SEE SHEET 2 FOR INDEX OF SHEETS
AND LIST OF STANDARDS

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

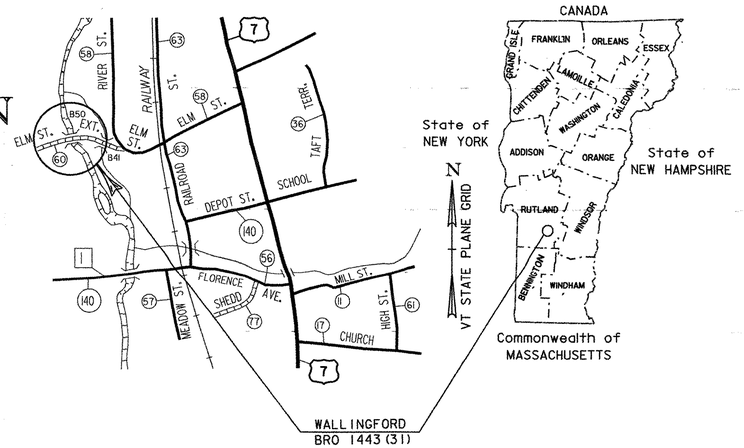
TOWN OF WALLINGFORD
COUNTY OF RUTLAND

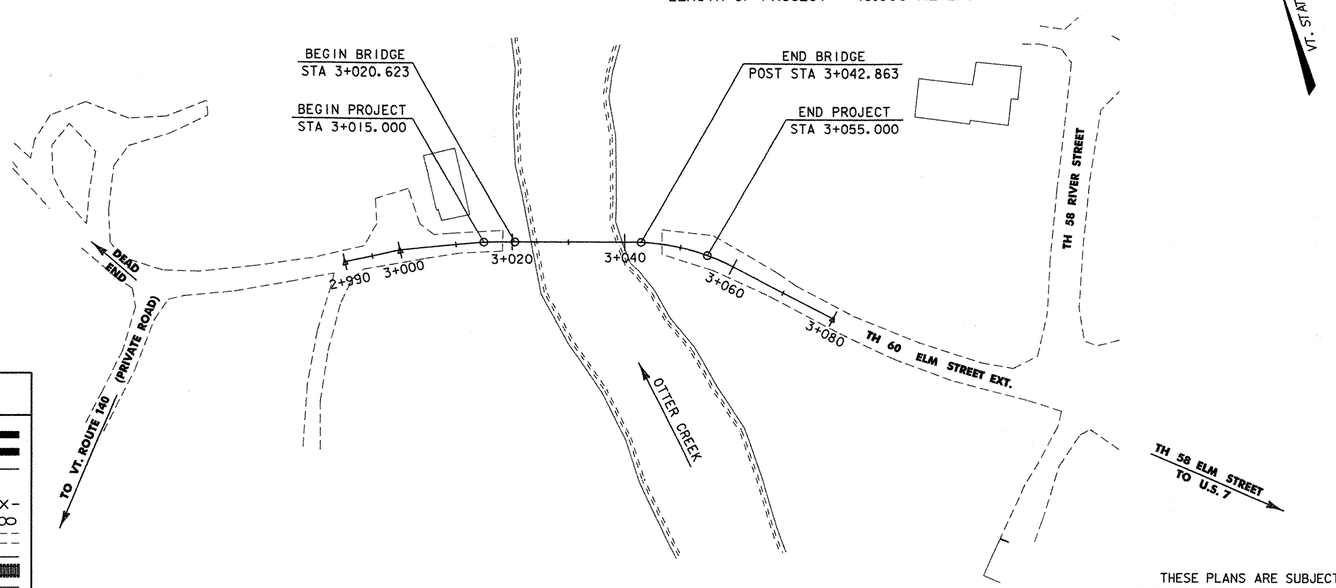
ROUTE NO: TH 60, CLASS 3 (LOCAL ROAD), BRIDGE 50

PROJECT LOCATION : THE BRIDGE IS LOCATED APPROXIMATELY 0.080 KM WESTERLY OF THE INTERSECTION OF TH 60 AND TH 58.

PROJECT DESCRIPTION : THE PROJECT SHALL CONSIST OF THE REPLACEMENT OF THE EXISTING SUPERSTRUCTURE, REHABILITATION OF ABUTMENT NO. 1 AND REPLACEMENT OF ABUTMENT NO. 2 WITH MINIMAL APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE = 22.240 METERS
LENGTH OF ROADWAY = 17.760 METERS
LENGTH OF PROJECT = 40.000 METERS





CONVENTIONAL SYMBOLS

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

SURVEYED BY : L. ORVIS
SURVEYED DATE : FEB 1995 & JUNE 1998

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83/92

RECORD PLANS

CONTRACTOR: ALPINE CONSTRUCTION L.L.C. – SCHUYLERVILLE, NY
RESIDENT ENGINEER: TIM POCKETTE
CONSTRUCTION BEGAN: MARCH 20, 2006
CONSTRUCTION COMPLETE: NOVEMBER 13, 2006
RECORD PLANS BY: TIM POCKETTE & JUDY GILMORE

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

BY _____ RESIDENT ENGINEER
DATE April 5, 2007

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.

VAOT 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.

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 9-21-05

PROJECT MANAGER : ROGER WHITCOMB

PROJECT NAME : WALLINGFORD
PROJECT NUMBER : BRO 1443(31)

SHEET 1 OF 38 SHEETS

sj084ti.i
/PW/94J084/sJ084bdr.dgn PLOTTED 22-SEP-2005

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

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2. PRELIMINARY INFORMATION SHEET
3. TYPICAL SECTION SHEET
4-5. QUANTITY SHEETS
6. ROW DETAIL SHEET
7. ROW PLAN SHEET
8. TIE SHEET
9. PLAN SHEET
10. MAINLINE PROFILE
11. TRAFFIC CONTROL / CONSTRUCTION SIGNING SHEET
12. BORING LAYOUT SHEET
13. BORING LOG SHEET
14. PLAN AND ELEVATION
15. EROSION CONTROL NARRATIVE
16. EXISTING CONDITIONS SITE PLAN
17. EROSION & SEDIMENT CONTROL PLAN
18. FINAL CONDITIONS SITE PLAN
19A. EROSION CONTROL DETAILS
19B. EROSION CONTROL DETAILS - SILT FENCE
20. GENERAL NOTES
21. ACCESS RAMP DETAILS
22. DECK REINFORCING DETAILS
23. BOX BEAM DETAILS
24 CURB, RAIL AND CURTAIN WALL DETAILS
25. BEGIN AND END BRIDGE DETAILS
26. ABUTMENT #1 DETAILS
27. ABUTMENT #2 DETAILS
28. WINGWALL 3 & 4 DETAILS
29. ABUTMENT #1 AND #2 CORNER DETAILS
30. REINFORCING STEEL SCHEDULE
31-35. MAINLINE CROSS SECTIONS
36-38. CHANNEL SECTIONS

LIST OF STANDARDS

E-100	CONSTRUCTION APPROACH SIGNS	1/2/2004
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	1/2/2004
E-101	CONSTRUCTION SIGN DETAILS	5/30/2003
E-102	CONSTRUCTION SIGN DETAILS	6/30/2003
E-102A	CONSTRUCTION SIGN DETAILS	6/13/1997
E-106	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	3/1/2004
E-107	DELINEATION, BARRICADES AND DETOURS FOR U-TURNS ON DIVIDED HIGHWAY	6/30/2003
E-107A	BREAKAWAY BARRICADE DETAILS	8/8/1995
E-121	STANDARD SIGN PLACEMENT CONVENTIONAL ROAD	8/8/1995
G-1M	STEEL BEAM GUARDRAIL (50 MPH & OVER), HEAVY DUTY STEEL BEAM GUARDRAIL, TWISTED END TERMINAL, ANCHOR FOR STEEL BEAM RAIL	1/3/2000
G-1DM	STEEL BEAM GUARDRAIL (40 MPH & LESS), HEAVY DUTY STEEL BEAM GUARDRAIL, STEEL BEAM MEDIAN BARRIER, ANCHOR FOR STEEL BEAM RAIL	1/3/2000
SB-R6-82M	BRIDGE RAILING - HEAVY DUTY STEEL BEAM	7/10/1997

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 5/6/99

DRAINAGE AREA : 265.5 sq. km
CHARACTER OF TERRAIN : Hilly to mountainous, with a narrow flood plain
STREAM CHARACTERISTICS : There is channel bend through the bridge section
NATURE OF STREAMBED : Sand, gravel, and cobbles

PEAK FLOW DATA

Q 2.33 =	93.4 cms	Q 50 =	360 cms
Q 10 =	207 cms	Q 100 =	445 cms
Q 25 =	300 cms	Q 500 =	735 cms

DATE OF FLOOD RECORD : Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q25 = 4.4 mps
ICE CONDITIONS : Moderate
DEBRIS: High
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: N/A

WATERSHED STORAGE: 1%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: (Truss Bridge) Temp Mabey Bridge
YEAR BUILT: (1928)
CLEAR SPAN(NORMAL TO STREAM): 19 m
VERTICAL CLEARANCE ABOVE STREAMBED: 4.4 m
WATERWAY OF FULL OPENING: 66 sq. m
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 =	170.7 m	VELOCITY=	2.3 mps
Q10 =	172.4 m	"	3.8 mps
Q25 =	172.5 m	"	4.4 mps
Q50 =	172.6 m	"	4.7 mps
Q100 =	172.8 m	"	5.1 mps

LONG TERM STREAMBED CHANGES: Abut.2 undermined full length due to channel migration

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Less than Q10
RELIEF ELEVATION: 171.4 m
DISCHARGE OVER ROAD @Q100: 241 cms

UPSTREAM STRUCTURE

TOWN: Wallingford — DISTANCE: +/- 300 m
HIGHWAY# : SNTH 140 (FAS 0138) — STRUCTURE #: Bridge 54
CLEAR SPAN: 38.1 m — CLEAR HEIGHT: 3.0 m (avg.)
YEAR BUILT: 1949 — FULL WATERWAY: Unknown
STRUCTURE TYPE: Single Span Thru Truss Steel

DOWNSTREAM STRUCTURE

TOWN: Wallingford — DISTANCE: +/- 460 m
HIGHWAY# : TH-2 — STRUCTURE #: Bridge 59
CLEAR SPAN: 11.6 m (ea) — CLEAR HEIGHT: 3.0 m (avg.)
YEAR BUILT: 1922 — FULL WATERWAY: Unknown
STRUCTURE TYPE: Two Span Concrete T-Beam

LOAD FACTOR LOAD RATING (METRIC TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY A=2.17	33	48					
POSTED A=1.55	36	50	65		48	48	58
OPERATING A=1.30		53	68	83	50	51	

STRENGTH RF= $\frac{\phi M_n - 1.3\, M_{DL}}{A \times M_{LL+I}}$

COMMENTS:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
1999	55	10	0	8	2
2019	75	15	0	10	15

20 year ESAL for flexible pavement from 1999 to 2019 : 58,000
40 year ESAL for flexible pavement from 1999 to 2039 : 150,000
Design Speed : 30 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Precast concrete box beam bridge

CLEAR SPAN(NORMAL TO STREAM): 19.6 m
VERTICAL CLEARANCE ABOVE STREAMBED: 4.4 m
WATERWAY OF FULL OPENING: 67.4 sq.m

WATER SURFACE ELEVATIONS AT:

Q2.33 =	170.7 m	VELOCITY=	2.3 mps
Q10 =	172.4 m	"	3.8 mps
Q25 =	172.6 m	"	4.4 mps
Q50 =	172.7 m	"	4.7 mps
Q100 =	172.8 m	"	5.1 mps

IS THE ROADWAY OVERTOPPED BELOW Q100: YES
FREQUENCY: Less than Q10
RELIEF ELEVATION: 171.4 m
DISCHARGE OVER ROAD @Q100: 238 cms

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 172.3 m
VERTICAL CLEARANCE: @ Q 25 = -0.4 m

SCOUR: 0.3 m contraction scour at Q100, 0.9 m contraction scour at Q500

REQUIRED CHANNEL PROTECTION: Type IV Stone Fill

PERMIT INFORMATION

AVERAGE DAILY FLOW:	6.0 cms	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	2.7 cms	168.5 m
ORDINARY HIGH WATER:	40.1 cms	170.0 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: N/A
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

DESIGN CRITERIA

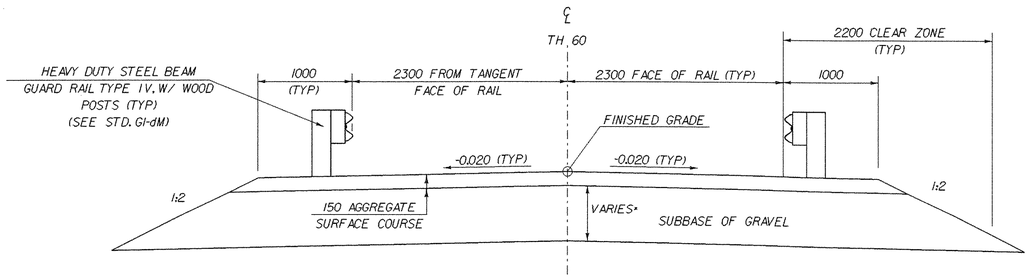
1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 21.5m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 190 kPa
   ON LEDGE 480 kPa
4. ALLOWABLE LOAD FOR PILING N/A
   TYPE
   ESTIMATED LENGTH N/A
5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE N/A
6. REINFORCING STEEL GRADE 420
7. CONCRETE, HIGH PERFORMANCE CLASS AA f'c: 30 Mpa
   CONCRETE, HIGH PERFORMANCE CLASS B f'c: 25 Mpa
8. DESIGN SOIL UNIT WEIGHT 22.00 kN/m³
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL 176 kPa

TRAFFIC MAINTENANCE

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

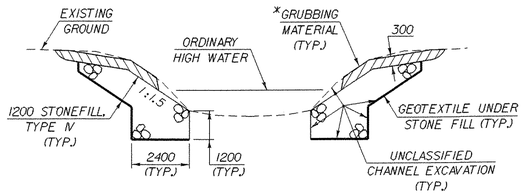
PROJECT NAME: WALLINGFORD
PROJECT NUMBER: BRO 1443(31)

FILE NAME: /TransFANS/94j084/sj084pi.xls — PLOT DATE: 8/23/2005
PROJECT MANAGER: R. WHITCOMB — DRAWN BY: J. GILMORE
DESIGNED BY: K. UPMAL — CHECKED BY: C. MEUNIER
PRELIMINARY INFORMATION SHEET — SHEET 2 OF 38



ROADWAY TYPICAL SECTION (STATION 3+042.863-3+055.000)

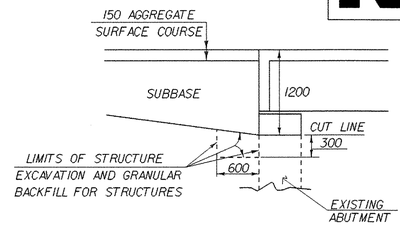
(SCALE 1:30)



TYPICAL CHANNEL SECTION

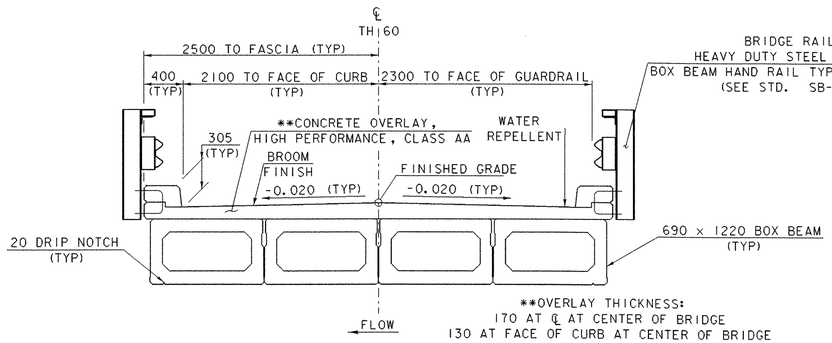
(NOT TO SCALE)

*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.



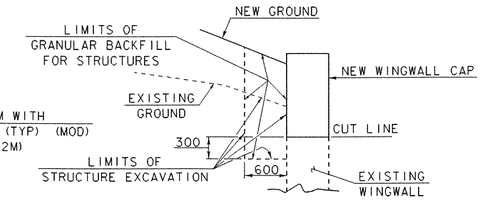
ABUTMENT NO.1 EXCAVATION DETAILS

(NOT TO SCALE)



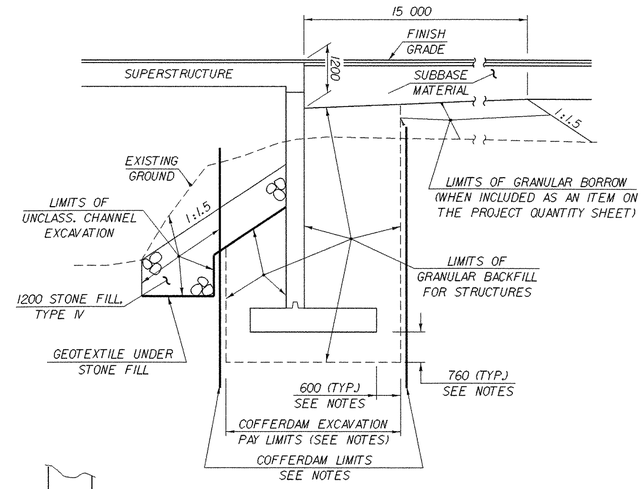
PRECAST CONCRETE BOX BEAM BRIDGE TYPICAL SECTION

(SCALE 1:30)



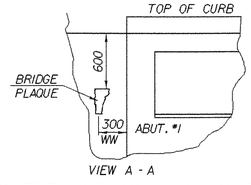
WINGWALL 1 & 2 EXCAVATION DETAILS

(NOT TO SCALE)



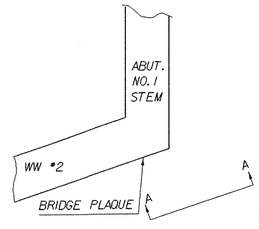
ABUTMENT NO.2 EXCAVATION DETAILS

(NOT TO SCALE)

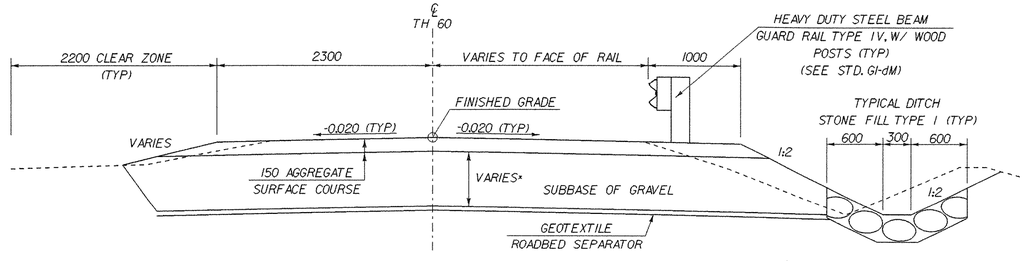


LOCATE BRIDGE PLAQUE

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER. (DETAILS ABOVE ARE NOT MEANT TO BE SITE SPECIFIC.)



PLAN



ROADWAY TYPICAL SECTION (STATION 3+015.000-3+020.623)

(SCALE 1:30)

* SEE SUBBASE TRANSITION DIAGRAM

MATERIAL ITEM	TOLERANCE
AGGREGATE SURFACE COURSE	± 10 mm
SUBBASE	± 30 mm
GRANULAR BORROW	± 30 mm

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 PERIMETER OF THE FOOTING, UP TO EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. 760 UNDERCUT BELOW FOOTING.
4. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.

SHEET NAME: TYPICAL SECTIONS

PROJECT NAME: WALLINGFORD
PROJECT NUMBER: BRO 1443(31)
HIGHWAY NO.: TH 60
BRIDGE NO.: 50
OVER: OTTER CREEK

FILE NAME: /PW/94J084/sJ084typ.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:
PLOT DATE: 24-OCT-2005
DRAWN BY: J. GILMORE
IPARM NAME: sJ084typ.I
SHEET 3 OF 38

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	WOODEN FOOTBRIDGE	CHANNEL	SUPER-STRUCTURE	ABUT. #1	ABUT. #2	EROSION CONTROL	FULL CE ITEMS
1							
230							
		150					
						10	
	1			9			
				10	410		
					520		
					30		
					1		
189	1					20	
50							
			26				
	1			8	117		
	20			670	8150		
				27			
			2000				
			88				
			66				
			60	4	13		
	0.17						
			50				
			1				
			5				
			16				
						5	
330							
60						10	
						10	
						10	
		320					
110							
38							
4							
							1
							1
							1
1							
1							
90							
		220					
						100	
						90	
						5	

TOTALS

BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL
		1	
		230	
150		150	
		10	
9		10	
420		420	
520		520	
30		30	
1		1	
		210	
		50	
26		26	
125		126	
8820		8840	
27		27	
2000		2000	
88		88	
66		66	
77		77	
		0.17	
50		50	
1		1	
5		5	
16		16	
		5	
		330	
		70	
		10	
		10	
320		320	
		110	
		38	
		4	
		1	
		1	
		1	
		1	
		1	
		90	
220		220	
		100	
		90	
		5	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
LS	CLEARING AND GRUBBING (INCL. INDV. TREES & STUMPS)	201.10
CM	COMMON EXCAVATION	203.15
CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27
CM	TRENCH EXCAVATION OF EARTH	204.20
CM	STRUCTURE EXCAVATION (ABUTMENT #1 STA. 3+020.623)	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. 3+042.863)	208.40
CM	SUBBASE OF GRAVEL	301.15
CM	AGGREGATE SURFACE COURSE	401.10
CM	CONCRETE, HIGH PERFORMANCE CLASS AA	501.32
CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
KG	REINFORCING STEEL	507.15
M	DRILLING AND GROUTING DOWELS	507.16
KG	EPOXY COATED REINFORCING STEEL	507.17
M	PRESTRESSED CONCRETE BOX BEAMS (1220 X 690)	510.21
M	GROUTING SHEAR KEY	510.24
L	WATER REPELLENT (MOD. - SILANE)	514.10
CM	STRUCTURAL LUMBER AND TIMBER-TREATED	522.25
M	BRIDGE RAILING- HDSB/FASCIA MOUNTED/HAND RAIL (MOD.)	525.43
EACH	PARTIAL REMOVAL OF STRUCTURE (MOD.)	529.20
CM	REMOVAL OF CONCRETE OR MASONRY	529.25
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 (MOD1. - CHECK DAMS)	613.10
CM	STONE FILL, TYPE I (MOD2. - CONSTRUCTION ENTRANCE)	613.10
CM	STONE FILL, TYPE IV	613.13
M	SNOW FENCE (MOD. - PDF)	620.70
M	HEAVY DUTY STEEL BEAM GUARD RAIL (WEATHERING) (WOOD POSTS)	621.21
EACH	ANCHOR FOR STEEL BEAM RAIL	621.60
LS	FIELD OFFICE-ENGINEERS	631.10
LS	TESTING EQUIPMENT - CONCRETE	631.16
LU	FIELD OFFICE - TELEPHONE (NABI)	631.25
LS	MOBILIZATION/DEMOBILIZATION	635.11
LS	TRAFFIC CONTROL	641.10
SM	GEOTEXTILE FOR ROADBED SUBGRADE SEPARATOR	649.11
SM	GEOTEXTILE UNDER STONE FILL	649.31
SM	GEOTEXTILE FOR SILT FENCE	649.51
SM	GEOTEXTILE FOR FILTER CURTAIN	649.61
KG	SEED	651.15

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		TEMPORARY EROSION CONTROL ITEMS
		(Included in Erosion Control)
10	CM	204.20 TRENCH EXCAVATION OF EARTH
20	CM	301.35 SUBBASE OF GRAVEL
10	CM	613.10 STONE FILL, TYPE I (MOD1. - CHECK DAMS)
10	CM	613.10 STONE FILL, TYPE I
		(MOD2. - CONSTRUCTION ENTRANCE)
100	SM	649.51 GEOTEXTILE FOR SILT FENCE
90	SM	649.61 GEOTEXTILE FOR FILTER CURTAIN
5	KG	651.17 SEED- WINTER RYE
200	SM	654.10 EROSION MATTING
		NOTE:
		THERE IS APPROXIMATELY 700 CM
		OF WASTE MATERIAL.
		(N.A.B.I.) = NOT A BID ITEM

PROJECT NAME: **WALLINGFORD**
PROJECT NUMBER: **BRO 1443(31)**

FILE NAME: /str1/94j084/sj084qnt.xls
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. Meunier
QUANTITY SHEET #1

PLOT DATE: 10/28/2005
DRAWN BY: J. GILMORE
CHECKED BY: C. Meunier
SHEET 4 OF 38

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES													TOTALS				DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
ROADWAY	WOODEN FOOTBRIDGE	CHANNEL		SUPER-STRUCTURE		ABUT. #1		ABUT. #2		EROSION CONTROL		FULL CE ITEMS	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
										5					5		KG	SEED-WINTER RYE	651.17			
										45					45		KG	FERTILIZER	651.18			
										0.25					0.25		T	AGRICULTURAL LIMESTONE	651.20			
										0.25					0.25		T	HAY MULCH	651.25			
										10					10		CM	TOPSOIL	651.35			
		120											120		120		SM	GRUBBING MATERIAL	651.40			
										1					1		LS	EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.10			
										50					50		HR	MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.20			
										1					1		LU	FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN (N.A.B.I.)	652.30			
										200					200		SM	EROSION MATTING	654.10			
2															2		EACH	REMOVING SIGNS	675.50			

PROJECT NAME: **WALLINGFORD**
PROJECT NUMBER: **BRO 1443(31)**

FILE NAME: /str1/94j084/sj084qnt.xls
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. Meunier
QUANTITY SHEET #2

PLOT DATE: 8/24/2005
DRAWN BY: J. GILMORE
CHECKED BY: C. Meunier
SHEET 5 OF 38

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	RIX, SHARRON L.	7	3+017.5 LT.	3+022.0 LT.			CONST. (T) 2 SM±						22 SF± INCLUDES EROSION CONTROL
2	JACKSON, JOAN S. TRUSTEE U/D/T	7	3+011.0 RT.	3+024.9 RT.			CONST. (T) 14 SM±						151 SF±
3	PILL, BARBARA J.	7	3+038.6 LT.	3+043.8 LT.			CHANNEL (P) 1 SM±		04-26-04	WALLINGFORD	79	159-160	11 SF±
			3+038.6 LT.	3+061.5 LT.			CONST. (T) 92 SM±						990 SF± INCLUDES SETTLING BASIN AND OTHER EROSION CONTROL
			3+043.5 LT.	3+054.4 LT.			SLOPE (P) 12 SM±						129 SF±
			3+045.4 RT.	3+054.6 RT.			CHANNEL (P) 20 SM±						215 SF±
			3+051.7 RT.	3+066.8 RT.			CONST. (T) 27 SM±						291 SF± INCLUDES EROSION CONTROL
			3+052.9 RT.	3+061.4 RT.			SLOPE (P) 6 SM±						65 SF±

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	6, 7	PARCEL NO. 2 JACKSON. CHANGE TITLE TO JOAN S. JACKSON, TRUSTEE U/D/T PER C.O. 9320.	09-30-03	M. J. R.	R. P. D.
		ELECTRONIC FILES TO STRUCTURES	03-19-04		

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

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

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

APPROVED: ROGER P. DUMAS DATE: 06-25-01
CHIEF, PLANS & TITLES

R. O. W. PLANS

WALLINGFORD
BRO 1443(31)
R. O. W. SHEET 6 OF 7 SHEETS
SHEET 6 OF 38

ACCT. mcassidy
IP_PWP:dms03149\rj084d.dgn
DATE PLOTTED 24-OCT-2005

---1A--•GRAY, WILLIAM LYNN & MARY ---------•-25,26-•REV. 106+48 RT. (BEG.)•-REV. 102+88 RT. (END)----0.01A•----326.26A•CONST. EASE. (T) 0.01A•---•AGREE.•--12-12-12--•MONTPELIER --•1040•1040•12' GRAVEL DRIVE M.P. 0098--

VAOT Metric

EROSION CONTROL LEGEND

- FILTER CURTAIN
- SILT FENCE
- HAY BALES
- STONE FILL TYPE I
- STONE FILL TYPE IV

BRIDGE RAILING - HEAVY DUTY STEEL BEAM TYPE D WITH BOX BEAM HAND RAIL (MOD)
STA. 3+019.5 - 3+044.5 LT
STA. 3+019.7 - 3+044.7 RT

HEAVY DUTY STEEL BEAM GUARDRAIL (WEATHERING) W/ WOOD POSTS
STA. 3+016.1 - 3+019.5 LT
STA. 3+016.5 - 3+019.7 RT
STA. 3+044.5 - 3+048.7 LT
STA. 3+044.7 - 3+058.6 RT

ANCHOR FOR STEEL BEAM GUARD RAIL
STA. 3+017.6 LT
STA. 3+017.8 RT
STA. 3+047.5 LT
STA. 3+056.8 RT

CONSTRUCT SPECIAL 1000 x 3528 ACCESS RAMP (SEE SHEET 20 FOR DETAILS)
STA. 3+015.0 RT

CONSTRUCT SPECIAL DITCH WITH STONE FILL TYPE I
STA. 3+000.0 - 3+020.0 RT

REMOVE SIGNS
STA. 3+016 LT AND RT

N
VT. STATE PLANE GRID

BEGIN APPROACH
STA. 3+000.000

PI
STA 3+014.880 BK=
STA 3+014.877 AHD

1 RIX, SHARRON L.

END APPROACH
BEGIN PROJECT
STA. 3+015.000

STATE OF VERMONT

CHANNEL STA. 0+030.000 = MAINLINE STA. 3+020.000
Δ = 85°00'00"

BEGIN BRIDGE
STA. 3+020.623
F.G. = 173.218

℄ BEARING
STA. 3+020.923
F.G. = 173.215

3 PILL, BARBARA J.

BM #1
CHISEL SQ.
TOP WALLC
ELEV.=170.880

℄ BEARING
POST STA. 3+042.563
F.G. = 173.107

END BRIDGE
POST STA. 3+042.863
F.G. = 173.106

ROADWAY STONE FILL TYPE I (TYP)

END PROJECT
BEGIN APPROACH
STA. 3+055.000

END APPROACH
STA. 3+070.000

POE
Sta 3+080.000

PI
Sta 3+030.520 BK=
Sta 3+030.134 AHD

CHANNEL STONE FILL TYPE IV (TYP)

PC
Sta 3+040.654

PT
Sta 3+060.000

PI
Sta 3+000.000
(NO CURVE)

PC
Sta 3+013.306

CONSTRUCT 1000x3528 ACCESS RAMP

PT
Sta 3+016.451

EXISTING STEPS

BM #3
RR SPIKE
IN ROOT OF L.M.
ELEV.=177.514

BM #2
CHISEL SQ.
TOP WALLC
ELEV=170.656

COMB #2/9-3
TEL BOX 110/2

COMB #923/
9-1/R61/1

COMB #10
/5/923/8

COMB #9

WOODS
WOOD HOUSE
PORCH
GRAVEL DRIVE
LILAC
MHS
PAVED ROAD
WOOD FENCE
SEPTIC
GAS LINE
GAS TANK
WELL
POND
STONE FILL
S. SOFTWOODS
M.M.
M.ASH
GRAVEL DRIVE STONE WALL
HEDGE
PDF
CONC. SIDEWALK
CONC. WALL
WATER COURSE
STEPS
S. APP
S. ELM
S. STUMP
M. STUMP
M.M
LILAC
SHRUB
HCTRL #5
HCTRL #4
HCTRL #6
GUY
EL 923/ 9-4/9
DITCH
IPIPE
1 250 CGMP PIPE
S.M
L.M.
M. CHY.
S. CHY.
M. E.
M. ASH
SIGN
RR
STONE WALL
310CGMP
610CGMP
300X300 DI
2000 STEEL PIPE
TH 60 ELM ST. EXT
TH 58 RIVER STREET
TH 58 ELM STREET TO VT. ROUTE 7
TO VT. ROUTE 140
OTTER CREEK
LEDGE
S80°31'35.3"E
S75°22'35.6"E
S47°39'56.7"E
3+000
3+010
3+020
3+030
3+040
3+050
3+060
3+070
3+080
2+990
0+020
0+000

BEGIN R.O.W. PROJECT
BRO 1443(31)
STA. 3+011.0 7.3M(24')RT.

JACKSON, JOAN S. TRUSTEE U/D/T

2

STATE OF VERMONT

3 PILL, BARBARA J.

END R.O.W. PROJECT
BRO 1443(31)
STA. 3+066.8 7.2M(24')RT.

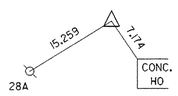
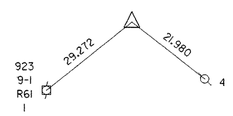
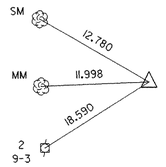
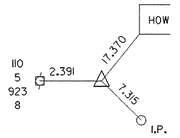
EXISTING BRIDGE DATA
TEMPORARY MABEY BRIDGE
EXISTING ABUTMENTS ARE CAST IN PLACE CONCRETE

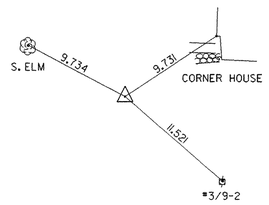
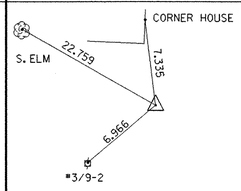
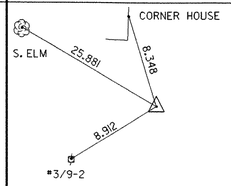
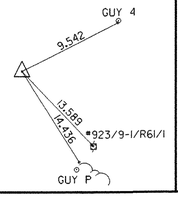
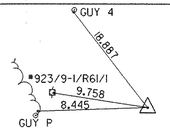
LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE TOWN OF WALLINGFORD'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

0 10 20
SCALE 1:250

FOR R.O.W. USE ONLY

SHEET NAME:	PLAN SHEET		
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME:	/PW/94J084/sj084bdr.dgn	PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj084pl1
BF	R.O.W. SHEET 7 OF 7 SHEETS		SHEET 7 OF 38

SURVEY TRAV. 1	SURVEY TRAV. 2	SURVEY TRAV. 3	SURVEY TRAV. 4	SURVEY TRAV. 5	SURVEY TRAV. 6	SURVEY TRAV. 7
N = 108442.810	N = 108202.373	N = 108264.246	N = 108342.348	N = 108359.703	N = 108323.905	N =
E = 461279.101	E = 461209.247	E = 461168.474	E = 461060.566	E = 460977.772	E = 461127.937	E =
ELEV. =	ELEV. = 174.809	ELEV. = 173.179	ELEV. = 172.629	ELEV. = 178.572	ELEV. = 170.847	ELEV. =
SEE GPS POINT INFORMATION THIS SHEET △ WALL RESCUE AZ	SEE GPS POINT INFORMATION THIS SHEET △ RRS IN CONC WALL RESCUE					△ NO TIES

MAINLINE POB	MAINLINE CURVE #1 - PC	MAINLINE CURVE #1 - PT	MAINLINE CURVE #2 - PC	MAINLINE CURVE #2 - PT	MAINLINE POE
STA. 3+000.000	STA. 3+013.306	STA. 3+016.451	STA. 3+040.654	STA. 3+060.000	STA. 3+080.000
N = 108350.348	N = 108348.158	N = 108347.502	N = 108341.392	N = 108332.257	N = 108318.788
E = 461016.966	E = 461030.090	E = 461033.166	E = 461056.583	E = 461073.422	E = 461088.207
			△ NO TIES		

GPS CONTROL POINT INFORMATION

NAME WALL RESCUE

NORTHING - 108202.373
EASTING - 461209.247
ELEVATION -

LOCATION - TO REACH FROM THE JUNCTION OF US ROUTE 7 AND VT ROUTE 140 EAST PROCEED EAST ALONG ROUTE 140 FOR 0.1 MI (0.2 KM) TO ITS JUNCTION WITH TOWN HIGHWAY 63 (RAILROAD STREET). THENCE PROCEED NORTH ALONG TH 63 FOR 0.05 MI (0.08 KM) TO THE STATION ON THE LEFT (WEST).

THE MARK IS A RAILROAD BOLT EMBEDDED IN A CONCRETE MONUMENT.

THE STATION IS 15.3 M (50.2 FT) NORTHWEST OF A UTILITY POLE NUMBER 15, 11.6 M (38.1 FT) EAST OF THE CENTERLINE OF THE MAIN RAILROAD TRACK, 5.6 M (18.4 FT) WEST OF AND LEVEL WITH THE CENTERLINE OF TH 63.

NAME WALL RESCUE AZ MK

NORTHING - 108442.810
EASTING - 461279.101
ELEVATION -

LOCATION - TO REACH FROM THE JUNCTION OF US ROUTE 7 AND VT ROUTE 140 EAST PROCEED EAST ALONG ROUTE 140 FOR 0.1 MI (0.2 KM) TO ITS JUNCTION WITH TOWN HIGHWAY 63 (RAILROAD STREET). THENCE PROCEED NORTH ALONG TH 63 FOR 0.2 MI (0.3 KM) TO THE STATION ON THE LEFT (WEST).

THE MARK IS A SURVEY DISK.

THE STATION IS 11 M (36.1 FT) SOUTH OF UTILITY POLE NUMBER 8/11/31, 9 M (29.5 FT) EAST OF THE CENTERLINE OF THE RAILROAD TRACK, 6 M (19.7 FT) WEST OF AND LEVEL WITH THE CENTERLINE OF TH 63, 0.8 M (2.6 FT) EAST OF A FIBERGLASS WITNESS POST.

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 /92

NOTE: TIE DISTANCES ARE IN METERS.

SHEET NAME: TIE SHEET

PROJECT NAME: WALLINGFORD
PROJECT NUMBER: BRO 1443(31)
HIGHWAY NO.: TH 60
BRIDGE NO.: 50
OVER: OTTER CREEK

FILE NAME: /PW/94J084/sj084tie.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:
PLOT DATE: 24-OCT-2005
DRAWN BY: J. GILMORE
IPARM NAME: sj084tie.i
SHEET 8 OF 38

Metric

N

VT. STATE PLANE GRID

BRIDGE RAILING - HEAVY DUTY STEEL BEAM TYPE D WITH BOX BEAM HAND RAIL (MOD)

STA. 3+019.5 - 3+044.5 LT
STA. 3+019.7 - 3+044.7 RT

HEAVY DUTY STEEL BEAM GUARDRAIL (WEATHERING) W/ WOOD POSTS

STA. 3+016.1 - 3+019.5 LT
STA. 3+016.5 - 3+019.7 RT
STA. 3+044.5 - 3+048.7 LT
STA. 3+044.7 - 3+058.6 RT

ANCHOR FOR STEEL BEAM GUARD RAIL

STA. 3+017.6 LT
STA. 3+017.8 RT
STA. 3+047.5 LT
STA. 3+056.8 RT

CONSTRUCT SPECIAL 1000 x 3528 ACCESS RAMP (SEE SHEET 20 FOR DETAILS)

STA. 3+015.0 RT

CONSTRUCT SPECIAL DITCH WITH STONE FILL TYPE I

STA. 3+000.0 - 3+020.0 RT

REMOVE SIGNS

STA. 3+016 LT AND RT

CHANNEL STA. 0+030.000 = MAINLINE STA. 3+020.000
Δ = 85°00'00"

BEGIN BRIDGE
STA. 3+020.623
F.G. = 173.218

℄ BEARING
STA. 3+020.923
F.G. = 173.215

℄ BEARING
POST STA. 3+042.563
F.G. = 173.107

END BRIDGE
POST STA. 3+042.863
F.G. = 173.106

ROADWAY STONE FILL TYPE I (TYP)

END PROJECT
BEGIN APPROACH
STA. 3+055.000

END APPROACH
STA. 3+070.000

BEGIN APPROACH
STA. 3+000.000

END APPROACH
BEGIN PROJECT
STA. 3+015.000

PI
STA 3+014.880 BK=
STA 3+014.877 AHD

PI
STA 3+050.520 BK=
STA 3+050.134 AHD

BM #2
~~BM #1~~
CHISEL SQ.
TOP WALLC
~~ELEV. 170.880~~
ELEV. = 170.656

BM #1
~~BM #2~~
CHISEL SQ.
TOP WALLC
~~ELEV=170.656~~
ELEV. = 170.880

BM #3
RR SPIKE
IN ROOT OF L.M.
ELEV.=177.514

PC
Sta 3+013.306

PT
Sta 3+016.451

PC
Sta 3+040.654

PT
Sta 3+060.000

PI
Sta 3+000.000
(NO CURVE)

CONSTRUCT
1000x3528
ACCESS RAMP

CHANNEL
STONE FILL
TYPE IV (TYP)

EXISTING STEPS

POE
Sta 3+080.000

S75°22'35.6"E

S80°31'35.3"E

S47°39'56.7"E

WOODS
GRAVEL DRIVE
CONC. SIDEWALK
L.M.
M.M.
LILAC
SHRUB
WELL
WOOD FENCE
STEPS
S. APP
S. ELM
S. STUMP
M. STUMP
M.M
HCTRL #5
HCTRL #4
HCTRL #6
HCTRL
310CGMP
250 CGMP
300X300 DI
GUY
EL 923
9-4/9
DITCH
PIPE
S.M
COMB #2/9-3
TEL BOX #0/2
COMB #3/9-2
COMB #923/9-1/R61/1
COMB #9
COMB #10 /5/923/8
WOOD HOUSE
PORCH
SHED
M.E.
M. CHY.
S. CHY.
M. ASH
SIGN
RR
IPIPE
HYD
S.M.
STONE WALL
PAVED ROAD
PAVED DRIVE
CONC. WALL
WATER COURSE
OTTER CREEK
LEDGE
S. POP.
S. SOFTWOODS
MARSH
POND
STONE FILL
SEPTIC
GAS LINE
EXISTING ROW
CL
3+000
3+010
3+030
3+040
3+050
3+060
3+070
3+080
2+990
0+000
0+020
2000 STEEL
TH 58 RIVER STREET
TH 58 ELM STREET
TO VT. ROUTE 7
TH 60 ELM ST. EXT
TO VT. ROUTE 140

CURVE #1 DATA
Δ = 5°-08'-59.7" RT
R = 35.000
T = 1.574
L = 3.146
E = 0.035
BANK = -0.020

CURVE #2 DATA
Δ = 27°-08'-59.7" RT
R = 40.000
T = 9.866
L = 19.346
E = 1.199
BANK = -0.020

0 10 20
SCALE 1:250

EXISTING BRIDGE DATA

TEMPORARY MABEY BRIDGE
EXISTING ABUTMENTS ARE
CAST IN PLACE CONCRETE

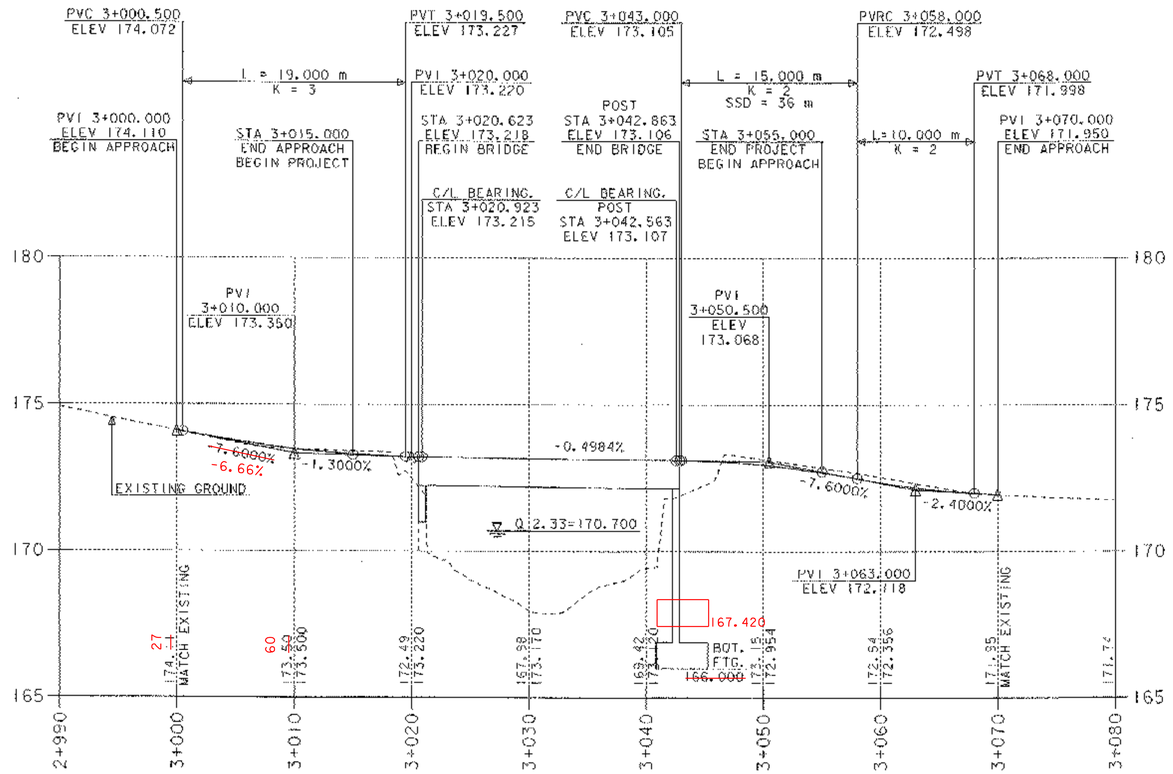
SHEET NAME: PLAN SHEET

PROJECT NAME: WALLINGFORD
PROJECT NUMBER: BRO 1443(31)

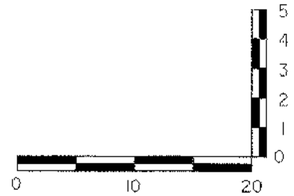
HIGHWAY NO.: TH 60
BRIDGE NO.: 50
OVER: OTTER CREEK

FILE NAME: /PW/94J084/sJ084bdr.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:

PLOT DATE: 24-OCT-2005
DRAWN BY: J. GILMORE
MFARM NAME: sJ084pli
SHEET 9 OF 38



MAINLINE PROFILE



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

THE GRADES SHOWN TO TWO PLACES ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THREE PLACES ARE THE PROPOSED GRADES FOR THE NEW ALIGNMENT.

