SEE SHEET 2 FOR INDEX OF SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT

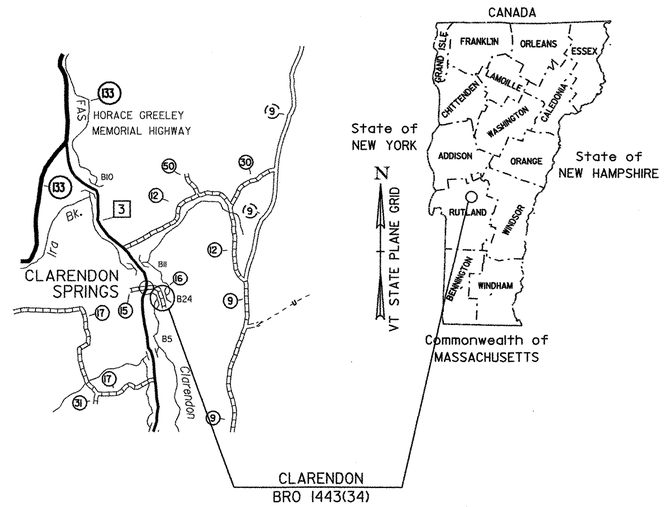
TOWN OF CLARENDON
COUNTY OF RUTLAND

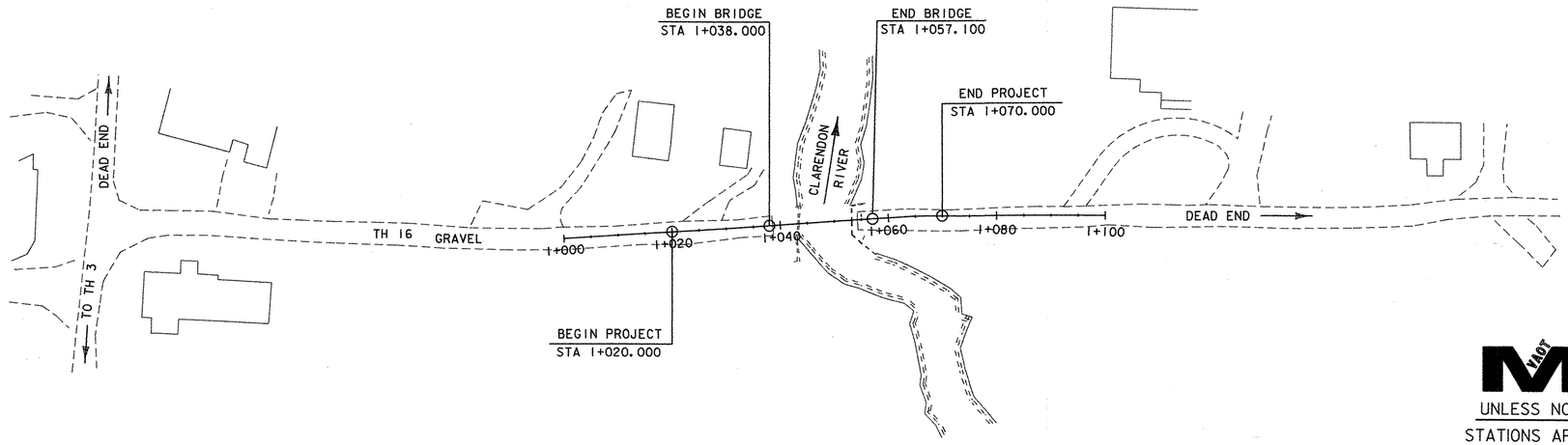
ROUTE NO : TH #16, CLASS 3 (LOCAL) BRIDGE NO : 24

PROJECT LOCATION : LOCATED APPROXIMATELY .3 KM FROM THE INTERSECTION OF TH 3 AND TH 16.

PROJECT DESCRIPTION : REPLACEMENT OF THE EXISTING STRUCTURE WITH MINIMAL APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE :	19.100 METERS.
LENGTH OF ROADWAY :	30.900 METERS.
LENGTH OF PROJECT :	50.000 METERS.





VT STATE PLANE GRID

RECORD PLANS

CONTRACTOR: BELDEN COMPANY INC. – RUTLAND, VT

RESIDENT ENGINEER: DAVE HOSKING

CONSTRUCTION BEGAN: APRIL 1, 2006

CONSTRUCTION COMPLETE: OCTOBER 24, 2006

RECORD PLANS BY: DAVE 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 3-28-07

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

CONVENTIONAL SYMBOLS

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

SURVEYED BY : L. ORVIS
SURVEYED DATE : JAN. 1996

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83/92 GPS

0 10 20 30
SCALE 1:500

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.

/PW/95J286/sj286bdr.dgn sj286tl.i PLOTTED: 07-OCT-2005

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED John T. Roberts DATE 10-7-05

PROJECT MANAGER : R. R. WHITCOMB

PROJECT NAME : CLARENDON
PROJECT NUMBER : BRO 1443(34)

SHEET 1 OF 43 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

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7. RIGHT-OF-WAY PLAN SHEET
8. TIE SHEET
9. LAYOUT SHEET
10. PROFILE SHEET
11-12. TRAFFIC CONTROL/ CONSTRUCTION SIGNING SHEET
13. BORING LAYOUT SHEET
14-15. BORING LOG SHEETS
16. PLAN AND ELEVATION SHEET
17. EROSION CONTROL NARRATIVE
18. EXISTING CONDITIONS, RESOURCES AND PERIMETER EROSION CONTROLS
19. EROSION AND SEDIMENT CONTROL PLAN
20. FINAL CONDITION SITE PLANS
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23. EROSION CONTROL DETAILS - STABILIZED CONSTRUCTION ENTRANCE
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29. CURB AND RAIL DETAILS
30. ABUTMENT NO. 1 & WW 1 & 2 DETAILS
31. ABUTMENT NO. 2 DETAILS
32. WINGWALL 3 & 4 DETAILS
33. REINFORCING STEEL SCHEDULE
34. SIGN LAYOUT SHEET
35. SIGN SUMMARY SHEET
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LIST OF STANDARDS

B-5M	1-03-00
E-100A	1-02-04
E-100	1-02-04
E-101	5-30-03
E-102A	5-01-04
E-102	6-30-03
E-107A	8-08-95
E-107	6-30-03
E-121	8-08-95
G-1dM	1-03-00
G-1M	1-03-00
SB-R6-82M	7-10-97

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: February 2000

DRAINAGE AREA : 61.4 sq. km
CHARACTER OF TERRAIN : Mountainous uplands with a wide valley at site.
STREAM CHARACTERISTICS : Alluvial, sinuous, probably incised, flat slope, wide flood plain.
NATURE OF STREAMBED : Gravel, cobbles, and a few boulders.

PEAK FLOW DATA

Q 2.33 =	14 cms	Q 50 =	48 cms
Q 10 =	28 cms	Q 100 =	60 cms
Q 25 =	40 cms	Q 500 =	99 cms

DATE OF FLOOD RECORD : November 1927
ESTIMATED DISCHARGE: N.A.
WATER SURFACE ELEV.: N.A.
NATURAL STREAM VELOCITY : @ Q25 = 1.4 mps
ICE CONDITIONS : Moderate
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

WATERSHED STORAGE: 6% HEADWATERS: X
UNIFORM:
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span steel beam bridge
YEAR BUILT: 1949
CLEAR SPAN(NORMAL TO STREAM): 10.1 m
VERTICAL CLEARANCE ABOVE STREAMBED: 2.4 m
WATERWAY OF FULL OPENING: 20 m
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See Boring Log Sheets

WATER SURFACE ELEVATIONS AT:

Q2.33 =	204.6 m	VELOCITY =	1.8 mps
Q10 =	205.2 m	"	2.5 mps
Q25 =	205.6 m	"	2.9 mps
Q50 =	205.8 m	"	3.0 mps
Q100 =	206.0 m	"	2.9 mps

LONG TERM STREAMBED CHANGES: There is a 0.5 m deep pool upstream of the bridge & minor scour at the bridge

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Q15
RELIEF ELEVATION: 205.5 m
DISCHARGE OVER ROAD @Q100: 8 cms

UPSTREAM STRUCTURE

TOWN: Clarendon DISTANCE: 3.4 km
HIGHWAY # : T.H. 10 STRUCTURE #: 25
CLEAR SPAN: 7.0 m CLEAR HEIGHT: 1.2 m
YEAR BUILT: N.A. FULL WATERWAY: 8.4 sq. m
STRUCTURE TYPE: Single span steel beam bridge with wood deck.

DOWNSTREAM STRUCTURE

TOWN: West Rutland DISTANCE: 3.7 km
HIGHWAY # : T.H. 17 STRUCTURE #: 14
CLEAR SPAN: 11.0 m CLEAR HEIGHT: 1.5 m
YEAR BUILT: N.A. FULL WATERWAY: 42 sq. m
STRUCTURE TYPE: Single span steel beam bridge with conc. deck.

LOAD FACTOR- LOAD RATING (METRIC TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	34	46					
POSTED	36	48	61		45	46	55
OPERATING		50	65	78	48	48	

COMMENTS: STRENGTH RF = $\frac{\emptyset M_N - 1.3\,M_{DL}}{A \times M_{L+I}}$

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2002	70	10	54	21	10
2022	90	15	54	21	15

20 year ESAL for flexible pavement from 2002 to 2022 : 107,000
40 year ESAL for flexible pavement from 2002 to 2042 : 241,000
Design Speed : 40 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Singe span prestressed concrete voided slab bridge

CLEAR SPAN(NORMAL TO STREAM): 17.4 m
VERTICAL CLEARANCE ABOVE STREAMBED: 3.0 m
WATERWAY OF FULL OPENING: 45 sq. m

WATER SURFACE ELEVATIONS AT:

Q2.33 =	204.5 m	VELOCITY=	1.2 mps
Q10 =	204.9 m	"	1.5 mps
Q25 =	205.2 m	"	1.7 mps
Q50 =	205.4 m	"	1.9 mps
Q100 =	205.7 m	"	2.1 mps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Q55
RELIEF ELEVATION: 205.5 m
DISCHARGE OVER ROAD @Q100: 1 cms

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 206.1 m
VERTICAL CLEARANCE: @ Q100 = 0.4 m

SCOUR: 0.3 m of contraction scour at Q100 and Q500

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	1.4 cms	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	0.7 cms	Elev. 203.5 m
ORDINARY HIGH WATER:	6.1 cms	Elev. 204.0 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single span bridge
CLEAR SPAN (NORMAL TO STREAM): 10 m minimum
VERTICAL CLEARANCE ABOVE STREAMBED: Bottom of beams elev. 205.5 minimum
WATERWAY AREA OF FULL OPENING: 18 sq. m minimum

ADDITIONAL INFORMATION

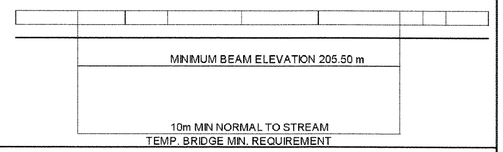
DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 18.3 m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A
   ON LEDGE 480 k Pa (Abutment No. 2)
4. DESIGN LOAD FOR PILING 400 kN
   TYPE HP 310 x 79
   ESTIMATED LENGTH 4.500 m (Abutment No. 1)
5. STRUCTURAL STEEL AASHTO M270/M270M GRADE N/A
6. REINFORCING STEEL GRADE 420
7. ALLOWABLE STRESS FOR CONCRETE
   HIGH PERFORMANCE CLASS AA f'c: 30 Mpa
   HIGH PERFORMANCE CLASS B f'c: 25 Mpa
8. SOIL UNIT WEIGHT 22 KN/m³
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
2. ONE OR TWO-WAY TRAVEL? ONE
   TRAFFIC CONTROL SIGNALS REQUIRED? NO

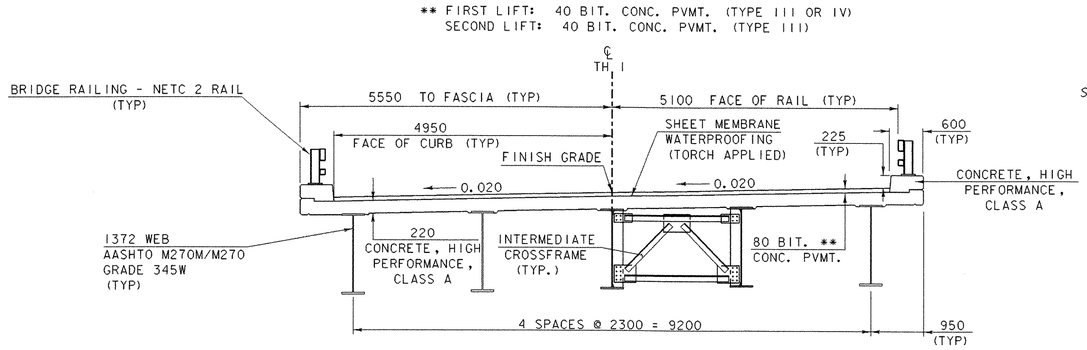
NOTE: THE CONTRACTOR SHALL NOT CUT THE EXISTING STREAM BANKS TO PROVIDE THE MINIMUM OPENING.



TEMP. BRIDGE MIN. REQUIREMENT

PROJECT NAME: CLARENDON
PROJECT NUMBER: BRO 1443(34)

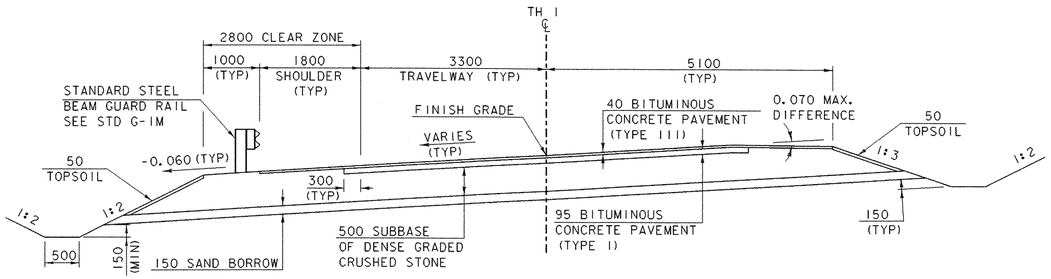
FILE NAME: /str1/95j286/sj286pi.xls PLOT DATE: 9/1/2005
PROJECT MANAGER: R. WHITCOMB DRAWN BY: J. GILMORE
DESIGNED BY: C. CARLSON CHECKED BY: C. CARLSON
PRELIMINARY INFORMATION SHEET SHEET 2 OF 43



BRIDGE TYPICAL

0 1 2 3 4 5

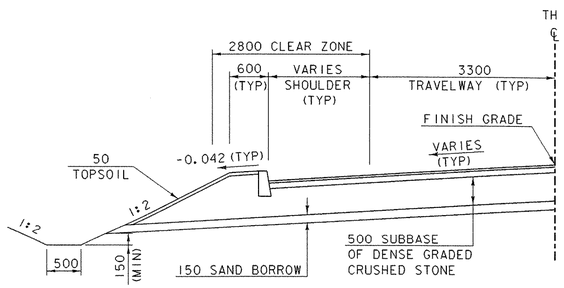
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ROADWAY TYPICAL

0 1 2 3 4 5

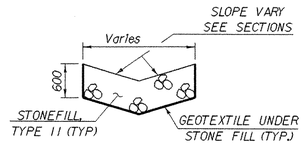
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ROADWAY TYPICAL W/ CURB

0 1 2 3 4 5

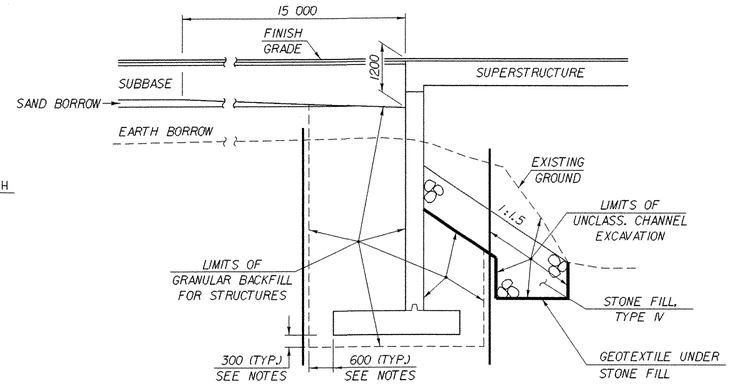
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TYPICAL DITCH SECTION

NOT TO SCALE

STA 2+206 Rt.- STA 2+800 Rt.

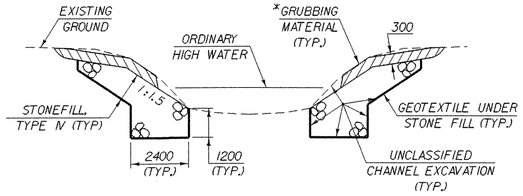


TYPICAL ABUTMENT SECTION

(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. ALL COFFERDAM EXCAVATION WHICH IS OUTSIDE THE INDICATED COFFERDAM PAY LIMITS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.



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 SECTIONS

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

PROJECT NAME: MENDON
PROJECT NUMBER: BRO 1443(35)

FILE NAME: /str5/95j290/sj290typ.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: M. EVANS-MONGEON
sj290typ.i

PLOT DATE: 18-NOV-2005
DRAWN BY: G. Shangraw
CHECKED BY: M.E.M.
SHEET 3 OF 94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	CHANNEL	SUPER-STRUCTURE	ABUT. #1	ABUT. #2	EROSION CONTROL	FULL CE ITEMS	BRIDGE QUANTITY
1							
150							
	300						300
100							
					10		
			40				40
			20	80			100
				200			200
				25			25
				1			1
120					10		
70							
				6			6
		20					20
			20	35			55
			1				1
			24				24
			1				1
			920	2270			3190
				17			17
		1880					1880
		55.8					55.8
		37.2					37.2
		75					75
		60	5	5			70
		50					50
		1					1
		1					1
		20					20
					10		
330							
					10		
					10		
					10		
	310						310
200							
51							
1							
3							
						1	
						1	
						1	
1							

TOTALS

ROUND	GRAND TOTAL	FINAL
	1	
	150	
	300	
	100	
	10	
	40	
	100	
	200	
	25	
	1	
	130	
	70	
	6	
	20	
	55	
	1	
	24	
	1	
	3190	
	17	
	1880	
	55.8	
	37.2	
	75	
	70	
	50	
	1	
	1	
	20	
	10	
	330	
	10	
	10	
	10	
	310	
	200	
	51	
	1	
	3	
	1	
	1	
	1	
	1	
	1	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
LS	CLEARING AND GRUBBING (INCL. IND. TREES AND STUMPS)	201.10
CM	COMMON EXCAVATION	203.15
CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27
CM	SAND BORROW	203.31
CM	TRENCH EXCAVATION OF EARTH	204.20
CM	STRUCTURE EXCAVATION (ABUTMENT #1 STA. 1+038.500)	204.25
CM	GRANULAR BACKFILL FOR STRUCTURES	204.30
CM	COFFERDAM EXCAVATION, EARTH	208.30
CM	COFFERDAM EXCAVATION, ROCK	208.35
LS	COFFERDAM (ABUTMENT #2 STA. 1+056.800)	208.40
CM	SUBBASE OF GRAVEL	301.15
CM	AGGREGATE SURFACE COURSE	401.10
CM	CONCRETE, CLASS C	501.30
CM	CONCRETE, HIGH PERFORMANCE CLASS AA	501.32
CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10
M	STEEL PILING (HP 310 X 79)	505.15
EACH	DYNAMIC PILE LOADING TEST	505.45
KG	REINFORCING STEEL	507.15
M	DRILLING AND GROUTING DOWELS	507.16
KG	EPOXY COATED REINFORCING STEEL	507.17
M	PRESTRESSED CONCRETE VOIDED SLABS (1220 X 540)	510.22
M	PRESTRESSED CONCRETE VOIDED SLABS (914 X 540)	510.22
M	GROUTING SHEAR KEYS	510.24
L	WATER REPELLENT (MOD. - SILANE)	514.10
M	BRIDGE RAILING- HDSB/CURB MOUNTED/HAND RAIL (MOD.)	525.42
LS	ONE-WAY TEMPORARY BRIDGE (88 SM) (MOD.)	528.10
EACH	PARTIAL REMOVAL OF STRUCTURE (MOD.)	529.20
EACH	BEARING DEVICE ASSEMBLY (ELASTOMERIC)	531.10
HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25
CM	DUST CONTROL WITH WATER	609.10
CM	STONE FILL, TYPE I	613.10
CM	STONE FILL, TYPE I (MOD. - CHECK DAMS)	613.10
CM	STONE FILL, TYPE I (MOD. - CONSTRUCTION ENTRANCE)	613.10
CM	STONE FILL, TYPE III	613.12
M	SNOW FENCE (MOD. - PDF)	620.70
M	HEAVY DUTY STEEL BEAM GUARD RAIL (WEATHERING) (WOOD POSTS)	621.21
EACH	MANUFACTURED TERMINAL SECTION (TANGENT) (MOD.)	621.505
EACH	ANCHOR FOR STEEL BEAM RAIL	621.60
LS	FIELD OFFICE-ENGINEERS	631.10
LS	TESTING EQUIPMENT - CONCRETE	631.16
LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25
LS	MOBILIZATION/DEMOBILIZATION	635.11

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		TEMPORARY EROSION CONTROL ITEMS (included under Erosion Control Items)
10	CM	204.20 TRENCH EXCAVATION OF EARTH
10	CM	301.35 SUBBASE OF GRAVEL
10	HR	608.25 ALL PURPOSE EXCAVATOR RENTAL, TYPE I
10	CM	613.10, STONE FILL, TYPE I
10	CM	613.10, STONE FILL, TYPE I (MOD. - CHECK DAMS)
10	CM	613.10, STONE FILL, TYPE I (MOD. - CONST. ENT.)
230	SM	649.51 GEOTEXTILE FOR SILT FENCE
270	SM	649.61 GEOTEXTILE FOR FILTER CURTAIN
5	KG	651.17 SEED- WINTER RYE
10	SM	654.10 EROSION MATTING

NOTE:
THERE IS APPROXIMATELY 1400 CM OF WASTE MATERIAL.

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

PROJECT NAME: **CLARENDON**
PROJECT NUMBER: **BRO 1443(34)**

FILE NAME: /TransFANS/95j286/sj286qnt.xl
PROJECT LEADER: R. Whitcomb
DESIGNED BY: C. Carlson
QUANTITY SHEET #1

PLOT DATE: 10/28/2005
DRAWN BY: J. GILMORE
CHECKED BY: C. Carlson
SHEET 4 OF 43

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	CHANNEL	SUPER-STRUCTURE	ABUT. #1	ABUT. #2	EROSION CONTROL	FULL CE ITEMS	BRIDGE QUANTITY
1							
	190						190
					230		
					270		
					5		
					5		
					45		
					0.25		
					0.25		
					25		
	60						60
					1		
					50		
					1		
					10		
2							
2.8							
22							
22							
2							

TOTALS			DESCRIPTIONS		
ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER
	1		LS	TRAFFIC CONTROL	641.10
	190		SM	GEOTEXTILE UNDER STONE FILL	649.31
	230		SM	GEOTEXTILE FOR SILT FENCE	649.51
	270		SM	GEOTEXTILE FOR FILTER CURTAIN	649.61
	5		KG	SEED	651.15
	5		KG	SEED-WINTER RYE	651.17
	45		KG	FERTILIZER	651.18
	0.25		T	AGRICULTURAL LIMESTONE	651.20
	0.25		T	HAY MULCH	651.25
	25		CM	TOPSOIL	651.35
	60		SM	GRUBBING MATERIAL	651.40
	1		LS	EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.10
	50		HR	MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.20
	1		LU	MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN (N.A.B.I.)	652.30
	10		SM	EROSION MATTING	654.10
	2		EACH	DECIDUOUS TREES (SUGAR MAPLE-ACER SACCHARUM, B&B, 4" CAL)	656.30
	2.8		SM	TRAFFIC SIGNS, TYPE A	675.20
				BEGIN SIGN POST OPTIONS	
	22		M	FLANGED CHANNEL SIGN POST	675.301
	22		M	SQUARE TUBE SIGN POSTS AND ANCHOR	675.341
				END SIGN POST OPTIONS	
	2		EACH	REMOVING SIGNS	675.50

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME: **CLARENDON**
PROJECT NUMBER: **BRO 1443(34)**

FILE NAME: **/TransFANS/95j286/sj286qnt.xl**
PROJECT LEADER: **R. Whitcomb**
DESIGNED BY: **C. Carlson**
QUANTITY SHEET #2

PLOT DATE: **10/6/2005**
DRAWN BY: **J. GILMORE**
CHECKED BY: **C. Carlson**
SHEET **5** OF **43**

Metric

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

TABLE OF PROJECT PROPERTY ACQUISITION

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS			TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
1	GRIFFITH, JAMES &	6	1+027.1 LT.	1+037.2 LT.			CONST.	(T)	9 SM±						INCLUDES EROSION CONTROL
	WINSLOW, MICHAEL														97 S.F.±
			1+029.5 LT.	1+034.6 LT.			DRIVE	(T)							
			1+028.0 LT.	1+037.1 LT.			DETOUR	(T)	13 SM±						140 S.F.±
2	ROBICHAUD, GILBERT H. & APRIL L.	6	1+037.0 LT.	1+073.5 LT.			DETOUR	(T)	174 SM±			CLARENDON			1873 S.F.±
			1+037.1 LT.	1+043.8 LT.			CONST.	(T)	5 SM±						INCLUDES EROSION CONTROL
															54 S.F.±
			1+043.1 LT.	1+044.0 LT.			INSTALL	(T)							EROSION CONTROL
			1+055.1 LT.	1+055.8 LT.			INSTALL	(T)							EROSION CONTROL
			1+055.8 LT.	1+090.7 LT.			CONST.	(T)	30 SM±						INCLUDES EROSION CONTROL
															323 S.F.±
3	HESSE, PAMELA L.	6	1+054.7 RT.	1+061.3 RT.			INSTALL	(T)							EROSION CONTROL
			1+061.3 RT.	1+065.9 RT.			CONST.	(T)	1 SM±						INCLUDES EROSION CONTROL
															11 S.F.±
4	COSTANTINO, ANTHONY R. &	6	1+034.9 RT.	1+046.5 RT.			CONST.	(T)	6 SM±						INCLUDES EROSION CONTROL
	BONITA L.														65 S.F.±

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	5	PARCEL NO 1. GRIFFITH. CHANGE DETOUR (T) AS FOLLOWS: BEGINNING STATION 1+028.0; 13 SM±, 140 S.F.± PER C.O. 9145.	09-05-00	M. J. R.	R. P. D.
2	6	PARCEL NO. 2 ROBICHAUD. ADD CONSTRUCTION NOTE REGARDING THE PROTECTION OF A DUG WELL. PER C.O. 9188.	05-08-01	M. J. R.	R. P. D.
3	6	PARCEL NO. 1 GRIFFITH & WINSLOW. IDENTIFY WHICH SHRUBS AND TREES ARE TO BE SAVED OR REMOVED. PER C.O. 9196.	05-08-01	M. J. R.	R. P. D.
4	6	PARCEL NO. 3 HESSE. CHANGED PROPERTY OWNER NAME FROM CONGDON, PAMELA L. TO HESSE, PAMELA L. PER C.O. 9215.	12-19-01	P. J. H.	R. P. D.
5	6	PARCEL NO. 2 ROBICHAUD. REMOVE SLOPE (P) AT STA. 1+072.5 LT. ~ STA. 1+074.1 LT. PER C.O. 9224.	03-15-02	G. J. F.	R. P. D.
		ELECTRONIC IPARMS TO STRUCTURES	05-22-03 08-30-05		

ACCT.rdrown
IP_PWP:dms04486\rj286d.dgn
DATE PLOTTED 01-DEC-2005

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

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

LEGEND
C&T (P) CLEARING & TRIMMING
CZ (P) CLEAR ZONE
CONST.(T) CONSTRUCTION EASEMENT
SR SR SLOPE RIGHTS
P L PROPERTY LINE
TOP OF CUT
TOE OF SLOPE
UE (P) PERMANENT UTILITY EASEMENT

APPROVED: ROGER P. DUMAS DATE: 7-27-00
CHIEF, PLANS & TITLES

R. O. W. PLANS

CLARENDON
BRO 1443(34)
R.O.W. SHEET 5 OF 6 SHEETS
SHEET 6 OF 43

Metric

CONSTRUCT ACCESS
STA. 1+019.099 LT (60° ASKEW)

GUARD RAIL - HEAVY DUTY STEEL BEAM
W/ WOOD POSTS, WEATHERING

STA. 1+029.100 - 1+035.59 LT.
STA. 1+031.80 - 1+035.59 RT.
STA. 1+060.36 - 1+073.36 LT.
STA. 1+060.36 - 1+073.26 RT.

BRIDGE RAILING - HEAVY DUTY
STEEL BEAM/CURB MOUNTED/HANDRAIL (MOD)

STA. 1+035.59 - 1+060.36 LT.
STA. 1+035.59 - 1+060.36 RT.

MANUFACTURED TERMINAL END DETAIL
(TANGENT)(MOD.)

STA. 1+016.18 - 1+031.80 RT.

ANCHOR FOR STEEL BEAM RAIL

STA. 1+031.000 LT.
STA. 1+071.40 LT. & RT.

THE SEDIMENT SETTLING BASIN WILL BE LINED WITH IMPERVIOUS MEMBRANE AND ALL WATERS DISCHARGED FROM THE SETTLEMENT BASIN WILL BE PIPED BACK TO THE STREAM. THESE PRECAUTIONS ARE TO INSURE THAT THIS WATER WILL NOT CONTAMINATE THE WELL AT STA 1+093.3 12.5m LT.

N VT. STATE PLANE GRID

BEGIN R.O.W. PROJECT BRO 1443 (34) STA. 1+027.1 7.3M(24')LT.

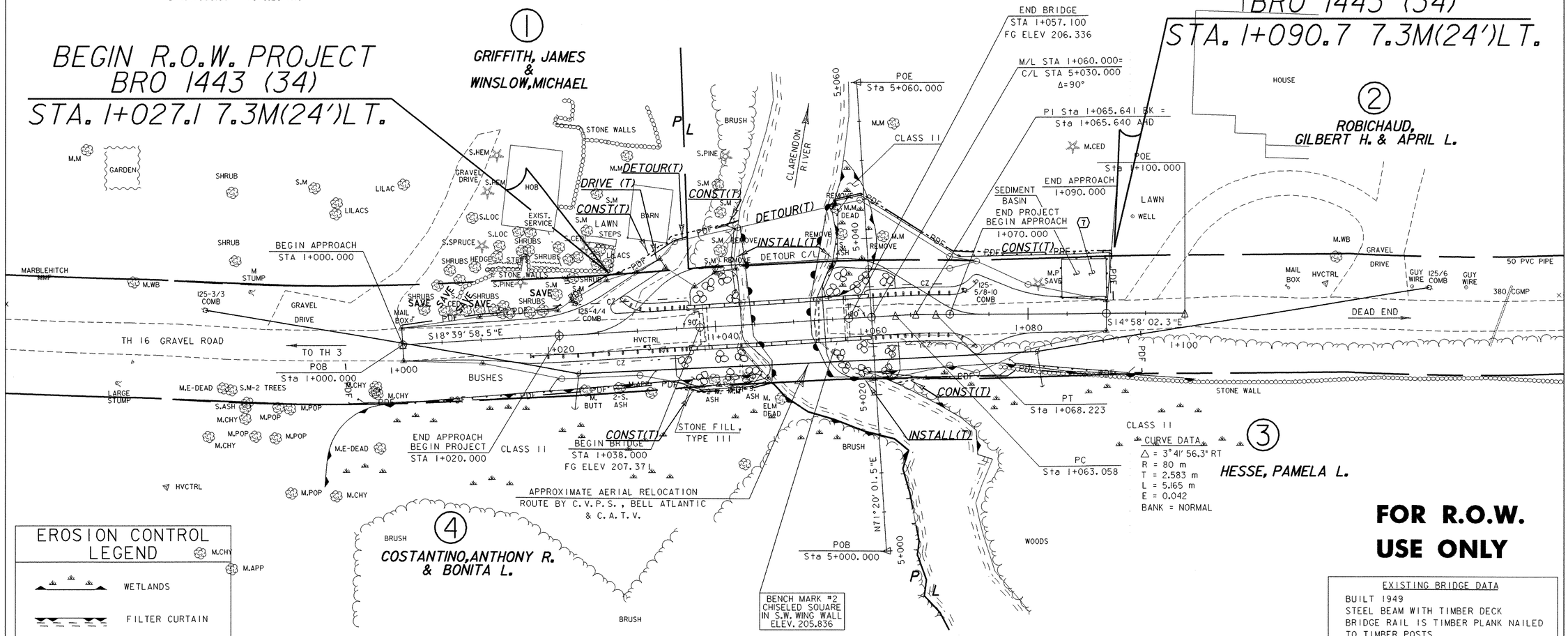
END R.O.W. PROJECT BRO 1443 (34) STA. 1+090.7 7.3M(24')LT.

(1) GRIFFITH, JAMES & WINSLOW, MICHAEL

(2) ROBICHAUD, GILBERT H. & APRIL L.

(3) HESSE, PAMELA L.

(4) COSTANTINO, ANTHONY R. & BONITA L.



EROSION CONTROL LEGEND

- WETLANDS
- FILTER CURTAIN
- SILT FENCE
- HAY BALES
- STONE FILL, TYPE I
- STONE FILL, TYPE I

NOTE:
THE RESIDENT ENGINEER WILL TRY TO SAVE AS MANY SHURBS AS POSSIBLE THAT ARE NOT ALREADY MARKED AS "SAVE."

NOTE: ALL UTILITY EASEMENTS HAVE BEEN ACQUIRED BY THE UTILITY COMPANIES.

(6) LINE SEDIMENT BASIN WITH PLASTIC & PIPE WATER BACK TO RIVER

0 10 20
SCALE 1:250

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

FOR R.O.W. USE ONLY

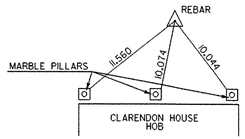
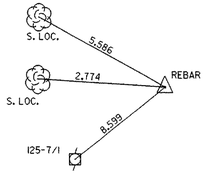
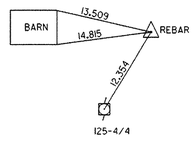
EXISTING BRIDGE DATA
BUILT 1949
STEEL BEAM WITH TIMBER DECK
BRIDGE RAIL IS TIMBER PLANK NAILED TO TIMBER POSTS
DECK WIDTH = 4298
SPAN LENGTH = 12 497
ABUTMENT NO. 1 IS LAID UP STONE
ABUTMENT NO. 2 IS CONCRETE
* TEMPORARY "MABEY" BRIDGE IS IN PLACE OVER EXISTING BRIDGE.

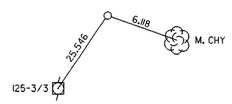
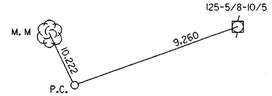
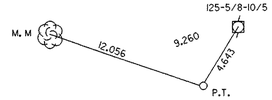
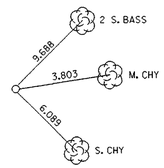
SHEET NAME: LAYOUT SHEET

PROJECT NAME: CLARENDON
PROJECT NUMBER: BRO 1443(34)
HIGHWAY NO.: TH 16
BRIDGE NO.: 24
OVER: CLARENDON RIVER

FILE NAME: /PW/95J286/sj286bdr.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: C. CARLSON
PLOT DATE: 01-DEC-2005
DRAWN BY: J. GILMORE
IPARM NAME: sj286lol.i

R. O. W. SHEET 6 OF 6 SHEETS
SHEET 7 OF 43 SHEETS

SURVEY TRAV. 1	SURVEY TRAV. 2	HVCTRL SURVEY TRAV. 3
N = 116568.667	N = 116259.353	N = (NOT PROVIDED)
E = 457868.082	E = 457956.596	E = (NOT PROVIDED)
ELEV. = 210.640	ELEV. = 207.400	ELEV. = (NOT PROVIDED)
		
SPRINGS TEMP 1	SPRINGS TEMP 2	

MAINLINE POB	MAINLINE CURVE - PC	MAINLINE CURVE - PT	MAINLINE CURVE - POE
STA. 1+000.000 N = 116482.142	STA. 1+063.058 N = 116422.401	STA. 1+068.224 N = 116417.457	STA. 1+100.000 N = 116386.759
E = 457890.580	E = 457910.762	E = 457912.256	E = 457920.463
			

GPS CONTROL POINT INFORMATION

SPRINGS TEMP 1 - REBAR

NORTHING - 116568.667
EASTING - 457868.082
ELEVATION - 210.640

LOCATION - CLARENDON SPRINGS, 3 MILES SOUTH OF WEST RUTLAND

FROM THE JUNCTION OF ROUTES 4A AND 133 IN WEST RUTLAND, TAKE RTE 133 SOUTH FOR 2.25 MI TO A "Y" INTERSECTION. GO LEFT ON A PAVED ROAD FOR 1.2 MI. TO A GRAVEL ROAD LEFT (EAST). GO LEFT (EAST) ON THE GRAVEL ROAD FOR 50 METERS TO AN INTERSECTION AND THE OLD CLARENDON SPRINGS HOTEL AND THE MARK ON THE LEFT. THE MARK IS A REBAR WITH A DRILL HOLE IN IT, LEFT 0.3 M BELOW GROUND LEVEL. THE MARK IS 12.2 M SOUTH OF THE SW CORNER OF A 3½ STORY BRICK BUILDING, 16.0 M SW OF THE SE CORNER OF A 3½ STORY BRICK BUILDING, 2.1M SW OF POLE # 125-2/8-10/2.

SPRINGS TEMP 2 - REBAR

NORTHING - 116259.353
EASTING - 457956.596
ELEVATION - 207.400

LOCATION - CLARENDON SPRINGS, 3 MILES SOUTH OF WEST RUTLAND

FROM THE JUNCTION OF ROUTES 4A AND 133 IN WEST RUTLAND, TAKE RTE 133 SOUTH FOR 2.25 MI TO A "Y" INTERSECTION. GO LEFT ON A PAVED ROAD FOR 1.2 MI. TO A GRAVEL ROAD LEFT (EAST). GO LEFT (EAST) ON THE GRAVEL ROAD FOR 50 METERS TO AN INTERSECTION AND THE OLD CLARENDON SPRINGS HOTEL AND THE MARK ON THE LEFT. THE MARK IS A REBAR WITH A DRILL HOLE IN IT, LEFT 0.3 M BELOW GROUND LEVEL. THE MARK IS 8.5 M SOUTH OF POLE # 125-7/1, 3.2 M WEST OF THE CENTERLINE OF A GRAVEL ROAD, 8.7 M SE OF THE CORNER OF A WOOD AND WIRE FENCE.

NOTE: THE TIE DISTANCES ARE IN METERS.

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83/92 GPS

SHEET NAME: TIE SHEET

PROJECT NAME: CLARENDON
PROJECT NUMBER: BRO 1443(34)

HIGHWAY NO.: TH 16
BRIDGE NO.: 24
OVER: CLARENDON RIVER

FILE NAME: /PW/95J286/sj286tie.dgn
PROJECT MANAGER: R.WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:

PLOT DATE: 01-DEC-2005
DRAWN BY: P.T.LONSDALE
IPARM NAME: sj286tie.i
SHEET 8 OF 43

Metric

CONSTRUCT ACCESS
STA. 1+019.099 LT (60° ASKEW)

GUARD RAIL - HEAVY DUTY STEEL BEAM
W/ WOOD POSTS, WEATHERING

STA. 1+029.100 - 1+035.59 LT.
STA. 1+031.80 - 1+035.59 RT.
STA. 1+060.36 - 1+073.36 LT.
STA. 1+060.36 - 1+073.26 RT.

BRIDGE RAILING - HEAVY DUTY
STEEL BEAM/CURB MOUNTED/HANDRAIL (MOD)

STA. 1+035.59 - 1+060.36 LT.
STA. 1+035.59 - 1+060.36 RT.

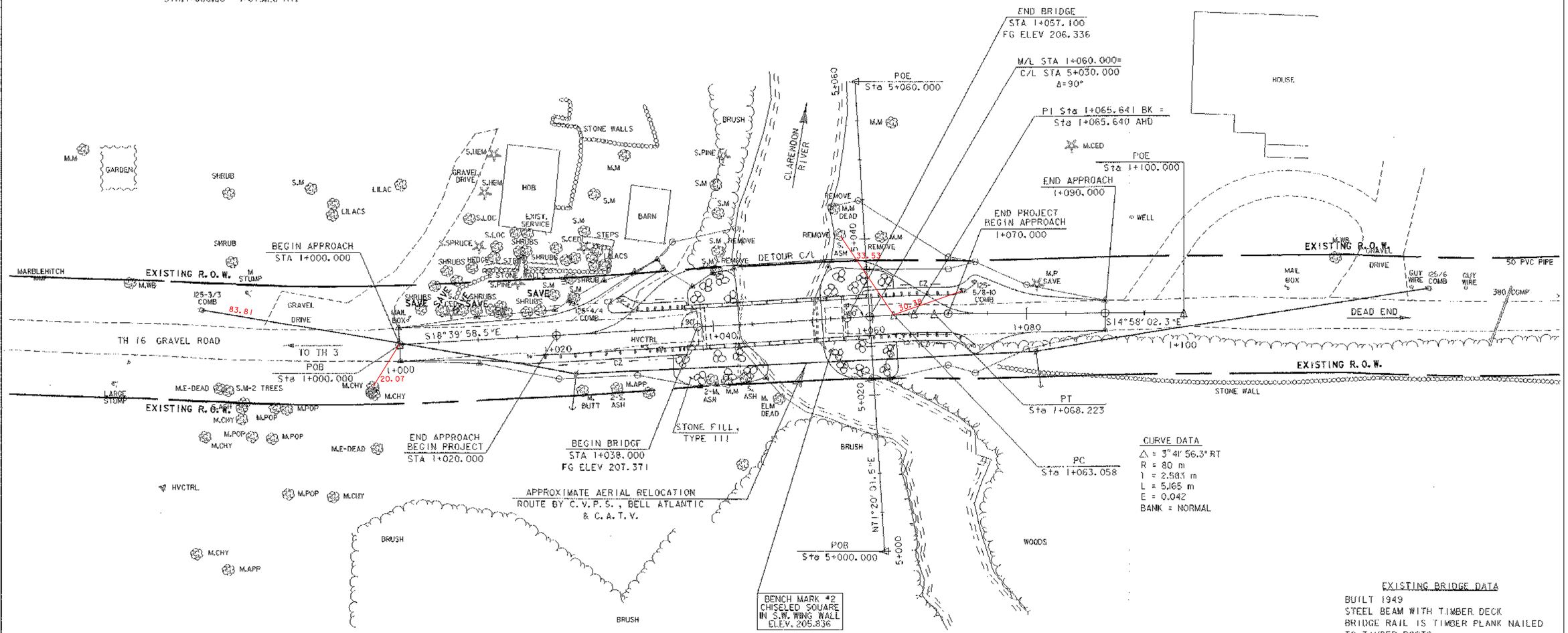
MANUFACTURED TERMINAL END DETAIL
(TANGENT)(MOD.)

STA. 1+016.18 - 1+031.80 RT.

ANCHOR FOR STEEL BEAM RAIL

STA. 1+031.000 LT.
STA. 1+071.40 LT. & RT.

N VT. STATE PLANE GRID



EXISTING BRIDGE DATA
BUILT 1949
STEEL BEAM WITH TIMBER DECK
BRIDGE RAIL IS TIMBER PLANK NAILED TO TIMBER POSTS
DECK WIDTH = 4298
SPAN LENGTH = 12 497
ABUTMENT NO. 1 IS LAID UP STONE
ABUTMENT NO. 2 IS CONCRETE

* TEMPORARY "MABEY" BRIDGE IS IN PLACE OVER EXISTING BRIDGE.

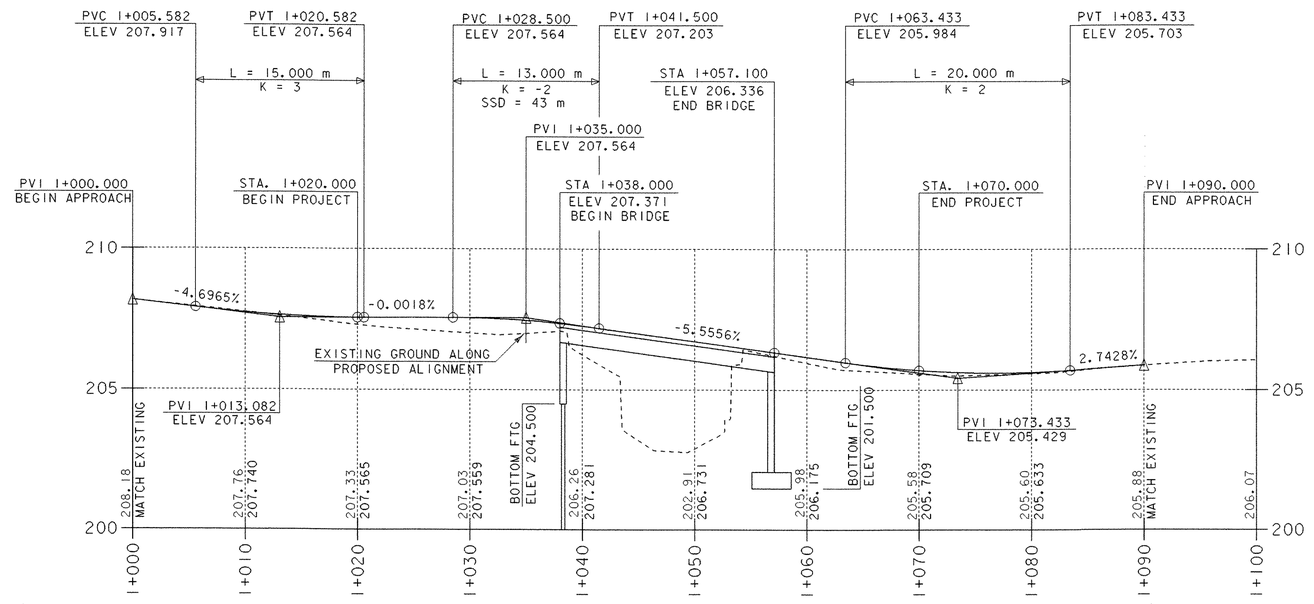
0 10 20
SCALE 1:250

NOTE:
THE RESIDENT ENGINEER WILL TRY TO SAVE AS MANY SHURBS AS POSSIBLE THAT ARE NOT ALREADY MARKED AS "SAVE."

