SEE SHEET 2 FOR INDEX OF SHEETS
AND LIST OF STANDARDS.

RECORD PLANS

CONTRACTOR: BLOW & COTE. – MORRISVILLE, VT

RESIDENT ENGINEER: DAVID HOSKING

CONSTRUCTION BEGAN: OCTOBER 31, 2005

CONSTRUCTION COMPLETE: JUNE 29, 2007

RECORD PLANS BY: DAVID HOSKING & JUDY GILMORE

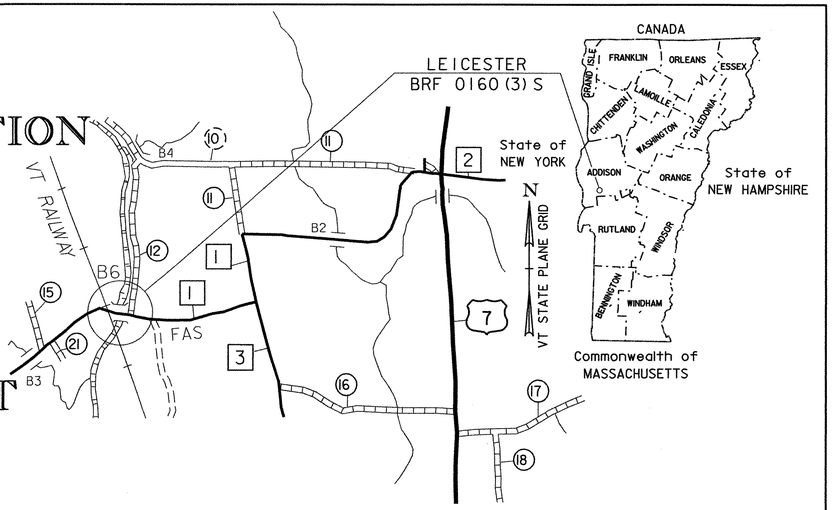
I HEREBY CERTIFY THAT ALL THE CONSTUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY Dave Hosking RESIDENT ENGINEER

DATE JUNE 23, 2008

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.

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF LEICESTER COUNTY OF ADDISON

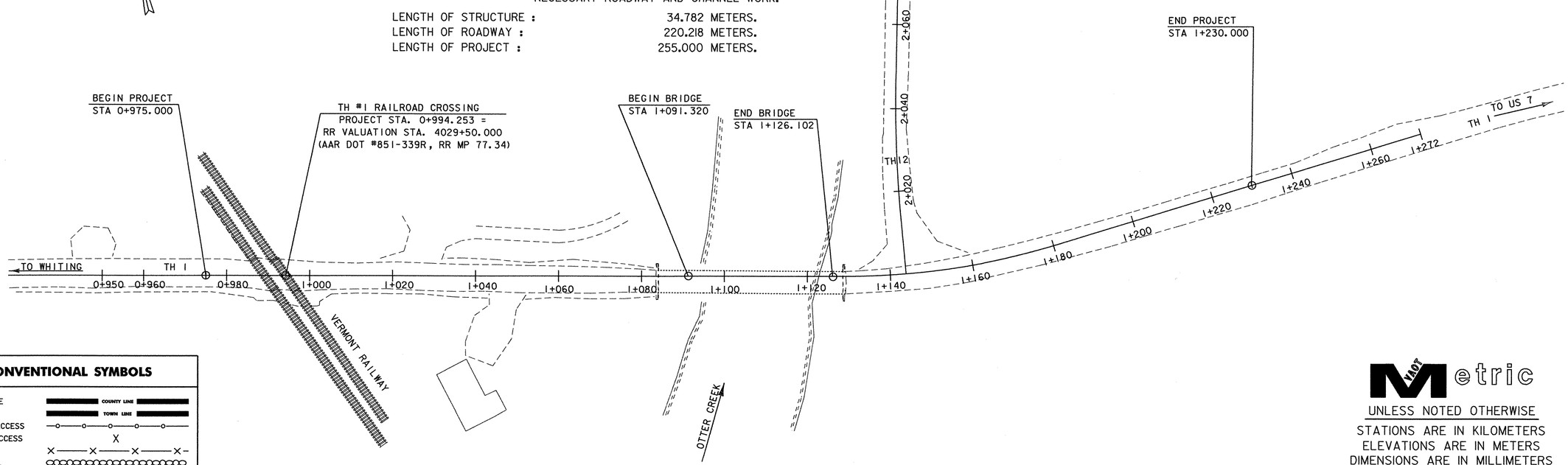
ROUTE NO : TH 1 (FAS 160) MAJOR COLLECTOR

BRIDGE NO : 6

PROJECT LOCATION : APPROXIMATELY 1.61 KM WESTERLY OF THE INTERSECTION OF TH 1 AND TH 3.

PROJECT DESCRIPTION : REPLACEMENT OF THE EXISTING STRUCTURE, INCLUDING NECESSARY ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE :	34.782 METERS.
LENGTH OF ROADWAY :	220.218 METERS.
LENGTH OF PROJECT :	255.000 METERS.



0 10 20 30
SCALE 1:500

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 : L. ORVIS
SURVEYED DATE : JUNE 1996

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83 (92)

MDOT 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 PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

95J288\Structures\sJ288bdr.dgn sJ288t PLOTTED 07-JUL-2005

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED Richard Tetreault DATE 7-15-05

PROJECT MANAGER : ROGER R. WHITCOMB

PROJECT NAME : LEICESTER
PROJECT NUMBER : AC BRF 0160(3) S

SHEET 1 OF 90 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

INDEX OF SHEETS

LIST OF STANDARDS

B-71M	02-01-2004
E-100	01-02-2004
E-101	05-30-2003
E-102	06-30-2003
E-102A	05-01-2004
E-106	03-01-2004
E-107	06-30-2003
E-107A	08-08-1995
E-110	08-08-1995
E-121	08-08-1995
E-142	09-20-1995
E-143	06-15-2004
E-150	05-01-2004
E-152	05-01-2004
E-160	05-20-1999
E-190	06-30-2003
E-193	08-18-1995
G-1M	01-03-2000
G-1dM	01-03-2000
G-18M	06-13-1997
J-3M	06-13-1997

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: February 2000

DRAINAGE AREA : 1270 sq. km
CHARACTER OF TERRAIN : Flat at site, to hilly and mountainous upstream, mixed cover.
STREAM CHARACTERISTICS : Alluvial, sinuous, probably incised, flat slope, wide flood plain.
NATURE OF STREAMBED : Fine material, mostly clay and silt.

PEAK FLOW DATA

Q 2.33 =	120 cms	Q 50 =	405 cms
Q 10 =	260 cms	Q 100 =	465 cms
Q 25 =	345 cms	Q 500 =	620 cms

DATE OF FLOOD RECORD : November 1927
ESTIMATED DISCHARGE: 485 cms +-
WATER SURFACE ELEV.: 109 m +-
NATURAL STREAM VELOCITY : @ Q25 = 1.2 mps
ICE CONDITIONS : Moderate
DEBRIS: Low to moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Yes
IF YES, DESCRIBE: Water surface elevations at this site are controlled by a dam downstream approximately 10 miles, in Middlebury. Top of dam at elevation 102.4 m.

WATERSHED STORAGE: *
HEADWATERS: * There is a lot
UNIFORM: of floodplain
IMMEDIATELY ABOVE SITE: storage upstream

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: 3-span steel beam bridge with concrete deck
YEAR BUILT: 1932
CLEAR SPAN(NORMAL TO STREAM): 43 m
VERTICAL CLEARANCE ABOVE STREAMBED: 6.5 m
WATERWAY OF FULL OPENING: 181 sq. m
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Clay

WATER SURFACE ELEVATIONS AT:

Q2.33 =	105.1 m	VELOCITY=	1.0 mps
Q10 =	106.2 m	"	1.6 mps
Q25 =	106.6 m	"	1.9 mps
Q50 =	107.1 m	"	2.2 mps
Q100 =	107.3 m	"	2.0 mps

LONG TERM STREAMBED CHANGES: None noted.

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Q15
RELIEF ELEVATION: 106.4 m
DISCHARGE OVER ROAD @Q100: 170 cms

UPSTREAM STRUCTURE

TOWN: Leicester — DISTANCE: 122 m
HIGHWAY# : VT Railway — STRUCTURE #: -
CLEAR SPAN: 49 m — CLEAR HEIGHT: 4.0 m +-
YEAR BUILT: - — FULL WATERWAY: -
STRUCTURE TYPE: Single span steel truss bridge.

DOWNSTREAM STRUCTURE

TOWN: Salisbury — DISTANCE: 4.8 km
HIGHWAY# : T.H. 1 — STRUCTURE #: 8
CLEAR SPAN: 37 m — CLEAR HEIGHT: 7.3 m
YEAR BUILT: 1865 — FULL WATERWAY: -
STRUCTURE TYPE: Covered Bridge

LOAD FACTOR - LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	SA. SEMI
INVENTORY	37	57					
POSTED	52	80	90		75	76	85
OPERATING		96	108	121	90	91	

COMMENTS:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2002	1150	160	56	2	60
2022	1530	215	56	2	65

20 year ESAL for flexible pavement from 2002 to 2022 : 539,000
40 year ESAL for flexible pavement from 2002 to 2042 : 1,300,000
Design Speed : 65 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Singe span steel girder bridge, with concrete deck.

CLEAR SPAN(NORMAL TO STREAM): 32.7 m
VERTICAL CLEARANCE ABOVE STREAMBED: 6.7 m
WATERWAY OF FULL OPENING: 174 sq. m

WATER SURFACE ELEVATIONS AT:

Q2.33 =	105.1	VELOCITY=	1.0 mps
Q10 =	106.2	"	1.7 mps
Q25 =	106.6	"	2.1 mps
Q50 =	106.9	"	2.2 mps
Q100 =	107.3	"	2.1 mps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Q15
RELIEF ELEVATION: 106.4
DISCHARGE OVER ROAD @Q100: 97 cms

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 106.8 m
VERTICAL CLEARANCE: @ Q25 = 0.2 m

SCOUR: Contraction scour = 0.9 m @ Q100, 2.4 m @ Q500

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	30 cms	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	15 cms	Elev. 103.0 m
ORDINARY HIGH WATER:	50 cms	Elev. 104.0 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single span bridge
CLEAR SPAN (NORMAL TO STREAM): 32 m minimum
VERTICAL CLEARANCE ABOVE STREAMBED: Low steel elev. 106.6 minimum
WATERWAY AREA OF FULL OPENING: 160 sq. m minimum

ADDITIONAL INFORMATION

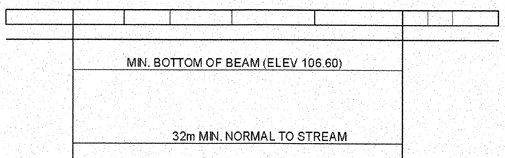
Water surface elevations at this site are controlled by a downstream dam in Middlebury.
Starting water surface elevations are taken from the 1984 Middlebury Flood Insurance Study.
There is a very wide flood plain at this site. The project survey does not extend far enough to accurately model the hydraulics. The information in this report is based on the survey available.

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 33.50 m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A
   ON LEDGE N/A
4. DESIGN LOAD FOR PILING 600 kN
   TYPE HP 360 x 108 ASTM A572/A572M GR 345
   ESTIMATED LENGTH SEE BORING LOGS
5. STRUCTURAL STEEL AASHTO M270/M270M GRADE 345W
6. REINFORCING STEEL GRADE 420
7. CONCRETE CLASS A (HPC-A) f'c : 30 Mpa
   CONCRETE CLASS B (HPC-B) f'c : 25 Mpa
8. SOIL UNIT WEIGHT
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL N/A

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? YES
   IF YES, ON EXISTING STRUCTURE? NO
   OR ON TEMPORARY BRIDGE? YES
   ONE OR TWO-WAY TRAVEL? TWO
2. TRAFFIC CONTROL SIGNALS REQUIRED? NO

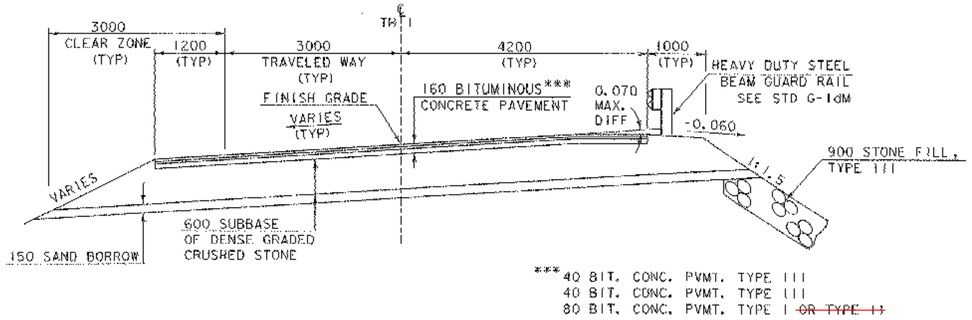


TEMPORARY BRIDGE DETAIL

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S

FILE NAME: \PW\95j288\Structures\sj288pi.xls — PLOT DATE: 04/01/2005
PROJECT MANAGER: R. R. WHITCOMB — DRAWN BY: J. GILMORE
DESIGNED BY: C. CARLSON — CHECKED BY: C. CARLSON
PRELIMINARY INFORMATION SHEET — SHEET 2 OF 90

Metric



*** 40 BIT. CONC. PVMT. TYPE III
40 BIT. CONC. PVMT. TYPE III
80 BIT. CONC. PVMT. TYPE I ~~OR TYPE II~~

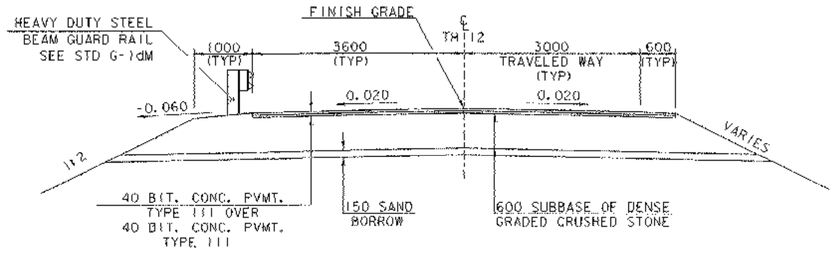
ROADWAY TYPICAL

0 1 2 3 4 5

SCALE = 1:50

BUILT AS DESIGNED

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

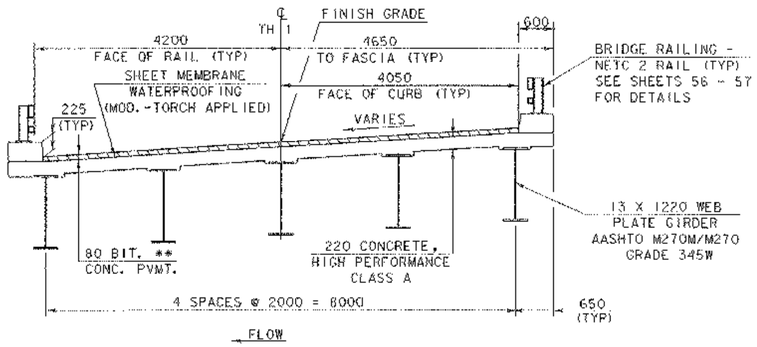


TH 12 TYPICAL

0 1 2 3 4 5

SCALE = 1:50

BUILT AS DESIGNED

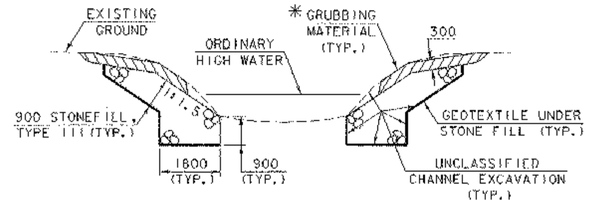


** 40 BIT. CONC. PVMT. TYPE III OVER
40 BIT. CONC. PVMT. TYPE III

BRIDGE TYPICAL

0 1 2 3 4 5

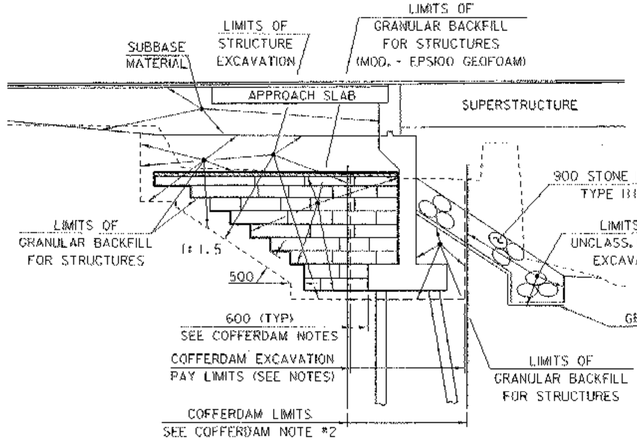
SCALE = 1:50



TYPICAL CHANNEL SECTION

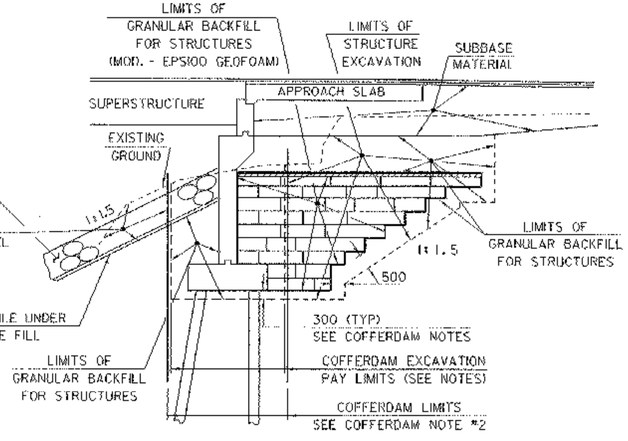
(NOT TO SCALE)

* GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.



TYPICAL ABUTMENT #1 SECTION

(NOT TO SCALE)



TYPICAL ABUTMENT #2 SECTION

(NOT TO SCALE)

COFFERDAM NOTES

1. COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF COFFERDAM EXCAVATION, "EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 600 OUTSIDE THE PERIMETER OF THE FOOTING, UP TO EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. 300 UNDERCUT AS DETERMINED NECESSARY BY THE RESIDENT ENGINEER.
4. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION AND STRUCTURE EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION AND STRUCTURE EXCAVATION.

SHEET NAME: **TYPICAL SECTIONS**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: FAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: /PW/95j288/sj288pl.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: J. GILMORE
IPARM NAME: sj288typ.i
SHEET 3 OF 90

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	CHANNEL	SUPER-STRUCTURE	ABUT 1	ABUT 2	APPR SLAB 1	APPR SLAB 2	TRAINING	EROSION CONTROL	FULL E&C	BRIDGE QUANTITY
1										
950										
450	510									510
470			20	20						40
10										
2700										
100								10		
			330	330						660
			450	430						880
			245	205						450
			230	220						450
			120	110						230
			1							1
				1						1
140										
2330								10		
15										
460		30			10	10				50
870		54			10	10				74
		88	1							89
			121	111	19	20				271
		1								1
			880	590						1470
		61330								61330
			8815	8190						17005
		12210	65	65	1355	1445				15140
		1								1
		1								1
		1								1
		25	6	6						37
		10								10
		10								10
		290								290
		81								81
1										
		240								240
		1								1
		10								10
26										
26										
26										
36										
14										

TOTALS

ROUND	GRAND TOTAL	FINAL
	1	
	950	
	960	
	510	
	10	
	2700	
	110	
	660	
	880	
	450	
	450	
	230	
	1	
	1	
	140	
	2340	
	15	
	510	
	944	
	89	
	271	
	1	
	1470	
	61330	
	17005	
	15140	
	1	
	1	
	1	
	37	
	10	
	10	
	290	
	81	
	1	
	240	
	1	
	10	
	26	
	26	
	26	
	36	
	14	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
LS	CLEARING AND GRUBBING (INCL. INDV. TREES & STUMPS)	201.10
CM	COMMON EXCAVATION	203.15
CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27
CM	SAND BORROW	203.31
CM	GRANULAR BORROW	203.32
SM	FINE GRADING-SUBGRADE	203.40
CM	TRENCH EXCAVATION OF EARTH	204.20
CM	STRUCTURE EXCAVATION	204.25
CM	GRANULAR BACKFILL FOR STRUCTURES	204.30
CM	GRANULAR BACKFILL FOR STRUCTURES (MOD. - EPS100 GEOFOAM)	204.30
CM	COFFERDAM EXCAVATION, EARTH	208.30
CM	COFFERDAM EXCAVATION, ROCK	208.35
LS	COFFERDAM (ABUTMENT NO. 1)	208.40
LS	COFFERDAM (ABUTMENT NO. 2)	208.40
SM	COLD PLANING-BITUMINOUS PAVEMENT	210.10
CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35
CM	AGGREGATE SURFACE COURSE	401.10
KG	EMULSIFIED ASPHALT	404.65
T	BITUMINOUS CONCRETE PAVEMENT (PG 58-28)	406.25
CM	CONCRETE, HIGH PERFORMANCE CLASS A	501.33
CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10
M	STEEL PILING (HP 360 X 108)	505.17
KG	STRUCTURAL STEEL(PLATE GIRDER)	506.55
KG	REINFORCING STEEL	507.15
KG	EPOXY COATED REINFORCING STEEL	507.17
LS	SHEAR CONNECTORS (1030 ~ 22 x 180)	508.15
LS	STRUCTURAL PAINTING,SHOP APPLIED (6 METRIC TONS)	513.25
LS	SURFACE PREPARATION,SHOP (6 METRIC TONS)	513.40
L	WATER REPELLENT (MOD. - SILANE)	514.10
M	BRIDGE EXPANSION JOINT (VERMONT)	516.10
M	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG)	516.10
SM	SHEET MEMBRANE WATERPROOFING (MOD. - TORCH APPLIED)	519.20
M	BRIDGE RAILING - NETC 2 RAIL	525.33
LS	TWO-WAY TEMPORARY BRIDGE (240 SM) (MOD.)	528.11
SM	REMOVAL OF BRIDGE PAVEMENT	529.10
EACH	PARTIAL REMOVAL OF STRUCTURE	529.20
EACH	BEARING DEVICE ASSEMBLY (FABRIC)	531.10
	BEGIN PIPE OPTION	
M	600 mm CAAP 1.91 mm (68 mm X 12 mm)	601.0226
M	600 mm PCCSP 2.01 mm (68 mm X 12 mm)	601.0426
M	600 mm CPEP	601.0920
	END PIPE OPTION	
M	150 mm UNDERDRAIN	605.10
M	150 mm UNDERDRAIN CARRIER PIPE	605.20

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		COMMON EXCAVATION
		ROADWAY:
890	CM	T. H. 1
50	CM	T. H. 12
10	CM	FIELD DRIVE
950	CM	TOTAL
		SAND BORROW
		ROADWAY:
400	CM	T. H. 1
70	CM	T. H. 12
470	CM	TOTAL
		SUBBASE OF DENSE GRADED CRUSHED STONE
		ROADWAY:
2010	CM	T. H. 1
260	CM	T. H. 12
60	CM	DRIVES
2330	CM	TOTAL
		EMULSIFIED ASPHALT
		ROADWAY:
410	KG	T. H. 1
50	KG	T. H. 12
460	KG	TOTAL
30	KG	**DECK:**
10	KG	**APPROACH SLAB NO. 1**
10	KG	**APPROACH SLAB NO. 2**
		BITUMINOUS CONCRETE PAVEMENT
		ROADWAY:
759	T	T. H. 1
88	T	T. H. 12
23	T	DRIVES
870	T	TOTAL
54	T	**DECK:**
10	T	**APPROACH SLAB NO. 1**
10	T	**APPROACH SLAB NO. 2**
		TEMPORARY EROSION CONTROL ITEMS (INCLUDED IN EROSION CONTROL ITEMS)
10	CM	TRENCH EXCAVATION OF EARTH
10	CM	SUBBASE OF DENSE GRADED CRUSHED STONE
10	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I
10	CM	STONE FILL, TYPE I
10	CM	STONE FILL, TYPE I (MOD. 1 - CHECK DAMS)
10	CM	STONE FILL, TYPE I (MOD. 2 - ENTRANCE STABILIZATION)
545	SM	GEOTEXTILE FOR SILT FENCE
110	SM	GEOTEXTILE FOR FILTER CURTAIN
5	KG	SEED-WINTER RYE
		EARTHWORKS SUMMARY:
840	CM	FILL REQUIRED: 730*1.15
		FILL AVAILABLE:
950	CM	COMMON EXCAVATION: 950*1.0
288	CM	UNCLASSIFIED CHANNEL EXCAVATION: 960*0.3
21	CM	TRENCH EXCAVATION OF EARTH: 70*0.3
198	CM	STRUCTURE EXCAVATION: 660*0.3
135	CM	COFFERDAM EXCAVTION, EARTH: 450*0.3
69	CM	COFFERDAM EXCAVTION, ROCK: 230*0.3
1661		SUBTOTAL
9		ROUNDING
1670		TOTAL
1670	CM	FILL AVAILABLE
840	CM	FILL REQUIRED
830	CM	**WASTE**

PROJECT NAME: **LEICESTER**
PROJECT NUMBER: **BRF 0160 (3) S**

FILE NAME: **\95j288\Structures\sj288qnt.xls**
PROJECT MANAGER: **R. R. WHITCOMB**
DESIGNED BY: **C. CARLSON**
QUANTITY SHEET #1

PLOT DATE: **08/01/2005**
DRAWN BY: **G. ROY**
CHECKED BY: **C. CARLSON**
SHEET **4** OF **90**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY		CHANNEL		SUPER-STRUCTURE		ABUT 1		ABUT 2		APPR SLAB 1		APPR SLAB 2	TRAINING	EROSION CONTROL	FULL E&C	BRIDGE QUANTITY
5														10		
														10		
														10		
730		480														480
1																
110																
														430		
182																
4																
4																
102																
						6		6								12
50																
100																
															1	
															1	
															1	
															1	
													520			
1																
1																
630																
25																
4																
2																
						170		150								320
1310		530				250		240								1020
130																
						80		80								160
													545			
													110			
													20			
													5			
													130			
													1.5			
													1.5			
													140			
680		460														460
													1			
													50			
													1			
													140			
2.7																
15																
15																
6																
2																

TOTALS

ROUND	GRAND TOTAL	FINAL
	15	
	10	
	10	
	1210	
	1	
	110	
	430	
	182	
	4	
	4	
	102	
	12	
	50	
	100	
	1	
	1	
	1	
	1	
	520	
	1	
	1	
	630	
	25	
	4	
	2	
	320	
	2330	
	130	
	160	
	545	
	110	
	20	
	5	
	130	
	1.5	
	1.5	
	140	
	1140	
	1	
	50	
	1	
	140	
	2.7	
	15	
	15	
	6	
	2	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
CM	STONE FILL, TYPE I	613.10
CM	STONE FILL, TYPE I (MOD. 1 - CHECK DAMS)	613.10
CM	STONE FILL, TYPE I (MOD. 2 - STABILIZED CONSTRUCTION ENTRANCE)	613.10
CM	STONE FILL, TYPE III	613.12
EACH	RELOCATE MAIL BOX, SINGLE SUPPORT	617.10
M	SNOW FENCE (MOD. - ARCH.)	620.70
M	SNOW FENCE (MOD. - PDF)	620.70
M	HEAVY DUTY STEEL BEAM GUARD RAIL (GALVANIZED)	621.21
EACH	ANCHOR FOR STEEL BEAM RAIL	621.60
EACH	GUARD RAIL APPR. SECTION,NETC 2 RAIL	621.72
M	TEMPORARY TRAFFIC BARRIER	621.90
EACH	EARTH PRESSURE CELL	623.60
HR	FLAGGERS	630.15
HR	FLAGGERS (MOD. - RAILROAD)	630.15
LS	FIELD OFFICE-ENGINEERS	631.10
LS	TESTING EQUIPMENT - CONCRETE	631.16
LS	TESTING EQUIPMENT - BITUMINOUS	631.17
LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25
HR	EMPLOYEE TRAINEESHIP	634.10
LS	MOBILIZATION / DEMOBILIZATION	635.11
LS	TRAFFIC CONTROL	641.10
M	100 mm YELLOW LINE	646.21
M	600 mm STOP BAR	646.26
EACH	LETTER OR SYMBOL	646.30
EACH	RAILROAD CROSSING SYMBOL	646.32
SM	GEOTEXTILE FOR ROADBED SUBGRADE SEPARATOR (MOD.)	649.11
SM	GEOTEXTILE UNDER STONE FILL	649.31
SM	GEOTEXTILE FOR UNDERDRAIN TRENCH LINING	649.41
SM	GEOTEXTILE FOR UNDERDRAIN TRENCH LINING (MOD.)	649.41
SM	GEOTEXTILE FOR SILT FENCE	649.51
SM	GEOTEXTILE FOR FILTER CURTAIN	649.61
KG	SEED	651.15
KG	SEED-WINTER RYE	651.17
KG	FERTILIZER	651.18
T	AGRICULTURAL LIMESTONE	651.20
T	HAY MULCH	651.25
CM	TOPSOIL	651.35
SM	GRUBBING MATERIAL	651.40
LS	EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.10
HR	MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.20
LU	MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN (N.A.B.I)	652.30
SM	EROSION MATTING	654.10
SM	TRAFFIC SIGNS, TYPE A	675.20
	BEGIN SIGN POST OPTION	
M	FLANGED CHANNEL SIGN POST	675.301
M	SQUARE TUBE SIGN POSTS AND ANCHOR	675.341
	END SIGN POST OPTION	
EACH	REMOVING SIGNS	675.50
EACH	ERECTING SALVAGED SIGNS	675.60

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

N.A.B.I. = NOT A BID ITEM

PROJECT NAME: **LEICESTER**
PROJECT NUMBER: **BRF 0160 (3) S**

FILE NAME: **\95j288\Structures\sj288qnt.xls**
PROJECT MANAGER: **R. R. WHITCOMB**
DESIGNED BY: **C. CARLSON**
QUANTITY SHEET #2

PLOT DATE: **04/07/2005**
DRAWN BY: **G. ROY**
CHECKED BY: **C. CARLSON**
SHEET **5** OF **90**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

Metric

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA ±	AREA ±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
1A	STATE OF VERMONT JOINED BY	11	0+959.7 LT.				DRIVE	(T)				LEICESTER			PAVED 42.4'
	VERMONT RAILWAY, INC.		0+993.7 LT.	1+001.2 LT.			CONST.	(T)	9 S.M.±						INCL. PDF , 97 S.F.±
1B			0+976.57 RT.	0+991.7 RT.			SLOPE	(T)	10 S.M.±						108 S.F.±
2	LAMOUREUX, LEO J. &	12	1+000.3 LT.	1+018.2 LT.			CONST.	(T)	49 S.M.±			LEICESTER			INCL. PDF & EROSION CONTROL, 527 SF±
	ARLENE J.		1+004.7 LT.	1+111.3 LT.			UTILITY EASEMENT	(P)	696 S.M.±						7492 S.F.±
			1+015.0 LT.				INSTALL & MAINTAIN	(P)							2-GUYWIRES
			1+012.1 LT.	1+023.5 LT.			SLOPE	(T)	11 S.M.±						116 S.F.±
			1+026.0 LT.				DRIVE	(T)							GRAVEL, 16.4'±
			1+021.3 LT.	1+035.4 LT.			CONST.	(T)	72 S.M.±						INCL. PDF & EROSION CONTROL, 775 SF±
			1+028.3 LT.	1+080.0 LT.			SLOPE	(T)	153 S.M.±						1647 SF±
			1+035.4 LT.	1+111.5 LT.			DETOUR	(T)	0.11 HA±						0.28 A±; INCLUDES EROSION CONTROL & PDF, TWO WAY DETOUR
			1+080.0 LT.	1+099.0 LT.			CHANNEL	(P)	79 S.M.±						850 S.F.±, INCL. TEMP. SETTLING BASIN & WINGWALL FOOTING
3	FOX, CATLIN J. &	12	1+109.59 LT.	1+137.32 LT.	739.32SM ±							LEICESTER			7958.23 SF±
	CLAGHORN, ANNE W.;														
	JOINED BY														
	VERMONT LAND TRUST INC.														
4	LAJEUNESSE, KENNETH A. &	12,13	1+152.5 LT.	1+161.5 LT.			CUL., DIT. & DR.	(P)	43 S.M.±			LEICESTER			463 S.F.±
	BOBBI J. DICKSON &		1+153.0 LT.	1+164.0 LT.			DETOUR	(T)	56 SM±						603 SF±; TWO WAY DETOUR
	LAJEUNESSE, AGNES L., LIFE ESTATE		1+153.1 LT.	1+259.2 LT.			UTILITY EASEMENT	(P)	601 S.M.±						6469 S.F.±
			1+153.1 LT.	1+252.9 LT.			SLOPE	(T)	390 S.M.±						4198 S.F.±
			1+153.1 LT.	1+259.2 LT.			CONST.	(T)	661 S.M.±						INCL. ARCHEOLOGICAL FENCE & PDF & EROSION CONTROL, 7115 S.F.±
			1+162.5 LT.				INSTALL & MAINTAIN	(P)							GUYWIRE
5	STONE, THOMAS P. ,	12,13	1+105.0 RT.	1+160.0 RT.			CONST.	(T)	482 S.M.±			LEICESTER			INCL. EROSION CONTROL & PDF; 5188 SF±
	CRAM, DWIGHT A. & BETTY A.		1+113.2 RT.	1+128.8 RT.			CHANNEL	(P)	39 S.M.±						420 S.F.±
			1+144.2 RT.	1+211.7 RT.			SLOPE	(P)	81 S.M.±						872 SF±, INCL. TEMP. EROSION CONTROL & PDF
			1+162.0 RT.				INSTALL & MAINTAIN	(P)							POLE
			1+162.7 RT.				INSTALL & MAINTAIN	(P)							GUYWIRE
			1+228.9 RT.	1+251.9 RT.			SLOPE	(T)	15 S.M.±						161 SF±, INCL. TEMP. EROSION CONTROL & PDF
6	DIKE, STEPHEN &	12	1+029.2 RT.	1+041.9 RT.			SLOPE	(T)	19 S.M.±			LEICESTER			205 S.F.±
	DEBORAH		1+046.5 RT.				DRIVE	(T)							PAVED 26'
			1+044.2 RT.	1+074.5 RT.			SLOPE	(T)	59 S.M.±						635 S.F.±
			1+052.5 RT.	1+107.5 RT.			CONST.	(T)	510 S.M.±						5490 S.F.±; INCLUDES EROSION CONTROL & PDF
			1+054.2 RT.												MONITOR WELL
			1+074.5 RT.	1+096.3 RT.			CHANNEL	(P)	29 S.M.±						312 S.F.±
7	LAROCQUE, WILLIAM J.	11	0+948.5 RT.	0+979.6 RT.			CONST.	(T)	80 S.M.±			LEICESTER			INCL. PDF, 861 S.F.±
			0+967.1 RT.	0+980.9 RT.			UTILITY EASEMENT	(P)	90 S.M.±						969 S.F.±
			0+957.2 RT.	0+977.9 RT.			SLOPE	(T)	34 S.M.±						366 S.F.±
8	CENTRAL VERMONT														UTILITY
	PUBLIC SERVICE, INC.														
9	VERIZON NEW ENGLAND, INC.														UTILITY

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
1	10,12	PARCEL NO. 2 LAMOUREUX. CHANGE ENDING STA. OF	06/09/2005
		CONST. (T) FROM 1+111.4 LT. TO 1+035.4 LT. ;72 SM±; 775 SF±	
		ADD DETOUR (T) 1+035.4 LT. ~ 1+111.5 LT.; 0.11HA±;0.28 A±	
		PER C.O. 9425.	
		MADE BY: MR APPROVED BY: RPD	
2	10,12,13	PARCEL NO. 4 LAJEUNESSE. ADD DETOUR (T) AT STA.	06/09/2005
		1+153.0 LT. ~ 1+164.0 LT. ; 56 SM±; 603 SF±. PER C.O. 9426.	
		MADE BY: MR APPROVED BY: RPD	
3	10,12,13	PARCEL NO. 5 STONE & CRAM. CHANGE DETOUR (T) TO	06/09/2005
		CONST. (T) WITH AN ENDING STATION OF 1+160.0 RT., 482 SM±	
		5,188 SF±. PER C.O. 9427	
		MADE BY: MR APPROVED BY: RPD	
4	10,12	PARCEL NO. 6 DIKE. CHANGE DETOUR (T) TO CONST. (T) WITH	06/09/2005
		A BEGINNING STA. OF 1+052.5 RT.; 510 SM±; 5,490 SF±	
		PER C.O. 9428	
		MADE BY: MR APPROVED BY: RPD	
5	10,12,13	PARCEL NO. 4 LAJEUNESSE. ADD BOBBI J. DICKSON AS AN	
		OWNER. PER C.O. 9429.	
		MADE BY: MR APPROVED BY: RPD	06/27/2004
		ELECTRONIC FILES TO STRUCTURES	07/09/2005

PLAN LEGEND

EXISTING RIGHT-OF-WAY		TOE OF SLOPE	
TAKING WITH ACCESS		TOP OF CUT	
TAKING WITHOUT ACCESS		SLOPE RIGHT	SR (P)
CLEAR ZONE	CZ	CONSTRUCTION RIGHT	CONST. (T)
PROPERTY LINE	P / L	PROJECT DEMARCATION FENCE	PDF ——— PDF

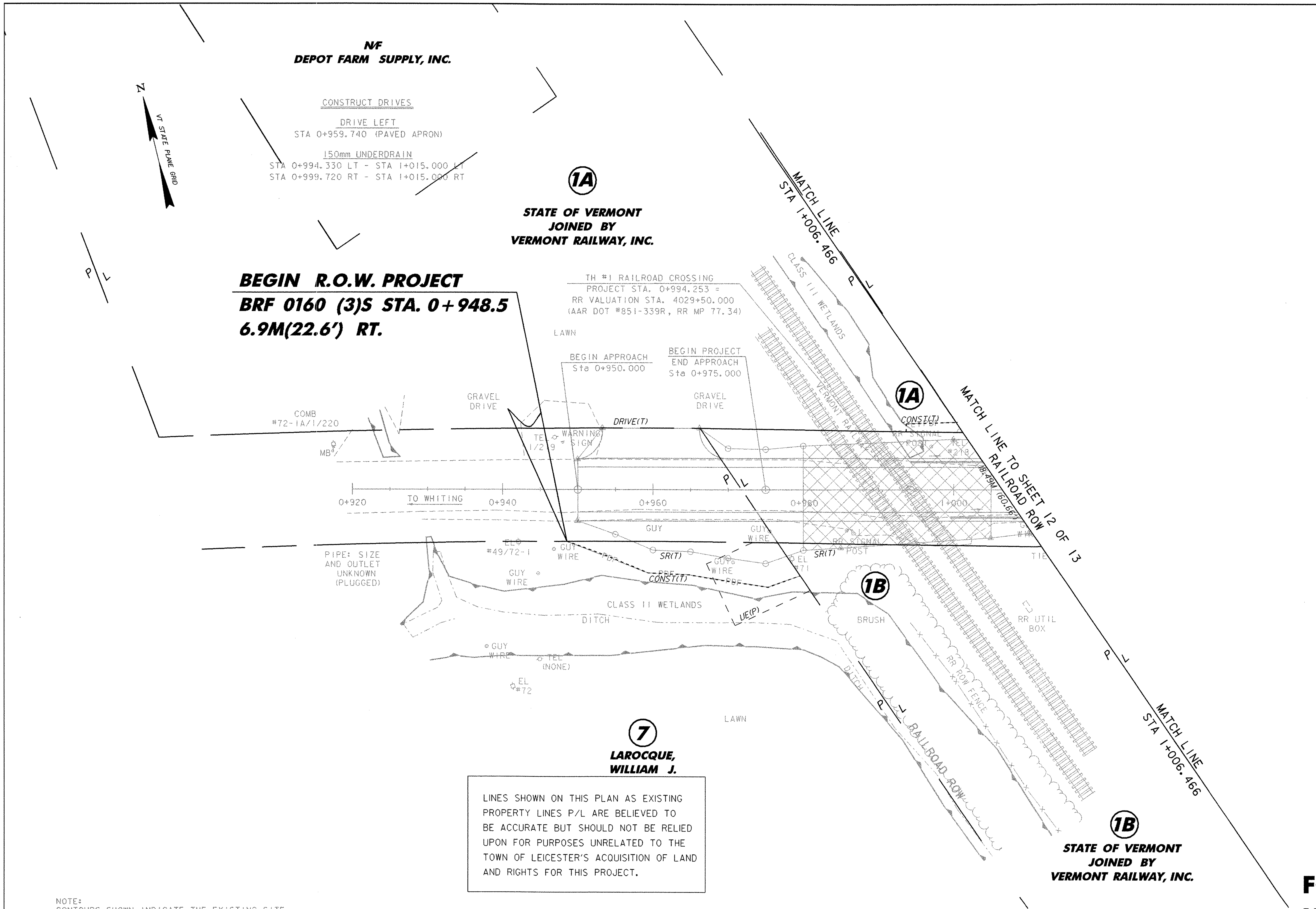
(P)	-PERMANENT
(T)	-TEMPORARY
DR.	-DRAINAGE RIGHT
DIT.	-DITCHING RIGHT
CH.	-CHANNEL RIGHT
DRIVE	-DRIVE RIGHT
CUL.	-CULVERT RIGHT
C&T	-CLEARING & TRIMMING RIGHT
SR	-SLOPE RIGHT
UE	-UTILITY EASEMENT

APPROVED: ROGER P. DUMAS DATE: 07-22-03
CHIEF, PLANS & TITLES

PROJECT NAME: **LEICESTER**
PROJECT NUMBER: **BRF0160(3) S**

FILE NAME: **/row/rj088d.xls**
PROJECT LEADER: **G.S ROGERS**
DESIGNED BY: **C. MEUNIER**
R.O.W. SHEET 10 OF 13

PLOT DATE: **02/23/05**
DRAWN BY: **G. FUNK**
CHECKED BY: **B. TERHUNE**
SHEET **6** OF **90**


N/F
DEPOT FARM SUPPLY, INC.
CONSTRUCT DRIVES
DRIVE LEFT
STA 0+959.740 (PAVED APRON)
150mm UNDERDRAIN
STA 0+994.330 LT - STA 1+015.000 LT
STA 0+999.720 RT - STA 1+015.000 RT
N
VT STATE PLANE GRID
1A
STATE OF VERMONT
JOINED BY
VERMONT RAILWAY, INC.
BEGIN R.O.W. PROJECT
BRF 0160 (3)S STA. 0+948.5
6.9M(22.6') RT.
TH #1 RAILROAD CROSSING
PROJECT STA. 0+994.253 =
RR VALUATION STA. 4029+50.000
(AAR DOT #851-339R, RR MP 77.34)
LAWN
BEGIN APPROACH
Sta 0+950.000
BEGIN PROJECT
END APPROACH
Sta 0+975.000
GRAVEL DRIVE
GRAVEL DRIVE
COMB
#72-1A/1/220
MB
WARNING SIGN
DRIVE(T)
CONST(T)
RR SIGNAL POST
0+920
TO WHITING
0+940
0+960
0+980
1+000
GUY
GUY WIRE
SR(T)
SR(T)
RR SIGNAL POST
PIPE: SIZE
AND OUTLET
UNKNOWN
(PLUGGED)
EL
#49/72-1
GUY WIRE
GUY WIRE
CONST(T)
EL
#71
1B
CLASS II WETLANDS
DITCH
UE(P)
BRUSH
RR UTIL BOX
GUY WIRE
TEL (NONE)
EL #72
CLASS III WETLANDS
VERMONT RAILWAY
RR ROW FENCE
RAILROAD ROW
DITCH
MATCH LINE
STA 1+006.466
MATCH LINE TO SHEET 12 OF 13
RAILROAD ROW
18.49M (60.66')
MATCH LINE
STA 1+006.466
P/L
LAWN
7
LAROCQUE,
WILLIAM J.
1B
STATE OF VERMONT
JOINED BY
VERMONT RAILWAY, INC.

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 TOWN OF LEICESTER'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

Metric

FOR R.O.W. USE ONLY

NOTE:
CONTOURS SHOWN INDICATE THE EXISTING SITE. SEE CROSS SECTION AND CHANNEL SECTION SHEETS FOR GRADE CHANGES.

INDICATES APPROXIMATE RAILROAD WORK AREA. WORK IN THIS AREA TO BE PERFORMED BY VERMONT RAILWAY. SEE PROJECT NOTE 16 ON SHEET 47 AND SHEET 38a FOR ADDITIONAL INFORMATION.

SEE LINE STRIPING AND SIGN LAYOUT ON SHEET 36.

0 10 20
SCALE 1:250

SHEET NAME: PLAN LAYOUT #1	
PROJECT NAME: LEICESTER	HIGHWAY NO.: FAS 0160
PROJECT NUMBER: BRF 0160(3)S	BRIDGE NO.: 6
	OVER: OTTER CREEK
FILE NAME: 95j288\Structures\sj288bdr.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: J. GILMORE
DESIGNED BY: C. CARLSON	IPARM NAME: sj088psl.i
R.O.W. SHEET 11 OF 13	SHEET 7 OF 90

VAOT Metric

CONSTRUCT DRIVES

DRIVE LEFT
STA 1+026.000 (GRAVEL w/4000 PAVED APRON)

DRIVE RIGHT
STA 1+046.500 (PAVED)

GUARD RAIL HEAVY DUTY STEEL BEAM
STA 1+058.203 - STA 1+080.901 RT
STA 1+062.808 - STA 1+081.732 LT
STA 1+136.198 - STA 1+160.000 RT
℄ STA 2+007.545 - ℄ STA 2+032.876 LT

ANCHOR FOR STEEL BEAM RAIL
STA 1+060.000 RT
STA 1+065.000 LT
℄ STA 2+031.000 LT

BRIDGE RAILING - NETC 2 RAIL
STA 1+088.521 - STA 1+128.734 RT
STA 1+089.350 - STA 1+129.593 LT

BRIDGE APPROACH SECTION - NETC 2 RAIL
STA 1+080.901 - STA 1+088.521 RT
STA 1+081.732 - STA 1+089.350 LT
STA 1+128.734 - STA 1+136.198 RT
STA 1+129.593 - ℄ STA 2+007.545 LT

RELOCATE MAILBOX, SINGLE SUPPORT
STA 1+055 LT

150mm UNDERDRAIN CARRIER PIPE
STA 1+015.000 RT - STA 1+015.000

PIPE OPTIONS ℄ STA 2+020 WITH 3000 x 2000 STONE FILL, TYPE I PAD AT INLET & TYPE III AT OUTLET
600 PCCSP x 27.43m
600 CAAP x 27.43m
600 CPEP x 27.43m

℄ CURVE DATA
Radius = 300.000
Δ = 6°30'03.1"
Length = 34.038
Tangent = 17.038
Chord = 34.020
External = 0.483
Middle Ordinate = 0.483
Bank = Normal

APPROXIMATE AERIAL RELOCATION ROUTE BY VERIZON

END SIDELINE APPROACH
Sta 2+070

ARCHAEOLOGICAL FENCING
SENSITIVE AREA
KEEP OUT

LAJEUNESSE, KENNETH A. & BOBBI J. DICKSON & LAJEUNESSE, AGNES L., LIFE ESTATE

4

TH # 12 2+040.00
7.66M (25.13') LT.

TH # 12 2+040.04
26.55M (87.11') LT.

18.89M (61.98')

BEGIN SIDELINE APPROACH
Sta 2+004.200

REMOVE EXISTING 460 CGMP (POOR)

1+109.59
6.17M (20.24') LT.

1+137.32
6.28M (20.60') LT.

34.62M (113.58')

MATCH LINE STA 1+160

MATCH LINE STA 1+006.466

2
LAMOUREUX, LEO J. & ARLENE J.

3
FOX, CATLIN J. & CLAGHORN, ANNE W. JOINED BY VERMONT LAND TRUST, INC.

VT STATE PLANE GRID

APPROXIMATE AERIAL RELOCATION ROUTE BY VERIZON TO BE DONE AFTER TEMPORARY DETOUR IS REMOVED

BENCH MARK NO. 2
R.R.S.J.T.
LARGE WILLOW
ELEV. 106.097

INSTALL & MAINTAIN (P)

DETOUR(T)
TEMPORARY DETOUR
CONSTRUCTION LIMIT
SETTLING BASIN

BEGIN BRIDGE
STA 1+091.320
P.C. = 108.548

END BRIDGE
STA 1+126.102
P.T. = 106.375

STONE FILL, TYPE III (TYP)

TEMPORARY DETOUR APPROXIMATE CENTERLINE

CH(P)

27.08M (88.85')

CUL., DIT., & DR. (P)

RAILROAD ROW

RAILROAD ROW TO SHEET 11 OF 13

MATCH LINE TO SHEET 13 OF 13

S76°01'18.4"E

N15°05'02.5"E

N18°58'55.6"E

N8°34'59.4"E

CLASS II WETLANDS

CLASS III WETLANDS

WOODS

GRAVEL ROAD

RIPARIAN BUFFER

GUY WIRE

GUY POLE

EL #70

8.499

EXISTING GRAVEL DRIVE

1 STORY WFH

LAWN

ARTESIAN WELL (MONITOR)

COMB 491/1/216A

CONST(T)

DRIVE(T)

SR(T)

SR(P)

UE(P)

CONSIT(T)

EL #68

EL #2

STONE FILL, TYPE III (TYP)

OTTER CREEK

5
STONE, THOMAS P. AND CRAM, DWIGHT A. & BETTY A.

℄ CURVE DATA
Δ = 17°00'39.6"
R = 175.00
T = 26.171
L = 51.957
E = 1.946
BANK = 0.060 m/m (MAX)

6
DIKE, STEPHEN & DEBORAH

NOTE:
CONTOURS SHOWN INDICATE THE EXISTING SITE. SEE CROSS SECTION AND CHANNEL SECTION SHEETS FOR GRADE CHANGES.

SEE LINE STRIPING AND SIGN LAYOUT ON SHEET 37.

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 TOWN OF LEICESTER'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR R.O.W. USE ONLY

0 10 20
SCALE 1:250

SHEET NAME:	PLAN LAYOUT #2		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95j288\Structures\sj288bdr.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	s1088ps2.i
R.O.W. SHEET	12 OF 13	SHEET	8 OF 90

VAOT Metric

N
VT STATE PLANE GRID

ANCHOR FOR STEEL BEAM RAIL
1+243.900 RT

GUARD RAIL HEAVY DUTY STEEL BEAM
STA 1+160.000 - STA 1+245.420 RT

4

LAJEUNESSE, KENNETH A.
&
BOBBI J. DICKSON &
LAJEUNESSE, AGNES L.,
LIFE ESTATE

END R.O.W. PROJECT
BRF 0160 (3)S STA. 1+259.2
7.2M (23.7')LT.

MATCH LINE
STA 1+160

FIELD

INSTALL & MAINTAIN (P)

CUL., DIT., & DR. (P)

ARCHAEOLOGICAL FENCING
SENSITIVE AREA
KEEP OUT

END APPROACH
Sta 1+260.000

END PROJECT
BEGIN APPROACH
Sta 1+230.000

BENCH MARK NO. 3
CH SO LE
ELEV. 106.938

WOODS

DITCH

CLASS II WETLANDS

DITCH

CONST(T)

PDF

UE(P)

DETOUR(T)

SR(T)

TEL
#7214

UE(P)

SR(T)
UE(P)

GUY WIRE

TEL
#202

CZ

N86°58'01.9"E

60

1+180

1+200

1+220

1+240

1+260

1+272

TH 1

TO US 7

GRAVEL DRIVE

MATCH LINE TO SHEET 12 OF 13

INSTALL & MAINTAIN (P)

SR(P)

SR(T)

CLASS II WETLANDS

INSTALL & MAINTAIN (P)

MIXED VEGETATION

PIPE

MATCH LINE
STA 1+160

EASEMENT RIGHTS
FOR AERIAL RELOC. ROUTE
FOR TRANSMISSION LINE
TO BE ACQUIRED BY CVPS

5

STONE, THOMAS P.
AND
CRAM, DWIGHT A.
& BETTY A.

Ø EL
#3

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 TOWN OF LEICESTER'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

NOTE:
CONTOURS SHOWN INDICATE THE EXISTING SITE.
SEE CROSS SECTION AND CHANNEL SECTION SHEETS
FOR GRADE CHANGES.

0 10 20
SCALE 1:250

SHEET NAME:	PLAN LAYOUT #3		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME: 95J288\Structures\sj288bdr.dgn		PLOT DATE:	17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB		DRAWN BY:	J. GILMORE
DESIGNED BY: C. CARLSON		IPARM NAME:	sj088ps3.1
R.O.W. SHEET 13 OF 13		SHEET	9 OF 90

GPS CONTROL POINTS

HVCTRL #1

C.G.S. SURVEY DISK STAMPED
" LIECESTER AZ MK "
N = 150571.9737
E = 449627.1798
EL. = 0.000

GENERAL LOCATION, LEICESTER, 4.4 MI (7.1 KM) NORTH NORTHWEST OF BRANDON, 11.2 MI (18.0 KM) SOUTH OF MIDDLEBURY. OWNERSHIP, CHARLES SWININGTON.

TO REACH FROM THE MAIN CROSSROADS IN THE VILLAGE OF LEICESTER (INTERSECTION OF U.S. ROUTE 7, THE LEICESTER-WHITING ROAD, AND FERN LAKE ROAD) AT THE LEICESTER MEETING HOUSE AND CENTRAL SCHOOL GO WEST ALONG THE LEICESTER-WHITING ROAD FOR 1.25 MI (2.01 KM) TO A T-INTERSECTION. TURN LEFT AND GO SOUTH ALONG THE MAIN TRAVELED ROAD FOR 0.3 MI (0.5 KM) TO A T-ROAD RIGHT. CONTINUE STRAIGHT AHEAD (SOUTH) ALONG ARNOLD DISTRICT ROAD FOR 0.2 MI (0.3 KM) TO TELEPHONE POLE NO. 174 AND AZIMUTH MARK ON THE LEFT. IT IS 0.2 MI (0.3 KM) NORTH ALONG ARNOLD DISTRICT ROAD FROM NGS STATION LIECESTER. STATION MARK IS SET IN THE TOP OF A 9 FT (2.7 M) X 6 FT (1.8 M) BOULDER WHICH PROJECTS 4 FT (1.2 M) ABOVE GROUND SURFACE. IT IS 135 FT (41.1 M) EAST OF THE CENTERLINE OF ARNOLD DISTRICT ROAD, 198 FT (60.4 M) SOUTHEAST OF TELEPHONE POLE NO. 174, 165 FT (50.3 M) NORTHEAST OF THE TELEPHONE POLE NO. 173, 195 FT (59.4 M) SOUTH SOUTHEAST OF TRANSMISSION POLE NO. 50, 118 FT (36.0 M) EAST OF A FIBERGLASS WITNESS POST IN A WIRE FENCELINE.
STATION LAST RECOVERED (1998)

HVCTRL #2

C.G.S. SURVEY DISK STAMPED
" LIECESTER "
N = 150242.0070
E = 449659.5940
EL. = 141.197'

THE STATION IS LOCATED IN LEICESTER TOWNSHIP ABOUT 4 MI (6.4 KM) NORTH AND 2 MI (3.2 KM) WEST OF BRANDON, AND ABOUT 11 MI (17.7 KM) SOUTH AND 2 MI (3.2 KM) EAST OF MIDDLEBURY. OWNERSHIP--CHARLES SWININGTON, WHO LIVES IN THE FIRST HOUSE SOUTH OF THE STATION.

TO REACH THE STATION FROM THE MAIN CROSSROADS IN THE VILLAGE OF LEICESTER, AT A SCHOOL AND CHURCH, GO WEST ON A PAVED ROAD FOR 1.25 MI (2.01 KM) TO A T-INTERSECTION. TURN LEFT ON MAIN TRAVELED ROAD AND GO SOUTH FOR 0.3 MI (0.5 KM) TO A T-ROAD. CONTINUE STRAIGHT AHEAD FOR 0.4 MI (0.6 KM) TO A DIRT ROAD LEFT AND THE STATION ON THE RIGHT.

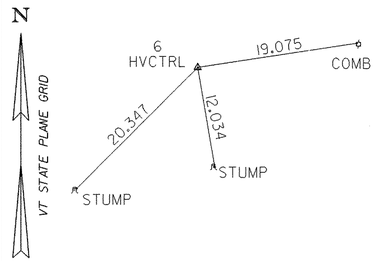
THE STATION MARK IS 36 FT (11.0 M) NORTHEAST OF UTILITY POLE NUMBER 53, 14 FT (4.3 M) SOUTH OF A LARGE EXPOSED BOULDER, 13.5 FT (4.1 M) WEST OF WEST EDGE OF PAVEMENT AND 6.6 FT (2.0 M) WEST OF FIBERGLASS WITNESS POST ALONG THE FENCE LINE WEST OF ROAD.
STATION MARK IS A STANDARD DISK SET TOP OF A 12 INCH SQUARE CONCRETE MONUMENT. OWNERSHIP, SWINNINGTON WITH CVPS EASEMENT.
STATION LAST RECOVERED (1995)

* DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT.

TRAVERSE TIES

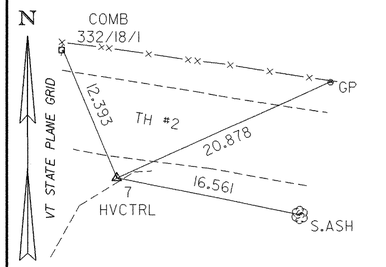
HVCTRL #6

N = 150788.8820
E = 448541.3210
Z = 117.248



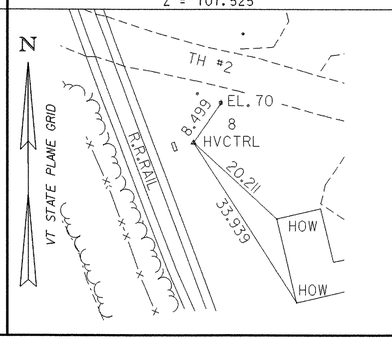
HVCTRL #7

N = 150761.9440
E = 448172.4970
Z = 107.012



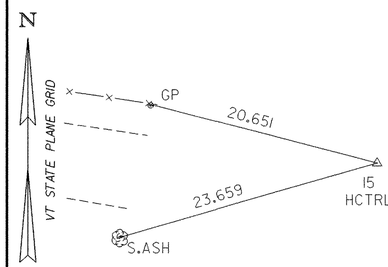
HVCTRL #8

N = 150789.6140
E = 447792.2570
Z = 107.525



HVCTRL #15

N = 150765.4050
E = 448211.6322
Z = 107.336



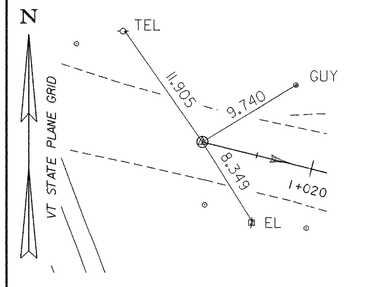
N =
E =
Z =

* MAIN TRAVERSE COMPLETED FEB. 08, 1996. SURVEYED BY L.ORVIS & R.BULLOCK

ALIGNMENT TIES

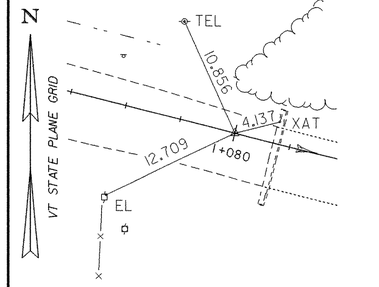
POB 1+010.000

N = 150803.9290
E = 447792.7210



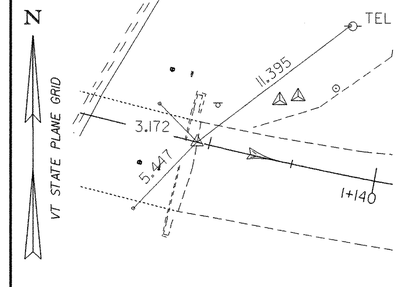
POT 1+080.000

N = 150787.0213
E = 447860.6486



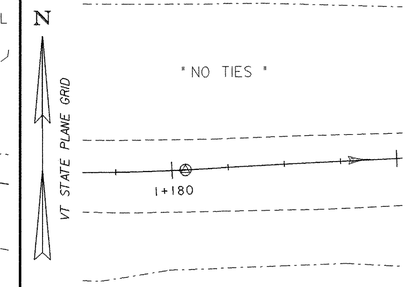
PC 1+129.256

N = 150775.1230
E = 4411908.446



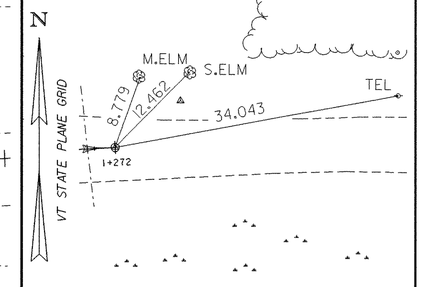
PT 1+181.214

N = 150770.1860
E = 447959.9760



POE 1+272.000

N = 150775.0130
E = 448051.0900



* ALIGNMENT STAKED DEC. 14, 1999. SURVEYED BY L.ORVIS & J.HULETT

DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD 83/92
ADJUSTED	YES
TYPE	COMPASS

NOTE: TIE DISTANCES ARE IN METERS

SHEET NAME:	TIE SHEET		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	/PW/95j288/sj288tie.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	GAH
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088tie.i
BRIDGE SHEET NUMBER:		SHEET	10 OF 90

N

VT STATE PLANE GRID

CONSTRUCT DRIVES

DRIVE LEFT
STA 0+959.740 (PAVED APRON)

150mm UNDERDRAIN
~~STA 0+994.330 LT~~ - STA 1+015.000 LT
~~STA 0+999.720 RT~~ - STA 1+015.000 RT

30.48m INSTALLED PARALLEL TO TRACKS BY RxR REPRESENTATIVE

TH #1 RAILROAD CROSSING
PROJECT STA. 0+994.253 =
RR VALUATION STA. 4029+50.000
(AAR DOT #851-339R, RR MP 77.34)

MATCH LINE
STA 1+006.466

GLASS III WETLANDS

VERMONT RAILWAY

RAILROAD ROW

POB
Sta 0+920.000

BEGIN APPROACH
Sta 0+950.000

BEGIN PROJECT
END APPROACH
Sta 0+975.000

GRAVEL DRIVE

GRAVEL DRIVE

COMB
#72-1A/1/220

EXIST. R.O.W.

MB

TEL
1/219

WARNING SIGN

R=3750

P.I.

LI

RR SIGNAL POST

0+920

TO WHITING

0+940

0+960

0+980

1+000

GUY

GUY WIRE

EXIST. R.O.W.

EL
#49/72-1

GUY WIRE

GUY WIRE

GUY WIRE

EL
#71

RR SIGNAL POST

TIE

PIPE: SIZE AND OUTLET UNKNOWN (PLUGGED)

GUY WIRE

CLASS II WETLANDS

DITCH

BRUSH

RR UTIL BOX

GUY WIRE

TEL
(NONE)

EL
#72

RR BOW FENCE

RAILROAD ROW

MATCH LINE
STA 1+006.466

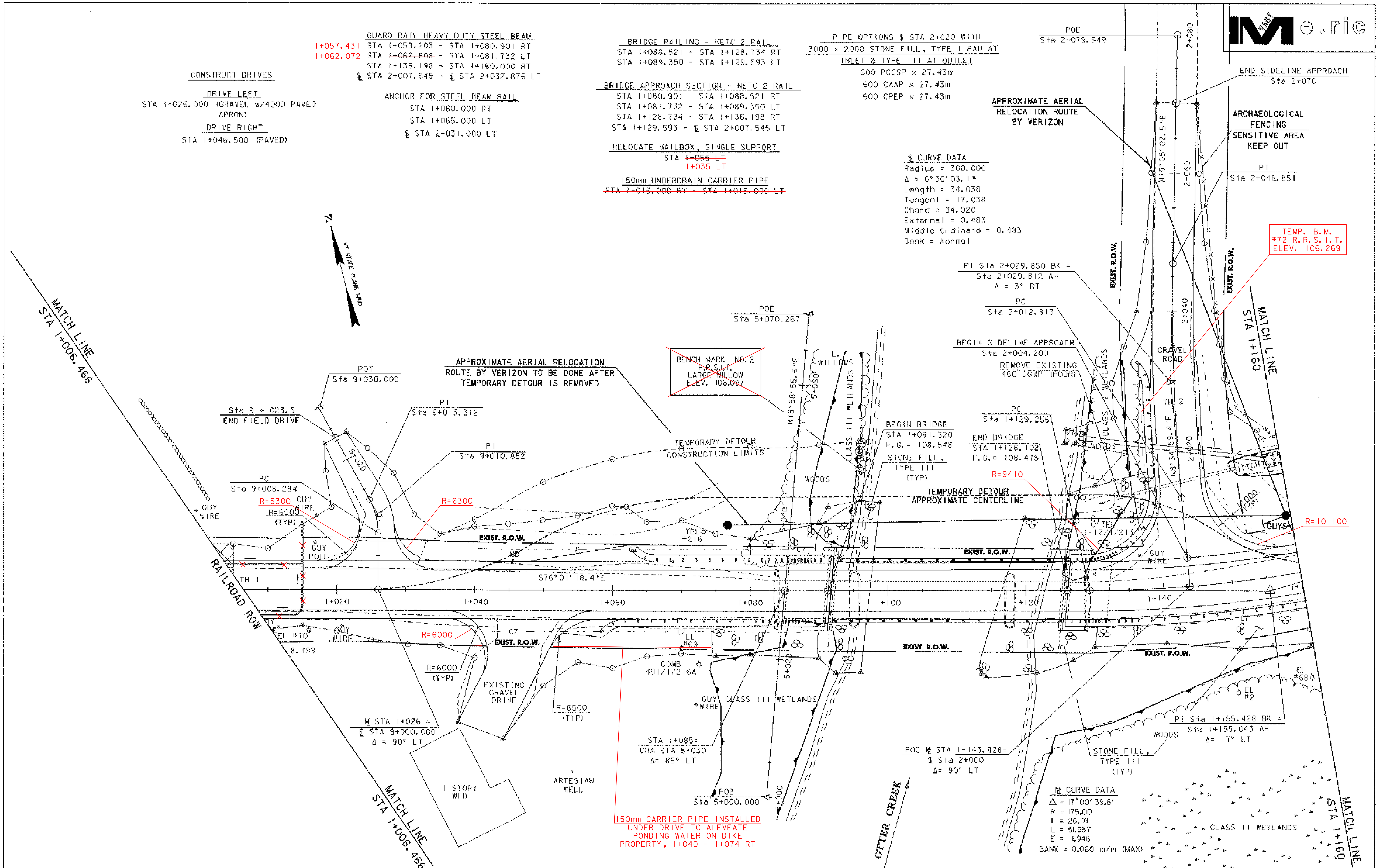
INDICATES APPROXIMATE RAILROAD WORK AREA. WORK IN THIS AREA TO BE PERFORMED BY VERMONT RAILWAY. SEE PROJECT NOTE 16 ON SHEET 47 AND SHEET 38a FOR ADDITIONAL INFORMATION.

SEE LINE STRIPING AND SIGN LAYOUT ON SHEET 36.

0 10 20

SCALE 1:250

SHEET NAME:	PLAN LAYOUT #1		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME: 95j288\Structures\sj288bdr.dgn		PLOT DATE:	17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB		DRAWN BY:	J. GILMORE
DESIGNED BY: C. CARLSON		PARM NAME:	sj088psl
BRIDGE SHEET NUMBER:		SHEET	11 OF 90


CONSTRUCT DRIVES
DRIVE LEFT
STA 1+026.000 (GRAVEL w/4000 PAVED APRON)
DRIVE RIGHT
STA 1+046.500 (PAVED)
GUARD RAIL HEAVY DUTY STEEL BEAM
1+057.431 STA 1+058.203 - STA 1+080.901 RT
1+062.072 STA 1+062.808 - STA 1+081.732 LT
STA 1+136.198 - STA 1+160.000 RT
℄ STA 2+007.545 - ℄ STA 2+032.876 LT
ANCHOR FOR STEEL BEAM RAIL
STA 1+060.000 RT
STA 1+065.000 LT
℄ STA 2+031.000 LT
BRIDGE RAILING - NETC 2 RAIL
STA 1+088.521 - STA 1+128.734 RT
STA 1+089.350 - STA 1+129.593 LT
BRIDGE APPROACH SECTION - NETC 2 RAIL
STA 1+080.901 - STA 1+088.521 RT
STA 1+081.732 - STA 1+089.350 LT
STA 1+128.734 - STA 1+136.198 RT
STA 1+129.593 - ℄ STA 2+007.545 LT
RELOCATE MAILBOX, SINGLE SUPPORT
STA 1+055 LT
1+035 LT
150mm UNDERDRAIN CARRIER PIPE
STA 1+015.000 RT - STA 1+015.000 LT
PIPE OPTIONS ℄ STA 2+020 WITH
3000 x 2000 STONE FILL, TYPE I PAD AT
INLET & TYPE III AT OUTLET
600 PCCSP x 27.43m
600 CAAP x 27.43m
600 CPEP x 27.43m
POE
Sta 2+079.949
END SIDELINE APPROACH
Sta 2+070
APPROXIMATE AERIAL
RELOCATION ROUTE
BY VERIZON
ARCHAEOLOGICAL
FENCING
SENSITIVE AREA
KEEP OUT
PT
Sta 2+046.851
℄ CURVE DATA
Radius = 300.000
Δ = 6°30'03.1"
Length = 34.038
Tangent = 17.038
Chord = 34.020
External = 0.483
Middle Ordinate = 0.483
Bank = Normal
TEMP. B.M.
#72 R.R.S.I.T.
ELEV. 106.269
PI Sta 2+029.850 BK =
Sta 2+029.812 AH
Δ = 3° RT
PC
Sta 2+012.813
BEGIN SIDELINE APPROACH
Sta 2+004.200
REMOVE EXISTING
460 CGMP (POOR)
N
VT STATE PLANE GRID
MATCH LINE
STA 1+006.466
POE
Sta 5+070.267
BENCH MARK NO. 2
R.R.S.I.T.
LARGE WILLOW
ELEV. 106.097
APPROXIMATE AERIAL RELOCATION
ROUTE BY VERIZON TO BE DONE AFTER
TEMPORARY DETOUR IS REMOVED
POT
Sta 9+030.000
Sta 9 + 023.5
END FIELD DRIVE
PT
Sta 9+013.312
PI
Sta 9+010.852
PC
Sta 9+008.284
R=5300
R=6000
(TYP)
R=6300
GUY WIRE
GUY POLE
TEMPORARY DETOUR
CONSTRUCTION LIMITS
L. WILLOWS
CLASS III WETLANDS
WOODS
BEGIN BRIDGE
STA 1+091.320
F.G.= 108.548
STONE FILL,
TYPE III
(TYP)
PC
Sta 1+129.256
END BRIDGE
STA 1+126.102
F.G.= 108.475
R=9410
TEMPORARY DETOUR
APPROXIMATE CENTERLINE
GRAVEL ROAD
TH 12
MATCH LINE
STA 1+160
R=10 100
EXIST. R.O.W.
TEL #216
S76°01'18.4"E
N18°58'55.6"E
N15°05'02.5"E
N8°34'59.4"E
RAILROAD ROW
TH 1
1+020
1+040
1+060
1+080
1+100
1+120
1+140
R=6000
R=6000
(TYP)
EXISTING
GRAVEL
DRIVE
R=8500
(TYP)
COMB
491/1/216A
EL #69
EL #70
EL #68
EL #2
GUY WIRE
CLASS III WETLANDS
℄ STA 1+026 =
℄ STA 9+000.000
Δ = 90° LT
1 STORY
WFH
ARTESIAN
WELL
STA 1+085=
CNA STA 5+030
Δ= 85° LT
POB
Sta 5+000.000
150mm CARRIER PIPE INSTALLED
UNDER DRIVE TO ALEVEATE
PONDING WATER ON DIKE
PROPERTY, 1+040 - 1+074 RT
OTTER CREEK
POC ℄ STA 1+143.828=
℄ Sta 2+000
Δ= 90° LT
PI Sta 1+155.428 BK =
Sta 1+155.043 AH
Δ= 17° LT
WOODS
STONE FILL,
TYPE III
(TYP)
℄ CURVE DATA
Δ = 17°00'39.6"
R = 175.00
T = 26.171
L = 51.957
E = 1.946
BANK = 0.060 m/m (MAX)
CLASS II WETLANDS
MATCH LINE
STA 1+160
0 10 20
SCALE 1:250

SEE LINE STRIPING AND SIGN LAYOUT ON SHEET 37.

SHEET NAME: PLAN LAYOUT #2	
PROJECT NAME: LEICESTER	HIGHWAY NO.: FAS 0160
PROJECT NUMBER: BRF 0160(3)S	BRIDGE NO.: 6
	OVER: OTTER CREEK
FILE NAME: 95j288\Structures\sj288bdr.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: J. GILMORE
DESIGNED BY: C. CARLSON	IPARM NAME: sj088ps2.1
BRIDGE SHEET NUMBER:	SHEET 12 OF 90

ANCHOR FOR STEEL BEAM RAIL
~~1+243.900~~ RT
1+245.168

GUARD RAIL HEAVY DUTY STEEL BEAM
STA 1+160.000 - STA ~~1+245.420~~ RT
1+247.298

N

VT STATE PLANE GRID

MATCH LINE STA 1+160

ARCHAEOLOGICAL FENCING
SENSITIVE AREA
KEEP OUT

END APPROACH
Sta 1+260.000

END PROJECT
BEGIN APPROACH
Sta 1+230.000

POE
Sta 1+272.455

BENCH MARK NO. 3
CH SQ LE
ELEV. 106.930

DITCH

CLASS II WETLANDS

DITCH

WOODS

Sta 1+181.214

TEL
1/214

EXIST. R.O.W.

CL

EXIST. R.O.W.

CL

EXIST. R.O.W.

GUY WIRE

TEL
#202

GRAVEL DRIVE

N86°58'01.9"E

60

1+180

1+200

1+220

1+240

1+260

1+272

TH 1

TO US 7

CL

CL

EXIST. R.O.W.

EXIST. R.O.W.

EXIST. R.O.W.

CLASS II WETLANDS

MATCH LINE STA 1+160

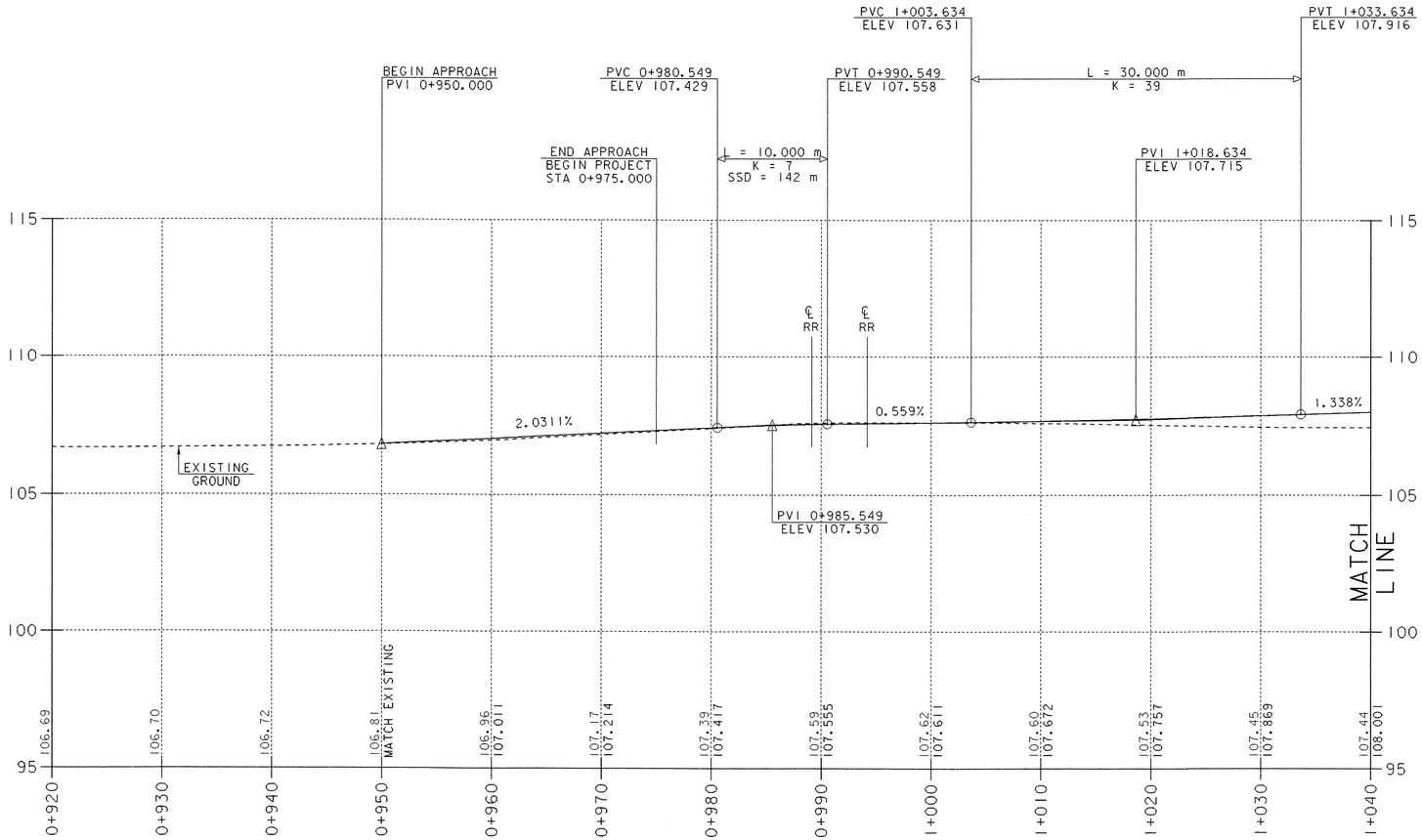
PIPE

TEL
#3

0 10 20

SCALE 1:250

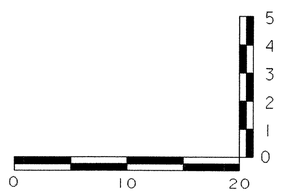
SHEET NAME:	PLAN LAYOUT #3		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME: 95j288\Structures\sj288bdr.dgn		PLOT DATE:	17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB		DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ088ps3.1
BRIDGE SHEET NUMBER:		SHEET	13 OF 90



Profile
TH 1

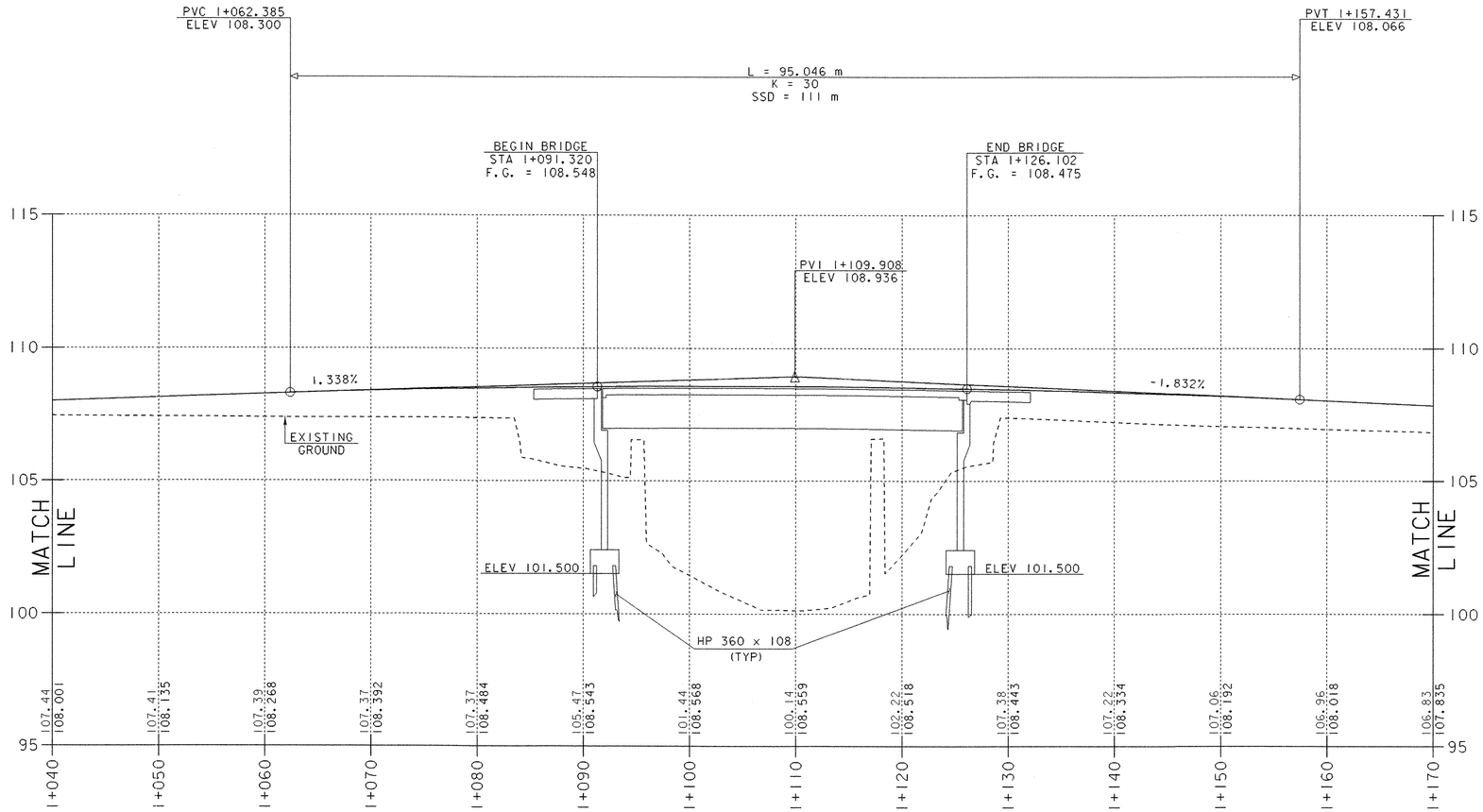
NOTES:

1. GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE EXISTING GROUND ALONG THE CENTERLINE.
2. GRADES SHOWN TO THE NEAREST THOUSANDTH ARE THE PROPOSED FINISHED GRADE ALONG THE CENTERLINE.
3. RAILROAD RAILS AT CROSSING MAY BE RAISED 150mm ± WHEN CROSSING WORK IS DONE. GRADES WILL BE ADJUSTED ACCORDINGLY.



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

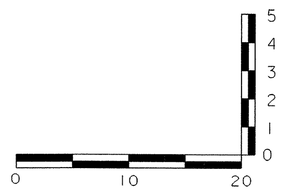
SHEET NAME:	MAINLINE PROFILE SHEET 1		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95J288\Structures\sj288xsl.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088prl.1
		SHEET	14 OF 90



Profile
TH 1

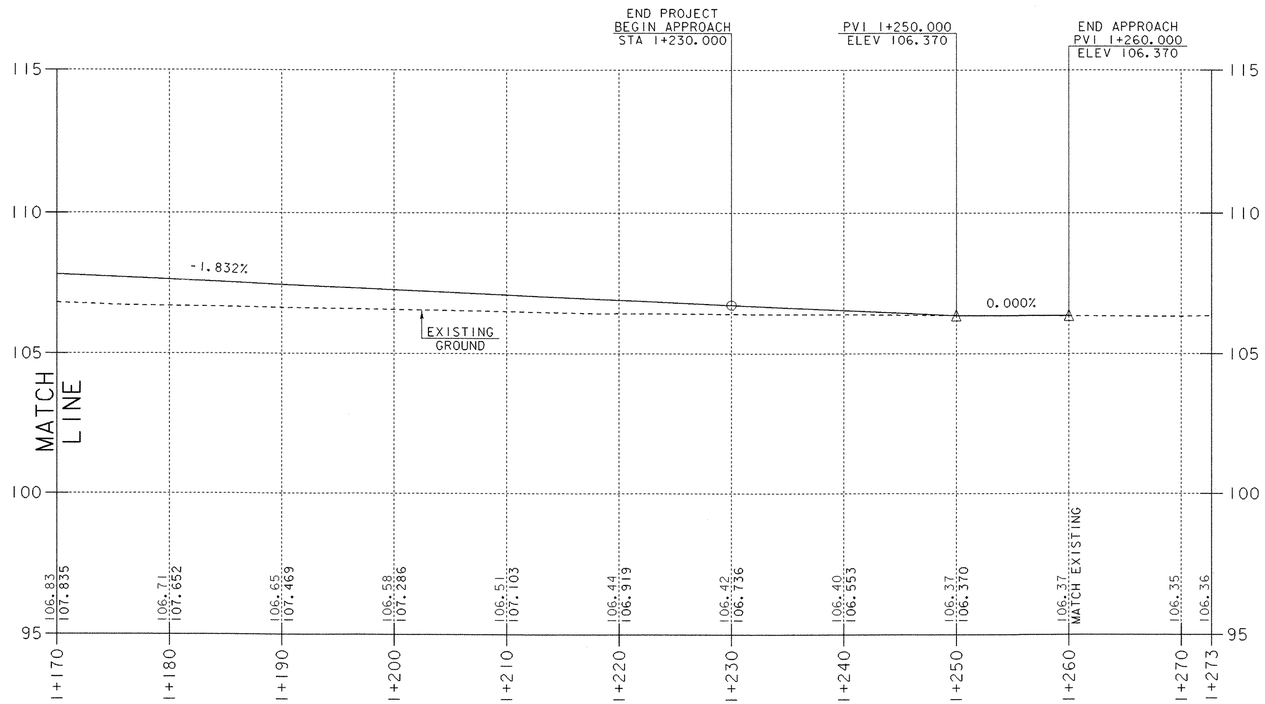
NOTE:

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE EXISTING GROUND ALONG THE CENTERLINE. GRADES SHOWN TO THE NEAREST THOUSANDTH ARE THE PROPOSED FINISHED GRADE ALONG THE CENTERLINE.



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

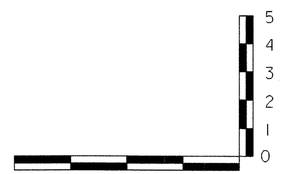
SHEET NAME:	MAINLINE PROFILE SHEET 2		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95j288\Structures\sj288xsl.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088pr2.1
		SHEET	15 OF 90



Profile
TH 1

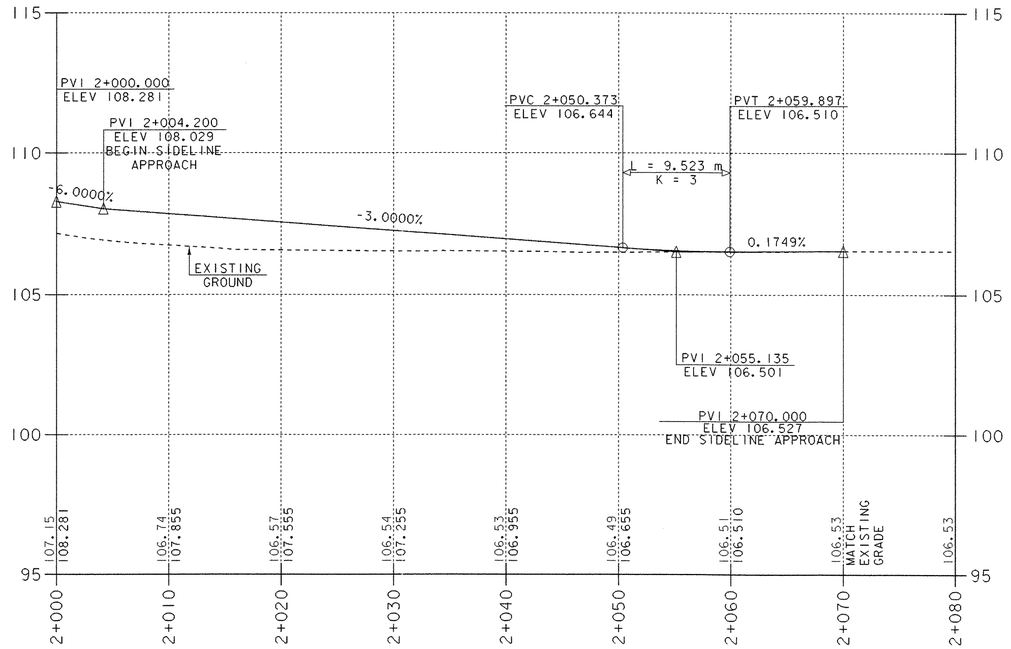
NOTE:

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE EXISTING GROUND ALONG THE CENTERLINE. GRADES SHOWN TO THE NEAREST THOUSANDTH ARE THE PROPOSED FINISHED GRADE ALONG THE CENTERLINE.

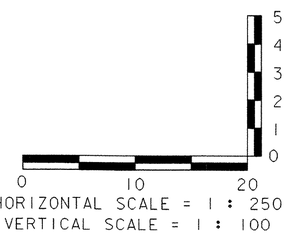


HORIZONTAL SCALE = 1 : 250
VERTICAL SCALE = 1 : 100

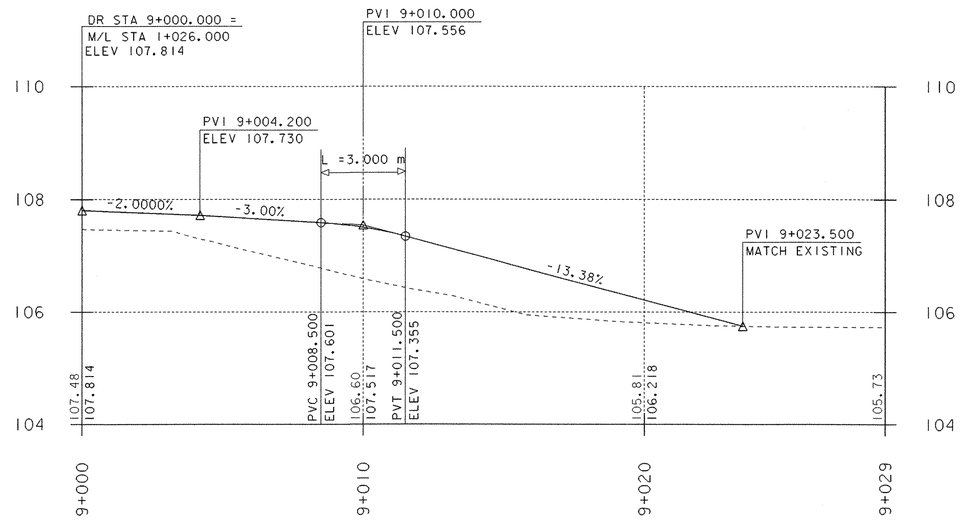
SHEET NAME:	MAINLINE PROFILE SHEET 3		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95j288\Structures\sj288xsl.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088pr5.i
		SHEET	16 OF 90



Profile TH 12

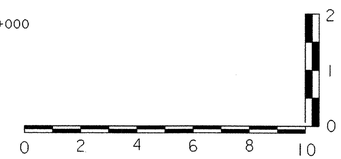


HORIZONTAL SCALE = 1 : 250
VERTICAL SCALE = 1 : 100



Field Drive Profile

℄ STA 1+026 LT = FIELD DRIVE STA 9+000

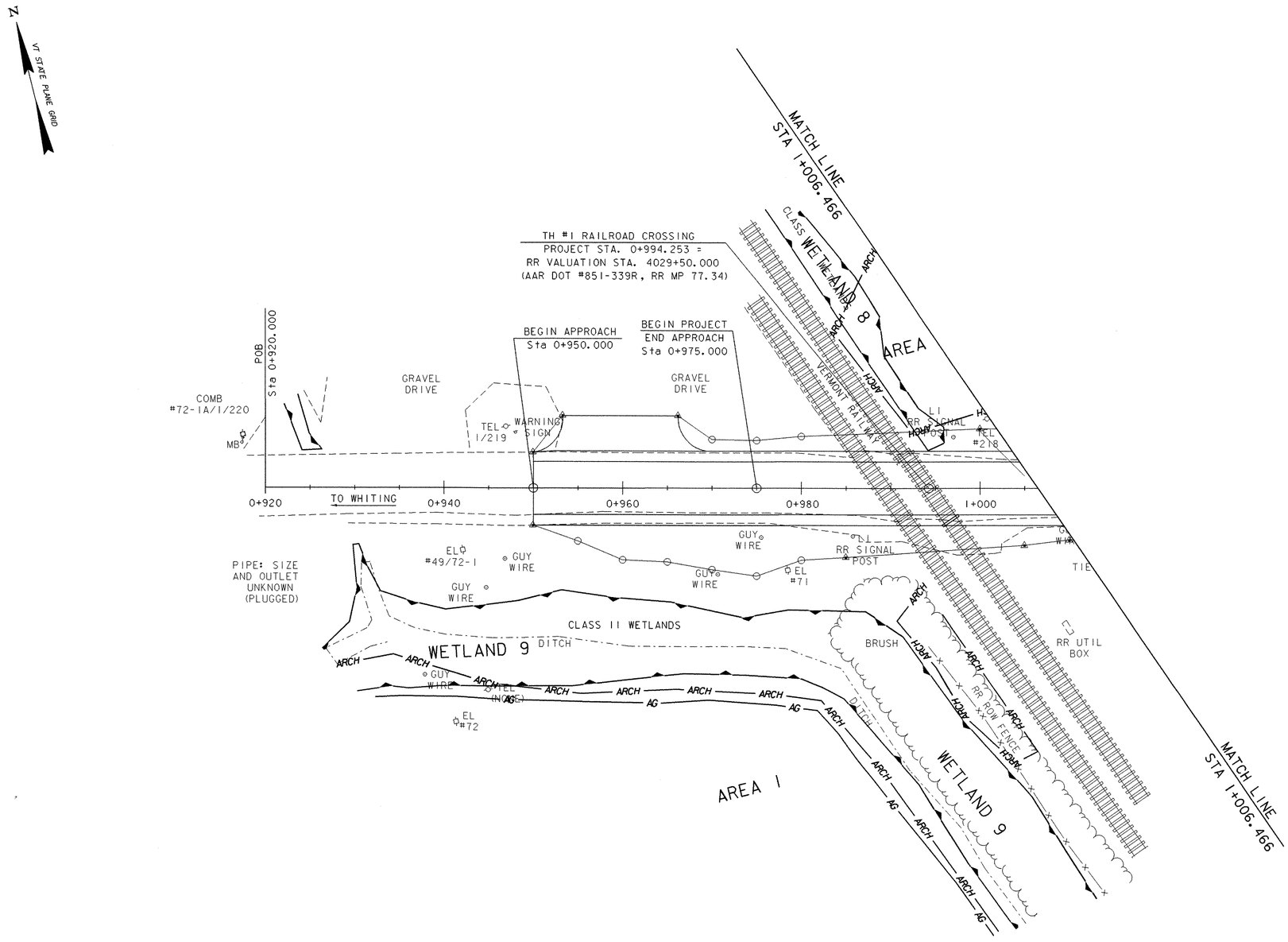


HORIZONTAL SCALE = 1 : 100
VERTICAL SCALE = 1 : 50

NOTE:

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE EXISTING GROUND ALONG THE CENTERLINE. GRADES SHOWN TO THE NEAREST THOUSANDTH ARE THE PROPOSED FINISHED GRADE ALONG THE CENTERLINE.

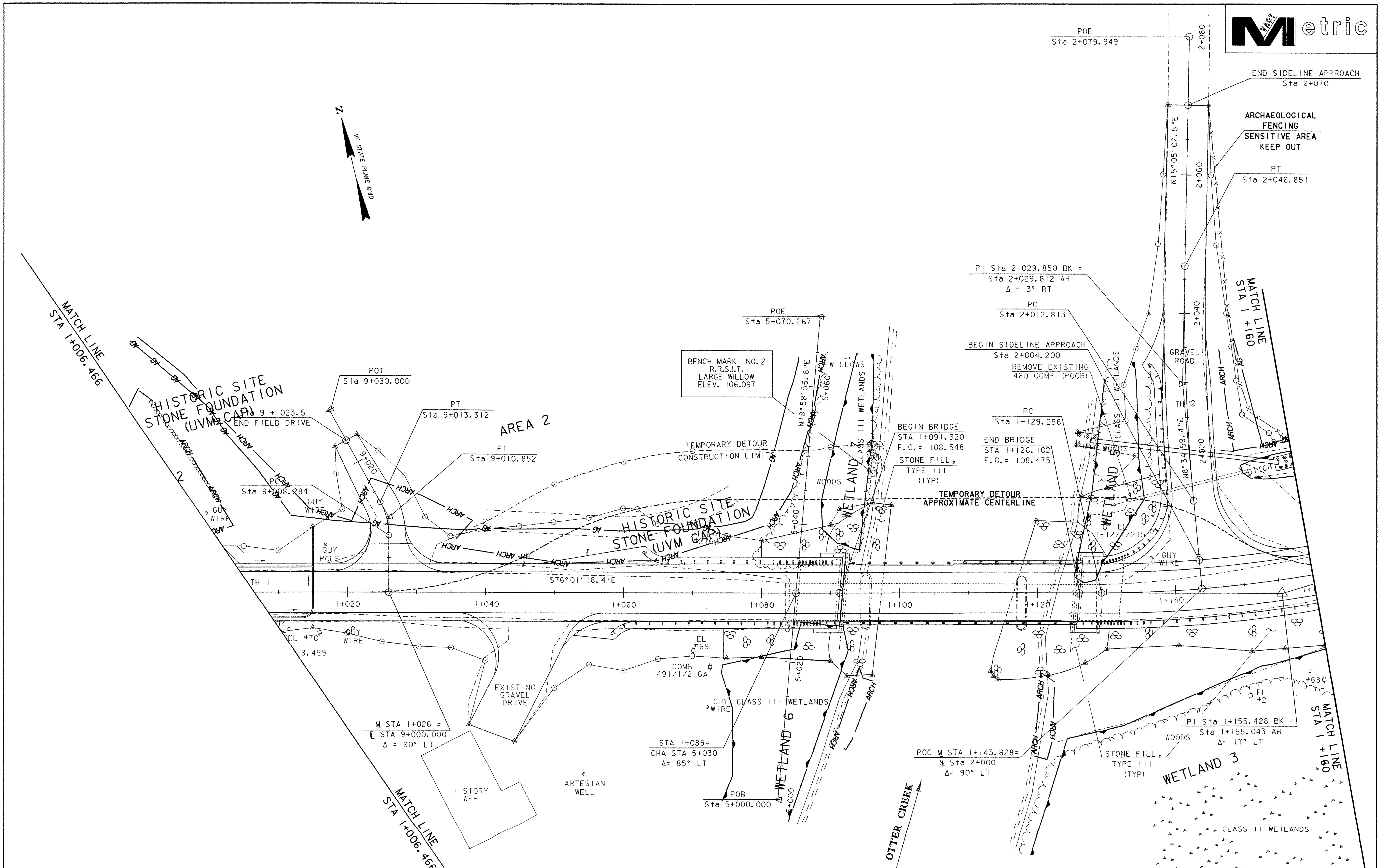
SHEET NAME:	SIDELINE PROFILE SHEET		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95j288\Structures\sj288xsl.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088pr3.1
		SHEET	17 OF 90



0 10 20

SCALE 1:250

SHEET NAME:	RESOURCE LAYOUT #1		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95J288\Structures\sj288bdr.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088rsl1
BRIDGE SHEET NUMBER:		SHEET	18 OF 90



Metric
N
VT STATE PLANE GRID
POE
Sta 2+079.949
END SIDELINE APPROACH
Sta 2+070
ARCHAEOLOGICAL FENCING
SENSITIVE AREA KEEP OUT
PT
Sta 2+046.851
N15°05' 02.5"E
PI Sta 2+029.850 BK =
Sta 2+029.812 AH
Δ = 3° RT
PC
Sta 2+012.813
BEGIN SIDELINE APPROACH
Sta 2+004.200
REMOVE EXISTING
460 CGMP (POOR)
GRAVEL ROAD
TH 12
MATCH LINE
STA 1+160
POE
Sta 5+070.267
BENCH MARK NO. 2
R.R.S.I.T.
LARGE WILLOW
ELEV. 106.097
N18°58' 55.6"E
L. WILLOWS
CLASS III WETLANDS
BEGIN BRIDGE
STA 1+091.320
F.G.= 108.548
STONE FILL,
TYPE III
(TYP)
PC
Sta 1+129.256
END BRIDGE
STA 1+126.102
F.G.= 108.475
CLASS II WETLANDS
WOODS
DITCH
N8°34'59.4"E
TEMPORARY DETOUR
APPROXIMATE CENTERLINE
TEMPORARY DETOUR
CONSTRUCTION LIMITS
WETLAND 7
WETLAND 5
TEL
1-12/1/215
GUY WIRE
MATCH LINE
STA 1+006.466
HISTORIC SITE
STONE FOUNDATION
(UVM CAP)
POT
Sta 9+030.000
PT
Sta 9+013.312
AREA 2
Sta 9+023.5
END FIELD DRIVE
PI
Sta 9+010.852
PC
Sta 9+008.284
GUY WIRE
GUY POLE
HISTORIC SITE
STONE FOUNDATION
(UVM CAP)
S76°01' 18.4"E
TH 1
1+020
1+040
1+060
1+080
1+100
1+120
1+140
EL #70
8.499
GUY WIRE
EXISTING GRAVEL DRIVE
EL #69
COMB
491/1/216A
GUY WIRE
CLASS III WETLANDS
WETLAND 6
℄ STA 1+026 =
℄ STA 9+000.000
Δ = 90° LT
STA 1+085=
CHA STA 5+030
Δ= 85° LT
1 STORY WFH
ARTESIAN WELL
POB
Sta 5+000.000
OTTER CREEK
POC ℄ STA 1+143.828=
℄ Sta 2+000
Δ= 90° LT
STONE FILL,
TYPE III
(TYP)
WOODS
PI Sta 1+155.428 BK =
Sta 1+155.043 AH
Δ= 17° LT
EL #68
EL #2
WETLAND 3
CLASS II WETLANDS
MATCH LINE
STA 1+160
ARCH
0
10
20
SCALE 1:250

SHEET NAME: **RESOURCE LAYOUT #2**

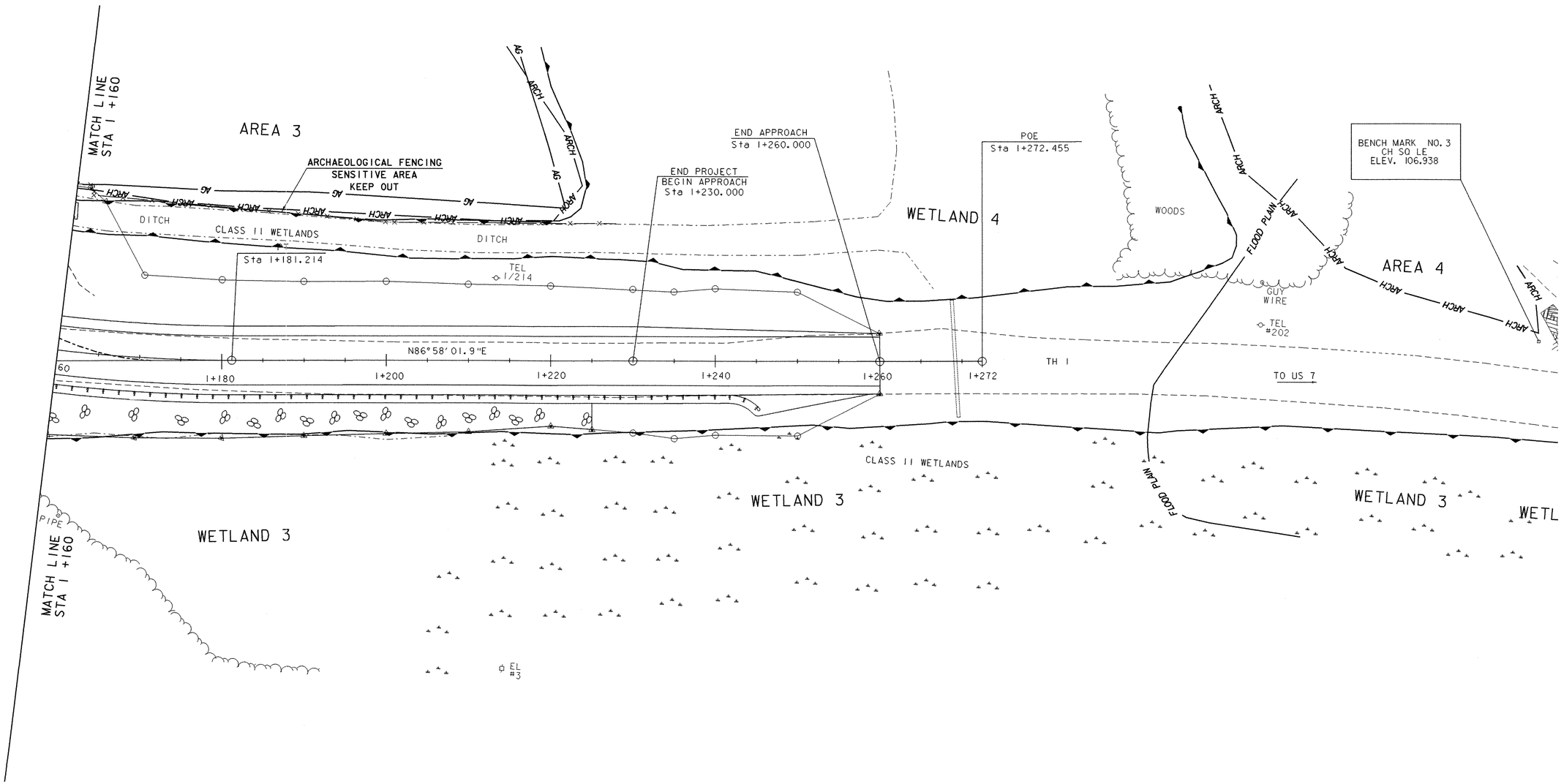
PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: FAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95j288\Structures\sj288bdr.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: J. GILMORE
IPARM NAME: sj088rs2.1
SHEET 19 OF 90

VAOT Metric

N

VT STATE PLANE GRID



0 10 20

SCALE 1:250

SHEET NAME:	RESOURCE LAYOUT #3		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME: 95J288\Structures\sj288bdr.dgn		PLOT DATE:	17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB		DRAWN BY:	J. GILMORE
DESIGNED BY: C. CARLSON		IPARM NAME:	sj088rs3.1
BRIDGE SHEET NUMBER:		SHEET	20 OF 90

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EROSION CONTROL NARRATIVE

VAOT Metric

PROJECT DESCRIPTION

The project is located on Town Highway 1 over the Otter Creek in the town of Leicester, Vermont. The project area is located approximately 1.61 kilometers (1.0 miles) westerly of the junction of Town Highway 3 and Town Highway 1. The project extends in an east-west direction at this location or approximately 0.19 kilometers (0.12 miles) along Town Highway 1.

Construction will involve the replacement of Bridge #6 on a revised alignment approximately 1.22 meters (4 feet) downstream of the existing alignment. Work will include: construction of a new single span steel girder bridge structure with concrete deck and asphalt overlay that completely spans Otter Creek, new concrete abutments (on piles) and improved roadway approaches and channel work. Town Highway 1 will not be closed during construction work. Traffic will be maintained on an adjacent temporary two-way bridge located downstream during construction.

The vertical clearance of the bridge above streambed will be increased slightly from 6.5 meters (21.3 feet) to 6.7 meters (21.9 feet). There will be a decrease in the waterway full opening by 7 square meters (75 square feet) but the waterway flow characteristics with the location of the new bridge will be greatly improved by the elimination of the poorly aligned existing piers located within the creek channel. In addition, flow characteristic improvements will be realized by realignment of the creek channel subsequent to necessary excavation work during the new abutment installations.

The total disturbed area, excluding waste, borrow and staging areas, is 0.716 hectares.

SITE INVENTORY AND ANALYSIS

OFF SITE DRAINAGE CHARACTERISTICS
The project site is predominantly level. There are some preexisting unlined ditches along both sides of Town Highway 1 at STA 0+940 – STA 0+980 RT, STA 1+150 – STA 1+260 LT. In general, the road surfaces are the high point of the local terrain. Therefore, surface water runoff will flow off the roadway, along the side of the road and toward the Otter Creek. There seems to be little vegetation to impede this flow and particulate transport is probably high.

DRAINAGE, WATERWAYS, BODIES OF WATER
The project site includes Otter Creek, which is characterized as sinuous and alluvial. Otter Creek has a wide flood plain with a relatively flat slope and a drainage area of 1270 square kilometers. The entire project site is within the flood plain and is surrounded by defined wetland areas.

TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES
The terrain is flat at the construction site but changes to hilly and mountainous upstream. Town Highway 1 is a paved Class 2 road. Town Highway 12 is a gravel Class 3 road. The Vermont Railway crosses Town Highway 1 at STA 0+992. There is a one story wood frame house at STA 1+037 RT. The aerial utility lines span both sides of Town Highway 1, but they will be relocated by Central Vermont Power Supply to eliminate any interference with the construction site.

VEGETATION
There is little vegetation within the project site. There is a thin strip of trees on both banks of the Otter Creek. There is some brush on the west side of the railroad tracks. There are some residential type grasses growing along both sides of Town Highway 1.

No vegetation is specifically marked for removal and the impacts to the vegetation will be limited to that which is necessary for the construction of the new bridge.

SOILS
There are two soil types listed in the project area. From west to east, they are Limerick silt loam (Le) and Winooski very fine sandy loam (Wo).

The Limerick series consists of very deep, poorly drained soils on flood plains. They formed in loamy alluvium. Permeability is moderate. Slope ranges from 0 to 3 percent. Mean annual precipitation is about 34 inches and mean annual temperature is about 45 degrees F.

The Winooski series consists of very deep, moderately well drained soils formed in alluvial material. These soils are on nearly level floodplains. Slope ranges from 0 to 3 percent. Permeability is moderate or moderately rapid. Mean annual precipitation is about 45 inches and the mean annual temperature is about 49 degrees F.

The listed soil erodability coefficient (K-Value) for both of these soils is 0.49. This value is in the range of soil that is classified as not highly erodable. (USDA Soil Conservation Service, 1967)

SEDIMENT SETTLING BASIN SIZING CRITERIA

PUMP FLOW RATE		REQUIRED SURFACE AREA		LENGTH / WIDTH = 2:1			
Q(gpm)	Q(m^3/s)	(ft^2)	(m^2)	L (ft)	W (ft)	L (m)	W (m)
50	0.0032	595	55	35.0	17.0	10.6	5.3
100	0.0063	1200	111	49.0	24.5	15.0	7.5
150	0.0095	1776	165	59.6	29.8	18.2	9.1
200	0.0126	2368	220	68.8	34.4	21.0	10.5
250	0.0158	2970	276	77.0	38.5	23.4	11.7
300	0.0189	3560	330	84.4	42.2	25.8	12.9
350	0.0221	4155	386	91.2	45.6	27.8	13.9

SENSITIVE RESOURCE AREAS
There are nine wetland areas and four archeologically sensitive areas defined around the project site.

The drive at STA 1+026 LT is just outside an archeologically sensitive area. In this area, only fill is to be added. There will be no cuts made or removal of topsoil. All work done for adding the fill will be done within the drive limits.

All work on Town Highway 12 will be conducted from the roadway, also.

Protective fencing will be placed between the project site and all archeologically sensitive lands to avoid accidental impacts. Because precautions will be taken to avoid impacts to all identified archeological sensitive areas, this project qualifies for the category of "No Historic Properties Affected" because no buildings, structures, districts or archeological resources listed on or eligible for the National Register of Historic Places are located in the area of potential effect.

The well at STA 1+060 RT should be monitored for quantity and quality before, during and after construction.

It is important to note that the wetlands on the southern side of the Leicester-Whiting Road are unique to Vermont in that they are dominated by Buttonbush (Cephalanthus occidentalis). This plant is at the northern fringe of its natural range and is an important food supply for wildlife.

PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES
The removal of the existing structure and the construction of the new structure will take place on the banks and over the Otter Creek.

TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL

SEEDING AND MULCHING
Mulch should be applied to exposed soil at the end of each work day. This will require careful planning of the phasing of earth moving. Seed and mulch should be applied as soon as no more soil disturbance is expected to occur. Seed and mulch should be applied to topsoil stockpiles as well as to areas of disturbed soil.

PROJECT DEMARCATION FENCE
Install PDF along the perimeters of areas of disturbed soils. This fencing prevents construction equipment from pushing debris into areas of undisturbed vegetation, and minimizes the area of disturbed soil.

SURFACE ROUGHENING
If surfaces of slopes are left rough, this can help to reduce water velocity and increase infiltration rates. Rough slopes hold water, seed, and mulch better than smooth slopes. Slope surfaces can be roughened by running wheeled construction equipment across the slope or driving tracked equipment up and down the slope. The grooves created by the construction equipment should run across the slope horizontally and not up and down the slope. Slopes can also be scarified to produce the desired surface roughness.

COFFERDAM
Cofferdams are provided to ensure that the excavation of the existing abutments and construction of the new abutments adjacent to the Otter Creek are done in the dry. This may involve the design, construction, maintenance, and removal of a watertight structure or may involve alternate methods of dewatering and stabilizing the site.

CHECK DAM
A check dam is a small dam made of concrete, masonry, rock, metal, wood, sandbags, or other erosion-resistant materials placed in small erosion control waterways or around storm drain inlets. The purpose of a check dam is to reduce or prevent erosion and sedimentation by reducing velocities, by promoting deposition of sediment, and by stabilizing channel grades. Check dams can be damaged by heavy runoff or high water velocities, so be sure to inspect them often and repair or replace then when necessary.

SILT FENCE
A silt fence is a temporary sediment barrier installed at the toe of a slope, or adjacent waterway. The purpose of the silt fence is to intercept and detain small amounts of sediment from unprotected areas of limited extent, and to reduce water velocity on the construction site. A silt fence is constructed of synthetic sedimentation control fabric fastened to a support structure such as a lightweight stock fence. The fence is built parallel to contours where possible. The lower edge of the filter fabric must be buried about 6 inches below ground surface to prevent underflow, and the ends of the fence should be curved uphill to prevent flow around the ends. Silt fence shall also be built around the stabilized construction area.