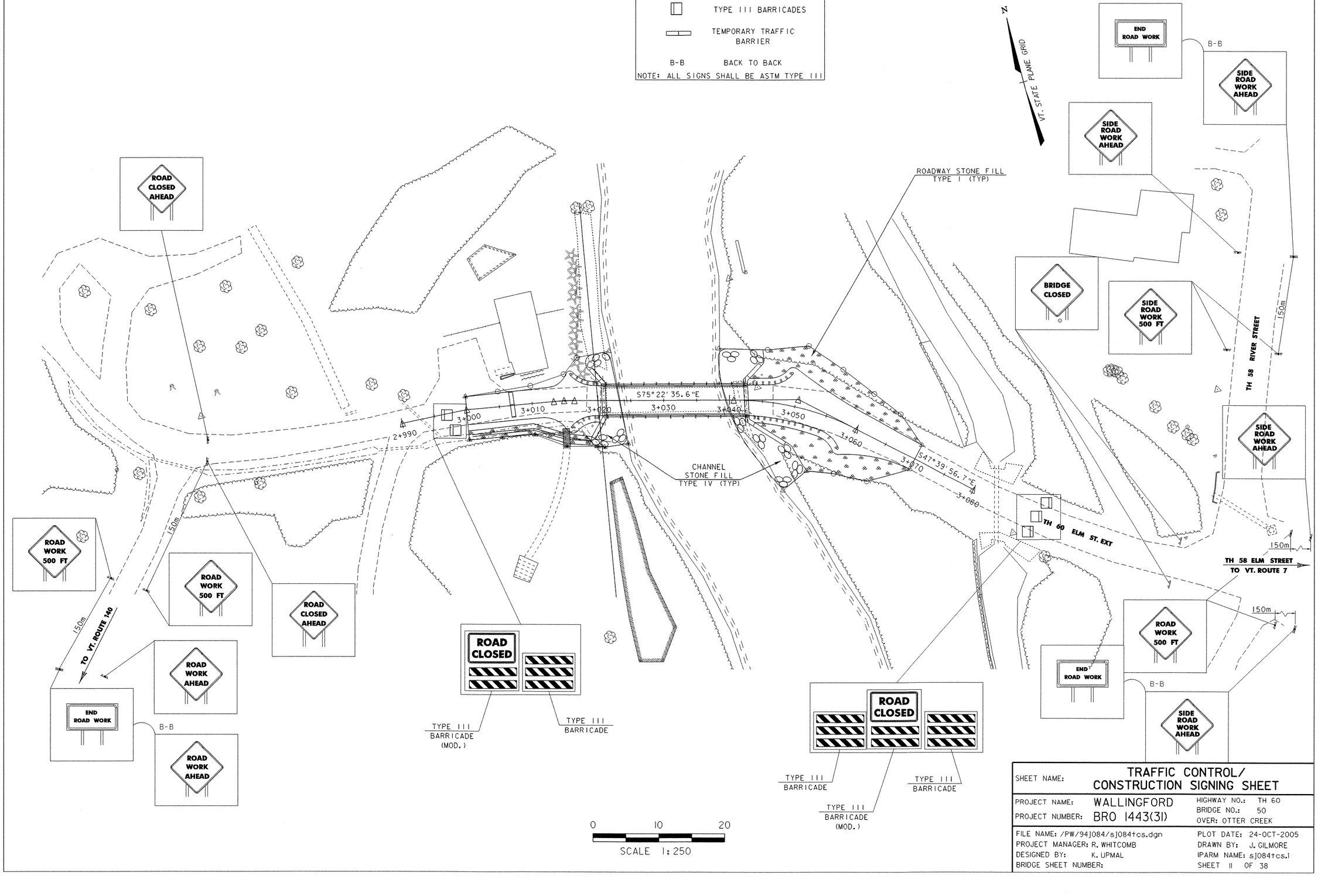
SHEET NAME:	MAINLINE PROFILE		
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME:	/PW/94J084/sJ084xs.dgn	PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	K.UPMAL
DESIGNED BY:	K. UPMAL	PARM NAME:	sJ084mp.1
BRIDGE SHEET NUMBER:		SHEET	10 OF 38

VAOT Metric

LEGEND

▯	TYPE III BARRICADES
▬	TEMPORARY TRAFFIC BARRIER
B-B	BACK TO BACK

NOTE: ALL SIGNS SHALL BE ASTM TYPE III



SHEET NAME:	TRAFFIC CONTROL/ CONSTRUCTION SIGNING SHEET
PROJECT NAME:	WALLINGFORD
PROJECT NUMBER:	BRO 1443(31)
HIGHWAY NO.:	TH 60
BRIDGE NO.:	50
OVER:	OTTER CREEK
FILE NAME:	/PW/94J084/sj084tcs.dgn
PROJECT MANAGER:	R. WHITCOMB
DESIGNED BY:	K. UPMAL
BRIDGE SHEET NUMBER:	
PLOT DATE:	24-OCT-2005
DRAWN BY:	J. GILMORE
IPARM NAME:	sj084tcs.i
SHEET	11 OF 38

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

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

COLOR

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

DEFINITIONS (AASHTO)

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

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

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

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

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

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

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

VARVED - Alternate layers of silt and clay.

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

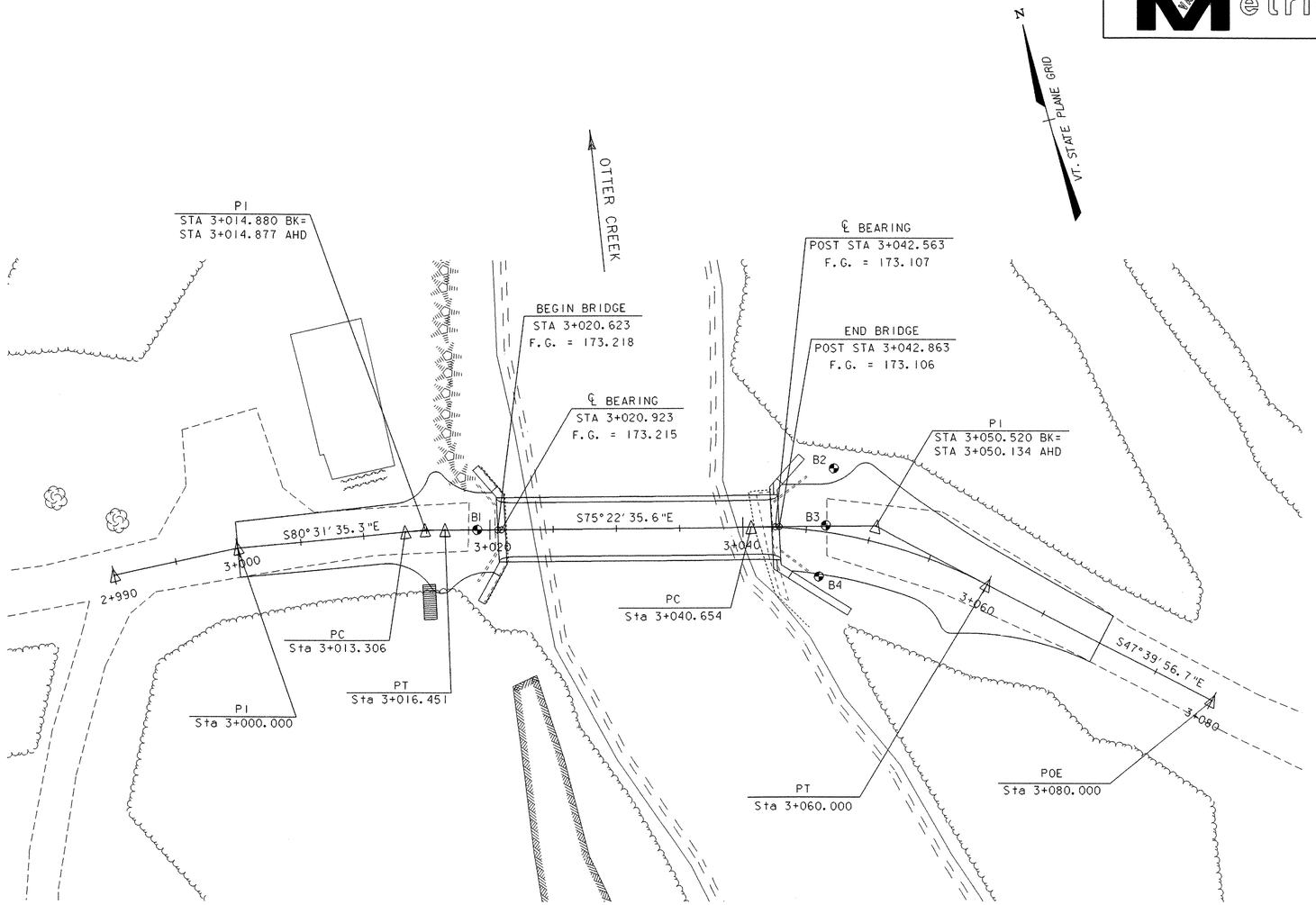
MUCK - Soft organic soil (containing > 10% organic material.

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

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

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

DIP - Inclination of bed with a horizontal plane.



BORING NO.	STATION	OFFSET
B-1	3+019.50	0.0m CENTERLINE
B-2	3+046.50	5.0 m LEFT
B-3	3+046.50	0.5 m LEFT
B-4	3+046.50	3.5 m RIGHT

GENERAL NOTES

1. The subsurface explorations shown herein were made between 4/7/99 and 4/16/99 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

SHEET NAME: BORING LAYOUT SHEET

PROJECT NAME: WALLINGFORD
PROJECT NUMBER: BRO 1443(31)
HIGHWAY NO.: TH 60
BRIDGE NO.: 50
OVER: OTTER CREEK

FILE NAME: /PW/94j084/sj084bor.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:
PLOT DATE: 24-OCT-2005
DRAWN BY: K. UPMAL
IPARM NAME: sj084bor.i
SHEET 12 OF 38

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

HOLE NO.: B1
SHEET 1 OF 1
DATE STARTED: 4/7/99
DATE COMPLETED: 4/8/99

PROJECT NAME: WALLINGFORD
SITE NAME: BR. #50
STATION: 3+018.50
GROUND EL.: 173.520

PROJECT NUMBER: BRO 1443(31)
SITE NO.: TH. #60
OFFSET: 0.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: MCGLYNN
DRILLER: MCGLYNN
LOGGER: YOUNG .
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
		A-1-b,SaGr,W,gry/brn,rec.=0.26m	58	8.3	49.4	37.6	13		
		A-1-b,GrSa,M,brn,rec.=0.31m.	2	10.7	27.4	62.1	10.5		
		A-2-4,Sa,M,brn,rec.=0.13m.	8	21.3	10.9	77.4	11.7		
		A-1-a,SaGr,M,brn,rec.=0.08m.	4	8.2 top of Bedrock @	69	26.7	4.3 4.78m		
5		Run#1: BXDC 4.78m-6.28m rec.=0.60m See Geologist's Report.		RUN 1	REC% 40	ROD% 8	DIP° 65		
		Run#2: BXMDC 6.28m-7.82m rec.=1.52m See Geologist's Report.		2	99	67	65		
		Run#3: BXMDC 7.82m-8.86m rec.=0.86m See Geologist's Report.		3	83	58	10		
		Hole Stopped @ 8.86m							
10		Note: Large seams 4.78m-5.10m, some small seams to 6.00m some material ground up by core barrel. Changed core barrel at 8.28m - better recovery.							

GEOLOGISTS REPORT:

Run#1: Buff colored marble. Very hard. Rock is unweathered. Joint surfaces are stained and moderately weathered. Poor Recovery. Poor Competency.

Run#2: Same as Run #1, but jointing is less weathered. Joint surfaces contain phyllitic streaks. Competent.

Run#3: Same as Run#1 but joint surfaces are fresh. Competent.

BOT. FTG. 167.420

BOT. FTG ELEV.

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

HOLE NO.: B2
SHEET 1 OF 1
DATE STARTED: 4/15/99
DATE COMPLETED: 4/16/99

PROJECT NAME: WALLINGFORD
SITE NAME: BR. #50
STATION: 3+046.50
GROUND EL.: 171.120

PROJECT NUMBER: BRO 1443(31)
SITE NO.: TH. #60
OFFSET: -5.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: MCGLYNN
DRILLER: MCGLYNN
LOGGER: CHABOT
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
		A-4,SaSi,Sat,brn,rec.=0.04m.	3	22.3	11.2	22.4	66.4		
		A-3,Sa,Wet,brn,rec.=0.30m.	2	19	2.4	88.4	9.2		
		A-2-4,SiSa,Wet,brn,rec.=0.45m	12	13.1		71.9	28.1		
		A-4,SaSi,Wet,brn,rec.=0.45m.	53	17.3	16.9	40.1	43		
		A-4,SaSiGr,Wet,brn,rec.=0.50m	43	25.3 Top of Bedrock @	40.6	23.6	35.8 9.80m		
5		Run#1: BXDC 9.80m-10.18m rec.=0.30m See Geologist's Report.		RUN 1	REC% 100	ROD% 100	DIP° 65		
		Run#2: BXDC 10.18m-11.27m rec.=0.76m See Geologist's Report.		2	65	36	65		
		Run#3: BXDC 11.27m-12.39m rec.=0.60m See Geologist's Report.		3	54	30	60		
		Run#4: BXDC 12.39m-12.99m,rec.=0.60m See Geologist's Report.		4	100	83	60		
10		Hole Stopped @ 12.99m							

GEOLOGISTS REPORT:

Run#1: Light gray limestone. Moderately Hard. Unweathered. Competent.

Run#2: Same as Run #1.

Run#3: Same as Run #1. Fair Recovery.

Run#4: Same as Run #1.

BOT. FTG. 167.420

BOT. FTG ELEV.

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

HOLE NO.: B3
SHEET 1 OF 1
DATE STARTED: 4/8/99
DATE COMPLETED: 4/12/99

PROJECT NAME: WALLINGFORD
SITE NAME: BR. #50
STATION: 3+046.50
GROUND EL.: 173.575

PROJECT NUMBER: BRO 1443(31)
SITE NO.: TH. #60
OFFSET: -0.50
G.W. DEPTH:

BORING CREW
CREW CHIEF: MCGLYNN
DRILLER: MCGLYNN
LOGGER: YOUNG
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
		0.00m - 1.20m - Crushed gravel fill material.							
		No recovery. Stone at end of sampler. Appears to be gravelly material. BXDC 2.73m-2.99m No Recovery on Boulder. BXDC 3.07m - 3.77m -Boulders	33 R						
		A-1-a,SaGr,Wet,brn,rec.=0.22m	22	17.9	57.9	34.8	7.4		
5		A-1-a,Gr,MLW,brn,rec.=0.58m.	51	9.9	81.2	15.5	3.3		
		A-1-a,Gr,Wet,brn,rec.=0.26m.	28	5.4	86.1	12.1	1.8		
		A-1-b,Sa,Wet,dk.brn,rec.=0.43m	2	22	0.5	89.8	9.7		
		A-4,SaSi,M,lt.brn,rec.=0.41m	9	29.3	0.5	25.7	73.8		
		A-2-4,SiSa,M,lt.brn,rec.=0.44m	8	25.6	0.5	78.3	21.2		
10		A-2-4,SiSa,M,lt.brn,rec.=0.18m	19	31.7	0.5	78.8	20.7		
		A-4,SaSi,MTW,lt.brn,rec.=0.40m	9	23.8	1	20.5	78.5		
		A-4,Si,MTW,lt.brn,rec.=0.26m	51	27.1	9.6	8	82.4		
		BXMDC 12.45m-13.28m,Boulders		Top of Bedrock @ 13.28m					
		Run#1: BXMDC 13.28m-14.80m rec.=1.47m. See Geologist's Report.		RUN 1	REC% 97	ROD% 86	DIP° 30		
		Run#2: BXMDC 14.80m-16.32m rec.=1.50m. See Geologist's Report.		2	99	66	45		
		Hole Stopped @ 16.32m							

GEOLOGISTS REPORT:

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

Run#2: Same as Run #1, but with high angle clay filled joint between 15.5m and 15.95m. Competent.

BOT. FTG. 167.420

BOT. FTG ELEV.

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

HOLE NO.: B4
SHEET 1 OF 1
DATE STARTED: 4/13/99
DATE COMPLETED: 4/14/99

PROJECT NAME: WALLINGFORD
SITE NAME: BR. #50
STATION: 3+046.50
GROUND EL.: 172.855

PROJECT NUMBER: BRO 1443(31)
SITE NO.: TH. #60
OFFSET: 3.50
G.W. DEPTH:

BORING CREW
CREW CHIEF: MCGLYNN
DRILLER: MCGLYNN
LOGGER: CHABOT
ADDITIONAL CREW:

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

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No Sample, In Boulders.							
		BXMDC 3.50m-3.90m rec.=0.18m, Boulders							
5		A-1-a,SaGr,Wet,brn,rec.=0.18m	64	11.2	63.3	30.6	6.1		
		A-2-4,SiSa,Wet,brn,rec.=0.60m	5	20.8	1.9	71.6	26.5		
		A-4,SaSi,Wet,brn,rec.=0.22m.	7	26.6	1.7	27.9	70.4		
		A-2-4,SiSa,Wet,brn,rec.=0.30m	5	19.4	13.8	66.1	20.1		
10		Visual Classification: SiSa	12	Top of Bedrock @ 12.08m					
		BXMDC 12.49m-12.84m,Boulders.							
		Run#1: BXMDC 12.84m-14.01m rec.=1.17m. See Geologist's Report.		RUN 1	REC% 90	ROD% 90	DIP° 60		
		Run#2: BXMDC 14.01m-14.55m rec.=0.39m. See Geologist's Report.		2	103	60	60		
		Run#3: BXMDC 14.55m-15.16m rec.=0.45m. See Geologist's Report.		3	74	69	60		
		Hole Stopped @ 15.16m							

GEOLOGISTS REPORT:

Run#1: Light gray limestone. Moderately Hard. Unweathered. Competent.

Run#2: Same as Run #1.

Run#3: Same as Run #1.

SHEET NAME: BORING LOGS SHEET

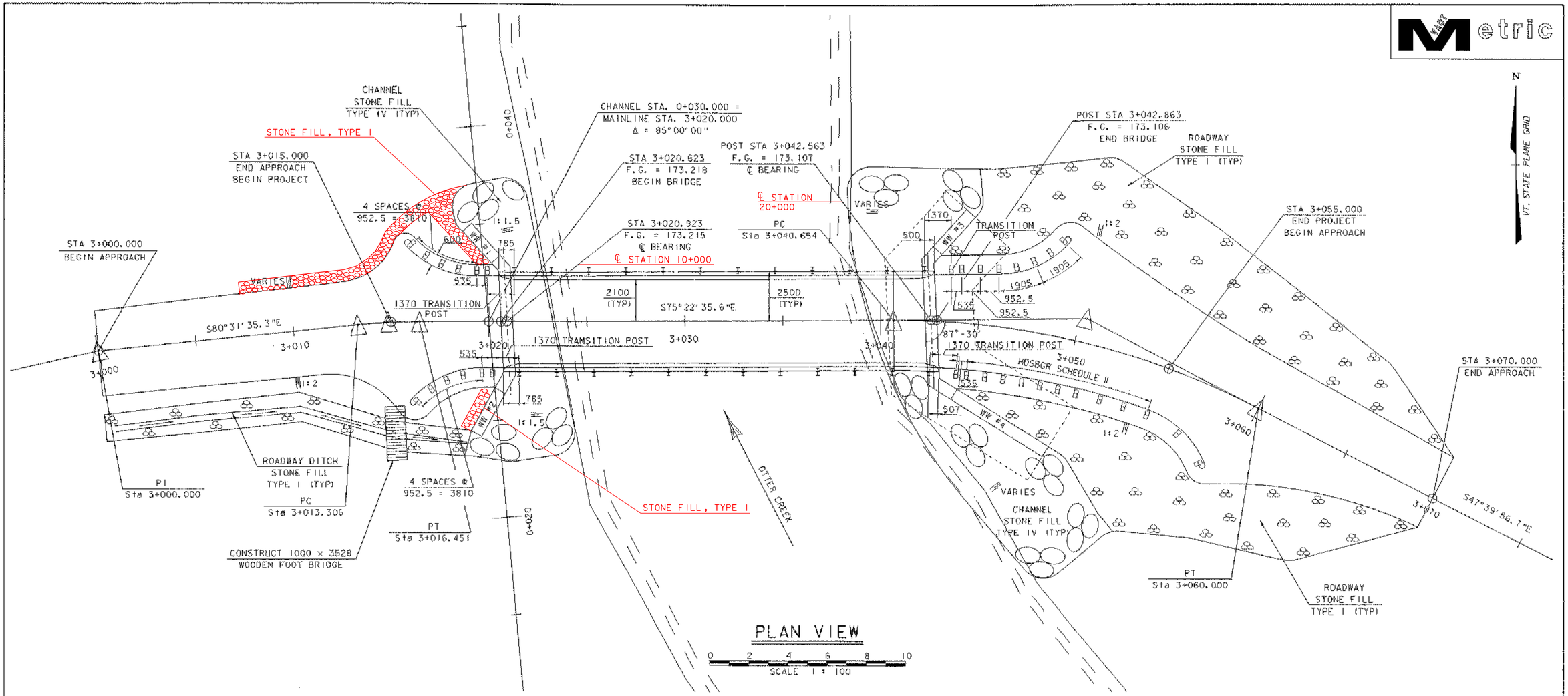
PROJECT NAME: WALLINGFORD
PROJECT NUMBER: BRO 1443(31)

HIGHWAY NO.: TH 60
BRIDGE NO.: 50
OVER: OTTER CREEK

FILE NAME: /PW/94j084/sj084bor.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:

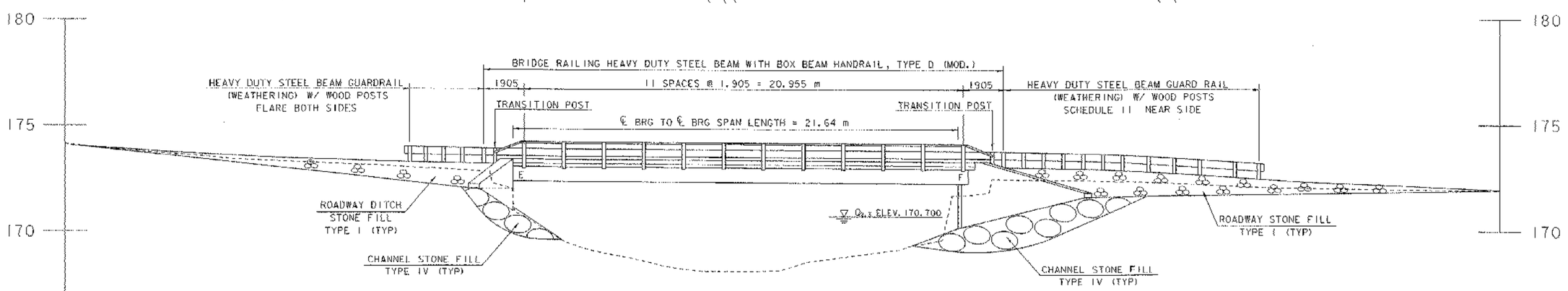
PLOT DATE: 24-OCT-2005
DRAWN BY: C. CURTIS
IPARM NAME: sj084log1
SHEET 13 OF 38

Metric



PLAN VIEW

SCALE 1 : 100



ELEVATION VIEW AT UPSTREAM FASCIA

SCALE 1 : 100

SHEET NAME: PLAN AND ELEVATION			
PROJECT NAME: WALLINGFORD		HIGHWAY NO.: TH 60	
PROJECT NUMBER: BRO 1443(31)		BRIDGE NO.: 50	
		OVER: OTTER CREEK	
FILE NAME: /PW/94j084/sj084pe.dgn		PLOT DATE: 24-OCT-2005	
PROJECT MANAGER: R. WHITCOMB		DRAWN BY: P.T.LONSDALE	
DESIGNED BY: K. UPMAL		IPARM NAME: sj084pe.i	
BRIDGE SHEET NUMBER:		SHEET 14 OF 38	

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EROSION CONTROL NARRATIVE

Metric

DESCRIPTION OF PROJECT

This project involves reconstruction of Bridge Number 50 on Town Highway 60 (Elm Street) over Otter Creek in the town of Wallingford. A new single span, precast concrete box beam bridge will be constructed on the existing alignment. Traffic will be detoured during construction using existing local roads. The local terrain is hilly to mountainous, with a narrow flood plain. The stream bed consists of sand, gravel and cobbles, and the drainage area is 265.5 square kilometers. Vegetation in the immediate vicinity of the bridge consists of a mixture of trees, shrubs and grasses. The soils within the project area consist of moderately to excessively drained loose to medium silty-sand. No 'Threatened & Endangered Species' have been identified within the project limits and there will be no adverse effect to Archaeological, wetland, floodplain or agricultural features. Historic concerns with respect to this project have been addressed under a Memorandum of Agreement between FHWA, SHPO and VTrans.

Total disturbed area (excluding waste, borrow and staging areas): 0.09 ha (0.213 acres)

Name of receiving waters: Otter Creek

SITE INVENTORY & ANALYSIS

OFF SITE DRAINAGE CHARACTERISTICS:
The property surrounding the project site consists of well established vegetation, moderate to steeply sloping, mixed softwood and hardwood forest with well defined drainage ways. Due to the nature of the surrounding terrain, runoff water entering the project site will be primarily limited to that which is conveyed along roadway ditches.

DRAINAGE, WATERWAYS, BODIES OF WATER:
Otter Creek is located in the project area. There is also, a small, unnamed waterway east of the Otter Creek beyond the end of the project limits.

TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:
The topography of the project site is mountainous and wooded with Elm Street crossing perpendicular to Otter Creek. Otter Creek is contained by low river banks along each side. Development along Elm Street consists of primarily permanent, single family residences in a rural setting. Overhead utility services exist along the southern side of Elm Street.

VEGETATION:
A mix of hardwood and softwood trees of all sizes exist along Elm Street. The three residences near the bridge site have small areas of lawn and landscape plantings. No fields or other agricultural crops exist near the project. Impacts to vegetation will be minimal as no additional structures will be required for traffic control and the bridge will be constructed on the existing alignment.

SOILS:
The Soil Conservation Service has mapped the soils throughout Rutland County. The soil type identified for this project site is 18D (Windsor loamy sand). This soil type is described as '...very deep, excessively drained, and moderately steep...found on the sides of long and narrow terraces and hills that are higher than the adjacent flood plans and at the base of hills and mountains...soil is generally covered with a thin layer of undecomposed and moderately decomposed leaves, needles, and twigs ...under this layer is dark brown loamy sand of 0 to 50 (0 to 2 inches), the subsoil is yellowish brown loamy sand of 50 to 300 (2 to 12 inches) and light olive brown sand 300 to 600 (12 to 24 inches), the substratum is light olive brown sand 600 to 1525 (24 to 60 inches)...permeability is rapid to very rapid...erosion is a moderate hazard...'

The listed Soil Erodibility Coefficient (K-value) for this soil type is 0.17.

SENSITIVE RESOURCE AREAS:
No 'Threatened & Endangered Species' have been identified within the project limits and there will be no adverse effect to agricultural or archaeological features. Otter Creek is the only identified resource and there are no mapped wetlands within the vicinity of the project.

PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES:
Disturbance of soils near waterways consists of that which is necessary to construct one new concrete bridge abutment, partially reconstruct the the other, and minor approach work. One cofferdam will be required as abutment #2 will require a new footing to be placed along the stream bank. Stabilization of disturbances to stream banks will be accomplished with Stone Fill, Type IV.

RIPARIAN BUFFER
A fifty foot (50 ft) riparian conservation buffer boundary will be maintained around the Otter Creek. Impacts within this buffer shall be minimized.

TEMPORARY EROSION PREVENTION & 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.

Seeding, mulching and biodegradable erosion control matting, or an equivalent product, will be utilized on all slopes steeper than 3H:1V that are not lined with stone fill. These slopes shall be stabilized within 48 hours of reaching final grade or during intermittent phases of construction activity.

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. The forecast of rainfall events shall also trigger protection of exposed slopes.

Temporary stone check dams will be placed in ditches if stone lining is not being accomplished simultaneously with the ditch work. Check dams reduce flow velocities and thus reduce the potential for erosion. They will be placed along the ditches such that the elevation of the top of each check dam corresponds with the elevation of the toe of the preceding upslope check dam. See 'Erosion Controls Details' sheet. The check dams may be removed once the stone lining of the ditches is complete and the surrounding area stabilized.

Temporary measures to control sediment transport include:

Silt fence will be installed a distance of 1500 - 3000 (5'-10') from the toe of slopes to prevent sediment transport to down gradient areas. Each line of silt fence will be placed along the contour with ends turned slightly uphill 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 is 30 000 (100'). Silt fence shall be installed prior to any upslope earthwork.

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 15 000 (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.

The sediment settling basin to be used for dewatering purposes should be sized based upon the pumping rate and target particle size to be settled out. The following sizing criteria is based upon a target particle size of 0.01 mm and is provided as general guidance. (See Sediment Settling Basin Sizing Criteria.)

PERMANENT EROSION CONTROL MEASURES

Several permanent erosion control measures will be utilized:

Stone lining of roadway ditches with clean, angular Stone Fill, Type I will be used to prevent erosion during storm events. See 'Erosion Control Details' sheet for typical ditch section.

Stone lining of the stream banks with Stone Fill, Type IV as specified by VTrans Hydraulics personnel is specified. This stone will protect from stream bank erosion during design storm events.

Grass, or other suitable ground cover will be established outside of the roadway limits where stone lining has not been specified.

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, stormwater 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. 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. Do not modify the type, size or location of any control or practice without approval of the Engineer. Any changes shall be noted on the plans, in the weekly inspection report, and reported to the appropriate authority in a timely manner. Inspect all control measures weekly and after each rainfall event. Repair measures promptly once damage is discovered.

Measures such as temporary stone check dams, silt fence, and sediment basins shall be checked regularly for accumulation of sediment. Sediment build-up shall be removed when the level of sediment reaches one-half the height of the control measure. Sediments shall be disposed of in an approved area such that they will not be subject to erosion.

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.

SEDIMENT SETTLING BASIN SIZING CRITERIA

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

PROJECT NAME: **WALLINGFORD**
PROJECT NUMBER: **BRO 1443(31)**

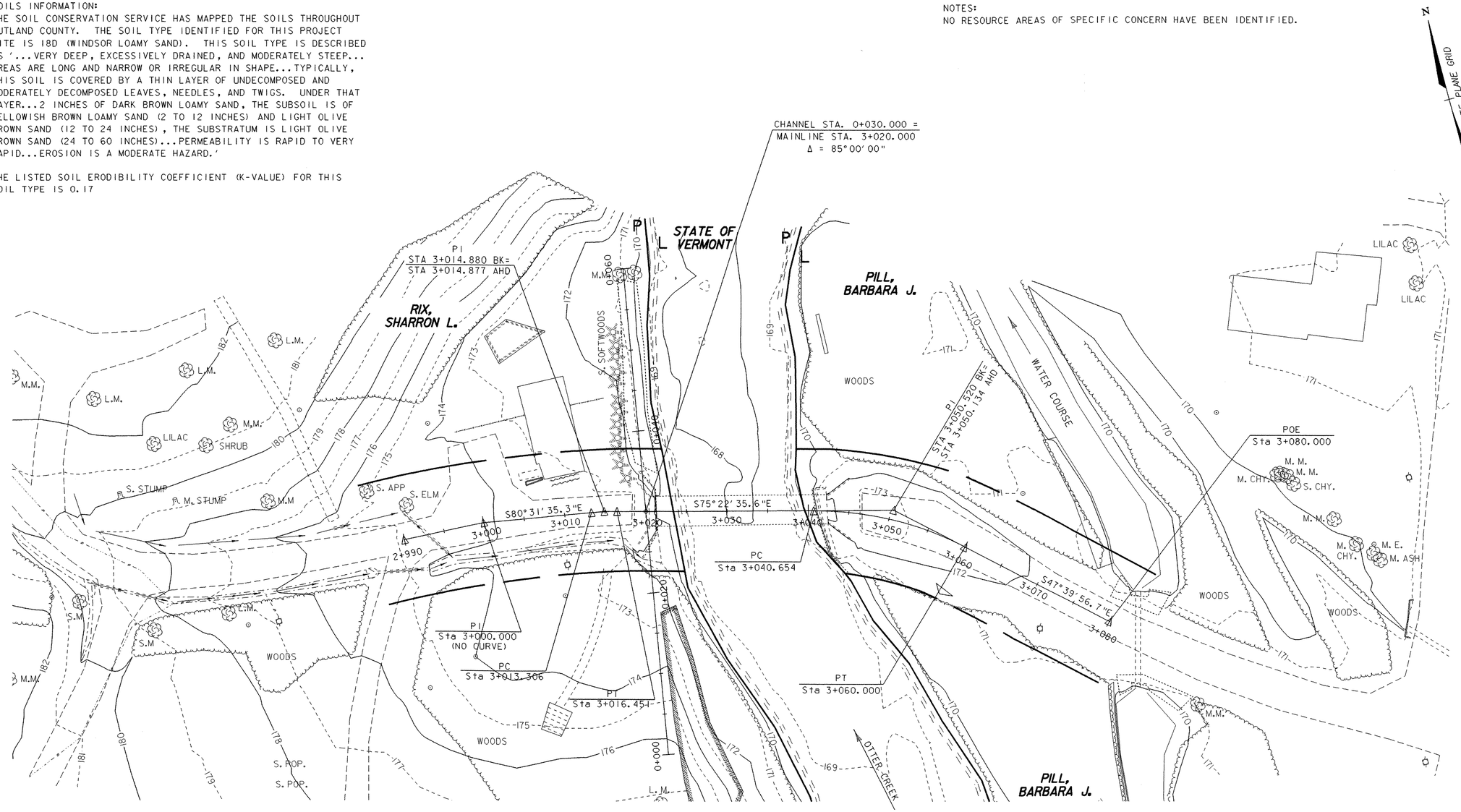
FILE NAME: /PW/94j084/sj084ecn.xls
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: D. BONNEAU
EROSION CONTROL NARRATIVE

PLOT DATE: 3/18/2004
DRAWN BY: J. GILMORE
CHECKED BY: D. BONNEAU
SHEET 15 OF 38

SOILS INFORMATION:
THE SOIL CONSERVATION SERVICE HAS MAPPED THE SOILS THROUGHOUT RUTLAND COUNTY. THE SOIL TYPE IDENTIFIED FOR THIS PROJECT SITE IS 18D (WINDSOR LOAMY SAND). THIS SOIL TYPE IS DESCRIBED AS '...VERY DEEP, EXCESSIVELY DRAINED, AND MODERATELY STEEP... AREAS ARE LONG AND NARROW OR IRREGULAR IN SHAPE...TYPICALLY, THIS SOIL IS COVERED BY A THIN LAYER OF UNDECOMPOSED AND MODERATELY DECOMPOSED LEAVES, NEEDLES, AND TWIGS. UNDER THAT LAYER...2 INCHES OF DARK BROWN LOAMY SAND, THE SUBSOIL IS OF YELLOWISH BROWN LOAMY SAND (2 TO 12 INCHES) AND LIGHT OLIVE BROWN SAND (12 TO 24 INCHES), THE SUBSTRATUM IS LIGHT OLIVE BROWN SAND (24 TO 60 INCHES)...PERMEABILITY IS RAPID TO VERY RAPID...EROSION IS A MODERATE HAZARD.'

THE LISTED SOIL ERODIBILITY COEFFICIENT (K-VALUE) FOR THIS SOIL TYPE IS 0.17

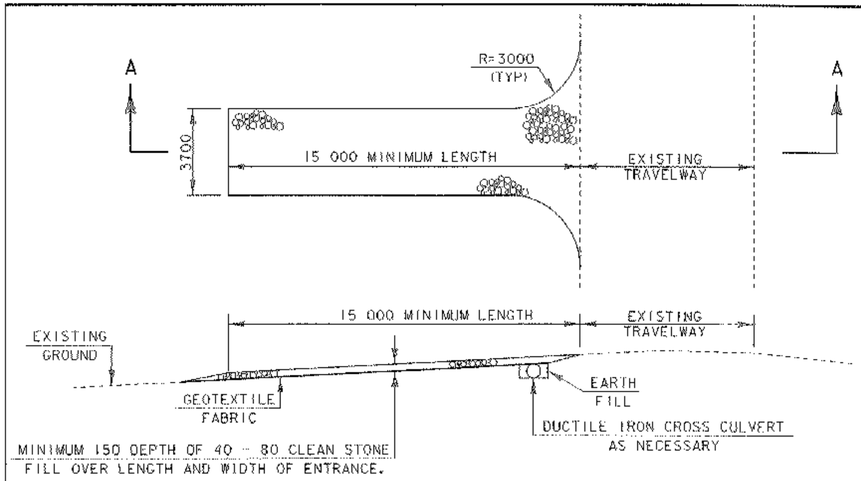
NOTES:
NO RESOURCE AREAS OF SPECIFIC CONCERN HAVE BEEN IDENTIFIED.



DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83/92

0 10 20
SCALE 1:250

SHEET NAME:	EXISTING CONDITIONS SITE PLAN		
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/sj084ec.dgn		PLOT DATE:	24-OCT-2005
PROJECT MANAGER: R. WHITCOMB		DRAWN BY:	STRI
DESIGNED BY: STRI		IPARM NAME:	sj084ec2.i
		SHEET	16 OF 38



SECTION A-A
NTS

STABILIZED CONSTRUCTION ENTRANCE

STABILIZED CONSTRUCTION ENTRANCE PAID FOR AS ITEM 613.10, "STONE FILL, TYPE I (MOD. II - STABILIZED CONSTRUCTION ENTRANCE)".

NOTES:

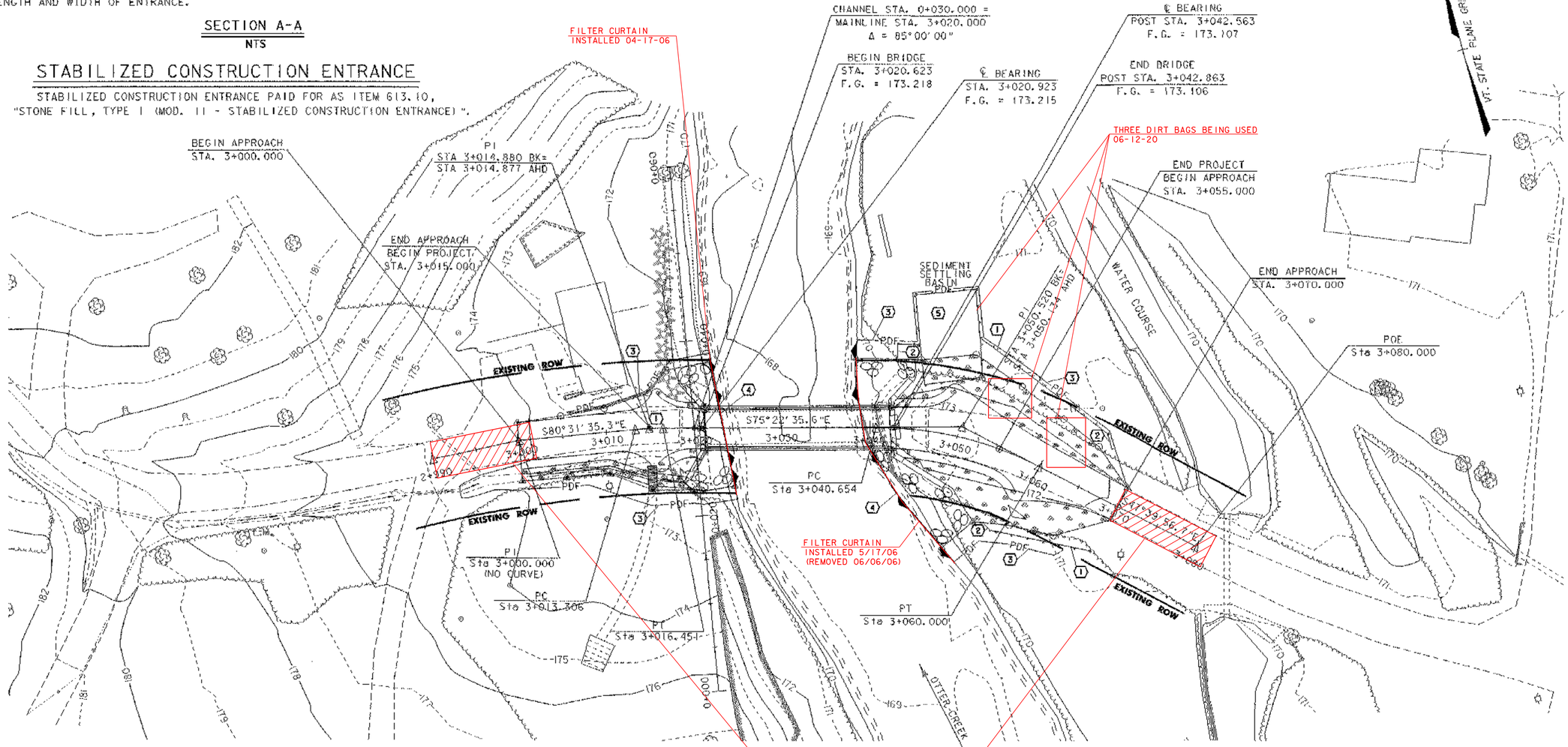
SILT FENCE INSTALLATION MAY REQUIRE PHASING TO MAXIMIZE EFFECTIVENESS. INSTALL AND/OR MOVE SILT FENCE AS CONSTRUCTION PROGRESSES TO OBTAIN THE GREATEST PREVENTION OF SEDIMENT TRANSPORT. ALL SILT FENCE INSTALLATION SHALL BE PROPERLY KEYED INTO THE GROUND AND SUPPORTED AS DETAILED ON THE 'EROSION CONTROL DETAILS' SHEET.
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.