SHEET NAME: LAYOUT SHEET

PROJECT NAME: CLARENDON
PROJECT NUMBER: BRO 1443(34)
HIGHWAY NO.: TH 16
BRIDGE NO.: 24
OVER: CLARENDON RIVER

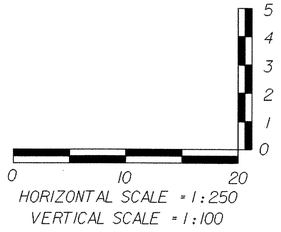
FILE NAME: /PW/95j286/sj286bdr.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 01-DEC-2005
DRAWN BY: J. GILMORE
IPARM NAME: sj286ial.I
SHEET 9 OF 43



Profile

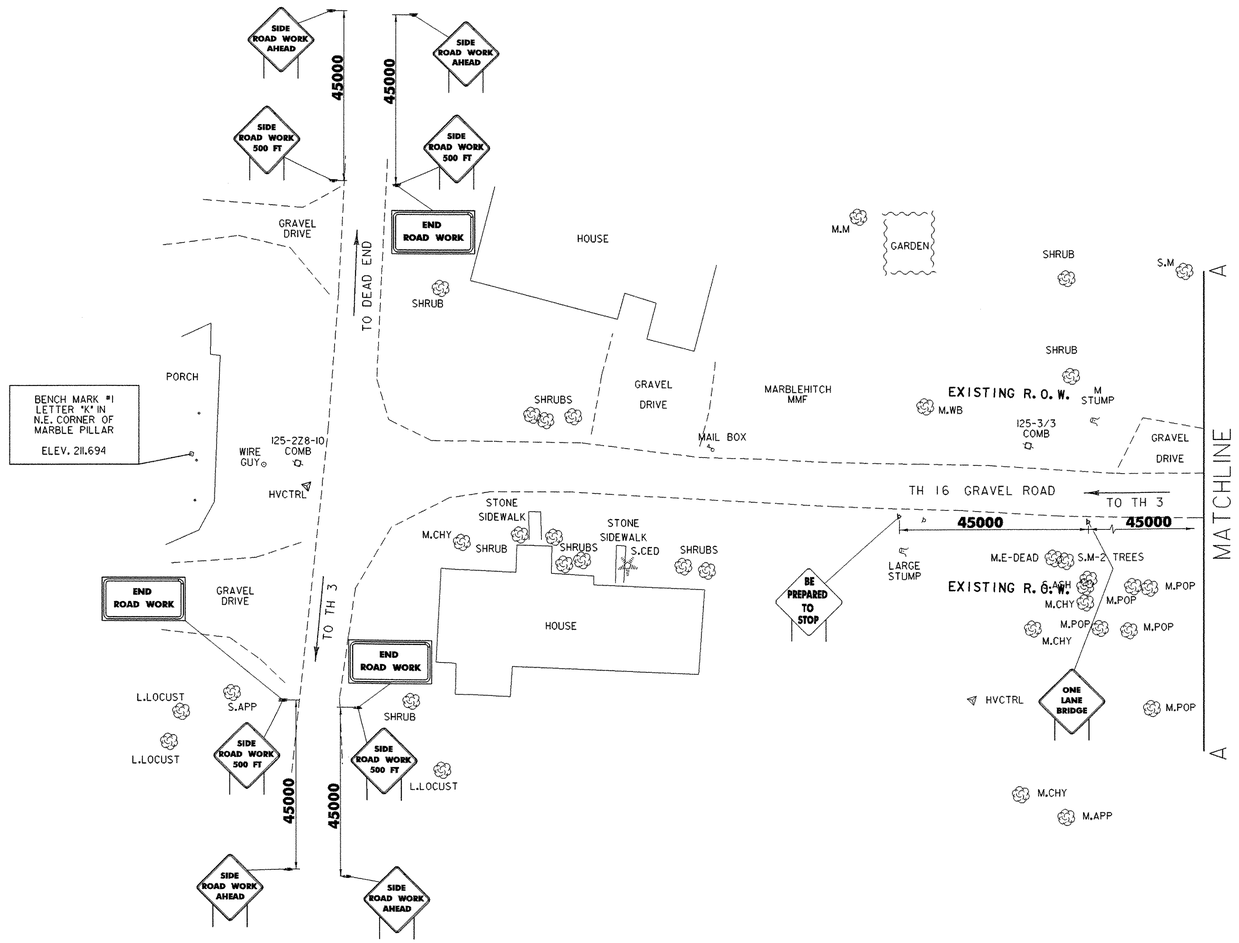
NOTE:

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE OLD 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	
PROJECT NAME:	CLARENDON	HIGHWAY NO.: TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.: 24
		OVER: CLARENDON RIVER
FILE NAME: /PW/95j286/sj286xsl.dgn		PLOT DATE: 01-DEC-2005
PROJECT MANAGER: R. WHITCOMB		DRAWN BY: STRI
DESIGNED BY: C. CARLSON		IPARM NAME: sj286pl.i
BRIDGE SHEET NUMBER:		SHEET 10 OF 43



REQUIRED VT AOT STANDARDS

E-100
E-100A
E-102
E-106
E-107
E-107

NOTES:

1. CONSTRUCTION APPROACH SIGNING AS SHOWN ON AOT STANDARD DRAWINGS E-100 WILL BE REQUIRED AS WELL AS ALL THE OTHER SIGNS.
2. PLEASE NOTE: THE DETOUR SIGNS HAVE ENGLISH UNITS.
3. ALL SIGNS SHALL BE ASTM TYPE III.

0 10 20

SCALE 1:250

SHEET NAME:	TRAFFIC CONTROL SHEET 1		
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95J286/sj286tc.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj286tc.i
BRIDGE SHEET NUMBER:		SHEET	11 OF 43

MATCHLINE A

POE
Sta 5+060.000

POB
Sta 5+000.000

N71°20'01.5"E

CLARENDON RIVER

STONE WALLS
BRUSH
S.PINE
S.M
M.M
S.HEM
GRAVEL DRIVE
HOB
LILAC
LILACS
BARN
S.LOC
S.SPRUCE
SHRUBS
S.CED
STEPS
HEDGE
STONE WALLS
DETOUR C/L
REMOVE
M.M DEAD
5" ASH
5+040
5+060
5+020
5+000
M.P SAVE
M.CED
WELL
HOUSE
ONE LANE BRIDGE
BE PREPARED TO STOP
ROAD WORK AHEAD
15 MPH
20000
45000
CZ
125-5/8-10 COMB
125-4/8 COMB
MAIL BOX
HVCTRL
M.WB
GRAVEL DRIVE
GUY WIRE
GUY
50 PVC PIPE
380 COMP
FENCE
DEAD END
MAIL BOXES
WOODS
STONE WALL
M.CHY
M.E-DEAD
M.APP
2-S. ASH
M. BUTT
2-M. ASH
S. ASH
M. ELM DEAD
B-B
END ROAD WORK

TYPE III BARRICADE

NOTE: BECAUSE OF PROXIMITY OF DETOUR TO ABUTMENT#2, A FOUR SIDED COFFERDAM WILL PROBABLY BE REQUIRED TO MAINTAIN TRAFFIC. NO TEMPORARY SHEETING WILL BE PAID FOR.

ROAD CLOSED

0 10 20
SCALE 1:250

SHEET NAME: TRAFFIC CONTROL SHEET 2

PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95j286/sj286tc.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj286tc2.i
BRIDGE SHEET NUMBER:		SHEET	12 OF 43

GPS CONTROL POINTS

HVCTRL # 1

Standard Disk Stamped

25-2 Temp
NORTH = 127415.261
EAST = 465368.172
ELEV. =

From the junction of route 7 and route 4 east in Rutland, go east on route 4 for 3.4 miles to its intersection with Park Lane on the left and the mark on the left in the northwest quadrant of the intersection. The mark is a 1m (3ft) rebar, with a drill hole, driven into the ground
12.7 m (41.7ft) south of a gate post (old tel pole)
10.6m (34.8ft) northeast of the end of a metal guardrail on park lane
10.1m (33.1ft) east of a fence corner and conc highway bound
1.4m (4.6ft) west of the west edge of route 4

HVCTRL # 2

Standard Disk Stamped

Mendon
NORTH = 127997.517
EAST = 465501.393
ELEV. = 317.408

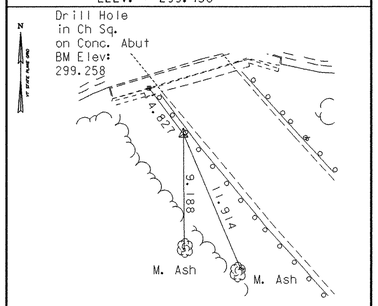
Station Mendon was reported destroyed

• Description provided by Vermont Agency of Transportation Geodetic Survey Unit

TRAVERSE TIES

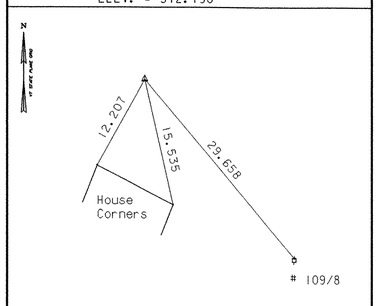
HVCTRL # 3

NORTH = 128081.597
EAST = 465346.894
ELEV. = 299.436



HVCTRL # 4

NORTH = 128282.480
EAST = 465181.721
ELEV. = 312.198

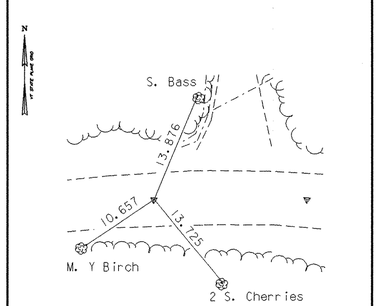


* Main Traverse Completed 01/31/96 by L. Orvis P.C. & R. Bullock

ALIGNMENT TIES

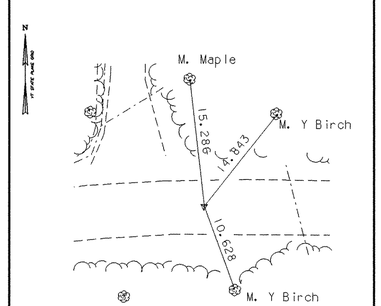
PC 1+996.335

NORTH = 128202.745
EAST = 46525.050



PT 2+017.279

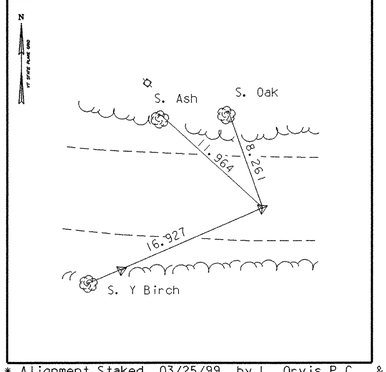
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EAST = 465264.058



ALIGNMENT TIES

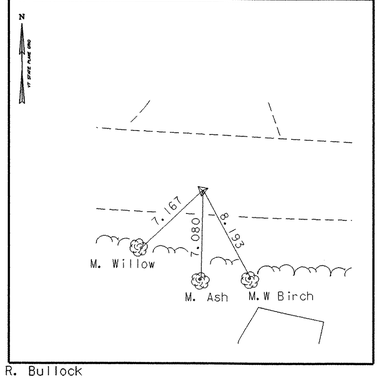
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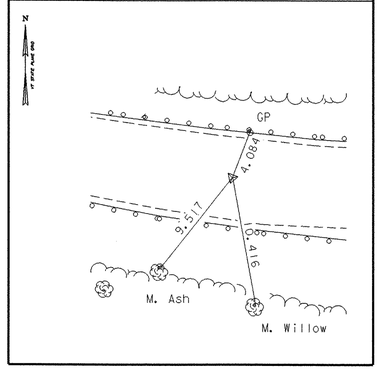
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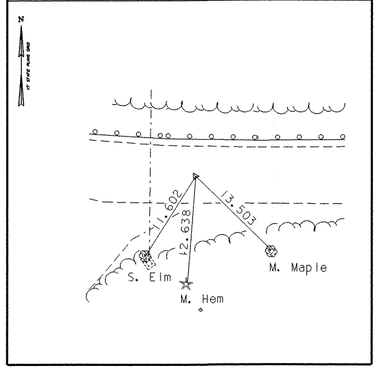
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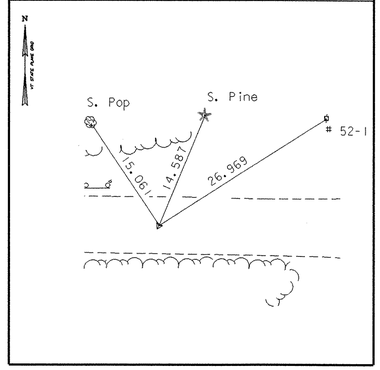
PT 2+212.413

NORTH = 128045.503
EAST = 465397.102



POE 2+300.000

NORTH = 128002.610
EAST = 465473.468



* Alignment Staked 03/25/99 by L. Orvis P.C. & R. Bullock

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83/92
ADJUSTMENT none

PROJECT NAME: Mendon
PROJECT NUMBER: BRO 1443 (35)

FILE NAME:95j290/survey/xj290ti.dgn
PROJECT LEADER: C. KELLER
DESIGNED BY: M. EVANS-MONGEON
sj290tie.i

PLOT DATE: 18-NOV-2005
DRAWN BY: R. Bullock
CHECKED BY:
SHEET 13 OF 94

Metric

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

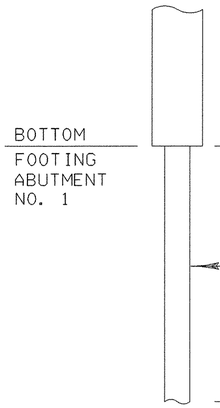
HOLE NO.: B-2
SHEET 1 OF 1
DATE STARTED: 3/31/98
DATE COMPLETED: 4/3/98

PROJECT NAME: CLARENDON
SITE NAME: BR-24
STATION: 1+037.00
GROUND EL.: 206.744

PROJECT NUMBER: BRO 1443 (34)
SITE NO.: TH-16
OFFSET: 3.00
G.W. DEPTH:

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

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



DEPTH	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	A-4, SiSa, brn, Moist, Rec. = 0.03m	10	26.1	11.7	48.6	39.7		
	A-2-4, SiGrSa, brn, Moist, Rec. = 0.15m	6	17.5	27	47.6	25.4		
	A-4, SaGrSi, brn, Moist, Rec. = 0.13m	6	40.9	33.6	26.9	39.5		
	No Rec., BXDC, Boulders							
5	No Rec., BXDC, Boulders							
	No Rec., BXDC, Boulders							
	No Rec., BXDC, Boulders	Top of bedrock @ 6.80 m						
	Run#1: BXMDC, 6.80m-8.30m, Rec.= 1.42m, See Geologist's Report.	RUN 1	REC% 95	ROD% 89	Dip° 30			
	Run#2: BXMDC, 8.30m-9.80m, Rec. = 1.44m, See Geologist's Report.	2	96	96	30			
10	Hole stopped @ 9.80 m							

GEOLOGISTS REPORT:

Run#1: Light gray dolomite, hard, unweathered. Competent.

Run#2: Light gray dolomite, hard, unweathered. Competent.

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

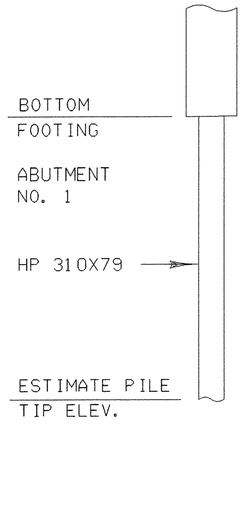
HOLE NO.: B-3
SHEET 1 OF 1
DATE STARTED: 4/22/98
DATE COMPLETED: 4/23/98

PROJECT NAME: CLARENDON
SITE NAME: BR-24
STATION: 1+042.00
GROUND EL.: 204.196

PROJECT NUMBER: BRO 1443 (34)
SITE NO.: TH-16
OFFSET: -5.50
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN .
DRILLER: CHABOT E J
LOGGER:
ADDITIONAL CREW:

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



DEPTH	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	No Rec., BXDC, Boulders							
	No Rec., BXDC, Boulders							
	No Rec., BXDC, Boulders							
	No Rec., BXDC, Boulders	Top of bedrock @ 4.22 m						
	Run#1: BXMDC, 4.22m-5.27m, Rec. = 0.79m, See Geologist's Report.	RUN 1	REC% 75	ROD% 75	Dip° 30			
5	Run#2: BXMDC, 5.27m-6.62m, Rec. = 1.39m, See Geologist's Report.	2	100	100	30			
	Hole stopped @ 6.62 m							
10								

GEOLOGISTS REPORT:

Run#1: Light gray dolomite, hard, unweathered. Competent.

Run#2: Light gray dolomite, hard, unweathered. Competent.

SHEET NAME: **BORING LOG**

PROJECT NAME: CLARENDON
PROJECT NUMBER: BRO 1443(34)

HIGHWAY NO.: TH 16
BRIDGE NO.: 24
OVER: CLARENDON RIVER

FILE NAME: /PW/95j286/sj286bor.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:

PLOT DATE: 01-DEC-2005
DRAWN BY: J.TOUCHETTE
IPARM NAME: sj286log.i
SHEET 14 OF 43

Metric

BOTTOM FOOTING ABUTMENT NO. 2 — ELEV. 201.500

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

HOLE NO.: B-5
SHEET 1 OF 1
DATE STARTED: 4/8/98
DATE COMPLETED: 4/10/98

PROJECT NAME: CLARENDON
SITE NAME: BR-24
STATION: 1+057.50
GROUND EL.: 203.787

PROJECT NUMBER: BRO 1443 (34)
SITE NO.: TH-16
OFFSET: -4.90
G.W. DEPTH:

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

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

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No Rec., BXDC, Boulders							
		No Rec., BXDC, Boulders		Top of bedrock @ 1.70 m					
			RUN	REC%	RQD%	Dip°			
		Run#1: BXMDC, 1.70m-3.20m, Rec. = 1.27m, See Geologist's Report.	1	85	76	30			
		Run#2: BXMDC, 3.20m-4.70m, Rec. = 1.00m, See Geologist's Report.	2	67	50	30			
5				Hole stopped @ 4.70 m					
10									

GEOLOGISTS REPORT:

Run#1: Light gray dolomite, hard, unweathered. Competent.
Run#2: Light gray dolomite, hard, unweathered. Competent.

BOTTOM FOOTING ABUTMENT NO. 2 — ELEV. 201.500

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

HOLE NO.: B-6
SHEET 1 OF 1
DATE STARTED: 4/6/98
DATE COMPLETED: 4/8/98

PROJECT NAME: CLARENDON
SITE NAME: BR-24
STATION: 1+059.00
GROUND EL.: 205.644

PROJECT NUMBER: BRO 1443 (34)
SITE NO.: TH-16
OFFSET: 2.50
G.W. DEPTH:

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

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

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No Rec., BXDC, Boulders							
		No Rec., BXDC, Boulders							
		No Rec., BXDC, Boulders							
		No Rec., BXDC, Boulders							
		No Rec., BXDC, Boulders		Top of bedrock @ 4.70 m					
			RUN	REC%	RQD%	Dip°			
		Run#1: BXMDC, 4.70m-6.20m, Rec. = 1.0m, See Geologist's Report.	1	67	67	30			
		Run#2: BXMDC, 6.20m-7.70m, Rec. = 1.22m, See Geologist's Report.	2	81	81	30			
5				Hole stopped @ 7.70 m					
10									

GEOLOGISTS REPORT:

Run#1: Light gray dolomite, hard, unweathered. Competent.
Run#2: Light gray dolomite, hard, unweathered. Competent.

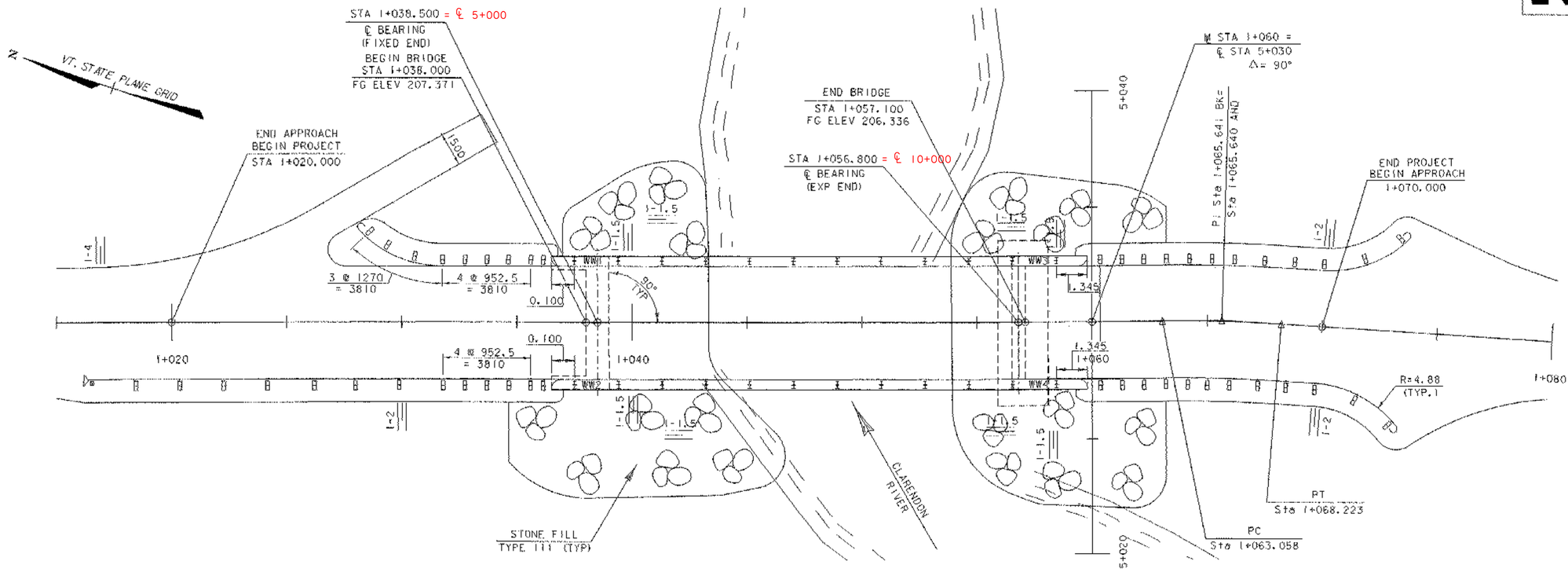
SHEET NAME: **BORING LOG**

PROJECT NAME: CLARENDON
PROJECT NUMBER: BRO 1443(34)

HIGHWAY NO.: TH 16
BRIDGE NO.: 24
OVER: CLARENDON RIVER

FILE NAME: /PW/95J286/sj286bor.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:

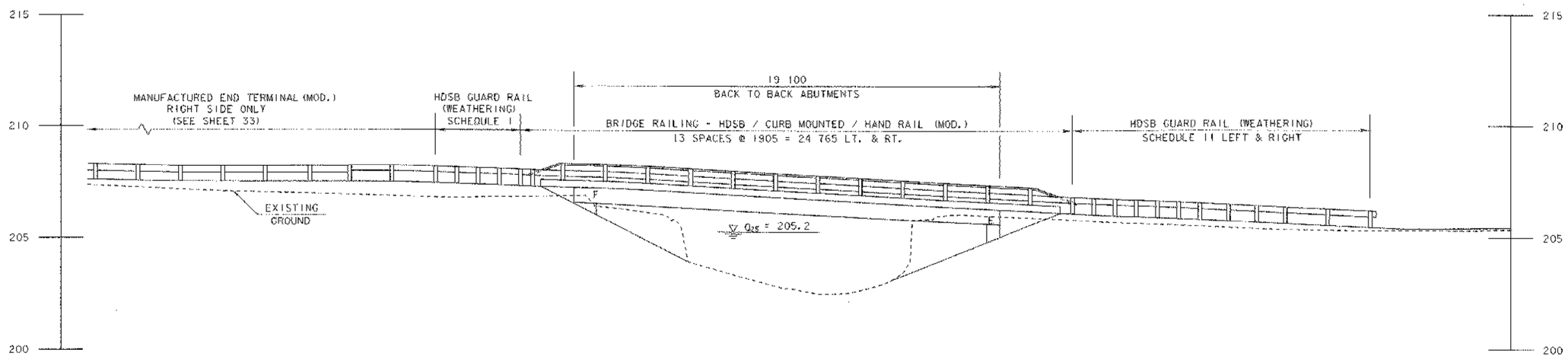
PLOT DATE: 01-DEC-2005
DRAWN BY: J.TOUCHETTE
IPARM NAME: sj286lg2.1
SHEET 15 OF 43



PLAN

0 1 2 4 6 8 10

SCALE = 1:100



ELEVATION

0 1 2 4 6 8 10

SCALE = 1:100

SHEET NAME:	PLAN AND ELEVATION SHEET		
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95]286/sj286pe.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	STRI
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj286pe.I
BRIDGE SHEET NUMBER:		SHEET	16 OF 43

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EROSION CONTROL NARRATIVE

Metric

PROJECT DESCRIPTION

This project involves reconstruction of a bridge over the Clarendon River, in a residential neighborhood, on a Class III town highway, in the town of Clarendon. A new single span, precast concrete bridge will be constructed on the existing alignment while traffic is maintained on a temporary bridge located downstream of the existing bridge.

Total disturbed area (excluding waste, borrow and staging areas): 0.12 ha (0.3 ac.)

SITE INVENTORY AND ANALYSIS

OFF SITE DRAINAGE CHARACTERISTICS:
There are no obvious drainage ways off-site of the project. The surrounding areas are relatively flat with the exception of the NE quadrant. This quadrant has an approximate slope of 33%. The runoff from this quadrant is expected to be parallel to the project flowing directly towards the Clarendon River.

DRAINAGE, WATERWAYS, BODIES OF WATER:
The Clarendon River flows through the project site. The river is described as alluvial, sinuous and probably incised, flat sloping with a wide flood plain. The streambed nature consists of gravel, cobbles and a few boulders. The drainage area at the bridge is approximately 61 square kilometers. There are wetlands indicated in the plans including a Class III wetland in the SE quadrant of the site.

TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:
Existing topography near the bridge consists of a moderate (5%-20%) sloping river bank along the northern side of the river and a more gently sloping (0%-15%) bank along the southern side of the river. The river banks range in height along the southern side from negligible to 3 meters and from 2 meters to 4 meters along the northern bank.

Overhead utility lines will be relocated as indicated on the project plans.

There are no buildings located within the project limits.

VEGETATION:
Vegetation in the immediate vicinity of the bridge consists of a mixture of trees and shrubs including Red maples, Ash, Willow, Speckled Alder, Blue beech and Red Osier Dogwood. There are also grass lawns along the eastern side of the project.

SOILS:
The soils within the project area have been identified as Windsor loamy fine sand found on 8 to 15% slopes. This soil type is described as very deep, strongly sloping, excessively drained soil on terraces dissected by drainageways and the tops of knolls and ridges.

The k-factor for this soil is: 0.17. This is in the low erodibility range.

SENSITIVE RESOURCE AREAS:
There is a Class II wetland that has been identified as shown in the plans on the western half of the project. This area will be protected during construction. There is also a small Class III wetland in the SE quadrant. There is a dug well water supply at station 1+093.3 Left. Although the well is not within the project limits extra awareness should be used while working within the vicinity.

No 'Threatened & Endangered Species' have been identified within the Aproject limits and there will be no adverse effect to Historic or Archaelogical features.

PROXIMITY TO NATURAL OR MAN MADE WATER FEATURES
As noted before the Clarendon River flows through the project. There are outlying wetlands that surround the project. There is a man made well within the vicinity of the site. All areas of specific concern will be protected during construction.

TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL:

Temporary erosion prevention measures to be utilized include:

Project Demarcation Fencing, denoted -PDF- on the plans, to delineate the limits the contractor can access with construction equipment. This measure limits the area that can be disturbed and exposed to erosion.

Tracking of all exposed slopes, combined with temporary mulching, will also be utilized on a regular basis. Any slopes to be exposed for several days prior to final grading shall be tracked and mulched. Slopes shall be stabilized within 48 hours of forecasted rain.

Seeding, mulching and biodegradable erosion control matting, or an equivalent, shall be used to stabilize all slopes greater than 1V:3H. These slopes shall be stabilized within 48 hours of reaching final grade or during intermittent phases of construction.

stabilized within 48 hours of reaching final grade or during intermittent phases of construction.

Silt fence will be installed a distance of 1500 - 3000 (5'-10') from the toe of fill slopes to prevent sediment transport to down gradient areas. Each line of silt fence will be placed along the contour with the lower edge buried 150 (6") to prevent underflow and ends turned slightly up grade to create a ponding effect should water try to run along the fencing and around the ends. The maximum slope length between separate runs of silt fence shall be 30,000 (100'). Silt fence shall be installed prior to any upslope earthwork.

Filter curtain shall be used in the channel to prevent sediment flow downstream. The filter curtain shall be installed as shown in the Erosion Control Details.

Measures such as silt fence and filter curtain shall be regularly maintained and shall be checked for sediment build-up. Sediment build-up shall be removed when the level of sediment reaches one-half the height of the control measure. Sediment shall be disposed of at an approved site such that it will not be subject to erosion.

Stabilized construction entrances to the project site, staging areas, as well as to waste and borrow areas shall be established. The minimum size of a stabilized construction entrance is 3700 x 15000 (12'x 50'). All surface water flowing to or diverted towards a construction entrance shall be piped under the stone. Pipes shall be appropriately sized for the contributing area, however, no pipes smaller than 150mm diameter shall be used. See typical detail on 'Erosion & Sediment Control Plan' sheet for materials and construction method to be utilized when constructing a stabilized entrance.

Temporary sediment settling basins will be utilized on this project. It should be sized based upon the following 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

PERMANENT EROSION CONTROL MEASURES:

Several permanent erosion control measures will be utilized:

Stone lining of the stream banks with Stone Fill, Type III as specified by the VTrans Hydraulics unit. The stone lining will stabilize the existing bank in order to protect it from erosion during storm and high water events.

All disturbed areas will be seeded and mulched in order to promote growth of vegetation to prevent erosion in the future.

Stream bank vegetation will be introduced in the grubbing material that is to be placed over the stream bank rip rap.

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 and On-site Coordinator. 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.

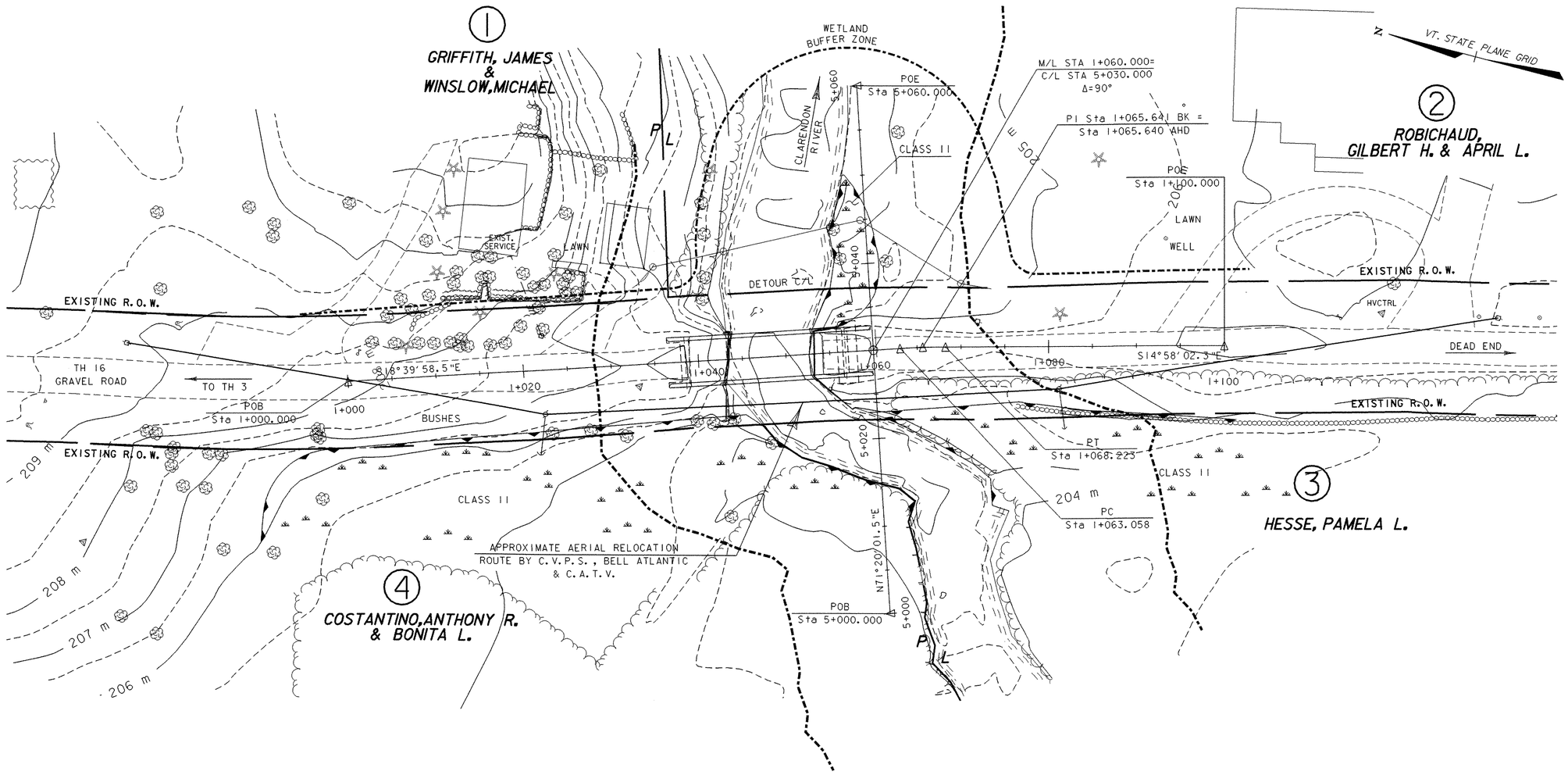
Maintaining vegetated buffers along stream banks, wetlands or other sensitive areas is a crucial erosion and sediment control measure that should be established wherever possible.

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.

PROJECT NAME: **CLARENDON**	
PROJECT NUMBER: **BRO 1443(34)**	
FILE NAME: **PW/sj286ec.dgn**	PLOT DATE: **2/4/2005**
PROJECT MANAGER: **R.R. WHITCOMB**	DRAWN BY: **J. PERRIGO**
DESIGNED BY: **C. CARLSON**	CHECKED BY **D. BONNEAU**
EROSION CONTROL NARRATIVE	SHEET **17** OF **43**

Metric



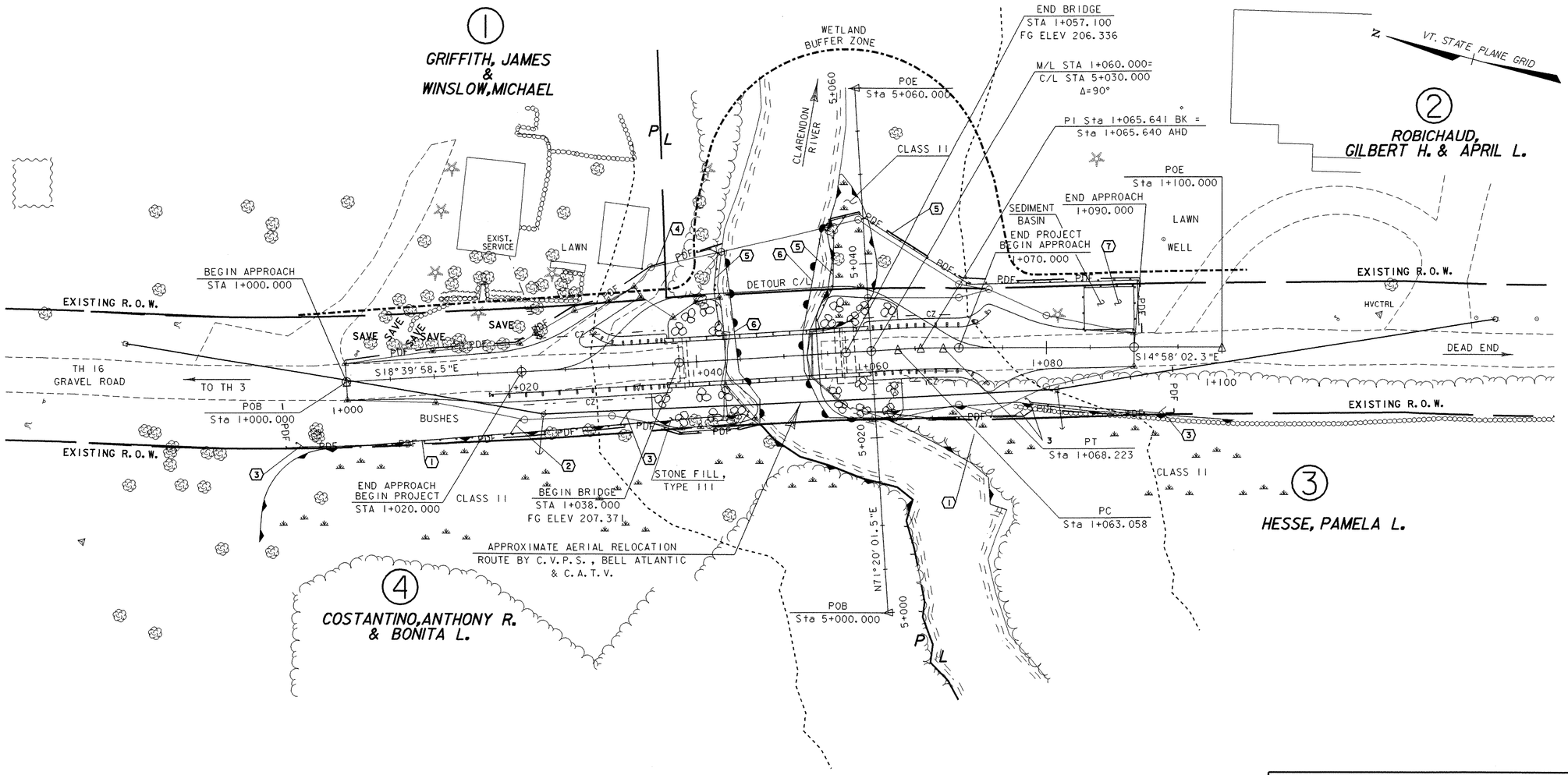
LEGEND

- WETLANDS
- RIPARIAN BUFFER

0 10 20

SCALE 1:250

SHEET NAME: EXISTING CONDITIONS SITE PLAN	
PROJECT NAME: CLARENDON	HIGHWAY NO.: TH 16
PROJECT NUMBER: BRO 1443(34)	BRIDGE NO.: 24
	OVER: CLARENDON RIVER
FILE NAME: /PW/95J286/sj286ec.dgn	PLOT DATE: 01-DEC-2005
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: J. PERRIGO
DESIGNED BY: C. CARLSON	IPARM NAME: sj286ec1.i
BRIDGE SHEET NUMBER:	SHEET 18 OF 43



LEGEND

- WETLANDS
- FILTER CURTAIN
- SILT FENCE
- PDF — PROJECT DEMARCATION FENCE (SNOW FENCE (MOD- PDF))
- STONE FILL, TYPE III
- RIPARIAN BUFFER

NOTES:

SILT FENCE INSTALLATION MAY REQUIRE PHASING TO MAXIMIZE EFFECTIVENESS (SUCH AS AROUND TOE OF TEMPORARY DETOUR FILL SLOPE). INSTALL AND/OR MOVE SILT FENCE AS CONSTRUCTION PROGRESSES TO OBTAIN THE GREATEST PREVENTION OF SEDIMENT TRANSPORT.

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.

TIME GRADING TO MINIMIZE SOIL EXPOSURE

RETAIN EXISTING VEGETATION WHENEVER FEASIBLE

STABILIZE (MULCH) ALL DISTURBED AREAS DAILY TO PREVENT MOBILIZATION OF SEDIMENT

KEEP RUNOFF VELOCITIES LOW

PREPARE TEMPORARY DRAINAGEWAYS TO HANDLE CONCENTRATED FLOW UNTIL PERMANENT DRAINAGE IS CONSTRUCTED AND STABILIZED

PREVENT SEDIMENT FROM LEAVING SITE BY MAINTAINING AND MODIFYING PERIMETER CONTROLS AS NEEDED

MONITOR AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES

ALL IN-STREAM CHANNEL WORK TO TAKE PLACE IN A DRY CHANNEL

STATE WATER QUALITY STANDARDS WILL BE MAINTAINED AT ALL TIMES

SEE SHEET 21 FOR SEEDING FORMULA

EROSION AND SEDIMENT CONTROL INDEX	
NO.	DESCRIPTION
1	INSTALL CONTINUOUS LINE OF SILT FENCE ALONG EDGE OF WETLAND
2	INSTALL SHORT SECTIONS TO CREATE PONDING OF RUNOFF ALONG FENCE
3	ENDS OF FENCE TURNED UPHILL TO CREATE PONDING
4	PROJECT LIMITS DEMARCATION FENCE (SNOW FENCE (MOD.-PDF))
5	INSTALL SILT FENCE AT TOE OF DETOUR FILL SLOPES (LOC. APPROX.)
6	INSTALL FILTER CURTAIN
7	LINE SEDIMENT BASIN WITH PLASTIC & PIPE WATER BACK TO RIVER

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

0 10 20

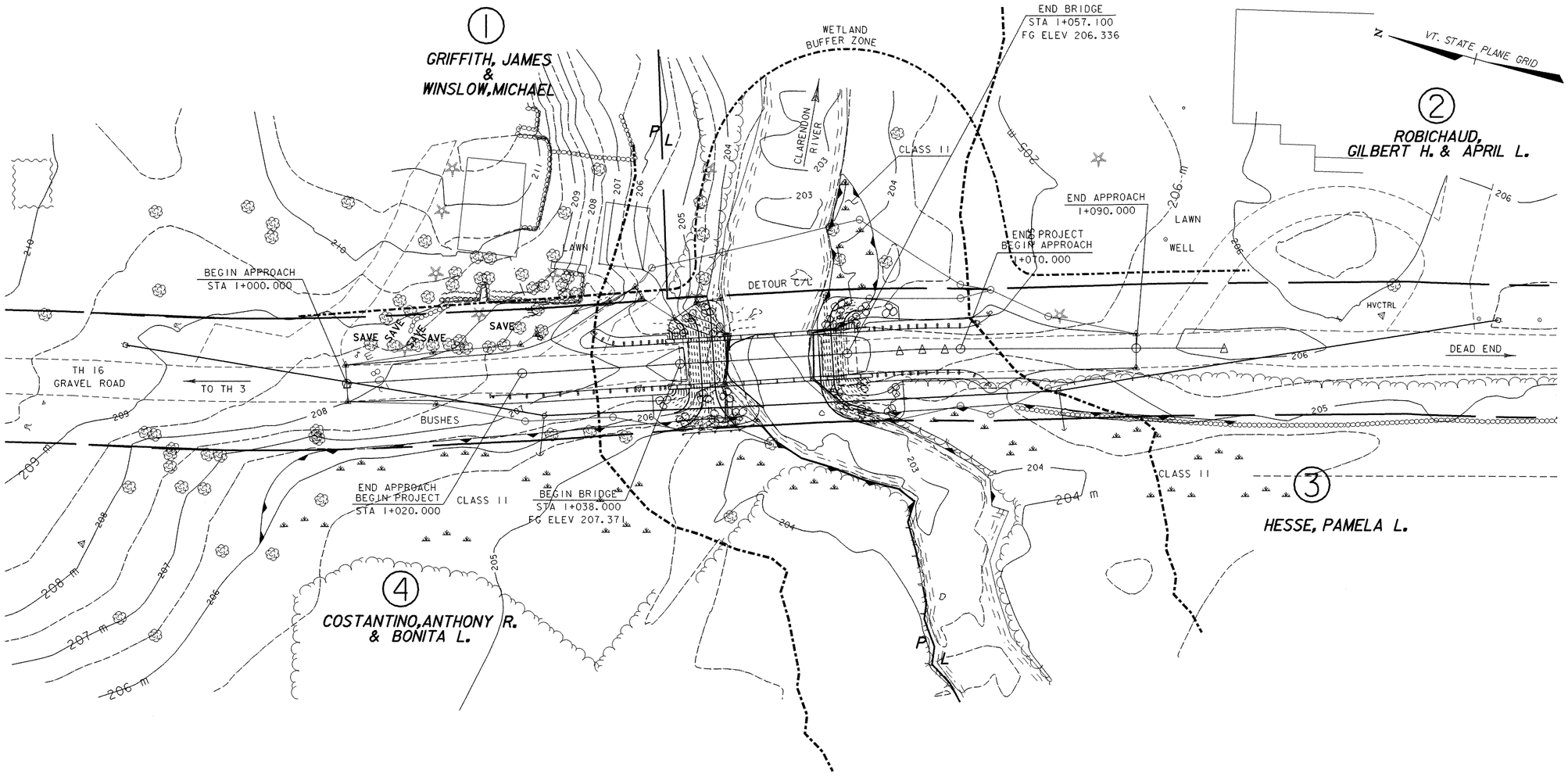
SCALE 1:250

SHEET NAME: EROSION & SEDIMENT CONTROL PLAN

PROJECT NAME: CLARENDON
PROJECT NUMBER: BRO 1443(34)
HIGHWAY NO.: TH 16
BRIDGE NO.: 24
OVER: CLARENDON RIVER

FILE NAME: /PW/95J286/sj286ec.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 01-DEC-2005
DRAWN BY: J. PERRIGO
IPARM NAME: sj286ec2.1
SHEET 19 OF 43

VAOT Metric



LEGEND

- WETLANDS
- RIPARIAN BUFFER

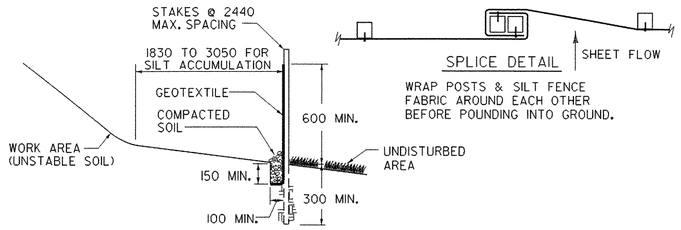
0 10 20

SCALE 1:250

SHEET NAME:	FINAL CONDITIONS SITE PLAN		
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95J286/sj286ec.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R.R. WHITCOMB	DRAWN BY:	J. PERRIGO
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj286ec3.i
BRIDGE SHEET NUMBER:		SHEET	20 OF 43

NOTE: REFER TO THE 'VERMONT HANDBOOK FOR SOIL EROSION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES' FOR ADDITIONAL EROSION CONTROL MEASURES.