STABILIZED CONSTRUCTION ENTRANCE
A stabilized pad of crushed stone located at any point where traffic will be entering or leaving a construction site to or from a public right-of-way, street, sidewalk or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking of sediment onto public rights-of-way.

PERMANENT EROSION CONTROL MEASURES

STONE FILL
Stone fill, Type III, will be placed on the sides and in front of Abutments #1 and #2 at STA 1+075 – STA 1+097 LT & RT and STA 1+113 – STA 1+138 LT & RT. This will prevent runoff from eroding the sides of the banks leading down to the Otter Creek. This will also act as a buffer to prevent the Otter Creek from scouring the soil around the abutments.

DRAINAGE DITCH AND PIPES
A pipe will be installed at STA 2+020 to allow the uninterrupted flow of surface runoff from the drainage ditch on the east of Town Highway 12 to the Otter Creek. Stone fill Type III will be placed at STA 1+130 – STA 1+225 RT and will serve a dual purpose. The stone will help support the edge of the road better than compacted fill and will help keep the roadway edge from being eroded by runoff flow along the south side of Town Highway 1 at this location.

SEED AND MULCH
Seeding and mulching is one of the most effective means of controlling erosion. Therefore, all exposed surfaces outside of the roadway limits, which are not specified to be covered by stones or some other suitable cover, will be seeded and mulched.

GENERAL EROSION & SEDIMENT CONTROL GUIDELINES

The Erosion Control Plans are meant as a guideline for preventing erosion and controlling sediment transport. The work outlined in this narrative consists of applying measures throughout the life of the project to control erosion and minimize the sedimentation of receiving waters. The measures include stabilization and structural practices, storm water controls and other pollution prevention controls.

Coordinate the installation, use, and removal of erosion and sediment control measures with construction activities to ensure economical, effective and continuous erosion and sediment control. Employ temporary stabilization practices in incremental stages as construction proceeds. The contractor will use additional erosion control measures as necessitated by the sequence of construction and as directed by the Engineer and On-Site Coordinator. See section 105.23 of the Vermont AOT Standard Specifications for Construction, dated 2001.

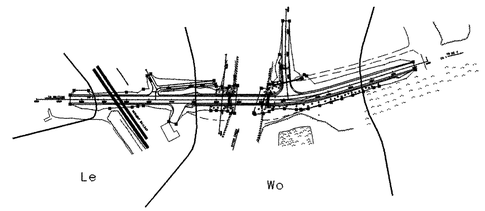
Install all erosion and sediment control measures as shown in the Erosion Control Plan or as directed by the Engineer and On-Site Coordinator. Do not modify the type, size or location of any control or practice without approval of the Engineer. Any changes shall be noted on the plans, in the weekly inspection report, and reported to the appropriate authority in a timely manner. Inspect all control measures weekly and after each rainfall event. Repair or replace any damaged measures.

Preventing initial soil erosion is much more effective than treating eroded sediment. Therefore, stabilize all disturbed areas promptly after construction activity has temporarily or permanently ceased. Temporary vegetation shall be established if the area is to be without construction activity for a period of 14 days. Perimeter control measures shall be installed following clearing, but prior to the start of any grubbing or grading activity, install other temporary controls in incremental stages as construction proceeds.

Maintaining vegetated buffers along stream banks, wetlands or other sensitive areas is a crucial erosion and sediment control measure that should be established wherever possible.

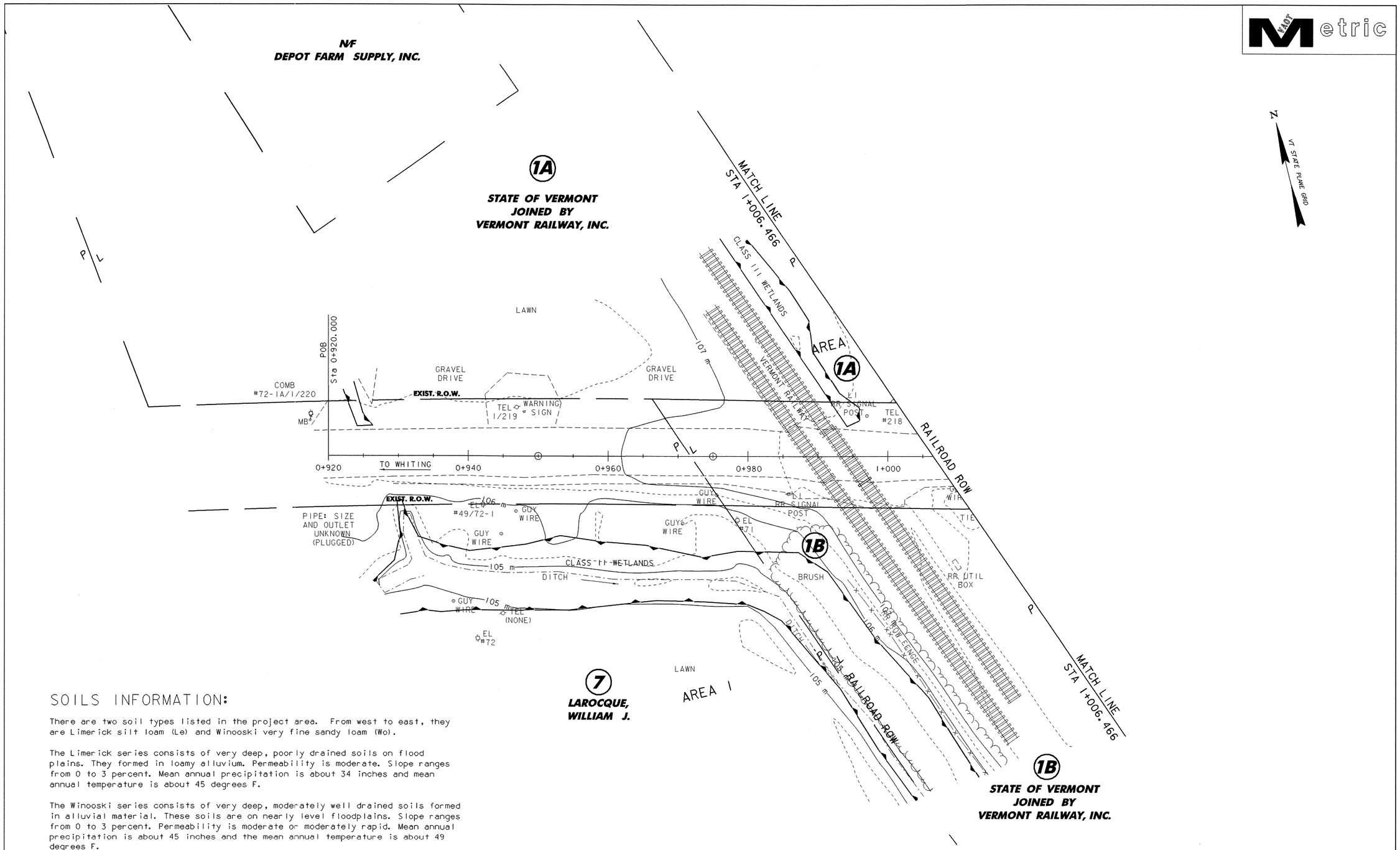
Control only sediment-laden runoff generated by the project site. Collect and route clean offsite runoff around or through the project site using diversion berms, diversion channels, culverts and/or temporary pipes.

Do not allow construction equipment to operate on the down slope side of perimeter control measures.



DELINEATION OF DIFFERENT SOIL TYPES

SHEET NAME: EROSION CONTROL NARRATIVE	
PROJECT NAME: LEICESTER	HIGHWAY NO.: FAS 0160
PROJECT NUMBER: BRF 0160(3)S	BRIDGE NO.: TH 6
	OVER: OTTER CREEK
FILE NAME: 95J288\Structures\sj288ecd.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: VAOT
DESIGNED BY: C. CARLSON	IPARM NAME: sj288ecn.i
BRIDGE SHEET NUMBER:	SHEET 21 OF 90



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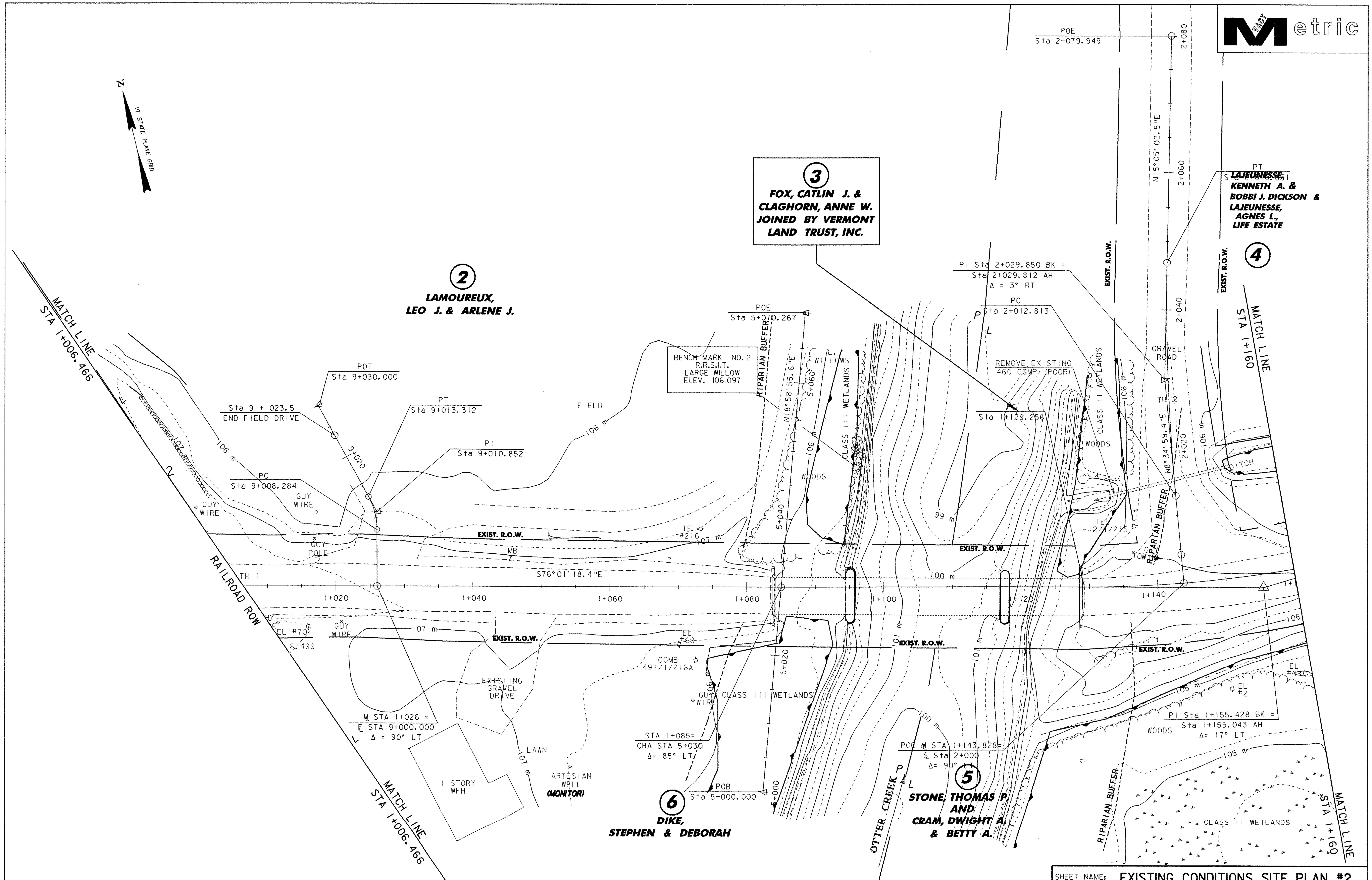
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83/92
ADJUSTED	YES
TYPE	COMPASS

0 10 20

SCALE 1:250

SHEET NAME:	EXISTING CONDITIONS SITE PLAN #1		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95J288\Structures\sj288bdr.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	STRI
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj288erol1
BRIDGE SHEET NUMBER:		SHEET	22 OF 90


Metric
N
VT STATE PLANE GRID
POE
Sta 2+079.949
2+080
N15°05'02.5"E
2+060
PT
LAJEUNESSE,
KENNETH A. &
BOBBI J. DICKSON &
LAJEUNESSE,
AGNES L.,
LIFE ESTATE
4
3
FOX, CATLIN J. &
CLAGHORN, ANNE W.
JOINED BY VERMONT
LAND TRUST, INC.
2
LAMOUREUX,
LEO J. & ARLENE J.
MATCH LINE
STA 1+006.466
MATCH LINE
STA 1+160
PI Sta 2+029.850 BK =
Sta 2+029.812 AH
Δ = 3° RT
PC
Sta 2+012.813
EXIST. R.O.W.
2+040
GRAVEL ROAD
TH 12
POE
Sta 5+070.267
RIPARIAN BUFFER
BENCH MARK NO. 2
R.R.S.I.T.
LARGE WILLOW
ELEV. 106.097
N18°58'55.6"E
5+060
WILLOWS
CLASS III WETLANDS
REMOVE EXISTING
460 CCMP (POOR)
Sta 1+129.256
CLASS II WETLANDS
WOODS
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Sta 9 + 023.5
END FIELD DRIVE
PT
Sta 9+013.312
FIELD
106 m
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Sta 9+010.852
9+020
PC
Sta 9+008.284
GUY WIRE
GUY POLE
MB
TEL #216
EXIST. R.O.W.
S76°01'18.4"E
TH 1
WOODS
5+040
99 m
TEL 1-12/1/215
1+020
1+040
1+060
1+080
1+100
1+120
1+140
100 m
RAILROAD ROW
EL #70
8.499
107 m
EL #69
EXIST. R.O.W.
COMB 491/1/216A
5+020
101 m
EL #680
EL #2
105 m
EXISTING GRAVEL DRIVE
CLASS III WETLANDS
PI Sta 1+155.428 BK =
Sta 1+155.043 AH
Δ = 17° LT
WOODS
℄ STA 1+026 =
℄ STA 9+000.000
Δ = 90° LT
STA 1+085=
CHA STA 5+030
Δ= 85° LT
POC ℄ STA 1+143.828=
℄ Sta 2+000
Δ= 90° LT
LAWN
1 STORY WFH
ARTESIAN WELL (MONITOR)
POB
Sta 5+000.000
5+000
6
DIKE,
STEPHEN & DEBORAH
OTTER CREEK
5
STONE, THOMAS P.
AND
CRAM, DWIGHT A.
& BETTY A.
RIPARIAN BUFFER
CLASS II WETLANDS
0
10
20
SCALE 1:250

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83/92
ADJUSTED	YES
TYPE	COMPASS

SHEET NAME: EXISTING CONDITIONS SITE PLAN #2	
PROJECT NAME: LEICESTER	HIGHWAY NO.: FAS 0160
PROJECT NUMBER: BRF 0160(3)S	BRIDGE NO.: 6
	OVER: OTTER CREEK
FILE NAME: 95j288\Structures\sj288bdr.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: STRI
DESIGNED BY: C. CARLSON	IPARM NAME: sj288ero2.i
BRIDGE SHEET NUMBER:	SHEET 23 OF 90

VAOT Metric

N

VT STATE PLANE 1983

MATCH LINE STA 1+160

FIELD

AREA 3

4

LAJEUNESSE, KENNETH A. & BOBBI J. DICKSON & LAJEUNESSE, AGNES L., LIFE ESTATE

105 m

POE
Sta 1+272.455

BENCH MARK NO. 3
CH SQ LE
ELEV. 106.938

WOODS

108 m

AREA 4

GRAVEL DRIVE

DITCH

CLASS II WETLANDS

DITCH

Sta 1+184.214

105 m

TEL
1/214

EXIST. R.O.W.

EXIST. R.O.W.

106 m

EXIST. R.O.W.

GUY WIRE

TEL
#202

N86°58'01.9"E

1+180

1+200

1+220

1+240

1+260

1+272

TH 1

TO US 7

60

106 m

105 m

EXIST. R.O.W.

105 m

EXIST. R.O.W.

CLASS II WETLANDS

EXIST. R.O.W.

105 m

106 m

105 m

MIXED VEGETATION

PIPE

105 m

MATCH LINE STA 1+160

EL #3

5

STONE, THOMAS P. AND CRAM, DWIGHT A. & BETTY A.

DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD 83/92
ADJUSTED	YES
TYPE	COMPASS

0 10 20

SCALE 1:250

SHEET NAME: EXISTING CONDITIONS SITE PLAN #3

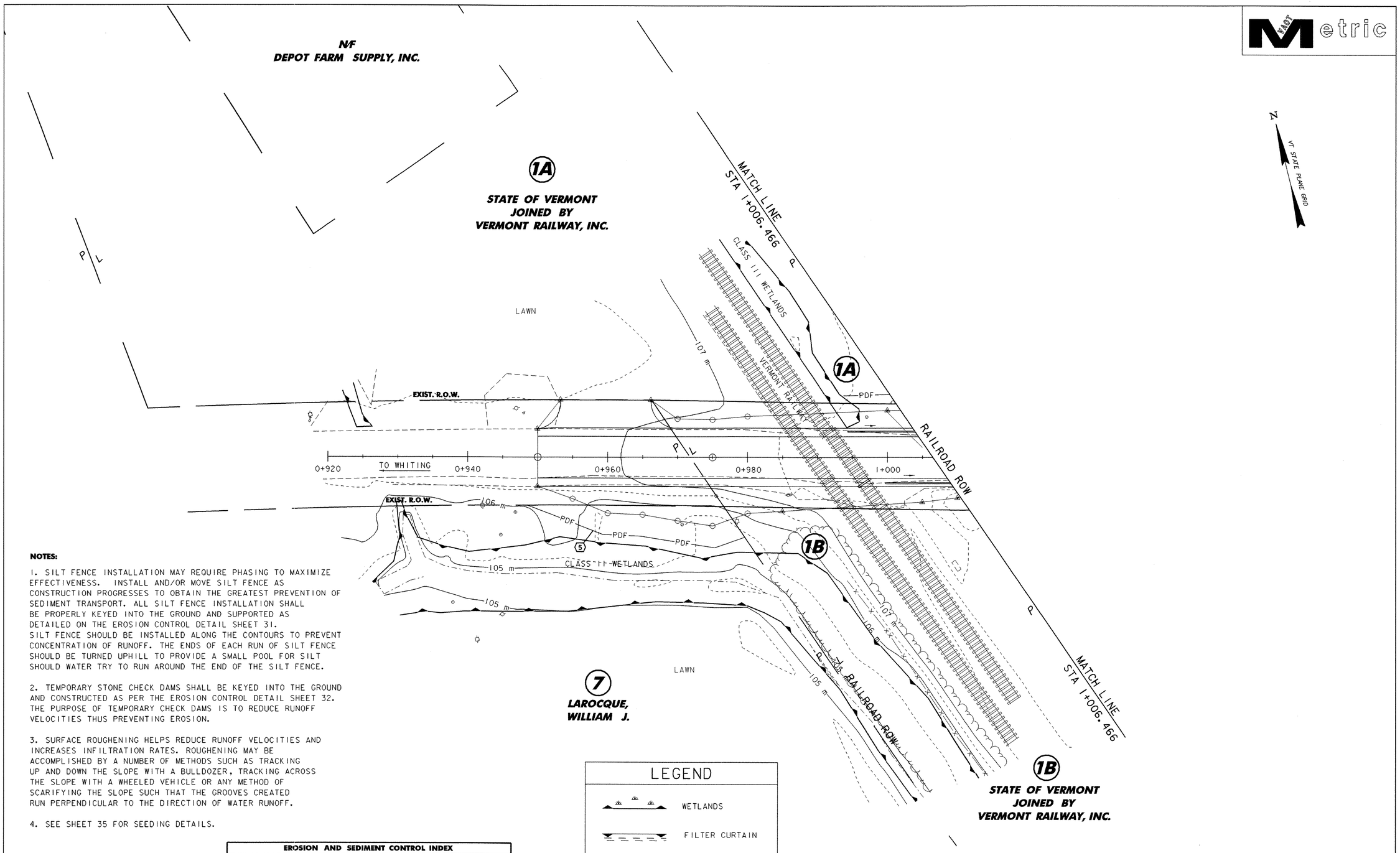
PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S

HIGHWAY NO.: FAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sj288bdr.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:

PLOT DATE: 17-AUG-2005
DRAWN BY: STRI
IPARM NAME: sj288ero3.i
SHEET 24 OF 90

VAOT Metric



NOTES:

1. SILT FENCE INSTALLATION MAY REQUIRE PHASING TO MAXIMIZE EFFECTIVENESS. INSTALL AND/OR MOVE SILT FENCE AS CONSTRUCTION PROGRESSES TO OBTAIN THE GREATEST PREVENTION OF SEDIMENT TRANSPORT. ALL SILT FENCE INSTALLATION SHALL BE PROPERLY KEYED INTO THE GROUND AND SUPPORTED AS DETAILED ON THE EROSION CONTROL DETAIL SHEET 31. SILT FENCE SHOULD BE INSTALLED ALONG THE CONTOURS TO PREVENT CONCENTRATION OF RUNOFF. THE ENDS OF EACH RUN OF SILT FENCE SHOULD BE TURNED UPHILL TO PROVIDE A SMALL POOL FOR SILT SHOULD WATER TRY TO RUN AROUND THE END OF THE SILT FENCE.

2. TEMPORARY STONE CHECK DAMS SHALL BE KEYED INTO THE GROUND AND CONSTRUCTED AS PER THE EROSION CONTROL DETAIL SHEET 32. THE PURPOSE OF TEMPORARY CHECK DAMS IS TO REDUCE RUNOFF VELOCITIES THUS PREVENTING EROSION.

3. SURFACE ROUGHENING HELPS REDUCE RUNOFF VELOCITIES AND INCREASES INFILTRATION RATES. ROUGHENING MAY BE ACCOMPLISHED BY A NUMBER OF METHODS SUCH AS TRACKING UP AND DOWN THE SLOPE WITH A BULLDOZER, TRACKING ACROSS THE SLOPE WITH A WHEELED VEHICLE OR ANY METHOD OF SCARIFYING THE SLOPE SUCH THAT THE GROOVES CREATED RUN PERPENDICULAR TO THE DIRECTION OF WATER RUNOFF.

4. SEE SHEET 35 FOR SEEDING DETAILS.

EROSION AND SEDIMENT CONTROL INDEX	
NO.	DESCRIPTION
(1)	INSTALL ARCH. FENCE ALONG ARCHEOLOGICALLY SENSITIVE AREA
(2)	INSTALL SILT FENCE AT DOWNSLOPE SIDE OF DISTURBANCE LIMITS
(3)	ENDS OF FENCE TURNED UPHILL TO CREATE PONDING
(4)	INSTALL ROCK CHECK DAMS IN DITCHES
(5)	PROJECT LIMIT DEMARCATION FENCE (SNOW FENCE (MOD-PDF))
(6)	EROSION CONTROL MATTING

NOTE: ALL DISTURBED AREAS WITH SLOPES GREATER THAN 1:3 WILL REQUIRE TEMPORARY EROSION MATTING (SEE EROSION CONTROL DETAIL SHEET 35)

LEGEND

- WETLANDS
- FILTER CURTAIN
- SILT FENCE
- STONE FILL, TYPE III
- STONE FILL, TYPE I (MOD. I - CHECK DAMS)
- —PDF— PROJECT DEMARCATION FENCING

0 10 20

SCALE 1:250

DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD 83/92
ADJUSTED	YES
TYPE	COMPASS

SHEET NAME: EROSION PREVENTION & SEDIMENT CONTROL PLAN #1

PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK

FILE NAME:	95J288\Structures\sj288bdr.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	STRI
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj288ero4.1
BRIDGE SHEET NUMBER:		SHEET	25 OF 90

EROSION AND SEDIMENT CONTROL INDEX	
NO.	DESCRIPTION
1	INSTALL ARCH. FENCE ALONG ARCHEOLOGICALLY SENSITIVE AREA
2	INSTALL SILT FENCE AT DOWNSLOPE SIDE OF DISTURBANCE LIMITS
3	ENDS OF FENCE TURNED UPHILL TO CREATE PONDING
4	INSTALL ROCK CHECK DAMS IN DITCHES
5	PROJECT LIMIT DEMARCATION FENCE (SNOW FENCE (MOD-PDF))
6	EROSION CONTROL MATTING
7	INSTALL FILTER CURTAIN

NOTE: ALL DISTURBED AREAS WITH SLOPES GREATER THAN 1:3 WILL REQUIRE TEMPORARY EROSION MATTING (SEE EROSION CONTROL DETAIL SHEET 35)

N

VT STATE PLANE GRID

LEGEND

- WETLANDS
- FILTER CURTAIN
- SILT FENCE
- STONE FILL, TYPE III
- STONE FILL, TYPE I (MOD. I - CHECK DAMS)
- PDF — PROJECT DEMARCATION FENCING

2
LAMOUREUX, LEO J. & ARLENE J.

3
FOX, CATLIN J. & CLAGHORN, ANNE W. JOINED BY VERMONT LAND TRUST, INC.

4
LAJEUNESSE, KENNETH A. & BOBBI J. DICKSON & LAJEUNESSE, AGNES L., LIFE ESTATE

5
STONE, THOMAS P. AND CRAM, DWIGHT A. & BETTY A.

6
DIKE, STEPHEN & DEBORAH

MATCH LINE STA 1+006.466

MATCH LINE STA 1+160

RAILROAD ROW

EXIST. R.O.W.

TEMPORARY DETOUR CONSTRUCTION LIMITS

TEMPORARY DETOUR APPROXIMATE CENTERLINE

SETTLING BASIN

STONE FILL, TYPE III (TYP)

RIPARIAN BUFFER

CLASS II WETLANDS

CLASS III WETLANDS

BENCH MARK NO. 2
R.R.S.I.T.
LARGE WILLOW
ELEV. 106.097

FIELD

GRAVEL ROAD

LAWN

(MONITOR)

OTTER CREEK

S76°01'18.4"E

N18°58'55.6"E

N15°05'02.5"E

N8°34'53.4"E

0 10 20

SCALE 1:250

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83/92
ADJUSTED	YES
TYPE	COMPASS

SHEET NAME: EROSION PREVENTION & SEDIMENT CONTROL PLAN #2

PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK

FILE NAME: 95J288\Structures\sj288bdr.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: STRI
DESIGNED BY: C. CARLSON	IPARM NAME: sj288ero5.i
BRIDGE SHEET NUMBER:	SHEET 26 OF 90

LEGEND

- WETLANDS
- FILTER CURTAIN
- SILT FENCE
- STONE FILL, TYPE III
- PDF — PROJECT DEMARCATION FENCE
- EROSION CONTROL MATTING

VAST Metric

N

VT STATE PLANE GRID

4

LAJEUNESSE, KENNETH A. & BOBBI J. DICKSON & LAJEUNESSE, AGNES L., LIFE ESTATE

FIELD

MATCH LINE STA 1+160

BENCH MARK NO. 3
CH SQ LE
ELEV. 106.938

105 m

PDF

EXIST. R.O.W.

N86°58'01.9"E

1+180 1+200 1+220 1+240 1+260 1+272

TH 1

TO US 7

106 m

107 m

108 m

MIXED VEGETATION

MATCH LINE STA 1+160

5

STONE, THOMAS P. AND CRAM, DWIGHT A. & BETTY A.

DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD 83/92
ADJUSTED	YES
TYPE	COMPASS

0 10 20

SCALE 1:250

SHEET NAME: EROSION PREVENTION & SEDIMENT CONTROL PLAN #3

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S

HIGHWAY NO.: FAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sj288bdr.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:

PLOT DATE: 17-AUG-2005
DRAWN BY: STRI
IPARM NAME: sj288er06.I
SHEET 27 OF 90

VAOT Metric

N

VT STATE PLANE GRID

NF
DEPOT FARM SUPPLY, INC.

1A

STATE OF VERMONT
JOINED BY
VERMONT RAILWAY, INC.

MATCH LINE
STA 1+006.466

℄

RAILROAD ROW

CLASS III WETLANDS

VERMONT RAILWAY

LAWN

107 m

EXIST. R.O.W.

℄

0+920 TO WHITING 0+940 0+960 0+980 1+000

EXIST. R.O.W.

106 m

105 m

CLASS III WETLANDS

105 m

1B

107 m

106 m

105 m

℄ RAILROAD ROW

LAWN

7

LAROCQUE,
WILLIAM J.

℄

MATCH LINE
STA 1+006.466

1B

STATE OF VERMONT
JOINED BY
VERMONT RAILWAY, INC.

NOTE:
CONTOURS SHOWN INDICATE THE EXISTING SITE.
SEE CROSS SECTION AND CHANNEL SECTION SHEETS
FOR GRADE CHANGES.

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83/92
ADJUSTED	YES
TYPE	COMPASS

0 10 20

SCALE 1:250

SHEET NAME: FINAL CONDITIONS SITE PLAN #1

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S

HIGHWAY NO.: FAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sj288bdr.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:

PLOT DATE: 17-AUG-2005
DRAWN BY: STRI
IPARM NAME: sj288ero7.i
SHEET 28 OF 90

VAOT Metric

N

VT STATE PLANE GRID

2
LAMOUREUX, LEO J. & ARLENE J.

3
FOX, CATLIN J. & CLAGHORN, ANNE W. JOINED BY VERMONT LAND TRUST, INC.

4
LAJEUNESSE, KENNETH A. & BOBBI J. DICKSON & LAJEUNESSE, AGNES L., LIFE ESTATE

5
STONE, THOMAS P. AND CRAM, DWIGHT A. & BETTY A.

6
DIKE, STEPHEN & DEBORAH

MATCH LINE STA 1+006.466

MATCH LINE STA 1+160

RAILROAD ROW

BENCH MARK NO. 2
R.R.S.I.T.
LARGE WILLOW
ELEV. 106.097

FIELD

TEMPORARY DETOUR
CONSTRUCTION LIMITS

TEMPORARY DETOUR
APPROXIMATE CENTERLINE

EXIST. R.O.W.

RIPARIAN BUFFER

CLASS III WETLANDS

CLASS II WETLANDS

STONE FILL, TYPE III (TYP)

GRAVEL ROAD

LAWN

(MONITOR)

OTTER CREEK

TH 1

S76° 01' 18.4"E

N15° 05' 02.5"E

N8° 34' 59.4"E

N18° 58' 55.6"E

NOTE:
CONTOURS SHOWN INDICATE THE EXISTING SITE.
SEE CROSS SECTION AND CHANNEL SECTION SHEETS
FOR GRADE CHANGES.

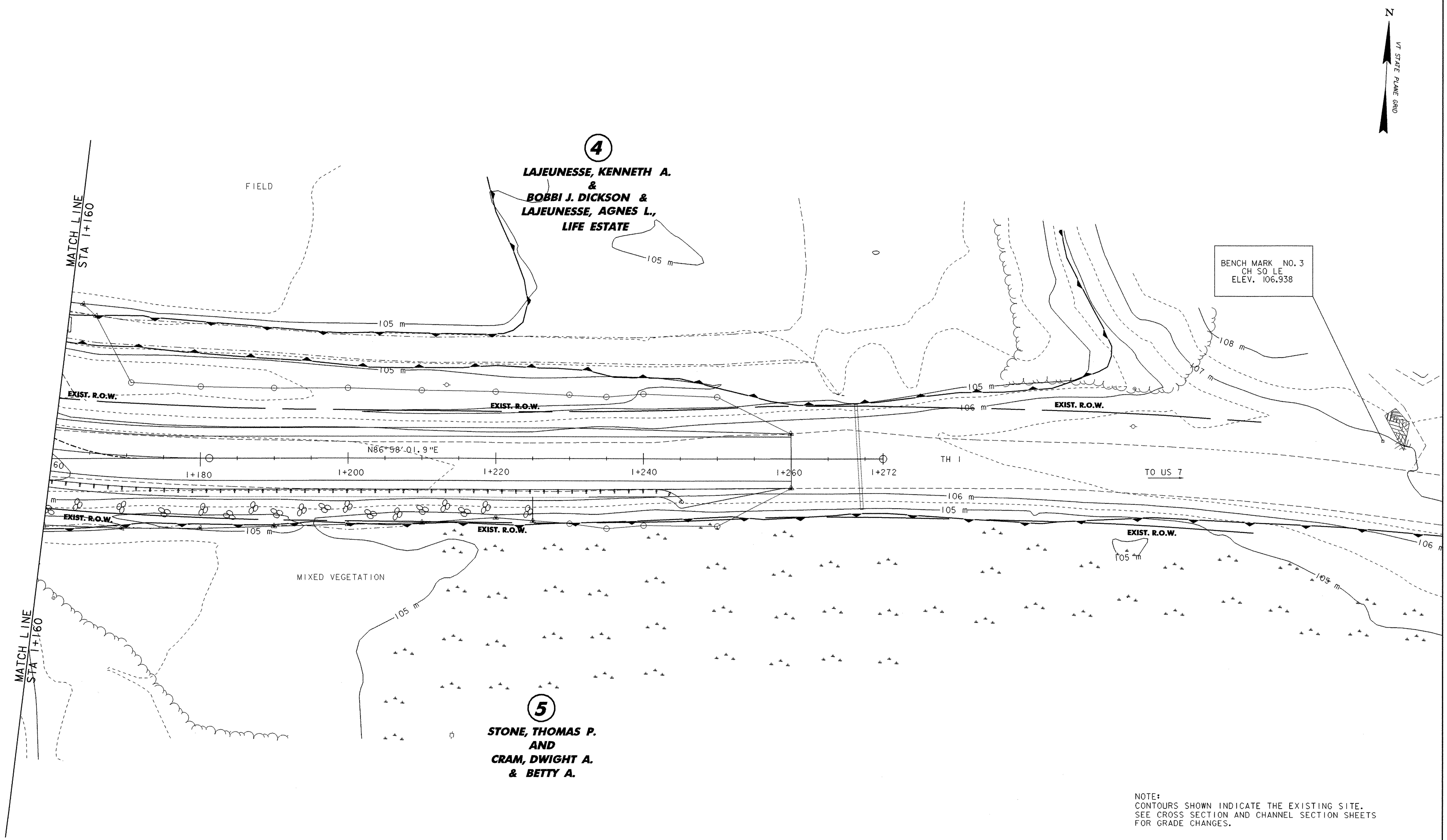
0 10 20
SCALE 1:250

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83/92
ADJUSTED	YES
TYPE	COMPASS

SHEET NAME: FINAL CONDITIONS SITE PLAN #2

PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK

FILE NAME: 95J288\Structures\sj288bdr.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: STRI
DESIGNED BY: C. CARLSON	IPARM NAME: sj288ero8.i
BRIDGE SHEET NUMBER:	SHEET 29 OF 90

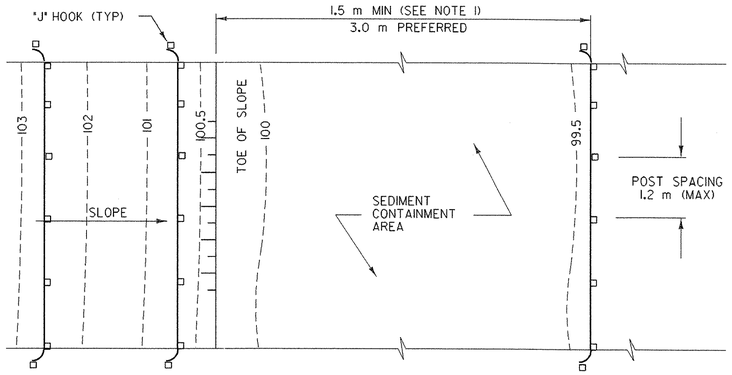


NOTE:
CONTOURS SHOWN INDICATE THE EXISTING SITE.
SEE CROSS SECTION AND CHANNEL SECTION SHEETS
FOR GRADE CHANGES.

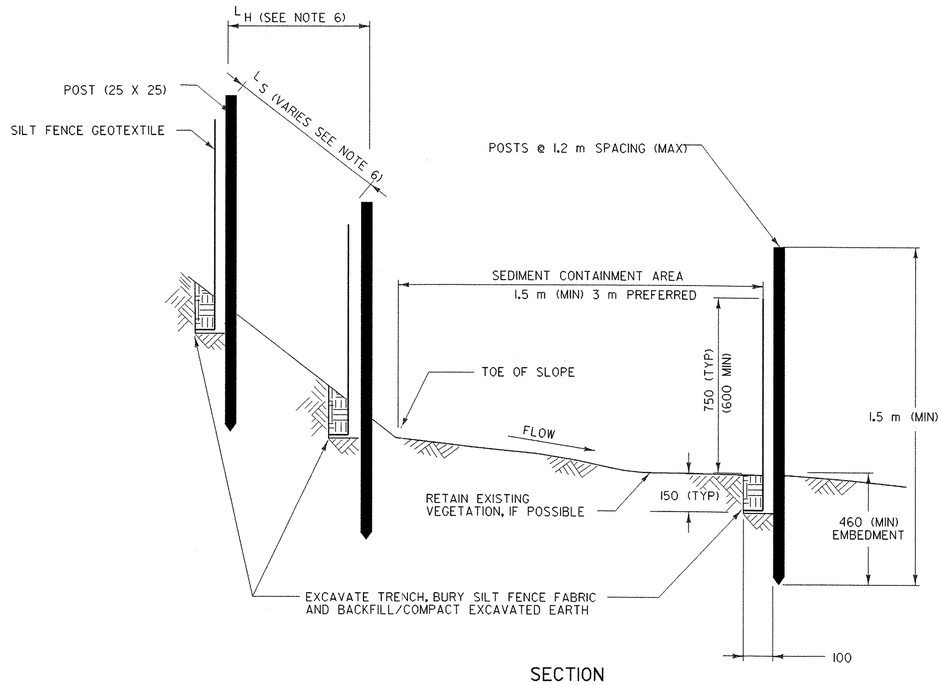
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83/92
ADJUSTED	YES
TYPE	COMPASS

0 10 20
SCALE 1:250

SHEET NAME:	FINAL CONDITIONS SITE PLAN #3	
PROJECT NAME:	LEICESTER	HIGHWAY NO.: FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.: 6
		OVER: OTTER CREEK
FILE NAME:	95j288\Structures\sj288bdr.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY: STRI
DESIGNED BY:	C. CARLSON	IPARM NAME: sj288ero9.1
BRIDGE SHEET NUMBER:		SHEET 30 OF 90



PLAN



SECTION

SILT FENCE - TEMPORARY

SILT FENCE

APPLICATION NOTES:

A. THE PRIMARY PURPOSE OF SILT FENCE IS TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENT. VELOCITY IS REDUCED, WATER IS IMPOUNDED BEHIND THE MEASURE, AND SEDIMENT FALLS OUT OF SUSPENSION.

B. SILT FENCE SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). IT MAY BE INSTALLED AT INTERMEDIATE POINTS UP SLOPES AS WELL AS AT THE BOTTOM, AS SHOWN IN THE DETAIL.

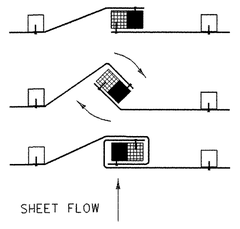
C. SILT FENCE SHALL NOT BE USED ACROSS CONCENTRATED FLOW.

GENERAL NOTES:

1. SILT FENCE SHALL GENERALLY BE PLACED A MINIMUM OF 1.5 m BEYOND TOE OF SLOPE, 3 m PREFERRED, TO PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.
2. ALL ENDS SHALL BE "J" HOOKED TO TRAP SEDIMENT.
3. IN AREAS WITH TWO SLOPES, SILT FENCE SHALL BE USED TO ERECT A DAM AND TRAP SEDIMENT AT THE BASE OF THE STEEPER SLOPE.
4. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 150 mm BELOW GROUND, AND KEYED IN 100 mm. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC.
5. MAXIMUM DRAINAGE AREA TRIBUTARY TO 30 m OF SILT FENCE SHALL BE 0.1 Ha.
6. THE FOLLOWING ARE MAXIMUM SLOPE LENGTHS FOR THESE MEASURES:

CONSTRUCTED SLOPE	SLOPE LENGTH (LS) m	HORIZONTAL LENGTH (LH) m
3 : 1	25	24
4 : 1	40	39
5 : 1	60	60
> 5 : 1	80	80

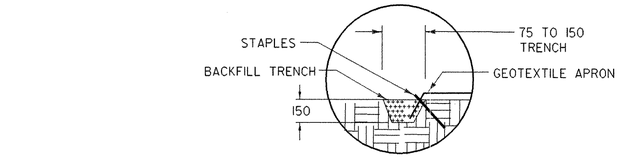
7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
8. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
9. SILT FENCE SHALL BE REMOVED WHEN THE AREA HAS BEEN STABILIZED. AT TIME OF REMOVAL OF THE SILT FENCE, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
10. PAYMENT FOR INSTALLATION AND REMOVAL OF SILT FENCE SHALL BE MADE UNDER THE GEOTEXTILE FOR SILT FENCE ITEM.
11. PAYMENT FOR MONITORING SILT FENCE SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
12. PAYMENT FOR MAINTAINING SILT FENCE SHALL BE MADE UNDER THE MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



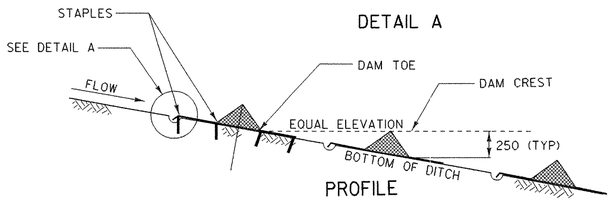
1. PLACE THE END POST OF ONE FENCE INSIDE THE END POST OF THE OTHER FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL
3. DRIVE BOTH POSTS 18 INCHES INTO THE GROUND AND BURY THE FLAP IN THE TRENCH.

SPLICING DETAIL

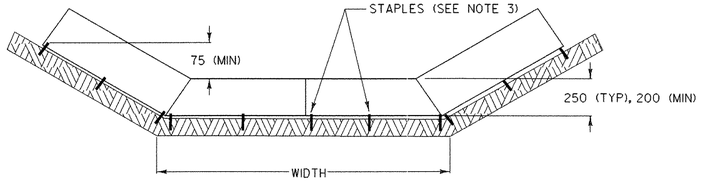
SHEET NAME:	EROSION CONTROL DETAILS SILT FENCE		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME: 95j288\Structures\sj288ecd.dgn		PLOT DATE:	17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB		DRAWN BY:	VAOT
DESIGNED BY: C. CARLSON		IPARM NAME:	sj288ecdl.i
BRIDGE SHEET NUMBER:		SHEET	31 OF 90



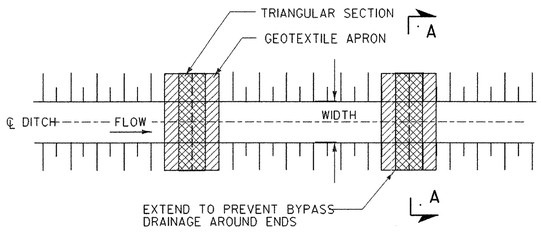
DETAIL A



PROFILE



SECTION A-A

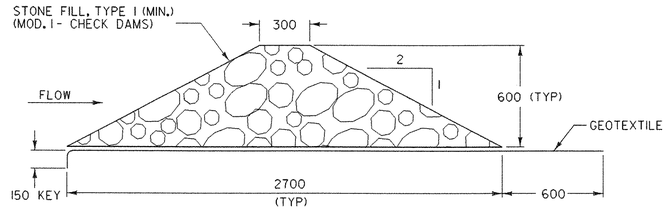


PLAN

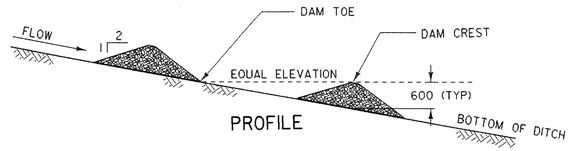
CHECK DAM - TEMPORARY (PREFABRICATED)

PREFABRICATED CHECK DAM PLACEMENT INTERVAL	
DITCH SLOPE	PLACEMENT INTERVAL **
1%	15 m
2 %	12 m
3 %	8 m
4 %	6 m
5 %	5 m

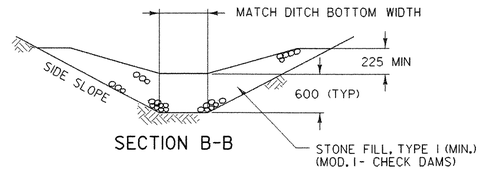
** BASED ON 0.25 m TYPICAL HEIGHT



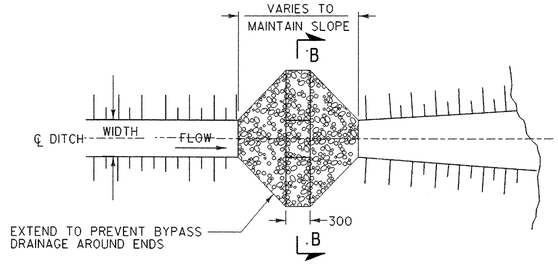
CROSS SECTION



PROFILE



SECTION B-B



PLAN

CHECK DAM - TEMPORARY (STONE)

STONE CHECK DAM PLACEMENT INTERVAL	
DITCH SLOPE	PLACEMENT INTERVAL **
1%	60 m
2 %	30 m
3 %	20 m
4 %	15 m
5 %	12 m
6 %	10 m
8 %	7.5 m
10 %	6 m

** BASED ON 0.6 m TYPICAL HEIGHT

CHECK DAMS

APPLICATION NOTES:

A. THE PRIMARY PURPOSE OF A CHECK DAM IS TO REDUCE EROSION IN A CHANNEL BY REDUCING FLOW VELOCITY.

B. CHECK DAMS WILL CAPTURE SEDIMENT THAT FALLS OUT OF SUSPENSION BEHIND THE CHECK DAM DUE TO DECREASED VELOCITY.

C. CHECK DAMS ARE NOT INTENDED TO FILTER SEDIMENT FROM TURBID WATER.

D. DETAILS SHOWN SHALL BE USED FOR TEMPORARY INSTALLATION ONLY.

E. PREFABRICATED DAMS ARE NOT TO BE USED ON SLOPES GREATER THAN 5% OR PER MANUFACTURER'S SPECIFICATIONS.

F. PREFABRICATED DAM SPECIFICATIONS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

GENERAL NOTES:

1. GEOTEXTILE SHALL BE INSTALLED UNDER STONE FILL. IT SHALL BE KEYED IN ON THE UP HILL END AND SHALL EXTEND 0.6 m BEYOND THE STONE ON THE DOWN HILL END.

2. CORE MATERIAL FOR THE STONE CHECK DAM SHALL MEET THE GRADATION REQUIREMENTS OF STONE FILL TYPE I (MIN.). STONE SIZE SHOULD BE INCREASED WITH INCREASED SLOPE AND VELOCITY.

3. THE UPHILL END OF THE APRON FOR THE PREFABRICATED CHECK DAM SHALL BE STAPLED AND BURIED AS SHOWN IN DETAIL "A" OR AS RECOMMENDED BY THE MANUFACTURERS LITERATURE.

4. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.

5. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.

6. AT TIME OF REMOVAL OF THE CHECK DAMS, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.

7. PAYMENT FOR INSTALLATION AND REMOVAL OF CHECK DAMS SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS OR UNDER THE MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.

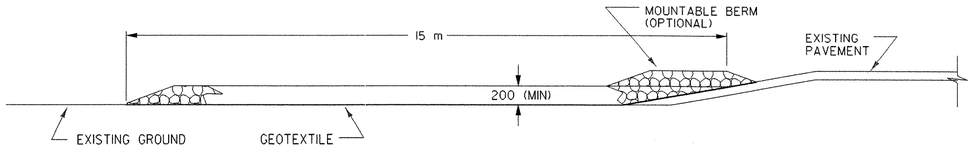
8. PAYMENT FOR MONITORING CHECK DAMS SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.

9. PAYMENT FOR MAINTAINING CHECK DAMS SHALL BE MADE UNDER THE MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.

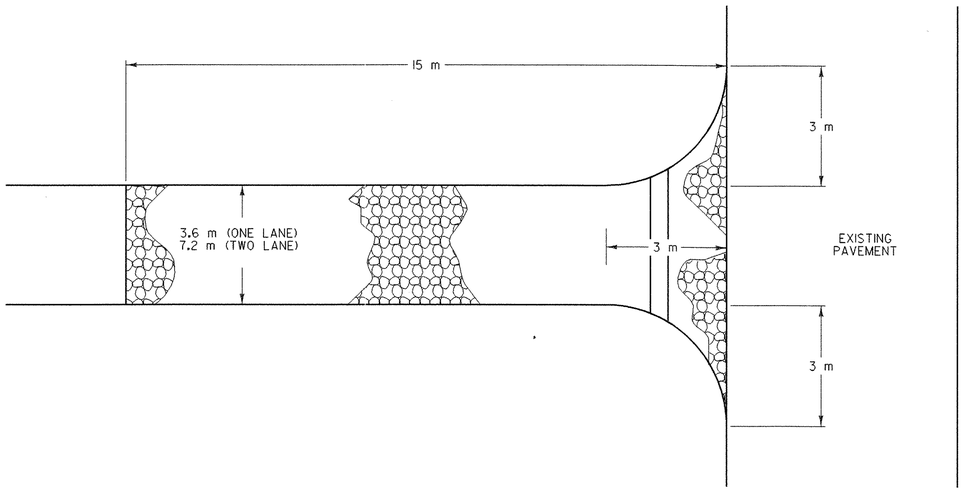
SHEET NAME: EROSION CONTROL DETAILS CHECK DAMS

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: FAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95j288\Structures\sj288ecd.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: VAOT
IPARM NAME: sj288ecd2.i
SHEET 32 OF 90



TYPICAL CONSTRUCTION ENTRANCE PROFILE
(CUT AND DITCH SECTIONS)



TYPICAL CONSTRUCTION ENTRANCE PLAN
(CUT/DITCH AND FILL SECTIONS)

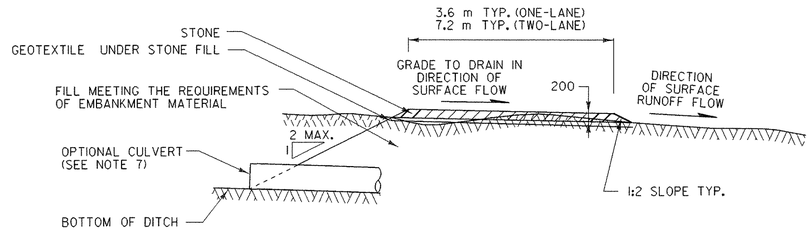
STABILIZED CONSTRUCTION ENTRANCE

APPLICATION NOTES:

A. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY OR STREETS.

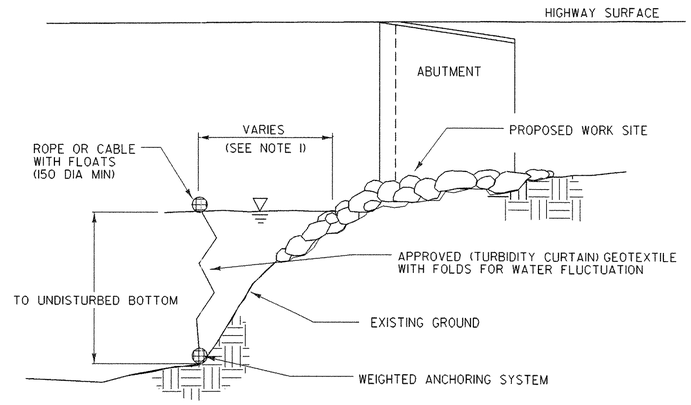
GENERAL NOTES:

1. STONE SIZE - USE CLEAN STONE WITH GRADATION BETWEEN 50 mm AND 100 mm.
2. LENGTH - 15 m (MIN)
3. THICKNESS - 200 mm (MIN)
4. WIDTH - 3.6 m (MIN)
5. GEOTEXTILE UNDER STONE WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE AS DIRECTED BY THE ENGINEER. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. PROPOSED DRAINAGE PIPES SHALL BE SIZED WITH SUFFICIENT CAPACITY TO CARRY DITCH FLOWS. ALTERNATIVE WAYS OF TRANSPORTING DITCH DRAINAGE ACROSS CONSTRUCTION ENTRANCES MAY BE PROPOSED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER.
8. WHEN WASHING OF VEHICLE IS NECESSARY, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
10. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
11. AT THE TIME OF REMOVAL OF THE STABILIZED CONSTRUCTION ENTRANCE THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
12. PAYMENT OF THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS OR UNDER THE MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
13. PAYMENT FOR MONITORING STABILIZED CONSTRUCTION ENTRANCES SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
14. PAYMENT FOR MAINTAINING STABILIZED CONSTRUCTION ENTRANCES SHALL BE MADE UNDER THE MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.
15. STONE FOR CONSTRUCTION ENTRANCE SHALL BE PAID FOR AS ITEM 613.10, "STONE FILL, TYPE I (MOD. 2 - STABILIZED CONSTRUCTION ENTRANCE)".

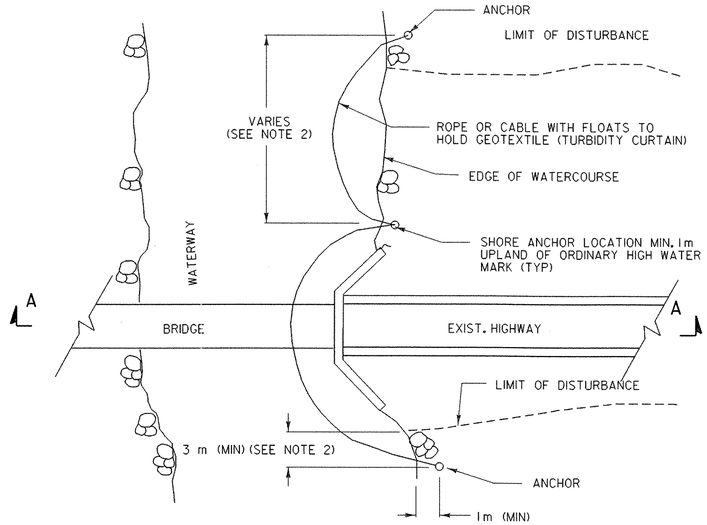


TYPICAL CONSTRUCTION ENTRANCE SECTION

SHEET NAME:	EROSION CONTROL DETAILS STABILIZED CONTRUCTION ENTRANCE
PROJECT NAME: LEICESTER	HIGHWAY NO.: FAS 0160
PROJECT NUMBER: BRF 0160(3)S	BRIDGE NO.: 6 OVER: OTTER CREEK
FILE NAME: 95j288\Structures\sj288ecd.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: VAOT
DESIGNED BY: C. CARLSON	IPARM NAME: sj288ecd3.i
BRIDGE SHEET NUMBER:	SHEET 33 OF 90



SECTION A-A



PLAN

TURBIDITY CURTAIN - TEMPORARY

TURBIDITY CURTAIN

APPLICATION NOTES:

A. THE PURPOSE OF A TURBIDITY CURTAIN IS TO SEPARATE WORK AREAS IN OR ADJACENT TO WATERS, TO PREVENT SEDIMENT FROM ENTERING THE WATERS.

B. TURBIDITY CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 0.5m/SEC.

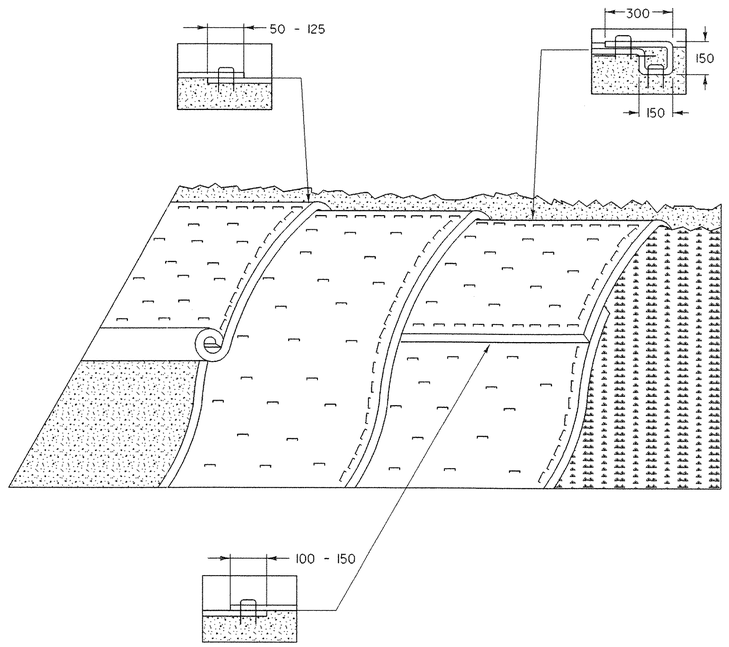
C. TURBIDITY CURTAIN SHALL NOT BE PLACED AT THE OUTLET OF A CULVERT OR DITCH UNLESS THE VELOCITY DOES NOT EXCEED 0.5 m/SEC.

D. THE DETAIL DEPICTS WORK AT A BRIDGE LOCATION, BUT TURBIDITY CURTAIN MAY BE APPLIED AT OTHER LOCATIONS.

GENERAL NOTES:

1. THE TURBIDITY CURTAIN SHALL BE PLACED AS CLOSE TO THE WORK AS POSSIBLE WITHOUT INTERFERING WITH CONSTRUCTION OPERATIONS.
2. THE TURBIDITY CURTAIN SHALL BE A MAXIMUM OF 30 m LONG BETWEEN ANCHORS. LAST SECTION SHALL TERMINATE A MINIMUM OF 3 m BEYOND THE LIMIT OF DISTURBANCE.
3. THE CONTRACTOR SHALL MONITOR THE TURBIDITY CURTAIN, TAKING INTO ACCOUNT WEATHER PATTERNS AND PREVAILING WIND DIRECTIONS THAT MAY AFFECT WATER LEVELS, VELOCITY AND MOVEMENT OF THE TURBIDITY CURTAIN.
4. THE TURBIDITY CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE TO MINIMIZE ESCAPE OF SEDIMENTS INTO THE WATERWAY.
5. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE THAT ALLOWS THE CURTAIN TO CONFORM TO THE CONTOUR ON THE BOTTOM OF THE WATERWAY.
6. PAYMENT FOR INSTALLATION AND REMOVAL OF THE TURBIDITY CURTAIN SHALL BE MADE UNDER THE GEOTEXTILE FOR FILTER CURTAIN ITEM.
7. PAYMENT FOR MONITORING TURBIDITY CURTAIN SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
8. PAYMENT FOR MAINTAINING TURBIDITY CURTAIN SHALL BE MADE UNDER THE MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS MINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.

SHEET NAME:	EROSION CONTROL DETAILS TURBIDITY CURTAIN		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95j288\Structures\sj288ecd.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	VAOT
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj288ecd4.1
BRIDGE SHEET NUMBER:		SHEET	34 OF 90



EROSION PREVENTION FOR SIDE SLOPES

APPLICATION NOTES:

A. THE PURPOSE OF MATTING ON SIDE SLOPES IS TO REDUCE EROSION AND AID THE ESTABLISHMENT OF VEGETATION

B. EROSION CONTROL MATTING SHALL BE USED FOR THE FOLLOWING REASONS:

- SIDE SLOPES STEEPER THAN 3:1 (H:V)
- AREAS WHERE SEED AND MULCH WILL NOT STAY IN PLACE ALONE
- WHERE SEEDING IS OUTSIDE THE GROWING SEASON.

GENERAL NOTES:

1. GRADE AND SMOOTH THE SLOPE TO PROVIDE GOOD MATTING TO SOIL SURFACE CONTACT.
2. APPLY FERTILIZER, LIME, AND SEED PRIOR TO PLACING MATTING.
3. ANCHOR MATTING AS SHOWN, UTILIZING ANCHOR STAPLES. STAPLE PLACEMENT SHALL BE DETERMINED BY THE MANUFACTURER'S INTALLATION INSTRUCTIONS.
4. UNROLL MATTING VERTICALLY DOWN SLOPE IN THE DIRECTION OF WATER FLOW.
5. OVERLAP UPPER MATTING OVER LOWER MATTING AS SHOWN.
6. OVERLAP ADJACENT MATTING AS SHOWN.
7. CUT EXCESS MATTING AT END OF SLOPE AND ANCHOR THE END.
8. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
9. MATTING SHALL BE REPAIRED AND RESTAPLED AS NECESSARY TO ENSURE PROPER FUNCTION.
10. PAYMENT FOR INSTALLATION OF MATTING SHALL BE MADE UNDER THE EROSION CONTROL WITH MATTING ITEM.
11. PAYMENT FOR MONITORING EROSION CONTROL MATTING SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
12. PAYMENT FOR MAINTAINING EROSION CONTROL MATTING SHALL BE MADE UNDER THE MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.

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.

SHEET NAME:	EROSION CONTROL DETAILS EROSION CONTROL MATTING
PROJECT NAME: LEICESTER	HIGHWAY NO.: FAS 0160
PROJECT NUMBER: BRF 0160(3)S	BRIDGE NO.: 6 OVER: OTTER CREEK
FILE NAME: 95J288\Structures\sj288ecd.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: VAOT
DESIGNED BY: C. CARLSON	IPARM NAME: sj288ecd5.i
BRIDGE SHEET NUMBER:	SHEET 35 OF 90

VAOT Metric

N

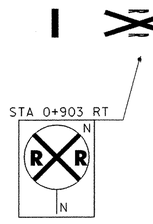
VT STATE PLANE GRID

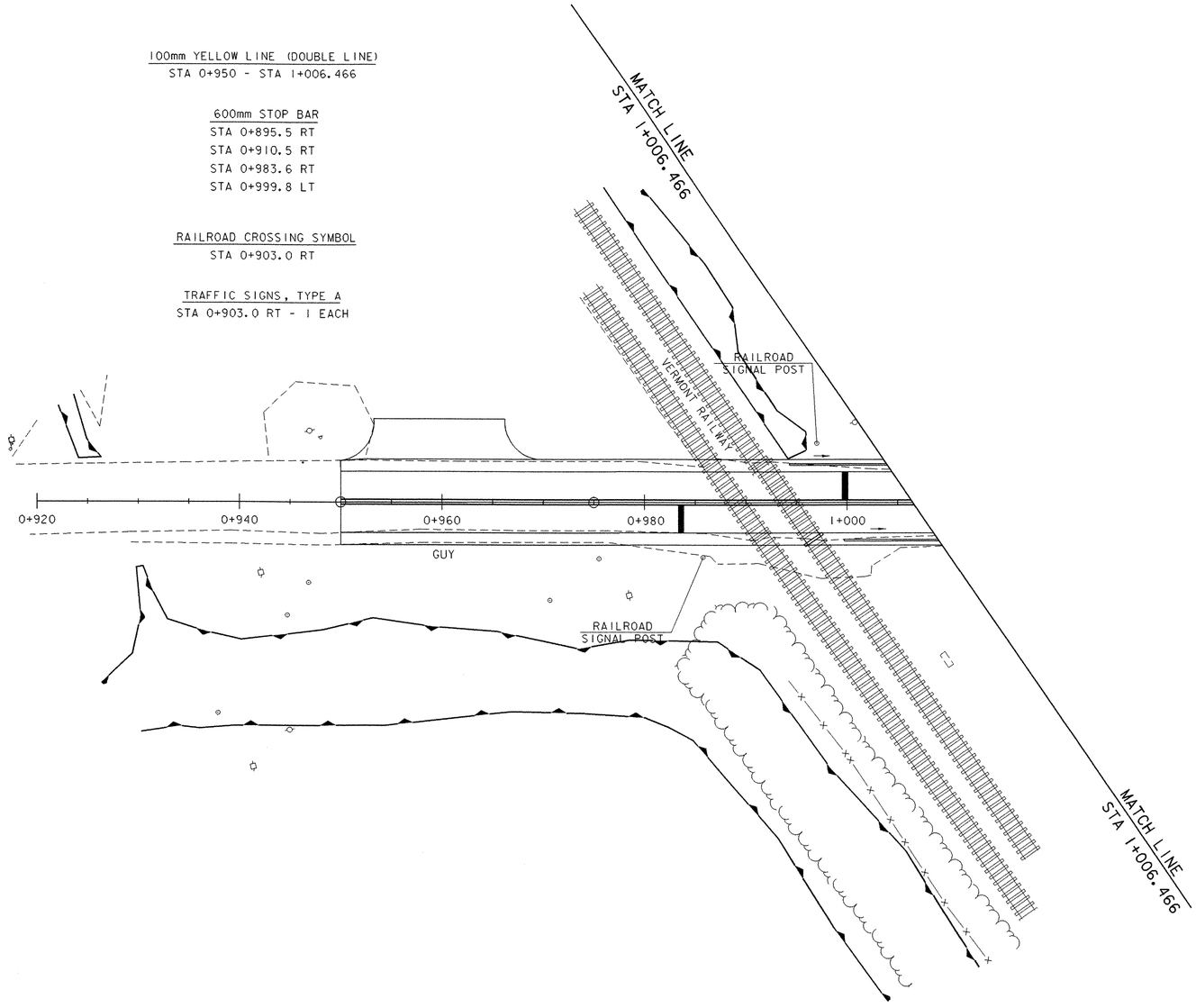
100mm YELLOW LINE (DOUBLE LINE)
STA 0+950 - STA 1+006.466

600mm STOP BAR
STA 0+895.5 RT
STA 0+910.5 RT
STA 0+983.6 RT
STA 0+999.8 LT

RAILROAD CROSSING SYMBOL
STA 0+903.0 RT

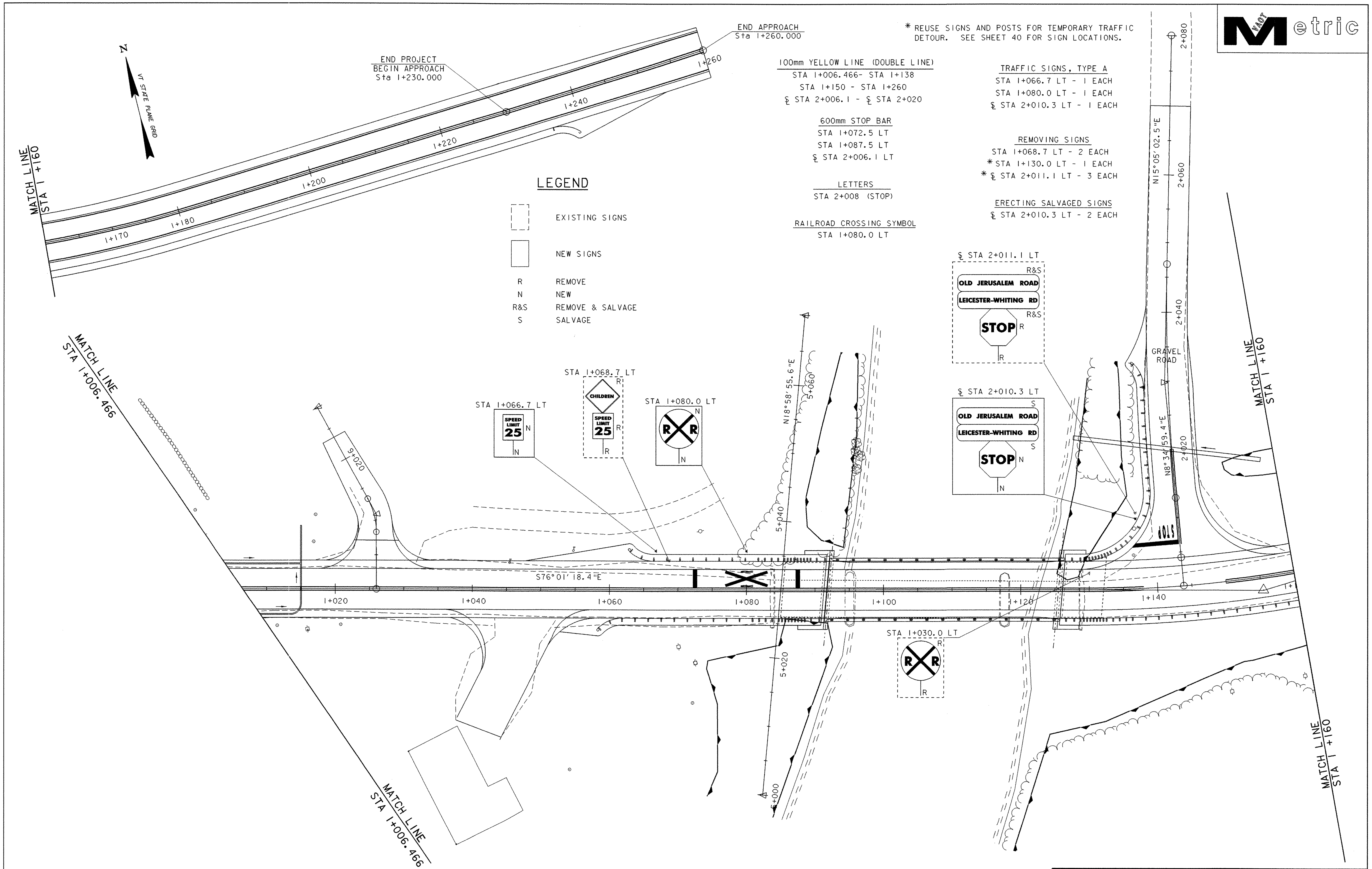
TRAFFIC SIGNS, TYPE A
STA 0+903.0 RT - 1 EACH





0 10 20
SCALE 1:250

SHEET NAME:	LINE STRIPING AND SIGN LAYOUT (1)		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95j288\Structures\sj288bdr.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088sgl.i
BRIDGE SHEET NUMBER:		SHEET	36 OF 90



Metric

* REUSE SIGNS AND POSTS FOR TEMPORARY TRAFFIC DETOUR. SEE SHEET 40 FOR SIGN LOCATIONS.

LEGEND

- EXISTING SIGNS
- NEW SIGNS
- R — REMOVE
- N — NEW
- R&S — REMOVE & SALVAGE
- S — SALVAGE

100mm YELLOW LINE (DOUBLE LINE)
STA 1+006.466- STA 1+138
STA 1+150 - STA 1+260
§ STA 2+006.1 - § STA 2+020

600mm STOP BAR
STA 1+072.5 LT
STA 1+087.5 LT
§ STA 2+006.1 LT

LETTERS
STA 2+008 (STOP)

RAILROAD CROSSING SYMBOL
STA 1+080.0 LT

TRAFFIC SIGNS, TYPE A
STA 1+066.7 LT - 1 EACH
STA 1+080.0 LT - 1 EACH
§ STA 2+010.3 LT - 1 EACH

REMOVING SIGNS
STA 1+068.7 LT - 2 EACH
* STA 1+130.0 LT - 1 EACH
* § STA 2+011.1 LT - 3 EACH

ERECTING SALVAGED SIGNS
§ STA 2+010.3 LT - 2 EACH

SHEET NAME: LINE STRIPING AND SIGN LAYOUT (2)	
PROJECT NAME: LEICESTER	HIGHWAY NO.: FAS 0160
PROJECT NUMBER: BRF 0160(3)S	BRIDGE NO.: 6
	OVER: OTTER CREEK
FILE NAME: 95j288\Structures\sj288bdr.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: J. GILMORE
DESIGNED BY: C. CARLSON	IPARM NAME: sj088sg2.i
BRIDGE SHEET NUMBER:	SHEET 37 OF 90

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

Metric

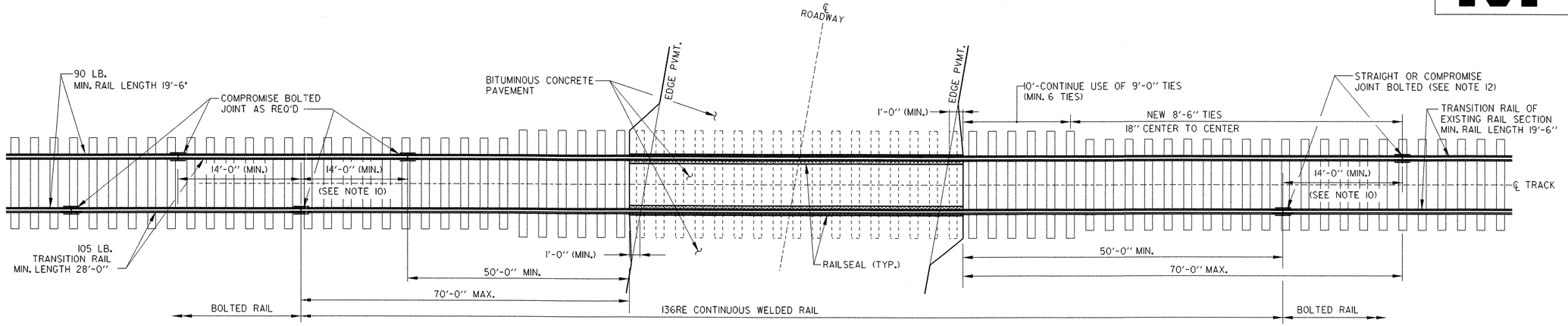
KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS: EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS: "A"	"B"	SALV SIGN	SALV TIS	EXIST POST: RETAIN	SALVAGE	NO. OF POSTS	FLANGED CHANNEL kg/m: 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m: 44 / 3.4	50 / 3.9	63 / 5.0	ANCHOR	SLEEVE	NEW SIGN POSTS: 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																										
0+903.0 RT	R X R	1	900	900	0.64						1			X			X	X																W10-1		E-190
1+066.7 LT	SPEED LIMIT 25	1	600	750	0.45						1			X			X	X																R2-1		E-142
1+080.0 LT	R X R	1	900	900	0.64						1			X			X	X																W10-1		E-190
℄ STA 2+010.3 LT	STOP	1	750	750	0.44						1			X			X	X																R1-1		E-143
TOTALS			m^2 2.17	m^2	EA.	m^2					m 17.07 ~~14.6~~				m 14.6			EA.	kg			EA.	kg				EA.	EA.	kg						

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."

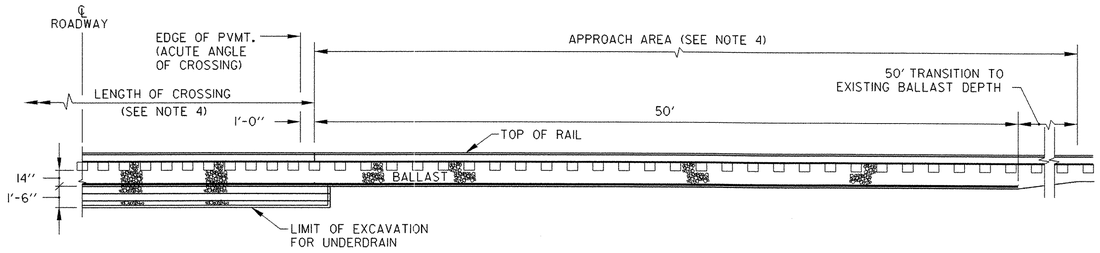
SHEET NAME: SIGN SUMMARY

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: FAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

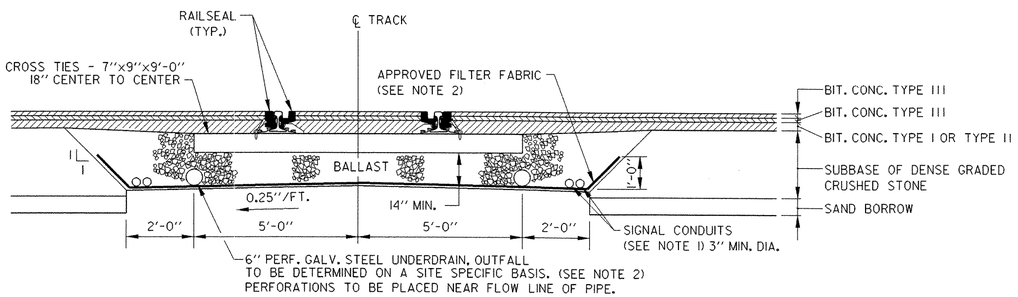
FILE NAME: 95J288\Structures\sj288sgn.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: J. GILMORE
IPARM NAME: sj1088sg3.1
SHEET 38 OF 90



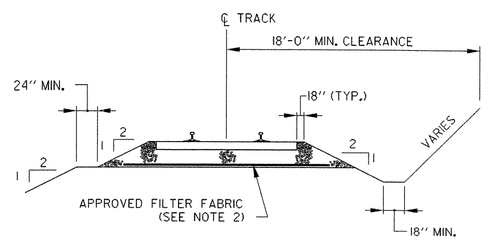
TYPICAL PLAN VIEW



TYPICAL LONGITUDINAL SECTION



TYPICAL TRANSVERSE SECTION



TYPICAL SECTION FOR APPROACH AREAS

GENERAL NOTES

1. SIGNAL CONDUIT (SCHEDULE 80 PVC) TO BE INSTALLED WITH SECURED END CAPS IN LOCATIONS DIRECTED BY THE ENGINEER.
2. THE OUTLET OF UNDERDRAIN AND GEOTEXTILE FABRIC SHALL BE DETERMINED UPON INSPECTION OF FIELD CONDITIONS BY THE ENGINEER.
3. ALL RAIL JOINTS WITHIN THE CROSSING AREA AND 50'-0" BEYOND WILL BE CROPPED AND WELDED IN ACCORDANCE WITH THE LATEST REVISION OF A.R.E.M.A. SPECIFICATIONS AT AN OFF-SITE ELECTRIC WELDING PLANT. WELDING CAN BE DONE IN FIELD UTILIZING THERMITE WELDING WITH ADVANCE APPROVAL FROM THE AGENCY. WELDED JOINTS SHALL BE GROUND TO CONFORM TO THE SHAPE OF THE RAIL ON GAUGE AND FIELD SIDES.
4. NEW 7"x9"x9'-0" AND 7"x9"x8'-6" TIES SHALL BE USED IN CROSSING AREA AS SHOWN. TIES IN APPROACH AREAS SHALL BE REPLACED AS RECOMMENDED BY THE RAILROAD AND APPROVED BY THE ENGINEER.
5. TIE PLATES SHALL BE NEW 14 INCH PLATES MANUFACTURED FOR THE RAIL USED. PLATES SHALL BE INSPECTED AND APPROVED BY THE RAILROAD AND THE ENGINEER. RAIL FASTENERS SHALL BE EITHER CUT TRACK SPIKES OR PANDROL TYPE CLIPS AND LOCK SPIKES. SPECIFIC RAIL FASTENING SYSTEM SHALL BE RECOMMENDED BY THE RAILROAD AND APPROVED BY THE STATE OF VERMONT AGENCY OF TRANSPORTATION DURING FINAL DESIGN.
6. BALLAST IN APPROACH AREAS SHALL EXTEND 18" BEYOND END OF TIES AND SLOPED 1:2 TO THE ROADBED. (SEE DETAIL)
7. RAIL WEIGHT TO BE 115 LB. RE THROUGH CROSSING. DEVIATIONS FROM THIS ARE TO BE APPROVED BY VTRANS RAIL OPREATIONS AND VTRANS GRADE CROSSING ENGINEER.
8. TYPE AND DESIGN OF RAILSEAL SHALL RECEIVE APPROVAL FROM THE VTRANS GRADE CROSSING ENGINEER.
9. MANUFACTURERS SPECIFICATIONS SHALL BE FOLLOWED FOR THE INSTALLATION OF RAILSEAL.
10. INSULATED JOINTS WILL BE REQUIRED FOR TYPE "C" TRACK CIRCUITS (CIRCUITS WITHOUT MOTION DETECTOR OR PREDICTOR SYSTEMS). IF INSULATED JOINTS ARE USED MAXIMUM STAGGER BETWEEN RAIL JOINTS SHALL BE 4'-6", MINIMUM SHALL BE 3'-6". IF INSULATED JOINTS ARE USED, INSTALL ONE ADDITIONAL NEW RAIL UP TO 39'-0" IN LENGTH BEYOND INSULATED JOINT.
11. BITUMINOUS CONCRETE PAVEMENT SHALL BE INSTALLED WITH PAVING MACHINE WITH MAXIMUM 3" LIFTS (UNLESS OTHERWISE DIRECTED BY THE ENGINEER) AND SHALL BE LAID PARALLEL TO CROSSING TO MINIMIZE APPROACH SETTLEMENT.
12. IF EXISTING TRACK IS CONTINUOUS WELDED RAIL, JOINT SHALL BE FIELD WELDED OR BOLTED AS SHOWN ON THE PLANS.
13. REFER TO VTRANS STD. E-190 FOR PLACEMENT OF SIGNS AND PAVEMENT MARKINGS.

DETAILS ARE NOT DRAWN TO SCALE AND DIMENSIONS SHOWN IN ENGLISH UNITS

SHEET NAME: **RAILROAD-HIGHWAY CROSSING DETAILS**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sj288rrx.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: G. ROY
IPARM NAME: sj288rrx.i
SHEET 38a OF 90

TRAFFIC CONTROL NOTES

1. THE TEMPORARY DETOUR LAYOUT SHOWN ON SHEET 40 IS TO BE USED AS AN EXAMPLE OF THE MINIMUM REQUIREMENTS FOR TWO-WAY TRAFFIC CONTROL. MODIFICATION OF, OR ADDITIONS TO, THE TRAFFIC CONTROL DEVICES SHOWN MAY BE REQUIRED BY THE RESIDENT ENGINEER BASED ON FIELD CONDITIONS.

2. THE CONTRACTOR SHALL FURNISH FLAG PERSONS AT THE DIRECTION OF THE ENGINEER AND PROVIDE THE APPROPRIATE SIGNING FOR THEIR PROTECTION. REFER TO STD.E-110 FOR DETAILS. ANY SUCH SIGNING SHALL BE COVERED OR REMOVED WHEN FLAG PEOPLE ARE NO LONGER CONTROLLING TRAFFIC.

3. WHERE EXISTING PAVEMENT MARKINGS ARE NOT APPROPRIATE TO THE MOVEMENT OF TRAFFIC THROUGH THE CONSTRUCTION AREA, THEY SHALL BE REMOVED IN AN APPROVED MANNER. TEMPORARY PAVEMENT MARKINGS SHALL BE APPLIED AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

4. REFLECTIVE PLASTIC DRUMS MAY BE SUBSTITUTED FOR TEMPORARY TRAFFIC BARRIER UNLESS ONE OF THE FOLLOWING CONDITIONS EXIST:
   A. THE BRIDGE DECK IS REMOVED,
   B. THE BRIDGE RAIL IS REMOVED, OR
   C. IN THE JUDGEMENT OF THE RESIDENT ENGINEER, TEMPORARY TRAFFIC BARRIER IS NEEDED.

5. ANY FILL REQUIRED TO EXTEND THE TEMPORARY TRAFFIC BARRIER OUTSIDE THE CLEAR ZONE SHALL BE NEATLY PLACED AND COMPACTED FOR THE SUPPORT OF THE BARRIER AND SHALL BE PROVIDED WITH ADEQUATE COVER TO PREVENT EROSION. THE RESIDENT ENGINEER SHALL APPROVE THE FILL MATERIAL PRIOR TO PLACEMENT. SIDE SLOPES OF THE FILL SHALL BE NO STEEPER THAN 1:4.

6. ANY EXCAVATION REQUIRED TO EXTEND THE TEMPORARY TRAFFIC BARRIER SHALL BE LIMITED TO THE POINT AT WHICH THE END OF BARRIER IS FULLY BURIED OR THE CLEAR ZONE LIMIT, WHICHEVER IS SHORTER. ONCE THE BARRIER HAS BEEN PLACED, IT SHALL BE PROPERLY BACKFILLED TO PROVIDE A SMOOTH CONTINUOUS TRANSITION FROM THE EMBANKMENT TO THE BARRIER.

7. ALL TEMPORARY FILL OR EXCAVATION REQUIRED TO INSTALL TEMPORARY BARRIER SHALL BE REMOVED OR REPLACED TO THE PRE-CONSTRUCTION CONDITION AFTER THE BARRIER IS NO LONGER REQUIRED FOR A PARTICULAR PHASE OF CONSTRUCTION.

ARCHAEOLOGY CONSTRAINT NOTES

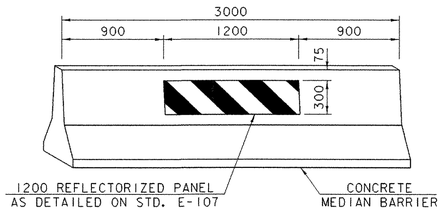
1. NO GRUBBING WILL BE ALLOWED IN THE GENERAL AREA OF THE TEMPORARY DETOUR ON THE WEST SIDE OF THE RIVER. THE GRASS AND BRUSHES CAN BE MOWED OR CUT DOWN WITHOUT PULLING UP THE ROOTS.

2. THERE SHALL BE NO TOPSOIL REMOVAL, GRADING, SCRAPING, CUTTING, FILLING, STOCKPILING, LOGGING OR ANY OTHER TYPE OF GROUND DISTURBANCE IN THE ARCHAEOLOGICALLY SENSITIVE AREAS.

3. THE VTRANS ARCHAEOLOGIST SHALL BE PRESENT TO MONITOR AND ASSURE PROPER PROCEDURE TO BURY THE HISTORIC ARCHAEOLOGICAL SITE BEFORE THE START OF CONSTRUCTION OF THE TEMPORARY DETOUR ON THE WEST SIDE OF THE RIVER.

4. AN ADDITIONAL 500 SQUARE METERS OF ITEM 649.31, "GEOTEXTILE UNDER STONE FILL" HAS BEEN PROVIDED TO COVER THE ARCHAEOLOGICALLY SENSITIVE SITE AREA. THIS FABRIC MUST BE DIRECTLY LAID OVER THE SURFACE VEGETATION AND THEN CLEAN FILL MUST BE PLACED ON TOP UNDER THE SUPERVISION OF A VTRANS ARCHAEOLOGIST. THIS MUST BE DONE FIRST BEFORE THE TEMPORARY DETOUR CAN BE CONSTRUCTED OVER THESE LAYERS.

5. WHEN CONSTRUCTION IS COMPLETED THE CONTRACTOR MUST COORDINATE WITH A VTRANS ARCHAEOLOGIST TO MAKE SURE THAT PERSON IS PRESENT WHEN THE FILL IS REMOVED FROM THE TOP OF THE GEOTEXTILE FABRIC AND THE SITE IS RETURNED TO ITS ORIGINAL CONDITION BEFORE CONSTRUCTION WAS STARTED.



TEMPORARY TRAFFIC BARRIER NOTES

1. THE PANEL SHOWN IS ORIENTATED FOR TRAFFIC PASSING TO THE RIGHT.

2. THE PANEL SHALL BE ATTACHED TO THE CONCRETE MEDIAN BARRIER IN A SECURE FASHION.

3. ALL BARRIER PLACED IN TAPERS SHALL BE PROVIDED WITH A REFLECTORIZED PANEL AS SHOWN. THE PANEL SHALL BE ORIENTATED IN THE PROPER DIRECTION (RIGHT OR LEFT) BASED ON THE APPROACHING TRAFFIC.

4. BARRIER SECTIONS MAY BE MOVED DURING WORKING HOURS TO PROVIDE ACCESS TO THE WORKSITE. HOWEVER, THEY MUST BE REPLACED FOR NON-WORK PERIODS.

SHEET NAME:	TEMPORARY DETOUR DETAILS		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME: 95j288\Structures\sj288trc.dgn		PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj288tdd.i
BRIDGE SHEET NUMBER:		SHEET	39 OF 90

LEGEND

- REFLECTORIZED PLASTIC DRUM
- TEMPORARY TRAFFIC BARRIER
- TYPE III BARRICADES (SEE STD. E-107A)
- TYPE III BARRICADES (MOD.) (SEE STD. E-107A)
- REMOVAL OF EXISTING PAVEMENT MARKINGS
- USE SALVAGED SIGNS FOR TEMPORARY PLACEMENT

TEMPORARY DETOUR SHALL BE PAVED WITH 50mm BITUMINOUS CONCRETE PAVEMENT WITH COST TO BE INCIDENTAL TO ITEM 528.11, "TWO-WAY TEMPORARY BRIDGE".

TEMPORARY TRAFFIC BARRIER

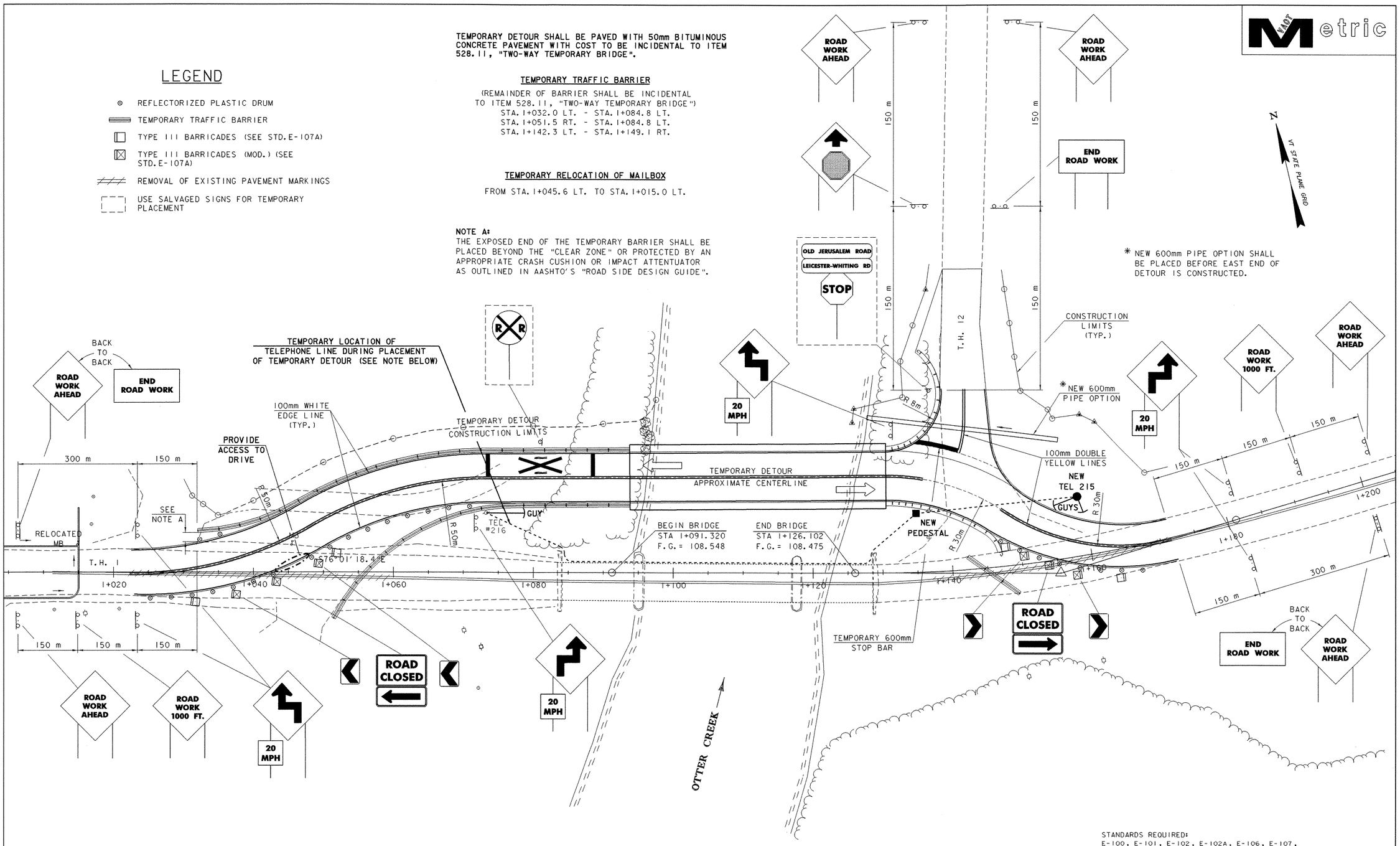
(REMAINDER OF BARRIER SHALL BE INCIDENTAL TO ITEM 528.11, "TWO-WAY TEMPORARY BRIDGE")
STA. 1+032.0 LT. - STA. 1+084.8 LT.
STA. 1+051.5 RT. - STA. 1+084.8 LT.
STA. 1+142.3 LT. - STA. 1+149.1 RT.

TEMPORARY RELOCATION OF MAILBOX

FROM STA. 1+045.6 LT. TO STA. 1+015.0 LT.

NOTE A:
THE EXPOSED END OF THE TEMPORARY BARRIER SHALL BE PLACED BEYOND THE "CLEAR ZONE" OR PROTECTED BY AN APPROPRIATE CRASH CUSHION OR IMPACT ATTENUATOR AS OUTLINED IN AASHTO'S "ROAD SIDE DESIGN GUIDE".

* NEW 600mm PIPE OPTION SHALL BE PLACED BEFORE EAST END OF DETOUR IS CONSTRUCTED.



STANDARDS REQUIRED:
E-100, E-101, E-102, E-102A, E-106, E-107, E-107A, E-121, E-150, E-152, E-190

TELEPHONE UTILITY NOTE:

PRIOR TO THE INSTALLATION OF THE TEMPORARY BRIDGE, THE TELEPHONE COMPANY WILL PLACE NEW POLE #215 AND A CONDUIT UNDER JERUSELAM ROAD. THE TELEPHONE LINE WILL RUN DOWN POLE #215, THROUGH THE CONDUIT, BE TEMPORARILY ATTACHED TO THE EXISTING BRIDGE AND LAID ON THE GROUND TO EXISTING POLE #216. EXTRA SLACK WILL BE LEFT IN THE LINE SO THAT IT CAN BE ATTACHED TO THE TEMPORARY BRIDGE AND PLACED OUT OF THE WAY DURING NEW CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL NOTIFY THE TELEPHONE COMPANY WHEN THE TEMPORARY BRIDGE IS IN PLACE AND THE LINE IS TO BE MOVED FROM THE EXISTING TO THE TEMPORARY BRIDGE. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING THE LINE DURING CONSTRUCTION AND FOR ANY REPAIR COSTS IF DAMAGE DOES OCCUR.

0 10 20
SCALE 1:250

SHEET NAME:	TEMPORARY DETOUR LAYOUT		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME: 95j288\Structures\sj288trc.dgn		PLOT DATE:	17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB		DRAWN BY:	G. ROY
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj288tdl1
BRIDGE SHEET NUMBER:		SHEET	40 OF 90

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 30.1mm
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.

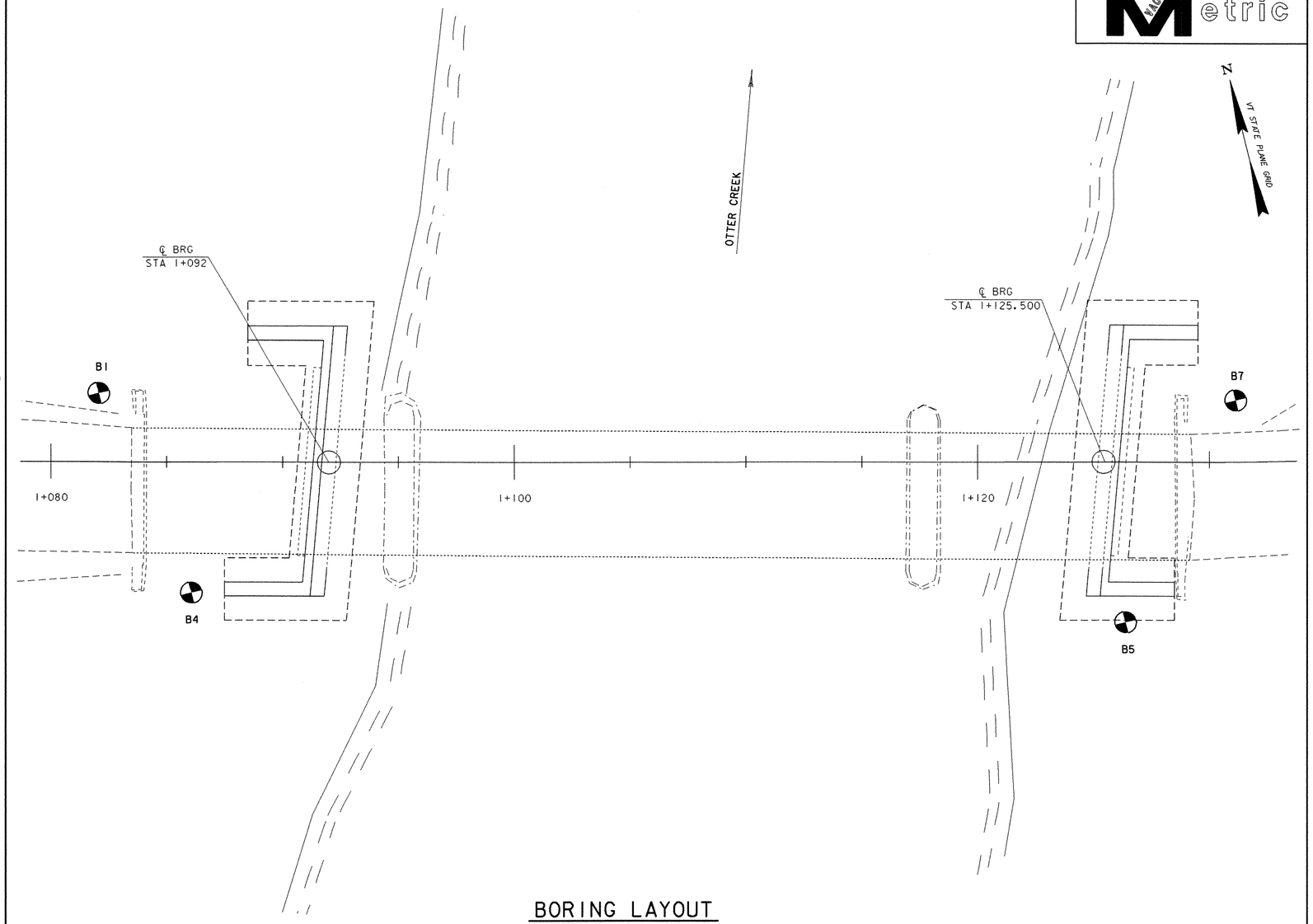
MUCK - Soft organic soil (containing > 10% organic material.

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.



BORING LAYOUT

0 2 4 6 8 10

SCALE 1 : 100

GENERAL NOTES

1. The subsurface explorations shown herein were made between 07/30/98 and 08/27/98 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.

BORING CHART

HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.	TLOB ELEV.
B-1	1+082	2.690 LT	105.561	62.561
B-4	1+086	5.639 RT	105.186	59.986
B-5	1+126	6.943 RT	105.671	76.401
B-7	1+131	2.662 LT	106.454	73.754

SHEET NAME: **BORING LAYOUT**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: FAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95j288\Structures\sj288bor.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: J. GILMORE
IPARM NAME: sj088bor.i
SHEET 41 OF 90

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

HOLE NO.: B-1
SHEET 1 OF 3
DATE STARTED: 7/30/98
DATE COMPLETED: 8/27/98

PROJECT NAME: LEICESTER
SITE NAME: BR-6
STATION: 1+082.10
GROUND EL.: 105.561

PROJECT NUMBER: BRF 0160 (3) S
SITE NO.: TH-1
OFFSET: -2.960
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: GAMMELL
LOGGER: MCGLYNN
ADDITIONAL CREW:

BORING RIG: UNI-MOG
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 Rec., Rock in end of sampler	4						
		A-4, SaSi, gry, MTW, Rec. = 0.51m	4	48.2	0.3	37.4	62.3		
BOTTOM OF FOOTING ELEV 101.500									
5		Rec. = 0.20m, Wood only, No sample sent to lab.	4						
		A-2-4, SiSa, gry, MTW, Rec. = 0.42m	6	43	0.2	65.6	34.2		
		A-4, SaSi with Trace of Organics (5.64%), dk/gry, Sat, Rec. = 0.45m	2	73.1	0.2	45.6	54.2		
		A-4, SaSi with Trace of Organics (6.09%), dk/gry, Wet, Rec. = 0.56m	5	70	0.1	42.1	57.8		
10		A-4, SaSi with Little Organics (10.33%), Dk/gry-brn, Sat, Rec. = 0.55m	7	95.6	2.9	43.5	53.6		
		A-4, SaSi with Trace of Organics (8.44%), Dk/gry-brn, Sat, Rec. = 0.57m	8	71.7	12.1	41	46.9		
		13.50m-14.10m VS = 315/50 psf							
	A_7_5	A-4, Si with Wood (visual), dk/brn-gry, Sat, Rec. = 0.15m	5	52.4	0.7	1.4	97.9	56	28
		A-7-5, Clay, gry, Wet, Rec. = 0.29m							
	A_7_6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.50m	WH	61.8		0.2	99.8		
		14.50m-15.10m VS = 200/110 psf							

GEOLOGISTS REPORT:
SEE SHEET 3

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

HOLE NO.: B-1
SHEET 2 OF 3
DATE STARTED: 7/30/98
DATE COMPLETED: 8/27/98

PROJECT NAME: LEICESTER
SITE NAME: BR-6
STATION: 1+082.10
GROUND EL.: 105.561

PROJECT NUMBER: BRF 0160 (3) S
SITE NO.: TH-1
OFFSET: -2.960
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: GAMMELL
LOGGER: MCGLYNN
ADDITIONAL CREW:

BORING RIG: UNI-MOG
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
15		16.00m-16.60m VS = 550/105 psf							
	A_7_6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.37m	WH	62.5		0.2	99.8		
	A_7_6	A-7-6, Clay (visual), gry, Sat, Rec. = 0.42m	WH	75		0.4	99.6		
		17.50m-18.10m VS = 550/25 psf							
	A_7_6	A-7-6, Clay (visual), gry, Sat, Rec. = 0.39m	WH	75.6		0.2	99.8		
20		19.50m-20.10m VS = 340/50 psf							
	A_7_6	A-7-6, Clay, gry, Sat, Rec. = 0.37m	WH	70.7		0.2	99.8	68	39
		21.50m-22.10m VS = 390/100 psf							
	A_7_6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.20m	WH	69.6		0.3	99.7		
		23.50m-24.10m VS = 340/100 psf							
25		No Rec.	WH						
		25.50m-26.10m VS = 600/85 psf							
	A_7_6	A-7-6, Clay (visual), gry, MTW, Rec. = 0.19m	WH	45.9		0.2	99.8		
		27.50m-28.10m VS = 600/85 psf							
	A_7_6	A-7-6, Clay, gry, Wet, Rec. = 0.42m	WH	66.8		0.3	99.7	54	31
		29.50m-30.10m VS = 620/150 psf							

GEOLOGISTS REPORT:
SEE SHEET 3

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

HOLE NO.: B-1
SHEET 3 OF 3
DATE STARTED: 7/30/98
DATE COMPLETED: 8/27/98

PROJECT NAME: LEICESTER
SITE NAME: BR-6
STATION: 1+082.10
GROUND EL.: 105.561

PROJECT NUMBER: BRF 0160 (3) S
SITE NO.: TH-1
OFFSET: -2.960
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: GAMMELL
LOGGER: MCGLYNN
ADDITIONAL CREW:

BORING RIG: UNI-MOG
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
30									
	A_7_6	A-7-6, Clay, gry, Wet, Rec. = 0.37m	WH	54.9		0.5	99.5	58	33
		31.50m-32.10m VS = 540/210 psf							
	A_7_6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.23m	WH	52.6		0.3	99.7		
		33.50m-34.10m VS = 740/115 psf							
35	A_7_5	A-7-5, Clay (visual), gry, Wet, Rec. = 0.37m	WH	52.3		0.5	99.5		
		35.50-36.50m VS = 1000/200 psf							
		A-4, ClSi, gry, Wet, Rec. = 0.26m	WH	50.6		0.4	99.6	27	8
		37.50m-38.10m VS = 800/185 psf							
	A_7_5	A-7-5, Clay (visual), gry, Wet, Rec. = 0.60m	WH	59.1		0.6	99.4		
		39.50m-40.10m VS = 540/100 psf							
40		A-4, ClSi (visual), gry, MTW, Rec. = 0.22m		38.1		1.4	98.6		
		A-4, Si, gry, MTW, Rec. = 0.22m		23.7		5.9	94.1		
ESTIMATED PILE TIP ELEV 62.560									
		A-4, Si, gry, MTW, Rec. = 0.50m	WH	24.9		2.9	97.1		
			Top of bedrock @ 43.0m						
		Run #1: BXMDC, 43.0m-44.5m, Rec. = 1.29m, See Geologist's Report.	RUN 1	REC% 90	RQD% 86	Dip°			
45		Run #2: BXMDC, 44.5m-46.0m, Rec. = 1.55m, See Geologist's Report.	2	100	96				
			Hole stopped @ 46.0m						

GEOLOGISTS REPORT:

Run #1: Buff to white marble, Very hard, Unweathered, Competent.

Run #2: Same as Run #1.

VAOT Metric

SHEET NAME: **BORING LOGS #1**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S

HIGHWAY NO.: FAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sj288bor.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:

PLOT DATE: 17-AUG-2005
DRAWN BY: J. TOUCHETTE
IPARM NAME: sj088br1.1
SHEET 42 OF 90

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

HOLE NO.: B-4
SHEET 1 OF 4
DATE STARTED: 7/15/98
DATE COMPLETED: 7/22/98

PROJECT NAME: LEICESTER
SITE NAME: BR-6
STATION: 1+086.10
GROUND EL.: 105.186

PROJECT NUMBER: BRF 0160 (3) S
SITE NO.: TH-1
OFFSET: 5.639
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN .
DRILLER: GAMMELL .
LOGGER: HOLT
ADDITIONAL CREW:

BORING RIG: UNI-MOG
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, SaSi, brn, MTW, Rec. = 0.38m	3	35.5		28.6	71.4		
BOTTOM OF FOOTING ELEV 101.500		A-4, SaSi, gry/brn, MTW, Rec. = 0.48m	5	41.6		31.2	68.8		
5		A-4, SaSi Trace of Organics (3.97%), gry/brn, Wet, Rec. = 0.43m	3	52.4		42.7	57.3		
		A-2-4, SiSa, gry, MTW, Rec. = 0.36m	8	39.9	0.3	70.3	29.4		
		A-4, SaSi Trace of Organics (6.38%), Dk/brn, Wet, Rec. = 0.60m	6	69.1		25.5	74.5		
		A-4, SaSi Trace of Organics (5.75%), Dk/brn, Sat, Rec. = 0.60m	8	70		26	74		
10		A-4, SaSi Little Organics (11.31%), Dk/brn, Sat, Rec. = 0.60m	10	84.1	0.3	30.1	69.6		
		A-8, Organic Silt (21.11%), Dk/brn, Sat, Rec. = 0.60m	7	151	3	14.8	82.2		
	A_7_6	A-7-6, Clay, gry, MTW, Rec. = 0.60m	2	45.7		0.7	99.3	63	34

GEOLOGISTS REPORT:
SEE SHEET 4

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

HOLE NO.: B-4
SHEET 2 OF 4
DATE STARTED: 7/15/98
DATE COMPLETED: 7/22/98

PROJECT NAME: LEICESTER
SITE NAME: BR-6
STATION: 1+086.10
GROUND EL.: 105.186

PROJECT NUMBER: BRF 0160 (3) S
SITE NO.: TH-1
OFFSET: 5.639
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: GAMMELL
LOGGER: HOLT
ADDITIONAL CREW:

BORING RIG: UNI-MOG
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
15	A_7_6	A-7-6, Clay (visual), gry, Sat, Rec. = 0.35m	2	77.5					
	A_7_6	A-7-6, Clay (visual), gry, Sat, Rec. = 0.38m	WH	75.5					
	A_7_6	A-7-6, Clay, gry, Sat, Rec. = 0.42m	WH	71.2		0.8	99.2	71	42
20	A_7_6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.47m	WH	64.6					
	A_7_6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.42m	WH	64.4					
	A_7_6	A-7-6, Clay, gry, Wet, Rec. = 0.38m	WH	63.2		0.7	99.3	64	36
	A_7_6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.60m	WH	68.3					
25	A_7_6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.24m	WH	60.3					
	A_7_6	A-7-6, Clay, gry, Wet, Rec. = 0.21m	WH	66.9		1.2	98.8	64	36
	A_7_6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.34m	WH	54.2					

GEOLOGISTS REPORT:
SEE SHEET 4

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

HOLE NO.: B-4
SHEET 3 OF 4
DATE STARTED: 7/15/98
DATE COMPLETED: 7/22/98

PROJECT NAME: LEICESTER
SITE NAME: BR-6
STATION: 1+086.10
GROUND EL.: 105.186

PROJECT NUMBER: BRF 0160 (3) S
SITE NO.: TH-1
OFFSET: 5.639
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: GAMMELL
LOGGER: HOLT
ADDITIONAL CREW:

BORING RIG: UNI-MOG
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
30	A_7_6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.36m	WH	67.3					
	A_7_6	A-7-6, Clay, gry, Wet, Rec. = 0.14m	WH	53.4		0.8	99.2	62	35
	A_7_6	A-7-6, Clay (visual), gry, MTW, Rec. = 0.60m	WH	49.7					
35	A_7_6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.21m	WH	62.2					
		A-4, ClSi, gry, MTW, Rec. = 0.49m	13	38.9		1.2	98.8	24	9
		A-6, Clay (visual), gry, Wet, Rec. = 0.60m	WH	68.5					
		A-6, SiCl, gry, MTW, Rec. = 0.52m	WH	40.7		0.8	99.2	38	17
40		A-4, Si, gry, MTW, Rec. = 0.50m	WH	24.6		3.8	96.2		
		No Sample, Boulder, Advanced casing to 43.2m							
		BXMDC, 43.2m-43.8m, Boulder, Advanced casing to 45.2m.							

ESTIMATED PILE TIP ELEV 60.000

GEOLOGISTS REPORT:
SEE SHEET 4

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

HOLE NO.: B-4
SHEET 4 OF 4
DATE STARTED: 7/15/98
DATE COMPLETED: 7/22/98

PROJECT NAME: LEICESTER
SITE NAME: BR-6
STATION: 1+086.10
GROUND EL.: 105.186

PROJECT NUMBER: BRF 0160 (3) S
SITE NO.: TH-1
OFFSET: 5.639
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN .
DRILLER: GAMMELL .
LOGGER: HOLT
ADDITIONAL CREW:

BORING RIG: UNI-MOG
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
45		Top of bedrock @ 45.20m							
		Run #1: BXMDC, 45.2m-46.4m, Rec. = 1.16m, See Geologist's Report.	RUN 1	REC% 97	ROD% 25	Dip° 70			
		Run #2: BXMDC, 46.4m-47.8m, Rec. = 1.30m, See Geologist's Report.	2	93	50	70			
50		Hole stopped @ 47.80m							
55									

GEOLOGISTS REPORT:

Run #1: Numerous joints, Buff to white marble, Very hard, Poor ROD, Unweathered, Poor competency.

Run #2: Numerous joints, Buff to white marble, Very hard, Unweathered, Fair competency.

Metric

SHEET NAME: **BORING LOGS #2**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S

HIGHWAY NO.: FAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95j288\Structures\sj288bor.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:

PLOT DATE: 17-AUG-2005
DRAWN BY: J. TOUCHETTE
IPARM NAME: sj088br2.1
SHEET 43 OF 90

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

HOLE NO.: B-5
SHEET 1 OF 2
DATE STARTED: 7/24/98
DATE COMPLETED: 7/28/98

PROJECT NAME: LEICESTER
SITE NAME: BR-6
STATION: 1+126.40
GROUND EL.: 105.671

PROJECT NUMBER: BRF 0160 (3) S
SITE NO.: TH-1
OFFSET: 6.943
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: GAMMELL
LOGGER: HOLT
ADDITIONAL CREW:

BORING RIG: UNI-MOG
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, SaSi, brn, MTW, Rec. = 0.31m	6	36.3	7.3	22	70.7		
		A-4, Si, brn, MTW, Rec. = 0.52m	6	29.7	0.1	19	80.9		
BOTTOM OF FOOTING ELEV 101.500									
5		A-4, SiSa with Trace of Organics (3.20%), Lt/gry, Wet, Rec. = 0.56m	5	54.6	1.4	58.6	40		
		A-4, SiSa with Trace of Organics (4.18%), Lt/gry, MTW, Rec. = 0.53m	3	48.5	1.7	54.9	43.4		
		A-2-4, SiSa with Trace of Organics (4.18%), gry, MTW, Rec. = 0.49m	5	41	0.4	67	32.6		
		A-4, Si, Lt/gry, MTW, Rec. = 0.60m	4	27.4		8.3	91.7		
10		A-4, SaSi, Lt/gry, MTW, Rec. = 0.57m	3	31.1	0.1	34	65.9		
		A-4, SaSi, Lt/gry, MTW, Rec. = 0.43m	8	26.9		29.3	70.7		
		A-4, SaSi, Lt/gry, MTW, Rec. = 0.41m	7	29.9		45	55		

GEOLOGISTS REPORT:
SEE SHEET 2

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

HOLE NO.: B-5
SHEET 2 OF 2
DATE STARTED: 7/24/98
DATE COMPLETED: 7/28/98

PROJECT NAME: LEICESTER
SITE NAME: BR-6
STATION: 1+126.40
GROUND EL.: 105.671

PROJECT NUMBER: BRF 0160 (3) S
SITE NO.: TH-1
OFFSET: 6.943
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: GAMMELL
LOGGER: HOLT
ADDITIONAL CREW:

BORING RIG: UNI-MOG
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
15	A-7-5	A-7-5, Clay, gry, Wet, Rec. = 0.60m	7	64.7			100	76	45
	A-7-5	A-7-5, Clay, gry, Wet, Rec. = 0.60m	WH	63.3			100	69	38
	A-7-6	A-7-6, Clay, gry, Sat, Rec. = 0.60m	WH	76.5			100	49	25
20	A-7-6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.60m	WH	65.6		0.2	99.8		
	A-7-6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.60m	WH	63.9		0.2	99.8		
	A-7-6	A-7-6, Clay, gry, Wet, Rec. = 0.60m	WH	63		0.2	99.8	63	36
	A-7-6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.30m	WH	61		0.2	99.8		
25	A-7-6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.60m	WH	58		0.3	99.7		
	A-7-6	A-7-6, Clay, gry, MTW, Rec. = 0.60m	WH	42.8		0.2	99.8	42	22
	A-7-6	A-7-6, Clay (visual), gry, Wet, Rec. = 0.60m	WH	67.4		0.8	99.2		
ESTIMATED PILE TIP ELEV 76.400			Top of bedrock @ 29.27m						
30		Run #1: BXMDC, 29.27m-30.77m, Rec. = 1.47m, See Geologist's Report.	RUN 1	REC% 98	ROD% 30	Dip° 35			
		Run #2: BXMDC, 30.77m-32.27m, Rec. = 1.10m, See Geologist's Report.	2	73	40	35			
			Hole stopped @ 32.27m						

GEOLOGISTS REPORT:

Run #1: 29.27m-29.47m, Dark gray limestone, Hard, Unweathered, Competent.
29.47m-30.77m, Light gray limestone, Hard, Unweathered, Competent.