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

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

LEGEND

- SILT FENCE
- STONE FILL, TYPE I (MOD. I - CHECK DAMS)
- STONE FILL, TYPE IV
- PDF — PROJECT DEMARCATION FENCE DEFINING LIMITS OF DISTURBANCE (SNOW FENCE (MOD.-PDF))



PLACED 03-29-06 TP
PLACED 03-28-06 TP
PLACED 04-17-06 TP

EROSION AND SEDIMENT CONTROL INDEX	
NO.	DESCRIPTION
1	INSTALL CONTINUOUS LINE OF SILT FENCE
2	ENDS OF SILT FENCE TURNED UPHILL TO CREATE PONDING
3	PROJECT LIMITS DEMARCATION FENCE (SNOW FENCE (MOD - PDF.))
4	INSTALL FILTER CURTAIN
5	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)

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83/92

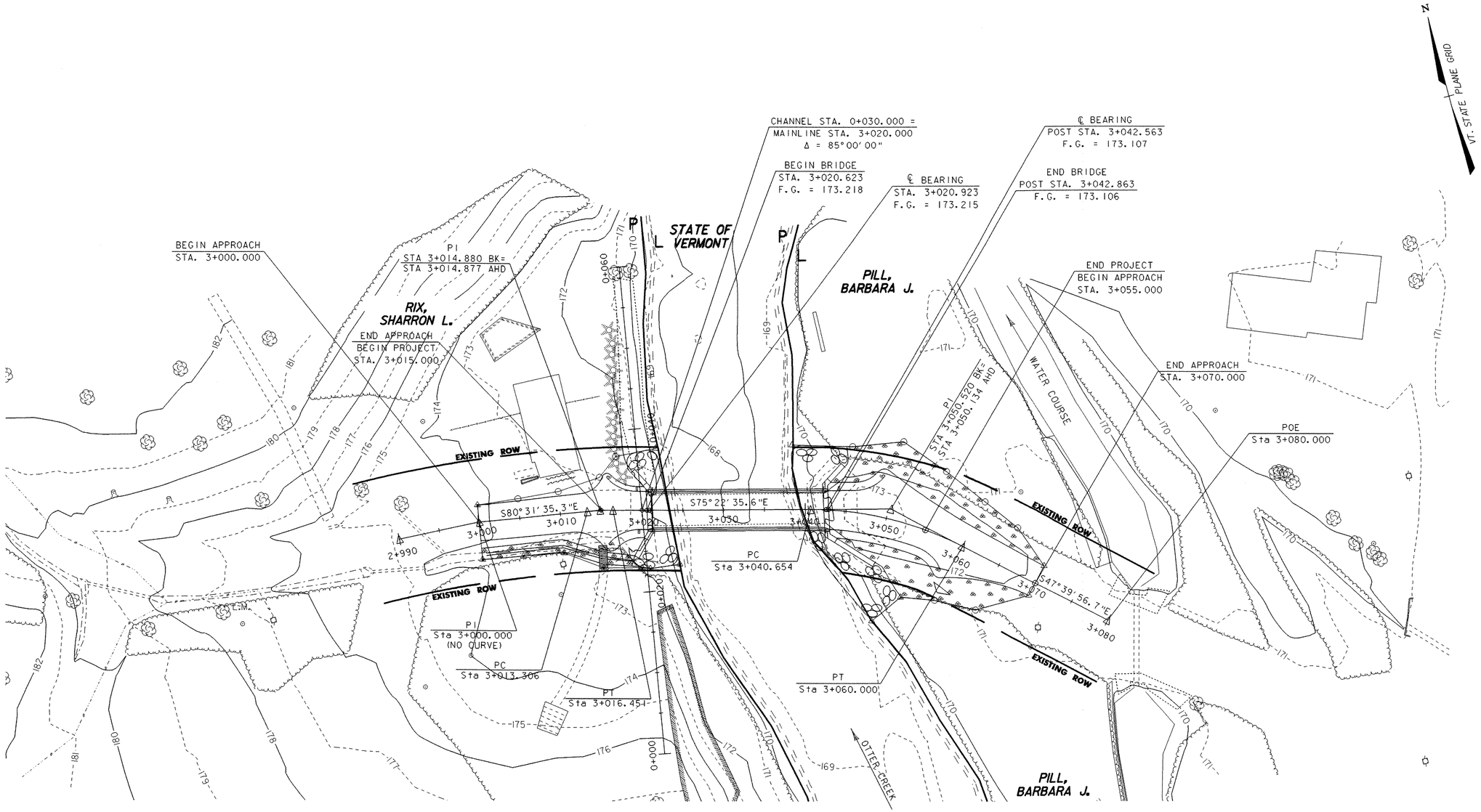
0 10 20
SCALE 1:250

SHEET NAME: EROSION & SEDIMENT CONTROL PLAN

PROJECT NAME: WALLINGFORD
PROJECT NUMBER: BRO 1443(31)
HIGHWAY NO.: TH 60
BRIDGE NO.: 50
OVER: OTTER CREEK

FILE NAME: /PW/94J084/sJ084ec.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: STRI
BRIDGE SHEET NUMBER:
PLOT DATE: 24-OCT-2005
DRAWN BY: STRI
IPARM NAME: sJ084ec3.I
SHEET 17 OF 38

VAOT Metric

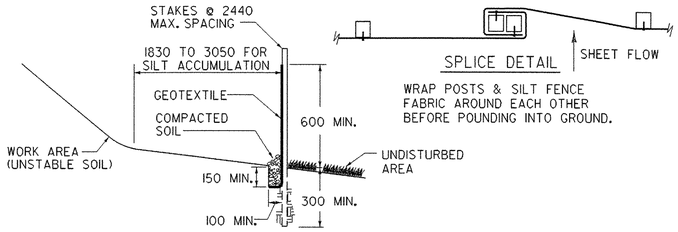


DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83/92

0 10 20

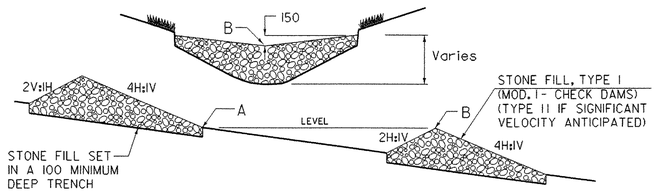
SCALE 1:250

SHEET NAME:	FINAL CONDITIONS SITE PLAN		
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME:	/PW/94J084/sj084ec.dgn	PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	STRI
DESIGNED BY:	STRI	IPARM NAME:	sj084ec4.i
BRIDGE SHEET NUMBER:		SHEET	18 OF 38



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.



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.
3. PAYMENT FOR STONE CHECK DAMS WILL BE PAID FOR AS ITEM 613.10. STONE FILL, TYPE I (MOD.1- CHECK DAMS)

SEEDING FORMULA
RURAL AREAS

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

GENERAL NOTES

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

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

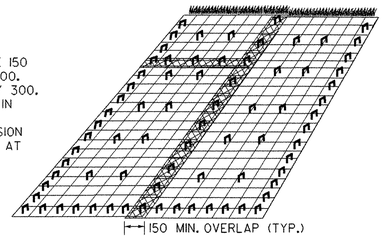
FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 kg/ha. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

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

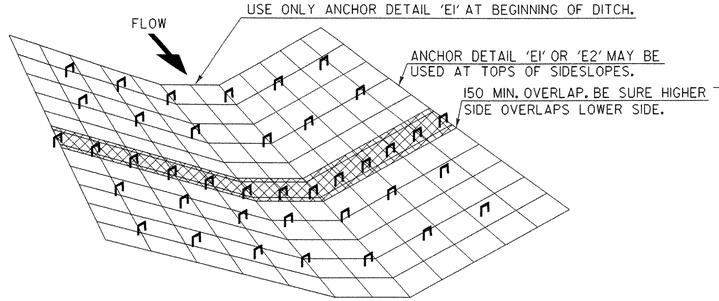
HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

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

NOTES:
1. 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 "ANCHOR DETAILS FOR EROSION MATTING" DETAIL FOR ANCHORING AT TOPS OF SLOPES.

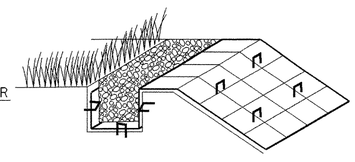


DETAIL "C"
EROSION MATTING FOR SLOPES STEEPER THAN 1V:3H



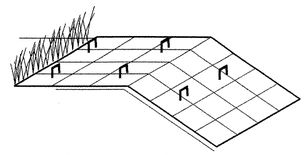
DETAIL "D"
EROSION MATTING FOR DITCHES

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.



ANCHOR DETAIL 'E1'

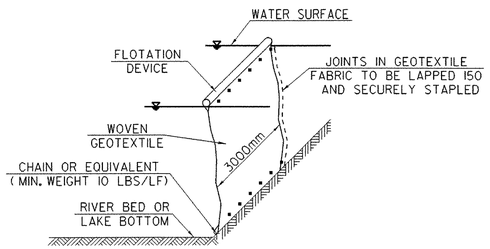
INSERT & STAPLE FABRIC INTO 150 X 150 TRENCH PRIOR TO BACKFILLING & COMPACTING SOIL. USE 3 STAPLE PATTERN EVERY 500.



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

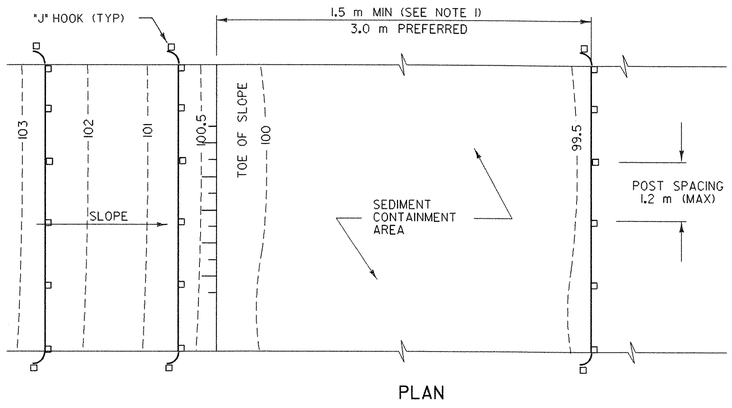


DETAIL "F"
FILTER CURTAIN

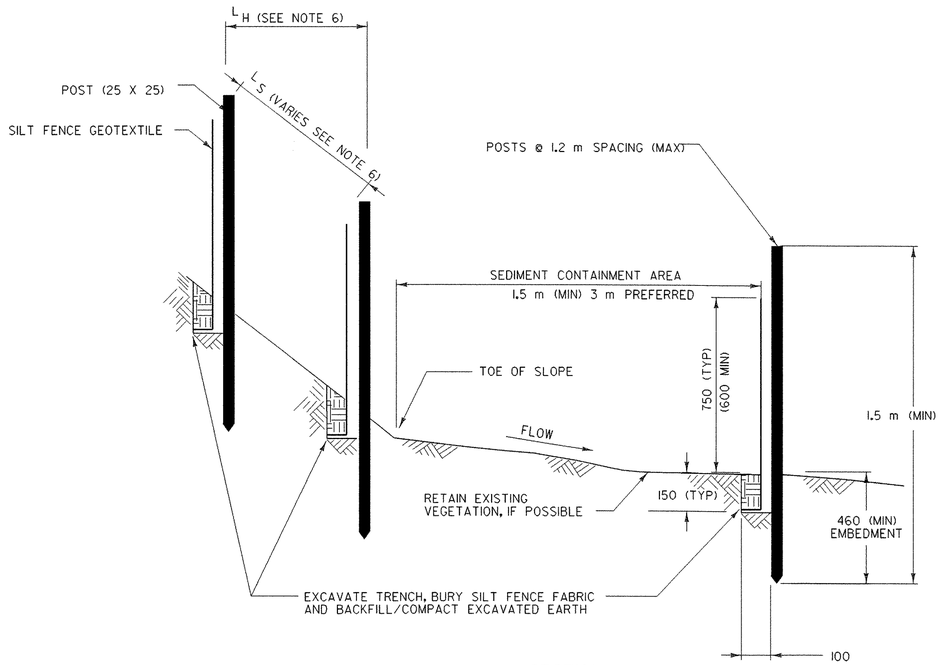
1. NOT TO BE USED ACROSS THE FLOW OF WATER
2. HEIGHT SHOULD BE SUFFICIENT TO ALLOW FOR VARIATIONS IN THE BOTTOM AND RISING WATER
3. ANCHOR FIRMLY IN PLACE AS NEEDED
4. INSTALL PRIOR TO EARTH DISTURBING ACTIVITIES AND/ OR INSTALLATION OF COFFERDAM WHERE APPLICABLE
5. LEAVE IN PLACE UNTIL UP-SLOPE AREAS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

NOTE: DETAILS NOT TO SCALE

SHEET NAME:	EROSION CONTROL DETAILS		
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME:	/PW/94J084/sj084ec.dgn	PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	STRI
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj084ec5.1
BRIDGE SHEET NUMBER:		SHEET	19 OF 38



PLAN



SECTION

SILT FENCE - TEMPORARY

SILT FENCE

APPLICATION NOTES:

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

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

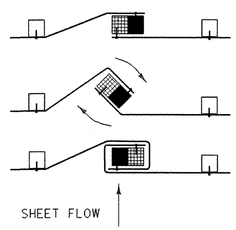
C. SILT FENCE SHALL NOT BE USED ACROSS CONCENTRATED FLOW.

GENERAL NOTES:

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

CONSTRUCTED SLOPE (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:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME:	94J084\Structures\sj084ec.dgn	PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. R. WHITCOMB	DRAWN BY:	VAOT
DESIGNED BY:	C. CARLSON	IPARM NAME:	sj288ec6.i
BRIDGE SHEET NUMBER:		SHEET	19b OF 38

STATE OF VERMONT
AGENCY OF TRANSPORTATION

GENERAL NOTES

Metric

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AGENCY OF TRANSPORTATION 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 OTTER CREEK.

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 OR PAINTED IN ACCORDANCE WITH SECTION 513 OF THE VT STANDARD SPECIFICATIONS (USE COLOR CHIP 50059) BROWN (TO MATCH WEATHERING STEEL). THE COLOR GALVANIZING WILL BE PAID FOR UNDER THE ITEM 525.43, "BRIDGE RAILING, HDSB/FASCIA MOUNTED/HANDRAIL (MOD)."

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

8. PAYMENT FOR REMOVAL OF PORTIONS OF THE EXISTING ABUTMENT No. 1 AND WINGWALLS 1 AND 2 TO THE ELEVATIONS INDICATED ON THE PLANS SHALL BE PAID FOR UNDER THE ITEM 529.25, "REMOVAL OF CONCRETE OR MASONRY."

9. THE EXISTING WINGWALLS AND ABUTMENT AT ABUTMENT NO. 2 SHALL BE REMOVED UNDER THE ITEMS, "COFFERDAM EXCAVATION, ROCK" AND "UNCLASSIFIED CHANNEL EXCAVATION". THOSE PORTIONS OF THE EXISTING ABUTMENT NO.2 AND WINGWALLS NOT REMOVED UNDER THOSE ITEMS SHALL BE REMOVED AND THE WORK WILL BE INCIDENTAL TO THE ITEM "PARTIAL REMOVAL OF STRUCTURE (MOD)".

10. a) ITEM, 529.20, "PARTIAL REMOVAL OF STRUCTURE (MOD)" INCLUDES THE REMOVAL OF THE "MABEY" BRIDGE AND THE REMOVAL OF THE EXISTING TIMBER BACKWALLS AND WINGWALLS AT ABUTMENT NO. 1.

    b) THE CONTRACTOR SHALL COORDINATE THE 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. THE "MABEY" BRIDGE SHALL BE DISMANTLED AND DELIVERED TO THE DISTRICT GARAGE IN MENDON. SEE SPECIAL PROVISIONS.

    c) THE EXISTING CONCRETE BARRIER RAILS SHALL BE REMOVED AND DELIVERED TO THE DISTRICT GARAGE IN MENDON. THE CONTRACTOR SHALL CONTACT DAVE LATHROP, DTA #3 PRIOR TO DELIVERING THE BARRIER RAILS TO MENDON. THIS WORK SHALL BE INCIDENTAL TO THE ITEM "PARTIAL REMOVAL OF STRUCTURE (MOD.)."

11. A WATER QUALITY AND QUANTITY TEST WILL BE PERFORMED AT THE WELL LOCATED AT STA 2+989 RT AND STA 2+995 LT PRIOR TO AND IMMEDIATELY AFTER CONSTRUCTION. THIS WORK WILL BE PERFORMED BY AGENCY STAFF AND/OR DESIGNEES.

12. THE CONTRACTOR SHALL AVOID DISTURBING THE PROPERTY BEHIND THE (PDF) FENCING LOCATED BETWEEN STATIONS 3+013 LT TO 3+016 LT. THIS AREA INCLUDES THE HOME'S GAS LINE, SEPTIC SYSTEM AND WOOD FENCE. ANY DAMAGE THAT OCCURS TO THIS AREA WILL BE FIXED AND THE CONTRACTOR WILL PAY FOR THE DAMAGES.

CONCRETE

13. NOT USED.

14. 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.

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

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

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

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

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

20. SURFACES OF BRIDGE SEATS UNDER THE BEARING DEVICES SHALL BE LEVEL.

21. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES (INCLUDING THOSE PORTIONS OF THE EXISTING ABUTMENT NO. 1 THAT REMAIN EXPOSED) EXCEPT THE UNDERSIDE OF THE PRESTRESSED MEMBERS BETWEEN THE DRIP BEADS.

22. a) SETTLEMENT OF THE SUBSTRUCTURE AT ABUTMENT NO.2 MAY OCCUR DURING CONSTRUCTION OF THE PROJECT. THE CONTRACTOR AND RESIDENT ENGINEER SHALL PROFILE THE ABUTMENT SEATS AT ABUTMENT NO. 2 AFTER THE SUBSTRUCTURE IS POURED AND PRIOR TO SETTING THE BOX BEAMS.

    b) NO CONCRETE IN THE ABUTMENTS OR WINGWALLS SHALL BE PLACED ABOVE THE BRIDGE SEAT ELEVATIONS UNTIL THE BOX BEAMS HAVE BEEN PROFILED AND THE FINISHED GRADE OF THE DECK HAS BEEN DETERMINED. THE FINISHED GRADE MAY REQUIRE ADJUSTMENT DUE TO THE SETTLEMENT THAT MAY OCCUR AFTER THE SUPERSTRUCTURE IS PLACED ON THE ABUTMENTS. PRIOR TO ESTABLISHING THE FINISHED GRADE, THE RESIDENT ENGINEER SHALL CONTRACT THE STRUCTURES SECTION.

23. ALL SUBSTRUCTURE CONCRETE SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B UNLESS OTHERWISE NOTED.

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

25. TOWN HIGHWAY 60 WILL BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE TOWN A MINIMUM OF TWO (2) WEEKS PRIOR TO CLOSING THE ROAD.

26. THE TOWN OF WALLINGFORD WILL BE RESPONSIBLE FOR INSTALLING DETOUR SIGNS FOR THE CLOSURE OF THE BRIDGE. ALL ON PROJECT SIGNING AS SHOWN ON SHEET 11 WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THIS WORK SHALL BE PAID FOR UNDER THE ITEM 641.10, "TRAFFIC CONTROL."

27. ACCESS TO DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED. WHEN THE CONTRACTOR MUST TEMPORALLY RESTRICT ACCESS TO THE DRIVES, NOTICE TO THE PROPERTY OWNERS SHALL BE GIVEN IN ADVANCE BY THE CONTRACTOR. THIS WORK SHALL BE PAID FOR UNDER ITEM 641.10 "TRAFFIC CONTROL".

28. THE CONSTRUCTION AND MATERIALS FOR THE ACCESS RAMP SUPERSTRUCTURE AT STA 3+015 RT SHALL BE PAID FOR AS ITEM 522.25, "STRUCTURAL LUMBER AND TIMBER-TREATED." THE MATERIAL FOR THE (32 x 152) (NOMINAL) TREATED RADIUS EDGED DECKING AND (50 x 152) (NOMINAL) TIMBER SHALL BE SOUTHERN YELLOW PINE.

PRESTRESSED CONCRETE

29. THE PRESTRESSED UNITS SHALL BE OVERLAID WITH CONCRETE HIGH PERFORMANCE, CLASS AA. THE OVERLAY IS DESIGNED TO BE A MINIMUM OF 190mm THICK AT THE ENDS OF THE SPAN AT THE CENTERLINE. 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.

30. 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 THE APPLICABLE DESIGN CRITERIA, LOADINGS AND CODES.

31. PRESTRESSED, PRECAST MEMBERS SHALL:

    A. CONFORM TO SECTION 510A "PRESTRESSED CONCRETE".
    B. BE 690 X 1220 BOX BEAMS
    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.

32. 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 "PRESTRESSED CONCRETE BOX BEAM (690 X 1220)."

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

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

35. MATERIALS, LABOR AND EQUIPMENT FOR ALL GROUTING AND FOR THE COLD POURED JOINT FILLER SHALL BE INCLUDED IN THE UNIT PRICE FOR THE ITEM "PRESTRESSED CONCRETE BOX BEAM (690 X 1220)." THE GROUT SHALL CONFORM TO MORTAR, TYPE IV.

36. a) THE BEARINGS SHALL BE PAID FOR UNDER THE ITEM, 531.10, "BEARING DEVICE ASSEMBLY (ELASTOMERIC)."
    b) THE BOX BEAMS SHALL SIT SOLIDLY ON ALL OF THE BEARINGS. OCCASIONALLY, TOLERANCES IN THE CONSTRUCTION OF THE BRIDGE SEAT OR PRECAST BEAMS WILL CAUSE THE BEAMS TO BEAR ON ONLY 3. THE CONTRACTOR SHALL HAVE ONSITE A QUANTITY OF ACCEPTABLE SHIMS OF VARIOUS THICKNESSES THAT MAY BE USED TO SHIM THE BEARINGS. THE COST OF THE SHIMS SHALL BE INCIDENTAL TO THE ITEM 531.10.

37.

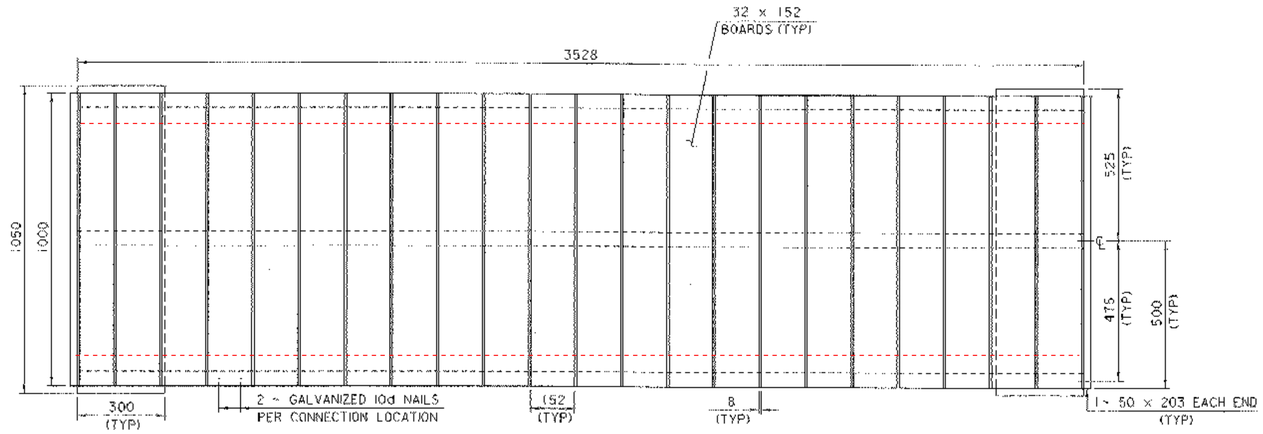
SERVICE LOADS	690 X 1220
MEMBER MOMENT	617 kN-m
DECK MOMENT	252 kN-m
SUPERIMPOSED DEAD LOAD MOMENT	81 kN-m
LIVE LOAD & IMPACT MOMENT	721 kN-m
TOTAL DEAD LOAD REACTION	222 kN
LIVE LOAD & IMPACT REACTION	151 kN
TOTAL REACTION	373 kN
FINAL CAMBER	17 mm

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

39. **SEQUENCE OF CONSTRUCTION FOR PRESTRESSED VOIDED BOX BEAMS**

    (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 65 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 overlay placement.
        * Place overlay.

PROJECT NAME:	**WALLINGFORD**		
PROJECT NUMBER:	**BRO 1443(31)**		
FILE NAME:	**/PW/94j084/sj084gen.xls**	PLOT DATE:	**8/19/2005**
PROJECT LEADER:	**R. WHITCOMB**	DRAWN BY:	**J. GILMORE**
DESIGNED BY:	**C. CARLSON**	CHECKED BY:	**C. CARLSON**
GENERAL NOTES SHEET		SHEET **20** OF **38**	

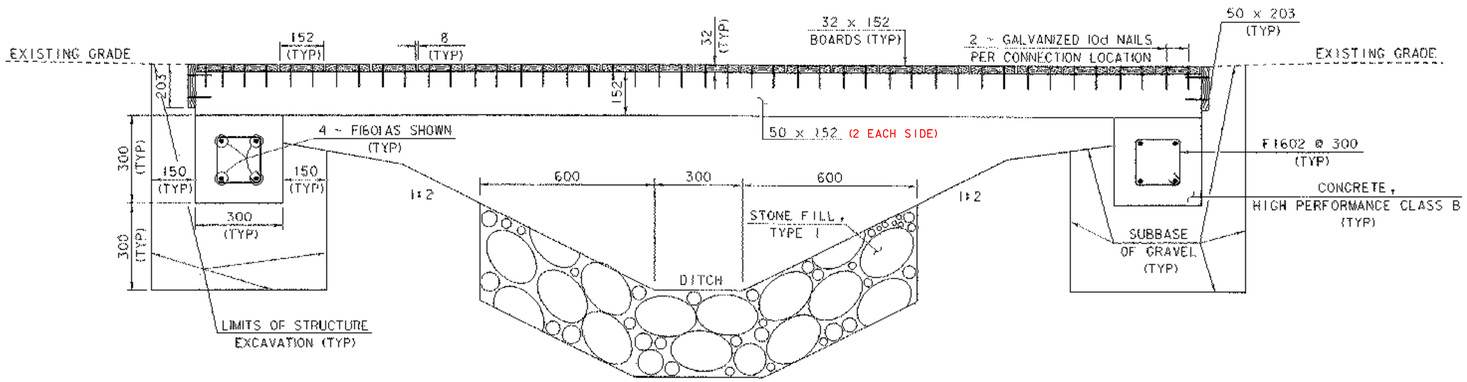


ACCESS RAMP PLAN

SCALE: 1:10

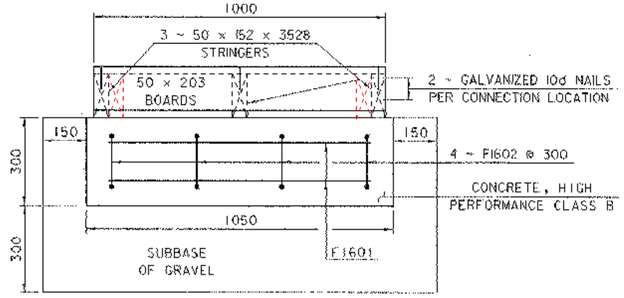
NOTES:

1. ALL REINFORCING STEEL HAS AN 80 CLEAR COVER.
2. CONTRACTOR MAY SUBSTITUTE T6 STAINLESS STEEL SCREWS IN PLACE OF NAILS.
3. SEE GENERAL NOTE #28 FOR ADDITIONAL INFORMATION.
4. ALL TIMBER SIZES ARE DEFINED AS NOMINAL.



ACCESS RAMP ELEVATION

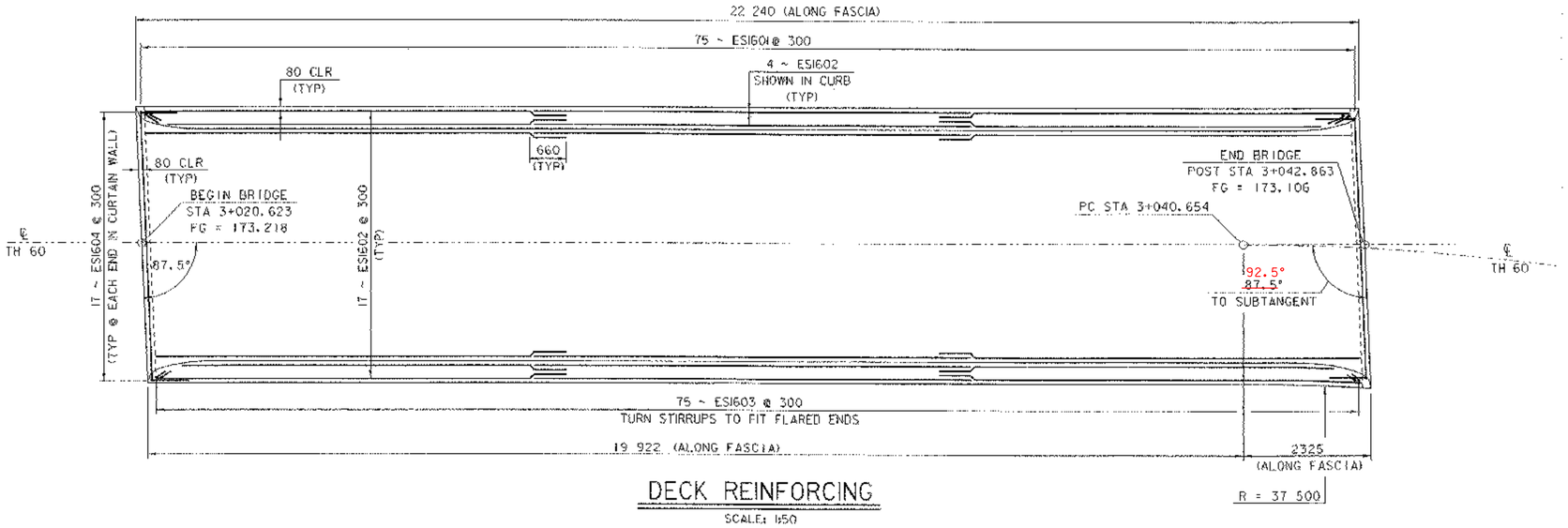
NTS



ACCESS RAMP END SECTION (TYP)

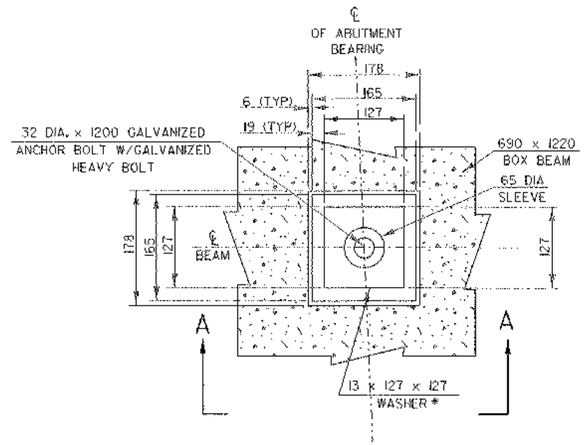
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SHEET NAME:	ACCESS RAMP DETAILS		
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME:	/PW/94J084/sJ084ftb.dgn	PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	D. BONNEAU	IPARM NAME:	sJ084ftb.I
BRIDGE SHEET NUMBER:		SHEET	21 OF 38

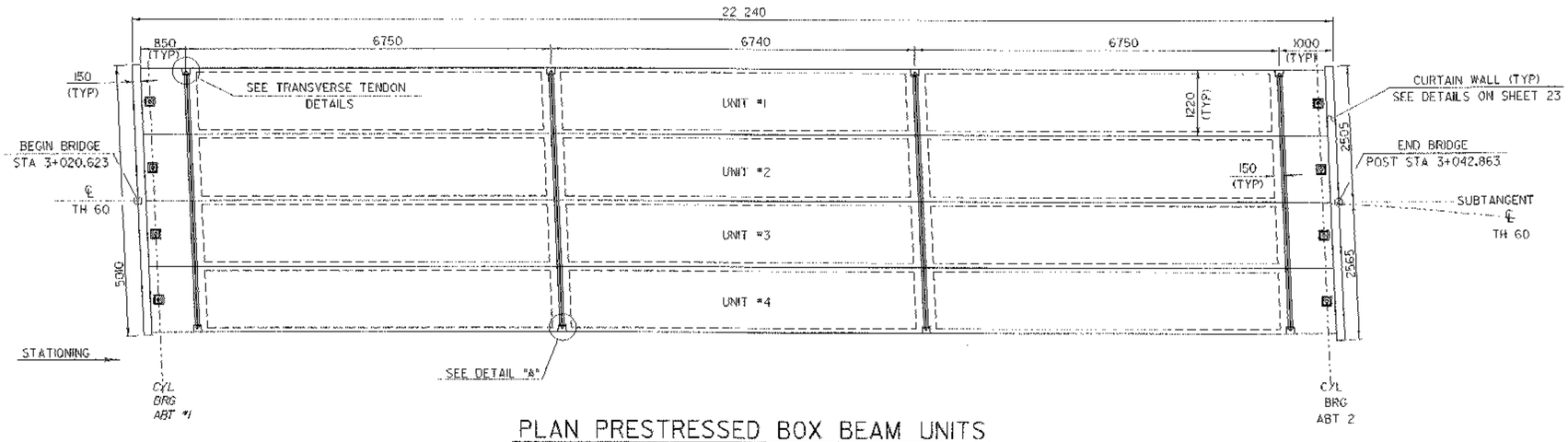


DECK REINFORCING

SCALE: 1:50

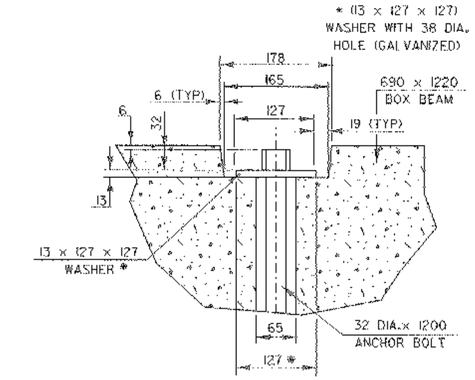


END BRIDGE ANCHOR BOLT DETAIL

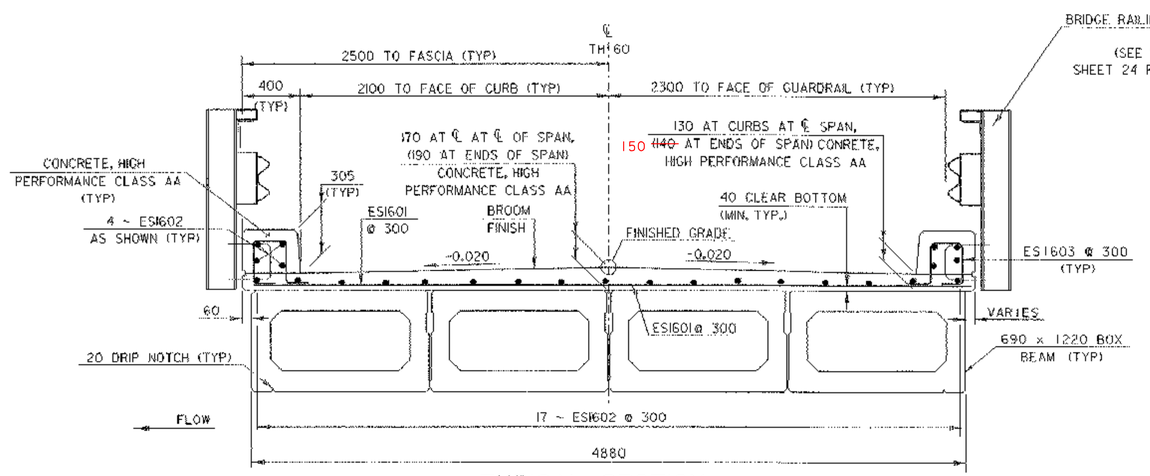


PLAN PRESTRESSED BOX BEAM UNITS

SCALE: 1:50



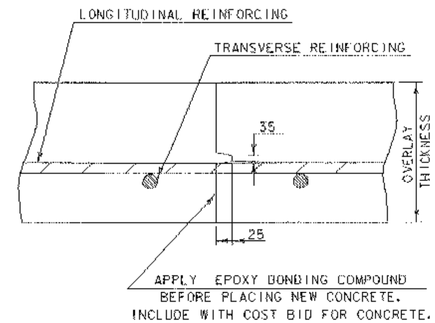
SECTION A-A



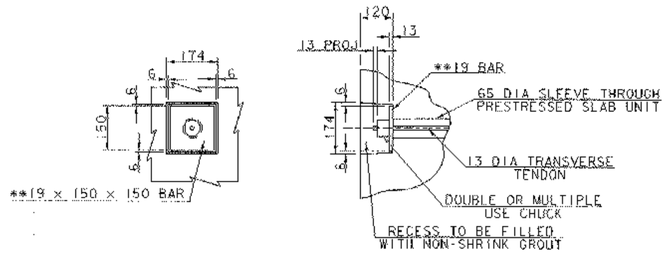
*** THE CONCRETE DECK SHALL BE BROOMED FINISHED NORMAL TO THE CENTERLINE.