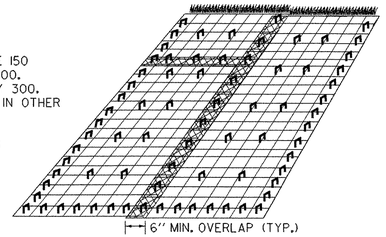
HAY BALES AND SILT FENCE ARE NOT TO BE USED ACROSS AREAS OF CONCENTRATED FLOW.



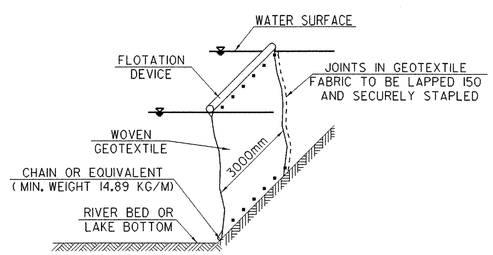
DETAIL "A"
SILT FENCE

NOTES :
1. DO NOT USE SILT FENCE IN STREAMS, DRAINAGE DITCHES, OR AREAS OF CONCENTRATED FLOW.
2. BACK WITH STAKED-IN-PLACE HAY BALES OR WIRE FENCE IF ADDITIONAL SUPPORT IS NEEDED.
3. MUST BE REMOVED WHEN SOIL IS STABILIZED.

NOTES:
1. ALL FABRIC OVERLAPS SHALL BE 150 MINIMUM WITH STAPLES EVERY 500.
2. STAPLE EDGES OF FABRIC EVERY 300.
3. USE 1000 MAX. STAPLE SPACING IN OTHER AREAS.
4. SEE "EROSION MATTING FOR DITCHES" DETAIL FOR ANCHORING AT TOPS OF SLOPES.

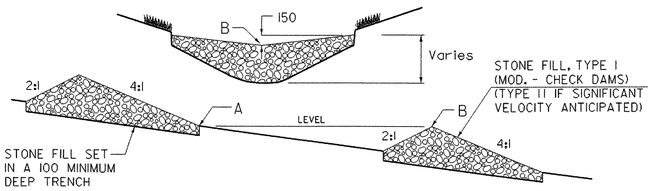


DETAIL "C"
EROSION MATTING FOR SLOPES STEEPER THAN 1:3



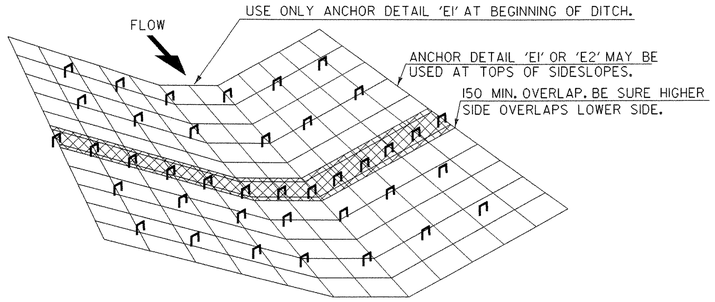
DETAIL "F"
FILTER CURTAIN

1. NOT TO BE USED ACROSS THE FLOW OF WATER
2. HEIGHT SHOULD BE SUFFICIENT TO ALLOW FOR VARIATIONS IN THE BOTTOM AND RISING WATER
3. ANCHOR FIRMLY IN PLACE AS NEEDED
4. INSTALL PRIOR TO EARTH DISTURBING ACTIVITIES AND/ OR INSTALLATION OF COFFERDAM WHERE APPLICABLE
5. LEAVE IN PLACE UNTIL UP-SLOPE AREAS ARE STABLE AND COFFERDAM IS REMOVED
6. USE CARE DURING REMOVAL TO PREVENT THE RELEASE OF CAPTURED SEDIMENT AS MUCH AS POSSIBLE



DETAIL "B"
TEMPORARY STONE CHECK DAM

NOTES :
1. CHECK DAMS TO BE USED DURING ESTABLISHMENT OF GRASS LINED DRAINAGE DITCHES
2. LOCATE DOWNSTREAM STRUCTURE SUCH THAT POINT "B" IS APPROXIMATELY LEVEL WITH THE LOWEST GROUND ELEVATION "A" OF THE UPSTREAM STRUCTURE.



DETAIL "D"
EROSION MATTING FOR DITCHES

1. TO BE USED WHERE SLOPE OF DITCHLINE RANGES FROM 1% - 2.5%, SLOPES EXCEEDING 2.5% SHALL BE LINED WITH STONE FILL, TYPE I.
2. OVERLAPS SHALL BE 150 MINIMUM IN THE DIRECTION OF FLOW AND STAPLED EVERY 500 MIN. THROUGH BOTH FABRICS.
3. USE 1000 MAX STAPLE SPACING IN OTHER AREAS.

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.

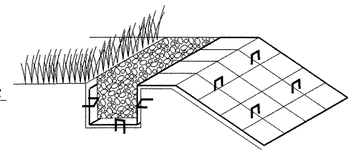
SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

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.

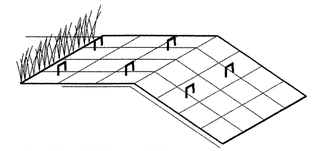
HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

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



ANCHOR DETAIL 'E1'

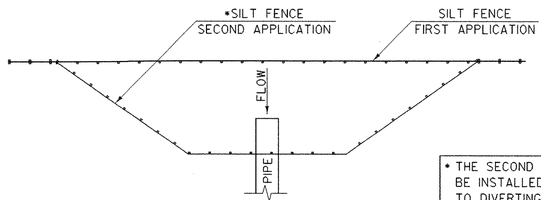
INSERT & STAPLE FABRIC INTO 150 X 150 TRENCH PRIOR TO BACKFILLING & COMPACTING SOIL. USE 3 STAPLE PATTERN EVERY 500.



ANCHOR DETAIL 'E2'

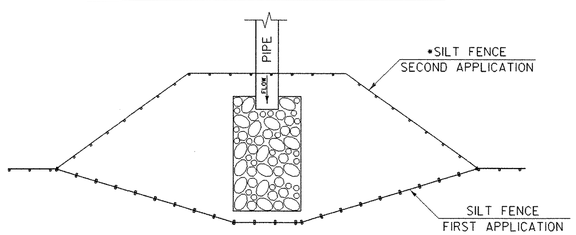
IF THE TOP OF SLOPE IS RELATIVELY FLAT EXTEND MATERIAL APPROXIMATELY 600 AND STAPLE EVERY 500 MINIMUM.

DETAIL "E"
ANCHOR DETAILS FOR EROSION MATTING



* THE SECOND APPLICATION OF SILT FENCE IS TO BE INSTALLED (REMOVE FIRST APPLICATION) PRIOR TO DIVERTING FLOW INTO NEW PIPE FOR BOTH PROPOSED INLET AND OUTLET CONTROLS

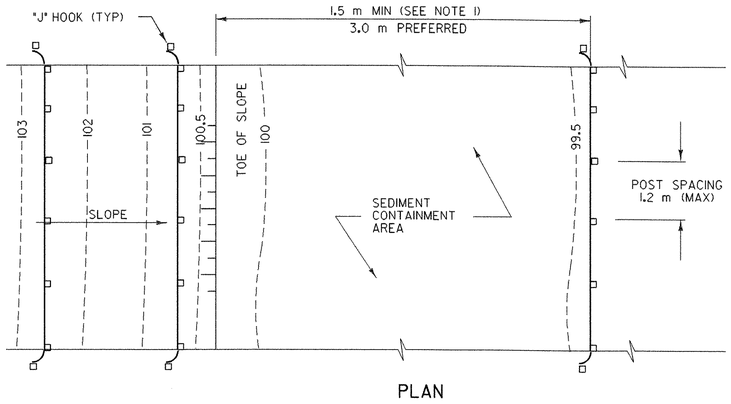
DETAIL "I"
PROPOSED PIPE INLET CONTROL



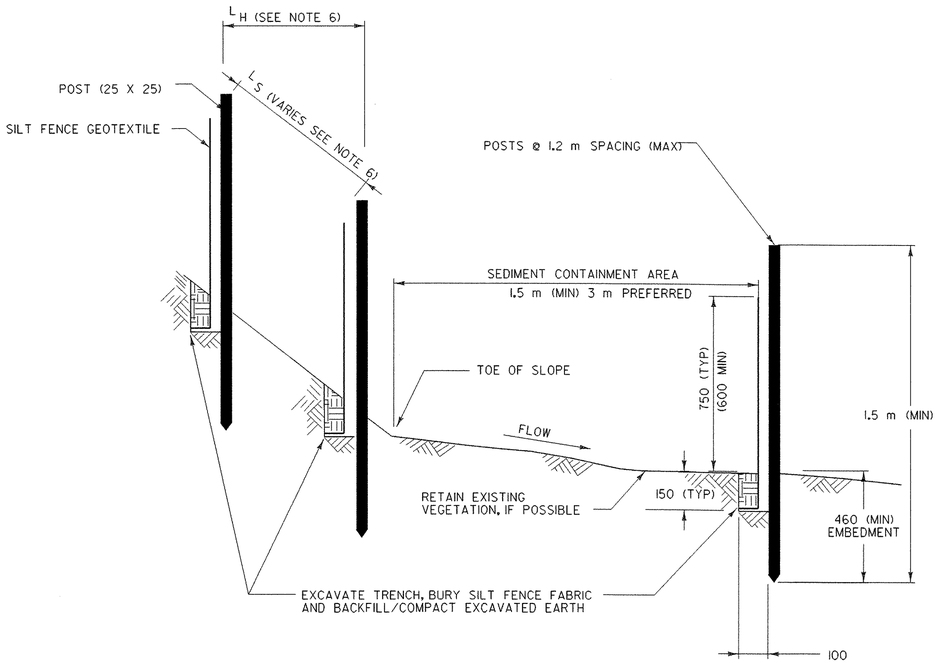
DETAIL "J"
PROPOSED PIPE OUTLET CONTROL

NOTE: DETAILS NOT TO SCALE

SHEET NAME:	EROSION CONTROL DETAILS		
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95J286/sj286ec.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	STRI
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj286ec4.i
BRIDGE SHEET NUMBER:		SHEET	21 OF 43



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.

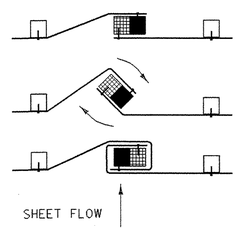
C. SILT FENCE SHALL NOT BE USED ACROSS CONCENTRATED FLOW.

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 0.1Ha.
6. THE FOLLOWING ARE MAXIMUM SLOPE LENGTHS FOR THESE MEASURES:

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

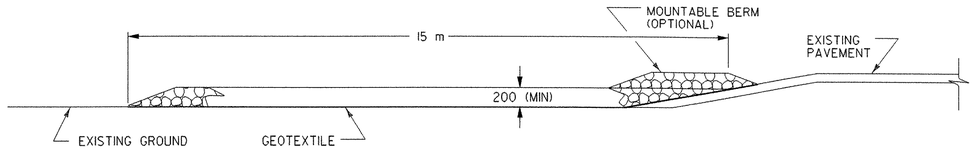
7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
8. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT 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.

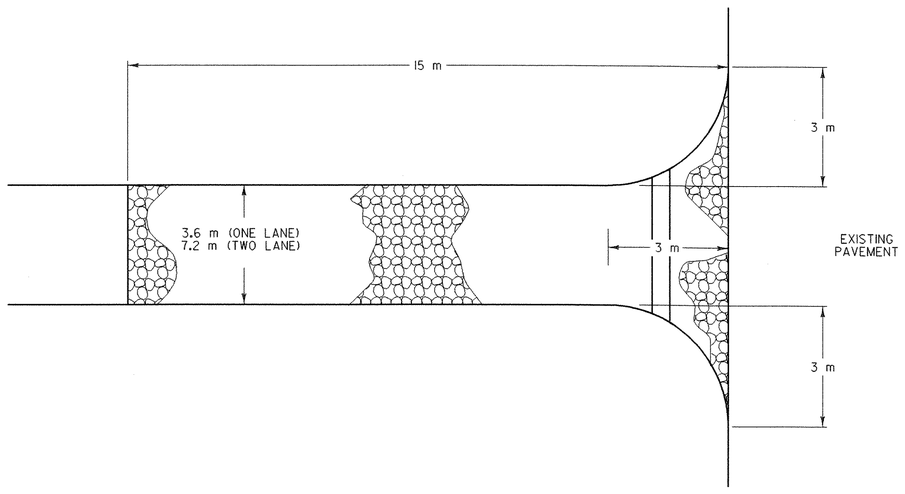
SPLICING DETAIL

SHEET NAME:	EROSION CONTROL DETAILS SILT FENCE	
PROJECT NAME: CLARENDON		HIGHWAY NO.: TH 16
PROJECT NUMBER: BRO 1443(34)		BRIDGE NO.: 24
		OVER: CLARENDON RIVER
FILE NAME: /PW/95J286/sJ286ec.dgn		PLOT DATE: 01-DEC-2005
PROJECT MANAGER: R. R. WHITCOMB		DRAWN BY: str3
DESIGNED BY: C. CARLSON		IPARM NAME: sJ286ec5.1
BRIDGE SHEET NUMBER:		SHEET 22 OF 43



TYPICAL CONSTRUCTION ENTRANCE PROFILE
(CUT AND DITCH SECTIONS)

NTS



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

NTS

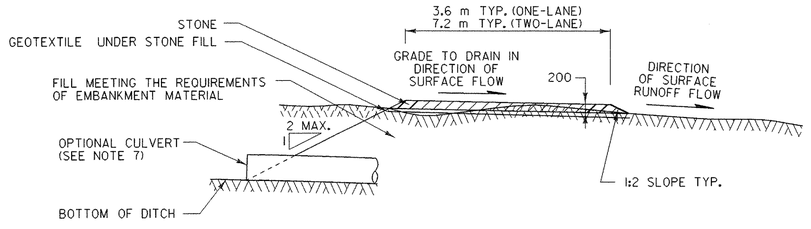
STABILIZED CONSTRUCTION ENTRANCE

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. - CONSTRUCTION ENTRANCE)".



TYPICAL CONSTRUCTION ENTRANCE SECTION

NTS

SHEET NAME:	EROSION CONTROL DETAILS STABILIZED CONTRUCTION ENTRANCE		
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95j286/sj286ec.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	str3
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj286ec6.1
BRIDGE SHEET NUMBER:		SHEET	23 OF 43

STATE OF VERMONT
AGENCY OF TRANSPORTATION

GENERAL NOTES

Metric

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. 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.

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

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

6. BRIDGE RAILING AND HEAVY DUTY STEEL BEAM GUARD RAIL W/ WOOD POSTS SHALL BE WEATHERING STEEL. (SEE NOTE 4 ON STD. DWG. SB-R6-82.) THE HANDRAIL ON THE BRIDGE SHALL BE COLOR GALVANIZED BROWN (TO MATCH WEATHERING STEEL). THE COLOR GALVANIZING WILL BE PAID FOR UNDER THE ITEM 525.42, "BRIDGE RAILING - HDSB/CURB MOUNTED/HANDRAIL (MOD.)".

7. THE STONE FILL, TYPE III SHALL BE PLACED IN FRONT OF THE ABUTMENTS BEFORE THE PRESTRESS UNITS ARE PLACED.

8. TWO 4"-6" DIAMETER MAPLE TREES SHALL BE PLANTED ON THE ROBICHAUD PROPERTY AT A LOCATION WHICH IS MUTUALLY ACCEPTABLE TO THE ROBICHAUD'S AND THE RESIDENT ENGINEER. THIS WORK WILL BE PAID FOR UNDER ITEM 656.30, "DECIDUOUS TREES (SUGAR MAPLE-ACER SACCHARUM B&B, 4" CAL)".

9. A WATER QUALITY AND QUANTITY TEST WILL BE PERFORMED AT THE WELL LOCATED AT STA 1+093.3 LT PRIOR TO AND IMMEDIATELY AFTER CONSTRUCTION. THIS WORK WILL BE PERFORMED BY AGENCY STAFF OR ITS DESIGNEES.

10. DUE TO THE PROXIMITY OF THE BARN AT APPROXIMATELY STA 1+030 LT AND THE HOUSES AT STATIONS 1+015 LT AND 1+100 LT(+), IT IS REQUIRED THAT THE CONTRACTOR ARRANGE FOR INSPECTION OF THE HOUSE/BARN FOUNDATIONS PRIOR TO PILE DRIVING AND FOR MONITORING OF THE FOUNDATIONS DURING PILE DRIVING AT ABUTMENT NO. 1. THIS WORK WILL BE INCIDENTAL TO THE ITEM 504.10, "FURNISHING EQUIPMENT FOR DRIVING PILING". SEE SPECIAL PROVISIONS.

11. THE EXISTING WINGWALLS AND ABUTMENTS AT ABUTMENT NO. 1 SHALL BE REMOVED DOWN TO 300 mm BELOW THE FINISHED CHANNEL GRADE UNDER THE ITEMS, "STRUCTURE EXCAVATION AND UNCLASSIFIED CHANNEL EXCAVATION".

12. THE EXISTING WINGWALLS AND ABUTMENTS AT ABUTMENT NO. 2 SHALL BE REMOVED UNDER THE ITEMS, "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK". ANY PORTIONS OF THE EXISTING WINGWALLS/ABUTMENT THAT FALLS OUTSIDE OF THOSE LIMITS SHALL BE REMOVED TO 300 mm BELOW THE FINISHED CHANNEL GRADE AND PAID FOR UNDER THE ITEM "UNCLASSIFIED CHANNEL EXCAVATION".

13. ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE (MOD)" WILL INCLUDE THE REMOVAL OF THE "MABEY" BRIDGE WHICH INCLUDES THE DISMANTLING AND DELIVERING TO THE DISTRICT GARAGE IN MENDON. THE CONTRACTOR SHALL COORDINATE REMOVAL OF THE BRIDGE BY CONTACTING DAVE LATHROP, DTA #3 AT LEAST TWO WEEKS PRIOR TO THE DATE THAT THE CONTRACTOR WISHES TO REMOVE THE "MABEY" BRIDGE. DAVE LATHROP CAN BE CONTACTED AT (802)786-0029. SEE SPECIAL PROVISIONS.

14. THE ORIGINAL BEAMS FOR THE STRUCTURE ARE LOCATED BELOW THE "MABEY" BRIDGE. THE BEAMS SHALL BE REMOVED ALONG WITH ANY DECKING (THAT STILL MAY REMAIN) DOWN TO THE EXISTING BRIDGE SEAT ELEVATION. THIS WORK SHALL BE PAID FOR UNDER THE ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" (MOD).

15. THE ORIGINAL BEAMS BELOW THE "MABEY" WERE PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE REMOVED BEAMS ARE TO BECOME 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 BEAMS.

16. a) ALL PILES SHALL BE FURNISHED WITH REINFORCED PILE POINT OF PREFABRICATED CAST STEEL MEETING THE REQUIREMENTS OF ASTM A-27. SEE SUBSECTION 505.04 (e).

    b) THE PILES AT ABUTMENT NO. 1 SHALL BE DRIVEN TO AN ULTIMATE CAPACITY OF 900 KN.

17. 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 FRANCIS BLAIR, JR., ROAD FOREMAN AT (802) 287-9371. THIS WORK WILL BE PAID FOR UNDER THE ITEM 675.50, "REMOVING SIGNS".

CONCRETE

18. THE HEIGHT OF FILL BEHIND ABUTMENTS WILL BE LIMITED TO THE BRIDGE SEAT ELEVATION UNTIL THE OVERLAY HAS BEEN POURED AND THE CURING PERIOD IS UP.

19. 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.

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

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

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

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

24. MINIMUM COVER FOR REINFORCING STEEL SHALL BE 50 mm ALONG THE BACK FACES OF WALLS AGAINST EARTH, 50 mm ALONG THE TOP SURFACE OF THE DECK, 40 mm ALONG THE BOTTOM SURFACE OF THE DECK AND 80 mm ELSEWHERE, UNLESS OTHERWISE NOTED.

25. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL.

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

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

28. ALL SUBSTRUCTURE CONCRETE SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B UNLESS OTHER WISE NOTED.

29. THE DECK OVERLAY AND CURBS SHALL BE CONCRETE, HIGH PERFORMANCE CLASS AA.

TEMPORARY BRIDGE

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

31. THE COST OF ON-PROJECT CONSTRUCTION SIGNS AND BARRICADES REQUIRED SHALL BE PAID FOR UNDER THE ITEM 641.10, "TRAFFIC CONTROL".

32. THE REMOVAL AND/OR RESETTING OF TEMPORARY TRAFFIC SIGNS, AS DEEMED NECESSARY BY THE RESIDENT ENGINEER, SHALL BE PAID FOR UNDER THE ITEM 641.10, "TRAFFIC CONTROL".

33. FULL ACCESS TO ALL DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THIS WORK SHALL BE INCIDENTAL TO ITEM 528.10 "ONE-WAY TEMPORARY BRIDGE." WHEN THE CONTRACTOR MUST TEMPORARILY RESTRICT ACCESS TO THE DRIVES, NOTICE TO THE PROPERTY OWNERS SHALL BE GIVEN IN ADVANCE BY THE CONTRACTOR.

LEDGE (@ ABUTMENT NO. 2)

34. THE STRUCTURES SECTION SHALL BE CONTACTED IF LEDGE IS ENCOUNTERED MORE THAN 600 mm BELOW THE INDICATED BOTTOM OF FOOTING ELEVATIONS AS SHOWN ON THE PLANS. PROFILES OF THE LEDGE MAY BE REQUIRED TO ADJUST THE FOOTING ELEVATIONS AND SIZE. NO FURTHER WORK SHALL BE DONE ON THE FOOTINGS UNTIL A REPLY IS RECEIVED FROM THE STRUCTURES SECTION.

35. FOOTINGS SHALL BE PLACED ON SOUND, CLEAN LEDGE, ALL OVER BREAKAGE BELOW INDICATED BOTTOM OF FOOTING SHALL BE REPLACED WITH "CONCRETE, HIGH PERFORMANCE CLASS B". A MAXIMUM OF 150 mm AVERAGE DEPTH SHALL BE PAID FOR AS "CONCRETE, HIGH PERFORMANCE CLASS B", ANY ADDITIONAL CONCRETE REQUIRED SHALL BE PLACED AT THE CONTRACTOR'S EXPENSE. THESE QUANTITIES HAVE BEEN ADDED TO THE QUANTITY SHEET.

36. THE CONTRACTOR HAS THE OPTION OF POURING CONCRETE, HIGH PERFORMANCE CLASS B TO LEDGE INSTEAD OF POURING A SUB-FOOTING WITH CONCRETE, CLASS C. ANY CONCRETE, HIGH PERFORMANCE CLASS B USED IN A SUB-FOOTING WILL BE PAID FOR AT THE CONCRETE, CLASS C BID PRICE.

37. THE SUB-FOOTING SHALL BE FOUNDED ON SOLID LEDGE WHICH HAS BEEN CLEANED OF ALL LOOSE ROCK AND DEBRIS. THE LIMITS OF THE SUB-FOOTING SHALL BE 300 mm OUTSIDE THE LIMITS OF THE FOOTING. REINFORCING STEEL SHALL BE DRILLED AND GROUTED INTO THE LEDGE UNDER THE SUB-FOOTING AS SHOWN ON SHEET 28. THIS WORK SHALL BE PAID FOR UNDER ITEM, "DRILLING AND GROUTING OF DOWELS".

PRESTRESSED CONCRETE

38. THE PRESTRESSED UNITS SHALL BE OVERLAID WITH CONCRETE, HIGH PERFORMANCE CLASS AA. THE CONCRETE IS TO BE POURED WITH A MAXIMUM POUR DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A CONSTRUCTION JOINT SHALL BE USED. A NINETY SIX HOUR DELAY BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF ANY OTHER POUR SHALL ALSO BE OBSERVED.

39. PRESTRESSED, PRECAST MEMBERS SHALL:
    A. CONFORM TO SECTION 510A "PRESTRESSED CONCRETE".
    B. BE 540 X 914 AND 540 X 1220 VOIDED SLABS
    C. HAVE THE ENDS OF THE STRANDS RECESSED AND GROUTED AS PER STANDARD PRACTICE
    D. CONTAIN VOIDS WHICH ARE CONTINUOUS EXCEPT AS SHOWN IN THE PLAN DETAIL
    E. HAVE VOID DRAINS AT EACH END OF EACH VOID. THE VOID DRAINS SHALL BE 20 mm DIAMETER, NON-FERROUS, AND SHALL BE CLEANED AFTER ERECTION
    F. USE CONCRETE WITH F'c = 42 MPa AND Fc = 30 MPa
    G. CONTAIN PRESTRESSING STRANDS WHICH ARE 15.24 mm DIAMETER, 1860 MPa, LO RELAXATION STRANDS PULLED TO 75 % OF THEIR YIELD.
    H. BE DESIGNED FOR AN AASHTO MS 22.5 LIVE LOAD.
    I. HAVE THE TOP SURFACE RAKED TO UNIFORM ROUGHNESS WITH AN AVERAGE AMPLITUDE OF 6 mm.

40. THE FABRICATOR MAY, WITH THE APPROVAL OF THE STRUCTURES ENGINEER, ALTER THE DESIGN, AS DETAILED, TO MEET THE PLANT'S PRESTRESSING OPERATION AND MATERIAL REQUIREMENTS. AN ALTERNATE STRAND CONFIGURATION MAY BE SUBMITTED FOR APPROVAL PROVIDED THAT THE DESIGN IS STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT AND THAT THE DESIGN MEETS ALL OF THE APPLICABLE DESIGN CRITERIA, LOADINGS AND CODES.

41. NOT USED

42. THE 13 mm DIAMETER TRANSVERSE TENDONS SHALL BE POLYSTRAND OR EQUIVALENT. THE 19 mm PLATE SHALL CONFORM TO AASHTO M270/M270M GR 345. THE 19 mm PLATE, AND THE CHUCKS SHALL BE GALVANIZED AFTER FABRICATION, ACCORDING TO AASHTO M232/M232M. ALL WORK COVERED IN THIS NOTE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEMS.

43. THE JOINTS BETWEEN THE VOIDED SLABS SHALL BE FILLED WITH MORTAR, TYPE IV, IN ACCORDANCE WITH SECTION 510.13a. THIS WORK WILL BE PAID FOR UNDER THE ITEM 510.24, "GROUTING SHEAR KEYS".

44. THE TRANSVERSE STRANDS SHALL BE INSTALLED PRIOR TO THE PLACEMENT OF THE MORTAR AND CASTING OF THE CONCRETE, HIGH PERFORMANCE CLASS AA.

45. MATERIALS, LABOR AND EQUIPMENT FOR ALL GROUTING AND FOR THE COLD POURED JOINT FILLER SHALL BE INCLUDED IN THE UNIT PRICE FOR THE ITEMS. THE GROUT SHALL CONFORM TO MORTAR, TYPE IV.

46. THE CONTRACTOR SHALL GIVE THE VAOT MATERIALS AND RESEARCH SECTION TWO WEEKS NOTICE PRIOR TO THE PRESTRESS FABRICATOR CONSTRUCTING THE UNITS.

47.

SERVICE LOADS	540x914	540x1220
MEMBER MOMENT	344 kN-m	443 kN-m
DECK MOMENT	153 kN-m	183 kN-m
SUPERIMPOSED DEAD LOAD MOMENT	16 kN-m	20 kN-m
LIVE LOAD & IMPACT MOMENT	439 kN-m	586 kN-m
DEAD LOAD REACTION	129 kN	159 Kn
LIVE LOAD & IMPACT REACTION	338 kN	338 kN
TOTAL REACTION	467 kN	497 kN
FINAL CAMBER	22 mm	22 mm

48. **BEARING NOTES**
THE BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.10, "BEARING DEVICE ASSEMBLY (ELASTOMERIC)".

49. **SEQUENCE OF CONSTRUCTION FOR PRESTRESSED VOIDED SLABS**

(A) Layout Working Lines
  * Lay out working lines for the bridge's entire width on the beam seat. Measure all working lines from a common working point.
  * The working lines are to be based on the nominal beam widths.

(B) Verify Beam Seat Elevations
  * Take elevations at beam seats.
  * If seats are high, grind to correct elevations.
  * If seats are low, add shims.
  * Locate and drill 3" dia holes for anchor bolts.
  * Install bearings.

(C) Erect Beams
  * Beams shall be placed to fit within the working lines.
  * As work progresses, install hardwood wedges between adjacent beams to maintain proper joint opening (a minimum of one wedge at each lateral tie).
  * Place anchor bolts.
  * Grout anchor bolts in abutment.

(D) Install Backer Rod
  * Filler shall be placed below the key's bottom as shown on the Plans.

(E) Install Transverse Ties
  * A seamless polypropylene sheath shall cover ties (with corrosion inhibitor grease between sheath and strand).
  * Feed ties through ducts.
  * Verify that hardwood wedges are in place as required to prevent slippage of beams.
  * Using calibrated jack, post-tension ties to approximately 22.2 kN to remove sag in the tie and to seat the chuck.

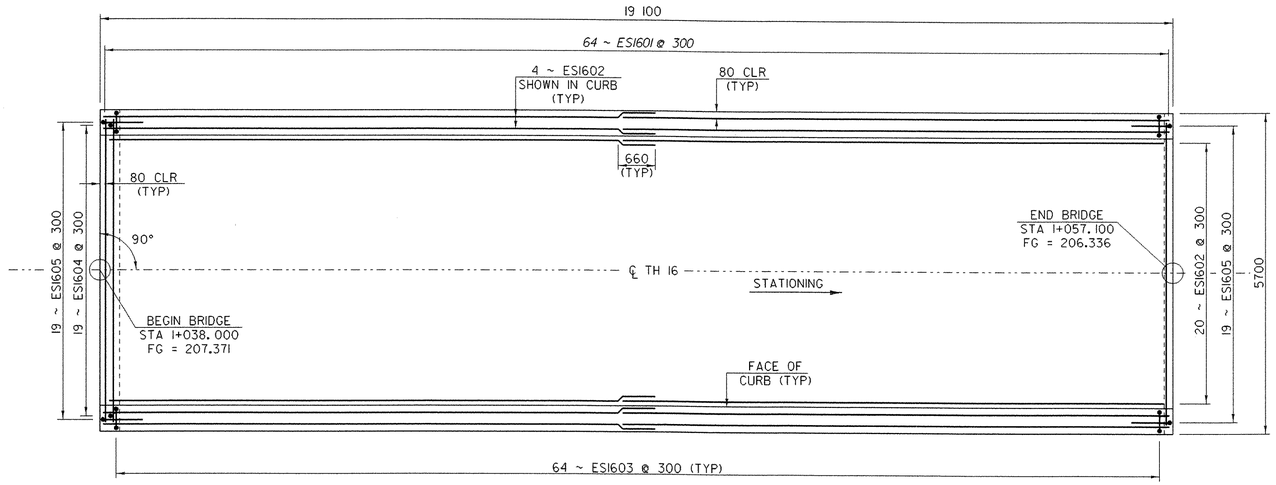
(F) Grout Shear Keys
  * Clean joint with an oil free air-blast immediately before grout placement. Then verify that the backer rod is still in place.
  * Additional joint preparation and grout placement shall be per manufacturer's recommendations.
  * Carefully rod joints to eliminate any possibility of voids.

(G) Post-Tension Transverse Ties
  * Grout shall attain a minimum compressive strength of 10.3 MPa, based on the manufacturer's recommendations, prior to stressing.
  * Using a calibrated jack operated by qualified personnel, post-tension ties to 133.5 kN.

(H) End Details
  * Grout Anchor Bolt Ends at the Fixed Ends at Bridge Seats and Place Cold Poured Joint Sealer at Expansion End
  * Before grout cures, place washer plate and install hold down nuts.
    -Fixed end, nut tightened
    -Expansion end, nut hand tightened and loosened by 1/2 turn.
  * Grout over nut and bolt on fixed end, place cold poured joint sealer over nut and bolt on expansion end.

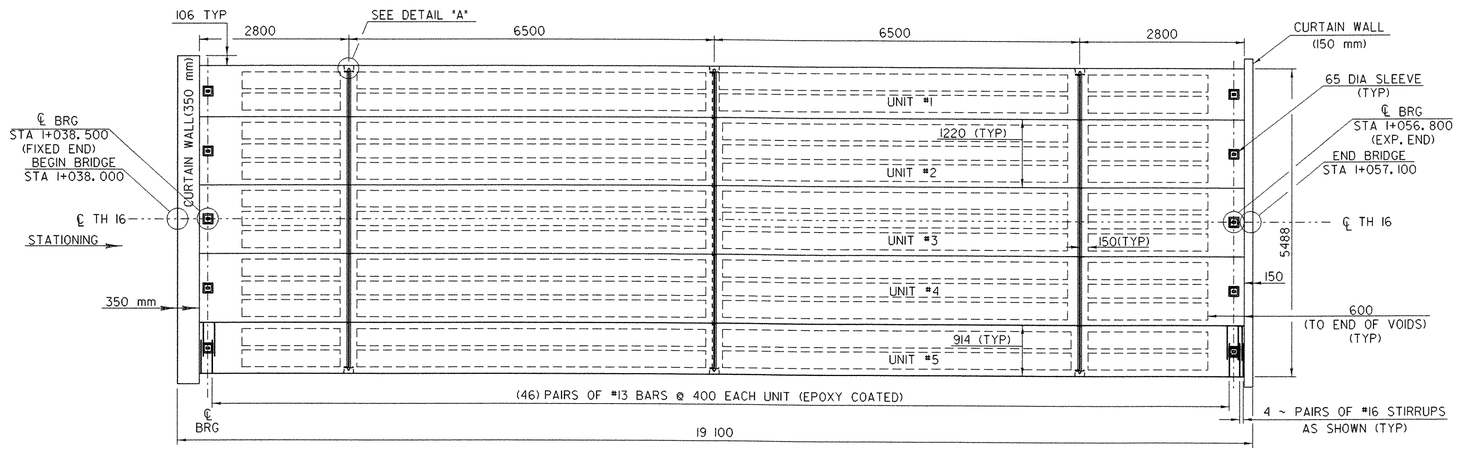
(I) Finish Work
  * Remove wedges, and patch deck and fascia beams at transverse ties.
  * The contractor shall keep the prestressed units saturated with water for twelve hours prior to placement of the overlay.
  * Remove any freestanding water immediately before concrete placement.
  * Place an overlay.

PROJECT NAME:	**CLARENDON**		
PROJECT NUMBER:	**BRO 1443(34)**		
FILE NAME:	/str1/95j286/sj286gen.xls	PLOT DATE:	7/22/2003
PROJECT LEADER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	CHECKED BY:	C. CARLSON
GENERAL NOTES SHEET		SHEET 24 OF 43	



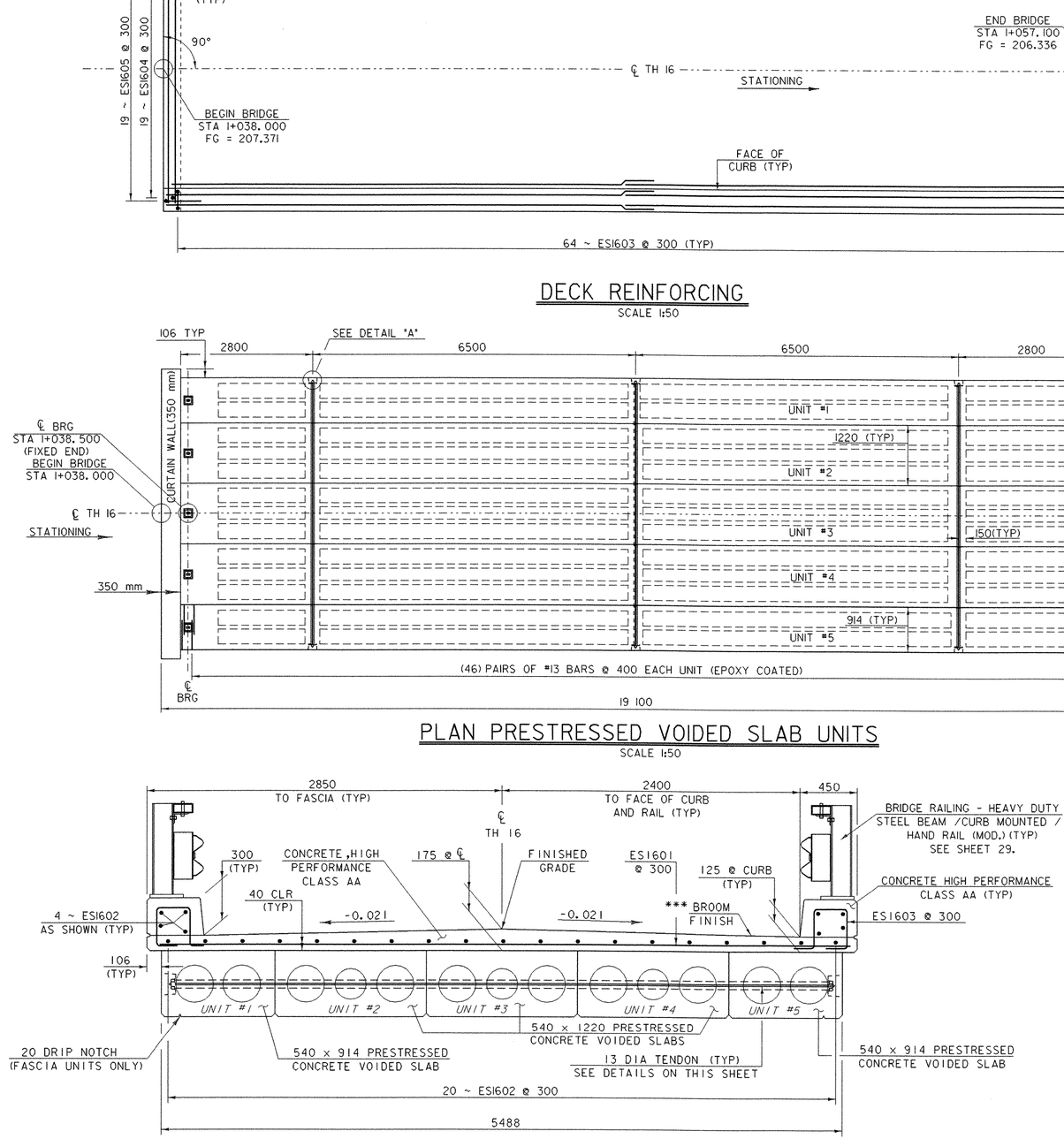
DECK REINFORCING

SCALE 1:50



PLAN PRESTRESSED VOIDED SLAB UNITS

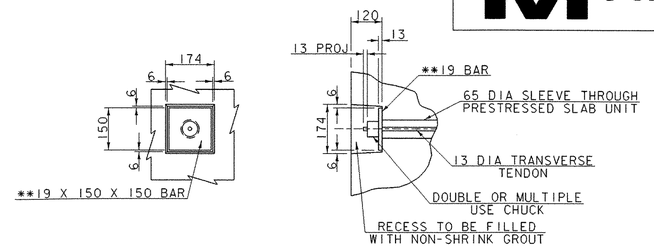
SCALE 1:50



TYPICAL SECTION AT MIDSPAN

SCALE = 1:20

*** THE CONCRETE DECK WILL BE BROOM FINISHED NORMAL TO CENTERLINE.

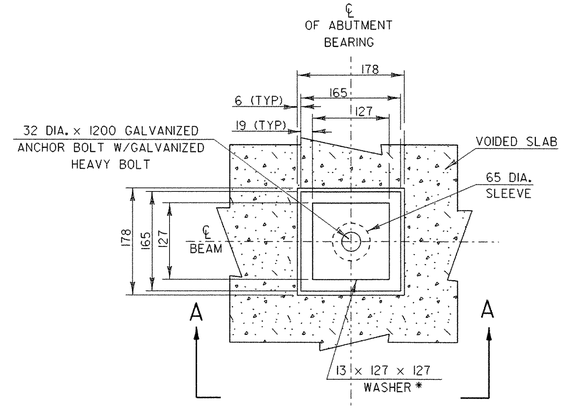


DETAIL "A"

NTS

* TRANSVERSE TIES SHALL BE COVERED BY SEAMLESS POLYPROPYLENE SHEATH (WITH CORROSION INHIBITOR GREASE BETWEEN SHEATH AND STRAND) FOR THE LENGTH OF STRAND, EXCEPT AT ANCHORAGE LOCATIONS, TIES SHALL BE TENSIONED TO 133.5 kN

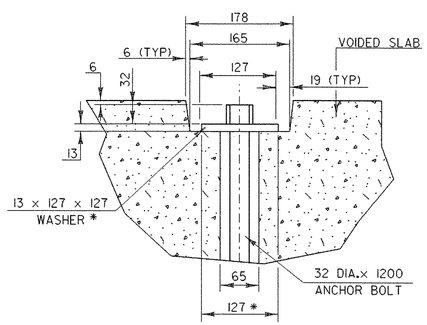
** AASHTO M270/M270M GRADE 345 STEEL



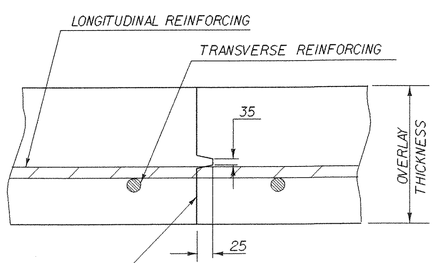
END BRIDGE ANCHOR BOLT DETAIL

NOTE: FOR SPECIFICATION FOR ANCHOR BOLTS & NUTS SEE VAOT SPECIFICATION 714.08

* EM-3 (13 x 127 x 127) WASHER WITH 38 DIA. HOLE (GALVANIZED)

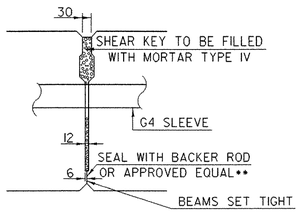


SECTION A-A



TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS

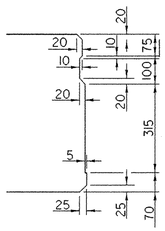
SHEET NAME: **DECK DETAILS**			
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME: /PW/95J286/sJ286sup.dgn		PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ286dck.i
BRIDGE SHEET NUMBER:		SHEET	25 OF 43



SHEAR KEY SECTION FOR VOIDED SLAB

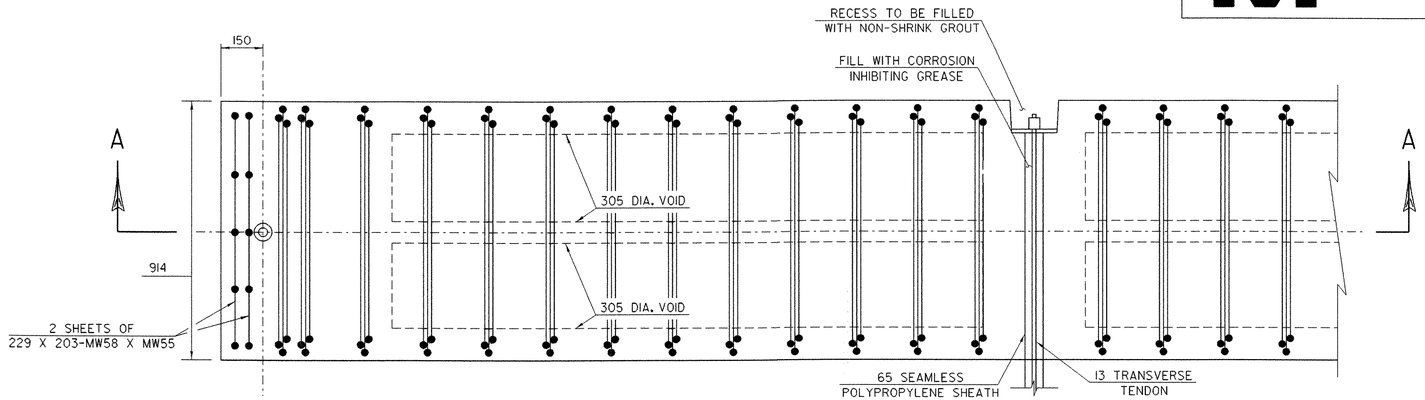
SCALE: 1:100

**NOTE: INSTALL OAKUM AFTER UNITS HAVE BEEN PLACED



SHEAR KEY DETAIL FOR VOIDED SLAB

SCALE: 1:100

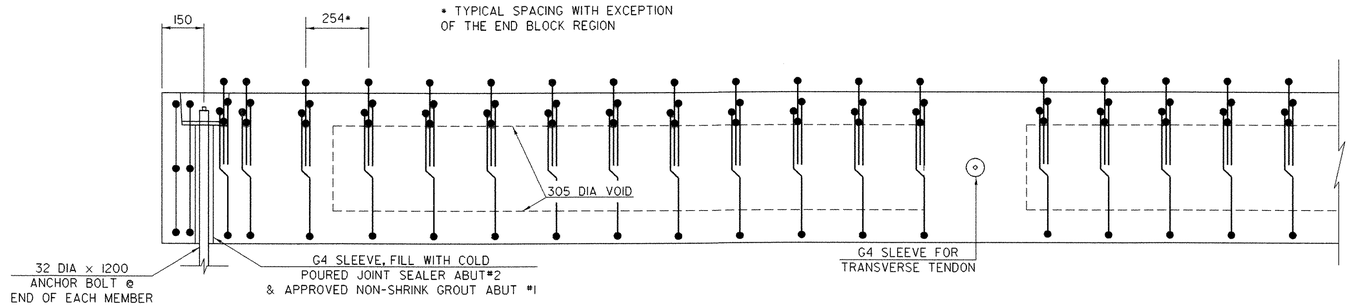


END BLOCK DETAIL

SCALE = 1:10

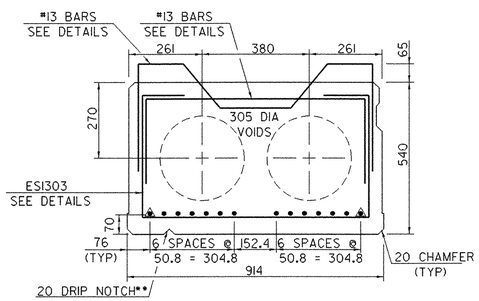
DETAIL AT TRANSVERSE TENDON

SCALE = 1:10



VOIDED SLAB SECTION A-A

SCALE = 1:10



540 x 914 VOIDED SLAB (LEFT FASCIA UNIT)

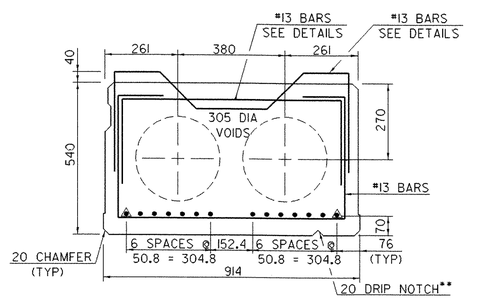
SCALE = 1:10

▲ = STRAND DEBONDED 1250 EACH END
** = STOP DRIP NOTCH 1.5 METERS FROM ENDS OF UNIT AND OUTLET AT 45° TO FASCIA.

