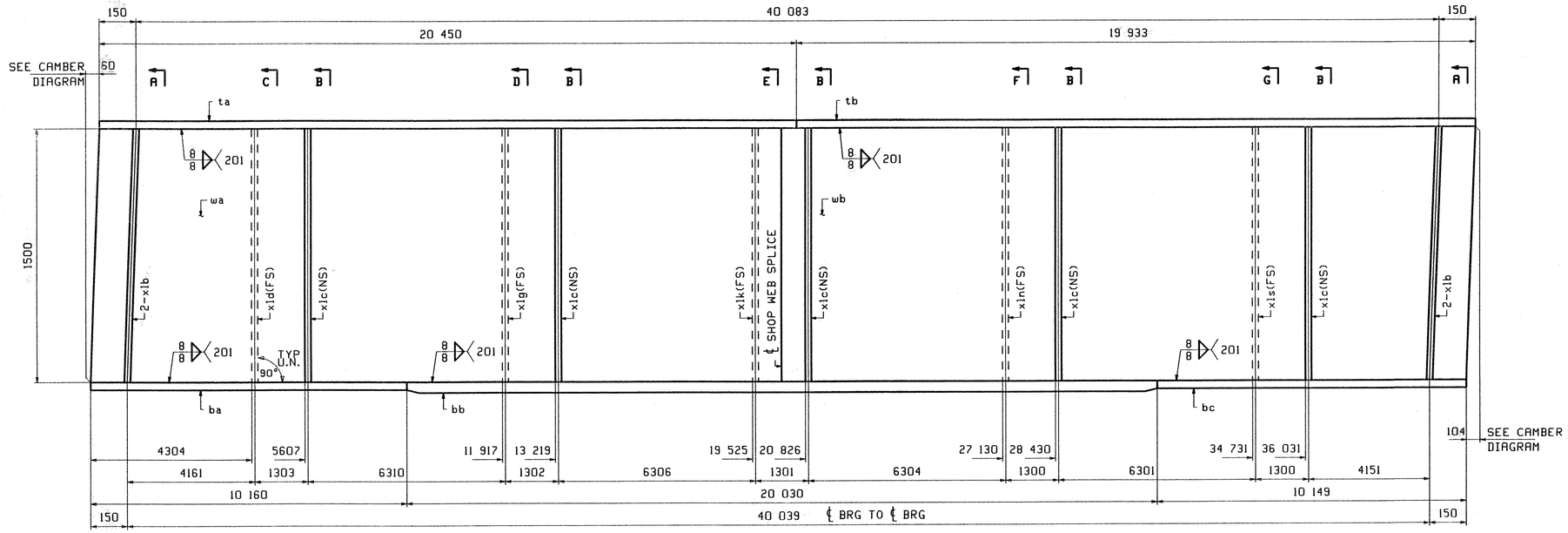
SURFACE PREP. & PAINT:
-STEEL WITHIN 1500 OF ABUT. 2 END OF GIRDERS SHALL BE PAINTED (SEE GN1)
-ALL OTHER STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION:	GIRDER - G2A	DRAWN BY	DATE
JOB:	US Route 5 over Northern Vermont RR	PHG	08/23
	BRIDGE NO. 161	CHKD BY	
	BARTON, VERMONT (ORLEANS COUNTY)	JB	08/26
TENSOR 2256	CONTRACTOR: WINTERSET	APPROV BY	
		SUPERVISOR	W. J. GATTI
PROJ NO.	AC STP 0113 (58) S	Q.A.	
CUSTOMER:	VERMONT AGENCY OF TRANSPORTATION		

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
163	2
	REV. △

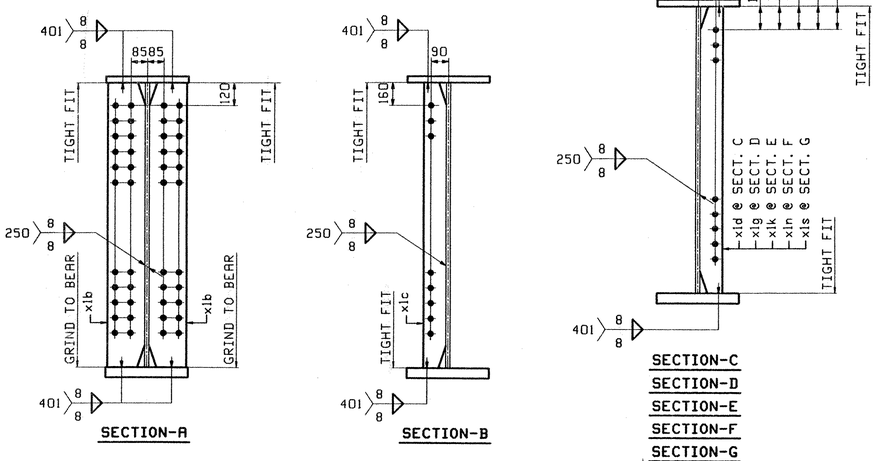
RHG Wed Aug 28 13:32:44 CDT 2002 /users/pw4/2256/3 Rev:0

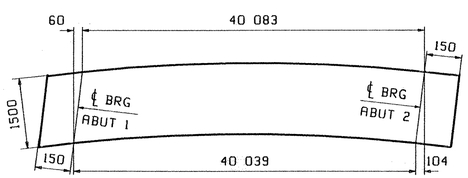


ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									3	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		G3A	1		GIRDER				13949 kg 30752 lbs	
1	G		1	wa	PL 14x1555	19	869	(M270M-345WT2)	(H2-3)	
1	E		1	wb	PL 14x1559	20	594	(M270M-345WT2)	(H2-3)	
1	J		1	ta	PL 22x426	20	450			
1	L		1	tb	PL 22x426	19	933			
1	C		1	ba	PL 22x426	10	160	(M270M-345WT2)	(H2-3)	
1	A		1	bb	PL 32x426	20	030	(M270M-345WT2)	(H2-3)	
1	C		1	bc	PL 22x426	10	149	(M270M-345WT2)	(H2-3)	
2	B		4	x1b	PL 22x200	1	500			
2	C		1	x1d	PL 14x127	1	500			
2	C		5	x1c	PL 14x127	1	500			
2	C		1	x1g	PL 14x127	1	500			
2	C		1	x1k	PL 14x127	1	500			
2	C		1	x1n	PL 14x127	1	500			
2	C		1	x1s	PL 14x127	1	500			

ONE - GIRDER - G3A

1. FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
2. FOR CAMBER AND FLANGE DIAGRAMS SEE DRAWING C1.
3. FOR GENERAL NOTES SEE DRAWING GN1.





ORIENTATION DIAGRAM
FOR CAMBER SEE DWG. C1

RECEIVED
CK'D BY Lab OK'D BY RSY
SEP 04 2002
RESUBMIT ____ APPROVED As Noted
BY CPW DATE 9/17/02

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	8-30-02									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL: M270M-345W
ELECTRODES:
HOLES: 24 mm (15/16")ø
SHOP BOLTS:

SURFACE PREP. & PAINT:
-STEEL WITHIN 1500 OF ABUT. 2 END OF GIRDERS SHALL BE PAINTED (SEE GN1)
-ALL OTHER STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

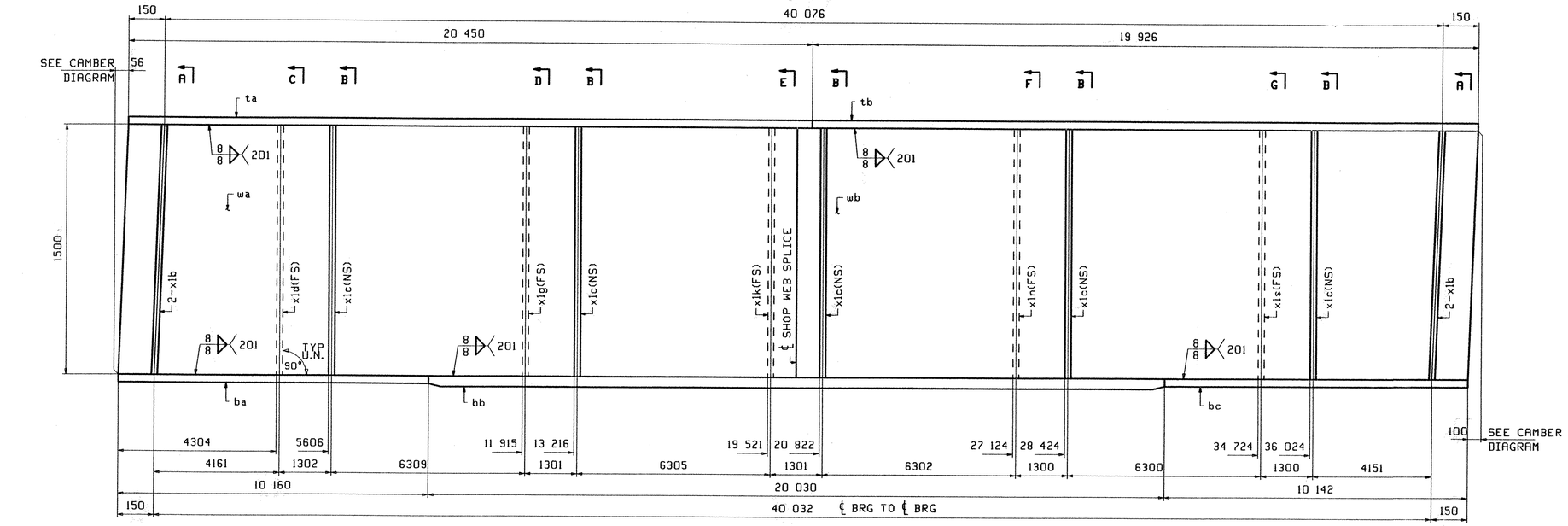
DESCRIPTION: GIRDER - G3A
JOB: US Route 5 over Northern Vermont RR
BRIDGE NO. 161
BARTON, VERMONT (ORLEANS COUNTY)
CONTRACTOR: WINTERSET
PROJ NO. AC STP 0113 (58) S
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION

DRAWN BY	DATE
PHG	08/23
CHKD BY	
JB	08/26
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

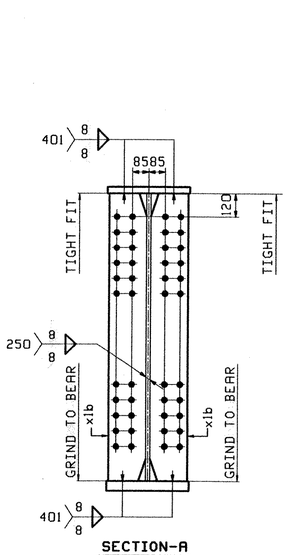
JOB NO.	DRG. NO.
163	3
	REV. △

PHG wed Aug 28 11:40:08 EDT 2002 rogers_jean-225fs3 - Revit

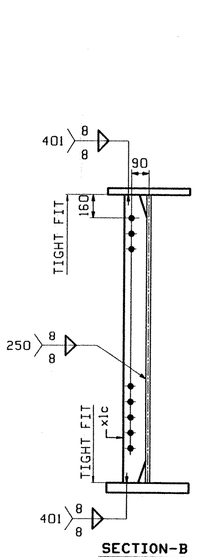


ONE - GIRDER - G4A

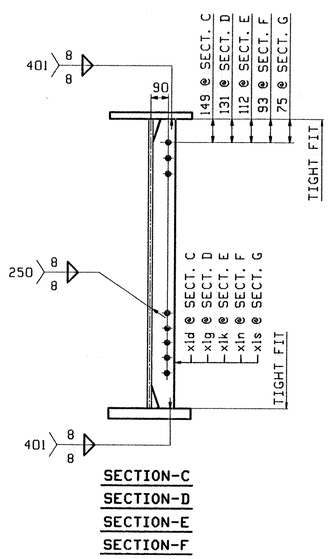
1. FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
2. FOR CAMBER AND FLANGE DIAGRAMS SEE DRAWING C1.
3. FOR GENERAL NOTES SEE DRAWING GN1.



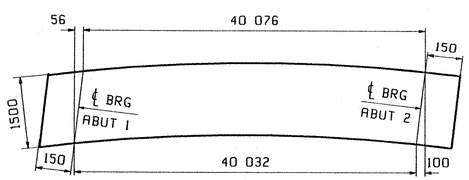
SECTION-A



SECTION-B



SECTION-C
SECTION-D
SECTION-E
SECTION-F
SECTION-G



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG. C1

RECEIVED
CK'D BY KWS OK'D BY RSK
SEP 04 2002
RESUBMIT ____ APPROVED AS NOTED
BY GPW DATE 9/17/02

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									4	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		G4A	1		GIRDER				13946 kg 30745 lbs	
1	G		1	wa	PL 14x1555	19	869	(M270M-345WT2)	(H2-3)	
1	E		1	wb	PL 14x1559	20	583	(M270M-345WT2)	(H2-3)	
1	J		1	ta	PL 22x426	20	450			
1	L		1	tb	PL 22x426	19	926			
1	C		1	ba	PL 22x426	10	160	(M270M-345WT2)	(H2-3)	
1	A		1	bb	PL 32x426	20	030	(M270M-345WT2)	(H2-3)	
1	C		1	bc	PL 22x426	10	142	(M270M-345WT2)	(H2-3)	
2	B		4	x1b	PL 22x200	1	500			
2	C		1	x1d	PL 14x127	1	500			
2	C		5	x1c	PL 14x127	1	500			
2	C		1	x1g	PL 14x127	1	500			
2	C		1	x1k	PL 14x127	1	500			
2	C		1	x1n	PL 14x127	1	500			
2	C		1	x1s	PL 14x127	1	500			

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	8/30/02									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		24mm (15/16"Ø)	