TYPICAL SECTION

SCALE: 1:20



TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS



DETAIL "A"

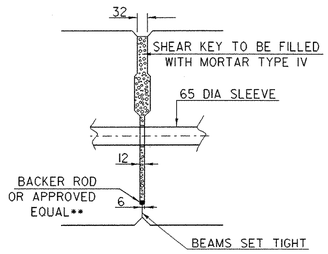
NTS

* 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

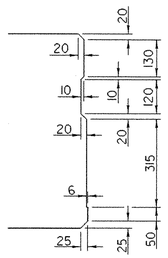
SHEET NAME: **DECK REINFORCING DETAILS**

PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/sJ084sup.dgn		PLOT DATE:	24-OCT-2005
PROJECT MANAGER: R. WHITCOMB		DRAWN BY:	J. GILMORE
DESIGNED BY:	K. UPMAL	IPARM NAME:	sJ084dck1
BRIDGE SHEET NUMBER:		SHEET	22 OF 38



SHEAR KEY SECTION FOR BOX BEAMS

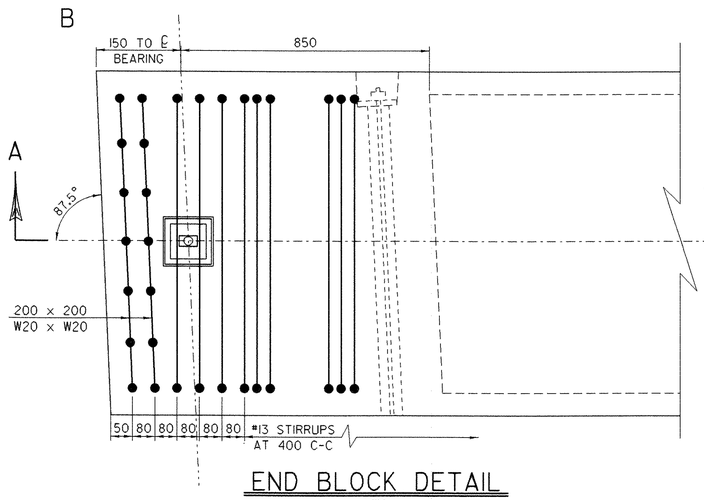
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SHEAR KEY DETAIL FOR BOX BEAMS

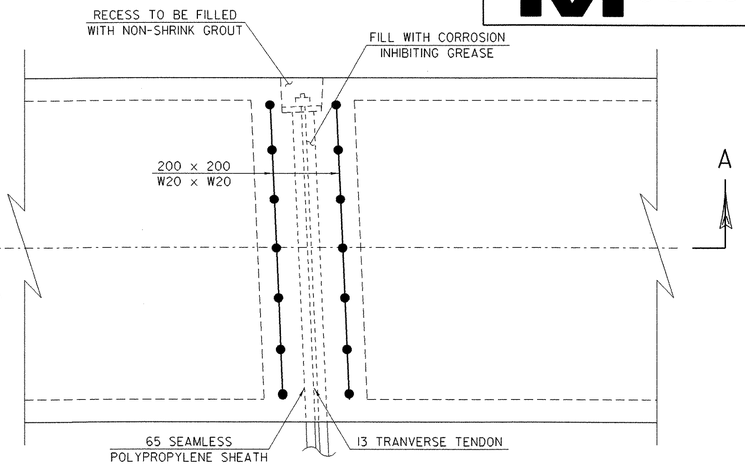
SCALE: 1:10

**NOTE: INSTALL AFTER UNITS HAVE BEEN PLACED



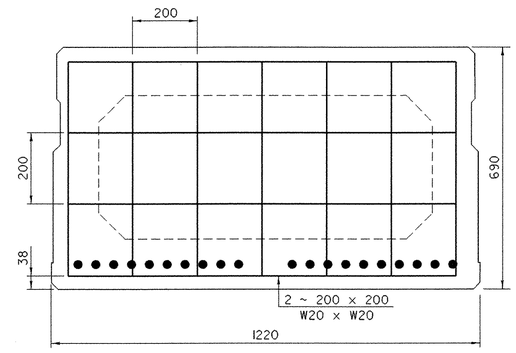
END BLOCK DETAIL

NTS



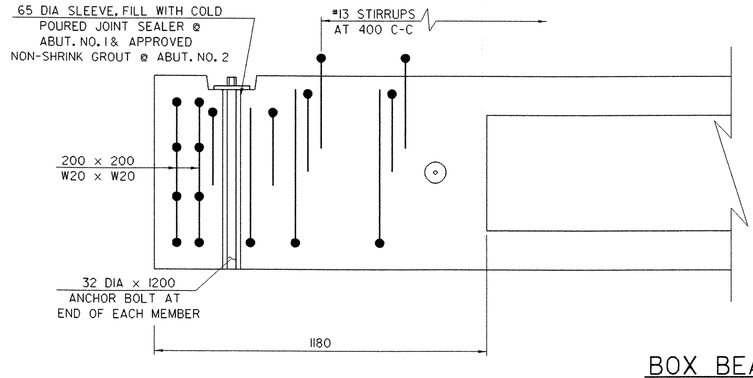
DETAIL AT TRANSVERSE TENDON

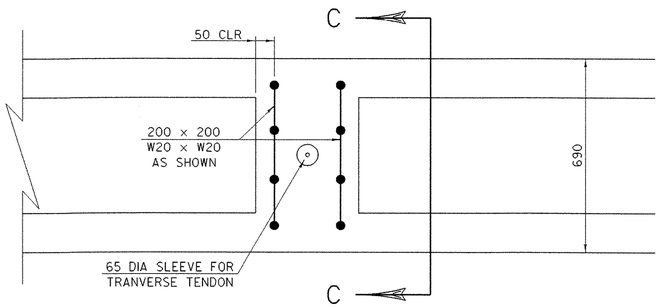
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SECTION B-B

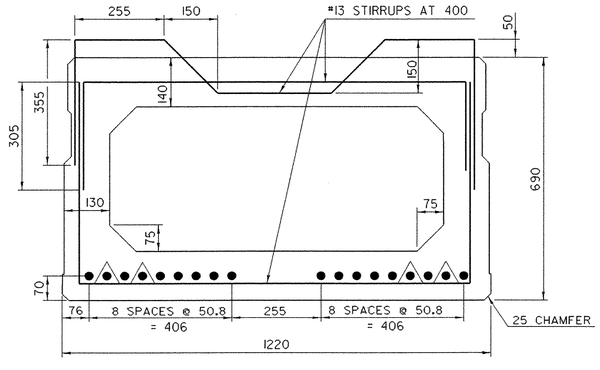
SCALE: 1:10





BOX BEAM SECTION A-A

SCALE: 1:10



NOTE: ALL DIMENSIONS ARE TYPICAL △ = DEBOND 760

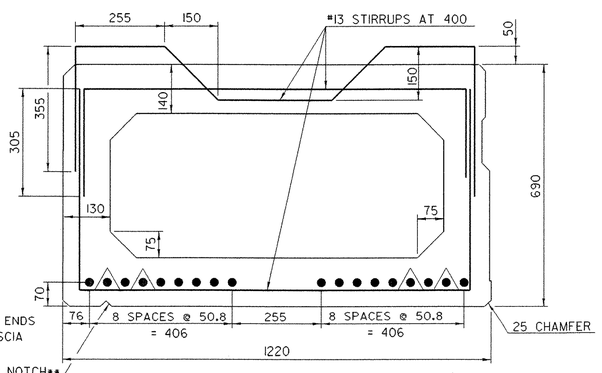
INTERIOR BOX BEAM SECTION

NTS

NUMBER OF STRANDS FOR 690 x 1220 BOXES

ROW *	NO. OF STRANDS
1 AT 70	18 STRANDS

* ROWS ARE ALWAYS AT SPECIFIED DISTANCES FROM BOTTOM OF UNIT

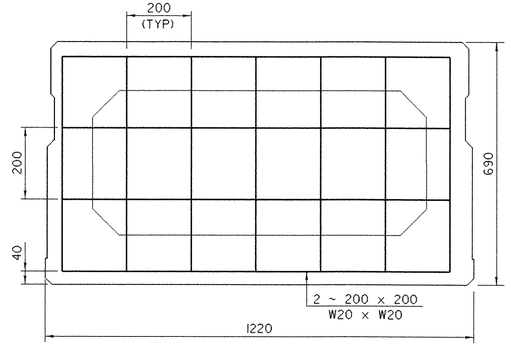


** STOP DRIP NOTCH 1.5 METERS FROM ENDS OF UNIT AND OUTLET AT 45 TO FASCIA

NOTE: ALL DIMENSIONS ARE TYPICAL △ = DEBOND 760

LEFT FASCIA UNIT (RIGHT FASCIA UNIT (OPPOSITE HAND))

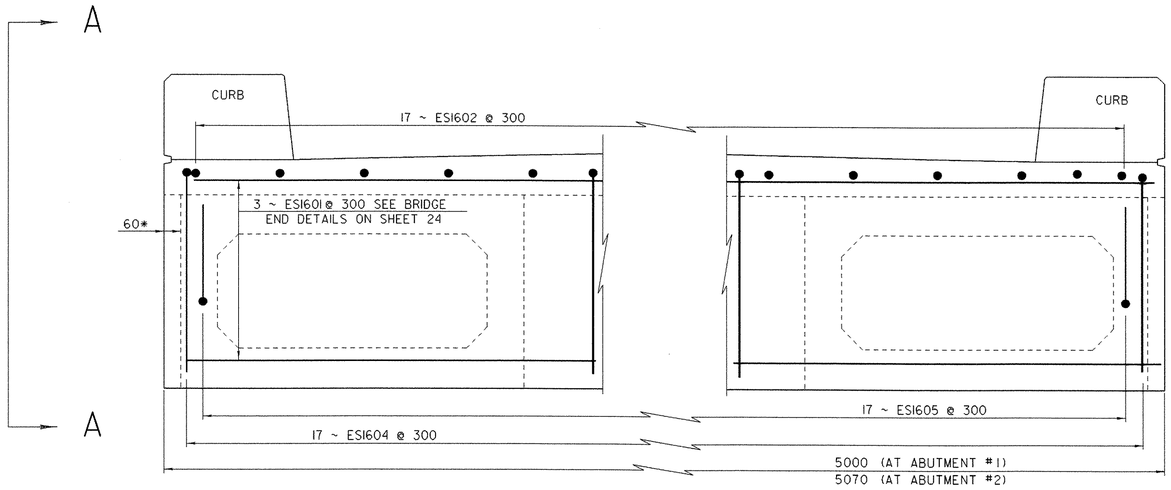
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SECTION C-C

NTS

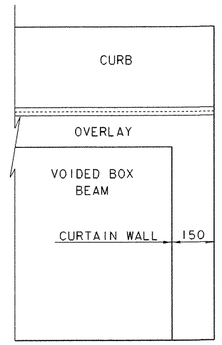
SHEET NAME:	**BOX BEAM DETAILS**		
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME:	/PW/94J084/sJ084sup.dgn	PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	K. UPMAL	IPARM NAME:	sJ084vsd.I
BRIDGE SHEET NUMBER:		SHEET	23 OF 38



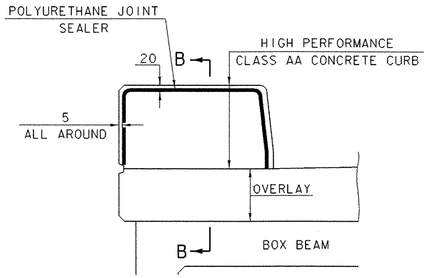
CURTAIN WALL DETAIL

SCALE: 1:10

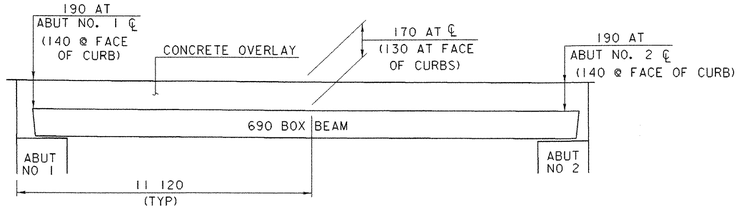
* CURTAIN WALL LENGTH MATCHES THE FASCIA TO FASCIA WIDTH. OVERHANG WIDTH VARIES AT CURTAIN WALL #2.



SECTION A-A



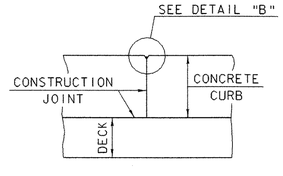
TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT



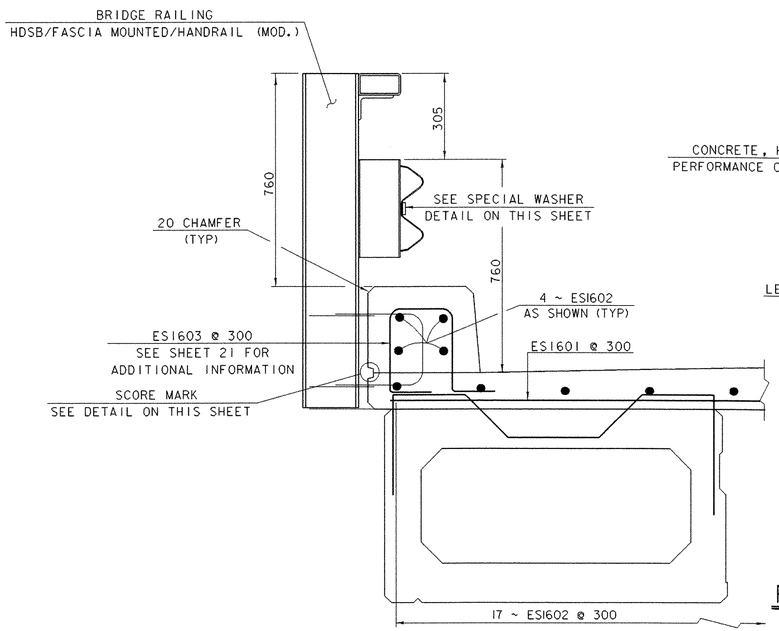
CONCRETE, HIGH PERFORMANCE CLASS AA DETAIL

NTS

(SEE GENERAL NOTE 29 ON SHEET 20.)



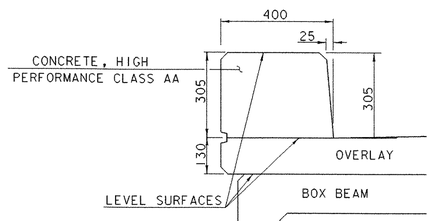
SECTION B-B



CURB AND RAIL SECTION

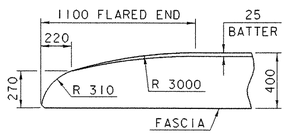
SCALE: 1:10

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



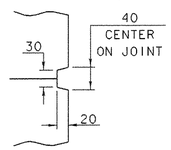
CURB SECTION

SCALE: 1:10

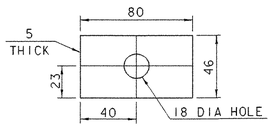


FLARED END FOR 400 CURB

BARS SHALL BE TURNED AS REQUIRED TO FIT FLARED ENDS

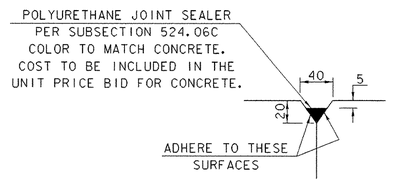


SCORE MARK DETAIL



SPECIAL WASHER DETAIL

SCALE: 1:20



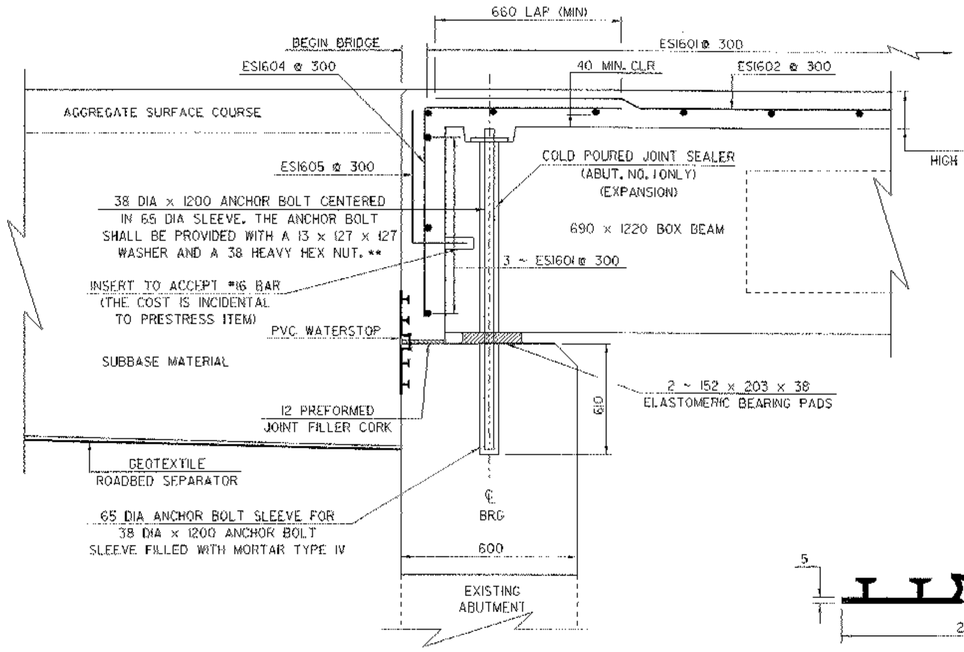
DETAIL "B"

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.

SHEET NAME: **CURB, RAIL & CURTAIN WALL DETAILS**

PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME:	/PW/94J084/sj084sup.dgn	PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj084crd.i
BRIDGE SHEET NUMBER:		SHEET	24 OF 38



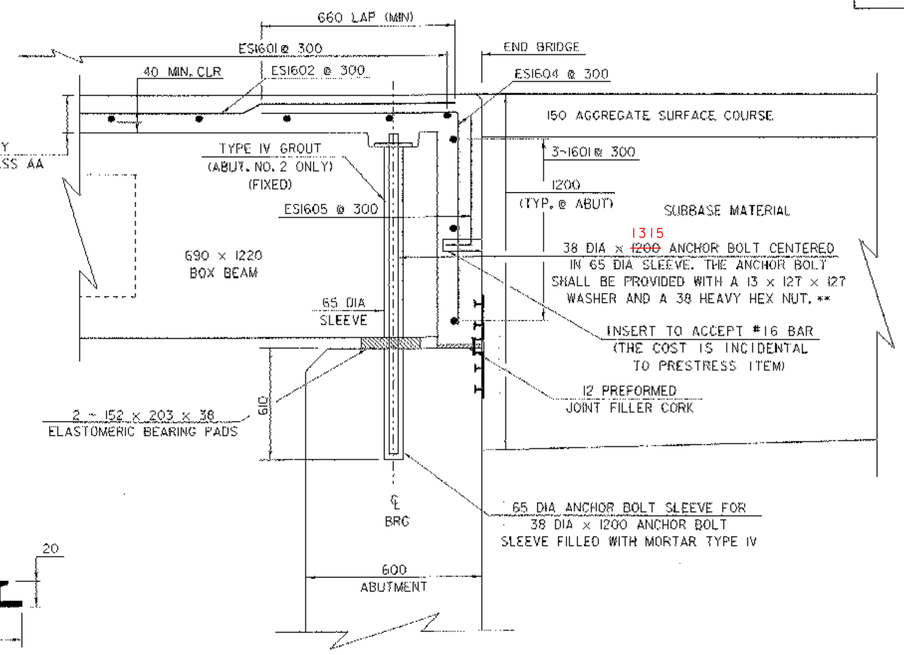
BRIDGE END DETAIL AT ABUTMENT #1

SCALE: 1:10



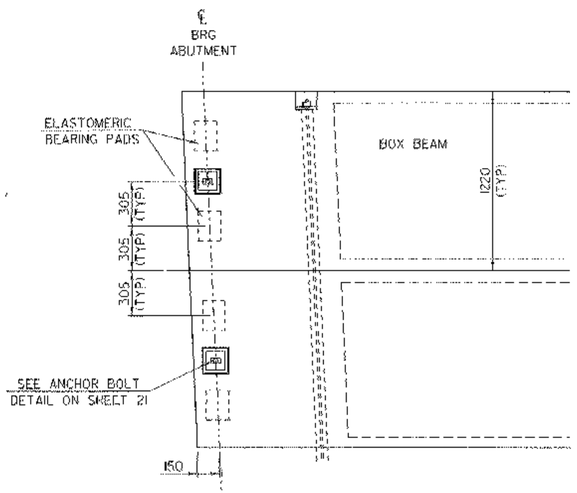
PVC WATERSTOP FOR CONSTRUCTION JOINTS

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



BRIDGE END DETAIL AT ABUTMENT #2

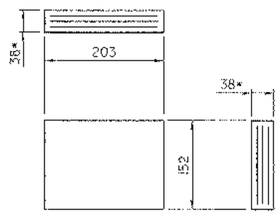
SCALE: 1:10



ABUTMENT BEARING PLACEMENT DETAIL

SCALE: 1:20

** 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 DIA SLEEVE IN THE UNIT. THE PURPOSE OF THE SEALER IS TO FACILITATE PLACEMENT OF THE "MORTAR OR JOINT SEALER" AROUND THE ANCHOR BOLTS.



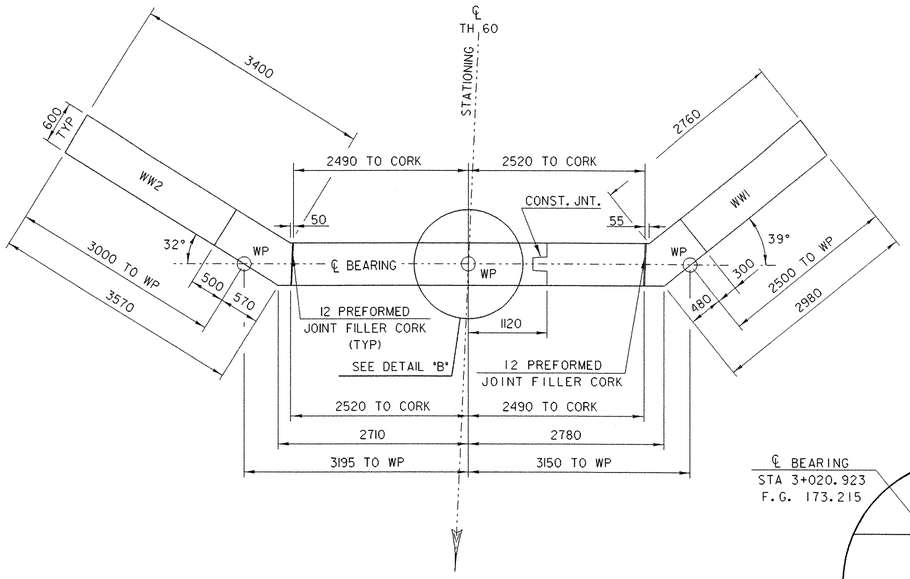
ELASTOMERIC BEARING DETAIL

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

NOTES

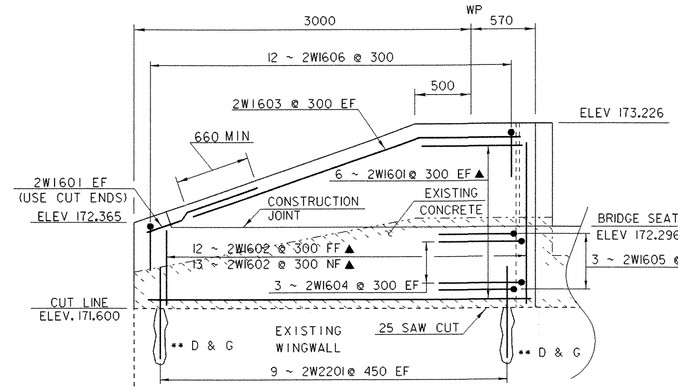
1. ALTERNATE CONFIGURATIONS FOR ELASTOMERIC BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE BEARING SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE LOADS AND CRITERIA SHOWN ON THIS SHEET AND MAINTAIN THE ANCHORAGE SYSTEM SHOWN. THE BEARINGS SHALL BE DESIGNED ACCORDING TO AASHTO "STANDARD 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: 27°c
   B. 60 DUROMETER ELASTOMERIC
   C. MAXIMUM BEARING STRESS: 6.89 MPa
   D. DESIGN ROTATION: 0.015 RAD.
   E. REACTION/BEAM:
      RDL: 190 KN
      RLL: 148 KN

SHEET NAME:	**BEGIN AND END BRIDGE DETAILS**		
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME:	/PW/94j084/sj084sup.dgn	PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj084bed.1
BRIDGE SHEET NUMBER:		SHEET	25 OF 38



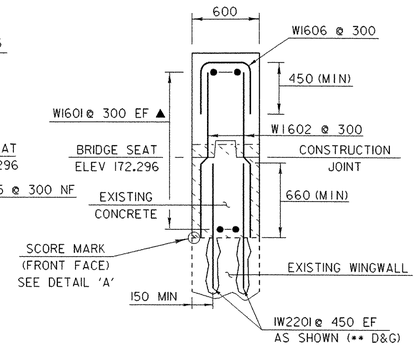
ABUTMENT #1 PLAN

SCALE: 1:40



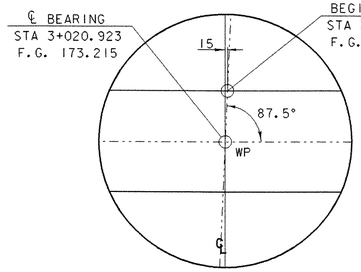
WINGWALL #2

SCALE: 1:25

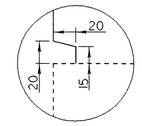


WINGWALLS 1 & 2 TYPICAL SECTION

SCALE: 1:25

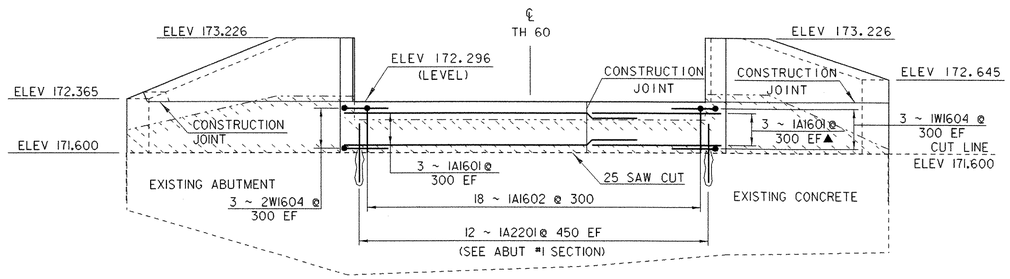


DETAIL "B"



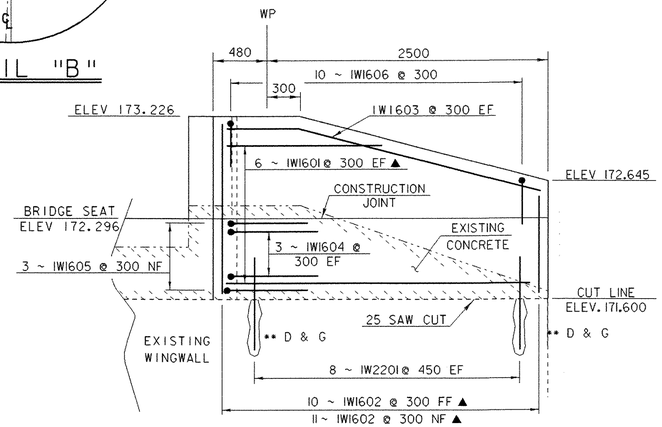
DETAIL 'A'

NTS



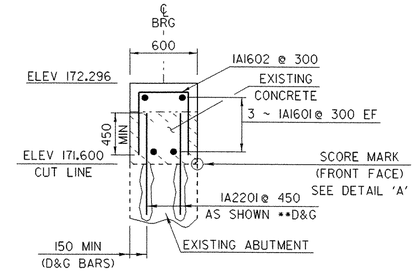
ABUTMENT #1 ELEVATION

SCALE: 1:40



WINGWALL #1

SCALE: 1:25



ABUTMENT #1 SECTION

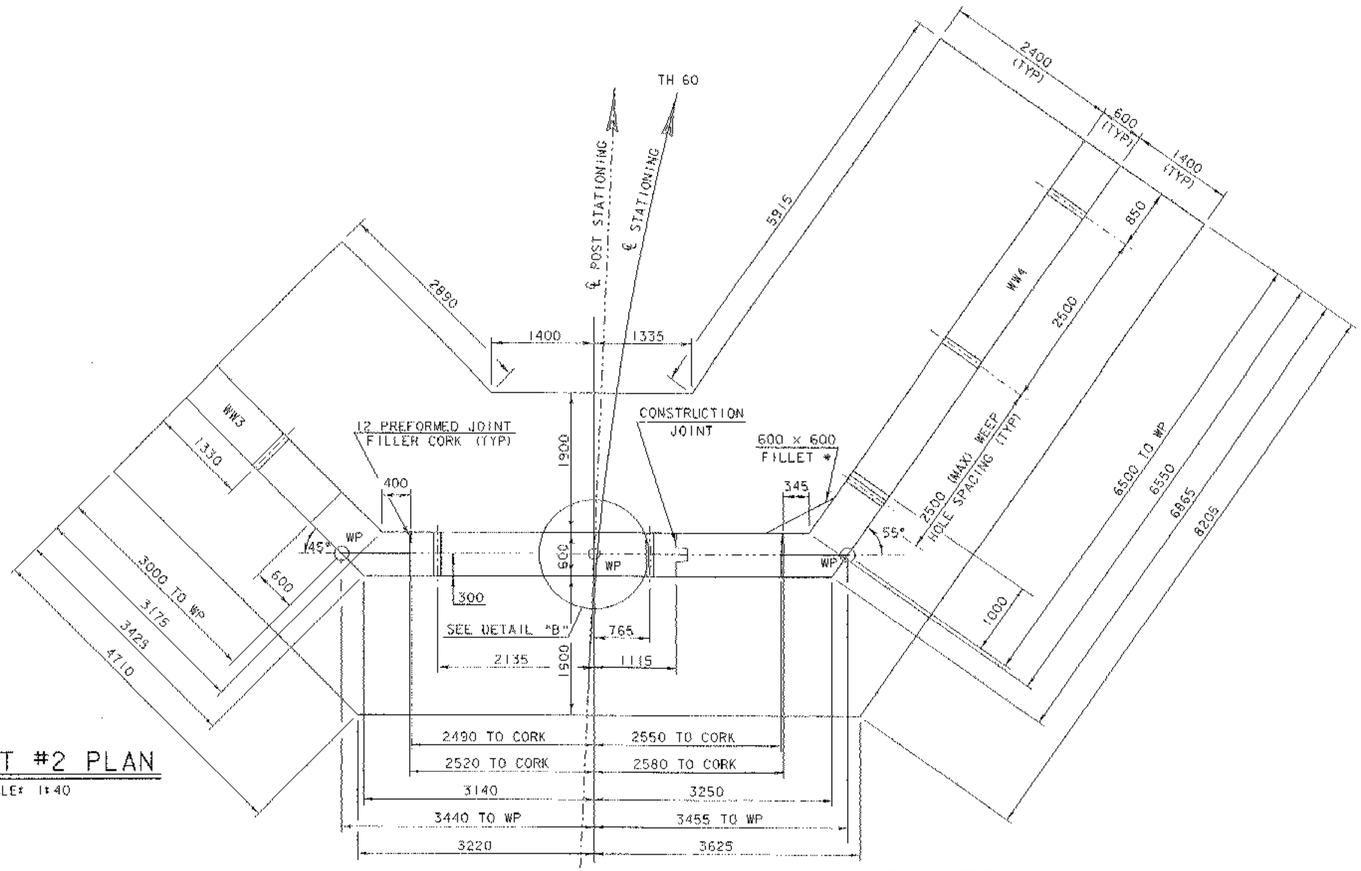
SCALE: 1:25

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. SEE SHEET 28 FOR CORNER DETAILS
7. ** D & G = DRILL AND GROUT REBAR MINIMUM 450 INTO EXISTING ABUTMENT
8. ALL LAPS 660 UNLESS NOTED OTHERWISE
9. SEE SHEET 3 FOR STRUCTURE EXCAVATION LIMITS FOR ABUTMENT #1
10. EXISTING CONCRETE TO BE REMOVED UNDER THE PAY ITEM "REMOVAL OF CONCRETE OR MASONRY"

SHEET NAME:	ABUTMENT NUMBER 1 DETAILS		
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME:	/PW/94J084/sj084sub.dgn	PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj084ab1.i
BRIDGE SHEET NUMBER:		SHEET	26 OF 38

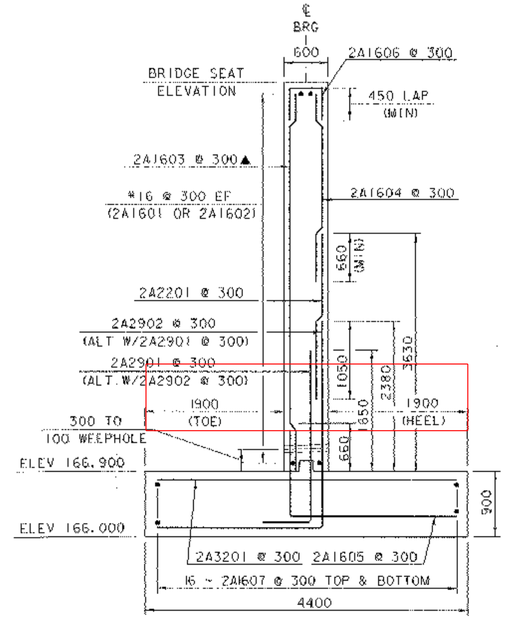
Metric



ABUTMENT #2 PLAN

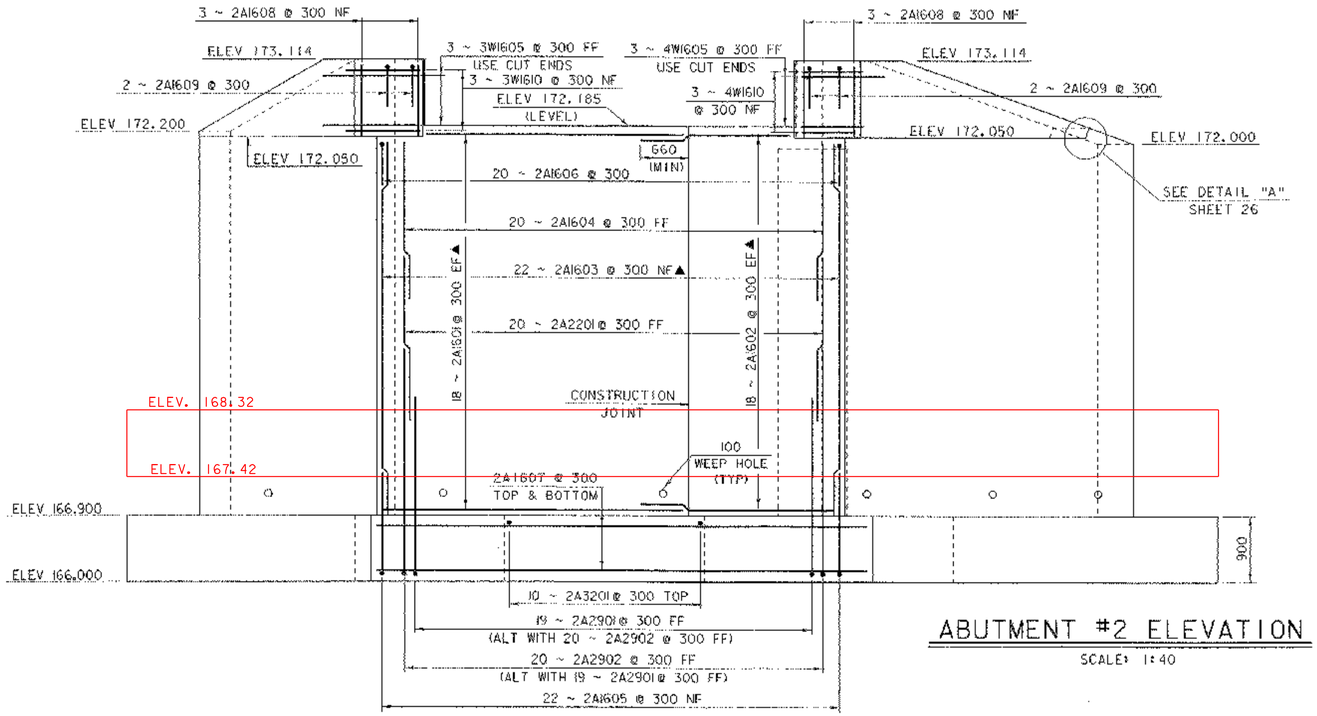
SCALE: 1:40

* STOP FILLET 300 BELOW BRIDGE SEAT



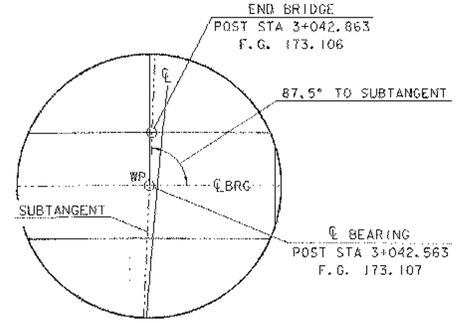
ABUTMENT #2 TYPICAL

SCALE: 1:40



ABUTMENT #2 ELEVATION

SCALE: 1:40



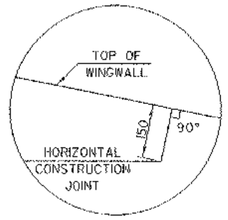
DETAIL "B"

NOTES:

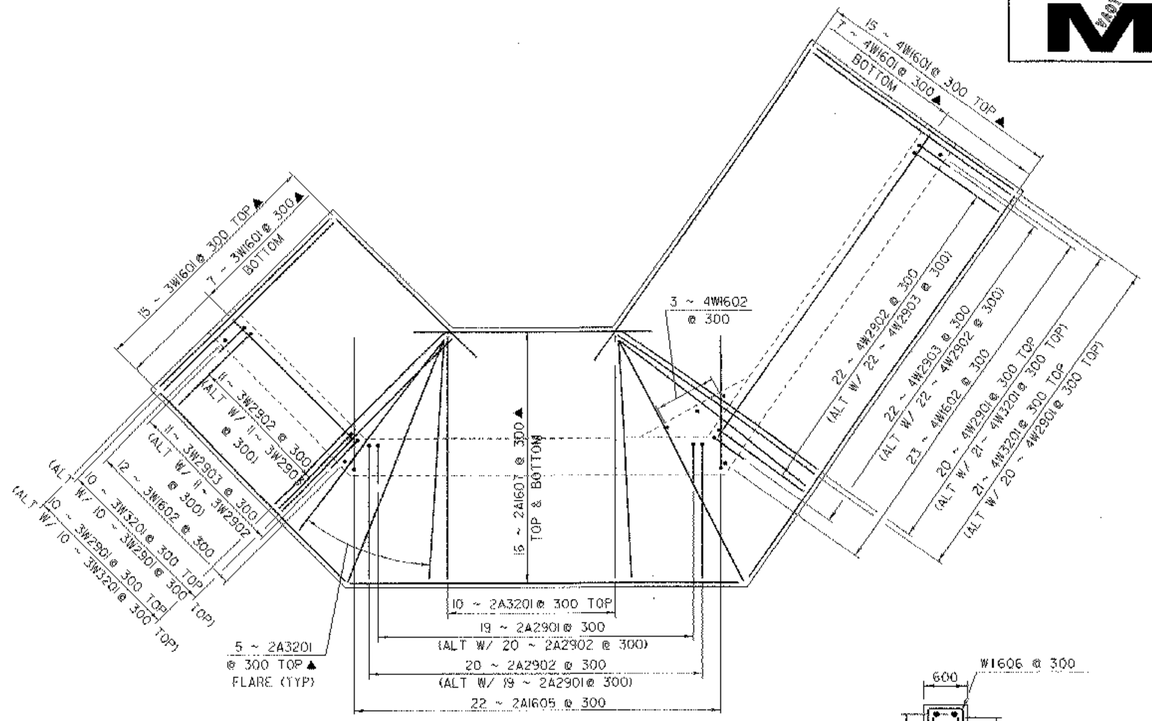
1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. 3000 MAX WEEPHOLE SPACING
7. LAPS 660 UNLESS NOTED OTHERWISE
8. SEE SHEET 28 FOR CORNER DETAILS.

SHEET NAME: **ABUTMENT NUMBER 2 DETAILS**

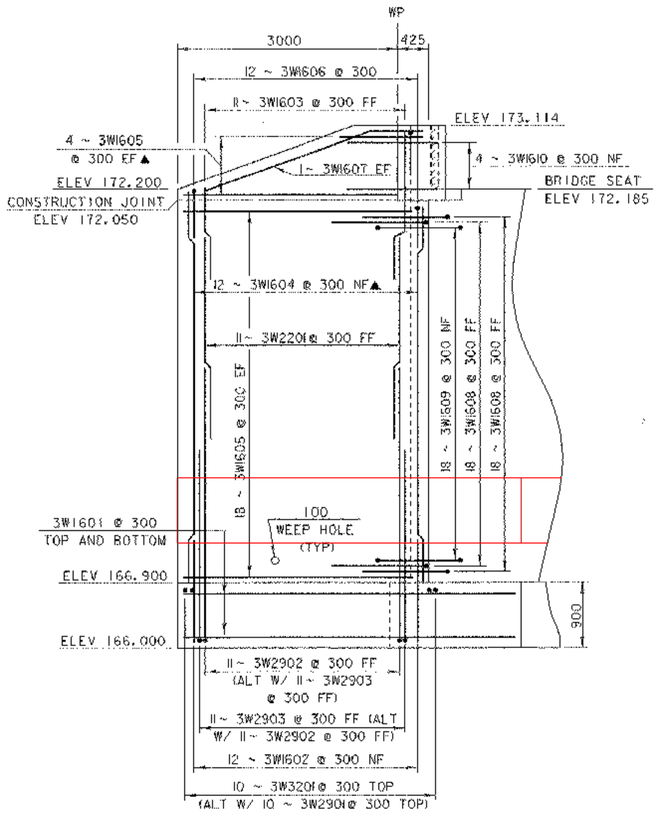
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/sJ084sub.dgn		PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	K. UPMAL	IPARM NAME:	sJ084ab2-1
BRIDGE SHEET NUMBER:		SHEET	27 OF 38



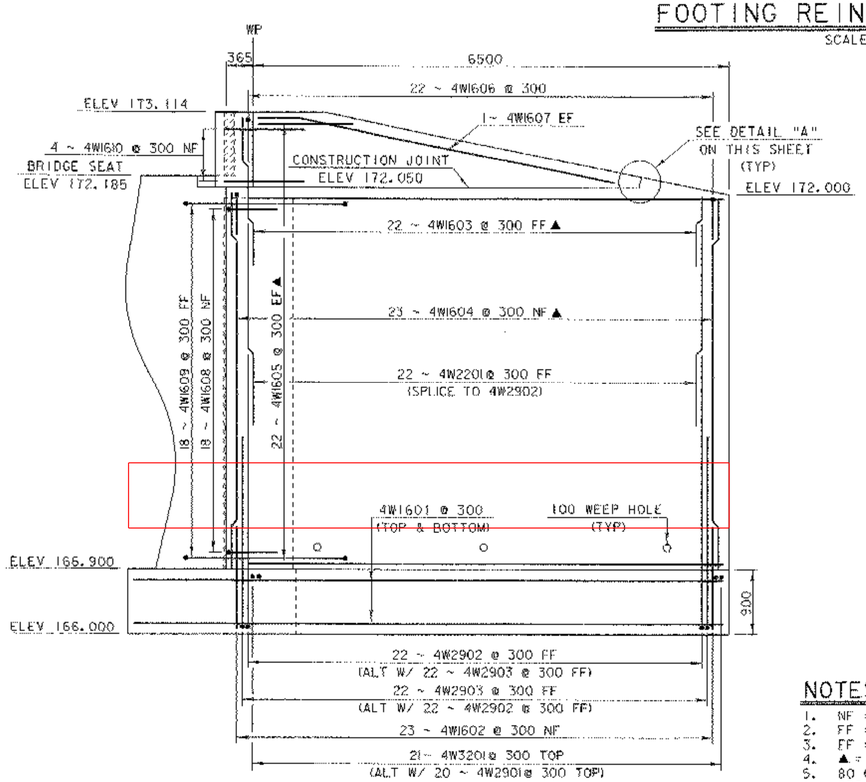
DETAIL "A"
NTS



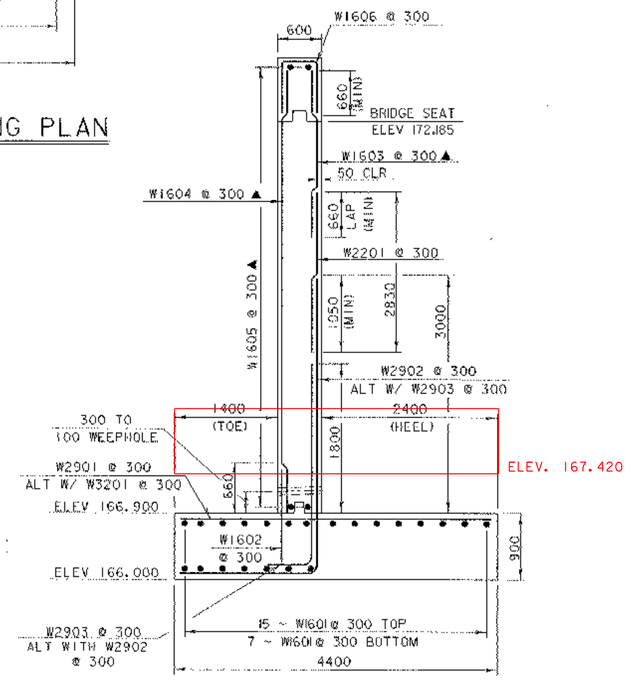
ABUTMENT #2
FOOTING REINFORCING PLAN
SCALE: 1:50



WINGWALL #3
SCALE: 1:40



WINGWALL #4
SCALE: 1:40

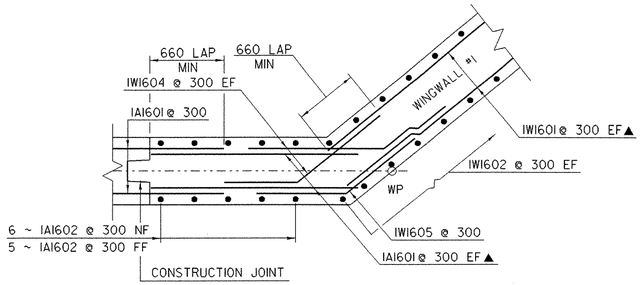


WINGWALL 3 & 4 TYPICAL
SCALE: 1:40

NOTES:

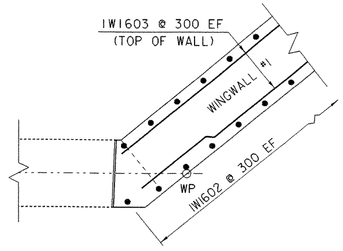
1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. 3000 MAX WEEPHOLE SPACING
7. ALL LAPS 660 UNLESS NOTED OTHERWISE
8. SEE SHEET 28 FOR CORNER DETAILS

SHEET NAME:	WINGWALL 3 & 4 DETAILS		
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME:	/PW/94\084/s\084sub.dgn	PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	J. GILMORE
DESIGNED BY:	K. UPMAL	MPARM NAME:	s\084ww.1
BRIDGE SHEET NUMBER:		SHEET	28 OF 38



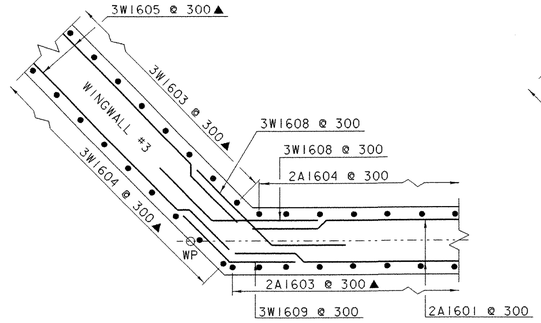
WINGWALL #1 CORNER DETAIL BELOW BRIDGE SEAT