NUMBER OF STRANDS FOR 540 SLAB

ROW*	NO. OF STRANDS
1@ 70	14 STRANDS

* ROWS ARE ALWAYS AT SPECIFIED DISTANCES FROM BOTTOM OF UNIT



540 x 914 VOIDED SLAB (RIGHT FASCIA UNIT)

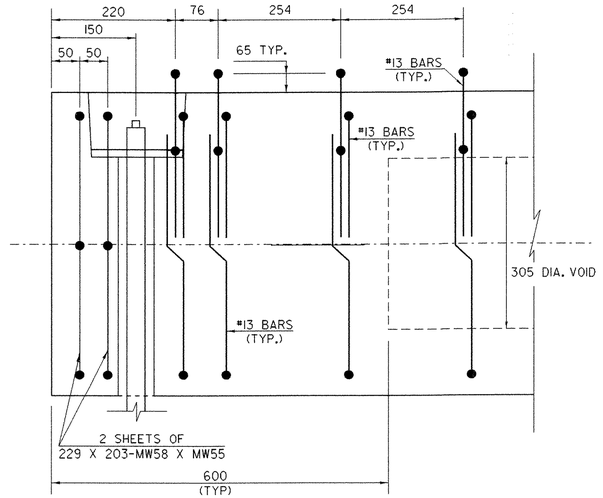
SCALE = 1:10

▲ = STRAND DEBONDED 1250 EACH END
** = STOP DRIP NOTCH 1.5 METERS FROM ENDS OF UNIT AND OUTLET AT 45° TO FASCIA.

NUMBER OF STRANDS FOR 540 SLAB

ROW*	NO. OF STRANDS
1@ 70	14 STRANDS

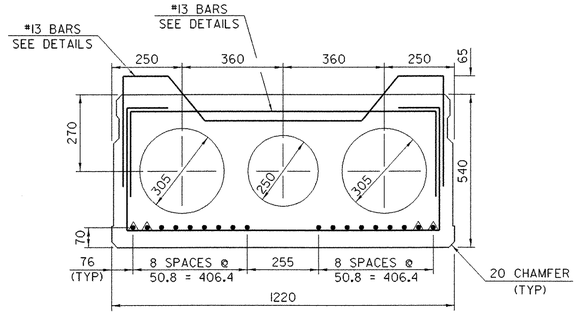
* ROWS ARE ALWAYS AT SPECIFIED DISTANCES FROM BOTTOM OF UNIT



END BLOCK SECTION

SCALE = 1:5

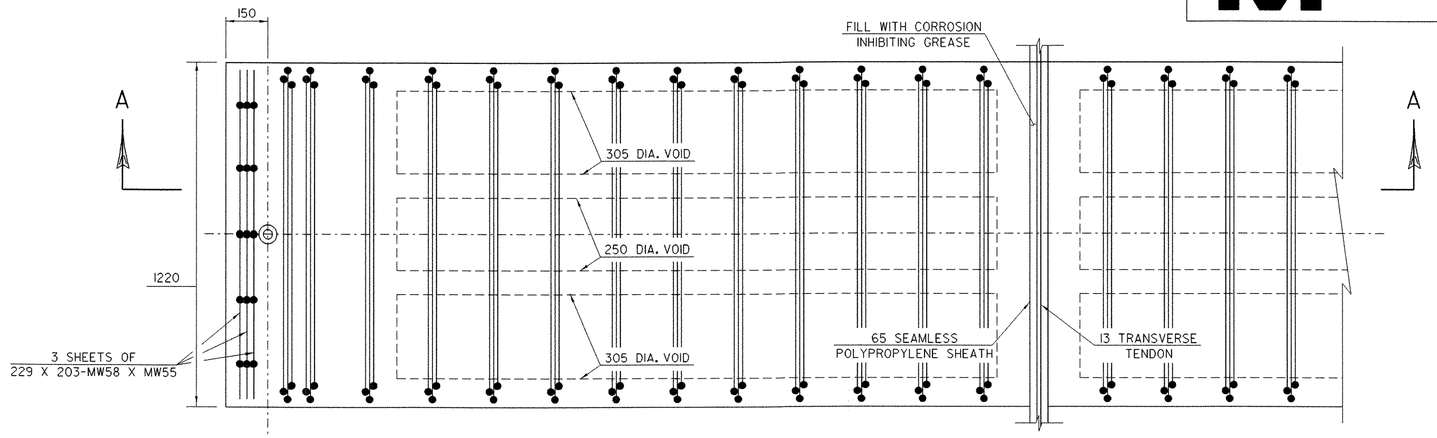
SHEET NAME:	540 x 914 VOIDED SLAB DETAILS		
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95j286/sj286sup.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj286vsd.i
BRIDGE SHEET NUMBER:		SHEET	26 OF 43



540 x 1220 VOIDED SLAB

SCALE = 1:10

▲ = STRAND DEBONDED 1850 EACH END

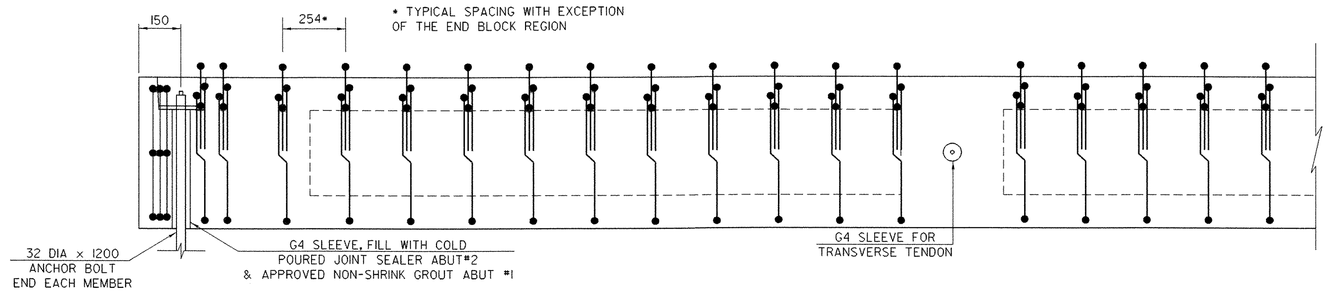


END BLOCK DETAIL

SCALE = 1:10

DETAIL AT TRANSVERSE TENDON

SCALE = 1:10



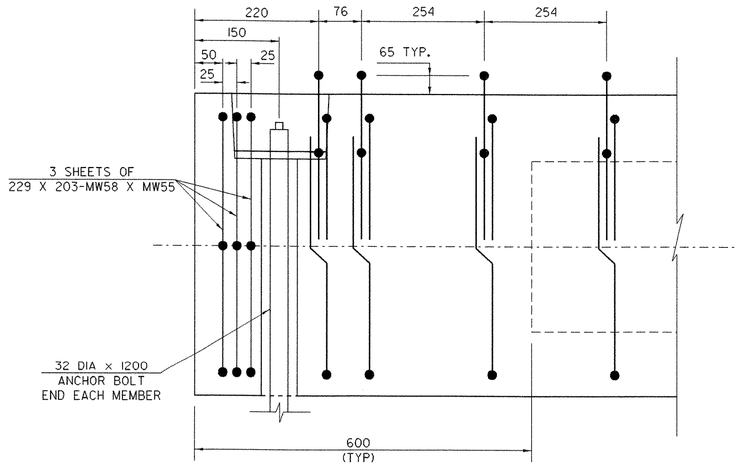
VOIDED SLAB SECTION A-A

SCALE = 1:10

NUMBER OF STRANDS
FOR 540x1220 SLAB

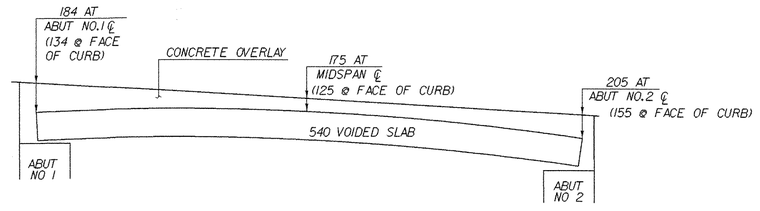
ROW*	NO. OF STRANDS
1@ 70	18 STRANDS

*ROWS ARE ALWAYS AT SPECIFIED
DISTANCES FROM BOTTOM OF UNIT



END BLOCK SECTION

SCALE = 1:5

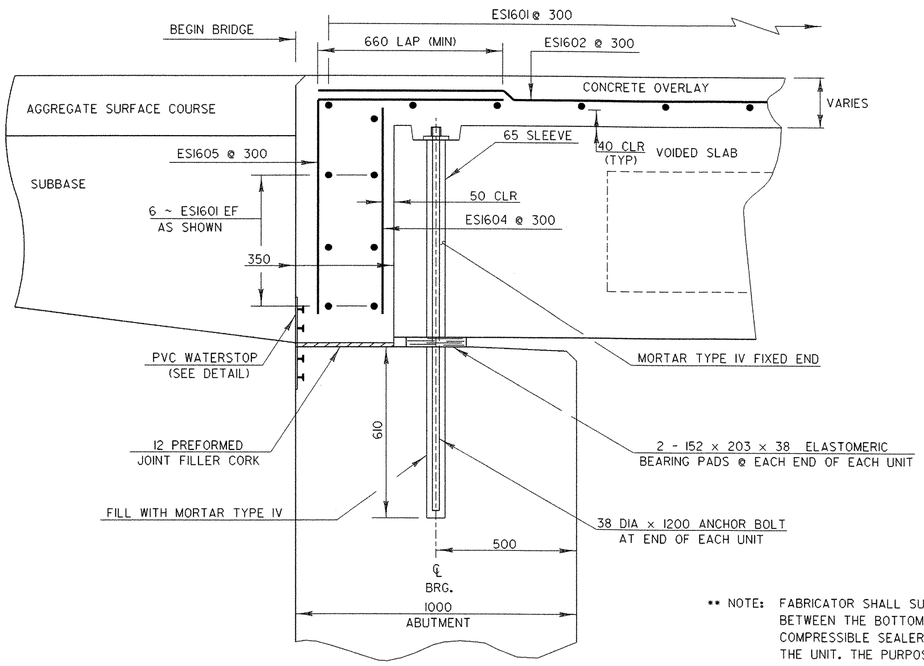


CONCRETE, HIGH PERFORMANCE CLASS AA DETAIL

NTS

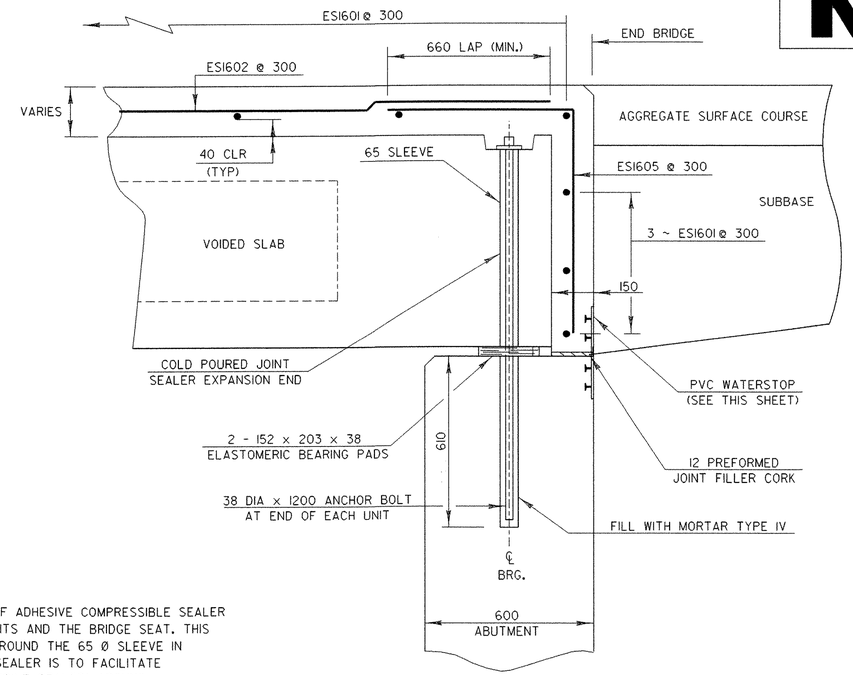
SHEET NAME: **540 x 1220 VOIDED SLAB DETAILS**

PROJECT NAME: CLARENDON	HIGHWAY NO.: TH 16
PROJECT NUMBER: BRO 1443(34)	BRIDGE NO.: 24
	OVER: CLARENDON RIVER
FILE NAME: /PW/95j286/sj286sup.dgn	PLOT DATE: 01-DEC-2005
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: J. GILMORE
DESIGNED BY: C. CARLSON	IPARM NAME: sj286vs2.i
BRIDGE SHEET NUMBER:	SHEET 27 OF 43



BRIDGE END DETAIL AT ABUTMENT #1 (FIXED)

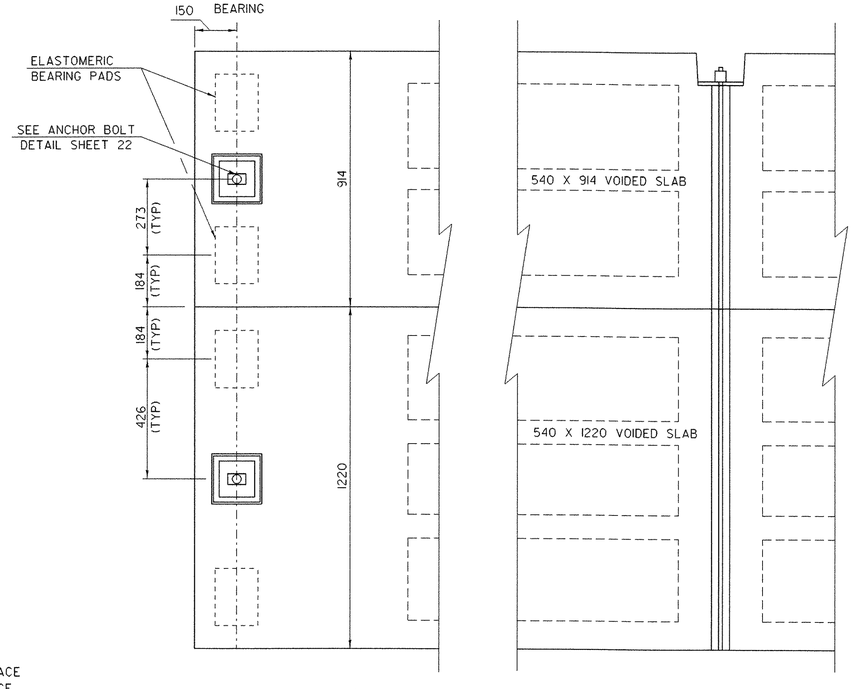
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BRIDGE END DETAIL AT ABUTMENT #2 (EXP)

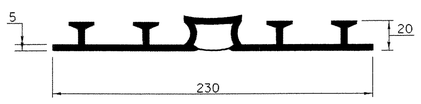
SCALE = 1:10

** NOTE: FABRICATOR SHALL SUPPLY A SELF ADHESIVE COMPRESSIBLE SEALER BETWEEN THE BOTTOM OF THE UNITS AND THE BRIDGE SEAT. THIS COMPRESSIBLE SEALER SHALL SURROUND THE 65 Ø SLEEVE IN THE UNIT. THE PURPOSE OF THE SEALER IS TO FACILITATE PLACEMENT OF THE 'MORTAR OR JOINT SEALER' AROUND THE ANCHOR BOLTS.



BEARING PAD PLACEMENT DETAIL (TYPICAL EACH END)

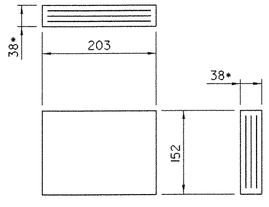
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PVC WATERSTOP FOR EXPANSION JOINTS

NTS

THE COSTS FOR PVC WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED BASED UPON PRIOR APPROVAL OF THE STRUCTURES ENGINEER.



ELASTOMERIC BEARING DETAIL

* 4 - 8mm LAYERS OF ELASTOMERIC ALTERNATING WITH 3 - 14 GAGE STEEL REINFORCING PLATES

NOTES

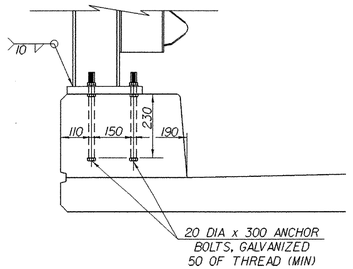
1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS

NOTES

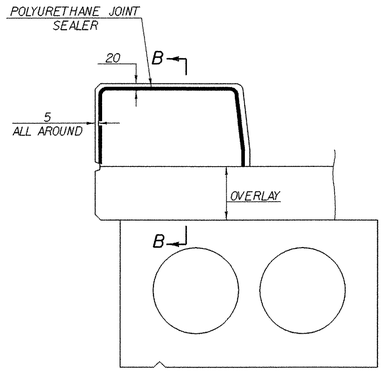
1. ALTERNATE CONFIGURATIONS FOR ELASTOMERIC BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE BEARING SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE LOADS AND CRITERIA SHOWN ON THIS SHEET AND MAINTAIN THE ANCHORAGE SYSTEM SHOWN. THE BEARINGS SHALL BE DESIGNED ACCORDING TO AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" 2002 EDITION AND ITS LATEST REVISIONS.
2. THE BEARING SHAPE FACTOR SHALL BE BETWEEN 5.0 AND 12.0.
3. ALL REINFORCMENT BETWEEN LAYERS OF ELASTOMERIC SHALL BE STEEL GRADE 250. NO FABRIC REINFORCEMENT WILL BE PERMITTED.
4. ELASTOMERIC BEARINGS REINFORCED WITH STEEL SHALL HAVE A 3mm EDGE SEAL OF ELASTOMERIC INTEGRAL WITH THE BEARING OVER ALL PLATES.
5. ALL MATERIALS AND FABRICATION SHALL BE PER AASHTO DIVISION II SECTION 18.2 AND AASHTO MATERIAL SPECIFICATION M251.
6. DESIGN CRITERIA:
   A. TEMPERATURE RANGE: 27C
   B. 60 DUROMETER ELASTOMERIC
   C. MAXIMUM BEARING STRESS: 7 MPa
   D. DESIGN ROTATION: 0.015 RAD
   E. REACTION/BEAM:
      RDL: 140 kN
      RLL: 146 kN

SHEET NAME: **BRIDGE END AND BEARING DETAILS**

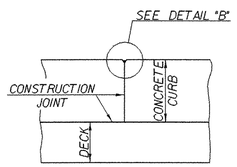
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95j286/sj286sup.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj286bed.i
BRIDGE SHEET NUMBER:		SHEET	28 OF 43



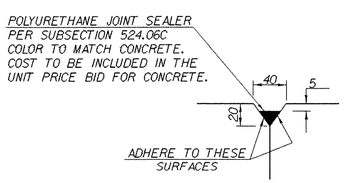
ANCHOR BOLT DETAIL
SCALE: 1:100



TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT
NTS

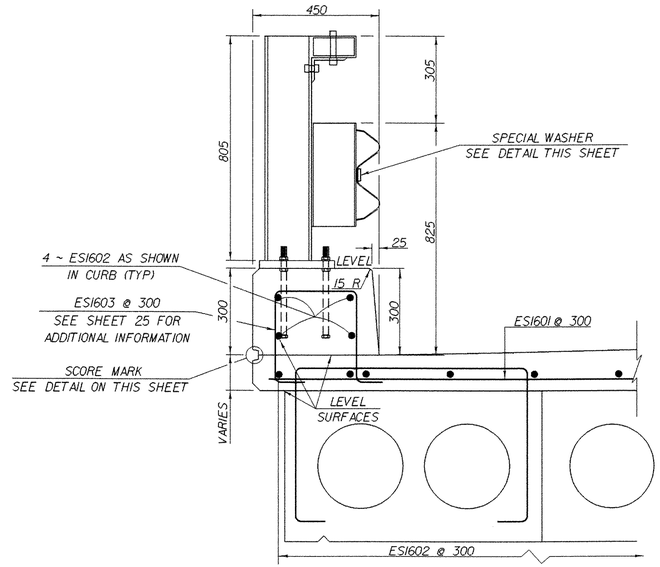


SECTION B-B
NTS

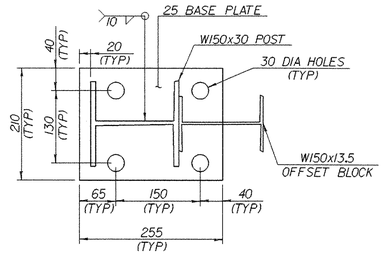


DETAIL "B"
NTS

NOTES:
1. CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED MAXIMUM 6000 CENTER TO CENTER AND SHALL BE 450 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
2. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.

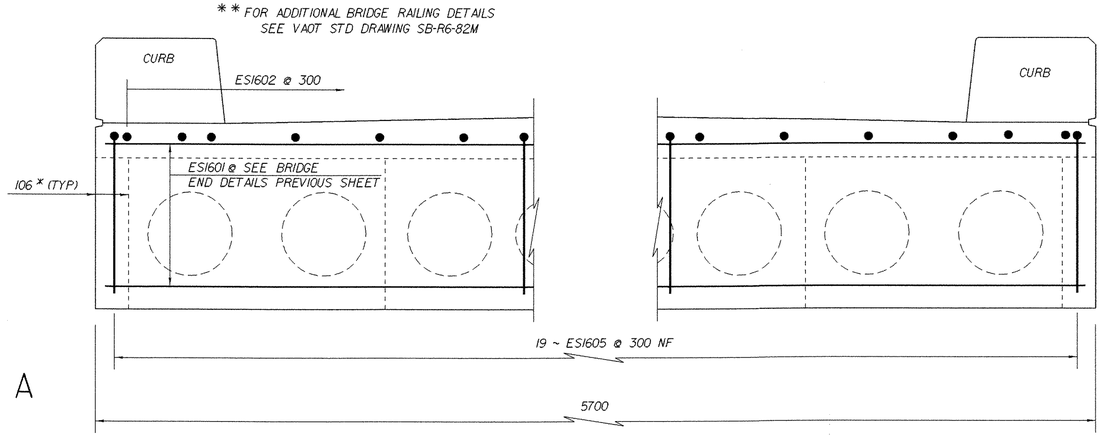


CURB AND RAIL SECTION
SCALE: 1:100



BRIDGE RAIL BASE PLATE DETAIL
SCALE: 1:500

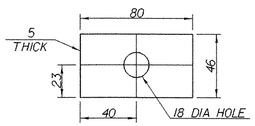
** FOR ADDITIONAL BRIDGE RAILING DETAILS SEE VAOT STD DRAWING SB-R6-82M



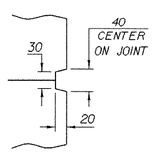
** WIDTH OF CURTAIN WALL IS 350 AT BEGIN BRIDGE END AND 150 AT END BRIDGE.

* CURTAIN WALL LENGTH MATCHES THE FASCIA TO FASCIA WIDTH.

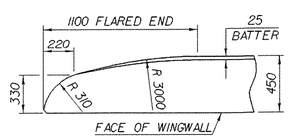
CURTAIN WALL DETAIL
SCALE: 1:10



SPECIAL WASHER DETAIL
SCALE: 1:200

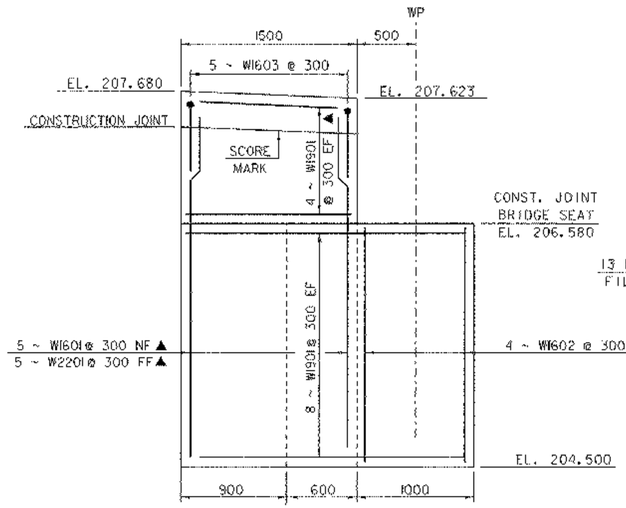


SCORE MARK DETAIL
SCALE: 1:10



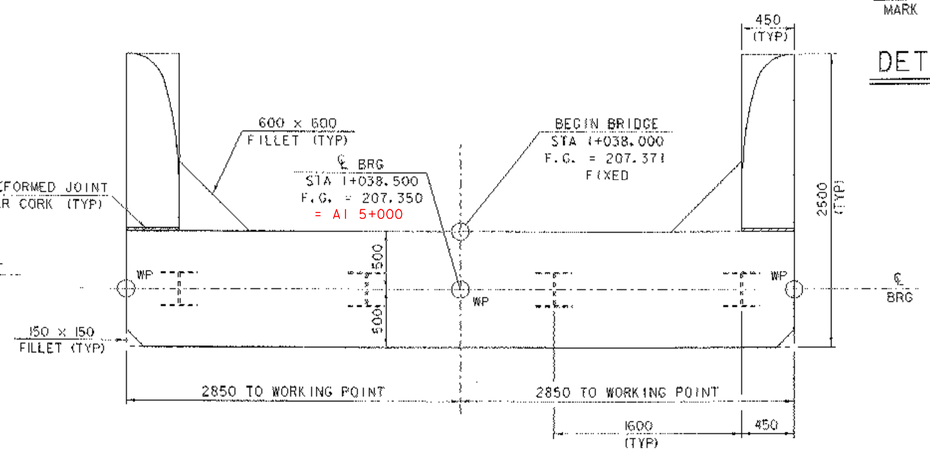
FLARED END FOR 450 CURB
BARS SHALL BE TURNED AS REQUIRED TO FIT FLARED ENDS
NTS

SHEET NAME:	CURB AND RAIL DETAILS		
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95J286/sj286sup.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj286crb1
BRIDGE SHEET NUMBER:		SHEET	29 OF 43



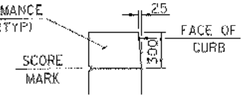
TYPICAL WINGWALL #1 & #2 ELEVATION

SCALE: 1:25

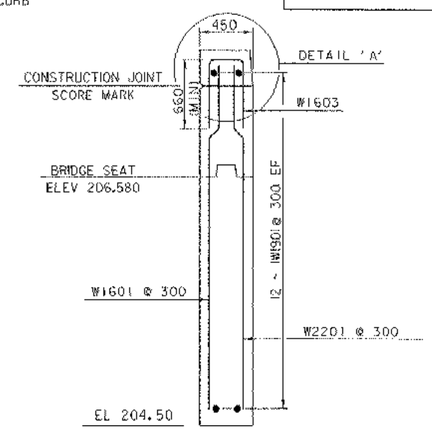


ABUTMENT #1 PLAN

SCALE: 1:25

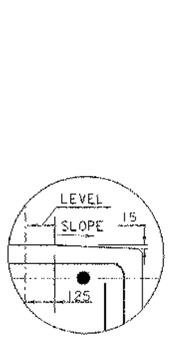


DETAIL 'A'

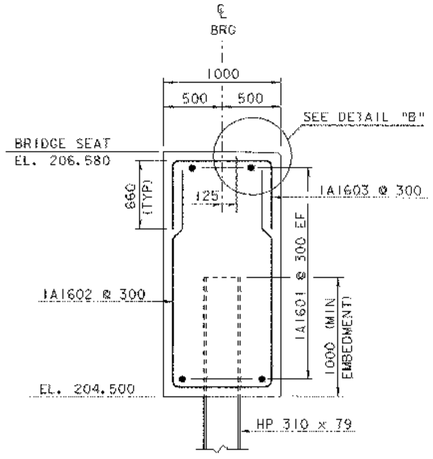


TYPICAL WINGWALL #1 & #2 SECTION

SCALE: 1:25



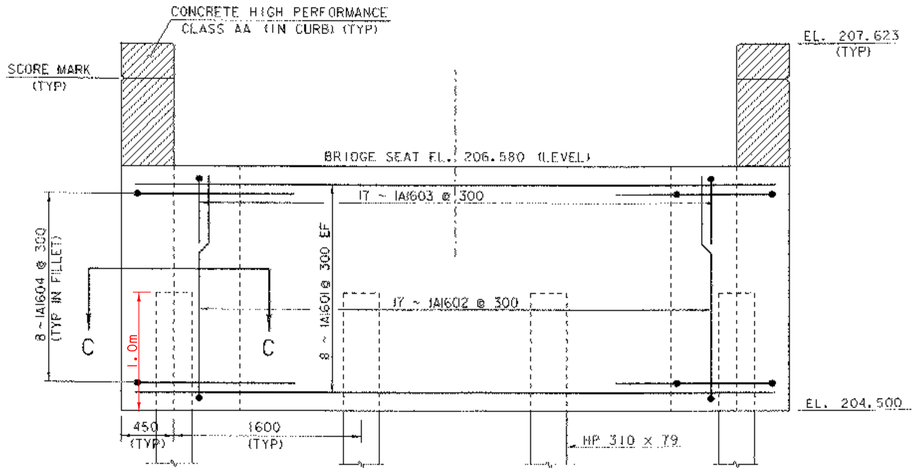
DETAIL "B"



ABUTMENT #1 SECTION

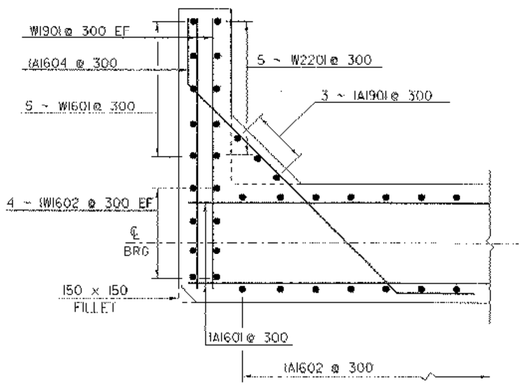
SCALE: 1:25

STATIONING



ABUTMENT #1 ELEVATION

SCALE: 1:25

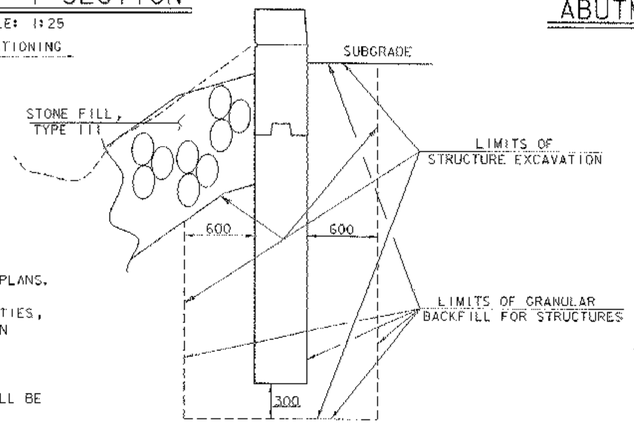


SECTION C-C

SCALE: 1:25

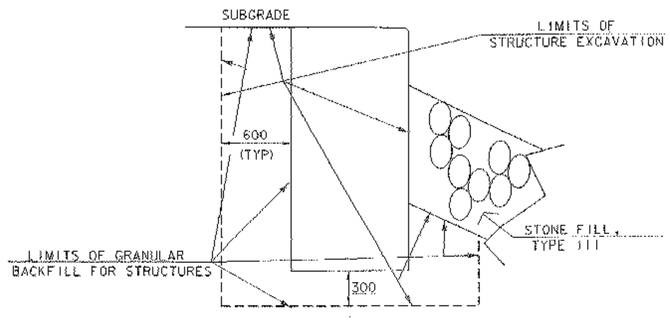
NOTES

1. NF = NEAR FACE.
2. FF = FAR FACE.
3. EF = EACH FACE.
4. ▲ = CUT TO FIT IN FIELD.
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS.
6. FOR PURPOSES OF ESTIMATING EARTHWORK QUANTITIES, THE LIMITS OF STRUCTURE EXCAVATION HAVE BEEN ASSUMED TO BE A MINIMUM OF 600 OUTSIDE THE PERIMETER OF THE ABUTMENTS AND WINGWALLS.
7. 300 OF GRANULAR BACKFILL FOR STRUCTURES SHALL BE PLACED BELOW THE BOTTOM OF THE ABUTMENT.
8. SEE SHEET 29 FOR CURB FLARE.



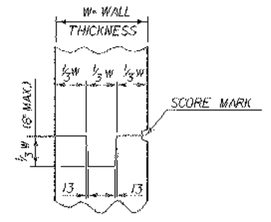
WINGWALL #1 & #2 EARTHWORK SECTION

SCALE: 1:25



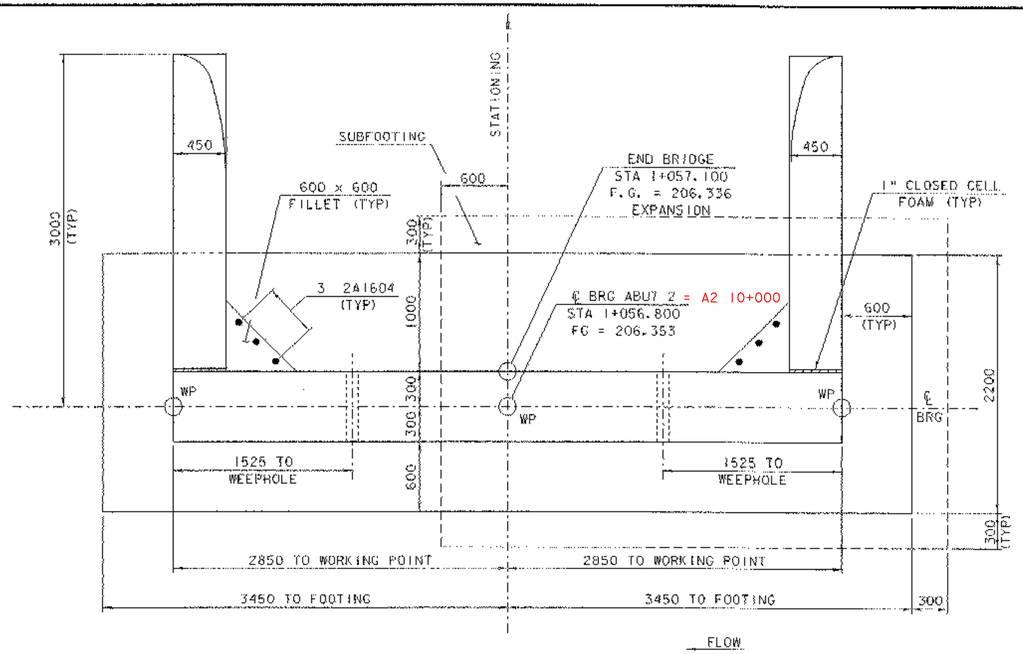
ABUTMENT #1 EARTHWORK SECTION

SCALE: 1:25



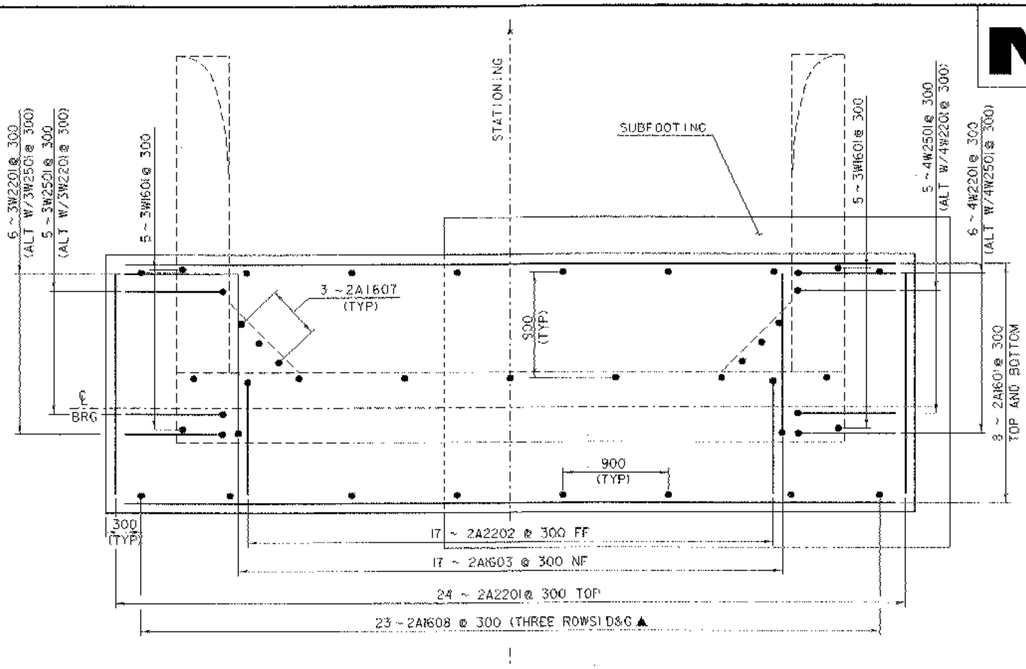
TYPICAL CONCRETE CONSTRUCTION JOINT

SHEET NAME: **ABUTMENT#1 & WINGWALL 1&2 DETAILS**			
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95J286/sJ286sub.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ286abl1
BRIDGE SHEET NUMBER:		SHEET	30 OF 43



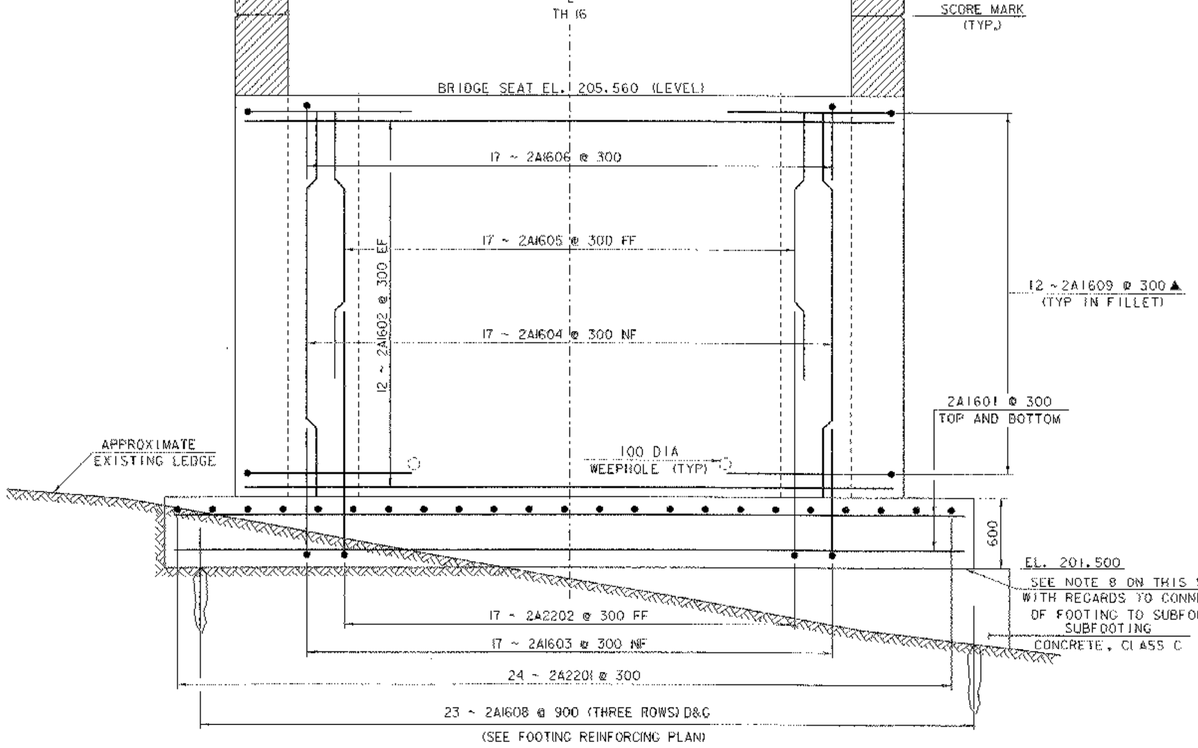
ABUTMENT #2 PLAN

SCALE: 1:25



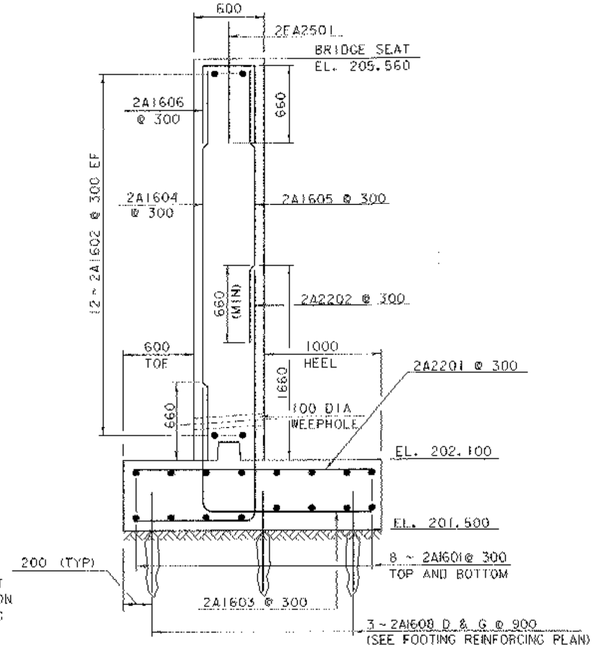
FOOTING REINFORCING PLAN

SCALE: 1:25



ABUTMENT #2 ELEVATION

SCALE: 1:25



TYPICAL ABUTMENT #2 SECTION

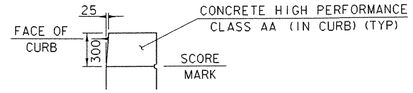
SCALE: 1:25

NOTES

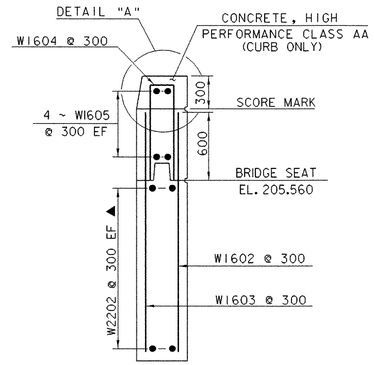
1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ CUT TO FIT IN FIELD
5. ℄ CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. SEE SHEET 26 FOR CURB FLARE DETAILS.
7. D & G - DRILL AND GROUT A MINIMUM OF 660 INTO LEDGE.
8. ROUGHEN SURFACE OF SUBFOOTING.
9. SEE SHEET 29 FOR CURB FLARE DIMENSIONS.