Run #2: 30.77m-31.67m, Light gray limestone, Hard, Unweathered, Competent.
31.67m-32.27m, Pink shaley limestone, Hard, Unweathered, Competent.

VAOT Metric

SHEET NAME: **BORING LOGS #3**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S

HIGHWAY NO.: FAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sJ288bor.dgn PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: J. TOUCHETTE
DESIGNED BY: C. CARLSON IPARM NAME: sJ088br3.1
BRIDGE SHEET NUMBER: SHEET 44 OF 90

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

HOLE NO.: B-7
SHEET 1 OF 3
DATE STARTED: 7/10/98
DATE COMPLETED: 7/15/98

PROJECT NAME: LEICESTER
SITE NAME: BR-6
STATION: 1+13.10
GROUND EL.: 106.454

PROJECT NUMBER: BRF 0160 (3) S
SITE NO.: TH-1
OFFSET: -2.662
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: GAMMELL
LOGGER: HOLT
ADDITIONAL CREW:

BORING RIG: UNI-MOG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

BOTTOM OF FOOTING
ELEV 101.500

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4, SiSa, brn, Moist, Rec. = 0.26m	7	19.9	16.7	50.2	33.1		
		A-4, SaSi, brn, MTW, Rec. = 0.04m	4	49		29.7	70.3		
		A-4, SaSi, brn, MTW, Rec. = 0.40m	8	29.9	0.3	23.2	76.5		
		A-4, SiSa, gry, MTW, Rec. = 0.27m	7	34.8		51.5	48.5		
5		A-4, SaSi with Chopped Root (visual), blk, Wet, Rec. = 0.43m	4	65.2					
		A-4, SaSi with Chopped Root (visual), blk, Sat, Rec. = 0.45m	6	116					
		No Sample.	6						
		A-4, Si, gry, MTW, Rec. = 0.40m	9	30		2.1	97.9		
		No Sample.	7						
10		A-4, Si, gry, MTW, Rec. = 0.27m	6	29.7		18.6	81.4		
		A-4, SaSi, gry, MTW, Rec. = 0.56m	9	31		21.2	78.8		
		A-4, SaSi, gry, MTW, Rec. = 0.54m	11	26.7		31.1	68.9		
		A-4, SiSa, gry, MTW, Rec. = 0.47m	11	24.8		54.8	45.2		

GEOLOGISTS REPORT:
SEE SHEET 3

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

HOLE NO.: B-7
SHEET 2 OF 3
DATE STARTED: 7/10/98
DATE COMPLETED: 7/15/98

PROJECT NAME: LEICESTER
SITE NAME: BR-6
STATION: 1+13.10
GROUND EL.: 106.454

PROJECT NUMBER: BRF 0160 (3) S
SITE NO.: TH-1
OFFSET: -2.662
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: GAMMELL
LOGGER: HOLT
ADDITIONAL CREW:

BORING RIG: UNI-MOG
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
15	A-7-5	A-7-5, Clay, gry, Sat, Rec. = 0.60m	6	74.4		0.3	99.7	68	38
	A-7-6	A-7-6, Clay, Lt/gry, Sat, Rec. = 0.60m	1	74.3		0.3	99.7	69	41
	A-7-6	A-7-6, Clay, Lt/gry, MTW, Rec. = 0.60m	WH	42.1		0.3	99.7	68	40
20	A-7-6	A-7-6, Clay, Lt/gry, Wet, Rec. = 0.60m	WH	68.6		0.3	99.7	69	41
	A-7-6	A-7-6, Clay, Lt/gry, Wet, Rec. = 0.60m	WH	63.3		0.3	99.7	68	39
	A-7-6	A-7-6, Clay, Lt/gry, Wet, Rec. = 0.60m	WH	64.3		0.3	99.7	68	40
25		Lost casing, 24.0m-27.0m, No Sample							
	A-7-6	A-7-6, Clay, gry, Wet, Rec. = 0.50m	WH	54	11	1.5	90.5	55	28
	A-7-6	A-7-6, Clay, gry, Wet, Rec. = 0.44m	WH	58.3	1.3	1.7	97	55	29

GEOLOGISTS REPORT:
SEE SHEET 3

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

HOLE NO.: B-7
SHEET 3 OF 3
DATE STARTED: 7/10/98
DATE COMPLETED: 7/15/98

PROJECT NAME: LEICESTER
SITE NAME: BR-6
STATION: 1+13.10
GROUND EL.: 106.454

PROJECT NUMBER: BRF 0160 (3) S
SITE NO.: TH-1
OFFSET: -2.662
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: GAMMELL
LOGGER: HOLT
ADDITIONAL CREW:

BORING RIG: UNI-MOG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

ESTIMATED PILE TIP
ELEV 73.750

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
30	A-7-6	A-7-6, Clay, gry, MTW, Rec. = 0.55m	WH	40.2		0.6	99.4	49	26
		A-2-4, ClGr (visual), gry, Moist, Rec. = 0.17m,	24	7.4	52.9	17.8	29.3		
		Top of bedrock @32.70m							
		Run #1: BXMDC, 32.7m-34.2m, Rec. = 1.29m, See Geologist's Report.	RUN 1	REC% 86	RQD% 70	Dip° 40			
35		Run #2: BXGDC, 34.2m-35.45m, No Rec., See Geologist's Report.	2	NA	NA	NA			
		Hole stopped @ 35.45m							
40									

GEOLOGISTS REPORT:

Run #1: Gray limestone, Hard, Unweathered, Competent.

Run #2: No recovery, Core barrel broken, Drillers report no seams encountered.

VAOT Metric

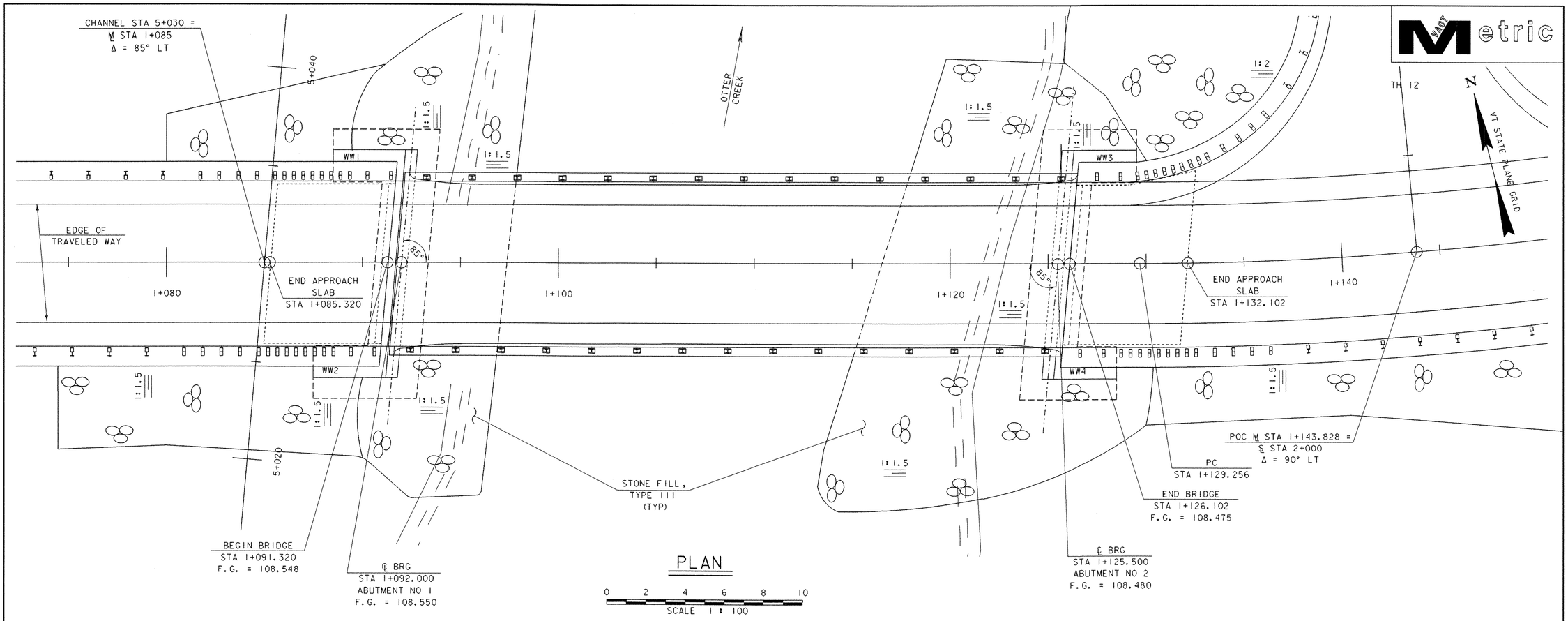
SHEET NAME: **BORING LOGS #4**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S

HIGHWAY NO.: FAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95j288\Structures\sj288bor.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:

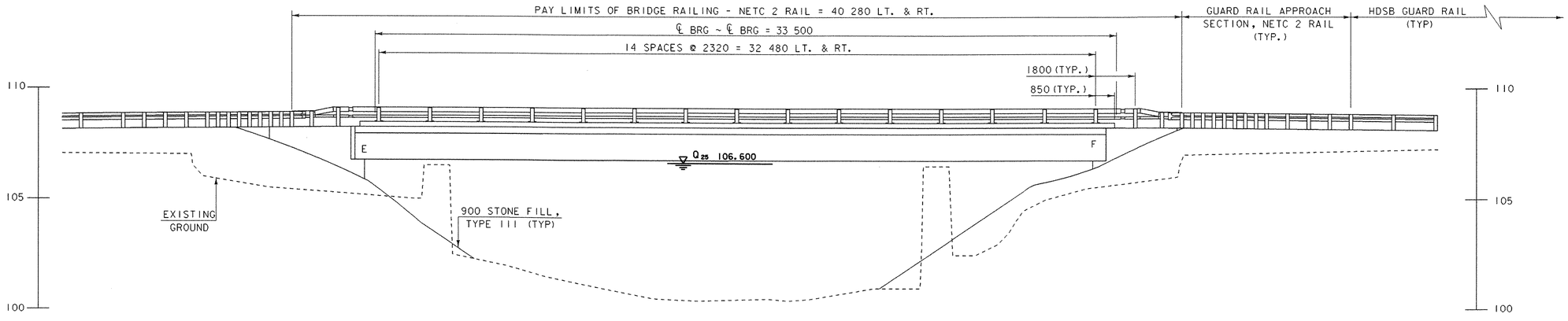
PLOT DATE: 17-AUG-2005
DRAWN BY: J. TOUCHETTE
IPARM NAME: sj088br4.i
SHEET 45 OF 90



PLAN

0 2 4 6 8 10

SCALE 1 : 100



ELEVATION AT UPSTREAM FASCIA

0 2 4 6 8 10

SCALE 1:100

SHEET NAME:	**PLAN AND ELEVATION**		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95J288\Structures\sj288pe.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088pe.i
BRIDGE SHEET NUMBER:		SHEET	46 OF 90

STATE OF VERMONT
AGENCY OF TRANSPORTATION

GENERAL NOTES

Metric

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2001, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SEVENTEENTH EDITION, AND ITS LATEST REVISIONS.

2. BRIDGE IS DESIGNED FOR MS 22.5 LIVE LOAD WITH NO ALLOWANCE FOR FUTURE PAVEMENT.

3. a) IN-STREAM CONSTRUCTION SHALL BE RESTRICTED TO JUNE 1 TO OCTOBER 1, UNLESS THE CONTRACTOR OBTAINS WRITTEN PERMISSION FROM THE AGENCY OF NATURAL RESOURCES TO DO WORK OUTSIDE OF THAT TIME FRAME.

   b) THE CONTRACTOR SHALL REVIEW AND UNDERSTAND ALL APPLICABLE ENVIRONMENTAL PERMITS AND INSURE THAT ALL CONDITIONS ARE MET.

4. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT SILTATION OR POLLUTION, ESPECIALLY THE DISCHARGE OF RAW CONCRETE INTO THE OTTER CREEK.

5. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES C UNLESS OTHERWISE NOTED.

6. THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE STRUCTURAL STEEL.

7. THE EXISTING SUPERSTRUCTURE INCLUDING THE BEAMS, DECK AND RAILING SHALL BE REMOVED DOWN TO THE EXISTING BRIDGE SEATS. THIS WORK SHALL BE PAID FOR UNDER THE ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".

8. PAYMENT FOR REMOVAL OF EXISTING BITUMINOUS 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 OFFSITE LOCATION.

9. TEMPORARY FENCING SHALL BE PLACED BETWEEN STATIONS S/L STA 2+022 RT - S/L STA 2+070 RT AND MAIN LINE STATIONS 1+153 LT - 1+230 LT TO RESTRICT ACCESS TO AN AREA THAT IS ARCHAEOLOGICALLY SENSITIVE. THIS WORK WILL BE PAID FOR AS ITEM 620.70, "SNOW FENCE" (MOD.-ARCH).

10. ALL WORK REQUIRED FOR THE CONSTRUCTION OF TOWN HIGHWAY 12 (JERUSALEM ROAD) SHALL BE CONDUCTED FROM THE ROADWAY.

11. THE CONTRACTOR SHALL NOT REMOVE ANY EXISTING TOPSOIL OR OTHER MATERIAL IN THE VICINITY OF THE FIELD DRIVE LOCATED AT STATION 1+026 LT. THE CONTRACTOR SHALL PLACE THE FILL AND SUBBASE MATERIALS FOR THIS DRIVE WITHIN THE DRIVE LIMITS..

12. THE CONTRACTOR SHALL NOT USE ANY OF THE LAND THAT IS IDENTIFIED ON THE PLANS AS AN "ARCHAEOLOGICALLY SENSITIVE AREA" FOR STAGING, WASTE OR BORROW AREA.

13. THE EXISTING CONCRETE ABUTMENTS SHALL BE REMOVED IN THEIR ENTIRETY THIS WORK SHALL BE PAID FOR UNDER ITEM 204.25,"STRUCTURE EXCAVATION".

14. THE EXISTING PIERS SHALL BE REMOVED TO 600mm BELOW THE STREAMBED ELEVATION THOSE PORTIONS OF THE PIERS THAT FALL WITHIN THE COFFERDAM'S PAY LIMITS WILL BE PAID FOR AS "COFFERDAM EXCAVATION, ROCK". THOSE PORTIONS OF THE PIERS THAT FALL OUTSIDE THE COFFERDAMS SHALL BE PAID AS "UNCLASSIFIED CHANNEL EXCAVATION".

15. ALL PILES SHALL BE FURNISHED WITH REINFORCED PILE POINT OF PREFABRICATED CAST STEEL AS PER SUBSECTION 505.04(E) AND 730.01.

16. THE VERMONT RAILWAY OR A CONTRACTOR IN THEIR EMPLOY WILL CONSTRUCT THE NEW RAILROAD CROSSING AND UPGRADE THE FLASHING SIGNAL SYSTEM FOR THE RAILROAD CROSSING LOCATED AT PROJECT STATION 0+994.253. THE CONTRACTOR FOR THE BRIDGE REPLACEMENT PROJECT WILL BE REQUIRED TO COORDINATE THEIR WORK WITH THE RAILROAD AND WILL NOT BE COMPENSATED DIRECTLY FOR THIS COORDINATION OR FOR ANY EXTRA WORK THAT MAY BE REQUIRED TO WORK AROUND OR WITH THE RAILROAD CREWS PERFORMING THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR PAVING THE RAILROAD CROSSING. THIS WORK WILL BE PAID FOR AS ITEM 406.25, "BITUMINOUS CONCRETE PAVEMENT".

17. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION OF THE HOUSE FOUNDATION (STA. 1+040 RT.) PRIOR TO PILE DRIVING AND FOR MONITORING OF THE FOUNDATIONS DURING PILE DRIVING AT EACH ABUTMENT. THIS WORK WILL BE INCIDENTAL TO THE ITEM 504.10, "FURNISHING EQUIPMENT FOR DRIVING PILING". SEE SPECIAL PROVISIONS.

18. EXISTING TRAFFIC SIGNS AND SIGN POSTS SHALL BE REMOVED AND STOCKPILED ON THE PROJECT. THEY WILL REMAIN THE PROPERTY OF THE TOWN. THE CONTRACTOR SHALL BE PREPARED TO LOAD THE SIGNS ON TRUCKS FURNISHED AT THE SITE BY THE TOWN FOR REMOVAL FROM THE SITE BY THE TOWN. NOTIFICATION MUST BE GIVEN ONE WEEK IN ADVANCE TO THE TOWN INDICATING WHEN THE MATERIAL WILL BE AVAILABLE. CONTACT ARLAN PIDGEON, ROAD FOREMAN AT (802) 247-2961. THIS WORK WILL BE PAID FOR UNDER THE ITEM 675.50, "REMOVING SIGNS".

19. A WATER QUALITY AND QUANTITY TEST WILL BE PERFORMED FOR THE WELL LOCATED AT STA 1 + 053(+/-) RT PRIOR TO AND IMMEDIATELY AFTER CONSTRUCTION. THIS WORK WILL BE PERFORMED BY AGENCY STAFF AND/OR DESIGNEES.

STRUCTURAL STEEL

20. ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.

21. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF VERMONT SPECIFICATION 506.10.

22. ALL MEMBERS MARKED (CVN) MUST MEET THE CHARPY V-NOTCH TESTING REQUIREMENTS AS INDICATED IN SECTION 714 OF THE VERMONT AGENCY OF TRANSPORTATION SPECIFICATIONS FOR CONSTRUCTION.

23. ANY HOLES IN THE WEBS OF THE FASCIA BEAMS/GIRDERS THAT ARE NOT OTHERWISE FILLED SHALL BE FILLED AS DESCRIBED IN NOTE 24 FOR PAINTED AND UNPAINTED AREAS. THE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATION.

24. ALL FIELD CONNECTIONS SHALL BE MADE WITH 22 mm DIAMETER AASHTO DESIGNATION M 164M TYPE III BOLTS IN 24 mm DIAMETER HOLES EXCEPT FOR CONNECTIONS IN PAINTED AREAS AT THE ABUTMENT NO. 1 END WHERE 22 mm DIAMETER BOLTS MEETING AASHTO M164 , TYPE I GALVANIZED SHALL BE USED.

25. THE DESIGN OF THE FLEMING BRACKETS SHALL BE LEFT UP TO THE CONTRACTOR BUT SHALL BE LIMITED TO A MAXIMUM OF 1.220 METER SPACING.

26. ALL STRUCTURAL STEEL WITHIN 2.4 METERS OF THE GIRDER ENDS AT ABUTMENT NUMBER ONE SHALL BE PAINTED. THE COLOR OF THE FINAL COAT OF PAINT SHALL BE BROWN AND SHALL CONFORM WITH FEDERAL STANDARD NUMBER 595, COLOR CHIP NUMBER 20059. THIS WORK WILL BE PAID FOR UNDER THE ITEMS 513.25, "STRUCTURAL PAINTING, SHOP APPLIED (6 TONNES)" AND 513.40, "SURFACE PREPARATION, SHOP APPLIED (6 TONNES)."

27. THE ENDS OF THE GIRDERS AT ABUTMENT NO. ONE, THE END DIAPHRAGMS AND BEARING STIFFENERS SHALL BE GREASED AS PER SECTION 513.06(d) OF THE SUPPLEMENTAL SPECIFICATION. THIS WORK WILL BE PAID FOR UNDER "STRUCTURAL PAINTING, SHOP APPLIED (6 TONNES)".

CONCRETE

28. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT, ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.

29. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 mm BY 25 mm.

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

31. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).

32. REINFORCING PLACEMENT TOLERANCES SHALL BE:
    SPACING + - 25 mm
    CLEARANCE + - 5 mm

33. MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS DETAILED IN THE PROJECT PLANS.

34. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL, OTHER BRIDGE SEAT AREAS SHALL BE SLOPED 40mm/m. ABUTMENT SEATS SHALL BE SLOPED FULL WIDTH TOWARD THE CENTER SPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTHED WITH A MAGNESIUM FLOAT FINISH.

35. DECK POUR IS TO BE DONE IN ONE POUR WITHIN A MAXIMUM OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A MINIMUM DELAY OF NINETY-SIX (96) HOURS BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF ANY OTHER POUR WILL BE ADHERED TO. SEE SHEET 51 FOR DETAIL OF TRANSVERSE BRIDGE SLAB CONSTRUCTION

36. WATER REPELLENT (MOD.-SILANE) SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE DECK BETWEEN THE DRIP BEADS.

37. NO CONCRETE IN THE ABUTMENTS OR WINGWALLS SHALL BE PLACED ABOVE THE BRIDGE SEAT ELEVATIONS UNTIL THE GIRDERS HAVE BEEN PROFILED AND THE FINISHED GRADE OF THE DECK HAS BEEN DETERMINED.

38. AFTER THE SUPERSTRUCTURE HAS BEEN ERECTED, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF THE BEAMS/GIRDERS, AS DIRECTED BY THE RESIDENT ENGINEER, FOR USE IN DETERMINING THE FINISHED GRADE.

39. ALL SUBSTRUCTURE CONCRETE AND THE APPROACH SLABS SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B, UNLESS OTHERWISE NOTED.

40. THE DECK AND CURBS SHALL BE CONCRETE, HIGH PERFORMANCE CLASS A.

TEMPORARY BRIDGE/DETOUR

41. TRAFFIC WILL BE MAINTAINED ON A TWO-WAY TEMPORARY BRIDGE LOCATED DOWNSTREAM OF THE EXISTING STRUCTURE.

42. THE ROADWAY APPROACHES TO THE TEMPORARY BRIDGE WILL BE PAVED. THE PAVEMENT WILL BE PAID FOR UNDER ITEM 528.11, "TWO WAY TEMPORARY BRIDGE (MOD.)".

43. THE REMOVAL, COVERING AND/OR RESETTING OF EXISTING TRAFFIC SIGNS, AS DEEMED NECESSARY BY THE RESIDENT ENGINEER, WILL BE CONSIDERED INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL".

44. THE COST OF ALL ON-PROJECT CONSTRUCTION SIGNING AND BARRICADES SHALL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL".

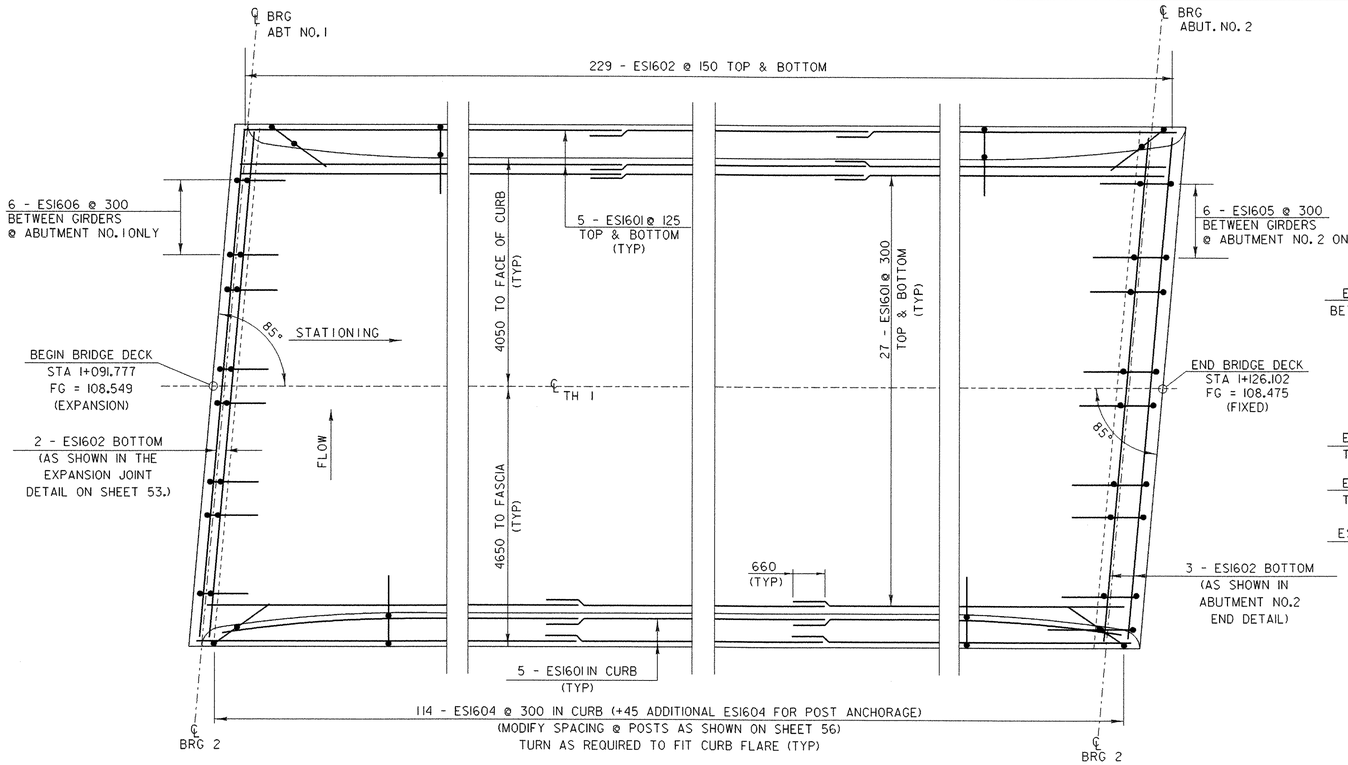
45. ACCESS TO DRIVES SHALL BE MAINTAINED. WHEN THE CONTRACTOR MUST TEMPORARILY RESTRICT ACCESS TO THE DRIVES, THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNERS IN ADVANCE. THIS WORK WILL BE PAID FOR UNDER THE ITEM 641.10, "TRAFFIC CONTROL".

46. THE EXISTING BERM PROTECTING THE CORN FIELD IN THE NORTHWEST QUADRANT OF THE PROJECT WILL BE EITHER MAINTAINED OR REPLACED WITH A WATERTIGHT PHYSICAL BARRIER AT OR ABOVE ITS PRESENT ELEVATION AT ALL TIMES DURING CONSTRUCTION. WHEN FINAL GRADING IS DONE THE BERM SHALL BE RETURNED TO ITS ORIGINAL CONDITION AND MEET THE APPROVAL OF THE ENGINEER AND LANDOWNER. ANY COSTS INVOLVED IN MAINTAINING AND RECONSTRUCTING THE BERM WILL BE INCIDENTAL TO OTHER CONTRACT ITEMS.

GEOTECHNICAL INSTRUMENTATION

47. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING WITH THE VTRANS GEOTECHNICAL ENGINEER CHRIS BENDA AT 828-6910 CONCERNING THE INSTALLATION OF THE EARTH PRESSURE CELLS. THE CONTRACTOR SHALL GIVE ADEQUATE NOTIFICATION SO THAT EACH LOAD CELL CAN BE PLACED IN THE LOCATIONS SHOWN ON THE PLANS BEFORE THE NEXT PHASE OF CONSTRUCTION BEGINS. ALL COSTS ASSOCIATED WITH THIS COORDINATION (INCLUDING ANY DELAYS) AND IN ASSISTING WITH THE INSTALLATION OF THE CELLS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 623.60, "EARTH PRESSURE CELL".

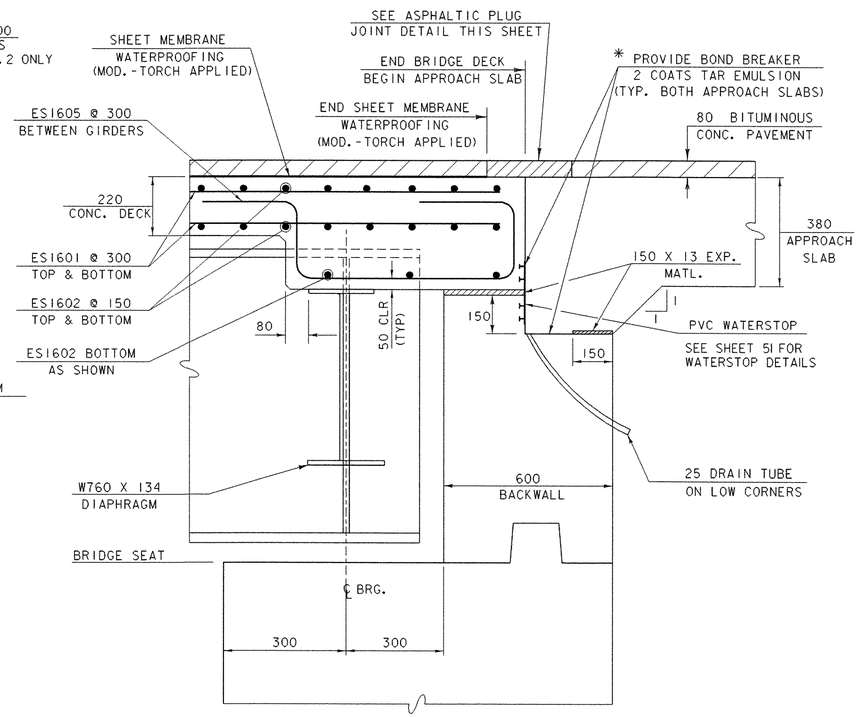
PROJECT NAME:	LEICESTER		
PROJECT NUMBER:	BRF 0160(3) S		
FILE NAME:	95j288\Structures\sj288gen.xls	PLOT DATE:	04/07/2005
PROJECT LEADER:	R. R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	C. CARLSON	CHECKED BY:	C. CARLSON
GENERAL NOTES SHEET		SHEET 47	OF 90



DETAIL REINFORCING PLAN

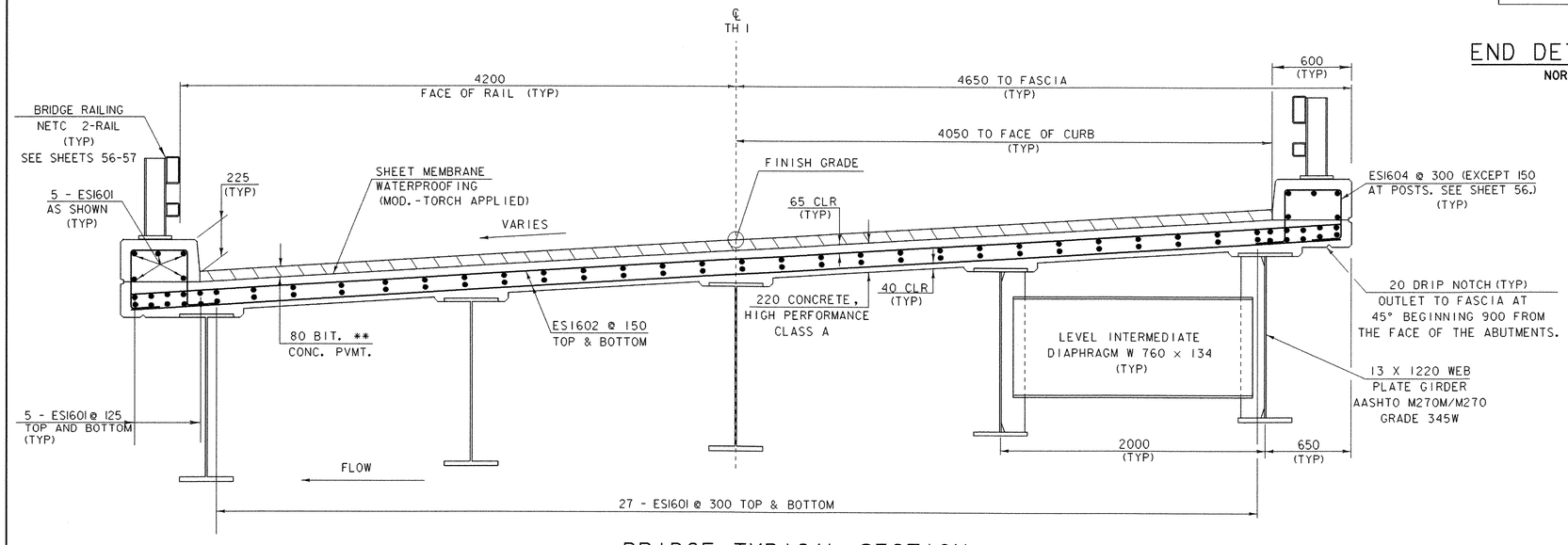
SCALE 1 : 50

* PAYMENT INCIDENTAL TO ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B"



END DETAIL @ ABUTMENT NO. 2

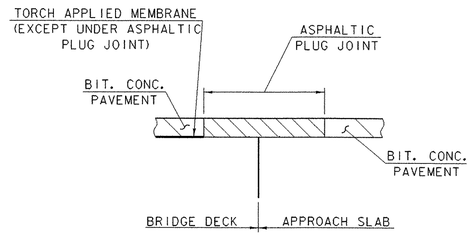
NORMAL TO CENTERLINE OF BEARING
NOT TO SCALE



BRIDGE TYPICAL SECTION

SCALE 1 : 20

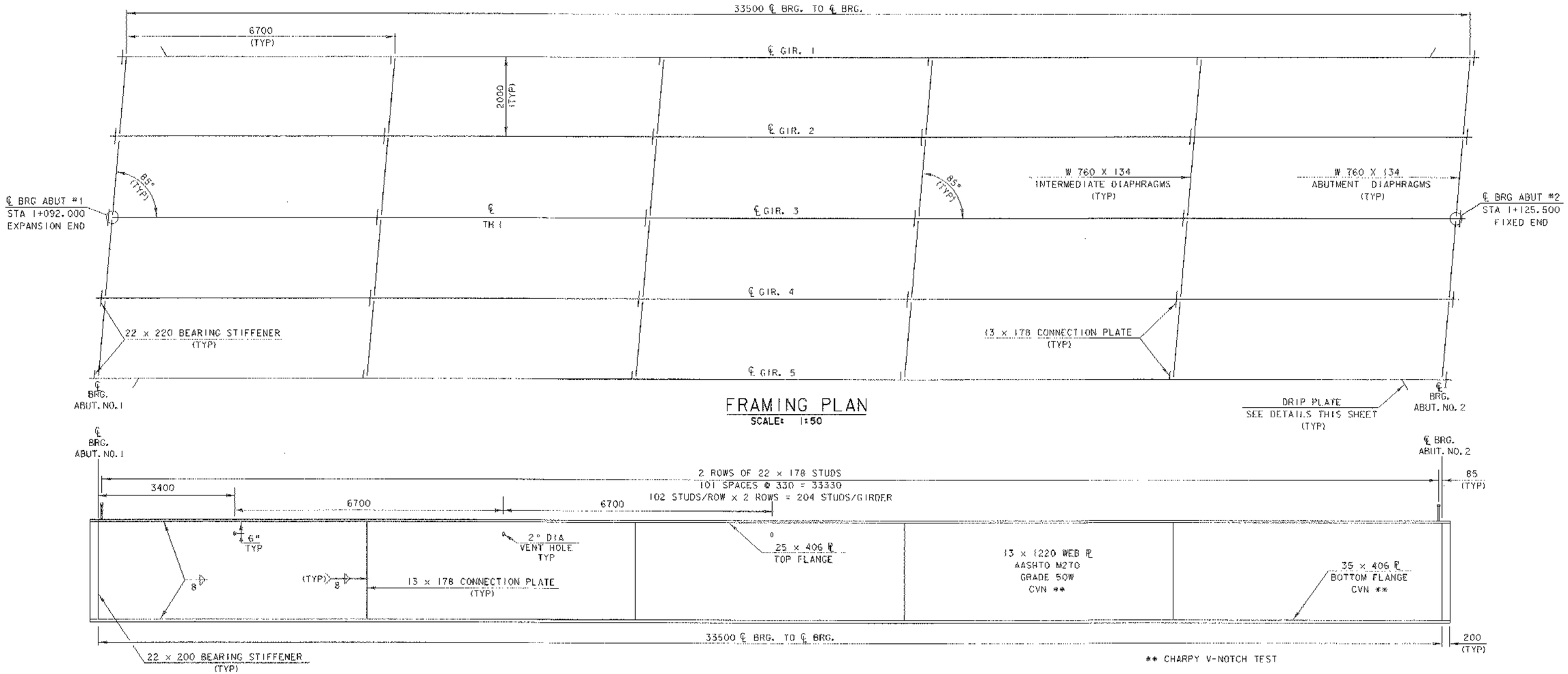
** 40 BIT. CONC. PVMT. TYPE III OVER
40 BIT. CONC. PVMT. TYPE III



ASPHALTIC PLUG JOINT DETAIL

NOT TO SCALE

SHEET NAME: DECK REINFORCING PLAN	
PROJECT NAME: LEICESTER	HIGHWAY NO.: TH 1
PROJECT NUMBER: BRF 0160(3)S	BRIDGE NO.: 6
	OVER: OTTER CREEK
FILE NAME: 95J288\Structures\sj288sup.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: T. FILLBACH
DESIGNED BY: C. CARLSON	IPARM NAME: sj288dck.I
BRIDGE SHEET NUMBER:	SHEET 48 OF 90

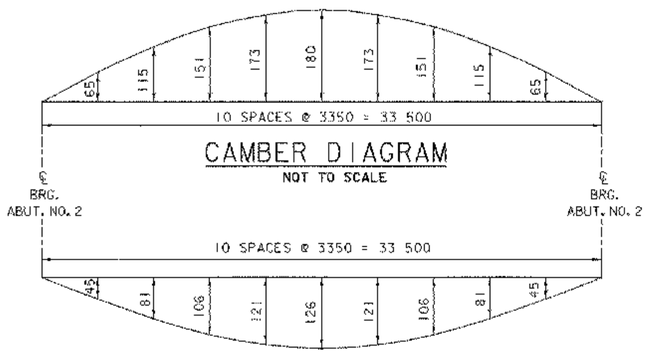


FRAMING PLAN

SCALE: 1:50

TYPICAL GIRDER ELEVATION

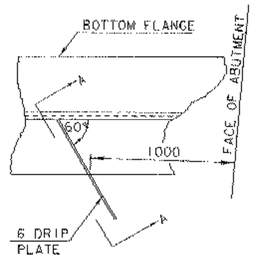
HORIZONTAL SCALE: 1:50
VERTICAL SCALE: 1:25



DEAD LOAD DEFLECTION

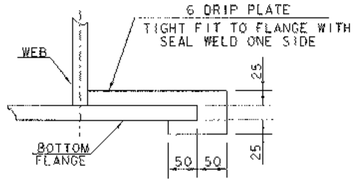
NOT TO SCALE

NOTE: DEAD LOAD DEFLECTION IS DUE TO GIRDER, DIAPHRAGMS, DECK, CURBS, PAVEMENT AND RAILING.



PLAN DRIP PLATE

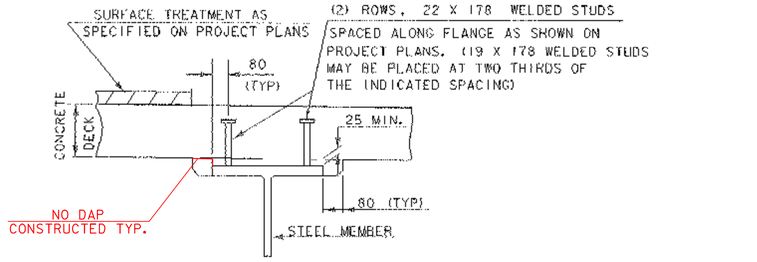
NOT TO SCALE



SECTION A - A

NOT TO SCALE

NOTE: DRIP PLATES SHALL BE PLACED ON THE OUTSIDE EDGE OF FASCIA BEAMS AS INDICATED ON PROJECT PLANS.



HAUNCH AND SHEAR CONNECTOR DETAILS

NOTE: THE 80 HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES IF APPROVED BY THE STRUCTURES ENGINEER

BORG HANGERS APPROVED AND USED.

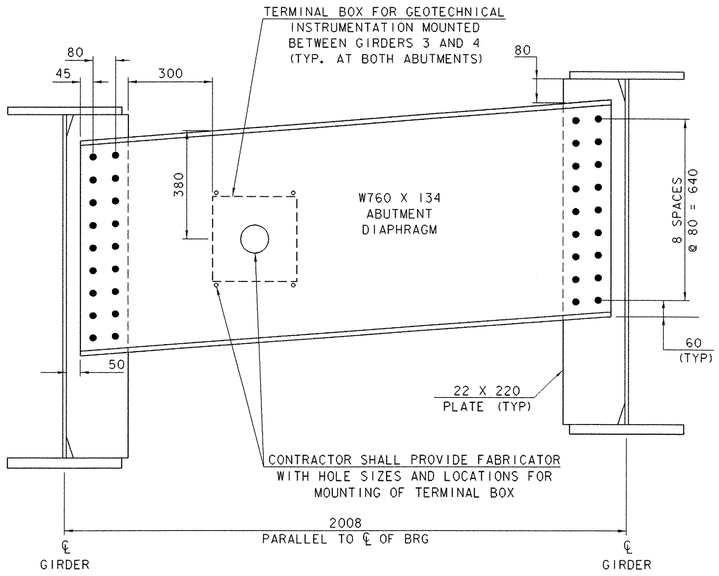
SHEET NAME: **FRAMING PLAN**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(31)S

HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

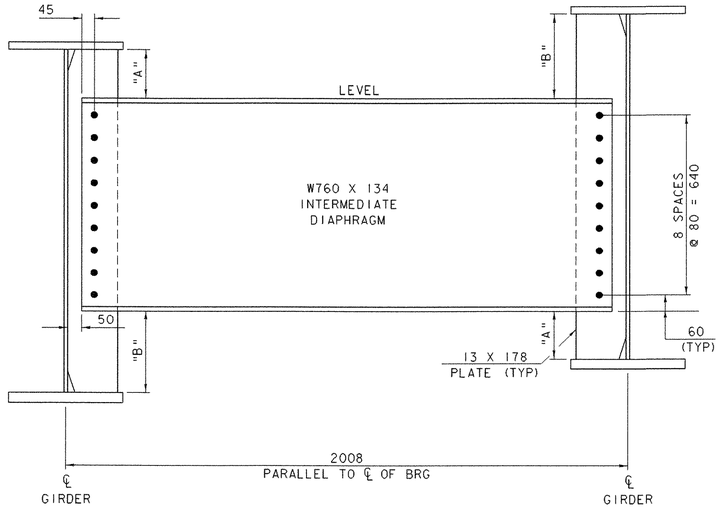
FILE NAME: /PW/95J288/sj288sup.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:

PLOT DATE: 17-AUG-2005
DRAWN BY: T. FILLBACH
IPARM NAME: sj288frm.i
SHEET 49 OF 90



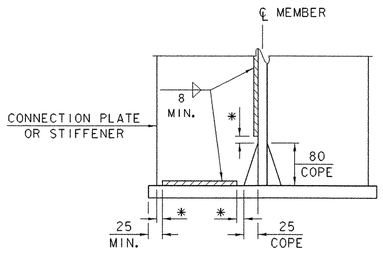
ABUTMENT DIAPHRAGM

SCALE 1 : 10



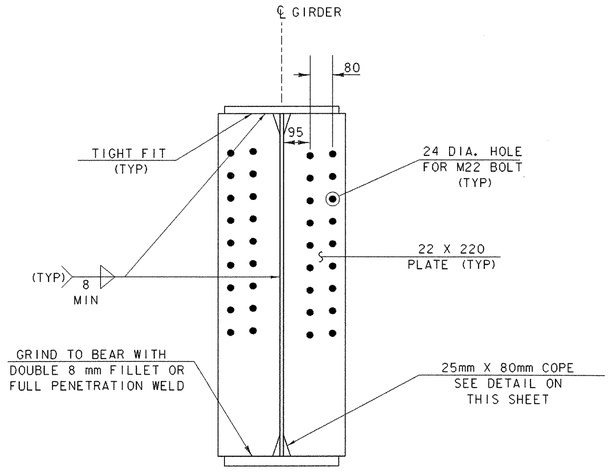
INTERMEDIATE DIAPHRAGM

SCALE 1 : 10



WELD TERMINATION AND COPING DETAIL FOR STEEL MEMBERS

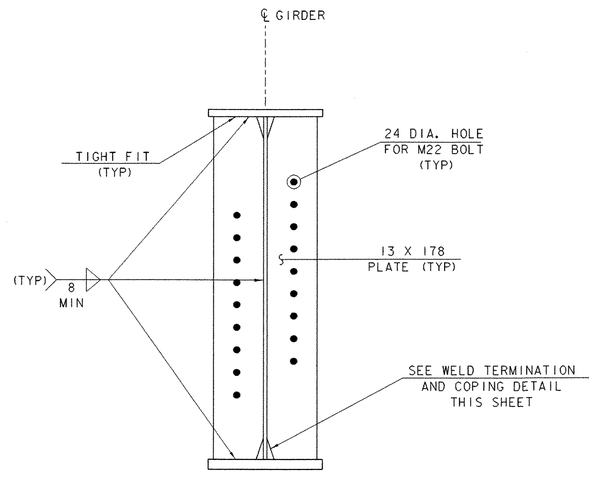
* NO WELD FOR 10 MIN., 22 MAX. (EXCEPT MUST MAINTAIN 25 MIN. FROM EDGE OF FLANGE)



ABUTMENT BEARING STIFFENER DETAIL

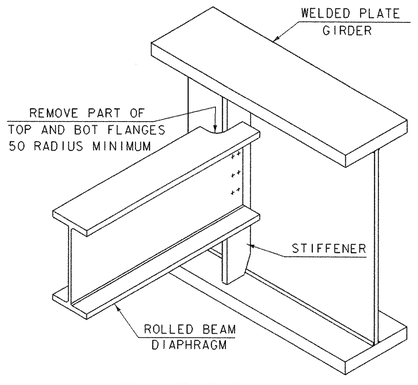
SCALE 1 : 10

NOTE: OMIT HOLES IN THE STIFFENERS ON THE OUTSIDE OF THE FASCIA GIRDERS.



INTERMEDIATE DIAPHRAGM CONNECTION PLATE DETAIL

SCALE 1 : 10

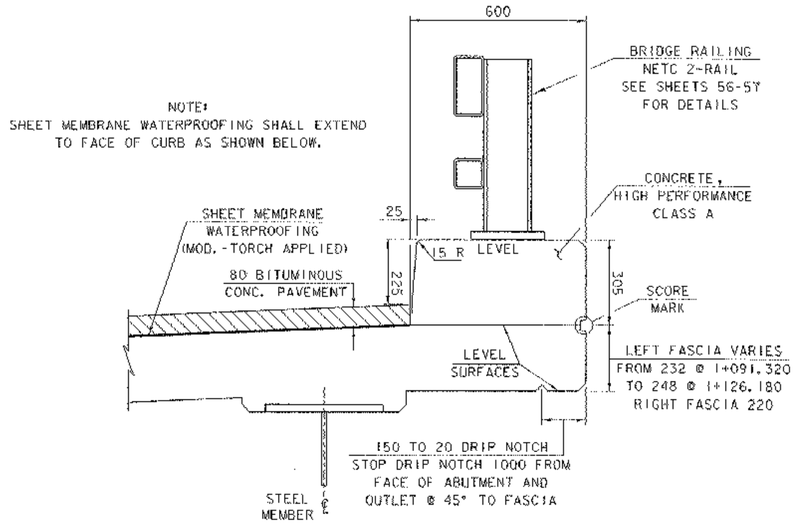


SEE CONTRACT DRAWINGS FOR SIZES OF MEMBERS AND CONNECTION DETAILS

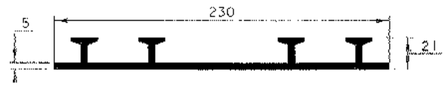
ROLLED BEAM USED AS DIAPHRAGM

NOT TO SCALE

SHEET NAME: STRUCTURAL STEEL DETAILS	
PROJECT NAME: LEICESTER	HIGHWAY NO.: TH 1
PROJECT NUMBER: BRF 0160(3)S	BRIDGE NO.: 6
	OVER: OTTER CREEK
FILE NAME: 95J288\Structures\sj288sup.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: M. HALE
DESIGNED BY: C. CARLSON	IPARM NAME: sj288ssd.i
BRIDGE SHEET NUMBER:	SHEET 50 OF 90

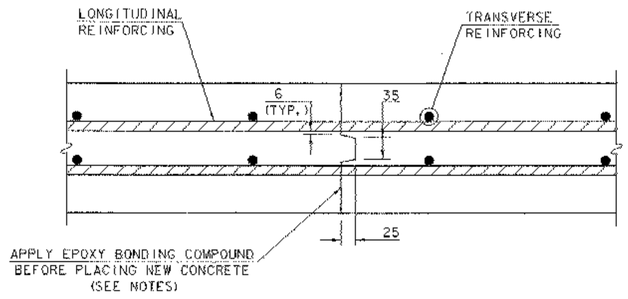


TYPICAL 600 CURB SECTION

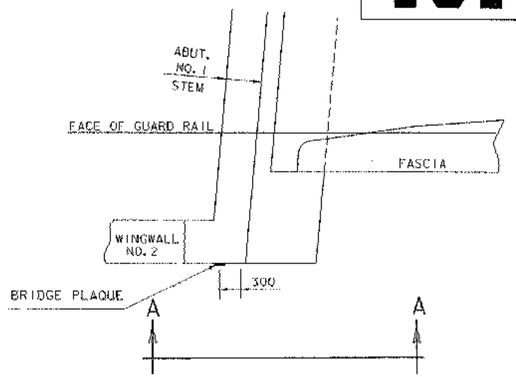


P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS

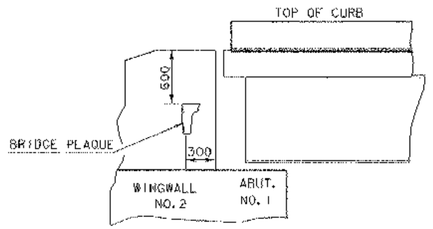
THE COST FOR P.V.C. WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.



TRANSVERSE BRIDGE DECK CONSTRUCTION JOINT DETAILS



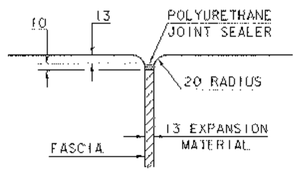
PLAN
NOT TO SCALE



VIEW "A-A"
NOT TO SCALE

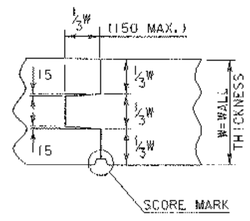
LOCATE BRIDGE PLAQUE

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AS SHOWN OR AS DIRECTED BY THE ENGINEER.



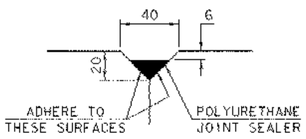
JOINT BETWEEN FASCIA AND WINGWALL

NOT TO SCALE



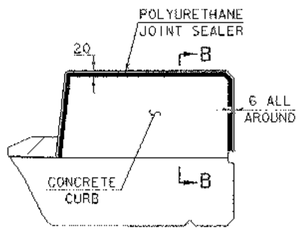
TYPICAL CONCRETE CONSTRUCTION JOINT

NOT TO SCALE



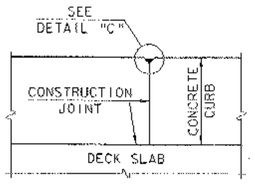
DETAIL "C"

NOT TO SCALE



TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

NOT TO SCALE

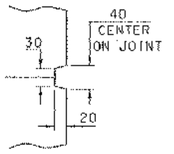


SECTION B-B

NOT TO SCALE

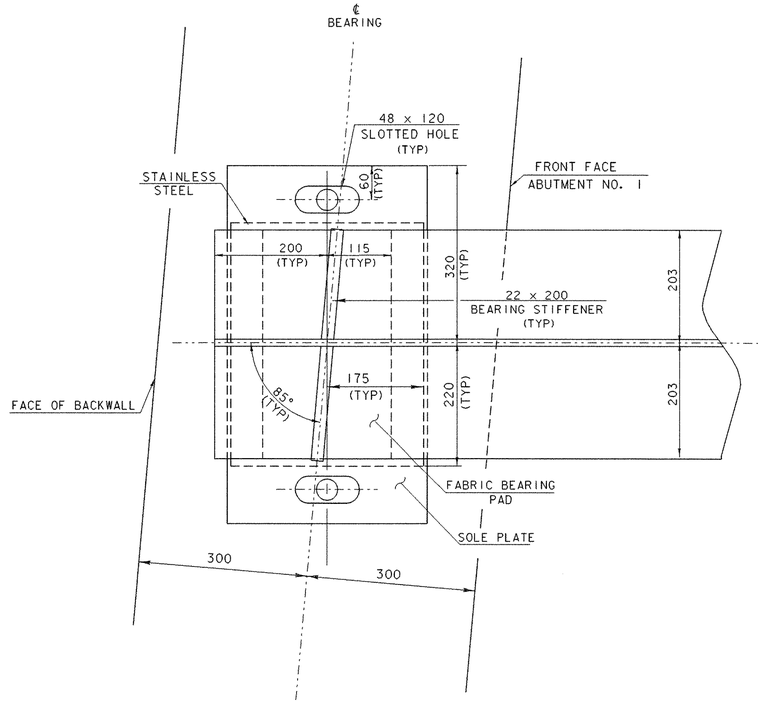
NOTES

1. TORCH APPLIED MEMBRANE SHALL EXTEND TO FACE OF CURB.
2. ~~CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED A MAXIMUM OF 4500 CENTER TO CENTER AND SHALL BE 550 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.~~ 2. CURBS WERE CONSTRUCTED IN ONE POUR. FOUR CONTROL JOINTS CONSTRUCTED PER SIDE AT EQUAL SPACES.
3. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CONSTRUCTION JOINTS. CURB REINFORCING STIRRUP BARS SHALL BE TURNED AS REQUIRED TO FIT FLARED ENDS.
4. MATERIAL AND APPLICATION FOR POLYURETHANE JOINT SEALER SHALL MEET THE REQUIREMENTS OF SUBSECTIONS 707.05 AND 524.06 (d) OF THE STANDARD SPECIFICATIONS. PAYMENT SHALL BE MADE INCIDENTAL TO ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".
5. EPOXY BONDING COMPOUND SHALL BE PAID INCIDENTAL TO ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".



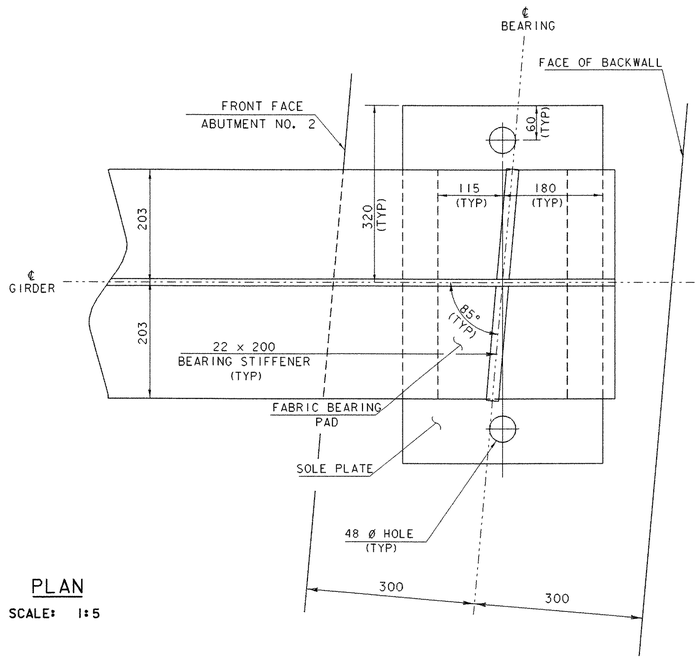
SCORE MARK DETAIL

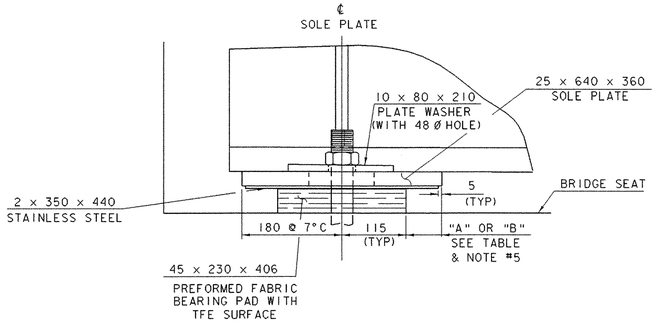
SHEET NAME: CURB DETAILS	
PROJECT NAME: LEICESTER	HIGHWAY NO.: TH 1
PROJECT NUMBER: BRF 0160(3)S	BRIDGE NO.: 6
	OVER: OTTER CREEK
FILE NAME: 95J288\Structures\sj288sup.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: T. FILLBACH
DESIGNED BY: C. CARLSON	PARM NAME: sj288crb.I
BRIDGE SHEET NUMBER:	SHEET 51 OF 90



PLAN

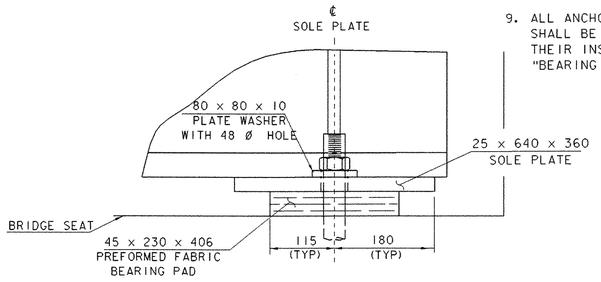
SCALE: 1:5

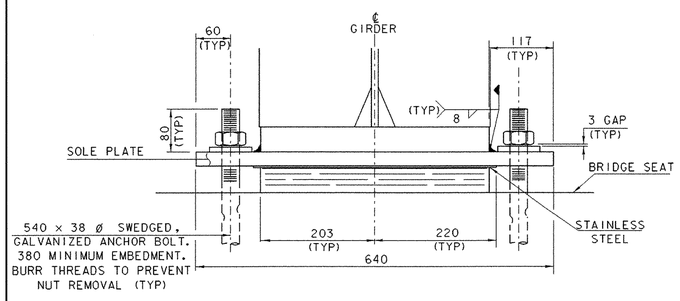




SIDE ELEVATION

SCALE: 1:5

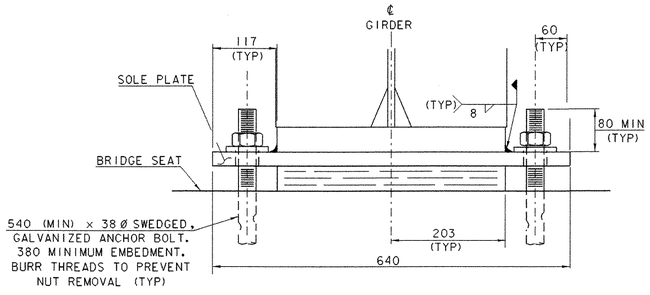




EXPANSION BEARING @ ABUT NO. 1

FRONT VIEW

SCALE: 1:5



FIXED BEARING @ ABUT NO. 2

BEARING NOTES

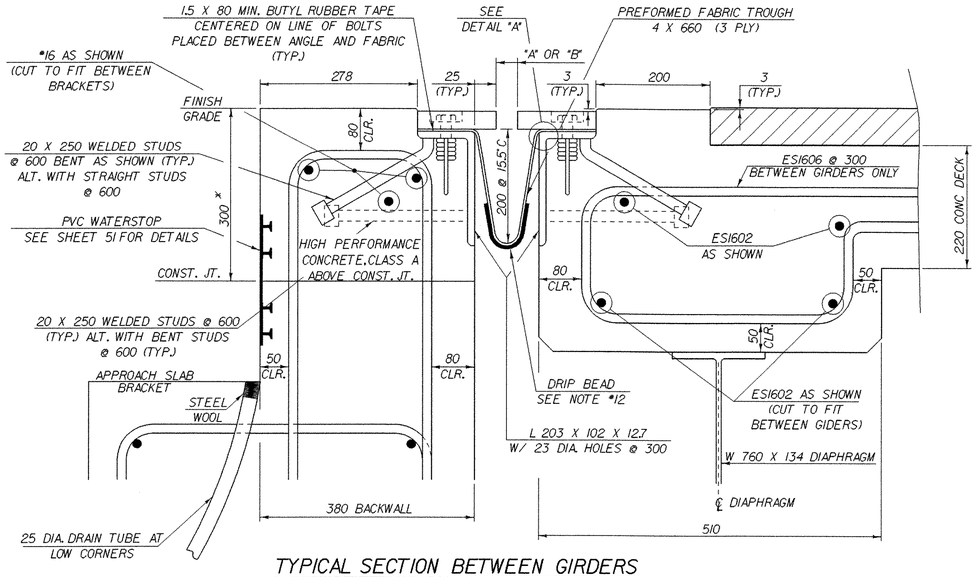
1. BEARINGS SHALL BE PAID FOR UNDER ITEM 531.10, "BEARING DEVICE ASSEMBLY (FABRIC)" AND SHALL CONFORM TO SECTIONS 531 AND 731 OF THE STANDARD SPECIFICATIONS.
2. SHOP DRAWINGS SHALL BE SUBMITTED AS PER SUBSECTION 531.03 OF THE STANDARD SPECIFICATIONS. THE SUBMITTAL SHALL INCLUDE ASSOCIATED WELDING AND BONDING PROCEDURES.
3. DESIGN CRITERIA:
   A. MAXIMUM ALLOWABLE BEARING ON CONCRETE OR MASONRY : 7000 kPa
   B. MINIMUM ALLOWABLE DESIGN ROTATION: 0.015 RADIANS.
   C. DESIGN VERTICAL LOAD: 630 KN
   D. DESIGN HORIZONTAL LOAD: MINIMUM 10% OF VERTICAL LOAD.
4. THE "B" DISTANCE IS THE FINAL SETTING FOR THE BEARING PAD AFTER THE CONCRETE SLAB, CURB, PAVEMENT, AND BRIDGE RAIL HAVE BEEN PLACED. THE "A" DISTANCE IS FOR SETTING THE BEARING AFTER THE STRUCTURAL STEEL IS ERECTED AND BEFORE THE CONCRETE DECK IS POURED. THE DIFFERENCE IS THE THEORETICAL ELONGATION OF THE BOTTOM FLANGE DUE TO DEAD LOAD DEFLECTION. THE FINAL "B" DISTANCE SHOWN IN THE TABLE MUST BE ATTAINED WITHIN 3 mm.
5. THE CONCRETE SURFACE UNDER THE BEARING DEVICE SHALL BE LEVEL.
6. ANCHOR BOLTS SHALL HAVE A MINIMUM 380 EMBEDMENT INTO CONCRETE AND SHALL CONFORM TO SUBSECTION 714.08 OF THE STANDARD SPECIFICATIONS.
7. ALL STEEL IN BEARING DEVICE ASSEMBLY (EXCEPT STAINLESS) SHALL BE AASHTO M270M/M270, GR 250.
8. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER SUBSECTIONS 531.04 (b) AND 506.15 OF THE STANDARD SPECIFICATIONS. IF THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN SUBSECTION 506.15 (b) OF THE STANDARD SPECIFICATIONS. AREAS OF GALVANIZING OR METALIZING DAMAGED BY FIELD WELDING OR HANDLING SHALL BE REPAIRED IN CONFORMANCE WITH SUPPLEMENTAL SPECIFICATION 513.
9. ALL ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED. ALL WASHERS SHALL BE 10 PLATE MINIMUM. PAYMENT FOR ANCHOR BOLTS, NUTS, WASHERS AND THEIR INSTALLATION SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 531.10, "BEARING DEVICE ASSEMBLY (FABRIC)".

TEMP	"A" DIST	"B" DIST
-34°C	79	95
-26°C	76	92
-18°C	73	89
-9°C	70	86
-1°C	67	83
7°C	64	79
16°C	60	76
24°C	57	73
32°C	54	70
41°C	51	67
49°C	48	64

SHEET NAME: BEARING DETAILS

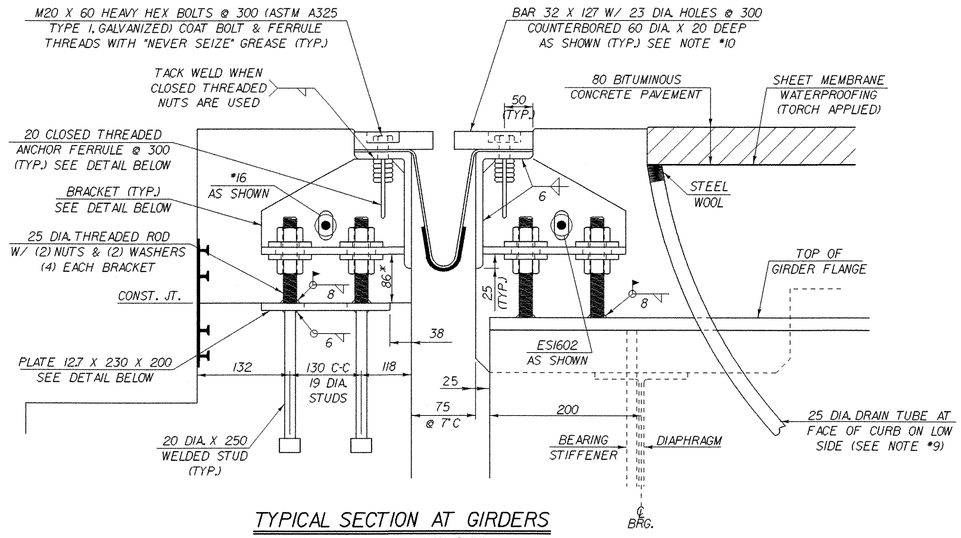
PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: /PW/95j288/sj288sup.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: T. FILLBACH
IPARM NAME: sj288brg.i
SHEET 52 OF 90



TYPICAL SECTION BETWEEN GIRDERS

SCALE: 1:5 (NORMAL TO ℄ BEARING)



TYPICAL SECTION AT GIRDERS

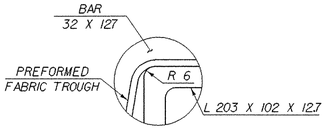
SCALE: 1:5 (NORMAL TO ℄ BEARING)

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

TEMP	"A" DIST	"B" DIST
-18°C	51	35
-9°C	48	32
-1°C	44	29
7°C	41	25
16°C	38	22
24°C	35	19
32°C	32	16
41°C	29	13

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

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



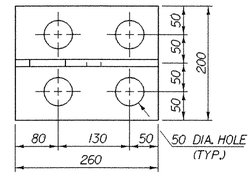
DETAIL "A"

NOT TO SCALE

ANCHOR FERRULE DETAIL

SCALE: 1:5

NOTE:
CLOSED THREADED FERRULE NUTS WITHOUT ANCHOR LOOPS MAY BE USED.



BRACKET PLAN

SCALE: 1:5

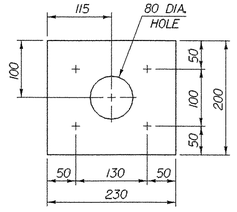
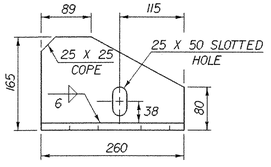


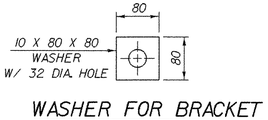
PLATE PLAN

SCALE: 1:5
(NO GALVANIZING REQUIRED)



BRACKET ELEVATION

SCALE: 1:5



WASHER FOR BRACKET

SCALE: 1:5

ALL PLATES 12.7 THICK

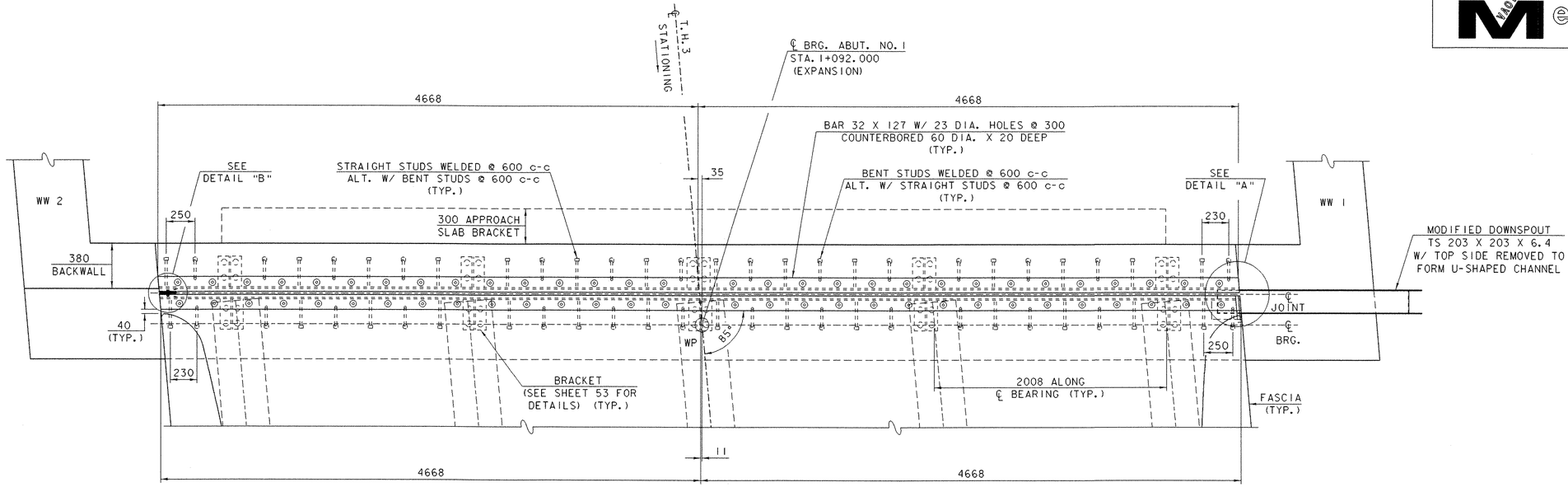
NOTES

1. DETAILS ON THIS SHEET ARE FOR ITEM 516.10 "BRIDGE EXPANSION JOINT (VERMONT) ".
2. PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS AND SHALL CONFORM TO SUBSECTION 707.07 OF THE STANDARD SPECIFICATION.
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 M270M/M270 GRADE 250 GALVANIZED OR METALIZED AS PER SUBSECTION 506.04 OF THE STANDARD SPECIFICATION AS MODIFIED BY THE GENERAL SPECIAL PROVISIONS UNLESS OTHERWISE SPECIFIED.
6. THE ITEM "BRIDGE EXPANSION JOINT (VERMONT) " 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 JOINT.
7. THE 203 X 102 X 12.7 ANGLES SHALL BE FURNISHED AS ONE CONTINUOUS PIECE. THE 32 X 127 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 (VERMONT) ".
9. A 25mm DIAMETER PLASTIC DRAIN TUBE (PER STANDARD SPECIFICATION 740.07) 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 GIRDER. THE DRAIN TUBES SHALL BE FASTENED TO THE GIRDERS USING A METHOD APPROVED BY THE ENGINEER. PAYMENT FOR DRAIN TUBES AND THEIR INSTALLATION SHALL BE MADE INCIDENTAL TO ITEM 501.33, HIGH PERFORMANCE CONCRETE, CLASS A.
10. FILL COUNTERBORED HOLES WITH HOT POURED JOINT SEALER (STANDARD SPECIFICAION 707.04 AS MODIFIED BY THE GENERAL SPECIAL PROVISIONS) AFTER BOLT INSTALLATION. PAYMENT FOR THE WORK SHALL BE INCIDENTAL TO ITEM 516.10.
11. PAYMENT FOR WATERSTOP SHALL BE SUBSIDIARY TO ITEM 501.33, HIGH PERFORMANCE CONCRETE, CLASS A.
12. A DRIP BEAD OF 6 X 178 STRIP OF PREFORMED MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FABRIC TROUGH USING AN ADHESIVE APPROVED BY THE MANUFACTURER. THE DRIP BEAD SHALL BE APPLIED 25 mm FROM THE DOWNSPOUT END OF THE TROUGH.
13. FABRIC TROUGH SHALL BE THOROUGHLY CLEANED AND FLUSHED AFTER PAVING OPERATION.
14. THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT.
15. ALL BOLTS, STUDS AND RELATED HARWARE, EXCEPT AS NOTED SHALL BE ASTM A-307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-153 (AASHTO M232).

SHEET NAME: **EXPANSION JOINT DETAILS**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

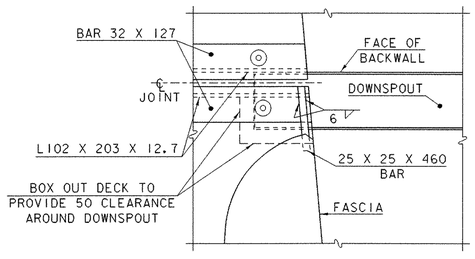
FILE NAME: /PW/95j288/sj288exp.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: T. FILLBACH
IPARM NAME: sj288exp.I
SHEET 53 OF 90



EXPANSION JOINT PLAN AT ABUTMENT NO. 1

0 1 2

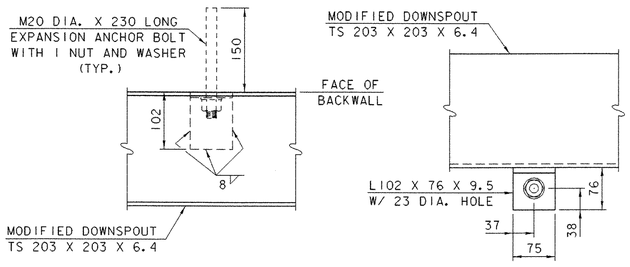
SCALE = 1:20



DETAIL "A"

0 0.5 1

SCALE = 1:10

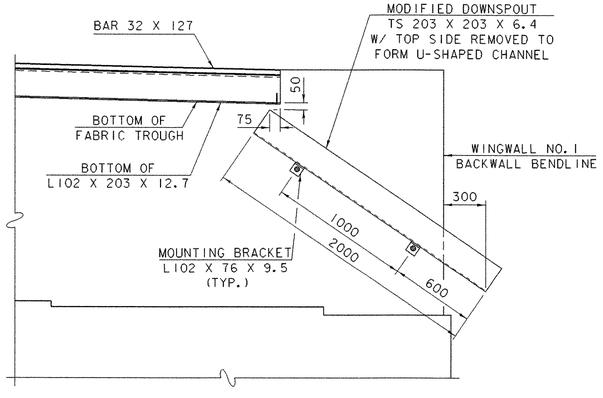


PLAN ELEVATION

DOWNSPOUT MOUNTING BRACKET DETAILS

0 0.25 0.5

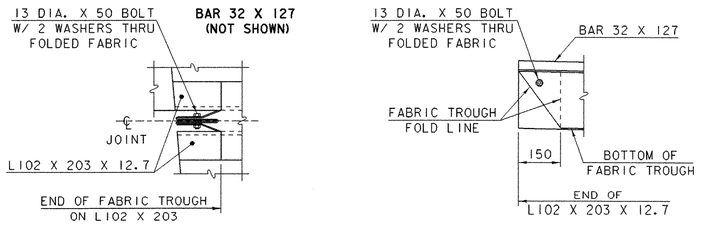
SCALE = 1:5



DOWNSPOUT ELEVATION

0 1 2

SCALE = 1:20



PLAN ELEVATION

DETAIL "B"

0 0.5 1

SCALE = 1:10

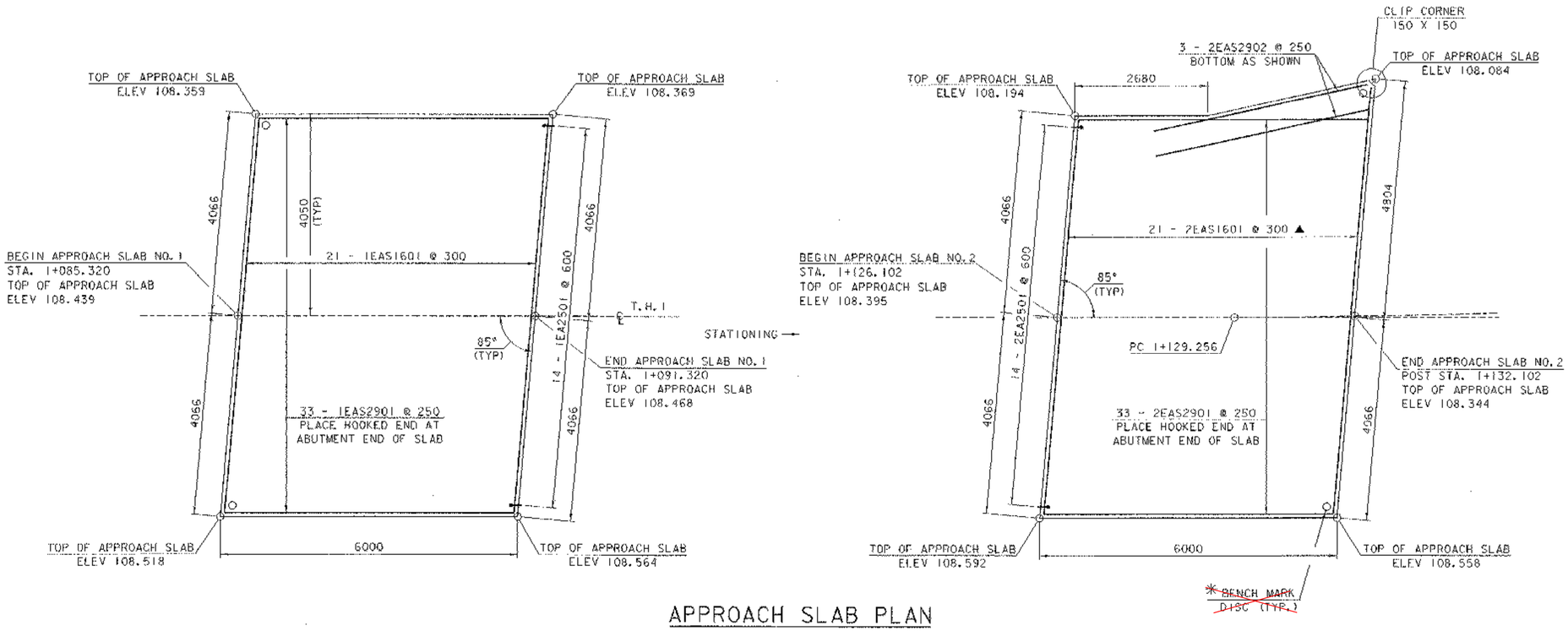
DOWNSPOUT NOTES

1. HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 OR A501.
2. ALL PLATES, BARS, AND ANGLES SHALL CONFORM TO AASHTO M270M/M270 GRADE 250.
3. THE DOWNSPOUT SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111M/M111 AFTER FABRICATION.
4. ALL BOLTS AND RELATED HARDWARE SHALL BE ASTM F568M, CLASS 4.6 AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M232M/M232.
5. ANY PLACE WHERE GALVANIZING HAS BEEN REMOVED FROM THE DOWNSPOUT EITHER BY CUTTING, BURNING, WELDING, PLACING, OR ANY OTHER MEANS, REPAIRS SHALL BE MADE IN ACCORDANCE WITH AASHTO M36.
6. THE DOWNSPOUT, MOUNTING BRACKETS, ALL ANCHOR BOLTS WITH RELATED HARDWARE, AND INSTALLATION SHALL BE PAID FOR UNDER ITEM 506.55, "STRUCTURAL STEEL (PLATE GIRDER) ".

SHEET NAME: EXPANSION JOINT PLAN AND DOWNSPOUT DETAILS

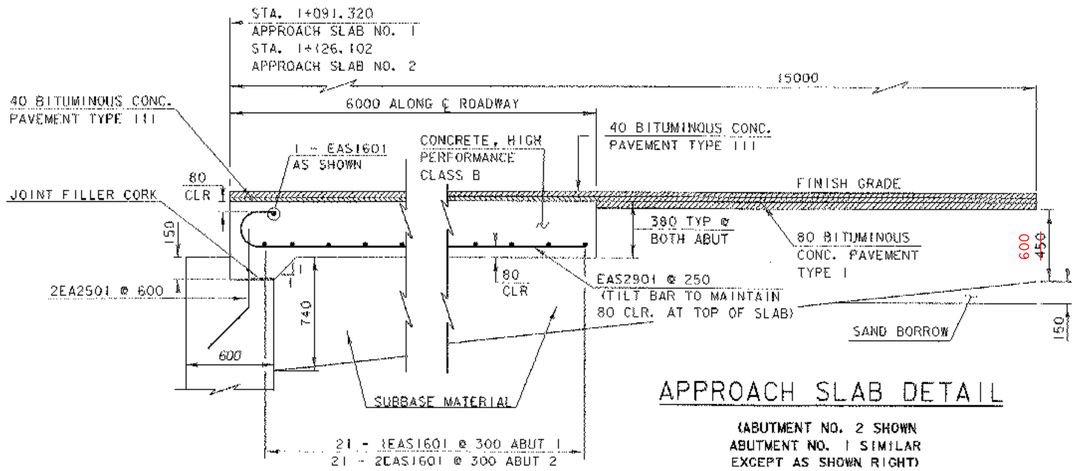
PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: /PW/95j288/sj288exp.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: G. ROY
IPARM NAME: sj288exh.i
SHEET 54 OF 90



APPROACH SLAB PLAN

SCALE 1 : 50



APPROACH SLAB DETAIL

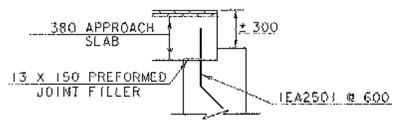
(ABUTMENT NO. 2 SHOWN
ABUTMENT NO. 1 SIMILAR
EXCEPT AS SHOWN RIGHT)

SCALE: 1 : 20

*SEE SHEET 75 OF 90
FOR PROPER SUBBASE
DETAIL AT ABUTMENTS

* ~~INSTALL~~ BENCH MARK DISC FLUSH WITH TOP OF PAVEMENT ~~AND~~ 150 CLEAR ~~FROM~~ EDGES OF APPROACH SLAB. ~~TYPICAL~~ ALL FOUR OUTSIDE CORNERS OF ~~APPROACH SLABS~~ AS SHOWN. VAOT SHALL SUPPLY DISCS. ~~COST~~ FOR INSTALLATION SHALL BE INCIDENTAL ~~TO ITEM~~ 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B".

*THIS WORK ELIMINATED.



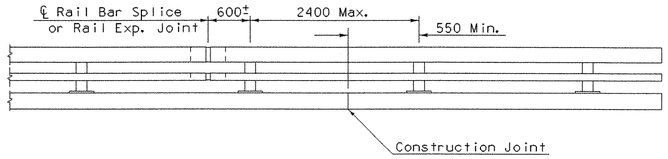
ABUTMENT NO. 1 DETAIL

NOT TO SCALE

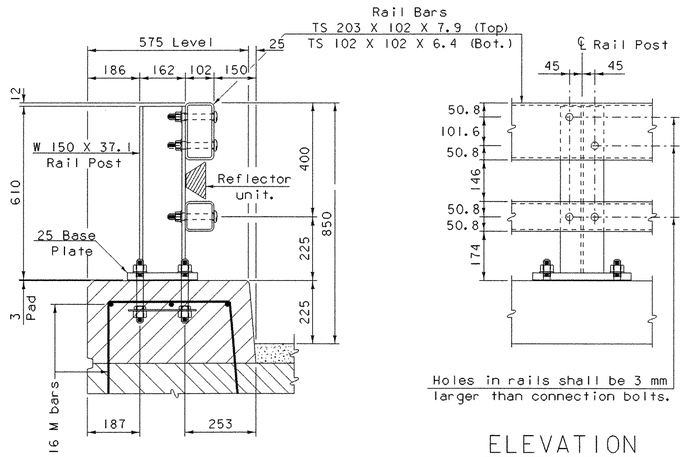
SHEET NAME: APPROACH SLAB DETAILS

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sj288sup.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: T. FILLBACH
PARM NAME: sj288asd.i
SHEET 55 OF 90

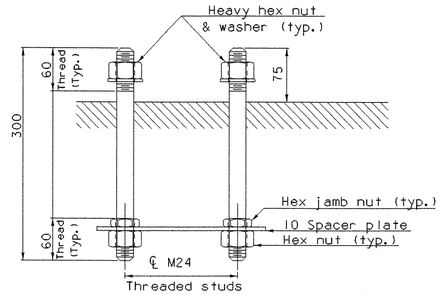


BRIDGE RAILING ELEVATION

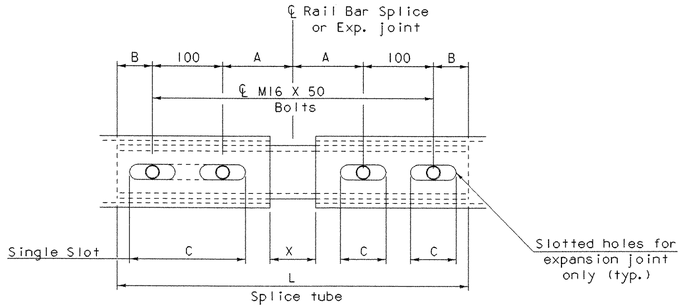


TYPICAL SECTION

ELEVATION

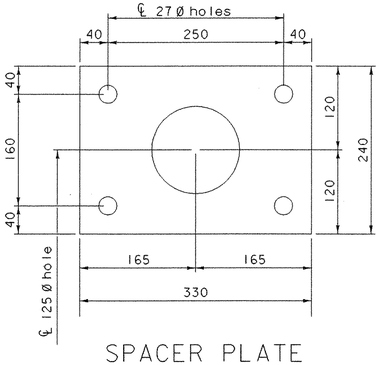


RAIL POST ANCHORAGE

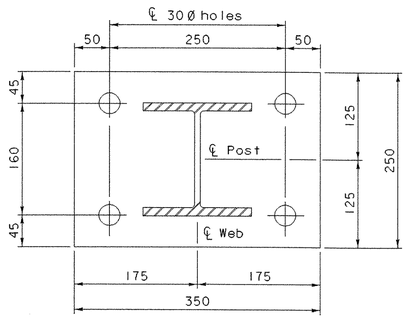


RAIL BAR SPLICE & RAIL EXP. JOINT DETAIL

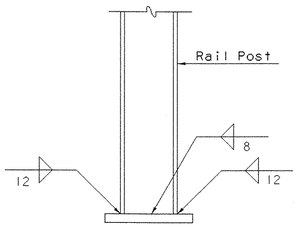
[Bottom View]



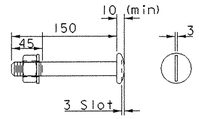
SPACER PLATE



POST & BASE PLATE



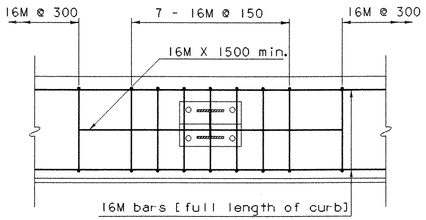
BASE WELD DETAIL



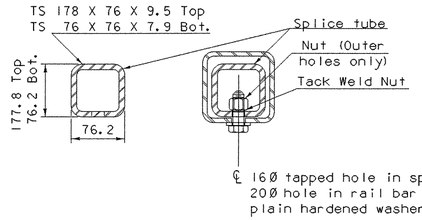
M20X2 M164M (TYPE 1) ROUND HEAD BOLT

[with washer & prevailing torque type lock nut]
[See Note No. 9]

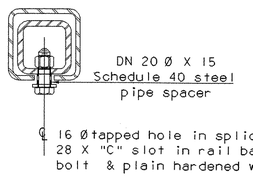
Note: Only full diameter body bolts will be allowed.



CURB REINFORCING PLAN



RAIL BAR SPLICE SECTION



EXPANSION JOINT SECTION

For details not shown, see "Rail Bar Splice Section"

SPLICE & EXPANSION JOINT TABLE					
T	A	B	C	L	X
Splice	100	50	--	500	20
≤ 100	100	50	65	500	65
~~>100 ≤165~~	~~140~~	~~60~~	~~90~~	~~600~~	~~100~~
~~>165 ≤225~~	~~165~~	~~85~~	~~225*~~	~~700~~	~~125~~
~~>225 ≤330~~	~~215~~	~~110~~	~~275*~~	~~850~~	~~175~~

T = Total Movement * = Single Slot

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 a 1.6 mm 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 rail posts and preferably to at least four posts.

6. Rail bar expansion joints shall be provided in any rail bay spanning a superstructure expansion joint. Expansion joint width shall be "X" 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.

8. Rail posts anchoring nuts shall be tightened to a snug fit and given an additional 45 degree turn.

9. Rail bars shall be attached using M20 full diameter body AASHTO M164M (Type 1) round head bolts inserted through the face of the bar. Holes in posts shall be 2 mm larger than the bolt size.

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. If there is a conflict between these Standard Details and the Design Drawings, the requirements of the Design drawings shall be followed.

12. Any bending of rail shall be by shop procedure only.

13. The fabricator shall submit shop drawings including welding procedures to the structures section for approval in accordance with the provision of 506.04, shop drawings. All welding shall conform with section 506.10.

14. The drop-weight tear test in section 732 shall not apply to the structural tubing on this standard.

MATERIALS

Rail bars.....ASTM A500, Grade B or ASTM A501
Rail posts.....ASTM A709/A709M, Grade 345
All other shapes & plates.....ASTM A709/A709M, Grade 250
Anchor studs.....ASTM F568M, Class 8.8
All other bolts [unless noted].....AASHTO M164M, Type 1

Nuts for AASHTO M164M bolts shall comply with AASHTO M291M. Nuts for anchor studs shall comply with ASTM A563.

Washers shall comply with AASHTO M293M (ASTM F436M) specification.

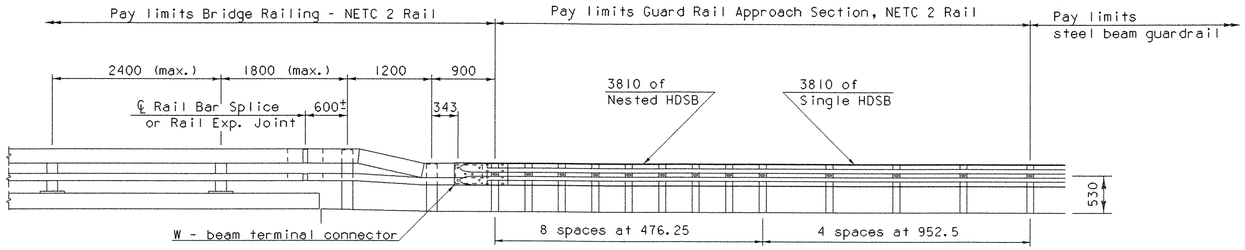
3 mm pad shall comply with standard specification subsection 731.01 or 731.02.

Set screws for delineation devices shall conform to ASTM F880M, Class A1-70, Condition CW, Alloy Type 304.

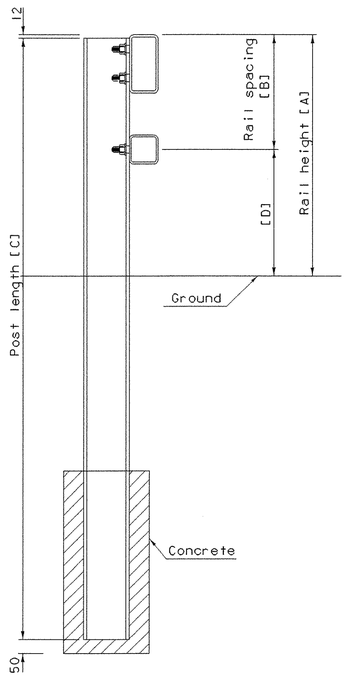
SHEET NAME: NETC BRIDGE RAILING DETAILS (1)

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sJ288rdl.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: G. ROY
IPARM NAME: sJ288brdl.i
SHEET 56 OF 90

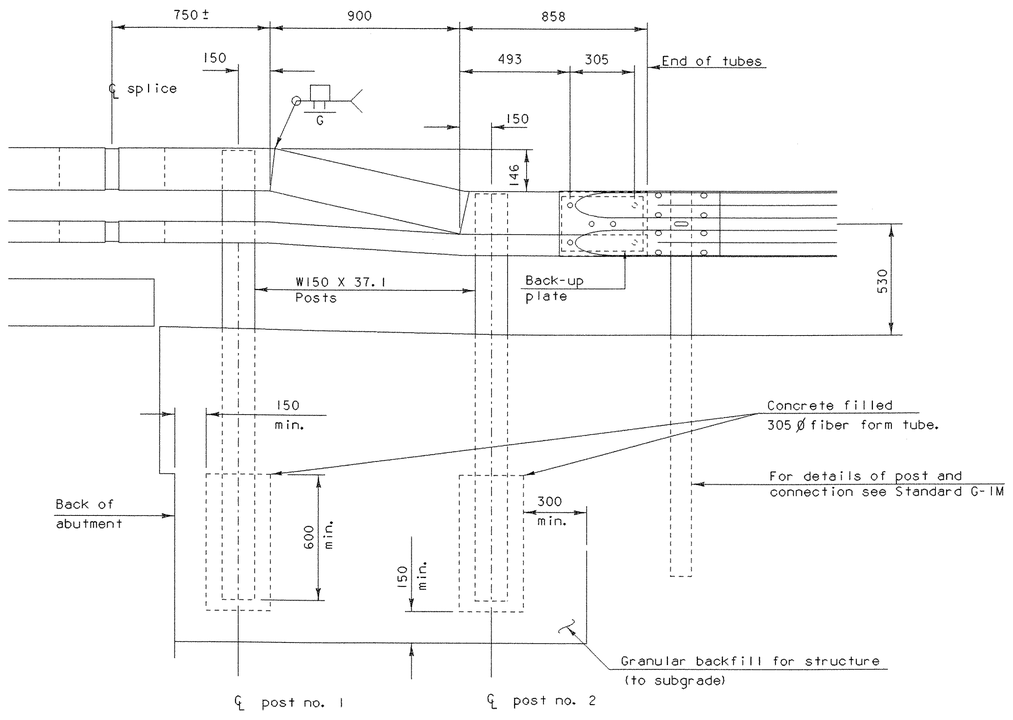


RAILING TRANSITION ELEVATION

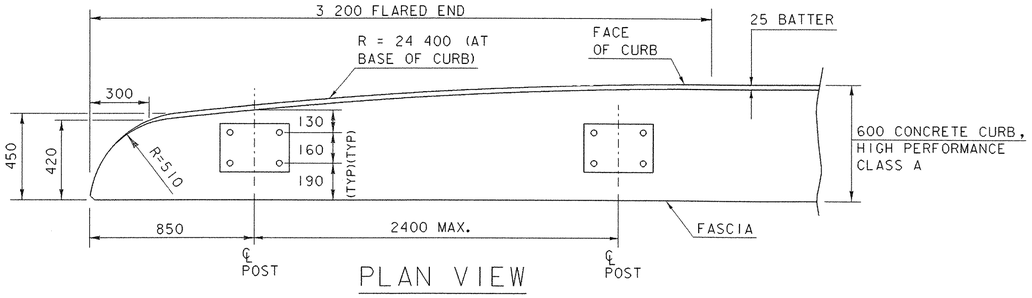


TYPICAL SECTION

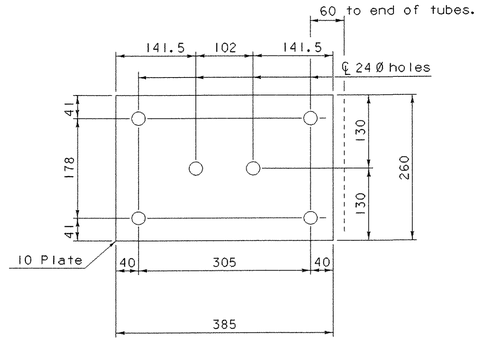
TABLE OF DIMENSIONS				
Post Number	Rail Height [A]	Rail Spacing [B]	Post Length [C]	Rail Height [D]
1	850	400	2135	450
2	704	254	1990	450



ELEVATION



PLAN VIEW



BACK - UP PLATE

Notes:

1. Refer to sheet 56 for additional details, notes and materials specifications.

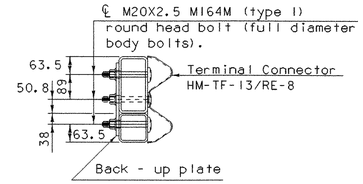
2. To facilitate field fit-up, the transition railing posts shall be set loosely into fiber form tubes while transition parts are being assembled. Post holes shall be backfilled with a concrete mix approved by the Engineer. Payment for components, including backup plate and end terminal connector for guard rail, augering, fiber-form & concrete, and installation shall be considered incidental to Bridge Railing - NETC 2 Rail.

3. The reflectorized aluminum delineation is to be erected every 9 m (or closet post) with two M4 X 0.7 X 20 set screws. Delineators shall meet specification requirements for ASTM B 209M alloy 5052-H32

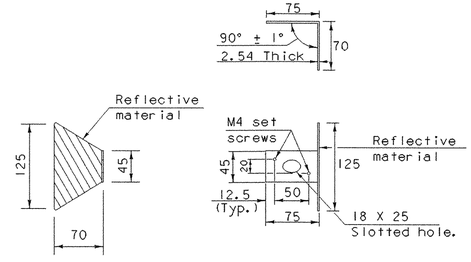
4. Reflective material shall meet requirements of subsection 750.08 and ASTM type III and shall be of encapsulated lens silver or amber. Amber is to be installed on the driver's left and silver on their right.

5. 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 incidental to all other items.

6. All approach rail splices shall be lapped in the direction of traffic flow.

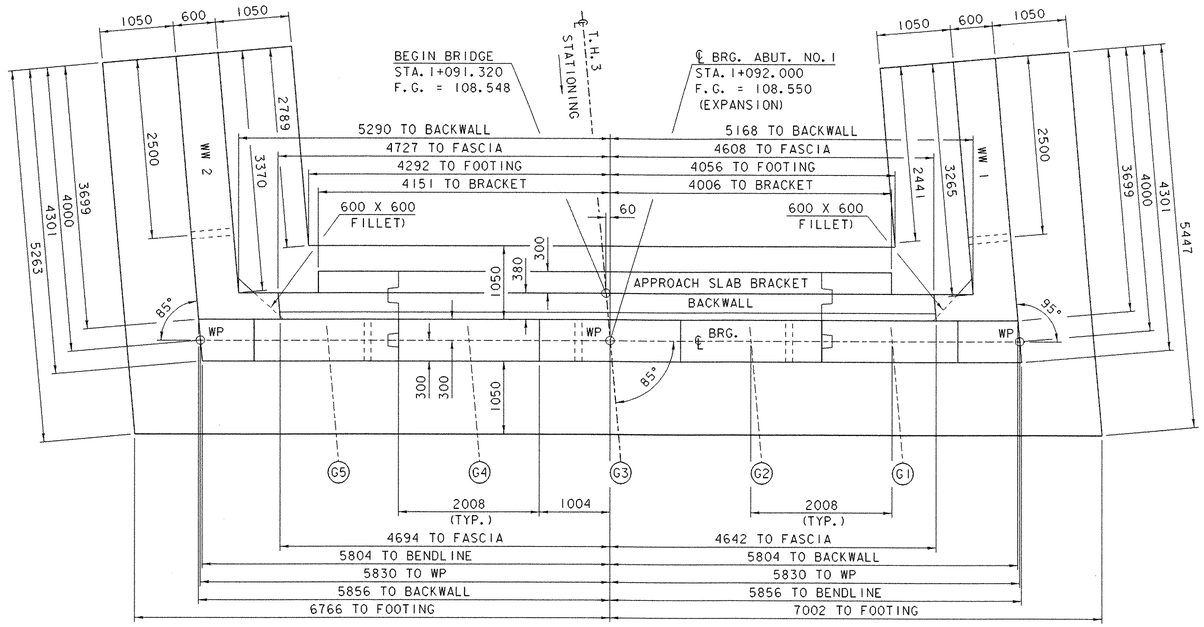


SECTION THROUGH GUARD RAIL CONNECTION AT TERMINAL CONNECTOR

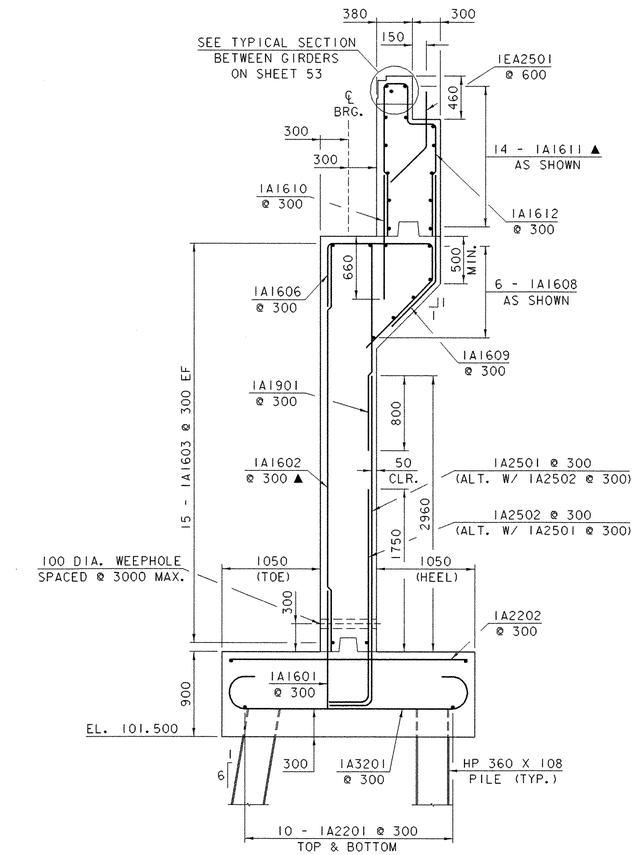


DELINEATION DEVICE DETAILS

SHEET NAME: NETC BRIDGE RAILING DETAILS (2)			
PROJECT NAME: LEICESTER		HIGHWAY NO.: TH 1	
PROJECT NUMBER: BRF 0160(3)S		BRIDGE NO.: 6	
		OVER: OTTER CREEK	
FILE NAME: 95j288\Structures\sj288rdl.dgn		PLOT DATE: 17-AUG-2005	
PROJECT MANAGER: R. R. WHITCOMB		DRAWN BY: G. ROY	
DESIGNED BY: C. CARLSON		IPARM NAME: sj288brd2.1	
BRIDGE SHEET NUMBER:		SHEET 57 OF 90	

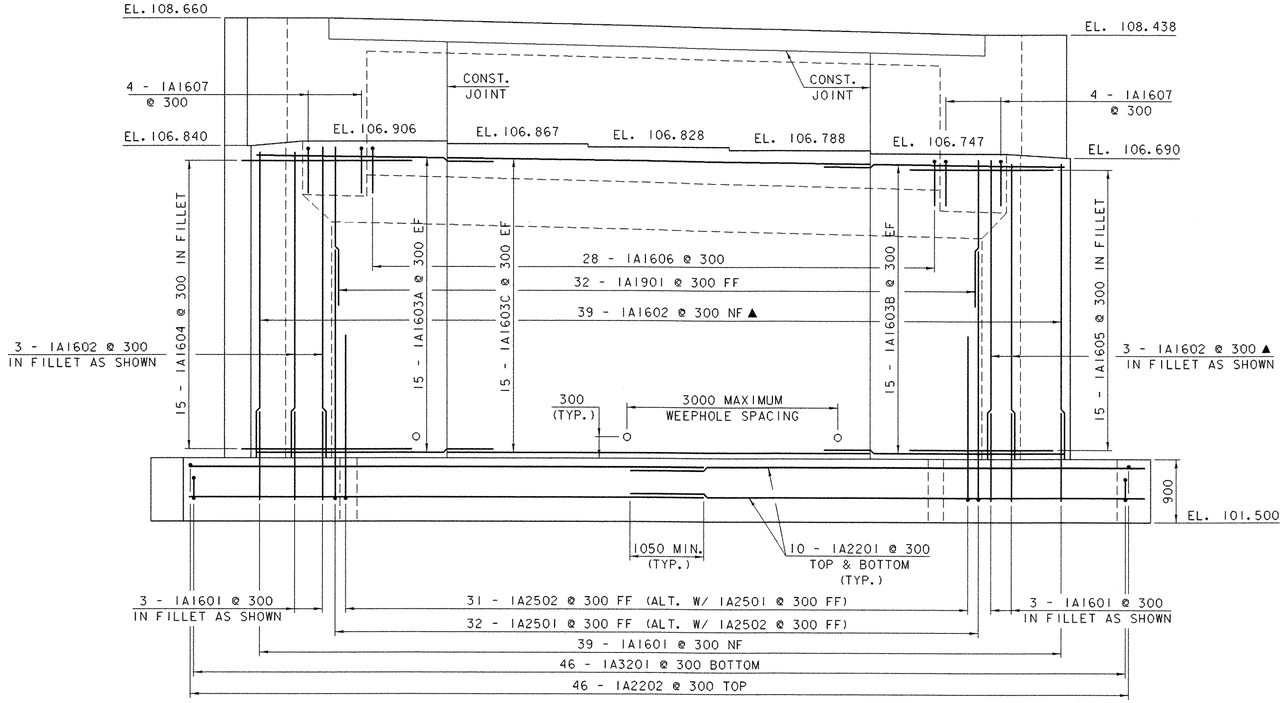


ABUTMENT NO. 1 PLAN



ABUTMENT NO. 1 TYPICAL

0 1 2 3
SCALE = 1:30



ABUTMENT NO. 1 ELEVATION

0 1 2 3 4
SCALE = 1:40

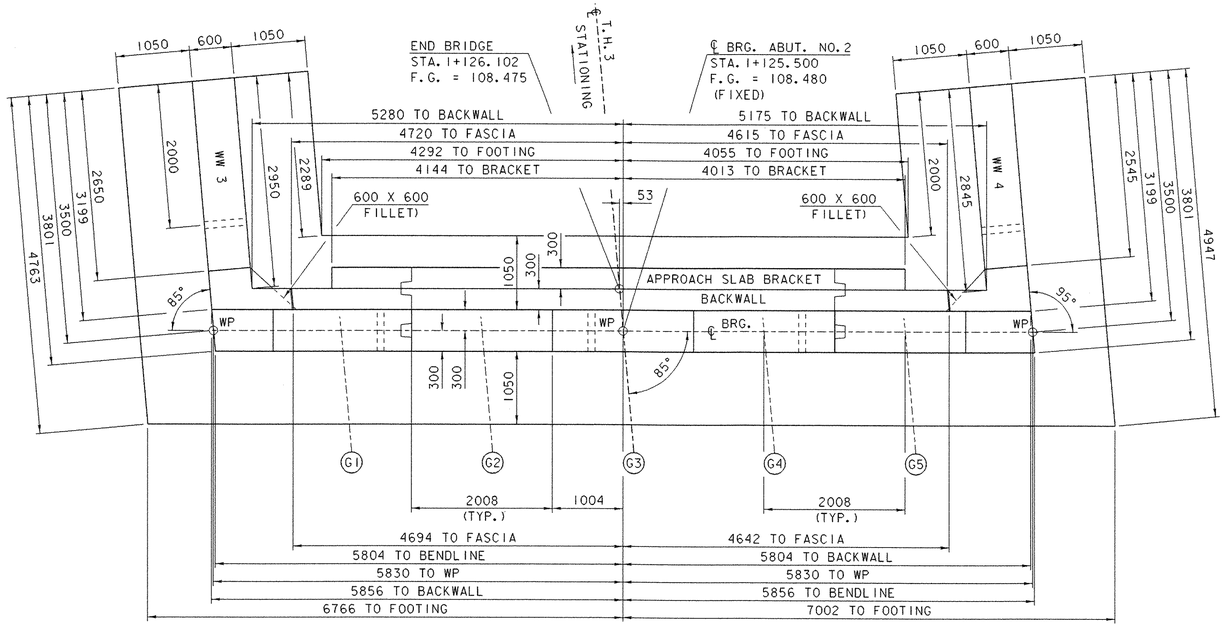
NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE NOTED
660 BAR LAP UNLESS OTHERWISE NOTED

SHEET NAME: **ABUTMENT NO. 1 DETAILS**

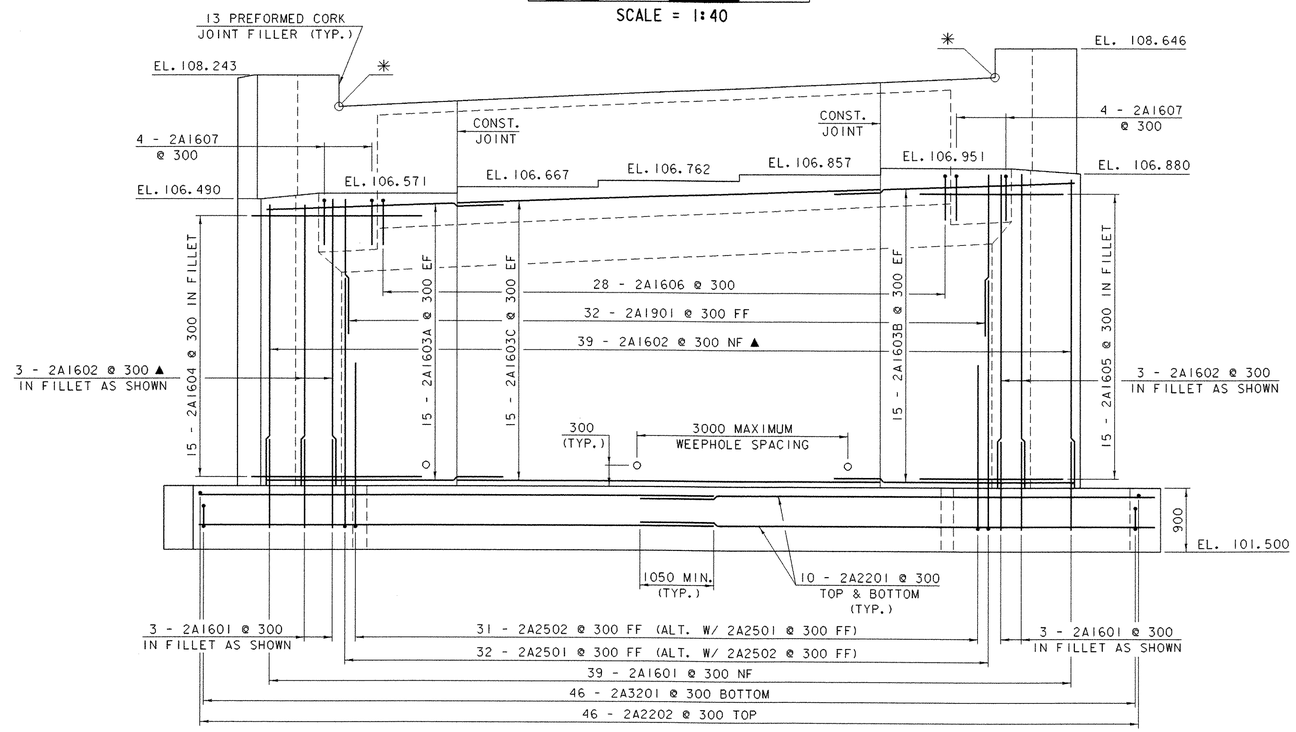
PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sj288sub.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: G. ROY
IPARM NAME: sj288ab1.1
SHEET 58 OF 90



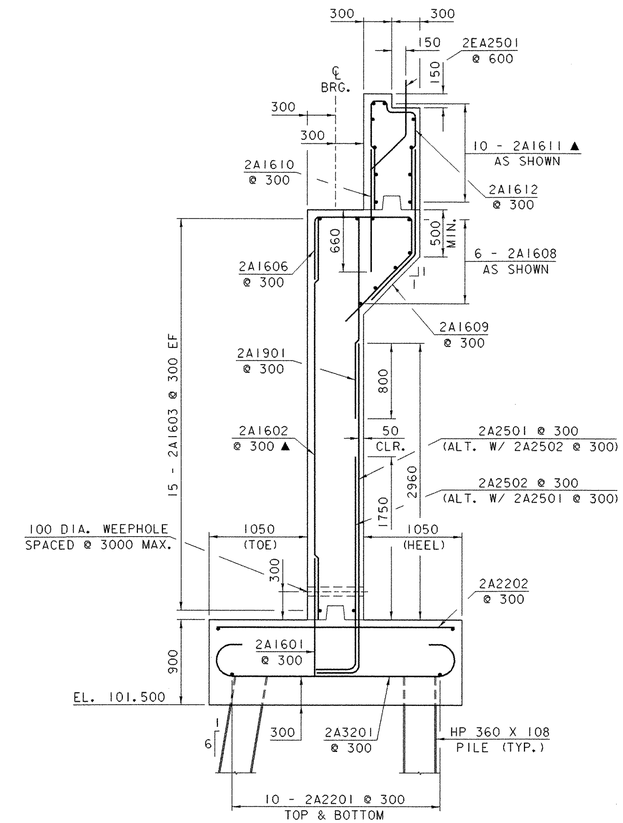
ABUTMENT NO. 2 PLAN

SCALE = 1:40



ABUTMENT NO. 2 ELEVATION

SCALE = 1:40



ABUTMENT NO. 2 TYPICAL

SCALE = 1:30

✳ ELEVATIONS AT BACKFACE OF BACKWALL TO BE DETERMINED IN THE FIELD AFTER STRUCTURAL STEEL IS SET.