SCALE: 1:25



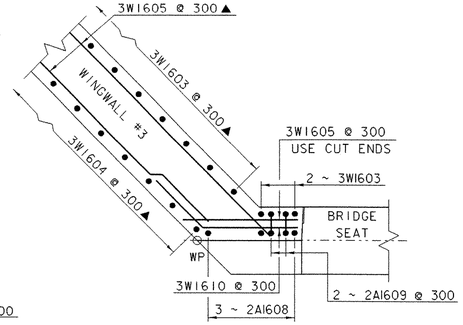
WINGWALL #1 CORNER DETAIL ABOVE BRIDGE SEAT

SCALE: 1:25



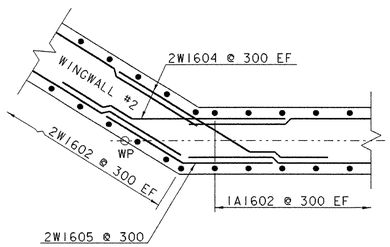
WINGWALL #3 CORNER DETAIL BELOW BRIDGE SEAT

SCALE: 1:25



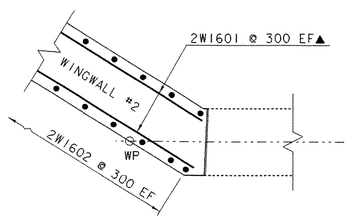
WINGWALL #3 CORNER DETAIL ABOVE BRIDGE SEAT

SCALE: 1:25



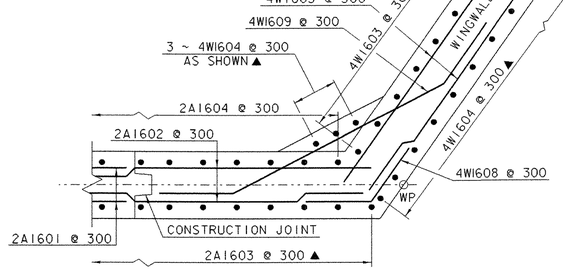
WINGWALL #2 CORNER DETAIL BELOW BRIDGE SEAT

SCALE: 1:25



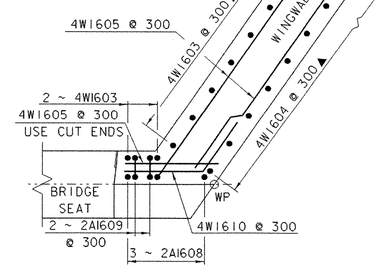
WINGWALL #2 CORNER DETAIL ABOVE BRIDGE SEAT

SCALE: 1:25



WINGWALL #4 CORNER DETAIL BELOW BRIDGE SEAT

SCALE: 1:25

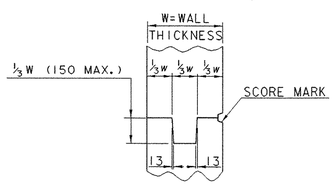


WINGWALL #4 CORNER DETAIL ABOVE BRIDGE SEAT

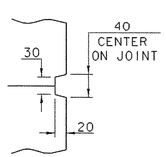
SCALE: 1:25

NOTES:

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



TYPICAL CONCRETE CONSTRUCTION JOINT



SCORE MARK DETAIL

SHEET NAME: **ABUTMENT #1 AND #2 CORNER DETAILS**			
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/sj084sub.dgn		PLOT DATE:	24-OCT-2005
PROJECT MANAGER: R. WHITCOMB		DRAWN BY:	J. GILMORE
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj084ww1.1
BRIDGE SHEET NUMBER:		SHEET	29 OF 38

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

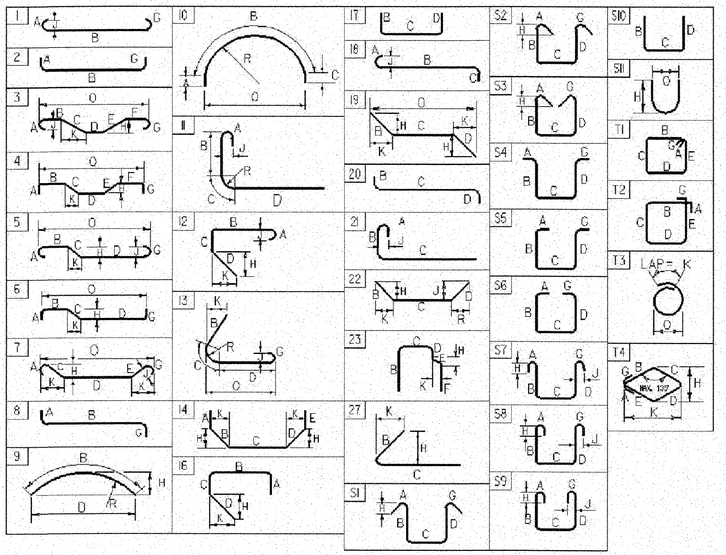
Metric

	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
DECK																	
✳	82	16	4840	ES1601	STR												
	75	16	7800	ES1602	STR												
	150	16	1460	ES1603	S5	300	310	240	310			300					
	34	16	1210	ES1604	17		550	660	---								
	34	16	1380	ES1605	S10		660	720	---								
ABUTMENT #1																	
✳ ▲	13	16	4410	1A1601	STR												
	24	22	1000	1A2201	STR												
	18	16	1680	1A1602	17		620	440	620								
WINGWALL #1																	
▲	12	16	2820	1W1601	STR												
✳ ▲	22	16	1465	1W1602	STR												
	16	22	1110	1W2201	STR												
	2	16	2900	1W1603	19		695	2205	---				175		670		
	6	16	2065	1W1604	19		660	1405	---				410		510		
	3	16	1320	1W1605	19		660	660	---				410		510		
	10	16	1340	1W1606	17		450	440	450								
WINGWALL #2																	
▲	12	16	3410	2W1601	STR												
▲	25	16	1465	2W1602	STR												
	18	22	1110	2W2201	STR												
	2	16	3015	2W1603	19		980	2035	---				320		925		
	6	16	2195	2W1604	19		660	1535	---				345		560		
	3	16	1320	2W1605	19		660	660	---				345		560		
	12	16	1340	2W1606	17		450	440	450								
ABUTMENT #2																	
	36	16	4175	2A1601	STR												
	36	16	2795	2A1602	STR												
✳ ▲	23	16	5140	2A1603	STR												
	20	16	2250	2A1604	STR												
	32	16	6685	2A1607	STR												
	6	16	835	2A1608	STR												
✳	21	22	2300	2A2201	STR												
✳	21	32	4240	2A3201	STR												
	22	16	3820	2A1605	17		2340	1480	---								
	20	16	1340	2A1606	17		450	440	450								
	4	16	1340	2A1609	17		450	440	450								
	19	29	3130	2A2901	17		660	2470	---								
	20	29	5540	2A2902	17		2340	3200	---								
WINGWALL #3																	
	22	16	4550	3W1601	STR												
	12	16	1480	3W1602	STR												
✳ ▲	12	16	2090	3W1603	STR												
▲	12	16	6130	3W1604	STR												
▲	44	16	3265	3W1605	STR												
✳	12	22	2830	3W2201	STR												
✳	11	29	4240	3W2901	STR												
✳	11	32	4240	3W3201	STR												
	12	16	1790	3W1606	17		660	470	660								
	2	16	3435	3W1607	19		935	2500	---				330		875		
	36	16	1990	3W1608	19		660	1330	---				465		465		
	18	16	1320	3W1609	19		660	660	---				465		465		
	4	16	1485	3W1610	19		660	825	---				465		465		
	11	29	5690	3W2902	17		1870	3820	---								
	11	29	3280	3W2903	17		660	2620	---								

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
WINGWALL #4																	
	22	16	8045	4W1601	STR												
	23	16	1480	4W1602	STR												
▲	22	16	2090	4W1603	STR												
▲	23	16	6130	4W1604	STR												
▲	44	16	6705	4W1605	STR												
	22	22	2830	4W2201	STR												
✳	21	29	4240	4W2901	STR												
	21	32	4240	4W3201	STR												
	22	16	1790	4W1606	17		660	470	660								
	2	16	5890	4W1607	19		1280	4610	---				255		1255		
	18	16	1320	4W1608	19		660	660	---				540		375		
	18	16	4370	4W1609	14	---	660	3050	660	---			305		585		
	4	16	1430	4W1610	19		770	660	---				630		440		
	22	29	5690	4W2902	17		1870	3820	---								
	22	29	3280	4W2903	17		660	2620	---								
ACCESS RAMP																	
	8	16	890	F1601	STR												
	8	16	660	F1602	T1	50	140	140	140	140		50					

~ 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 M31M (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 THE FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10.) DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



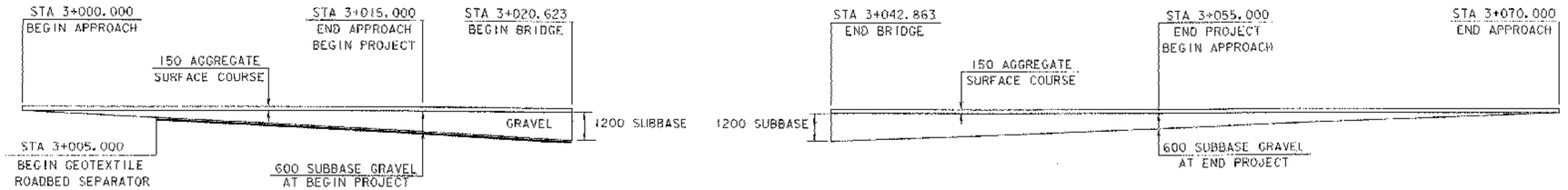
ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL MASS (Kg/m)	NOMINAL DIMENSIONS ROUND SECTION DIAMETER (mm)	CROSS SECTIONAL AREA (mm²)	PERIMETER (mm)
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	15.9	199	49.95
#19	2.235	19.1	284	60.00
#22	3.042	22.2	387	69.74
#25	3.973	25.4	510	79.80
#29	5.060	28.7	645	90.16
#32	6.404	32.3	819	101.47
#36	7.907	35.8	1006	112.47
#43	11.380	43.0	1452	135.09
#57	20.240	57.3	2581	180.01

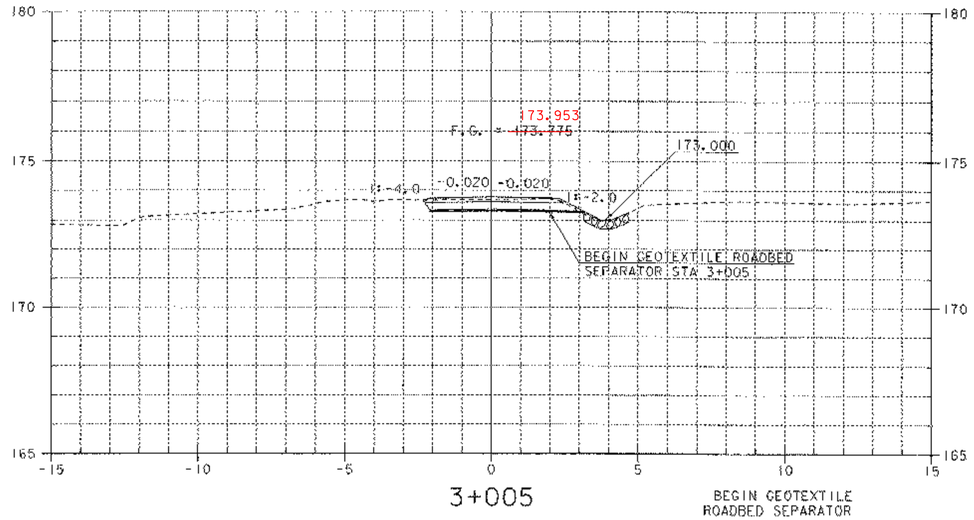
PROJECT NAME: **WALLINGFORD**
PROJECT NUMBER: **BRO 1443(31)**

FILE NAME: **/PW/94j084/sj084rss.xls**
PROJECT LEADER: **R. WHITCOMB**
DESIGNED BY: **K. UPMAL**
REINFORCING STEEL SCHEDULE SHEET

PLOT DATE: **3/9/2004**
DRAWN BY: **J. GILMORE**
CHECKED BY: **P.PERRY**
SHEET **30** OF **38**

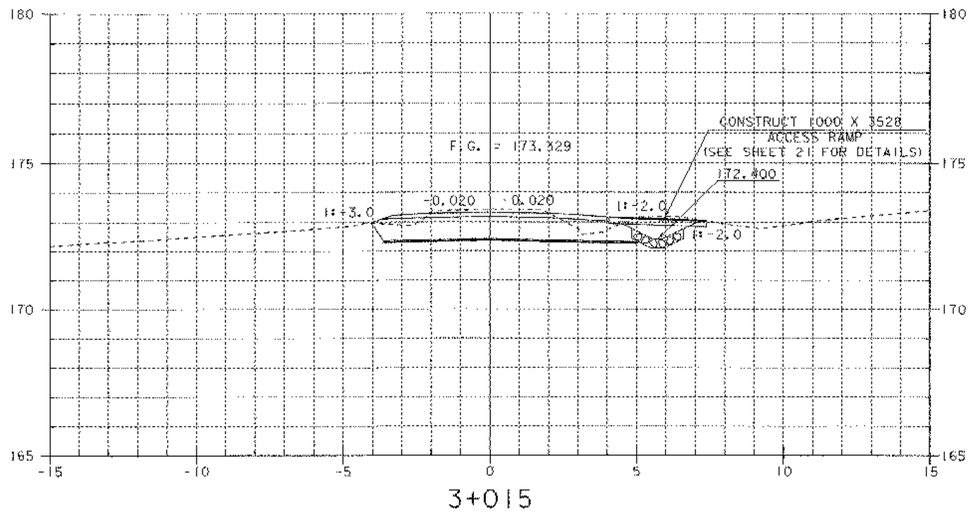


SUBBASE TRANSITION DIAGRAM

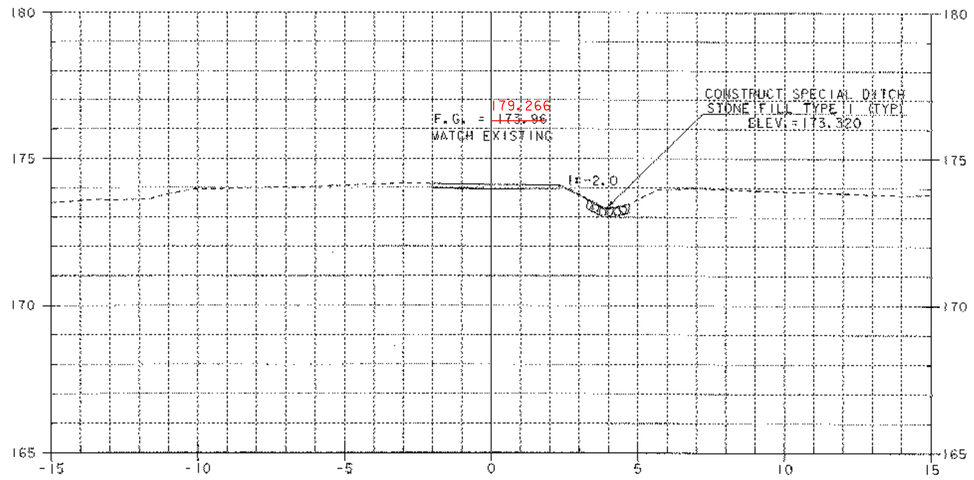


3+005

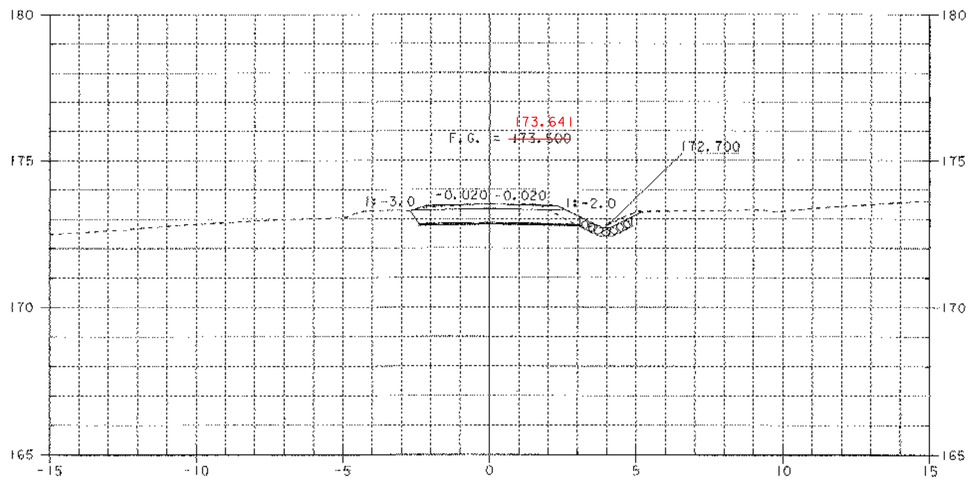
BEGIN GEOTEXTILE
ROADBED SEPARATOR
STA 3+005.000



3+015
END APPROACH / BEGIN PROJECT



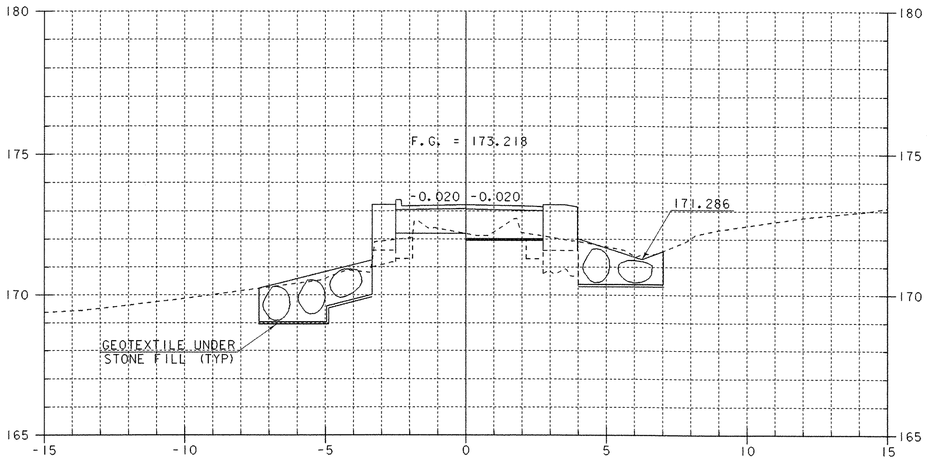
3+000
BEGIN APPROACH



3+010

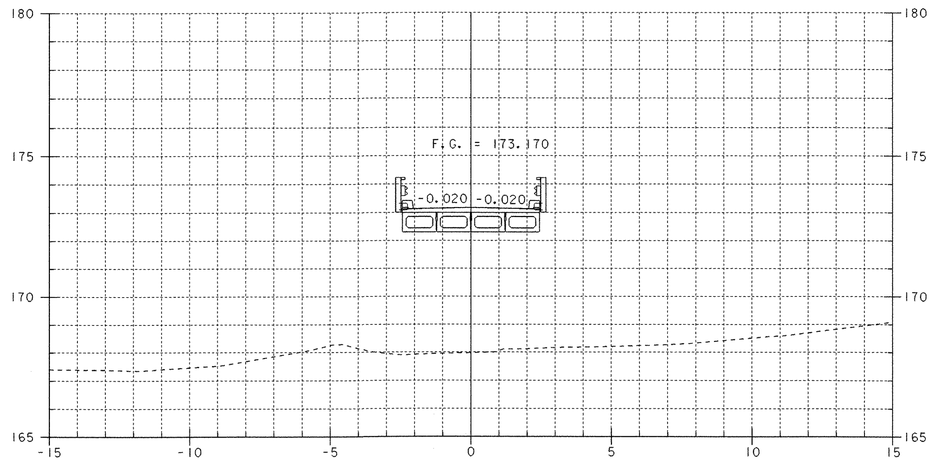
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PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME:	/PW/94J084/sJ084xs.dgn	PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	K.UPMAL
DESIGNED BY:	K. UPMAL	IPARM NAME:	sJ084mxl1
BRIDGE SHEET NUMBER:		SHEET	31 OF 38

VAOT Metric

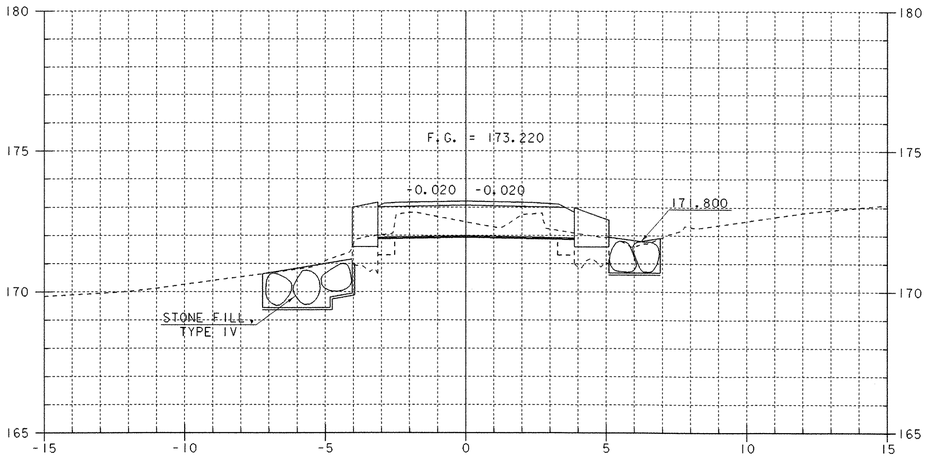


BEGIN BRIDGE
3+020.623

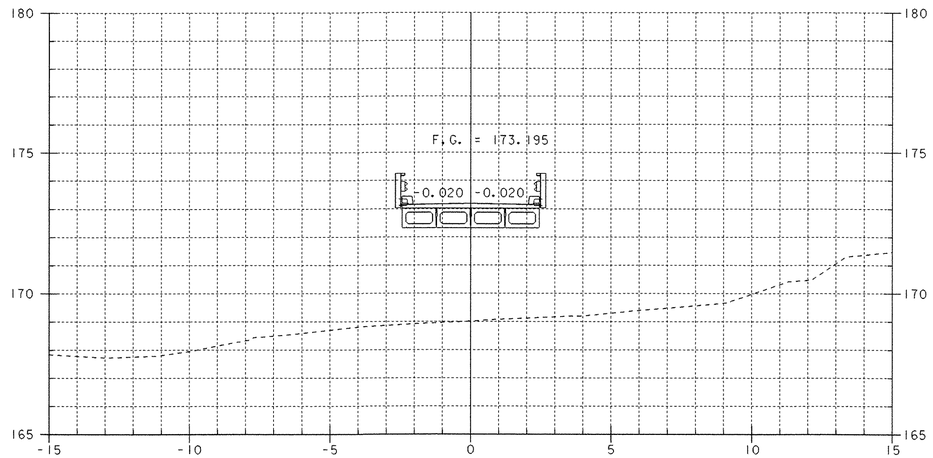
END GEOTEXTILE
ROADBED SEPARATOR
STA 3+020.623



3+030

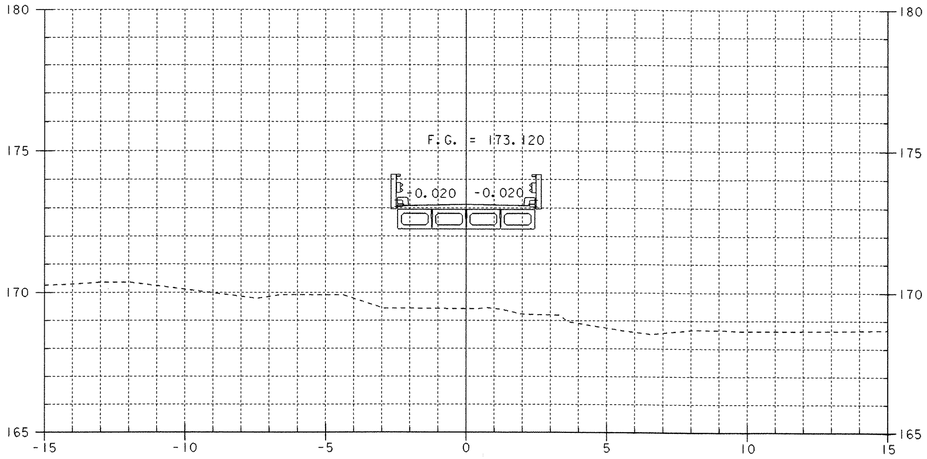


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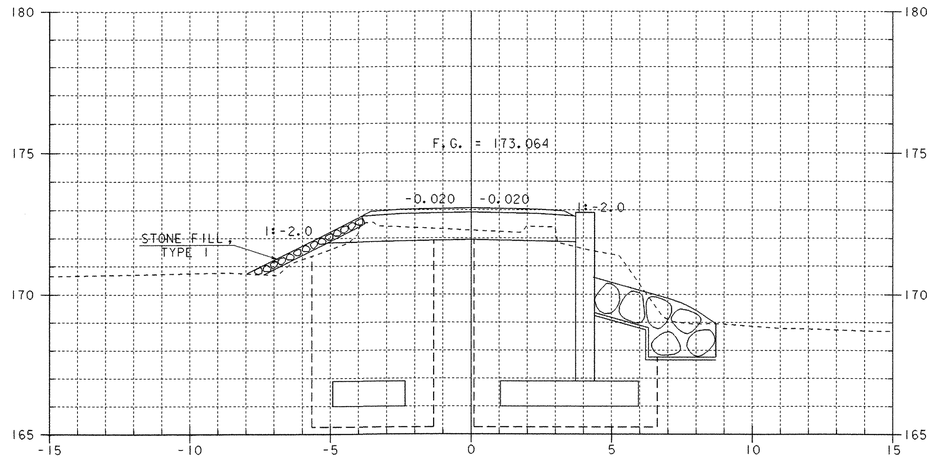


3+025

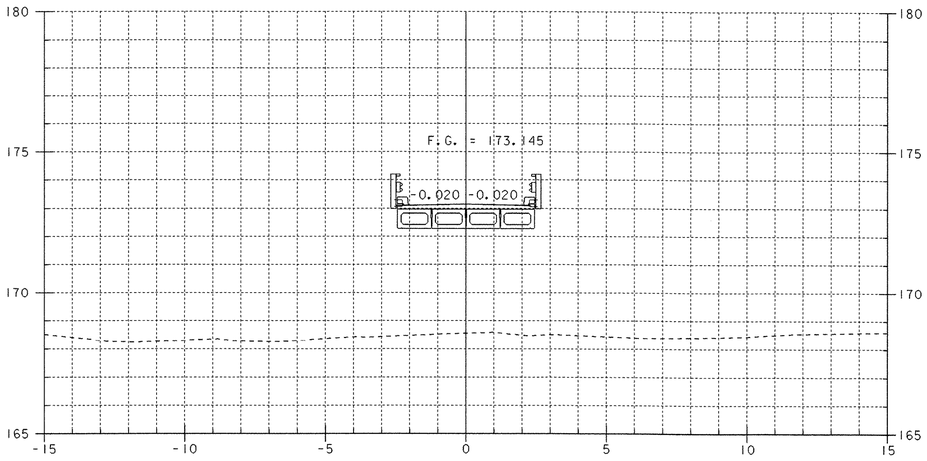
SHEET NAME: **MAINLINE CROSS SECTIONS**	
PROJECT NAME: WALLINGFORD PROJECT NUMBER: BRO 1443(31)	HIGHWAY NO.: TH 60 BRIDGE NO.: 50 OVER: OTTER CREEK
FILE NAME: /PW/94j084/sj084xs.dgn PROJECT MANAGER: R. WHITCOMB DESIGNED BY: K. UPMAL BRIDGE SHEET NUMBER:	PLOT DATE: 24-OCT-2005 DRAWN BY: K.UPMAL IPARM NAME: sj084mx2.1 SHEET 32 OF 38



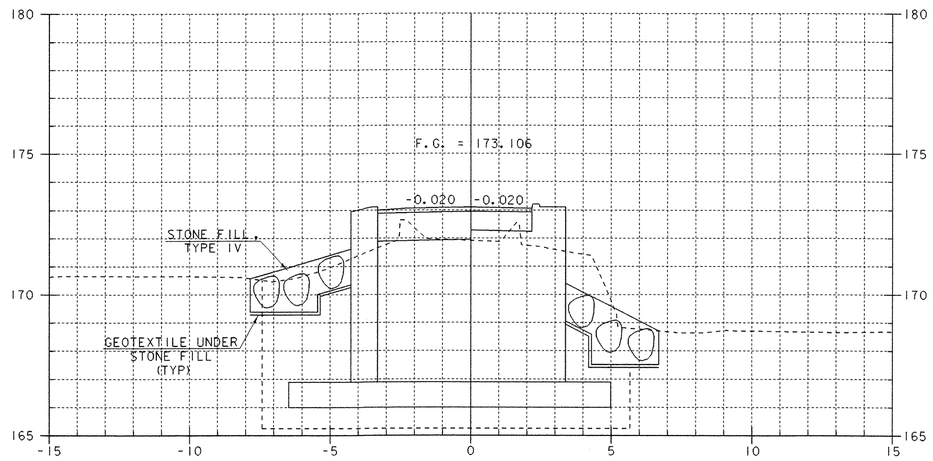
3+040



3+045

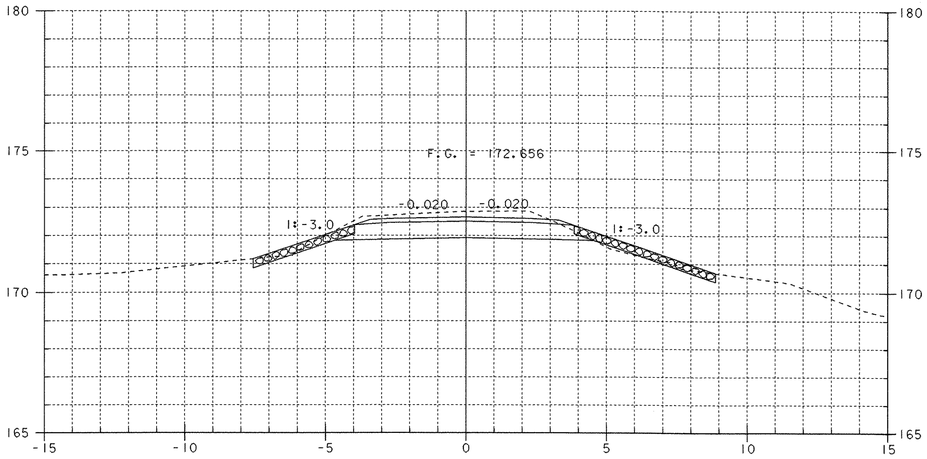


3+035

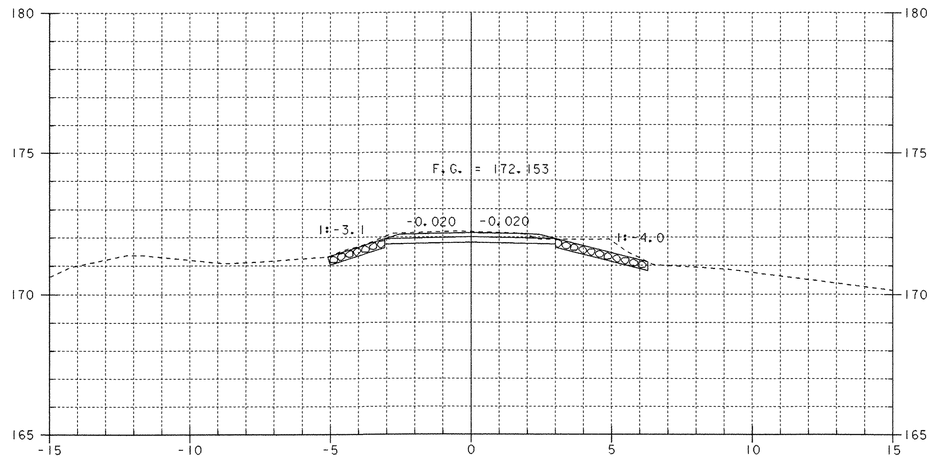


END BRIDGE
POST STA 3+042.863

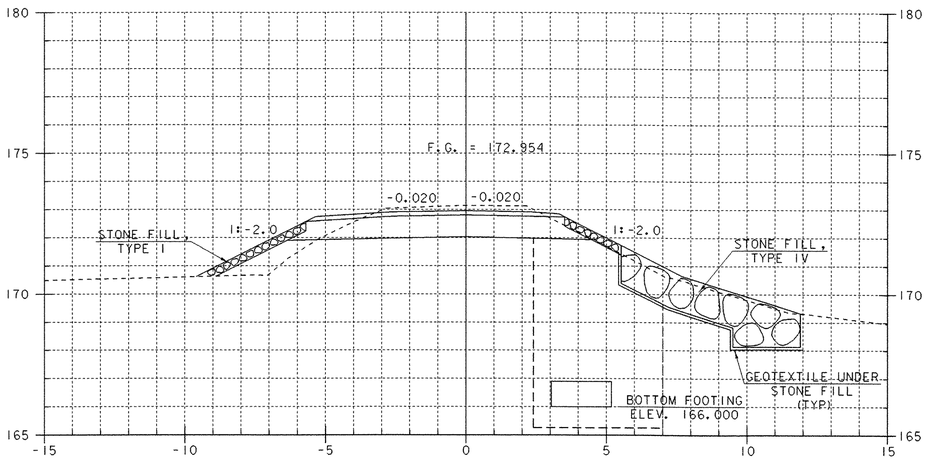
SHEET NAME:	**MAINLINE CROSS SECTIONS**		
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME:	/PW/94J084/sJ084xs.dgn	PLOT DATE:	24-OCT-2005
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	K.UPMAL
DESIGNED BY:	K. UPMAL	IPARM NAME:	sJ084mx3.I
BRIDGE SHEET NUMBER:		SHEET	33 OF 38



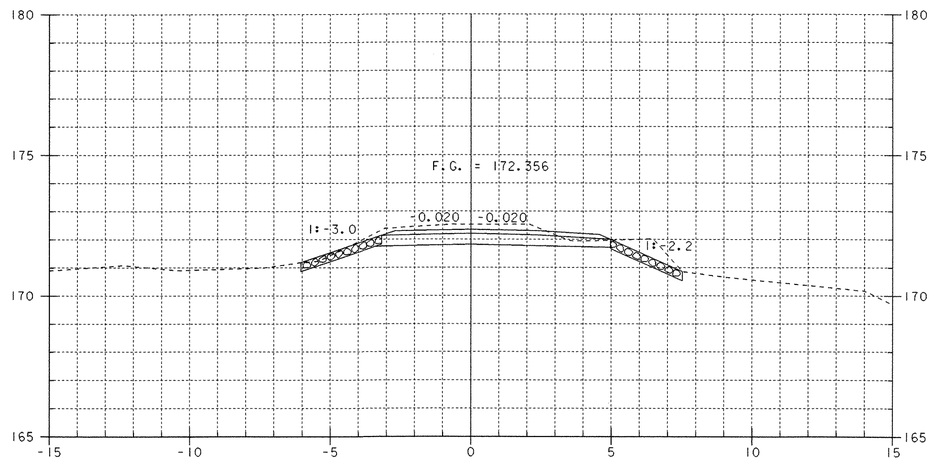
3+055
END PROJECT / BEGIN APPROACH



3+065

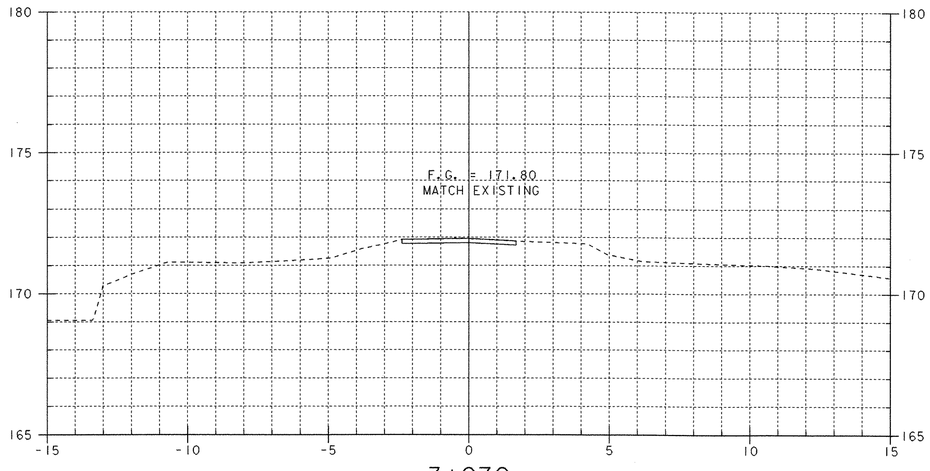


3+050



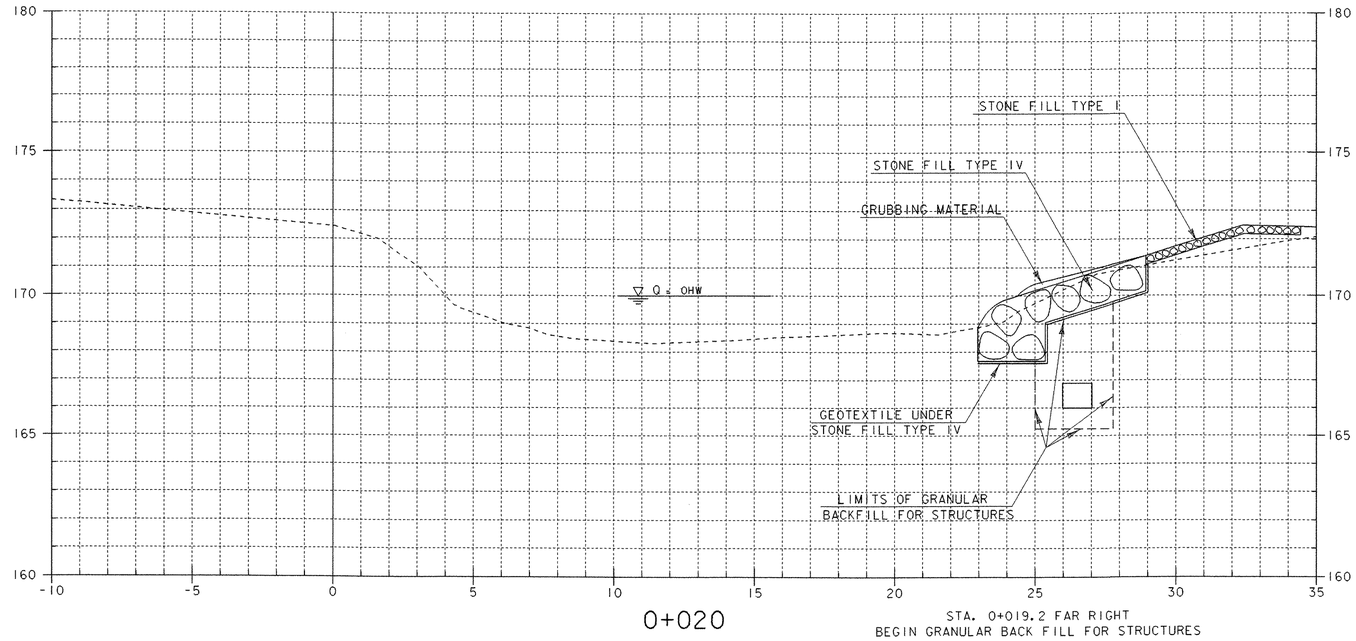
3+060

SHEET NAME:	**MAINLINE CROSS SECTIONS**	
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.: TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.: 50
		OVER: OTTER CREEK
FILE NAME: /PW/94J084/sJ084xs.dgn		PLOT DATE: 24-OCT-2005
PROJECT MANAGER: R. WHITCOMB		DRAWN BY: K.UPMAL
DESIGNED BY: K. UPMAL		IPARM NAME: sJ084mx4.I
BRIDGE SHEET NUMBER:		SHEET 34 OF 38



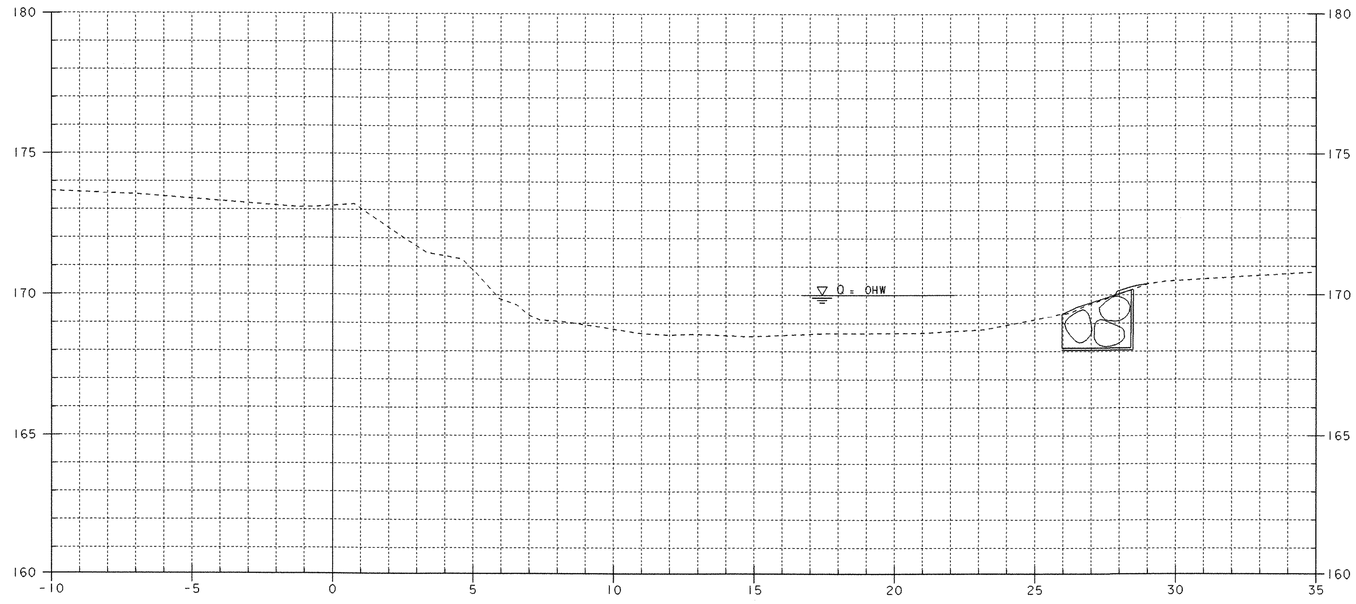
3+070
END APPROACH

SHEET NAME:	MAINLINE CROSS SECTIONS	
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.: TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.: 50
		OVER: OTTER CREEK
FILE NAME: /PW/94J084/sj084xs.dgn		PLOT DATE: 24-OCT-2005
PROJECT MANAGER: R. WHITCOMB		DRAWN BY: K.UPMAL
DESIGNED BY: K. UPMAL		IPARM NAME: sj084mx5.I
BRIDGE SHEET NUMBER:		SHEET 35 OF 38



0+020

STA. 0+019.2 FAR RIGHT
BEGIN GRANULAR BACK FILL FOR STRUCTURES



0+015

STA. 0+014.5 FAR RIGHT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN STONE FILL TYPE IV
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN GRUBBING MATERIAL