SHEET NAME: **ABUTMENT NUMBER 2 DETAILS**

PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95]286/s]286sub.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	s]286ab2J
BRIDGE SHEET NUMBER:		SHEET	31 OF 43

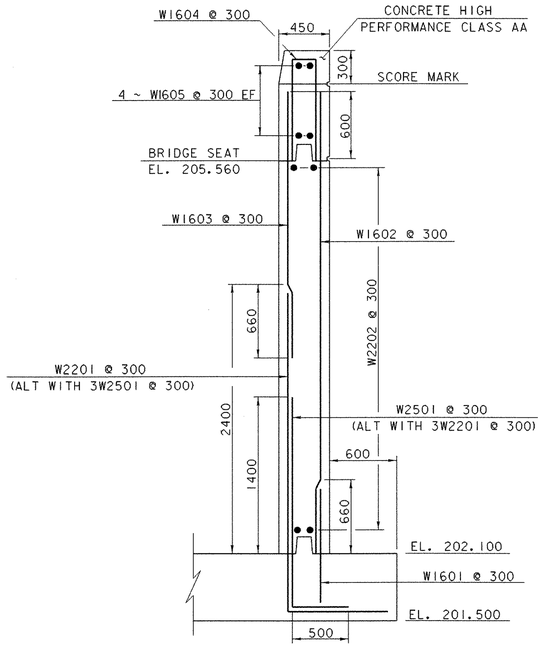


DETAIL 'A'



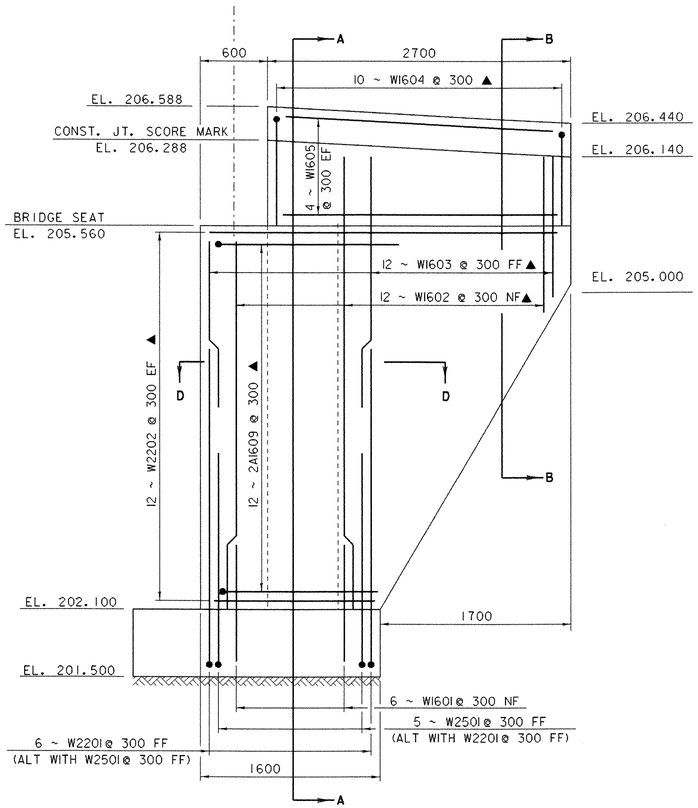
SECTION B-B

SCALE: 1:25



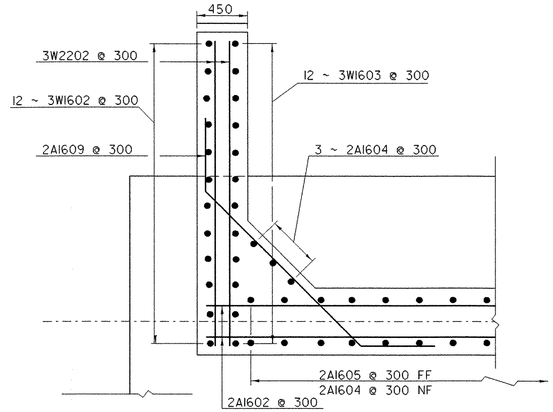
SECTION A-A

SCALE: 1:25



TYPICAL WINGWALL #3 & #4 ELEVATION

SCALE: 1:25



SECTION D-D

SCALE: 1:25

NOTES

1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS

SHEET NAME:	**WINGWALLS 3&4 DETAILS**		
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95J286/sj286sub.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj286ab3.1
BRIDGE SHEET NUMBER:		SHEET	32 OF 43

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

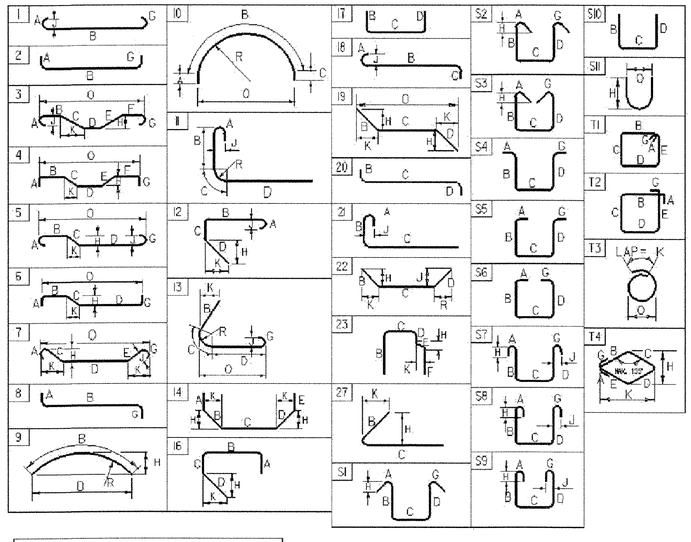
Metric

	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
DECK																	
*	74	16	5540	ES1601	STR												
	56	16	9800	ES1602	STR												
	19	16	570	ES1604	STR												
	128	16	1500	ES1603	S5	300	305	290	305			300					
	38	16	1230	ES1605	17		–	660	570								
ABUTMENT #1																	
*	17	16	5540	1A1601	STR												
	6	19	1920	1A1901	STR												
	17	16	4680	1A1602	17		1920	840	1920								
	17	16	2160	1A1603	17		660	840	660								
	16	16	3780	1A1604	22		660	2460	660								
WINGWALL #1																	
▲	5	16	2960	1W1601	STR												
*	9	16	1920	1W1602	STR												
▲	24	19	2340	1W1901	STR												
▲	5	22	2960	1W2201	STR												
	5	16	1730	1W1603	S10		720	290	720								
WINGWALL #2																	
▲	5	16	2960	2W1601	STR												
	8	16	1920	2W1602	STR												
* ▲	25	19	2340	2W1901	STR												
▲	5	22	2960	2W2201	STR												
	5	16	1730	2W1603	S10		720	290	720								
ABUTMENT #2																	
	16	16	6740	2A1601	STR												
	24	16	5540	2A1602	STR												
	23	16	3360	2A1604	STR												
*	18	16	2360	2A1605	STR												
	6	16	1180	2A1607	STR												
	23	16	900	2A1608	STR												
*	25	22	2040	2A2201	STR												
	17	16	2620	2A1603	17		1440	1180	—								
	17	16	1760	2A1606	S10		660	440	660								
	24	16	3270	2A1609	22		660	1900	660								
	17	22	3220	2A2202	17		1040	2180	—								
WINGWALL #3																	
	6	16	1180	3W1601	STR												
▲	12	16	4060	3W1602	STR												
▲	12	16	2320	3W1603	STR												
	24	22	3140	3W2202	STR												
▲	10	16	2190	3W1604	S10		950	290	950								
	8	16	2540	3W1605	STR												
*	7	22	3810	3W2201	17		890	2920	–								
	5	25	2420	3W2501	17		500	1920	–								
WINGWALL #4																	
*	7	16	1180	4W1601	STR												
▲	12	16	4060	4W1602	STR												
▲	12	16	2320	4W1603	STR												
	24	22	3140	4W2202	STR												
▲	10	16	2190	4W1604	S10		950	290	950								
	8	16	2540	4W1605	STR												
	6	22	3810	4W2201	17		890	2920	–								
	5	25	2420	4W2501	17		500	1920	–								

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O

~ 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. ① DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



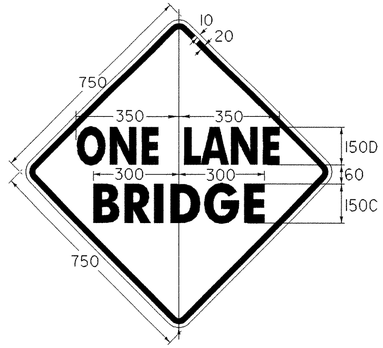
ASTM STANDARD REINFORCING BARS

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: **CLARENDON**
PROJECT NUMBER: **BRO 1443(34)**

FILE NAME: **/str1/95j286/sj286ren.xls**
PROJECT LEADER: **R. WHITCOMB**
DESIGNED BY: **C. CARLSON**
REINFORCING STEEL SCHEDULE SHEET

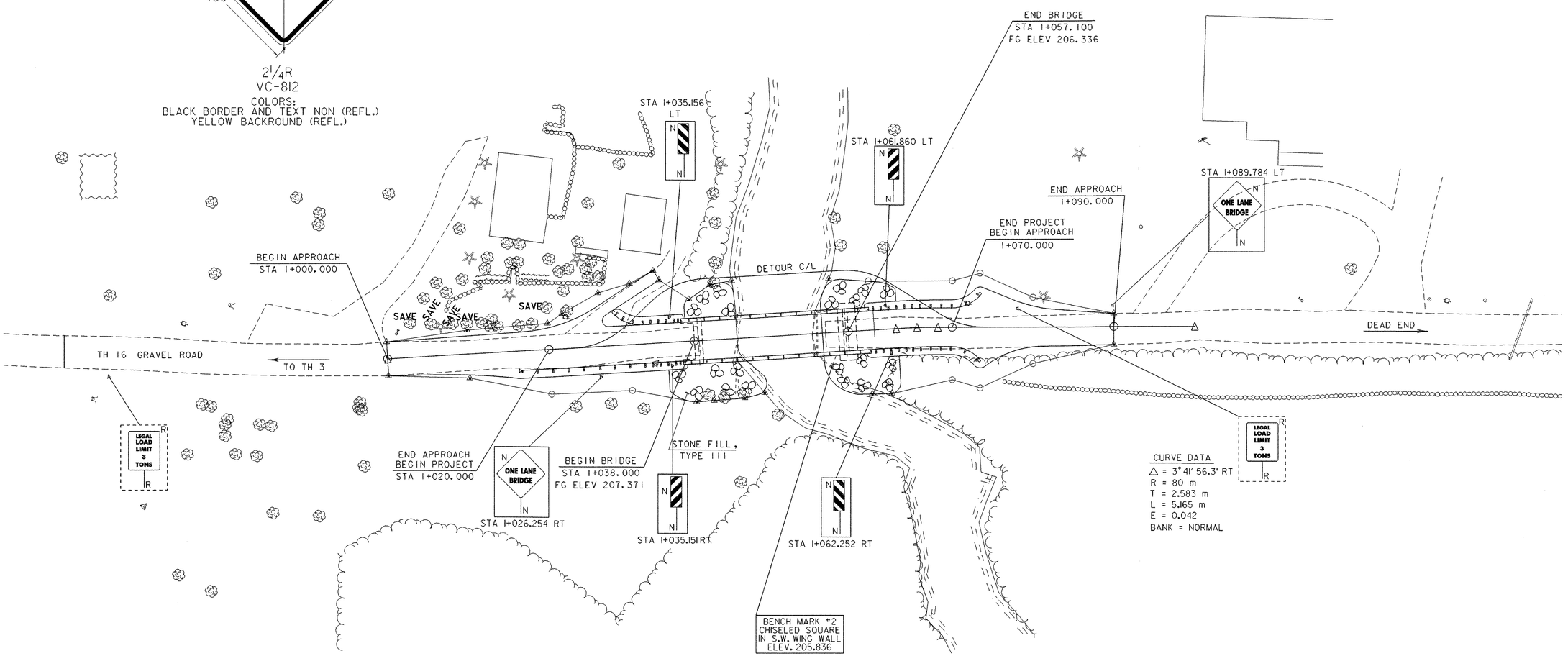
PLOT DATE: **8/31/2005**
DRAWN BY: **J. GILMORE**
CHECKED BY: **C. CARLSON**
SHEET **33** OF **43**



2¼R
VC-812

COLORS:
BLACK BORDER AND TEXT NON (REFL.)
YELLOW BACKROUND (REFL.)

REMOVING SIGNS
(LEGAL LOAD LIMIT 3 TONS) BEFORE PROJECT RT
(LEGAL LOAD LIMIT 3 TONS) STA 1+078.035 LT



0 10 20
SCALE 1:250

SIGN LEGEND
R - REMOVE
N - NEW
▭ - NEW
▭ - EXISTING

SHEET NAME: SIGN LAYOUT SHEET

PROJECT NAME: CLARENDON
PROJECT NUMBER: BRO 1443(34)

HIGHWAY NO.: TH 16
BRIDGE NO.: 24
OVER: CLARENDON RIVER

FILE NAME: /PW/95J286/sj286sgn.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:

PLOT DATE: 01-DEC-2005
DRAWN BY: J. GILMORE
IPARM NAME: sj286sls1
SHEET 34 OF 43

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MAUT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NO. OF POSTS	FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) 44 kg/m 3.4	50 kg/m 3.9	63 kg/m 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) 75 kg/m 1.9	100 kg/m 2.5	100 MOD kg/m 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	75 kg/m 11.3	89 kg/m 13.4	100 kg/m 16.1	125 kg/m 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																									
I+026.254 RT	ONE LANE BRIDGE	I	750	750	0.563						I			X			X	X																W5-3		SEE DETAIL ON SHEET 34
I+035.151 RT		I	300	900	0.270						I			X			X	X																OM-3R		E-120M
I+035.156 LT		I	300	900	0.270						I			X			X	X																OM-3L		E-120M
I+061.860 LT		I	300	900	0.270						I			X			X	X																OM-3R		E-120M
I+062.252 RT		I	300	900	0.270						I			X			X	X																OM-3L		E-120M
I+089.784 LT	ONE LANE BRIDGE	I	750	750	0.563						I			X			X	X																W5-3		SEE DETAIL ON SHEET 34

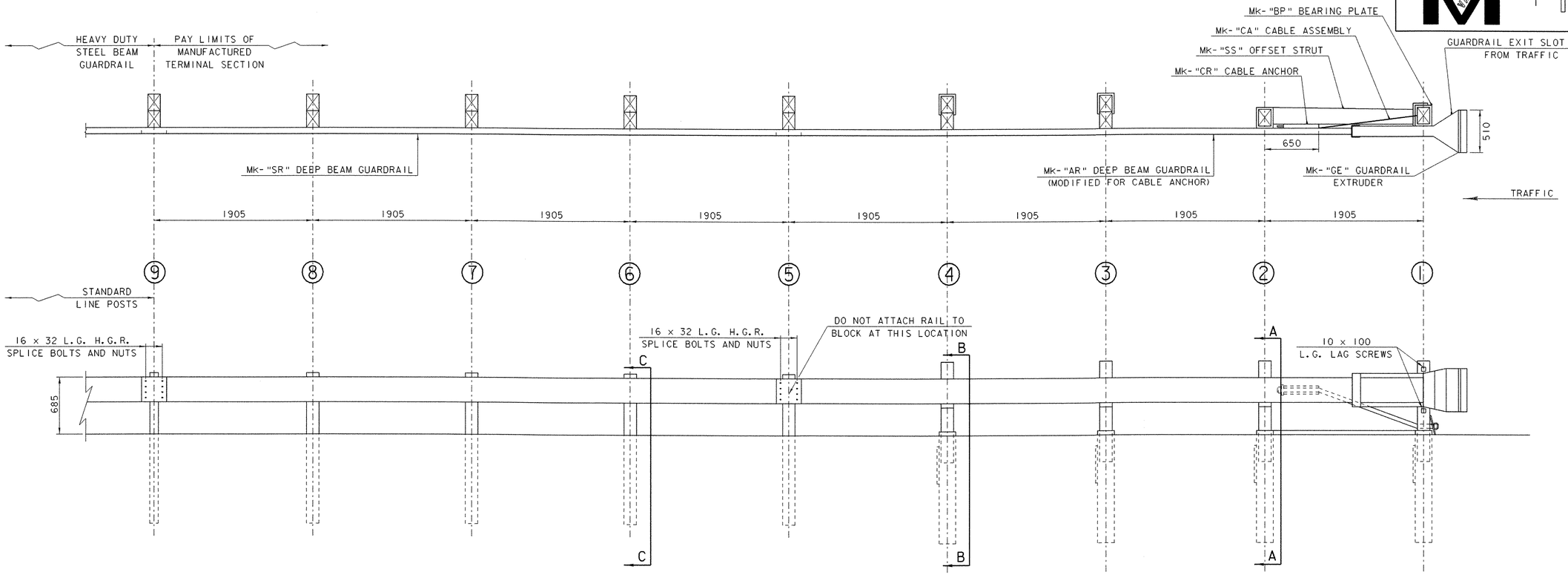
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

		m	m	m	m	m	m		EA	kg	kg	kg		kg	kg	kg	kg																		
TOTALS	m^2 2.8	m^2	EA.	m^2		m 22		m 22		kg	EA.	kg						EA.	EA.	kg																

SHEET NAME: **SIGN SUMMARY SHEET**

PROJECT NAME: CLARENDON
PROJECT NUMBER: BRO 1443(34)
HIGHWAY NO.: TH 16
BRIDGE NO.: 24
OVER: CLARENDON RIVER

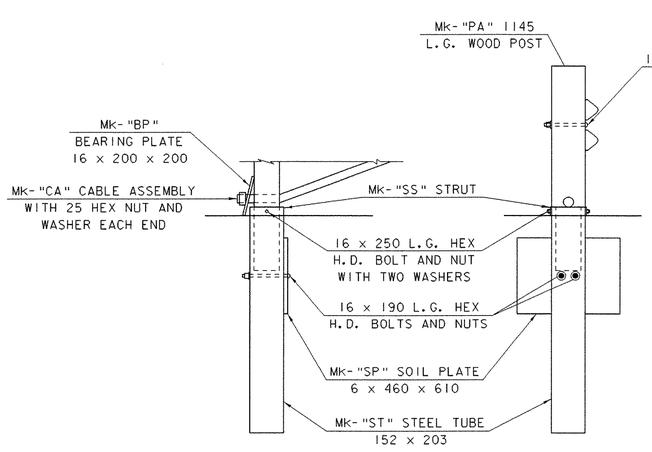
FILE NAME: /PW/95J286/sJ286sgn.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE SHEET NUMBER:
PLOT DATE: 01-DEC-2005
DRAWN BY: J. GILMORE
IPARM NAME: sJ286sss.i
SHEET 35 OF 43



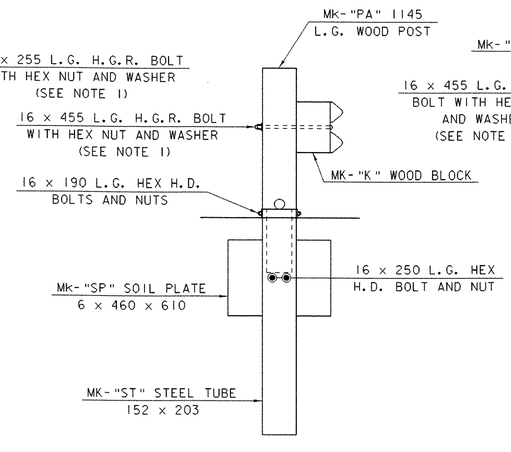
NOTES:

1. THE 16 DIA FLAT WASHER IS USED UNDER THE NUT, BEHIND THE POST ONLY. NO WASHER IS USED AT THE RAIL.
2. THE BREAKAWAY POSTS AT LOCATIONS #5, 6, 7 AND 8 MAY BE AS SHOWN, OR FOUNDATION TUBES MAY BE USED AS SHOWN AT POST LOCATIONS #1, 2, 3, AND 4.
3. REFLECTORIZATION OF THE TERMINAL SHALL BE PROVIDED. ALL COSTS SHALL BE INCLUDED IN ITEM 621.505, "MANUFACTURED TERMINAL SECTION (MOD)".
4. GUARDRAIL SHALL BE WEATHERING STEEL. AASHTO M-180, BOLTS SHALL BE AASHTO M-164M, TYPE 3. GUARDRAIL EXTRUDER & OFFSET STRUT SHALL BE WEATHERING STEEL ASTM A588 OR COLOR GALVANIZED BROWN (TO MATCH WEATHERING STEEL.)

MARK	QUANTITY	DESCRIPTION
SR	1	DEEP BEAM GUARDRAIL
AR	1	DEEP BEAM GUARDRAIL
PS	1	50 x 140 PIPE SLEEVE
SP	4	6 x 460 x 610 SOIL PLATE
K	6	150 x 300 x 355 L.G. WOOD BLOCK
PG	4	150 x 300 x 1830 WOOD POST
PA	4	1550 x 300 x 1145 WOOD POST
ST	4	1370 L.G. STEEL TUBE
BP	1	16 x 200 x 200 BEARING PLATE
CR	1	CABLE ANCHOR BRACKET
CA	1	19 x 1980 CABLE ASSEMBLY
SS	1	1905 STRUT
GE	1	GUARDRAIL EXTRUDER
HARDWARE		
	4	16 x 250 HEX H.D. BOLT
	35	16 HEX NUT
	11	16 DIA. WASHER
	6	16 x 455 H.G.R. POST BOLT
	1	16 x 255 H.G.R. POST BOLT
	16	16 x 32 H.G.R. SPLICE BOLT
	8	16 x 190 HEX H.D. BOLT
	2	10 x 100 LAG SCREW
	2	25 HEX NUT
	2	25 WASHER

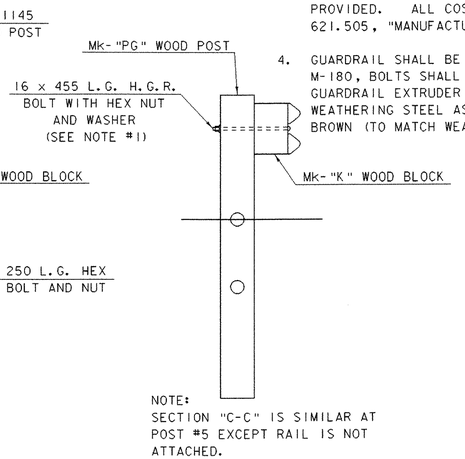


PARTIAL VIEW AT POST #1



SECTION "A-A"
(POST #2)

SECTION "B-B"
(POST #3 AND #4)

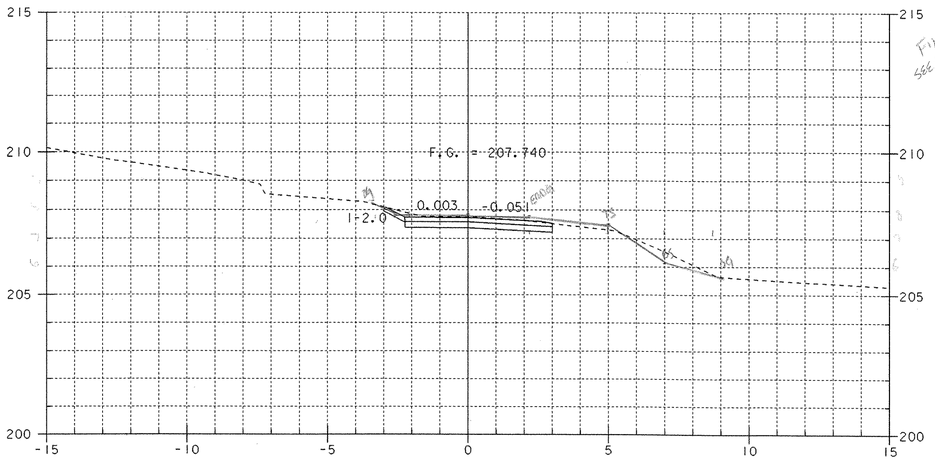


NOTE:
SECTION "C-C" IS SIMILAR AT POST #5 EXCEPT RAIL IS NOT ATTACHED.

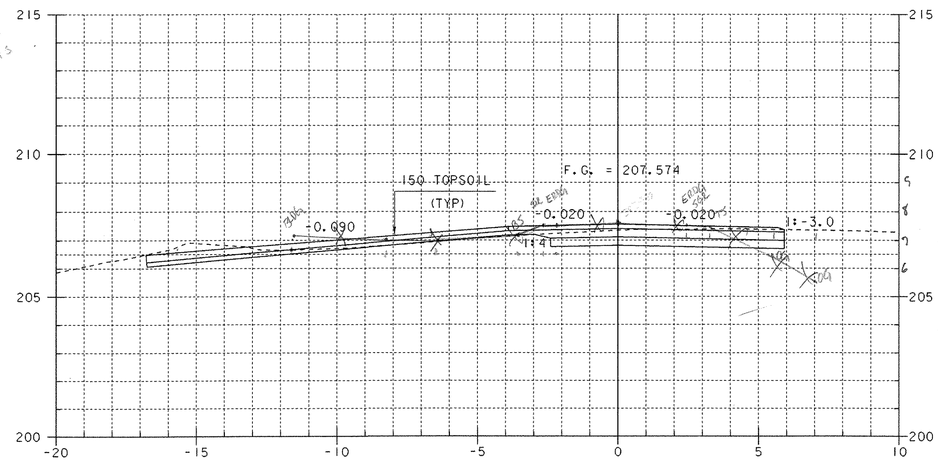
SECTION "C-C"
(POST #6, #7 AND #8)

SHEET NAME: **MANUFACTURED END TERMINAL**

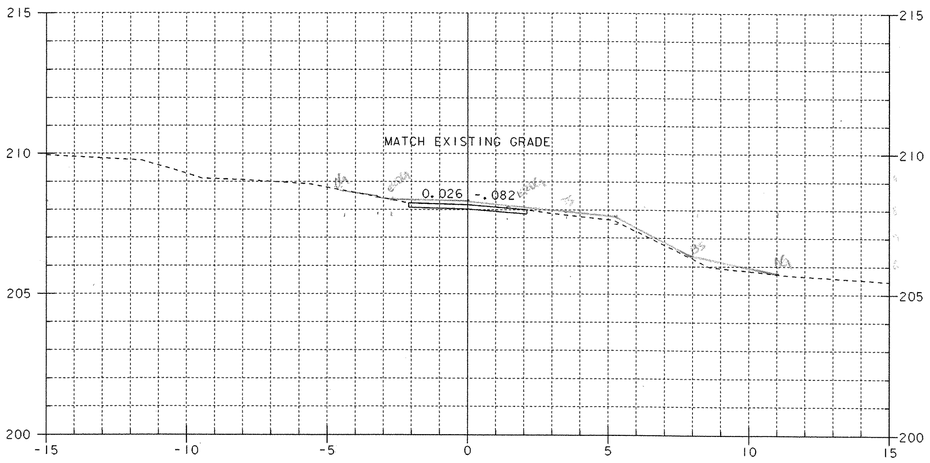
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95j286/sj286sup.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj286met.1
BRIDGE SHEET NUMBER:		SHEET	36 OF 43



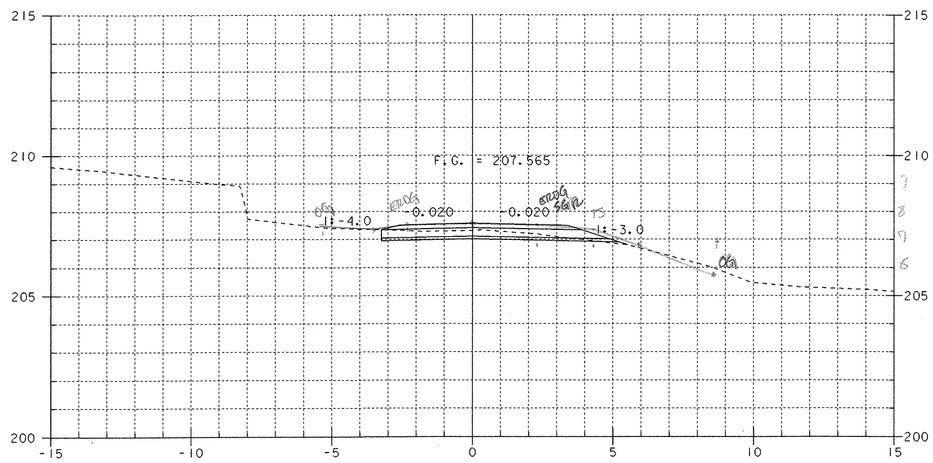
1+010



CONSTRUCT ACCESS LEFT
AT STA 1+019.099 ASKEW 60°



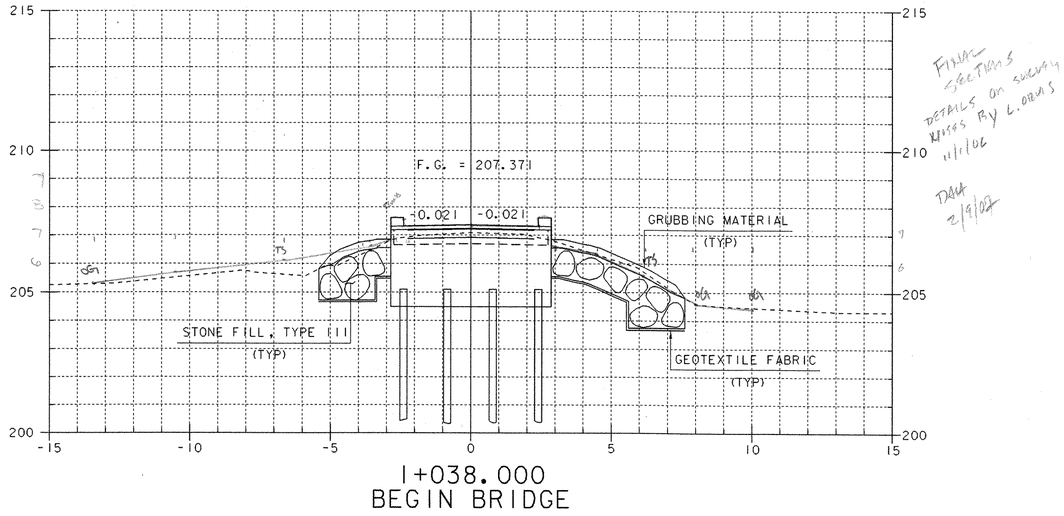
BEGIN APPROACH
1+000



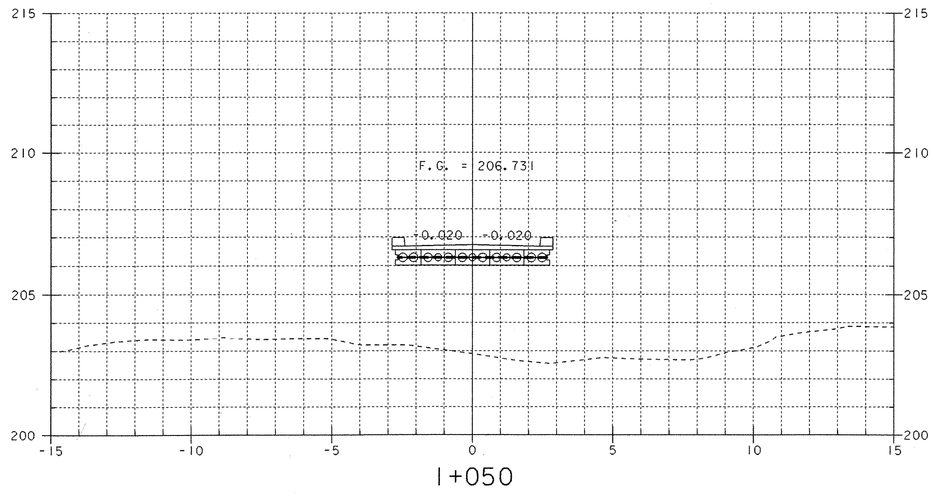
END APPROACH
BEGIN PROJECT
1+020

SEE SHEET 40 FOR SUBBASE TRANSITION DETAILS

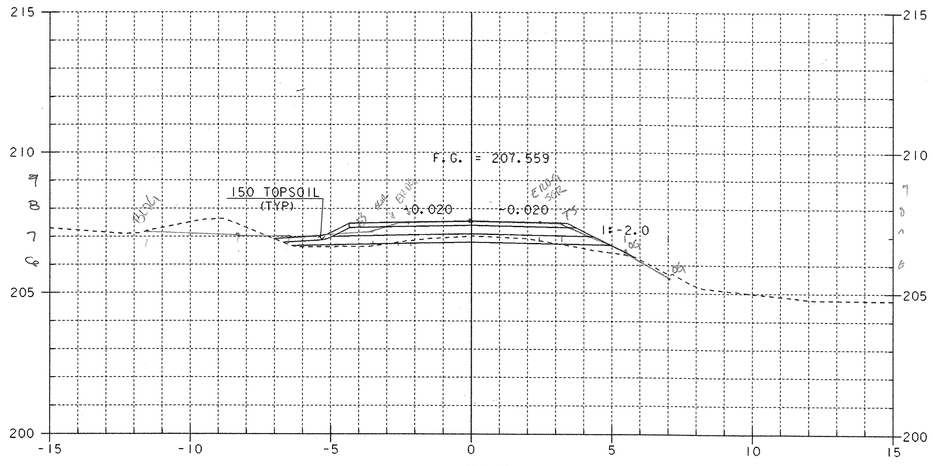
SHEET NAME:	MAINLINE SECTIONS		
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95J286/sJ286xsl.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	STRI
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ286mxl.i
BRIDGE SHEET NUMBER:		SHEET	37 OF 43



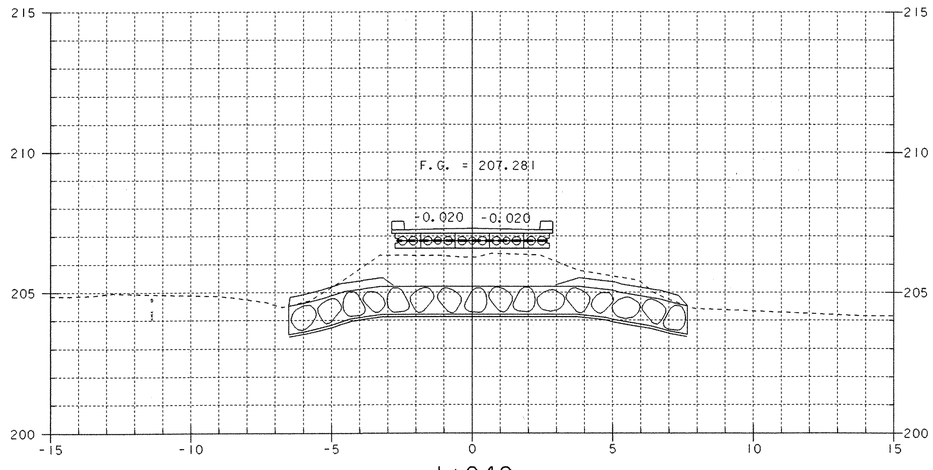
1+038.000
BEGIN BRIDGE



1+050

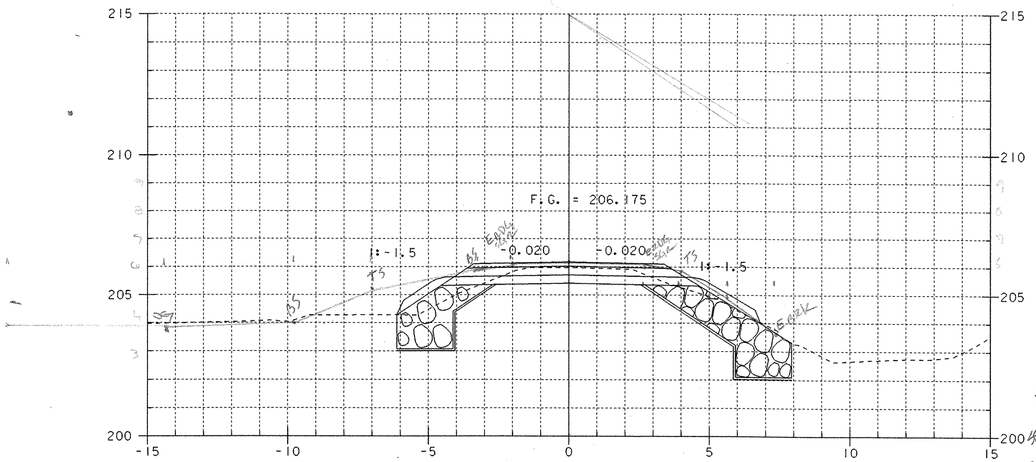


1+030



1+040

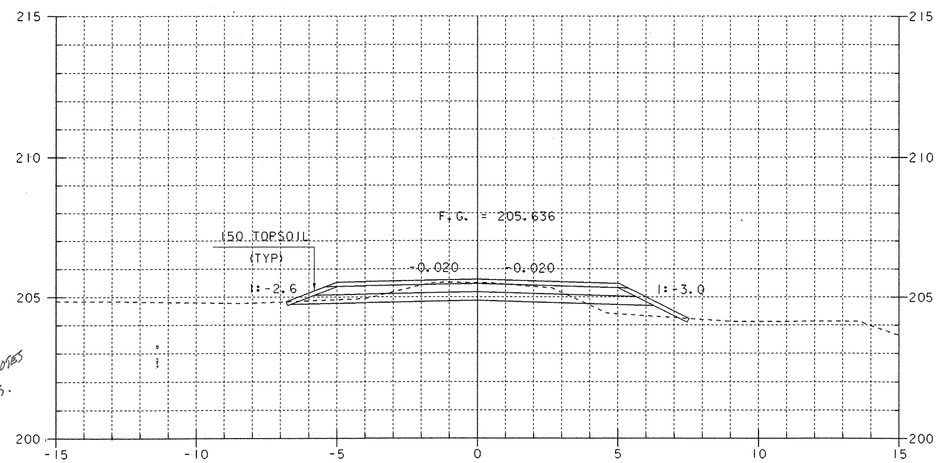
SHEET NAME: MAINLINE SECTIONS	
PROJECT NAME: CLARENDON PROJECT NUMBER: BRO 1443(34)	HIGHWAY NO.: TH 16 BRIDGE NO.: 24 OVER: CLARENDON RIVER
FILE NAME: /PW/95j286/sj286xsl.dgn PROJECT MANAGER: R. WHITCOMB DESIGNED BY: C. CARLSON BRIDGE SHEET NUMBER:	PLOT DATE: 01-DEC-2005 DRAWN BY: STRI IPARM NAME: sj286mx2.i SHEET 38 OF 43



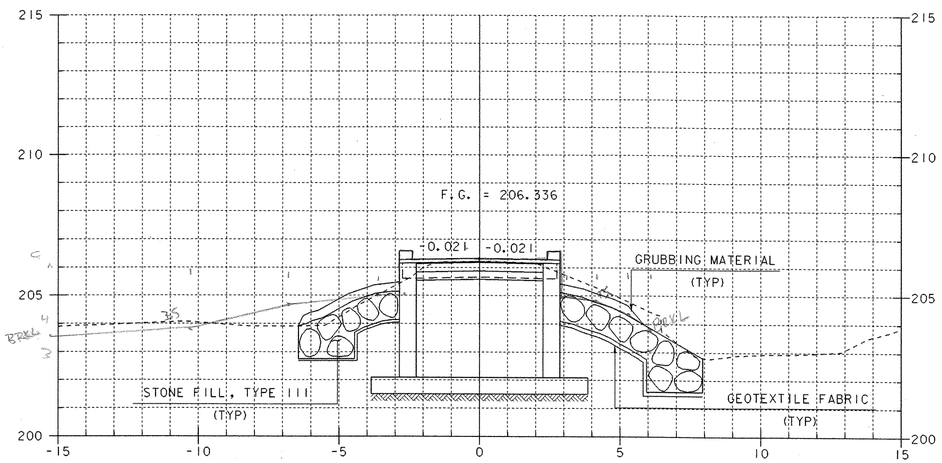
1+060

FINAL SECTIONS
SEE ORIGINAL SURVEY NOTES
DATED 11/1/16 BY L. OHNS.

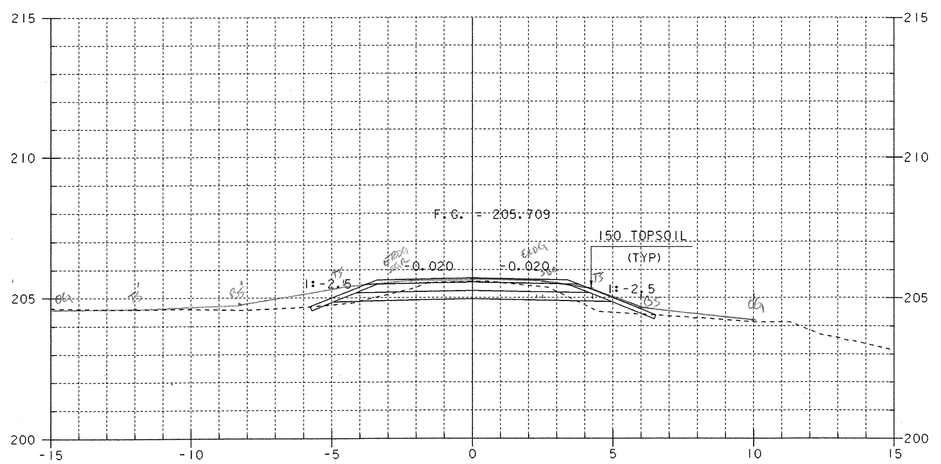
DMA
2/9/06



1+073.47
MAX. FLARE LT. & RT.

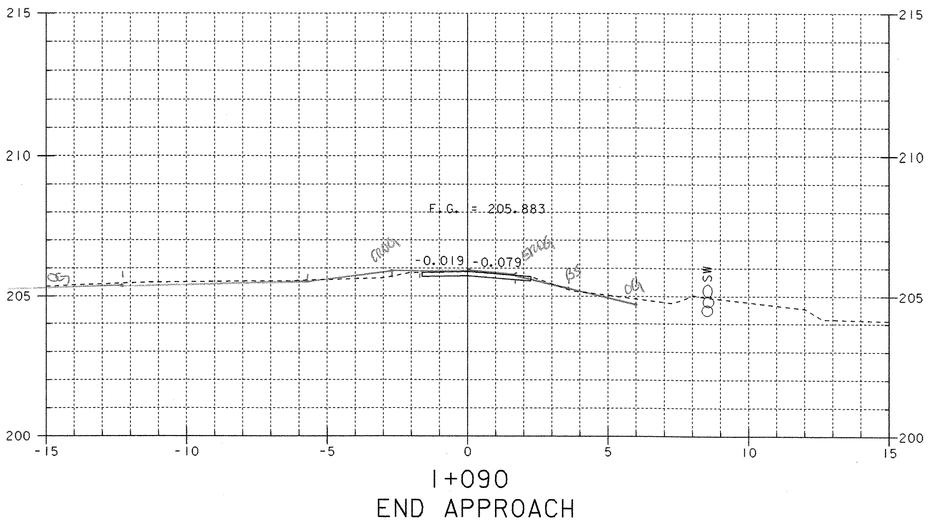


1+057.100
END BRIDGE

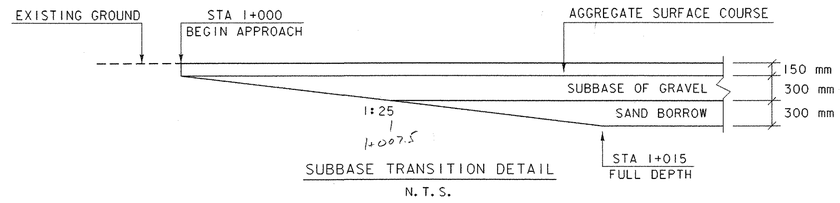


END BRIDGE PROJECT
BEGIN APPROACH
1+070

SHEET NAME:	**MAINLINE SECTIONS**		
PROJECT NAME:	CLARENDON	HIGHWAY NO.:	TH 16
PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME:	/PW/95j286/sj286xsl.dgn	PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	STRI
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj286mx3.i
BRIDGE SHEET NUMBER:		SHEET 39	OF 43

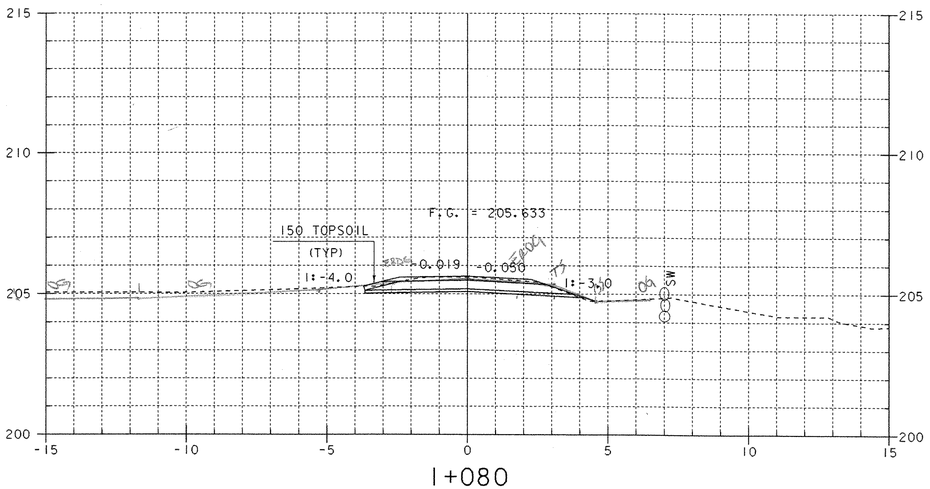


1+090
END APPROACH

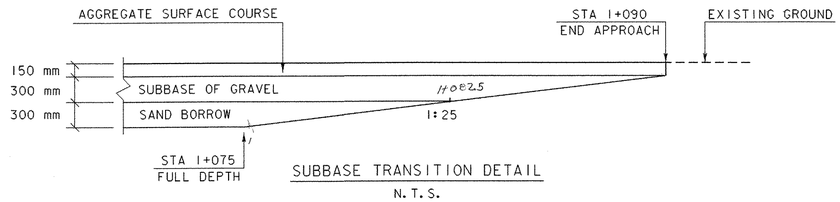


SUBBASE TRANSITION DETAIL
N. T. S.

FINAL SECTIONS RESTORE TO ORIGINAL SURVEY NODES, PSL & LOCATIONS DATED 11/1/06 FOR DETAILS.
DMH 2/9/07

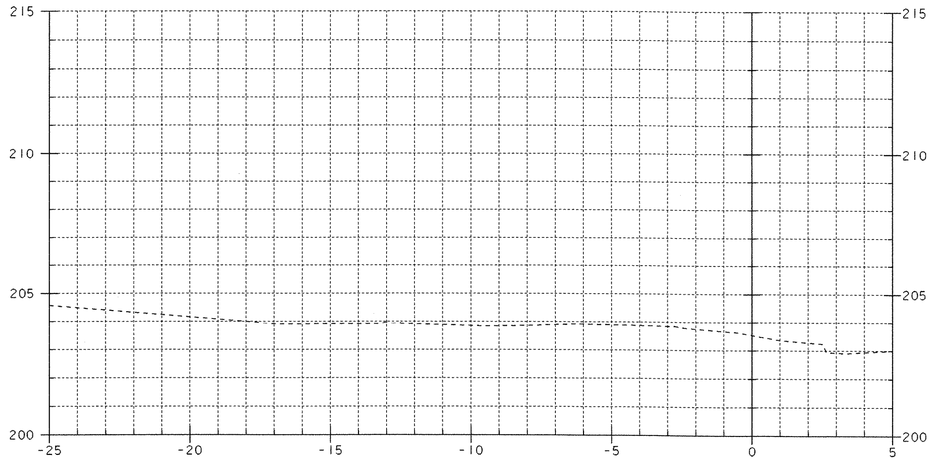


1+080

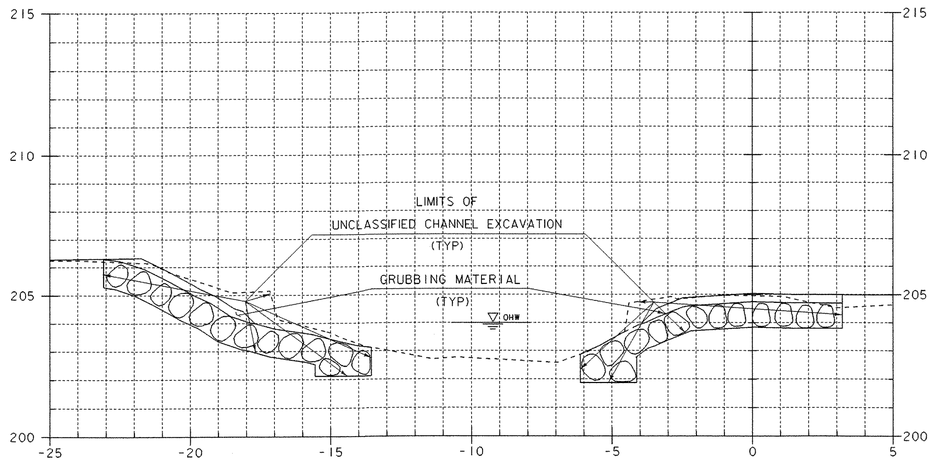


SUBBASE TRANSITION DETAIL
N. T. S.