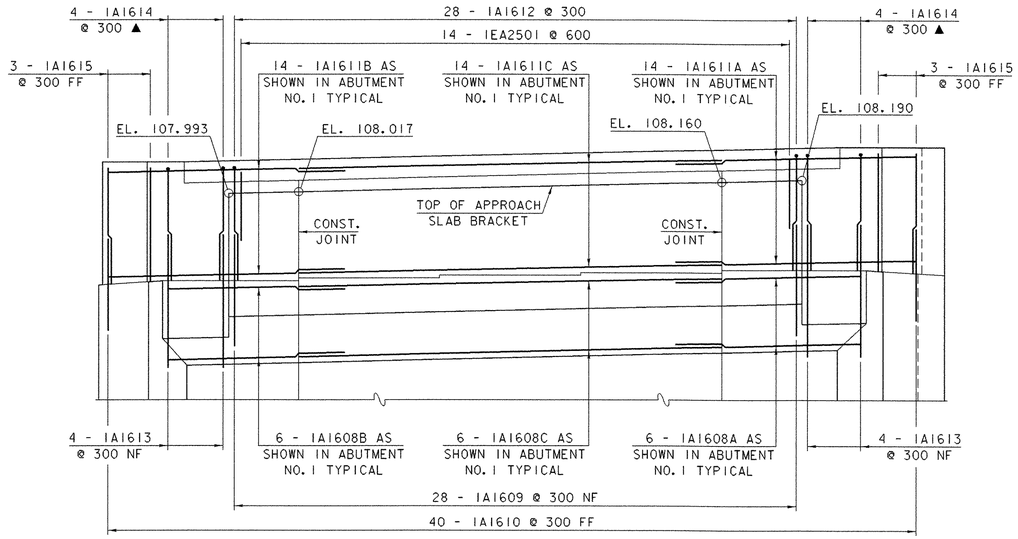
NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE NOTED
660 BAR LAP UNLESS OTHERWISE NOTED

SHEET NAME: **ABUTMENT NO. 2 DETAILS**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95j288\Structures\sj288sub.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: G. ROY
IPARM NAME: sj288ab2.i
SHEET 59 OF 90



ABUTMENT NO. 1 BACKWALL ELEVATION (LOOKING AT BACK OF ABUTMENT)

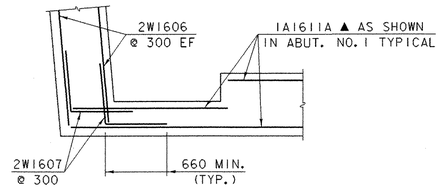
0 1 2 3 4

SCALE = 1:40

ABUTMENT NO. 2 BACKWALL ELEVATION (LOOKING AT BACK OF ABUTMENT)

0 1 2 3 4

SCALE = 1:40

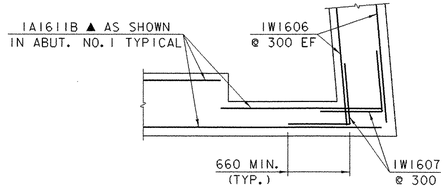


WINGWALL NO. 2 CORNER REINFORCING ABOVE BRIDGE SEAT

0 1 2 3

SCALE = 1:30

(WINGWALL NO. 3 SIMILAR)

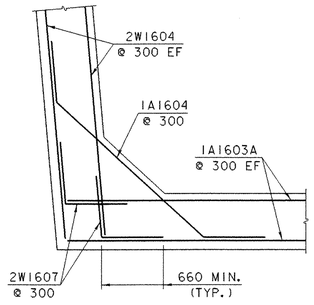


WINGWALL NO. 1 CORNER REINFORCING ABOVE BRIDGE SEAT

0 1 2 3

SCALE = 1:30

(WINGWALL NO. 4 SIMILAR)

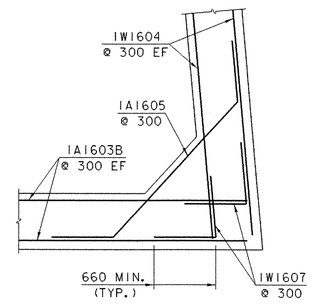


WINGWALL NO. 1 CORNER REINFORCING BELOW BRIDGE SEAT

0 1 2 3

SCALE = 1:30

(WINGWALL NO. 3 SIMILAR)



WINGWALL NO. 1 CORNER REINFORCING BELOW BRIDGE SEAT

0 1 2 3

SCALE = 1:30

(WINGWALL NO. 4 SIMILAR)

* ELEVATIONS AT TOP OF APPROACH SLAB BRACKET TO BE DETERMINED IN THE FIELD AFTER STRUCTURAL STEEL IS SET.

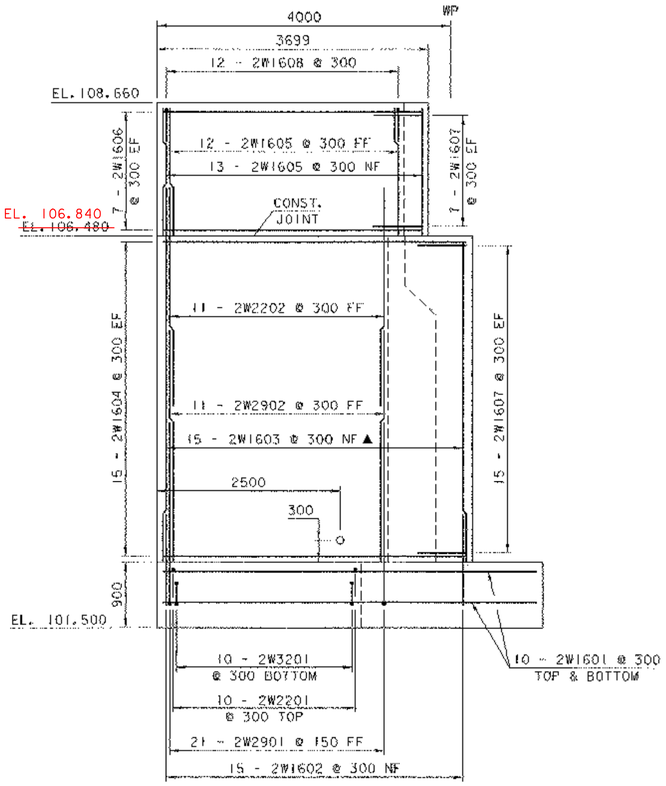
NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE NOTED
660 BAR LAP UNLESS OTHERWISE NOTED

SHEET NAME: **BACKWALL & CORNER REINFORCING DETAILS**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

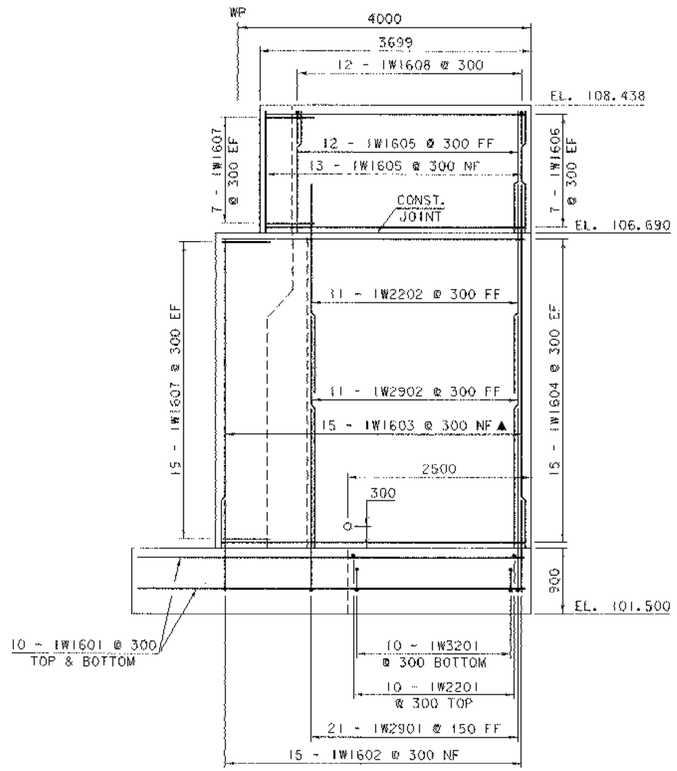
FILE NAME: 95j288\Structures\sj288sub.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: G. ROY
IPARM NAME: sj288bwd.i
SHEET 60 OF 90



WINGWALL NO. 2 ELEVATION

0 1 2 3 4

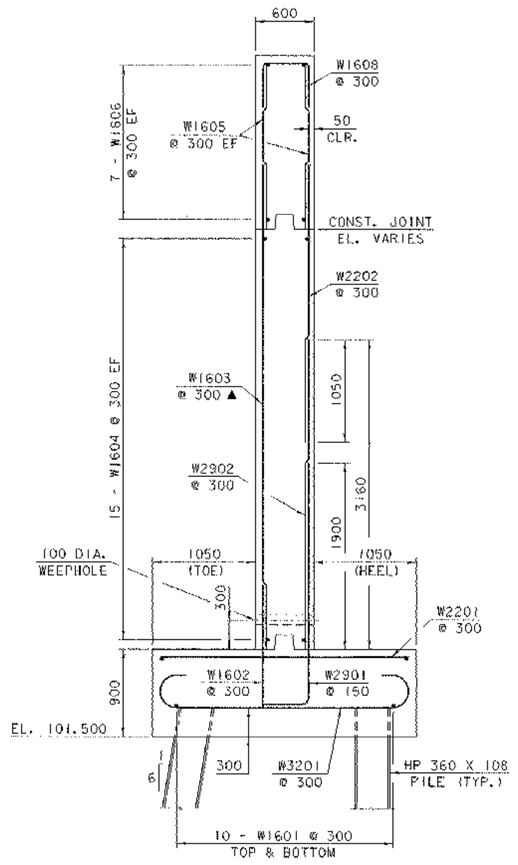
SCALE = 1:40



WINGWALL NO. 1 ELEVATION

0 1 2 3 4

SCALE = 1:40



WINGWALL TYPICAL

0 1 2 3

SCALE = 1:30

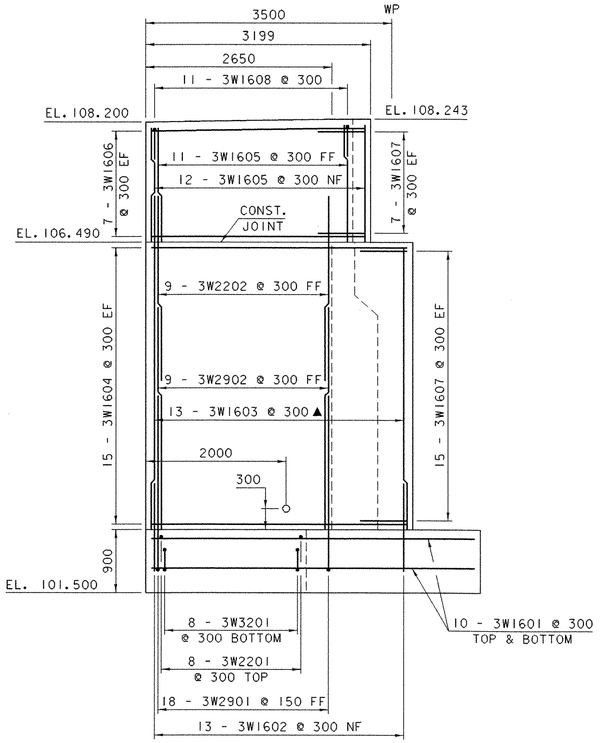
NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE NOTED
660 BAR LAP UNLESS OTHERWISE NOTED

SHEET NAME: **WINGWALLS NO. 1 & 2 ELEVATIONS**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

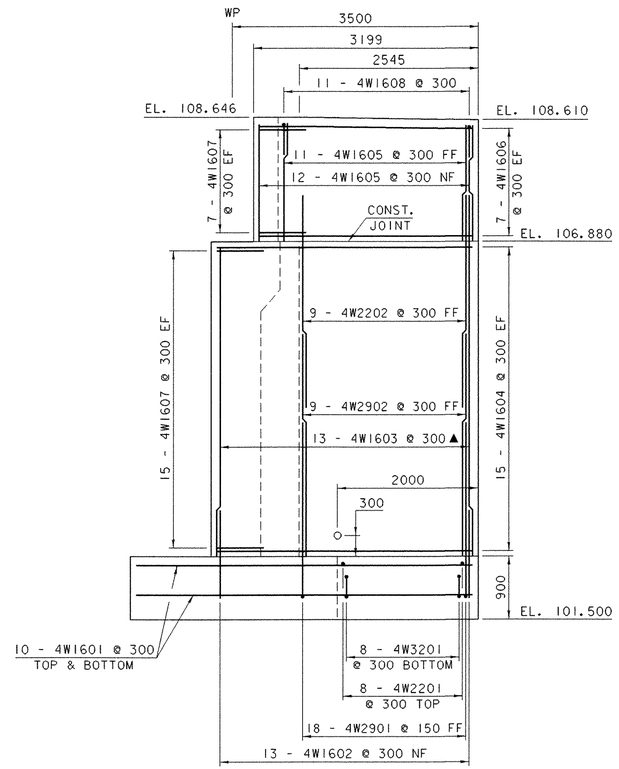
FILE NAME: 95J288\Structures\sj288sub.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: G. ROY
PARM NAME: sj288wwl.1
SHEET 61 OF 90



WINGWALL NO. 3 ELEVATION

0 1 2 3 4

SCALE = 1:40



WINGWALL NO. 4 ELEVATION

0 1 2 3 4

SCALE = 1:40

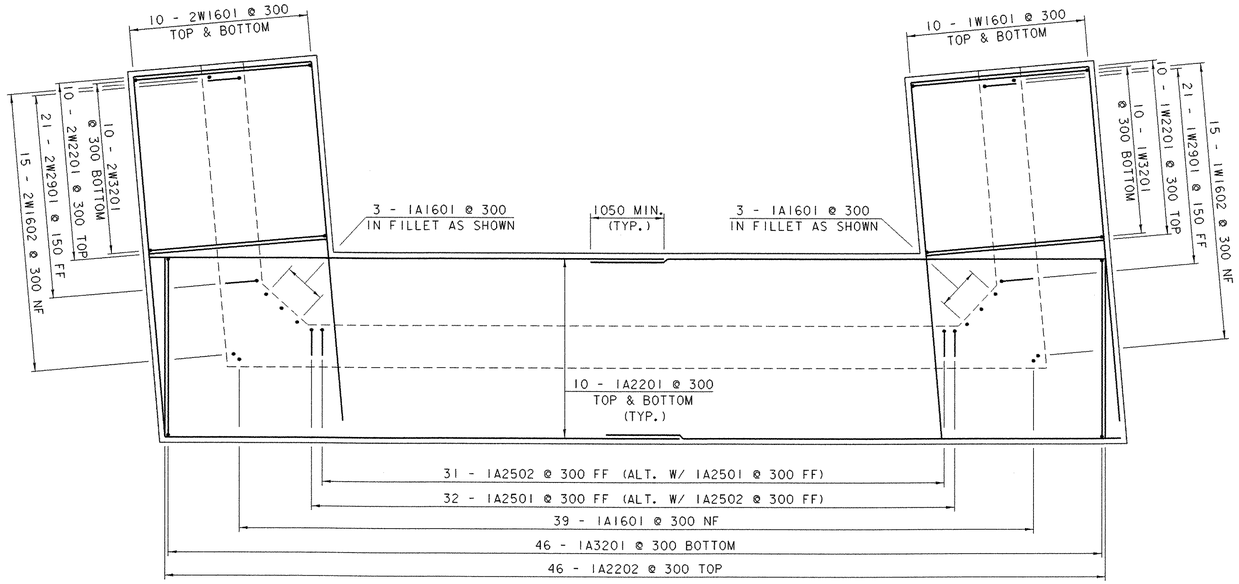
NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE NOTED
660 BAR LAP UNLESS OTHERWISE NOTED

SHEET NAME: **WINGWALLS NO. 3 & 4 ELEVATIONS**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

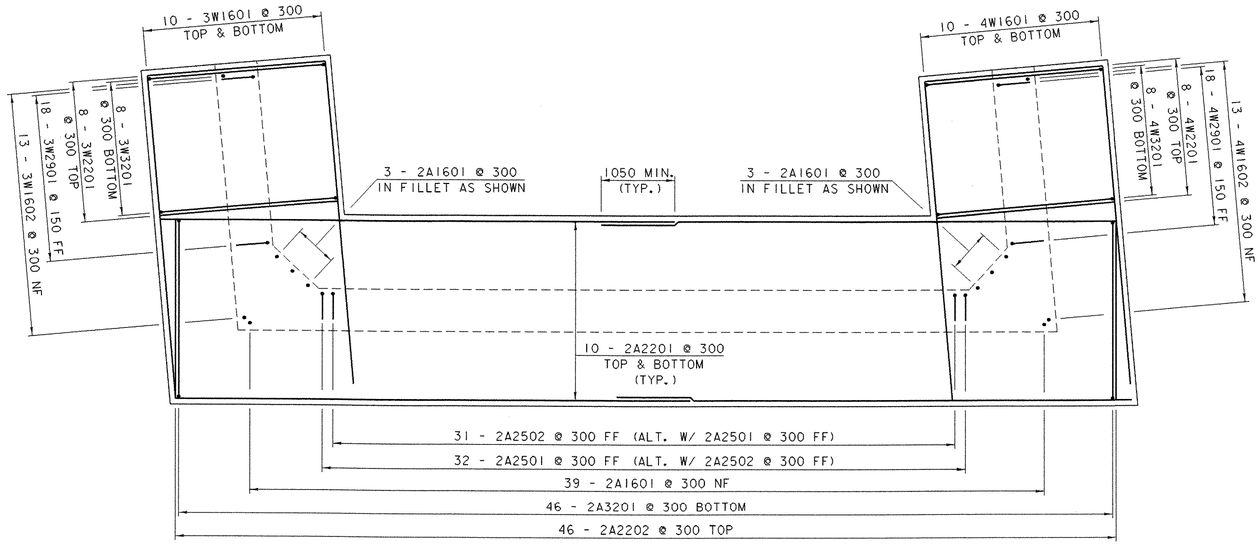
FILE NAME: 95J288\Structures\sj288sub.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: G. ROY
IPARM NAME: sj288ww2.i
SHEET 62 OF 90



ABUTMENT NO. 1 FOOTING REINFORCING PLAN

0 1 2 3 4

SCALE = 1:40



ABUTMENT NO. 2 FOOTING REINFORCING PLAN

0 1 2 3 4

SCALE = 1:40

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE NOTED
660 BAR LAP UNLESS OTHERWISE NOTED

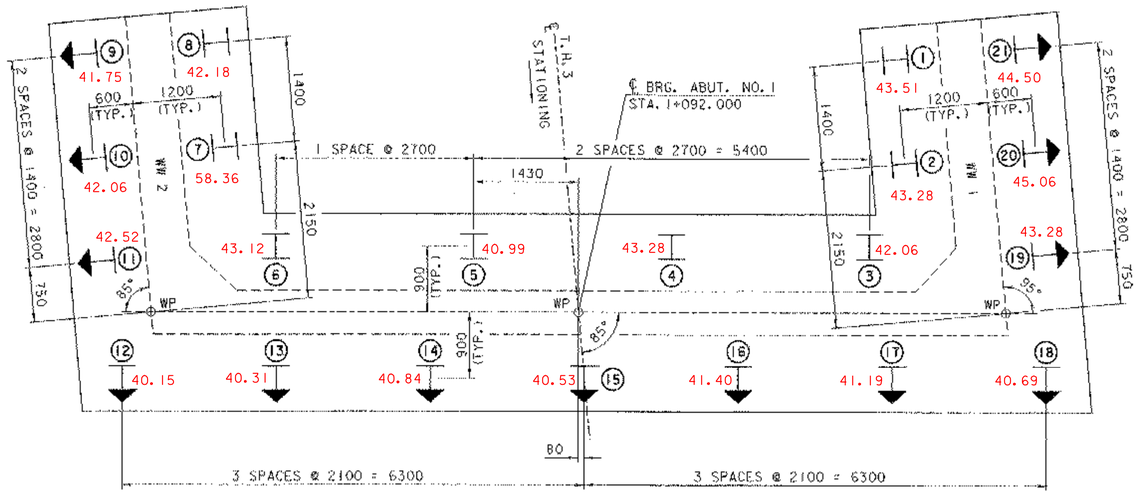
SHEET NAME: **FOOTING REINFORCING PLAN**

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S

HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95j288\Structures\sj288sub.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:

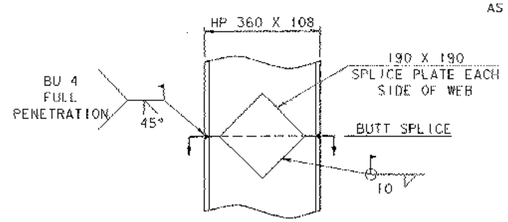
PLOT DATE: 17-AUG-2005
DRAWN BY: G. ROY
IPARM NAME: sj288ftg.i
SHEET 63 OF 90

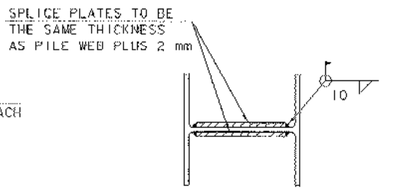


ABUTMENT NO. 1 PILE LAYOUT

0 1 2 3 4

SCALE = 1:40





PREFABRICATED PILE SPLICE PLATES MAY BE USED WITH THE APPROVAL OF THE RESIDENT ENGINEER.

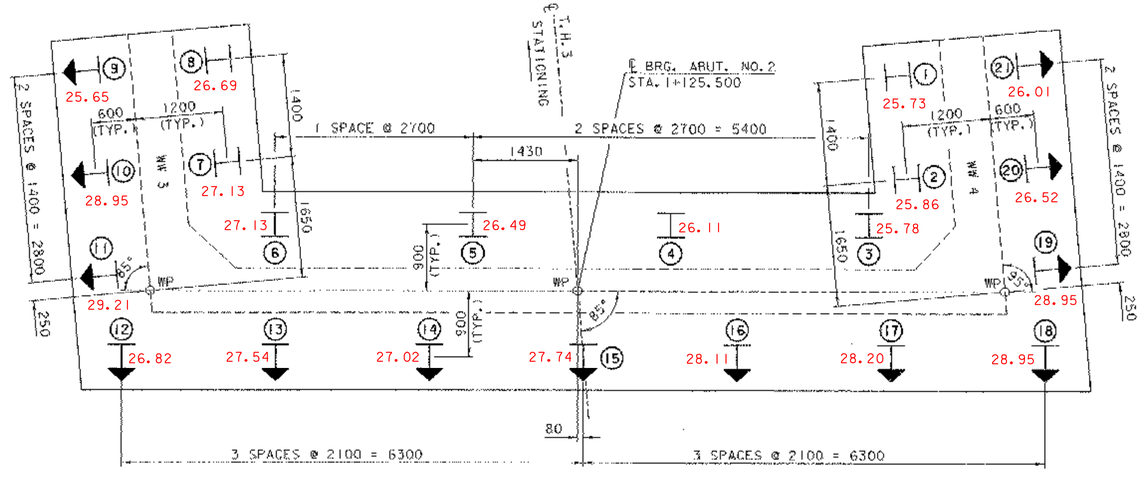
PILE SPLICE DETAIL

NOT TO SCALE

PILE NOTES

1. ⊢⊣ - INDICATES LOCATION OF A VERTICAL H-PILE.
2. ⊢→ - INDICATES LOCATION OF A BATTERED H-PILE 1:6.
3. PILE SIZE: HP 360 X 108
4. PILE STEEL: ASTM A572/A572M GR 354
5. ULTIMATE PILE CAPACITY: 1650 kN (INCLUDES 2.75 FACTOR OF SAFETY)

WELDING PROCEDURES TO BE APPROVED BY THE STRUCTURES ENGINEER PRIOR TO WELDING.

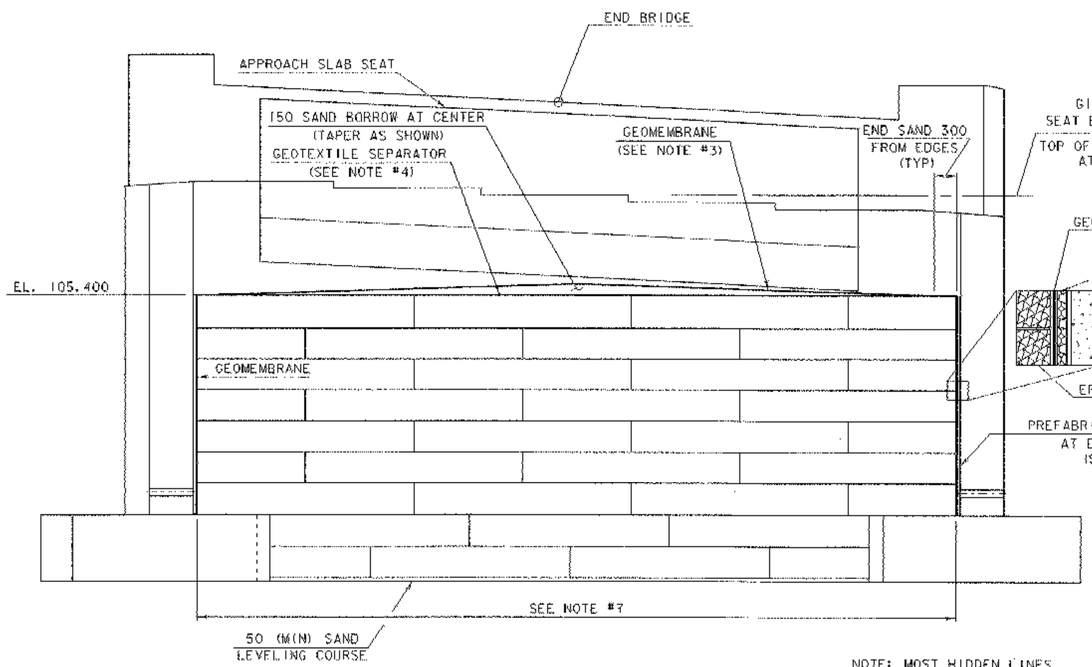


ABUTMENT NO. 2 PILE LAYOUT

0 1 2 3 4

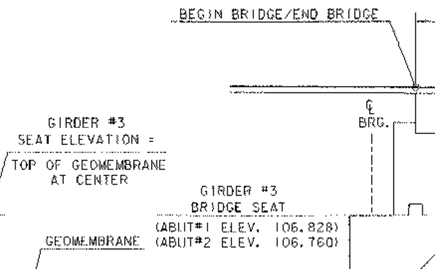
SCALE = 1:40

SHEET NAME:	PILE LAYOUT PLAN		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	TH 1
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95J288\Structures\sJ288sub.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	C. ROY
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ288plpJ
BRIDGE SHEET NUMBER:		SHEET	64 OF 90

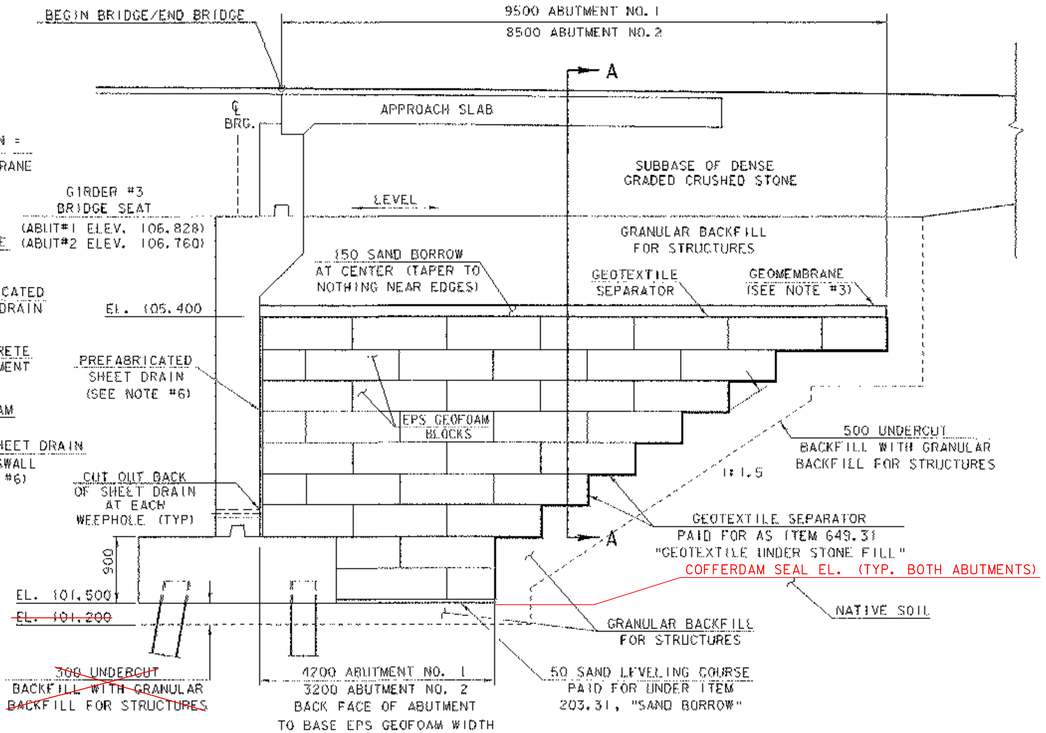


ABUTMENT NO. 2 ELEVATION

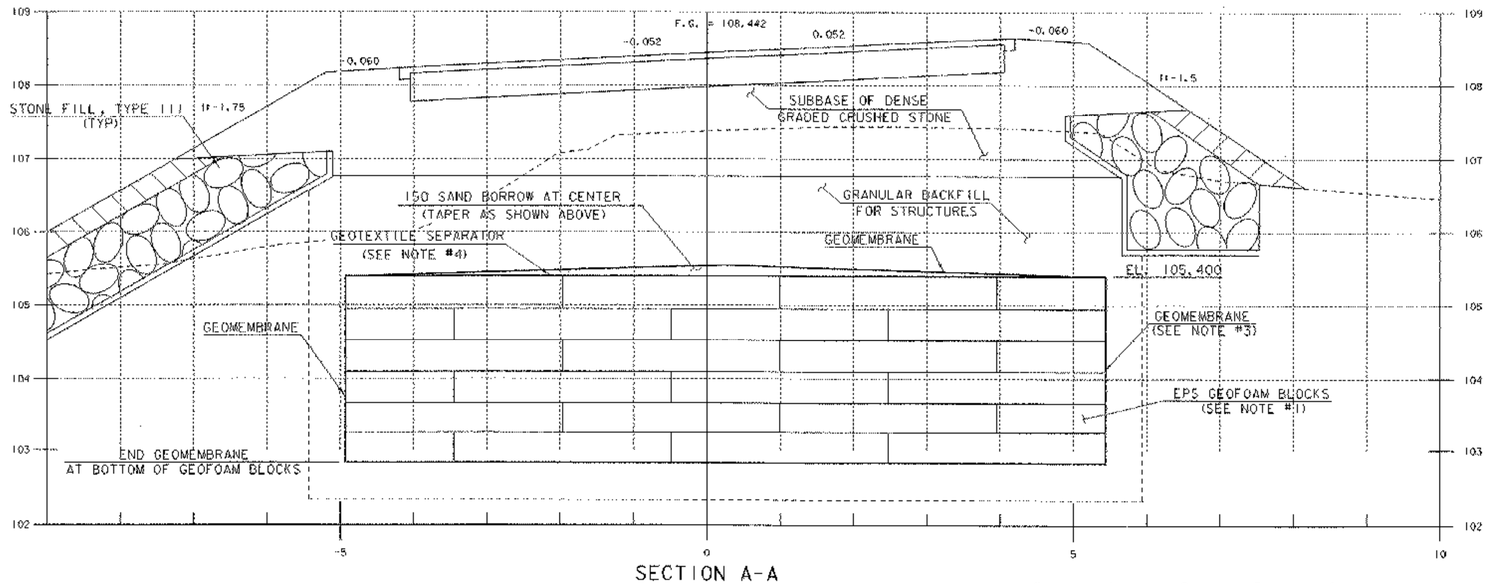
(LOOKING BACKSTATION)
(ABUTMENT #1 SIMILAR)



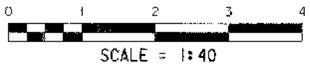
NOTE: MOST HIDDEN LINES
OMITTED FOR CLARITY



ABUTMENT CROSS SECTION AT ROADWAY CENTERLINE



SECTION A-A
(SECTION AT STATION 1+130
SHOWN AS EXAMPLE)



SCALE = 1:40

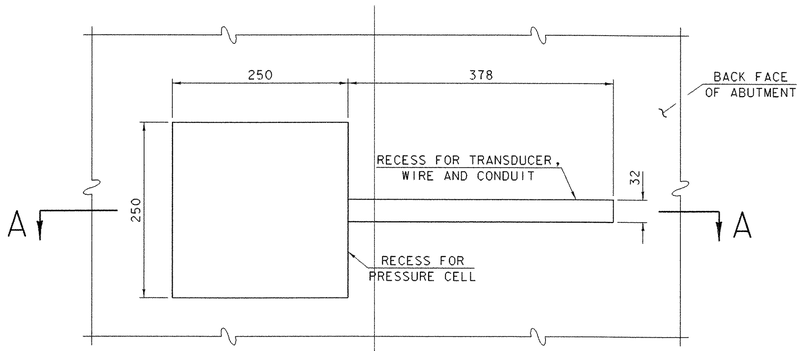
EPS GEOFOAM NOTES

1. EXPANDED POLYSTYRENE (EPS) GEOFOAM BLOCK CONFIGURATION AND SIZES INDICATED ARE FOR ILLUSTRATIVE PURPOSES ONLY. IN ACCORDANCE WITH THE SPECIAL PROVISIONS, ACTUAL BLOCK SIZES AND CONFIGURATION TO BE DESIGNED BY GEOFOAM BLOCK SUPPLIER AND SUBMITTED TO THE ENGINEER FOR REVIEW. ALL BLOCKS SHALL BE 100 KPA CAPACITY. EPS GEOFOAM BLOCKS SHALL BE PAID FOR UNDER ITEM 204.30, "GRANULAR BACKFILL FOR STRUCTURES (MOD. - EPS100 GEOFOAM)".
2. LIMITS OF EPS GEOFOAM BLOCKS INDICATED ARE TO BE ADHERED TO BY CUTTING BLOCKS IN THE FIELD AS REQUIRED.
3. PROVIDE DRAINAGE FROM TOP OF EPS GEOFOAM BLOCKS BY TAPERING SAND BORROW FROM 150 AT CENTER TO NOTHING 300 FROM EDGE OF BLOCKS AND COVERING WITH GEOMEMBRANE. PAY ITEM 649.11 "GEOTEXTILE FOR ROADBED SEPARATOR (MOD.)".
4. USE ITEM 649.31 "GEOTEXTILE UNDER STONE FILL" TO PROVIDE A BARRIER BETWEEN EPS GEOFOAM BLOCKS AND SAND BORROW TO PREVENT SAND FROM PENETRATING INTO THE SEAMS BETWEEN BLOCKS.
5. TIGHT SPACING AND STAGGERING SEAMS ARE CRUCIAL TO THE PERFORMANCE OF THE EPS GEOFOAM BLOCK FILL. ALL FIELD CUTS AND FITMENT SHOULD BE CAREFULLY PERFORMED.
6. INSTALL PREFABRICATED SHEET DRAIN, PAY ITEM 649.41 "GEOTEXTILE FOR UNDERDRAIN TRENCH LINING (MOD.)", BETWEEN ABUTMENT AND EPS GEOFOAM BLOCKS AS WELL AS BETWEEN WINGWALLS AND EPS GEOFOAM BLOCKS TO PROVIDE A FREE DRAINING SURFACE BETWEEN BLOCKS AND ABUTMENT. THE PREFABRICATED SHEET DRAIN SHALL BE MIRAFI CONSTRUCTION PRODUCTS G100N SHEET DRAIN OR AN APPROVED EQUAL.
7. OVERALL WIDTH OF EPS GEOFOAM BLOCKS BETWEEN WINGWALLS WILL DEPEND UPON THICKNESS OF SHEET DRAINAGE SYSTEM CHOSEN.

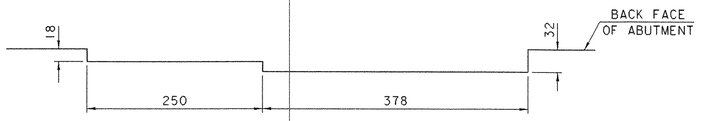
SHEET NAME: EPS GEOFOAM BLOCK DETAILS

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: TH 1
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sj288sub.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 17-AUG-2005
DRAWN BY: D. BONNEAU
IPARM NAME: sj288eps1
SHEET 65 OF 90



ELEVATION



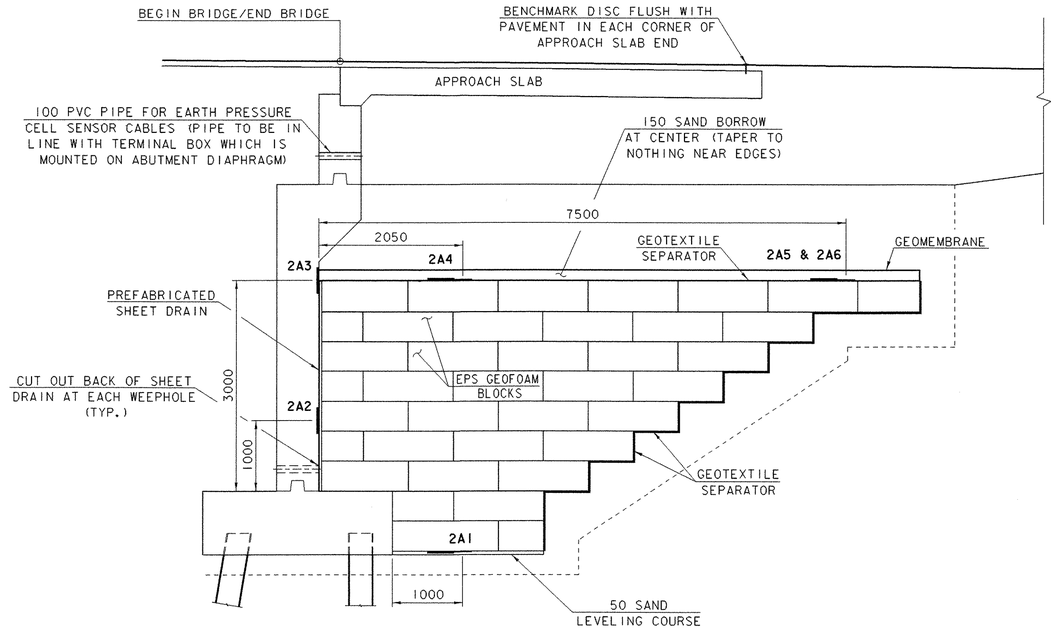
SECTION "A-A"

CONCRETE RECESS FOR EARTH PRESSURE CELL

0 0.1 0.2 0.3 0.4

SCALE = 1:4

(CONCRETE RECESS SHALL BE PROVIDED FOR EARTH PRESSURE CELLS 1A2, 1A3, 2A2, AND 2A3)



EARTH PRESSURE CELL LOCATIONS AT ABUTMENT NO. 2

0 1 2 3 4

SCALE = 1:40

(ABUTMENT NO. 1 SIMILAR EXCEPT EARTH PRESSURE CELLS START WITH 1A INSTEAD OF 2A)

NOTES:

1. PRESSURE CELLS 1A1 - 1A4 AND 2A1 - 2A4 ARE TO BE PLACED AT ROADWAY CENTERLINE. ALSO CELLS 1A1 AND 2A1 SHALL BE AT TOP OF SAND LEVELING COURSE.
2. PRESSURE CELLS 1A5 AND 2A5 ARE TO BE PLACED 1000 LEFT OF ROADWAY CENTERLINE AND TOP OF EPS GEOFOAM BLOCKS BELOW SAND BORROW.
3. PRESSURE CELLS 1A6 AND 2A6 ARE TO BE PLACED 1000 RIGHT OF ROADWAY CENTERLINE. AND TOP OF EPS GEOFOAM BLOCKS BELOW SAND BORROW.

SHEET NAME: EARTH PRESSURE CELL DETAILS	
PROJECT NAME: LEICESTER	HIGHWAY NO.: TH 1
PROJECT NUMBER: BRF 0160(3)S	BRIDGE NO.: 6
	OVER: OTTER CREEK
FILE NAME: 95j288\Structures\sj288sub.dgn	PLOT DATE: 17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: C. CARLSON	IPARM NAME: sj288epcd.i
BRIDGE SHEET NUMBER:	SHEET 65a OF 90

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

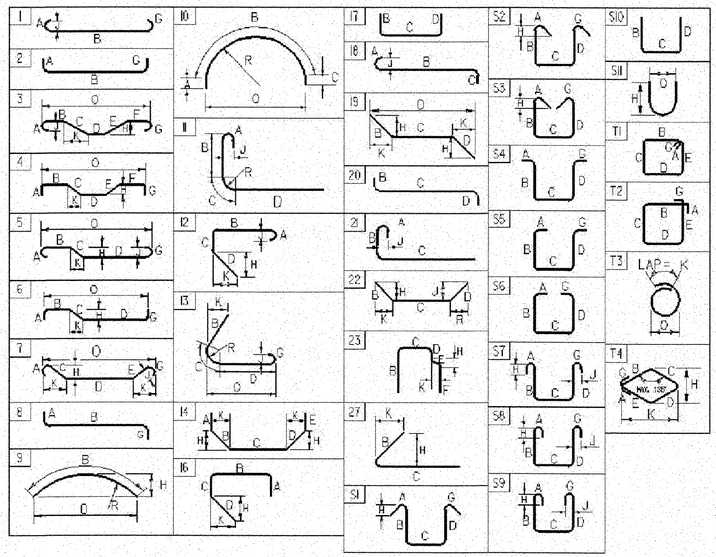
Metric

	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
DECK																	
✳	253	16	11830	ES1601	STR												
✳	464	16	9170	ES1602	STR												
				ES1603	NOT USED												
	318	16	1725	ES1604	S5	250	405	415	405			250					
	24	16	1620	ES1605	S5	250	220	680	220			250					
	24	16	1320	ES1606	S5	250	220	380	220			250					
APPROACH SLAB NO. 1																	
✳	23	16	7970	1EAS1601	STR												
✳	34	29	6215	1EAS2901	1	375	5840	---									
APPROACH SLAB NO. 2																	
✳ ▲	23	16	8600	2EAS1601	STR												
	3	29	4400	2EAS2902	STR												
✳	34	29	6215	2EAS2901	1	375	5840	---									
ABUTMENT NO. 1																	
	45	16	1260	1A1601	STR												
▲	45	16	4425	1A1602	STR												
	30	16	3504	1A1603A	STR												
	30	16	3425	1A1603B	STR												
	30	16	6025	1A1603C	STR												
	6	16	2640	1A1608A	STR												
	6	16	2520	1A1608B	STR												
	6	16	6025	1A1608C	STR												
	40	16	1320	1A1610	STR												
▲	14	16	3425	1A1611A	STR												
▲	14	16	3370	1A1611B	STR												
▲	14	16	6025	1A1611C	STR												
▲	6	16	1740	1A1615	STR												
	15	16	3550	1A1604	22		660	2230	660				445	445	485	485	
	15	16	3380	1A1605	22		660	2060	660				485	485	445	445	
	28	16	3195	1A1606	16	660	1150	385	1000								
	8	16	2890	1A1607	16	660	900	700	630								
	28	16	1780	1A1609	19		660	1120	---								
	28	16	3830	1A1612	23		1640	250	430	300	1210						
	8	16	2100	1A1613	19		660	1440	---								
▲	8	16	3530	1A1614	17		1640	250	1640								
✳	33	19	2265	1A1901	STR												
	40	22	7330	1A2201	STR												
✳	47	22	2540	1A2202	STR												
	32	25	3985	1A2501	2	425	3560					---					
✳	32	25	2775	1A2502	2	425	2350					---					
	14	25	1140	1EA2501	19		540	600	---								
✳	47	32	3390	1A3201	1	425	2540					425					
WINGWALL NO. 1																	
	20	16	5050	1W1601	STR												
	15	16	1260	1W1602	STR												
▲	15	16	4950	1W1603	STR												
	30	16	4140	1W1604	STR												
✳	26	16	1665	1W1605	STR												
	14	16	3540	1W1606	STR												
	44	16	1320	1W1607	27		660	660	---				655		60		
	12	16	1790	1W1608	17		660	470	660								
✳	11	22	2540	1W2201	STR												
	11	22	2840	1W2202	STR												
	11	29	3160	1W2902	STR												
✳	22	29	2975	1W2901	2	475	2500					---					
✳	11	32	3390	1W3201	1	425	2540					425					
WINGWALL NO. 2																	
	20	16	5100	2W1601	STR												
	15	16	1260	2W1602	STR												
▲	15	16	4740	2W1603	STR												
	30	16	4140	2W1604	STR												
✳	26	16	2100	2W1605	STR												
	14	16	3540	2W1606	STR												
	44	16	1320	2W1607	19		660	660	---				655		60		
	12	16	1790	2W1608	17		660	470	660								
✳	11	22	2540	2W2201	STR												

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	11	22	2630	2W2202	STR												
	11	29	3160	2W2902	STR												
✳	22	29	2975	2W2901	2	475	2500					---					
✳	11	32	3390	2W3201	1	425	2540					425					
ABUTMENT NO. 2																	
	45	16	1260	2A1601	STR												
▲	45	16	4470	2A1602	STR												
	30	16	3370	2A1603A	STR												
	30	16	3425	2A1603B	STR												
	30	16	6025	2A1603C	STR												
	6	16	2550	2A1608A	STR												
	6	16	2445	2A1608B	STR												
	6	16	6025	2A1608C	STR												
	40	16	1320	2A1610	STR												
▲	10	16	3425	2A1611A	STR												
▲	10	16	3370	2A1611B	STR												
▲	10	16	6025	2A1611C	STR												
▲	6	16	1670	2A1615	STR												
	15	16	3550	2A1604	22		660	2230	660				445	445	485	485	
	15	16	3380	2A1605	22		660	2060	660				485	485	445	445	
	28	16	3115	2A1606	16	660	1070	385	1000								
	8	16	2760	2A1607	16	660	770	700	630								
	28	16	1780	2A1609	19		660	1120	---								
	28	16	2775	2A1612	23		1175	175	70	300	1055						
	8	16	2100	2A1613	19		660	1440	---								
▲	8	16	2520	2A1614	17		1175	170	1175								
✳	33	19	2310	2A1901	STR												
	40	22	7330	2A2201	STR												
✳	47	22	2540	2A2202	STR												
	32	25	3985	2A2501	2	425	3560					---					
✳	32	25	2775	2A2502	2	425	2350					---					
	14	25	1140	2EA2501	19		540	600	---								
✳	47	32	3390	2A3201	1	425	2540					425					
WINGWALL NO. 3																	
	20	16	4600	3W1601	STR												
	13	16	1260	3W1602	STR												
▲	13	16	4010	3W1603	STR												
	30	16	3640	3W1604	STR												
✳	24	16	1673	3W1605	STR												
	14	16	3040	3W1606	STR												
	44	16	1320	3W1607	19		660	660	---				655		60		
	11	16	1790	3W1608	17		660	470	660								
✳	9	22	2540	3W2201	STR												
	9	22	2640	3W2202	STR												
	9	29	3160	3W2902	STR												
✳	19	29	2975	3W2901	2	475	2500					---					
✳	9	32	3410	3W3201	1	425	2560					425					
WINGWALL NO. 4																	
	20	16	4550	4W1601	STR												
	13	16	1260	4W1602	STR												
▲	13	16	5140	4W1603	STR												
	30	16	3640	4W1604	STR												
✳	24	16	1650	4W1605	STR												
	14	16	3040	4W1606	STR												
	44	16	1320	4W1607	27		660	660	---				655		60		
	11	16	1790	4W1608	17		660	470	660								
✳	9	22	2540	4W2201	STR												
	9	22	3030	4W2202	STR												
	9	29	3160	4W2902	STR												
✳	19	29	2975	4W2901	2	475	2500					---					
✳	9	32	3390	4W3201	1	425	2540					425					

~ 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.



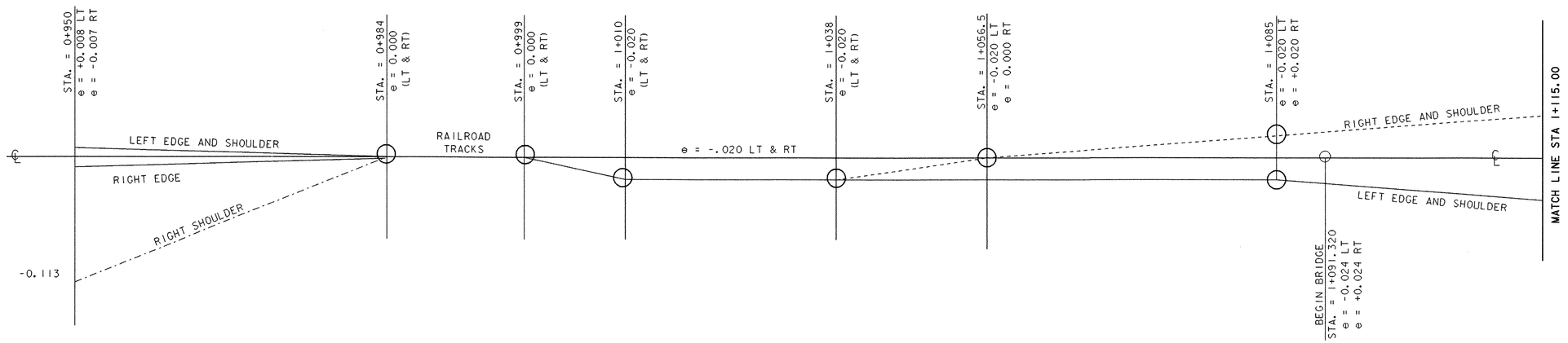
ASTM STANDARD REINFORCING BARS

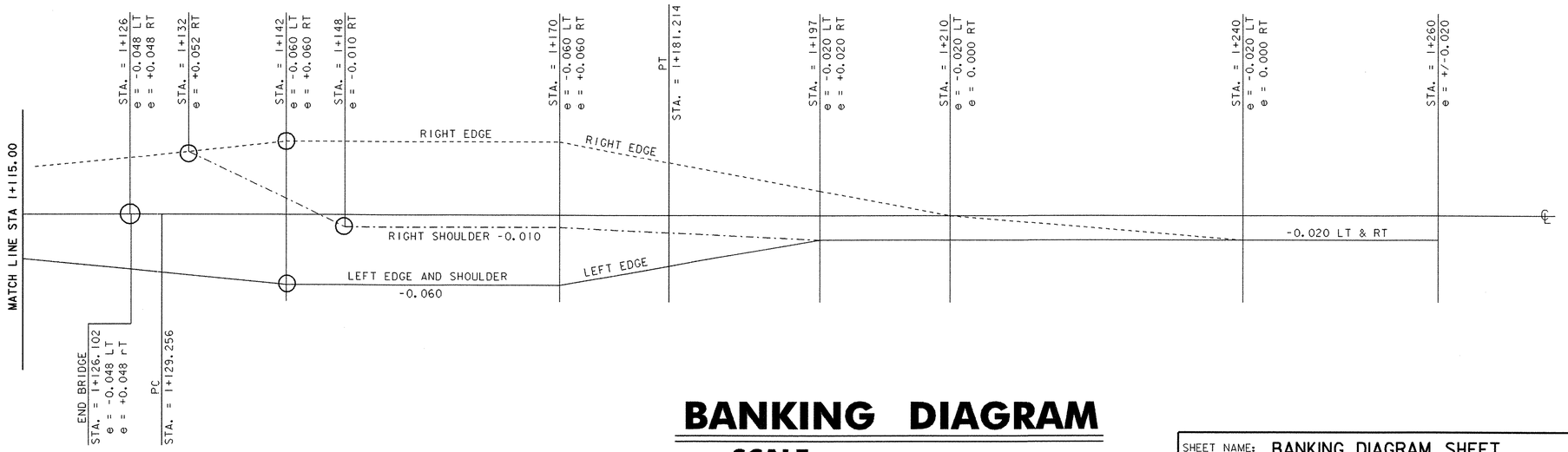
BAR SIZE	NOMINAL MASS (kg/m)	NOMINAL DIMENSIONS ROUND SECTION DIAMETER (mm)	CROSS SECTIONAL AREA (mm²)	PERIMETER (mm)
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	15.9	199	49.95
#19	2.235	19.1	284	60.00
#22	3.042	22.2	387	69.74
#25	3.973	25.4	510	79.80
#29	5.060	28.7	645	90.16
#32	6.404	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: **LEICESTER**
PROJECT NUMBER: **BRF 0160(3) S**

FILE NAME: \95j288\Structures\sj288rss.xls
PROJECT LEADER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
REINFORCING STEEL SCHEDULE SHEET #1

PLOT DATE: 05/18/2005
DRAWN BY: M. HALE
CHECKED BY: C. CARLSON
SHEET 66 OF 90





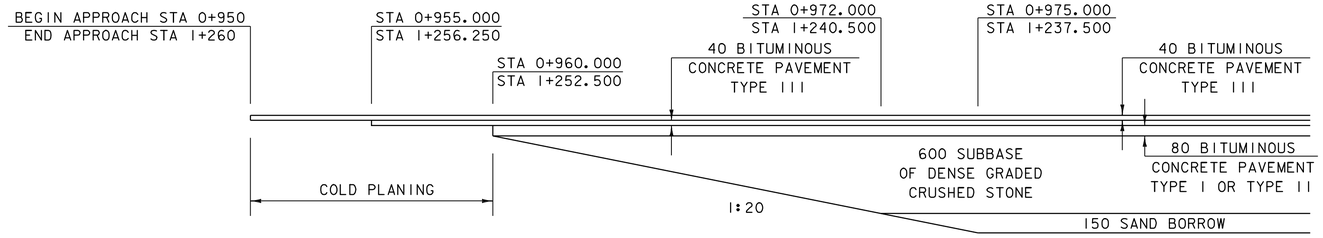
BANKING DIAGRAM

SCALE:

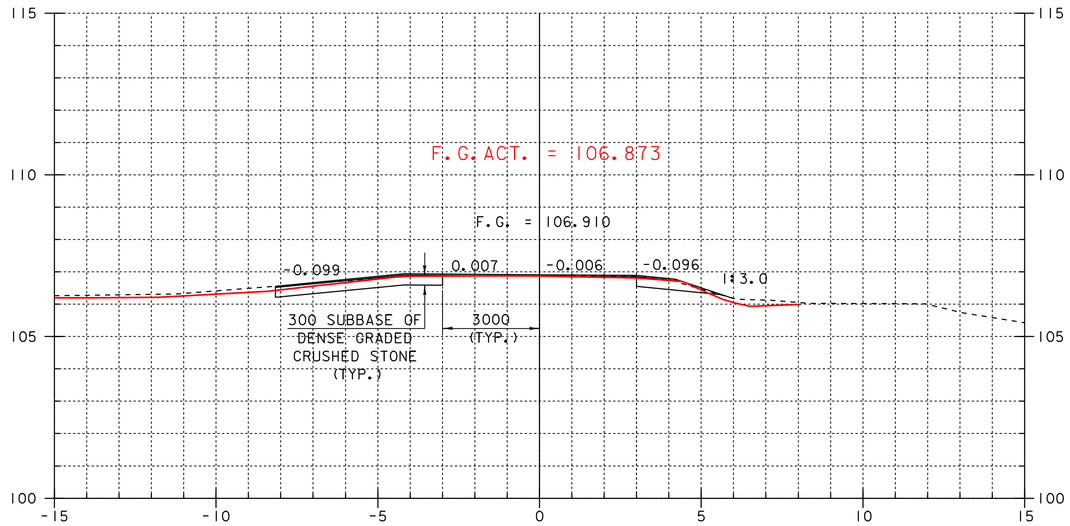
1:250 HORIZONTALLY

1:10 VERTICALLY

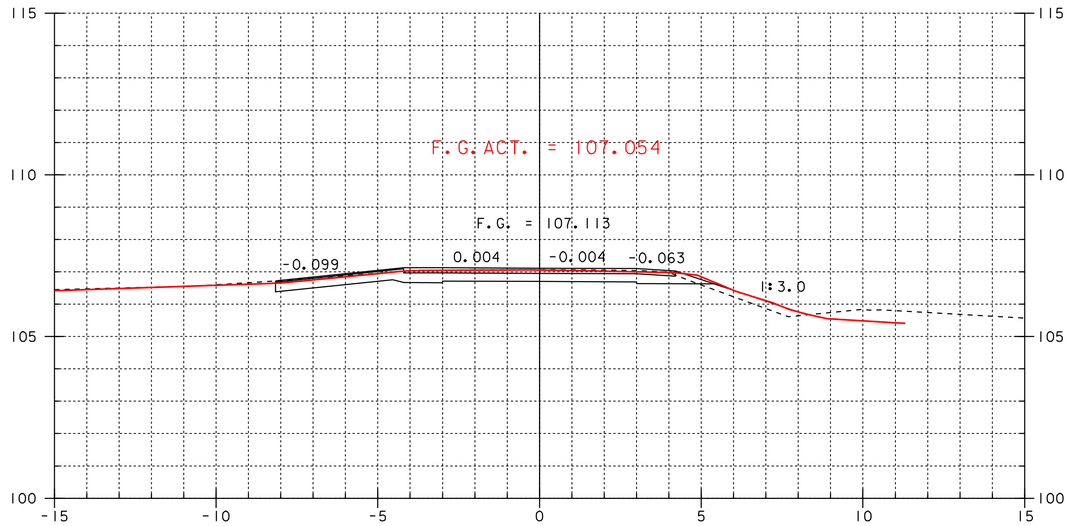
SHEET NAME:	BANKING DIAGRAM SHEET		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95J288\Structures\sj288xsl.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088bd.i
		SHEET	67 OF 90



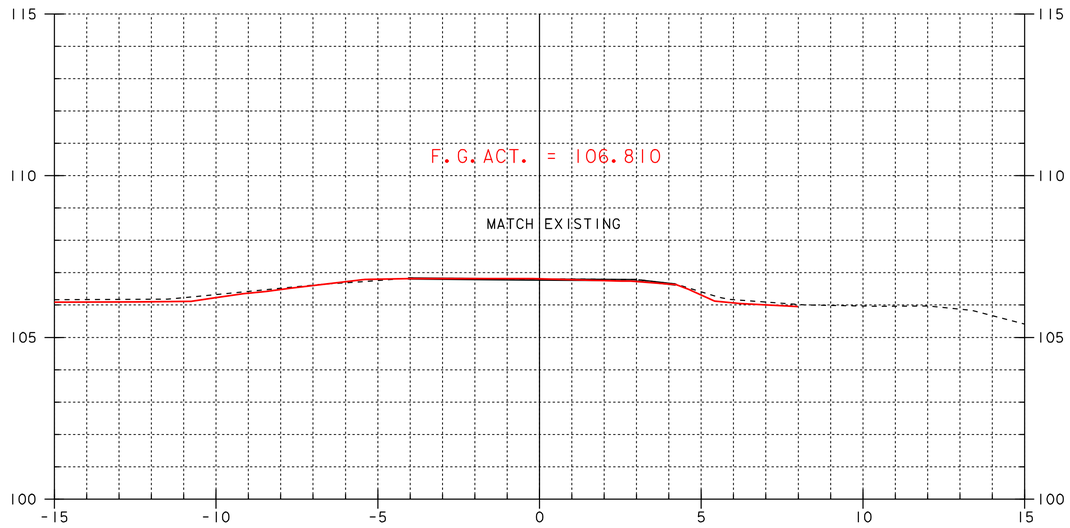
SUBBASE TRANSITION DIAGRAM
N.T.S.



0+955



0+965



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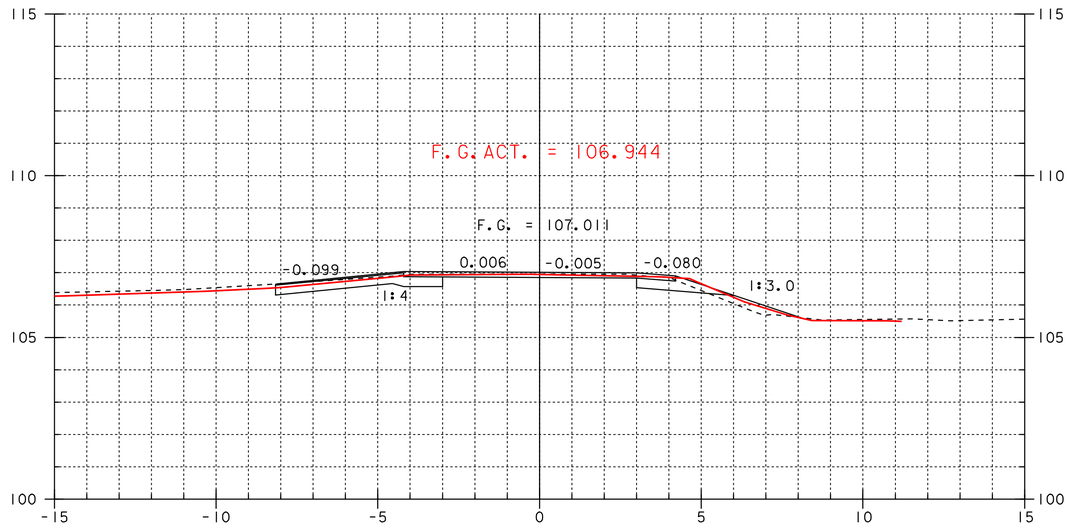
BEGIN APPROACH



0+960

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

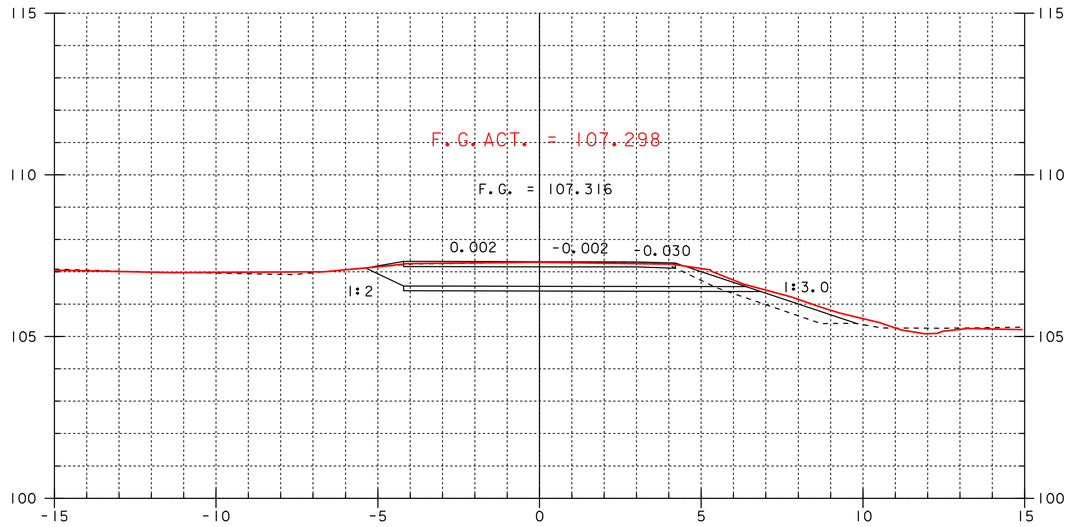
SHEET NAME: _MAINLINE_CROSS_SECTIONS_____

PROJECT NAME: LEICESTER__
PROJECT NUMBER: BRF_0160(3)S_

HIGHWAY NO.: FAS_0160__
BRIDGE NO.: 6_____
OVER: OTTER CREEK_____

FILE NAME: 95J288\Structures\sj288xsl.dgn
PROJECT MANAGER: R.R.WHITCOMB_____
DESIGNED BY: C.CARLSON_____
____

PLOT DATE: 02-OCT-2008 11:0
DRAWN BY: J.GILMORE___
IPARM NAME: sj088drl.i__
SHEET 68 OF 90__



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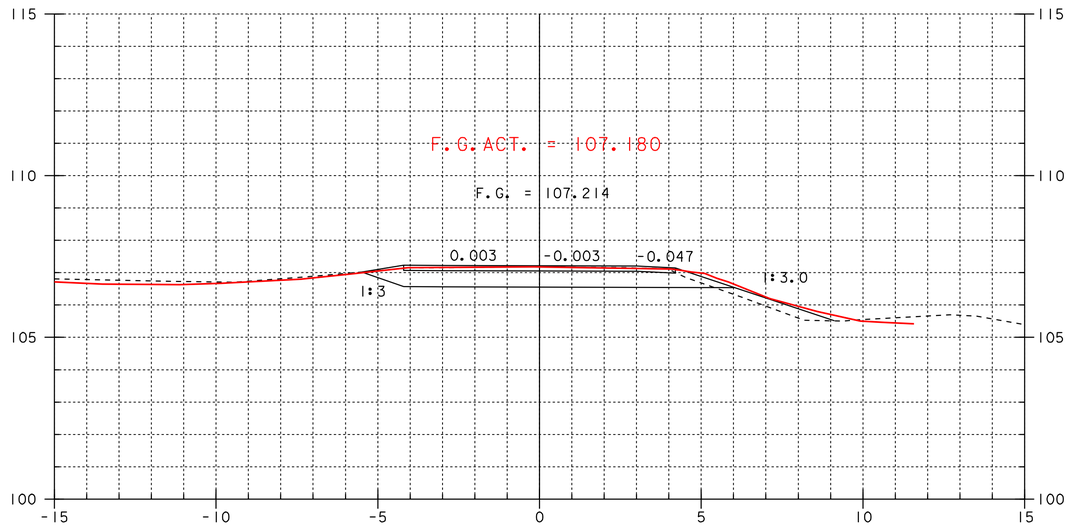
BEGIN PROJECT



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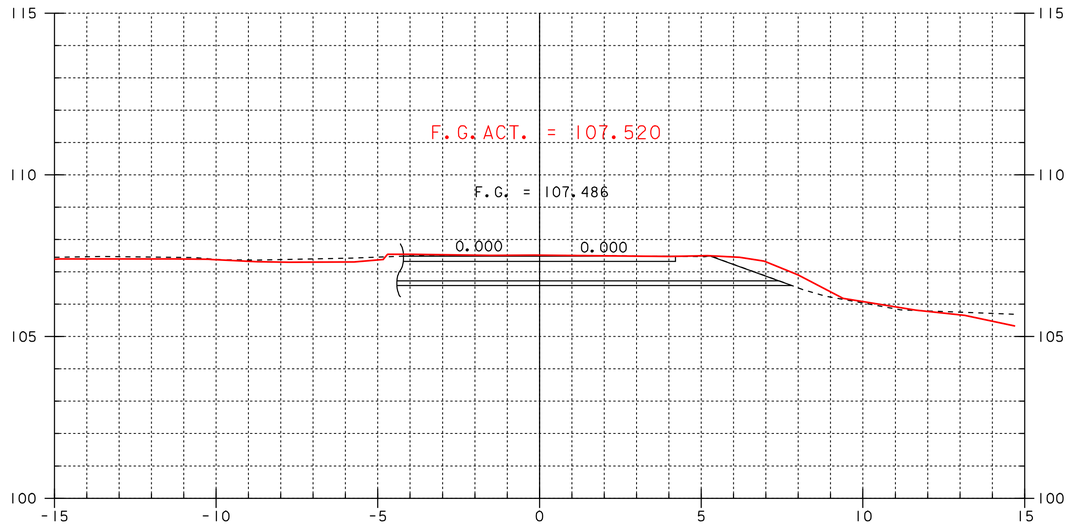

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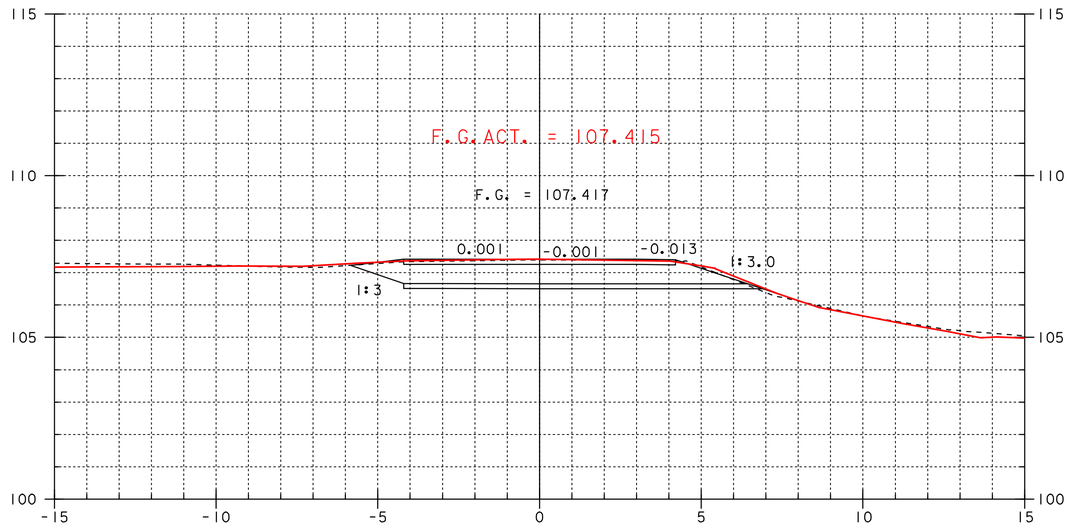


0+980
0+980 BEGIN RAILROAD WORK AREA

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

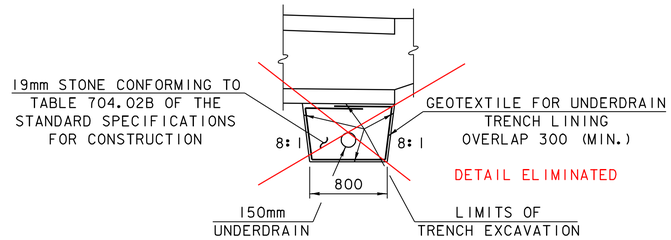
SHEET NAME: _MAINLINE_CROSS_SECTIONS_____

PROJECT NAME: LEICESTER__
PROJECT NUMBER: BRF_0160(3)S_

HIGHWAY NO.: EAS_0160__
BRIDGE NO.: 6_____
OVER: OTTER_CREEK_____

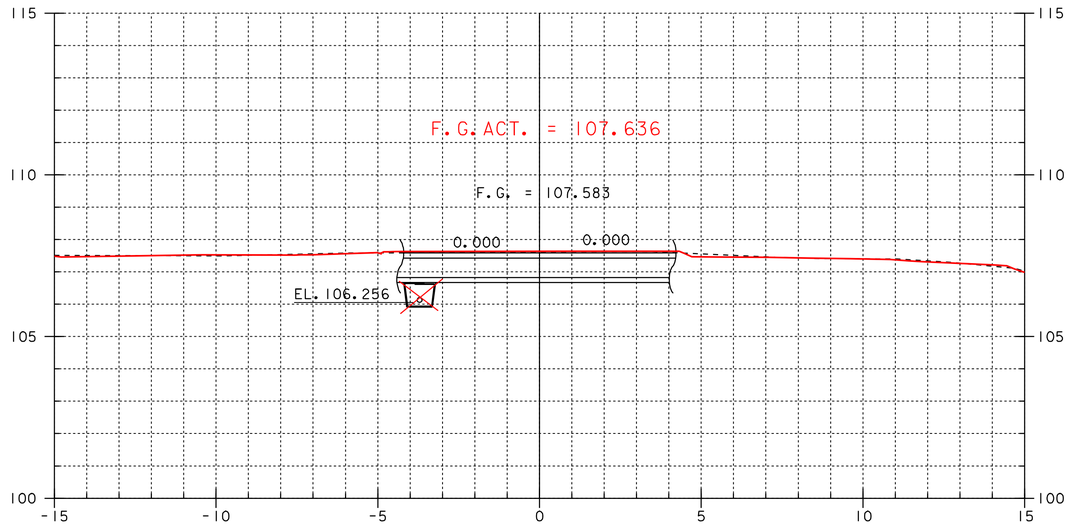
FILE NAME: 95J288\Structures\sj288xsl.dgn
PROJECT MANAGER: R.R.WHITCOMB_____
DESIGNED BY: C.CARLSON_____
____

PLOT DATE: 02-OCT-2008 11:0
DRAWN BY: J.GILMORE___
IPARM NAME: sj088dr2.i__
SHEET 69 OF 90__



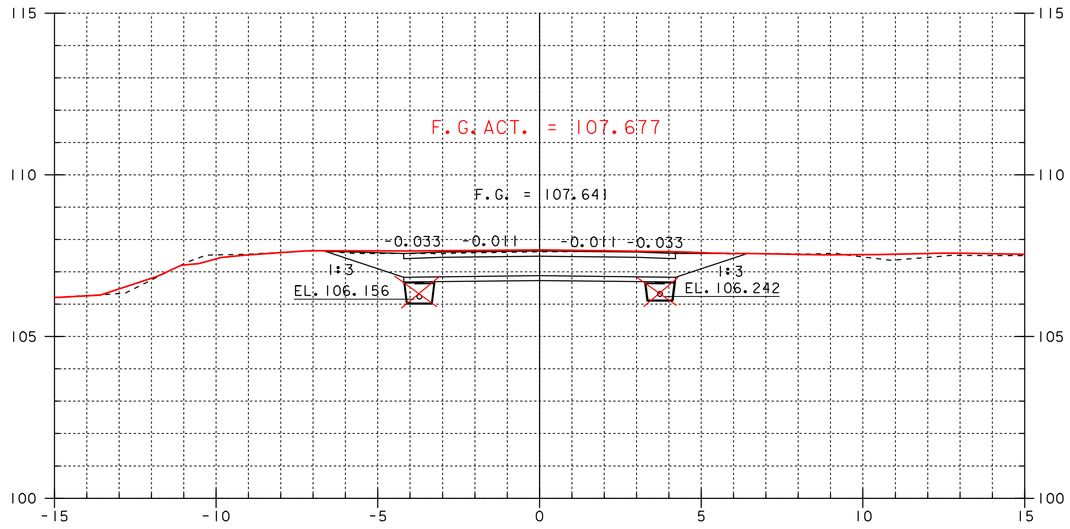
UNDERDRAIN TYPICAL SECTION

NOT TO SCALE



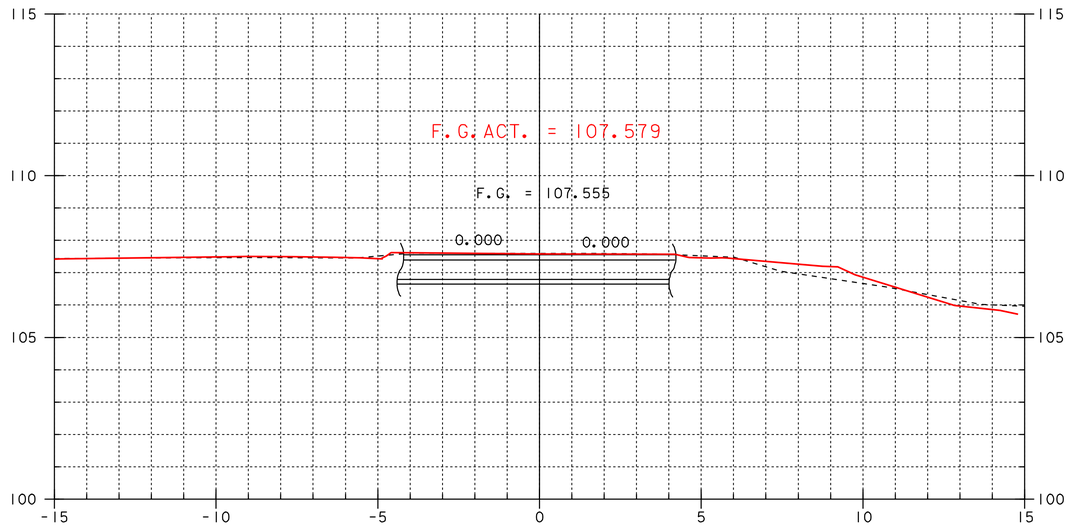
0+995

~~STA 0+994.33 LT - STA 1+015.00 LT~~
~~NEW 150mm X 20.67m UNDERDRAIN~~
~~INV. EL. 106.290~~

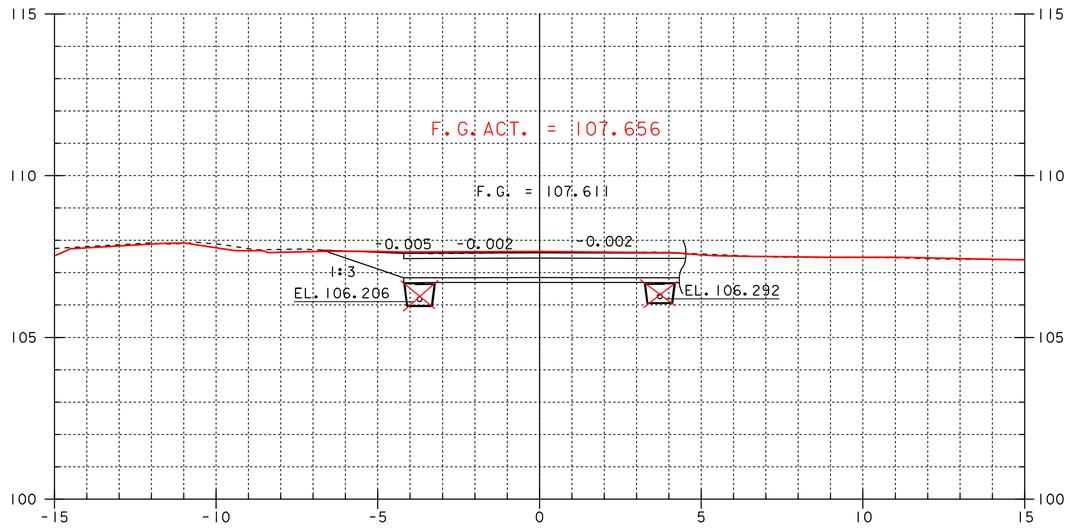


1+005

1+005 END RAILROAD WORK AREA



0+990



1+000

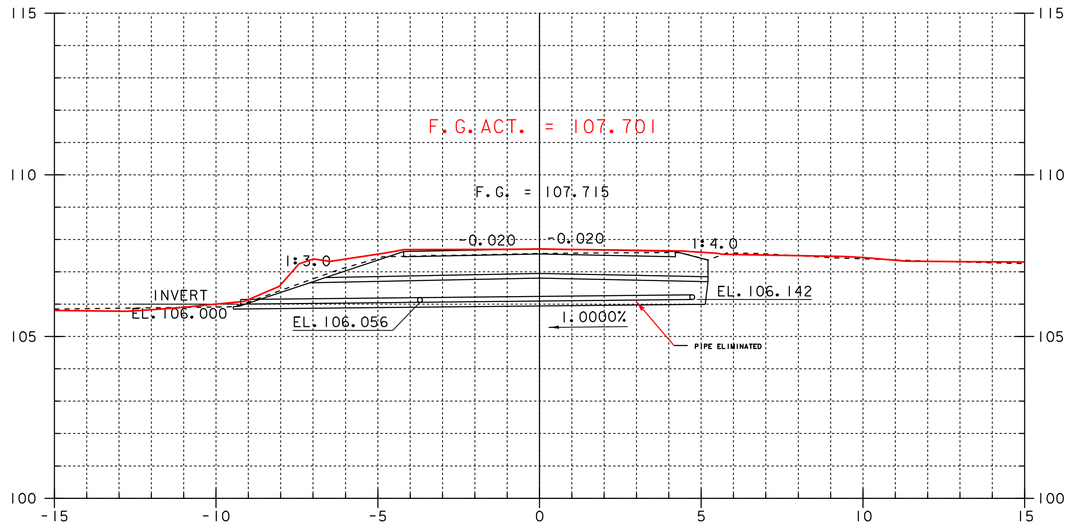
~~STA 0+999.72 LT - STA 1+015.00 LT~~
~~NEW 150mm X 15.28m UNDERDRAIN~~
~~INV. EL. 106.306~~

0 1 2 4 6 8 10

SCALE = 1:100

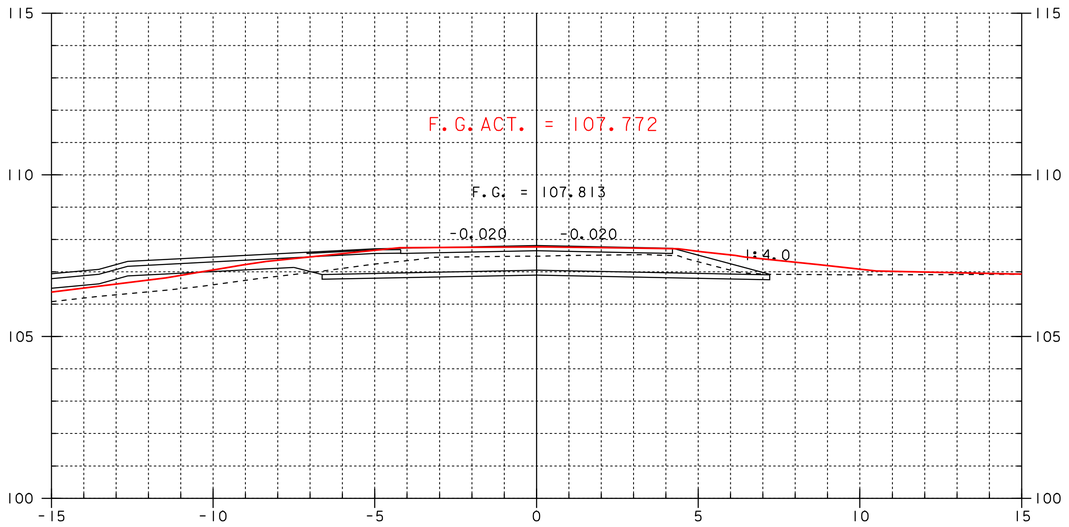
SHEET NAME:	_MAINLINE_CROSS_SECTIONS_____		
PROJECT NAME:	LEICESTER__	HIGHWAY NO.:	EAS_0160__
PROJECT NUMBER:	BRF_0160(3)S_	BRIDGE NO.:	6_____
		OVER:	OTTER CREEK_____
FILE NAME:	95J288\Structures\sj288xsl.dgn	PLOT DATE:	02-OCT-2008 11:0
PROJECT MANAGER:	R.R.WHITCOMB_____	DRAWN BY:	J.GILMORE___
DESIGNED BY:	C.CARLSON_____	IPARM NAME:	sj088dr3.i__
	____	SHEET	70 OF 90__

CONSTRUCT FIELD DRIVE
STA 1+026 LT
SEE SHEET 17 FOR
FIELD DRIVE PROFILE

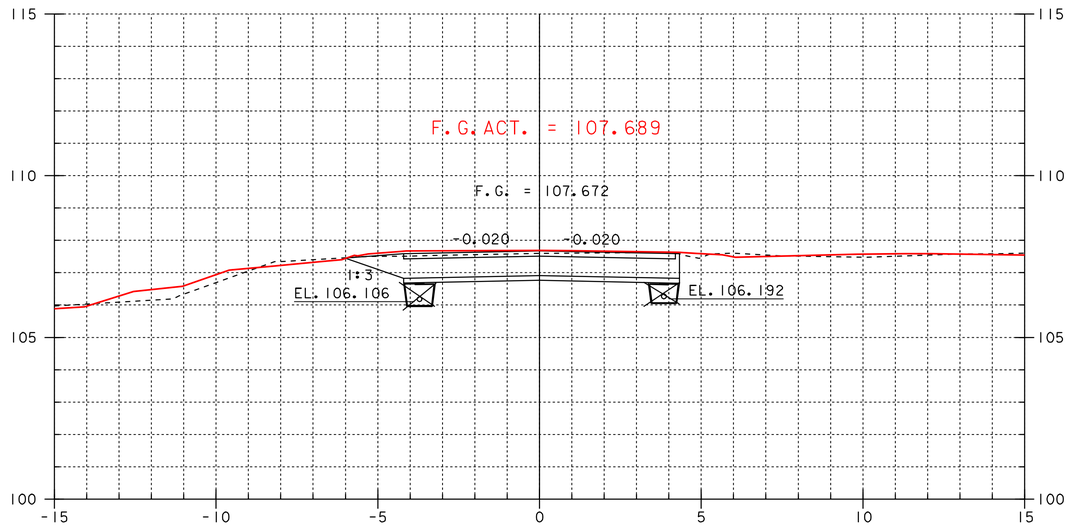


1+015

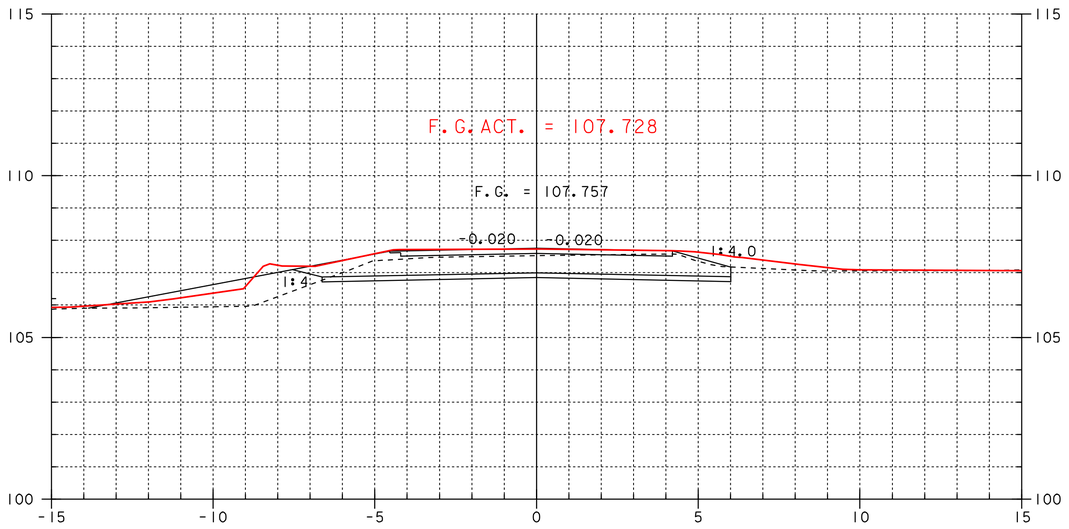
STA 1+015.0 RT - STA 1+015.00 LT
NEW 150mm X 13.96m UNDERDRAIN CARRIER PIPE
INV. EL. 106.142



1+025



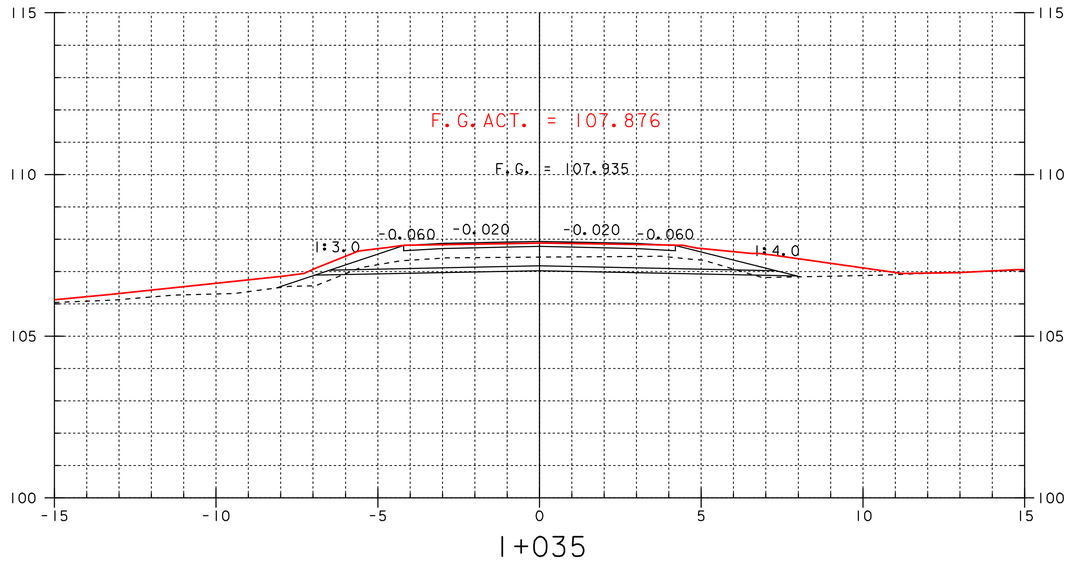
1+010



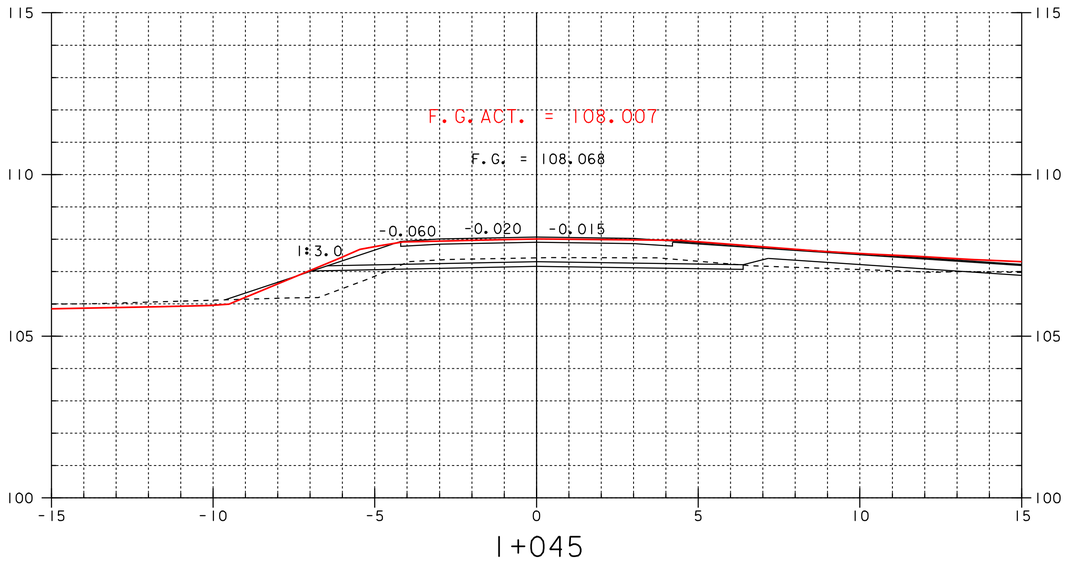
1+020

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

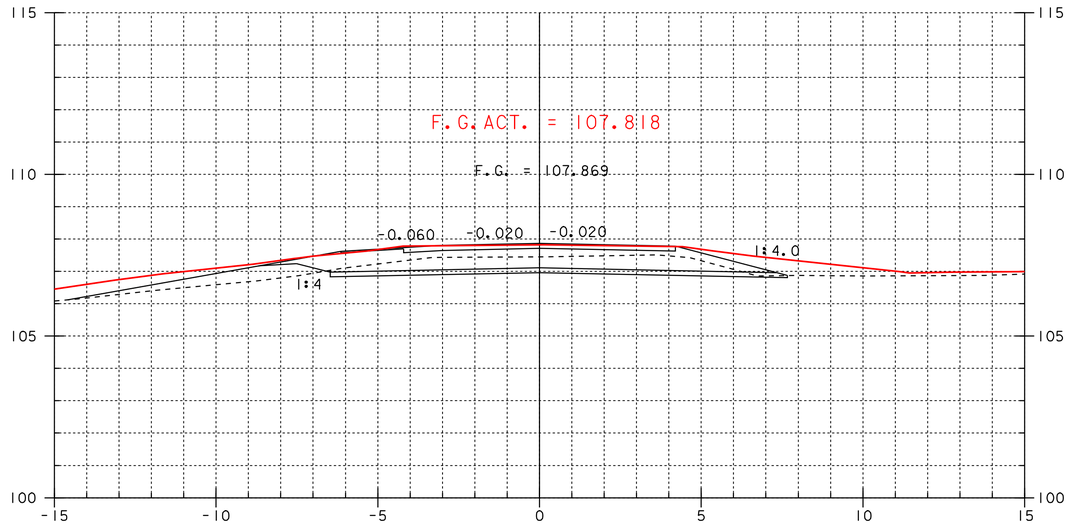
SHEET NAME: _MAINLINE_CROSS_SECTIONS_____
PROJECT NAME: LEICESTER__
PROJECT NUMBER: BRF_0160(3)S_
HIGHWAY NO.: EAS_0160__
BRIDGE NO.: 6_____
OVER: OTTER CREEK_____
FILE NAME: 95J288\Structures\sJ288xsl.dgn
PROJECT MANAGER: R.R.WHITCOMB_____
DESIGNED BY: C.CARLSON_____
PLOT DATE: 02-OCT-2008 11:0
DRAWN BY: J.GILMORE___
IPARM NAME: sJ088dr4.i__
SHEET 71 OF 90__



1+035



1+045



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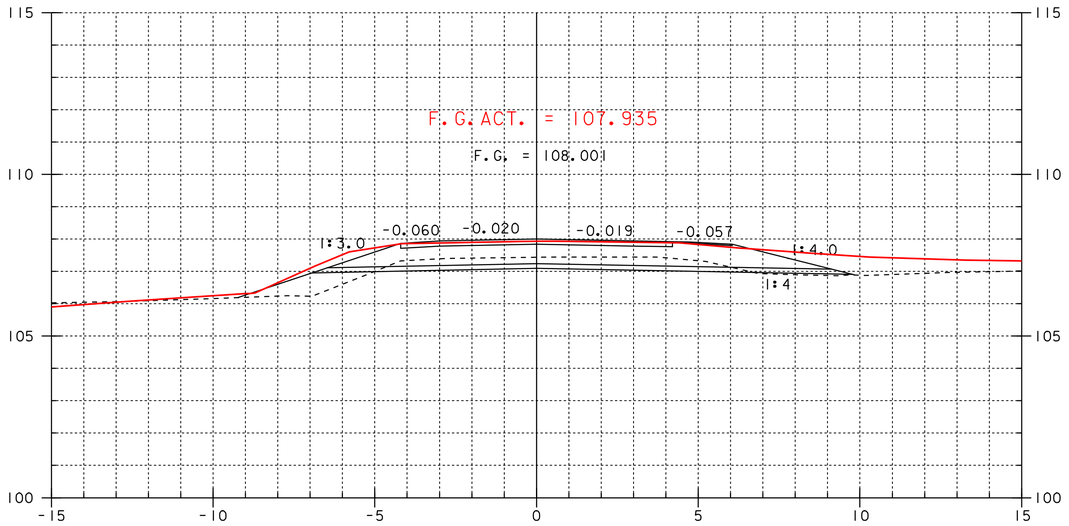


1+040

0 1 2 4 6 8 10

SCALE = 1:100

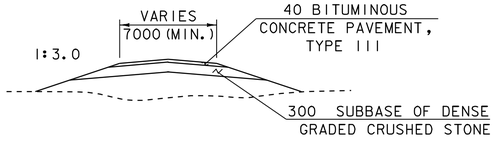
SHEET NAME: _MAINLINE_CROSS_SECTIONS_____

PROJECT NAME: LEICESTER__
PROJECT NUMBER: BRF_0160(3)S_

HIGHWAY NO.: FAS_0160__
BRIDGE NO.: 6_____
OVER: OTTER_CREEK_____

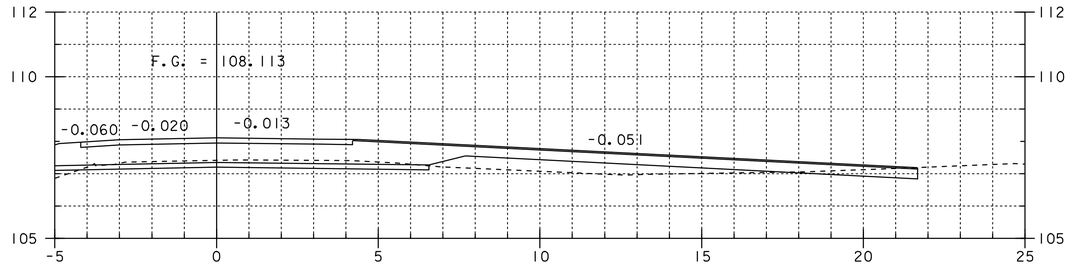
FILE NAME: 95J288\Structures\sJ288xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB_____
DESIGNED BY: C.CARLSON_____

PLOT DATE: 02-OCT-2008 11:0
DRAWN BY: J.GILMORE___
IPARM NAME: sJ088dr5.I__
SHEET 72 OF 90__

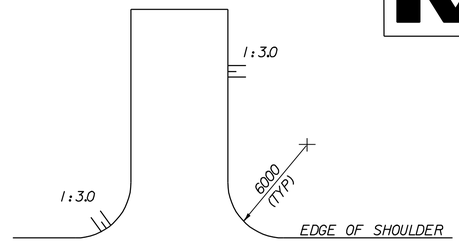


DRIVE TYPICAL

N.T.S.

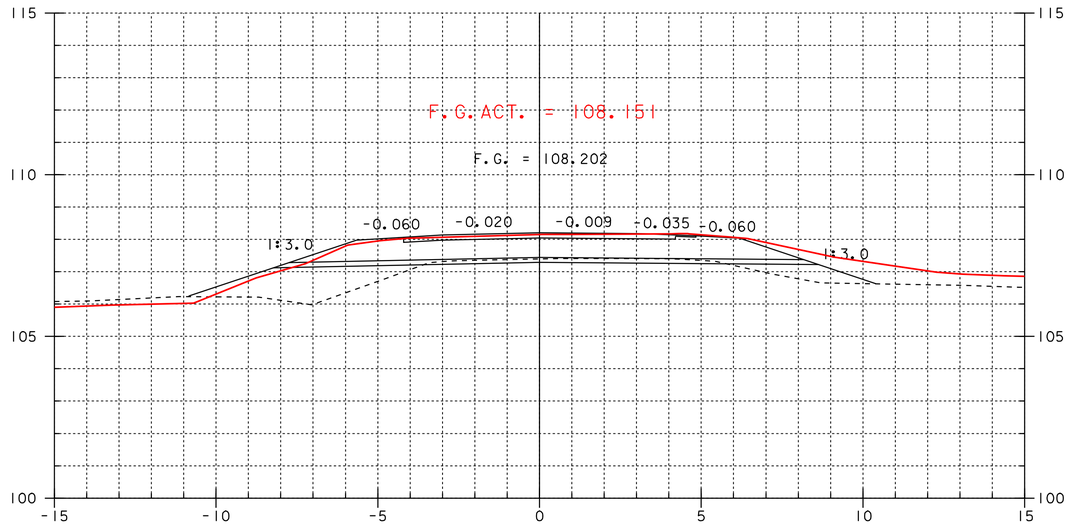


1+048.381
DRIVE RIGHT
SKEW = 20.128°

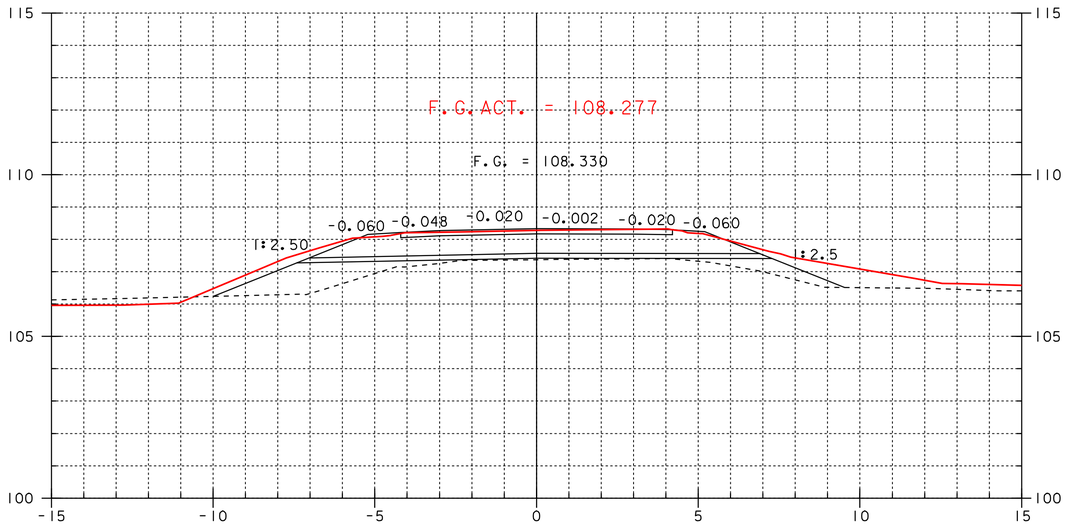


TYPICAL DRIVE PLAN

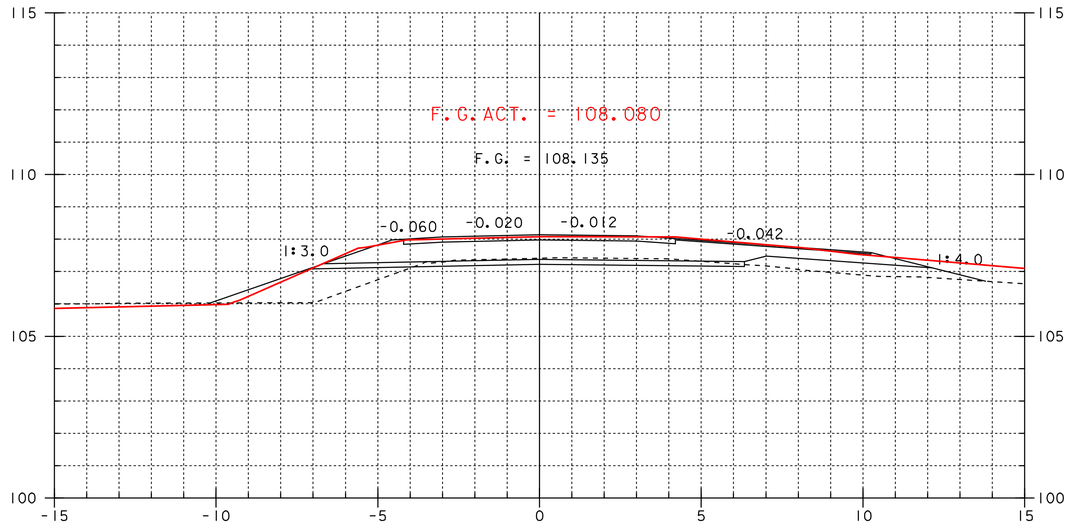
N.T.S.



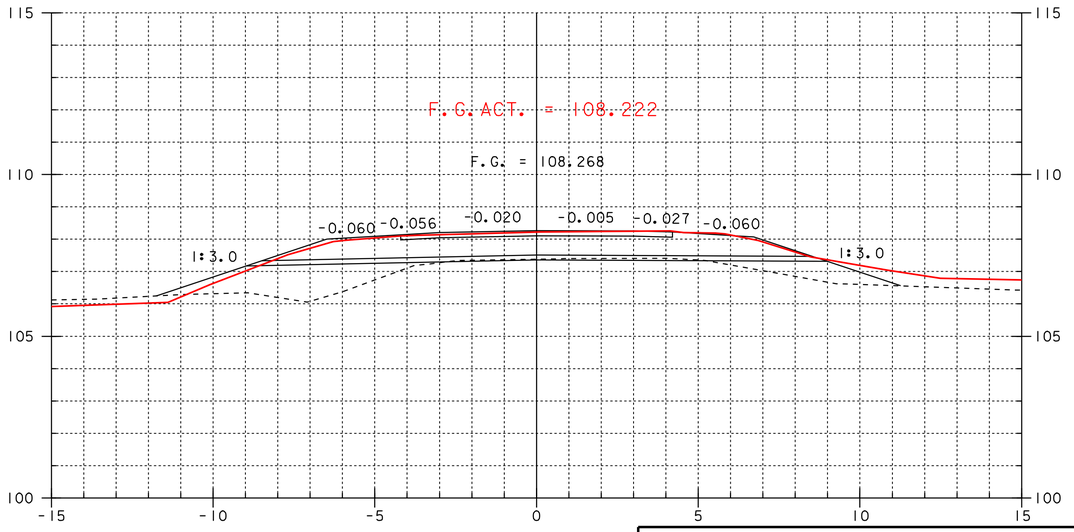
1+055



1+065



1+050



1+060

SEE THIS SHEET
FOR DRIVE SECTION
AT STA 1+048.381

0 1 2 4 6 8 10

SCALE = 1:100

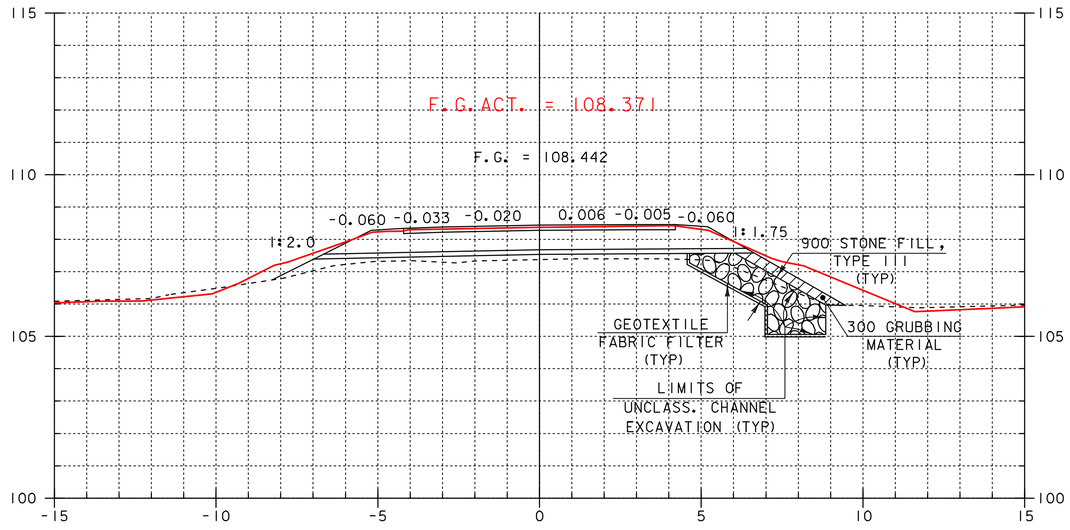
SHEET NAME: MAINLINE CROSS SECTIONS

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S

HIGHWAY NO.: EAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

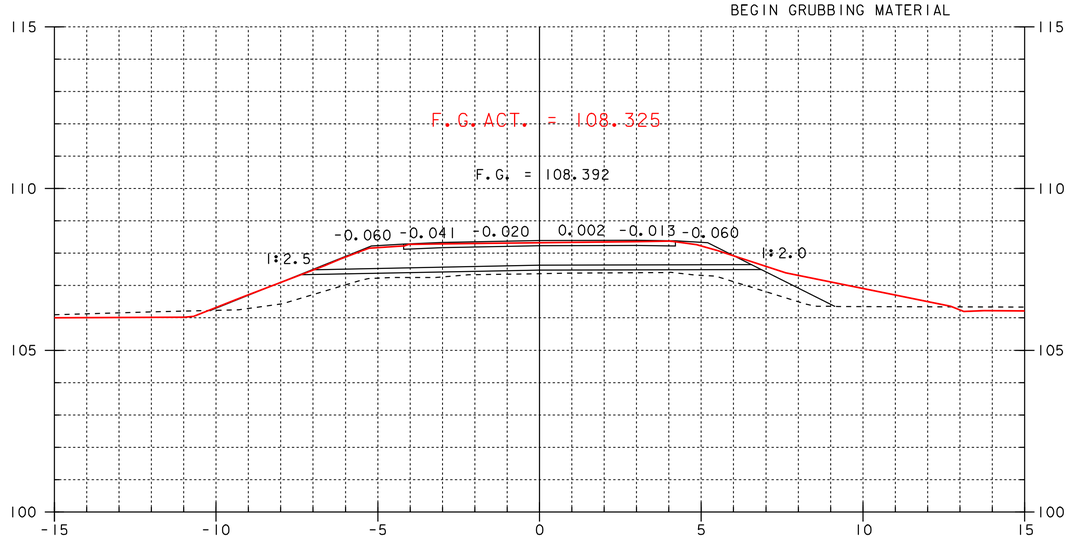
FILE NAME: 95J288\Structures\sj288xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: C. CARLSON

PLOT DATE: 02-OCT-2008 11:0
DRAWN BY: J. GILMORE
IPARM NAME: sj088dr6.i
SHEET 73 OF 90

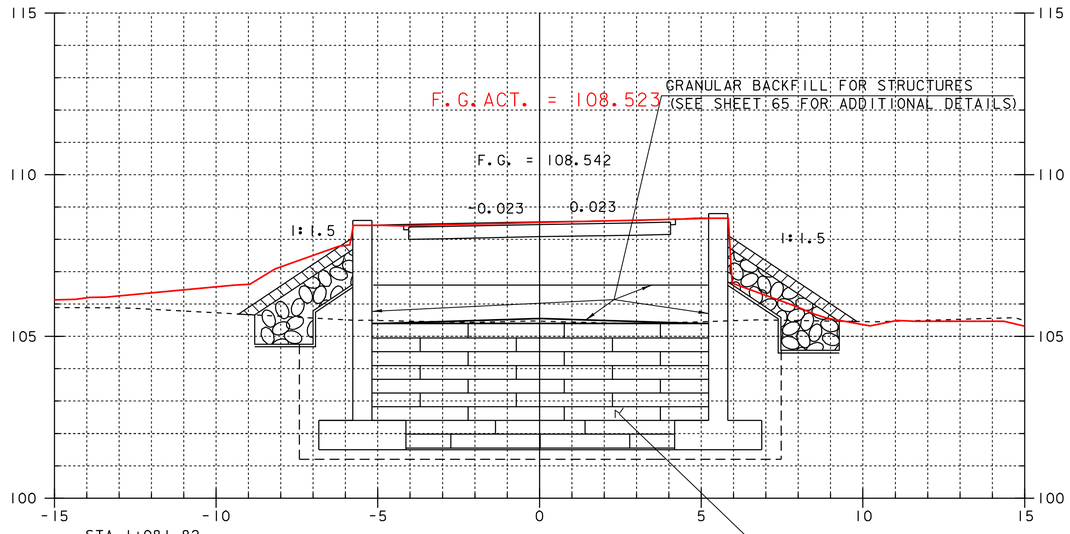


1+075

STA 1+074.5 RIGHT
BEGIN UNCLASS. CHANNEL EXCAVATION
BEGIN GEOTEXTILE FABRIC FILTER
BEGIN STONE FILL, TYPE III
BEGIN GRUBBING MATERIAL



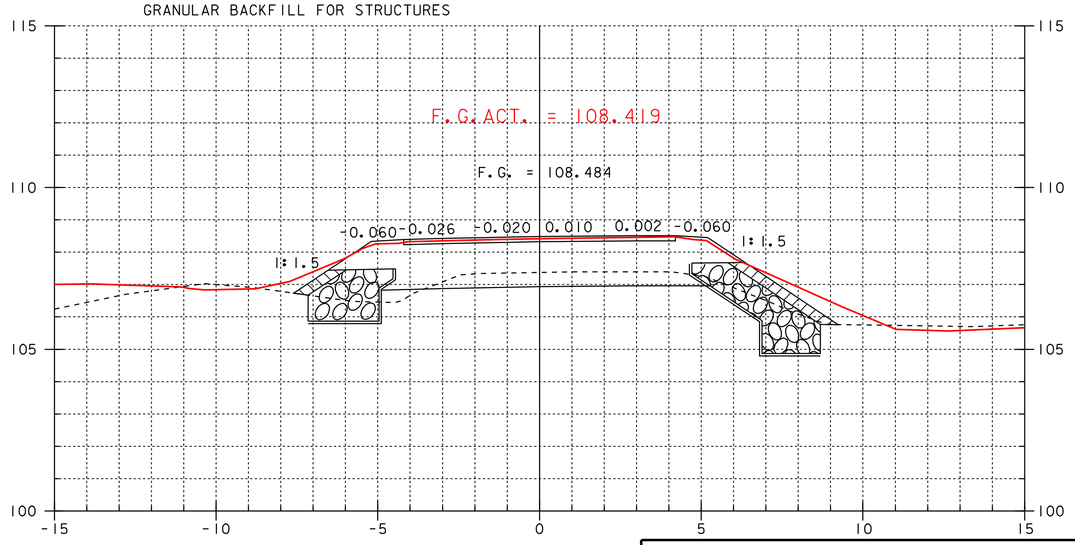
1+070



1+090

STA 1+081.82
BEGIN GRANULAR BACKFILL FOR STRUCTURES
(MOD. - EPS100 GEOFOAM)

STA 1+081.32
BEGIN STRUCTURE EXCAVATION (FOR GEOFOAM)
GRANULAR BACKFILL FOR STRUCTURES



1+080

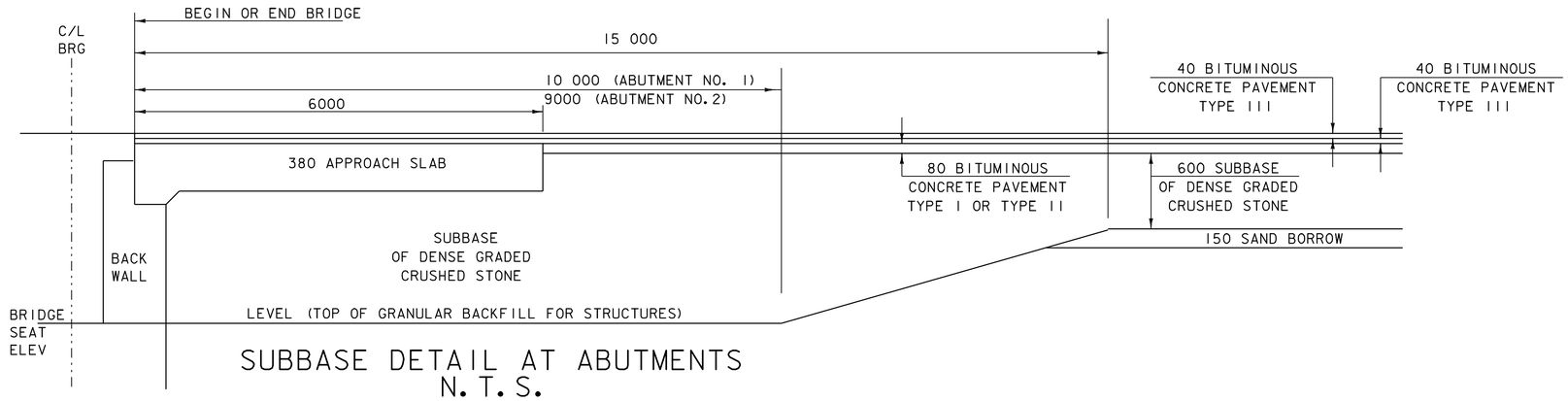
STA 1+080.0 LEFT
BEGIN UNCLASS. CHANNEL EXCAVATION
BEGIN GEOTEXTILE FABRIC FILTER
BEGIN STONE FILL, TYPE III
BEGIN GRUBBING MATERIAL

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

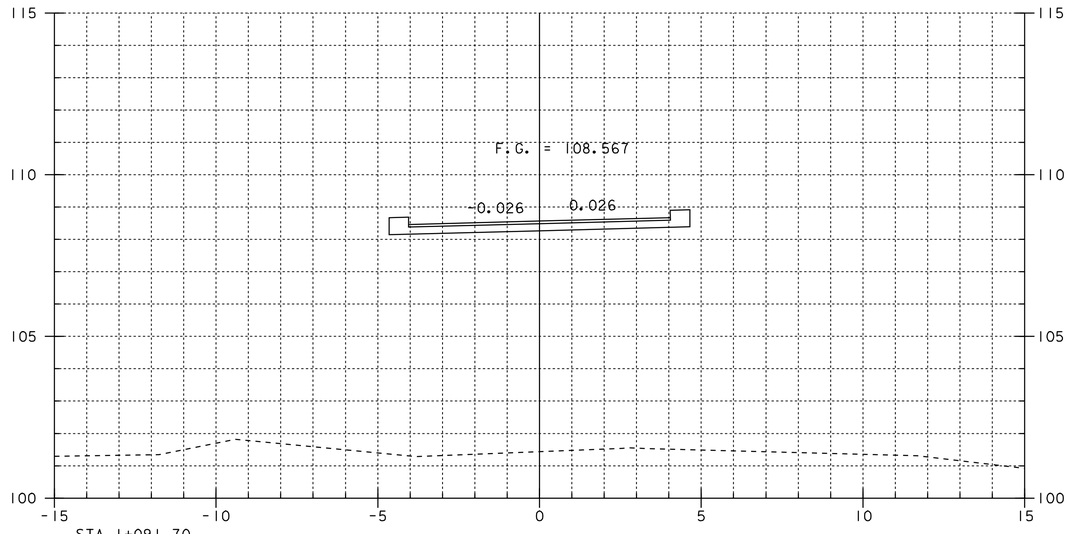
SHEET NAME: MAINLINE CROSS SECTIONS

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF_0160(3)S
HIGHWAY NO.: EAS_0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sJ288xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: C. CARLSON
PLOT DATE: 02-OCT-2008 11:0
DRAWN BY: J. GILMORE
IPARM NAME: sJ088dr7.i
SHEET 74 OF 90

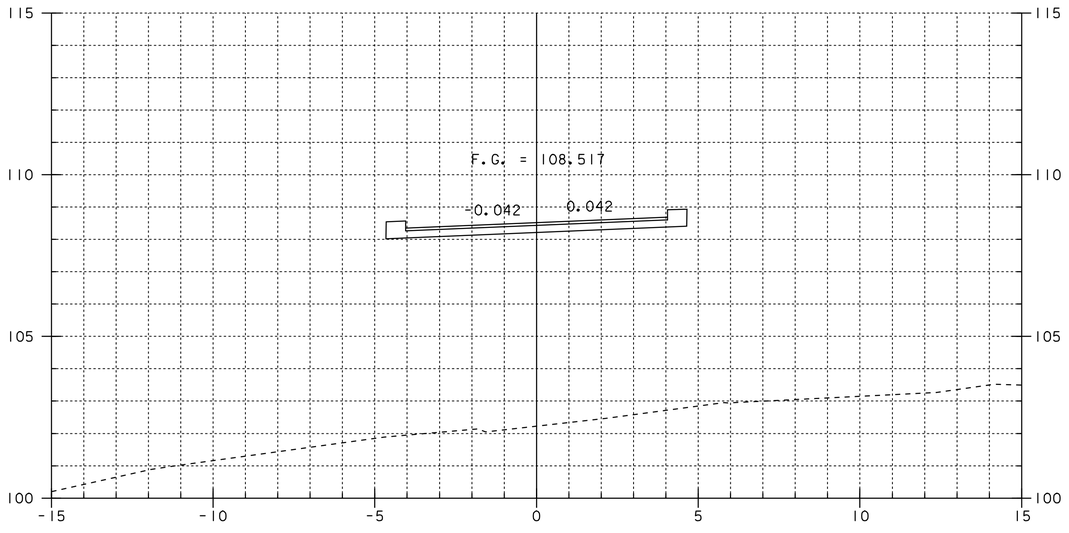


SUBBASE DETAIL AT ABUTMENTS
N. T. S.