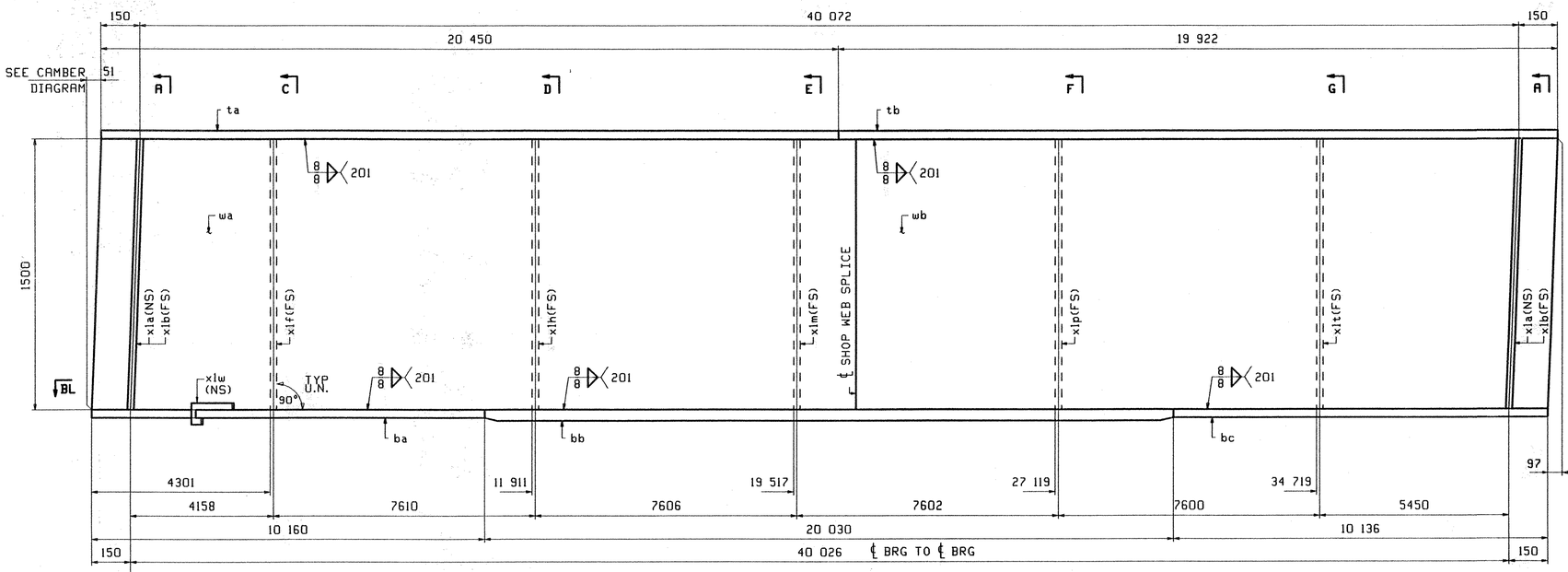
SURFACE PREP. & PAINT:
-STEEL WITHIN 1500 OF ABUT. 2 END OF GIRDERS SHALL BE PAINTED (SEE GN1)
-ALL OTHER STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

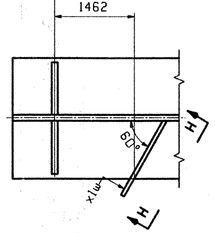
DESCRIPTION: GIRDER - G4A	DRAWN BY	DATE
JOB: US Route 5 over Northern Vermont RR	PHG	08/23
BRIDGE NO. 161	CHKD BY	
BARTON, VERMONT (ORLEANS COUNTY)	JB	08/26
CONTRACTOR: WINTERSET	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. AC STP 0113 (58) S	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

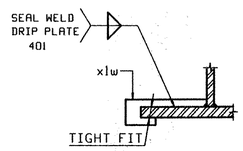
JOB NO.	DRG. NO.
163	4
	REV. △

PHG Wed Aug 28 13:45:51 EDT 2002 /users/jobs/2256/4.Rev0

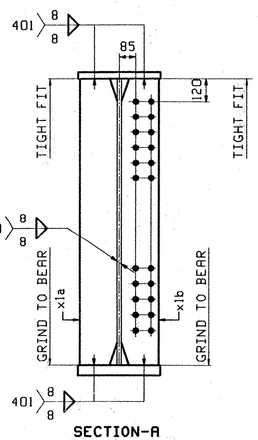




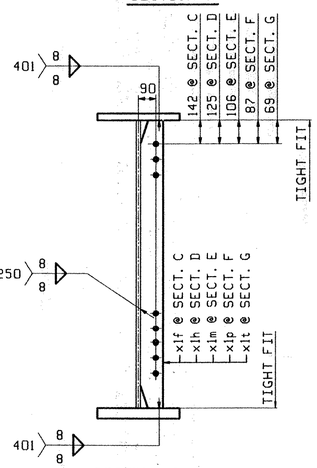
SECTION-BL



SECTION-H



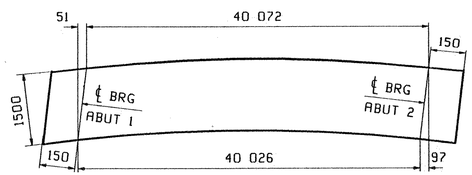
SECTION-A



SECTION-C
SECTION-D
SECTION-E
SECTION-F
SECTION-G

ONE - GIRDER - G5A

1. FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
2. FOR CAMBER AND FLANGE DIAGRAMS SEE DRAWING C1.
3. FOR GENERAL NOTES SEE DRAWING GN1.



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG. C1

RECEIVED
CK'D BY LWD OK'D BY RSY
SEP 04 2002
RESUBMIT ____ APPROVED
BY CPW DATE 9/17/02

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		GSA	1		GIRDER				13840 kg 30511 lbs	
1	G		1	wa	PL 14x1555	19	869	(M270M-345WT2)	(H2-3)	
1	E		1	wb	PL 14x1559	20	574	(M270M-345WT2)	(H2-3)	
1	J		1	ta	PL 22x426	20	450			
1	L		1	tb	PL 22x426	19	922			
1	C		1	ba	PL 22x426	10	160	(M270M-345WT2)	(H2-3)	
1	A		1	bb	PL 32x426	20	030	(M270M-345WT2)	(H2-3)	
1	C		1	bc	PL 22x426	10	136	(M270M-345WT2)	(H2-3)	
2	B		2	xla	PL 22x200	1	500			
2	B		2	xlb	PL 22x200	1	500			
2	C		1	xlf	PL 14x127	1	500			
2	C		1	xlh	PL 14x127	1	500			
2	C		1	xlm	PL 14x127	1	500			
2	C		1	xlp	PL 14x127	1	500			
2	C		1	xlt	PL 14x127	1	500			
2	D		1	xlw	PL 6x72	0	291	DRIP BAR		

BILL OF MATERIAL — JOB NO. — DRAWING NO. 5 — REV.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	8-30	02								
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL: M270M-345W
ELECTRODES:
HOLES: 24 mm (15/16"ø)
SHOP BOLTS:

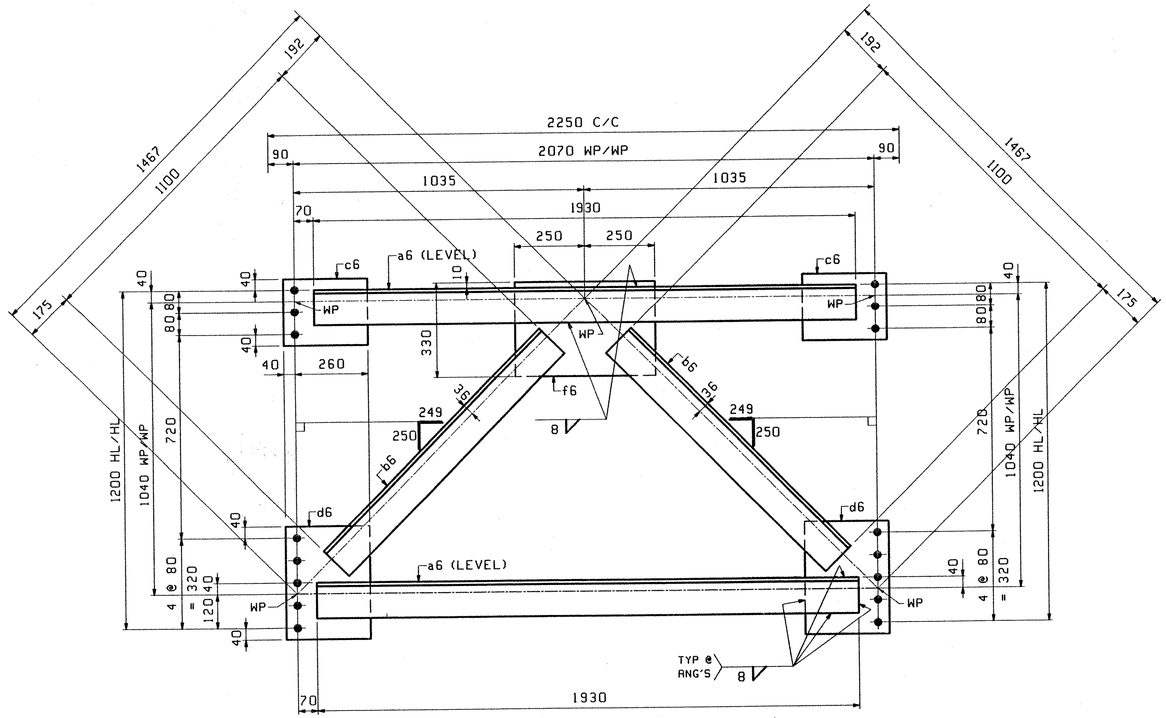
SURFACE PREP. & PAINT:
-STEEL WITHIN 1500 OF ABUT. 2 END OF GIRDERS SHALL BE PAINTED (SEE GN1)
-ALL OTHER STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION:	GIRDER - G5A	DRAWN BY	DATE
JOB:	US Route 5 over Northern Vermont RR	PHG	08/23
	BRIDGE NO. 161	CHKD BY	
	BARTON, VERMONT (ORLEANS COUNTY)	JB	08/26
TENSOR 2256	CONTRACTOR: WINTERSET	APPROV BY	
PROJ NO.	AC STP 0113 (58) S	SUPERVISOR	H. J. GATTI
CUSTOMER:	VERMONT AGENCY OF TRANSPORTATION	Q.A.	

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
163	5
	REV. △

PHG Wed Aug 28 13:47:48 EDT 2002 /users/_phw-2256/S 1 Rev0



20 ~ INTERMEDIATE CROSSFRAMES ~ 6CF1

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									6	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		6CF1	20		CROSSFRAME				208 kg 454 lbs	
2	Q		40	a6	L 127x127x12.7	1	930			
2	R		40	b6	L 127x127x12.7	1	100			
2	T		40	c6	PL 14x240	0	300			
2	U		40	d6	PL 14x300	0	400			
2	S		20	f6	PL 14x330	0	500			

RECEIVED
CK'D BY LWB OK'D BY RSY
SEP 04 2002
RESUBMIT _____ APPROVED B. Wild
BY CPW DATE 9/17/02

NOTE:
FOR GENERAL NOTES SEE DWG. GN1.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.
	OUT FOR APPROVAL	8-30-02				
	OUT FOR APPROVAL					
	ISSUED TO SHOP					
	FIELD & OFFICE					

NO.	DIA.	LGT	TYPE	WASHER

MATERIAL: M270M-345W
ELECTRODES:
HOLES: 24mm (15/16)ø
SHOP BOLTS:

SURFACE PREP. & PAINT:
-STEEL WITHIN 1500 OF ABUT. 2 END OF GIRDERS SHALL BE PAINTED (SEE GN1)
-ALL OTHER STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

DESCRIPTION: INT. CROSSFRAMES
JOB: US Route 5 over Northern Vermont RR
BRIDGE NO. 161
BARTON, VERMONT (ORLEANS COUNTY)
CONTRACTOR: WINTERSET
PROJ NO. AC STP 0113 (58) S
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION

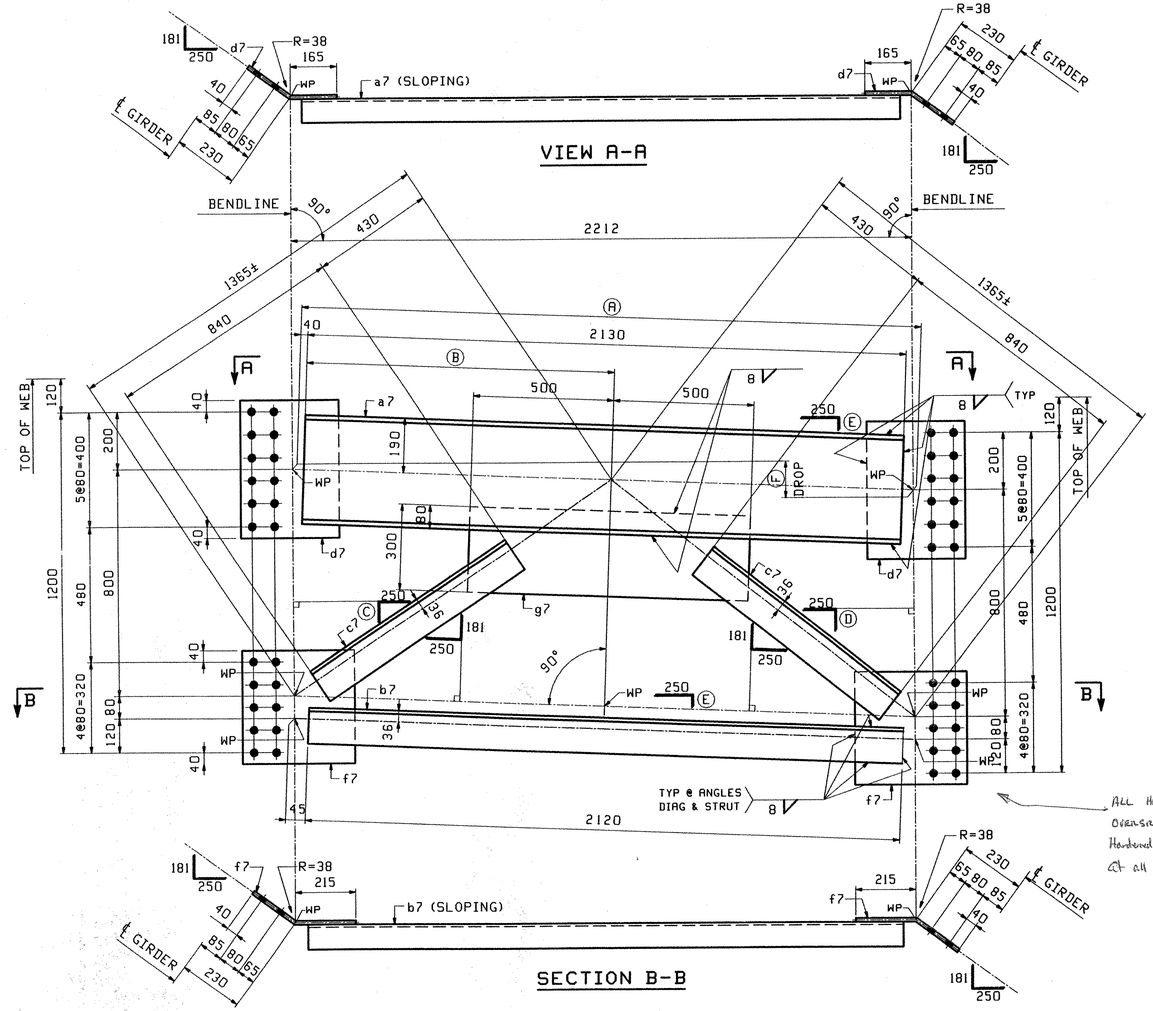
DRAWN BY	DATE
PHG	08/23
CHKD BY	
JB	08/27
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
163	6
	REV. △