SHEET NAME: **MAINLINE SECTIONS**	
PROJECT NAME: CLARENDON	HIGHWAY NO.: TH 16
PROJECT NUMBER: BRO 1443(34)	BRIDGE NO.: 24
	OVER: CLARENDON RIVER
FILE NAME: /PW/95j286/sj286xsl.dgn	PLOT DATE: 01-DEC-2005
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: STRI
DESIGNED BY: C. CARLSON	IPARM NAME: sj286mx4.i
BRIDGE SHEET NUMBER:	SHEET 40 OF 43



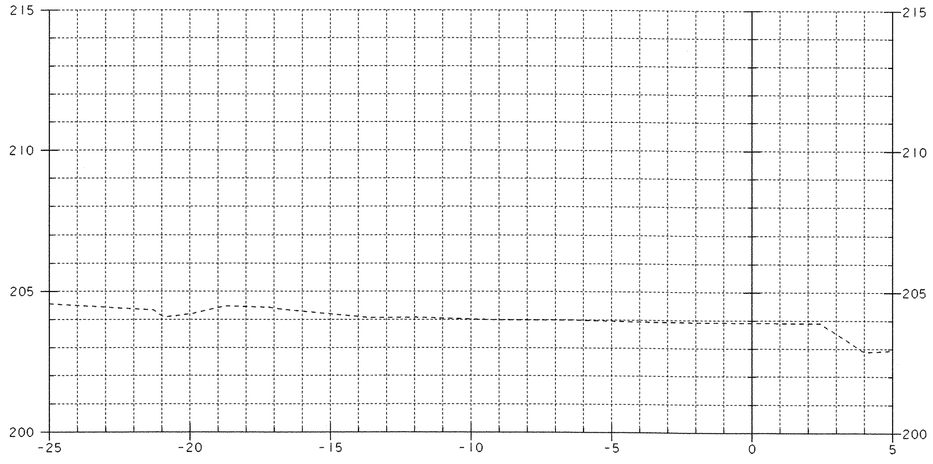
5+015



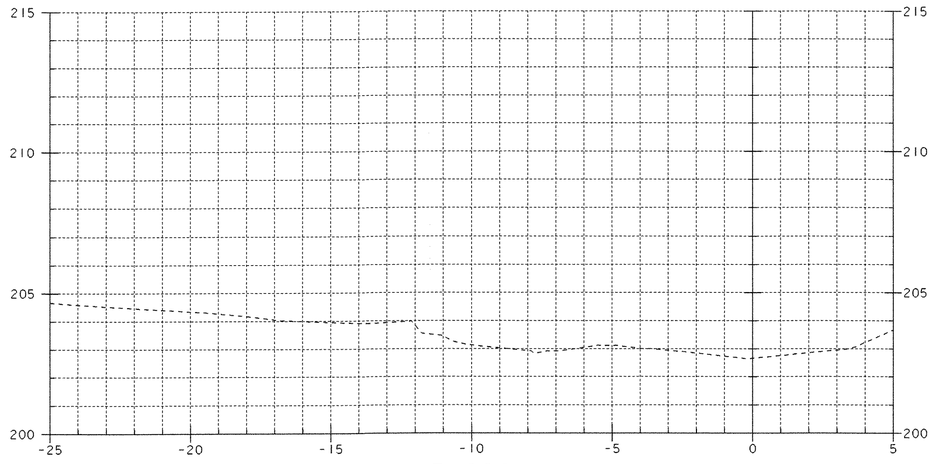
5+025

STA 5+022.0 FAR LEFT
BEGIN STONE FILL TYPE III
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GRUBBING MATERIAL
BEGIN GEOTEXTILE UNDER STONE FILL

STA 5+022.0 NEAR LEFT
BEGIN STONE FILL TYPE III
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GRUBBING MATERIAL
BEGIN GEOTEXTILE UNDER STONE FILL



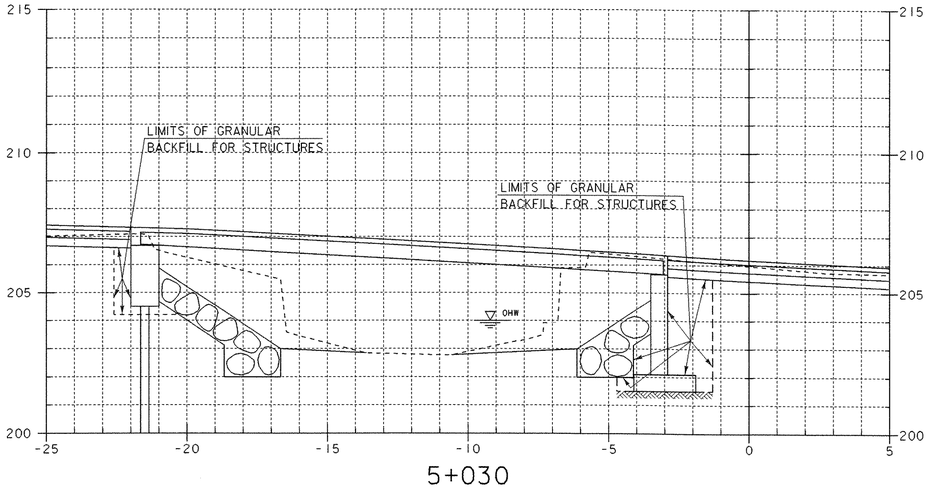
5+010



5+020

SHEET NAME: **CHANNEL SECTIONS**

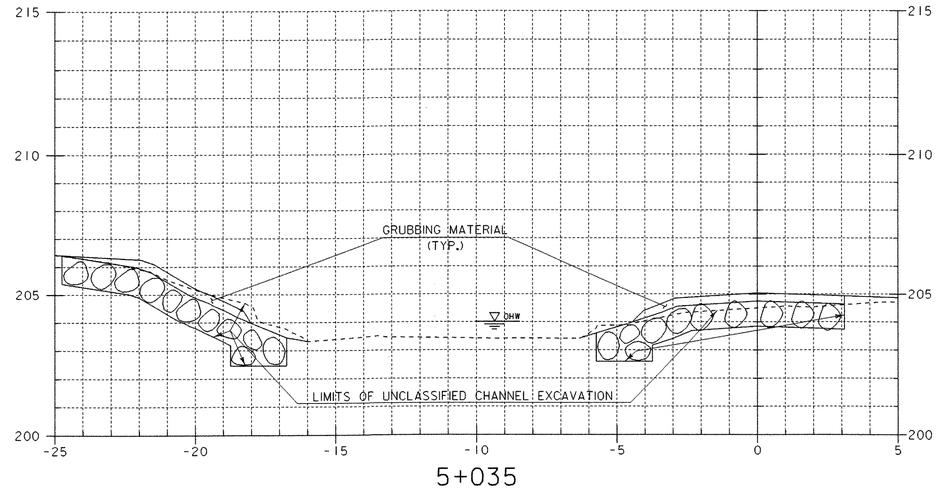
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PROJECT NUMBER: BRO 1443(34)	BRIDGE NO.: 24
	OVER: CLARENDON RIVER
FILE NAME: /PW/95j286/sj286xsl.dgn	PLOT DATE: 01-DEC-2005
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: STRI
DESIGNED BY: C. CARLSON	IPARM NAME: sj286cxl.i
BRIDGE SHEET NUMBER:	SHEET 41 OF 43



5+030

STA 5 + 037 FAR LEFT
END STONE FILL TYPE III
END UNCLASSIFIED CHANNEL EXCAVATION
END GRUBBING MATERIAL
END GEOTEXTILE UNDER STONE FILL

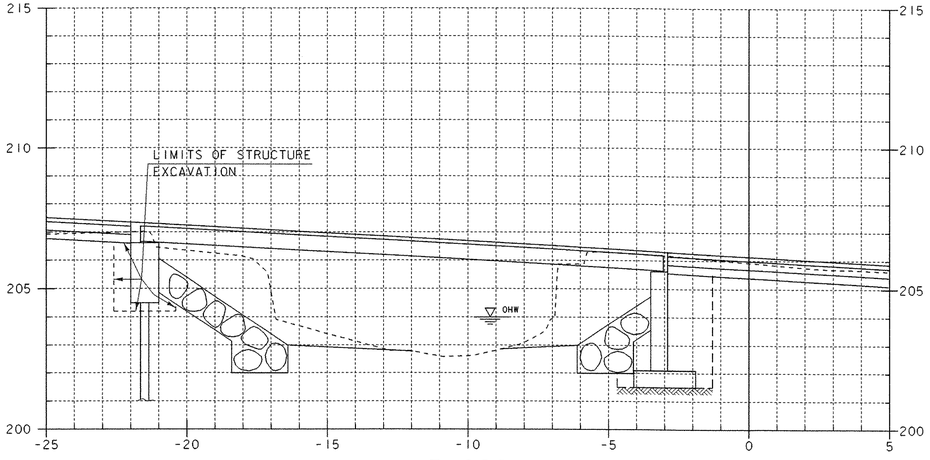
STA 5 + 036.5 NEAR LEFT
END STONE FILL TYPE III
END UNCLASSIFIED CHANNEL EXCAVATION
ENDGRUBBING MATERIAL
END GEOTEXTILE UNDER STONE FILL



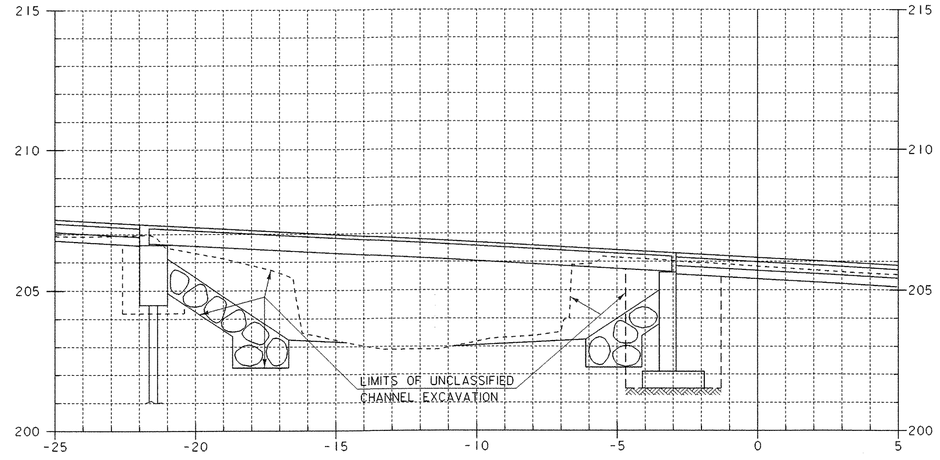
5+035

STA. 5+033.5 FAR LT.
END STRUCTURE EXCAVATION &
GRANULAR BACKFILL FOR STRUCTURES

STA 5+033 FAR AND NEAR LEFT
BEGIN GRUBBING MATERIAL



5+028



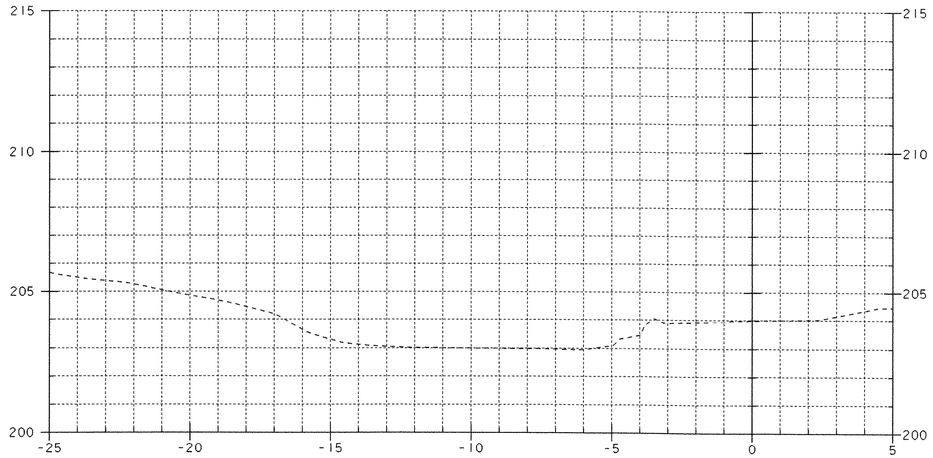
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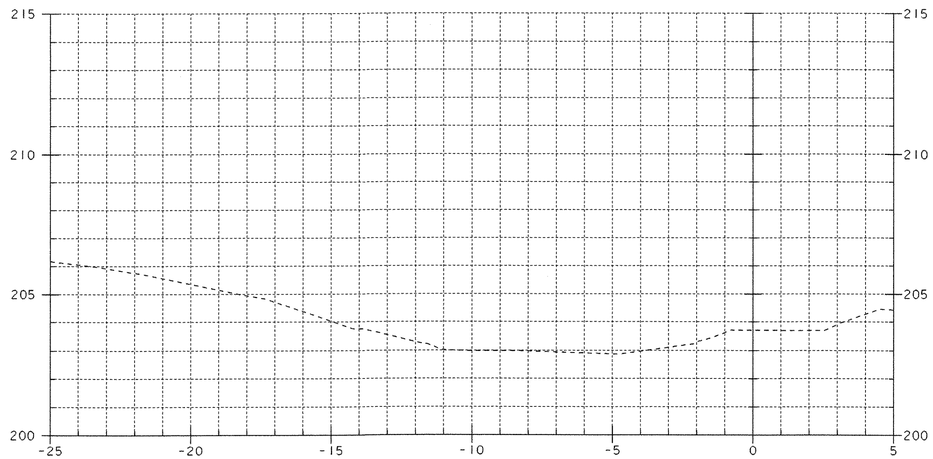
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BEGIN STRUCTURE EXCAVATION AND
GRANULAR BACKFILL FOR STRUCTURES

SHEET NAME: **CHANNEL SECTIONS**

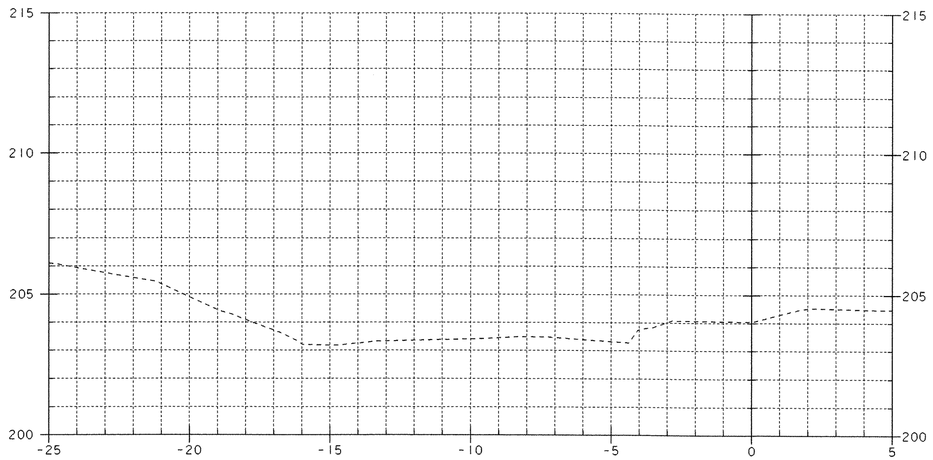
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PROJECT NUMBER:	BRO 1443(34)	BRIDGE NO.:	24
		OVER:	CLARENDON RIVER
FILE NAME: /PW/95J286/sj286xsl.dgn		PLOT DATE:	01-DEC-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	STRI
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj286cx2.1
BRIDGE SHEET NUMBER:		SHEET	42 OF 43



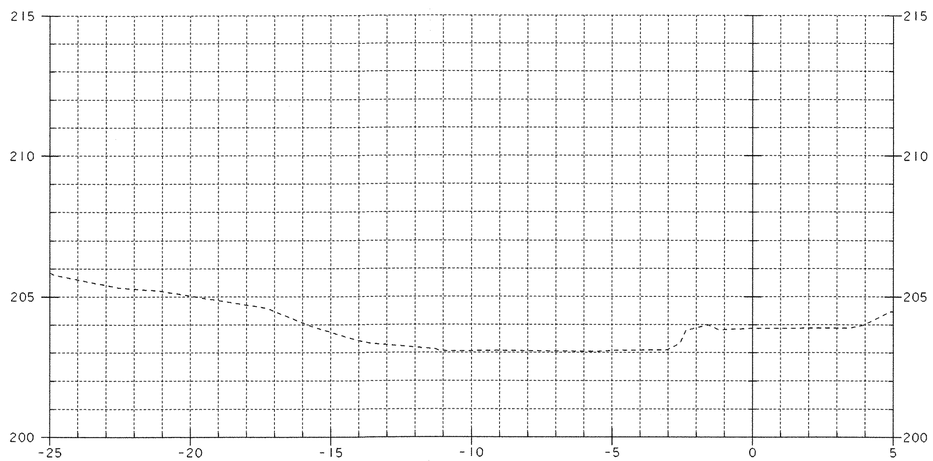
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5+055



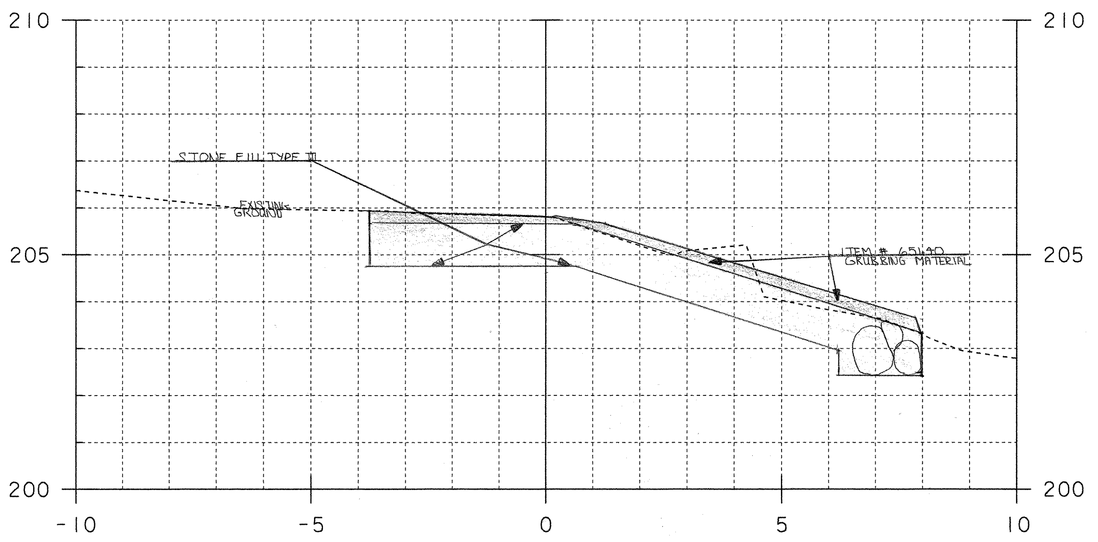
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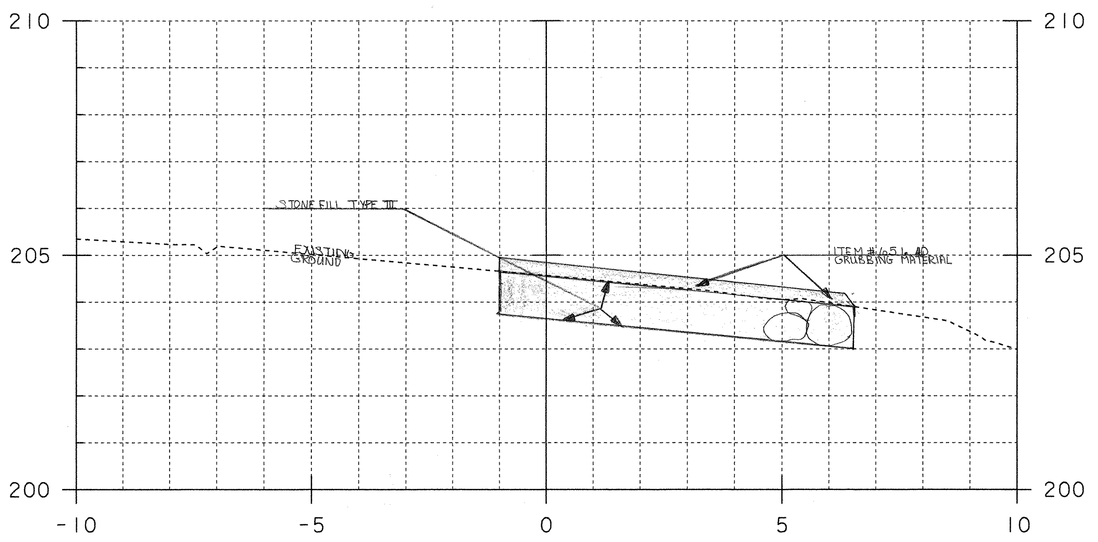
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SHEET NAME: CHANNEL SECTIONS

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PROJECT NUMBER: BRO 1443(34)	BRIDGE NO.: 24
	OVER: CLARENDON RIVER
FILE NAME: /PW/95J286/sj286xsl.dgn	PLOT DATE: 01-DEC-2005
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: STRI
DESIGNED BY: C. CARLSON	IPARM NAME: sj286cx3.1
BRIDGE SHEET NUMBER:	SHEET 43 OF 43

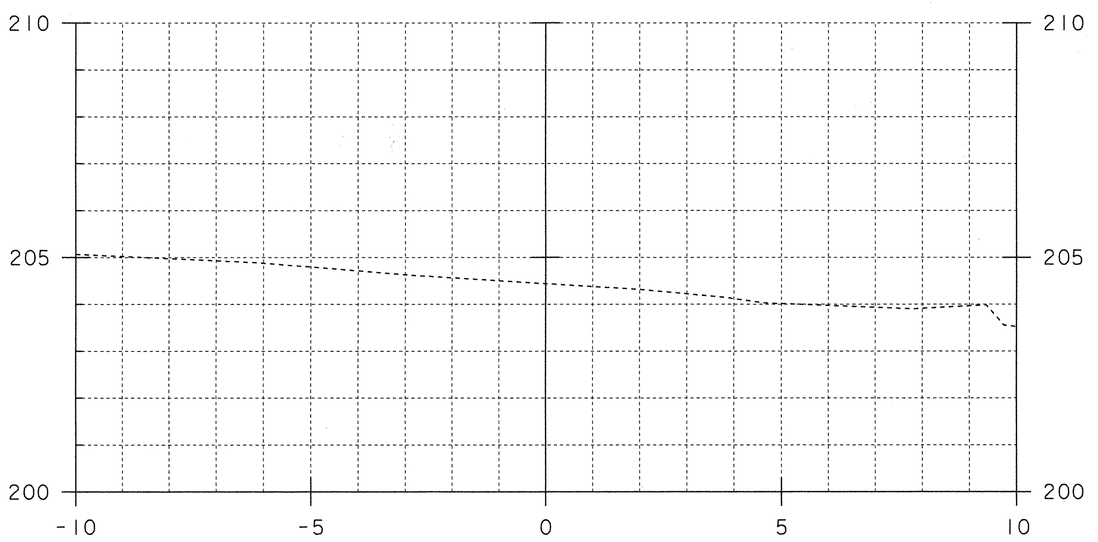


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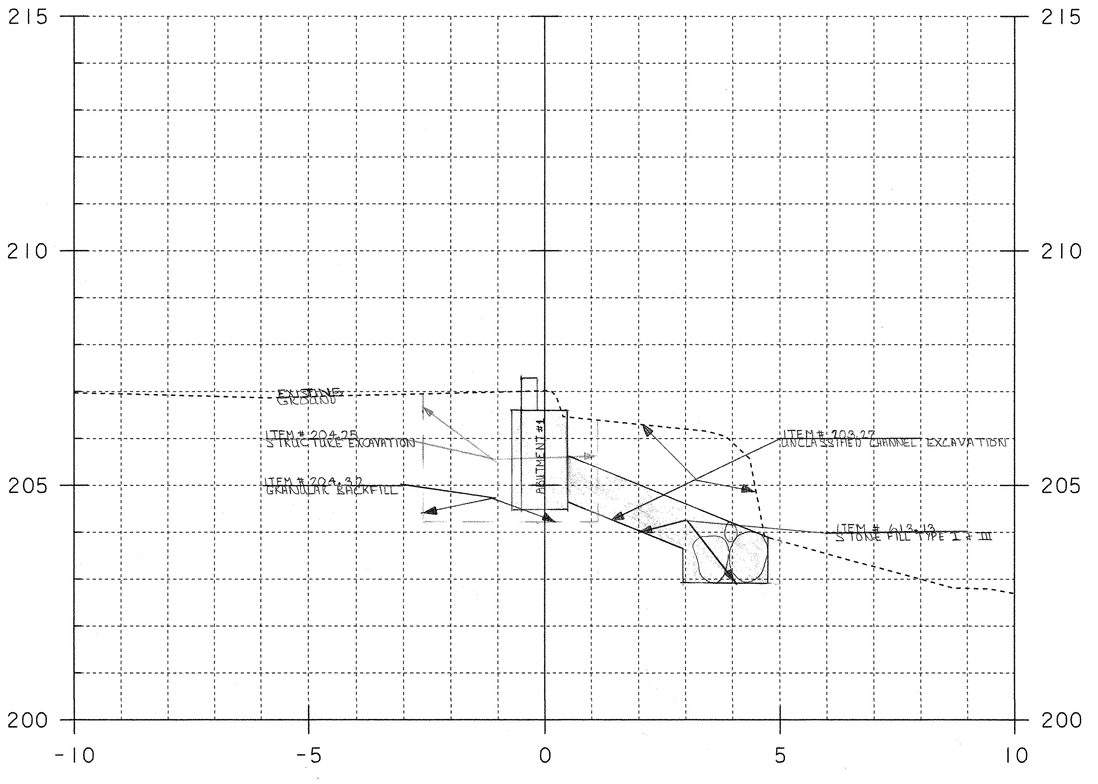
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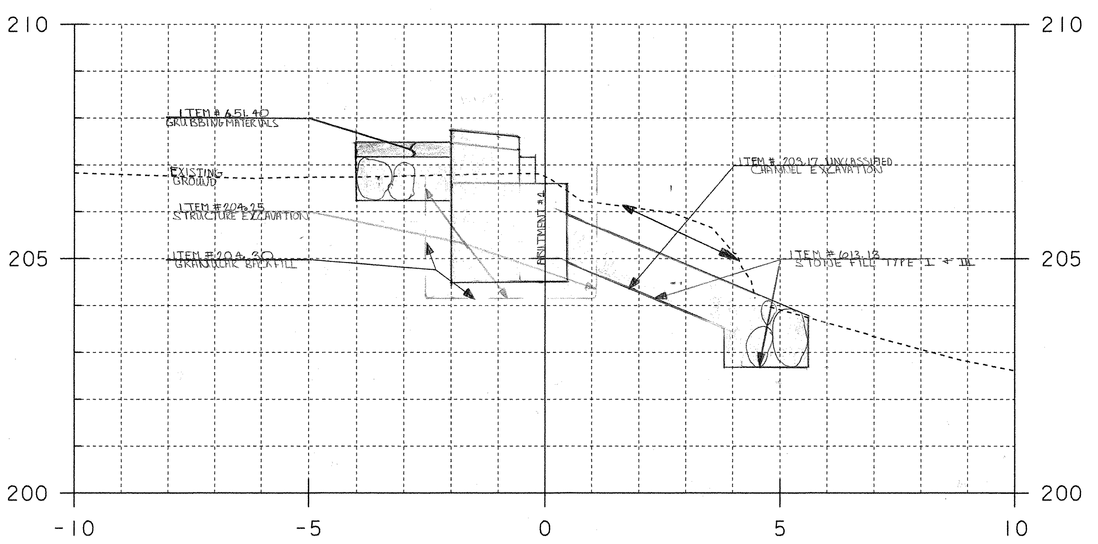


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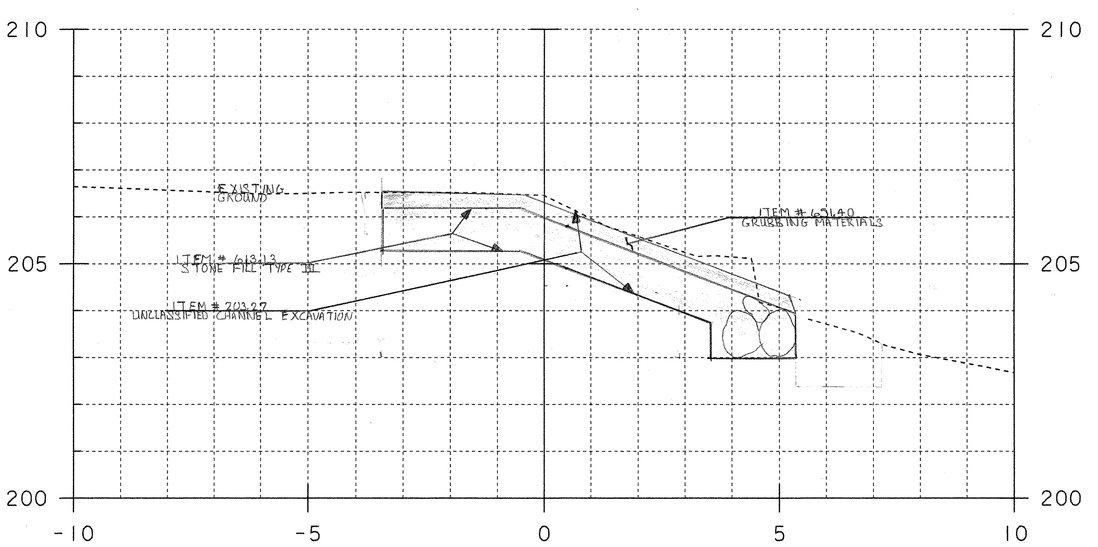
OUTSIDE LIMITS OF WORK



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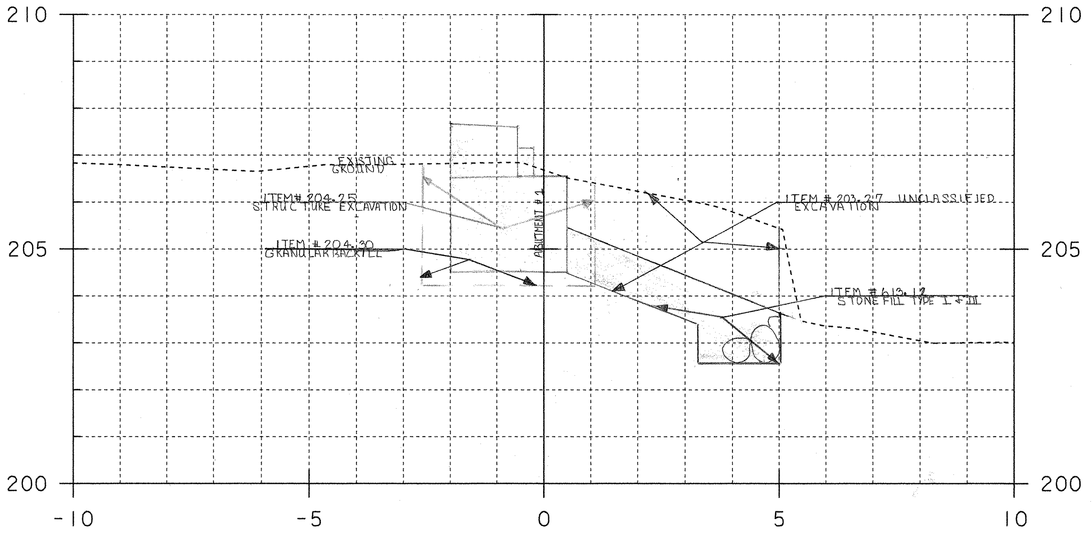


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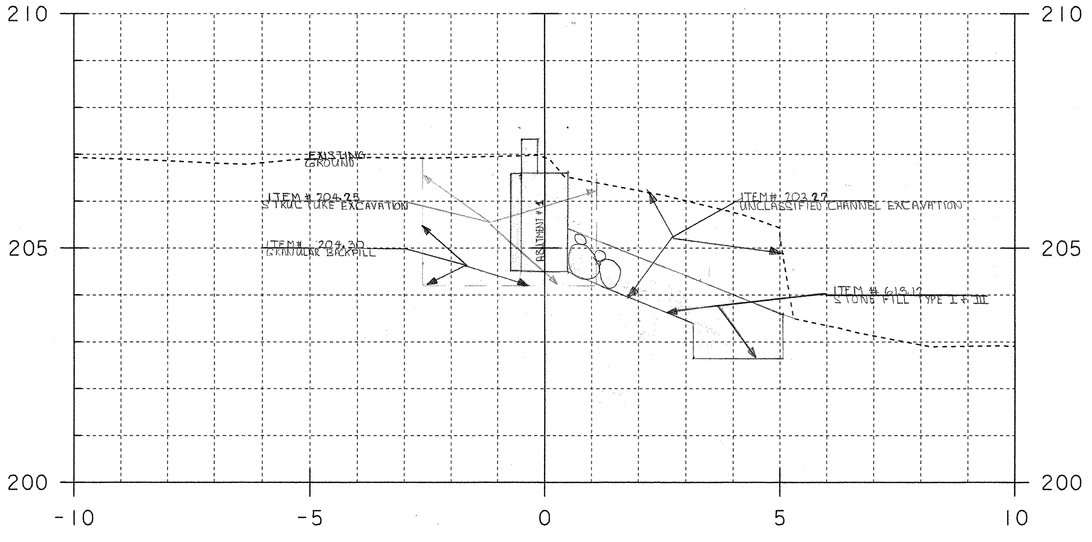


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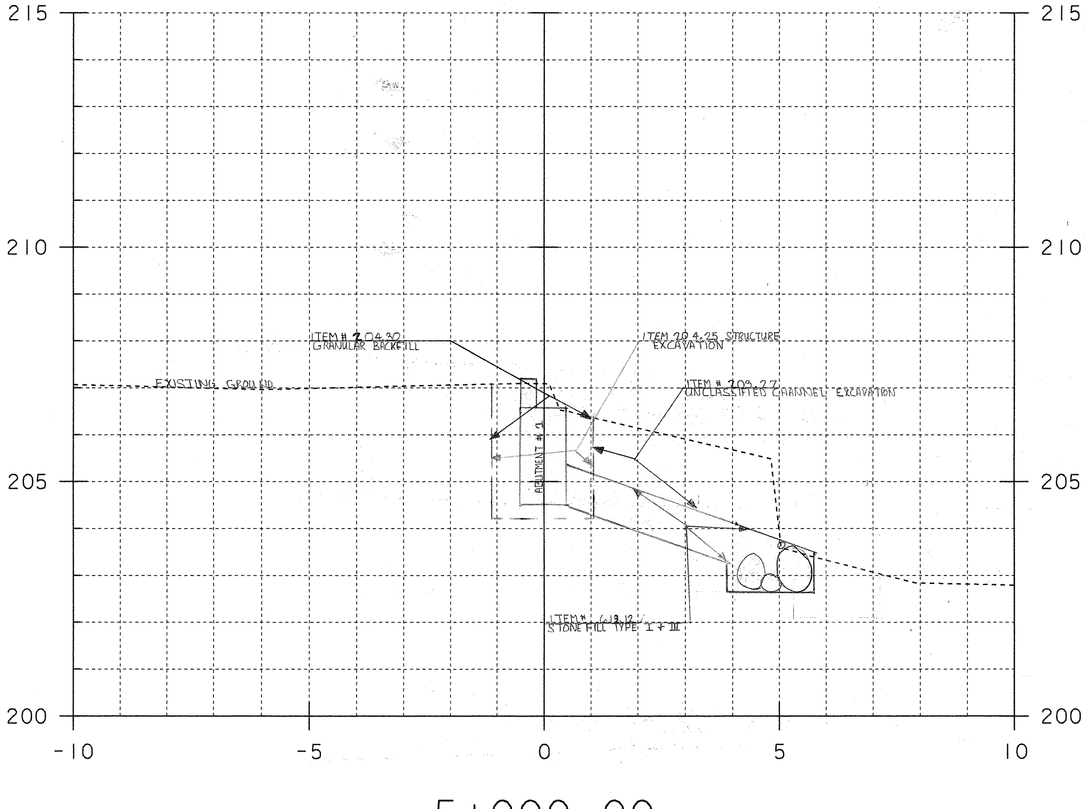
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FILE NAME: 95J286\surveywork.dgn
PROJECT LEADER:
DESIGNED BY:
PLOT DATE: 05-APR-2006
DRAWN BY: R. Bullock
CHECKED BY:
SHEET 2 OF 8



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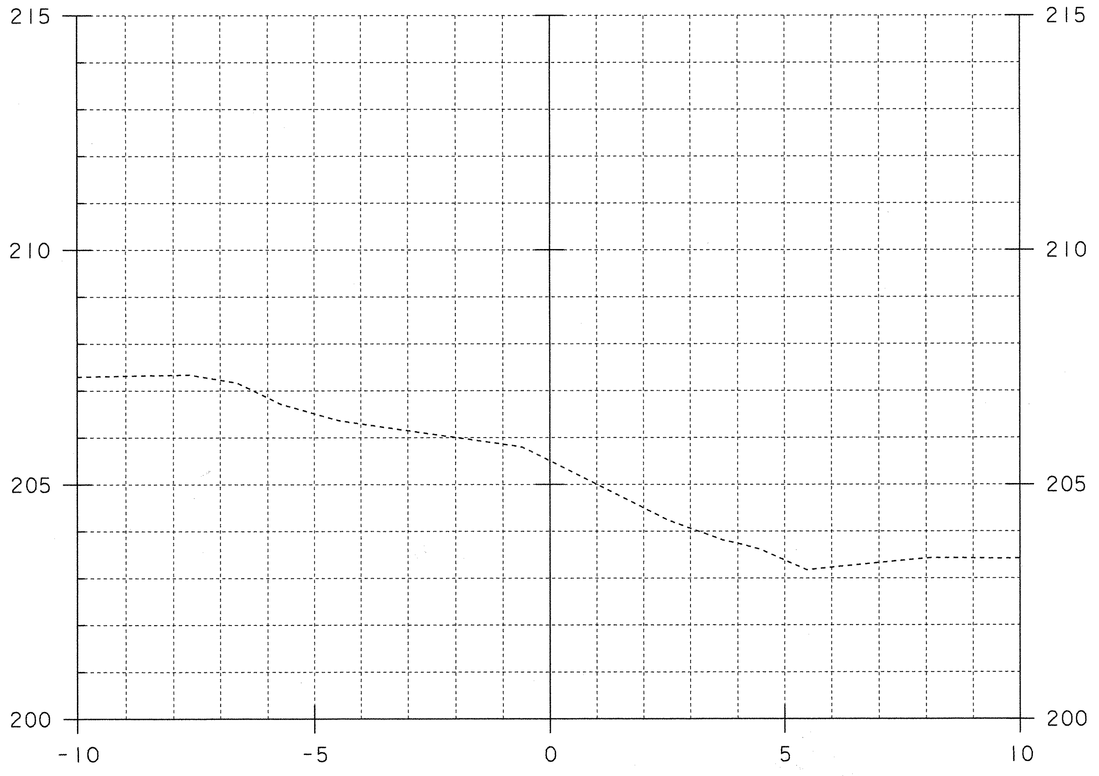


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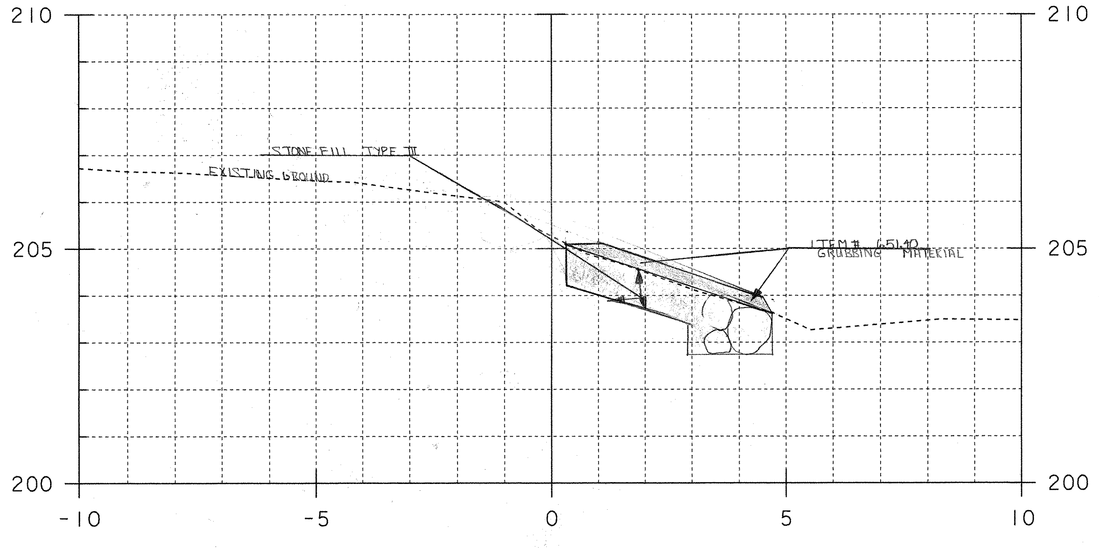
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FILE NAME: 95I286\surveywork.dgn
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PLOT DATE: 05-APR-2006
DRAWN BY: R. Bullock
CHECKED BY:
SHEET 3 OF 8

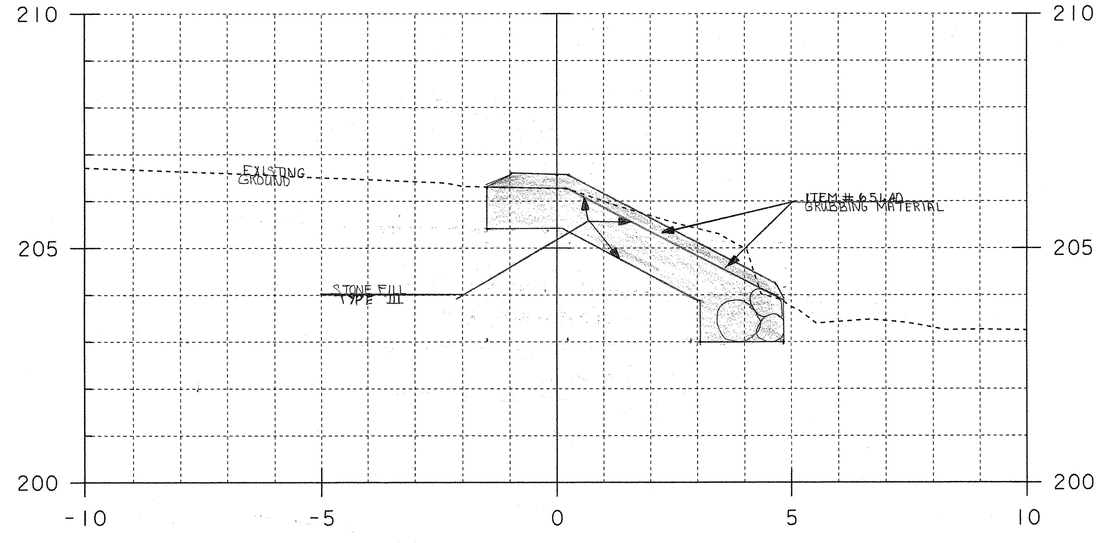


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5+007.0 @ AREA STONE

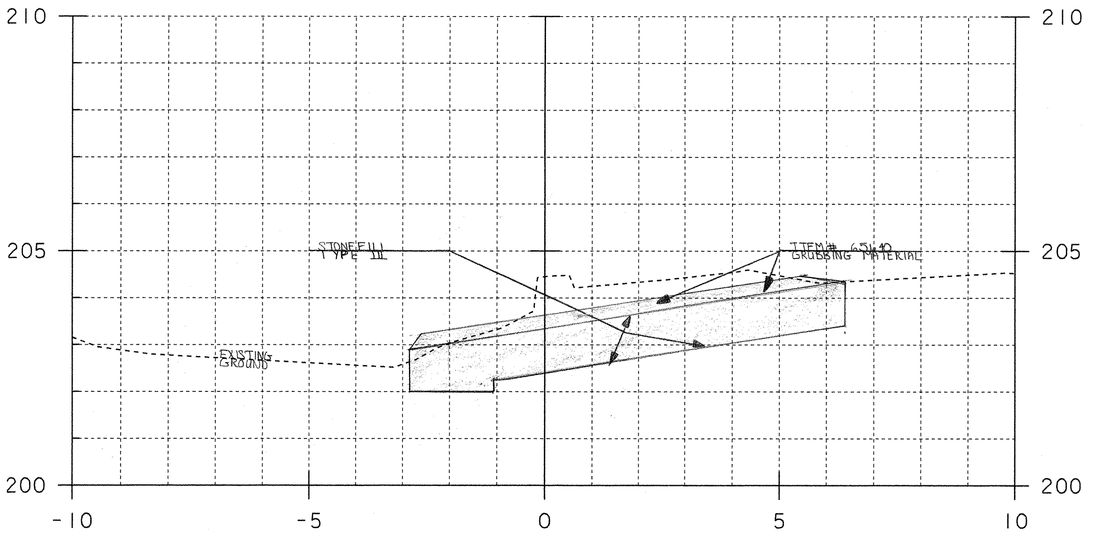


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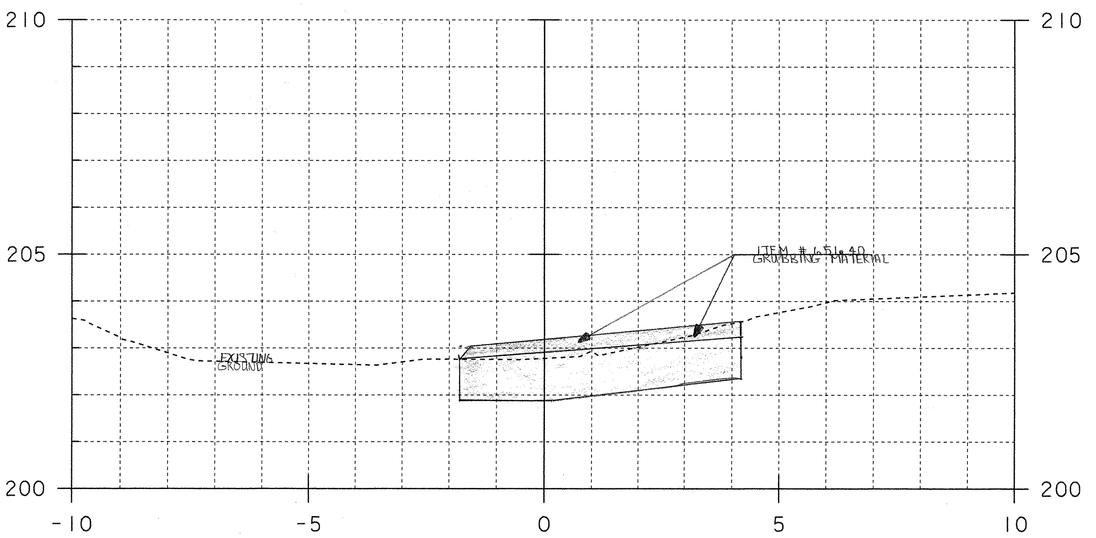