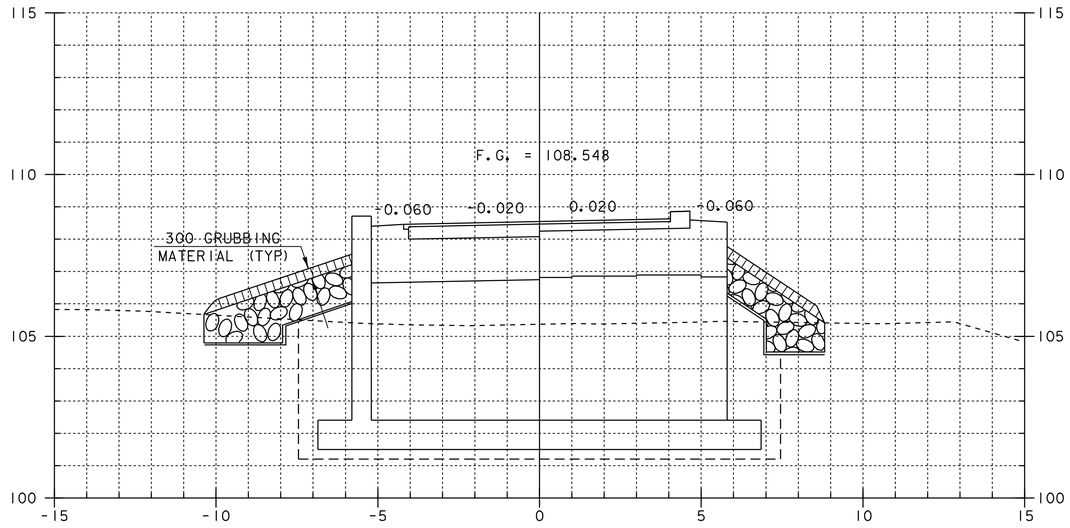


STA 1+091.70
END GRANULAR BACKFILL FOR STRUCTURES
(MOD. - EPS100 GEOFOAM)
END GRANULAR BACKFILL FOR STRUCTURES

1+100



1+120

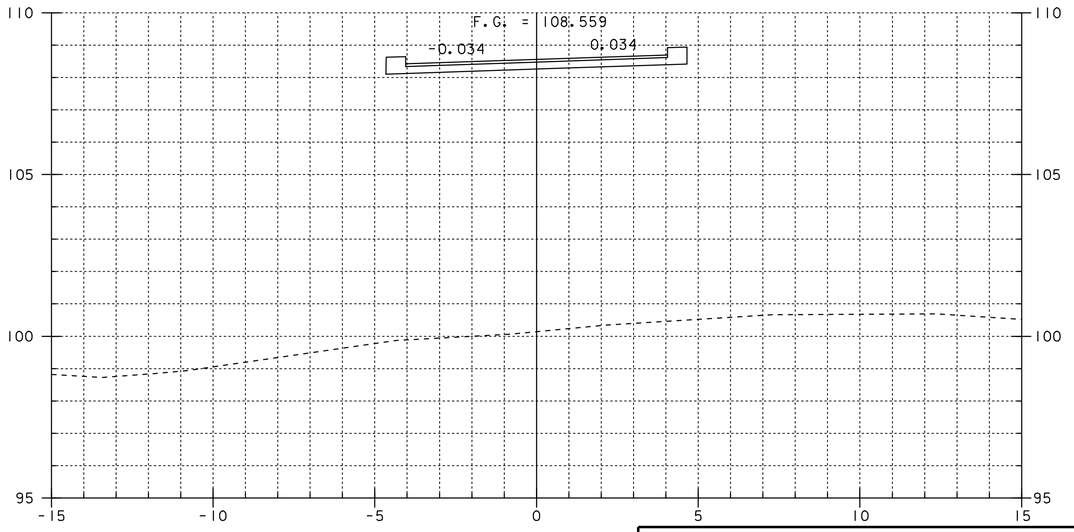


STA 1+091.1 LEFT
END UNCLASS. CHANNEL EXCAVATION
END GEOTEXTILE FABRIC FILTER
END STONE FILL, TYPE III
END GRUBBING MATERIAL

1+091.320
BEGIN BRIDGE

STA 1+090.0 RIGHT
END UNCLASS. CHANNEL EXCAVATION
END GEOTEXTILE FABRIC FILTER
END STONE FILL, TYPE III
END GRUBBING MATERIAL

STA 1+090.0
END STRUCTURE EXCAVATION (FOR GEOFOAM)



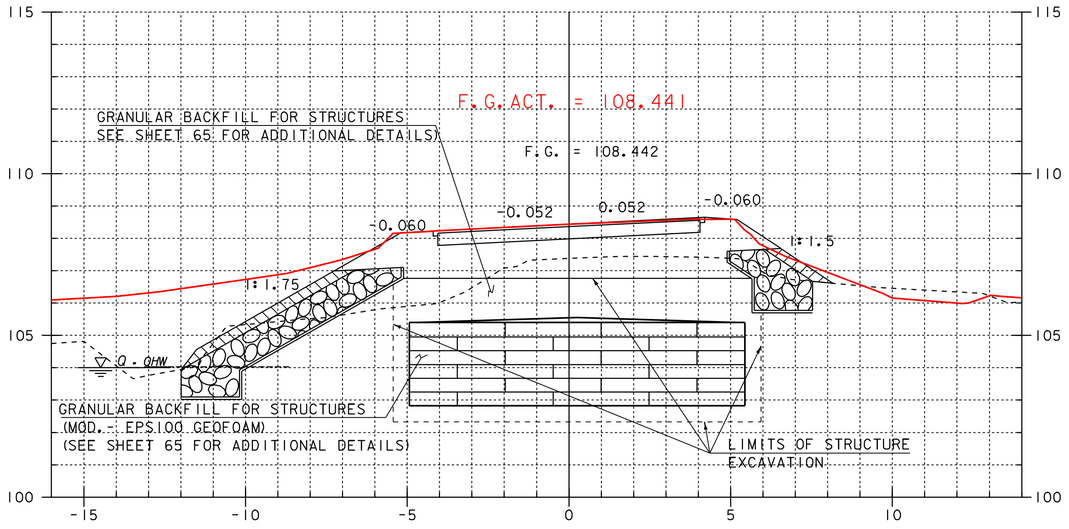
1+110

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

SHEET NAME: MAINLINE CROSS SECTIONS

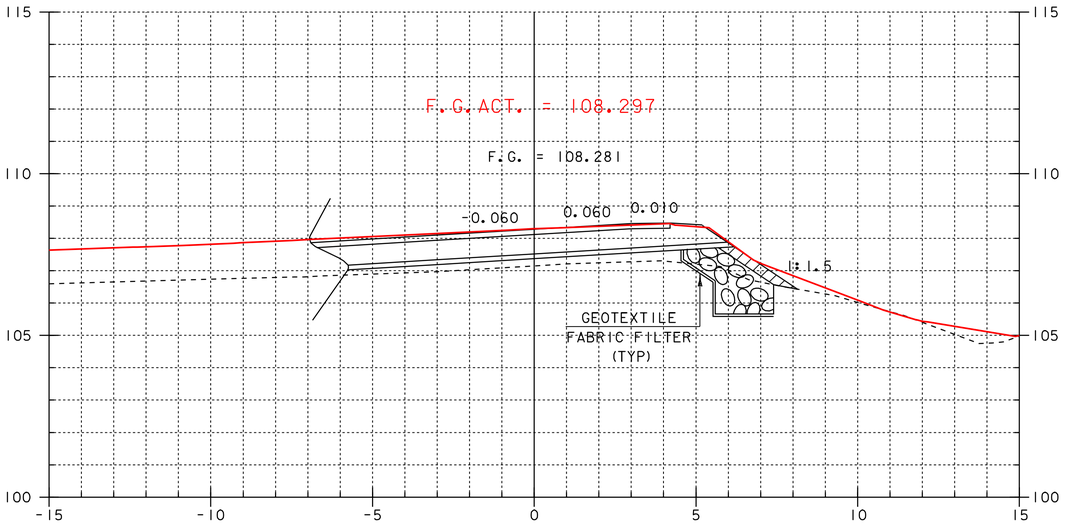
PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: EAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sJ288xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: C. CARLSON
PLOT DATE: 02-OCT-2008 11:0
DRAWN BY: J. GILMORE
IPARM NAME: sJ088dr8.i
SHEET 75 OF 90



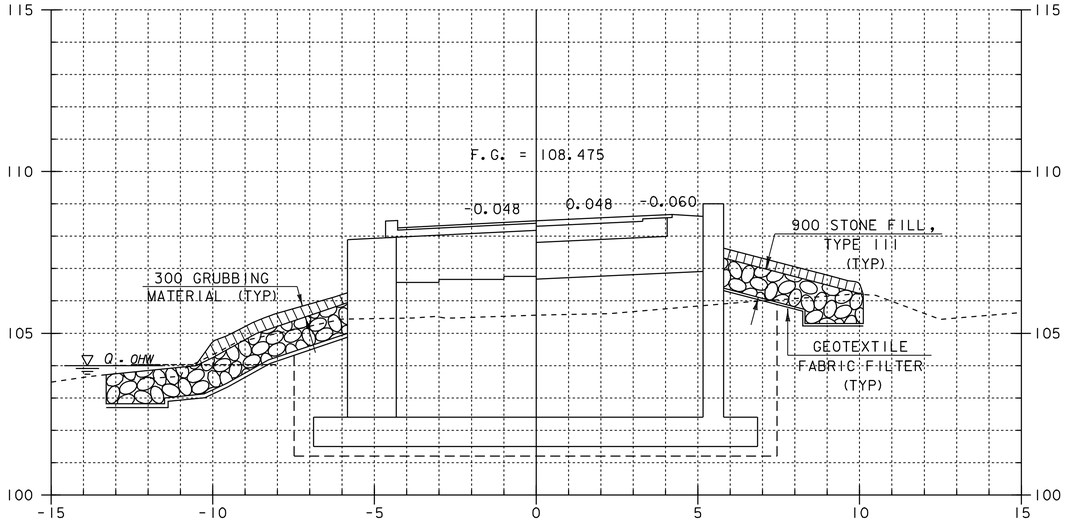
1+130

STA 1+130.0 LEFT AND RIGHT
BEGIN UNCLASS. CHANNEL EXCAVATION
BEGIN GEOTEXTILE FABRIC FILTER
BEGIN STONE FILL, TYPE III
BEGIN GRUBBING MATERIAL



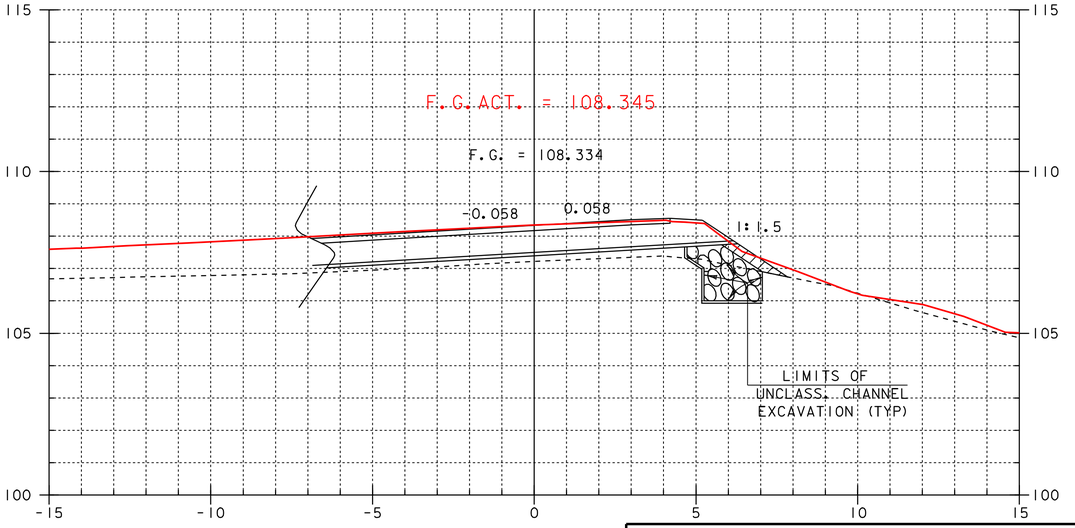
℄ STA 1+144 =
℄ STA 2+000
Δ = 90° LT

STA 1+127.5
BEGIN STRUCTURE EXCAVATION (FOR GEOFOAM)



1+126.180
END BRIDGE

STA 1+125.8
BEGIN GRANULAR BACKFILL FOR STRUCTURES
(MOD. - EPS100 GEOFOAM)
BEGIN GRANULAR BACKFILL FOR STRUCTURES



1+140

STA 1+135.1
END STRUCTURE EXCAVATION (FOR GEOFOAM)
END GRANULAR BACKFILL FOR STRUCTURES

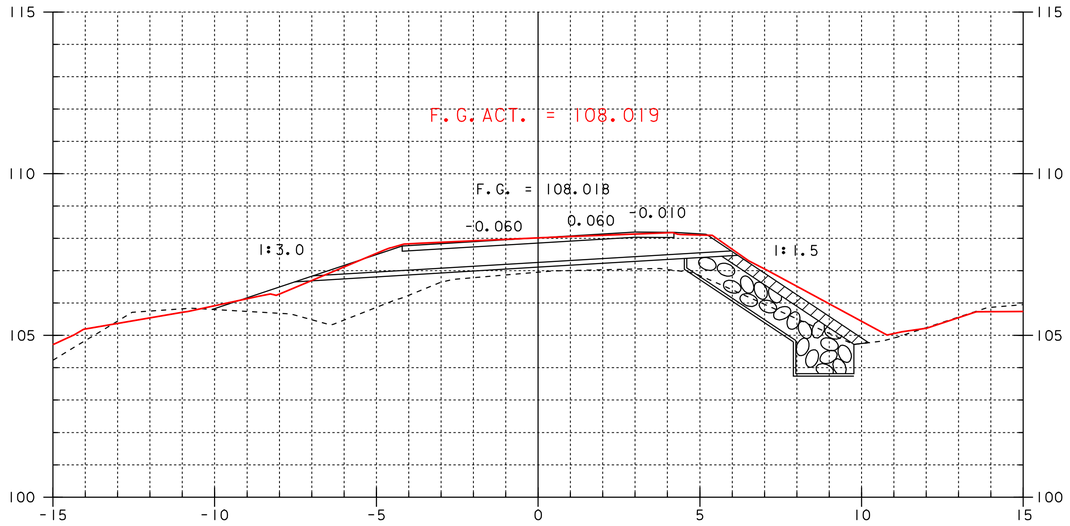
STA. 1+134.6
END GRANULAR BACKFILL FOR STRUCTURES
(MOD. - EPS100 GEOFOAM)

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

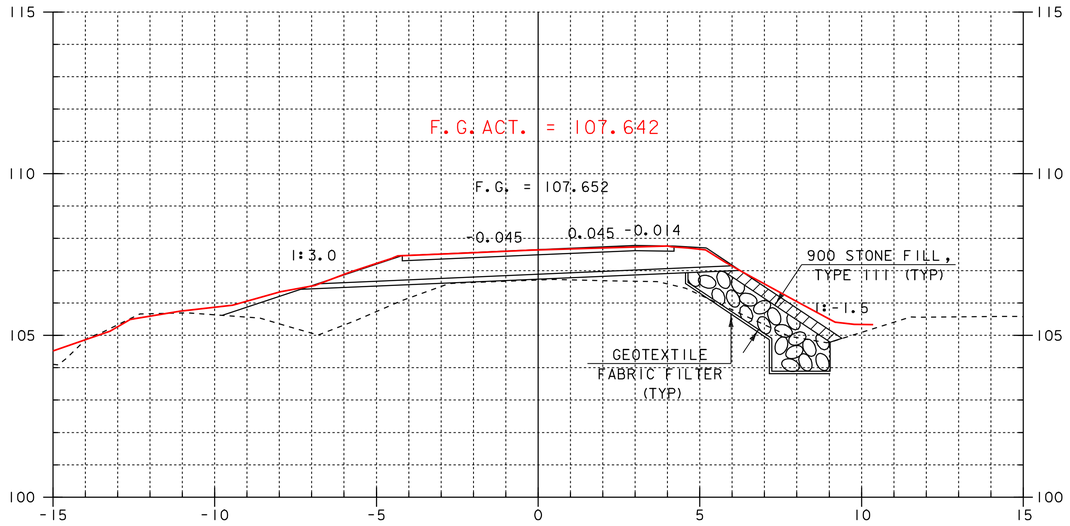
SHEET NAME: MAINLINE CROSS SECTIONS

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: EAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

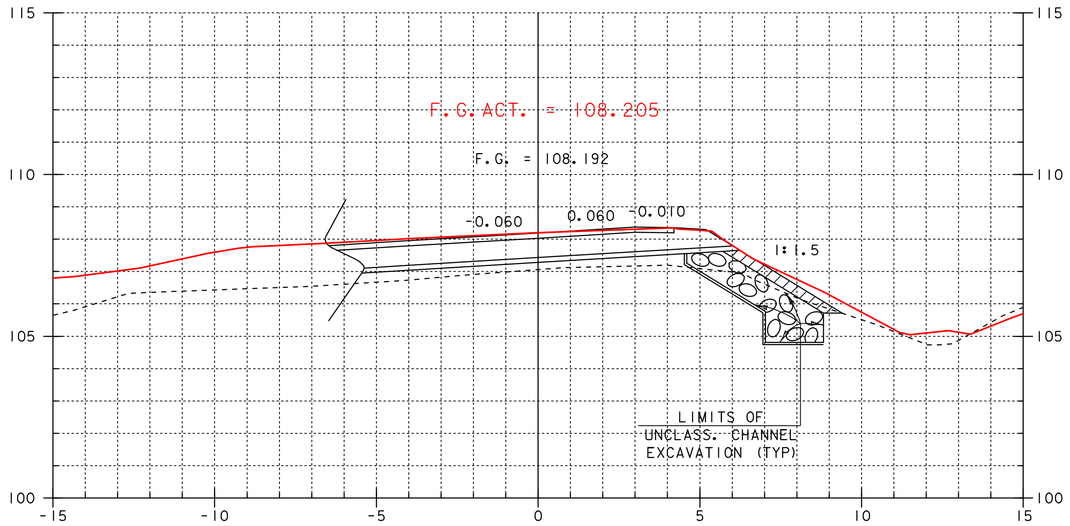
FILE NAME: 95J288\Structures\sJ288xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: C. CARLSON
PLOT DATE: 02-OCT-2008 11:0
DRAWN BY: J. GILMORE
IPARM NAME: sJ088dr9.i
SHEET 76 OF 90



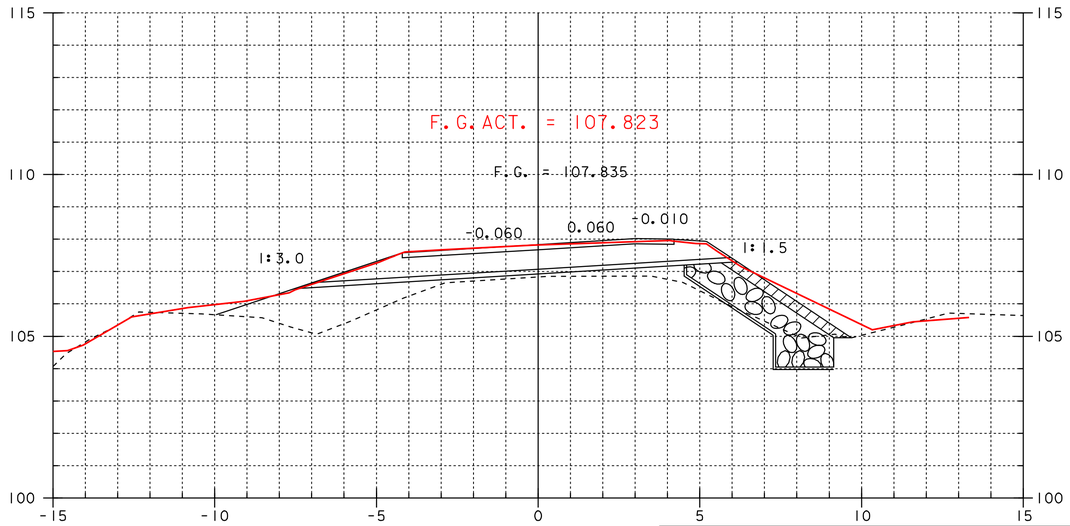
1+160



1+180



1+150



1+170

0 1 2 4 6 8 10

SCALE = 1:100

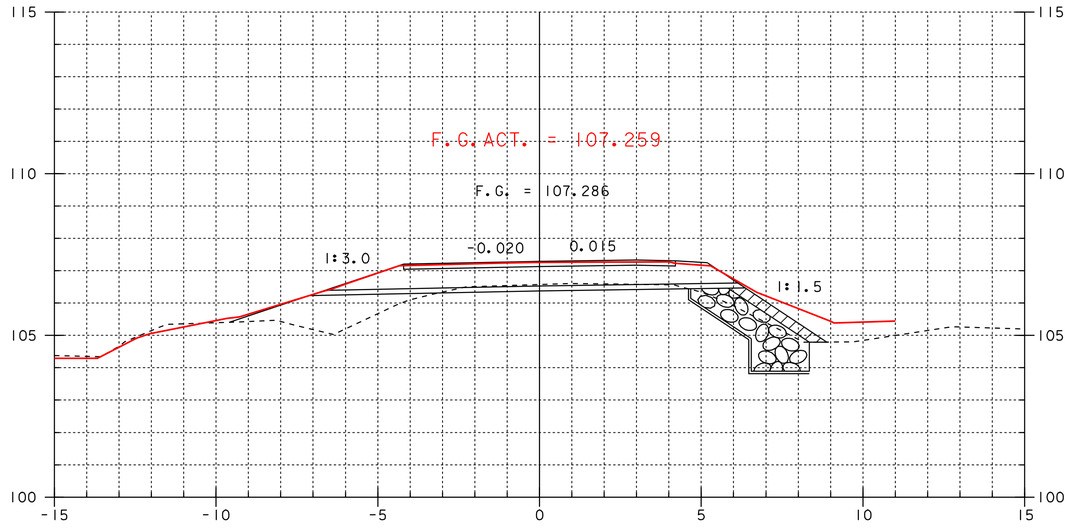
SHEET NAME: _MAINLINE_CROSS_SECTIONS_____

PROJECT NAME: LEICESTER__
PROJECT NUMBER: BRF_0160(3)S_

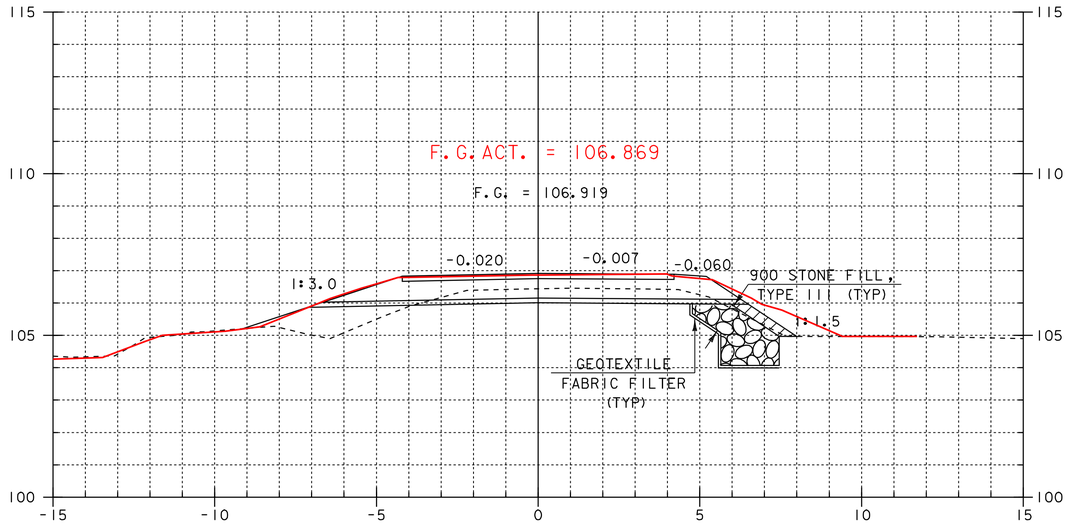
HIGHWAY NO.: EAS_0160__
BRIDGE NO.: 6_____
OVER: OTTER_CREEK_____

FILE NAME: 95J288\Structures\sJ288xsl.dgn
PROJECT MANAGER: R.R.WHITCOMB_____
DESIGNED BY: C.CARLSON_____
____

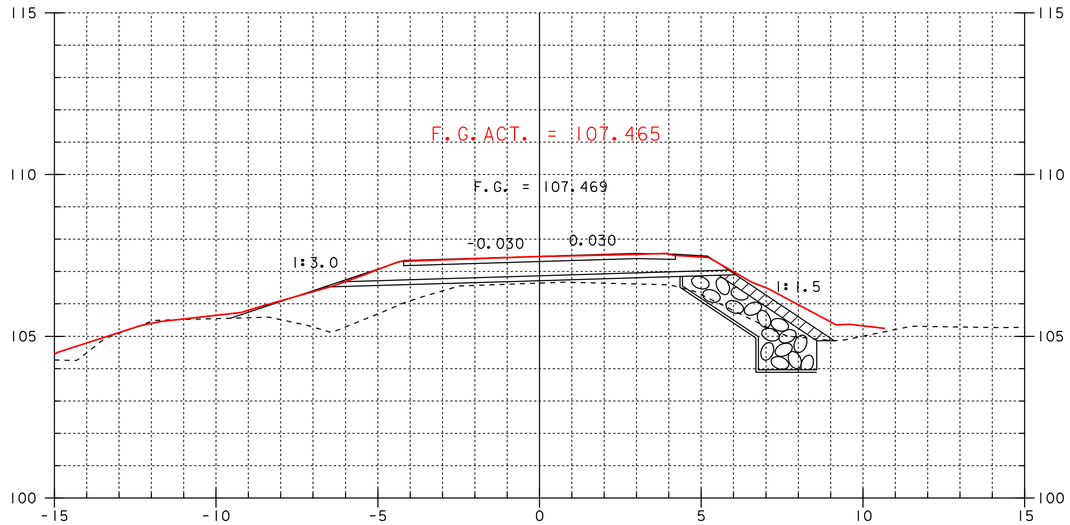
PLOT DATE: 02-OCT-2008 11:0
DRAWN BY: J.GILMORE___
IPARM NAME: sJ088d10.I__
SHEET 77 OF 90__



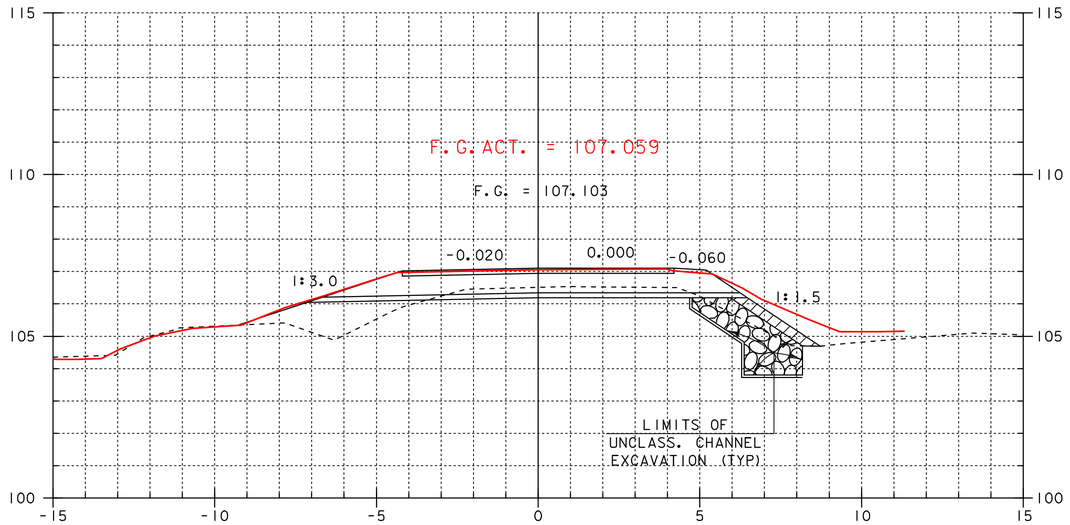
1+200



1+220



1+190



1+210

0 1 2 4 6 8 10

SCALE = 1:100

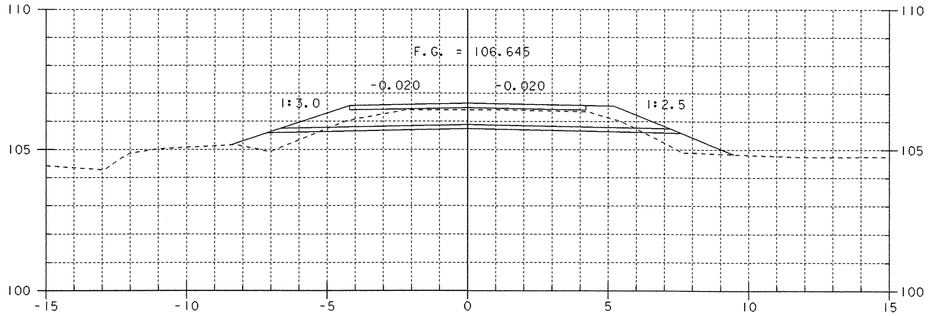
SHEET NAME: MAINLINE CROSS SECTIONS

PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S

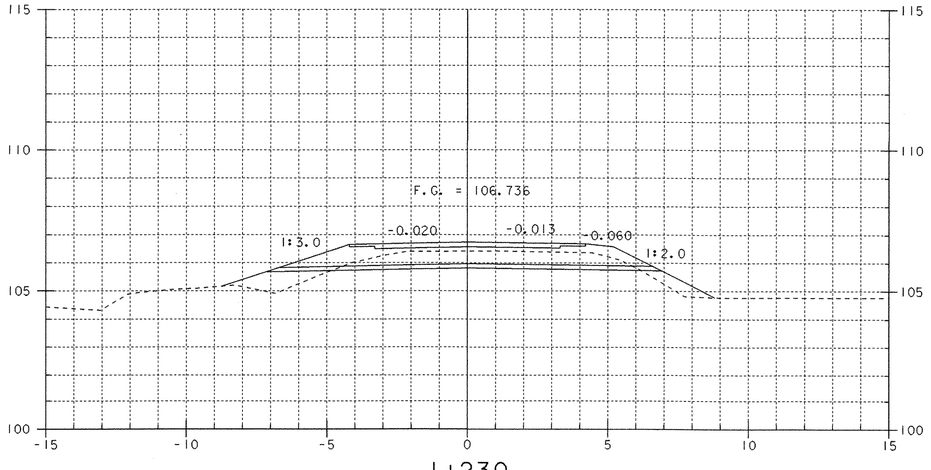
HIGHWAY NO.: EAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sJ288xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: C. CARLSON

PLOT DATE: 02-OCT-2008 11:0
DRAWN BY: J. GILMORE
IPARM NAME: sJ088dll.I
SHEET 78 OF 90



1+235

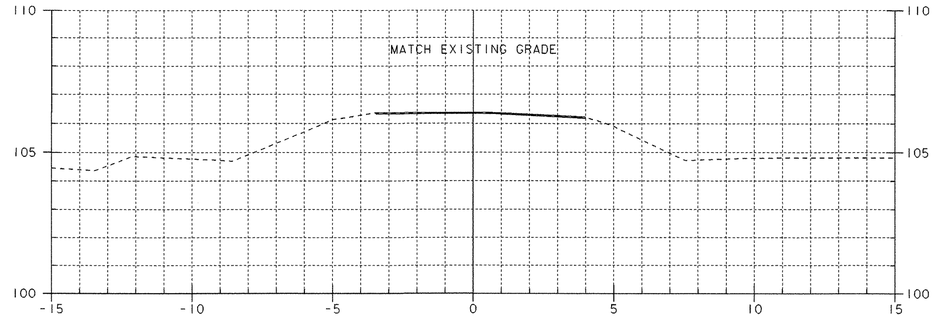


1+230
END PROJECT
BEGIN APPROACH

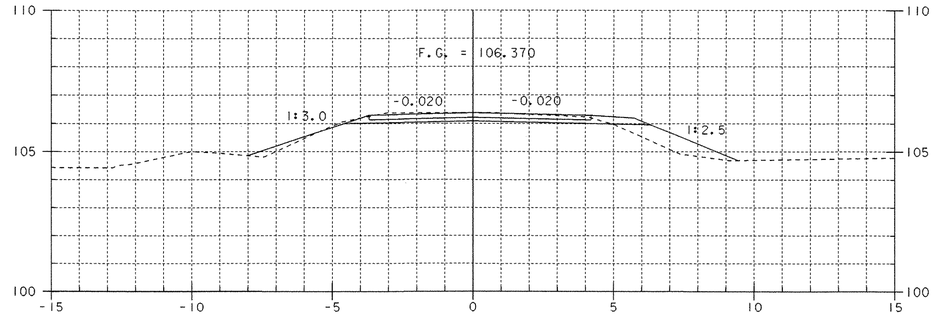
STA 1+225.000 RIGHT
END UNCLASS. CHANNEL EXCAVATION
END GEOTEXTILE FABRIC FILTER
END STONE FILL, TYPE III
END GRUBBING MATERIAL

0 1 2 4 6 8 10

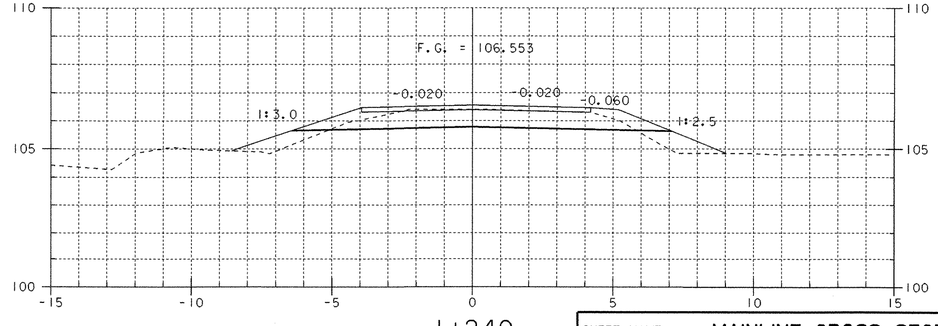
SCALE = 1:100



1+260
END APPROACH



1+250

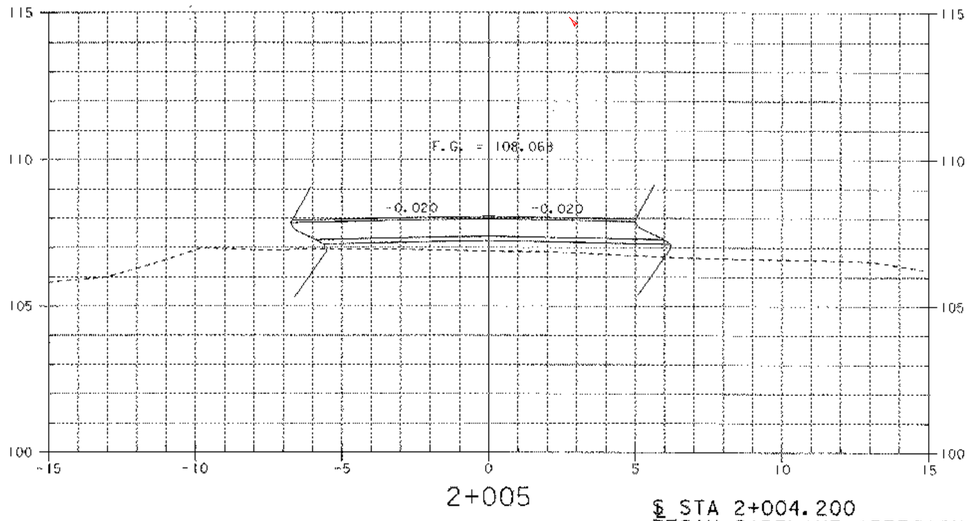


1+240

SHEET NAME: **MAINLINE CROSS SECTIONS**

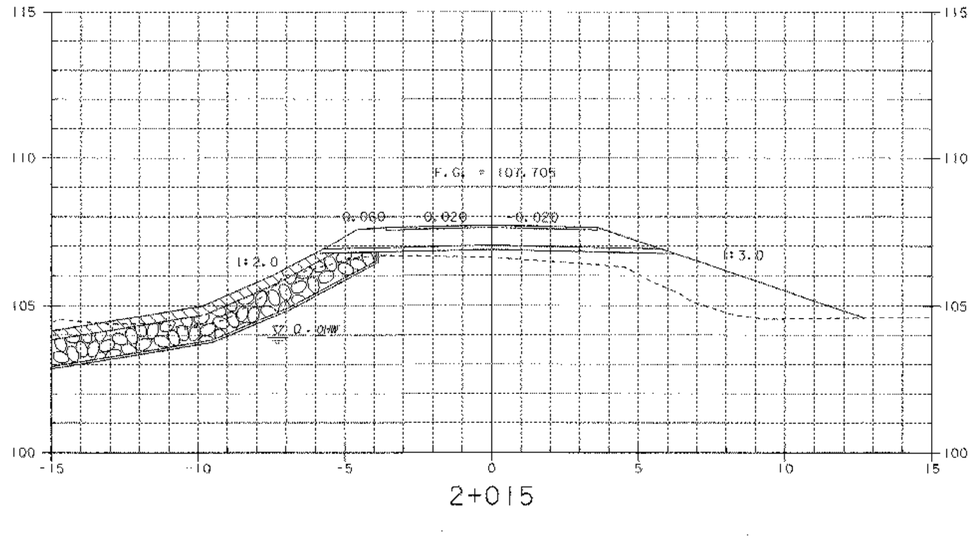
PROJECT NAME: LEICESTER
PROJECT NUMBER: BRF 0160(3)S
HIGHWAY NO.: FAS 0160
BRIDGE NO.: 6
OVER: OTTER CREEK

FILE NAME: 95J288\Structures\sj288xsl.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
PLOT DATE: 17-AUG-2005
DRAWN BY: J. GILMORE
IPARM NAME: sj088dl2.I
SHEET 79 OF 90

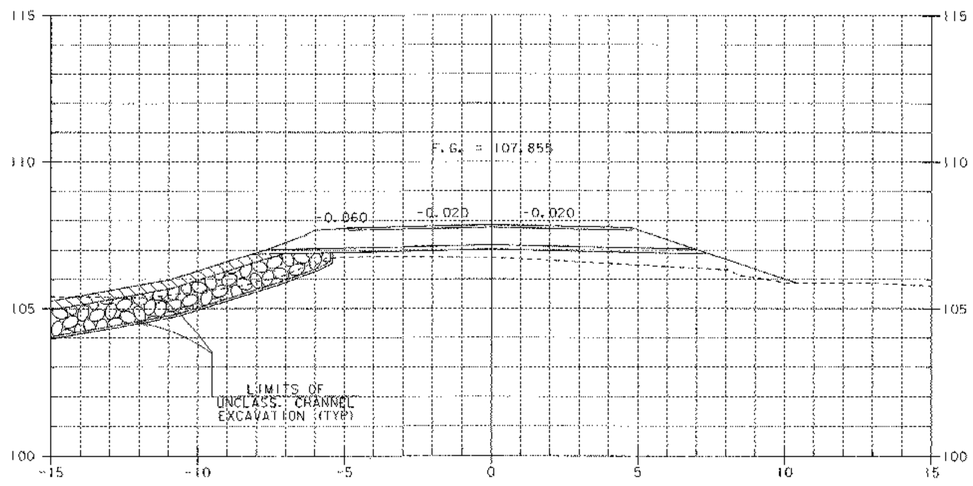


2+005

℄ STA 2+004.200
BEGIN SIDELINE APPROACH



2+015



2+010

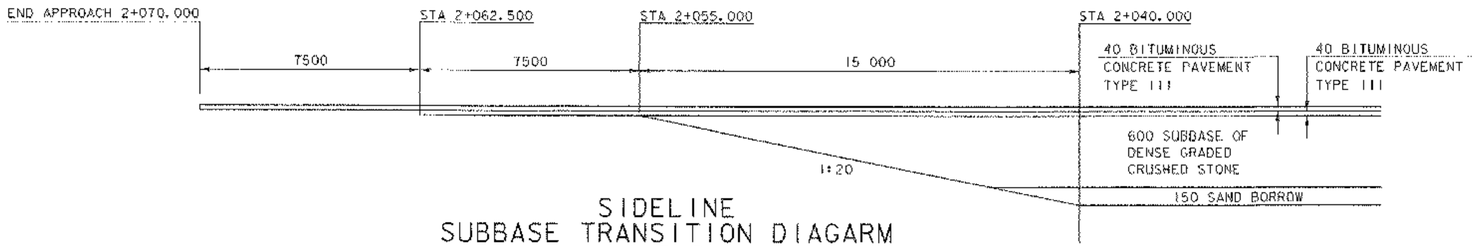
STA 2+006.000 LEFT
- ~~BEGIN UNCLASS. CHANNEL EXCAVATION~~
- ~~BEGIN GEOTEXTILE FABRIC FILTER~~

BEGIN STONE FILL, TYPE III
BEGIN GRUBBING MATERIAL

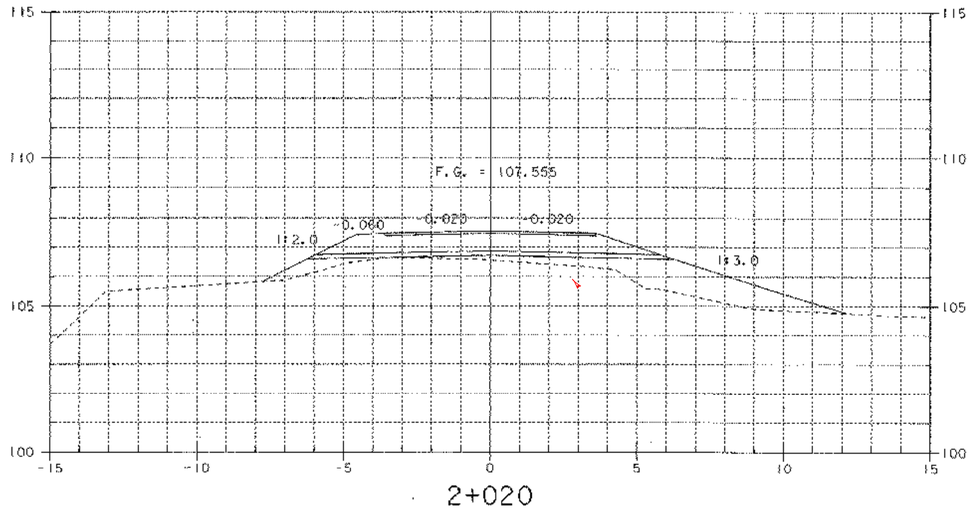
- ITEMS ELIMINATED BY WRITTEN ORDER #10

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

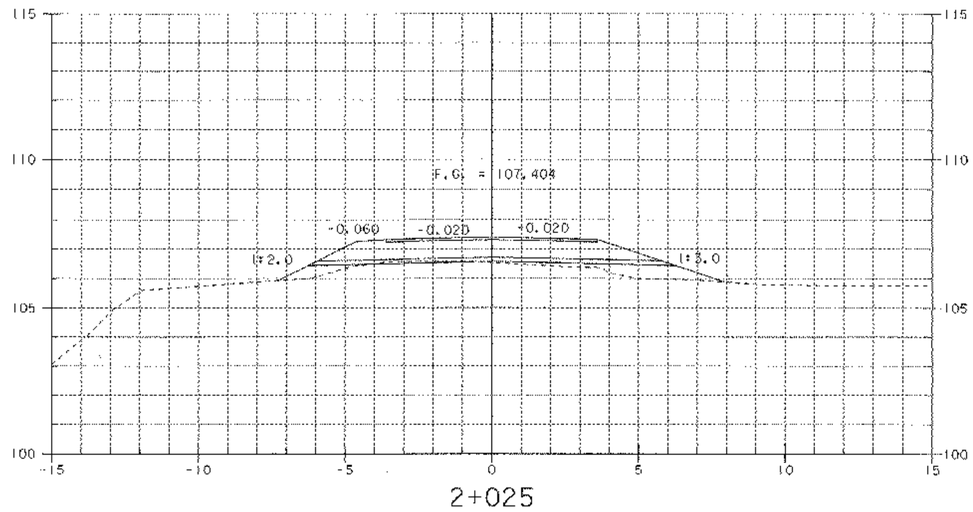
SHEET NAME:	SIDELINE CROSS SECTIONS		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95j288\Structures\sj288xsl.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088exl.i
		SHEET	80 OF 90



SIDELINE
SUBBASE TRANSITION DIAGARM
N. T. S.

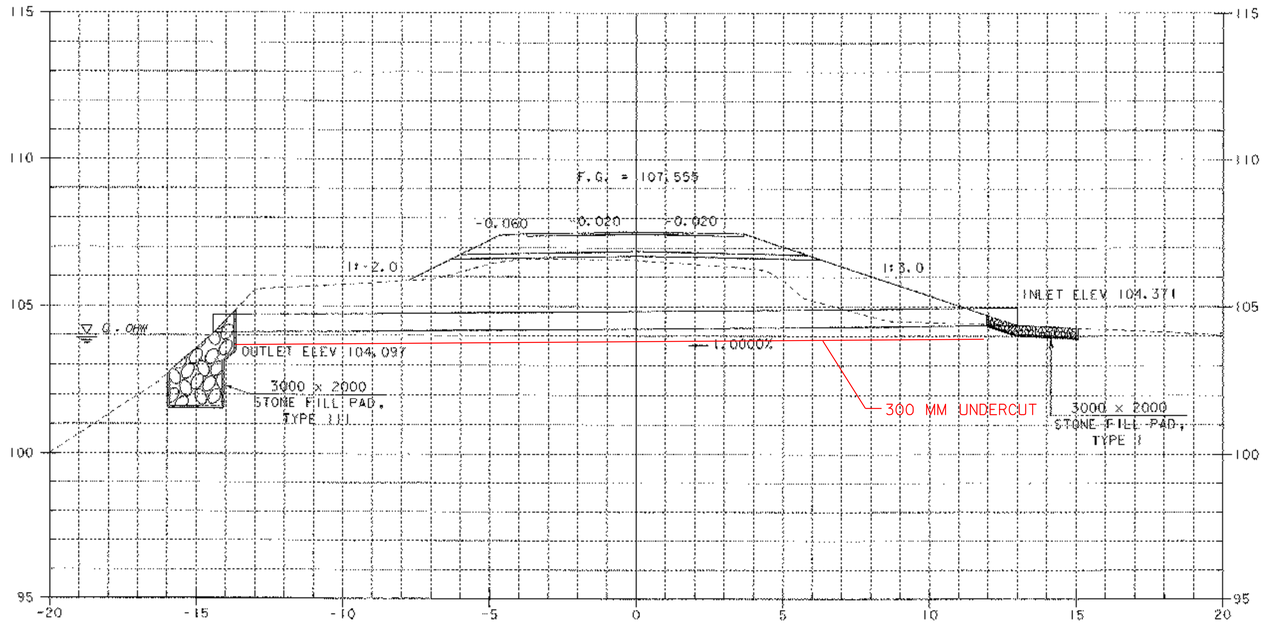


2+020



2+025

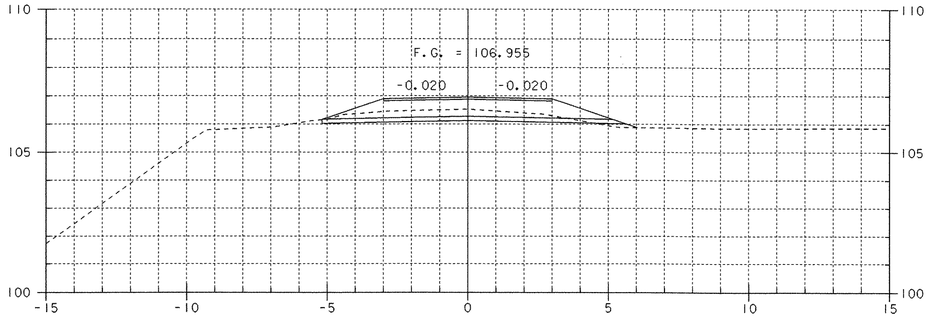
$ STA 2+017
~~END UNCLASS. CHANNEL EXCAVATION~~
~~END GEOTEXTILE FILTER FABRIC~~
END STONE FILL, TYPE III
END GRUBBING MATERIAL



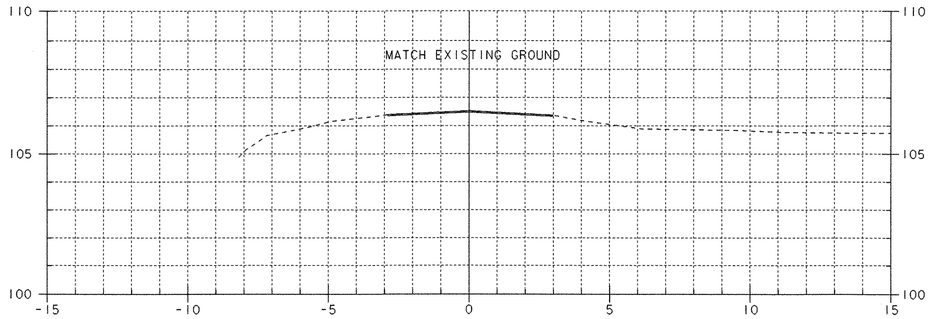
PIPE AT 2+020.000
ASKEW 80° LEFT

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

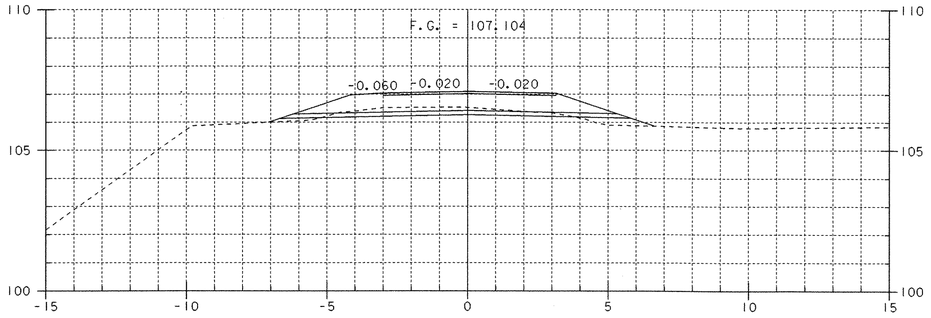
SHEET NAME:	SIDELINE CROSS SECTIONS		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95J288\Structures\sj288xsl.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088gx2.1
		SHEET	81 OF 90



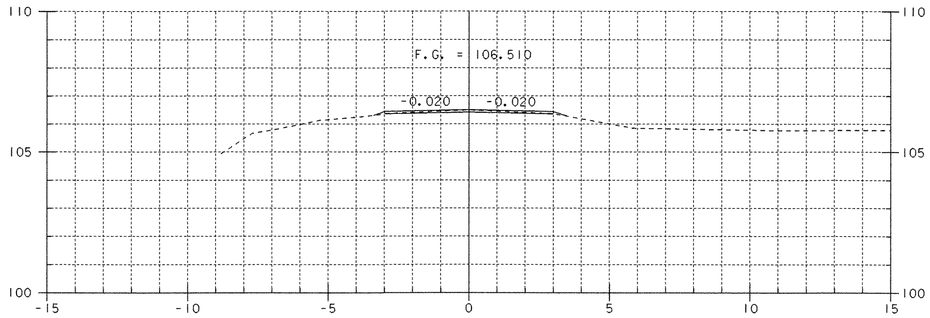
2+040



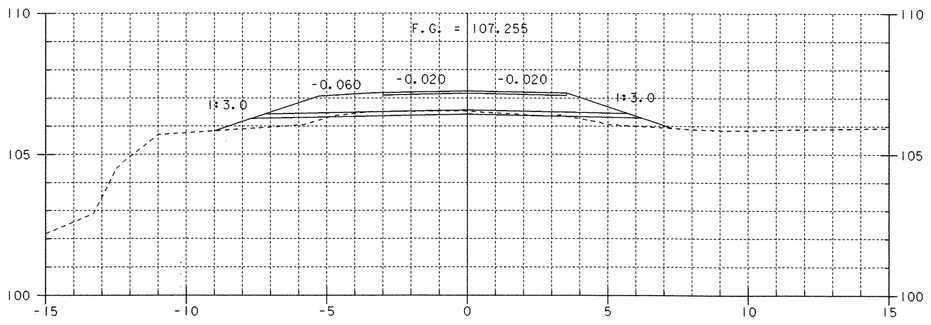
END SIDELINE APPROACH
2+070



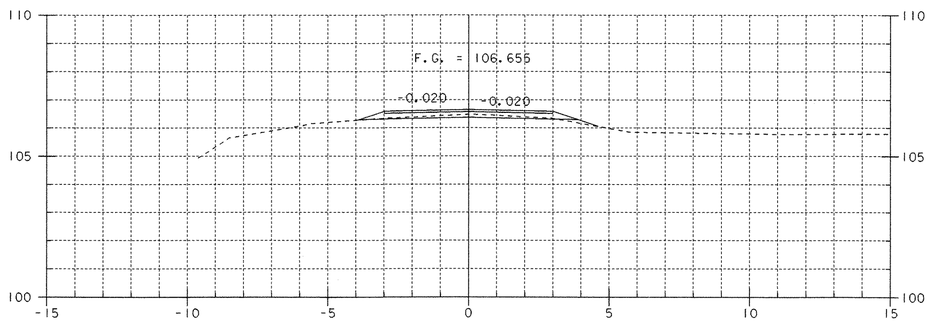
2+035



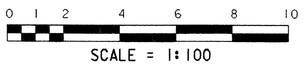
2+060



2+030

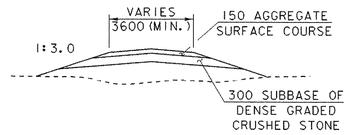


2+050



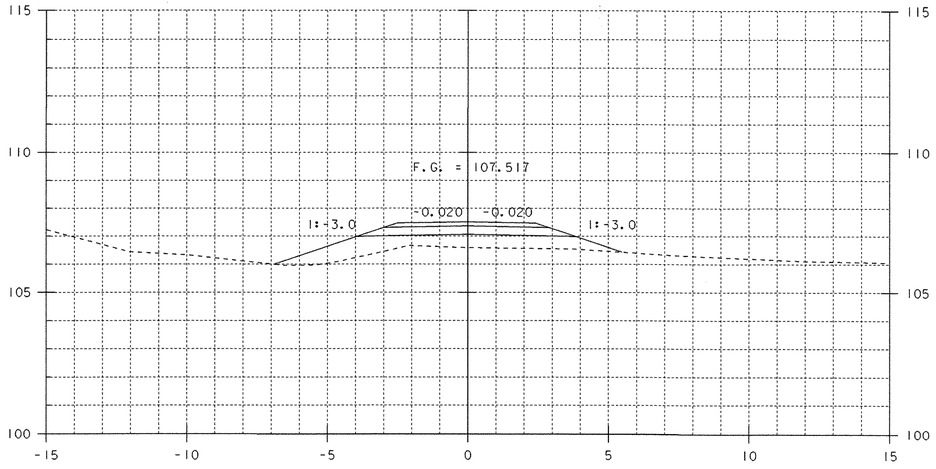
SCALE = 1:100

SHEET NAME:	SIDELINE CROSS SECTIONS		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95j288\Structures\sj288xsl.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088sx3.1
		SHEET	82 OF 90



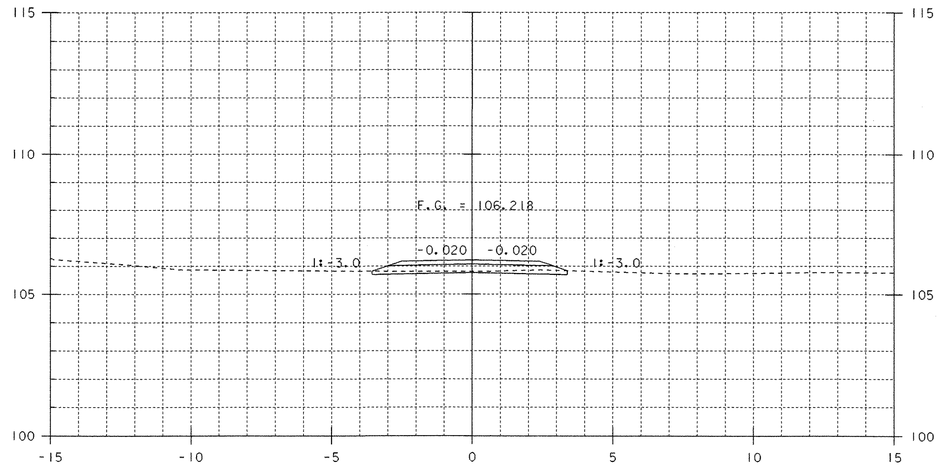
DRIVE TYPICAL

N.T.S.

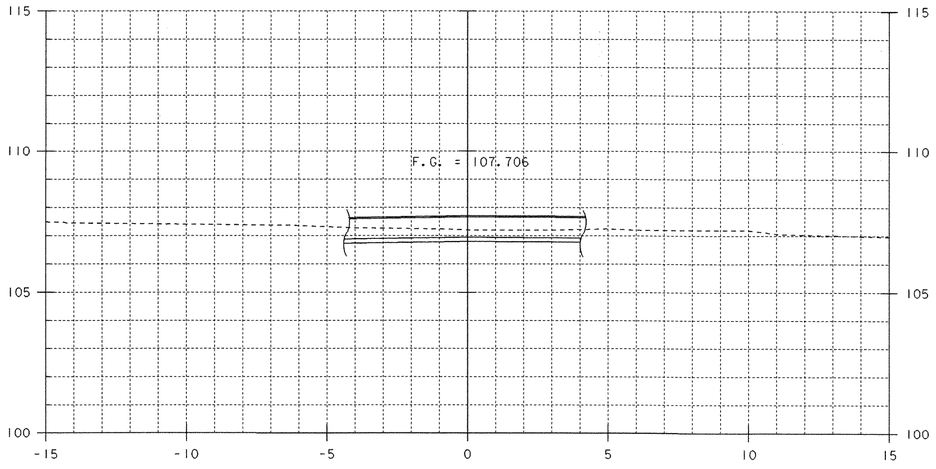


9+010

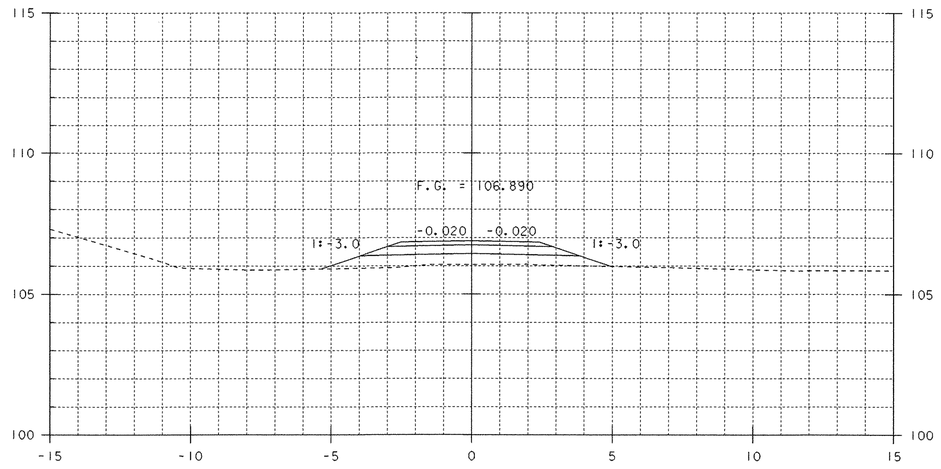
STA 9+023.500
END FIELD DRIVE
MATCH EXISTING



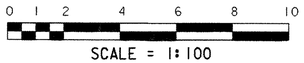
9+020



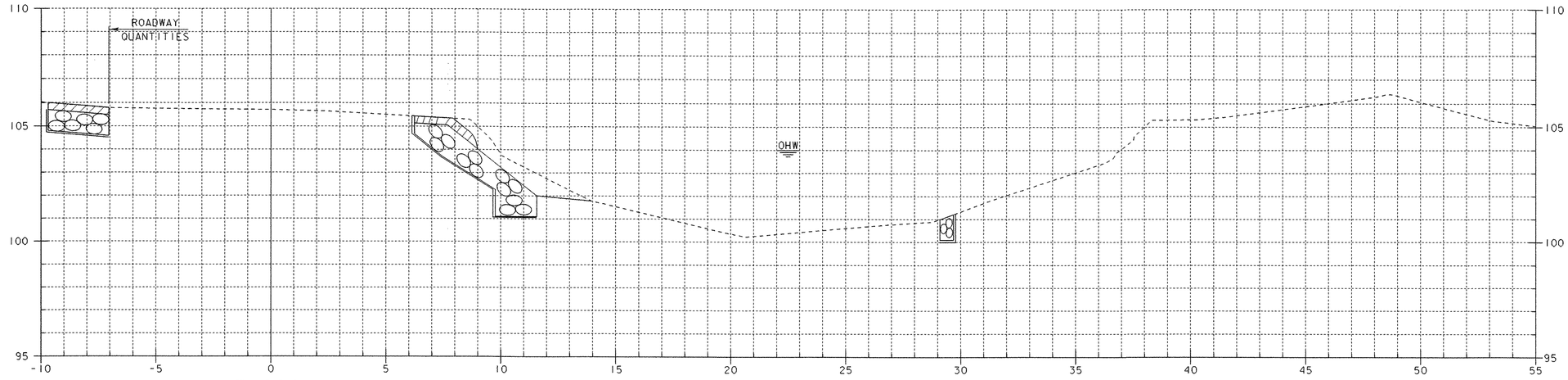
9+005



9+015



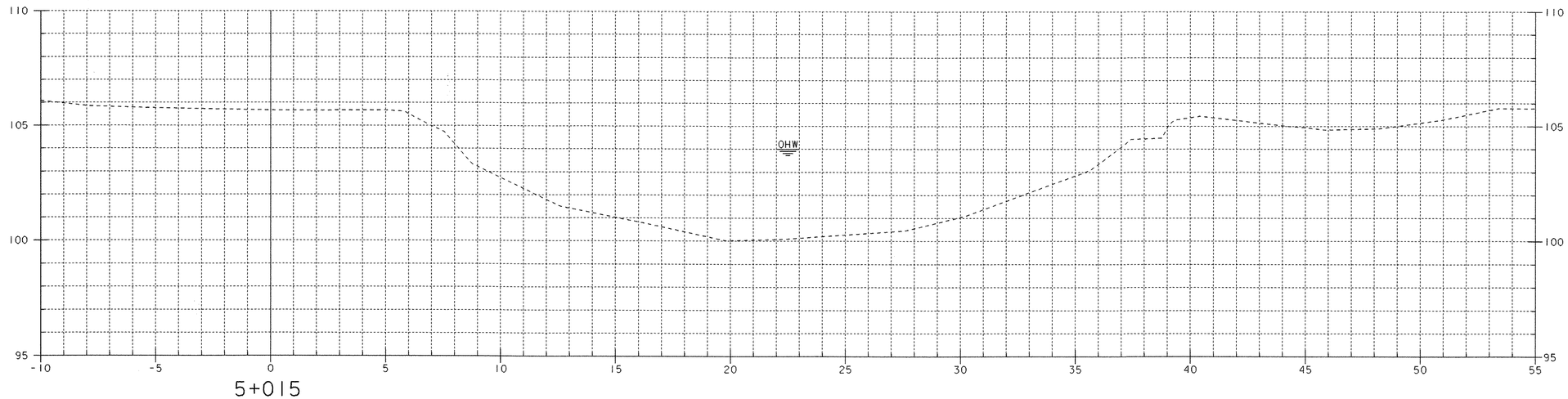
SHEET NAME:	FIELD DRIVE CROSS SECTIONS		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95j288\Structures\sj288xsl.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088fd4.1
		SHEET	83 OF 90



5+020

STA 5+019 RIGHT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN STONE FILL, TYPE III
BEGIN GRUBBING MATERIAL

STA 5+020 FAR RIGHT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN STONE FILL, TYPE III



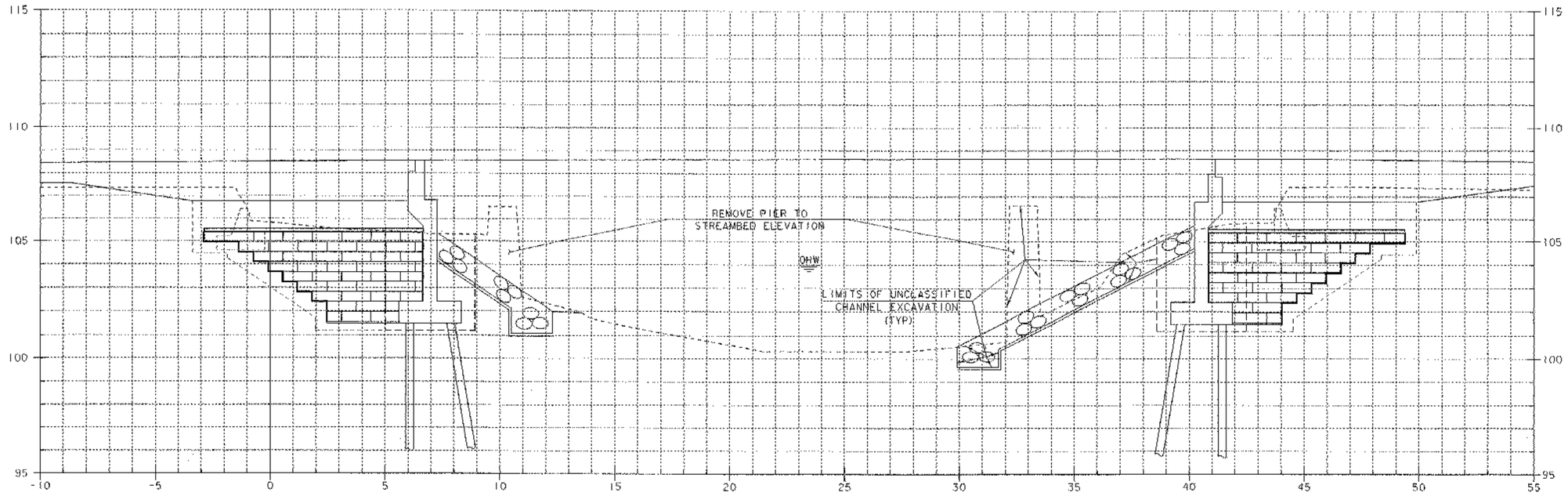
5+015

0 1 2 4 6 8 10

SCALE = 1:100

SHEET NAME:	CHANNEL CROSS SECTIONS		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95J288\Structures\sj288xsl.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088cx3.i
		SHEET	84 OF 90

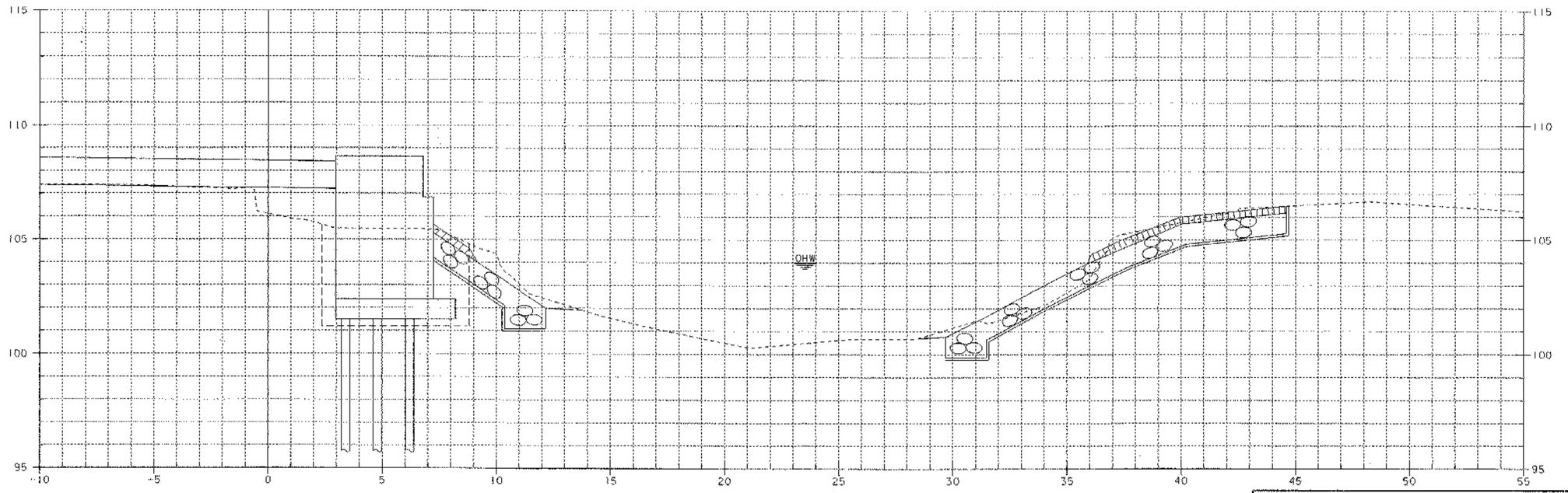
PIERS REMOVED TO NEAR STREAMBED ELEVATION
& FOOTINGS LEFT IN PLACE AS A STONE FILL "KEY"



5+030

STA 5+026.208 RIGHT
END GRUBBING MATERIAL

STA 5+029.675 LEFT
END GRUBBING MATERIAL



5+025

STA 5+020.300 LEFT
BEGIN GRUBBING MATERIAL

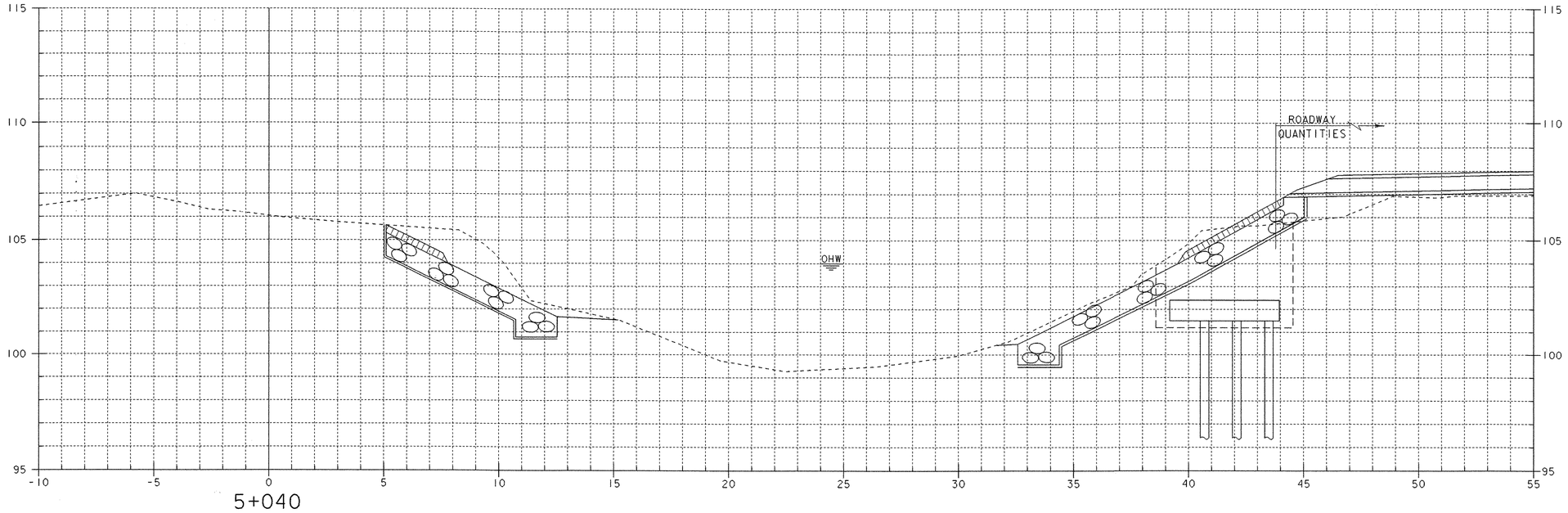
0 1 2 4 6 8 10
SCALE = 1:100

SHEET NAME:	CHANNEL CROSS SECTIONS		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME: 95I288\Structures\sI288xsl.dgn		PLOT DATE:	17-AUG-2005
PROJECT MANAGER: R. R. WHITCOMB		DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sI088cx4.1
		SHEET	85 OF 90

STA 5+044.016 RIGHT
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END STONE FILL, TYPE III
END GRUBBING MATERIAL

STA 5+043.763 FAR RIGHT (CHANNEL)
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END STONE FILL, TYPE III
END GRUBBING MATERIAL

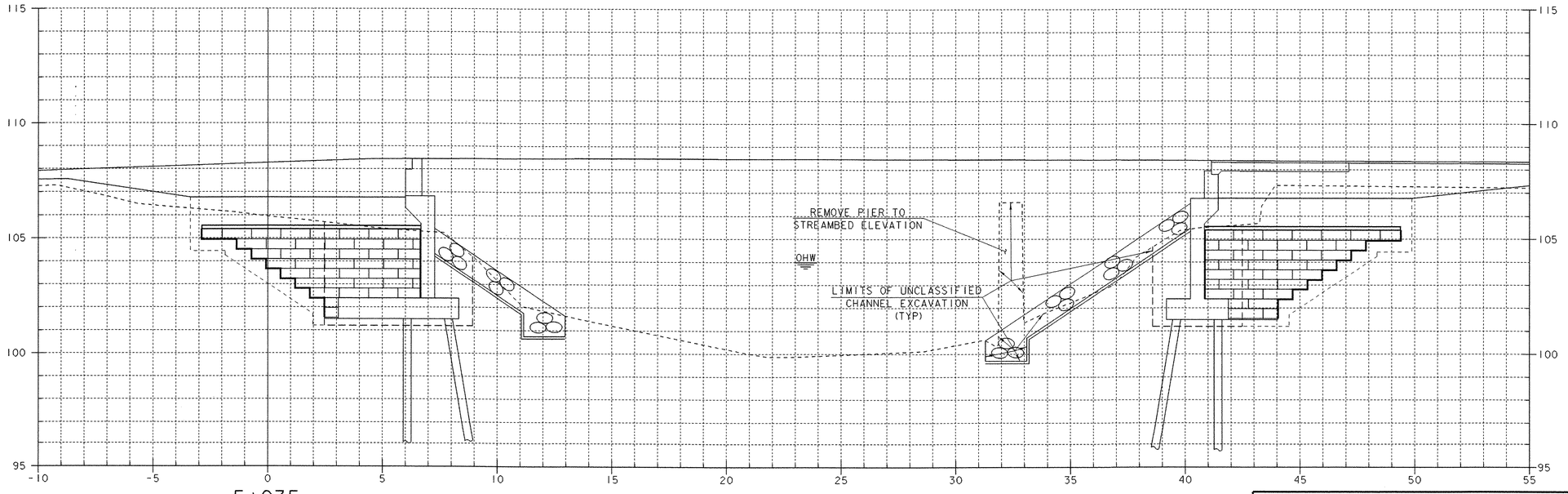
VAOT Metric



5+040

STA 5+034.917 LEFT
BEGIN GRUBBING MATERIAL

STA 5+037.107 RIGHT
BEGIN GRUBBING MATERIAL

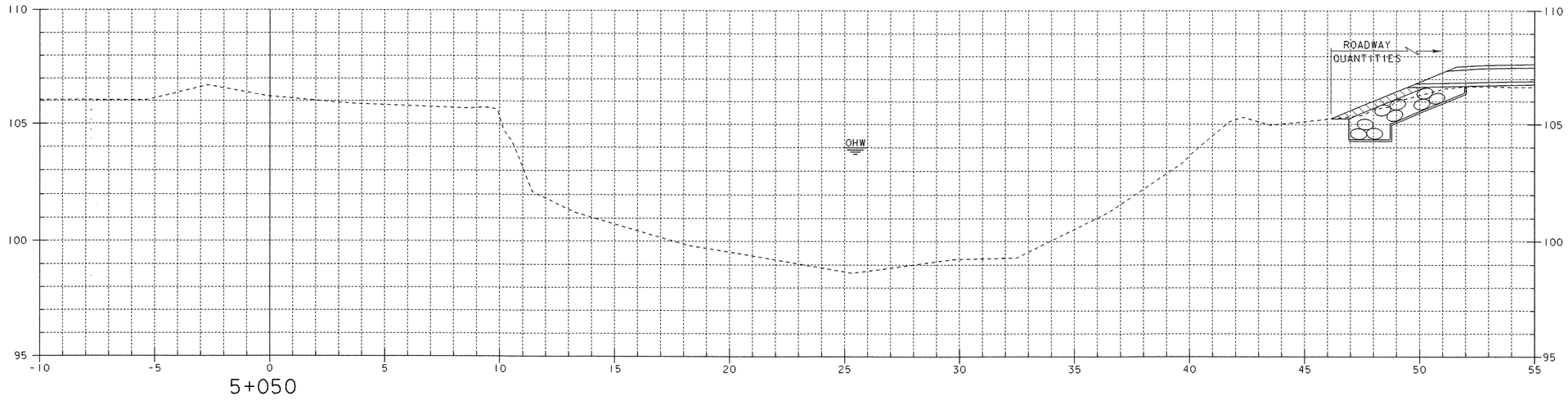


5+035

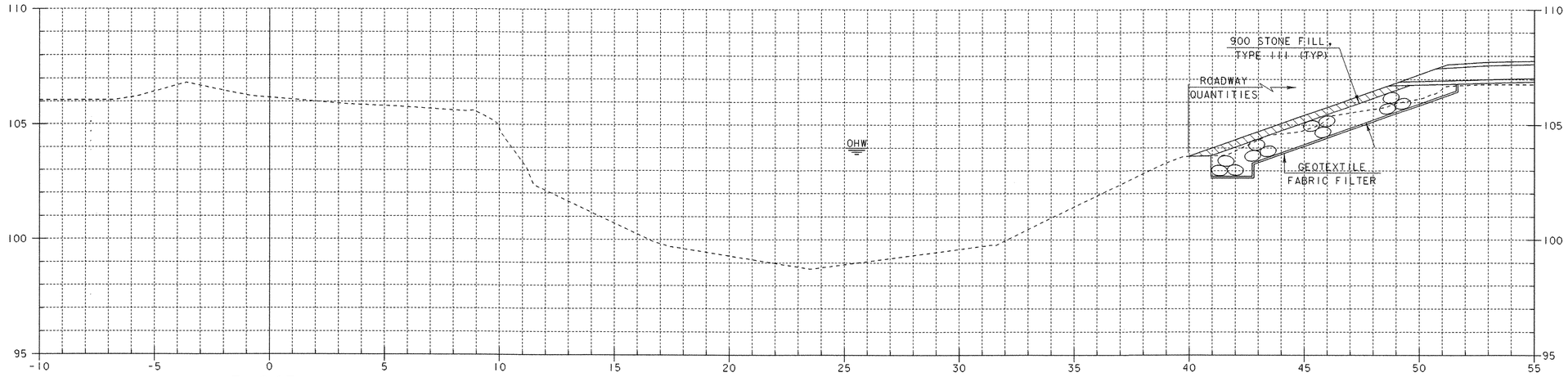
0 1 2 4 6 8 10

SCALE = 1:100

SHEET NAME:	CHANNEL CROSS SECTIONS		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95J288\Structures\sj288xsl.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088cx5.i
		SHEET	86 OF 90



5+050

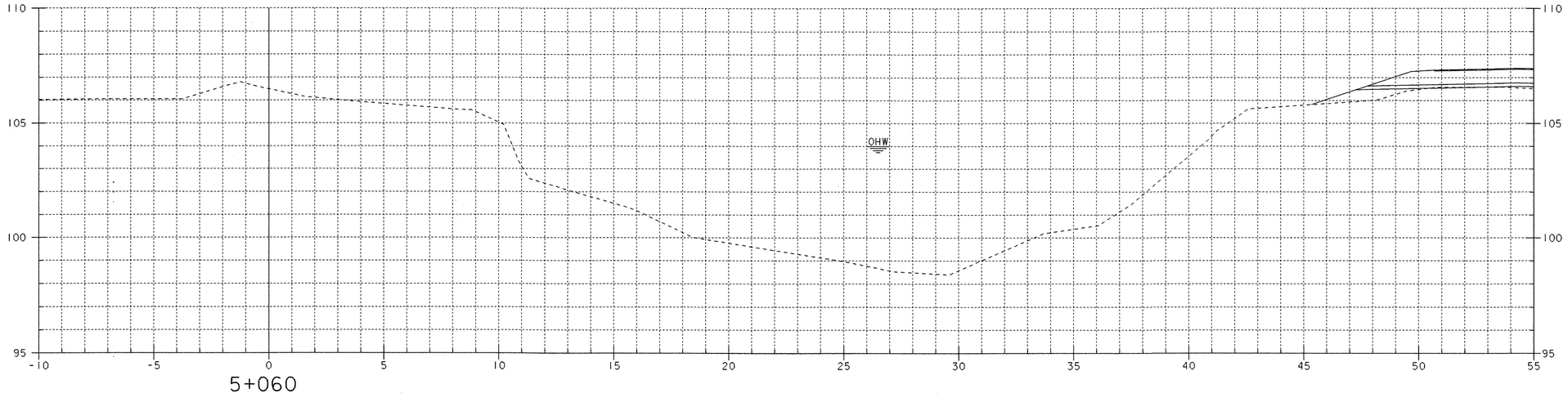


5+045

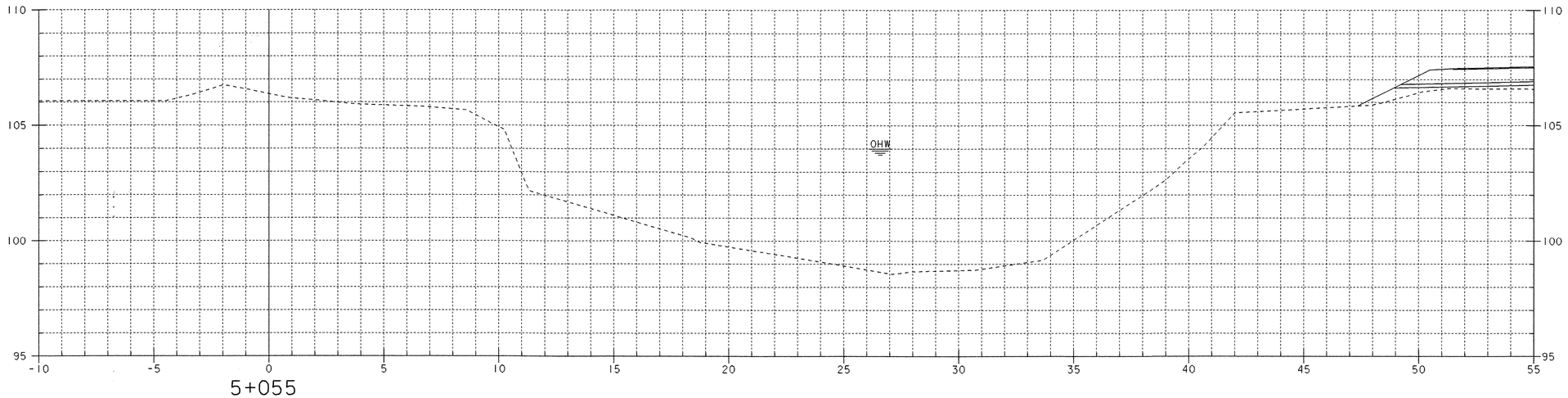
0 1 2 4 6 8 10

SCALE = 1:100

SHEET NAME:	CHANNEL CROSS SECTIONS		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95j288\Structures\sj288xsl.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088cx6.1
		SHEET	87 OF 90



5+060

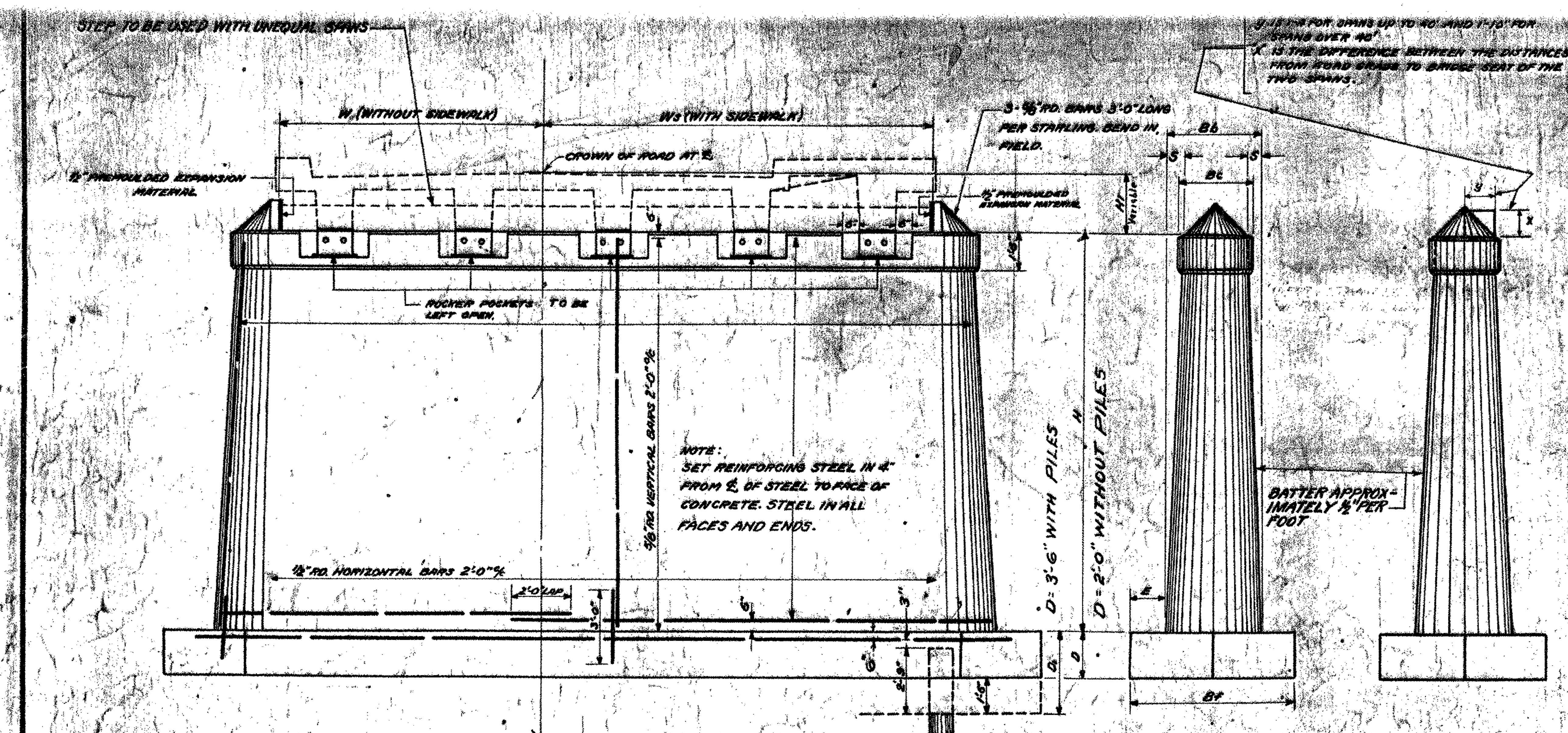


5+055

0 1 2 4 6 8 10

SCALE = 1:100

SHEET NAME:	CHANNEL CROSS SECTIONS		
PROJECT NAME:	LEICESTER	HIGHWAY NO.:	FAS 0160
PROJECT NUMBER:	BRF 0160(3)S	BRIDGE NO.:	6
		OVER:	OTTER CREEK
FILE NAME:	95J288\Structures\sj288xsl.dgn	PLOT DATE:	17-AUG-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj088cx7.1
		SHEET	88 OF 90

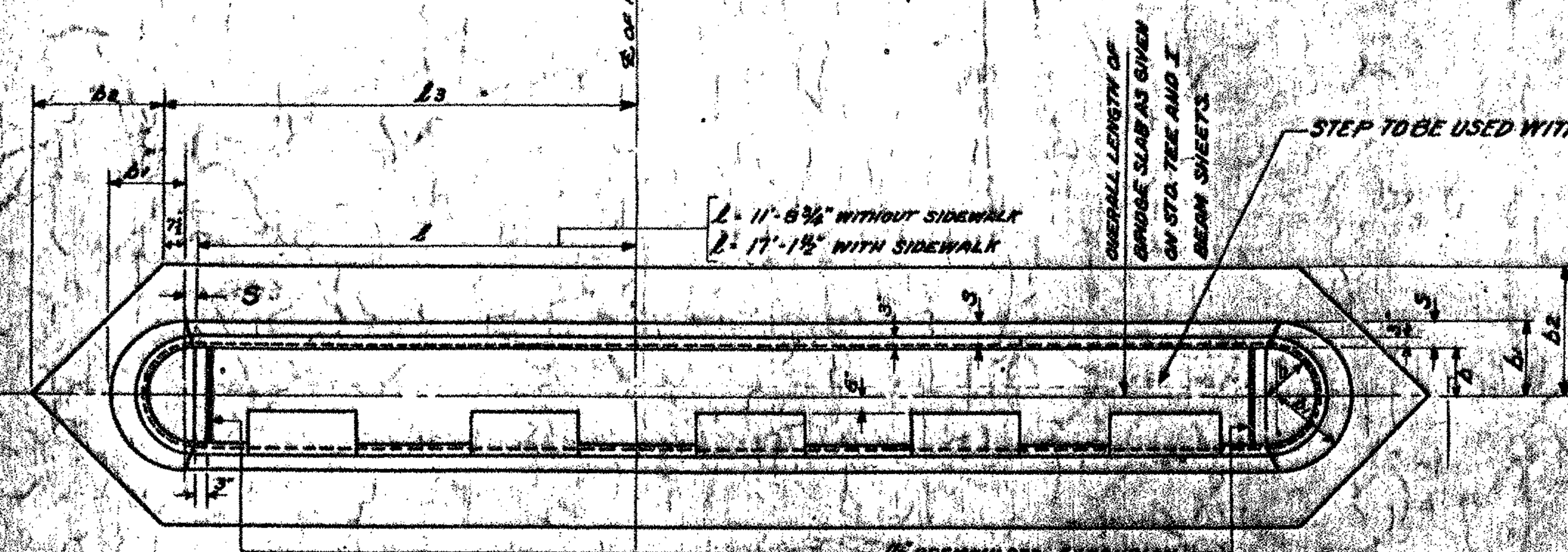


HALF ELEVATION
WITHOUT SIDEWALK

HALF ELEVATION
WITH SIDEWALK

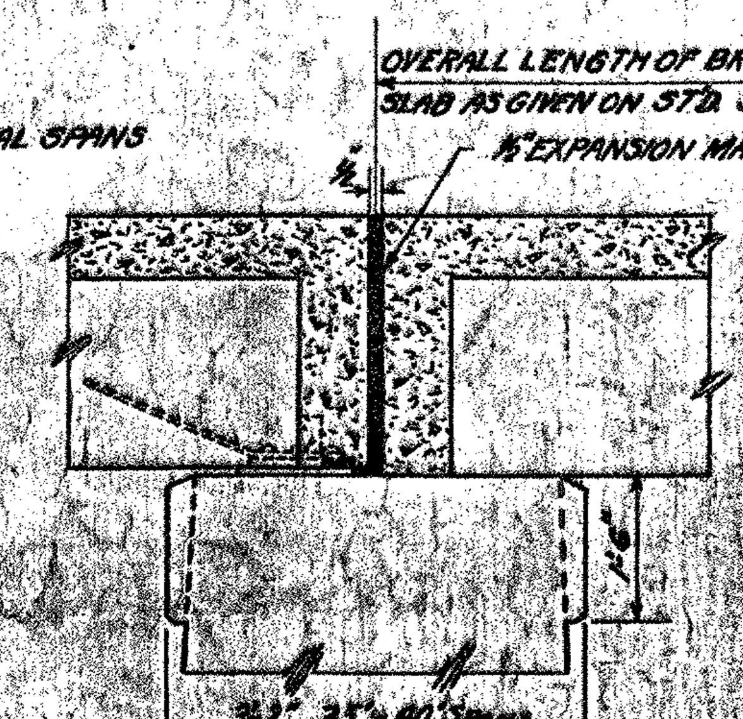
END ELEVATION
FOR EQUAL SPANS

END ELEVATION
FOR UNEQUAL SPANS

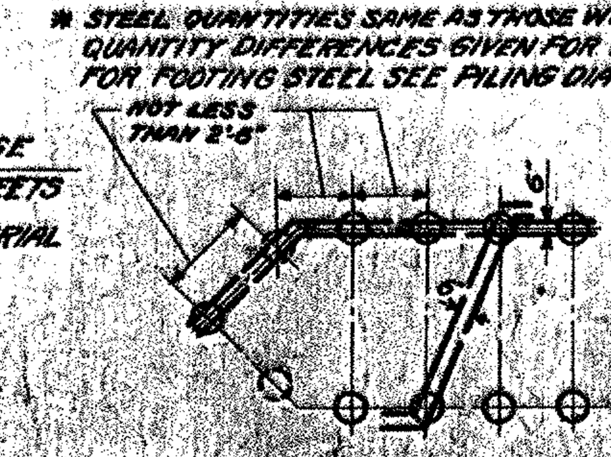


HALF PLAN
WITHOUT SIDEWALK

HALF PLAN
WITH SIDEWALK



TRANSVERSE SECTION OF PIER
SHOWING I BEAM SPANS ONE FIXED END AND ONE EXPANSION END SPANS 35 AND 40'



WHEN NECESSARY MOVE END PILE AROUND CORNER TO GIVE MINIMUM PILE SPACING. REINFORCING BARS IN PAIRS SPACED AS SHOWN AND PLACED 3" ABOVE THE TOP OF THE PILES.

Differences in Quantities for 16', 18' & 22' roadways (from quantities given for 20' roadway) — and — QUANTITIES FOR 20'-0" ROADWAY (Without Sidewalk: Dimensions)

With Piles 16' R.Steel	With Piles 16' Conc.	With Piles 18' R.Steel	With Piles 18' Conc.	With Piles 22' R.Steel	With Piles 22' Conc.	Without Piles* 16' Conc.	Without Piles* 18' Conc.	Without Piles* 22' Conc.	H	Span	B_b	S	B_T	[illegible]	l_3	b_1	b_2
80	9	40	4	40	4	6	3	3	11'-6"	25'-40'	3'-6"	5"	6'-6"		12'-6¼"	1'-9"	3'-3"
80	11	40	6	40	6	10	5	5		45'-60'	4'-6"	5"	7'-6"		12'-6¼"	2'-3"	3'-9"
88	10	44	5	44	5	8	4	4	13'-6"	25'-40'	3'-8"	6"	6'-8"		12'-6¼"	1'-10"	3'-4"
88	12	44	6	44	6	10	5	5		45'-60'	4'-8"	6"	7'-8"		12'-6¼"	2'-4"	3'-10"
96	11	48	6	48	6	8	4	4	15'-6"	25'-40'	3'-10"	7"	6'-10"		12'-7¼"	1'-11"	3'-5"
96	14	48	7	48	7	12	6	6		45'-60'	4'-10"	7"	7'-10"		12'-7¼"	2'-8"	3'-11"
104	12	52	6	52	6	10	5	5	17'-6"	25'-40'	4'-0"	8"	7'-0"		12'-7½"	2'-0"	3'-6"
104	15	52	8	52	8	12	6	6		45'-60'	5'-0"	8"	8'-0"		12'-7½"	2'-6"	4'-0"
112	14	56	7	56	7	12	6	6	19'-6"	25'-40'	4'-2"	9"	7'-2"		12'-8"	2'-1"	3'-7"
112	17	56	8	56	8	14	7	7		45'-60'	5'-2"	9"	8'-2"		12'-8"	2'-7"	4'-1"
120	15	60	8	60	8	12	6	6	21'-6"	25'-40'	4'-4"	10"	7'-4"		12'-8½"	2'-2"	3'-8"
120	19	60	9	60	9	16	8	8		45'-60'	5'-4"	10"	8'-4"		12'-8½"	2'-8"	4'-2"
128	16	64	8	64	8	14	7	7	23'-6"	25'-40'	4'-6"	11"	7'-6"		12'-8¾"	2'-3"	3'-9"
128	20	64	10	64	10	18	9	9		45'-60'	5'-6"	11"	8'-6"		12'-8¾"	2'-9"	4'-3"
136	18	68	9	68	9	16	8	8	25'-6"	25'-40'	4'-8"	12"	7'-8"		12'-9¼"	2'-4"	3'-10"
136	22	68	11	68	11	18	9	9		45'-60'	5'-8"	12"	8'-8"		12'-9¼"	2'-10"	4'-4"

QUANTITIES FOR 20'-0" ROADWAY (continued)

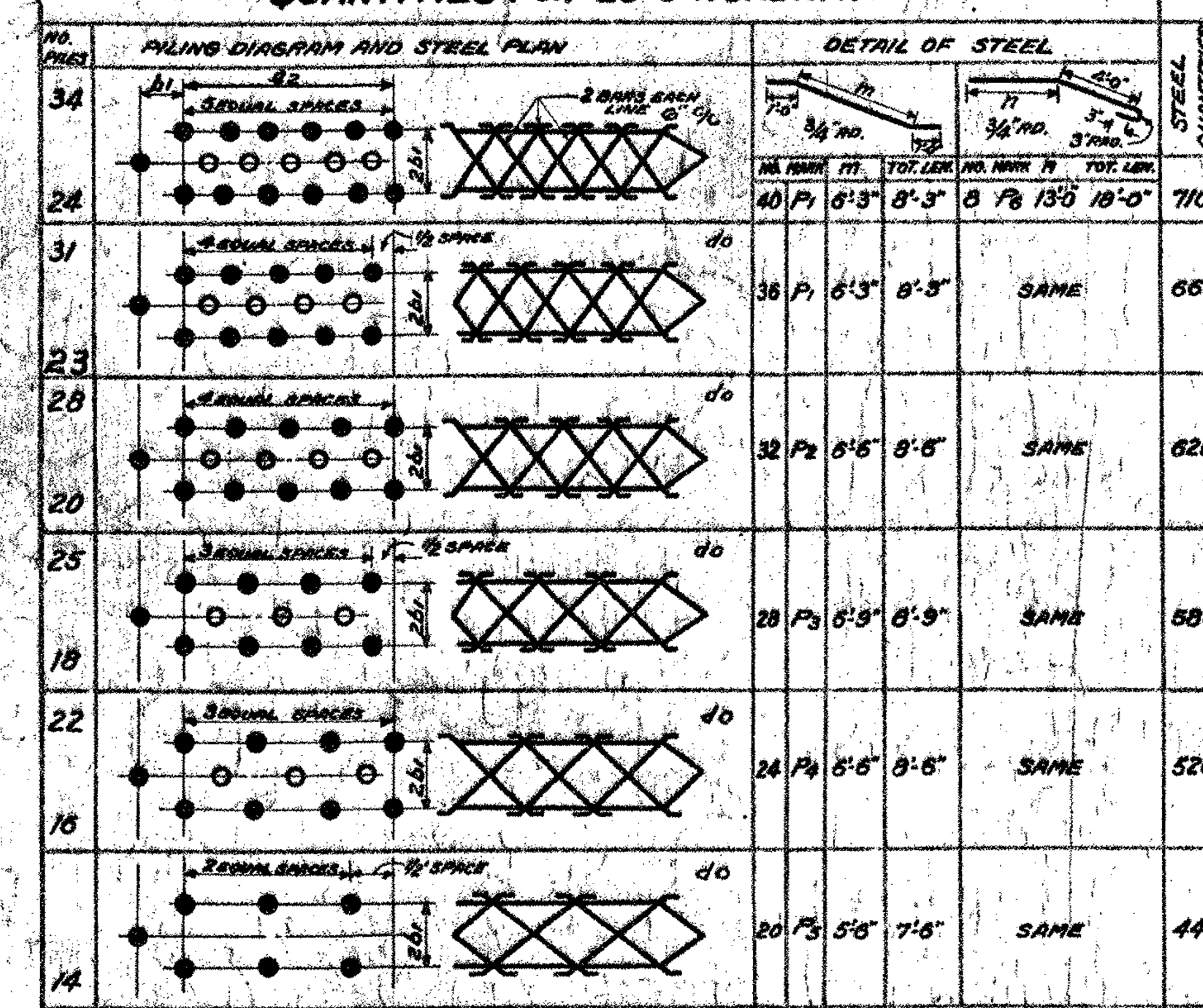
H	Span	Without Piles Quantities Conc.	Without Piles Quantities R.Steel	[illegible]	No. Piles for Tee Beam *25	30	35	40	45	50	55	No. Piles for I beam 25	30	35	40	45	50	55	60	Quantities Added Conc.	Quantities Added R.Steel	Sidewalk Without Piles Concrete	Sidewalk Without Piles Rein. Steel in Stem	Sidewalk With Piles Piles	Sidewalk With Piles Conc.	Sidewalk With Piles Rein. Steel in Footing
11'-6"	25'-40'	45	640	[illegible]	16	16	16	16				14	14	14	16					10	FOR STEEL QUANTITIES SEE PILING DIAGRAM	9	120	5	12	130
	45'-60'	58	640	[illegible]					22	22	25					20	20	20	22	12		11	120	5	15	"
13'-6"	25'-40'	52	750	[illegible]	16	16	16	18				14	14	16	16					11		11	140	5	13	"
	45'-60'	67	750	[illegible]					22	25	25					20	20	22	22	12		13	140	5	17	"
15'-6"	25'-40'	60	860	[illegible]	16	16	18	18				14	16	16	18					11		12	160	5	15	"
	45'-60'	77	860	[illegible]					25	25	28					20	22	22	24	13		15	160	6	18	"
17'-6"	25'-40'	68	970	[illegible]	16	18	18	20				16	16	18	18					11		14	180	5	17	"
	45'-60'	86	970	[illegible]					25	28	28					22	24	24	24	13		17	180	6	21	"
19'-6"	25'-40'	76	1080	[illegible]	18	18	20	20				16	18	18	20					12		15	200	6	18	"
	45'-60'	97	1080	[illegible]					28	28	31					24	24	25	28	13		19	200	6	22	"
21'-6"	25'-40'	84	1190	[illegible]	18	20	20	22				18	18	18	20					12		17	220	6	20	"
	45'-60'	108	1190	[illegible]					28	31	31					25	25	28	28	14		21	220	6	25	"
23'-6"	25'-40'	93	1300	[illegible]	20	20	22	24				20	20	20	22					12		19	240	6	22	"
	45'-60'	118	1300	[illegible]					31	31	34					28	28	28	31	14		24	240	6	28	"
25'-6"	25'-40'	102	1410	[illegible]	20	22	24	24				22	22	22	22					13		21	260	6	24	"
	45'-60'	130	1410	[illegible]					31	34	34					28	31	31	31	14		26	260	6	30	"

* STEEL QUANTITIES SAME AS THOSE WITH PILES
QUANTITY DIFFERENCES GIVEN FOR STEMS ONLY.
FOR FOOTING STEEL SEE PILING DIAGRAM.

* COLUMN HEADINGS REFER TO EQUAL SPAN LENGTHS EACH SIDE OF PIER

NOTES:
PILES TO BE SPACED NOT LESS THAN 2'-6" C. TO C.
FOR H_1 DIMENSIONS SEE STANDARD TEE AND I BEAM SUPERSTRUCTURE SHEETS.
FOR GENERAL NOTES AND REFERENCES SEE S.B.2.
ALL PIERS DESIGNED FOR 2 EQUAL SPANS AS NOTED IN COLUMN HEADINGS.
CLEAR WIDTH OF SIDEWALK IS 5'-0".
ALL CONCRETE TO BE CLASS C.