TENSOR 2256

PHG Wed Aug 28 13:56:50 EDT 2002 /users/pbs/2256/6 Rev0



MARK	REQ'D	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	
7CF1	1	2213	1090	170	192	7	66	NO PAINT @ ABUT 1
7CF2	1	2213	1093	168	194	8	73	
7CF3	1	2213	1095	167	195	9	80	
7CF4	1	2214	1098	166	196	10	86	
7CF5	1	2212	1075	177	185	3	24	PAINT @ ABUT 2
7CF6	1	2212	1077	176	186	3	30	
7CF7	1	2212	1078	175	187	4	37	
7CF8	1	2212	1082	173	188	5	44	

ALL HOLES IN BELT PLATES SHALL BE OVERSIZED TO 27 mm Ø - ~~Ø~~ Extra Hardened Washer shall be Provided at all oversized hole Locations (TYP)

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		7CF5	1		CROSSFRAME				303 kg 668 lbs	
2	G		1	a7	C 380x50	2	130			
2	H		1	b7	L 127x127x12.7	2	120			
2	J		2	c7	L 127x127x12.7	0	840			
2	L		2	d7	PL 14x480	0	350	BENT		
2	M		2	f7	PL 14x400	0	400	BENT		
2	K		1	g7	PL 14x300	1	000			
		7CF6	1		CROSSFRAME				303 kg 668 lbs	
2	G		1	a7	C 380x50	2	130			
2	H		1	b7	L 127x127x12.7	2	120			
2	J		2	c7	L 127x127x12.7	0	840			
2	L		2	d7	PL 14x480	0	350	BENT		
2	M		2	f7	PL 14x400	0	400	BENT		
2	K		1	g7	PL 14x300	1	000			
		7CF7	1		CROSSFRAME				303 kg 668 lbs	
2	G		1	a7	C 380x50	2	130			
2	H		1	b7	L 127x127x12.7	2	120			
2	J		2	c7	L 127x127x12.7	0	840			
2	L		2	d7	PL 14x480	0	350	BENT		
2	M		2	f7	PL 14x400	0	400	BENT		
2	K		1	g7	PL 14x300	1	000			
		7CF8	1		CROSSFRAME				303 kg 668 lbs	
2	G		1	a7	C 380x50	2	130			
2	H		1	b7	L 127x127x12.7	2	120			
2	J		2	c7	L 127x127x12.7	0	840			
2	L		2	d7	PL 14x480	0	350	BENT		
2	M		2	f7	PL 14x400	0	400	BENT		
2	K		1	g7	PL 14x300	1	000			

JOB NO. | DRAWING NO. 7 | REV.

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		7CF1	1		CROSSFRAME				303 kg 668 lbs	
2	G		1	a7	C 380x50	2	130			
2	H		1	b7	L 127x127x12.7	2	120			
2	J		2	c7	L 127x127x12.7	0	840			
2	L		2	d7	PL 14x480	0	350	BENT		
2	M		2	f7	PL 14x400	0	400	BENT		
2	K		1	g7	PL 14x300	1	000			
		7CF2	1		CROSSFRAME				303 kg 668 lbs	
2	G		1	a7	C 380x50	2	130			
2	H		1	b7	L 127x127x12.7	2	120			
2	J		2	c7	L 127x127x12.7	0	840			
2	L		2	d7	PL 14x480	0	350	BENT		
2	M		2	f7	PL 14x400	0	400	BENT		
2	K		1	g7	PL 14x300	1	000			
		7CF3	1		CROSSFRAME				303 kg 668 lbs	
2	G		1	a7	C 380x50	2	130			
2	H		1	b7	L 127x127x12.7	2	120			
2	J		2	c7	L 127x127x12.7	0	840			
2	L		2	d7	PL 14x480	0	400	BENT		
2	M		2	f7	PL 14x400	0	400	BENT		
2	K		1	g7	PL 14x300	1	000			
		7CF4	1		CROSSFRAME				303 kg 668 lbs	
2	G		1	a7	C 380x50	2	130			
2	H		1	b7	L 127x127x12.7	2	120			
2	J		2	c7	L 127x127x12.7	0	840			
2	L		2	d7	PL 14x480	0	350	BENT		
2	M		2	f7	PL 14x400	0	400	BENT		
2	K		1	g7	PL 14x300	1	000			

JOB NO. | DRAWING NO. 7 | REV.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	6.30.02									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL: M270M-345W

ELECTRODES:

HOLES: 24 mm (15/16)Ø (UN)

SHOP BOLTS:

SURFACE PREP. & PAINT:
-STEEL WITHIN 1500 OF ABUT. 2 END OF GIRDERS SHALL BE PAINTED (SEE GN1)
-ALL OTHER STEEL SHALL BE BLAST CLEANED AND LEFT UNPAINTED.

RECEIVED
CK'D BY LWD OK'D BY RSK
SEP 04 2002
RESUBMIT ____ APPROVED As Noted
BY GPW DATE 9/17/02

DESCRIPTION: END CROSSFRAMES
JOB: US Route 5 over Northern Vermont RR
BRIDGE NO. 161
BARTON, VERMONT (ORLEANS COUNTY)
CONTRACTOR: WINTERSET
PROJ NO. AC STP 0113 (58) S
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION

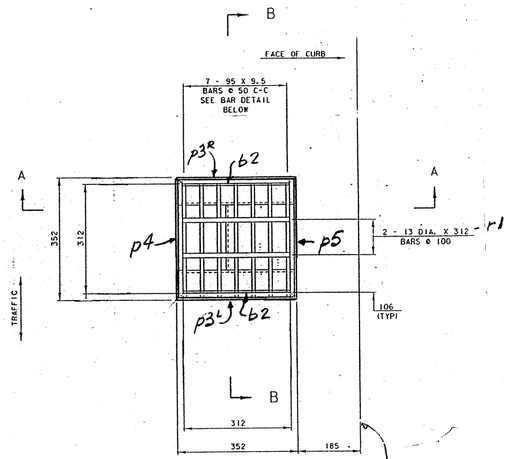
DRAWN BY PHG 08/23
CHKD BY JB 08/27
APPROV BY
SUPERVISOR M. J. GATTI
Q.A.

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

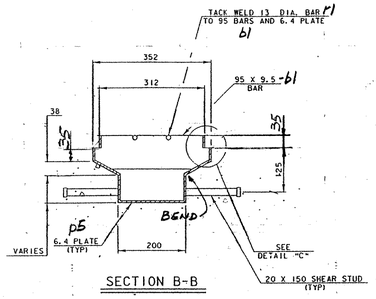
JOB NO. 163 | DRG. NO. 7 | REV. △

TENSOR 2256

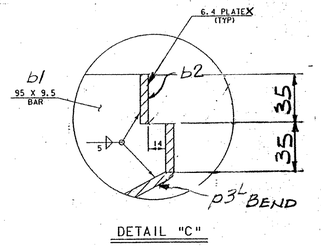
PHG Wed Aug 28 11:33:05 EDT 2002 /users/jobs/2256/7.dwg



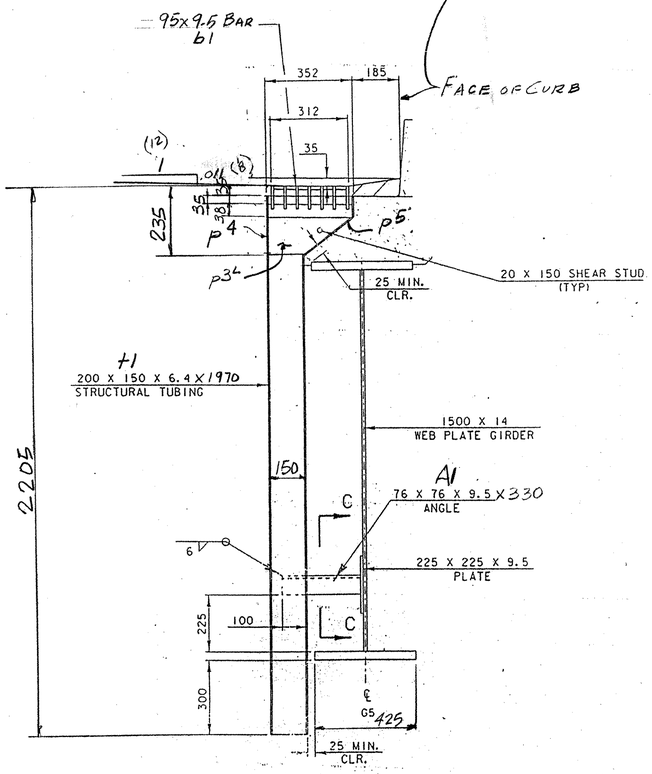
SCUPPER PLAN



SECTION B-B

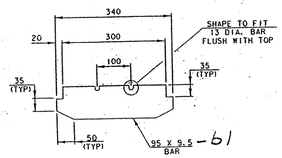


DETAIL "C"

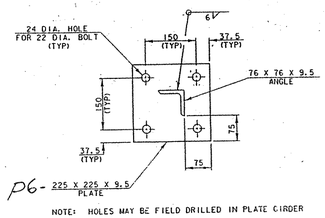


SECTION A - A

SC1 - ONE REQ'D



BAR DETAIL FOR GRATE



NOTE: HOLES MAY BE FIELD DRILLED IN PLATE GIRDER

SECTION C-C

ABM INFO PAGE	ABM INFO LINE	NO.	DESCRIPTION	mm	ASSEM. MARK	SHIPPING MARK	REMARKS	WEIGHT
		1	SCUPPER	2205		SC1		-
		1	TS200X150X6.4	1970	+1		A500-Gr.B	145#
		7	BAR 95 x 9.5	340	b1			38
		2	BAR 35 x 6.4	312	b2			2
		2	R 6.4 x 247	352	p3R		BEND	19
		1	R 6.4 x 127	339	p4			5
		1	R 6.4 x 327	339	p5		BEND	12
		2	13mm ϕ ROD	312	r1			1
		1	L 76 x 76 x 9.5	330		A1		8
		1	R 9.5 x 225	225	p6			8
		4	M22 ϕ H.S. BOLTS	57		FIELD	M164-TYP W/NEW	11
							TOTAL WT. 238 lbs (107.82 KG)	
			PAY ITEM 506.60					

OUT FOR APPROVAL	7-26-02									
OUT FOR APPROVAL (Final)	10-7-02									
ISSUED TO SHOP										
FIELD & OFFICE										
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

PROJECT NO. STP 0113(58) S STATE PROJECT NO.

MATERIAL: AASHTO M270 GR 250 | ELECTRODES: PER PROC | HOLES: AS NOTED | SHOP BOLTS: —

SURFACE PREP. & PAINT:

GALV. AFTER FAB. (AASHTO-M111)

RECEIVED
CK'D BY WAS CK'D BY RSY
OCT 14 2002
RESUBMIT ____ APPROVED ✓
BY RSD DATE 10/17/02

PLANS DRAWN USING METRIC DIMENSIONS

DESCRIPTION: SCUPPER

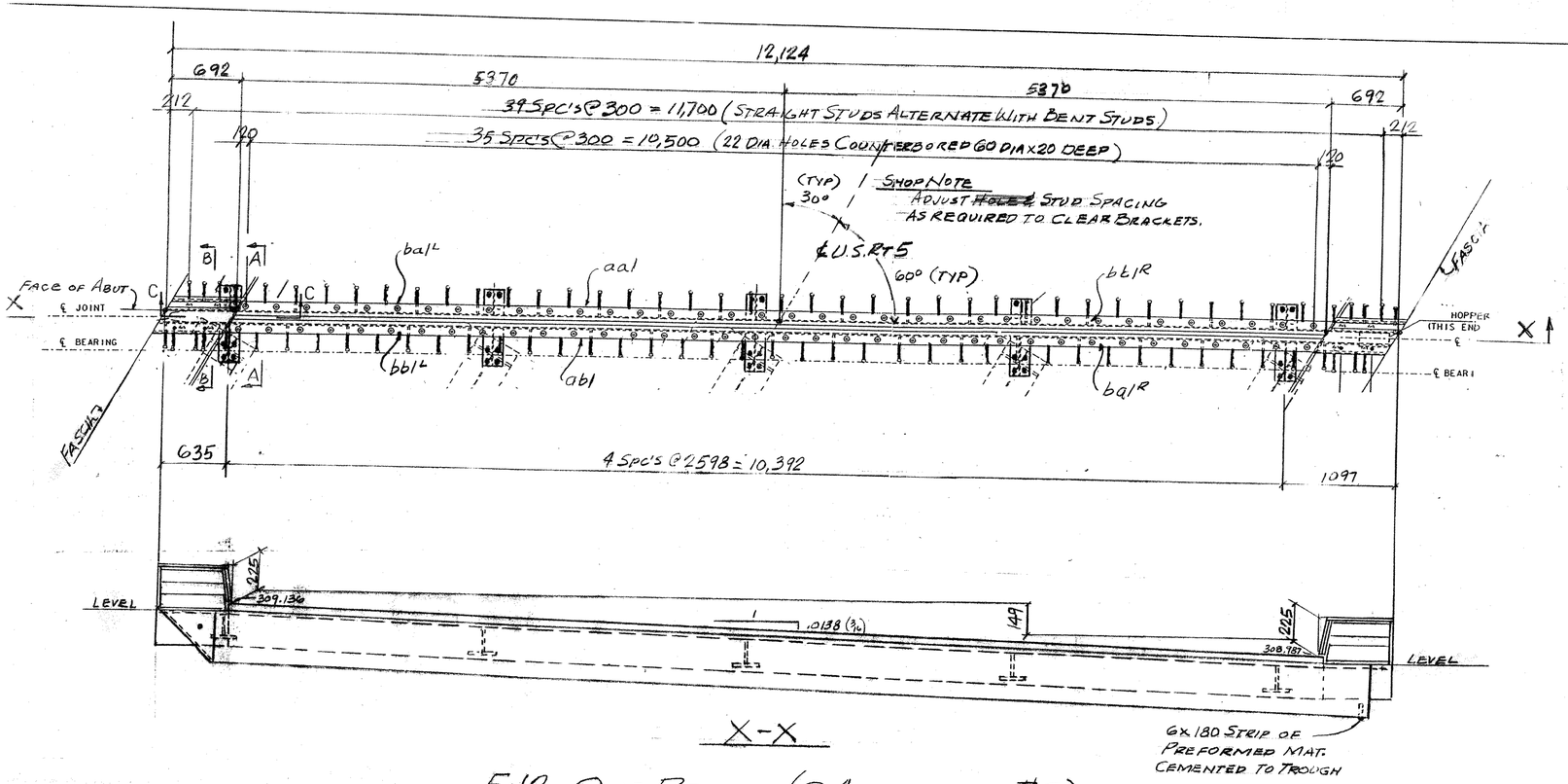
JOB: U.S. ROUTE 5 BRIDGE NO. 161 BARTON, VT.

CUSTOMER: WINTERSET

	DRAWN BY	DATE
	JPF	7-02
CHKD BY	EJ.	✓
APPROV BY		
Q.A.		