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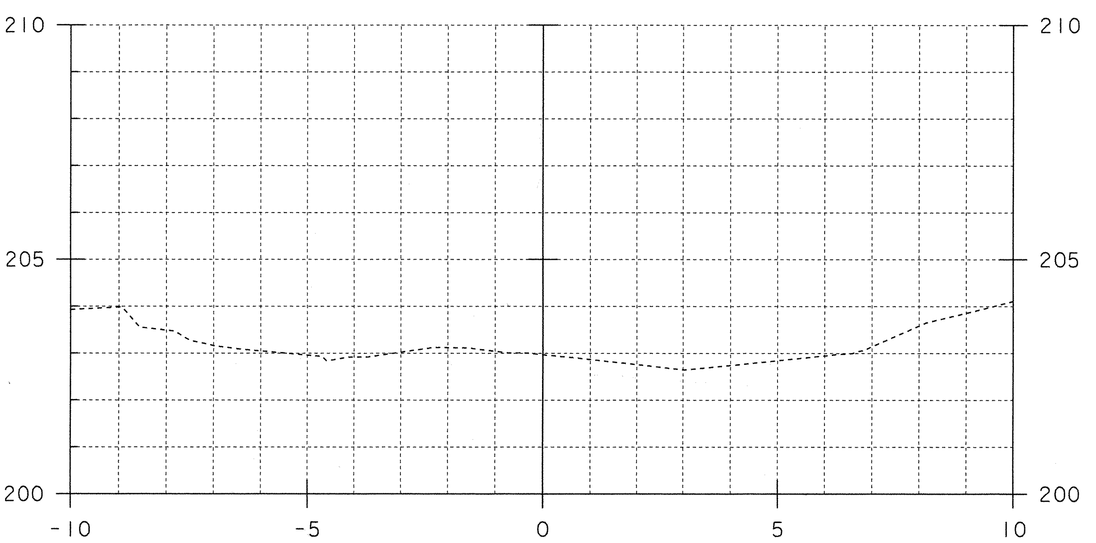
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PLOT DATE: 05-APR-2006
DRAWN BY: R. Bullock
CHECKED BY:
SHEET 4 OF 8



10+004.00
~~9+994.00~~

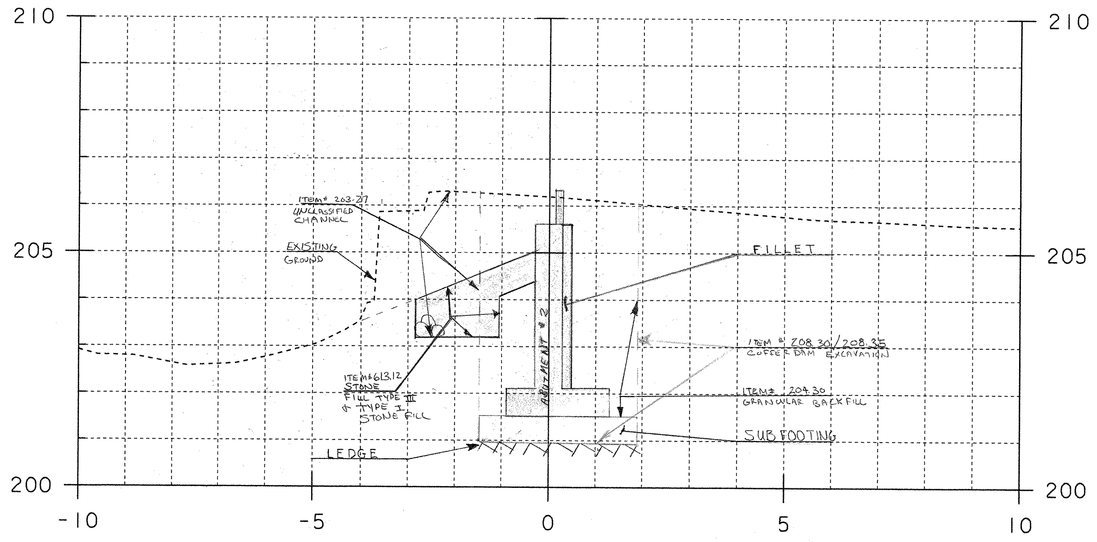


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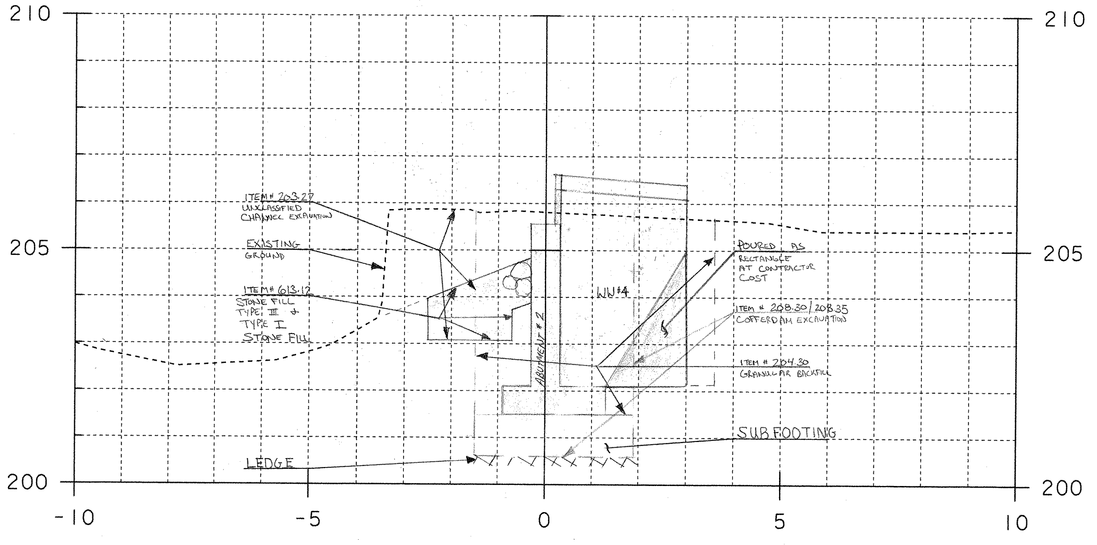


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~~9+990.00~~
OUTSIDE WORK LIMITS

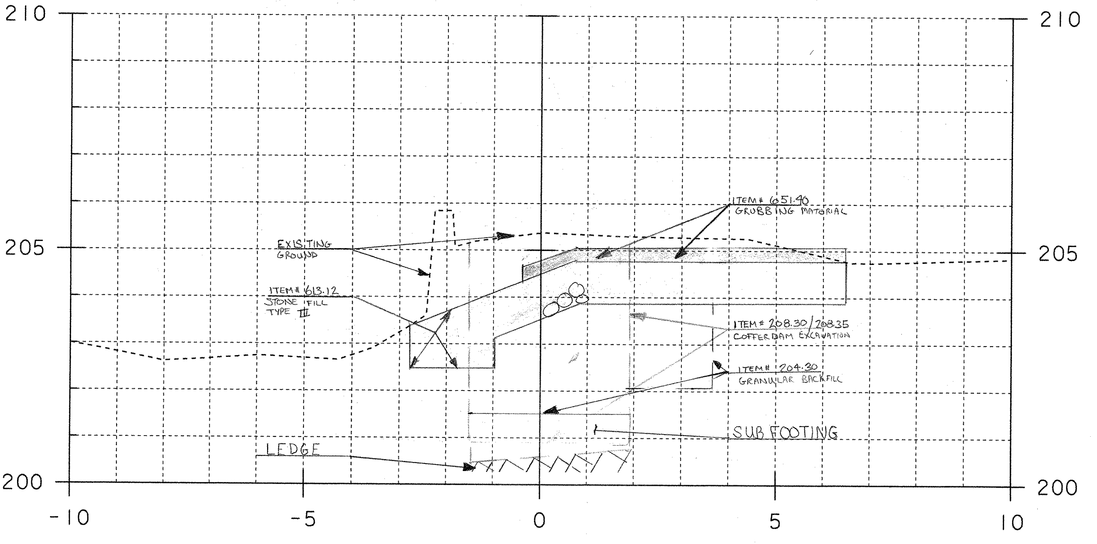
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CHECKED BY:
SHEET 5 OF 8



9+998.00

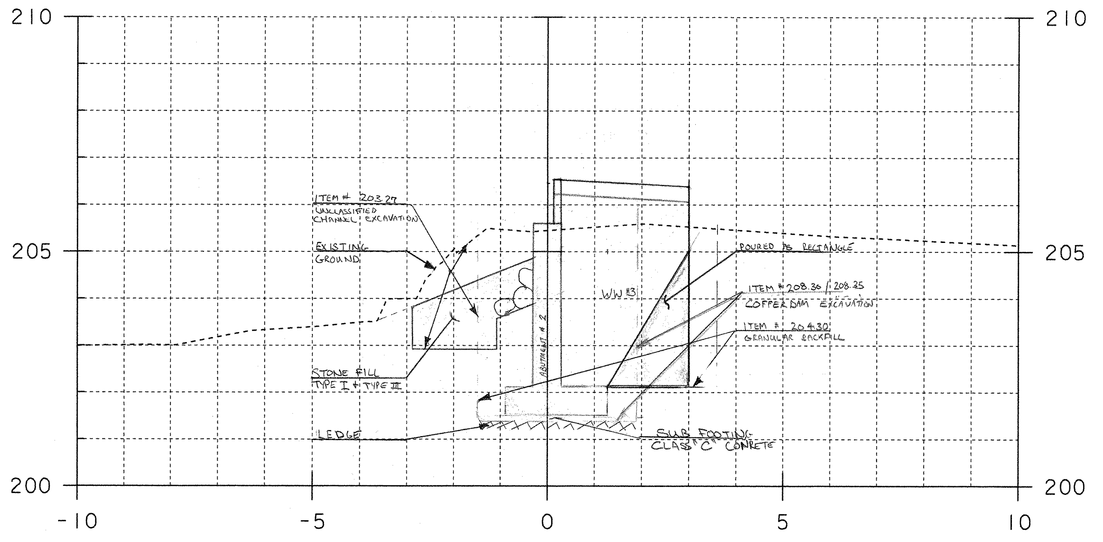


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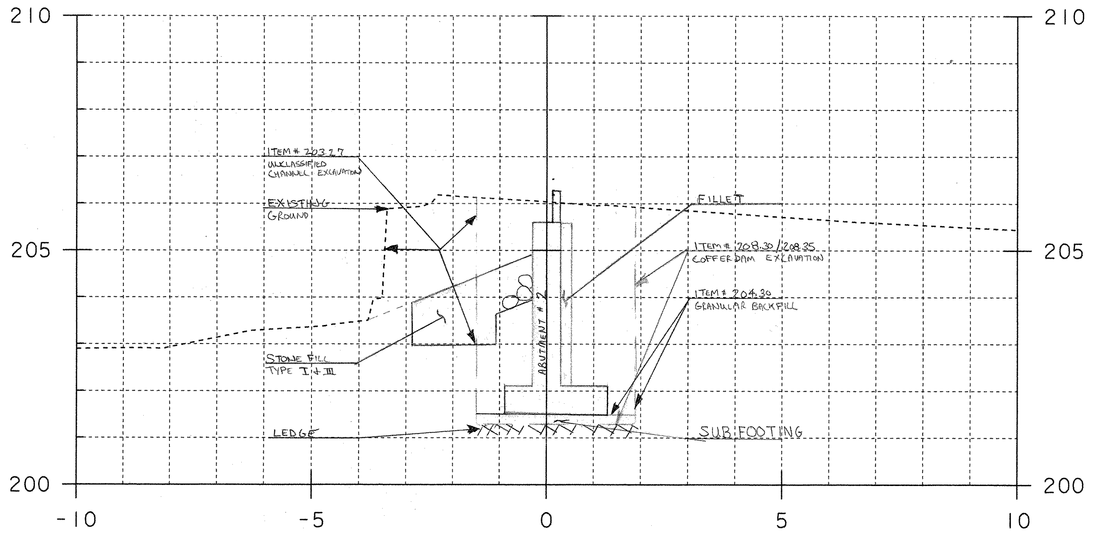


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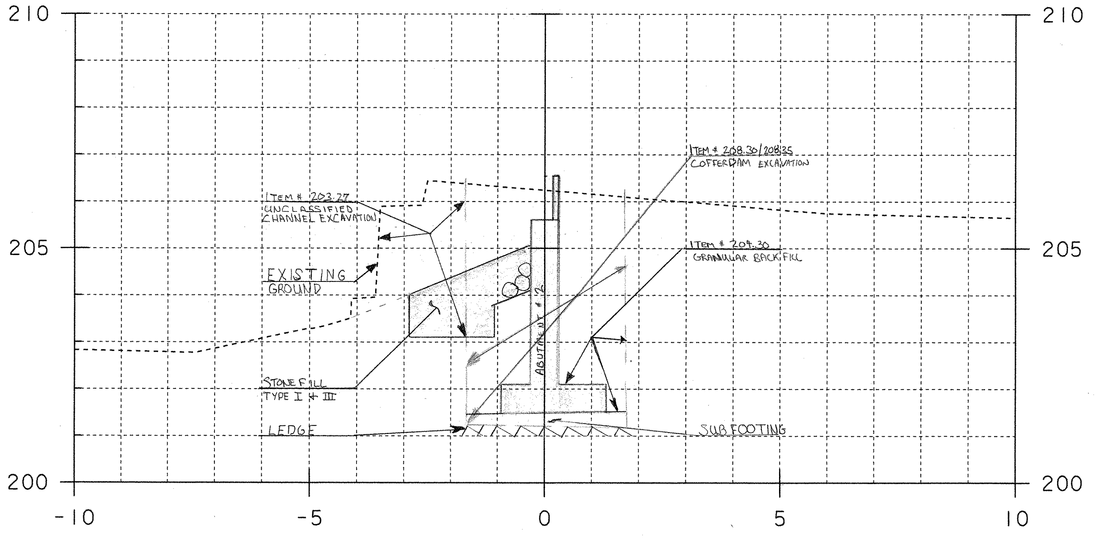
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10+002.80



10+002.00

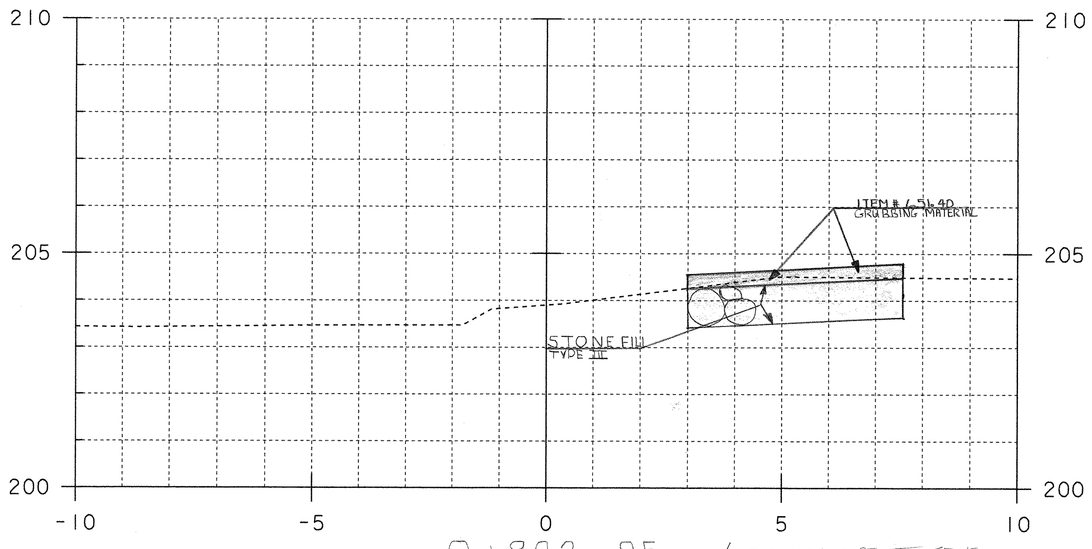


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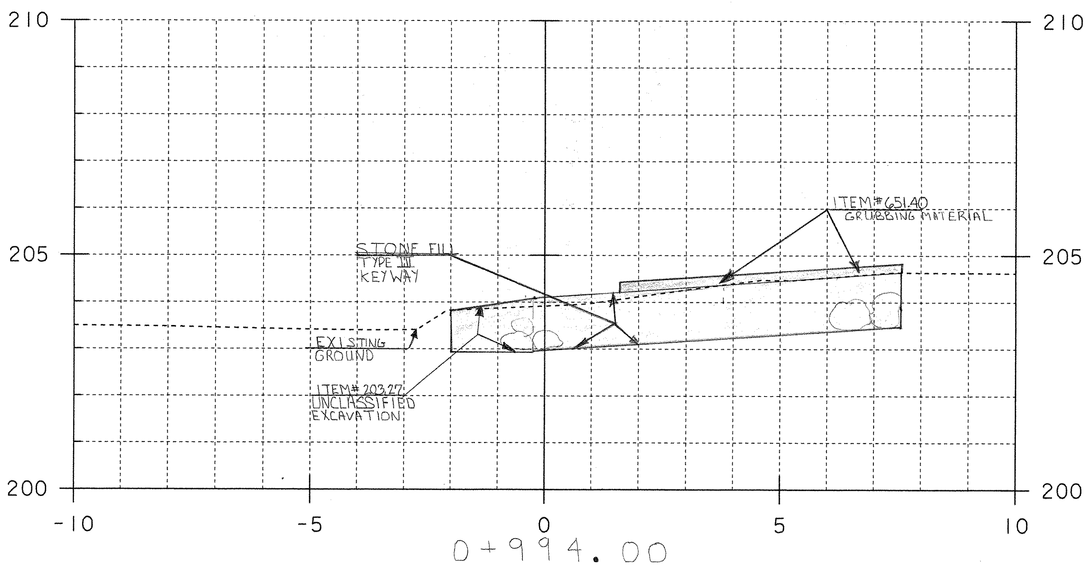
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SHEET 7 OF 8



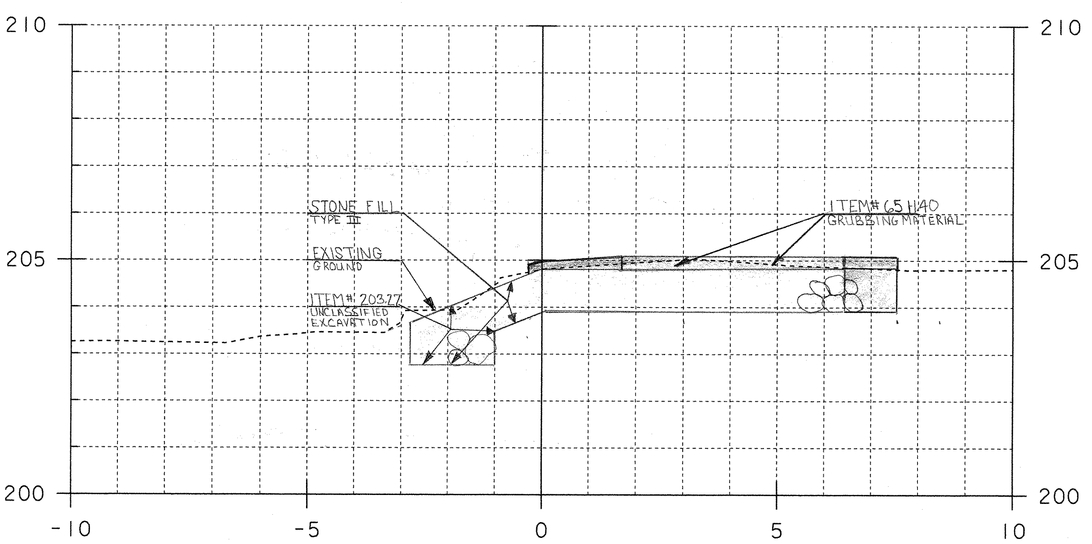
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~~10+008.00~~



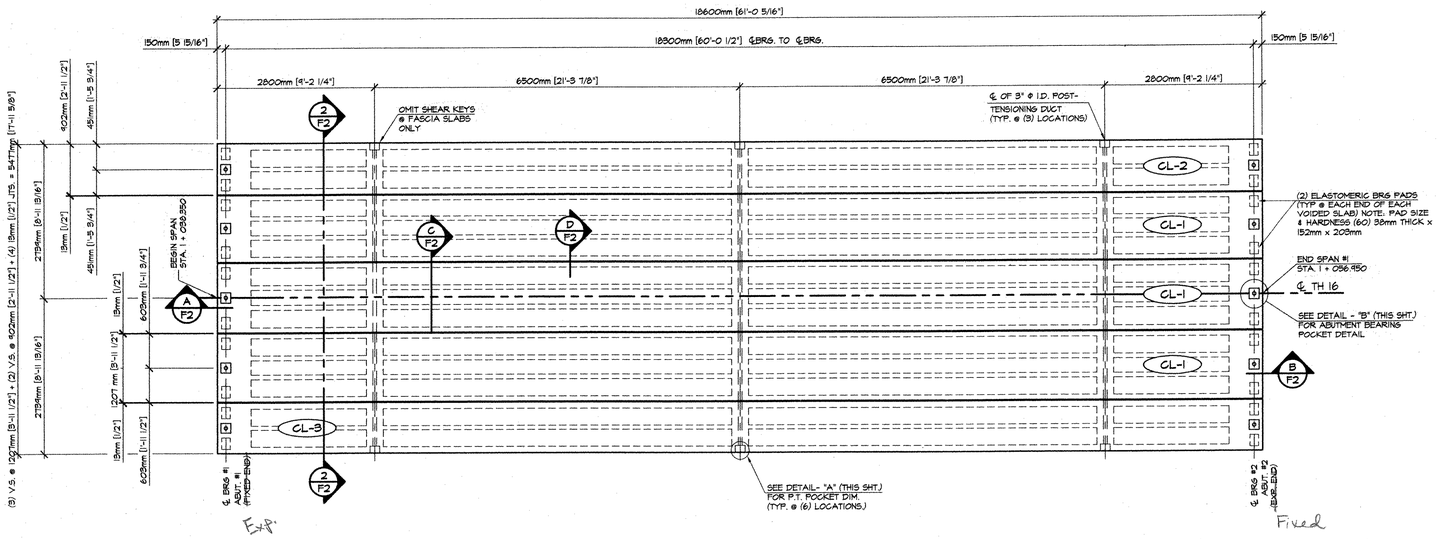
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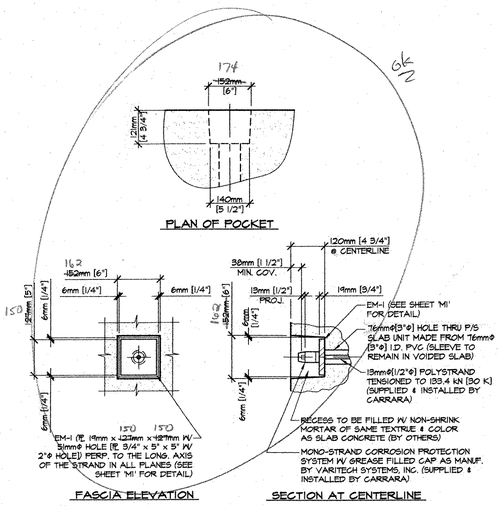
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1 / F1 PRESTRESSED VOIDED SLAB LAYOUT

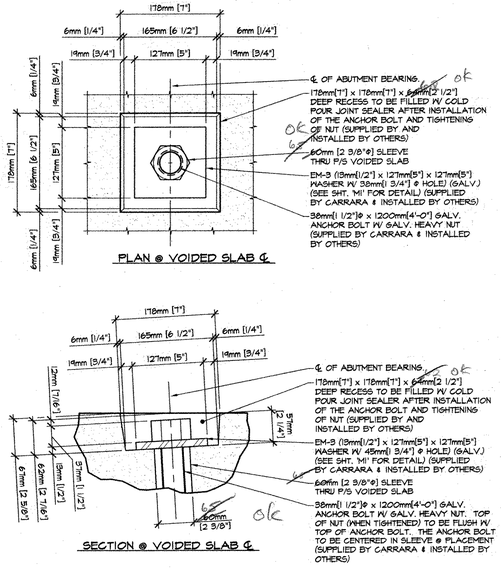
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DESIGN LOAD: AASHTO MS-22.5 LIVE LOAD



DETAIL - "A"

1:10



DETAIL - "B"

1:5

GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS: f'c = 42 MPa [6,100 PSI] MIN. CONCRETE STRENGTH AT STRESS TRANSFER: f'ci = 30 MPa [4,350 PSI]
2. REINFORCING STEEL SHALL BE GR-420 [GR-60], AASHTO M 31M ASTM A-615 AND SHALL BE EPOXY COATED.
3. PRESTRESSING STRANDS SHALL CONFORM TO ASTM A-416 (AASHTO M 203M) AND SHALL CONSIST OF 15mm[0.60"]ø x 1860 MPa [270 KSI], 7-WIRE LOW RELAXATION STRANDS.
4. PRESTRESSING STRANDS SHALL EACH BE PULLED TO HAVE A NET TENSION OF 195.5 kN [44.0 K.] AFTER ACCOUNTING FOR CHUCK SLIPPAGE. TENSION SHALL BE VERIFIED BY MEASURING STRAND ELONGATION. SEE EXAMPLE ELONGATION CALCULATION AND TENSIONING PROCEDURE, (THIS SHEET).
5. END OF PRESTRESSING STRANDS SHALL BE CUT WITH A TORCH, RECESSED & PATCHED, WITH AN APPROVED VT DOT MATERIAL.
6. TOP OF THE BEAMS SHALL RECEIVE A RAKE FINISH ROUGHNESS TO 6mm (1/4") AMPLITUDE (UNLESS NOTED OTHERWISE).
7. SLABS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. SLABS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 610mm[2'-0"] OF THE SLAB ENDS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
8. SHEAR KEY SURFACES SHALL BE BLAST CLEAN.
9. DESIGN MIX: J.P.C. BRIDGE MIX #45IMESCC
   106.8kg [180 LBS] FLY ASH - ISG RESOURCES
   427.2 kg [720 LBS.] TYPE III CEMENT - GLENS FALLS CEMENT
   742 kg [1250 LBS.] FINE AGGREGATE
   860 kg [1450 LBS.] COARSE AGGREGATE
   160.0 L [42.2 GAL.] WATER - 154.2 kg [352 LBS.]
   5% - 9.0% AIR CONTENT (251.42 mL [8.5 OZ.] DAREX II) ADJ. AS REQ.
   619.3 mL MB 3400 PER 100 kg CEMENT, SPREAD 559mm - 711mm [9.5 OZ. MB 3400 PER 100 LBS. CEMENT, SPREAD 22" - 28"]
   14.85 L [3 GAL.] DCI
   185.6 mL DARATARD PER 100 kg CEMENT
   [3.0 OZ. DARATARD PER 100 LBS. CEMENT, SPREAD 22" - 28"]
10. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
11. THE ENGINEER OF RECORD WILL BE NOTIFIED (7) WORKING DAYS SO THAT ALL PRECAST OPERATIONS MAY BE WITNESSED.
12. THE VOIDS MUST BE VENTED DURING THE CURING PERIOD.
    CURING METHOD:
13. NATURAL CURE: AS SOON AS THE TOP OF THE BEAM IS FINISHED, COVER WITH POLY UNTIL RELEASE STRENGTH IS ACHIEVED.
14. TRANSVERSE POST-TENSIONING SEQUENCE:
    A. ONCE VOIDED BEAMS ARE ERECTED, POST-TENSION TENDONS TO APPROXIMATELY 22 kN [4,946 LBS].
    B. GROUT SHEAR KEYS (BY OTHERS)
    C. ONCE SHEAR KEY GROUT HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 10.3 MPa [1,500 PSI], POST-TENSION TENDONS TO 139.4 kN [30,000 LBS].
15. POST-TENSIONING STRANDS SHALL CONFORM TO AASHTO M 203M [ASTM A-416] AND SHALL CONSIST OF 13mm[1/2"]ø x 1860 MPa [270 KSI] POLYSTRAND.
16. NO INSERTS SHALL BE FIELD INSTALLED IN SLABS WITHOUT APPROVAL OF J.P. CARRARA & SONS, INC.

EXAMPLE PRESTRESSING STRAND ELONGATION CALCULATION AND TENSIONING

(NOT TO BE USED FOR CONSTRUCTION)

SIZE & GRADE: 0.60"ø x 270 KSI

AREA: 0.217 IN^2

TENSION: 44,000 LBS. EACH STRAND

GRIP TO GRIP: 192'-9 3/4" = 192.813'

Es = 28,600,000 PSI (ASSUMED FOR THESE CALCULATIONS; VALUE TO BE OBTAINED FOR STRAND SPOOL ACTUALLY USED)

EXAMPLE: $\Delta = \frac{PL}{AE} = \frac{(44{,}000 - 3{,}000) \times 192.813 \times 12}{0.217 \times 28{,}600{,}000} = 15.24"$

THEREFORE: TOLERANCES: ± 5%
- Δ UPPER LIMIT = 1.05 x 15.24" = 16.05" = 16 1/16"
- Δ LOWER LIMIT = 0.95 x 15.24" = 14.53" = 14 1/2"

EXTRA FORCE REQUIRED TO COMPENSATE FOR 1/2" CHUCK SLIPPAGE:

$\Delta P = \frac{0.5 \times 41{,}000}{15.24} = 1{,}341$ LBS.

TOTAL TENSIONING FORCE = 44,000 + 1,341 = 45,341 LBS. [201.7 kN]

STRAND TENSIONING PROCEDURE

1. PULL EACH STRAND INITIALLY TO 13.34 kN* [3,000 LBS]* & MARK STRAND.
2. THEN PULL EACH STRAND TO A TOTAL TENSION OF 201.7 kN* [45,341 LBS]* AND MEASURE ELONGATION AFTER SEATING. IT MUST BE BETWEEN 369mm[14 1/2"] AND 408mm[16 1/16"].

* NOTE: FORCES READ ON STRESSING JACK GAUGES MUST BE MADE TO CORRESPOND TO ABOVE VALUES BASED ON CALIBRATION DATA FOR SPECIFIC JACK USED.

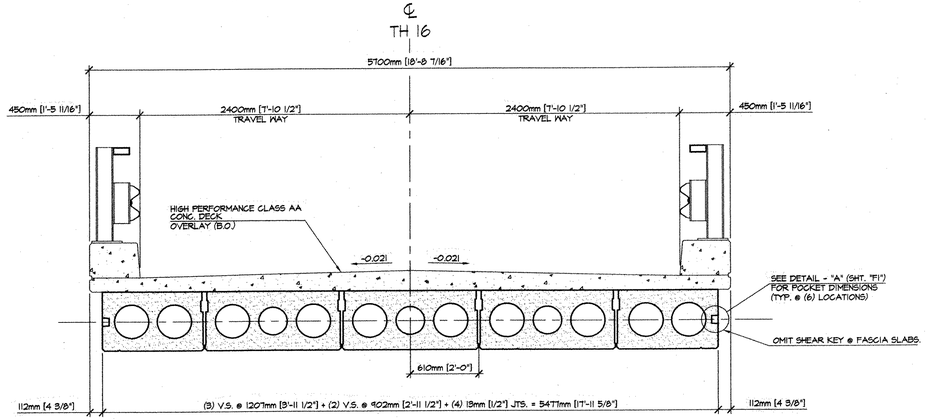
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MAR 31 2006
RESUBMIT APPROVED
BY DATE

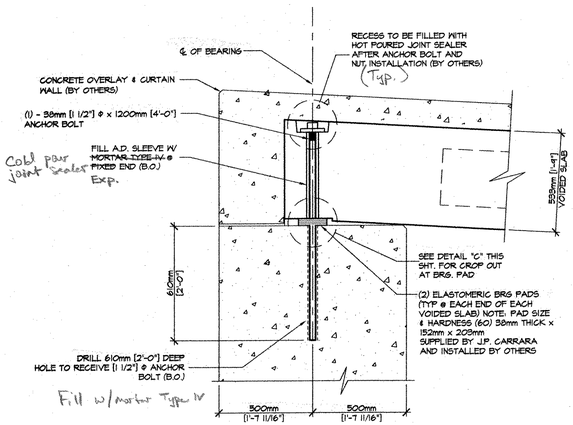
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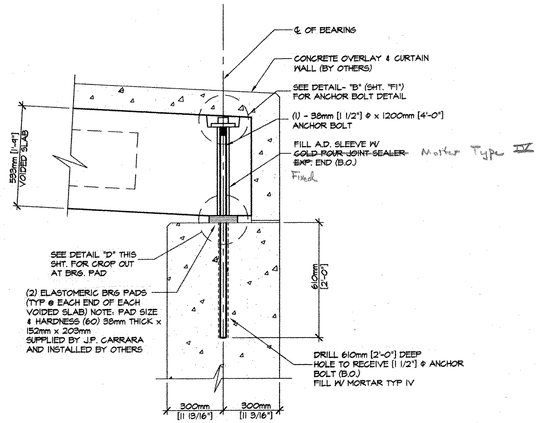
J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010	BELDEN COMPANY, INC. CONTRACTOR RUTLAND, VERMONT
STATE OF VERMONT A.O.T. COUNTY OF RUTLAND	DATE: MARCH 29, 2006 SCALE: NOTED
TOWN OF CLARENDON - BRIDGE #24 TH 16 OVER CLARENDON RIVER	CHKD: - DFTM: D.S.S. JOB NO: 23236-06
SUPERSTRUCTURE PLAN & DETAILS	DWG. NO: F1 # 052 Pge



2 / F2 TRANSVERSE SECTION
1:25



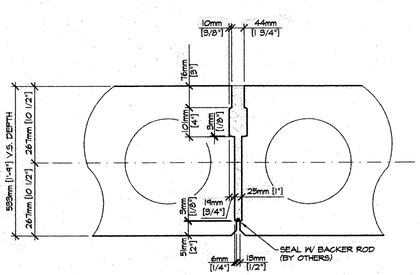
A / F2 SECTION @ BEARING
FIXED END 1:15



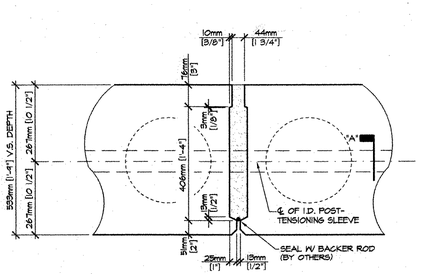
B / F2 SECTION @ BEARING
EXP. END 1:15

DETAIL - "C"
1:10

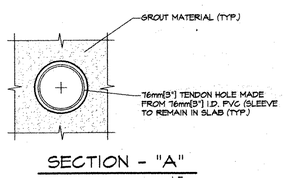
DETAIL - "D"
1:10



C / F2 TYP. SHEAR KEY SECTION
1:10



D / F2 SHEAR KEY SECTION @ P.T. SLEEVE
1:10



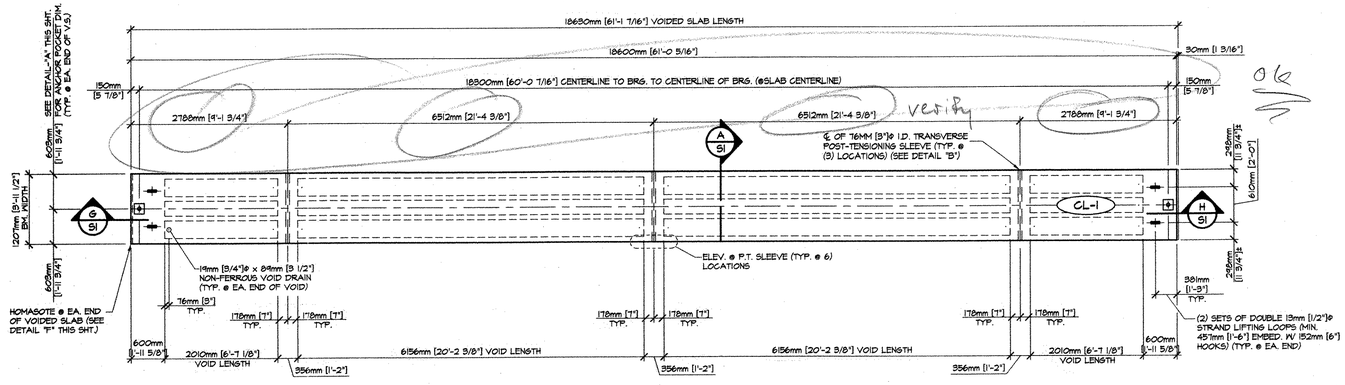
SECTION - "A"
1:5

RECEIVED
CK'D BY_____ OK'D BY_____
MAR 3 1 2006
RESUBMIT_____ APPROVED_____
BY DATE

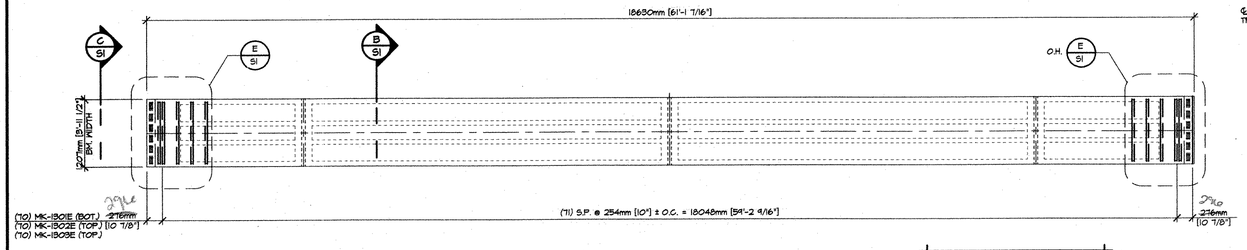
APPROVAL STAMP:

RECEIVED
CK'D BY JMP OK'D BY CWC
MAR 3 1 2006
RESUBMIT_____ APPROVED As noted
BY CWC DATE 4.6.06

J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 OKE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010	**BELDEN COMPANY, INC.** CONTRACTOR RUTLAND, VERMONT
STATE OF VERMONT A.O.T. COUNTY OF RUTLAND	DATE: MARCH 29, 2006 SCALE: NOTED
TOWN OF CLARENDON - BRIDGE #24 TH 16 OVER CLARENDON RIVER	CHKD: - DFTM: D.S.S. JOB NO: 23236-06
SECTION AND DETAILS	DWG. NO: F2 053 pcc

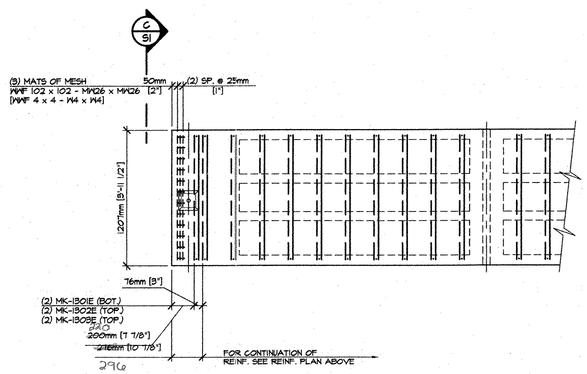


1 S1 DIMENSIONAL PLAN VIEW IN FORM
1:50

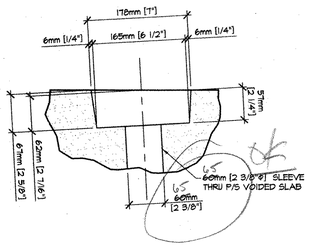


2 S1 REINFORCING PLAN VIEW IN FORM
1:50

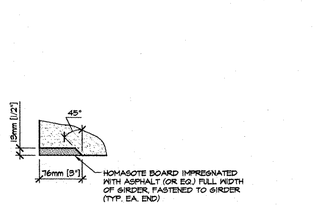
SHOP NOTE: ADJUST REINF. AS REQ'D. TO CLEAR INSERTS, PLATES, ETC.



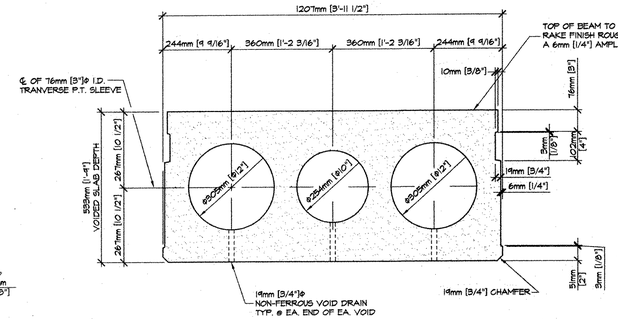
E S1 END BLOCK REINF. PLAN
1:25



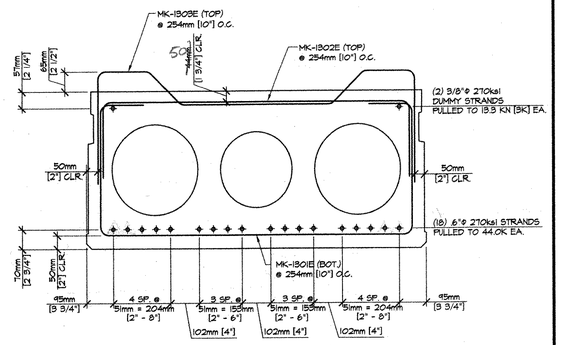
DETAIL - "A"
1:5



DETAIL - "F"
1:5

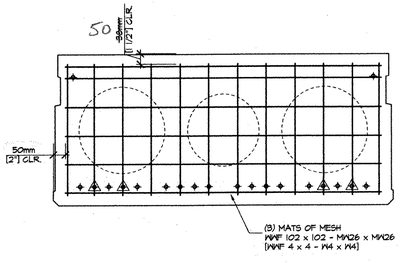


A S1 DIMENSIONAL SECTION
1:10



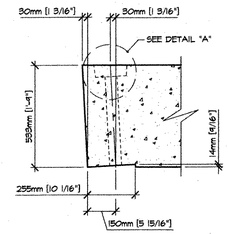
B S1 REINFORCING SECTION
1:10

TOTAL (18) 15.25mm [6"]ø x 1860 MPa [270KSI] STRANDS PULLED TO 195.5 KN 44.0 K] EA.

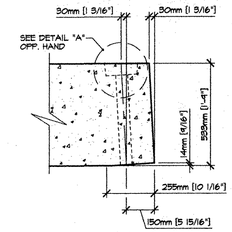


C S1 END BLOCK REINF. SECTION
1:10

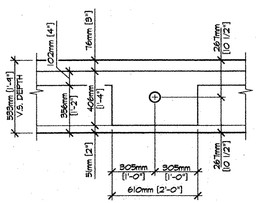
⚠ DENOTES STRAIGHT STRANDS TO BE FULLY TENSIONED TO 195.5 KN [44.0 K] AND DEBONDED 1850mm [6'-0 3/16"] FROM EA. END



G S1 END SECTION
1:15



H S1 END SECTION
1:15



DETAIL - "B"
1:20

① ② ③ ⑤ ⑦ ⑨ ⑪ ⑬ ⑮ ⑰ ⑱ ⑯ ⑭ ⑫ ⑩ ⑧ ⑥ ④

DETENSIONING SCHEDULE
N.T.S.