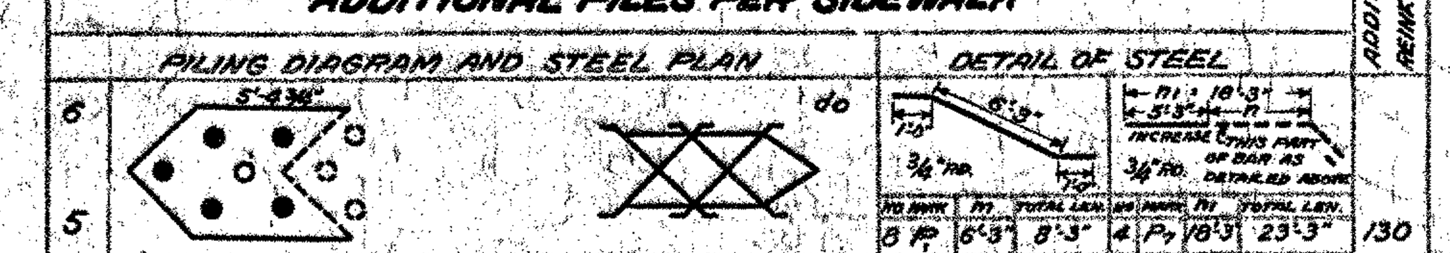
QUANTITIES FOR 20'-0" ROADWAY



No. Piles	Piling Diagram and Steel Plan	No.	Mark	l_1	Tot. Len.	No.	Mark	l_1	Tot. Len.	Steel Quantities
34 / 24		40	P_1	6'-3"	8'-3"	8	P_6	13'-0"	18'-0"	710
31 / 23	do	36	P_1	6'-3"	8'-3"	SAME				660
28 / 20	do	32	P_2	6'-6"	8'-6"	SAME				620
25 / 18	do	28	P_3	6'-9"	8'-9"	SAME				580
22 / 16	do	24	P_4	6'-6"	8'-6"	SAME				520
14	do	20	P_5	5'-6"	7'-6"	SAME				440

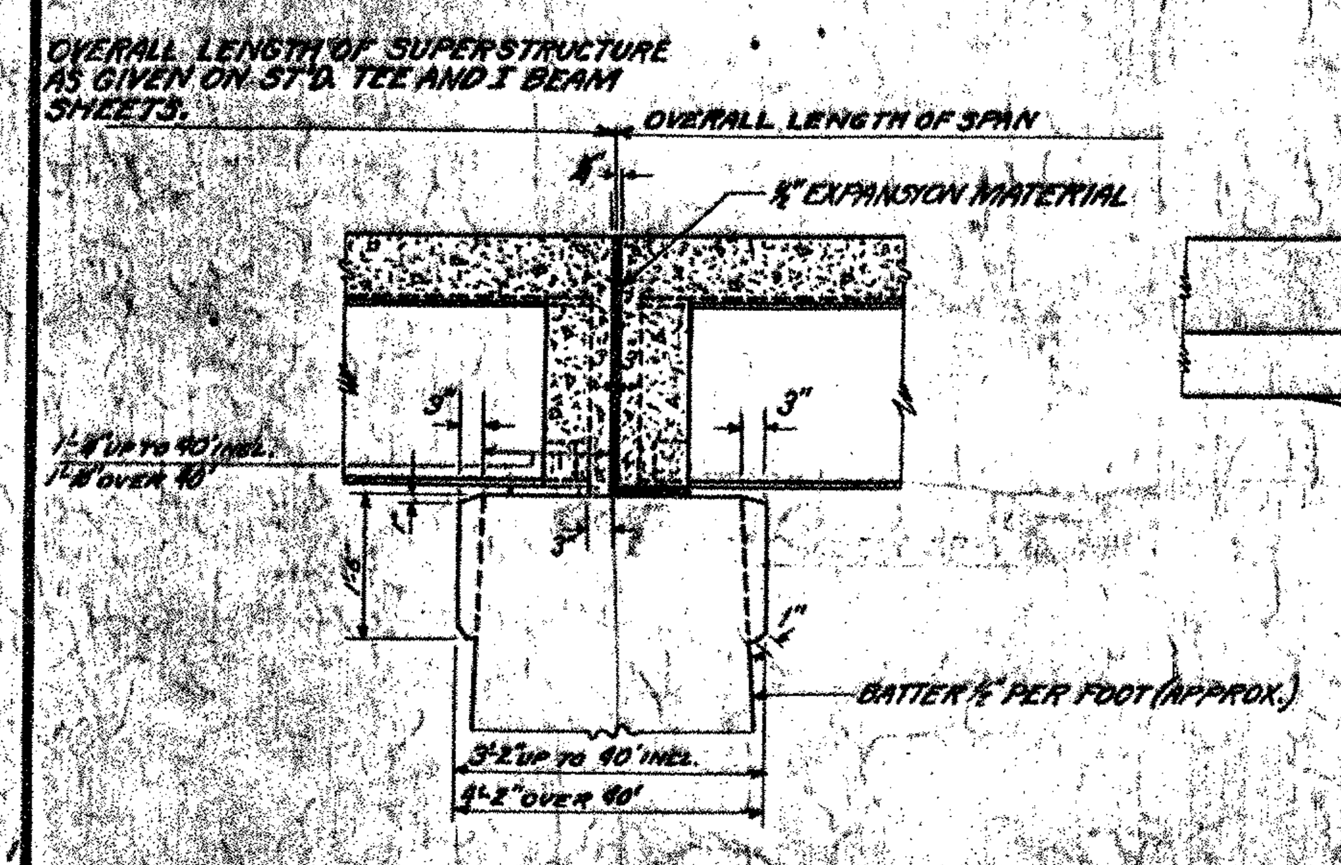
USE ALL PILES FOR MAXIMUM NUMBER
USE ONLY PILES MARKED ● FOR MINIMUM NUMBER

ADDITIONAL PILES PER SIDEWALK

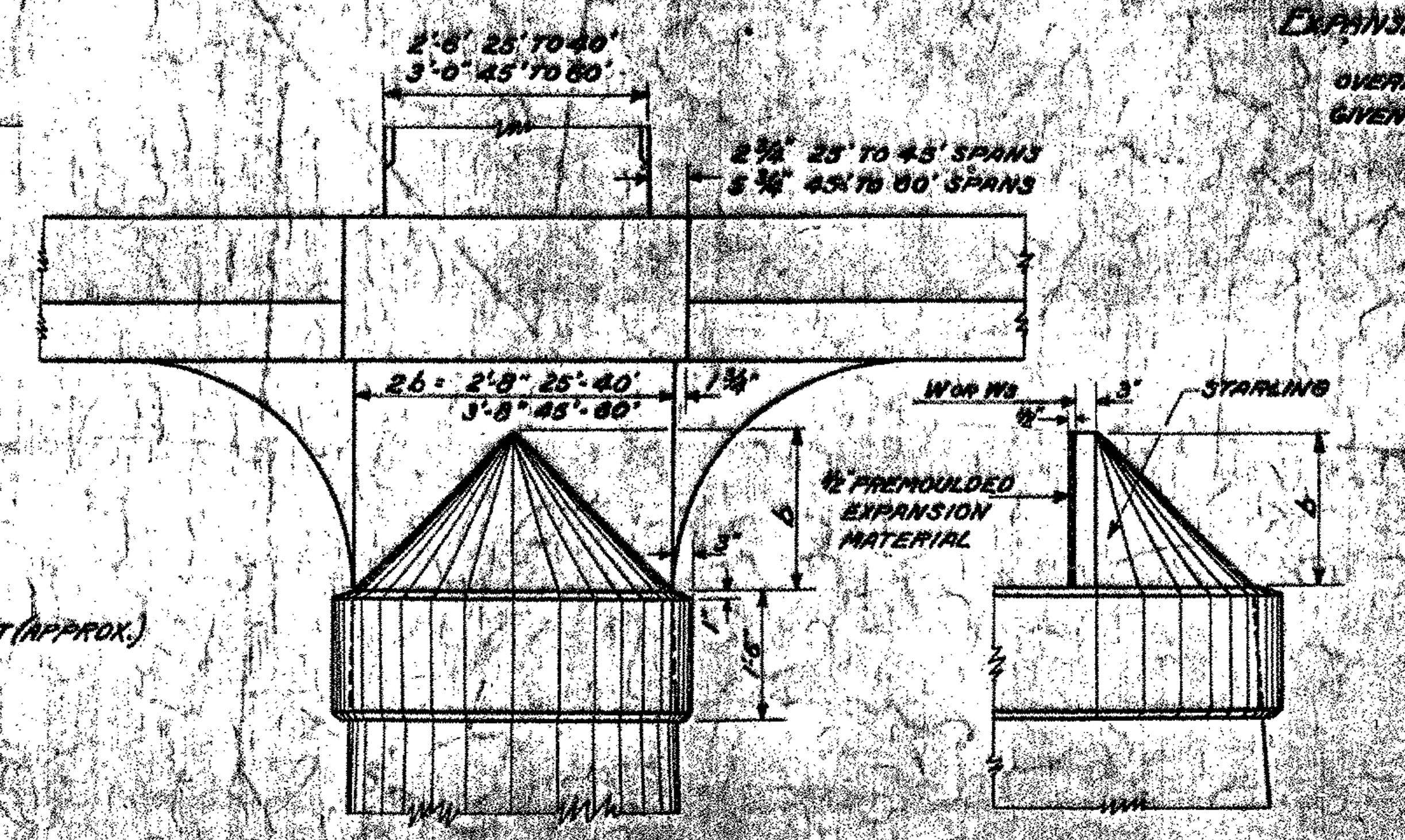


No. Piles	Piling Diagram and Steel Plan	No.	Mark	l_1	Total Len.	No.	Mark	l_1	Total Len.	Additional Reink. Steel
6 / 5	do	8	P_1	6'-3"	8'-3"	4	P_7	18'-3"	23'-3"	130

USE ALL PILES FOR MAXIMUM NUMBER.
USE ONLY PILES MARKED ● FOR MINIMUM NUMBER

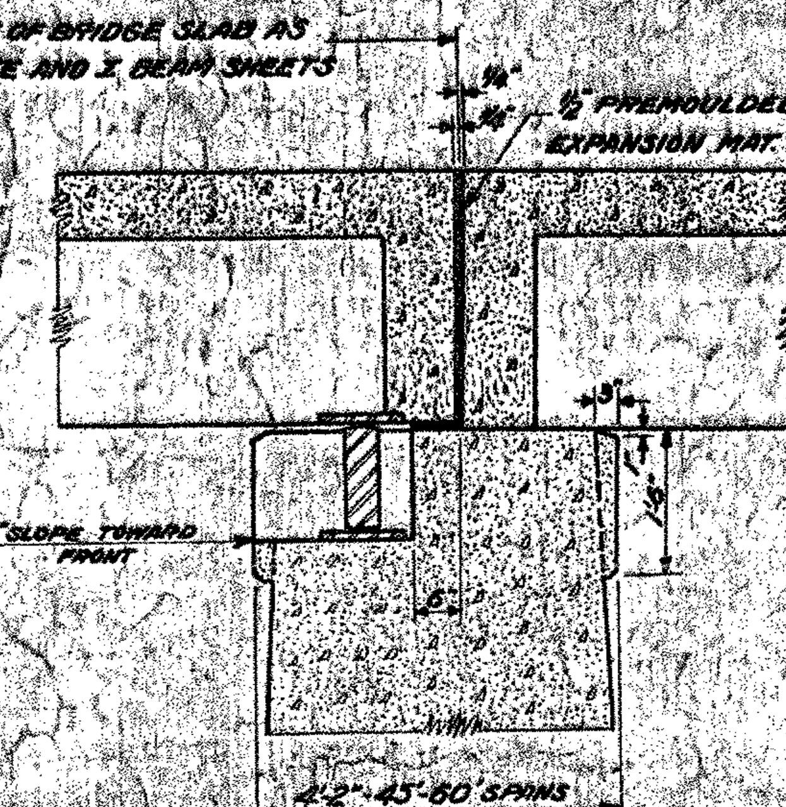


TRANSVERSE SECTION OF PIER
SHOWING I BEAM SPANS ONE FIXED END AND ONE EXPANSION END
(SWEDGE BOLTS AND BEARING PLATES NOT SHOWN)



END ELEVATION OF PIER

SIDE ELEVATION OF STARLING



TRANSVERSE SECTION OF PIER
SHOWING TEE BEAM SPANS
ONE FIXED END AND
ONE EXPANSION END
SPAN 45'-60'

FOR 20' ROADWAY
W = 11'-5¾" (Solid and Cable Rail) 11'-7¾" (Ballustrade Rail)
Ws = 15'-11¾" (Solid Rail) 16'-1¾" (Ballustrade Rail)
H1 = CROWN OF ROADWAY TO BRIDGE SEAT (SEE SUPERSTRUCTURE)
E = 1'-6"
D = 3'-6" (WITH PILES)
D_1 = 2'-0" (WITHOUT PILES)
l = 11'-8¾"
Bc = 2b+6"

PILING PLAN FOR 16'-18' AND 22' ROADWAY

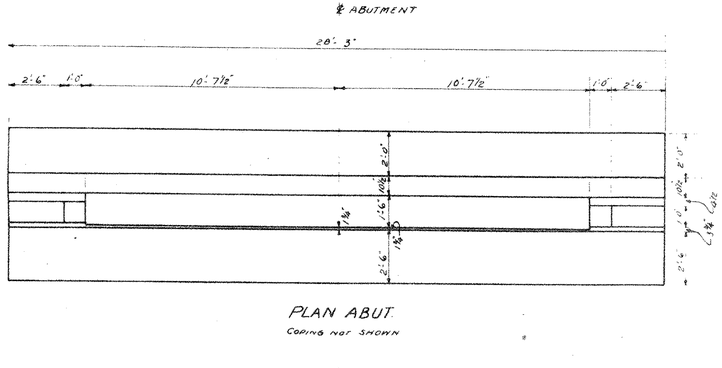
FOR 18' AND 22' ROADWAYS.
USE SAME NUMBER OF PILES AS SHOWN FOR 20' ROADWAY. NOT MORE THAN 22 PILES SHALL BE USED FOR 18' ROADWAY SPANS 25' TO 40', NOR 31 PILES FOR SPANS 45' TO 60'.
FOR 16' ROADWAYS.
USE PILING DIAGRAM SHOWING NEXT SMALLER NUMBER OF PILES TO THAT LISTED FOR 20' ROADWAY EXCEPT THAT WHEN 25 PILES ARE LISTED FOR 20' ROADWAY USE NOT LESS THAN 14 PILES SHALL BE USED FOR ANY PIER.

ROUND NOSE STANDARD PIERS FOR SQUARE TEE AND I BEAM BRIDGES

CORRECT: A. D. Bishop
BRIDGE ENGINEER

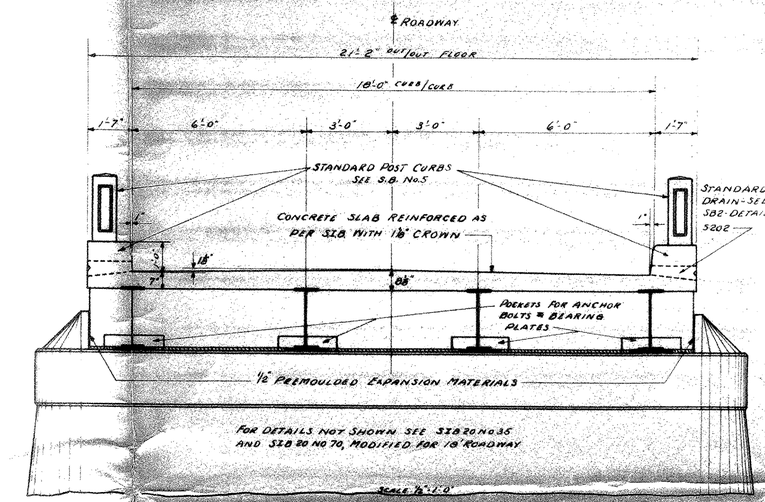
Revised 10/10/30
7/14/32
Drawn by F.C. LARSEN JR. 3-1-1929
Traced by F.C. LARSEN JR. AND C. D. LORD 3-5-1929 2-6-1930
Checked by A.D.B.
Series SP No. 3

LEICESTER
BRF 0160 (3)S
REFERENCE SHEET 1
SHEET 89 OF 90



PLAN ABUT.

COPING NOT SHOWN



FOR DETAILS NOT SHOWN SEE S.B. 20 NO. 35 AND S.B. 20 NO. 70, MODIFIED FOR 18' ROADWAY.

Scale ½" = 1'-0"

CROSS SECTION OF ROADWAY

FOR PIER DETAILS USE SERIES SP. NO. 3-MODIFIED FOR 18' ROWY.

USE: W: 10-6⅛ - H: 19'-6" - E: 10'-9½" - L_3: 12'-2"

The correctness of this steel schedule is not guaranteed and no claim will be allowed for any inaccuracy therein. All steel & bs. deformed bars, Reinforcing steel shall conform to the Standard Specifications for New Billet Steel Concrete Reinforcement Bars, Intermediate or Structural Grade, of the American Society for Testing Materials, Serial Designation A 15-14.

All Bar detail dimensions refer to ℄ of steel.

All work and materials shall conform to the State of Vermont Standard Road and Bridge Specifications 1930.

Anchor bolts, bearing plates, and tie angle assemblies shall be included in lump sum Bid for Structural Steel.

REINFORCING STEEL SCHEDULE

SUPERSTRUCTURE - 35' SPAN - 2 REQ'D.

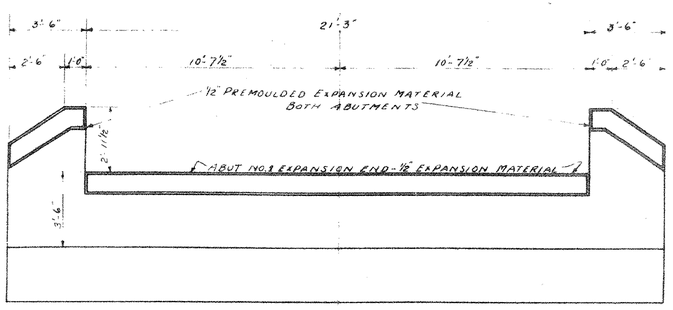
BAR	TOT. LGTH	SIZE	REQ'D	DETAIL
7	22'-0"	5/8" ℄	39	20'-0"
8	21'-0"	5/8" ℄	39	18'-6"
9	21'-9"	5/8" ℄	43	20'-6½"
10	19'-6"	½" ℄	16	19'-6"
11	19'-6"	½" ℄	34	19'-6"
12	6'-3"	¾" ℄ Tie Rod	3	THREAD 3" 6'-3" SMOOTH
14	5'-6"	⅜" ℄	6	4'-6" 0'-5"
15	6'-0"	⅜" ℄	12	1'-0" 2'-3"
16	4'-6"	⅜" ℄	4	1'-0" 1'-6"
17	2'-9"	⅜" ℄	8	STRAIGHT
18	1'-9"	⅜" ℄	12	

SUPERSTRUCTURE - 70' SPAN - 1 REQ'D.

7	22'-0"	5/8" ℄	75	20'-0"
8	21'-0"	5/8" ℄	75	18'-6"
9	21'-9"	½" ℄	79	20'-6½"
10	38'-0"	½" ℄	20	38'-0"
11	38'-0"	½" ℄	30	38'-0"
12	6'-3"	¾" ℄ Tie Rod	3	THREAD 3" 6'-3" SMOOTH
14	6'-0"	⅜" ℄	6	4'-6" 0'-5"
15	5'-6"	⅜" ℄	12	1'-0" 2'-0"
16	4'-0"	⅜" ℄	4	1'-0" 1'-3"
17	3'-6"	⅜" ℄	8	STRAIGHT
18	9'-3"	⅜" ℄	12	

SUBSTRUCTURE - PIER - 2 REQ'D

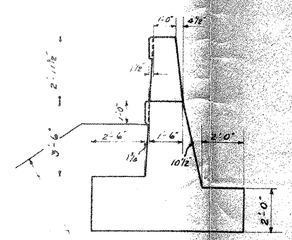
FEET	19'-0"	⅝" ℄	28	19'-0"
HOOKS	34'-0"	½" ℄	22	34'-0"
DOWELS	3'-0"	⅝" ℄	28	3'-0"
H	8'-3"	¾" ℄	36	1'-0" 1'-0" 45° Bends
H_6	17'-9"	¾" ℄	8	1'-0" 3'-0" 45° Bend 1'-6"



ELEV. ABUT.

Scale ⅛" = 1'-0"

ABUTMEMTS SIMILAR



SECTION @ ℄

RIP RAP FOR BANK PROTECTION SLOPE 1 ON 1½" CARRY TO LOW WATER EL. 89.5

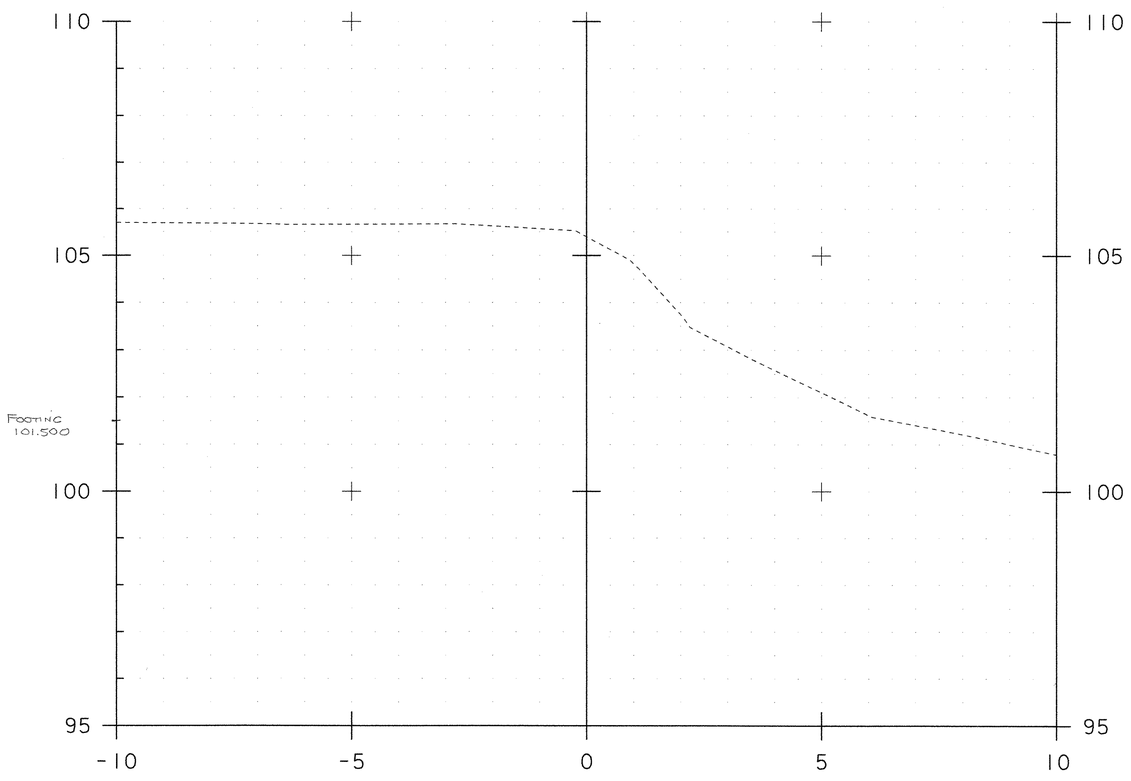
LEICESTER
BRF 0160 (3)S
REFERENCE SHEET 2
SHEET 90 OF 90

ESTIMATED QUANTITIES

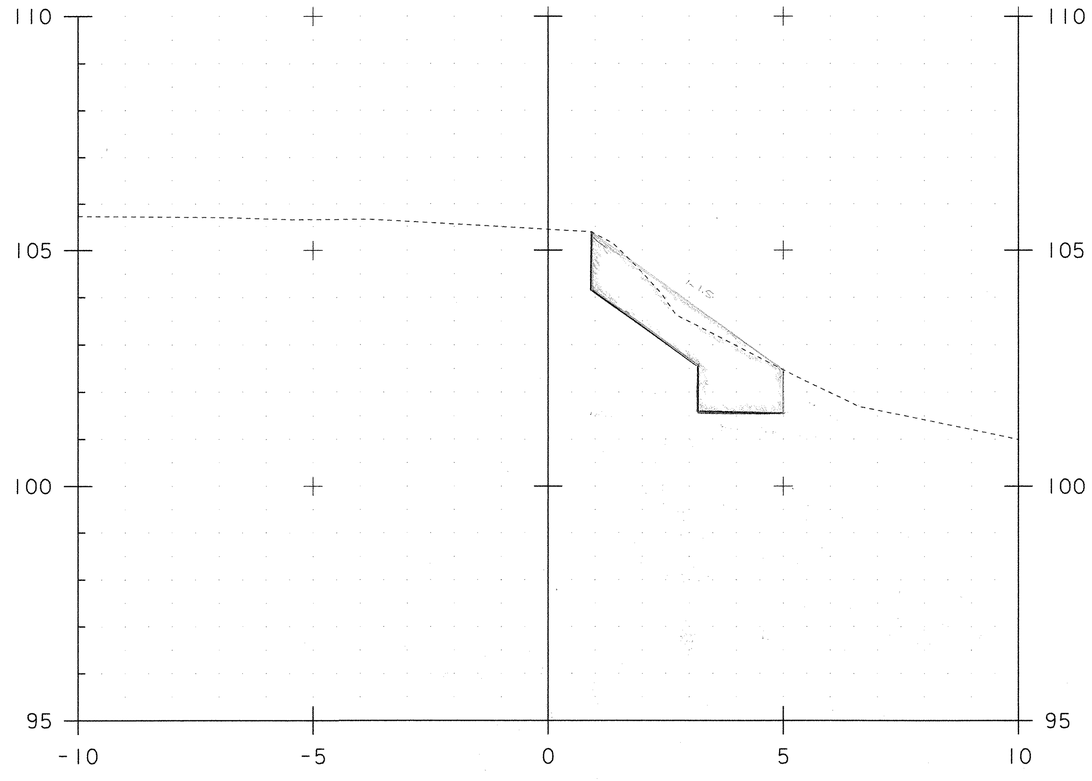
SPANS	# 1	# 2	# 3	ABUTMENTS	# 1	# 2	PIERS	# 1	# 2
Conc. Class "A"	30 cy.	55 cy.	30 cy.	Struct. Excav.	56 cy.	87 cy.	Struct. Excav.	95 cy.	152 cy.
Reinf. Steel	4791 lbs.	9171 lbs.	4791 lbs.	Conc. Class "C"	28 cy.	28 cy.	Conc. Class "C"	104 cy.	104 cy.
Struct. "	12990 lbs.	59000 lbs.	12990 lbs.	RIP RAP Bank Prot.	76 cy.	76 cy.	Reinf. Steel	2316 lbs.	2316 lbs.
							Timber Piling	1085 lin. ft.	1085 lin. ft.

LEICESTER JCT. BRIDGE
OVER
OTTER CREEK
FOR 18' ROADWAY

Surveyed by
Designed by
Drawn by J.W.H. 7/25/32
Traced by J.W.H. 7/26/32
Checked by
Series No. Filed
Sheet 14 of 16 Sheets



4+986.00



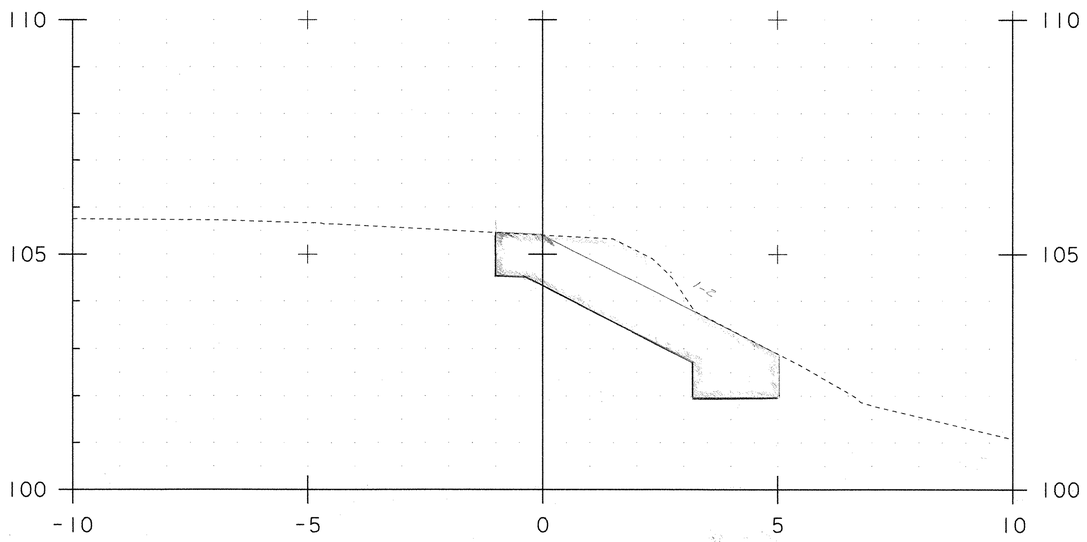
4+988.00

BEGIN UNCL. CHAN EXC (BUTT) = 4.67 m² ✓ DC 2-27-07

BEGIN STONE FILL TYPE III (BUTT) = 5.34 m² ✓

BEGIN GEO. UNDER STONE FILL (BUTT) = 6.7 m

PROJECT NAME:	Liecester
PROJECT NUMBER:	BRF 0160(3)S
FILE NAME:	PLOT DATE: 01-NOV-2005
PROJECT LEADER:	DRAWN BY: R. Bullock
DESIGNED BY:	CHECKED BY:
091 AB1	SHEET 1 OF 8



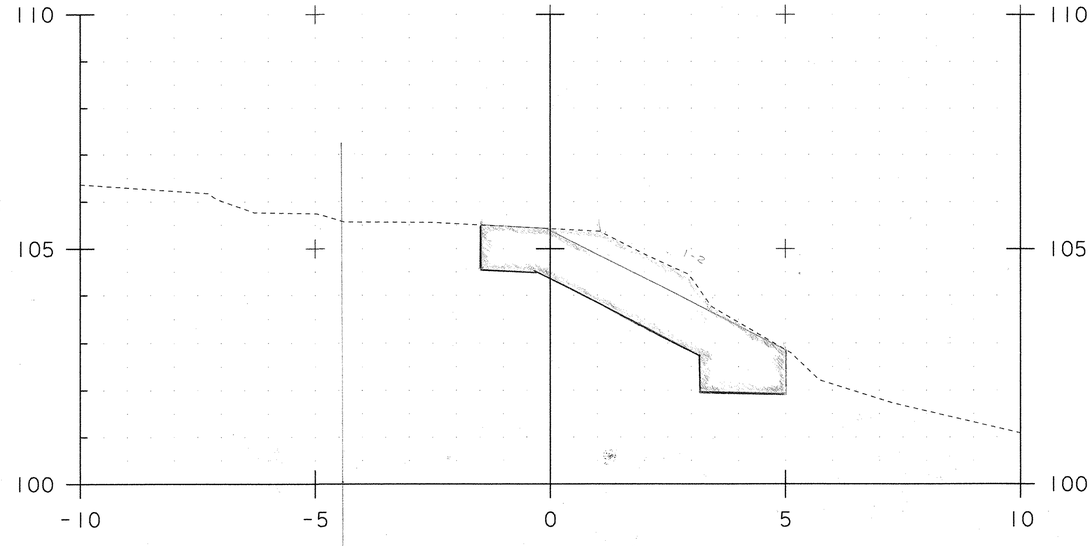
4+990.00

UNCL CHAN EXC - ~~8.40~~ 8.40 M²

STONE FILL TYPE III - ~~7.25~~ 6.77 M²

DC 3-5-07

GEO UNDER STONE FILL - 8.1 M



4+992.00

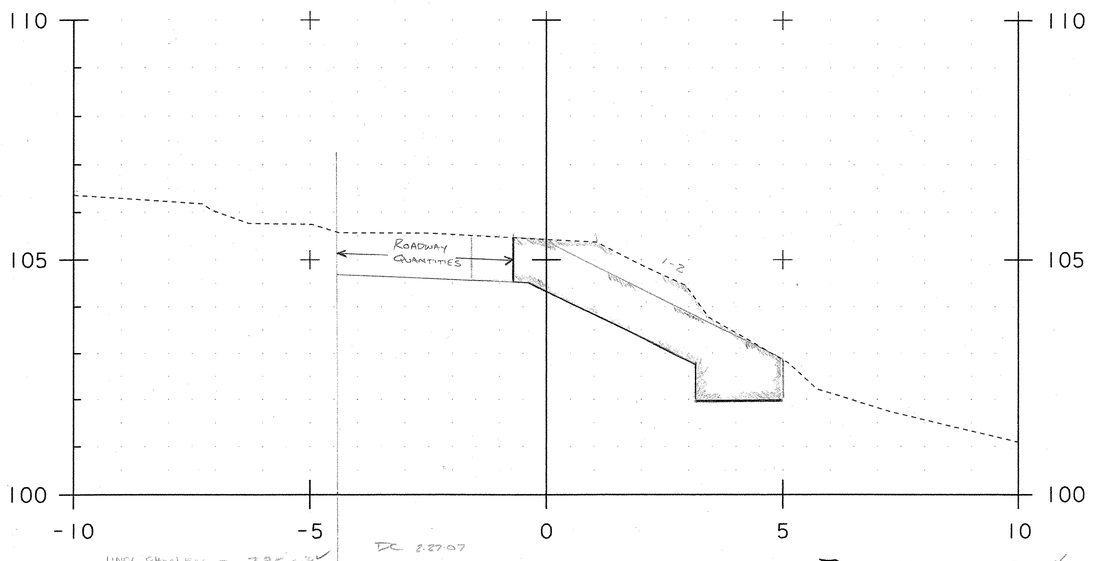
UNCL CHAN EXC - 8.51 M² ✓

STONE FILL TYPE III - ~~7.29~~ 7.18 M²

GEO UNDER STONE FILL - 8.5 M

DC 2-27-07

PROJECT NAME:	Liecester
PROJECT NUMBER:	BRF 0160(3)S
FILE NAME:	
PROJECT LEADER:	
DESIGNED BY:	
	C92AB1
PLOT DATE:	01-NOV-2005
DRAWN BY:	R. Bullock
CHECKED BY:	
SHEET 2	OF 8



UNCL CHAN EXC - 7.95 m²

STONE FILL TYPE III - 6.48 m²

DC 2.27.07

4+992.10

℄

4+992.40 - UNC CHAN EXC
STONE FILL TYPE III
GEO UNDER S.F.

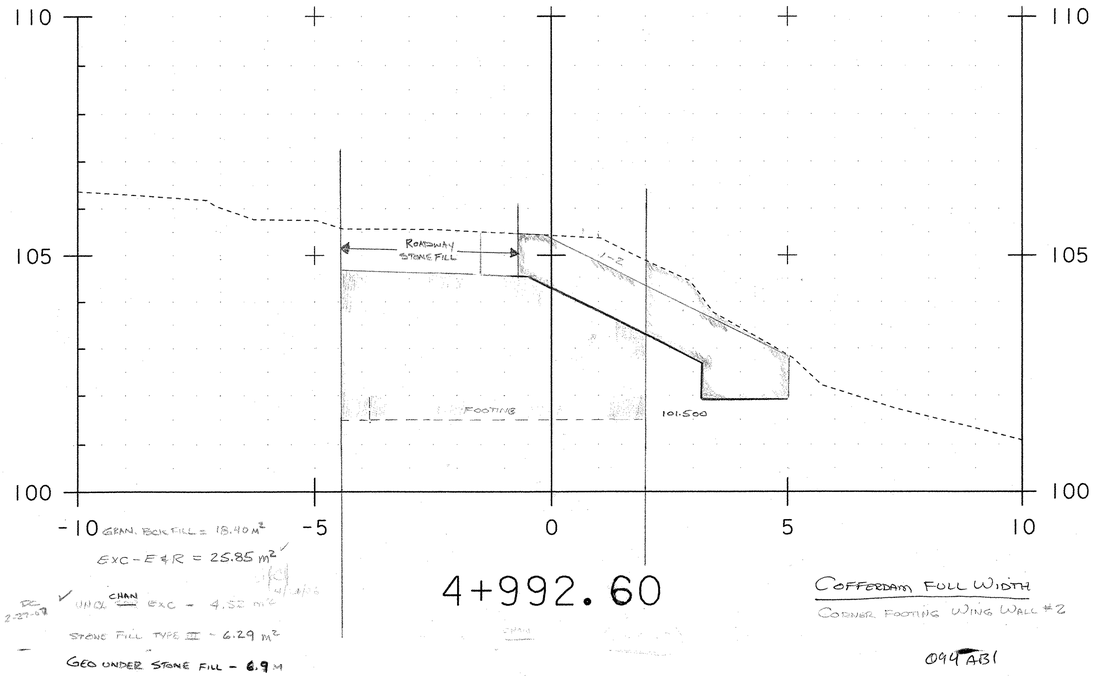
GEO UNDER STONE FILL - 8.7 M

ZERO COFFERDAM EXC.

ZERO GRANULAR BACKFILL

4/12/06

093 AB1



GRAN. BCK FILL = 18.40 m²

EXC - E & R = 25.85 m² ✓

UNCL CHAN EXC - 4.52 m²

STONE FILL TYPE III - 6.29 m²

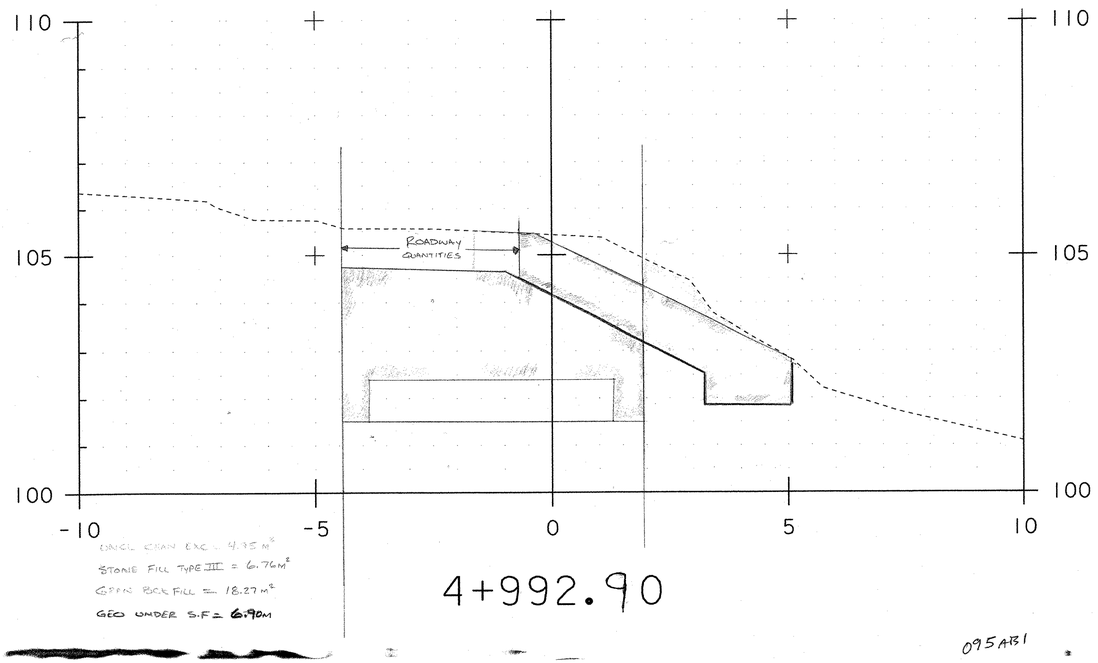
GEO UNDER STONE FILL - 6.9 m

4+992.60

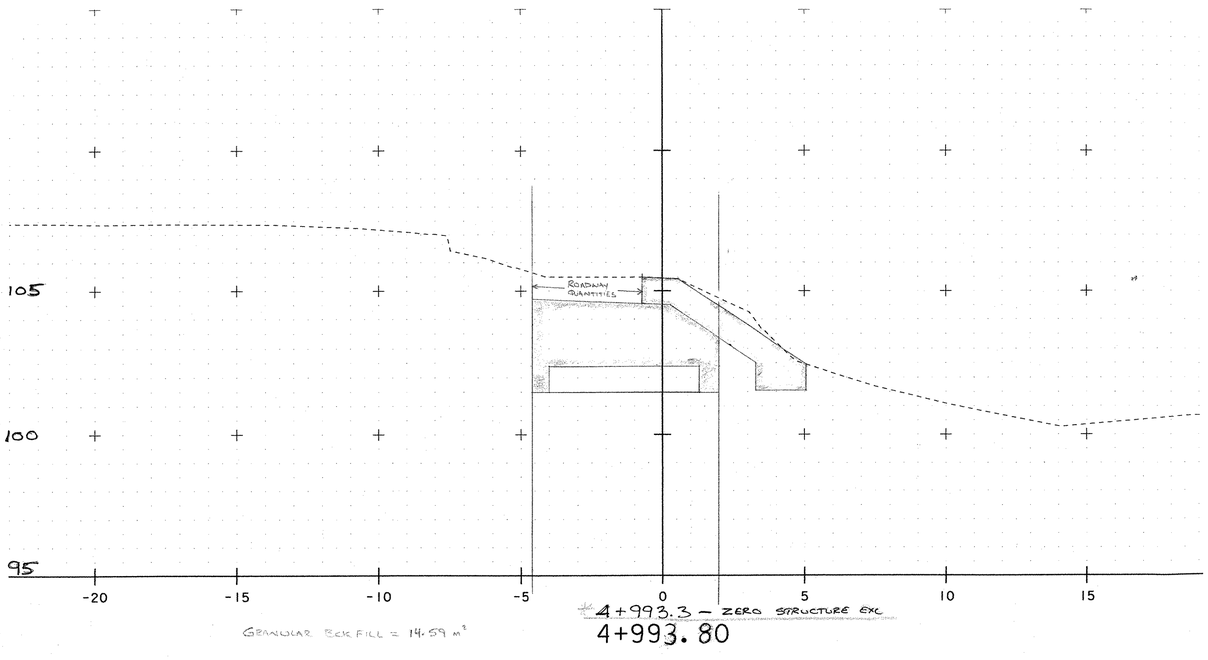
COFFERDAM FULL WIDTH

CORNER FOOTING WING WALL #2

094 A81



095AB1



GRANULAR BACKFILL = 14.59 m³

4+993.3 – ZERO STRUCTURE EXC

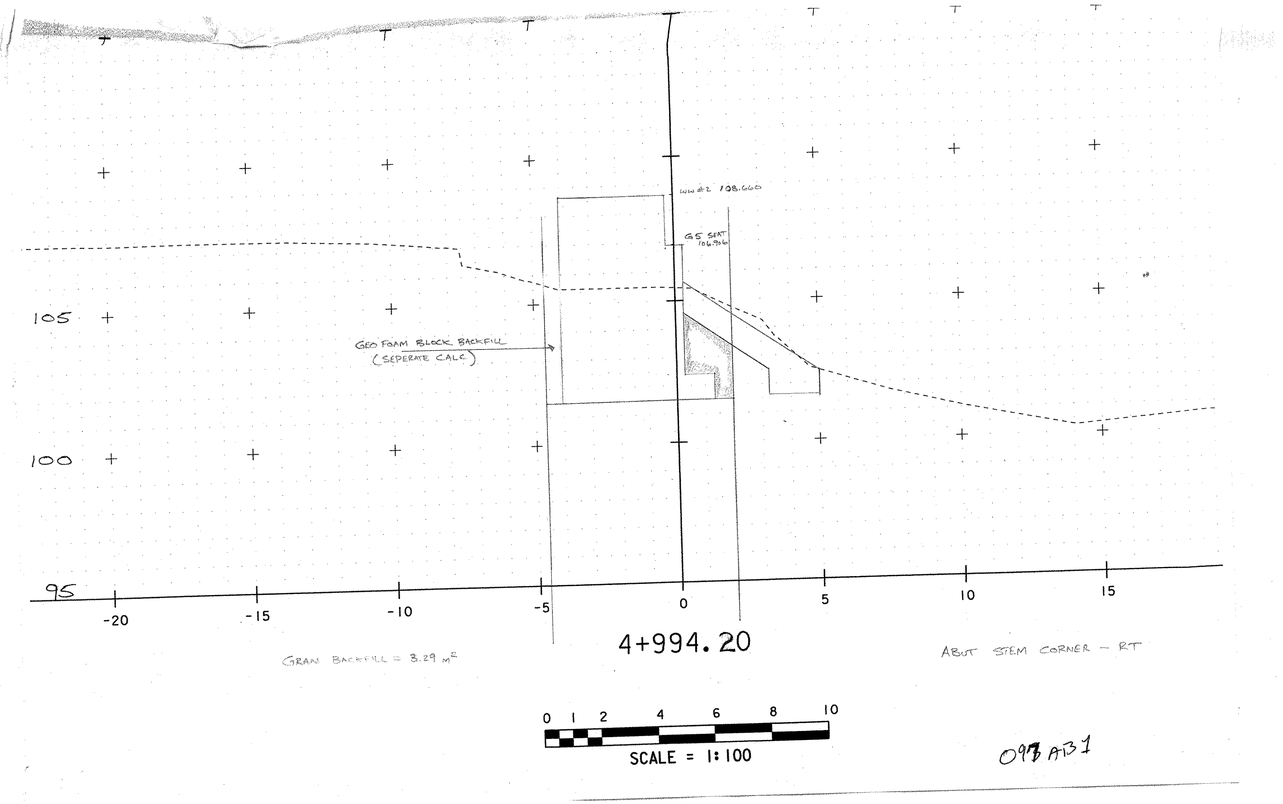
4+993.80

OUTSIDE CORNER WW # 2

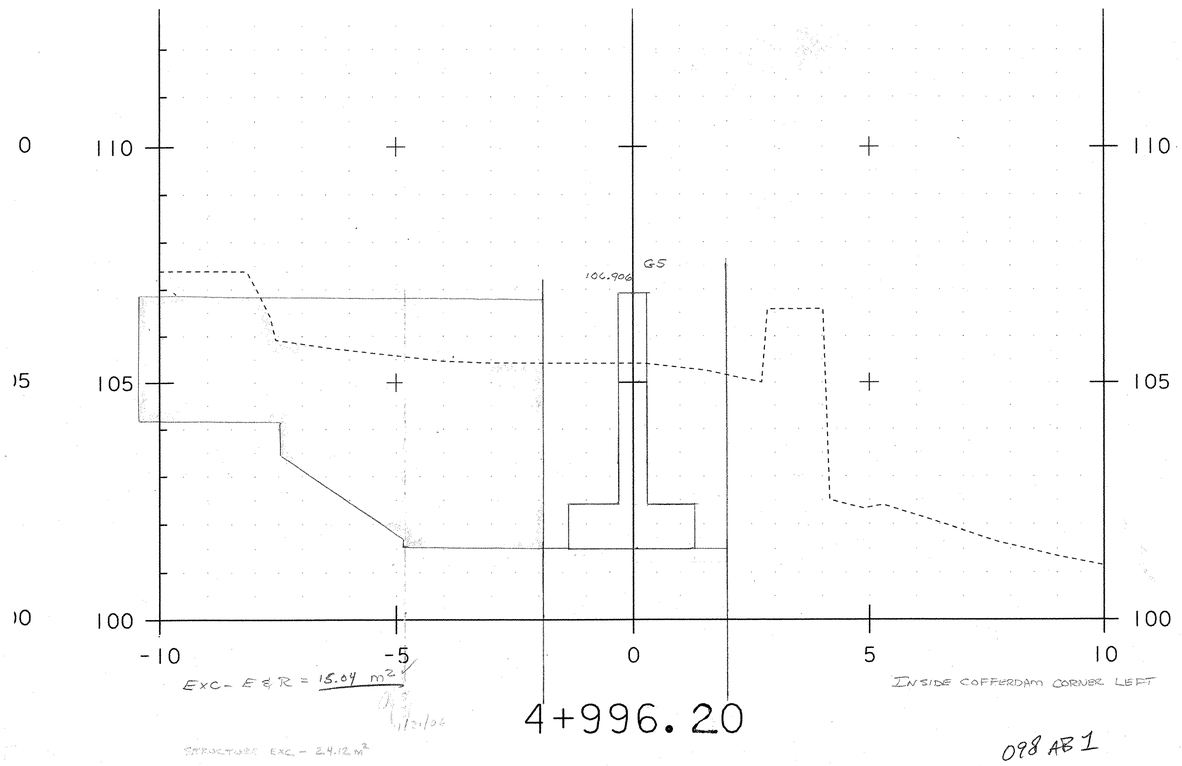
0 1 2 4 6 8 10

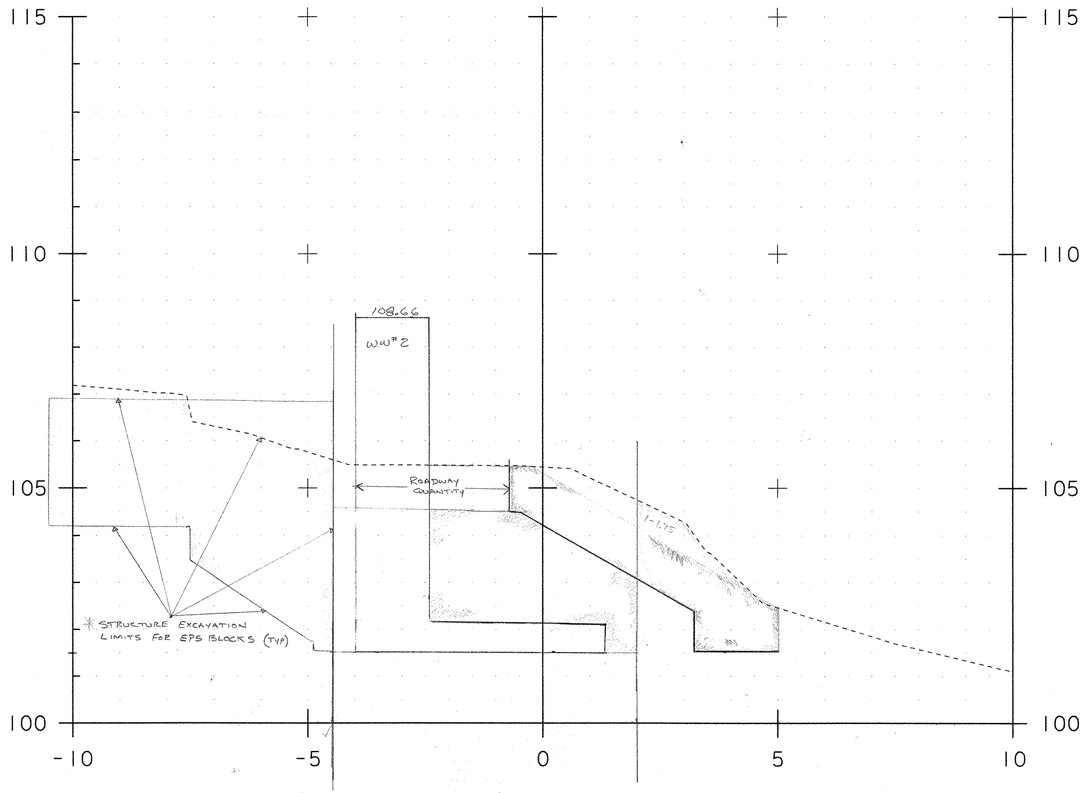
SCALE = 1:100

096AB1


105
100
95
-20
-15
-10
-5
0
5
10
15
GEO FOAM BLOCK BACKFILL
(SEPERATE CALC)
GRAN BACKFILL = 3.29 m²
4+994.20
ABUT STEM CORNER - RT
0 1 2 4 6 8 10
SCALE = 1:100

097 AB1


110
105
100
-10
-5
0
5
10
106.906 GS
EXC- E & R = 15.04 m²
INSIDE COFFERDAM CORNER LEFT
4+996.20
098 AB 1



4+994.00

Exc - E & R = 25.15 m² ✓

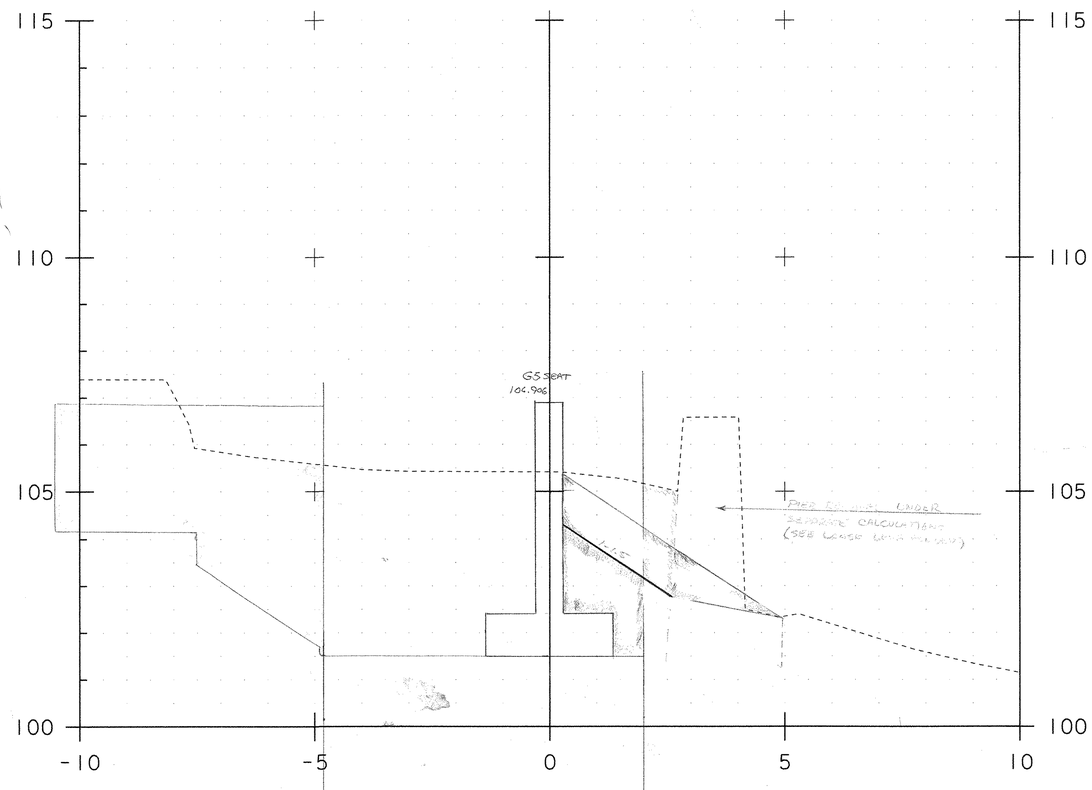
UNCL CHART EXC = ~~5.89~~ 4.34 m² DC 3-5-07

STONE FILL TYPE III = 6.62 m²

GRAN BACKFILL = 8.85 m²

GEO UNDER S.F = 7.1M

STRUCTURE EXC = 18.79 m²



4+996.00

Exc - E & R = 26.50 m² ✓

UNCL GRAN EXC = 1.26 m² ✓ DC 3-5-07

STONE FILL TYPE III = 3.68 m²

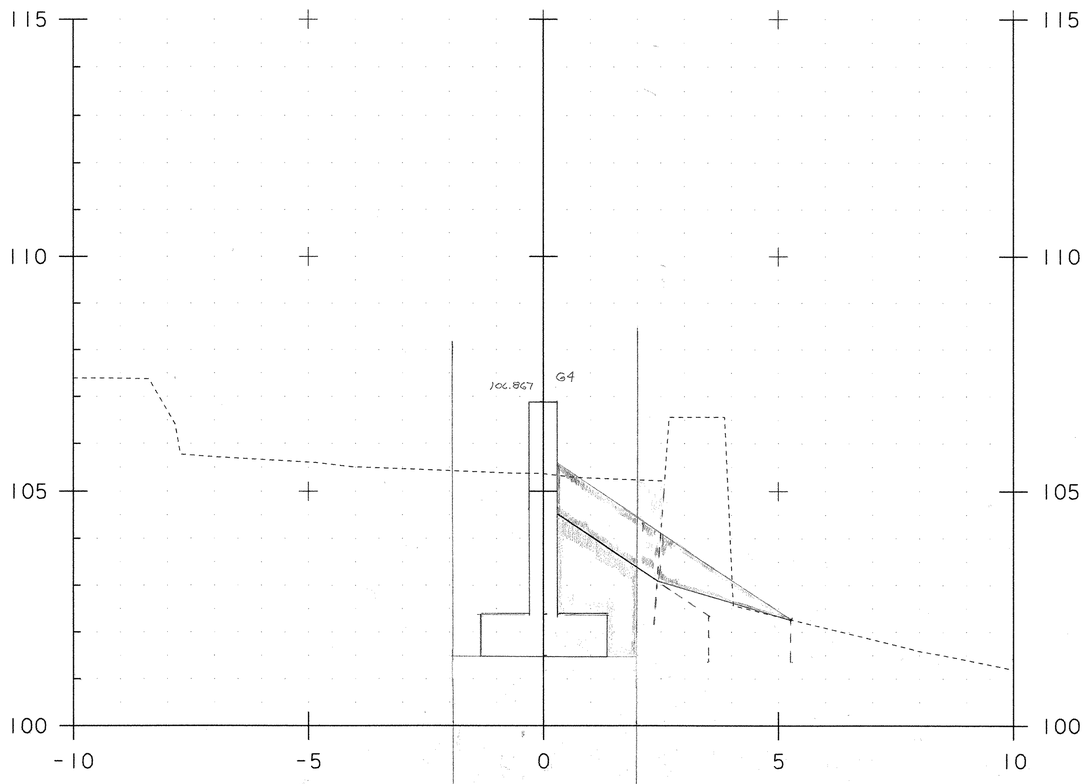
GRAN BACKFILL = 2.82 m²

GEO UNDER S.F = 2.7M

STRUCTURE EXC = 16.22 m²

PROJECT NAME: Liecester	
PROJECT NUMBER: BRF 0160(3)S	
FILE NAME:	PLOT DATE: 01-NOV-2005
PROJECT LEADER:	DRAWN BY: R. Bullock
DESIGNED BY:	CHECKED BY:
~~094A331~~ 099 AB1	SHEET 3 OF 8

Metric



4+998.00

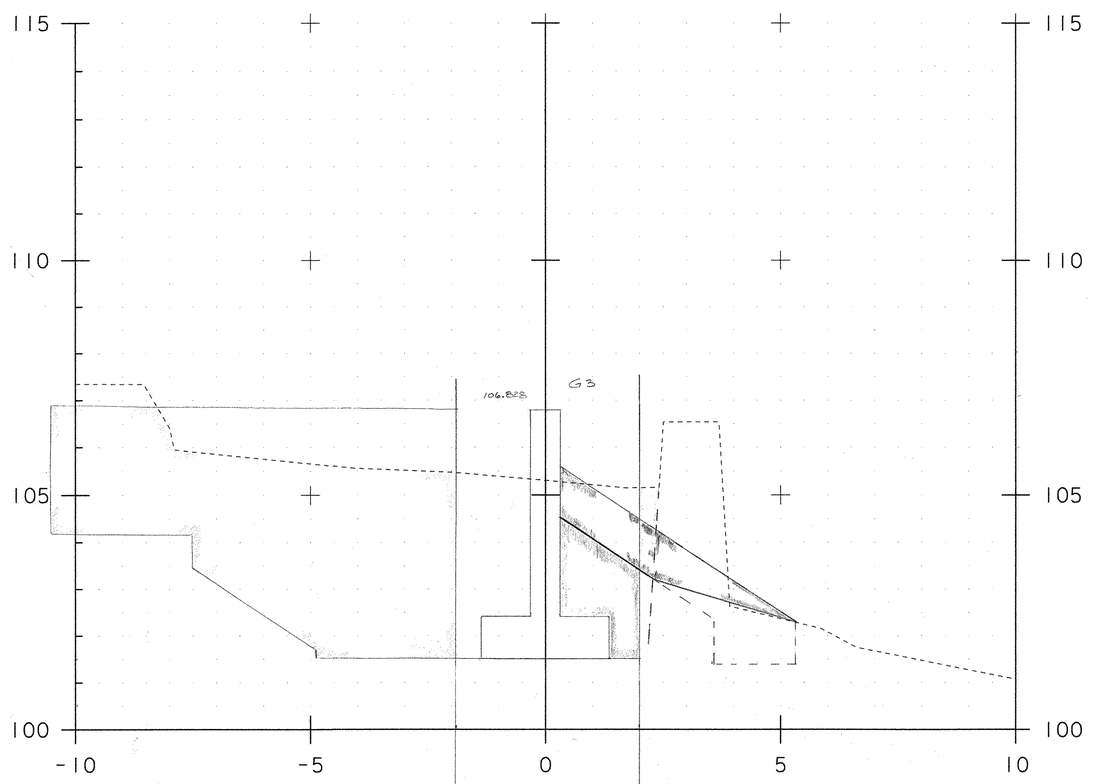
EXC - E & R = 15.21 M^2

UNC CHAN EXC = 0.99 M^2

GRAN BACKFILL = 3.23 M^2

GEO UNDER S.F = 2.6M

STONE FILL TYPE III = 3.73 M^2



5+000.00

EXC - E & R = 14.82 M^2

UNC CHAN EXC = 0.89 M^2

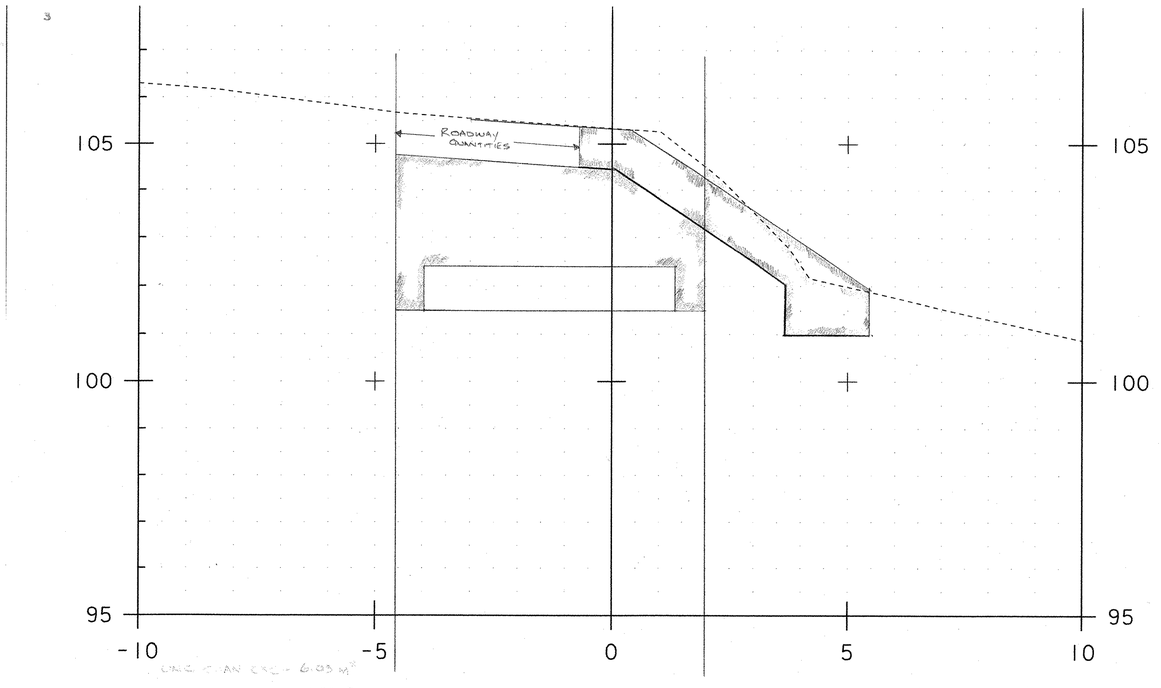
GRAN BACKFILL = 3.12 M^2

GEO UNDER S.F = 2.35 M

STONE FILL TYPE III = 3.8 M^2

EXC UNDER EXC = 25.76 M^2

PROJECT NAME:	Liecester
PROJECT NUMBER:	BRF 0160(3)S
FILE NAME:	
PROJECT LEADER:	
DESIGNED BY:	
	100 AB1
PLOT DATE:	01-NOV-2005
DRAWN BY:	R. Bullock
CHECKED BY:	
SHEET 4	OF 8



UNC. CLAN ESC. - 6.03 M²

GRAN. BACKFILL - 13.95M²

STONE FILL TYPE III - 7.52 M²

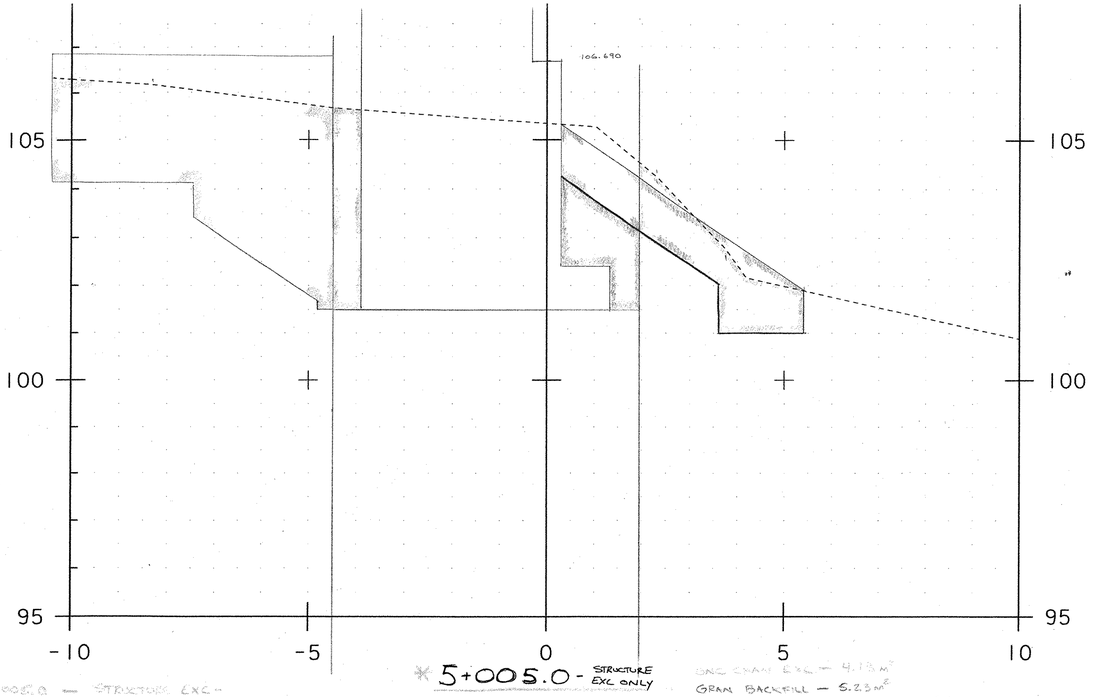
GEO UNDER S.F - 7.9 M

5+005.80

WW#1/ABUT STEM CORNER

101 A31

3



STA 5+005.0 — STRUCTURE EXC =

5+005.0 - STRUCTURE EXC ONLY

5+005.40

UNC EXAV EXC = 4.13 M²

GRAN BACKFILL = 5.23 M²

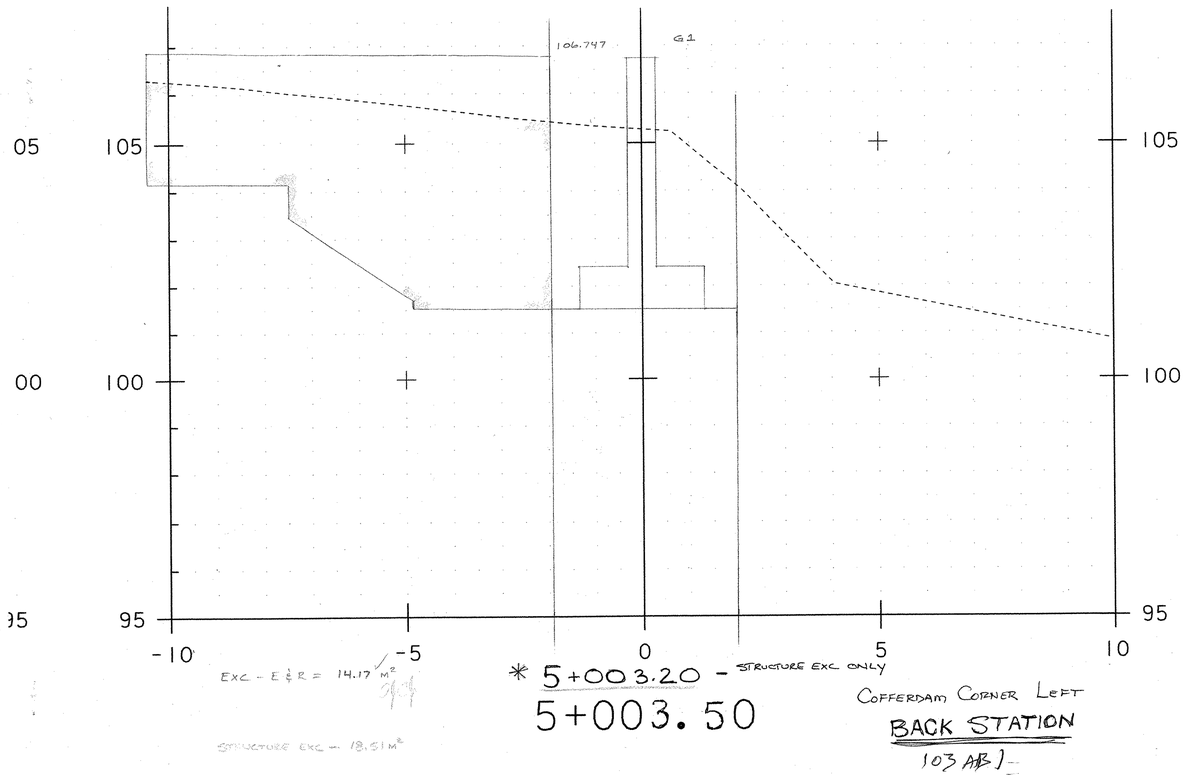
STONE FILL TYPE III = 6.55 M²

GEO UNDER S.F = 6.8 M

STRUCTURE EXC = ZERO

WIN # 1 CORNER

102 AB1



EXC - E & R = 14.17 m²

STRUCTURE EXC = 18.51 m²

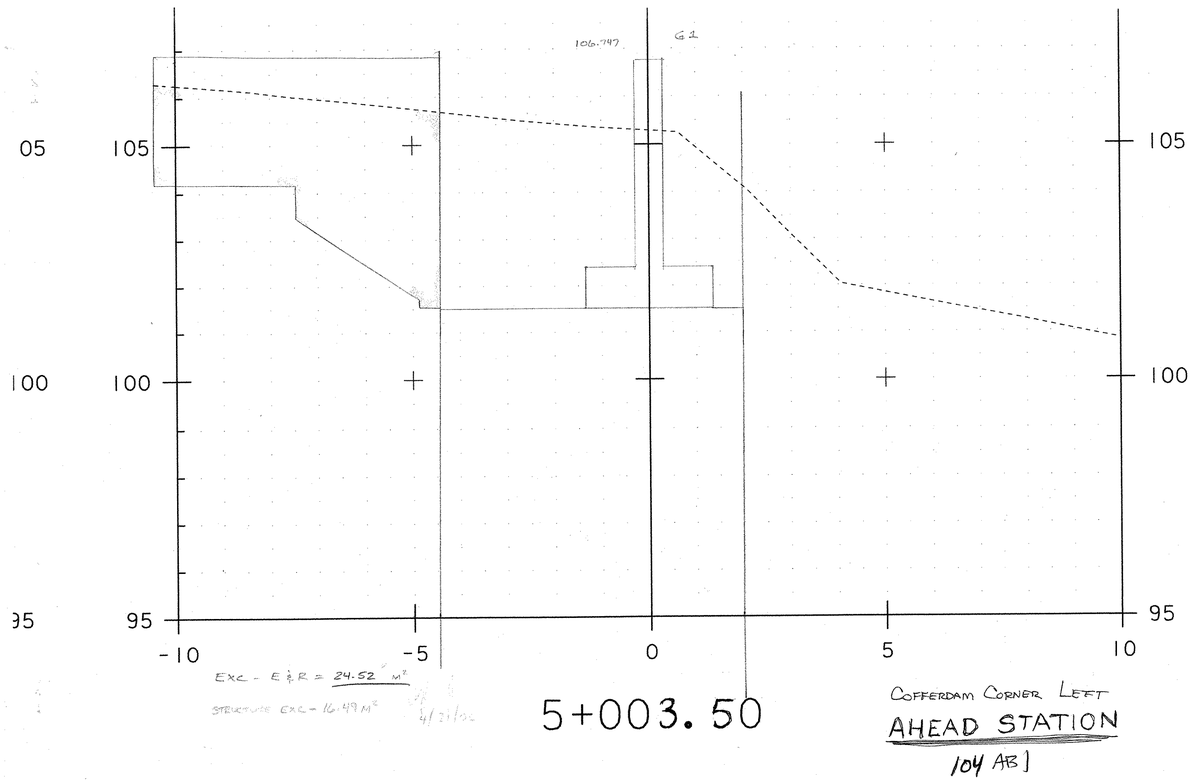
* 5+003.20 - STRUCTURE EXC ONLY

5+003.50

COFFERDAM CORNER LEFT

BACK STATION

103 AB1



EXC - E & R = 24.52 M²

STRUCTURE EXC = 16.49 M²

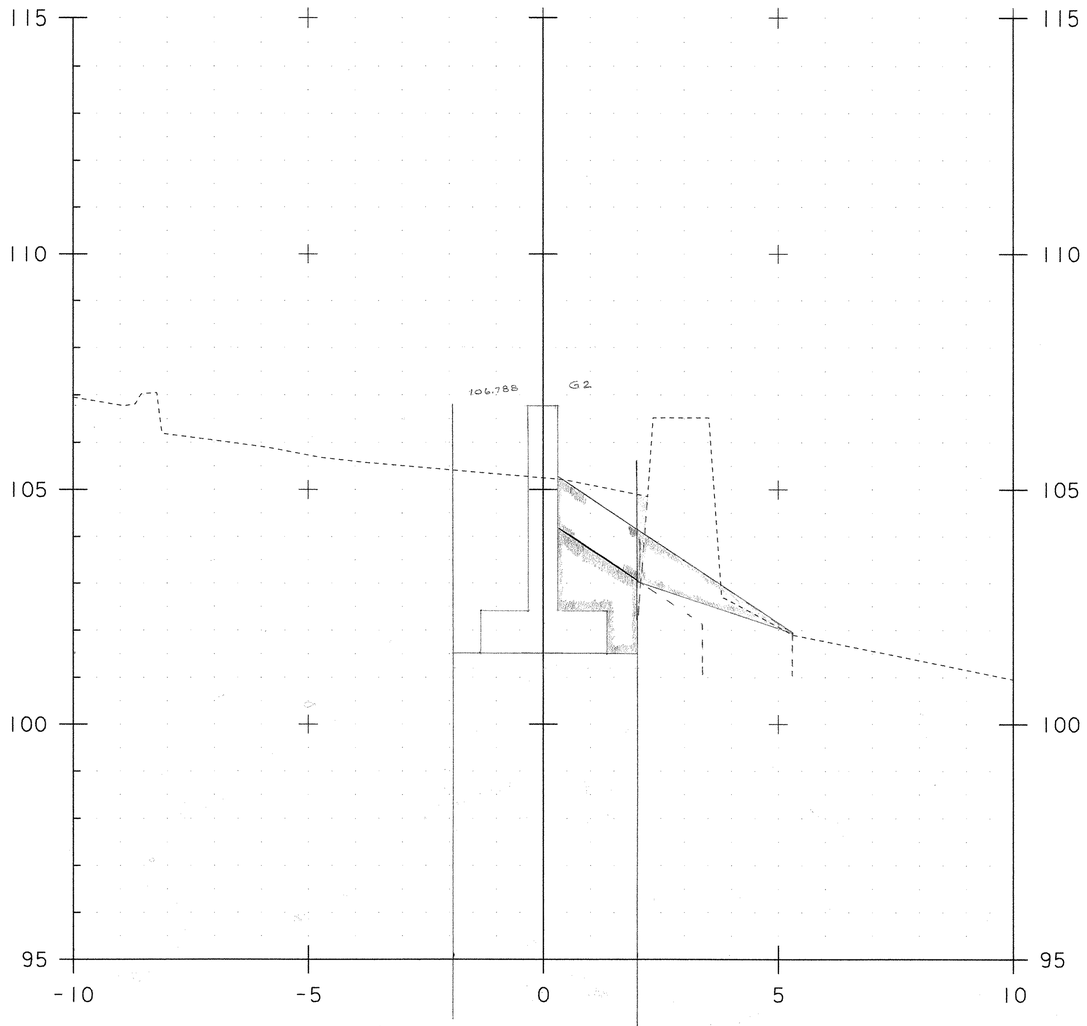
4/21/92

5+003.50

COFFERDAM CORNER LEFT

AHEAD STATION

104 AB]



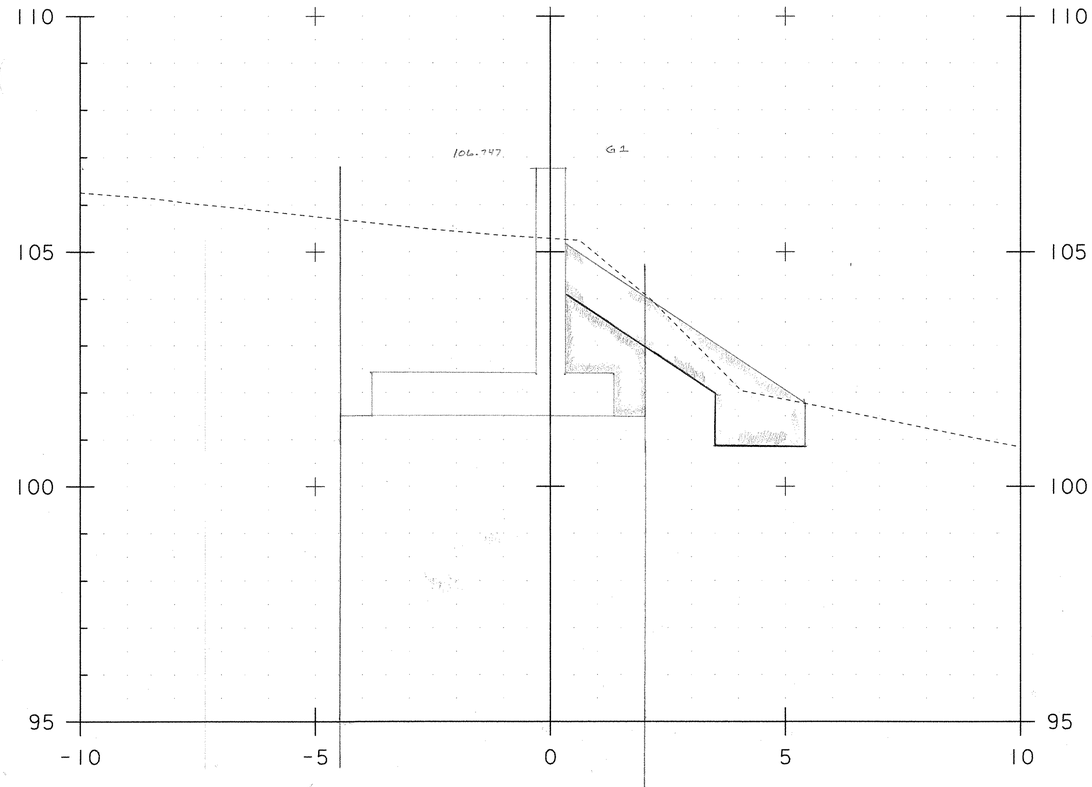
EXC - E & R = 14.62 m^2

5+002.00

GRANULAR BACKFILL - 2.67 m^2

STONE FILL TYPE III - 3.70 m^2

GEO UNDER S.F - 2.0M



EXC - E & R = 24.58 m^2

5+004.00

GRAN BACKFILL - 2.50 m^2

STONE FILL TYPE III - 6.23 m^2

GEO UNDER S.F - 6.7M

PROJECT NAME:	Liecester		
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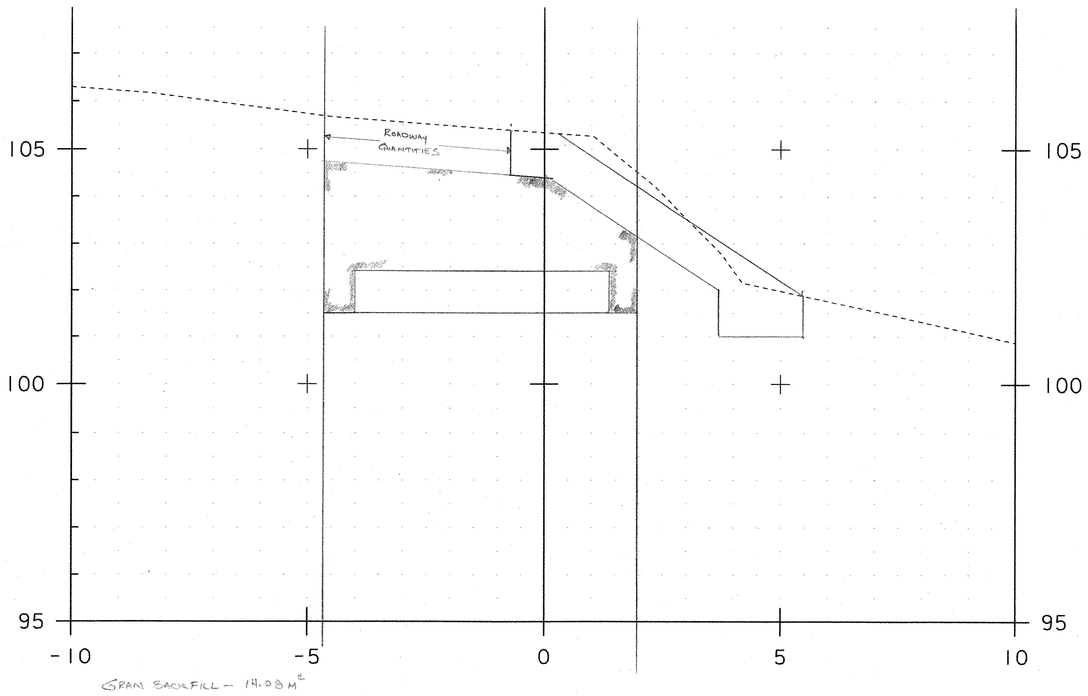
PROJECT LEADER:		DRAWN BY:	R. Bullock
DESIGNED BY:		CHECKED BY:	
	105AB1	SHEET 5	OF 8

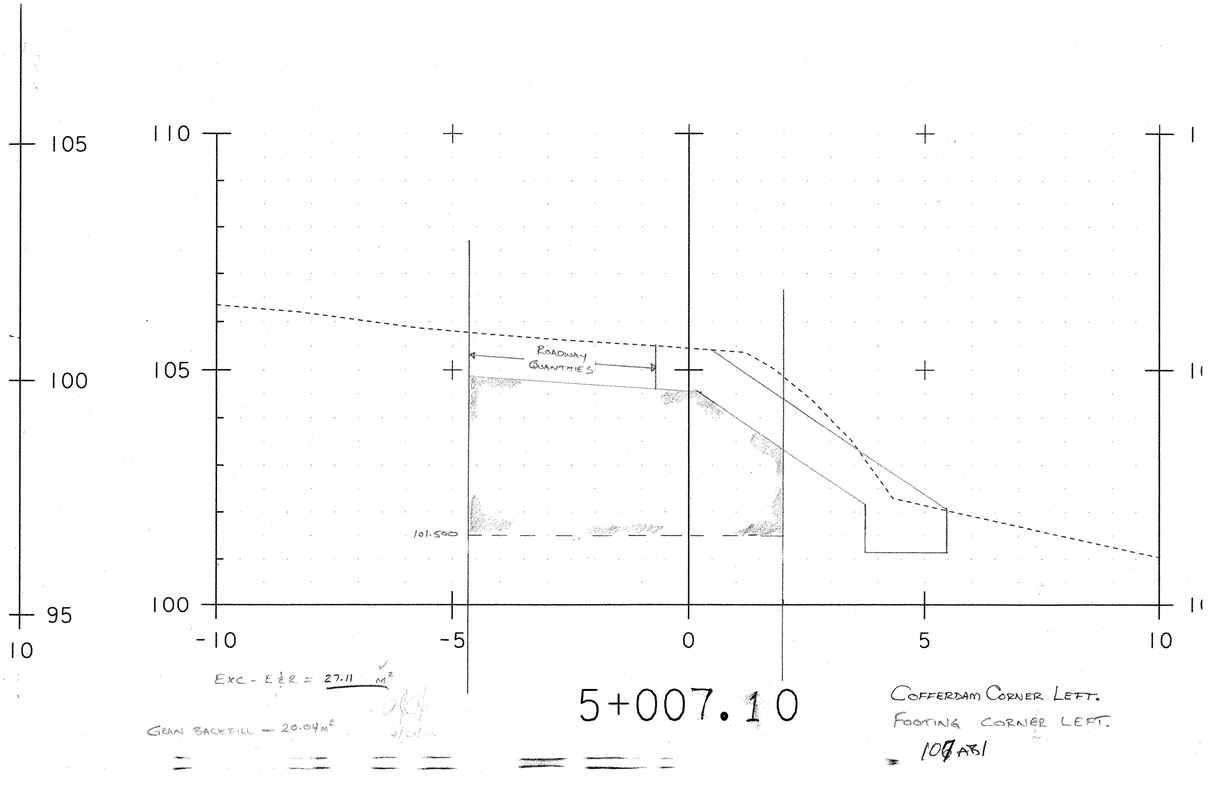


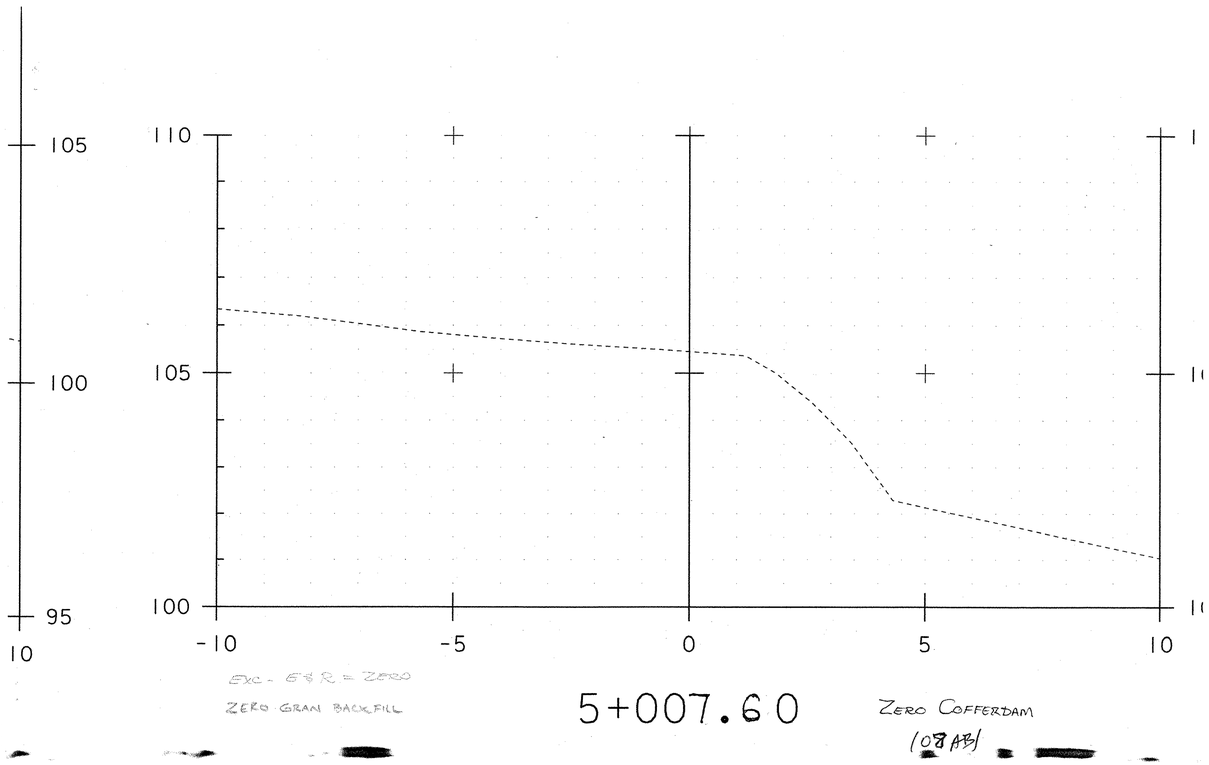
GRAN BACKFILL = 14.08 M²

5+006.50

FOOTING CORNER

106AB1


105
100
95
10
110
105
100
-10
-5
0
5
10
ROADWAY QUANTITIES
101.500
EXC - E & R = 27.11 M²
GRAN BACKFILL = 20.04M²
5+007.10
COFFERDAM CORNER LEFT.
FOOTING CORNER LEFT.
106 AB1



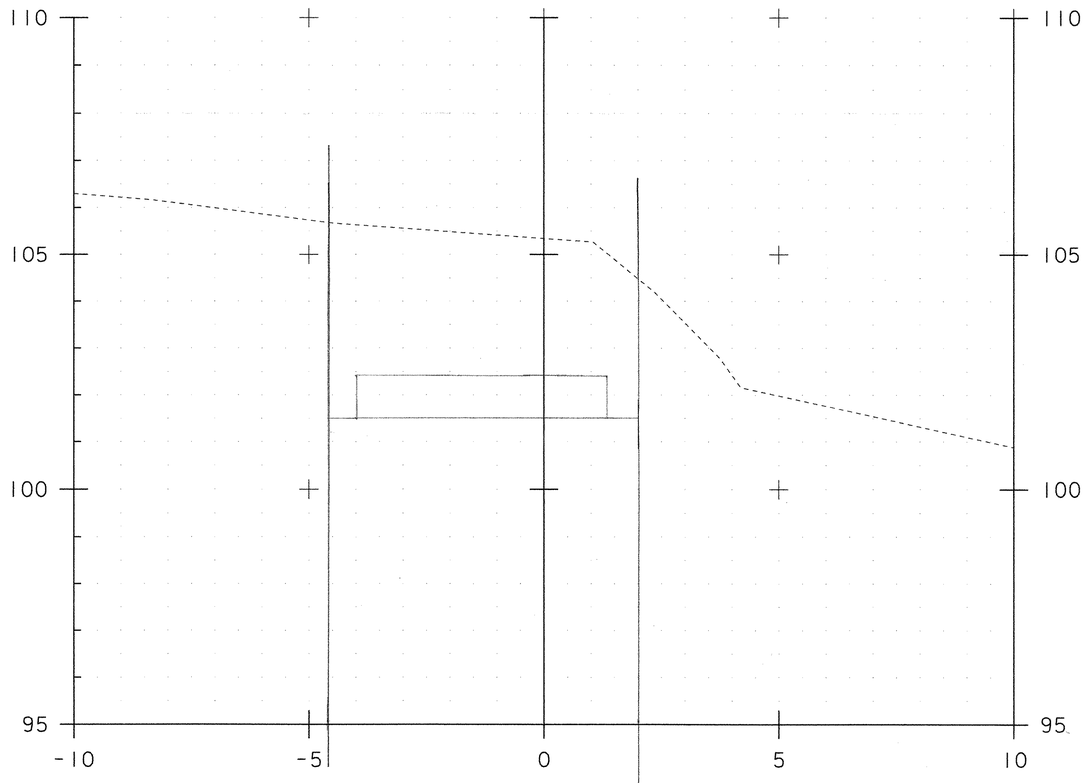
EXC - E & R = ZERO

ZERO GRAN BACKFILL

5+007.60

ZERO COFFERDAM

108 AB/



EXC - E & R = 25.64 M²

5+006.00

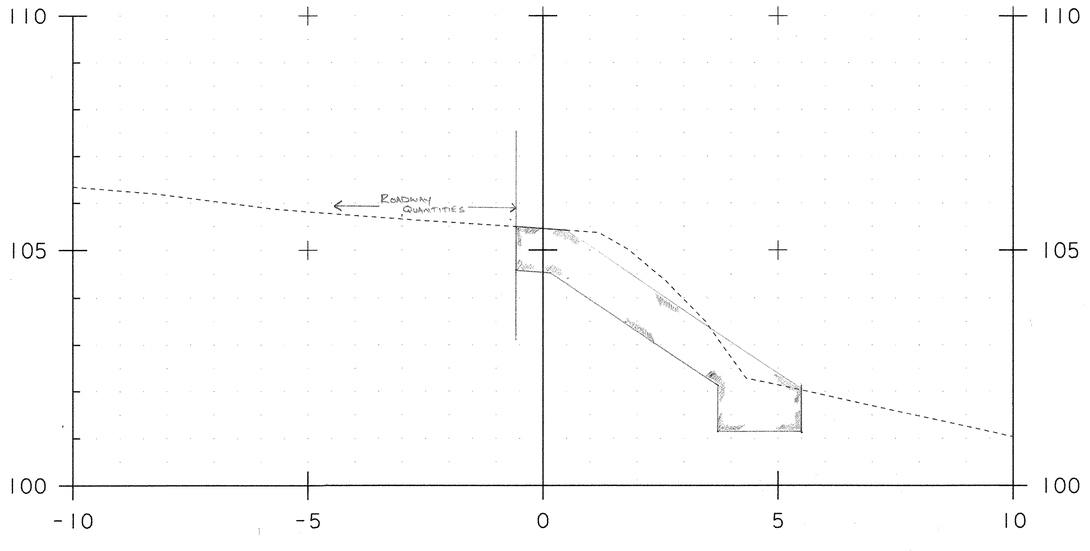
SAME AS 5+005.80

FROM 5+005.80 (BUTT.) GEO UNDER S.F (BRIDGE) = 7.90 M

" " (BUTT.) UNDER CHAN. S (BRIDGE) = [illegible]

* SEE W.O # 10

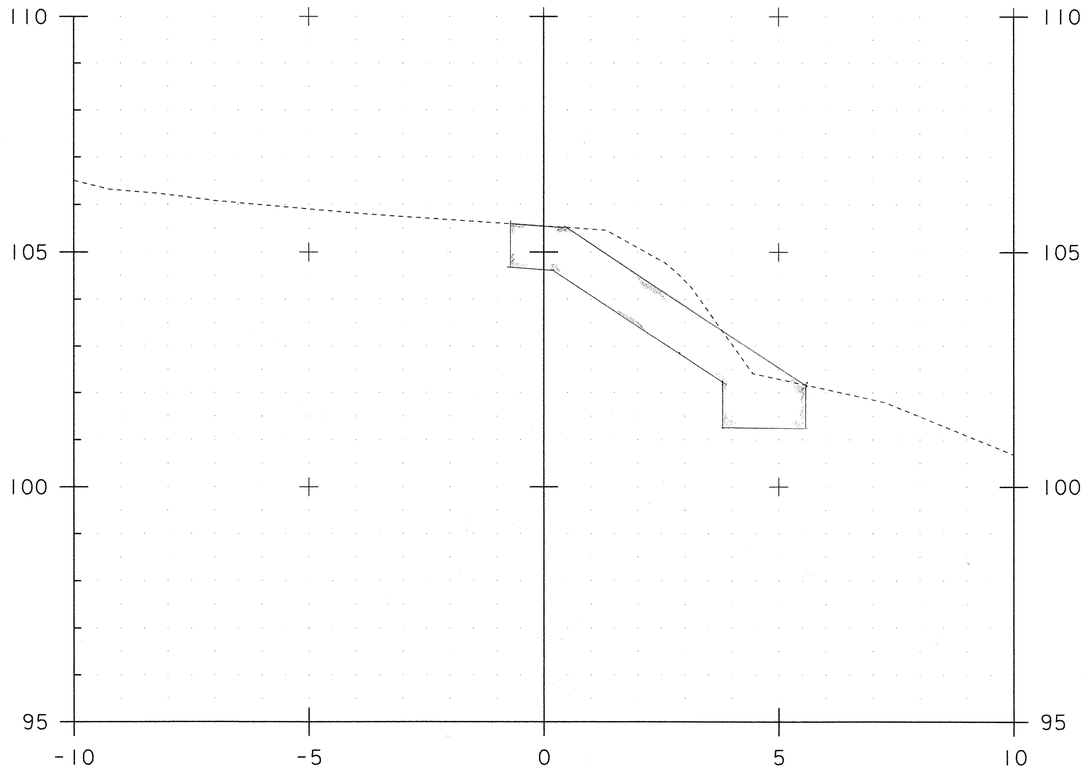
(QUANTITY FROM 5+005.80) — STONE FILL TYPE III = 7.32 M²



5+008.00

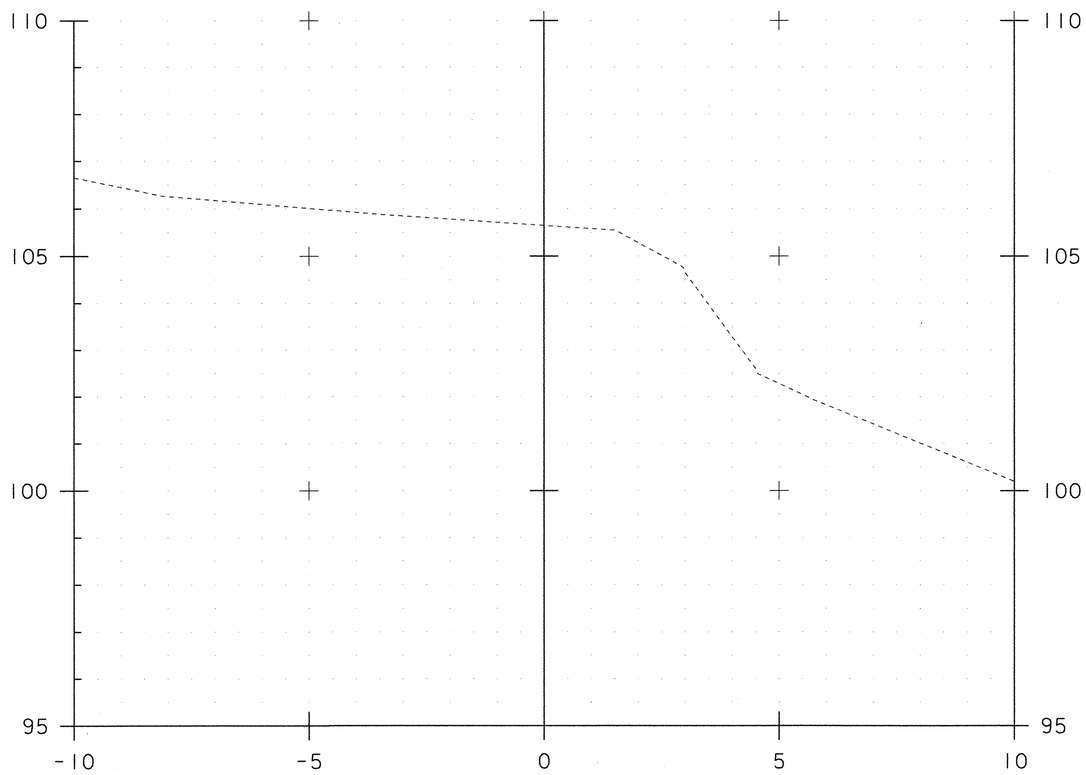
STONE FILL TYPE III — 7.19 M²

PROJECT NAME:	Liecester
PROJECT NUMBER:	BRF 0160(3)S
FILE NAME:	PLOT DATE: 01-NOV-2005
PROJECT LEADER:	DRAWN BY: R. Bullock
DESIGNED BY:	CHECKED BY:
	SHEET 6 OF 8



5+011.00

STONE FILL TYPE III – 7.36 m²

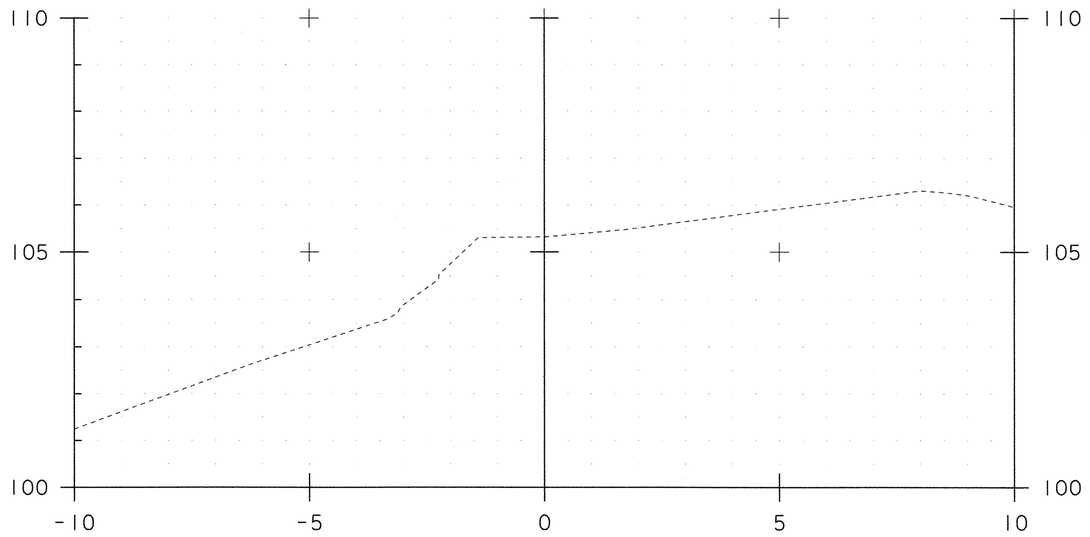


5+014.00

ZERO STONE FILL TYPE III

PROJECT NAME:	Liecester
PROJECT NUMBER:	BRF 0160(3)S
FILE NAME:	
PROJECT LEADER:	
DESIGNED BY:	
PLOT DATE:	01-NOV-2005
DRAWN BY:	R. Bullock
CHECKED BY:	
SHEET 7	OF 8

Metric

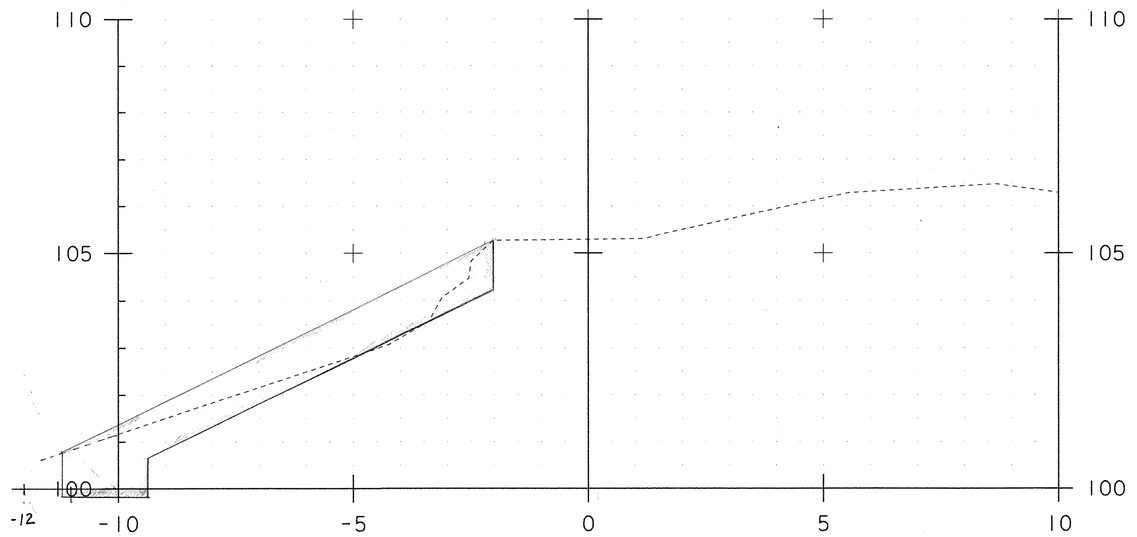


9+986.50

ZERO STONE FILL TYPE III

ZERO UNCLASSIFIED CHAN EXC

ZERO GEOTEXTILE UNDER STONE FILL



9+988.00

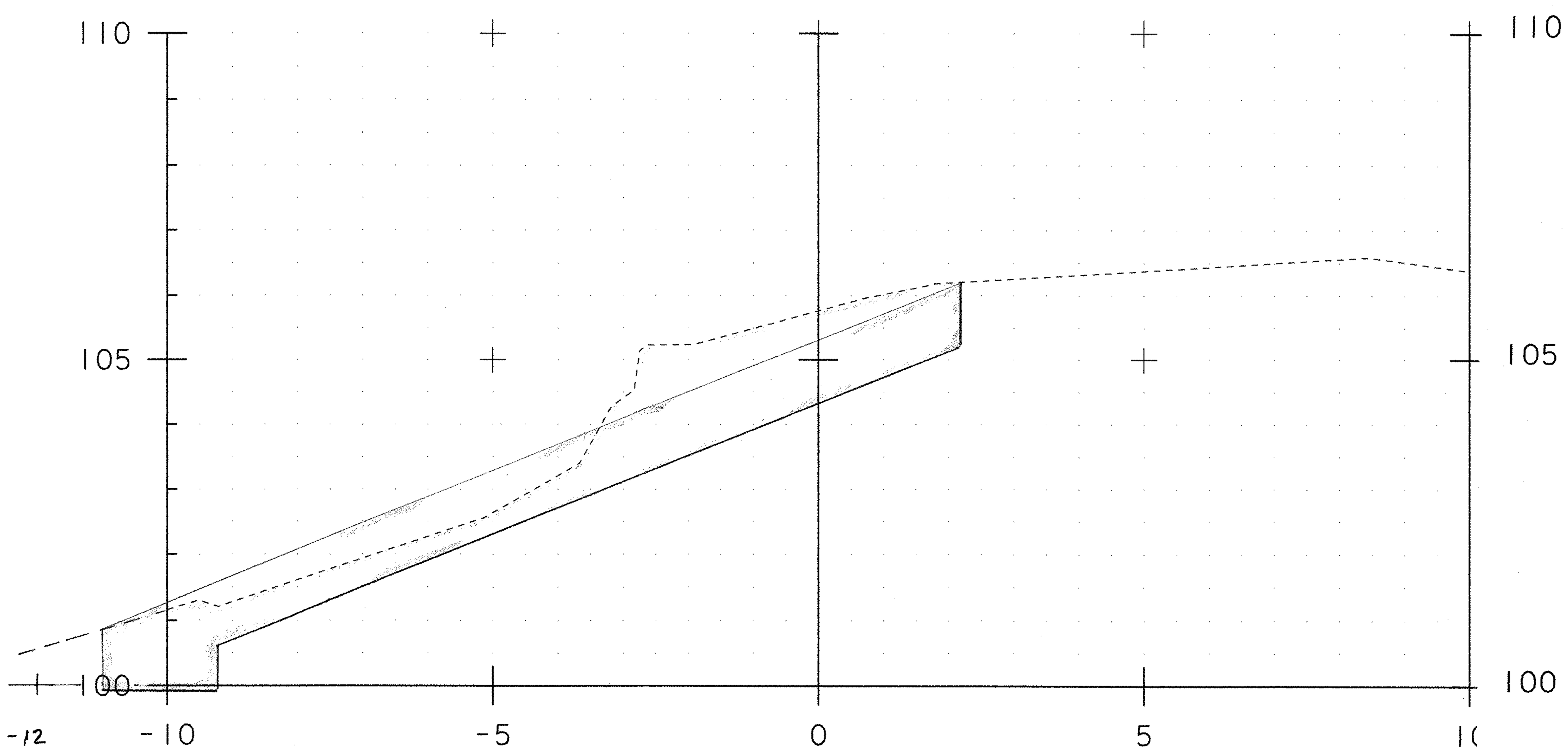
STONE FILL TYPE III - 9.83M²

UNC CHAN EXC - 4.57M²

GEO UNDER STONE FILL - 11.8M

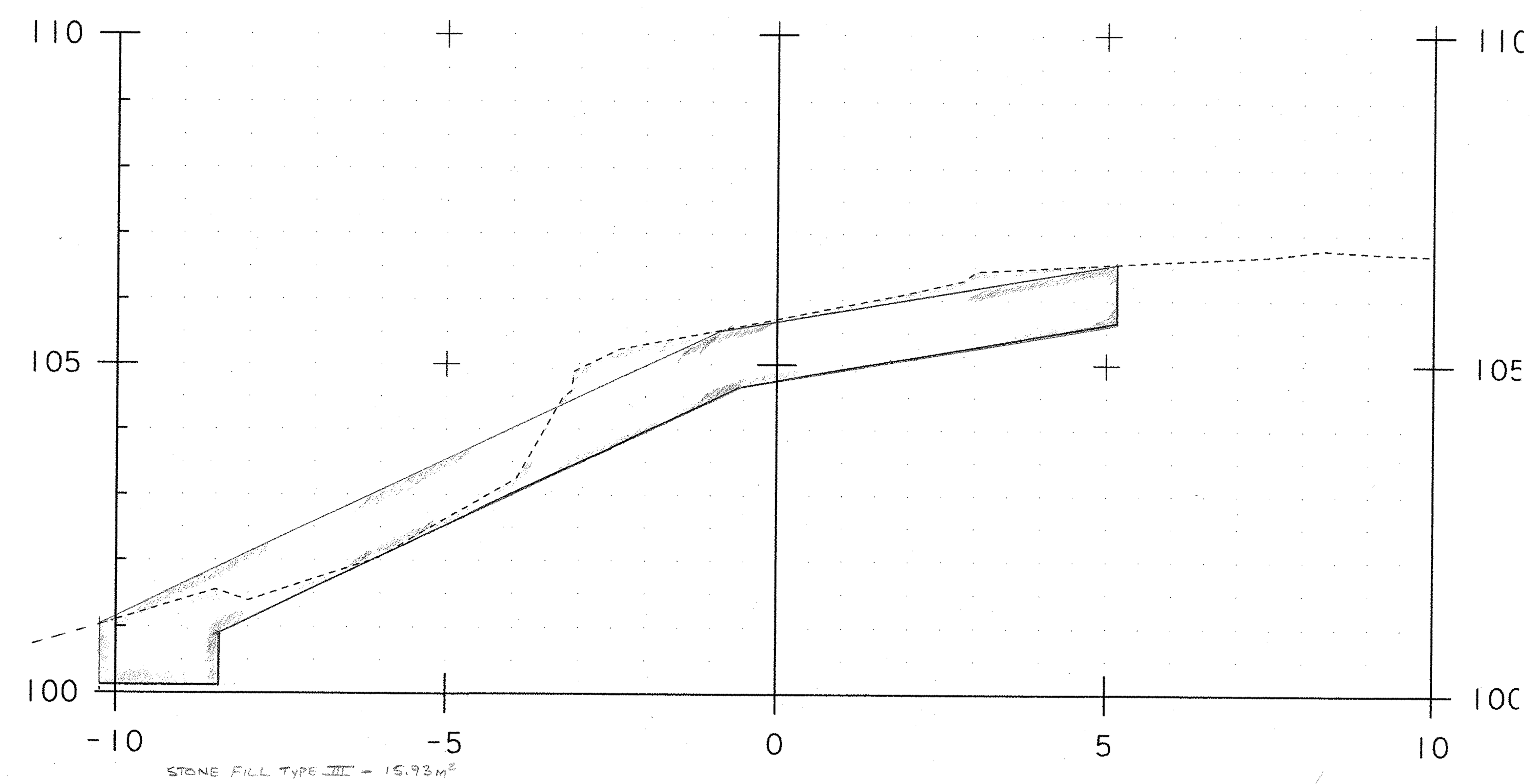
PROJECT NAME:	Liecester
PROJECT NUMBER:	BRF 0160(3)S
FILE NAME:	PLOT DATE: 01-NOV-2005
PROJECT LEADER:	DRAWN BY: R. Bullock
DESIGNED BY:	CHECKED BY:
	SHEET 1 OF 7

Metric



9+990.00

STONE FILL TYPE III - 13.37m²
UNC. EXC. - 12.99m²
GEO UNDER S.F - 16.05M



STONE FILL TYPE III - 15.93m²
UNC. EXC. - 12.93m²
GEO UNDER S.F - 18.3M

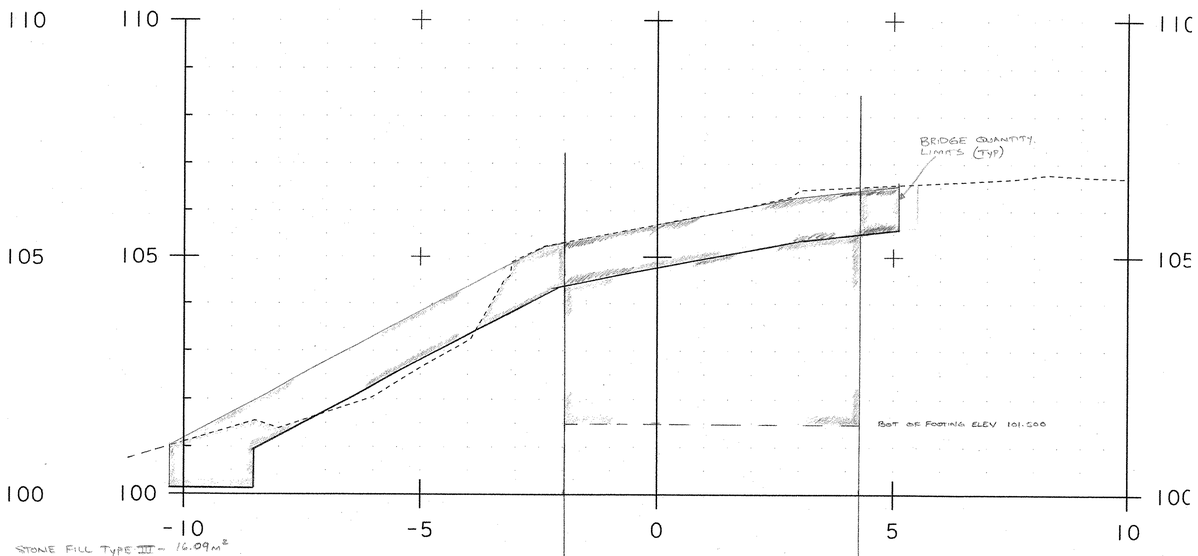
9+992.30

ZERO COFFERDAM
ZERO GRAN. BACKFILL

~~111A5E~~

PROJECT NAME:	Liecester
PROJECT NUMBER:	BRF 0160(3)S

FILE NAME:	PLOT DATE: 01-NOV-2005
PROJECT LEADER:	DRAWN BY: R. Bullock
DESIGNED BY:	CHECKED BY:
112AB2	SHEET 2 OF 7



STONE FILL TYPE III - 16.09 M²

UNIC CHAN EXC - 5.04 M²

GEO UNDER S.F - 18.3 M

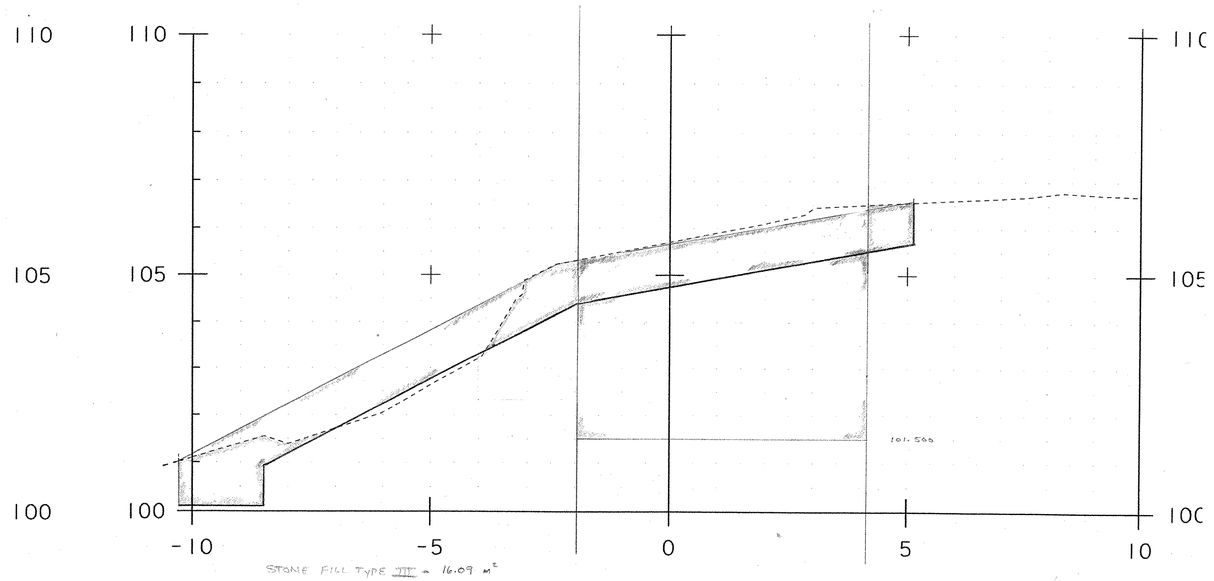
GRAN BACKFILL - 23.32 M²

EXC - E+R = 28.4 M² ✓

9+992.80

FULL WIDTH COFFERDAM

11B AB2



STONE FILL TYPE III = 16.09 m²

UNC CHAN EXC - 5.04 m²

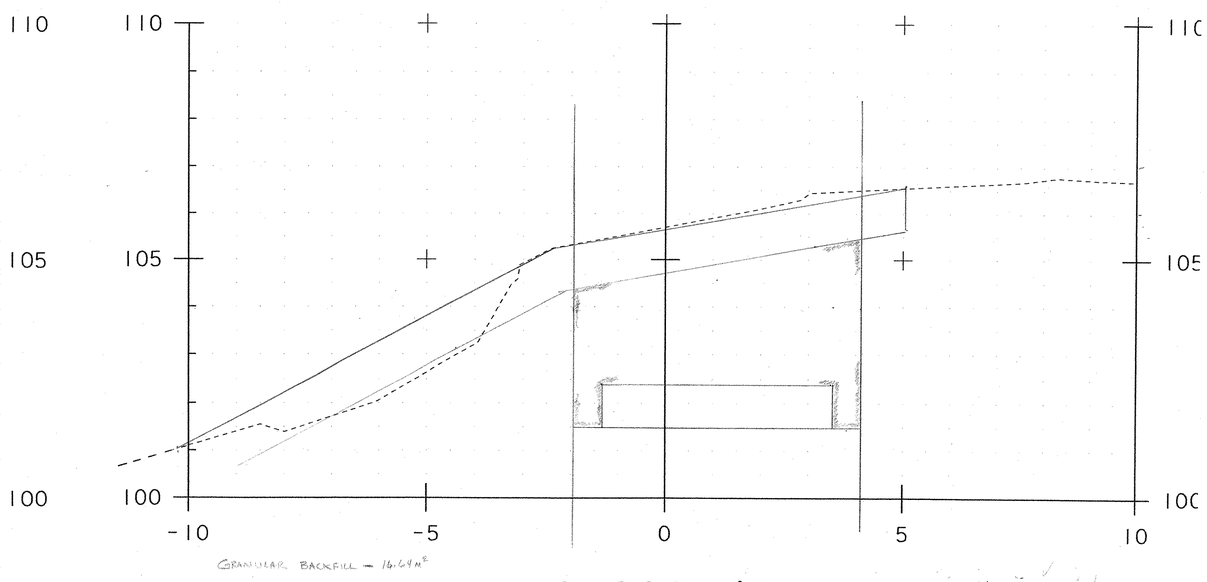
GEO UNDER S.F - 18.3 M

GRAN BACKFILL - 33.32

9+993.00

* FOOTING CORNER

11# AB2

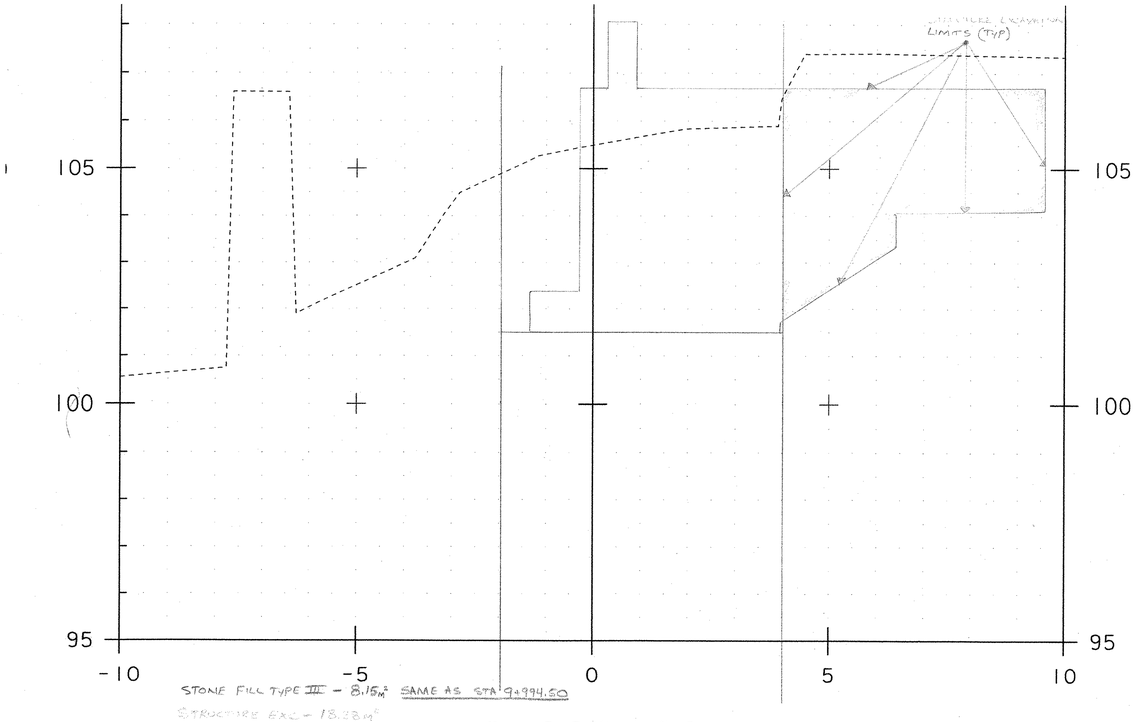


GRANULAR BACKFILL = 16.64 m²

9+993.40 ..... FOOTING CORNER

℄ 115

9+994.20 ---- ABUT STEM CORNER AB2



STONE FILL TYPE III - 8.15$_M^2$ SAME AS STA 9+994.50

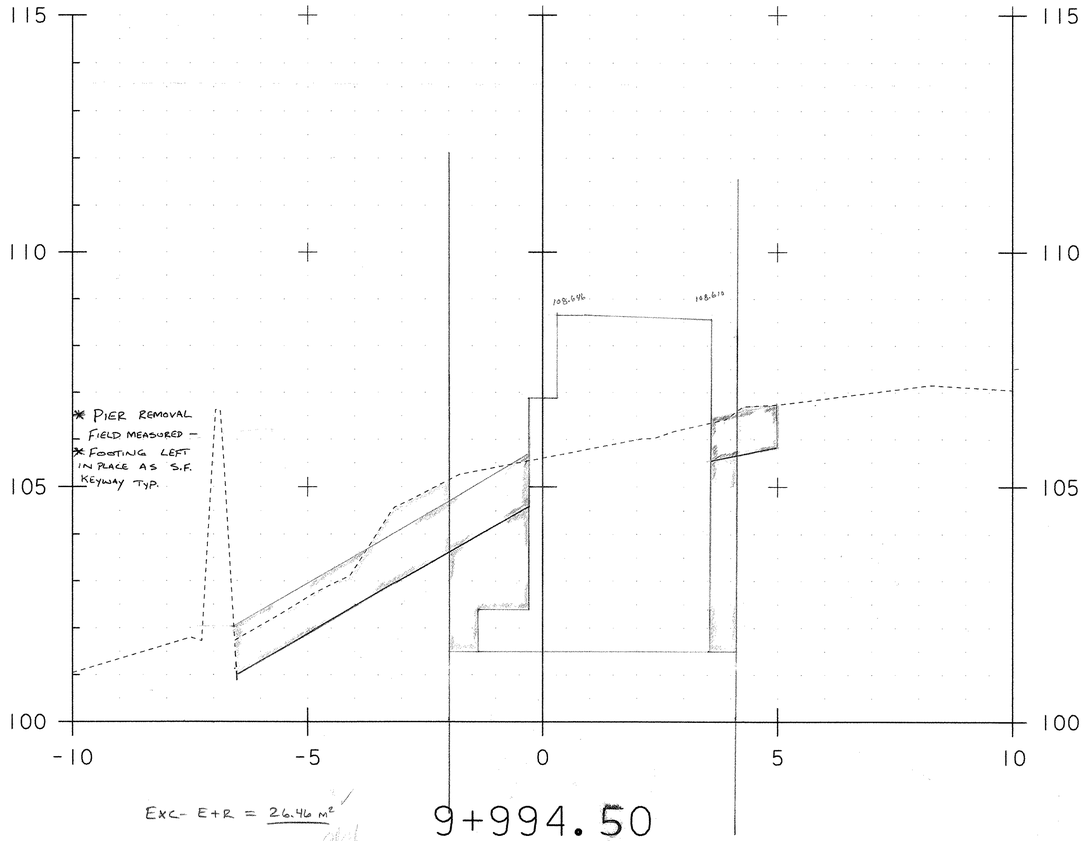
STRUCTURE EXC - 18.23$_M^3$

GEO UNDER S.F - 8.5 M (FROM 9+994.5)

9+995.10

116

AB



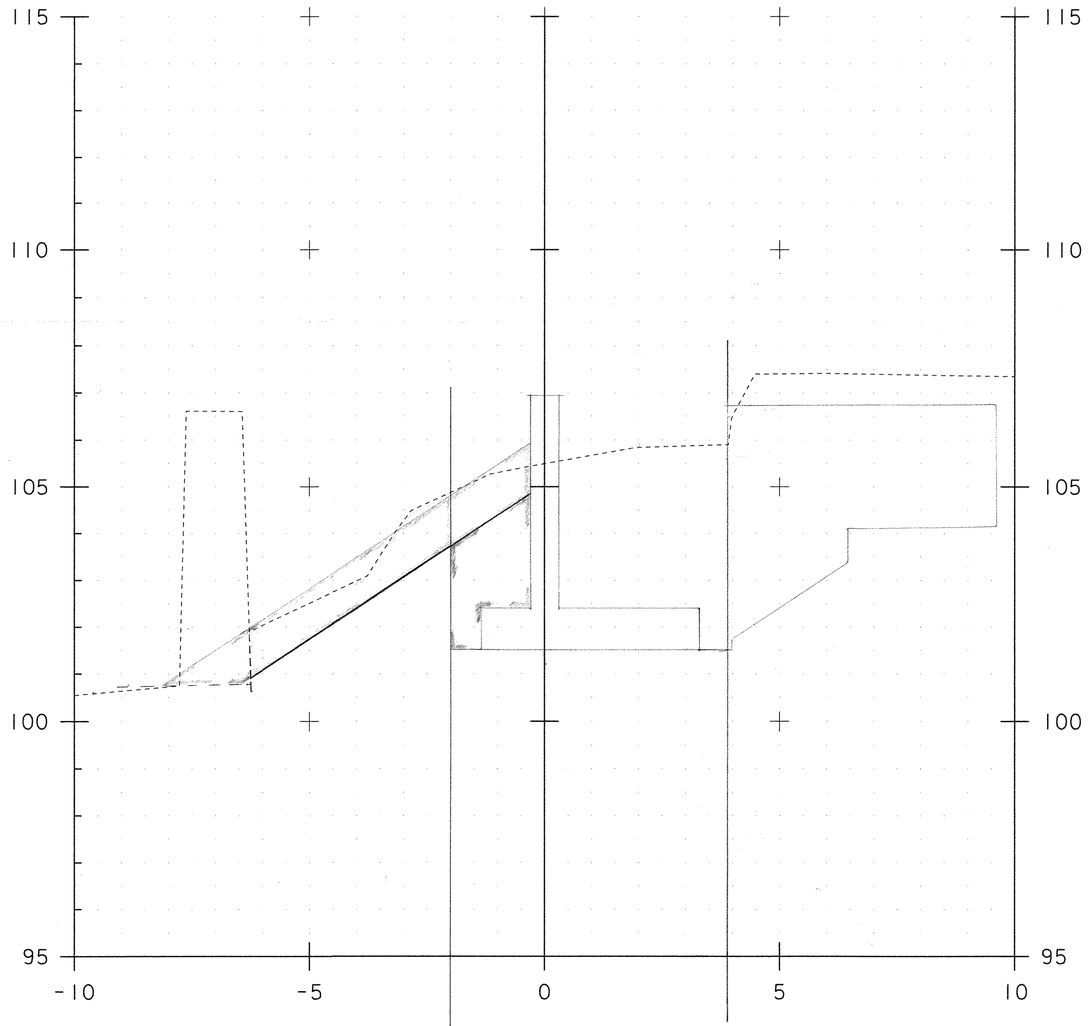
EXC- E+R = 26.46 m²

9+994.50

STONE FILL TYPE III - 8.15 m²

GRANULAR BACKFILL - 5.67 m²

GEO UNDER S.F - 8.5 M



EXC- E+R = 24.11 m²

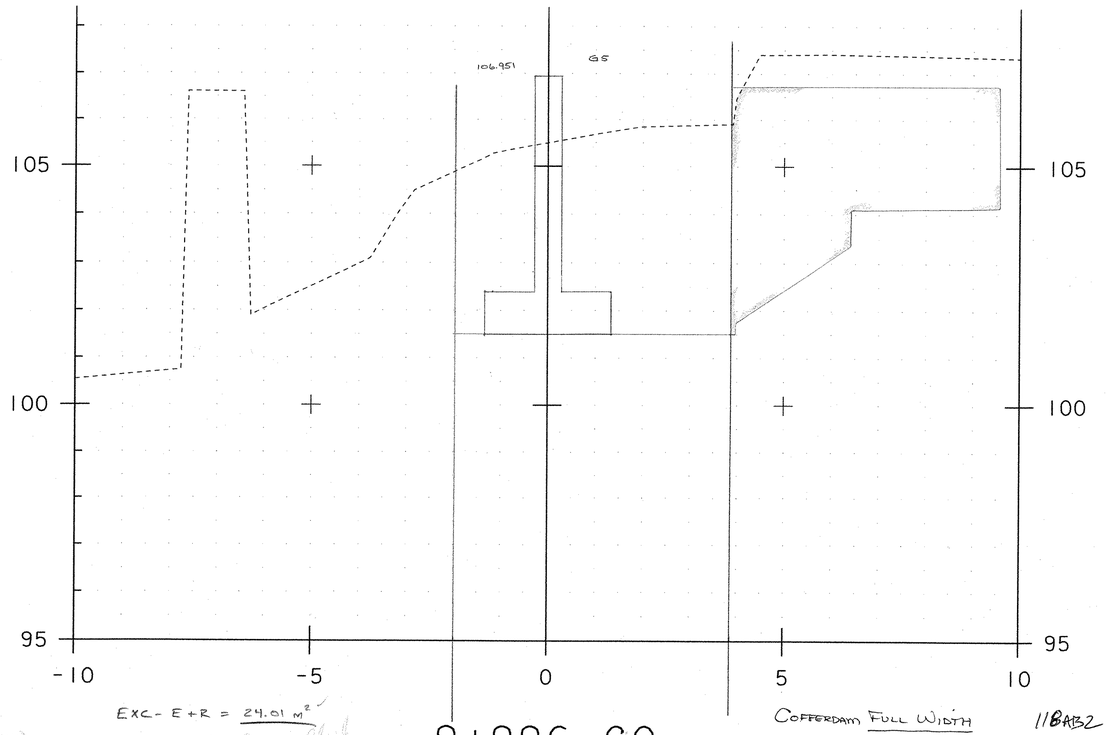
9+996.00

STONE FILL TYPE III - 7.45 m²

GRAN BACKFILL - 3.76 m²

GEO UNDER S.F - 7.1 M

PROJECT NAME:	Liecester
PROJECT NUMBER:	BRF 0160(3)S
FILE NAME:	PLOT DATE: 01-NOV-2005
PROJECT LEADER:	DRAWN BY: R. Bullock
DESIGNED BY:	CHECKED BY:
	SHEET 3 OF 7

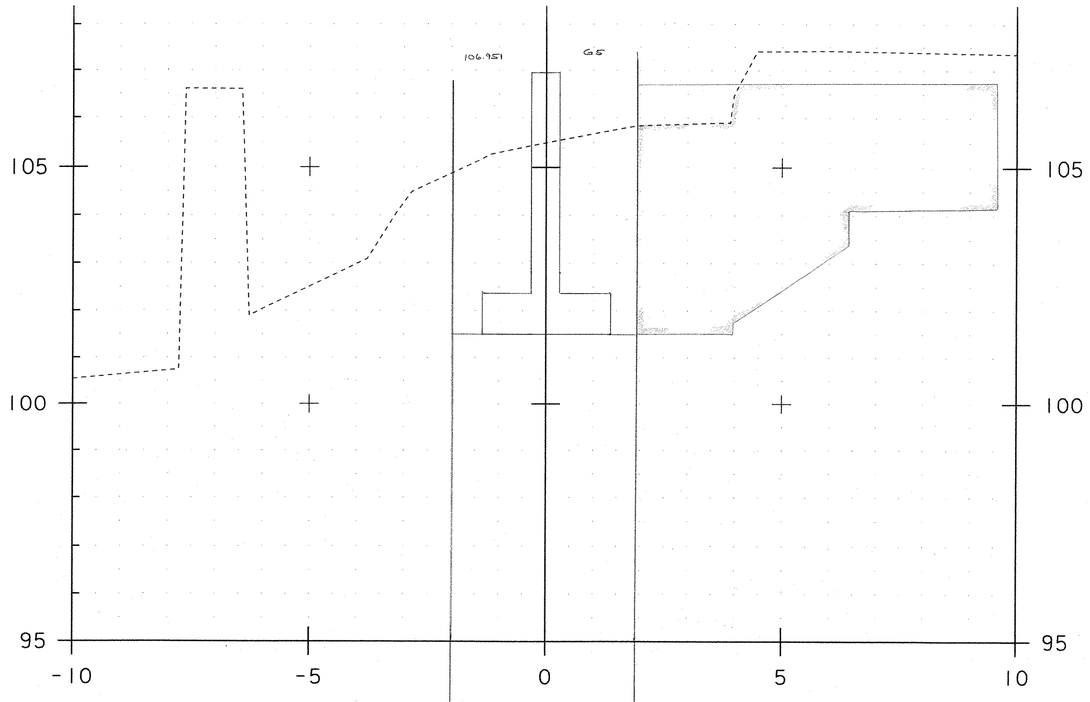


EXC - E + R = 24.01 m²

9+996.60

COFFERDAM FULL WIDTH 11BAB2

BACK STATION & STRUCTURE EXC.