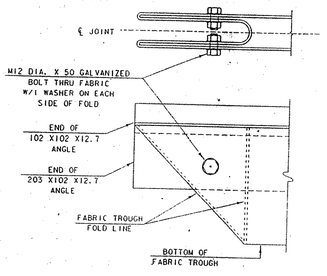
JOB NO.	DRG. NO.
164	M1
	REV. △

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

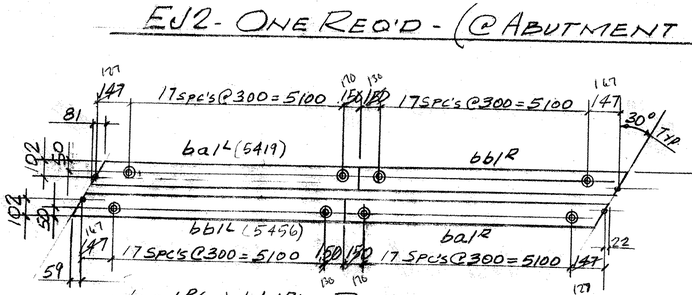


X-X

EJ2 - ONE REQ'D - (@ ABUTMENT #2)

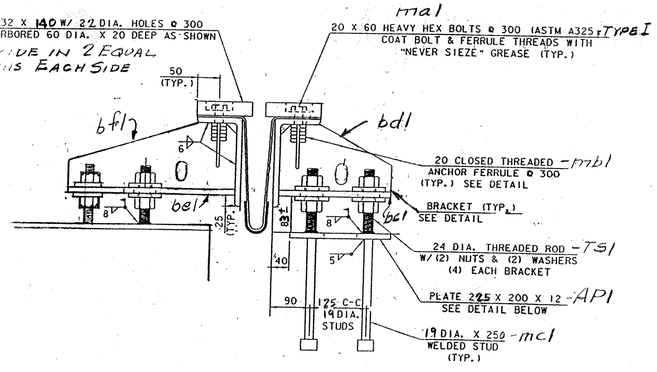


FOLDED TROUGH END DETAILS

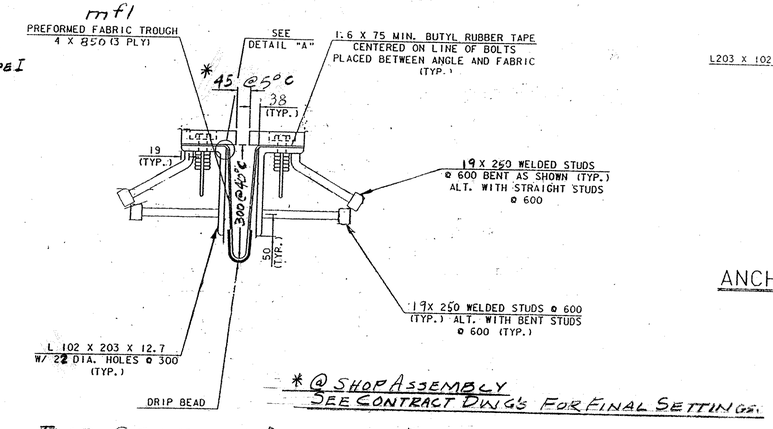


bal℄ & bb1℄ DETAILS.

WORK THIS DWG. W/ DWG. J1A

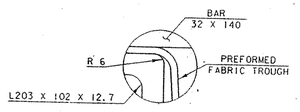


SECTION @ BEAMS



* @ SHOP ASSEMBLY SEE CONTRACT DWG'S FOR FINAL SETTINGS.

TYP. SECTION BETWEEN BEAMS



DETAIL "A"

ANCHOR FERRULE - mb1

RECEIVED
CK'D BY WJS CK'D BY RSY
OCT 14 2002
RESUBMIT APPROVED As Noted
BY WJS RSY DATE 10/11/02

PLANS DRAWN USING METRIC DIMENSIONS

SHOP BILL

JOB NO. 164 DRG. NO. J1

PAGE	LINE	NO.		DESCRIPTION	mm	ASSEM. MARK	SHIPPING MARK	REMARKS	WEIGHT
		1		EXP. JNT ASS'Y	12,124		EJ2		—
			1	L203X102X12.7	12,124	aa1			
			1	DO	12,124	ab1			
			2	BAR 140 X 32	5919	ba1℄			
			2	DO	5956	bb1℄			
			5	℄ 12 X 200	250	bc1			
			5	℄ 12 X 153	250	bd1			
			5	℄ 12 X 200	382	be1			
			5	℄ 12 X 153	382	bf1			
			72	M20 H.S. BOLTS	57	ma1			
			72	M20 ANC. FERRULES CLOSED THREADED		mb1			
			80	M19 ANC. STUDS	250	mc1			
			1	PREFORMED FIBER. 4mm X 850 3 PLY, 10 BOBBIE	12,500	mf1		3 PLY PER SPEC'S SECT. M-180 TYPE II	
			2	TAPE 10 X 75	12,500				
			2	M12 BOLT (GALV)	50			NUT & WASH	
		40		M24 THREADED RODS	178		TS1		
			80	M24 HEX NUTS					
			40	BAR 75 X 10	75	WI		WASHER	
		5		℄ 12 X 200	225		API	NOT GALV.	
			20	M19 ANC. STUDS	250	mc1			
			7	L102X102X9.5	375±	sa1			
			14	M20 H.S. BOLTS	76			W/1 WASH	
	CURBS								
			2	℄ 12 X 273	824	cp1			
			2	℄ 12 X 210	318	cp1a			
			2	℄ 12 X 270	318	cp1b			
			2	℄ 12 X 50	697	cp2			
			2	DO	210	cp2a			
			2	DO	270	cp2b			
			4	℄ 12 X 240	667±	cp3		FIT	
			2	℄ 12 X 118	210	cp3a			
			2	℄ 12 X 118	270	cp3b			
			2	L102X102X12.7	700±	aa1		FIT	
			2	DO	700±	aa2		FIT	
			4	DO	726±	aa3		FIT	
			16	M20 H.S. BOLTS	57	ma1			
			16	M20 ANC. FERRULES CLOSED THREADED		mb1			
			8	M19 ANC STUDS CLAT'D	250	mc1			
			4	M20 CAP SCREW	50	md1			

PAY ITEM 516.10

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	7-26-02									
	OUT FOR APPROVAL Final	10-7-02									
	ISSUED TO SHOP										
	FIELD & OFFICE										

PROJECT NO. STP 0113 (58) S STATE PROJECT NO.

MATERIAL: AASHTO M270-Gr 250 ELECTRODES: PER PROC. HOLES: AS NOTED SHOP BOLTS: M20 @ (M164)

SURFACE PREP. & PAINT:

GALV. AFTER FAB. (ASTM A-123)

DESCRIPTION: EXP. JOINT - ABUT. #2

JOB:

U.S. ROUTE 5
BRIDGE NO. 161
BARTON, VT.

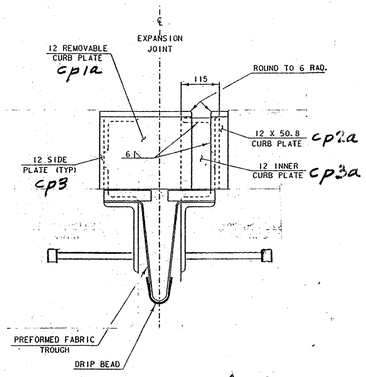
CUSTOMER: WINTERSET

	DRAWN BY	DATE
	UPF	7-02
	CHKD BY	
	EJ	
	APPROV BY	
	Q.A.	

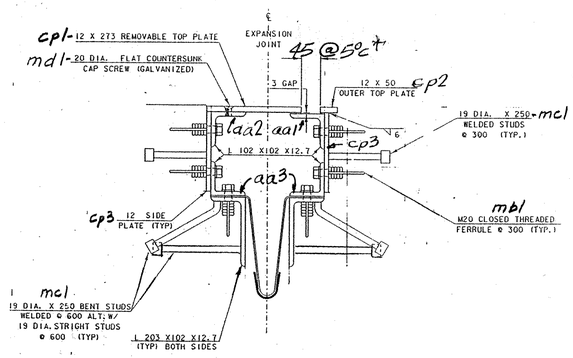
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO. 164 DRG. NO. J1 REV. 1

JOB NO. 164 | DRG. NO. J1A



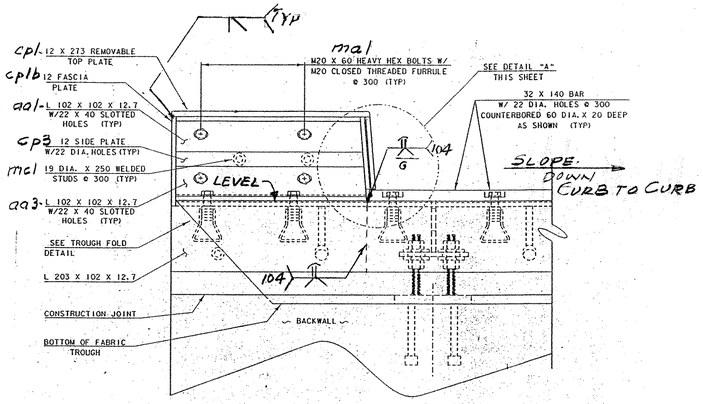
SECTION A-A



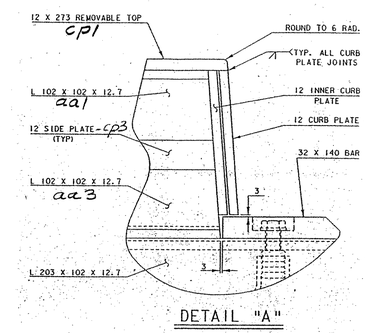
SECTION B-B

* @ SHOP ASSEMBLY

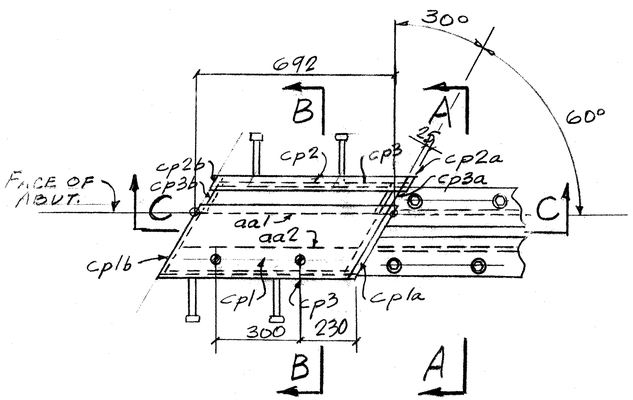
SEE CONTRACT DWGS FOR FINAL SETTINGS.



SECTION C - C



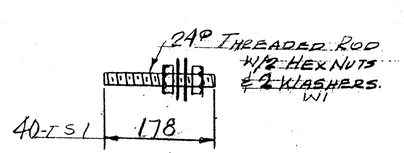
DETAIL "A"

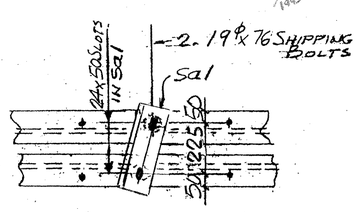


PLAN @ CURB

LEFT END - AS SHOWN

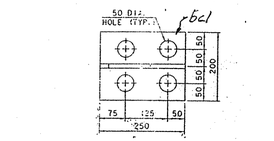
RIGHT END - OPP. HAND





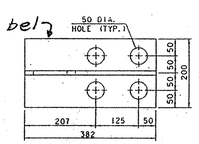
SHIPPING DEVICE

SPACED 1500 o.c. MAX.



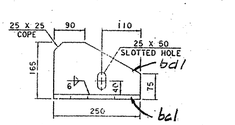
BACKWALL BRACKET PLAN

SCALE = 1 : 5

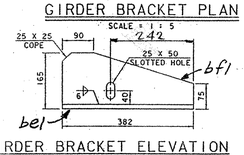


GIRDER BRACKET PLAN

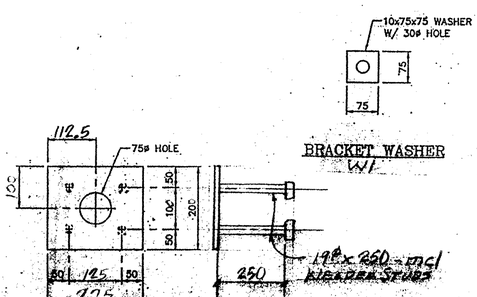
SCALE = 1 : 5



BACKWALL BRACKET ELEVATION



GIRDER BRACKET ELEVATION



BRACKET WASHER W1

PLATE "A" DETAIL - API 5 L Gr. B

RECEIVED
OK'D BY WJS OK'D BY RSY
OCT 14 2002
RESUBMIT ____ APPROVED Th Nutt
BY Wy B. S 10/21/02 DATE 10/11/02

PLANS DRAWN USING METRIC DIMENSIONS

NOTES

1- WHERE POSSIBLE SEAL WELD ALL WELDED JOINTS
2- PRIOR TO GALVANIZING, ALL CORNERS AND EDGES OF STEEL PL'S SHALL BE GROUND TO 1.6mm RAD.
3- THE EXP. JNT. SHALL BE SHOP ASSEMBLED FOR SHIPPING. - SEE SHIPPING DEVICE DET.

WORK THIS DWG. W/ DWG - J1

ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED ~~1990~~ 1995, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 1996, AND ITS LATEST REVISIONS.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	7-26-02									
	OUT FOR APPROVAL-Final	10-7-02									
	ISSUED TO SHOP										
	FIELD & OFFICE										

PROJECT NO. STP-0113(58)S STATE PROJECT NO.

MATERIAL AASHTO M270-GR250 | ELECTRODES: PER PROC. | HOLES: AS NOTED | SHOP BOLTS: M20 (M164)

SURFACE PREP. & PAINT: GALV. AFTER FAB. (ASTM A-123)

DESCRIPTION: EXP. JOINT - ABUT. #2

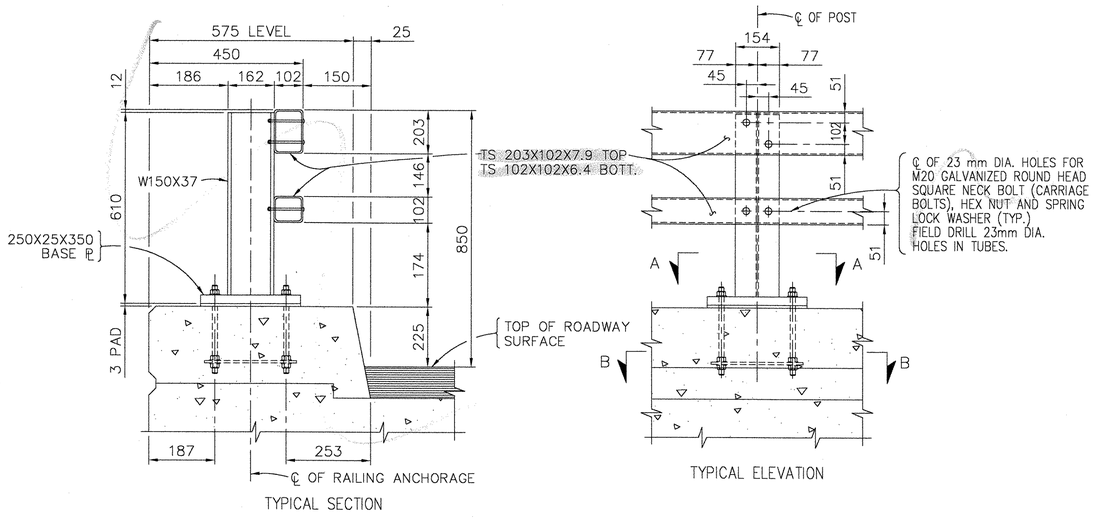
JOB: U.S. ROUTE 5 BRIDGE NO. 161 BARTON, VT.