MARK: CL-1	QTY: 3	WT.: 21864 kg [23.88 T]	VOL.: 9.01 m³ [11.79 cy]
MARK:	QTY:	WT.:	VOL.:

MATERIAL LIST / VOIDED SLAB

ITEM	MARK	DESCRIPTION	QTY./SLAB	
1	1301E	#13[#4] BENT BAR (EPOXY COATED)	74	
2	1302E	#13[#4] BENT BAR (EPOXY COATED)	74	
3	1303E	#13[#4] BENT BAR (EPOXY COATED)	74	
4				
5		MWF 102 x 102 - MW26 x MW26 [MWF 4 x 4 - W4 x W4]	6	
6		254mm [10"]ø x 6156mm [20'-2 3/8"] LONG VOID	2	
7		305mm [12"]ø x 6156mm [20'-2 3/8"] LONG VOID	4	
8		305mm [12"]ø x 2010mm [6'-7 1/8"] LONG VOID	4	
9		254mm [10"]ø x 2010mm [6'-7 1/8"] LONG VOID	2	
10		19mm [3/4"]ø x 114mm [4 1/2""] NON-FERROUS VOID DRAIN	16	
11		19mm [3/4"]ø x 140mm [5 1/2""] NON-FERROUS VOID DRAIN	8	
12		DOUBLE 13mm [1/2"]ø STRAND LIFTING LOOPS	4	

APPROVAL STAMP:

RECEIVED
CK'D BY JMP OK'D BY CWL
MAR 31 2006
RESUBMIT_____ APPROVED As Noted
BY CWL DATE 4.6.06

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

BELDEN COMPANY, INC.
CONTRACTOR
RUTLAND, VERMONT

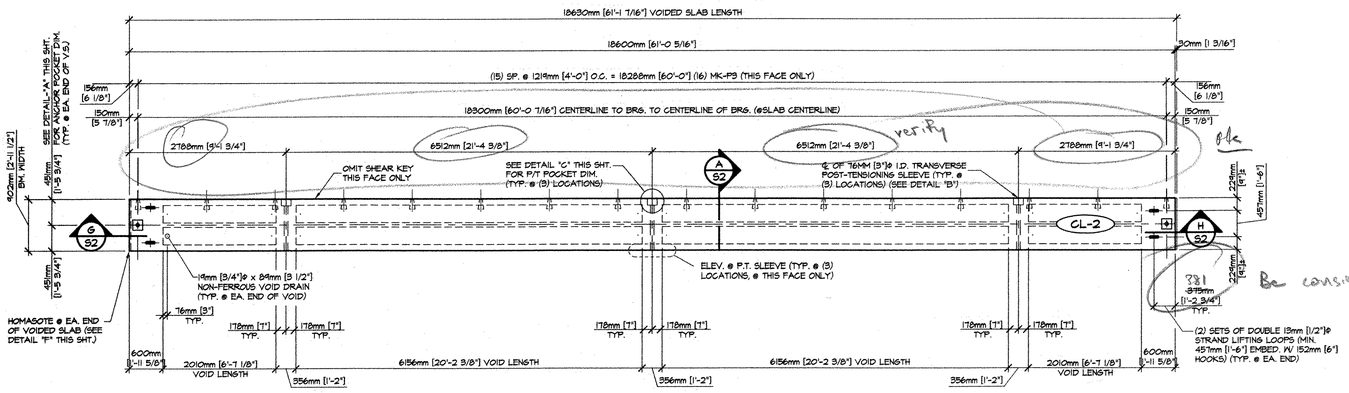
STATE OF VERMONT A.O.T.
COUNTY OF RUTLAND

DATE: MARCH 29, 2006
SCALE: NOTED
CHKD: - DFTM: D.S.S.
JOB NO: 23236-06

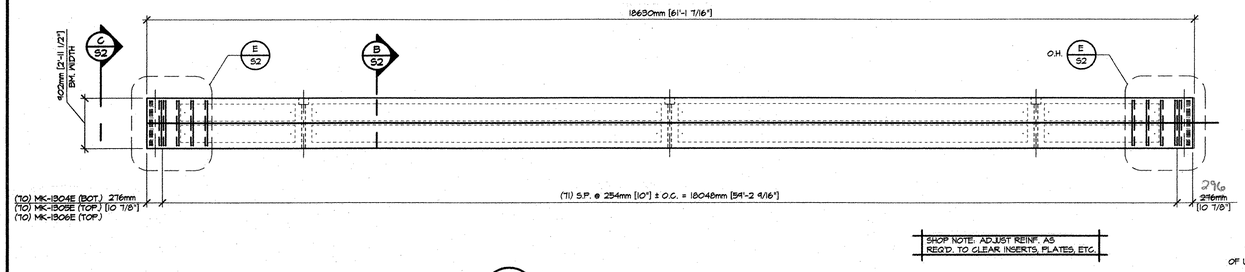
TOWN OF CLARENDON - BRIDGE #24
TH 16 OVER CLARENDON RIVER

P/S VOIDED SLAB DETAILS

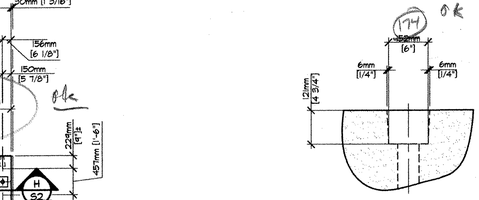
DWG. NO: S1
054 PCE



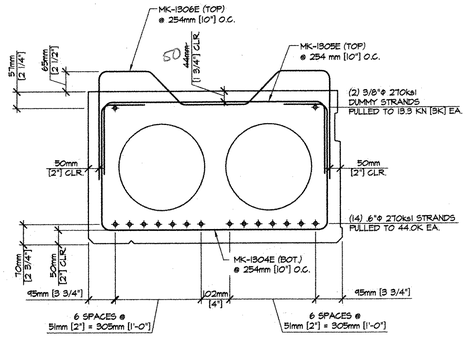
1 / S2 DIMENSIONAL PLAN VIEW IN FORM
1:50



2 / S2 REINFORCING PLAN VIEW IN FORM
1:50

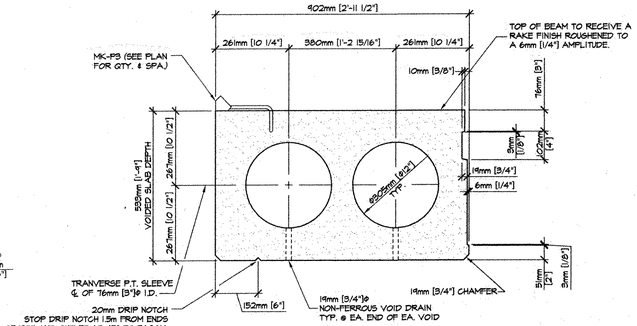


DETAIL - "C"
1:10

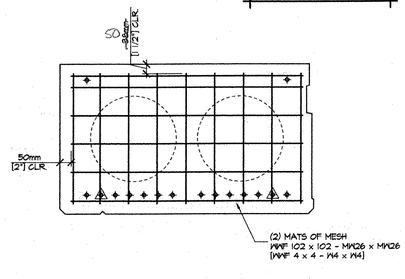


B / S2 REINFORCING SECTION
1:10

TOTAL (14) 15.25mm [.6"]ø x 1860 MPa [270KSI] STRANDS PULLED TO 195.5 KN [44.0 KI] EA.

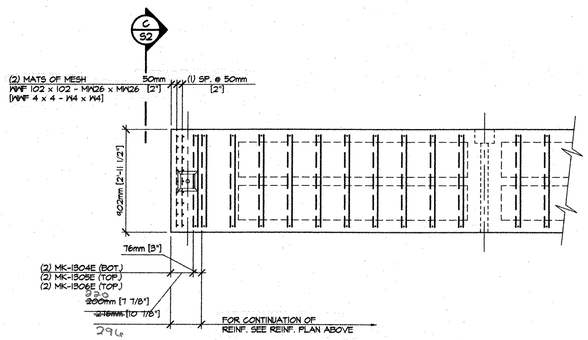


A / S2 DIMENSIONAL SECTION
1:10

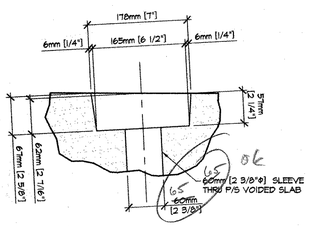


C / S2 END BLOCK REINF. SECTION
1:10

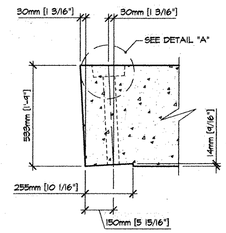
DENOTES STRAIGHT STRANDS TO BE FULLY TENSIONED TO 195.5 kN [44.0 K] AND DEBONDED 1850mm [6'-0 5/16"] FROM EA. END 1250



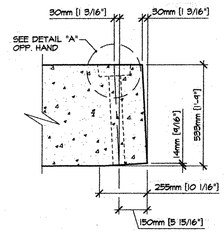
E / S2 END BLOCK REINF. PLAN



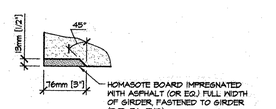
DETAIL - "A"
1:5



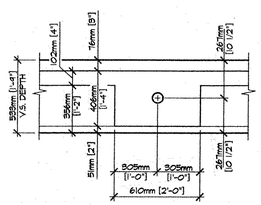
G / S2 END SECTION
1:15



H / S2 END SECTION
1:15



DETAIL - "F"
1:5



DETAIL - "B"
1:20

① ②

3 5 7 9 11 13 — 14 12 10 8 6 4

DETENSIONING SCHEDULE
N.T.S.

MARK: CL-2	QTY: 1	WT.: 16,293 kg [17.96 T]	VOL.: 6.78 m³ [8.87 cy]
MARK:	QTY:	WT.:	VOL.:

MATERIAL LIST / VOIDED SLAB

ITEM	MARK	DESCRIPTION	QTY./SLAB	
1	1304E	#13[#4] BENT BAR (EPOXY COATED)	74	
2	1305E	#13[#4] BENT BAR (EPOXY COATED)	74	
3	1306E	#13[#4] BENT BAR (EPOXY COATED)	74	
4		DECK FORM HANGER DAYTON G24 TYPE 4	16	
5		MWF 102 x 102 - MW26 x MW26 [MWF 4 x 4 - W4 x W4]	6	
6				
7		305mm [12"]ø x 6156mm [20'-2 3/8"] LONG VOID	4	
8		305mm [12"]ø x 2010mm [6'-7 1/8"] LONG VOID	4	
9				
10		19mm [3/4"]ø x 114mm [4 1/2"] NON-FERROUS VOID DRAIN	16	
11				
12		DOUBLE 13mm [1/2"]ø STRAND LIFTING LOOPS	4	

APPROVAL STAMP:

RECEIVED
OK'D BY JMP OK'D BY CWC
MAR 31 2006
RESUBMIT ____ APPROVED As noted
BY CWC DATE 4.6.06

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2464 OSE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

BELDEN COMPANY, INC.
CONTRACTOR
RUTLAND, VERMONT

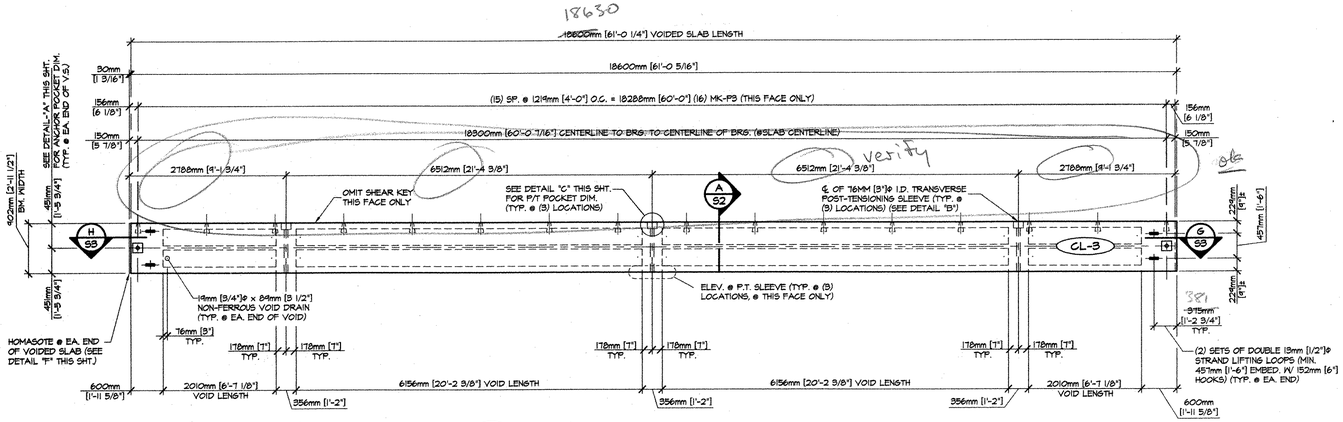
STATE OF VERMONT A.O.T.
COUNTY OF RUTLAND

DATE: MARCH 29, 2006
SCALE: NOTED
CHKD: - DFTM: D.S.S.
JOB NO: 23236-06

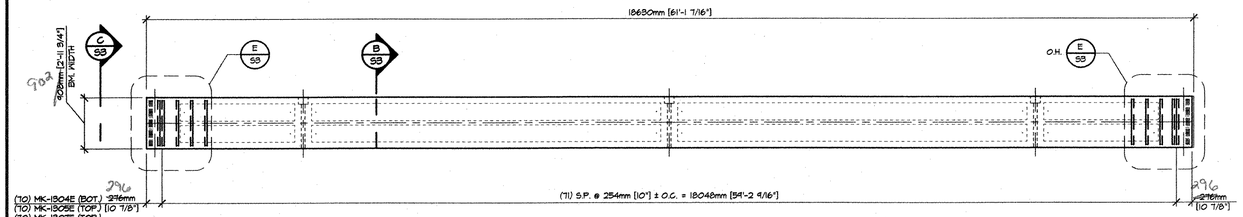
TOWN OF CLARENDON - BRIDGE #24
TH 16 OVER CLARENDON RIVER

P/S VOIDED SLAB DETAILS

DWG. NO: S2
055 PCC



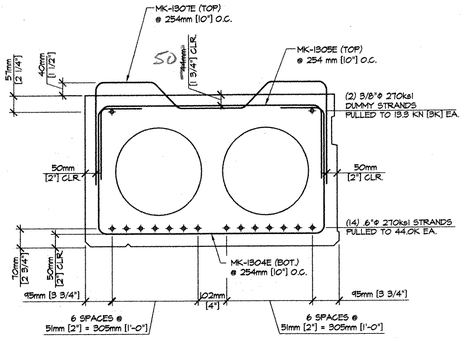
1 / S3 DIMENSIONAL PLAN VIEW IN FORM
1:50



SHOP NOTE: ADJUST REINF. AS REQ'D. TO CLEAR INSERTS, PLATES, ETC.

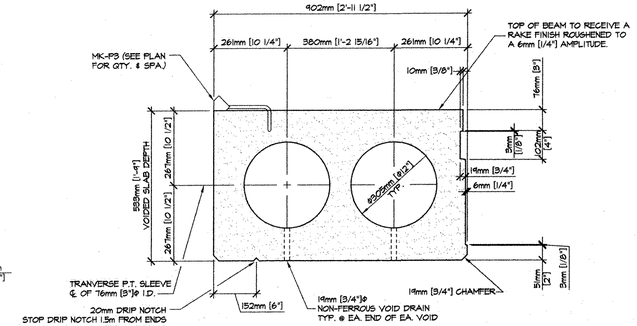
2 / S3 REINFORCING PLAN VIEW IN FORM
1:50

DETAIL - "C"
1:10

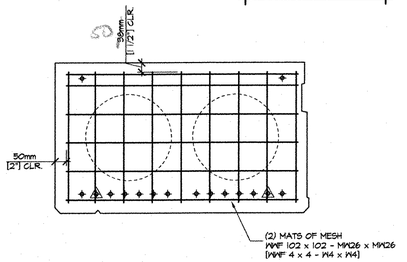


B / S3 REINFORCING SECTION
1:10

TOTAL (14) 15.23mm [6"]ø x 1860 MPa [270KSI] STRANDS PULLED TO 185.5 KN [44.0 K] EA.

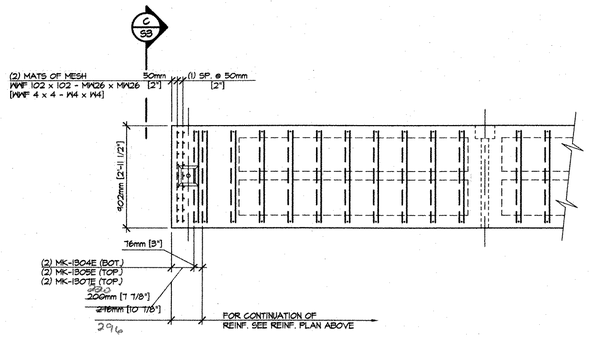


A / S3 DIMENSIONAL SECTION
1:10

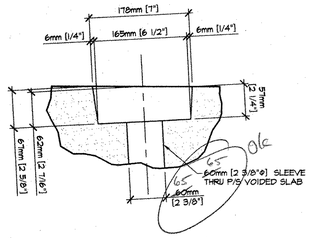


C / S3 END BLOCK REINF. SECTION
1:10

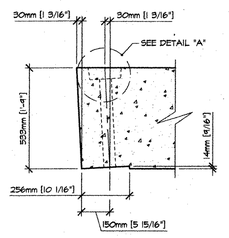
⚠ DENOTES STRAIGHT STRANDS TO BE FULLY TENSIONED TO 185.5 KN [44.0 K] AND DEBONDED 1250mm [4'-1 ½"] FROM EA. END



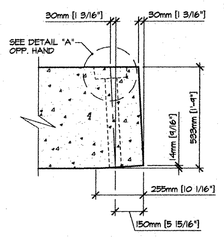
E / S3 END BLOCK REINF. PLAN
1:25



DETAIL - "A"
1:5

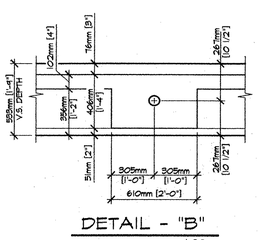


G / S3 END SECTION
1:15



H / S3 END SECTION
1:15

DETAIL - "F"
1:5



DETAIL - "B"
1:20

① ②

3 5 7 9 11 13 — 14 12 10 8 6 4

DETENSIONING SCHEDULE
N.T.S.

MARK: CL-3	QTY: 1	WT.: 16,293 kg [17.96 T]	VOL.: 6.78 m³ [8.87 cy]
MARK:	QTY:	WT.:	VOL.:

MATERIAL LIST / VOIDED SLAB

ITEM	MARK	DESCRIPTION	QTY./SLAB	
1	1304E	#13[#4] BENT BAR (EPOXY COATED)	74	
2	1305E	#13[#4] BENT BAR (EPOXY COATED)	74	
3	1307E	#13[#4] BENT BAR (EPOXY COATED)	74	
4	MKP3	DECK FORM HANGER DAYTON C24 TYPE 4	16	
5		WWF 102 x 102 - MW26 x MW26 [WWF 4 x 4 - W14 x W14]	6	
6				
7		305mm [12"]ø x 6156mm [20'-2 3/8"] LONG VOID	4	
8		305mm [12"]ø x 2010mm [6'-7 1/8"] LONG VOID	4	
9				
10		19mm [3/4"]ø x 114mm [4 1/2"] NON-FERROUS VOID DRAIN	16	
11				
12		DOUBLE 13mm [1/2"]ø STRAND LIFTING LOOPS	4	

APPROVAL STAMP:

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CK'D BY JMP OK'D BY CWC
MAR 31 2006
RESUBMIT_____ APPROVED As noted
BY CWC DATE 4.6.06

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2484 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

BELDEN COMPANY, INC.
CONTRACTOR
RUTLAND, VERMONT

STATE OF VERMONT A.O.T.
COUNTY OF RUTLAND

DATE: MARCH 29, 2006
SCALE: NOTED

TOWN OF CLARENDON - BRIDGE #24
TH 16 OVER CLARENDON RIVER

CHKD: - DFTM: D.S.S.
JOB NO: 23236-06

P/S VOIDED SLAB DETAILS

DWG. NO: S3
056 pce

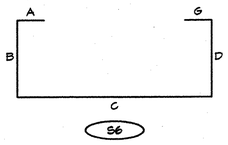
BENT BARS, TIES, & STIRRUPS

ITEM	MARK	QTY.	SIZE	LENGTH	TYPE	A	B	C	D	E	F/R	G	H	J	K	O	GRADE	REMARKS
1	1301E	~~298~~ ~~222~~	#13 [#4]	~~2369mm~~ ~~2184mm~~ [7'-2 3/16"]	S6	152mm [6"]	~~440mm~~ [1'-5 3/16"]	1105mm [3'-7 1/2"]	~~440mm~~ [1'-5 3/16"]			152mm [6"]					420 [60]	EPOXY COATED
2	1302E	~~298~~ ~~222~~	#13 [#4]	~~1835mm~~ [6'-4 1/8"]	S10		~~440mm~~ 310 [1'-5 3/16"]	1105mm [3'-7 1/2"]	~~440mm~~ 310 [1'-5 3/16"]								420 [60]	EPOXY COATED
3	1303E	~~298~~ ~~222~~	#13 [#4]	~~1901~~ ~~2161mm~~ [7'-1 1/16"]	L4	~~360~~ ~~355mm~~ [1'-9 7/8"]	180mm [7 1/16"]	~~180~~ ~~163mm~~ [6 3/8"]	~~625~~ 615mm [1'-8 1/4"]	~~180~~ ~~163mm~~ [6 3/8"]	180mm [7 1/16"]	~~360~~ ~~355mm~~ [1'-9 7/8"]	~~180~~ ~~115mm~~ [4 1/2"]		~~180~~ ~~115mm~~ [4 1/2"]	1105mm [3'-7 1/2"]	420 [60]	EPOXY COATED
4	1304E	~~152~~ 148	#13 [#4]	~~1969~~ ~~1784mm~~ [7'-2 3/16"]	S6	152mm [6"]	~~440mm~~ [1'-5 3/16"]	800mm [2'-7 1/2"]	~~440mm~~ [1'-5 3/16"]			152mm [6"]					420 [60]	EPOXY COATED
5	1305E	~~152~~ 148	#13 [#4]	~~1730~~ ~~1586mm~~ [5'-2 1/2"]	S10		~~310~~ ~~440mm~~ [1'-5 3/16"]	800mm [2'-7 1/2"]	~~310~~ ~~440mm~~ [1'-5 3/16"]								420 [60]	EPOXY COATED
6	1306E	~~76~~ 74	#13 [#4]	~~1607~~ ~~1856mm~~ [6'-1 1/8"]	L4	~~360~~ ~~355mm~~ [1'-9 7/8"]	180mm [7 1/16"]	~~180~~ ~~163mm~~ [6 3/8"]	~~240~~ ~~217mm~~ [8 1/2"]	~~180~~ ~~163mm~~ [6 3/8"]	180mm [7 1/16"]	~~360~~ ~~355mm~~ [1'-9 7/8"]	~~180~~ ~~115mm~~ [4 1/2"]		~~180~~ ~~115mm~~ [4 1/2"]	800mm [2'-7 1/2"]	420 [60]	EPOXY COATED
7	1307E	~~76~~ 74	#13 [#4]	~~1597~~ ~~1334mm~~ [5'-8 1/4"]	L4	~~360~~ ~~330mm~~ [1'-8 7/8"]	180mm [7 1/16"]	~~180~~ 127mm [5"]	~~240~~ ~~217mm~~ [8 1/2"]	~~180~~ 127mm [5"]	180mm [7 1/16"]	~~360~~ ~~330mm~~ [1'-8 7/8"]	~~180~~ 90mm [3 1/2"]		~~180~~ 90mm [3 1/2"]	800mm [2'-7 1/2"]	420 [60]	EPOXY COATED
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

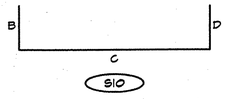
Verify lengths according to revised clearances

MISCELLANEOUS MATERIALS

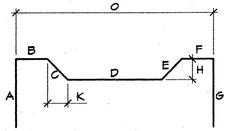
ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1	MKP3	32	DAYTON C24 TYPE 4 - APR PRECAST HALF HANGER (GALV.)	FOR ERECTION
2		20	305mm [12"]ø x 6156mm [20'-2 3/8"] LONG VOID	
3		20	305mm [12"]ø x 2010mm [6'-7 1/8"] LONG VOID	
4		6	254mm [10"]ø x 6156mm [20'-2 3/8"] LONG VOID	
5		6	254mm [10"]ø x 2010mm [6'-7 1/8"] LONG VOID	
6		80	19mm [3/4"]ø x 114mm [4 1/2"] NON-FERROUS VOID DRAINS	
7		24	19mm [3/4"]ø x 140mm [5 1/2"] NON-FERROUS VOID DRAINS	
8		20	DOUBLE 13mm [1/2"]ø STRAND LIFTING LOOPS	
9	EM-1	6	PL 19mm [3/4"] x 127mm [5"] x 127mm [5"] W/ (1) 51mm [2"]ø HOLE (GALV.)	FOR ERECTION (SEE DETAIL THIS SHEET)
10		3	13mm [1/2"] ø x 6325mm [20'-9"] POLYSTRAND	
11		6	SINGLE USE STRESSING CHUCK & GREASE CAPS	
12	EM-3	10	PL 13mm [1/2"] x 127mm [5"] x 127mm [5"] W/ (1) 38mm [1 3/4"]ø HOLE (GALV.)	FOR ERECTION (SEE DETAIL THIS SHEET)
13		10	38mm [1 3/4"]ø x 1200mm [48"] ANCHOR BOLT W/ 76mm [3"] THREADED ON END (GALV.)	FOR ERECTION (SEE DETAIL THIS SHEET)
14		10	38mm [1 3/4"]ø HEAVY HEX NUT (GALV.)	FOR ERECTION (SEE DETAIL THIS SHEET)
15		10	38mm [1 3/4"]ø STANDARD WASHER (GALV.)	FOR ERECTION (SEE DETAIL THIS SHEET)
16		20	152mm [6"] x 203mm [8"] x 38mm [1 1/2"] ELASTOMERIC BEARING PADS	(SEE DETAIL THIS SHEET)
17		18	WWF 102x102-MM26xMM26 [WWF 4x4-W4xW4] 445mm x 1105mm [1'-5 1/2" x 3'-7 1/2"]	
18		8	WWF 102x102-MM26xMM26 [WWF 4x4-W4xW4] 445mm x 808mm [1'-5 1/2" x 2'-7 1/2"]	
19				
20				
21				
22				



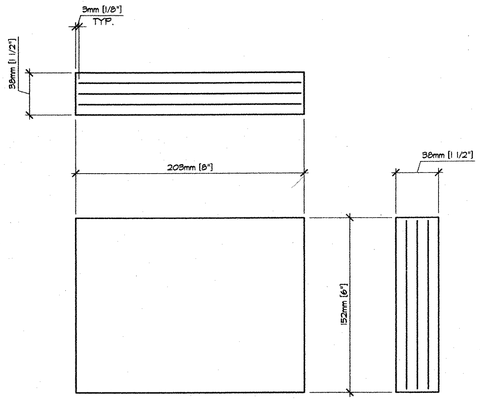
S6



S10

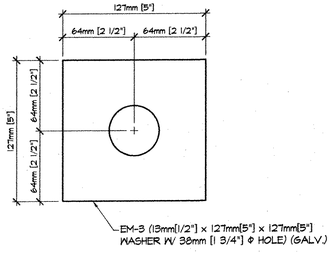


L4

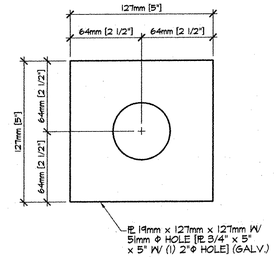


ELASTOMERIC BEARING DETAIL
1:2

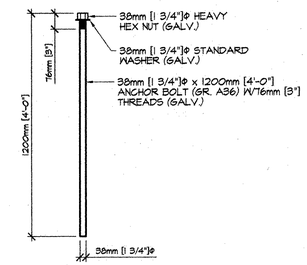
4 - 8mm LAYERS OF ELASTOMERIC ALTERNATING WITH
3 - 14 GAUGE STEEL REINFORCING PLATES



EM - 3
1:2



EM - 1
1:2



ANCHOR BOLT DETAIL
1:20

APPROVAL STAMP:

RECEIVED
CK'D BY JWP CK'D BY CWC
MAR 31 2006
RESUBMIT____ APPROVED As noted
BY CWC DATE 4-6-06

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2484 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

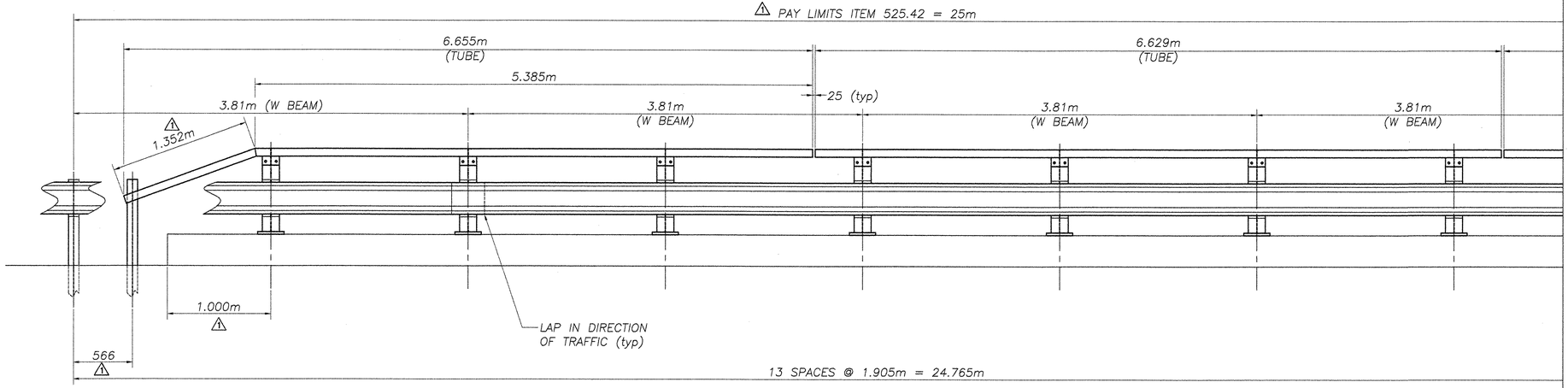
BELDEN COMPANY, INC.
CONTRACTOR
RUTLAND, VERMONT

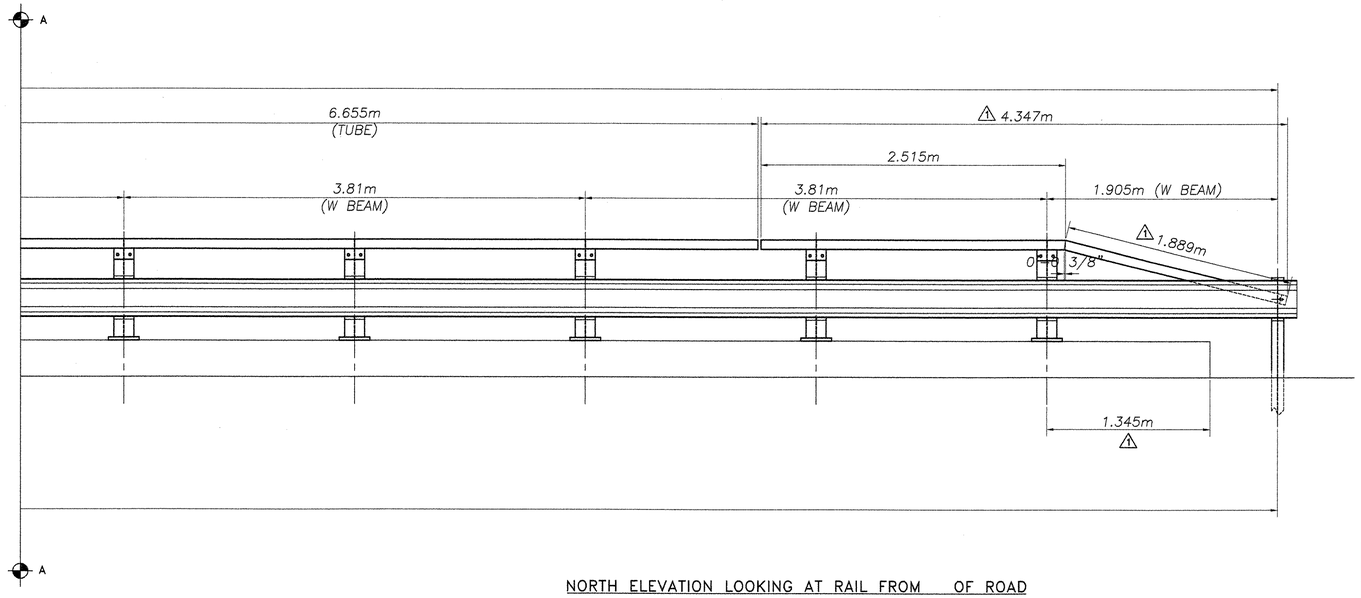
STATE OF VERMONT A.O.T.
COUNTY OF RUTLAND

TOWN OF CLARENDON - BRIDGE #24
TH 16 OVER CLARENDON RIVER

MATERIALS LIST

DATE: MARCH 29, 2006
SCALE: NOTED
CHKD: - DFTM: D.S.S.
JOB NO: 23236-06
DWG. NO: M1
057 Pell





NORTH ELEVATION LOOKING AT RAIL FROM OF ROAD
SOUTH ELEVATION SIMILAR
TOTAL PAY LIMITS = 50m

BILL OF MATERIAL ITEM 525.42 ⚠1

	Qty.	Description	Size/Shape	Length	Material
		WEATHERING STEEL COMPONENTS			
⚠1		CURB MOUNTED PEDESTAL POST 830 OAH			
	24	w beam post upright	W150 x 30	805	AASHTO M222
	24	baseplate welded to post upright	pl 25 x 210	255	AASHTO M222
	24	steel blockout	W150 x 13.5	356	AASHTO M222
	104	hex bolt w/ flat washer & hex nut	M16	38	A307
	28	post bolt w/ flat washer rec washer & hex nut	M16	51	A307
	4	hex bolt w/ rec washer flat washer & hex nut	M16	191	A307
	24	hand rail attachment angle	L127 x 89 x 10	165	AASHTO M222
	48	hex bolt w/ 2 flat washers & hex nut	M16	51	A307
⚠1	6	driven post	W150 x 13.5	1.83m	AASHTO M222
	112	splice bolt w/ DR nut	M16	32	M164 type III
		GALVANIZED AND PAINTED STEEL COMPONENTS			
*		HAND RAIL			
⚠1 *	2	hand rail tube w/ drop end	TS 152x76x6	6.655m	A500 gr B
*	2	hand rail tube	TS 152x76x6	6.629m	A500 gr B
*	2	hand rail tube	TS 152x76x6	6.655m	A500 gr B
	2	hand rail tube w/ drop end	TS 152x76x6	4.347m	A500 gr B
⚠1	24	hex bolt w/ (2) flat washer & heavy hex nut	M16	114	A307
	12	splice bar	PL 20 x 127	787	AASHTO M223
	24	hex bolt w/ flat washer & heavy hex nut	M20	114	A307

⚠1 **BILL OF MATERIAL ITEM 525.42 (items furnished by others)**

	PANEL (by others)			
12	w beam	1.905m	3.81m	M180 b4
2	w beam	1.905m	1.905m	M180 b4
	ANCHORS (by others)			
96	anchor stud w/ 2 hex nuts **BY OTHERS**	M20	300	A449

⚠1*** TS 152 x 76 x 6 HAND RAIL TO BE GALVANIZED AND PAINTED BROWN, COLOR 50059 IN ACCORDANCE WITH VAOT SUPPLEMENTAL SPECIFICATION 513.06(F).

NOTE
Weathering steel hardware provided, subject to availability at time of delivery. Bolts may be alternatively provided galvanized with all surfaces, exposed to view after final installation, touced up with brown paint. Painting of exposed hardware surfaces shall be painted after installation in the field. Touch up paint matching the shop applied paint system will be furnished for minor field repair after installation and painting of hardware if necessary.

REVISIONS		
No.	Remarks	Date
0	Initial submittal	7/12/06
1	VT DOT Corrections	8/08/06

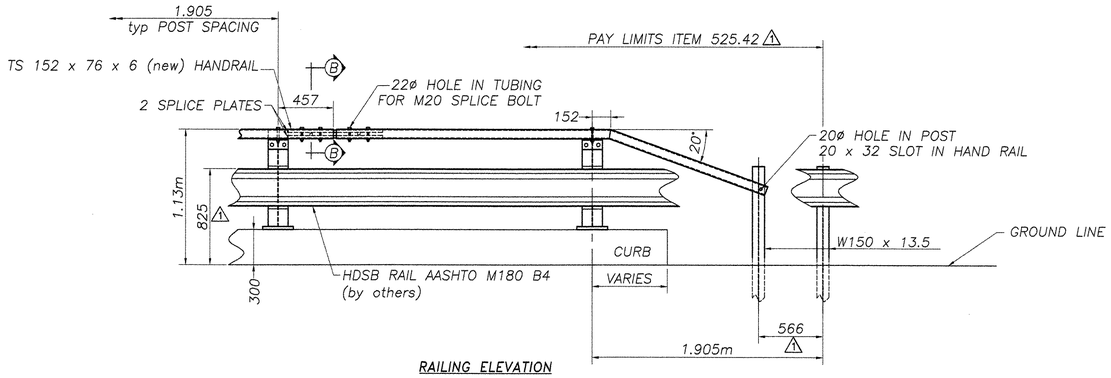
VTRANS
RECEIVED
CK'D BY G. Roy OK'D BY
AUG 21 2006
RESUBMIT APPROVED
BY DATE
— RECORD PLANS —

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

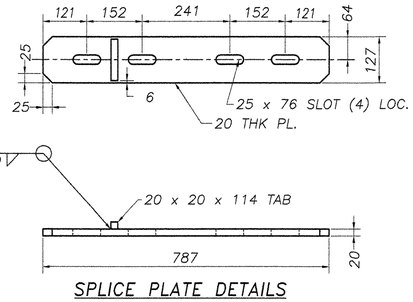
ITEM # 525.42 CURB MOUNTED HDSB w/ HAND RAILING
TOWN OF CLARENDEN
COUNTY OF RUTLAND
ROUTE NO. TH 16, CLASS 3 BRIDGE NO. 24

DRAWN C CRAMER
CHECKED
DATE 7/10/06
SCALE NTS
HSC REFERENCE NO. 1556
GENERAL CONTRACTOR
SIZE D REVISION ⚠1
SUB CONTRACTOR F.R. LAFAYETTE INC.
SHEET NO. 1 of 2

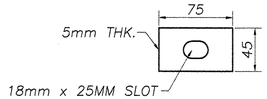
#058 BR



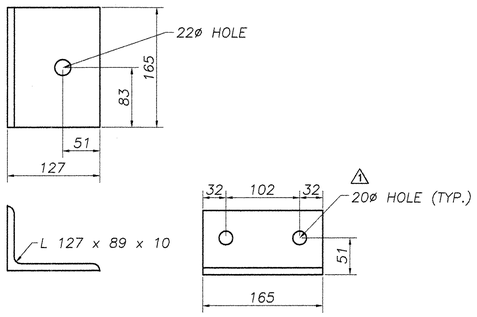
RAILING ELEVATION



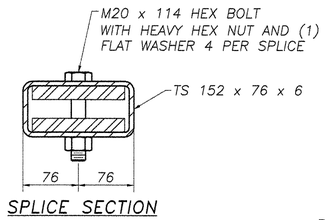
SPLICE PLATE DETAILS



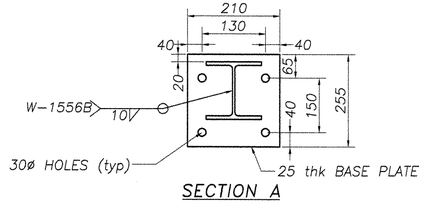
RECTANGULAR WASHER



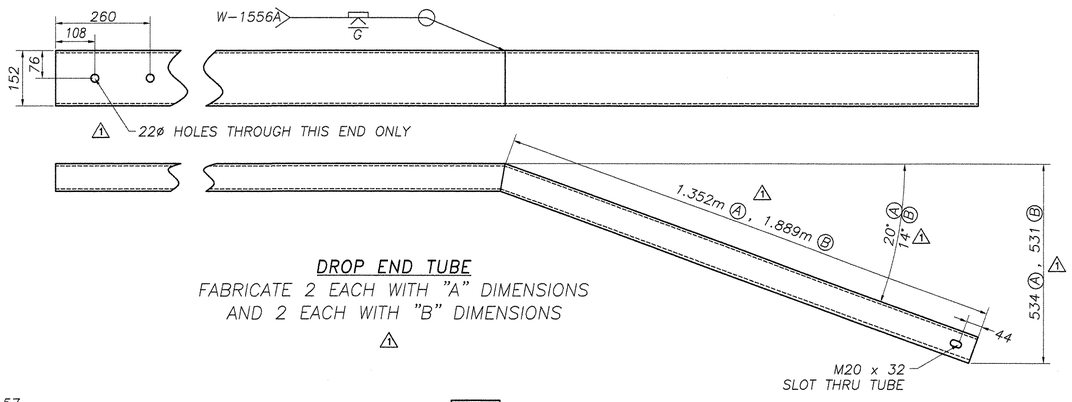
SHELF BRACKET



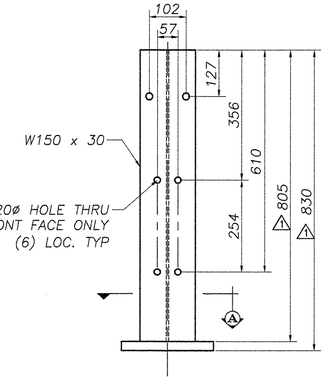
SPLICE SECTION



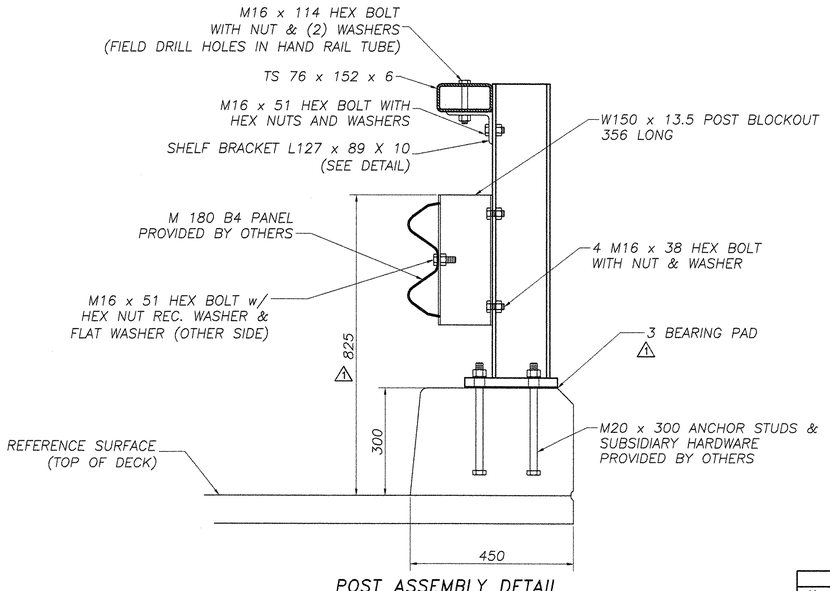
SECTION A



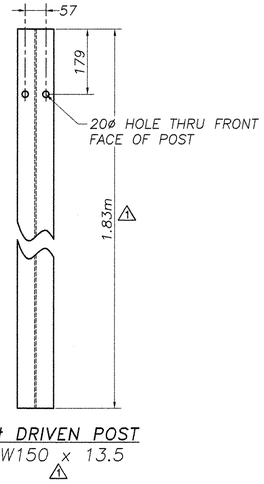
DROP END TUBE
FABRICATE 2 EACH WITH "A" DIMENSIONS
AND 2 EACH WITH "B" DIMENSIONS
⚠1



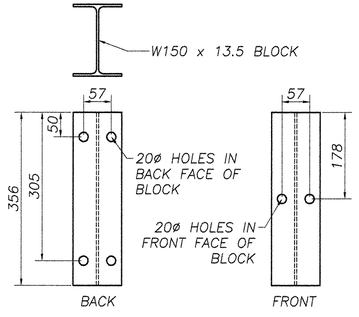
CURB MOUNTED PEDESTAL POST



POST ASSEMBLY DETAIL



1st DRIVEN POST
W150 x 13.5
⚠1



OFFSET BLOCK DETAILS

⚠1 NOTES

1. SEE STANDARD G-1dM & SB-R6-82M FOR ADDITIONAL DETAILS OF STEEL BEAM GUARD RAIL AND STANDARD SB-R4a-82 FOR ADDITIONAL DETAILS OF BOX BEAM GUARD RAIL

2. ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED AND CONFORM TO SECTION 714.07 **BY OTHERS**

3. BRIDGE RAIL TYPES A, C & E: HEAVY DUTY STEEL BEAM RAIL SHALL BE AASHTO M180, CLASS B TYPE-II. POST AND BRACKETS, AS WELL AS PLATE AND SPECIAL WASHERS, SHALL BE AASHTO M223/M223M STEEL. BOLTS SHALL BE ASTM A307. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION TO AASHTO MIII OR M232 (HARDWARE). PRIOR TO GALV, GRIND ALL EDGES OF SHAPES AND PLATES TO MIN. 2mm RADIUS

4. BRIDGE RAIL TYPE B & D: HEAVY DUTY STEEL BEAM RAIL SHALL BE AASHTO M180, CLASS B-TYPE 4 **BY OTHERS**. POSTS AND BRACKETS AS WELL AS PLATE AND SPECIAL WASHERS, SHALL BE AASHTO M222/M222M STEEL.

5. ALL POSTS SHALL BE SET TO NORMAL GRADE

6. BRIDGE APPROACH RAIL HEIGHT SHALL BE TRANSITIONED TO NORMAL ROADWAY HEIGHT IN 7.62m

7. APPROACH RAILING SHALL BE HEAVY DUTY STEEL BEAM AS DETAILED ON THE CONTRACT PLANS.

8. FOR THE TYPE A,B,C, OR D BRIDGE RAILING, THE TRANSITION POST SHALL HAVE AN OFFSET BLOCK AND BE LOCATED AS CLOSE AS PRACTICAL TO THE MID POINT BETWEEN THE BRIDGE END POST AND APPROACH RAIL POST 1.

9. SPLICES SHALL LAP IN DIRECTION OF TRAFFIC FLOW

10. SEE STANDARD SHEET G-1M FOR DELINEATOR DETAILS AND PLACEMENT.

11. ERECT DELINEATOR ON EVERY FIFTH POST OR APPROXIMATELY 9m APART. PAYMENT SHALL BE SUBSIDIARY TO OTHER ITEMS.

12. THE DROP WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING.

REVISIONS		
No.	Remarks	Date
0	Initial submittal	7/12/06
1	VT DOT Corrections	8/08/06

VTRANS
RECEIVED
CK'D BY G.Roy OK'D BY
AUG 21 2006
RESUBMIT APPROVED
BY DATE
— RECORD PLANS —

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

ITEM # 525.42 CURB MOUNTED HDSB w/ HAND RAILING
TOWN OF CLARENDEN
COUNTY OF RUTLAND
ROUTE NO. TH 16, CLASS 3 BRIDGE NO. 24

GENERAL CONTRACTOR
SUB CONTRACTOR FR LAFAYETTE, INC

DRAWN	C CRAMER
CHECKED	
DATE	7/10/06
SCALE	NTS
HSC REFERENCE NO.	1556
SIZE	D
REVISION	⚠1
SHEET NO.	2 of 2

#059 BR