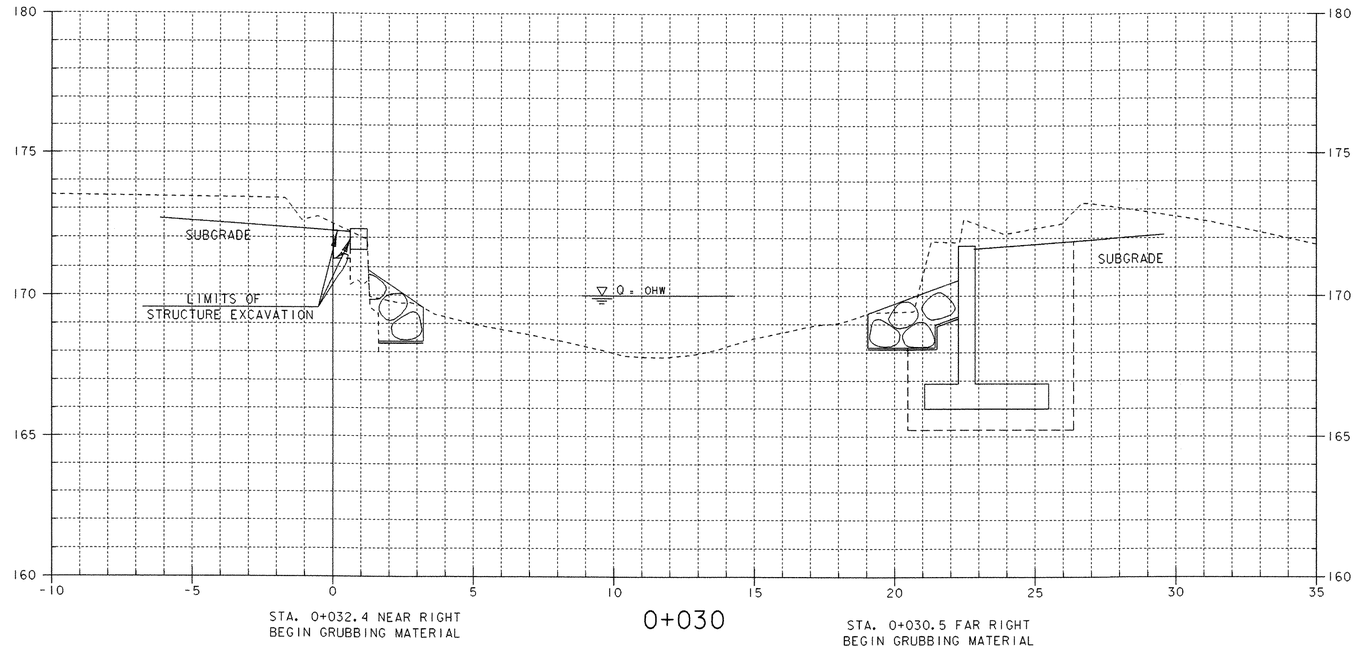
SHEET NAME: **CHANNEL SECTIONS**

PROJECT NAME: WALLINGFORD
PROJECT NUMBER: BRO 1443(31)

HIGHWAY NO.: TH 60
BRIDGE NO.: 50
OVER: OTTER CREEK

FILE NAME: /PW/94J084/sJ084xs.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:

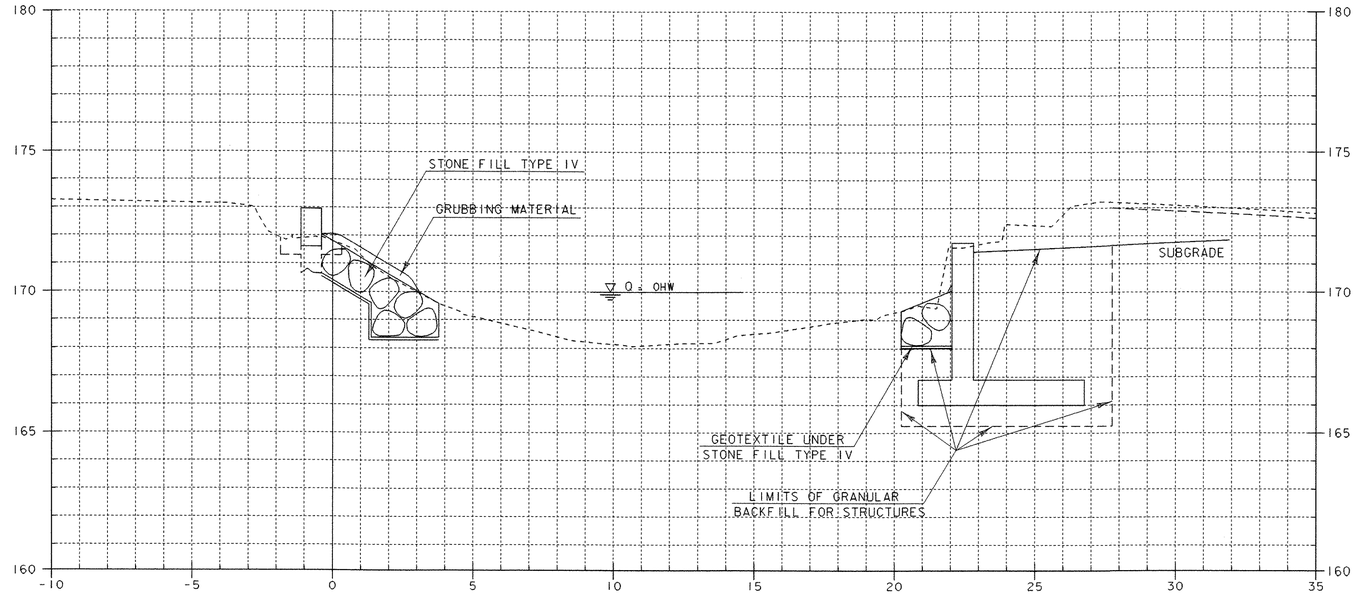
PLOT DATE: 24-OCT-2005
DRAWN BY: K.UPMAL
IPARM NAME: sJ084cxl.i
SHEET 36 OF 38



STA. 0+032.4 NEAR RIGHT
BEGIN GRUBBING MATERIAL

0+030

STA. 0+030.5 FAR RIGHT
BEGIN GRUBBING MATERIAL



STA. 0+022.9 NEAR RIGHT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN STONE FILL TYPE IV
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN GRUBBING MATERIAL

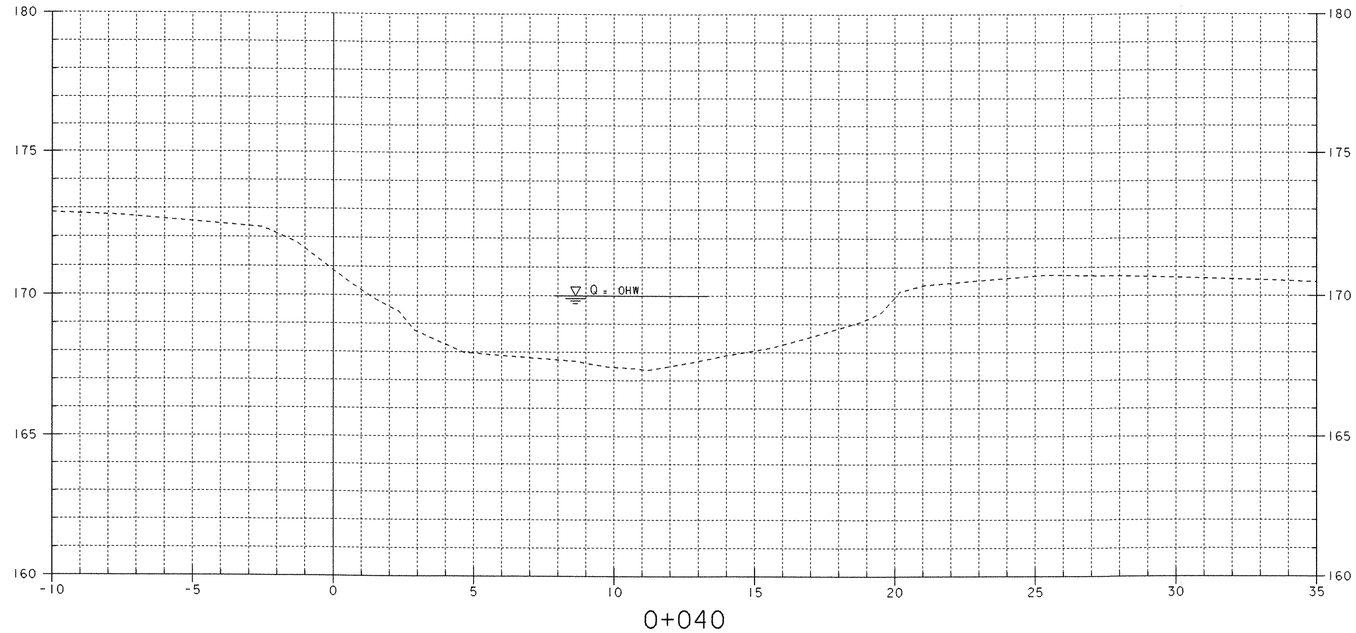
STA. 0+027.4 NEAR RIGHT
END GRUBBING MATERIAL

0+025

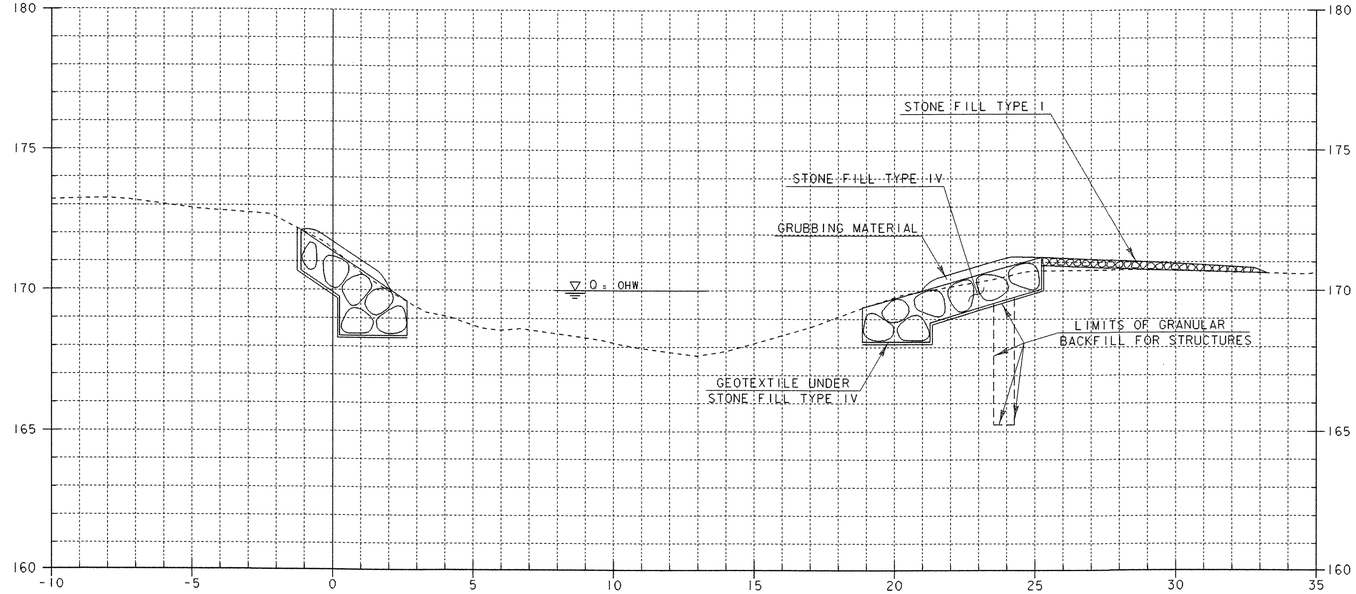
STA. 0+025.5 FAR RIGHT
END GRUBBING MATERIAL

SHEET NAME: **CHANNEL SECTIONS**

PROJECT NAME: WALLINGFORD		HIGHWAY NO.: TH 60
PROJECT NUMBER: BRO 1443(31)		BRIDGE NO.: 50
		OVER: OTTER CREEK
FILE NAME: /PW/94j084/sj084xs.dgn		PLOT DATE: 24-OCT-2005
PROJECT MANAGER: R. WHITCOMB		DRAWN BY: K.UPMAL
DESIGNED BY: K. UPMAL		IPARM NAME: sj084cx2.i
BRIDGE SHEET NUMBER:		SHEET 37 OF 38



0+040



0+035

STA. 0+037.3 NEAR RIGHT
END UNCLASSIFIED CHANNEL EXCAVATION
END STONE FILL TYPE IV
END GEOTEXTILE UNDER STONE FILL
END GRUBBING MATERIAL

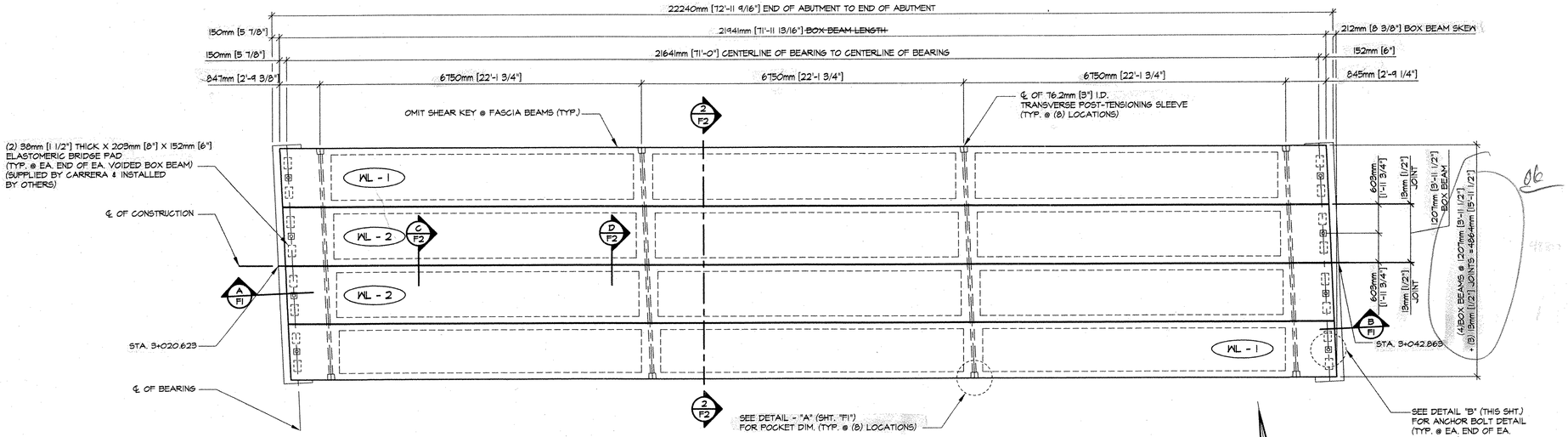
STA. 0+036.1 FAR RIGHT
END UNCLASSIFIED CHANNEL EXCAVATION
END STONE FILL TYPE IV
END GEOTEXTILE UNDER STONE FILL
END GRUBBING MATERIAL

STA. 0+035.0 FAR RIGHT
END GRANULAR BACKFILL FOR STRUCTURES

SHEET NAME: CHANNEL SECTIONS

PROJECT NAME: WALLINGFORD
PROJECT NUMBER: BRO 1443(31)
HIGHWAY NO.: TH 60
BRIDGE NO.: 50
OVER: OTTER CREEK

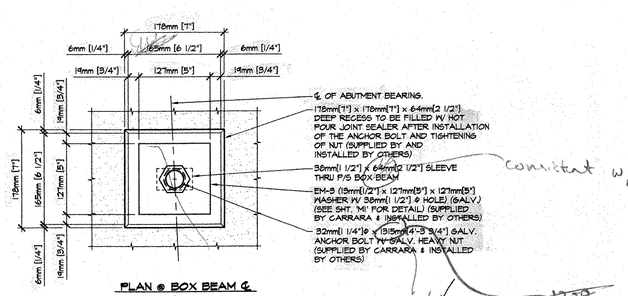
FILE NAME: /PW/94j084/sj084xs.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:
PLOT DATE: 24-OCT-2005
DRAWN BY: K.UPMAL
IPARM NAME: sj084cx3.i
SHEET 38 OF 38

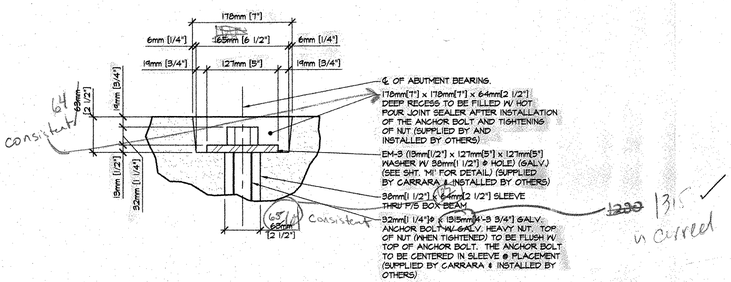


1 / F1 PRESTRESSED BOX BEAM LAYOUT

1:50

DESIGN LOAD: AASHTO MS-22.5 LIVE LOAD

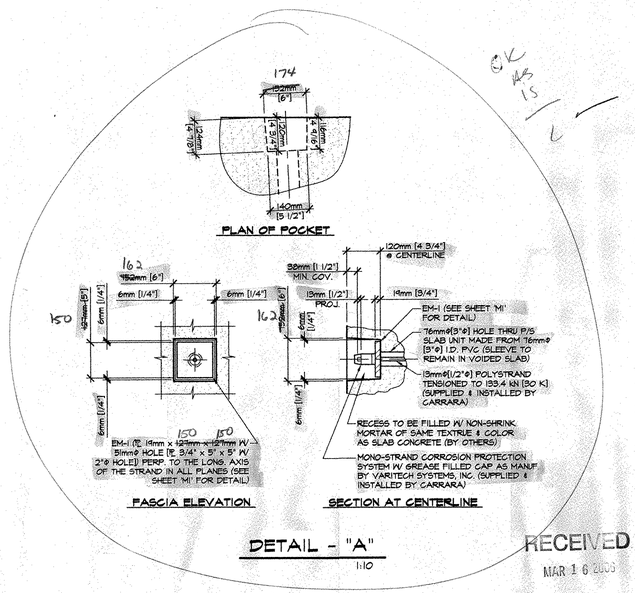




SECTION @ BOX BEAM ℄

DETAIL - "B"

1:5



DETAIL - "A"

1:10

OK AB 15

RECEIVED
MAR 16 2006

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] (UNLESS NOTED OTHERWISE) 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 W/ A TORCH, RECESSED AND PATCHED, WITH ASPHALTIC COATING.
6. TOP OF THE BEAMS SHALL RECEIVE A RAKE FINISH ROUGHNESS TO 6mm (1/4") AMPLITUDE.
7. BEAMS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 610mm[2'-0"] OF THE 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 - 159.2 kg [352 LBS.]
   5% - 9.0% AIR CONTENT (251.42 mL [6.5 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"]
   14.25 L [3 GAL.] DCI
   1195.6 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 BOX BEAMS & SOLID SLABS 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 133.5 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'-4 3/4" = 192.813'

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

EXAMPLE: $\Delta = \frac{PL}{AE} = \frac{(44{,}000 - 3{,}000) \times 192.813 \times 12}{0.217 \times 28{,}600{,}000} = 15.29"$

THEREFORE: TOLERANCES: ± 5%
- ∆ UPPER LIMIT = 1.05 x 15.29" = 16.05" = 16 1/16"
- ∆ LOWER LIMIT = 0.95 x 15.29" = 14.53" = 14 1/2"

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

$\Delta P = \frac{0.5 \times 41{,}000}{15.29} = 1{,}341$ 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 364mm[14 1/2"] AND 408mm[16 1/16"].

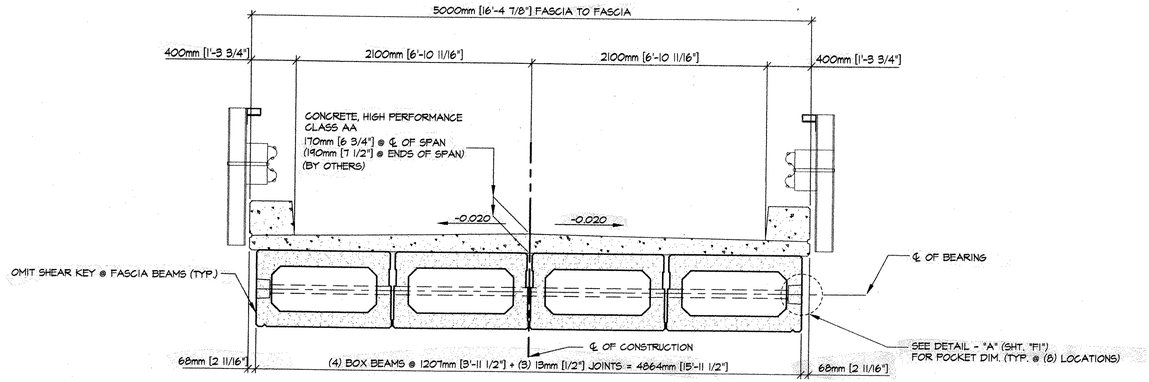
* NOTE: FORCES READ ON STRESSING JACK GAUGES MUST BE MADE TO CORRESPOND TO ABOVE VALUES BASED ON CALIBRATION DATA FOR SPECIFIC JACK USED.

690
110
1381.9
- 1281
+ 38
1319

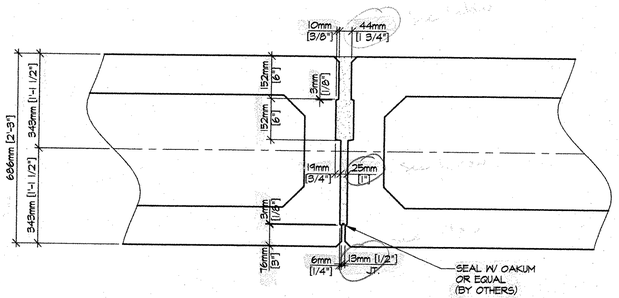
APPROVAL STAMP:

RECEIVED
CK'D BY JMB CK'D BY CWC
MAR 17 2006
RESUBMIT ____ APPROVED AS NOTED
BY CWC DATE 4.6.06

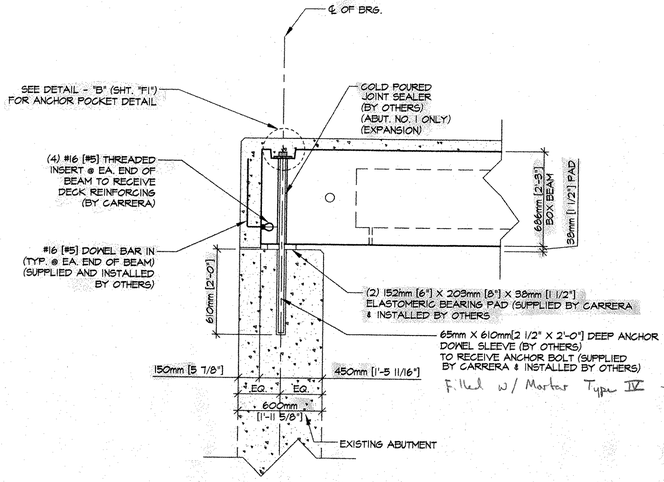
J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010	ALPINE CONSTRUCTION, LLC CONTRACTOR SCHUYLERVILLE, NY
STATE OF VERMONT A.O.T. COUNTY OF RUTLAND	DATE: FEB. 14, 2006 SCALE: NOTED
TOWN OF WALLINGFORD PROJECTNUMBER: BRO 1449(31)	CHKD: B.L. DFTM: B.J.B.
TH 60, CLASS 3 (LOCAL BRIDGE), BRIDGE NO.50	JOB NO: 23235-06
SUPERSTRUCTURE PLAN & DETAILS	DWG. NO: F1 #039 PCL



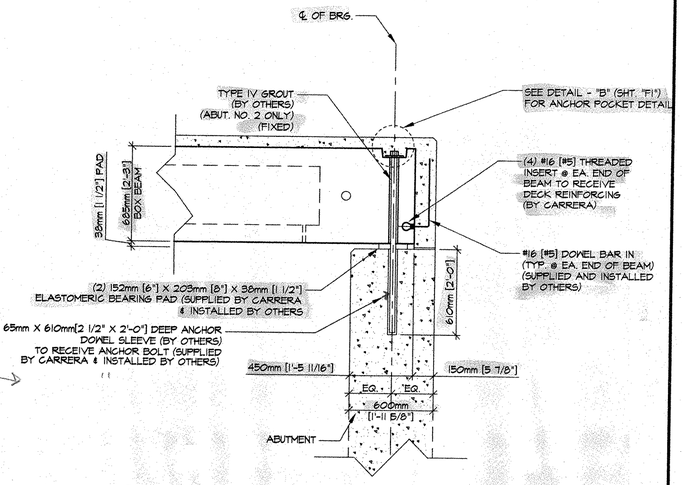
2/F2 TRANSVERSE SECTION
1:25



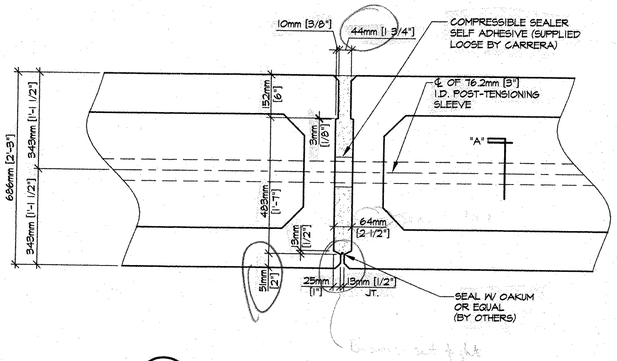
C/F2 TYP. SHEAR KEY SECTION
1:10



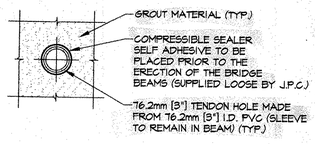
A/F2 SECTION AT BEARING (EXPANSION)
1:20



B/F2 SECTION AT BEARING (FIXED)
1:20



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



SECTION "A"
1:10

APPROVAL STAMP:

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CK'D BY JMP CK'D BY CWC
MAR 17 2006
RESUBMIT ____ APPROVED AS NOTED
BY CWC DATE 4.6.06

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
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ALPINE CONSTRUCTION, LLC
CONTRACTOR
SCHUYLERVILLE, NY

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

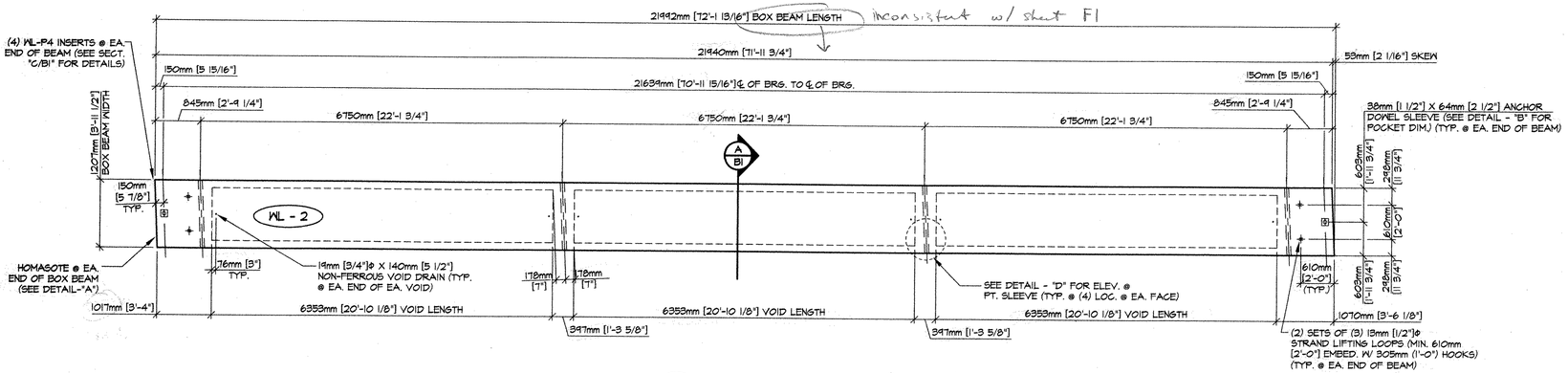
DATE: FEB. 14, 2006
SCALE: NOTED

TOWN OF WALLINGFORD
PROJECTNUMBER: BRO 1443(31)
TH 60, CLASS 3 (LOCAL BRIDGE), BRIDGE NO.50

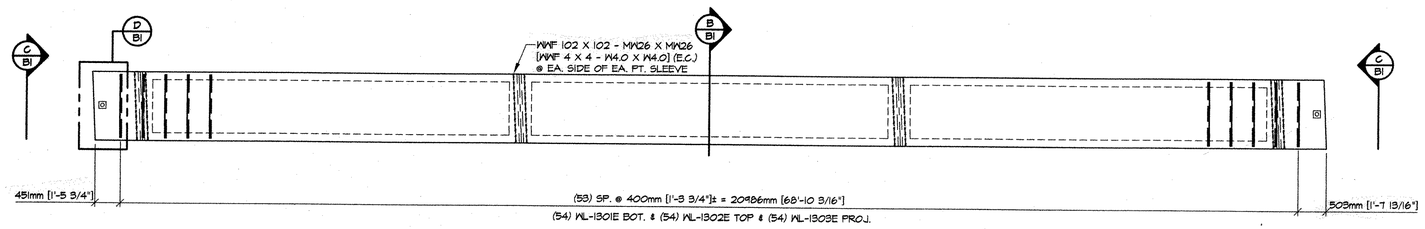
CHKD: B.L. DFTM: B.J.B.
JOB NO: 23235-06

SUPERSTRUCTURE SECTION & DETAILS

DWG. NO: F2
040 PCC



1/B1 DIMENSIONAL PLAN VIEW IN FORM 1:50



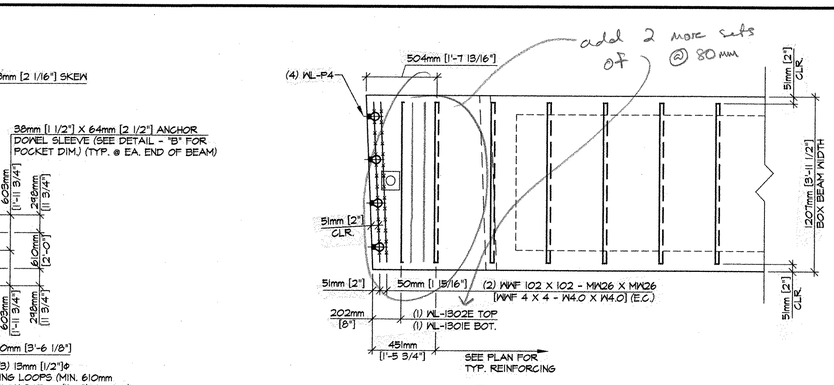
2/B1 REINFORCING PLAN VIEW IN FORM 1:50

DETAIL - "A" 1:5

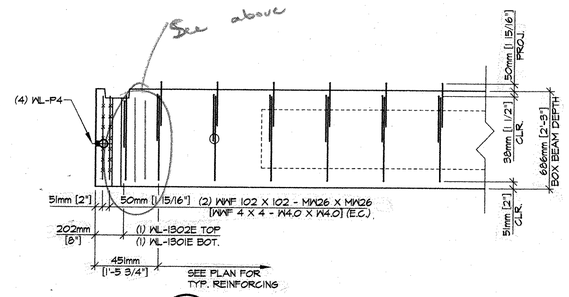
DETAIL - "B" 1:5

DETAIL - "C" 1:10

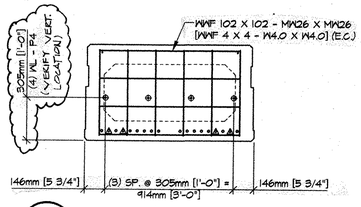
DETAIL - "D" 1:20



D/B1 END BLOCK REINF. DETAIL 1:20



E/B1 END BLOCK REINF. ELEVATION 1:20

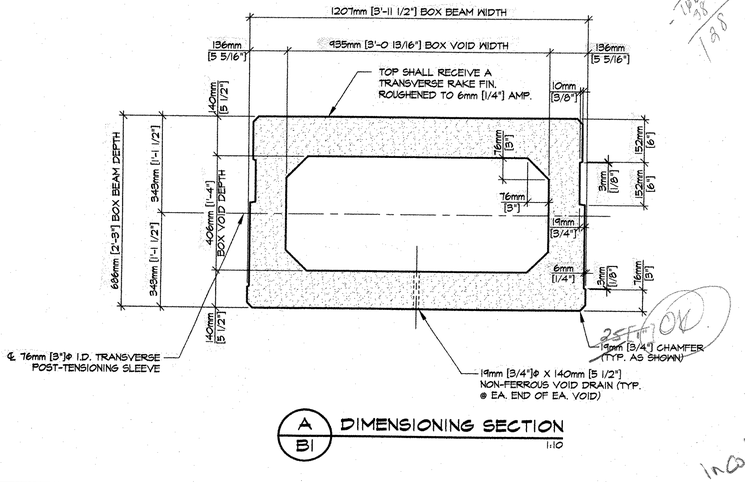


C/B1 REINFORCING SECTION @ END-BLOCK 1:20

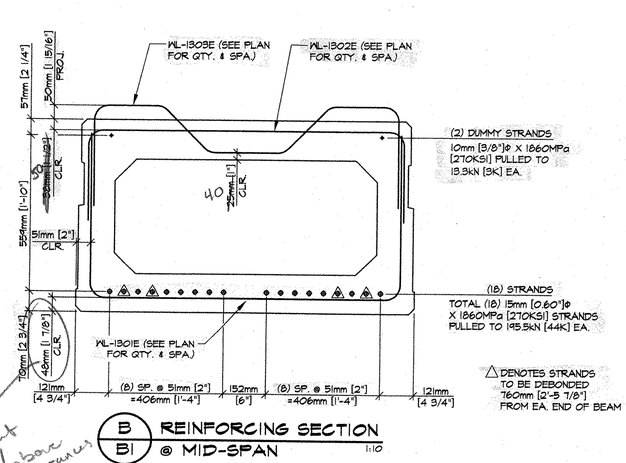
MARK: WL-2	QTY: 2	WT.: 25,874 kg [28.51 T]	VOL.: 10.77 m³ [14.08 cy]

MATERIAL LIST / BEAM

ITEM	MARK	DESCRIPTION	QTY.
1	1301E	#13 [#4] BENT BAR [EPOXY COATED]	56
2	1302E	#13 [#4] BENT BAR [EPOXY COATED]	56
3	1303E	#13 [#4] BENT BAR [EPOXY COATED]	54
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14		MWF 102 X 102 - MW26 X MW26 [MWF 4 X 4 - W4.0 X W4.0] 1105mm [3'-7 1/2"] X 600mm [1'-11 5/8"] (E.C.)	12
15	WL-P4	DAYTON 16mm [5/8"]ø F-42 LOOP FERRULE INSERT (GALV.)	8
16		935mm [3'-0 13/16"] X 6353mm [20'-10 1/8"] X 406mm [1'-4"] BOX VOID	3
17		19mm [3/4"]ø X 140mm [5 1/2"] NON-FERROUS VOID DRAINS	6
18		SET OF (3) 13mm [1/2"]ø STRAND LIFTING LOOPS	4
19			



A/B1 DIMENSIONING SECTION 1:10



B/B1 REINFORCING SECTION @ MID-SPAN 1:10

① ②

3 5 7 9 11 13 15 17 19 20 18 16 14 12 10 8 6 4

DETENSIONING SCHEDULE N.T.S.

APPROVAL STAMP:

RECEIVED
CK'D BY JMP OK'D BY CWC
MAR 17 2006
RESUBMIT APPROVED AS NOTED
BY CWC 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

ALPINE CONSTRUCTION, LLC
CONTRACTOR
SCHUYLERVILLE, NY

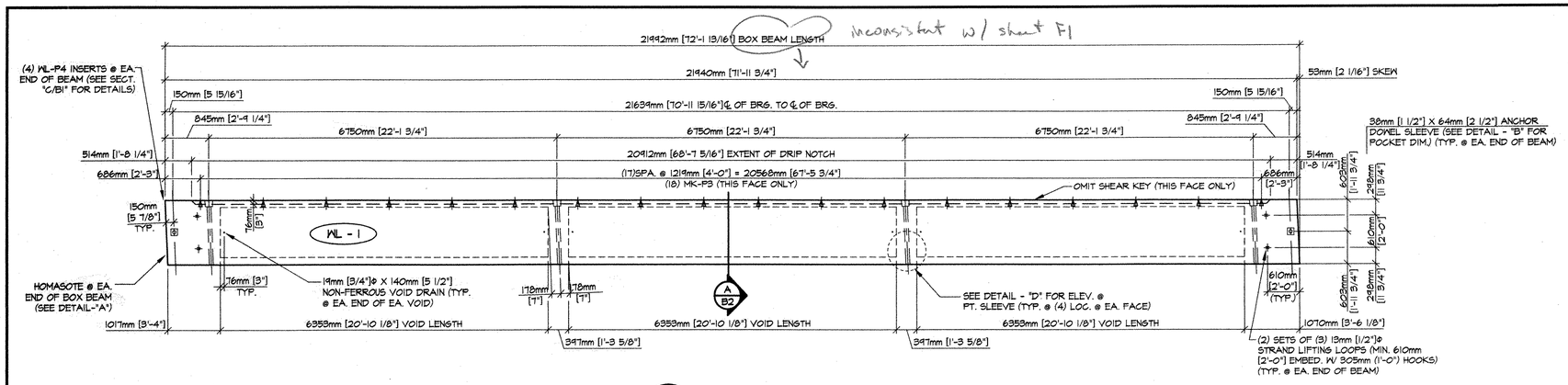
STATE OF VERMONT A.O.T.
COUNTY OF RUTLAND

TOWN OF WALLINGFORD
PROJECTNUMBER: BRO 1443(31)
TH 60, CLASS 3 (LOCAL BRIDGE), BRIDGE NO.50

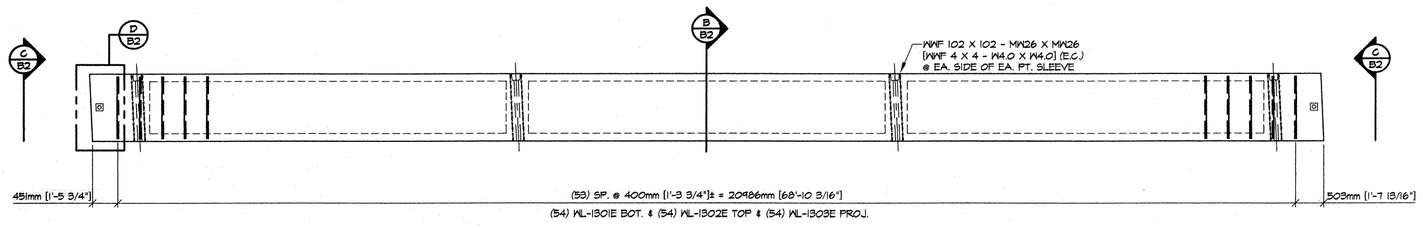
PRESTRESSED BOX BEAM DETAILS

DATE: FEB. 14, 2006
SCALE: NOTED
CHKD: B.L. DFTM: B.J.B.
JOB NO: 23235-06
DWG. NO: B1
041 pcs

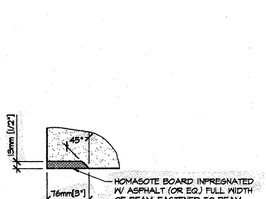
Inconsistent w/ above clearances



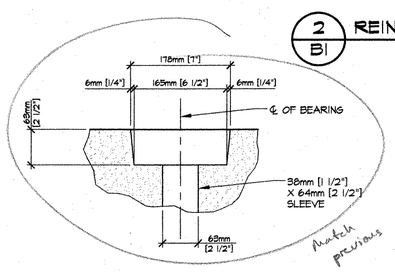
1 / B1 DIMENSIONAL PLAN VIEW IN FORM
1:50



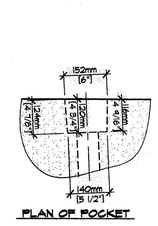
2 / B1 REINFORCING PLAN VIEW IN FORM
1:50



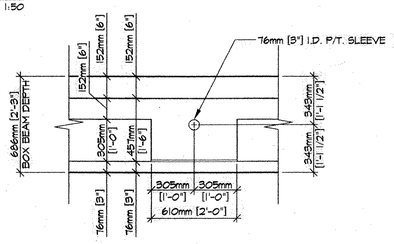
DETAIL - "A"
1:5



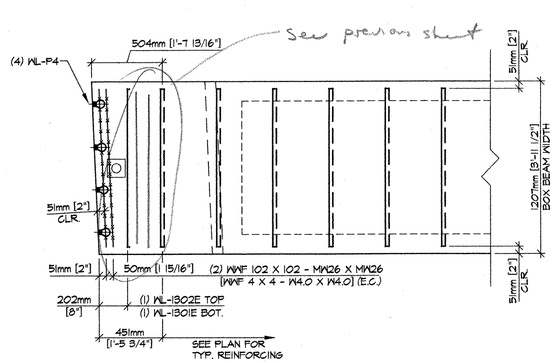
DETAIL - "B"
1:5



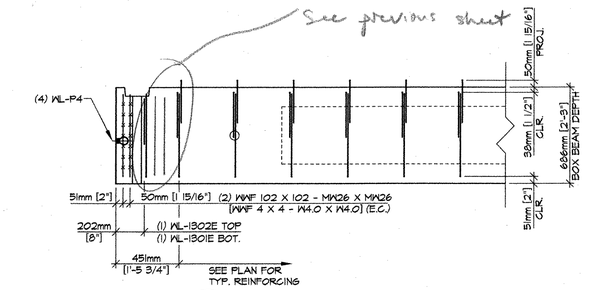
DETAIL - "C"
1:10



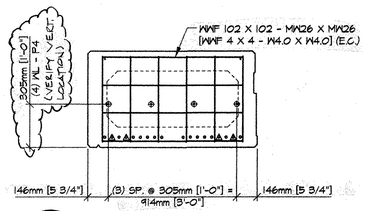
DETAIL - "D"
1:20



D / B1 END BLOCK REINF. DETAIL
1:20



E / B1 END BLOCK REINF. ELEVATION
1:20

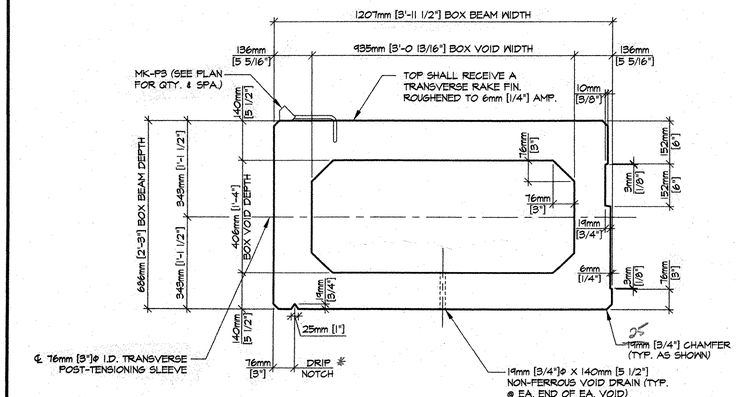


C / B1 REINFORCING SECTION @ END-BLOCK
1:20

MARK: WL-2	QTY: 2	WT.: 25,874 kg [28.51 T]	VOL.: 10.77 m³ [14.08 cy]

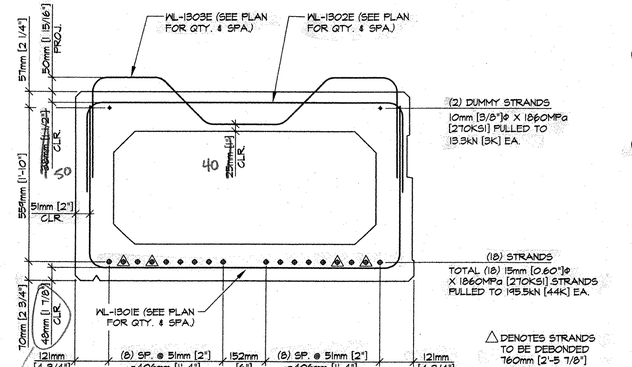
MATERIAL LIST / BEAM

ITEM	MARK	DESCRIPTION	QTY.
1	1301E	#13 [#4] BENT BAR [EPOXY COATED]	56
2	1302E	#13 [#4] BENT BAR [EPOXY COATED]	56
3	1303E	#13 [#4] BENT BAR [EPOXY COATED]	54
4			
5			
6			
7			
8			
9			
10			
11			
12			
13	MK-P3	MEADOW BURKE HF-42 PRECAST IMBED HANGER (GALV.)	18
14		WWF 102 X 102 - MW26 X MW26 [WWF 4 X 4 - W4.0 X W4.0] 1105mm [3'-7 1/2"] X 600mm [1'-11 5/8"] (E.C.)	12
15	WL-P4	DAYTON 16mm [5/8"]ø F-42 LOOP FERRULE INSERT (GALV.)	8
16		935mm [3'-0 13/16"] X 6353mm [20'-10 1/8"] X 406mm [1'-4"] BOX VOID	3
17		19mm [3/4"]ø X 140mm [5 1/2"] NON-FERROUS VOID DRAINS	6
18		SET OF (3) 13mm [1/2"]ø STRAND LIFTING LOOPS	4
19			



* Stop drip notch 1.5 meters from ends of unit and outlet at 45° to fascia

A / B1 DIMENSIONING SECTION
1:10



B / B1 REINFORCING SECTION @ MID-SPAN
1:10

inconsistent w/ previous sheets

① ②

3 5 7 9 11 13 15 17 19 — 20 18 16 14 12 10 8 6 4

DETENSIONING SCHEDULE
N.T.S.