CUSTOMER: WINTERSET

	DRAWN BY	DATE
	JPF	7-02
	CHKD BY	
	EJ	
	APPROV BY	
	Q.A.	

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

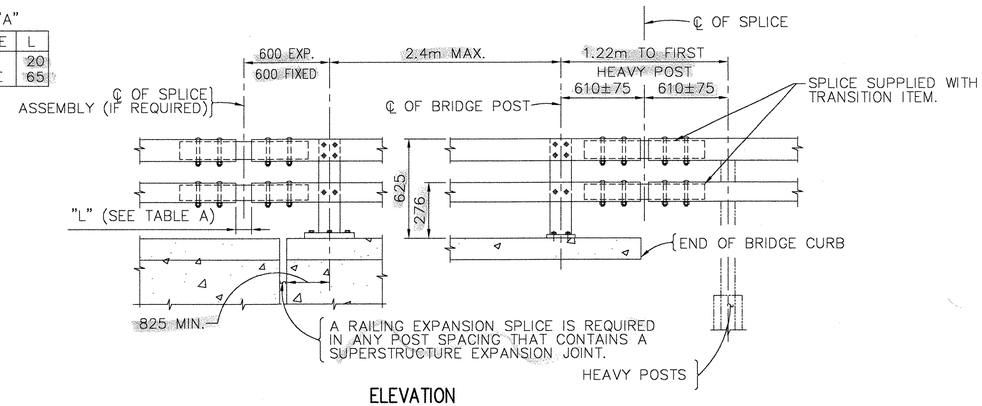
JOB NO.	DRG. NO.
164	J1A
	REV. △



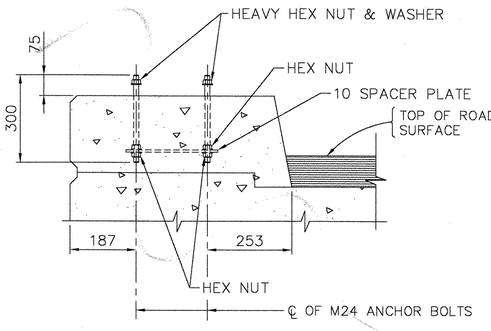
STEEL BRIDGE RAILING
(TWO RAIL – BRUSH CURB)

TABLE "A"

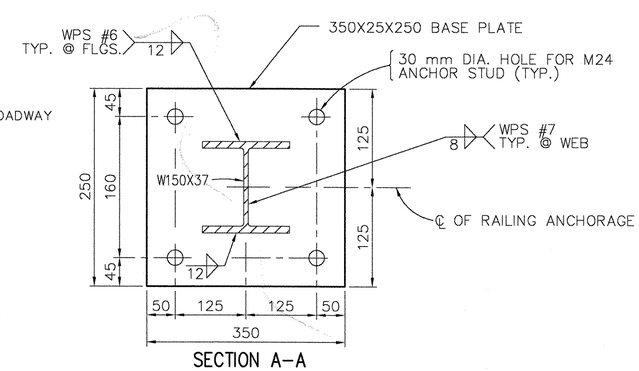
SPLICE TYPE	L
FIX SPLICE	20
EXP. SPLICE	65



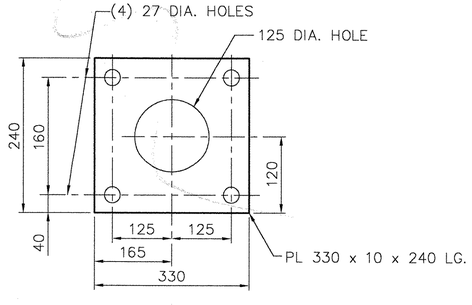
ELEVATION
STEEL BRIDGE RAILING SPLICE DETAILS



RAIL POST ANCHORAGE



SECTION A–A



SECTION B–B

NOTES:
1) ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525 – RAILINGS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2) TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732 – RAILING MATERIALS OF THE STANDARD SPECIFICATION FOR CONSTRUCTION.
3) RAIL POSTS SHALL BE SET NORMAL TO GRADE.
4) SECTIONS OF RAIL BAR SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POST AND PREFERABLY TO AT LEAST FOUR (4) POSTS.
5) RAIL BAR EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE 65mm AT 7°C AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER.
6) ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M232. SURFACE PREPARATION FOR GALVANIZING SHALL MEET SSPC–SP6.
7) RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 45° TURN.
8) RAIL BARS MAY BE ATTACHED USING M16 AASHTO M164M (TYPE 1) or M20 ASTM F568m, CLASS 4.6 ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE BAR. HOLES IN POSTS SHALL BE 2mm LARGER THAN THE BOLT SIZE.
9) HOLES IN RAILS FOR RAIL BAR ATTACHMENT MAY BE FIELD DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC–RICH PAINT PRIOR TO ERECTION.
10) IF THERE IS A CONFLICT BETWEEN THESE STANDARD DETAILS AND THE DESIGN DRAWINGS, THE REQUIREMENTS OF THE DESIGN DRAWINGS SHALL BE FOLLOWED.

BRIDGE ENGINEERING DEPT.
ISSUED
JUN 25 2002
TRINITY INDUSTRIES, INC.
1170 N. STATE STREET
GIRARD, OHIO 44420

SHOP DRAWING USING
METRIC
DIMENSIONS

APPROVAL DRAWING

NOTE:
ALL DIMS. ARE IN mm U.N.
FOR DETAILS SEE DETAIL DRAWINGS D1, D2, D3 & D4 OF 4 (22) 1004148
FOR RAILING LAYOUT SEE SHT. E2 OF 2 (22) 1004148

Structures Copy

RECEIVED
CK'D BY RSY CK'D BY LWS
JUL 23 2002
RESUBMIT ____ APPROVED ✓
BY QW DATE 8/14/02

REV.	CHK'D	BY	DATE	REMARKS

PAY ITEM NUMBER 525.33M ST. BR. RL. 2 RL. NETC

STATE OF VERMONT AGENCY OF TRANSPORTATION
TOWN OF BARTON COUNTY OF ORLEANS
US ROUTE 5 OVER NORTHERN VERMONT RAILROAD
PROJECT #STP0113(58)S BRIDGE No. 161

CUSTOMER NORTHLAND SPECIALTIES | P.O. No. VERBAL

TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY, DALLAS, TX 75207

DRAWN	SAR
CHECKED	JRS
SCALE:	N.T.S.
DATE	6/6/02
ENG. FILE #	22–1004148–E1
SHT.No.	E1 OF 2
TRINITY SALES ORDER NO.	(22) 1004148
REV.	0

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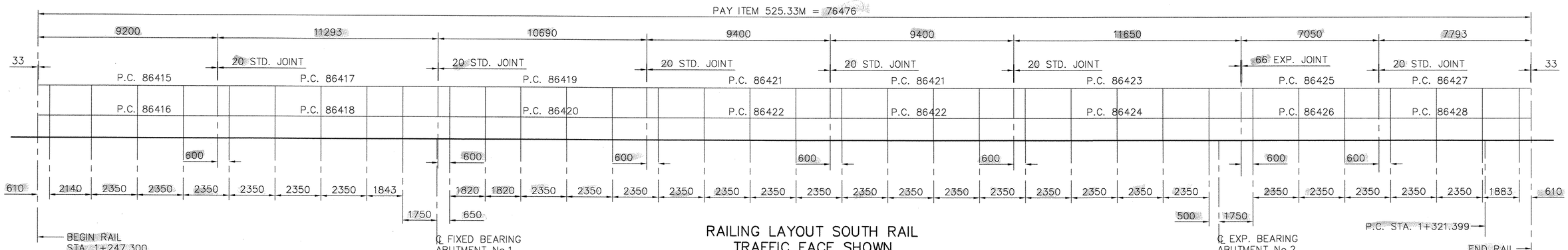
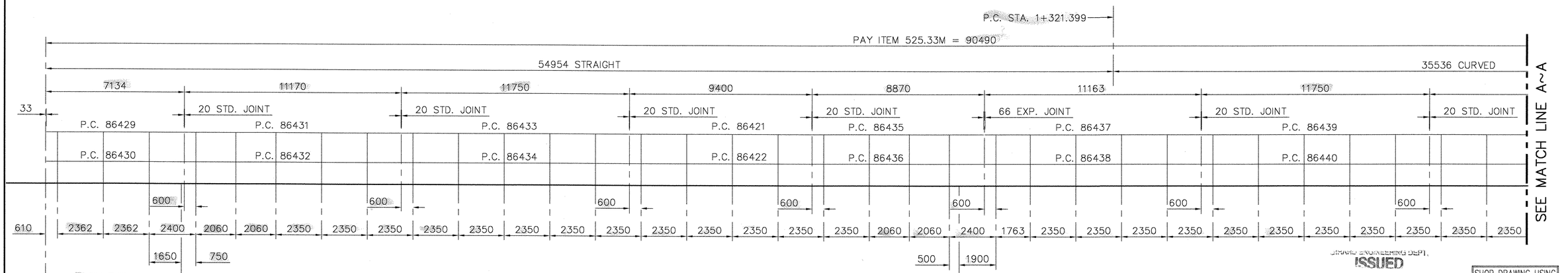
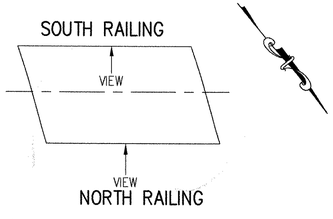
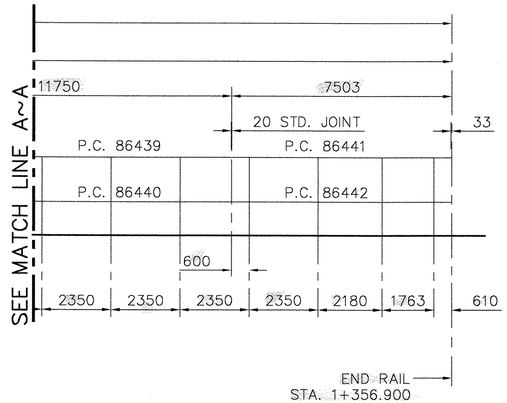


RAILING LAYOUT SOUTH RAIL
TRAFFIC FACE SHOWN
US ROUTE 5 OVER NORTHERN
VERMONT RAILROAD
BRIDGE No. 161







RAILING LAYOUT NORTH RAIL
NON-TRAFFIC FACE SHOWN
US ROUTE 5 OVER NORTHERN
VERMONT RAILROAD
BRIDGE No. 161

RECEIVED
CK'D BY RSK OK'D BY LWB
JUL 23 2002
RESUBMIT APPROVED As noted
BY CPW DATE 8/14/02

NOTES:
1) ALL RAILING POSTS ARE P.C. 86443.
2) ALL T.S. 203 x 102 RAIL SPLICES ARE P.C. 35107.
3) ALL T.S. 102 x 102 RAIL SPLICES ARE P.C. 35103.
4) TOTAL PAY LENGTH: 166.966m
5) FINISH: GALV. A123
HARDWARE: GALV. A153
6) ALL DIMENSIONS ARE IN mm UNLESS NOTED.

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BRIDGE ENGINEERING DEPT.
ISSUED
JUN 25 2002
TRINITY INDUSTRIES, INC.
1170 N. STATE STREET
GIRARD, OHIO 44420

APPROVAL DRAWING

SHOP DRAWING USING METRIC DIMENSIONS

NOTE:
ALL DIMENSIONS ARE SHOWN ALONG PROFILE GRADE (SLOPE LENGTH) AT ℄ OF ANCHORAGE.

FOR ERECTION DETAILS AND NOTES SEE SHT. E1 OF 2 (22) 1004148
FOR DETAILS SEE DETAIL DRAWINS D1, D2, D3 & D4 OF 4 (22) 1004148

REV.	CHK'D	BY	DATE	REMARKS

PAY ITEM NUMBER 525.33M ST. BR. RL. 2 RL. NETC

STATE OF VERMONT AGENCY OF TRANSPORTATION
TOWN OF BARTON COUNTY OF ORLEANS
US ROUTE 5 OVER NORTHERN VERMONT RAILROAD
PROJECT #STP0113(58)S BRIDGE No. 161

CUSTOMER NORTHLAND SPECIALTIES | P.O. No. VERBAL

TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY, DALLAS, TX 75207

DRAWN	SAR
CHECKED	JRS
SCALE:	NTS
DATE	6/7/02
ENG. FILE #	22-1004148-E2
SHT.No.	E2 OF 2
TRINITY SALES ORDER NO.	(22) 1004148
REV.	0

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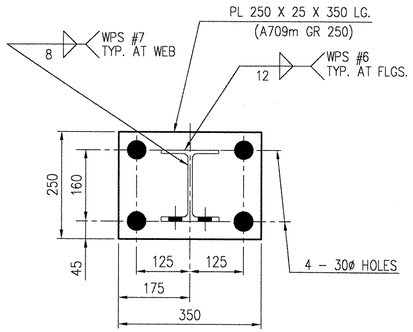
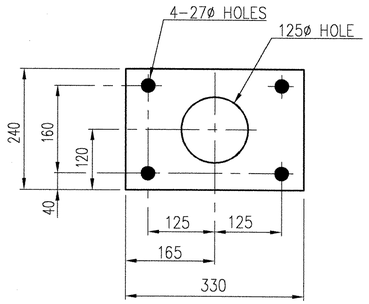
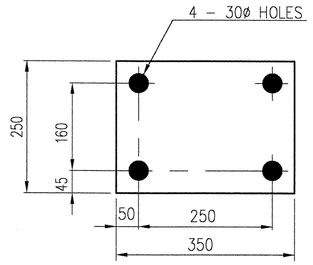




PC 86444 ANCHOR PLATE

PL 240 x 10 x 330 LG.