EXC- E+R = 15.67 M² ✓

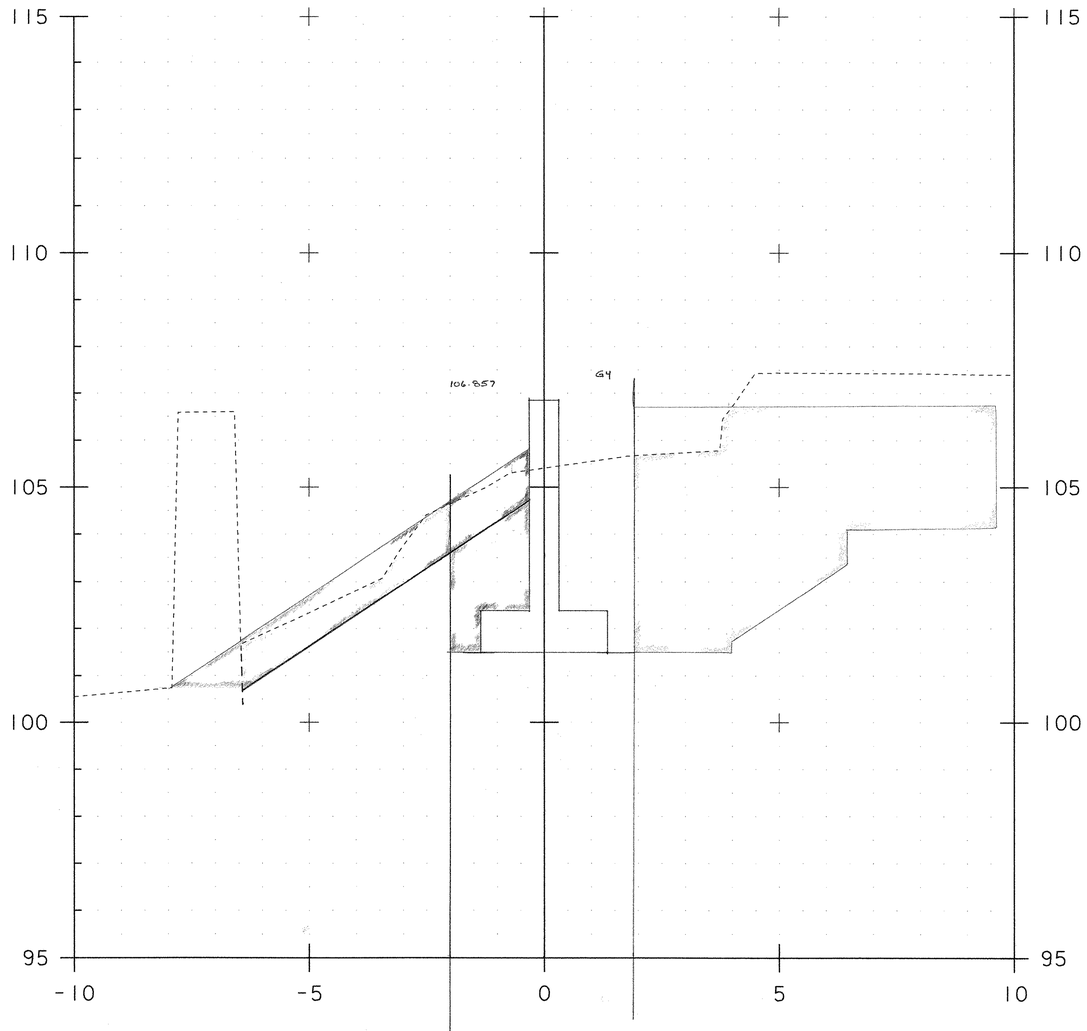
9+996.60

COFFERDAM - ABUT ONLY
FORWARD STATION

& STRUCTURE EXC.

119AB2

(ABUT 2) STRUCTURE EXC = 29.51 M²



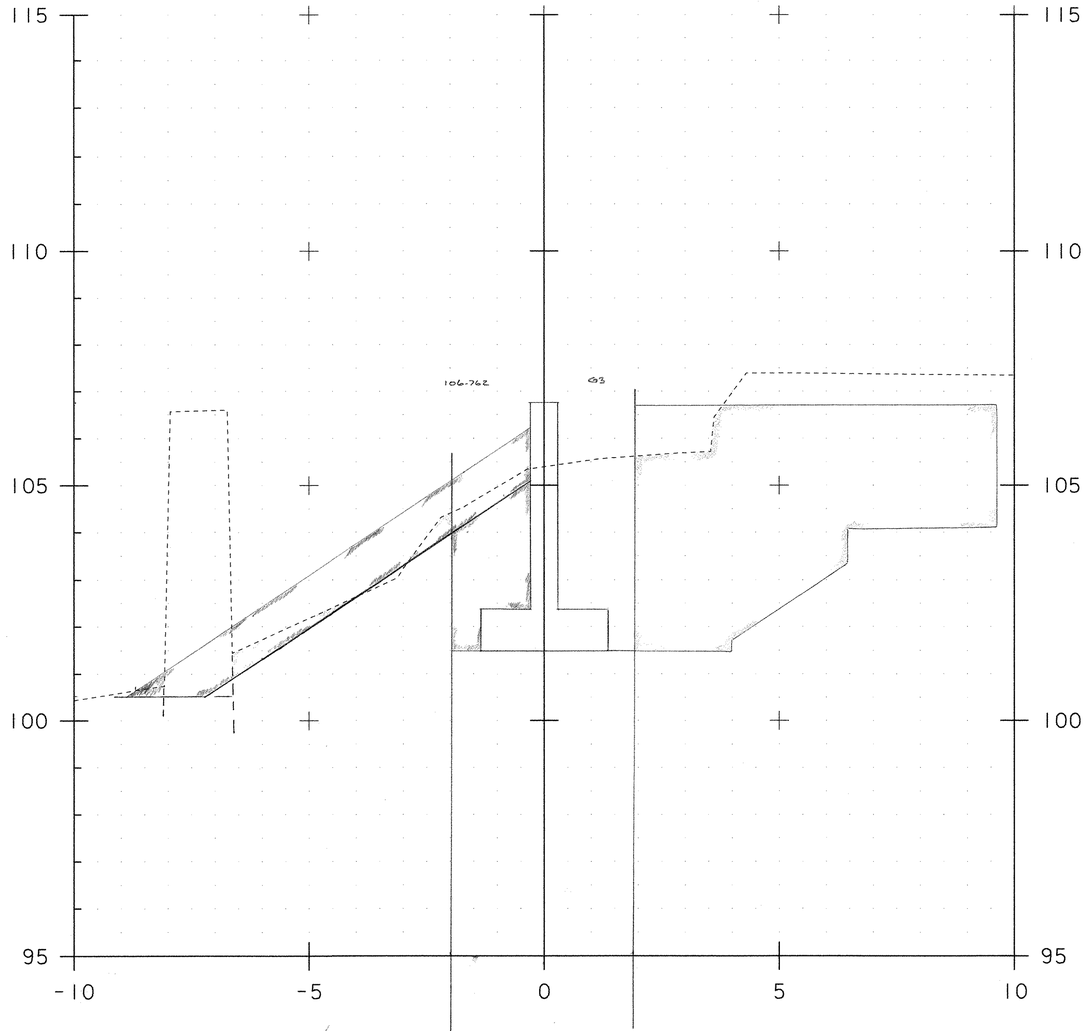
EXC - E+R = 15.12 m²

9+998.00

STONE FILL TYPE III - 7.16 m²

GRANULAR BACKFILL - 3.58 m²

GEO UNDER S.F - 7.3 m



EXC - E+R = 14.64 m²

10+000.00

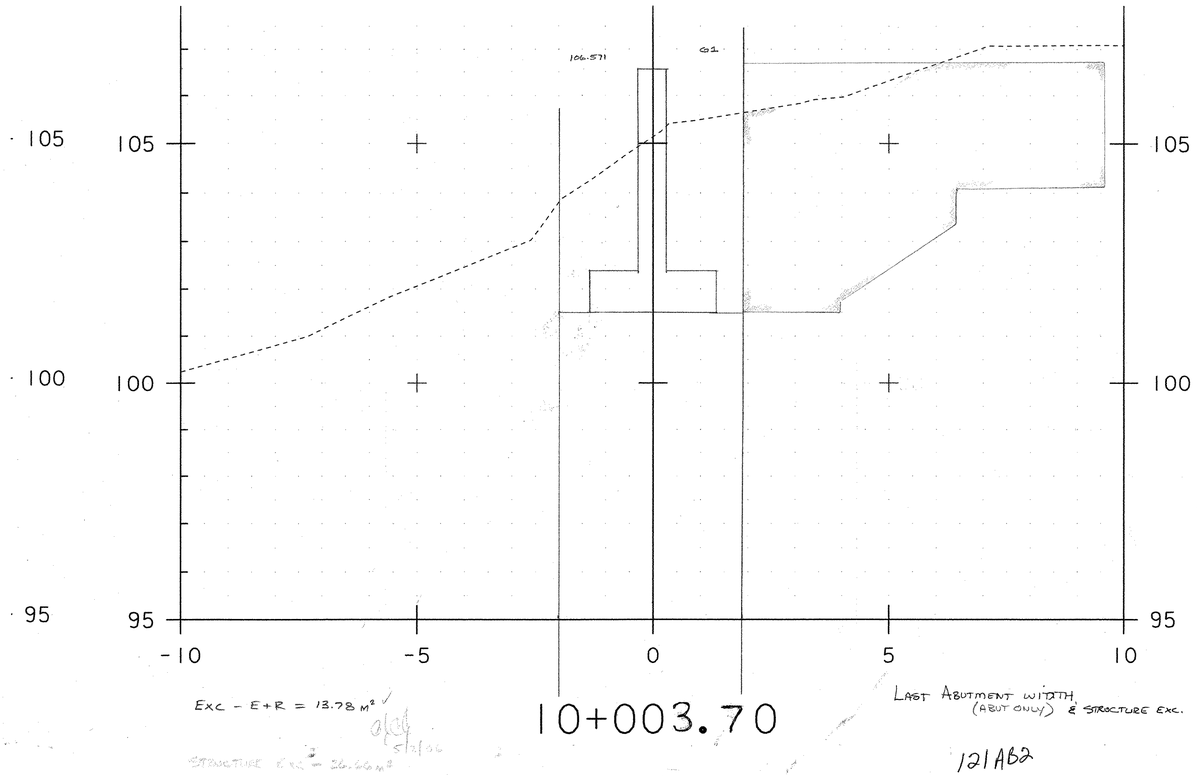
STONE FILL TYPE III - 8.64 m²

GRANULAR BACKFILL - 4.04 m²

GEO UNDER S.F - 8.3 m

PROJECT NAME:	Liecester
PROJECT NUMBER:	BRF 0160(3)S
FILE NAME:	
PROJECT LEADER:	
DESIGNED BY:	
PLOT DATE:	01-NOV-2005
DRAWN BY:	R. Bullock
CHECKED BY:	
SHEET 4	OF 7

120 ABZ

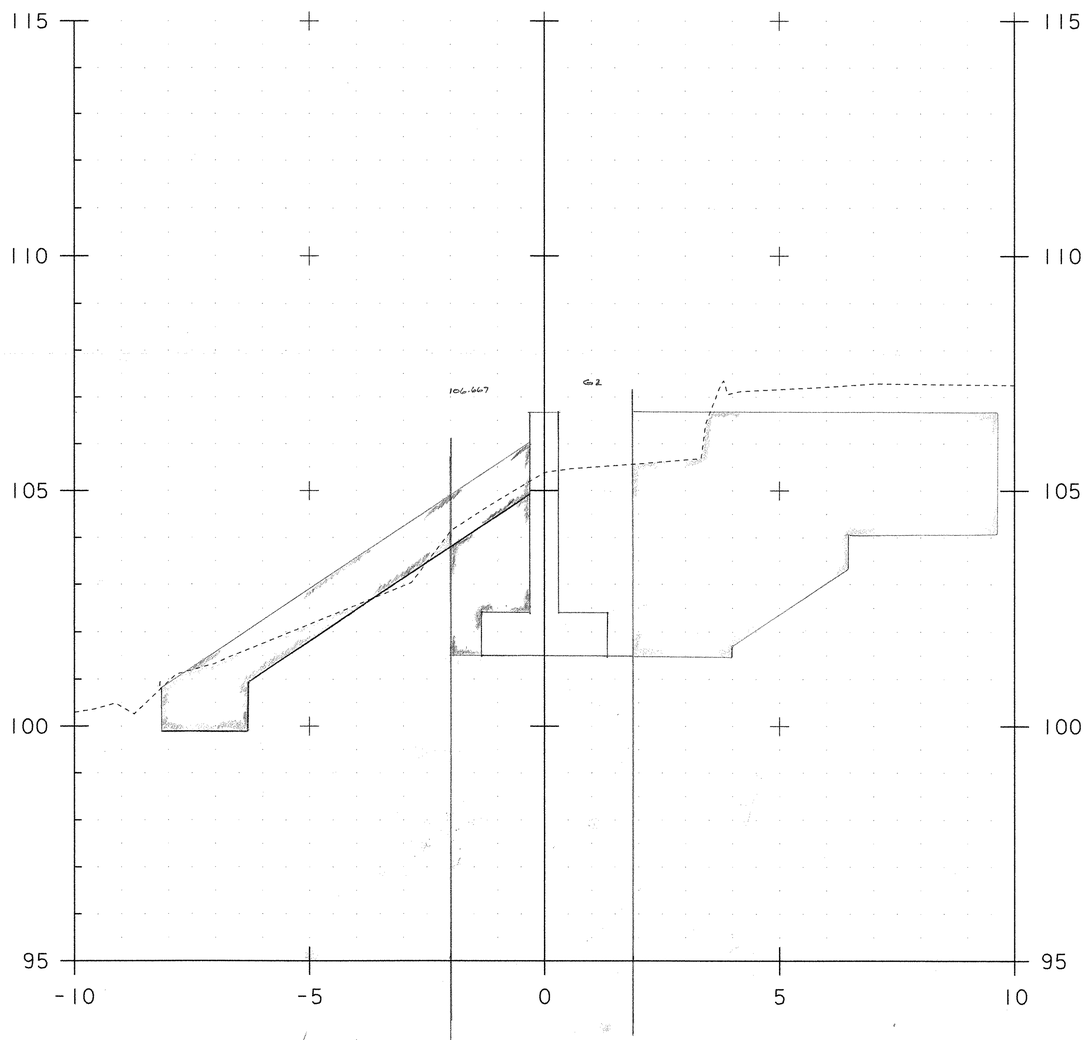


EXC - E+R = 13.78 M²

10+003.70

LAST ABUTMENT WIDTH (ABUT ONLY) & STRUCTURE EXC.

121AB2



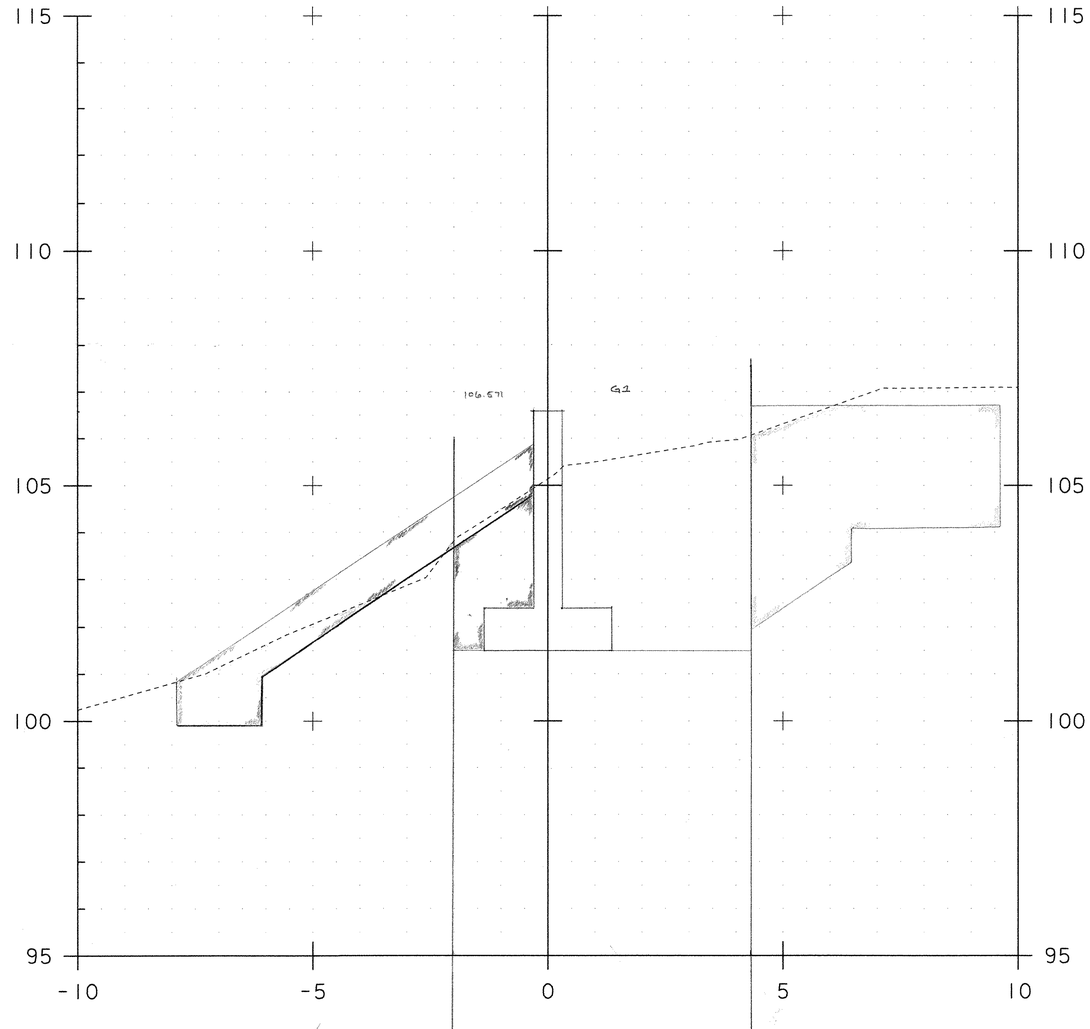
EXC - E+R = 14.05 m²

STONE FILL TYPE III = 9.39 m²

GRAN BACKFILL = 3.73 m²

GEO UNDER S.F = 10.0 m

10+002.00



EXC - E+R = 24.03 m²

STONE FILL TYPE III = 8.08 m²

GRAN BACKFILL = 6.66 m²

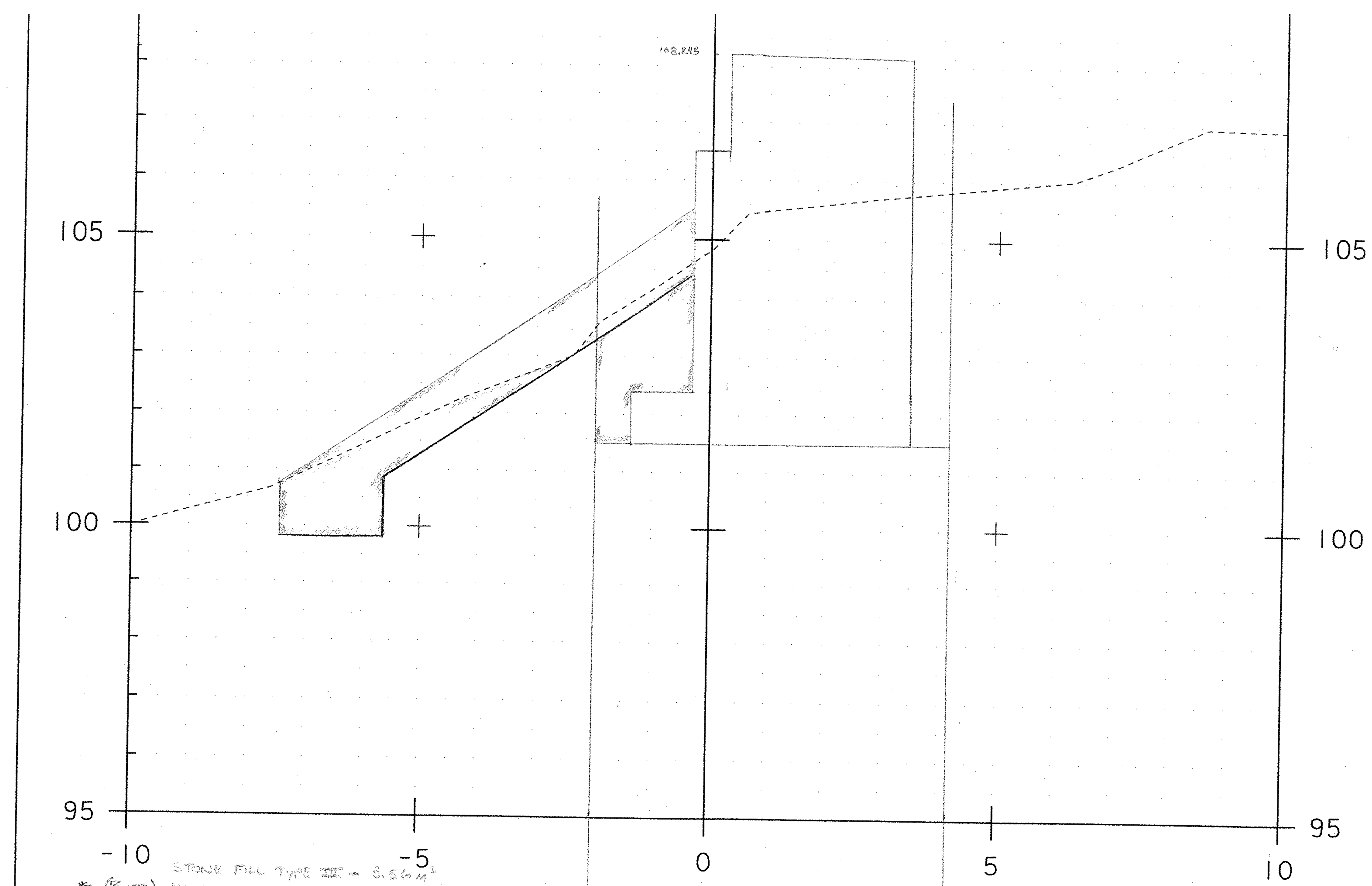
GEO UNDER S.F = 9.7 m

10+004.00

COFFERDAM FULL WIDTH (+ WING)

PROJECT NAME:	Liecester
PROJECT NUMBER:	BRF 0160(3)S
FILE NAME:	PLOT DATE: 01-NOV-2005
PROJECT LEADER:	DRAWN BY: R. Bullock
DESIGNED BY:	CHECKED BY:
	SHEET 5 OF 7

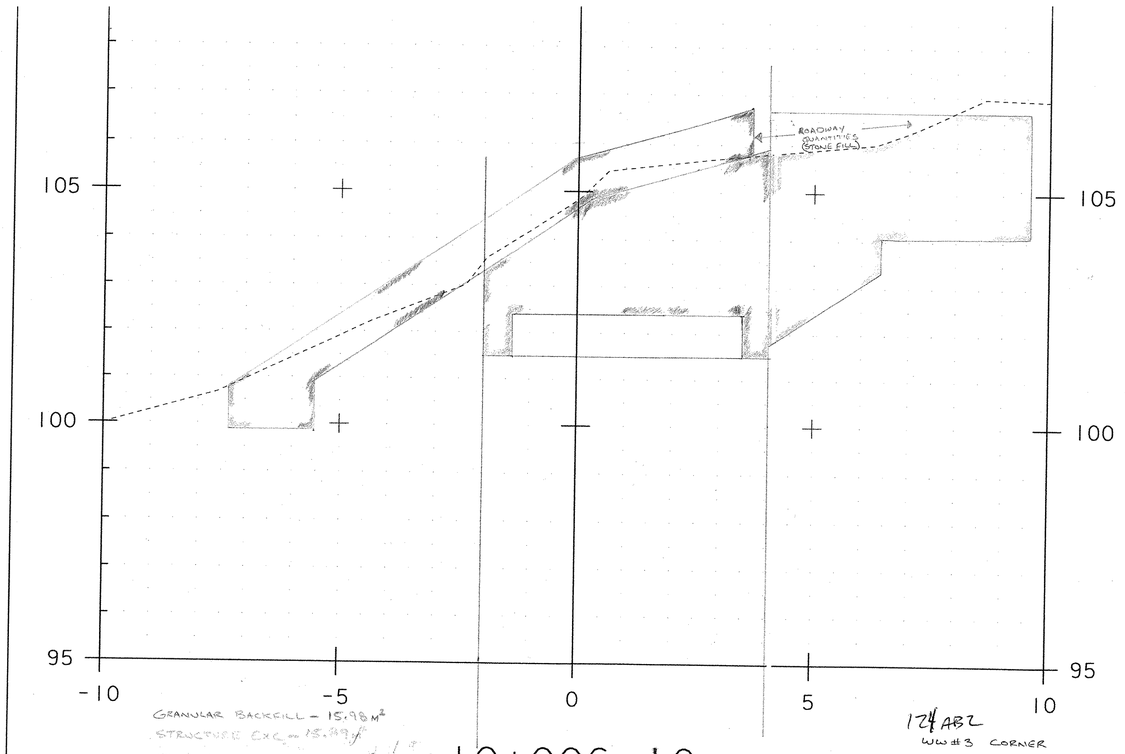
128472



STONE FILL TYPE III – 8.56 M²
* (BUTT) UNCL CHAN EXC – 3.49 M²
GRAN MAT. BACKFILL – 3.79 M²
* (BUTT) GEO UNDER S.F – 9.2 M

10+005.80

ABUTMENT / WW #3 CORNER
128 AB2

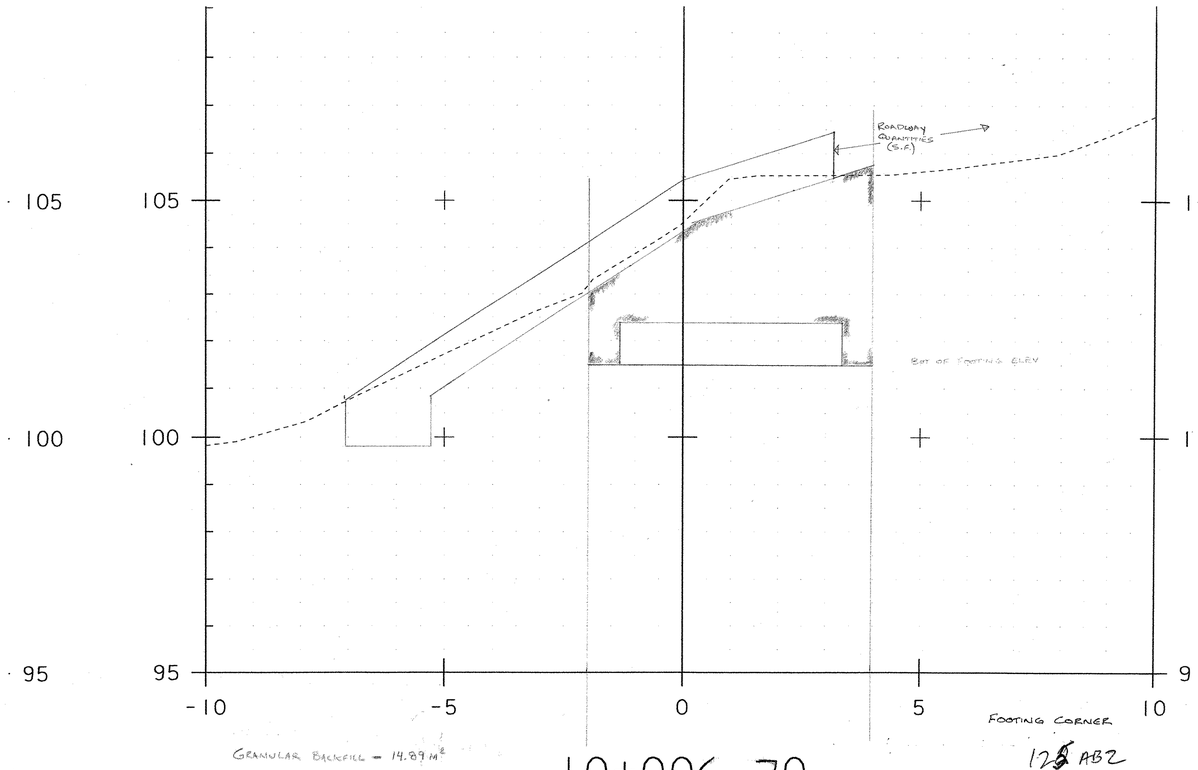


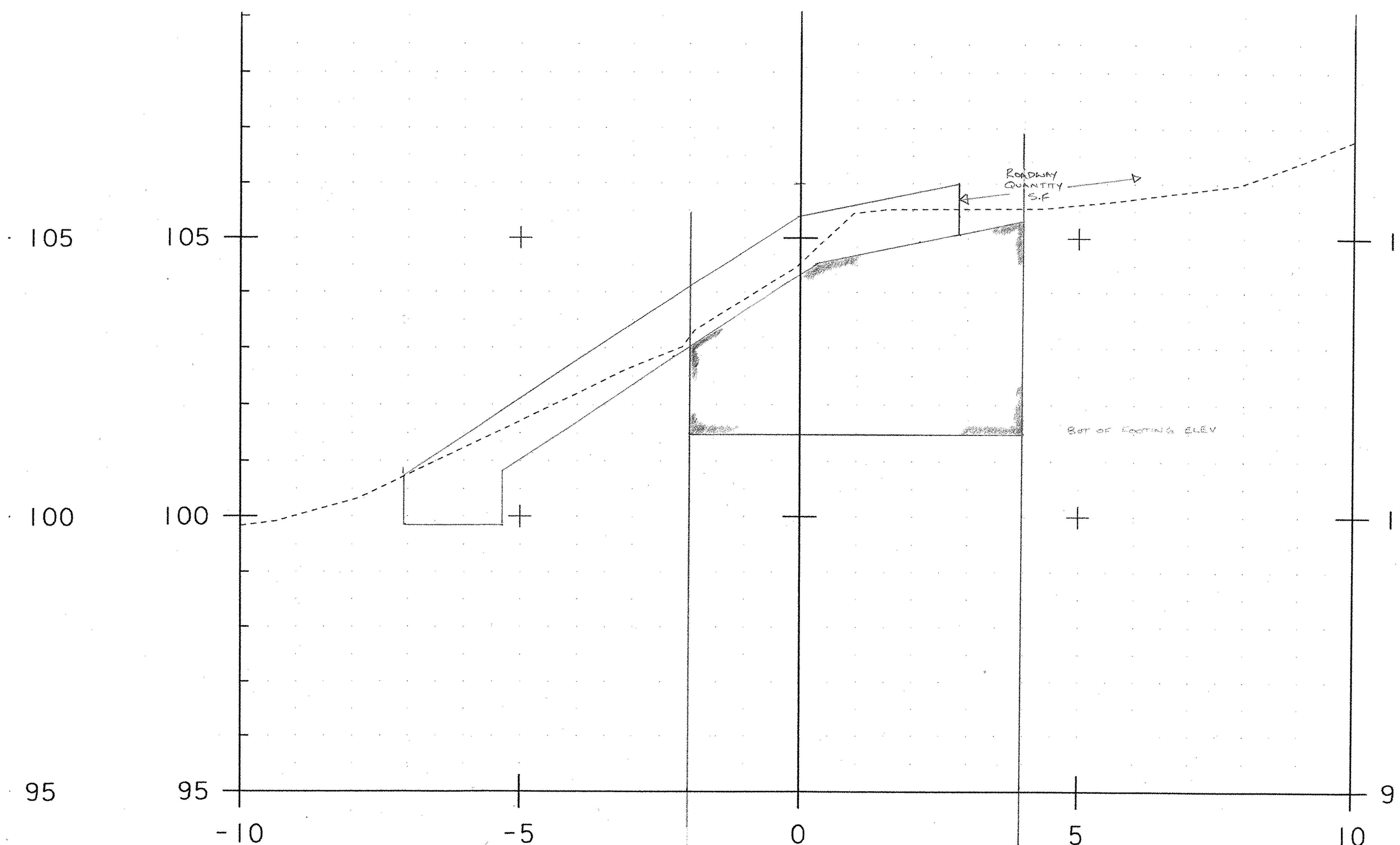
GRANULAR BACKFILL - 15.98 M²
STRUCTURE EXC - 15.49 M²
STONE FILL TYPE III - 12.45 M²

10+006.10

12 ABZ
WW #3 CORNER

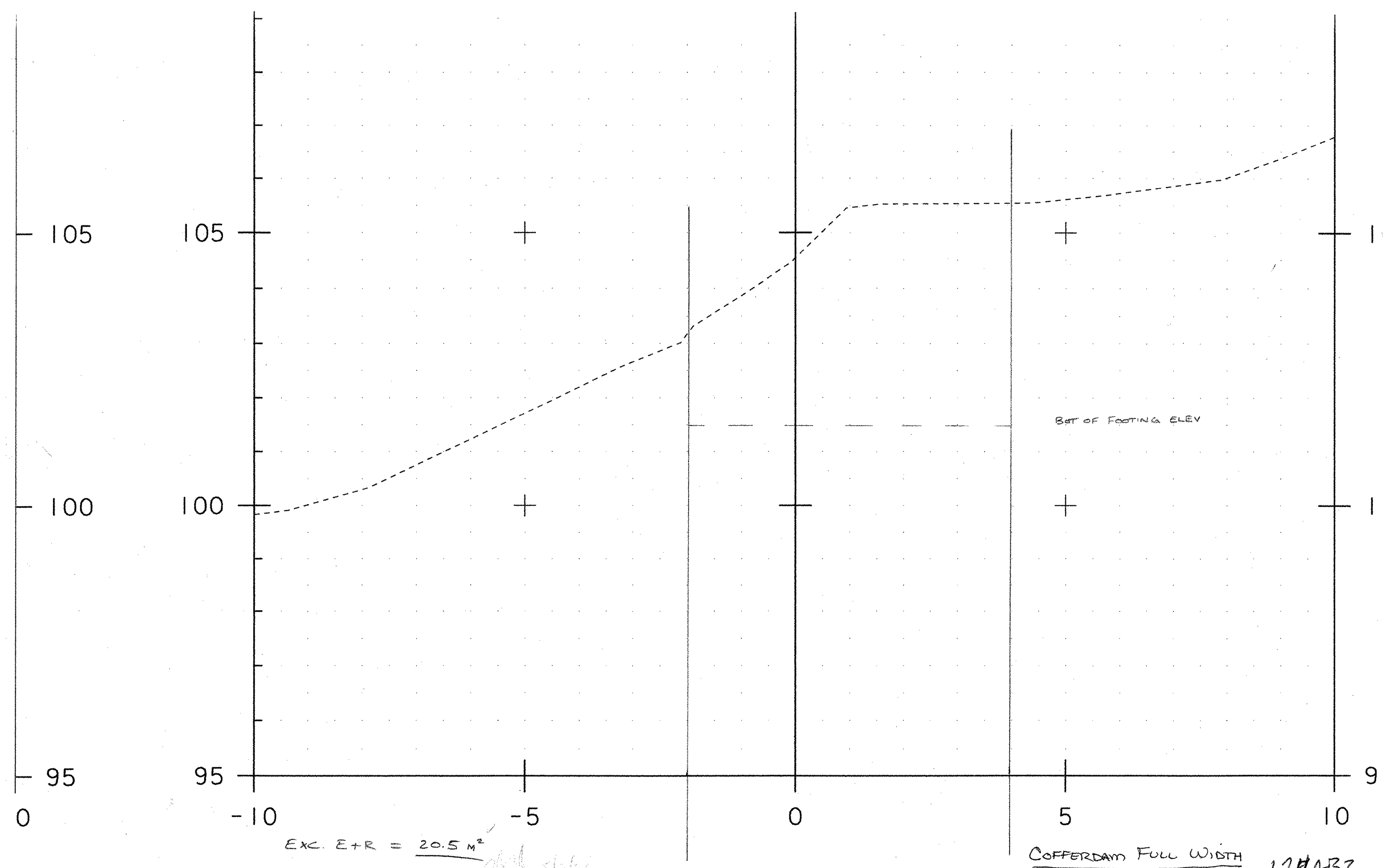
10+006.5 - ZERO STRUC. EXC


105
100
95
105
100
95
-10
-5
0
5
10
1
1
9
ROADWAY QUANTITIES (C.F.)
BOT OF FOOTING ELEV.
FOOTING CORNER
GRANULAR BACKFILL = 14.89 M²
10+006.70
12 ABZ



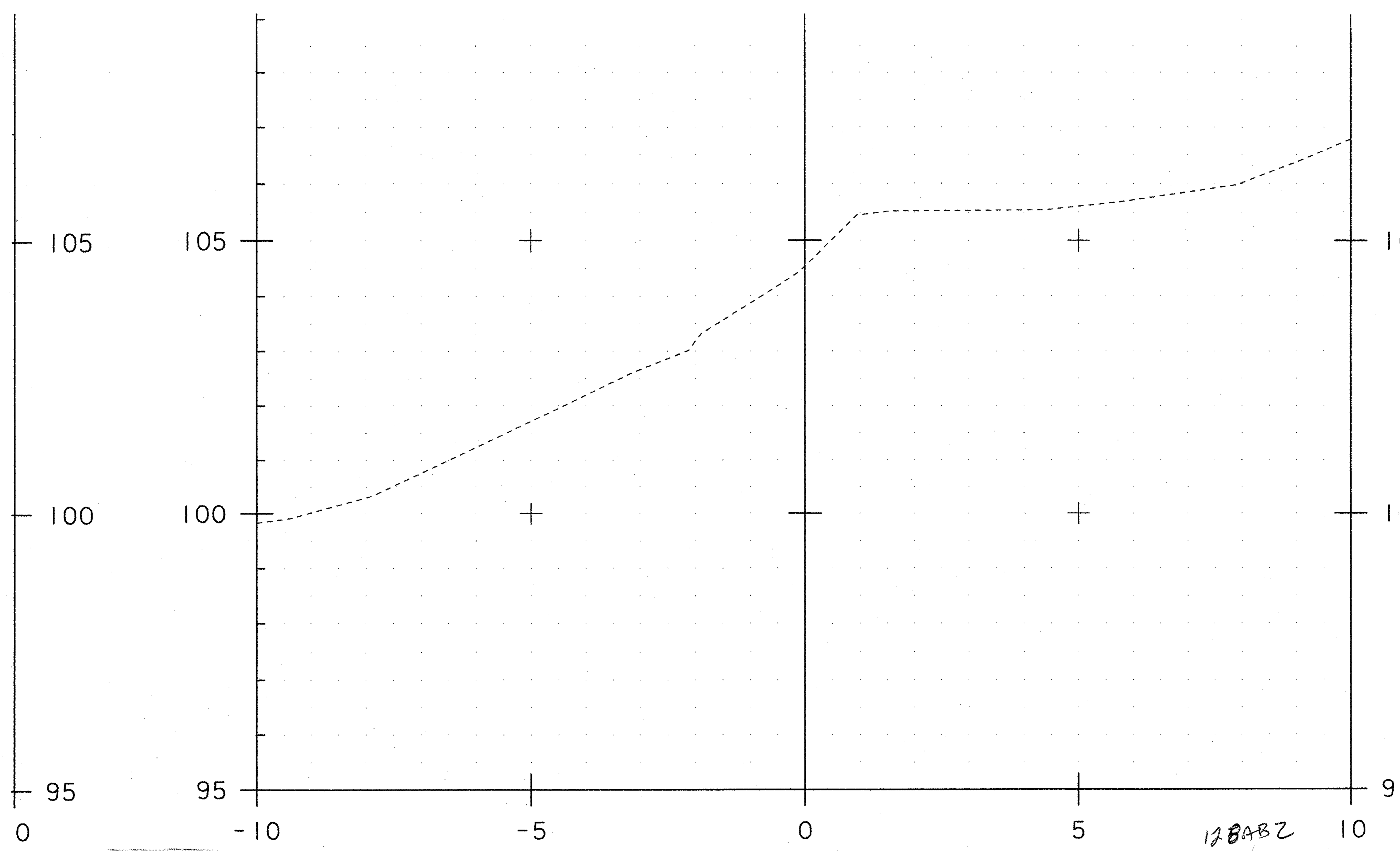
10+007.10 & 10+007.3 GRAN. BACKFILL

126AB2



105
100
95
0
105
100
95
-10
-5
0
5
10
BOT OF FOOTING ELEV
EXC. E+R = 20.5 M²
COFFERDAM FULL WIDTH
127ABZ

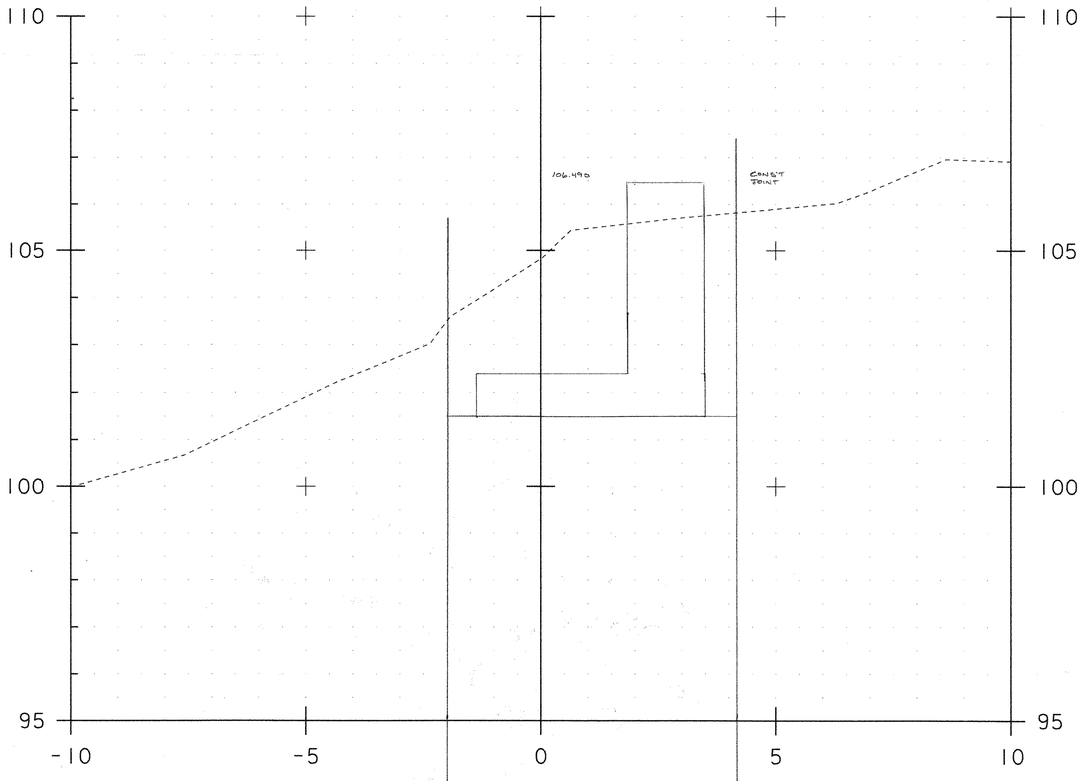
10+007.30



10+007.80

ZERO COFFERDAM

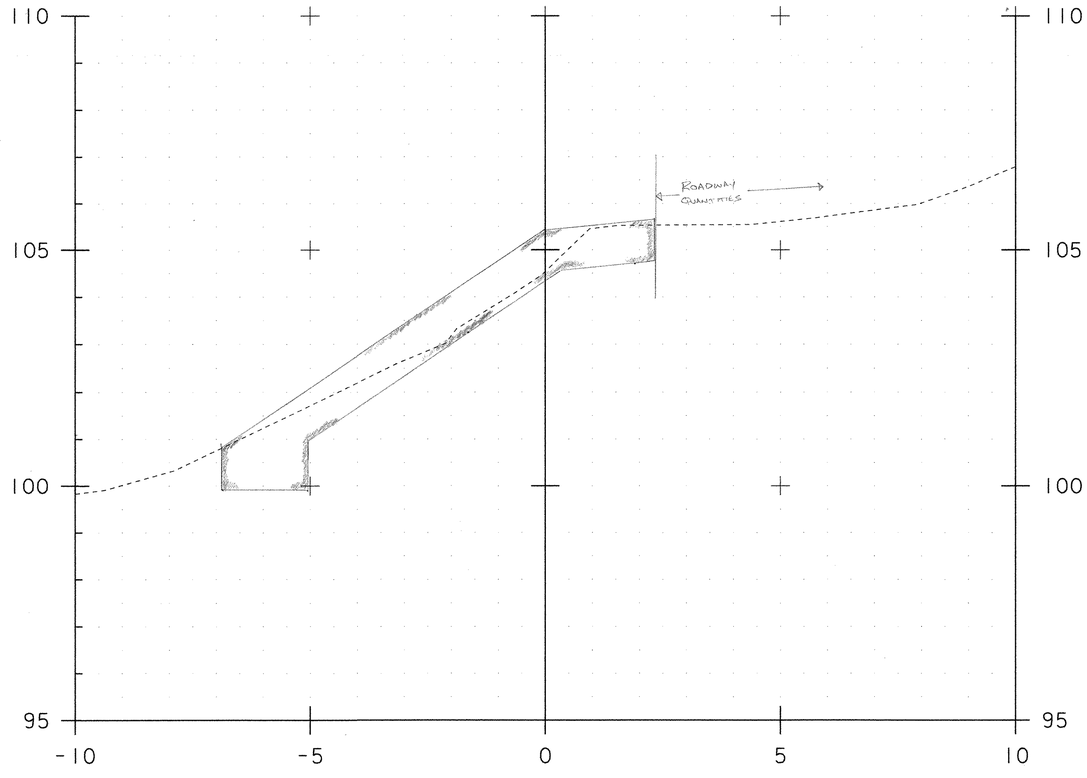
ZERO GRAN. BACKFILL



EXC – E+R = 22.12 M²

10+006.00

*COFFERDAM EXC ONLY



STONE FILL TYPE III – 10.28 M²

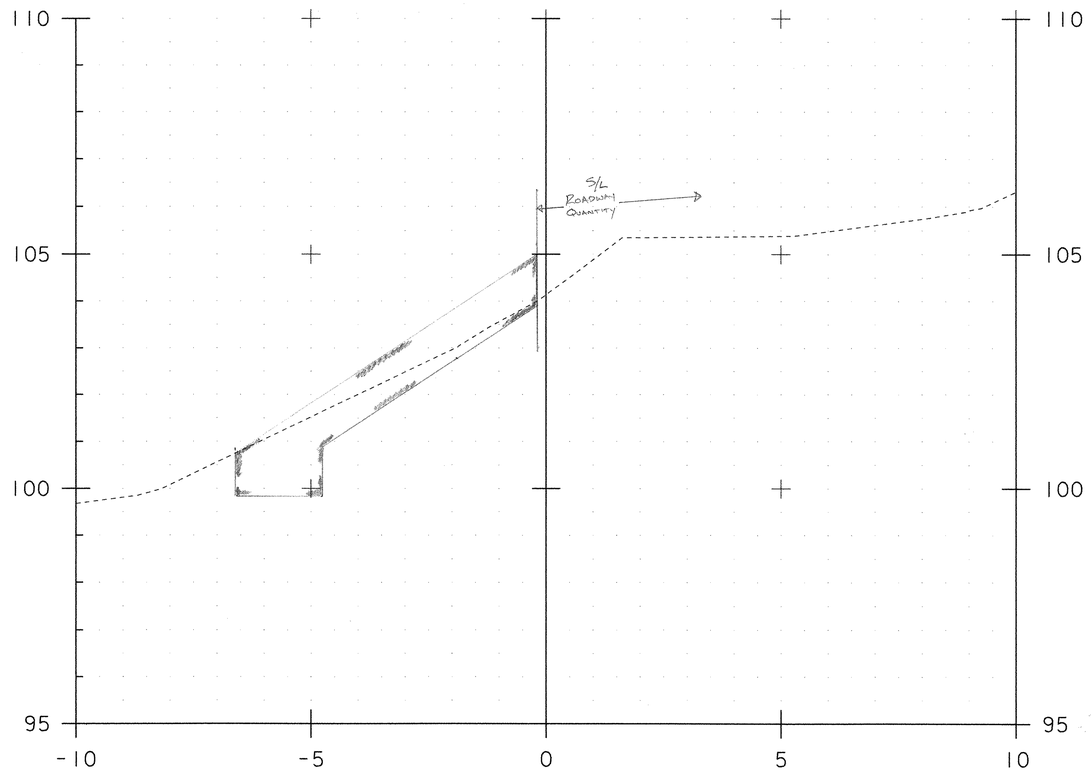
10+008.00

PROJECT NAME:	Liecester
PROJECT NUMBER:	BRF 0160(3)S
FILE NAME:	PLOT DATE: 01-NOV-2005
PROJECT LEADER:	DRAWN BY: R. Bullock
DESIGNED BY:	CHECKED BY:
	SHEET 6 OF 7

129 A82

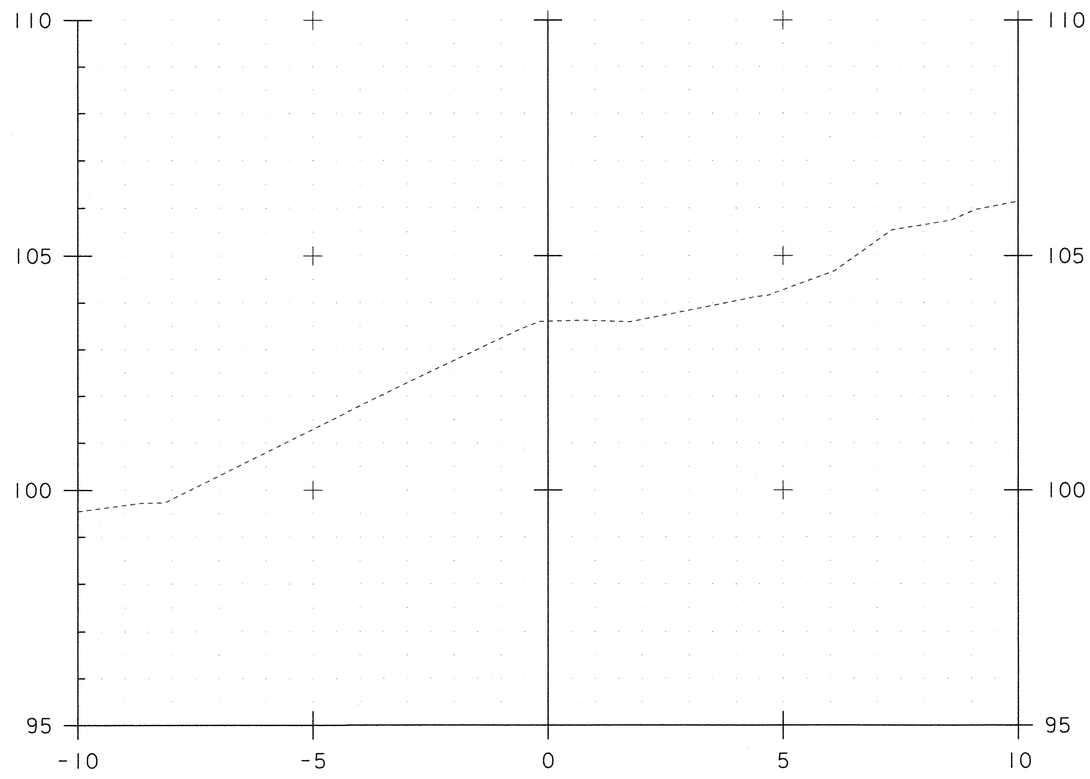
10+008.70

130AB2



10+010.00

(BUTT) STONE FILL TYPE III = 7.81 M²



10+012.00

PROJECT NAME:	Liecester
PROJECT NUMBER:	BRF 0160(3)S
FILE NAME:	PLOT DATE: 01-NOV-2005
PROJECT LEADER:	DRAWN BY: R. Bullock
DESIGNED BY:	CHECKED BY:
	SHEET 8 OF 8

STATE OF VERMONT
AGENCY OF TRANSPORTATION
AC BRF 0160 (3)S
LEICESTER, VT.

EMS-QC-110 VAOT

RECEIVED
CK'D BY_____ OK'D BY JWC
JAN 06 2006
RESUBMIT_____ APPROVED V
BY RBV DATE 02-06-06

COSMEC, INC.
70 SOUTH STREET
WALPOLE, MA 02081
PH# 508-668-6600
FAX# 508-660-1022

ENGINEERING AND MANUFACTURING STANDARD
PTFE FACING AND STEEL
OR PREFORMED FABRIC SUBSTRATE
SURFACE PREPARATION AND ADHESIVE PROCEDURE

The PTFE facing shall be prepared for bonding to a substrate material by chemically etching the face to be bonded using the sodium ammonia process.

The mating surface of the substrate shall be prepared for bonding using a three-step process as follows:

1. preliminary degrease using methyl ethyl ketone.
2. mechanically roughen to approx. 125 RMS and thoroughly brush and clean for final degreasing.
3. final degrease using methyl ethyl ketone

The PTFE and substrate mating surfaces shall be clean and dry with final degreasing performed within 30 minutes of bonding. Adhesive shall consist of a two-part epoxy adhesive system conforming to Military Specification MMM-A-134

The adhesive shall be applied to the full area of the contact surface in an even manner so as to establish a glue line not less than .002 inch nor more than .010 inch thick. Surfaces being bonded are to be assembled immediately with open assembly time not to exceed 20 minutes.

The PTFE material shall be greater in width and length than the substrate material by at least ½ inch when bonded. The PTFE shall be applied with contact starting at one edge and with contact progressing across entire bonded surface to eliminate air entrapment. The PTFE is to be in full contact with the steel or preformed fabric substrate. Curing of the bond shall be done under pressure of approx. 2-100 psi for 10-12 hours at approx. 70°F or other schedules as established by the manufacturer of the adhesive.

The PTFE shall be carefully trimmed to the same size as the substrate after bond curing and all bonds shall be visually inspected for bond retention.

132
B.B.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
AC BRF 0160 (3)S
LEICESTER, VT.

COSMEC INC.

WELDING PROCEDURE SPECIFICATION

SPECIFICATIONS AND CODE: D1.6 (D1.3)
MATERIAL SPECIFICATION ASTM A240 TYPE 304 TO ASTM A709 GR 50W
WELDING PROCESS---------- GTAW
MANUAL OR MACHINE------- MANUAL
POSITION OF WELDING----- 1F & 2F
FILLER METAL SPECIFICATION ER309L CLASSIFICATION: A5.9
MANUFACTURER: HARRIS WELCO TRADENAME:
FLUX------- INTERNAL
SHIELDING GAS---------------- ARGON FLOW RATE 45 CFH
SINGLE OR MULTIPLE PASS SINGLE
SINGLE OR MULTIPLE ARC SINGLE
WELDING CURRENT---------- DC
POLARITY: REVERSE (EN)
WELDING PROGRESSION---
ROOT TREATMENT----------- CLEANED & PREPARED BRIGHT METAL
PREHEAT AND INTERPASS TEMPERATURE------------------ SEE BELOW
POSTHEAT TEMPERATURE N/A
HEAT IMPUT MIN.--------------------------------- MAX.----

WELDING PROCEDURE

PASS NO.	ELECTRODE SIZE	WELDING CURRENT AMPERES	VOLTS	TRAVEL SPEED	JOINT DETAIL
ALL	3/32"	130--155 16 GA THRU 10 GA BM THICKNESS	14-17	6.75--8.5	LAP JOINT

VAOT
RECEIVED
CK'D BY______ OK'D BY JWC
JAN 0 6 2006
RESUBMIT______ APPROVED ✓
BY RRW DATE 02-06-06

PREHEAT TEMPS. ***PREHEAT UNTIL NO MOSITURE PRESENT

THICKNESS	TEMP.
UP TO 3/4"	100 DEG.
OVER 3/4" TO 1 1/2"	100 DEG.
OVER 1 1/2" TO 2 1/2"	100 DEG.
OVER 2 1/2"	100 DEG.

THIS PROCEURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT-UP, PASS SIZE, ETC.
WITHIN THE LIMITATION OF VARIABLES GIVEN IN SECTION 5.
SUPPORTING PQR: GTAW-WF-05
PROCEDURE NO. GTAW-WF

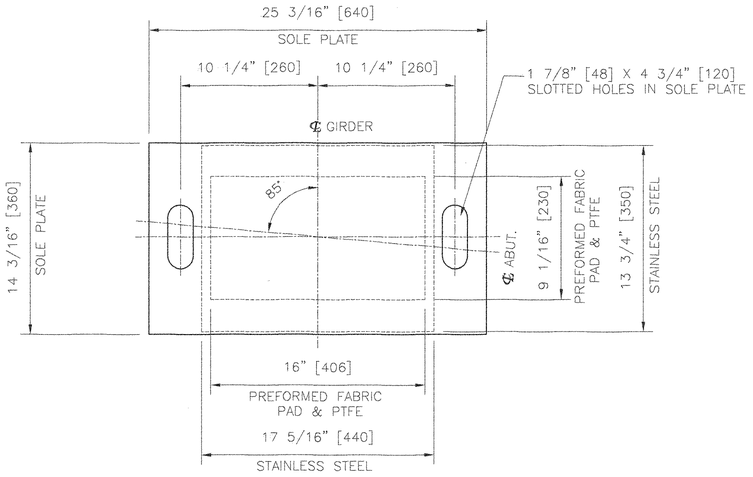
REVISION NO. 1

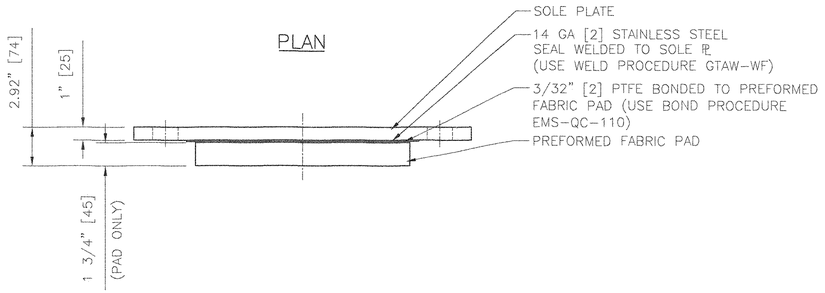
CONTRACTOR: COSMEC INC.
AUTHORIZED BY: DONALD VOSE
CWI#:01100651 Donald Vose

DATE:--- 2/1/2005

AWS QC 1
DONALD E VOSE
01100651
CWI

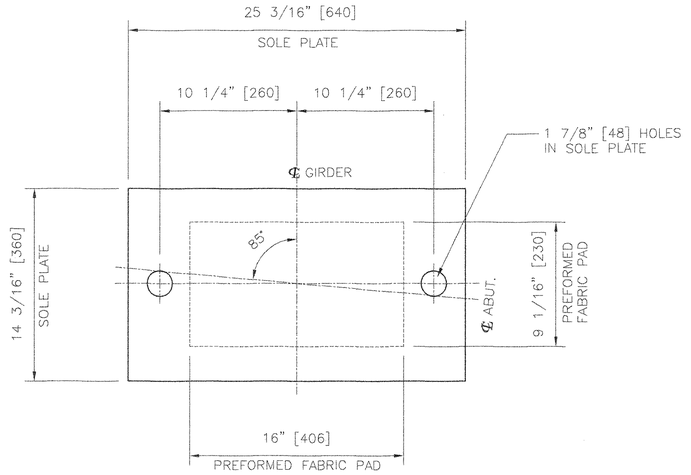
133
~~129~~ B.B.

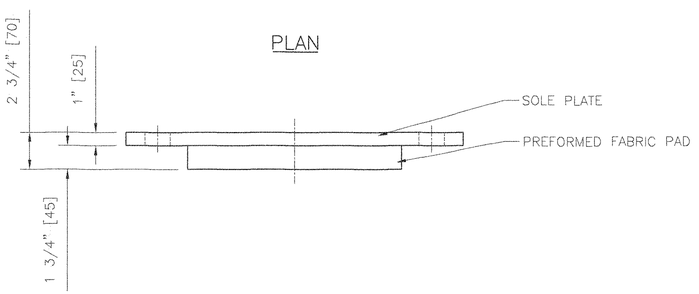




COSMEC EXPANSION FABRIC PAD BEARING

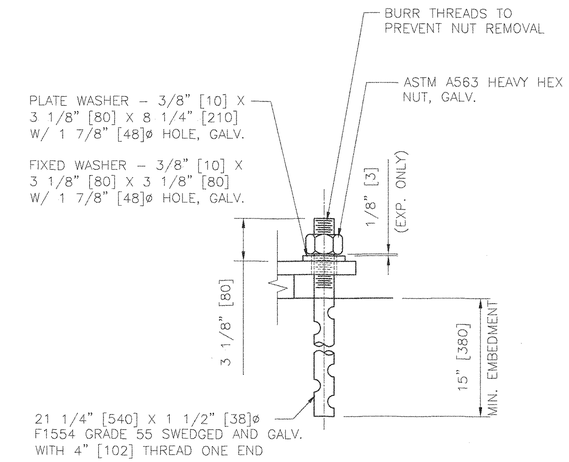
LOCATION: ABUTMENT NO.1
QUANTITY: 5





COSMEC FIXED FABRIC PAD BEARING

LOCATION: ABUTMENT NO.2
QUANTITY: 5



ANCHOR BOLT DETAIL

BEARING NOTES:

1. ALL MATERIALS USED IN THE FABRICATION OF THESE BEARINGS SHALL BE MADE IN THE U.S.A.
2. BEARINGS ARE TO BE SHIPPED AS COMPLETE UNITS, STEEL BANDED, AND SHALL BE WRAPPED TO PROTECT FROM MOISTURE AND DIRT DURING TRANSIT AND STORAGE.
3. LOCATION OF FABRICATION PLANT – 70 SOUTH STREET WALPOLE, MA 02081
4. COSMEC, INC. REPRESENTATIVE – MR. MATT McANDREWS (508) 668-6600
5. BEARINGS SHALL BE STORED IN A CLEAN, DRY, LEVEL UPRIGHT POSITION.

MATERIALS:

STEEL – ASTM A709, GR. 36 ZINC METALLIZED & SEALED
1/16 INCH RADIUS ON ALL EDGES
STAINLESS STEEL – A240, TYPE 304 MIRROR FINISH OF LESS THAN 10 MICRO INCHES RMS
PTFE – ASTM D4894

PREFORMED FABRIC BEARING PAD – AASHTO 18.4.9.1

ANCHOR BOLTS – SEE DETAIL

VAOT
RECEIVED
CK'D BY MKH CK'D BY
JAN 06 2006
RESUBMIT APPROVED AS NOTED
BY RKW DATE 2/7/06

Structures Eng.

REV.		BY	DATE	CK'D	DATE

STATE OF VERMONT
AGENCY OF TRANSPORTATION
AC BRF 0160 (3)S
LEICESTER, VT.

COSMEC, INC. — 70 SOUTH STREET WALPOLE, MA. 02081

SCALE: 3/16"=1"	DRAWN BY: MRR	CHECKED BY: MCM
DATE:	DATE: 12-21-05	DATE: 12-30-05

COSMEC FABRIC PAD BEARINGS

CUSTOMER	S.O. NUMBER	DRAWING NUMBER	REV.
BLOW & COTE, INC.	60452	4567	

B.B.

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360 Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709 Gr36-50-50W (250-345-345W)
Welding process Submerged Arc welding - AUTO (SAW)
Manual or machine Machine
Position of welding FlaT (1F) HorizonTal (2F)
Filler metal specification AWS A5-17, AWS A5-23
Filler metal classification F8A2-ENi1K-Ni1 Lincoln
Flux 960 Flux - Lincolnweld - LA-75 ElecTrode
Flow rate NA
Shielding gas NA
Single or multiple pass both
Single or multiple arc Single
Welding current Direct
Polarity Reverse ElecTrode PositiVe
Welding progression
Root treatment MeeT AWS specificaTion
Preheat and interpass temperature To 3/4 (19)-50°(10°C) 3/4" (19") 1 1/2 (38)-70°(20°C) 1 1/2 (38") To 2 1/2 (63.5) 150°(65°C) over 2 1/2 (63.5)-225°(110°)
Postheat temperature NA
Heat Input Min 41.65 Max 65.45 PQR#1-59.5

Vermont AOT
Leicester Br#6
Proj #BRF 0160(3)S
CBSS 285

WELDING PROCEDURE

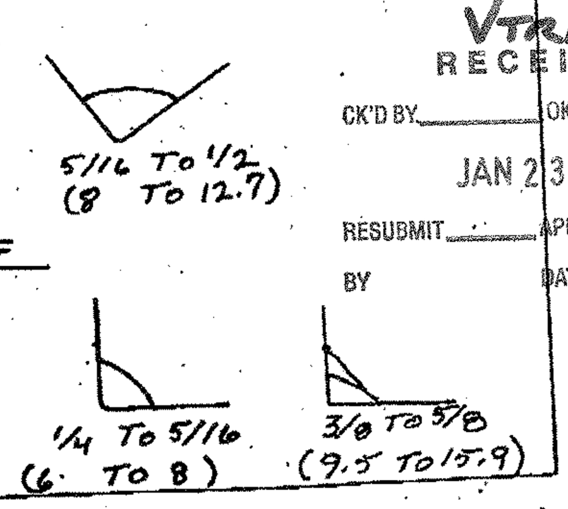
(MeTric)

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
	5/32	605 544.5 To 665.5	29.5 27.4 To 31.56	18.5 15.3 To 20.7
	3.9	MeTric 605 544.5 To 665.5	29.5 27.4 To 31.56	457.2 384.6 To 525.8

Joint detail FilleT
AWS D1-5

1F

2F



VTRANS RECEIVED
CK'D BY ____ OK'D BY JWC
JAN 23 2006
RESUBMIT ____ APPROVED ✓
BY ____ DATE 02-06-06

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 201
Revision no.
Form III-2

AWS QC1 PAUL E. GOODALE 93100201 CWI

Contractor Casco Bay STeel
Authorized By Paul E. Goodale
Date 3/2/00

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360 **Fax: (207) 282-1179**

WELDING PROCEDURE SPECIFICATION

Material specification: ASTM 709 Gr36-50-50W (250-345-345W)
Welding process: Submerged Arc welding - Auto (SAW)
Manual or machine: Machine
Position of welding: Flat (1G)
Filler metal specification: AWS A5-17 AWS A5-23
Filler metal classification: F8A2-ENi1K-Ni1 Lincoln LA-75 ElecTrode
Flux: 960 Flux - Lincolnweld Flow rate: NA
Shielding gas: NA
Single or multiple pass: both
Single or multiple arc: single
Welding current: Direct
Polarity: Reverse ElecTrode PosiTive
Welding progression:
Root treatment: Meet AWS specification - Back Gouge side #2.
Preheat and interpass temperature: To 3/4 (19) 50° (10°) 3/4 (19) 1 1/2 (38) - 70° (20°) 1 1/2 (38) 2 1/2 (63.5) 150° (65°) over 2 1/2 (63.5) - 225° (110°)
Postheat temperature: NA
Heat input Min 41.65 Max 65.45 PQR #1-59.5

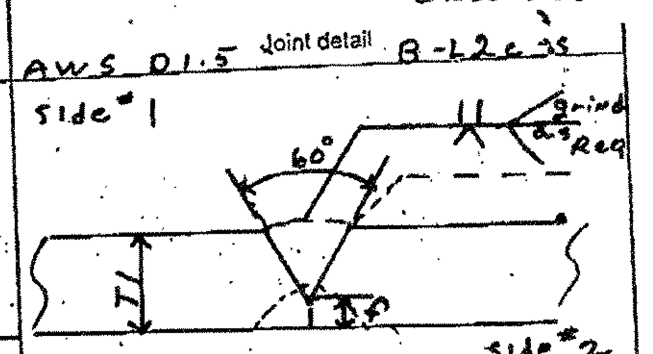
VTRANS
RECEIVED
OK'D BY ____ OK'D BY JWC
JAN 23 2006 ✓
RESUBMIT ____ APPROVED ____
BY ____ DATE 02-06-

Vermont A.O.T.
Leicester - Br #6
Proj #BRF 0160(3)S
CBSS 285

WELDING PROCEDURE

(metric)

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed	Joint detail: AWS D1.5 B-L2c-S
	5/32	605 / 544.5 To 665.5	29.5 / 27.4 To 31.56	18.5 / 15.3 To 20.7	Side #1, Side #2 (see sketch)
	3.9	605 / 544.5 To 665.5	29.5 / 27.4 To 31.56	457.2 / 388.6 To 525.8	T1 table below



T1	
1/2" To 1" (12.7 To 25.4)	1/4 min (6)
1" To 1 1/2" (25.4 To 38.1)	3/8 min (9.5)
1 1/2" To 2" (38.1 To 50)	1/2 min (12)

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 202
Revision no.
Form III-2

AWS QC 1 PAUL E. GRONDALE [stamp] CWI

Contractor: Casco Bay Steel
Authorized By: Paul E. Grondale
Date: 3/2/00

136 SS

Casco Bay Steel Structures, Inc.
75 Spring Hill Road
Saco, Maine 04072
Phone: (207) 282-7360 **Fax: (207) 282-1179**

VTRANS RECEIVED JAN 23 2006

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709 Gr 36-50-50W (250-345-345W)
Welding process Submerged Arc Welding - Auto (SAW)
Manual or machine Machine
Position of welding Flat (1-sa.a)
Filler metal specification AWS A5.17 AWS A5.23 Lincoln
Filler metal classification F8A2-EM11K-M11 LA-75 Electrode
Flux 960 FLUX-Lincoln weld - LA-75 Flow rate NA
Shielding gas NA
Single or multiple pass both
Single or multiple arc Single
Welding current Direct
Polarity Reverse Electrode Positive
Welding progression
Root treatment meet AWS Specification
Preheat and interpass temperature To 3/4"(19) 50°(10°), 3/4"(19) 176(80)-70(20°)
Postheat temperature NA
Heat Input Min 41.65 Max 65.45 PQR#1-59.5

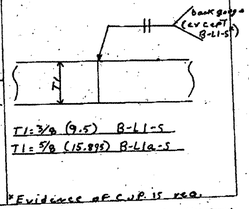
OK'D BY: OK'D BY JWC
RESUBMIT: APPROVED ✓
BY: DATE 02-06-06

Vermont AOT
Leicester Br #6
Proj #BRF 0160(3)S
CLASS 285

(METRIC)

WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed	Joint detail AWS D1-5 B-L1-S*, B-L1a-S
	5/32	605 544.5 To 665.5	29.5 27.4 To 31.56	18 15.3 To 20.7	
	3.9	605 544.5 To 665.5	29.5 27.4 To 31.56	457.2 388.6 To 529.8	



T1: 3/8 (9.5) B-L1-S
T1 = 5/8 (15.875) B-L1a-S

*Evidence of CVP is req.

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 203
Revision no.
Form III-2

Contractor Casco Bay Steel
Authorized By Paul T. Hodsdon
Date 3/2/00

13955

Casco Bay Steel Structures, Inc.
75 Spring Hill Road
Saco, Maine 04072
Phone: (207) 282-7360 Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

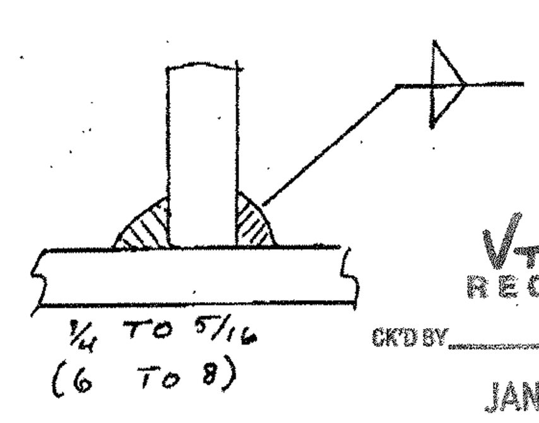
Material specification ASTM-709/A709M-Gr 36 (250), 50(345), 50W(345W)
Welding process Submerged Arc welding
Manual or machine Machine
Position of welding Horizontal (2F)
Filler metal specification AWS A5-23
Filler metal classification F8A2-ENi1K-Ni1 Lincoln
Flux Lincoln 960 Flux with LA-75 Electrode
Shielding gas NA Flow rate NA
Single or multiple pass Single - Electrode Ex. 1"± 3/4 (25.4 ± 19.1)
Single or multiple arc Single
Welding current DC
Polarity DCEN
Welding progression See Joint detail
Root treatment AWS - spec. - wirebrush - grind - Blast Clean area
Preheat and interpass temperature To 3/4 (19) - 50° (10°) - 3/4 (19) To 1½ (38) 70° (20°) - 1½ (38) To 2½ (63) 150° (65°) over 2½ (63) - 225° (110°)
Postheat temperature NA
Heat Input Min 30.0 KJ/in (1.2 KJ/mm) Max 47.1 KJ/in (1.9 KJ/mm) PQR #4 = 42.8 KJ/in (1.7 KJ/mm)

Vermont A.O.T.
Leicester - Br #6
Proj #BRF 0160(3)S
CBSS 285

WELDING PROCEDURE

(Metric)

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed	Joint detail
1	3/32	299 269 To 329	31 29 To 33	13 IPM 11 To 15	Fillet AWS D1-5 2F
	2.4	Metric 299 269 To 329	31 29 To 33	380 mm 279 To 381	



1/4 TO 5/16
(6 TO 8)

VTRANS
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CK'D BY ____ OK'D BY JWC
JAN 23 2006
RESUBMIT ____ APPROVED ✓
BY ____ DATE 02-06-06

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 250
Revision no. ____
Form III-2

AWS QC 1 PAUL E. GOODALE 88100201 CWI

Contractor Casco Bay Steel
Authorized By Paul E Goodale
Date 6-13-00

138SS

Casco Bay Steel Structures, Inc.
5 Industry Road
South Portland, Maine 04106
one: (207) 772-2533 Fax: (207) 772-0580

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709-Gr 36-50-50W (250-345-345W)
Welding process Shielded Metal Arc welding (SMAW)
Manual or machine Manual
Position of welding FLAT (1F) , Horizontal (2F)
Filler metal specification ANSI/AWS A5.1 - A5.5
Filler metal classification E7018 - 8018 C1/2 - H4R
Flux N.A
Shielding gas N.A Flow rate N.A
Single or multiple pass Single and multiple
Single or multiple arc Single
Welding current AC / DC
Polarity Straight / Reverse
Welding progression
Root treatment meet AWS specification
Preheat and interpass temperature To 3/4(19) 50°(10°) 3/4(19) To 1 1/2(38) 70°(20°) 1 1/2(38) To 2 1/2(63.5) 150°(65°) over 2 1/2(63.5) 225°(110°)
Postheat temperature N.A
Heat Input Min N.A Max. N.A

VTRANS RECEIVED JAN 2 3 2006

RESUBMIT APPROVED
BY DATE 02-06-06

Vermont A.O.T.
Leicester-Bre 6
Proj #BRF 0160(33)S
CBSS 285

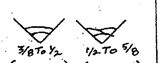
(METRIC)

WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
AS REQ.	7018			
	1/8 (3.2)	70-170	22-26	AS REQ
	5/32 (3.9)	120-225	22-26	
	3/16 (4.8)	170-300	24-27	
	8018			
	1/8 (3.2)	90-160	22-26	
	5/32 (3.9)	120-225	22-26	
	3/16 (4.8)	180-290	24-27	
	7028			
	5/32 (3.9)	190-290	22-26	
	3/16 (4.8)	210-330	24-27	

AWS D1.5 Joint detail Fillet

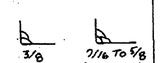
1F


3/4 To 3/8 (5 To 10)


3/8 To 1/2 (10 To 13)

1/2 To 5/8 (13 To 16)

2F


3/16 To 5/16 (5 To 8)


3/8 (10)

7/16 To 5/8 (11 To 16)

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable AWS codes or contract specifications

Procedure no. 401
Revision no.
Form III-2

Contractor Casco Bay Steel
Authorized By Paul E. Hoodale
Date 3/2/00

139 SS

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360 **Fax: (207) 282-1179**

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709-Gr.36-50-50W (250-345-345W)
Welding process Shielded Metal Arc welding (SMAW)
Manual or machine Manual
Position of welding vertical up (3F)
Filler metal specification ANSI/AWS A5.1 - A5.5
Filler metal classification E7018 - 8018 C1/C3
Flux NA
Shielding gas NA Flow rate NA
Single or multiple pass Single - multiple
Single or multiple arc Single
Welding current DC
Polarity positive
Welding progression see Detail
Root treatment Area To be Free of louse Scale, Slag, Rust or Moisture
Preheat and interpass temperature To 3/4 (19) 50°F (10°C), 3/4 (19) To 1 1/2 (38) 70°F (20°C), 1 1/2 (38) TO 2 1/2 (63) 150°F (65°C)
Postheat temperature NA
Heat input Min NA Max NA

V TRANS
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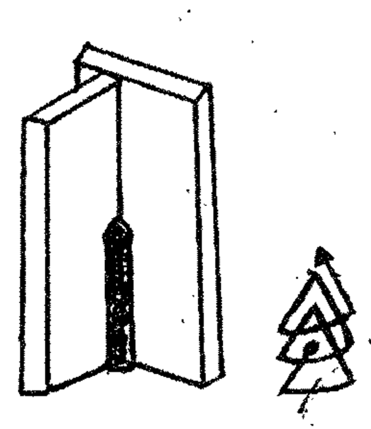
CK'D BY ____ CK'D BY JWE
JAN 2 3 2006
RESUBMIT ____ APPROVED ✓
BY ____ DATE 02-06-06

Vermont A.O.T.
Leicester-Br #6
Proj #BRF 0160(3)S
c.BSS 285

WELDING PROCEDURE

(Metric)

Pass no.	Electrode size	Welding current		Travel speed	AWS D1-5 Joint detail Fillet
		Amperes	Volts		
	7018				
	1/8 (3.2)	70-170	22-26		
	5/32 (3.9)	120-190	22-26		
	8018				
	1/8 (3.2)	90-160	22-26		
	5/32 (3.9)	130-200	22-26		

AWS QC 1 PAUL E. GOODALE CWI

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 403
Revision no. ____
Form III-2

Contractor Casco Bay Steel
Authorized By Paul E. Goodale
Date 4-24-03

1#0 SS

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360 Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

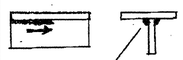
Material specification ASTM 709-Gr 36-50-50W (250-345-345W
Welding process Shielded Metal Arc welding (SMAW)
Manual or machine Manual
Position of welding Overhead (4F)
Filler metal specification AWS/ASME A5.1 - A5.5
Filler metal classification E9018 - 8018 C1/C3
Flux NA
Shielding gas NA Flow rate NA
Single or multiple pass Single - multiple
Single-or multiple arc Single
Welding current DC
Polarity ± Positive
Welding progression See Detail
Root treatment Area To be Free of Loose Scale - Slag - Rust or Moisture
Preheat and interpass temperature 3/4(19) 50° (10°) 3/4"(19) To 1 1/2(38) 70°(20°) 1 1/2(38) To 2 1/2(63) -150°(65°C)
Postheat temperature NA
Heat Input Min NA Max NA

Vermont AOT
Leicester. Br #6
Proj #BRF 0160(30)S
CLASS 285

(Metric) WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
	7018			
	1/8 (3.2)	95-160	22-26	
	5/32 (3.9)	120-190	22-26	
	8018			
	1/8 (3.2)	110-150	22-26	
	5/32 (3.9)	130-190	22-26	

AWS D1.5 Joint detail Fillet



VTRANS
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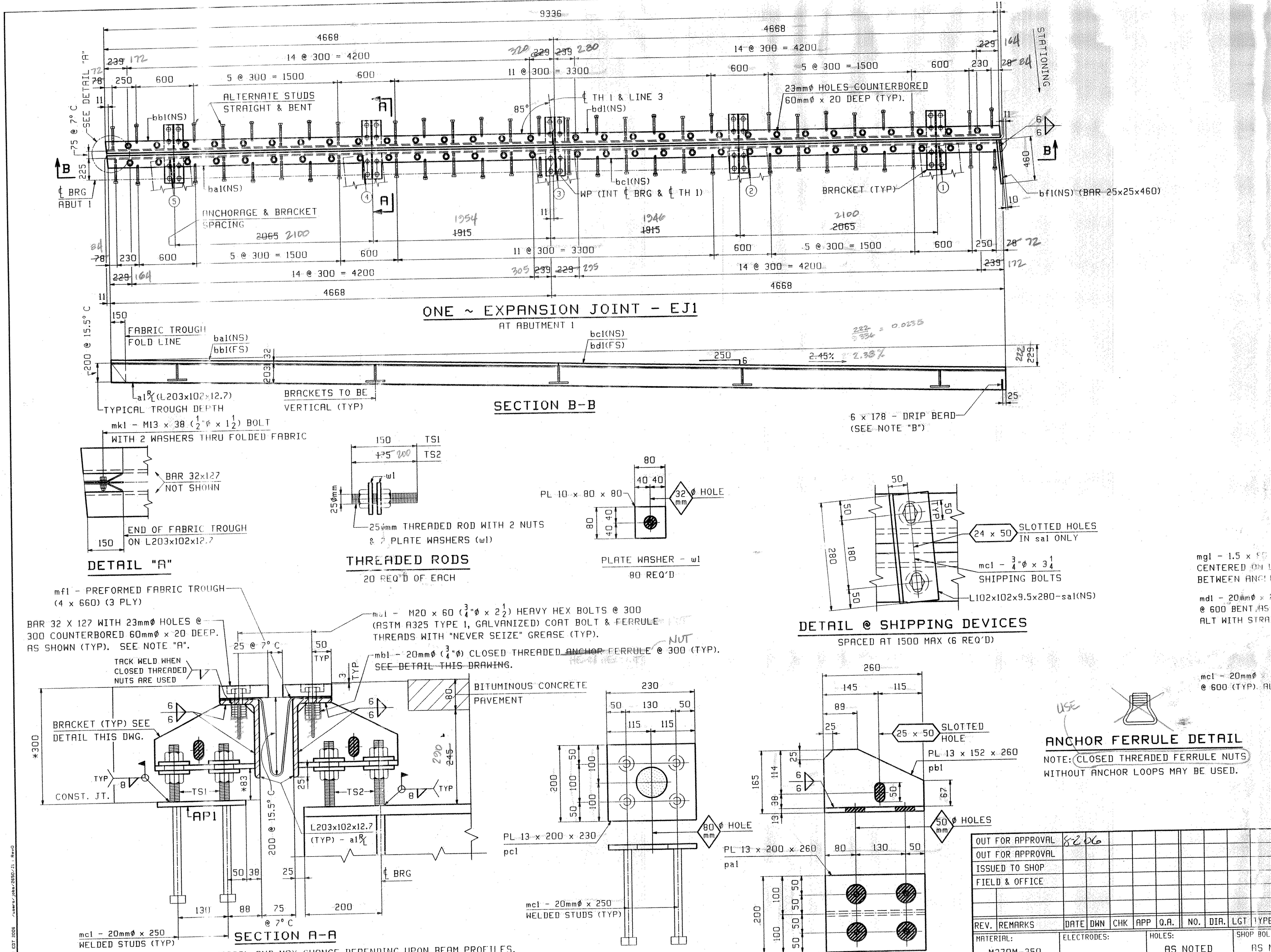
CK'D BY _____ OK'D BY JWC
JAN 23 2006
RESUBMIT _____ APPROVED V
BY DATE 02-06-06

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

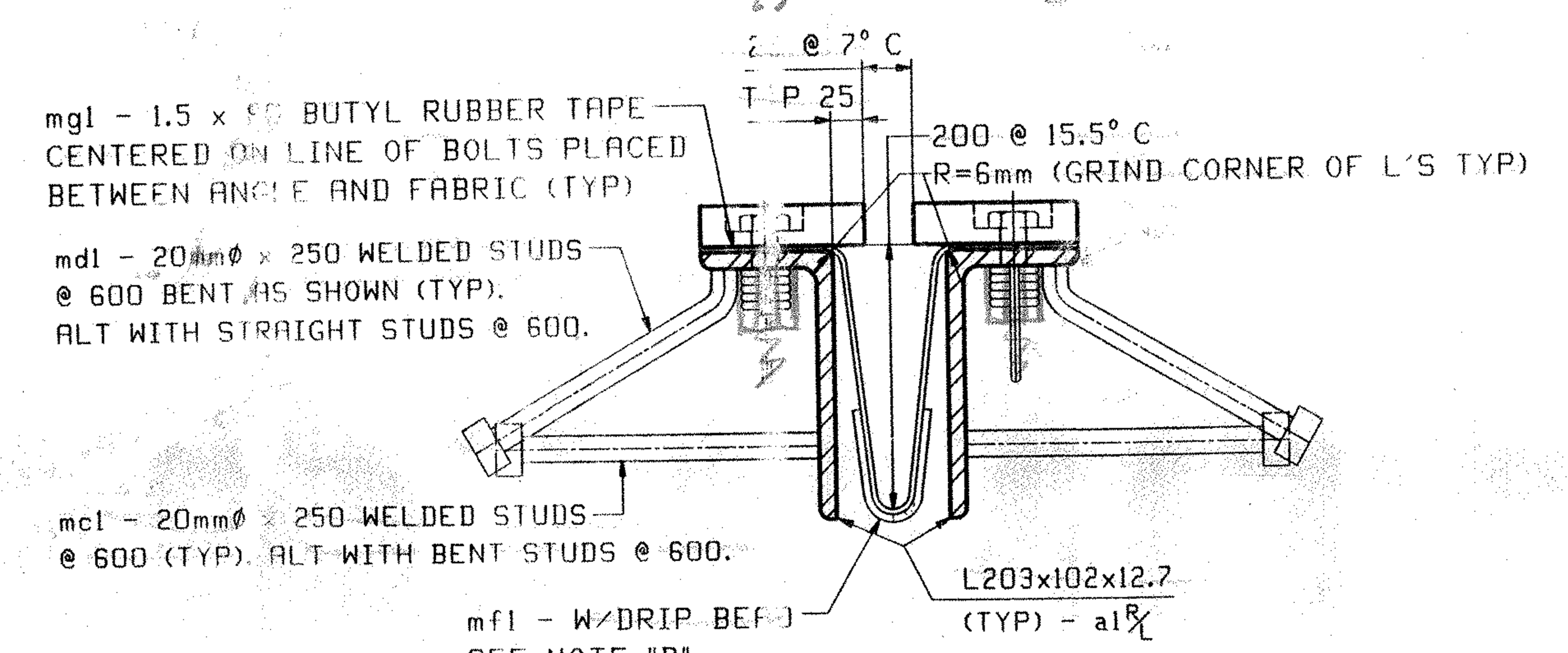
Procedure no. 404
Revision no. _____
Form III-2

Contractor Casco Bay
Authorized By
Date 6-3-04

1 of 55



NOTE: CLOSED THREADED FERRULE NUTS WITHOUT ANCHOR LOOPS MAY BE USED.



TYPICAL SECTION BETWEEN GIRDERS

NOTE "B"
A DRIP BEAD OF 6 x 178 STRIP OF PREFORMED MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FABRIC TROUGH USING AN ADHESIVE APPROVED BY THE MANUFACTURER. THE DRIP BEAD SHALL BE APPLIED 25mm FROM THE DOWNSPOUT END OF THE TROUGH.

* THESE DIMENSIONS ARE THEORETICAL AND MAY CHANGE DEPENDING UPON BEAM PROFILES.

NOTE "A"
FILL COUNTERBORED HOLES WITH HOT POURED JOINT SEALER (STANDARD SPECIFICATION 707.04 AS MODIFIED BY THE GENERAL SPECIAL PROVISIONS) AFTER BOLT INSTALLATION. PAYMENT FOR THE WORK SHALL BE INCIDENTAL TO ITEM 516.10.

BILL OF MATERIAL

JOB NO. 285 — DRAWING NO. J1 — REV.

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		EJ1	1		EXPANSION JOINT				1299 kg 2863 lbs	
1	B		1	a1L	L 203x102x12.7	9	350			
1	B		1	a1R	L 203x102x12.7	9	350			
1	C		1	ba1	BR 32x127	4	~~668~~ 679			
1	C		1	bb1	BR 32x127	4	~~679~~ 668			
1	C		1	bc1	BR 32x127	4	668			
1	C		1	bd1	BR 32x127	4	~~679~~			
1	D		1	bf1	BR 25x25	0	460			
1	E		10	pa1	PL 13x200	0	260			
1	F		10	pb1	PL 13x152	0	260			
1	J		60	ma1	~~3/4~~ M20 HSB	0	~~2 1/2~~ 60	(GALV) (A325-1)		
1	K		60	mb1	~~3/4~~ 20 ~~ANCHOR~~ FERRULE NUT			(GALV)		
1	L		28	mc1	STUD 20 Ø	0	250	STUDS (A108)		
1	M		28	md1	STUD 20 Ø	0	250	BENT STUDS (A108)		
1	N		1	mf1	FABRIC DRAIN	9	350	3-PLY (4 x 660) W/DRIP BEAD		
1	P		2	mg1	TAPE 1.5x80	9	350	BUTYL RUBBER		
1	Q		1	mk1	~~1/2~~ Ø HSB M13	0	~~1 1/2~~ 38	(GALV) (A325-1)		
1	R		2		~~1/2~~ Ø HSW M13			(GALV) (F436)		
2	B		6	sa1	L 102x102x9.5	0	280	SHIPPING DEVICE		
2	C		12		3/4 Ø HSB	0	3 1/4	SHIPPING BOLTS (A325-1)		
2	D		12		3/4 Ø HSW			(F436)		
		AP1	5		ANCHORAGE				6 kg 13 lbs	
1	G		5	pc1	PL 13x200	0	230			
1	L		20	mc1	STUD 20 Ø	0	250	STUDS (A108)		
		TS1	20		THREADED RODS				2 kg 4 lbs	
2	G		20		ROD ~~20~~ Ø 25	0	150	(1"Ø ROD)		
2	J		40	w1	PL 10x80	0	080			
2	K		40		~~1"~~ 25 HHN			(A563)		
		TS2	20		THREADED RODS				2 kg 4 lbs	
2	H		20		ROD ~~20~~ Ø 25	0	~~175~~ 200	(1"Ø ROD)		
2	J		40	w1	PL 10x80	0	080			
2	K		40		~~1"~~ 25 HHN			(A563)		

OUT FOR APPROVAL	8-2-06									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										
REV. REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

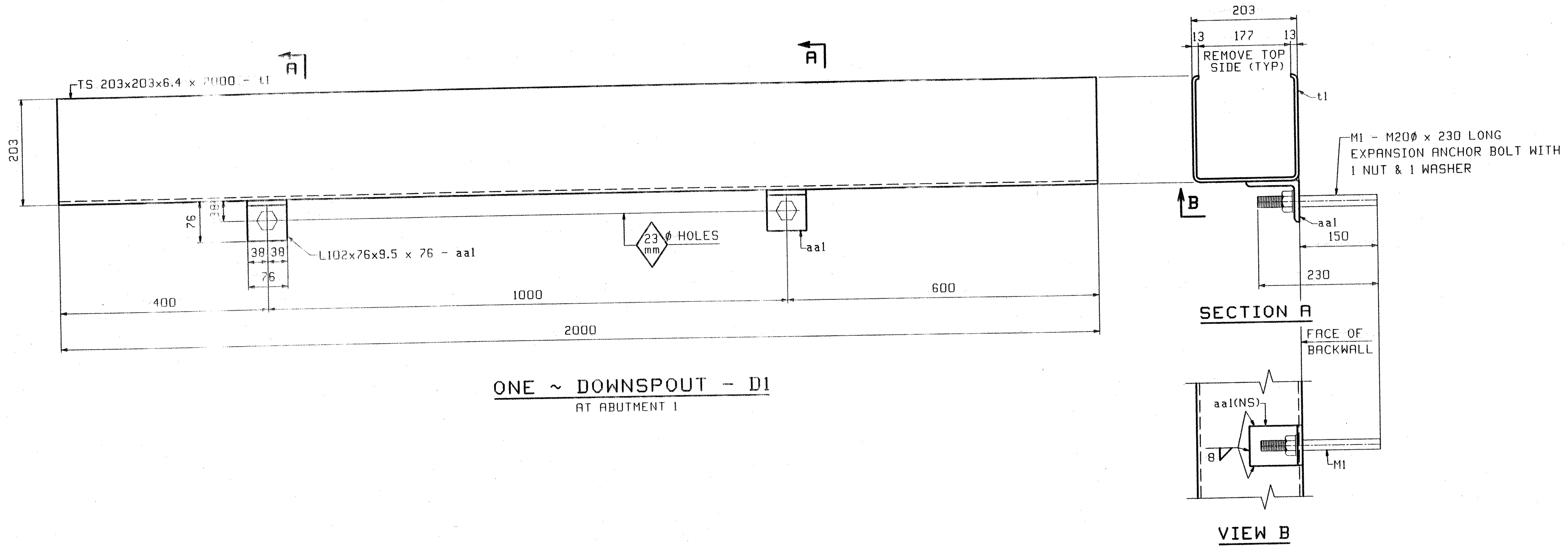
MATERIAL: M270M-250 | ELECTRODES: | HOLES: AS NOTED | SHOP BOLTS: AS NOTED

SURFACE PREP. & PAINT: GALVANIZED AFTER FABRICATION (EXCEPT AS NOTED)

DESCRIPTION: EXPANSION JOINT (ABUT 1)		DRAWN BY	DATE
JOB: TH 1 (FAS 160) OVER OTTER CREEK BRIDGE NO. 6 TOWN OF LEICESTER, VERMONT COUNTY OF ADDISON CONTRACTOR: BLOW & COTE	TENSOR 2650 REF: 2603	JTB	07/21
		CHKD BY	
		PCP	07/31
		APPROV BY	
		SUPERVISOR	W. J. GATTI
PROJ NO. BRF 0160(3)S		Q.A.	
CUSTOMER: VT AOT			
CASCO BAY STEEL STRUCTURES, INC.		JOB NO.	DRG. NO.
75 SPRING HILL ROAD, SACO, MAINE 04072 PHONE (207) 282-7360 FAX. (207) 282-1179		285	J1
			REV. △

— FILE SET —

VTRANS RECEIVED AUG 1 1 2006
CK'D BY GBY 8-14-06 — CK'D BY 8-15-06
RESUBMIT — APPROVED AS NOTED
BY RRW DATE 8/17/06
1#2 SS



ONE ~ DOWNSPOUT - D1
AT ABUTMENT 1

BILL OF MATERIAL

JOB NO. 285 | DRAWING NO. D1 | REV.

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		D1	1		DOWNSPOUT				79 kg 174 lbs	
3	B		1	t1	TS203x203x6.4	2	000	(A500M-B)		
3	C		2	aa1	L 102x76x9.5	0	076			
		M1	2		EXPANSION ANCHOR BOLTS				1 kg 2 lbs	
3	F		2		ROD 20 ∅	0	230	W/1 NUT		
3	G		2		~~3/4~~ 20 ∅ HSW			(F436) (GALV)		

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.
	OUT FOR APPROVAL	8-2-06				
	OUT FOR APPROVAL					
	ISSUED TO SHOP					
	FIELD & OFFICE					

NO.	DIA.	LGT	TYPE	WASHER

MATERIAL: M270M-250
ELECTRODES:
HOLES: AS NOTED
SHOP BOLTS: AS NOTED

SURFACE PREP. & PAINT: GALVANIZED AFTER FABRICATION

DESCRIPTION: DOWNSPOUT

JOB: TH 1 (FAS 160) OVER OTTER CREEK
BRIDGE NO. 6
TOWN OF LEICESTER, VERMONT
COUNTY OF ADDISON
CONTRACTOR: BLOW & COTE

TENSOR 2650 REF: 2603

PROJ NO. BRF 0160(3)S

CUSTOMER: VT AOT

DRAWN BY	DATE
JTB	07/25
CHKD BY	
PCP	07/31
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. 285 | DRG. NO. D1 | REV.

VTRANS
RECEIVED
CK'D BY G Roy 8-14-06 OK'D BY JWP 8-15-06
AUG 11 2006
RESUBMIT ___ APPROVED AS NOTED
BY RRW DATE 8/17/06

143 SS

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 2001 WITH LATEST REVISIONS.

DESIGN SPECIFICATIONS

1). AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (A.A.S.H.T.O) STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 2002 EDITION WITH LATEST REVISIONS. ⚠1

MATERIAL SPECIFICATIONS

1). UNLESS NOTED, ALL STEEL TO BE AASHTO M270M GRADE 345W.

2). HIGH STRENGTH BOLTS: AASHTO M164 (ASTM A325 TYPE 3) (7/8") DIA IN UNPAINTED AREAS.
AASHTO M164 (ASTM A325 TYPE 1) (7/8") DIA IN PAINTED AREAS.
ALL TYPE I BOLTS SHALL BE GALVANIZED PER AASHTO M232.

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 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:

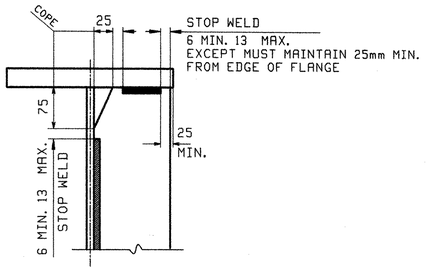
1). ALL STEEL SHALL BE BLAST CLEANED AS PER SSPC SP-10 PER SPEC. 506.14(a)

PAINTING

1). THE EXPANSION END OF THE GIRDERS & ABUT 1 DIAPHRAGMS SHALL BE PAINTED AND GREASED PER SUPPLEMENTAL SPECIFICATION 513.06(d). SEE SKETCH "P1"

2). THE FINAL COAT OF THE PAINT SHALL BE BROWN AND SHALL CONFORM WITH FEDERAL STANDARD NUMBER 595, COLOR CHIP NUMBER 20059.

⚠1 3). PAINT TO BE USED AS FOLLOWS (CARBOLINE COMPANY PRODUCT SYSTEM):
PRIMER - CARBOLINE 859 ZR EPOXY PRIMER (ORGANIC) (3.0-6.0 mils DFT)
INTERMEDIATE - CARBOLING 888 EPOXY (3.0-10.0 mils DFT)
TOP COAT - CARBOLINE 133 HB ALIPHATIC POLYURETHANE (3.0-5.0 mils DFT)



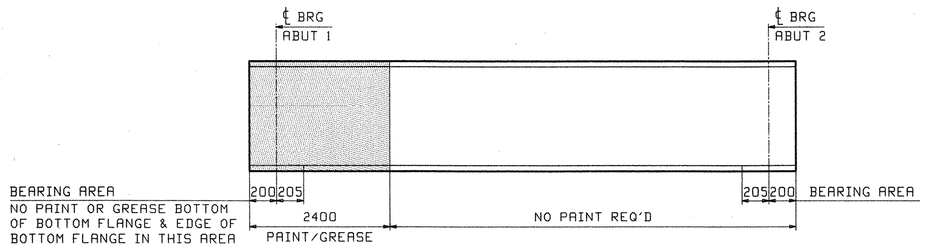
⚠1 DETAIL "WS1"

FIELD CONNECTIONS

1). ALL FIELD CONNECTIONS SHALL BE MADE WITH (7/8") DIAMETER HIGH STRENGTH A-325 BOLTS, INSTALLED PER SECTION 506.19(c).

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.



SKETCH "P1"

STR 3 COPY

RECEIVED
OK'D BY JMP OK'D BY
MAR 0 3 2006
RESUBMIT APPROVED
BY RRW DATE 3/6/06

NOTE TO ENGINEER:
THESE NOTES ARE NOT INTENDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVANT SPECIFICATIONS REMAIN UNCHANGED.