APPROVAL STAMP:

RECEIVED
OK'D BY JMP OK'D BY CWC
RESUBM
BY CWC 4.6.04
AS NOTED

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

ALPINE CONSTRUCTION, LLC
CONTRACTOR
SCHUYLERVILLE, NY

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

DATE: FEB. 14, 2006
SCALE: NOTED

TOWN OF WALLINGFORD
PROJECTNUMBER: BRO 1448(31)
TH 60, CLASS 3 (LOCAL BRIDGE), BRIDGE NO.50

CHKD: B.L. DFTM: B.J.B.
JOB NO: 23235-06

PRESTRESSED BOX BEAM DETAILS

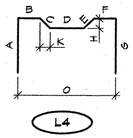
DWG. NO: B2
042 PCC

BENT BARS, TIES, & STIRRUPS

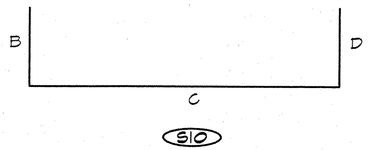
ITEM	MARK	QTY.	SIZE	LENGTH	TYPE	A	B	C	D	E	F/R	G	H	J	K	O	GRADE	REMARKS
1	1301E	224	#13 [#4]	2279mm [7'-5 3/4"]	S10		587mm [1'- 11 1/8"]	1105mm [3'- 7 1/2"]	587mm [1'-11 1/8"]								420 [60]	EPOXY COATED
2	1302E	224	#13 [#4]	1734mm [5'-8 1/2"]	S10		318mm [1'- 0 1/2"]	1105mm [3'- 7 1/2"]	318mm [1'- 0 1/2"]								420 [60]	EPOXY COATED
3	1303E	216	#13 [#4]	1644mm [5'-4 3/4"]	L4	355mm [1'- 2"]	254mm [10"]	213mm [8 3/8"]	216mm [11 5/8"]	213mm [8 3/8"]	254mm [10"]	355mm [1'- 2"]	150mm [5 7/8"]		150mm [5 7/8"]	1105mm [3'- 7 1/2"]	420 [60]	EPOXY COATED
4																		
5																		
6																		
7																		
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10																		
11																		
12																		
13																		
14																		
15																		

MISCELLANEOUS MATERIAL

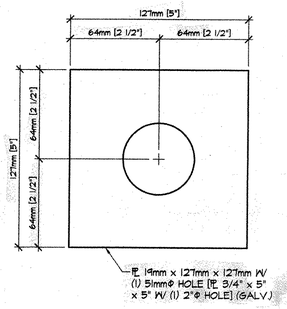
ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1	MK-P3	36	MEADOW BURKE HF-42 PRECAST IMBED HANGER	GALVANIZED
2	WL-P4	32	DAYTON 16mm [5/8"]ø F-42 LOOP FERRULE INSERT	GALVANIZED
3		48	WWF 102 X 102 - MW26 X MW26 [WWF 4 X 4 - W4.0 X W4.0] 1105mm [3'-7 1/2"] X 600mm [1'-11 5/8"] (E.C.)	EPOXY COATED
5		12	935mm [3'-0 13/16"] X 6353mm [20'-10 1/8"] X 406mm [1'-4"] BOX VOID	
6		24	19mm [3/4"]ø X 140mm [5 1/2"] NON-FERROUS VOID DRAINS	
7		16	SET OF (4) 13mm [1/2"]ø STRAND LIFTING LOOPS	
8				
9				
10		16	38mm [1 1/2"] THICK X 152mm [6"] X 203mm [8"] ELASTOMERIC BRIDGE PAD	FOR ERECTION (SEE DETAIL, THIS SHEET)
12	EM-1	8	PL 19mm [3/4"] x 127mm [5"] x 127mm [5"] W/ (1) 51mm [2"]ø HOLE (GALV.)	FOR ERECTION (SEE DETAIL, THIS SHEET)
13		8	SINGLE USE STRESSING CHUCK	FOR ERECTION
14		4	13mm [1/2"]ø X 5715mm [18'-9"] POLYSTRAND	FOR ERECTION
15		12	COMPRESSIBLE SEALER SELF ADHESIVE	FOR ERECTION
16				
17				
18				
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30				



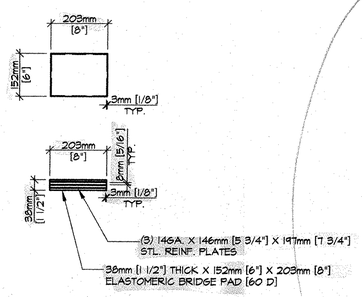
L4



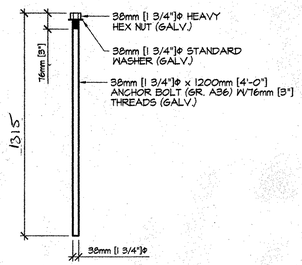
S10



EM - 1
1:2



BEARING PAD DETAIL
1:10

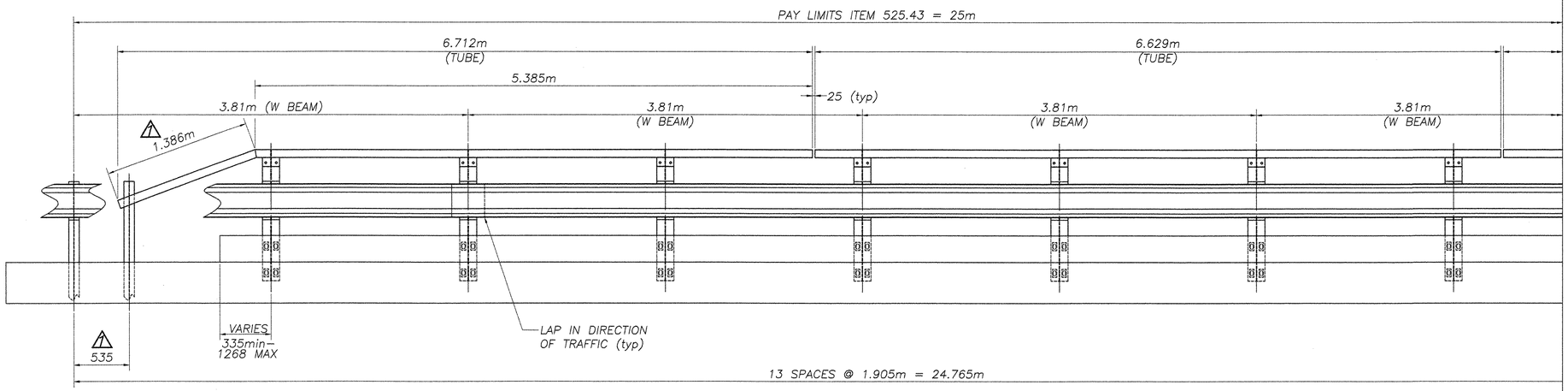


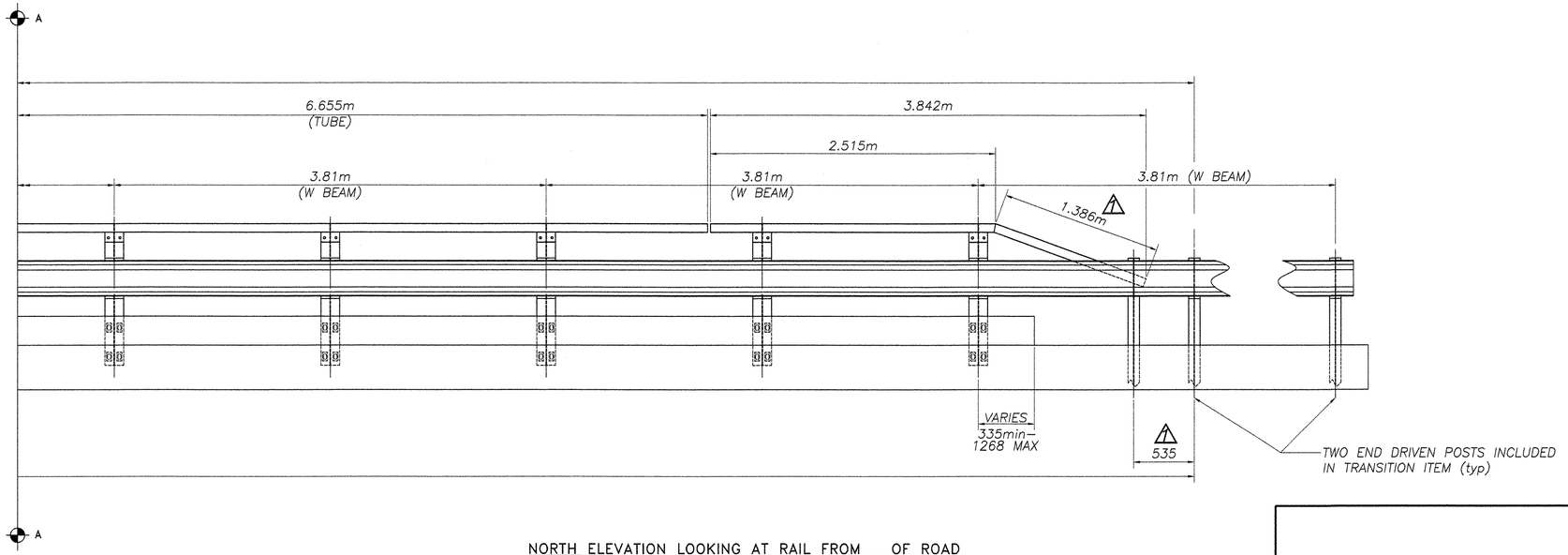
ANCHOR BOLT DETAIL
1:20

Modify Schedule for stirrup bars added

A22

APPROVAL STAMP: RECEIVED CK'D BY JMP OK'D BY DWC MAR 17 2006 RESUBMIT ____ APPROVED AS NOTED BY DWC 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 — ALPINE CONSTRUCTION, LLC CONTRACTOR SCHUYLERVILLE, NY
STATE OF VERMONT A.O.T. COUNTY OF RUTLAND	DATE: FEB. 14, 2006
	SCALE: NOTED
TOWN OF WALLINGFORD PROJECTNUMBER: BRO 1449(31)	CHKD: B.L. DFTM: B.J.B.
TH 60, CLASS 3 (LOCAL BRIDGE), BRIDGE NO.50	JOB NO: 23235-06
PRESTRESSED BOX BEAM DETAILS	DWG. NO: M1 043 PCC





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

BILL OF MATERIAL ITEM 525.43

Qty.	Description	Size/Shape	Length	Material
	POST			
24	fascia mounted post	W200 x 35.9	1.270m	AASHTO M222
24	steel blockout	W150 x 13.5	356	AASHTO M222
96	hex bolt w/ flat washer & hex nut	M16	38	A325m TYPE 3
24	hex bolt w/ flat washer & hex nut	M16	51	A325m TYPE 3
4	hex bolt w/ flat washer & hex nut	M16	254	A325m TYPE 3
24	hand rail attachment angle	L127 x 89 x 10	165	AASHTO M222
48	hex bolt w/ 2 flat washers & hex nut	M16	51	A325m TYPE 3
4	driven post	W150 x 13.5	1.830m	AASHTO M222
	HAND RAIL			
2	hand rail tube w/ drop end	TS 152x76x6	6.712m	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	3.842m	A500 gr B
24	hex bolt w/ (2) flat washer & heavy hex nut	M16	114	A325m TYPE 3
12	splice bar	PL 20 x 127	787	AASHTO M223
24	hex bolt w/ flat washer & heavy hex nut	M20	114	A325m TYPE 3

BILL OF MATERIAL ITEM 525.43 (items furnished by others)

	PANEL (by others)			
48	w beam	1.905m	3.81m	M180 b4
	ANCHORS (by others)			
48	anchor u bolt w/ 4 hex nuts and 2 flat washers	M27 x 250	300	A325m TYPE 3
96	plate washer	PL 55 x 6	130	AASHTO M222

TS 152 x 76 x 6 HAND RAIL TO BE GALVANIZED AND PAINTED BROWN, COLOR 50059

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	5/18/06
1	Final Copy w/Approved as Noted Corrections	6/20/06

VTrans - PDD
JUL 0 5 2006
Structures Design Section
RECORD PLANS

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

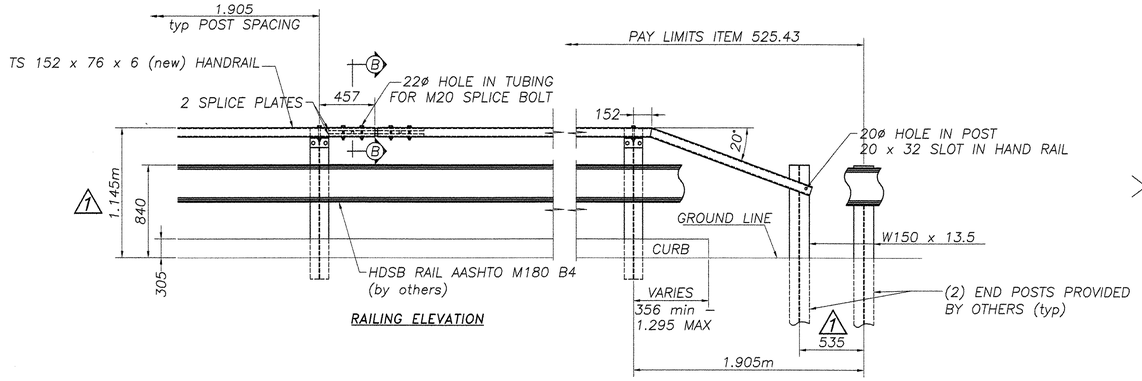
ITEM # 525.43 FASCIA MOUNTED HDSB w/ HAND RAILING
TOWN OF WALLINGFORD
COUNTY OF RUTLAND
PROJECT BRO 1443 (31)

GENERAL CONTRACTOR
SUB CONTRACTOR F.R. LAFAYETTE INC.

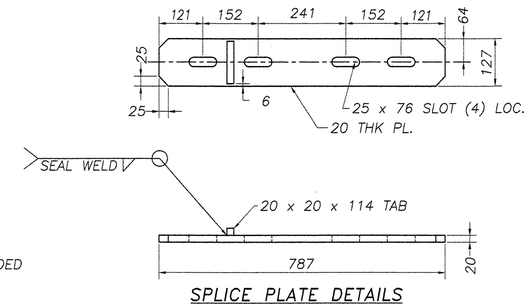
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CHECKED
DATE 5/16/06
SCALE NTS
HSC REFERENCE NO. 1548
SIZE D REVISION 1
SHEET NO. 1 of 2

044 BR

RW



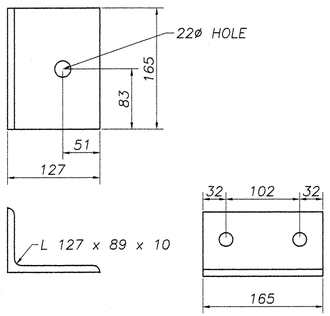
RAILING ELEVATION



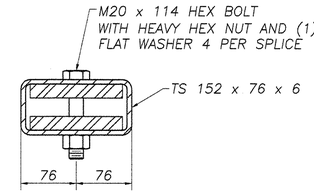
SPLICE PLATE DETAILS

NOTES

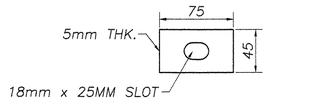
1. SEE STANDARD G-1M & G-1dM FOR ADDITIONAL DETAILS OF STEEL BEAM GUARD RAIL AND STANDARD SB-R4a-82M FOR ADDITIONAL DETAILS OF BOX BEAM GUARD RAIL
2. ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED AND CONFORM TO SECTION 714.07
3. BRIDGE RAIL TYPES A, C & E: HEAVY DUTY STEEL BEAM RAIL SHALL BE AASHTO 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 PRIOR TO FABRICATION TO AASHTO M111 OR M232 (HARDWARE)
4. BRIDGE RAIL TYPE B & D: HEAVY DUTY STEEL BEAM RAIL SHALL BE AASHTO M180, CLASS B-TYPE 4. POSTS AND BRACKETS AS WELL AS PLATE AND SPECIAL WASHERS, SHALL BE AASHTO M222/M222M STEEL. BOLTS SHALL BE AASHTO M164 TYPE III
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 FEET APART. PAYMENT SHALL BE SUBSIDIARY TO OTHER ITEMS.
12. THE DROP WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING.



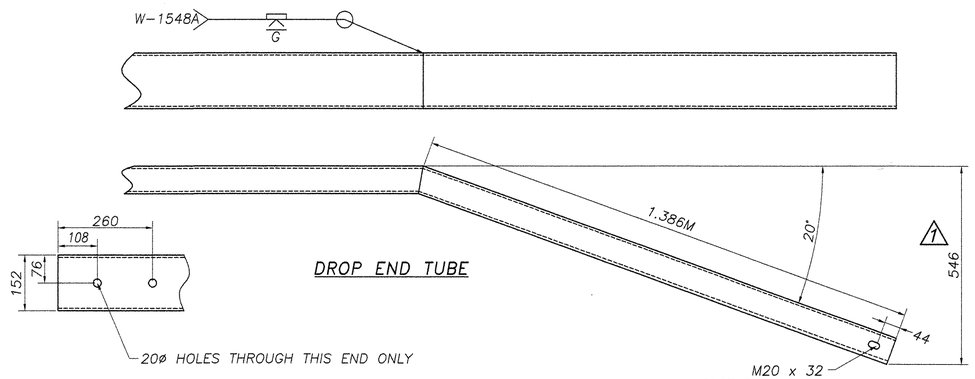
SHELF BRACKET



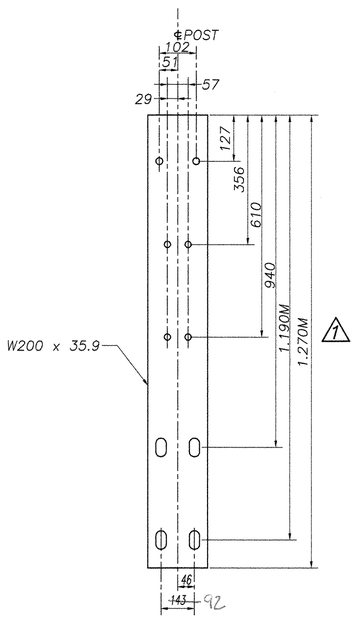
SPLICE SECTION



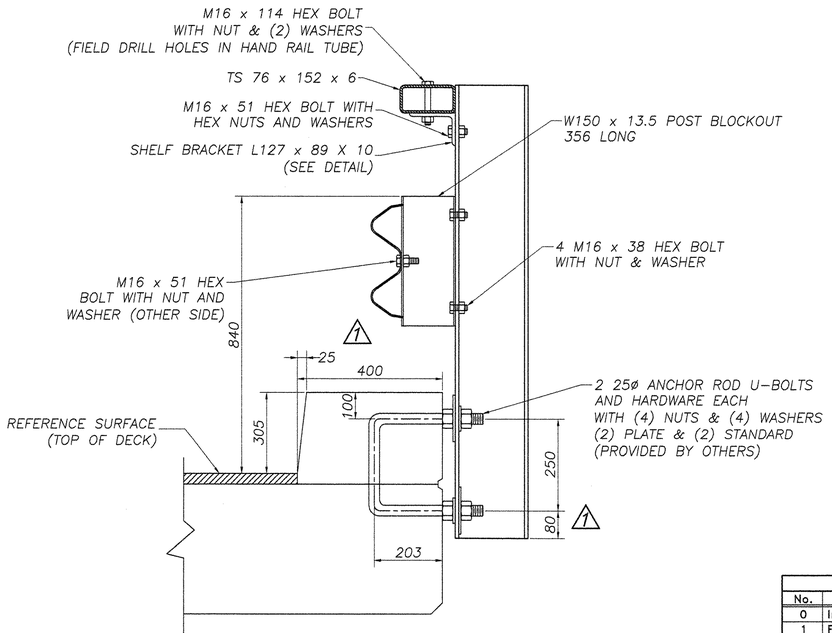
RECTANGULAR WASHER

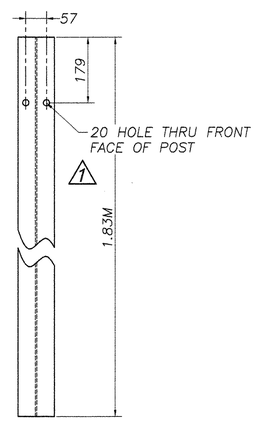


DROP END TUBE

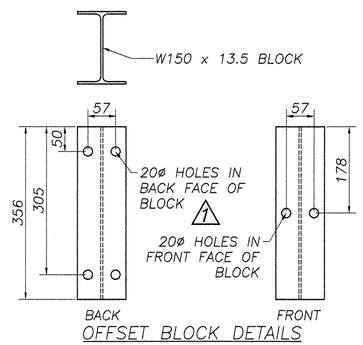


FASCIA MOUNTED POST





1st DRIVEN POST
W150 x 13



OFFSET BLOCK DETAILS

REVISIONS		
No.	Remarks	Date
0	Initial submittal	5/22/06
1	Final copy w/Approved as Noted Corrections	6/20/06

VTrans - PDD
JUL 0 5 2006
Structures Design Section
RECORD PLANS

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

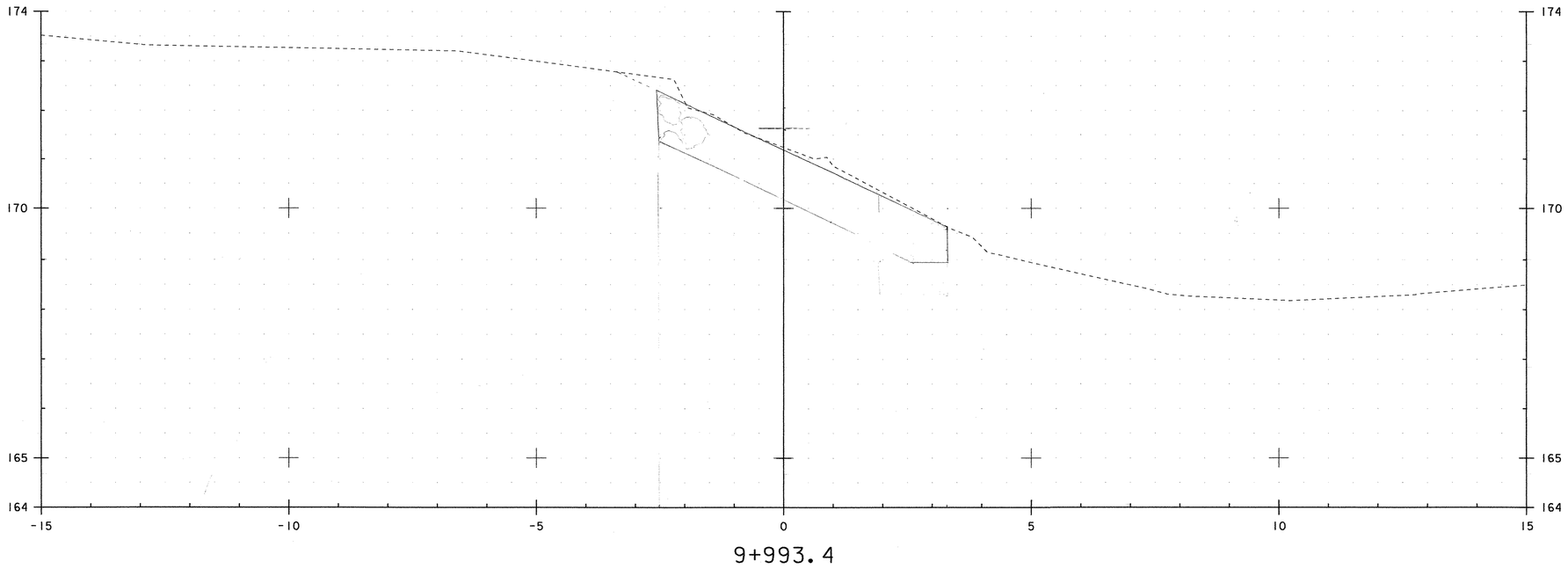
ITEM # 525.43 FASCIA MOUNTED HDSB w/ HAND RAILING
TOWN OF WALLINGFORD
COUNTY OF RUTLAND
PROJECT BRO 1443 (31)

GENERAL CONTRACTOR
SUB CONTRACTOR FR LAFAYETTE, INC

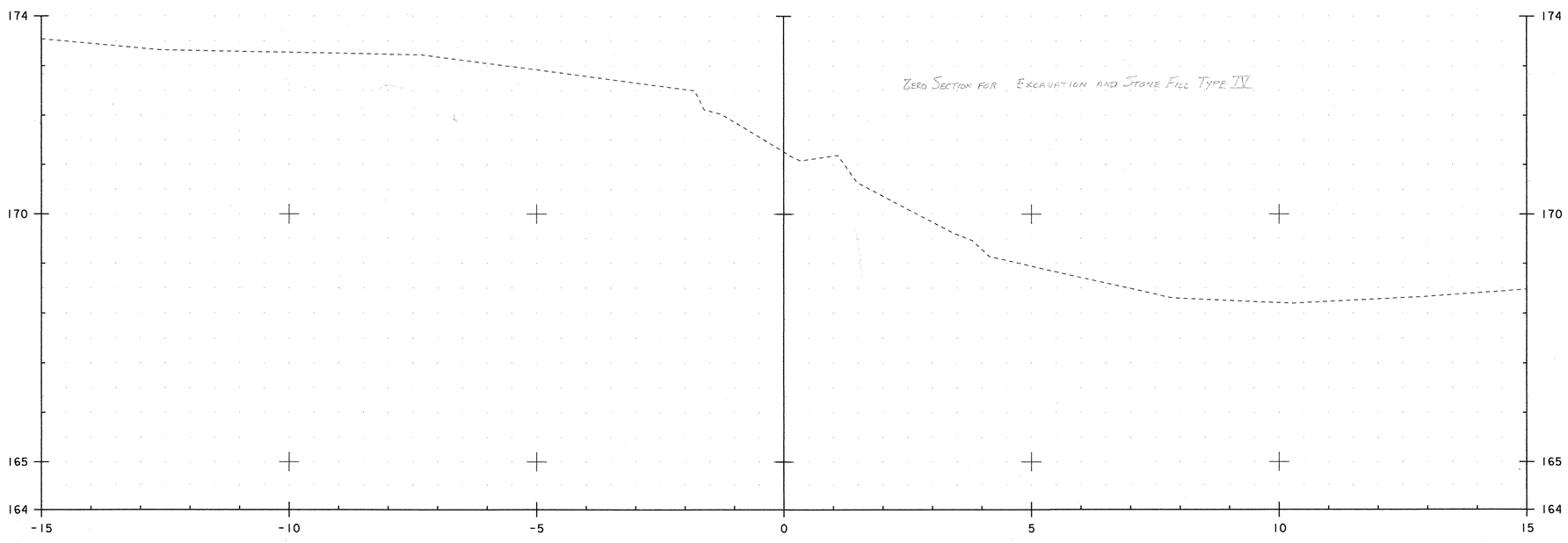
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CHECKED
DATE 5/17/06
SCALE NTS
HSC REFERENCE NO. 1548
SIZE D REVISION 1
SHEET NO. 2 of 2

045 BR

Metric



9+993.4



9+992.9

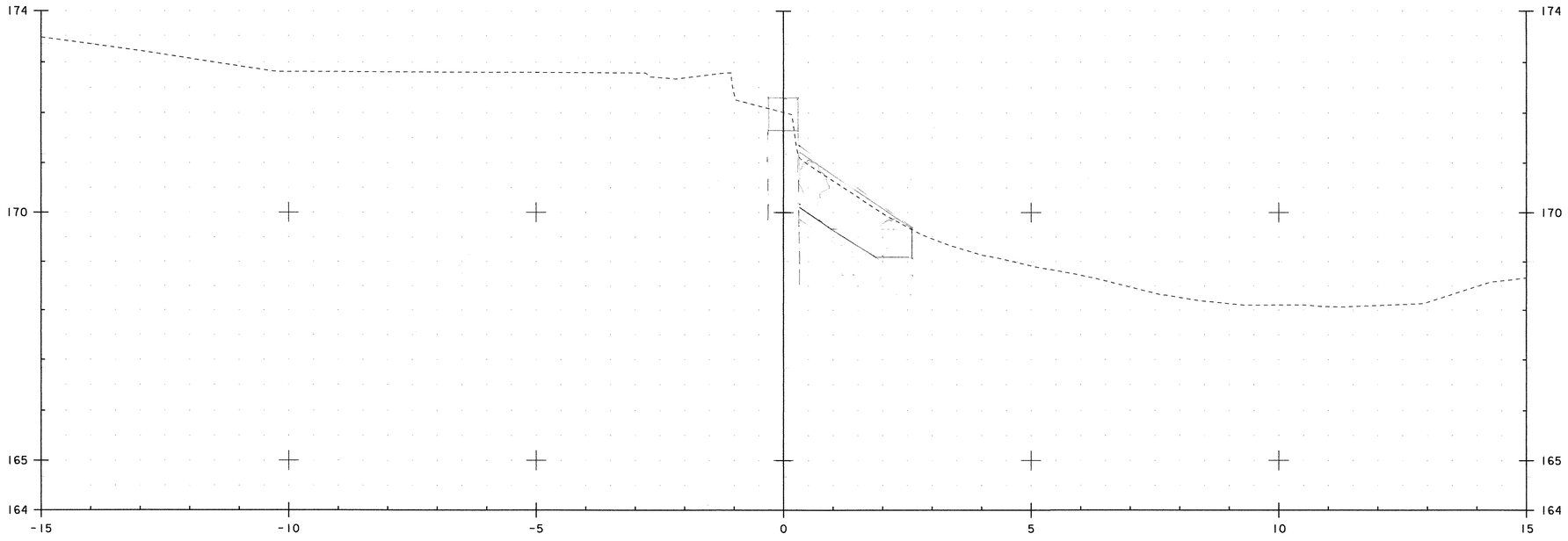
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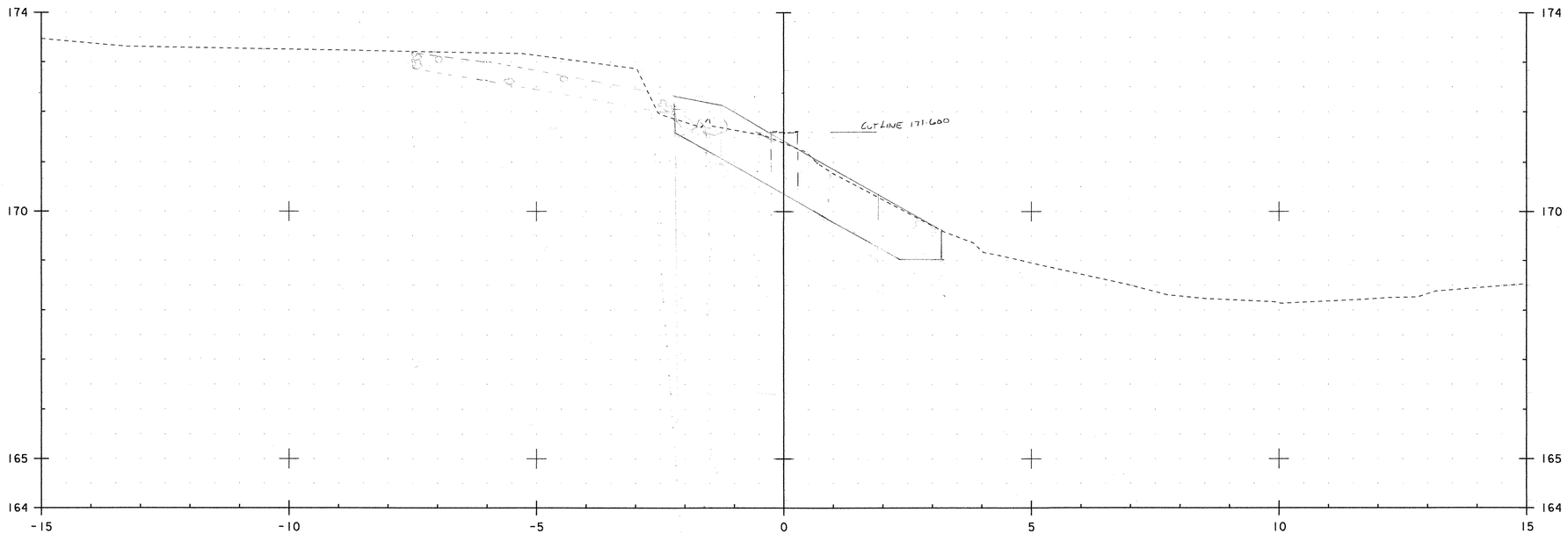
SHEET NAME: **ABUTMENT NO. 1 CHANNEL SECTIONS (1)**		
PROJECT NAME: WALLINGFORD		HIGHWAY NO.: TH 60
PROJECT NUMBER: BRO 1443(31)		BRIDGE NO.: 50
		OVER: OTTER CREEK
FILE NAME: /PW/94J084/post bid/sJ084xs.dgn		PLOT DATE: 10-MAR-2006
PROJECT MANAGER: R. WHITCOMB		DRAWN BY: G. ROY
DESIGNED BY: C. CARLSON		IPARM NAME: sJ084cxl.I
BRIDGE SHEET NUMBER:		SHEET X OF ~~X~~ 16

0515S

Metric



9+997.3



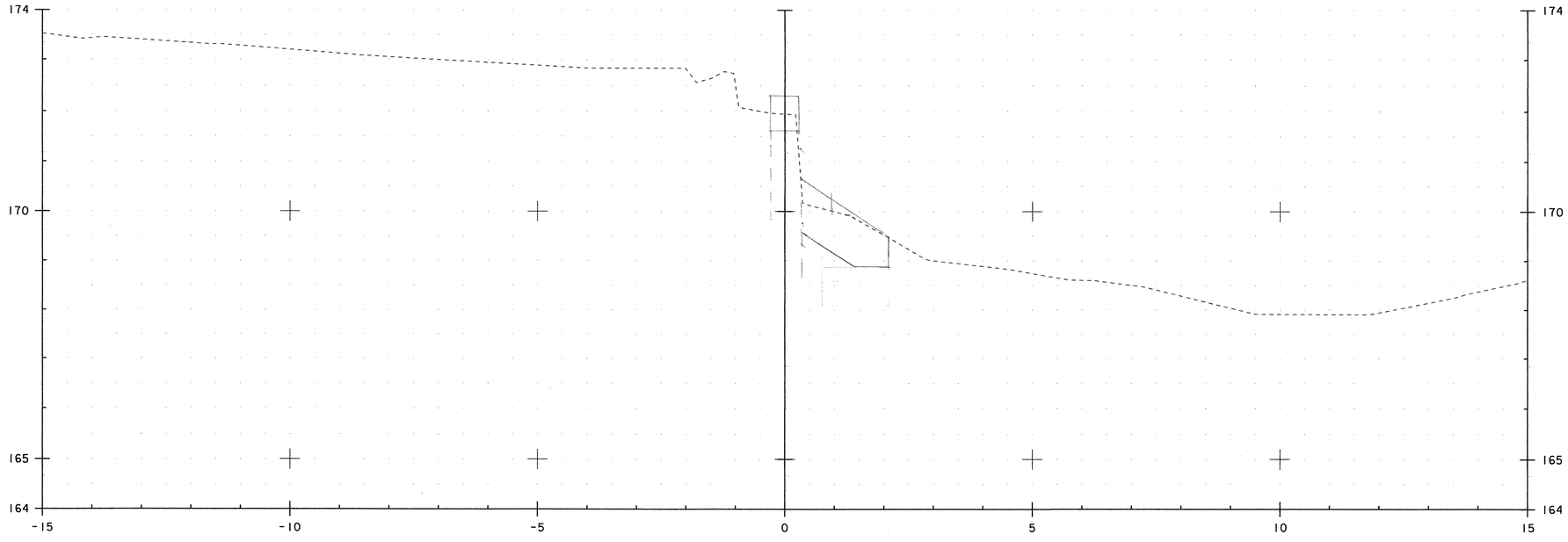
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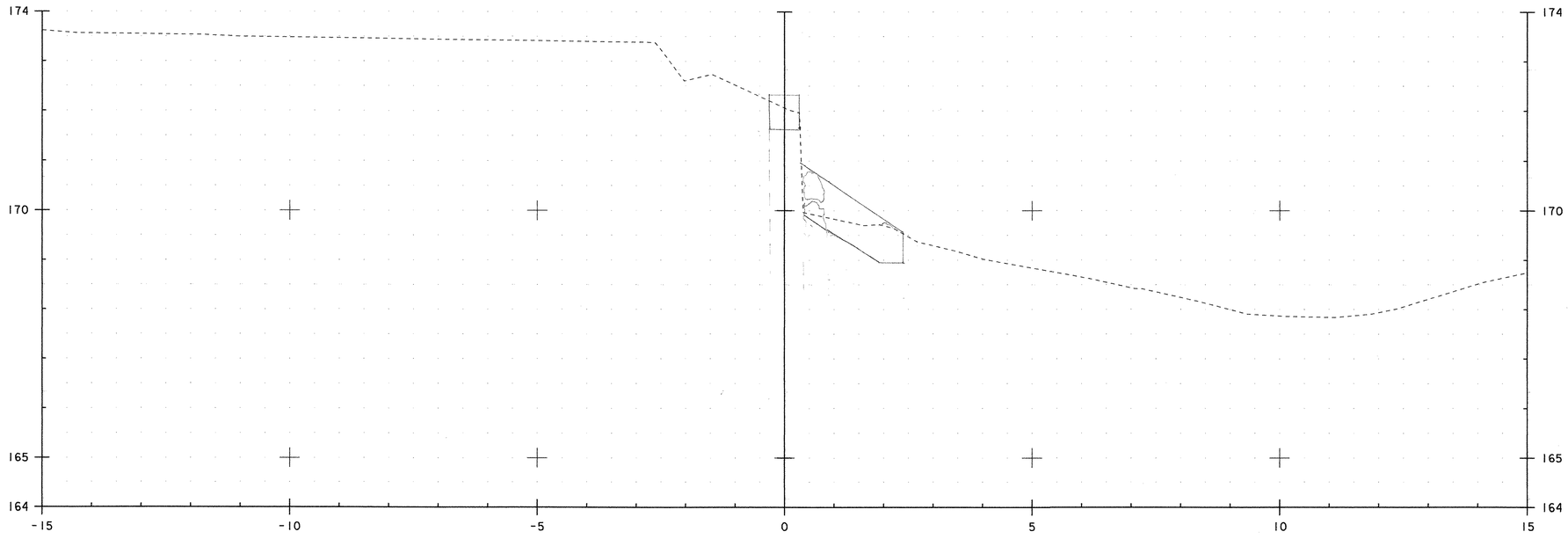
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PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/post bid/sJ084xs.dgn		PLOT DATE:	10-MAR-2006
PROJECT MANAGER: R. WHITCOMB		DRAWN BY:	G. ROY
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ084cx2.i
BRIDGE SHEET NUMBER:		SHEET	X OF 17