(A 709M GR. 250)

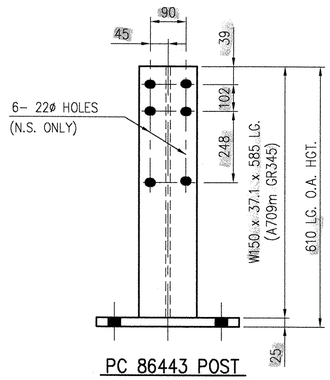


PC 3619 BEARING PAD

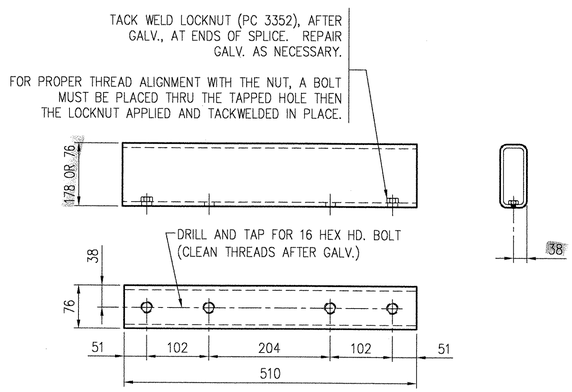
3 THICK ELASTOMERIC PAD

(AASHTO M251)

(50 DUROMETER NEOPRENE)



PC 86443 POST



PC 35107 SPLICE TS 178 X 76 X 9.5 LG. (A500m GR B)

PC 35103 SPLICE TS 76 X 76 X 7.9 LG. (A500m GR B)

BILL OF MATERIAL

	PRODUCT CODE	QTY.	DESCRIPTION	WT. EA.	REMARKS
	86443A	75	POST	42 kg.	
*	86444G	75	ANCHOR PLATE	5.5 kg.	
	3619B	75	BEARING PAD	.5 kg.	NOT GALVANIZED
	35107A	16	SPLICE (TS 178 x 76 x 9.5 x 509)	17.5 kg.	
	35103A	16	SPLICE (TS 76 x 76 x 7.9 x 509)	8.6 kg.	
			FIELD HARDWARE		
	35209G	16	3/4" SCH. 40 PIPE x 1/2" LG. 19 SCH. 40 PIPE x 12 LG.	0.1 #	A53 A123 NOT DETAILED
	3390H	128	5/8" ø x 1 3/4 LG. HEX HD. BOLT 16 x 45 LG. HEX HD. BOLT		A307 GR A A153
	3300H	128	5/8" WASHER, 1 3/4" O.D. 16 WASHER, 45 O.D.		F844 A153
	3637H	300	3/4"ø x 6" LG. RD. WR. HD. BOLT 19 ø x 150 RD. WR. HD. BOLT		A325 A153
	3702H	300	3/4" WASHER, 2" O.D. (HARDENED) 19 WASHER, 51 O.D. (HARDENED)	TYPE A	F436 A153
	3704H	300	3/4" HEX NUT 19 HEX NUT		A563 DH A153
			ANCHORAGE HARDWARE		
*	4914H	300	1" ø x 1'–0" LG. ANCHOR STUD 24 ø x 300 LG. ANCHOR STUD	FULLY THRD.	A449 A153
*	3908H	300	1" HEX NUT 24 HEX NUT		A563 DH A153
*	3910H	600	1" HEX NUT 24 HEX NUT		A563 A153
*	4902H	300	1" PLAIN WASHER 24 PLAIN WASHER		F436 A153

PAY QUANTITY	
166.966 m	ITEM NO. 525.33 ~ T2 STEEL BRIDGE RAIL (NETC)

(*) ANCHORAGE TO BE SHIPPED PRIOR TO REMAINDER OF MATERIAL.

NOTES:

Tubing and posts shall meet the requirements of Section 732 – Railing materials of the Standard Specifications for Construction.
All exposed cut or sheared edges shall be rounded to a 1.6mm radius and be free of burrs.
GALVANIZED SURFACES SHALL HAVE A UNIFORM APPEARANCE AND GALVANIZED MATERIAL SHALL BE PROPERLY STORED WITH WOOD BLOCKING BETWEEN PIECES.
Rail bars.....ASTM A500, Grade B or ASTM A501
Rail posts.....ASTM A709/A709M, Grade 345 CVN
All other shapes & plates.....AS NOTED ON DETAILS (NO CVN REQD)
BEARING PAD SHALL COMPLY WITH 731.01 OR 731.02.
SHOP INSPECTION IS REQUIRED
SHOP TO CALL VERMONT AGENCY OF TRANSPORTATION TO SCHEDUAL SHOP INSPECTION
CONTACT: CHRISTOPHER WILLIAMS
PHONE: (802) 828– 2621

RECEIVED
CK'D BY RSS OK'D BY WJS
JUL 23 2002
RESUBMIT ____ APPROVED ✓
BY CPW DATE 6/27/02

GIRARD ENGINEERING DEPT.
ISSUED
JUN 25 2002
TRINITY INDUSTRIES, INC.
1170 N. STATE STREET
GIRARD OHIO 44420

APPROVAL DRAWING

FOR ERECTION LAYOUT SEE SHEET E1 OF 2 (22) 1004148

METRIC MEASUREMENTS NOTE:
ALL HARDWARE, STEEL PLATES, SECTIONS, TUBE SHAPES, AND REQUIRED HOLES FOR THE HARDWARE USED IN FABRICATION OF THE BRIDGE RAILS WILL BE CONVERTED WITH "HARD CONVERSION" TO NEAREST AVAILABLE ENGLISH MEASUREMENTS.
ALL DIM. ARE IN MILLIMETERS UNLESS NOTED.

SHOP DRAWING USING METRIC DIMENSIONS

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REV.	CHK'D	BY	DATE	REMARKS

PAY ITEM NUMBER 525.33 ~ T2 STEEL BRIDGE RAIL (NETC

STATE OF VERMONT AGENCY OF TRANSPORTATION
TOWN OF BARTON COUNTY OF ORLEANS
US ROUTE 5 OVER NORTHERN VERMONT RAILROAD
PROJECT #STP0113(58)S BRIDGE No. 161

CUSTOMER **NORTHLAND SPECIALTIES** P.O. No. **VERBAL**

TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY, DALLAS, TX 75207

DRAWN	SAR
CHECKED	JRS
SCALE:	N.T.S.
DATE	06/12/02
ENG. FILE #	22–1004148–D1
SHT.No.	D1 OF 4
TRINITY SALES ORDER NO.	(22) 1004148
REV.	0

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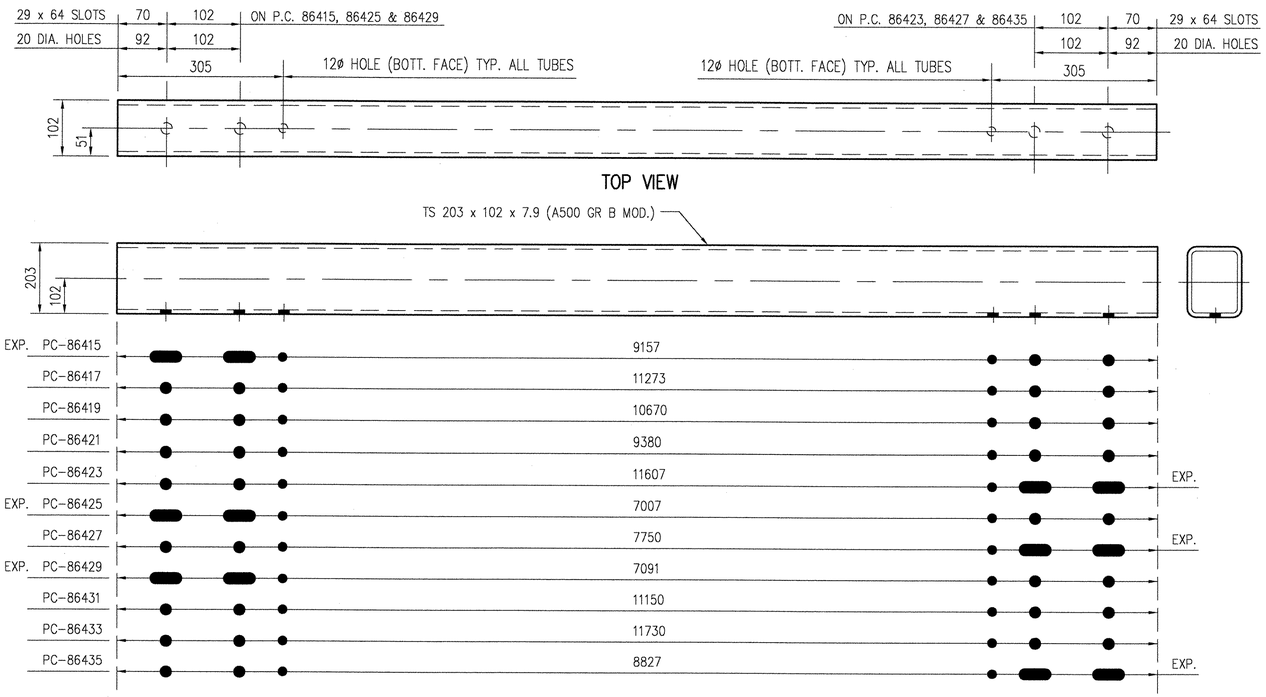

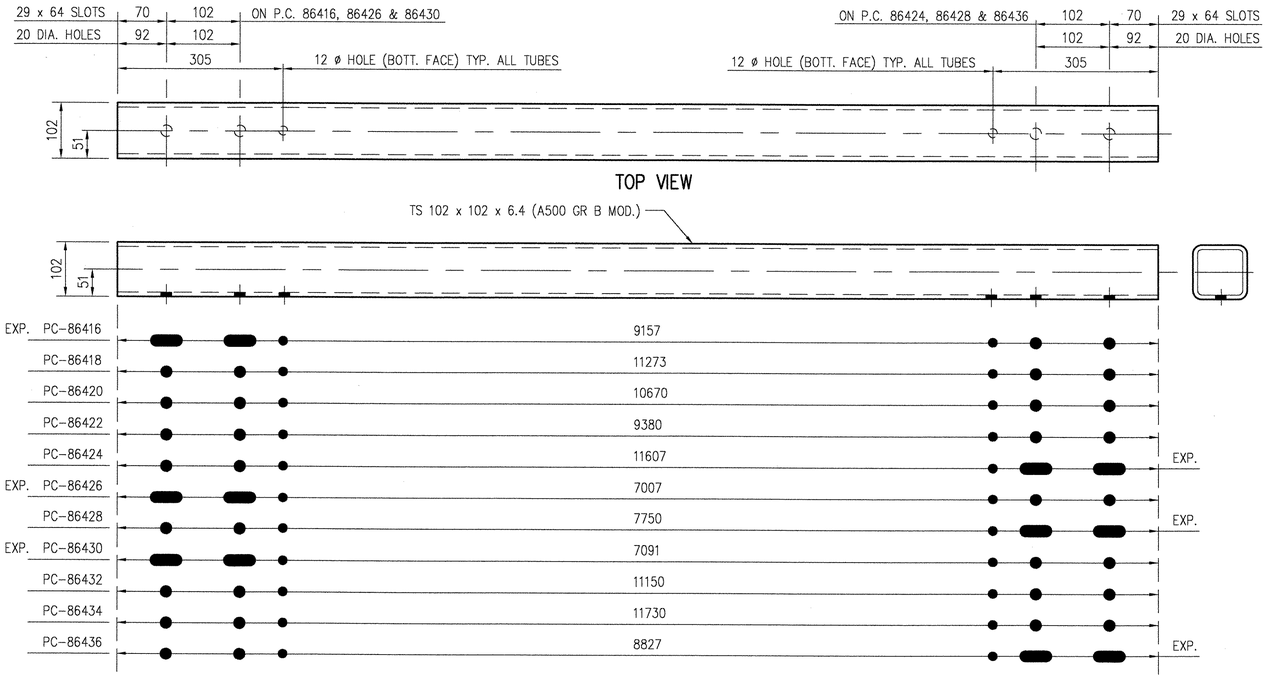

BILL OF MATERIAL

PRODUCT CODE	QTY.	DESCRIPTION	WT. EA.	REMARKS
86415G	1	TS 203 x 102 x 7.9 x 9157	338 k.g.	
86417G	1	TS 203 x 102 x 7.9 x 11273	416 k.g.	
86419G	1	TS 203 x 102 x 7.9 x 10670	394 k.g.	
86421G	3	TS 203 x 102 x 7.9 x 9380	346 k.g.	
86423G	1	TS 203 x 102 x 7.9 x 11607	428 k.g.	
86425G	1	TS 203 x 102 x 7.9 x 7007	286 k.g.	
86427G	1	TS 203 x 102 x 7.9 x 7750	256 k.g.	
86429G	1	TS 203 x 102 x 7.9 x 7091	262 k.g.	
86431G	1	TS 203 x 102 x 7.9 x 11150	411 k.g.	
86433G	1	TS 203 x 102 x 7.9 x 11730	433 k.g.	
86435G	1	TS 203 x 102 x 7.9 x 8827	326 k.g.	
86416G	1	TS 102 x 102 x 6.4 x 9157	177 k.g.	
86418G	1	TS 102 x 102 x 6.4 x 11273	218 k.g.	
86420G	1	TS 102 x 102 x 6.4 x 10670	206 k.g.	
86422G	3	TS 102 x 102 x 6.4 x 9380	181 k.g.	
86424G	1	TS 102 x 102 x 6.4 x 11607	224 k.g.	
86426G	1	TS 102 x 102 x 6.4 x 7007	135 k.g.	
86428G	1	TS 102 x 102 x 6.4 x 7750	150 k.g.	
86430G	1	TS 102 x 102 x 6.4 x 7091	137 k.g.	
86432G	1	TS 102 x 102 x 6.4 x 11150	215 k.g.	
86434G	1	TS 102 x 102 x 6.4 x 11730	226 k.g.	
86436G	1	TS 102 x 102 x 6.4 x 8827	170 k.g.	