OUT FOR APPROVAL	12/28/05									
OUT FOR APPROVAL	2/27/06									
ISSUED TO SHOP										
FIELD & OFFICE										
⚠1 APPROVAL COMMENTS	2/21	JTB	ELC							
REV. REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:

SURFACE PREP. & PAINT:

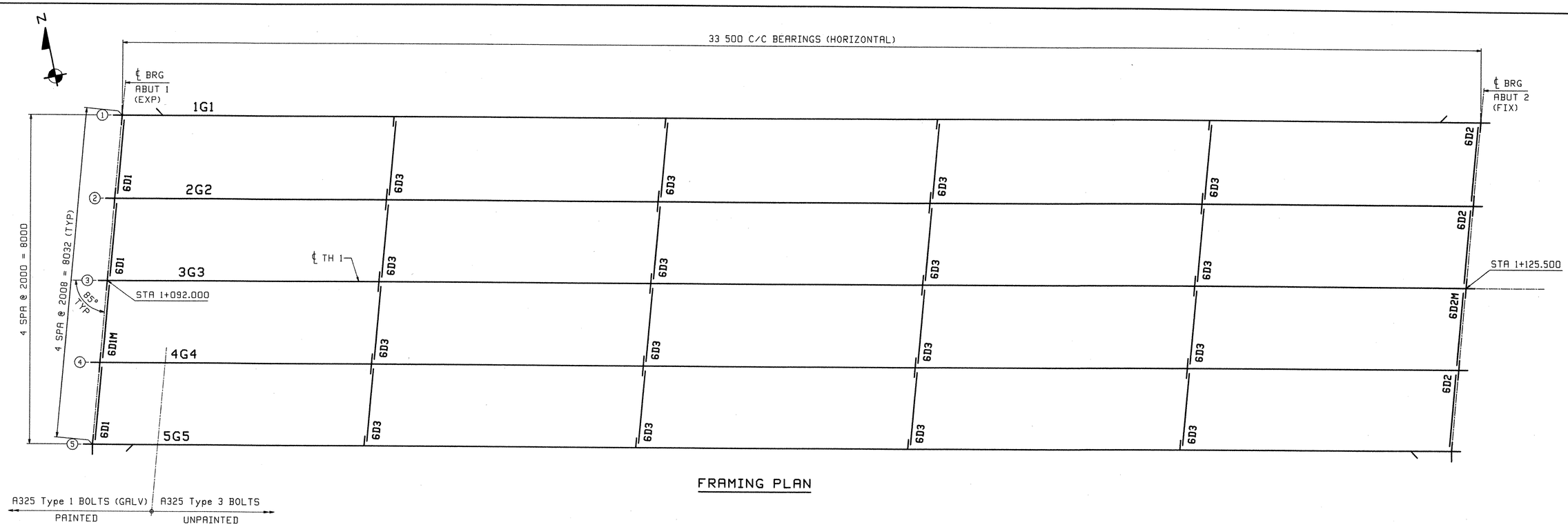
DESCRIPTION: GENERAL NOTES	DRAWN BY	DATE
JOB: TH 1 (FAS 160) OVER OTTER CREEK	JTB	11/08
BRIDGE NO. 6	CHKD BY	
TOWN OF LEICESTER, VERMONT	ELC	12/06
COUNTY OF ADDISON	APPROV BY	
TENSOR 2603 CONTRACTOR: BLOW & COTE	SUPERVISOR	W. J. GATTI
PROJ NO. BRF 0160(3)S	Q.A.	
CUSTOMER: VT AOT		

CASCO BAY STEEL STRUCTURES, INC.

75 SPRING HILL ROAD SACO, MAINE 04072	JOB NO.	DRG. NO.
PHONE (207) 282-7360 FAX. (207) 282-1179	285	GN1
	REV.	⚠1

ELC Thu Feb 23 07:51:57 EST 2006 /users/jobs/2603/GN1.dwl

14 SS



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 DIAPHRAGMS - 6D3**
2	288	7/8	2 1/2	9	32	25	12	13						1	DIAPHRAGM WEB TO CONNECTION PLATE
3															
4															**ABUT 2 DIAPHRAGMS - 6D2 & 6D2M**
5	144	7/8	2 3/4	18	8	34	12	22						1	DIAPHRAGM WEB TO BRG STIFFENER

WASHER CODES
1: 1 Hard Flat Washer

FIELD BOLT LIST	A325 Type 1 BOLTS (GALV)														
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED							WASH CODE	PIECES CONNECTED AND REMARKS
6															**ABUT 1 DIAPHRAGMS - 6D1 & 6D1M**
7	144	7/8	2 3/4	18	8	34	12	22						1	DIAPHRAGM WEB TO BRG STIFFENER

WASHER CODES
1: 1 Hard Flat Washer

1. All bolt diameters and lengths are shown in inches (english unit of measurement).
2. All grip values are shown in metric units.

FIELD BOLT SUMMARY	2% ADDED, MIN. 2 EXTRA					
LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	294	7/8	A325 Type 3	2 1/2	288	
2	147	7/8	A325 Type 3	2 3/4	144	AT ABUT 2 DIAPHRAGMS
3	441	Hard Flat Washers for 7/8 ø BOLT				TYPE 436W
4						
5						
6	147	7/8	A325 Type 1	2 3/4	144	(GALV) AT ABUT 1 DIAPHRAGMS
7	147	Hard Flat Washers for 7/8 ø BOLT				(GALV) TYPE 436
8						

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OK'D BY JMP OK'D BY
MAR 03 2006
RESUBMIT APPROVED
BY RLC DATE 3/6/06

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	8-28-05									
	OUT FOR APPROVAL	2-27-06									
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:

SURFACE PREP. & PAINT:

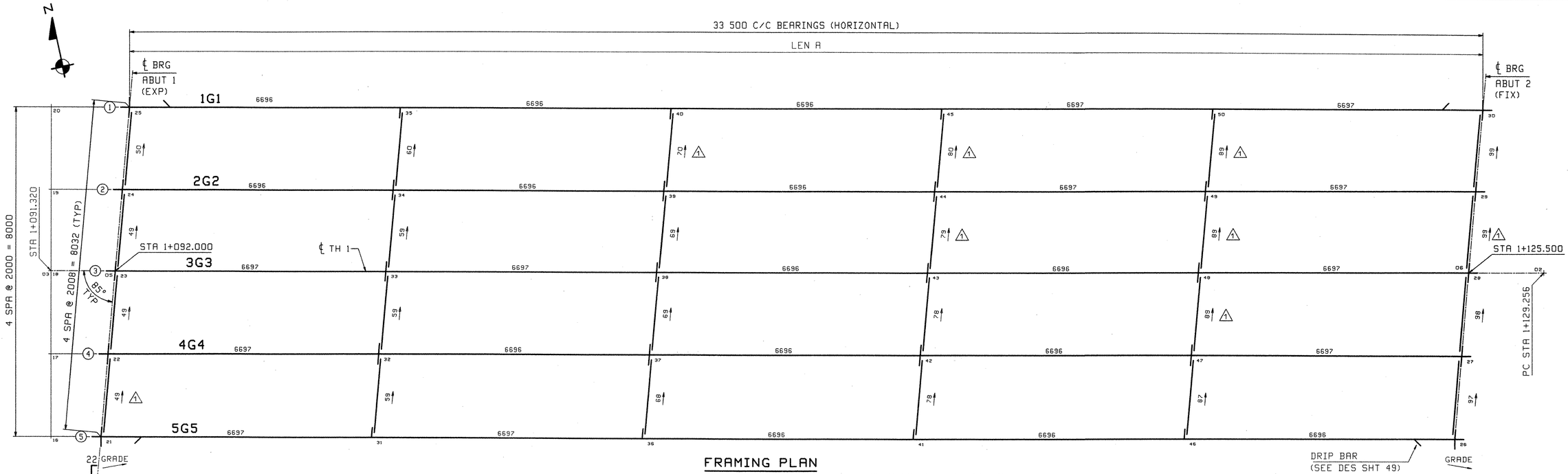
DESCRIPTION:	FRAMING PLAN & FIELD BOLTS	DRAWN BY	DATE
JOB:	TH 1 (FAS 160) OVER OTTER CREEK	JTB	11/08
	BRIDGE NO. 6	CHKD BY	
	TOWN OF LEICESTER, VERMONT	ELC	12/06
	COUNTY OF ADDISON	APPROV BY	
TENSOR 2603	CONTRACTOR: BLOW & COTE	SUPERVISOR	W. J. GATTI
PROJ NO.	BRF 0160(3)S	Q.A.	
CUSTOMER:	VT AOT		

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
285	E1
	REV. △

ELC Mon Dec 18 07:25:40 EST 2006 /users/jobs/2603/E1.dwg

14655

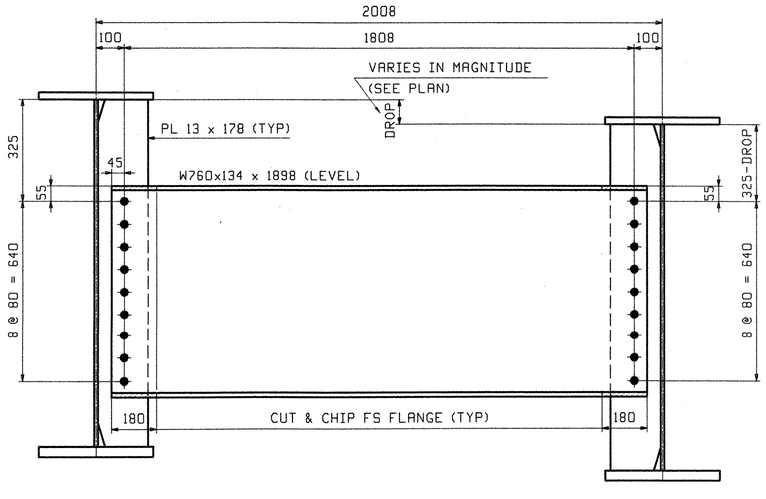


FRAMING PLAN

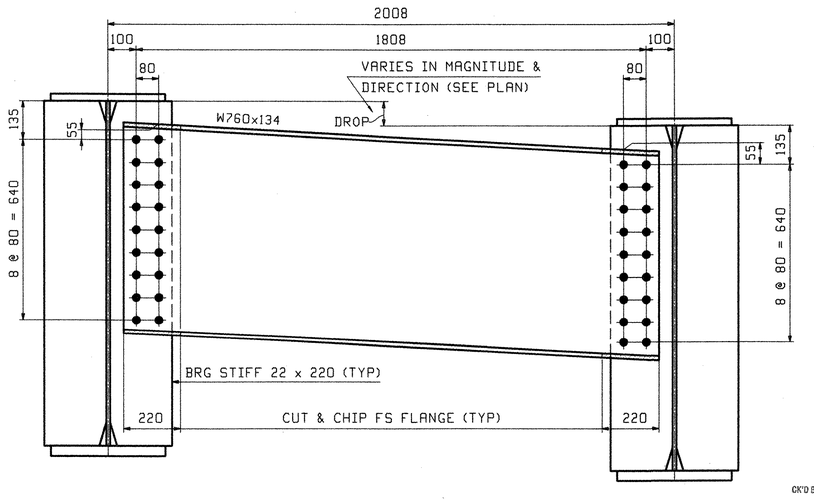
Line	LEN A	GRADE ABUT 1	GRADE ABUT 2
1	33 482	.0011	-.0111
2	33 482	.0026	-.0096
3	33 483	.0040	-.0082
4	33 482	.0055	-.0067
5	33 482	.0069	-.0052

CALCULATION PLAN NOTES:
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTTOM OF GIRDER WITH CORRECTIONS MADE FOR VERTICAL CURVE, GRADE & DL CAMBER (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZONTAL PLANE (UN).
3. ARROW POINTS TOWARD LOW END OF MEMBER.
4. ENDS OF GIRDERS AND BEARING STIFFENERS ARE VERTICAL AFTER DL ROTATION.
5. DIAPHRAGM STIFFENERS ARE NORMAL TO GRADE.
6. BOTTOM POINT NUMBERS = TOP POINT NUMBERS + 100
7. COMBINE DIAPHRAGMS FOR DROPS +/- 2mm

**** 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.



INT. DIAPHRAGM
LOOKING BACK-STATION
(DEVELOPED)



END DIAPHRAGM
LOOKING TOWARDS BACKWALL
(DEVELOPED)

DIAPHRAGM NOTES:
1. MATERIAL SHALL BE ASTM M270M GRADE 345W.
2. ALL HOLES SHALL BE $\frac{15}{16}$"Ø FOR $\frac{7}{8}$"Ø HSB.

RECEIVED
CK'D BY JMP CK'D BY
MAR 0 3 2006
RESUBMIT APPROVED
BY RBW DATE 3/6/06

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	12-28-05									
	OUT FOR APPROVAL	2-27-06									
	ISSUED TO SHOP										
	FIELD & OFFICE										
1	APPROVAL COMMENTS	2/21	JTB	ELC							

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:

SURFACE PREP. & PAINT:

DESCRIPTION: CALCULATION PLAN & LAYOUTS
JOB: TH 1 (FAS 160) OVER OTTER CREEK
BRIDGE NO. 6
TOWN OF LEICESTER, VERMONT
COUNTY OF ADDISON
CONTRACTOR: BLOW & COTE
PROJ NO. BRF 0160(3)S
CUSTOMER: VT AOT

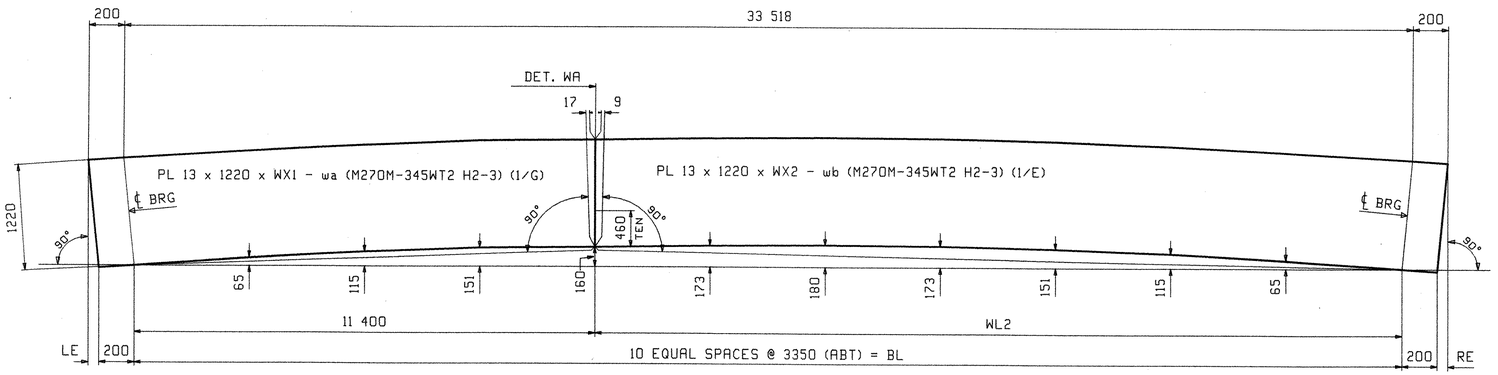
DRAWN BY	DATE
JTB	11/08
CHKD BY	
ELC	12/06
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO. 285 | DRG. NO. WS1 | REV. 1

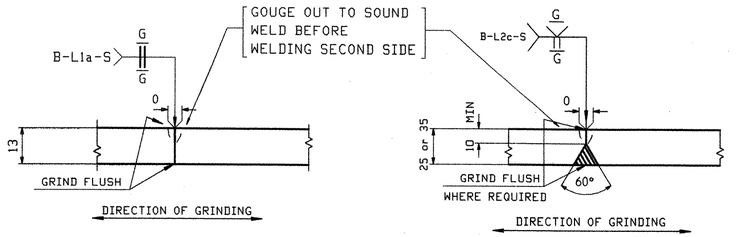
ELC Thu Feb 23 07:53:34 EST 2006 /users/jobs/2603/WS1.1 Rev1

146 55



CAMBER DIAGRAM FOR 1G1 THRU 5G5

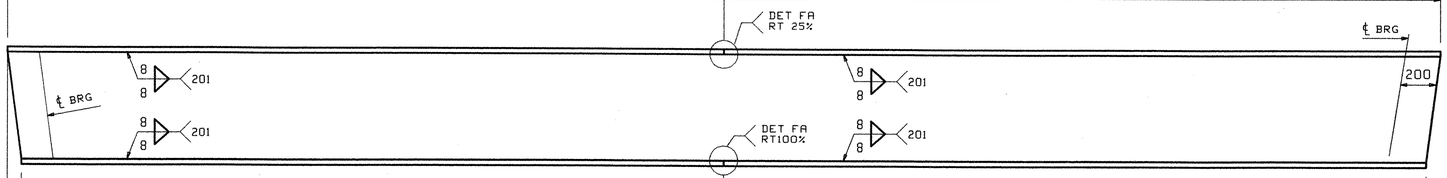
MARK	BL	LE	RE	WL2	WX1	WX2
1G1	33 482	24	12	22 082	11 625	22 295
2G2	33 482	22	14	22 082	11 623	22 297
3G3	33 483	20	15	22 083	11 621	22 299
4G4	33 482	19	17	22 083	11 619	22 301
5G5	33 482	17	19	22 082	11 618	22 302



⚠ **WEB PLATE SPLICE DETAIL "WA"**

FLANGE PLATE SPLICE DETAIL "FA"

1G1	PL 25 x 406 x 22 600 - ta (M270M-345W) 1/J	PL 25 x 406 x 11 318 - tb (M270M-345W) 1/L
2G2	PL 25 x 406 x 22 600 - ta (M270M-345W) 1/J	PL 25 x 406 x 11 318 - tb (M270M-345W) 1/L
3G3	PL 25 x 406 x 22 600 - ta (M270M-345W) 1/J	PL 25 x 406 x 11 318 - tb (M270M-345W) 1/L
4G4	PL 25 x 406 x 22 600 - ta (M270M-345W) 1/J	PL 25 x 406 x 11 318 - tb (M270M-345W) 1/L
5G5	PL 25 x 406 x 22 600 - ta (M270M-345W) 1/J	PL 25 x 406 x 11 318 - tb (M270M-345W) 1/L



1G1	24	PL 35 x 406 x 22 600 - ba (M270M-345WT2 H2-3) 1/A	PL 35 x 406 x 11 282 - bb (M270M-345WT2 H2-3) 1/C
2G2	22	PL 35 x 406 x 22 600 - ba (M270M-345WT2 H2-3) 1/A	PL 35 x 406 x 11 282 - bb (M270M-345WT2 H2-3) 1/C
3G3	20	PL 35 x 406 x 22 600 - ba (M270M-345WT2 H2-3) 1/A	PL 35 x 406 x 11 283 - bb (M270M-345WT2 H2-3) 1/C
4G4	19	PL 35 x 406 x 22 600 - ba (M270M-345WT2 H2-3) 1/A	PL 35 x 406 x 11 282 - bb (M270M-345WT2 H2-3) 1/C
5G5	17	PL 35 x 406 x 22 600 - ba (M270M-345WT2 H2-3) 1/A	PL 35 x 406 x 11 282 - bb (M270M-345WT2 H2-3) 1/C

FLANGE DIAGRAM FOR 1G1 THRU 5G5

RECEIVED
CK'D BY VMP CK'D BY
MAR 03 2006
RESUBMIT APPROVED
BY RKL DATE 3/6/06

NOTES:

1. FOR GENERAL NOTES AND WELD DETAILS SEE DWG GN1.
2. H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	12.28.05									
	OUT FOR APPROVAL	2-27-06									
	ISSUED TO SHOP										
	FIELD & OFFICE										
⚠	APPROVAL COMMENTS	2/21	JTB	ELC							

MATERIAL: M270M-345W (UN)	ELECTRODES:	HOLES: / SHOP BOLTS:

SURFACE PREP. & PAINT:

SEE DRAWING GN1

DESCRIPTION:	CAMBER & FLANGE DIAGRAMS	DRAWN BY	DATE
JOB:	TH 1 (FAS 160) OVER OTTER CREEK BRIDGE NO. 6 TOWN OF LEICESTER, VERMONT COUNTY OF ADDISON CONTRACTOR: BLOW & COTE	JTB	11/08
		CHKD BY	
		ELC	12/06
		APPROV BY	
		SUPERVISOR	W. J. GATTI
PROJ NO.	BRF 0160(3)S	Q.A.	
CUSTOMER:	VT AOT		

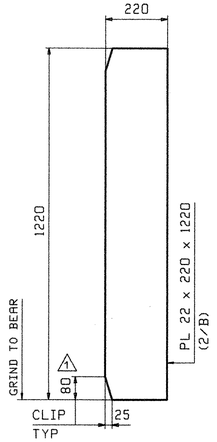
TENSOR 2603

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
285	C1
	REV. ⚠

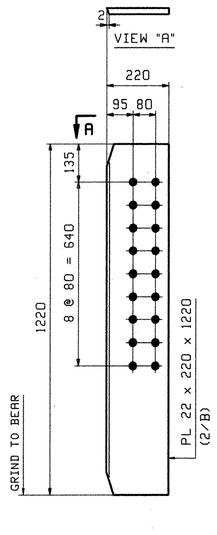
ELC Thu Feb 23 07:48:15 EST 2006 /users/jabr/2603/C1.dwg

149 55



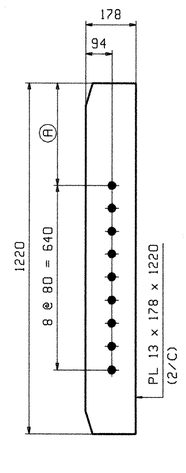
4 ~ x1a

BRG STIFF
FASCIA SIDE



16 ~ x1b

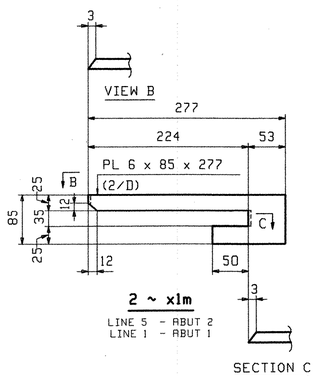
BRG STIFF



MARK "A"

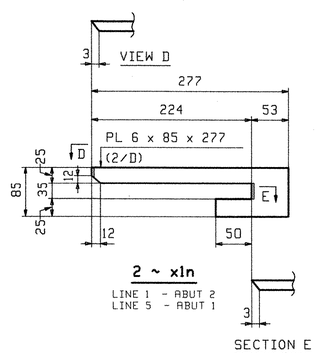
CONN PL

MARK "A"	QTY	Ⓐ	
x1c	16	325	HIGH END
x1d	4	266	DROP - 59
x1f	4	256	DROP - 69
x1g	4	247	DROP - 78
x1k	4	236	DROP - 89 ⚠1



2 ~ x1m

LINE 5 - ABUT 2
LINE 1 - ABUT 1



2 ~ x1n

LINE 1 - ABUT 2
LINE 5 - ABUT 1

NOTES:
ALL MATERIAL SHALL BE M270M-345W.
ALL BOLT HOLES SHALL BE $\frac{15}{16}$"Ø FOR $\frac{7}{8}$"Ø HSB.
FOR GENERAL NOTES SEE SHEET GN1.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	12-28-05									
	OUT FOR APPROVAL	2-27-06									
	ISSUED TO SHOP										
	FIELD & OFFICE										
⚠1	APPROVAL COMMENTS	2/21	JTB	ELC							

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		$\frac{15}{16}$"Ø	NONE

SURFACE PREP. & PAINT:
SEE DRAWING GN1

DESCRIPTION: GIRDER STANDARDS		DRAWN BY	DATE
JOB:	TH 1 (FAS 160) OVER OTTER CREEK	JTB	11/06
	BRIDGE NO. 6	CHKD BY	
	TOWN OF LEICESTER, VERMONT	ELC	12/06
	COUNTY OF ADDISON	APPROV BY	
TENSOR 2603	CONTRACTOR: BLOW & COTE	SUPERVISOR	W. J. GATTI
PROJ NO.	BRF 0160(3)S	Q.A.	
CUSTOMER:	VT AOT		

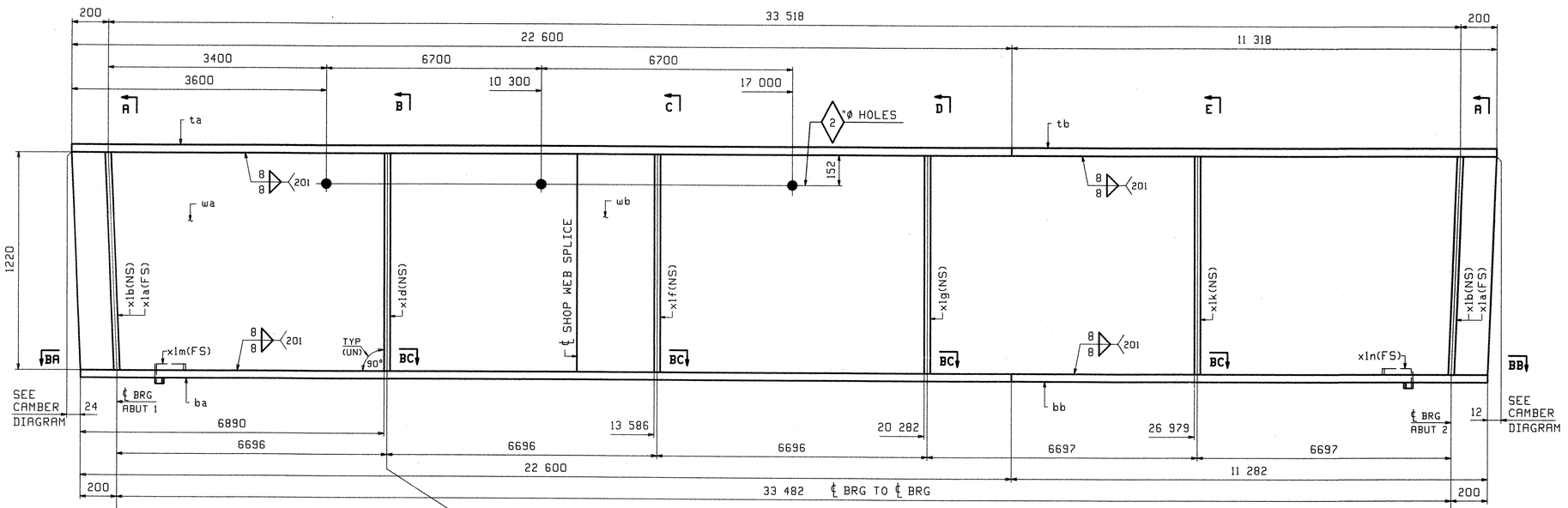
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

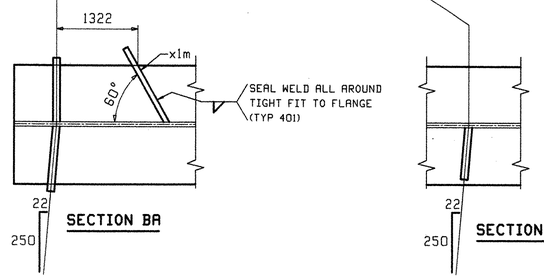
JOB NO.	DRG. NO.
285	X1
	REV. ⚠

RECEIVED
OK'D BY JMS OK'D BY
MAR 03 2006
RESUBMIT APPROVED
BY DATE 3/6/06

ELC Thu Feb 23 07:59:06 EST 2006 /users/jobs/2603/x1.dgn

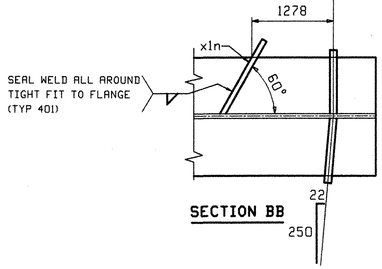
14955





SECTION BA

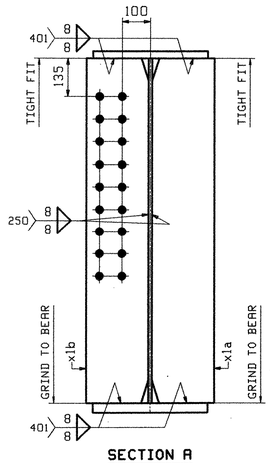
SECTION BC



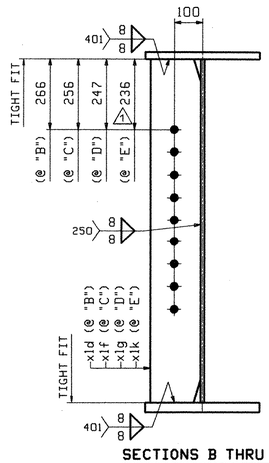
SECTION BB

ONE - GIRDER - 1G1

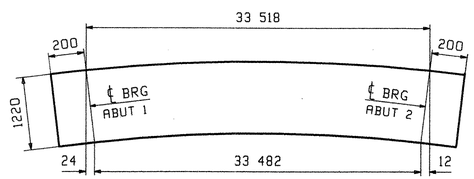
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION A
(DEVELOPED)



SECTIONS B THRU E
(DEVELOPED)



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.		REV.
								285	1		
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES	
		1G1	1		GIRDER				10981 kg 24208 lbs		
1	G		1	wa	PL 13x1220	11	625	(M270M-345WT2)	(H2-3)		
1	E		1	wb	PL 13x1220	22	295	(M270M-345WT2)	(H2-3)		
1	J		1	ta	PL 25x406	22	600				
1	L		1	tb	PL 25x406	11	318				
1	A		1	ba	PL 35x406	22	600	(M270M-345WT2)	(H2-3)		
1	C		1	bb	PL 35x406	11	282	(M270M-345WT2)	(H2-3)		
2	B		2	x1a	PL 22x220	1	220	MIE			
2	B		2	x1b	PL 22x220	1	220	MIE			
2	C		1	x1d	PL 13x178	1	220				
2	C		1	x1f	PL 13x178	1	220				
2	C		1	x1g	PL 13x178	1	220				
2	C		1	x1k	PL 13x178	1	220				
2	D		1	x1m	PL 6x85	0	277				
2	D		1	x1n	PL 6x85	0	277				

OUT FOR APPROVAL	12-28-05									
OUT FOR APPROVAL	2-27-06									
ISSUED TO SHOP										
FIELD & OFFICE										
1 APPROVAL COMMENTS	2/21	JTB	ELC							
REV. REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M GR 345W		15/16ø (UN)	NONE

SURFACE PREP. & PAINT:

SEE DRAWING GN1

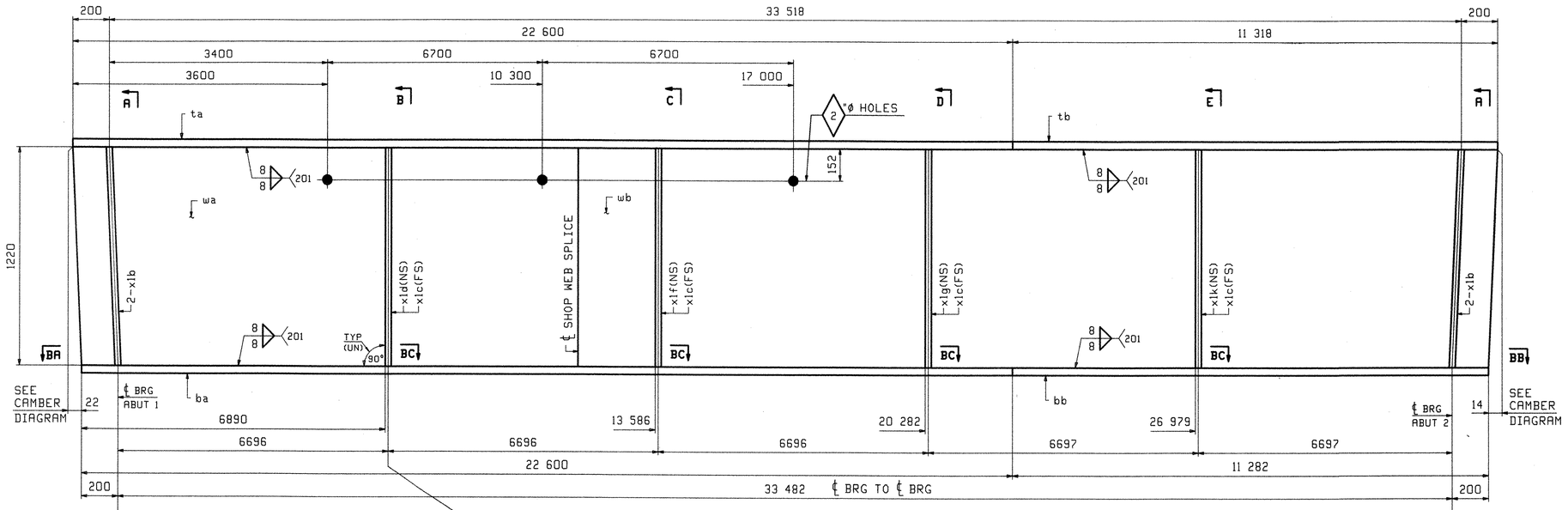
DESCRIPTION: GIRDER - 1G1		DRAWN BY	DATE
JOB:	TH 1 (FAS 160) OVER OTTER CREEK	JTB	11/08
	BRIDGE NO. 6	CHKD BY	
	TOWN OF LEICESTER, VERMONT	ELC	12/06
	COUNTY OF ADDISON	APPROV BY	
TENSOR 2603	CONTRACTOR: BLOW & COTE	SUPERVISOR	W. J. GATTI
PROJ NO. BRF 0160(3)S		Q.A.	
CUSTOMER: VT AOT			

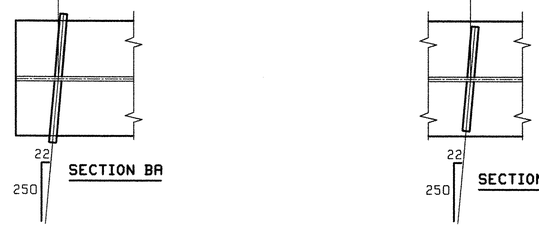
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
285	1
	REV. 1

RECEIVED
CK'D BY JMP CK'D BY
MAR 03 2006
RESUBMIT APPROVED
BY DATE 3/6/06

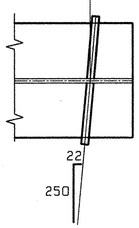
ELC Thu Feb 23 07:56:04 EST 2006 /users/jobs/2603/1.dwg





SECTION BA

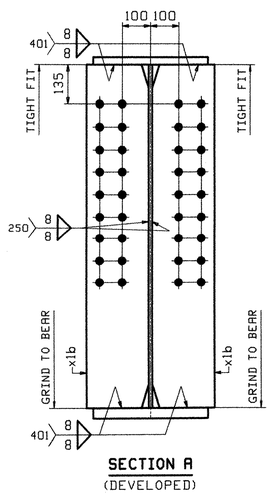
SECTION BC



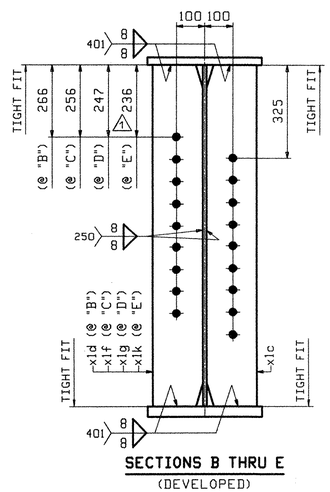
SECTION BB

ONE - GIRDER - 2G2

FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

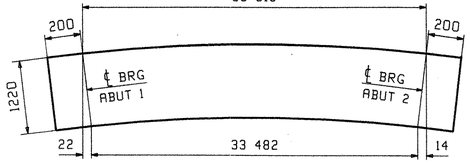


SECTION A
(DEVELOPED)



SECTIONS B THRU E
(DEVELOPED)

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								285	2	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		2G2	1		GIRDER				11068 kg 24400 lbs	
1	G		1	wa	PL 13x1220	11	623	(M270M-345WT2)	(H2-3)	
1	E		1	wb	PL 13x1220	22	297	(M270M-345WT2)	(H2-3)	
1	J		1	ta	PL 25x406	22	600			
1	L		1	tb	PL 25x406	11	318			
1	A		1	ba	PL 35x406	22	600	(M270M-345WT2)	(H2-3)	
1	C		1	bb	PL 35x406	11	282	(M270M-345WT2)	(H2-3)	
2	B		4	x1b	PL 22x220	1	220	MIE		
2	C		4	x1c	PL 13x178	1	220			
2	C		1	x1d	PL 13x178	1	220			
2	C		1	x1f	PL 13x178	1	220			
2	C		1	x1g	PL 13x178	1	220			
2	C		1	x1k	PL 13x178	1	220			



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	8.28.05									
	OUT FOR APPROVAL	9.27.06									
	ISSUED TO SHOP										
	FIELD & OFFICE										
1	APPROVAL COMMENTS	2/21	JTB	ELC							

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M GR 345W		15/16ø (UN)	NONE

SURFACE PREP. & PAINT:

SEE DRAWING GN1

RECEIVED
OK'D BY JMP OK'D BY
MAR 03 2006
RESUBMIT APPROVED
BY RRW DATE 3/6/06

DESCRIPTION: GIRDER - 2G2		DRAWN BY	DATE
JOB:	TH 1 (FAS 160) OVER OTTER CREEK BRIDGE NO. 6 TOWN OF LEICESTER, VERMONT COUNTY OF ADDISON CONTRACTOR: BLOW & COTE	JTB	11/08
		CHKD BY	
		ELC	12/06
		APPROV BY	
		SUPERVISOR	W. J. GATTI
PROJ NO.	BRF 0160(3)S	Q.A.	
CUSTOMER:	VT AOT		

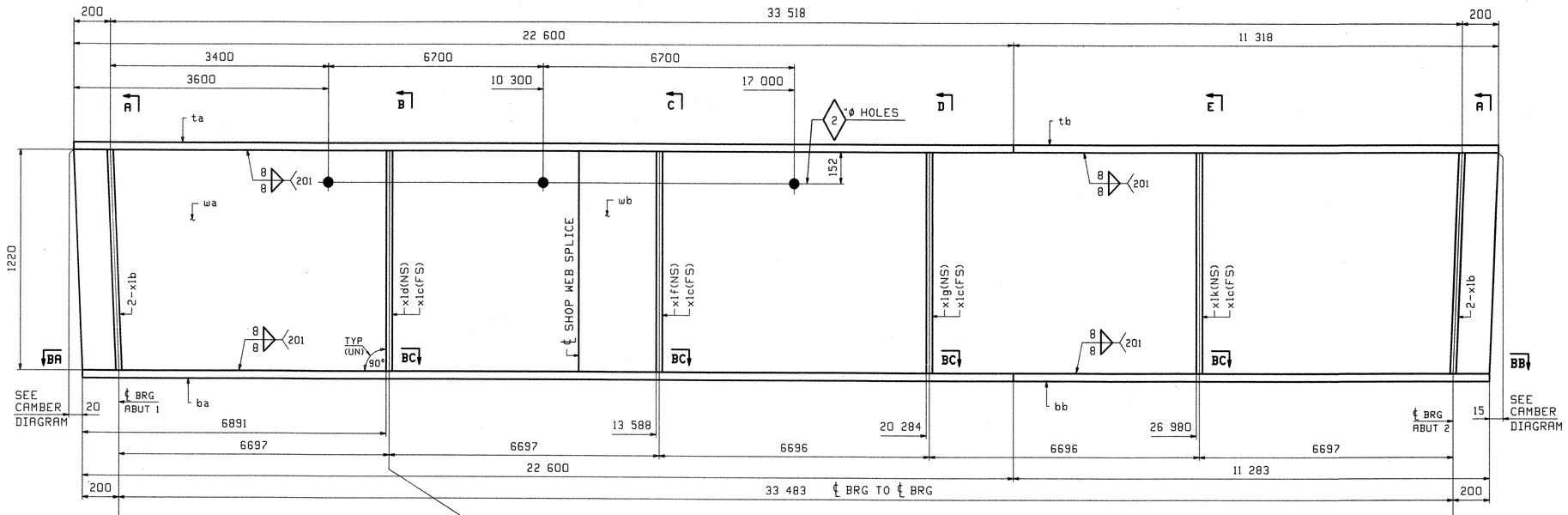
TENSOR 2603

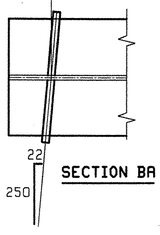
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
285	2
	REV. ⚠

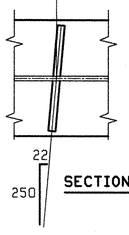
ELC Thu Feb 23 07:57:16 EST 2006 /users/jobs/2603/2 : Rev1

150SS

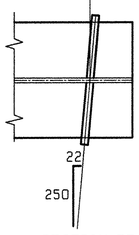




SECTION BA



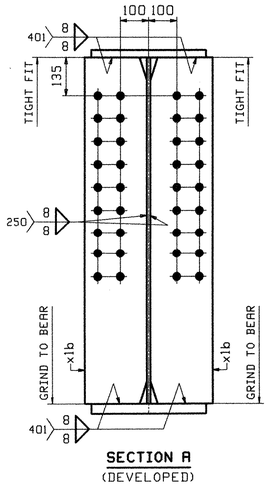
SECTION BC



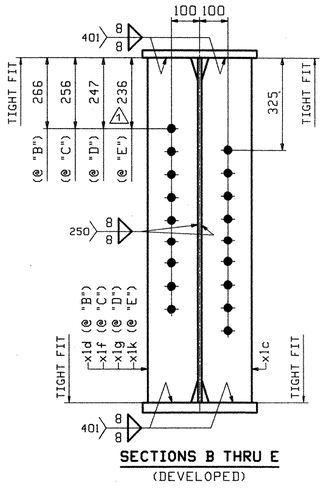
SECTION BB

ONE - GIRDER - 3G3

FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION A
(DEVELOPED)



SECTIONS B THRU E
(DEVELOPED)

ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

ABM INFO		SHIP	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
PAGE	LINE	MARK								
		3G3	1		GIRDER				11068 kg 24400 lbs	
1	G		1	wa	PL 13x1220	11	621	(M270M-345WT2)	(H2-3)	
1	E		1	wb	PL 13x1220	22	299	(M270M-345WT2)	(H2-3)	
1	J		1	ta	PL 25x406	22	600			
1	L		1	tb	PL 25x406	11	318			
1	A		1	ba	PL 35x406	22	600	(M270M-345WT2)	(H2-3)	
1	C		1	bb	PL 35x406	11	283	(M270M-345WT2)	(H2-3)	
2	B		4	x1b	PL 22x220	1	220	MIE		
2	C		4	x1c	PL 13x178	1	220			
2	C		1	x1d	PL 13x178	1	220			
2	C		1	x1f	PL 13x178	1	220			
2	C		1	x1g	PL 13x178	1	220			
2	C		1	x1k	PL 13x178	1	220			

OUT FOR APPROVAL	12/28/05								
OUT FOR APPROVAL	2-27-06								
ISSUED TO SHOP									
FIELD & OFFICE									
⚠ APPROVAL COMMENTS	2/21	JTB	ELC						
REV. REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M GR 345W		15 / 16ø (UN)	NONE

SURFACE PREP. & PAINT:

SEE DRAWING GN1

RECEIVED
OK'D BY JMP OK'D BY
MAR 03 2006
RESUBMIT APPROVED
BY DATE 3/6/06

DESCRIPTION: GIRDER - 3G3	DRAWN BY	DATE
JOB: TH 1 (FAS 160) OVER OTTER CREEK BRIDGE NO. 6 TOWN OF LEICESTER, VERMONT COUNTY OF ADDISON CONTRACTOR: BLOW & COTE	JTB	11/08
	CHKD BY	
	ELC	12/06
	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. BRF 0160(3)S	Q.A.	
CUSTOMER: VT AOT		

TENSOR 2603

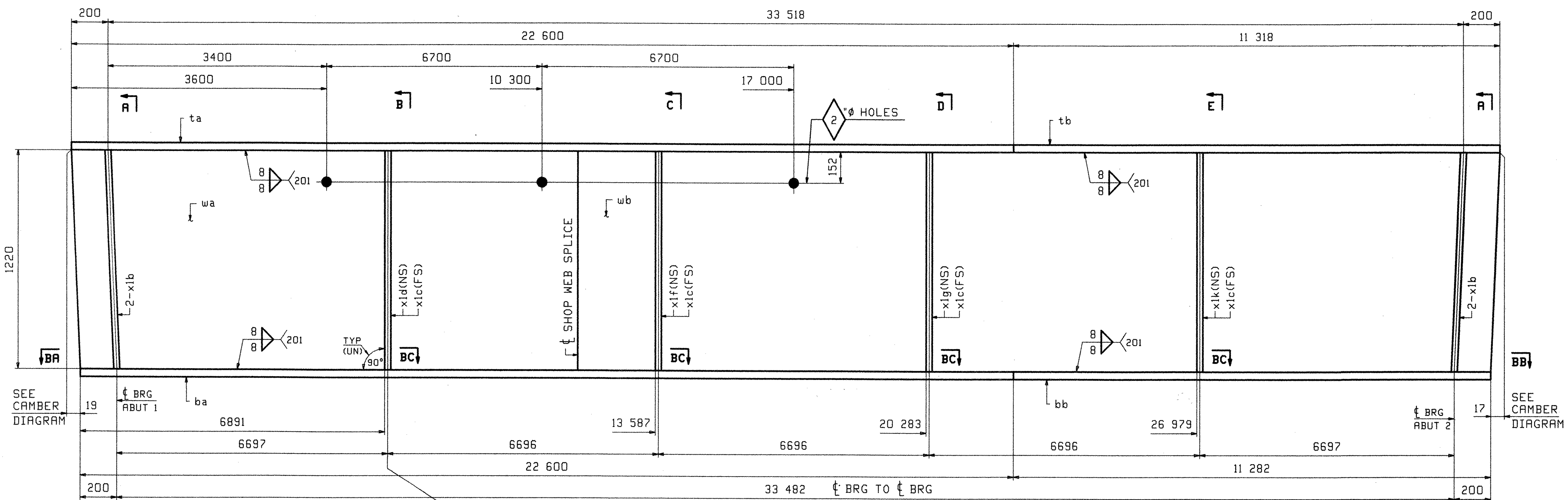
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
285	3
	REV. ⚠

ELC Thu Feb 23 07:57:51 EST 2006 /users/jobs/2603/3.1 Rev1

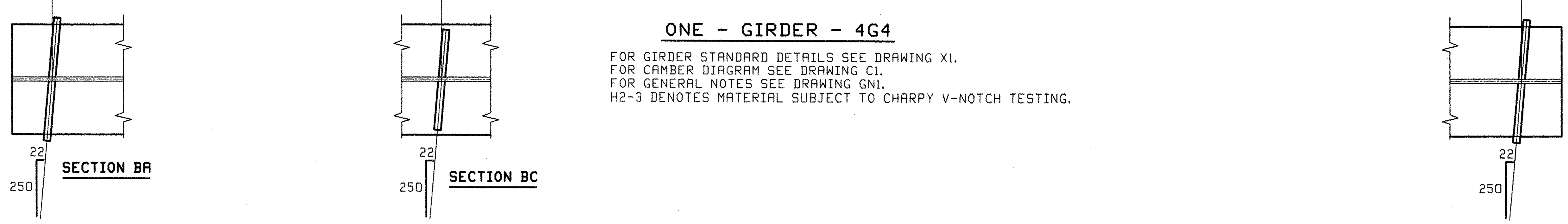
184 55

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								285	4	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		4G4	1		GIRDER				11068 kg 24400 lbs	
1	G		1	wa	PL 13x1220	11	619	(M270M-345WT2)	(H2-3)	
1	E		1	wb	PL 13x1220	22	301	(M270M-345WT2)	(H2-3)	
1	J		1	ta	PL 25x406	22	600			
1	L		1	tb	PL 25x406	11	318			
1	A		1	ba	PL 35x406	22	600	(M270M-345WT2)	(H2-3)	
1	C		1	bb	PL 35x406	11	282	(M270M-345WT2)	(H2-3)	
2	B		4	x1b	PL 22x220	1	220	M1E		
2	C		4	x1c	PL 13x178	1	220			
2	C		1	x1d	PL 13x178	1	220			
2	C		1	x1f	PL 13x178	1	220			
2	C		1	x1g	PL 13x178	1	220			
2	C		1	x1k	PL 13x178	1	220			



ONE - GIRDER - 4G4

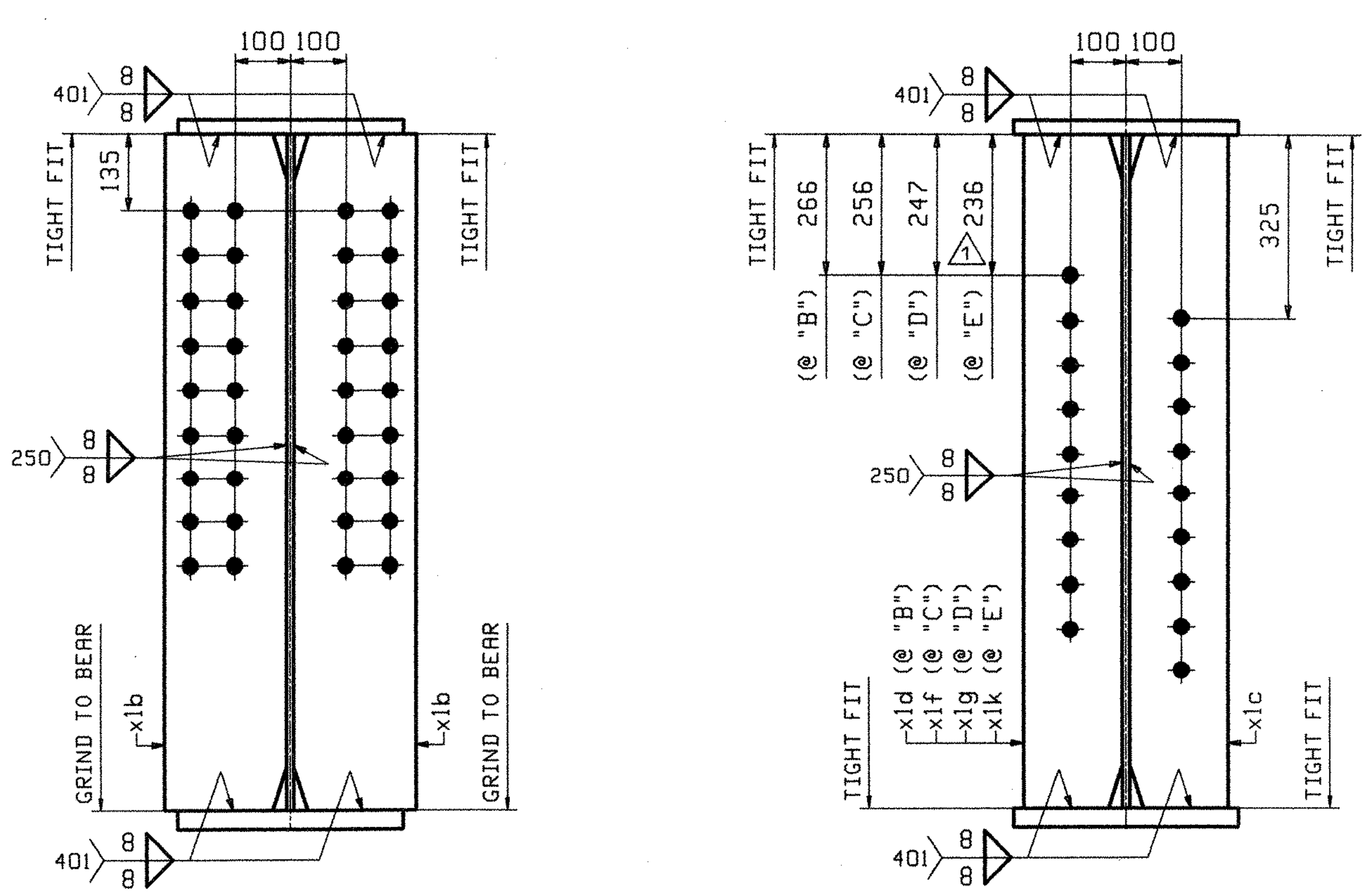
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION BA

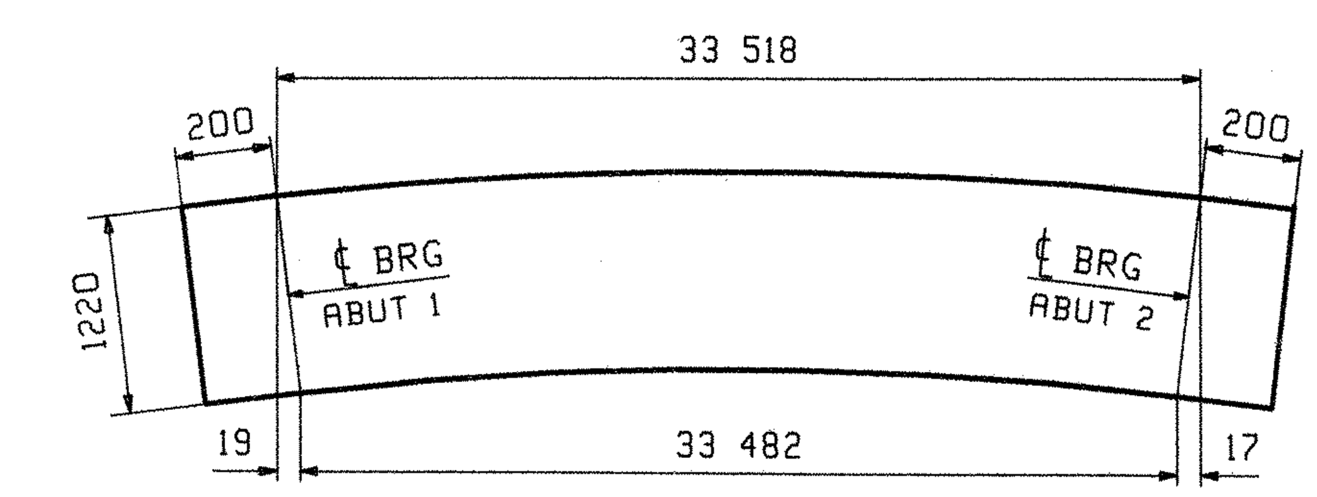
SECTION BC

SECTION BB



SECTION A (DEVELOPED)

SECTIONS B THRU E (DEVELOPED)



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

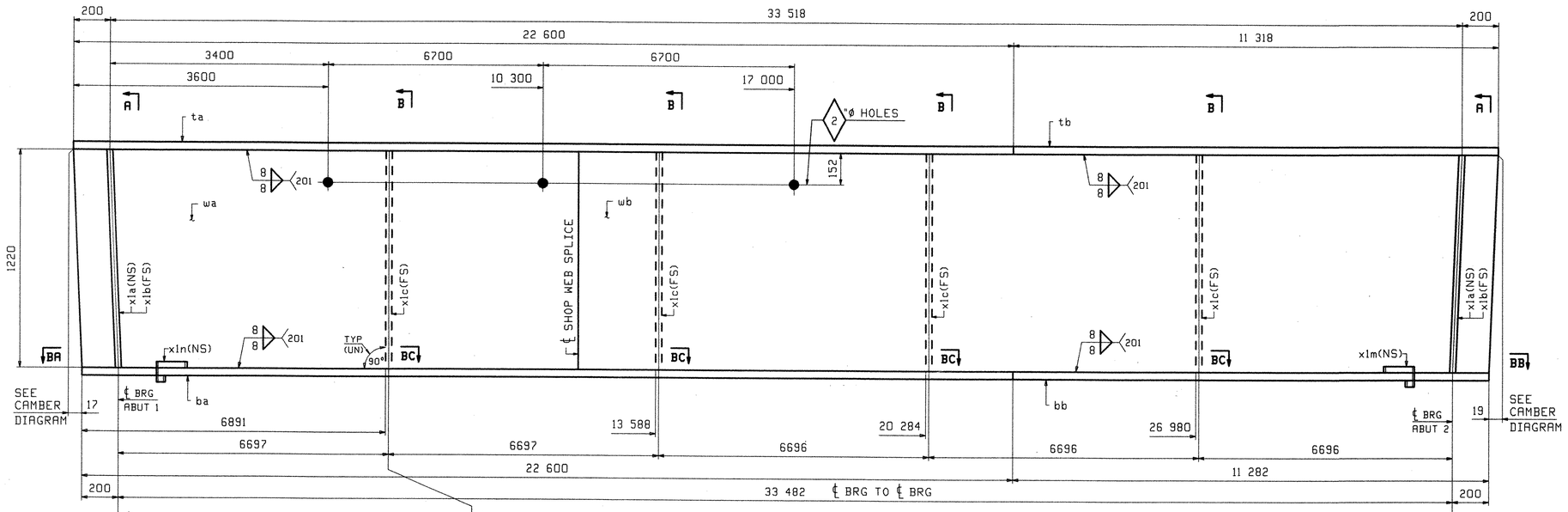
OUT FOR APPROVAL	12·28·05									
OUT FOR APPROVAL	2·27·06									
ISSUED TO SHOP										
FIELD & OFFICE										
1 APPROVAL COMMENTS	2/21	JTB	ELC							
REV. REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

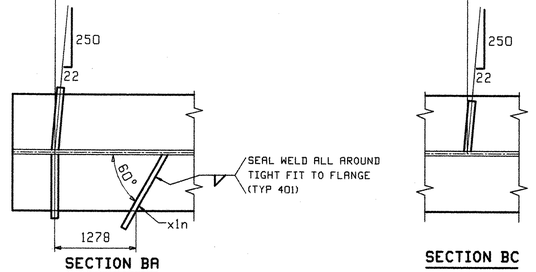
MATERIAL: M270M GR 345W	ELECTRODES:	HOLES: 15/16 ⌀ (UN)	SHOP BOLTS: NONE

SURFACE PREP. & PAINT:

SEE DRAWING GN1

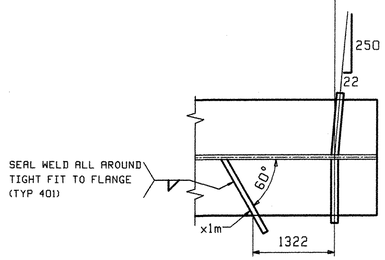
DESCRIPTION: GIRDER - 4G4	DRAWN BY	DATE
JOB: TH 1 (FAS 160) OVER OTTER CREEK	JTB	11/08
BRIDGE NO. 6	CHKD BY	
TOWN OF LEICESTER, VERMONT	ELC	12/06
COUNTY OF ADDISON	APPROV BY	
TENSOR 2603 CONTRACTOR: BLOW & COTE	SUPERVISOR	W. J. GATTI
PROJ NO. BRF 0160(3)S	Q.A.	
CUSTOMER: VT AOT		
CASCO BAY STEEL STRUCTURES, INC.	JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072	285	4
PHONE (207) 282-7360 FAX. (207) 282-1179		REV. 1





SECTION BA

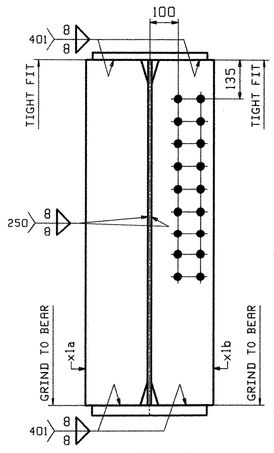
SECTION BC



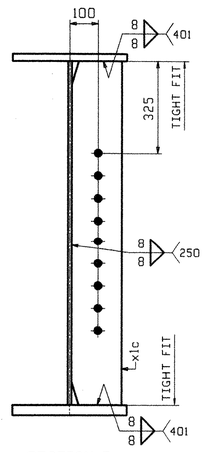
SECTION BB

ONE - GIRDER - 5G5

FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION A
(DEVELOPED)



SECTION B
(DEVELOPED)

ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								285	5	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		5G5	1		GIRDER				10981 kg 24208 lbs	
1	G		1	wa	PL 13x1220	11	618	(M270M-345WT2)	(H2-3)	
1	E		1	wb	PL 13x1220	22	302	(M270M-345WT2)	(H2-3)	
1	J		1	ta	PL 25x406	22	600			
1	L		1	tb	PL 25x406	11	318			
1	A		1	ba	PL 35x406	22	600	(M270M-345WT2)	(H2-3)	
1	C		1	bb	PL 35x406	11	282	(M270M-345WT2)	(H2-3)	
2	B		2	xla	PL 22x220	1	220	MIE		
2	B		2	xlb	PL 22x220	1	220	MIE		
2	C		4	xlc	PL 13x178	1	220			
2	D		1	xlm	PL 6x85	0	277			
2	D		1	xln	PL 6x85	0	277			

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	12.22.05									
	OUT FOR APPROVAL	2.27.06									
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M GR 345W		15/16ø (UN)	NONE

SURFACE PREP. & PAINT:

SEE DRAWING GN1

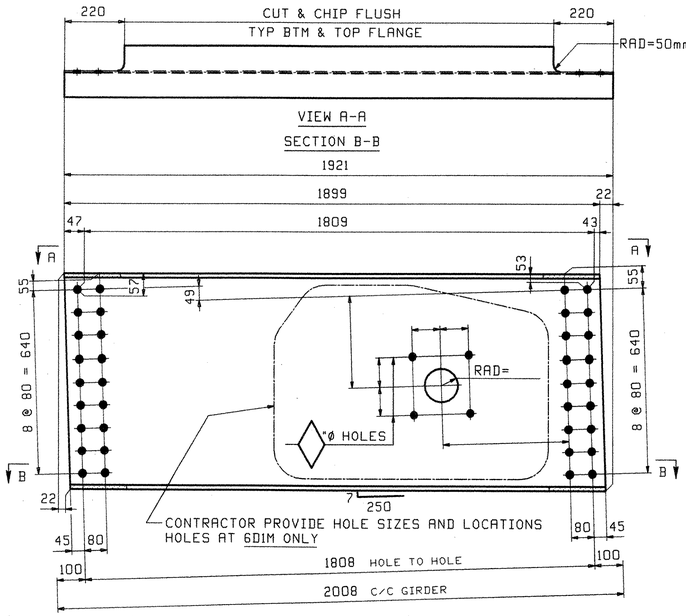
RECEIVED
CK'D BY ____ CK'D BY ____
MAR 03 2006
RESUBMIT ____ APPROVED
BY RRW DATE 3/6/06

DESCRIPTION: GIRDER - 5G5	DRAWN BY	DATE
JOB: TH 1 (FAS 160) OVER OTTER CREEK	JTB	11/08
BRIDGE NO. 6	CHKD BY	
TOWN OF LEICESTER, VERMONT	ELC	12/06
COUNTY OF ADDISON	APPROV BY	
TENSOR 2603 CONTRACTOR: BLOW & COTE	SUPERVISOR	W. J. GATTI
PROJ NO. BRF 0160(3)S	Q.A.	
CUSTOMER: VT AOT		

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
285	5
	REV. △

153 SS

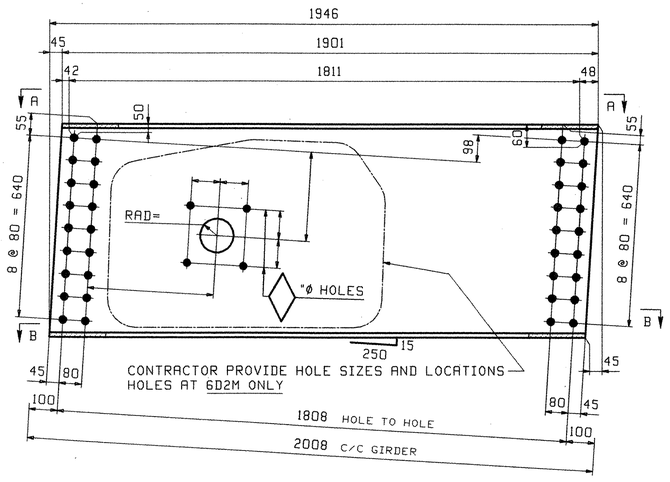


3 ~ END DIAPHRAGMS - 6D1 PAINTED (SEE DWG GN1)

LOOKING TOWARDS BACKWALL - ABUT 1

1 ~ END DIAPHRAGM - 6D1M PAINTED (SEE DWG GN1)

LOOKING TOWARDS BACKWALL - ABUT 1 (LINES 3-4)

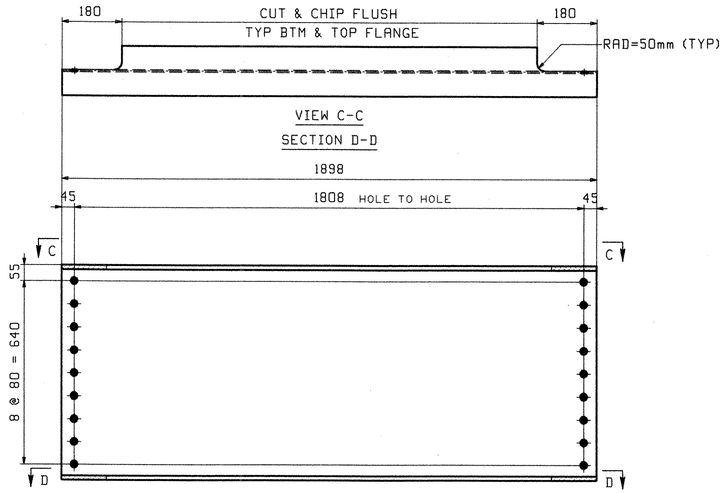


3 ~ END DIAPHRAGMS - 6D2

LOOKING TOWARDS BACKWALL - ABUT 2

1 ~ END DIAPHRAGM - 6D2M

LOOKING TOWARDS BACKWALL - ABUT 2 (LINES 3-4)



16 ~ INT. DIAPHRAGMS - 6D3

LOOKING BACK-STATION

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO. 285	DRAWING NO. 6	REV.
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
					DIAPHRAGMS					
2	J	6D1	3		W 760x134	1	921	PAINTED	257 kg 566 lbs	
2	J	6D1M	1		W 760x134	1	921	PAINTED	257 kg 566 lbs	
2	J	6D2	3		W 760x134	1	946		261 kg 575 lbs	
2	J	6D2M	1		W 760x134	1	946		261 kg 575 lbs	
2	K	6D3	16		W 760x134	1	898		254 kg 559 lbs	

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	12.28.05									
	OUT FOR APPROVAL	2.27.06									
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M GR 345W		15/16Ø (UN)	NONE

SURFACE PREP. & PAINT:

SEE DRAWING GN1

RECEIVED
CK'D BY JMP CK'D BY
MAR 0 3 2006
RESUBMIT APPROVED
BY DATE 3/9/06

DESCRIPTION: DIAPHRAGMS	DRAWN BY	DATE
JOB: TH 1 (FAS 160) OVER OTTER CREEK BRIDGE NO. 6 TOWN OF LEICESTER, VERMONT COUNTY OF ADDISON CONTRACTOR: BLOW & COTE	JTB	11/08
	CHKD BY	
	ELC	12/06
	APPROV BY	
TENSOR 2603	SUPERVISOR	W. J. GATTI
PROJ NO. BRF 0160(3)S	Q.A.	
CUSTOMER: VT AOT		

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
285	6
	REV. △

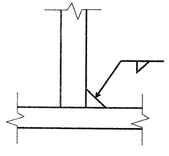
Highway Safety Corporation

Glastonbury, CT

Welding Procedure Specification

Material specification **A572 gr 50, ASTM A709 Gr 50, AASHTO M222**
Welding process **Gas Metal Arc Welding (GMAW)**
Manual, semi-automatic, or automatic **Semi-Automatic**
Position of welding **Flat (1F) or Horizontal (2F)**
Filler metal specification **AWS A5.18**
Filler metal classification **ER70S-3**
Electrode and manufacturer **Lincoln Electric Lincoln Weld L-50**
Flux and manufacturer **N/A**
Shielding gas **85% Argon / 15% CO2** Flow rate **19-27 L / min**
Single or multiple pass **Single**
Single or multiple arc **Single**
Welding current **DCEP**
Polarity **Reverse - electrode positive**
Welding progression **Stringers**
Root treatment **None**
Preheat and interpass temperature **base metal up to 3/4" (50ºF) ; over 3/4 thru 1-1/2" (150ºF) : over 1-1/2" thru 2-1/2" (225ºF)**
Postheat treatment **None**
Electrode extension **3/4" ± 1/4"**

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters Amperes	Welding parameters Volts	Travel speed	Joint detail
1/4"	1	.062"	350 A ± 30	28 V ± 2	12 ipm ± 2	TYPICAL ALL FILLET WELDS 

VTRANS RECEIVED
CK'D BY ____ CK'D BY JWS
AUG 04 2006
RESUBMIT ____ APPROVED ✓
BY ____ DATE 8-8-06

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.5

AWS QC 1 PAUL A. RADICE 7007822E CWI

WPS no. **W-1562B**
Revision no. **0**
Supporting PQR no. **pre-qualified**
Project Name **Montgomery, Vermont**

Fabricator **Highway Safety Corporation**
Authorized by **Paul Radice**
Date **7/28/06**
Project Number **BRO 1448 (20)**

15788

Highway Safety Corporation

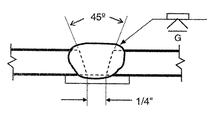
Glastonbury, CT

Welding Procedure Specification

Material specification **ASTM A500 Gr B**
Welding process **Shielded Metal Arc Welding (SMAW)**
Manual, semi-automatic, or automatic **Manual**
Position of welding **Flat (1G)**
Filler metal specification **AWS A5.1**
Filler metal classification **ER7018**
Electrode and manufacturer **Lincoln Electric Jet LH 78 MR**
Flux and manufacturer **N/A**
Shielding gas **N/A** Flow rate **N/A**
Single or multiple pass **Multiple**
Single or multiple arc **Single**
Welding current **AC**
Polarity **N/A**
Welding progression **Stringers**
Root treatment **None**
Preheat and interpass temperature **50ºF (min)**
Postheat treatment **None**
Electrode extension **N/A**

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters Amperes	Welding parameters Volts	Travel speed	Joint detail
	ALL	5/32"	150 A to 220 A		VARIES	B-U2a



VTRANS RECEIVED
OK'D BY _____ OK'D BY JWC
AUG 04 2006
RESUBMIT _____ APPROVED ✓
BY _____ DATE 8-3-06

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.1

WPS no. **W-1562A**
Revision no. **0**
Supporting PQR no. **Pre-Qualified**
Project Name **Montgomery, Vermont**

Fabricator **Highway Safety Corporation**
Authorized by **Paul Radice**
Date **7/28/06**
Project Number **BRO 1448 (20)**

AWS QC 1 PAUL A. RADICE 98070221 CWI

15 & BR

VTRANS
RECEIVED
OK'D BY _____ OK'D BY Jeff
AUG 0 4 2006
RESUBMIT _____ APPROVED ✓
BY DATE 8-14-06

August 6, 2006

Highway Safety Corp.
239 Commerce St.
Glastonburry, CT 06033

RE: Colorzinq® Coating over Galvanized surface.

Dear Marnie Sniezko,

The following is our proposed high performance coating system for the following project:
MONTGOMERY 1448(20) **HSC Job Reference#** 1562
Material to be galvanized to the ASTM A123, A153 galvanizing standards and coated with a Duplex System; Color: Brown Federal #20059, standard 595.

Our QC inspects all incoming material to check for damage from shipping and assure venting is suitable for the galvanizing process.
Material is cleaned of all oxidation, dirt and oils through repeated dipping in hot Alkali solutions. Next, any scale or rust is removed from the cleaned steel by dipping in a diluted ambient temperature Hydrochloric Solution. The pickled material is then transferred into a Zinc Ammonium chloride flux, (Dry Kettle Process) step.
The fluxed product is then completely immersed in a bath consisting of minimum 98% pure molten zinc.
After Galvanizing the material is air cooled, no quenching allowed on any material requiring Duplex Coatings.

15 BR

V & S **Colorzinq®** galvanizing and coating operations are all enclosed inside the same environmentally controlled facility. After galvanizing, the material is transported directly into the coating room.

The galvanized surfaces are prepared using the most current ASTM method D 6386-99 as described under Section 5.4.1. The method of lightly sweep abrading the zinc surface immediately before applying the primer removes even minuet amounts of oxides that have formed. We use a proprietary media that complies with the D 6386-99 guidelines. Our light sweep abrade at low pressure cleans the surface and provides a profile of 1.0 to 1.5 mills anchor pattern. Immediately material is transported via our automated over head rail system into the Primer booth. These steps will commence within a 24 hour window to further insure surface preparation integrity. This positive action approach to surface preparation eliminates any variables associated with a time sensitive surface preparation method.

Coatings are applied at a film thickness **International Paint** recommends. The epoxy prime coat of **Intercure 420 Epoxy Primer** will be applied at 5 – 6 mils DFT followed by a finish urethane coat of **Interthane 990HS** applied at 2-3 mils DFT. When applied to 4 mils of hot dip zinc, a total system thickness of 11 – 13 mils will be achieved. All coats will be cured by heating in our enclosed paint facility to promote maximum performance of the system. Our controlled heat curing process eliminates the variables normally associated with relying on existing ambient drying conditions.

International Paint is our proposed paint system and is not only equal to the other listed paint systems in performance but in many ways superior. International Paint is a division of the Akzo Nobel Corp. who is a global leader in innovative high performance coatings. All proposed coatings are well below the 3.5 lb. /gallon V.O.C. limit. The most important feature of our coating system is the **Intercure 420®** Micaceous Iron Oxide prime coat. With MIO plating effect, we have achieved superior barrier protection and adhesion to hot dip galvanize compared to conventional epoxy primers.

The **Interthane 990HS** ® Urethane Finish is listed on the current N.E.P.C.O.A.T approved listing and is used to protect many of the projects painted by area State

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Departments of Transportation. These structures are exposed to many harsh environments and their coating systems are designed to withstand these conditions for many years. **International Paint** has a field technician available for our use during startup and throughout the duration of the project as needed.

Voigt and Schweitzer is an ISO 9002 company and as such are very comfortable with any inspections you may want to make. Our lead paint mechanics each have many years experience in the application of complex coating systems. All processes are documented and available to the project authorities.

Thank you for the opportunity. Voigt & Schweitzer are uniquely qualified to present a single source location for the galvanizing and coating of your project. If you need further information or clarifications please call me at (860) 294-1030.

Best regards,
Jay J. Besozzi
V&S Taunton Galvanizers, LLC.

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Intercure® 420

Rapid Recoat Epoxy

International
Protective Coatings

WORLD WIDE PRODUCT RANGE

PRODUCT DESCRIPTION

A two component, high solids, low VOC epoxy micaceous iron oxide coating formulated on proprietary polymer technology which provides rapid cure and overcoating even under low temperature conditions.

INTENDED USES

As a high build intermediate to provide excellent barrier protection as part of a high performance system suitable for use in aggressive environments including offshore, bridges, chemical and petrochemical plants, power stations, pulp and paper mills and industrial building.

Can be used as a barrier coating applied direct to steel where the environment is non aggresive.

The incorporation of plate-like micaceous iron oxide pigment, both increases the barrier effect and improves long term overcoating properties of the system making this material ideally suitable for application in the fabrication shop, prior to shipping, with final overcoating at site.

The rapid curing and overcoating properties of Intercure 420 provide production flexibility, making this product suitable for use both in new construction and on site as a maintenance coating.

PRACTICAL INFORMATION FOR INTERCURE 420

Color	Natural MIO, Silver gray, Light gray
Gloss Level	Matte
Volume Solids	70%
Typical Thickness	4-7 mils (100-175 microns) dry equivalent to 5.7-10.0 mils (143-250 microns) wet
Theoretical Coverage	225 sq.ft./US gallon at 5 mils d.f.t. and stated volume solids 5.60 m^2/liter at 125 microns d.f.t. and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless spray, Air spray, Brush, Roller

Drying Time

Temperature	Touch Dry	Hard Dry	Overcoating Interval with recommended topcoats *Minimum*	*Maximum*
41°F (5°C)	75 minutes	7 hours	5 hours	Extended*
59°F (15°C)	50 minutes	4 hours	3 hours	Extended*
77°F (25°C)	40 minutes	2 hours	2 hours	Extended*
104°F (40°C)	30 minutes	1 hour	1 hour	Extended*

*See International Protective Coatings Definitions and Abbreviations

REGULATORY DATA

Flash Point	Base (Part A) 84°F (29°C)	C/A (Part B) 79°F (26°C)	Mixed 81°F (27°C)
Product Weight	13.27-13.69 lb/gal (1.59-1.64 kg/l) (range)		
VOC	2.75 lb/gal (330 g/l) USA - EPA Method 24		
	[illegible]0 g/l UK - PG6/23(92), Appendix 3		

[illegible] International Protective Coatings, a world leader in coating technology, [illegible] sensitive products across the globe.

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Intercure® 420

Rapid Recoat Epoxy

PRODUCT CHARACTERISTICS

Low Temperature Curing

Intercure 420 is capable of curing at temperatures below 32°F (0°C). However, this product should not be applied at temperatures below 32°F(0°C) where there is a possibility of ice formation on the substrate.

Temperature	Touch Dry	Hard Dry	Overcoating interval with recommended topcoats	
			Minimum	*Maximum*
23°F (-5°C)	2 hours	20 hours	20 hours	Extended*
32°F (0°C)	90 minutes	12 hours	12 hours	Extended*

*See International Protective Coatings Definitions and Abbreviations

Touch dry times shown above are actual drying times due to chemical cure, rather than physical set due to solidification of the coating film at temperatures below 32°F (0°C).

This product must only be thinned using International thinners. The use of alternative thinners, particularly those containing Ketones, can severely inhibit the curing mechanism of the coating.

Surface temperature must always be a minimum of 5°F (3°C) above dew point.

In common with all epoxies Intercure 420 will chalk and discolor on exterior exposure. However, these phenomena are not detrimental to anti-corrosive performance.

This product is frequently used as a "travel coat" prior to final overcoating on site. To ensure best extended overcoating properties ensure over-application does not occur and that the surface is fully cleansed of any contamination which may be present in the surface texture due to the coarse nature of the micaceous iron oxide pigmentation.

As with all products with high micaceous iron oxide levels, only relatively dark colors can be formulated, consequently with some colors of thin film finishes two coats may be needed to give good coverage.

Absolute measured adhesion of topcoats to aged Intercure 420 is less than that to fresh material, however, it is adequate for the specified end use.

SYSTEMS COMPATIBILITY

Please consult International Protective Coatings for specific information regarding application to prefabrication primers.

The following primers are recommended for Intercure 420:

- Intercure 200
- Intergard 251
- Intergard 269
- Interzinc 12 (mist coat or tie coat recommended)*
- Interzinc 22 (mist coat or tie coat recommended)*
- Interzinc 42
- Interzinc 52
- Interzinc 315

The following topcoats are recommended for Intercure 420:

- Intercryl 530
- Interfine 629 HS
- Intergard 740
- Interthane 990

For other suitable primers/topcoats, please consult International Protective Coatings.

* See relevant product data sheet for details.

Intercure® 420

Rapid Recoat Epoxy

SURFACE PREPARATION

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:1992.

Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Abrasive Blast Cleaning

Abrasive blast clean to SSPC-SP6 or Sa2½ (ISO 8501-1:1988). If oxidation has occurred between blasting and application of Intercure 420, the surface should be reblasted to the specified visual standard.

Surface defects revealed by the blast cleaning process, should be ground, filled, or treated in the appropriate manner.

Shop Primed Surfaces

Weld seams and damaged areas should be blast cleaned to SSPC-SP6 or Sa2½ (ISO 8501-1:1988).

If the shop primer shows extensive or widely scattered breakdown overall sweep blasting may be necessary.

Zinc Primed Surfaces

Ensure that the surface of the primer is clean, dry and free from contamination and zinc salts before application of Intercure 420. Ensure zinc primers are fully cured before overcoating.

APPLICATION

Mixing	Material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied. Once the unit has been mixed it must be used within the working pot life specified. (1) Agitate Base (Part A) with a power agitator. (2) Combine entire contents of Curing Agent (Part B) with Base (Part A) and mix thoroughly with power agitator.	
Mix Ratio	3 parts : 1 part by volume	
Working Pot Life	41°F (5°C) 8 hours 59°F (15°C) 4 hours 77°F (25°C) 2 hours 104°F (40°C) 45 minutes	
Airless Spray	Recommended	• Tip range 17-21 thou (0.43-0.53 mm) • Total output fluid pressure at spray tip not less than 2,500 p.s.i. (176 kg/cm²)
Air Spray (Pressure Pot)	Recommended	Gun DeVilbiss MBC or JGA Air Cap 704 or 765 Fluid Tip E
Brush	Suitable - small areas only	Typically 3 mils (75 microns) can be achieved.
Roller	Suitable - small areas only	Typically 2-3 mils (50-75 microns) can be achieved.
Thinner	International GTA415 (or GTA220)	Do not thin more than allowed by local environmental legislation.
Cleaner	International GTA415 (or GTA822)	
Work Stoppages	Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with International GTA415. Once units of paint have been mixed they should not be reseised and it is advised that after prolonged stoppages work recommences with freshly mixed units.	
Clean Up	Clean all equipment immediately after use with International GTA415. It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays. All surplus materials and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.	

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Intercure® 420

Rapid Recoat Epoxy

Additional Information

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following sections of the International Protective Coatings data manual:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage

Individual copies of these information sections are available upon request.

Safety Precautions

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container (s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

Pack Size

4 gallon unit	Intercure 420 Base	3 gallons in a 5 gallon container
	Intercure 420 Curing Agent	1 gallon in a 1 gallon container
20 liter unit	Intercure 420 Base	15 liters in a 20 liter container
	Intercure 420 Curing Agent	5 liters in a 5 liter container

For availability of other pack sizes contact International Protective Coatings

Shipping Weight

U.N. Shipping No. 1263

4 gallon unit	49.4 lb (22.4 kg) Base (Part A)	8.9 lb (4.0 kg.) Curing Agent (Part B)
20 liter unit	65.0 lb (29.5 kg) Base (Part A)	11.5 lb (5.2 kg) Curing Agent (Part B)

Storage

Shelf Life: 12 months minimum at 77°F (25°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.

International Protective Coatings

Worldwide Availability

Head Office
London W1A 2BS
England
Tel: (44) 171 612 [illegible]
Fax: (44) 171 612 [illegible]

Asia Region
Jurong Town
Singapore 628979
Tel: (65) 860 [illegible]
Fax: (65) 265 [illegible]

Australasia Region
Yennora
Australia
Tel: (61) 7 [illegible]
Fax: (61) 7 [illegible]
Mob (61) [illegible]

European Region
London W1A 2BS
England
Tel: (44) 171 612 [illegible]
Fax: (44) 171 612 [illegible]

Middle East Region
PO Box [illegible]
Dammam [illegible]
Saudi Arabia
Tel: (966) [illegible]
Fax: (966) [illegible]

North America Region
Houston
Texas 77091
Tel: (1) 713 682 [illegible]
Fax: (1) 713 684 [illegible]

South America Region
São Paulo, S.P.
CEP: 04647-900
Brasil
Tel: (011) 5044 [illegible]
Fax: (011) 5044 [illegible]

USA Toll Free Number (800) 999 [illegible]
www.international-pc.com

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[redacted]

International
Protective Coatings

Interthane® 990 HS

Polyurethane

Product Description

A low VOC, two component acrylic polyurethane high performance finish coat with excellent gloss and color retention on exterior exposure for use over correctly prepared and primed surfaces.

Intended Uses

As a durable high gloss finish coat for exposed steelwork in a wide range of aggressive environments including chemical and petrochemical plants, offshore structures, bridges, pulp and paper mills, power plants and refineries.

For use over correctly prepared primed steel and masonry surfaces in both new construction and maintenance situations.

Exhibits superior application properties, environmental durability and chemical resistance. Gives excellent gloss and color retention on exterior exposure.

Practical Information for Interthane 990 HS

Color	Wide range via the Chromascan® system
Gloss Level	High gloss
Volume Solids	68% ± 3% (depends on color)
Typical Thickness	2-3 mils (50-75 microns) dry equivalent to 2.9-4.4 mils (74-110 microns) wet
Theoretical Coverage	545 sq.ft./US gallon at 2 mils d.f.t. and stated volume solids 13.6 m^2/liter at 50 microns d.f.t. and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless spray, Air spray, Brush, Roller

Drying Time

Temperature	Touch Dry	Hard Dry	Overcoating interval Interthane 990 HS with Self *Minimum*	*Maximum*
50°F (10°C)	3½ hours	30 hours	30 hours	30 days
59°F (15°C)	3 hours	22 hours	22 hours	30 days
77°F (25°C)	2 hours	12 hours	12 hours	30 days
104°F (40°C)	1 hour	4 hours	4 hours	30 days

Regulatory Data

Flash Point	Base (Part A) 100°F (38°C)	C/A (Part B) 135°F (57°C)	Mixed 103°F (39°C)
Product Weight	12.5 lb/gal (1.5 kg/l)		
VOC	2.73 lb/gal (327 g/l)	USA - EPA Method 24	
	330 g/l	UK - PG6/23(92), Appendix 3	

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Interthane® 990 HS

Polyurethane

SURFACE PREPARATION

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:1992.

Primed Surfaces

Interthane 990 HS should always be applied over a recommended anti-corrosive coating scheme. The primer surface should be dry and free from all contamination, and Interthane 990 HS must be applied within the overcoating intervals specified (consult the relevant product data sheet).

Areas of breakdown, damage etc., should be prepared to the specified standard (e.g. SSPC-SP6 or Sa2½ (ISO 8501-1:1988), Abrasive Blasting, or SSPC-SP11, Power Tool Cleaning) and patch primed prior to the application of Interthane 990 HS.

APPLICATION

Mixing

Material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied. Once the unit has been mixed it must be used within the working pot life specified.

(1) Agitate Base (Part A) with a power agitator.
(2) Combine entire contents of Curing Agent (Part B) with Base (Part A) and mix thoroughly with power agitator.

Mix Ratio

9 parts : 1 part by volume

Working Pot Life

50°F (10°C)	59°F (15°C)	77°F (25°C)	104°F (40°C)
7 hours	6 hours	3 hours	1 hour

Airless Spray

Recommended

- Tip range 15-19 thou (0.38-0.48 mm)
- Total output fluid pressure at spray tip not less than 2,000 p.s.i. (141 kg/cm²)

Air Spray (Pressure Pot)

Recommended

Gun: DeVilbiss MBC or JGA
Air Cap: 704 or 765
Fluid Tip: E

Brush

Suitable

Typically 1.5-2.0 mils (40-50 microns) can be achieved

Roller

Suitable

Typically 1.5-2.0 mils (40-50 microns) can be achieved

Thinner

International GTA056 (or GTA713)

Do not thin more than allowed by local environmental legislation.

Cleaner

International GTA056 (or GTA713)

Work Stoppages

Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with International GTA056. Once units of paint have been mixed they should not be resealed and it is advised that after prolonged stoppages work recommences with freshly mixed units.

Clean Up

Clean all equipment immediately after use with International GTA056. It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays.

All surplus materials and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

1GB3R

Interthane® 990 HS

Polyurethane

PRODUCT CHARACTERISTICS

Level of sheen and surface finish is dependent on application method. Avoid using a mixture of application methods whenever possible. Best results in terms of gloss and appearance will always be obtained with air spray application.

For brush and roller application, and in some colors, two coats of Interthane 990 HS may be required to give uniform coverage, especially when applying Interthane 990 HS over dark undercoats, and when using certain lead free bright colors such as yellows and oranges. Best practice is to use a color compatible intermediate or anti-corrosive coating under the Interthane 990 HS.

Application at high film thickness, i.e. greater than 4 mils (100 microns) is likely to detract from appearance, due to surface defects. At low film build 1.5 mils (40 microns) dry film thickness opacity will be insufficient to give good coverage, with a number of colors resulting in an uneven finish appearance.

Over-application of Interthane 990 HS will extend both the minimum overcoating periods and handling times, and may be detrimental to long term overcoating properties.

When surface temperatures are greater than 104°F (40°C) for periods of greater than 72 hours then pretreatment may be required before application of a further coat of Interthane 990 HS. When recoating beyond 30 days at any surface temperature additional surface preparation may be required. Contact International Protective Coatings for recommendations.

Application at excessively high relative humidity, or under conditions where condensation is likely to occur, may result in immediate or premature loss of gloss. Best results will always be obtained by applying with RH less than 85% and with surface temperatures at least 5°F (3°C) above dew point.

Condensation occurring during or immediately after application may result in a matt finish and an inferior film.

Premature exposure to ponding water will cause a color change, especially in dark colors.

This product has the following specification approvals:

USDA approval for incidental food contact surface in federally inspected meat and poultry plants. Subject to inspector-in-charge approval.

SYSTEMS COMPATIBILITY

The following primers/intermediate coats are recommended for Interthane 990 HS:

Intercure 200	Interplus 770
Intercure 420	Interplus 880
Intergard 251	Interseal 670 HS
Intergard 269	Interzinc 42
Intergard 270	Interzinc 52
Intergard 401	Interzinc 315
Intergard 475 HS	Interzone 505
Interplus 256	Interzone 954
Interplus 356	Interzone 1000

Interthane 990 HS is designed to be topcoated with itself.

For other suitable primers/intermediate coats/topcoats, consult International Protective Coatings.

Interthane® 990 HS

Polyurethane

Additional Information

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following sections of the International Protective Coatings data manual:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage

Individual copies of these information sections are available upon request.

Safety Precautions

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

Warning: Contains isocyanate. Wear air-fed hood for spray application.

Pack Size

5 gallon unit	Interthane 990 HS Base	4.5 gallons in a 5 gallon container
	Interthane 990 HS Curing Agent	0.5 gallons in a 1 gallon container
20 liter unit	Interthane 990 HS Base	18 liters in a 20 liter container
	Interthane 990 HS Curing Agent	2 liters in a 2.5 liter container

For availability of other pack sizes contact International Protective Coatings

Shipping Weight

U.N. Shipping No. 1263

5 gallon unit	61.2 lb (27.7 kg) Base (Part A)	4.5 lb (2.0 kg) Curing Agent (Part B)
20 liter unit	65.5 lb (29.7 kg) Base (Part A)	5.5 lb (2.5 kg) Curing Agent (Part B)

Storage

Shelf Life: 12 months minimum at 77°F (25°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.

International Protective Coatings

World Center	Asia Region	Australasia Region	Europe Region	Middle East Region	North America Region	South America Region
50 George Street London W1A 2BB England	Courtaulds Coatings Singapore Pte Ltd 3 Neythal Road Jurong Town Singapore 628570	Courtaulds (Australia) Pty Ltd 115 Hyde Road Yeronga Brisbane Queensland Australia	50 George Street London W1A 2BB England	International Paint Saudi Arabia Ltd PO Box 37 Dammam 31411 Saudi Arabia	Courtaulds Coatings Inc 6001 Antoine Drive Houston Texas 77091	Courtaulds International Ltda Rua Pacs Leme, 524 - 6°. Andar Pinheiros 05424-904 - São Paulo, SP Brazil
Tel: (44) 171 612 1400 Fax: (44) 171 612 1601	Tel: (65) 663 3088 Fax: (65) 268 5287	Tel: (61) 7 3892 8888 Fax: (61) 7 3892 4287 H&S (61) 1800 807 001	Tel: (44) 171 612 1410 Fax: (44) 171 612 1503	Tel: (966) 3 842 8436 Fax: (966) 3 842 4381	Tel: (1) 713 682 1711 Fax: (1) 713 684 1327	Tel: (55) 11 815 6166 Fax: (55) 11 813 5856

USA Toll Free Number (800) 589 1287
www.international-pc.com

169BR

HOT STOCKS ON THE STREET

Aug 2006 Global Beverage Solutions Inc. (OTCBB:GBVS) Issue #136

History Is Set To Repeat: FOX News Features Global Beverage Solutions On It's Day Side Show. Is This The Next Hansen Natural?

At Hot Stocks on the Street, there are two things we absolutely require in any stock that we feature for our readers:

1. ***The Company must have a breakthrough technology or specific conditions that virtually guarantee the stock is about to go through the roof.***
2. ***The Company must be a small-cap stock that Wall Street hasn't spotted yet. These undiscovered gems can provide our investors with short-term explosive gains.***

As of July 25, 2006:
GLOBAL BEVERAGE SOLUTIONS INC.
Symbol: GBVS
Shares outstanding: 43,439,105
Current share price: $0.65
Website: ww.globalbeveragesolutions.com
Industry: Beverage—markets RUDY brand sports drinks and EON Water
52 Week Range: $0.40-$2.04
Target Price: $2.80

You have to love **FOX News**. In a summer of stock market bummers, it likely found a huge winner... **a company that history indicates could return investors massive profits over the next weeks, months and year**. In fact, this grossly undervalued company is ready to pop as early as this July. That's why FOX News featured it in late June.

Because many Wall Street insiders consider it on the brink of becoming the next **Hansen Natural** (Beverages). You know the Hansen story, right? It's all over TV, Jim Cramer and MSNBC.

That's because back on Oct 1, 2003, **Hansen (HANS)** was at $5.83... less than two years later, on July 5, 2005 HANS opened at 106.80. That's right $106.80.... it split days later, but unadjusted, those shares are worth about $140. That's nearly 2,300% PROFIT in less than two years ... WOW!!!! *Even wilder is that on July 6, 2006, those same HANS shares traded at $210. And on July 12 the stock split again, this time 4 for 1.*

So, you can just imagine the huge pile of money that smart, early-in investors made on HANS. And, that's why FOX News featured a new young beverage company on it June 28 DaySide show.

They made a big thing over a company is called ***Global Beverage Solutions (GBVS).*** *It has a super hot product today in a market that is getting pounded because drinks have too much sugar and U.S. kids are too fat.*

FOX News featured **GBVS** because it made big news recently, and caught Wall Street by surprise when its Rudy Beverages division rolled out a great tasting, but low sugar, sports drink... one that parents and teachers approve of, not only because the drinks are low in sugar, but because the Rudy in Rudy Beverages is none other that a legendary sports hero named Rudy Ruettiger... yup, Rudy from the movies... a name that means integrity...

And, as we're sure you have guessed, Rudy Beverages is a wholly owns subsidiary of **Global Beverages Solutions (GBVS)**, the one everyone thinks is the next huge beverage sector winner.

Even better for you is that Rudy isn't GBVS' only star. The other star – the name that should make you rich – is a man named Drew Carver. No one's made a movie about him, but maybe they should have. **Because while you may have never heard of him, Wall Street sure has. And, you've certainly heard of the products he made famous.**

You see, Drew is the genius who took the **Arizona Ice Tea Company** from 750,000 cases a year to approximately 7 million and then to a whopping 20,000,000 cases in just two years. Then he moved on to **SoBe**. That's where Drew grew the company so fast that **PepsiCo** started feeling the pain. It swooped in to snap up **SoBe** for a sweet $350 million! You can only imagine how well investors in **SoBe** did.

Now, Drew Carver has his winning hands on the helm of the **Global Beverage Solutions**, and truth be told, even though its products are in high demand, Carver may be the real reason everyone so high on the company.

Best of all for you today, is that Global Beverage Solution is amazingly cheap. *That means you can take a hearty stake in* ***GBVS*** *and it won't break the bank.* With Rudy Beverages, **GBVS** has built a solid foundation and embraced a winning philosophy... As you've seen, this is a proven recipe for outlandish success. **Buy GBVS** at the market today... then sit back and hold on tight!

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VTrans *OFFICE MEMORANDUM*

PROGRAM DEVELOPMENT DIVISION - Structures Design Section

TO: Chris Slesar, Environmental Specialist

FROM: **Carolyn W. Carlson, Project Engineer**

DATE: **August 23, 2006**

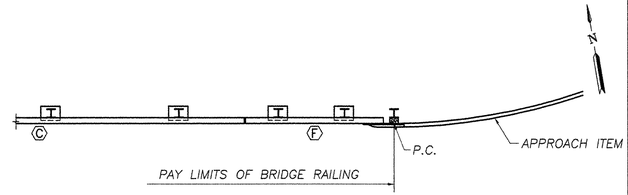
SUBJECT: **Salisbury-Cornwall BHO 1445(27)**

Attached are the updated erosion control sheets which address the comments that we discussed on August 22, 2006.

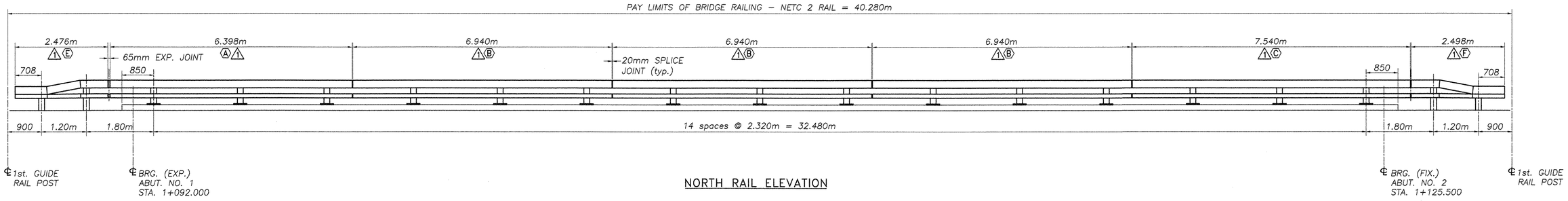
If you have any questions or concerns, please contact us.

cc: Roger R. Whitcomb, Project Manager

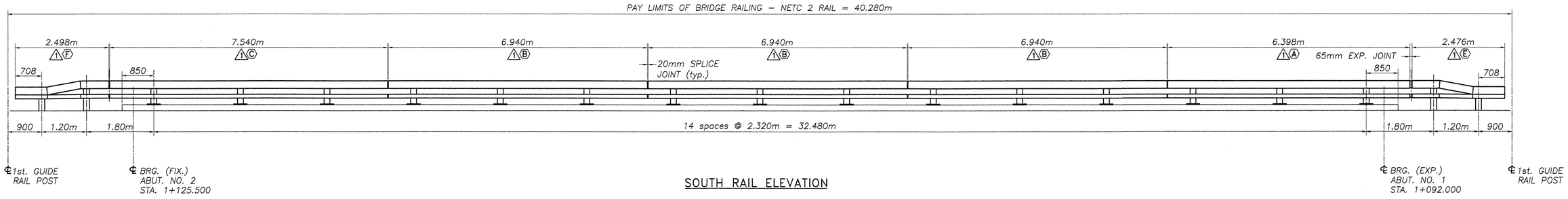
16986



PARTIAL PLAN



NORTH RAIL ELEVATION



SOUTH RAIL ELEVATION

BILL OF MATERIAL (BOTH SIDES OF BRIDGE)

Mark #	Qty.	Description	Material	
	30	W150x37.1 POST W/BASEPLATE (610mm) OAL	A709M Gr. 345	
	4	W150x37.1 DRIVEN POST (2.135m) OAL	A709M Gr. 345	
	4	W150x37.1 DRIVEN POST (1.990m) OAL	A709M Gr. 345	
A	2	TS 203 x 102 x 8 (6.398m) OAL	A500 Gr. B	1
A	2	TS 102 x 102 x 6 (6.398m) OAL	A500 Gr. B	1
B	6	TS 203 x 102 x 8 (6.940m) OAL	A500 Gr. B	1
B	6	TS 102 x 102 x 6 (6.940m) OAL	A500 Gr. B	1
C	2	TS 203 x 102 x 8 (7.540m) OAL	A500 Gr. B	1
C	2	TS 102 x 102 x 6 (7.540m) OAL	A500 Gr. B	1
E	2	TS 203 x 102 x 8 (2.476) UPPER DROP END TUBE	A500 Gr. B	1
E	2	TS 102 x 102 x 6 (2.476) LOWER DROP END TUBE	A500 Gr. B	1
F	2	TS 203 x 102 x 8 (2.498) UPPER DROP END TUBE	A500 Gr. B	1
F	2	TS 102 x 102 x 6 (2.498) LOWER DROP END TUBE	A500 Gr. B	1
	12	TS 178 x 76 x 10 SPLICE TUBE 500 LONG	A500 Gr. B	1
	12	TS 76 x 76 x 8 SPLICE TUBE 500 LONG	A500 Gr. B	1
	30	3mm BEARING PAD	NEOPRENE	
	4	BACK UP PLATE	A709M Gr. 250	
	4	TERMINAL CONNECTOR	M180 B2	
	176	M20 ROUND HEAD BOLT, 152 LONG	M164M	1
	176	M20 HEX NUT	A563 DH	
	176	M20 WASHER	F436M	
	96	M16 SPLICE BOLT, 50 LONG	M164M	1
	96	M16 PLAIN HARDENED WASHER	F436M	
	48	M16 NUT WELDED TO SPLICE TUBE	A563A	
	16	M20 x 15 SCH. 40 PIPE SPACER	A53 Gr. B	1
	120	M24 ANCHOR STUD, 300 LONG	F568M CL. 8.8	*
	120	M24 WASHER	F436M	*
	120	M24 JAMB NUT	A563 DH	*
	240	M24 HEX NUT	A563 DH	*
	30	SPACER PLATE	A709M Gr. 250	*

NOTES:
1. ITEMS MARKED "*" ARE NOT SUPPLIED BY HIGHWAY SAFETY CORPORATION, AND THEY ARE SHOWN ONLY FOR REFERENCE.

REVISIONS		
No.	Remarks	Date
0	Initial submittal	7-18-06
1	VT DOT Corrections	8-08-06

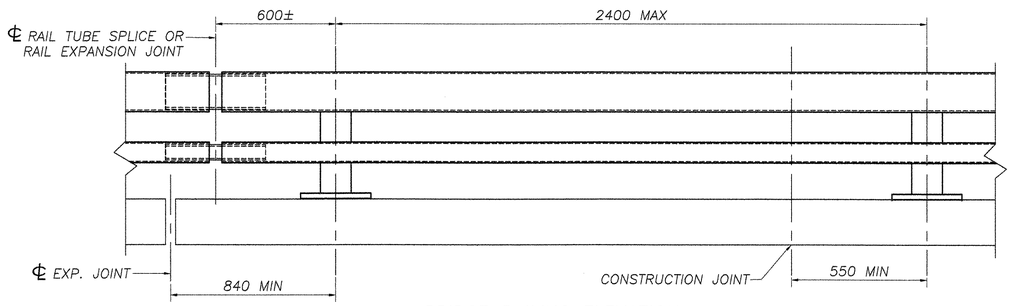
VTRANS
RECEIVED
CK'D BY G.Roy CK'D BY
AUG 21 2006
RESUBMIT APPROVED
BY DATE
— RECORD PLANS —

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

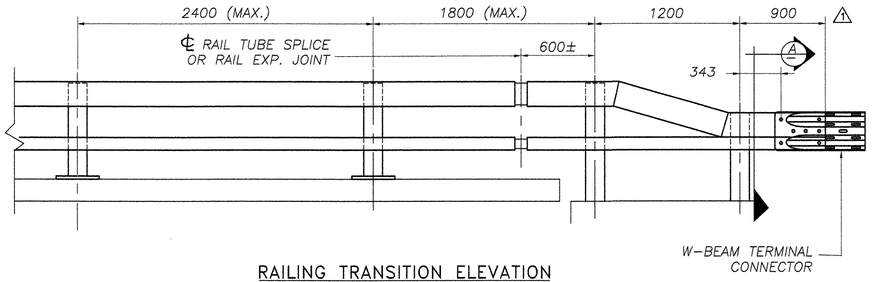
ITEM 525.33 – BRIDGE RAILING–NETC 2 RAIL
PROJECT No. AC BRF 0160(3)S
TOWN OF LEICESTER Br. No. 6
ADDISON COUNTY, ROUTE: TH 1 (FAS 160)

GENERAL CONTRACTOR
SUB CONTRACTOR F.R. LAFAYETTE, INC.

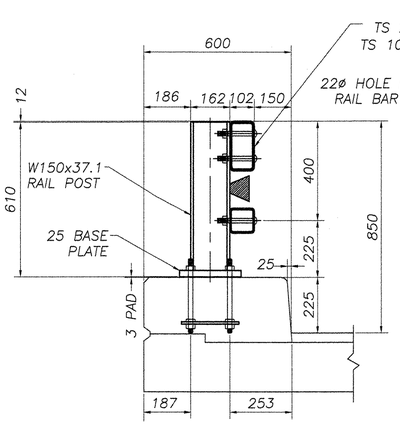
DRAWN	MHM
CHECKED	
DATE	7-18-06
SCALE	NONE
HSC REFERENCE NO.	1560
SIZE	D
REVISION	1
SHEET NO.	1 of 2



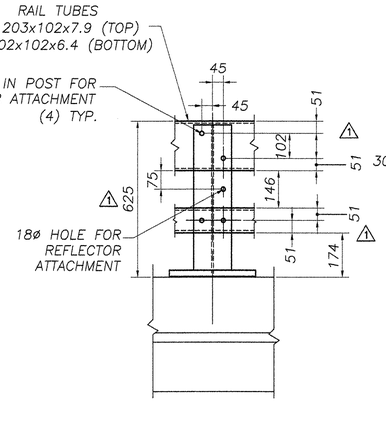
BRIDGE RAILING ELEVATION



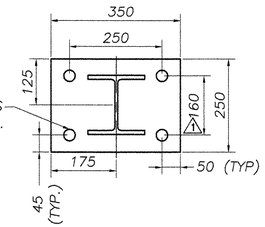
RAILING TRANSITION ELEVATION
(BOTH ENDS OF BRIDGE)



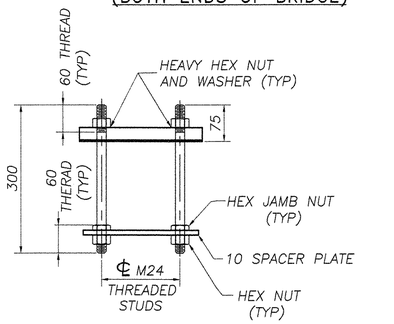
TYPICAL SECTION



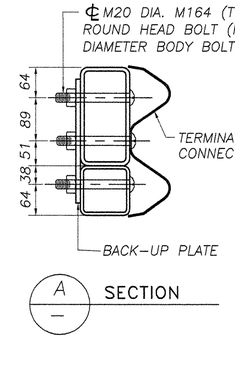
ELEVATION



POST AND BASE PLATE



RAIL POST ANCHORAGE
(BY OTHERS)



A — SECTION

NOTES:

1. ALL RAILINGS AND MATERIALS SHALL CONFORM TO THE PROVISION OF SECTION 525, "RAILINGS OF THE STANDARD SPECIFICATION FOR CONSTRUCTION".

2. TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732, "RAILING MATERIALS OR THE STANDARD SPECIFICATION FOR CONSTRUCTION," EXCEPT THAT THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING SHOWN ON THIS SHEET.

3. PRIOR TO GALVANIZING, ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 2mm RADIUS AND BE FREE OF BURRS.

4. RAIL POSTS SHALL BE SET NORMAL TO GRADE.

5. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.

6. RAIL TUBE EXPANSION JOINT SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE "X" AT 7°C AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.

7. ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111, EXCEPT HARDWARE, WHICH SHALL MEET THE REQUIREMENTS OF AASHTO M232M.

8. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.

9. RAIL TUBES SHALL BE ATTACHED USING M20 FULL DIAMETER BODY AASHTO M164M (TYPE 1) ROUND HEAD BOLT INSERTED THOUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 2mm LARGER THAN THE BOLT SIZE.

10. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.

11. IF THERE IS A CONFLICT BETWEEN THE DETAILS SHOWN ON THIS SHEET AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN DRAWINGS SHALL BE FOLLOWED.

12. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.

13. THE FABICATOR SHALL SUBMIT SHOP DRAWINGS, INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, SHOP DRAWINGS. ALL WELDING SHALL CONFORM WITH SECTION 506.10.

14. RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A370 CHARPY IMPACT TESTING USING TYPE A SPECIMENS.

15. TO FACILITATE FIELD FIT – UP OF THE TRANSITION RAILING, POSTS SHALL BE SET LOOSELY INTO FIBER FORM TUBES WHILE TRANSITION PARTS ARE BEING ASSEMBLED. POST HOLES SHALL BE BACKED FILLED WITH A CONCRETE MIX APPROVED BY THE ENGINEER. PAYMENT FOR COMPONENTS, INCLUDING BACKUP PLATE AND END TERMINAL CONNECTOR FOR GUARD RAIL, AUGERING, FIBER FORM TUBES AND CONCRETE , AND INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO ITEM 525.33, "BRIDGE RAILING – NETC 2 RAILING".

16. ALL APPROACH RAIL SPLICES SHALL BE LAPPED ON THE DIRECTION OF TRAFFIC FLOW.

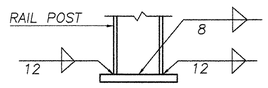
MATERIALS

RAIL TUBES	ASTM A500, GRADE B OR ASTM A501
RAIL POSTS AND BASE PLATES	ASTM A709/A709M, GRADE 345
ALL OTHER SHAPES AND PLATES	ASTM A709/A709M, GRADE 250
ANCHOR STUDS	ASTM F568M CLASS 8.8
ALL OTHER BOLTS (UNLESS NOTED)	AASHTO M164M, TYPE1

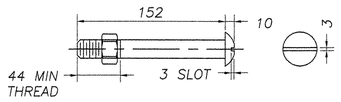
NUTS FOR AASHTO M164M (ASTM A325M) BOLTS AND ANCHOR STUDS SHALL COMPLY WITH AASTHO M291M (ASTM A563M).

WASHERS SHALL COMPLY WITH AASHTO M293M (ASTM F436M) SPECIFCATIONS.

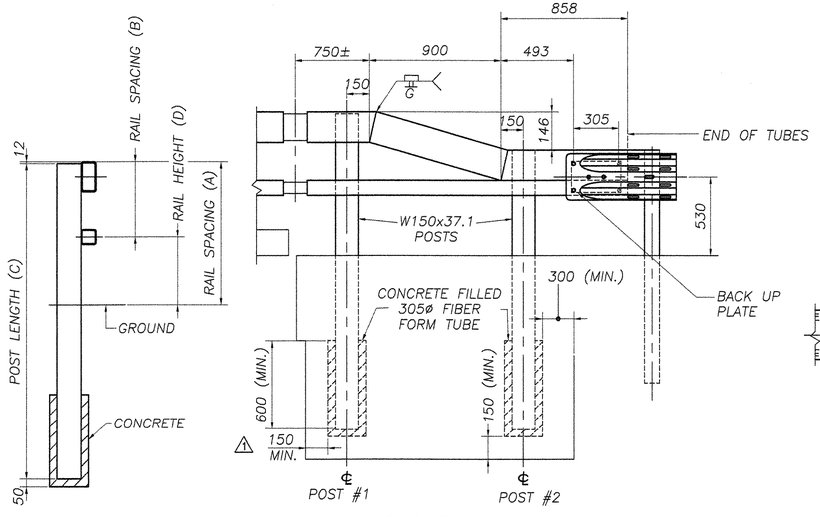
3mm PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.



BASE WELD DETAIL

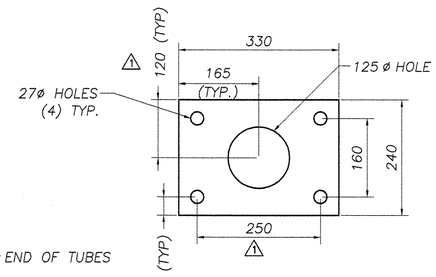


M20 DIA. M164M (TYPE 1)
ROUND HEAD BOLT
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE #9)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.

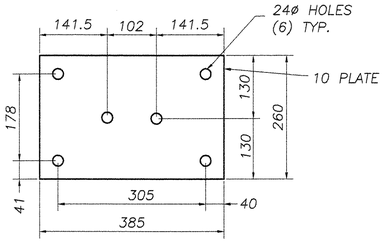


TYPICAL SECTION

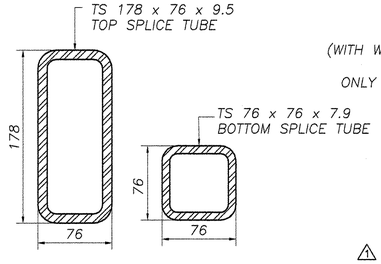
ELEVATION



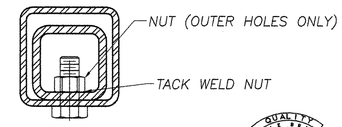
SPACER PLATE
(BY OTHERS)



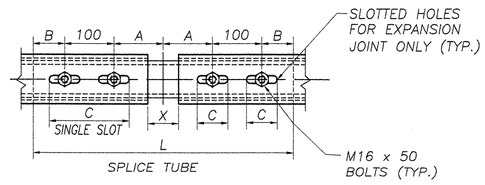
BACK-UP PLATE



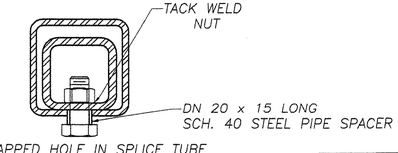
RAIL TUBE SPLICE SECTION



⚠ 16ø TAPPED HOLE IN SPLICE TUBE & 20 ø HOLE IN RAIL TUBE FOR M16 BOLT & PLAIN HARDENED WASHER



RAIL TUBE SPLICE AND RAIL
EXPANSION JOINT DETAIL



⚠ 16ø TAPPED HOLE IN SPLICE TUBE AND 28 x 'C' SLOT IN RAIL TUBE FOR M16 BOLT AND PLAIN HARDENED WASHER

EXPANSION JOINT SECTION
FOR DETAILS NOT SHOWN,
SEE "RAIL TUBE SPLICE SECTION."

POST NUMBER	RAIL HEIGHT (A)	RAIL SPACING (B)	POST LENGTH (C)	RAIL HEIGHT (D)
1	850	400	2135	450
2	704	254	1990	450

SPLICE TABLE					
T	A	B	C	L	X
N/A	100	50	--	500	20
EXPANSION JOINT TABLE					
<100	100	50	65	500	65

T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 6

* = SINGLE SLOT

REVISIONS		
No.	Remarks	Date
0	Initial submittal	7-18-06
1	VT DOT Corrections	8-08-06

VTRANS
RECEIVED
CK'D BY GBR OK'D BY
AUG 21 2006
RESUBMIT APPROVED
BY DATE
RECORD PLANS

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

ITEM 525.33 – BRIDGE RAILING-NETC 2 RAIL
PROJECT No. AC BRF 0160(3)S
TOWN OF LEICESTER Br. No. 6
ADDISON COUNTY, ROUTE: TH 1 (FAS 160)

GENERAL CONTRACTOR
SUB CONTRACTOR F.R. LAFAYETTE, INC.

DRAWN MHM
CHECKED
DATE 7-18-06
SCALE NONE
MSC REFERENCE NO. 1560
SIZE D REVISION 1
SHEET NO. 2 of 2