RECEIVED
CK'D BY JRS OK'D BY GWS
JUL 23 2002
RESUBMIT ____ APPROVED ✓
BY GPW DATE 6/24/02

GIRARD ENGINEERING DEPT.
ISSUED
JUN 25 2002
TRINITY INDUSTRIES, INC.
1170 N. STATE STREET
GIRARD, OHIO 44420

NOTES: APPROVAL DRAWING

1. FOR GENERAL NOTES REFER TO SHEET D1 OF 4
2. FOR ERECTION LAYOUT SEE SHEET E2 OF 2 (22) 1004148

REV.	CHK'D	BY	DATE	REMARKS

PAY ITEM NUMBER 525.33M ~ ST. BR. RL. 2 RL. NETC

STATE OF VERMONT AGENCY OF TRANSPORTATION
TOWN OF BARTON COUNTY OF ORLEANS
US ROUTE 5 OVER NORTHERN VERMONT RAILROAD
PROJECT #STP0113(58)S BRIDGE No. 161

CUSTOMER NORTHLAND SPECIALTIES P.O. No. VERBAL

TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY, DALLAS, TX 75207

DRAWN	SAR
CHECKED	JRS
SCALE:	N.T.S.
DATE	6/12/02
ENG. FILE #	22-1004148-D2
SHT.No.	D2 OF 4
TRINITY SALES ORDER NO.	(22) 1004148
REV.	0

SHOP DRAWING USING METRIC DIMENSIONS

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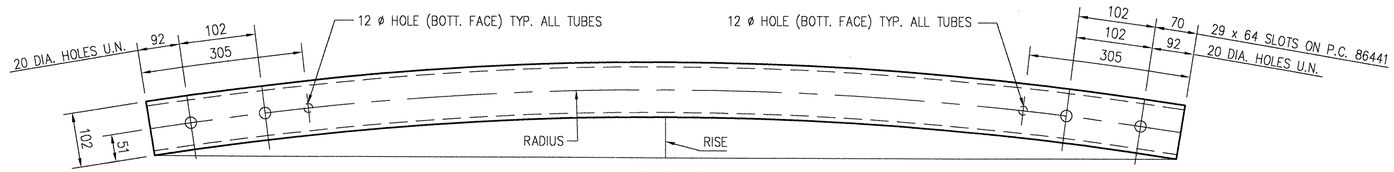
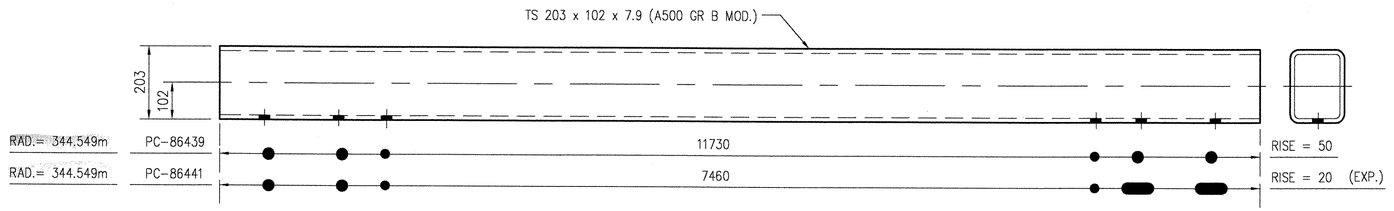
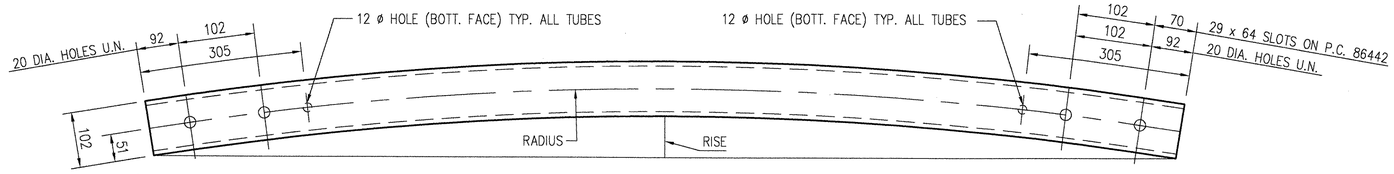
BILL OF MATERIAL

PRODUCT CODE	QTY.	DESCRIPTION	WT. EA.	REMARKS
86439A	2	TS 203 x 102 x 7.9 x11730	433 kg.	
86441A	1	TS 203 x 102 x 7.9 x 7460	275 kg.	
86440A	2	TS 102 x 102 x 6.4 x11730	226 kg.	
86442A	1	TS 102 x 102 x 6.4 x 7460	144 kg.	

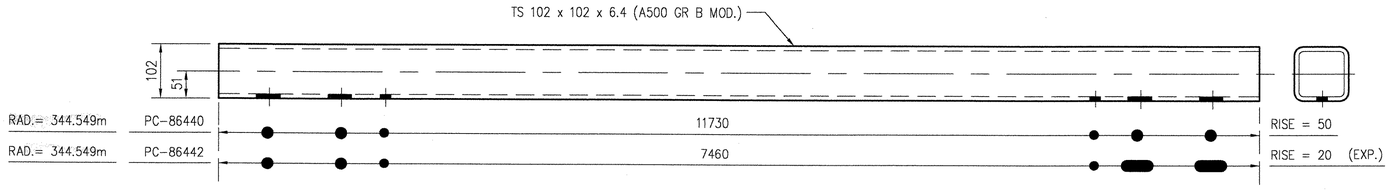


TOP VIEW





TOP VIEW



RECEIVED
CK'D BY RSY OK'D BY LWES
JUL 23 2002
RESUBMIT ____ APPROVED ✓
BY CPW DATE 8/19/02

SIRARD ENGINEERING DEPT.
ISSUED
JUN 25 2002
TRINITY INDUSTRIES, INC.
1170 N. STATE STREET
SIRARD, OHIO 44420

APPROVAL DRAWING

NOTES:

1. FOR GENERAL NOTES PLEASE REFER TO SHEET D1 OF 4
2. FOR ERECTION LAYOUT SEE SHEET E2 OF 2 (22) 1004148
3. DETAIL DIMENSIONS SHOWN ARE ALONG CENTERLINE OF RAIL.

REV.	CHK'D	BY	DATE	REMARKS

SHOP DRAWING USING METRIC DIMENSIONS

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PAY ITEM NUMBER 525.33M ~ ST. BR. RL 2 RL. NETC

STATE OF VERMONT AGENCY OF TRANSPORTATION
TOWN OF BARTON COUNTY OF ORLEANS
US ROUTE 5 OVER NORTHERN VERMONT RAILROAD
PROJECT #STP0113(58)S BRIDGE No. 161

CUSTOMER: NORTHLAND SPECIALTIES | P.O. No. VERBAL

TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY, DALLAS, TX 75207

DRAWN	SAR
CHECKED	JRS
SCALE:	N.T.S.
DATE	06/12/02
ENG. FILE #	22-1004148-D3
SHT.No.	D3 OF 4
TRINITY SALES ORDER NO.	(22) 1004148
REV.	0

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BILL OF MATERIAL

PRODUCT CODE	QTY.	DESCRIPTION	WT. EA.	REMARKS
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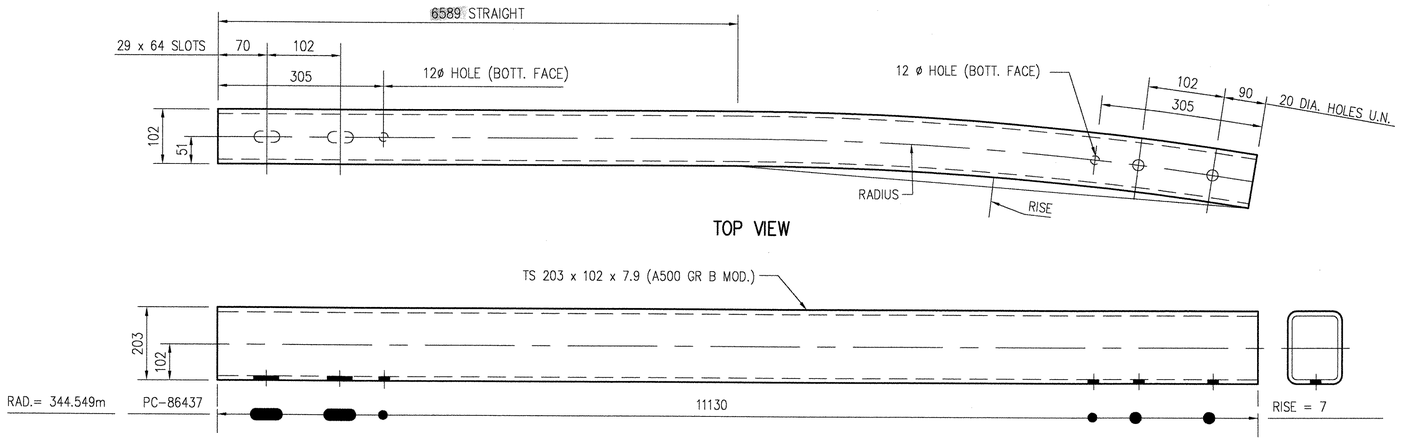
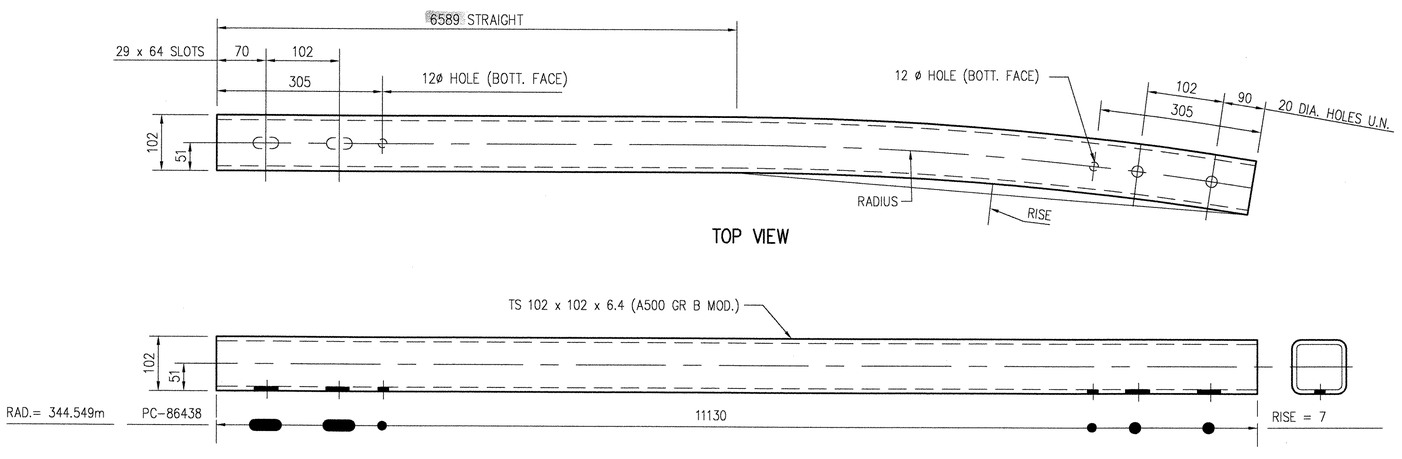
86438A	1	TS 102 x 102 x 6.4 x 11130	215 kg.	





RECEIVED
CK'D BY RSY OK'D BY LWB
JUL 23 2002
RESUBMIT ____ APPROVED ✓
BY CPW DATE 6/24/02

GIRARD ENGINEERING DEPT.
ISSUED
JUN 25 2002
TRINITY INDUSTRIES, INC.
1170 N. STATE STREET
GIRARD OHIO 44420

APPROVAL DRAWING

NOTES:

1. FOR GENERAL NOTES PLEASE REFER TO SHEET D1 OF 4
2. FOR ERECTION LAYOUT SEE SHEET E2 OF 2 (22) 1004148
3. DETAIL DIMENSIONS SHOWN ARE ALONG CENTERLINE OF RAIL.

REV.	CHK'D	BY	DATE	REMARKS

PAY ITEM NUMBER 525.33M ~ ST. BR. RL. 2 RL. NETC

STATE OF VERMONT AGENCY OF TRANSPORTATION
TOWN OF BARTON COUNTY OF ORLEANS
US ROUTE 5 OVER NORTHERN VERMONT RAILROAD
PROJECT #STP0113(58)S BRIDGE No. 161

CUSTOMER NORTHLAND SPECIALTIES | P.O. No. VERBAL

TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY, DALLAS, TX 75207

DRAWN	SAR
CHECKED	JRS
SCALE:	N.T.S.
DATE	06/12/02
ENG. FILE #	22-1004148-D4
SHT.No.	D4 OF 4
TRINITY SALES ORDER NO.	(22) 1004148
REV.	0

SHOP DRAWING USING METRIC DIMENSIONS

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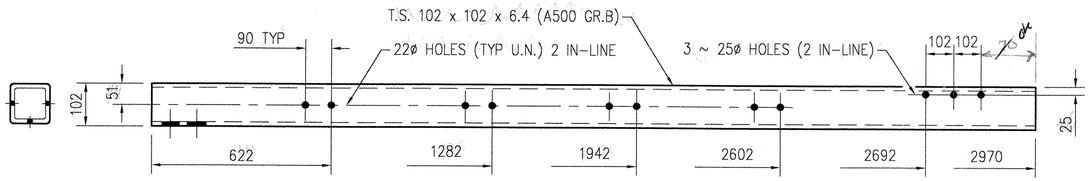
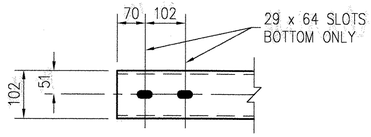
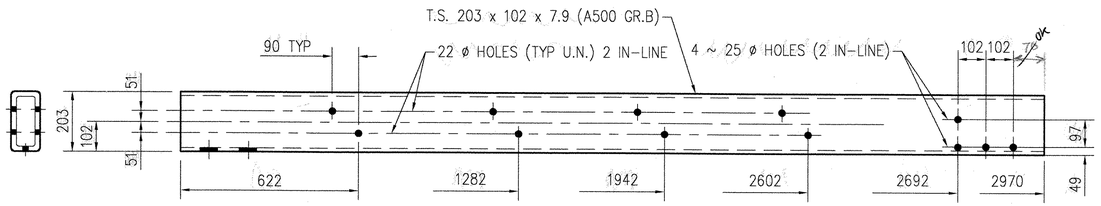
F:\Rf\Share\Engineering\WIP\VT1004148\22-1004148-D4.dwg 6/25/02 12:17:58



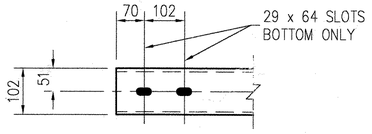
PC 30298 BOTTOM TUBE



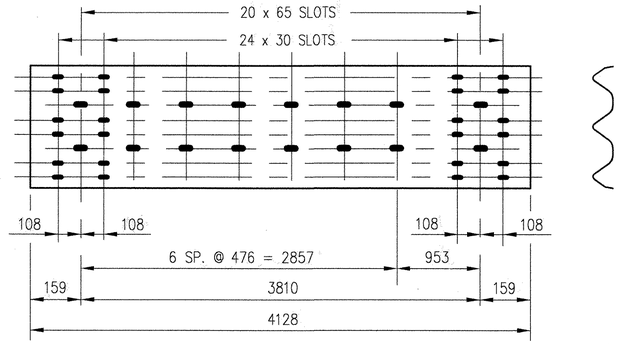
VIEW OF SLOTS ON THE BOTTOM



PC 30299 TOP TUBE



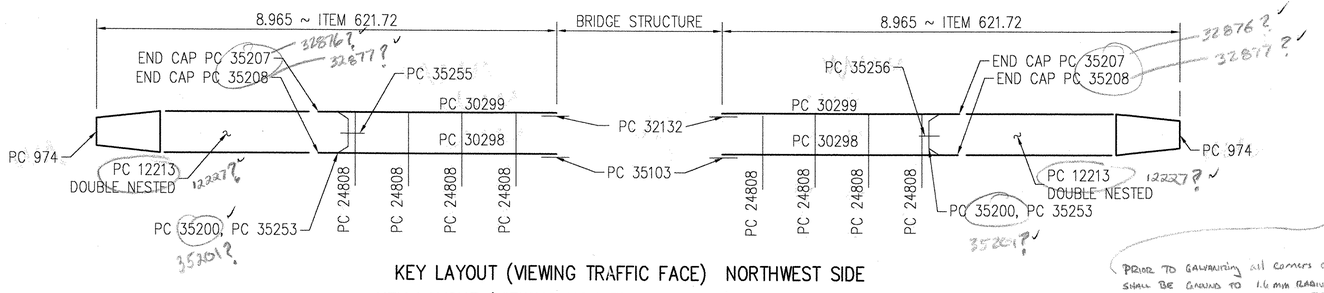
VIEW OF SLOTS ON THE BOTTOM



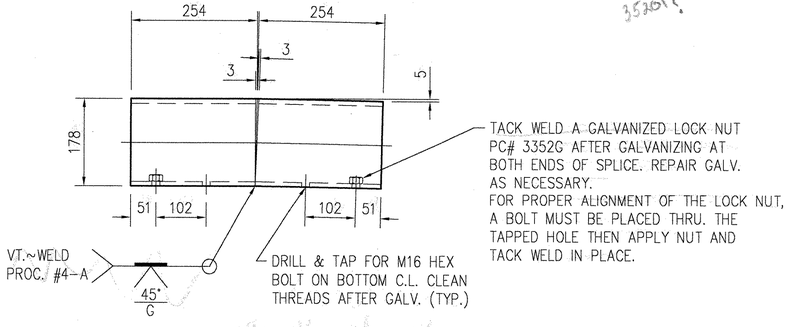
PC 12227 ~ THRIE BEAM (M-180)

BILL OF MATERIAL				
PRODUCT CODE	QTY	DESCRIPTION	WT EACH	REMARKS
30299G	4	T.S. 203 x 102 x 7.9 x 2970	110 Kg	
30298G	4	T.S. 102 x 102 x 6.4 x 2970	57 Kg	
12227G	8	TA/3.81/952.5:6 @ 476.3/S	44.3 Kg	
32132A	4	T.S. 178 x 76 x 9.5 x 508	18 Kg	

SHOP DRAWING USING METRIC DIMENSIONS



KEY LAYOUT (VIEWING TRAFFIC FACE) NORTHWEST SIDE
KEY LAYOUT (VIEWING NON TRAFFIC FACE) NORTHEAST SIDE
BRIDGE NO. 161



PC#32132 ~ SPLICE (T.S. 178 x 76 x 9.5 x 508) (A500 GR B)

NOTE:
FIELD DRILL BOTTOM RAIL CONNECTION HOLES IN POSTS. REPAIR GALVANIZING AS NECESSARY.

NOTE:
ALL WOOD COMPONENTS, NOT BY TRINITY

RECEIVED
OK'D BY Ralph OK'D BY WB
JUN 27 2002
RESUBMIT ____ APPROVED As Noted
BY CPW DATE 7/18/02

GIRARD ENGINEERING DEPT.
ISSUED
JUN 19 2002
TRINITY INDUSTRIES, INC.
1170 N. STATE STREET
GIRARD, OHIO 44420

NOTES

1. All work and materials shall conform to the provisions of Section 525 – Railings of the Standard Specifications for Construction.
2. Tubing and Posts shall meet the requirements of section 732 – Railing Materials of The Standard Specifications for Construction.
3. All exposed cut or sheared edges shall be rounded to 1.6mm radius and be free of burrs.
4. Rail posts shall be set normal to grade.
5. Sections of rail bar shall be attached to a minimum of two [2] rail posts and preferably to at least four [4] posts.
6. Rail bar expansion joints shall be provided in any rail bay spanning a superstructure expansion joint. Expansion joint width shall be 65mm at 7 ° C and will be adjusted in the field by the Engineer.
7. All parts shall be galvanized after fabrication in accordance with AASHTO M111, except that hardware shall meet the requirements of AASHTO M232. Parts shall be blast – cleaned prior to galvanizing in accordance with SSPC – SP10.
8. Rail posts anchoring nuts shall be tightened to a snug fit and given an additional 45 degree turn.
9. Any bending of rail shall be by shop procedure only.
10. Holes in rails for rail bar attachment may be field drilled. Holes shall be coated with an approved zinc-rich paint prior to erection.
11. Shop Inspection is required upon approval of drawings. Shop to call Vermont Agency of Transportation to schedule shop inspection.
    Contact: Mr. Christopher Williams (802) 828-2621
12. Metric Measurements Note:
    All Hardware, Steel Plates, Sections, Tube Shapes, and required holes for the Hardware used in fabrication of the Bridge Rails will be converted with "Hard Conversion" to nearest availble English measurements.

PRIOR TO GALVANIZING all corners and edges of steel plates and shapes SHALL BE GROUND TO 1.6 mm RADIUS.

FOR DETAILS SEE 30-1004148-D2

APPROVAL DRAWING

STRUCT. COPY.

BY	DATE	REMARKS

PAY ITEM 621.72 BRIDGE APPROACH RAIL T2

STATE OF VERMONT AGENCY OF TRANSPORTATION
US ROUTE 5
TOWN OF BARTON COUNTY OF ORLEANS
STATE PROJECT NO. STP 0113 (58) S BRIDGE NO. 161

CUSTOMER NORTHLAND SPECIALTIES P.O. No. VERBAL

TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY, DALLAS, TX 75207

DRAWN	JRS
CHECKED	S.H.
SCALE	N.T.S.
DATE	06/05/02
ENG. FILE #	30-1004148-D1
SHT.No.	D1 OF 2
TRINITY SALES ORDER NO.	(30) 1004148
REV.	0

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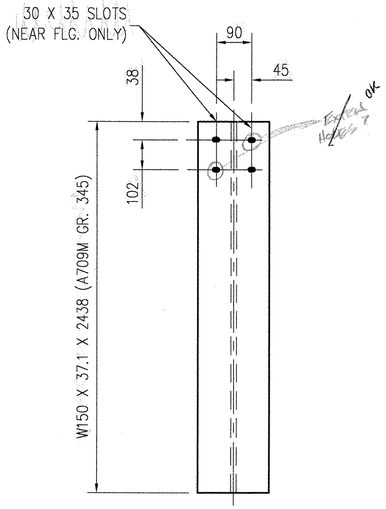
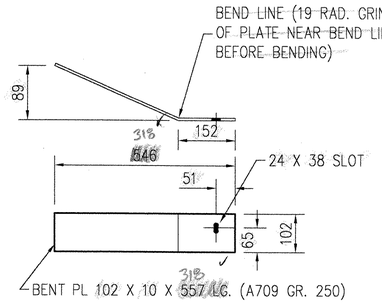
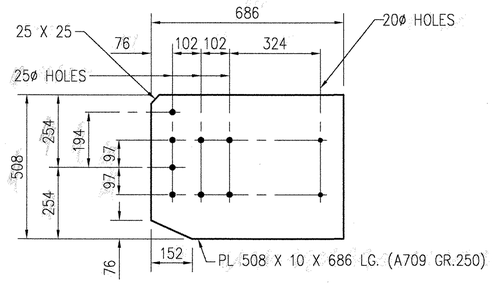


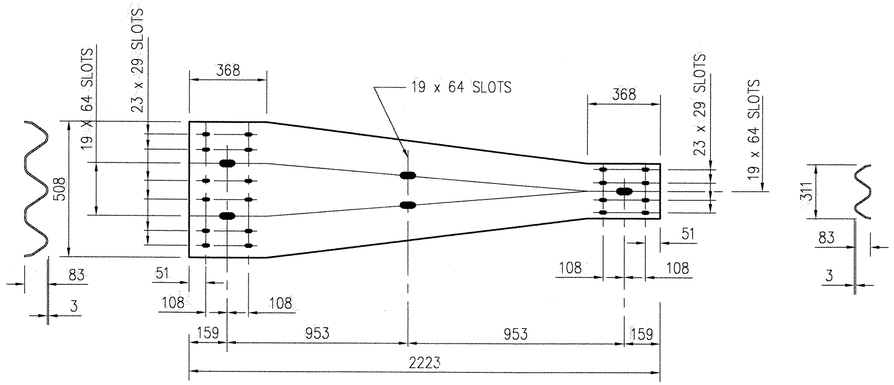
PC 24808 POST



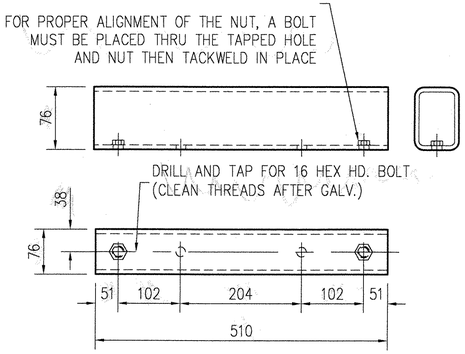
PC 35255 DEFLECTOR PL (AS SHOWN)
PC 35256 DEFLECTOR PL (OPP. HAND)



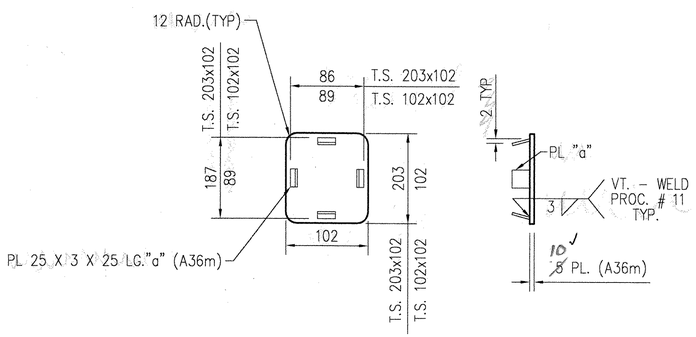
PC 35253 CONNECTION PL



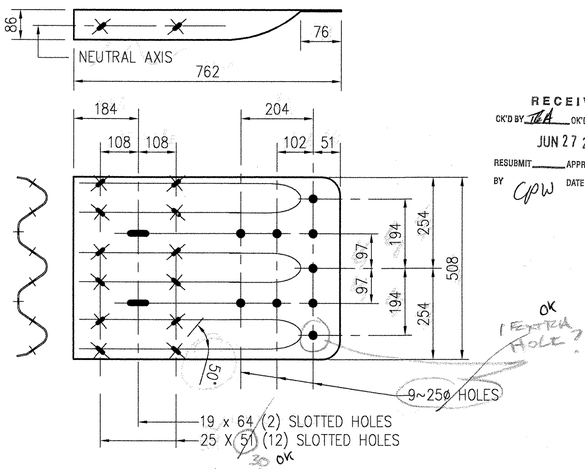
PC 974 TRANSITION
(M180)



PC 35103 BOTTOM SPLICE TS 76 x 76 x 7.9 (A500 GR B)



PC 32876 203 x 102 TOP END CAP
PC 32877 102 x 102 BOTT. END CAP



PC 35201 TRI-GRD TERMINAL
10 GA. (M180)

BILL OF MATERIAL

PRODUCT CODE	QTY	DESCRIPTION	WT EACH	REMARKS
24808G	16	W150 x 37.1 x 2438 POST	94kg.	
974G	4	TRANSITION	35kg.	
35201G	4	TRI-GARD TERMINAL	15kg.	
35253G	4	CONN. PL 508 x 10 x 686	27kg.	
35255G	2	DEFLECTOR PL 102 x 10 x 557	4kg.	AS SHOWN
35256G	2	DEFLECTOR PL 102 x 10 x 557	4kg.	OPP. HAND
32876A	4	TOP END CAP 203 x 102	1kg.	
32877A	4	BOTTOM END CAP 102 x 102	.4kg.	
35209G	32	PIPE SPACER (19ø SCH. 40 X 12)	0.1kg	(A53) (GALV A123) NOT DETAILED
35103A	4	BOTTOM SPLICE TS 76 x 76 x 7.9	8.5kg.	

HARDWARE

3300H	108	16ø WASHER 5/8" WASHER		F844 GALV. A153
3310H	32	16ø LOCKWASHER 5/8" LOCKWASHER		F436 GALV. A153
3320H	76	PLATE WASHER		A36 A123 NOT DETAILED
3340H	204	16ø HGR NUT 5/8" HGR NUT		A563 GR. A GALV. A153
3360H	32	16ø x 32 HGR BOLT 5/8"ø x 1 1/4" HGR BOLT		A307 GR A GALV. A153
3386H	96	16ø x 38 HGR BOLT 5/8"ø x 1 1/2" HGR BOLT		A307 GR A GALV. A153
3390H	32	16ø x 44 HEX HD. BOLT 5/8"ø x 1 3/4" HEX HD. BOLT		A307 GR A GALV. A153
3580H	76	16ø x 457 HGR BOLT 5/8"ø x 1'-6" HGR BOLT		A307 GR A GALV. A153
3669H	4	19ø x 51 CARRIAGE BOLT 3/4"ø x 2" CARRIAGE BOLT		A307 GR. A GALV. A153
3700H	32	19ø WASHER 3/4" WASHER		F844 GALV. A153
3702H	64	19ø WASHER, 51 O.D. 3/4" WASHER, 2" O.D.	TYPE A HARDENED	F436 GALV. A153
3710H	32	19ø HEX NUT 3/4" HEX NUT		A563 GR.A GALV. A153
4682H	64	19ø LOCKNUT 3/4"ø LOCKNUT		A194-2H GALV. A153
4789H	28	19ø x 152 CARRIAGE BOLT 3/4"ø x 6" CARRIAGE BOLT		A307 GR. A GALV. A153
6984H	64	19ø x 152 ROUND HD BOLTSLTD 3/4"ø x 6" ROUND HD BOLT SLTD		A325 GALV. A153

PAY QUANTITY

35.86 LIN. METERS	ITEM 565.22 (4 RUNS @ 8.965)	APPROACH RAIL, TYPE T-2

RECEIVED
CK'D BY TBA CK'D BY WBS
JUN 27 2002
RESUBMIT ____ APPROVED As Noted
BY CPW DATE 7/18/02

ISSUED
JUN 19 2002
TRINITY INDUSTRIES, INC.
1170 N. STATE STREET
GIRARD OHIO 44420

APPROVAL DRAWING

SHOP DRAWING USING METRIC DIMENSIONS

SEE NOTES ON SHEET 30-1004148-D1
ERECTION DETAILS ARE ON SHEET 30-1004148-D1

REV.	CHK'D	BY	DATE	REMARKS

PAY ITEM 621.72 BRIDGE APPROACH RAIL T2

STATE OF VERMONT AGENCY OF TRANSPORTATION
US ROUTE 5
TOWN OF BARTON COUNTY OF ORLEANS
STATE PROJECT NO. STP 0113 (58) S BRIDGE NO. 161

CUSTOMER **NORTHLAND SPECIALTIES** P.O. No. **VERBAL**

TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY, DALLAS, TX 75207

DRAWN	JRS
CHECKED	SH
SCALE	N.T.S.
DATE	06/05/02
ENG. FILE #	30-1004148-D2
SHT.No.	D2 OF 2
TRINITY SALES ORDER NO.	REV.
(30) 1004148	0

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