052x5



10+002.8



10+000.0

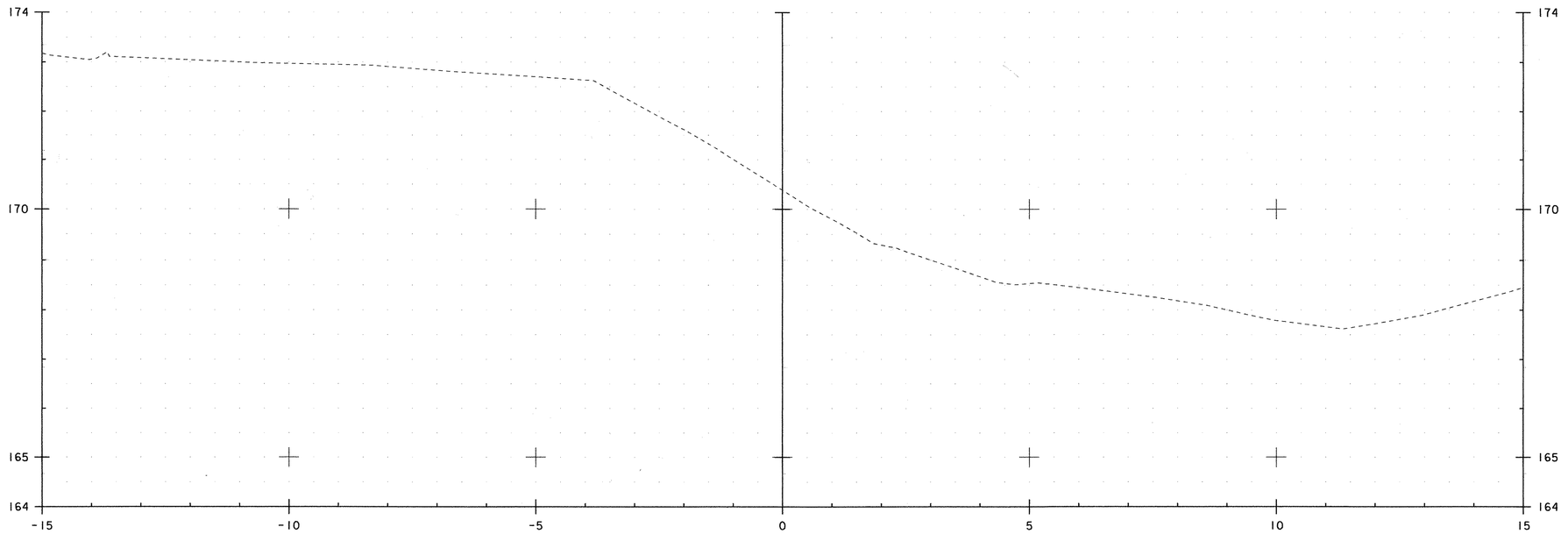
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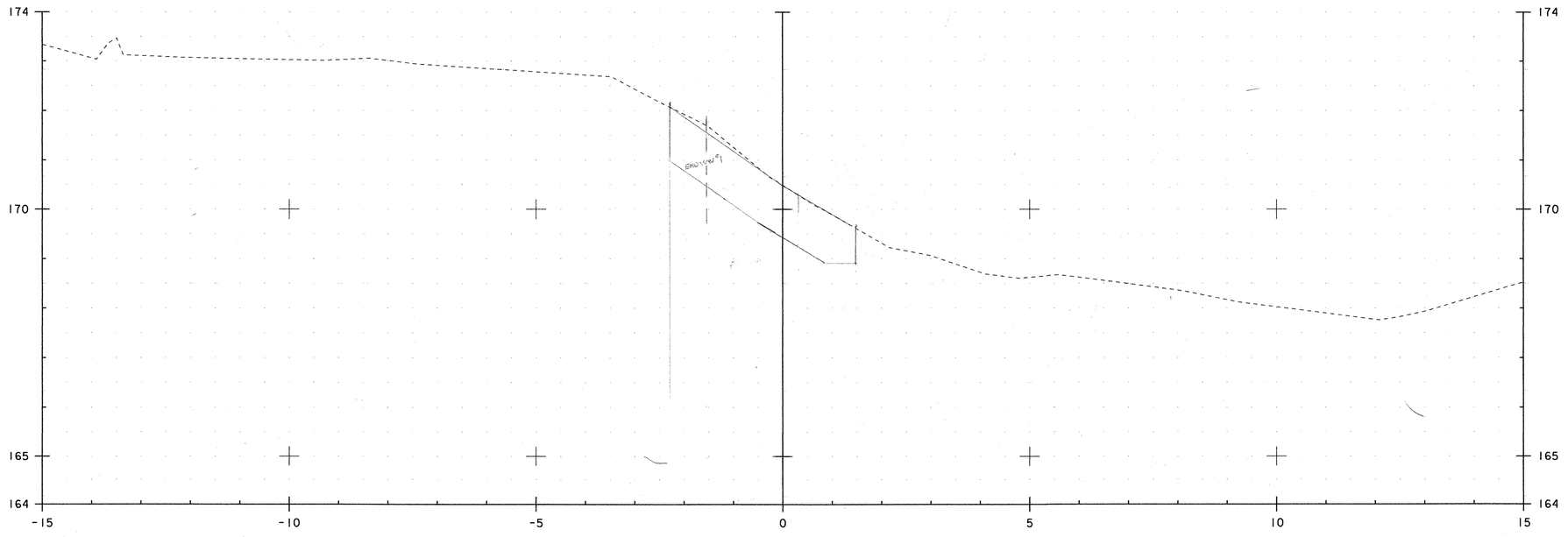
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PROJECT NAME: WALLINGFORD		HIGHWAY NO.: TH 60
PROJECT NUMBER: BRO 1443(31)		BRIDGE NO.: 50
		OVER: OTTER CREEK
FILE NAME: /PW/94J084/post bid/sJ084xs.dgn		PLOT DATE: 10-MAR-2006
PROJECT MANAGER: R. WHITCOMB		DRAWN BY: G. ROY
DESIGNED BY: C. CARLSON		IPARM NAME: sJ084cx3.1
BRIDGE SHEET NUMBER:		SHEET 7 OF 17

053x5

Metric



10+006.2



10+005.2

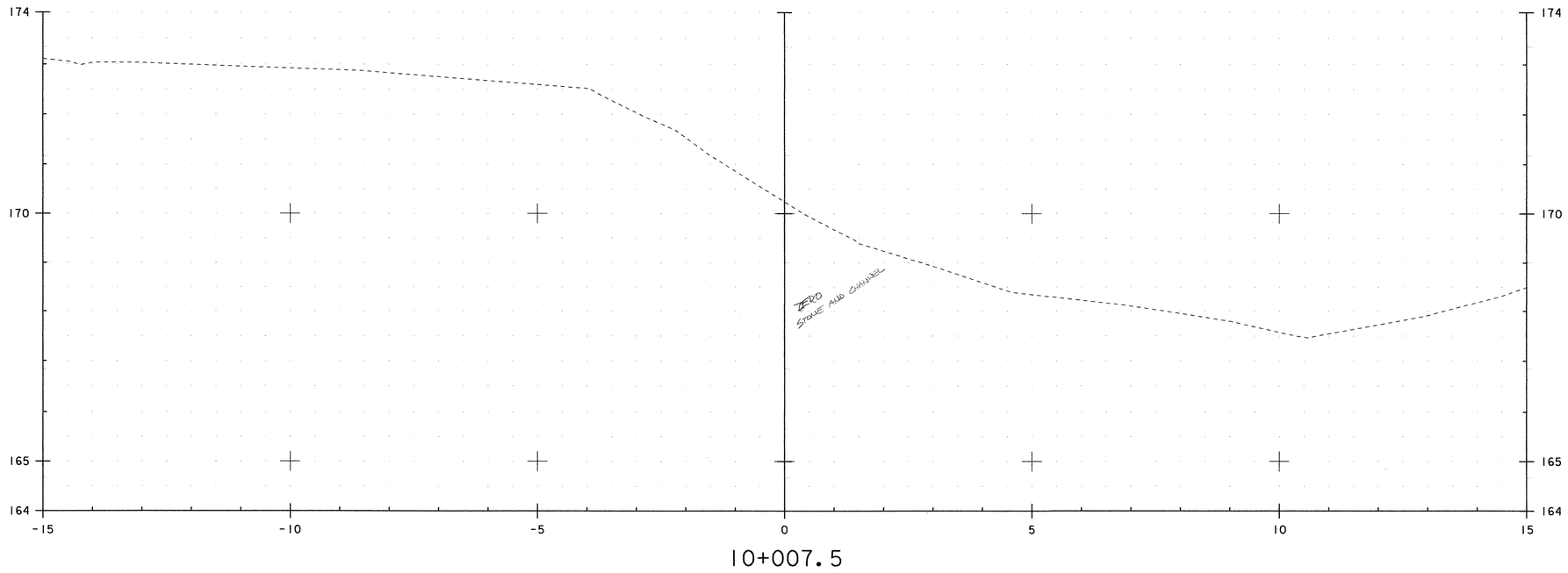
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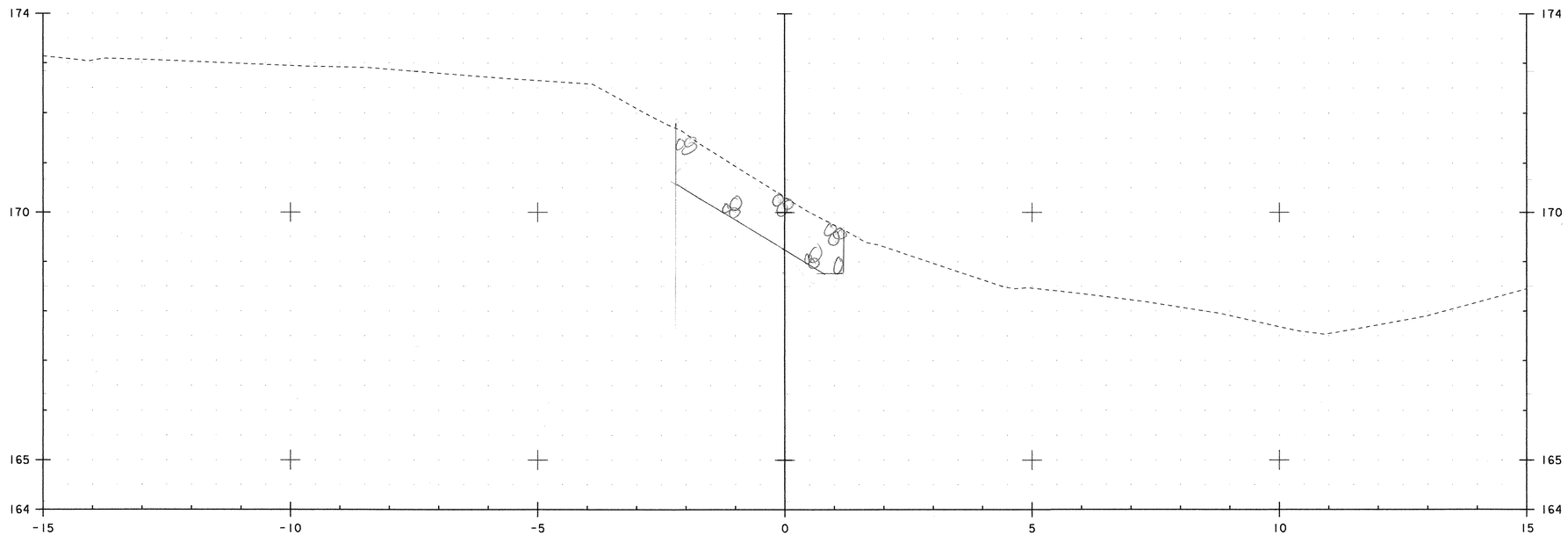
SHEET NAME: **ABUTMENT NO. 1 CHANNEL SECTIONS (4)**		
PROJECT NAME: WALLINGFORD	HIGHWAY NO.: TH 60	
PROJECT NUMBER: BRO 1443(31)	BRIDGE NO.: 50	
	OVER: OTTER CREEK	
FILE NAME: /PW/94J084/post bid/sJ084xs.dgn	PLOT DATE: 10-MAR-2006	
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: G. ROY	
DESIGNED BY: C. CARLSON	IPARM NAME: sJ084cx4.I	
BRIDGE SHEET NUMBER:	SHEET 4 OF 17	

054KS

Metric



10+007.5



10+006.8

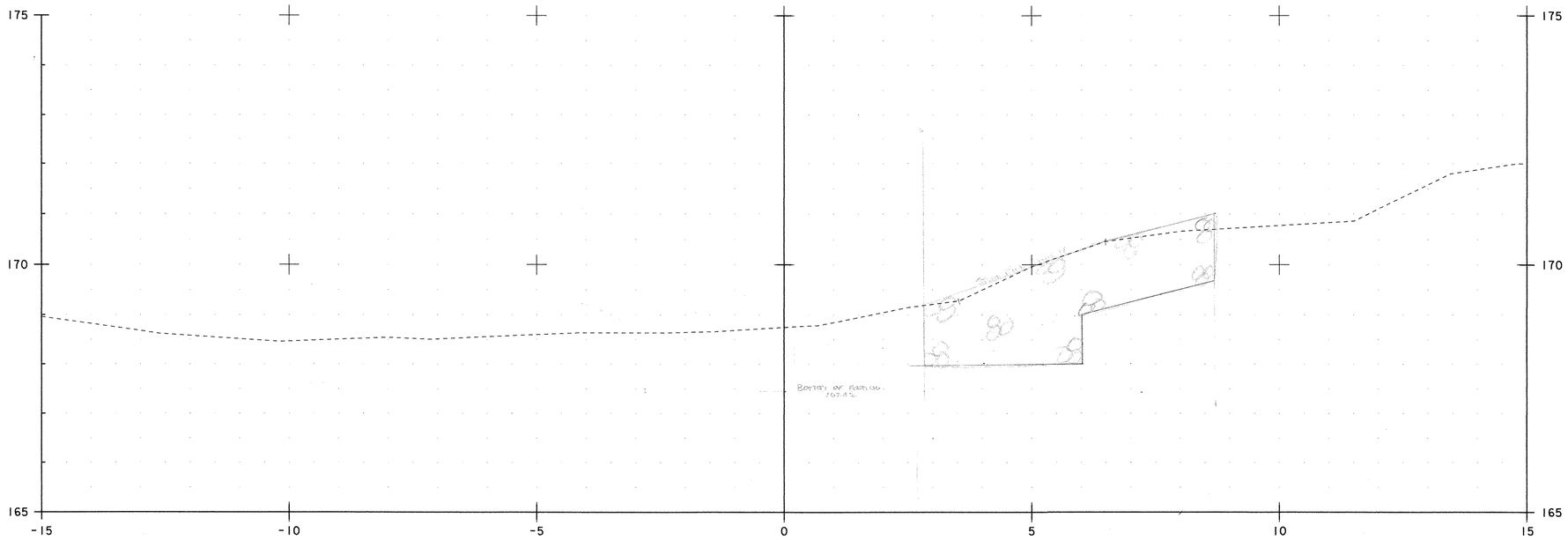
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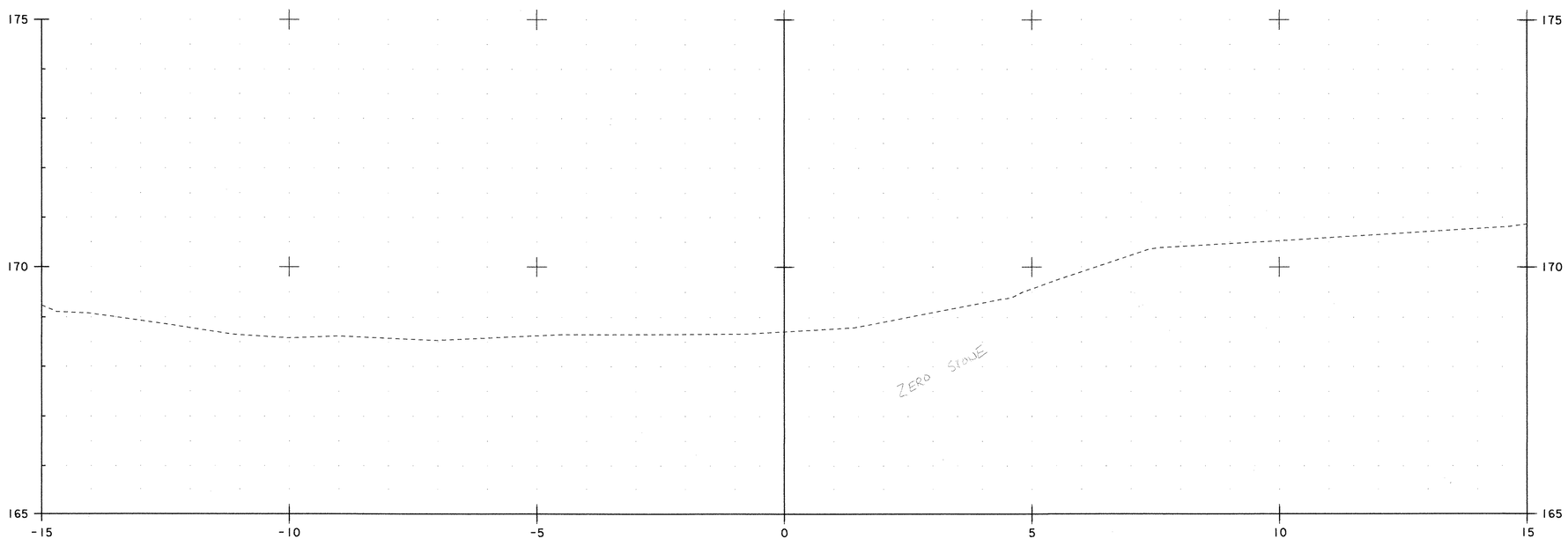
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PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/post bld/sJ084xs.dgn		PLOT DATE:	10-MAR-2006
PROJECT MANAGER: R. WHITCOMB		DRAWN BY:	G. ROY
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ084cx5.i
BRIDGE SHEET NUMBER:		SHEET	5 OF 17

055xs

Metric



19+988.8



19+986.7

0 1 2 3 4 5

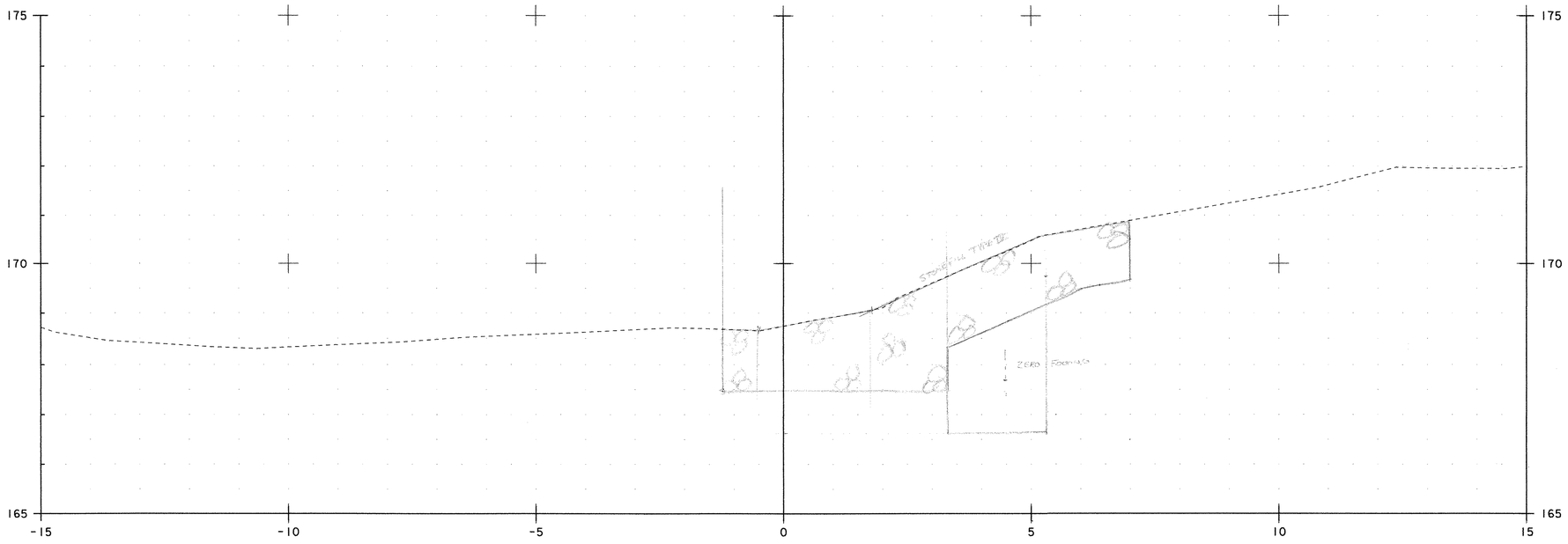
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SHEET NAME: ABUTMENT NO. 2 CHANNEL SECTIONS (1)			
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/post bld/sJ084xs.dgn		PLOT DATE:	30-JUN-2006
PROJECT MANAGER: R. WHITCOMB		DRAWN BY:	G. ROY
DESIGNED BY: C. CARLSON		IPARM NAME:	sJ084cx6.I
BRIDGE SHEET NUMBER:		SHEET 6 OF 17	

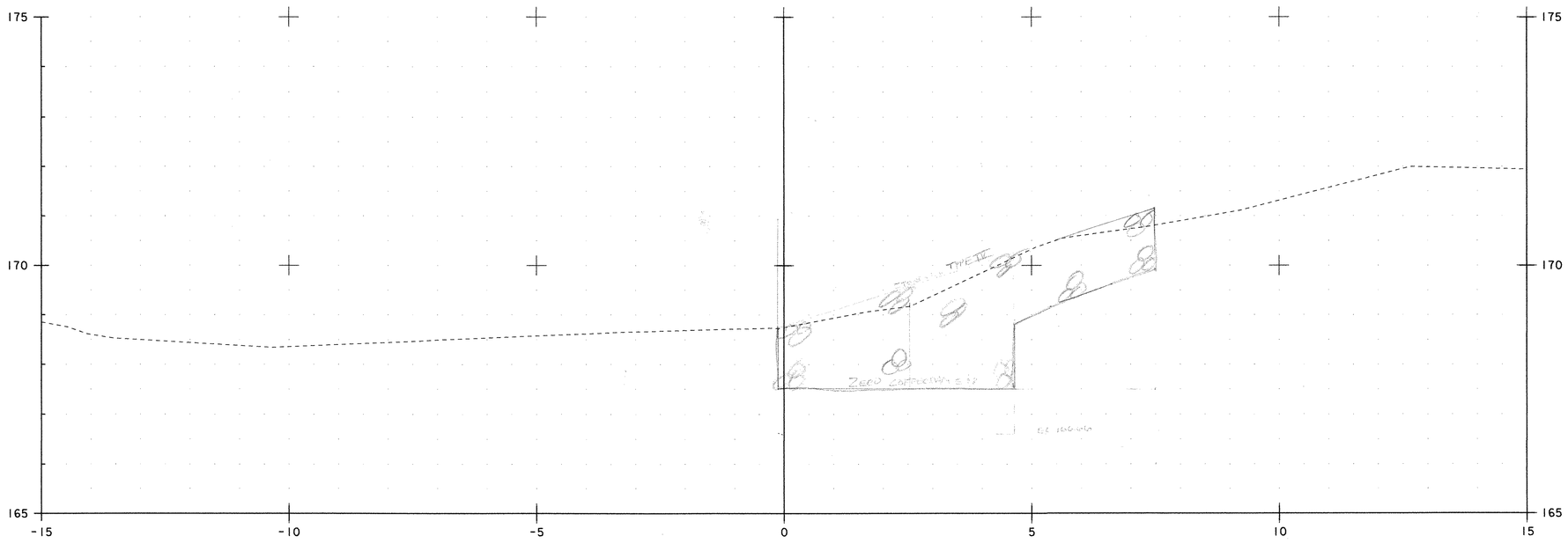
056x5

Metric

RE-DESIGN



19+991.7



19+990.8

0 1 2 3 4 5

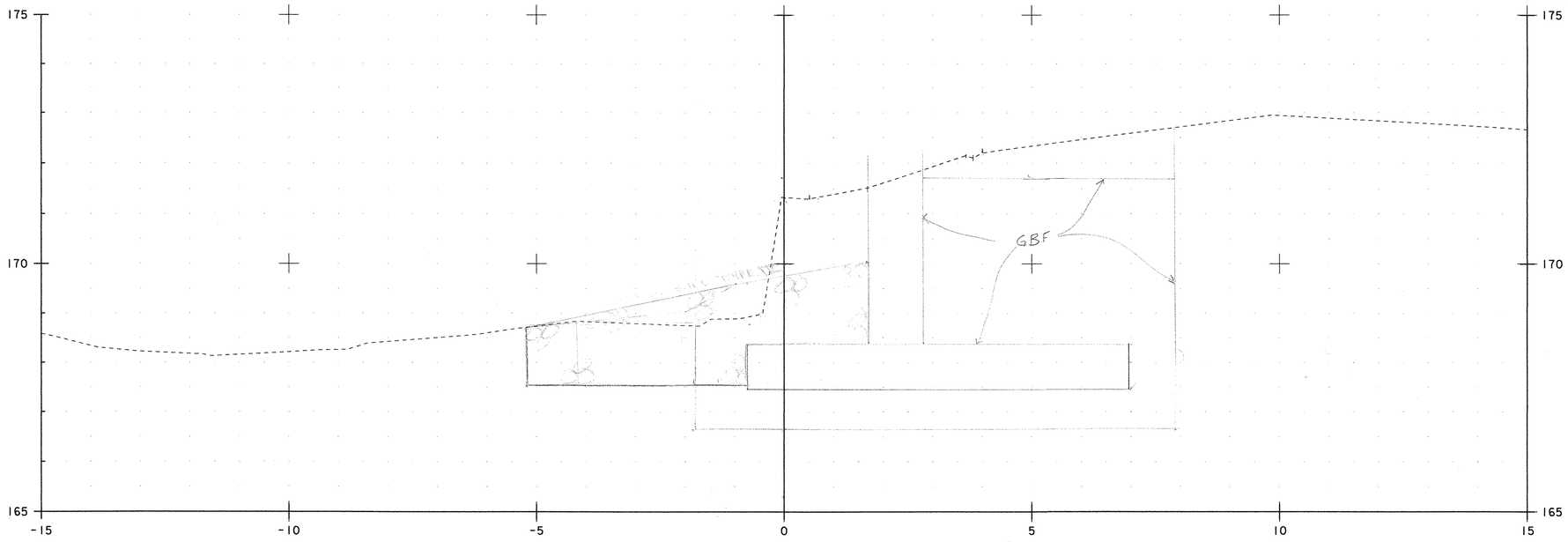
SCALE = 1:50

SHEET NAME: ABUTMENT NO. 2 CHANNEL SECTIONS (2)		
PROJECT NAME: WALLINGFORD	HIGHWAY NO.: TH 60	
PROJECT NUMBER: BRO 1443(31)	BRIDGE NO.: 50	
	OVER: OTTER CREEK	
FILE NAME: /PW/94J084/post bid/sJ084xs.dgn	PLOT DATE: 30-JUN-2006	
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: G. ROY	
DESIGNED BY: C. CARLSON	IPARM NAME: sJ084cx7.I	
BRIDGE SHEET NUMBER:	SHEET 7 OF 17	

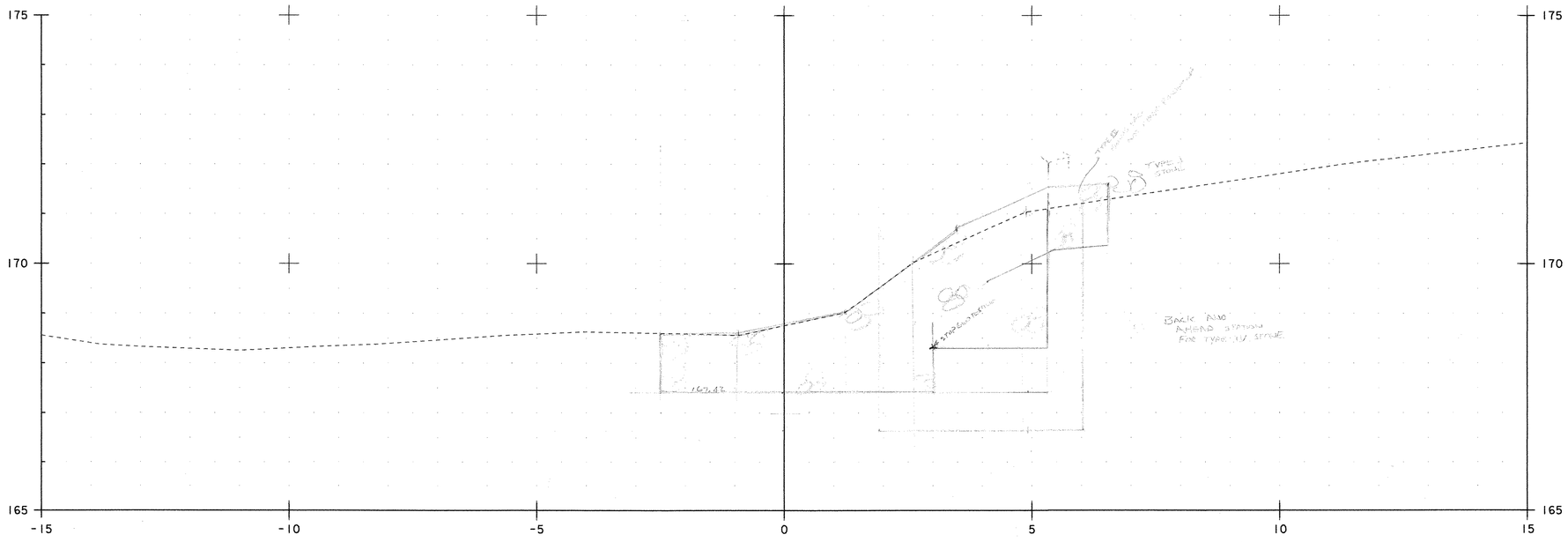
171.756

VAOT Metric

RE-DESIGN



19+995.4



19+992.8

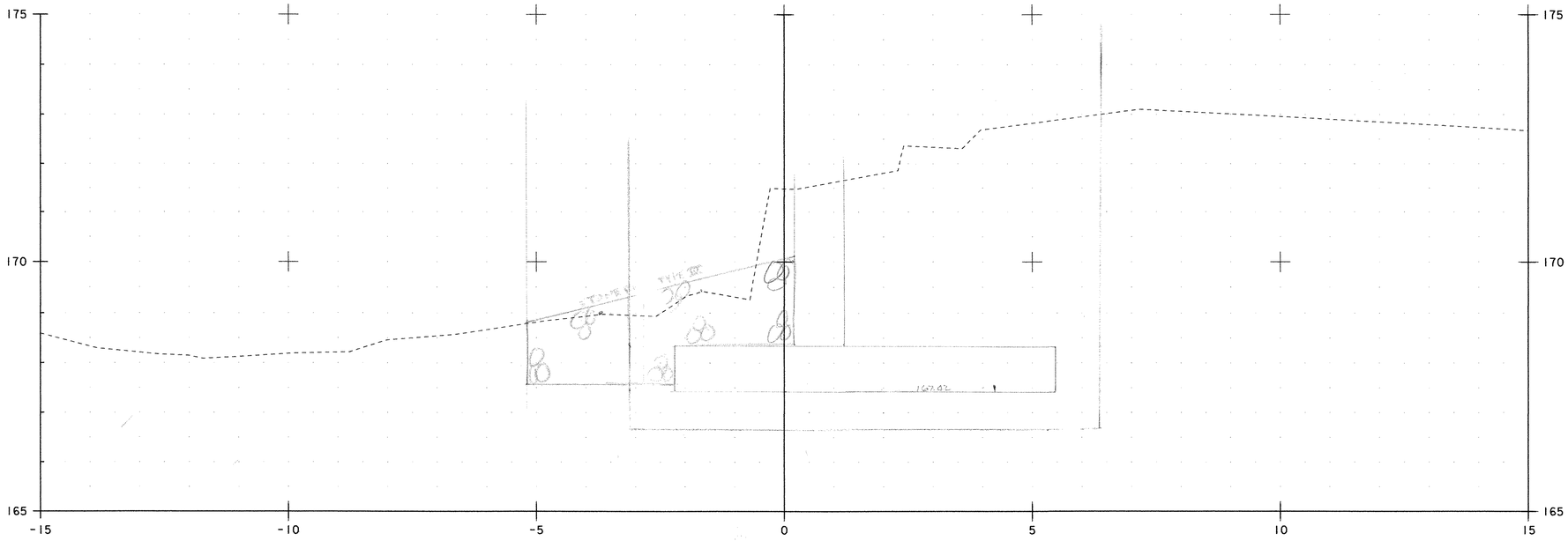
0 1 2 3 4 5

SCALE = 1:50

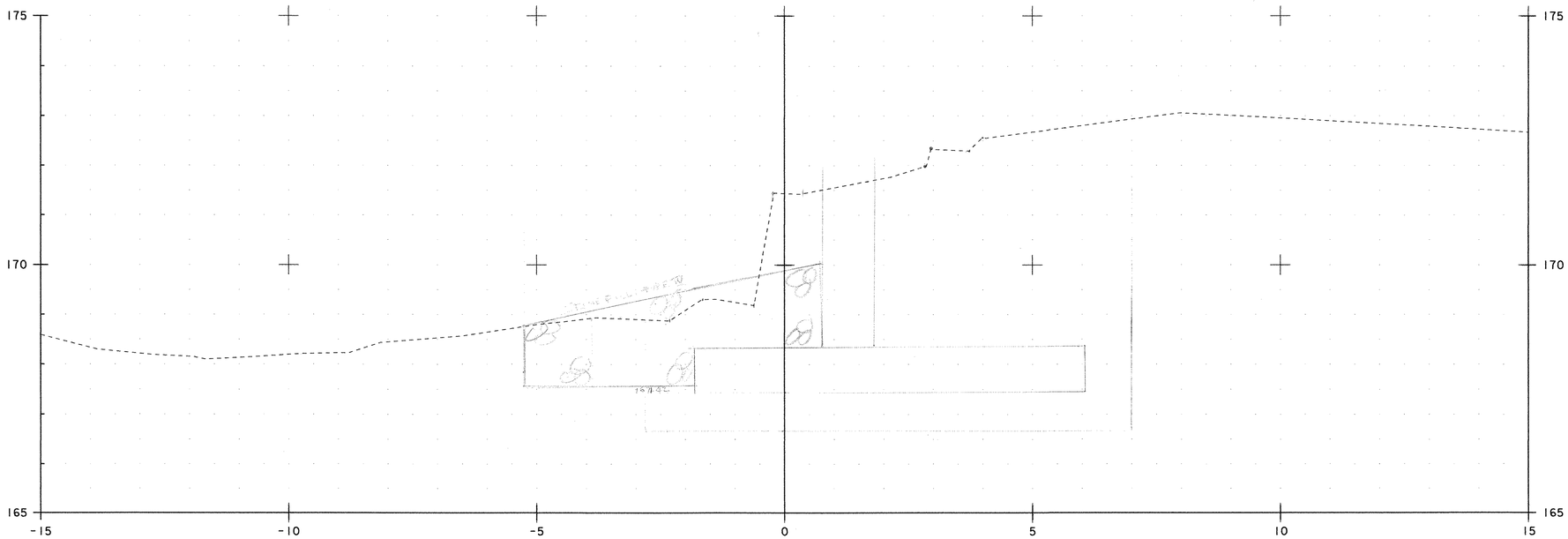
SHEET NAME: ABUTMENT NO. 2 CHANNEL SECTIONS (3)			
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/post bld/sJ084xs.dgn		PLOT DATE:	30-JUN-2006
PROJECT MANAGER: R. WHITCOMB		DRAWN BY:	G. ROY
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ084cx8.1
BRIDGE SHEET NUMBER:		SHEET	8 OF 17

Metric

RE-DESIGN



19+996.4



19+996.1

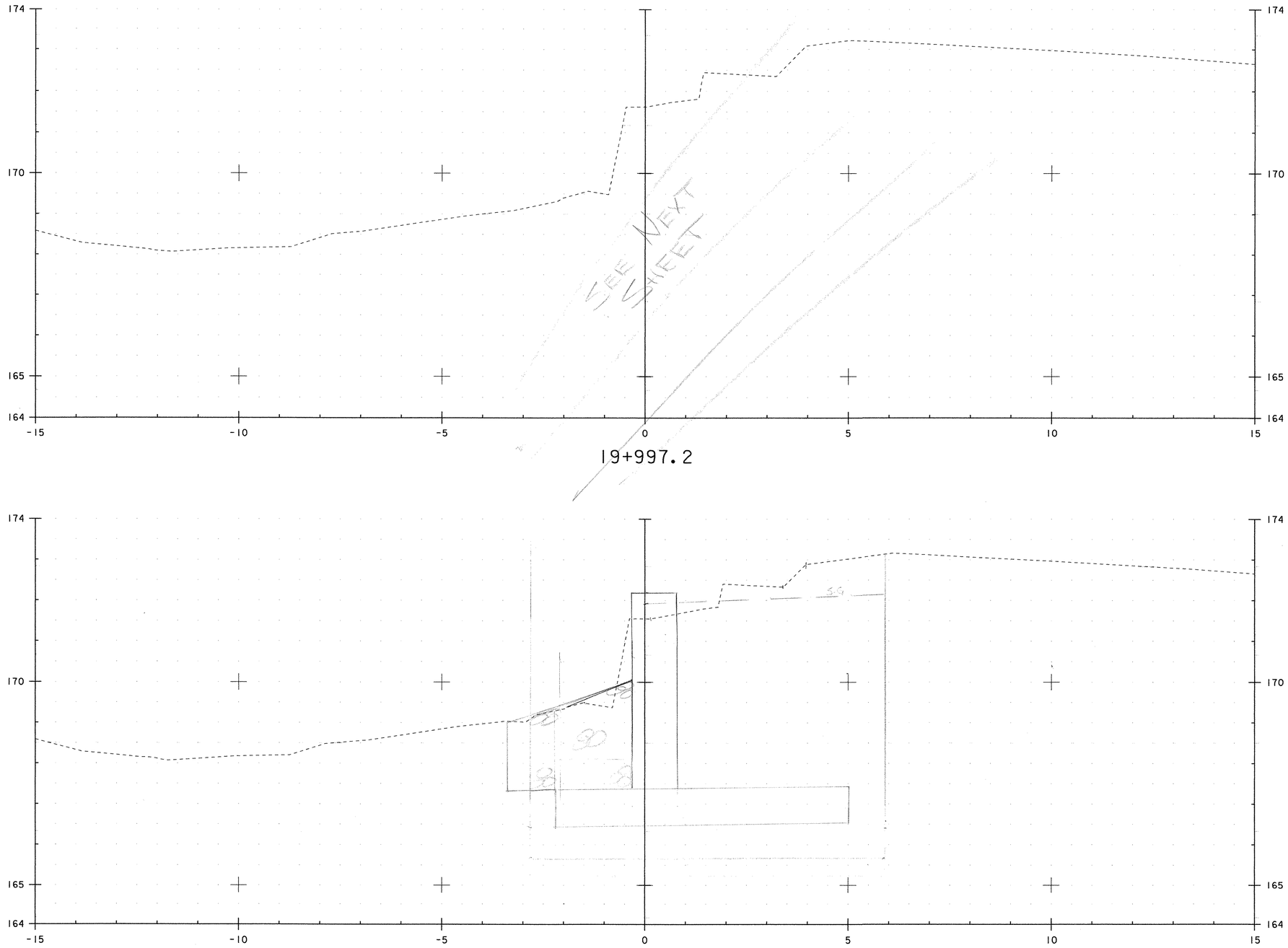
0 1 2 3 4 5

SCALE = 1:50

SHEET NAME: ABUTMENT NO. 2 CHANNEL SECTIONS (4)			
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/post bld/sJ084xs.dgn		PLOT DATE:	30-JUN-2006
PROJECT MANAGER: R. WHITCOMB		DRAWN BY:	G. ROY
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ084cx9.I
BRIDGE SHEET NUMBER:		SHEET	9 OF 17

Metric

REDESIGN



19+997.2

19+996.8

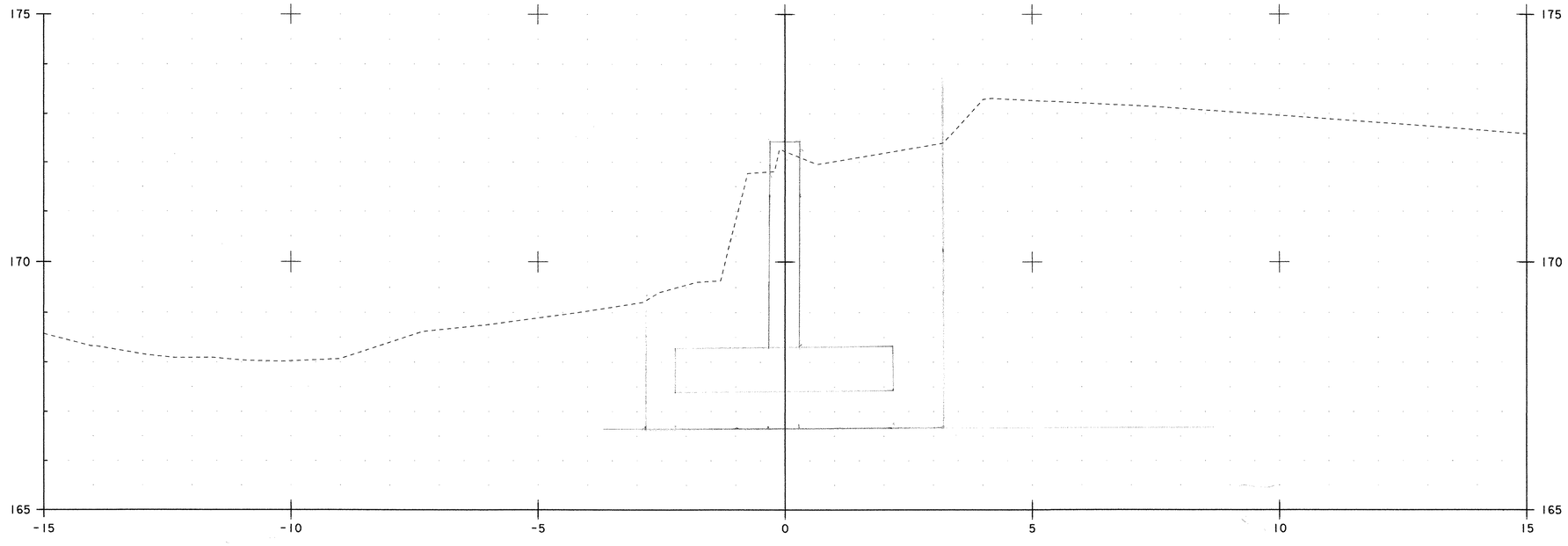
0 1 2 3 4 5

SCALE = 1:50

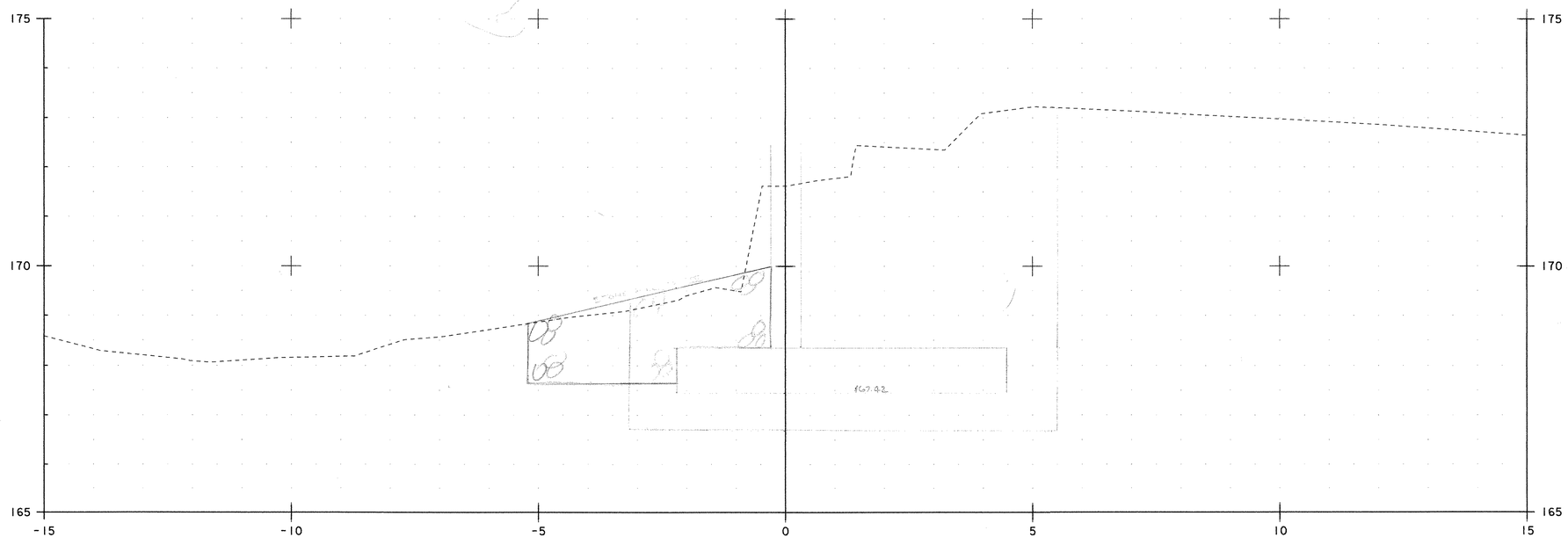
SHEET NAME: ABUTMENT NO. 2 CHANNEL SECTIONS (5)			
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/post bid/sJ084xs.dgn		PLOT DATE:	10-MAR-2006
PROJECT MANAGER: R. WHITCOMB		DRAWN BY:	G. ROY
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ084cx10.i
BRIDGE SHEET NUMBER:		SHEET	10 OF 17

Metric

REDESIGN



19+998.7



19+997.2

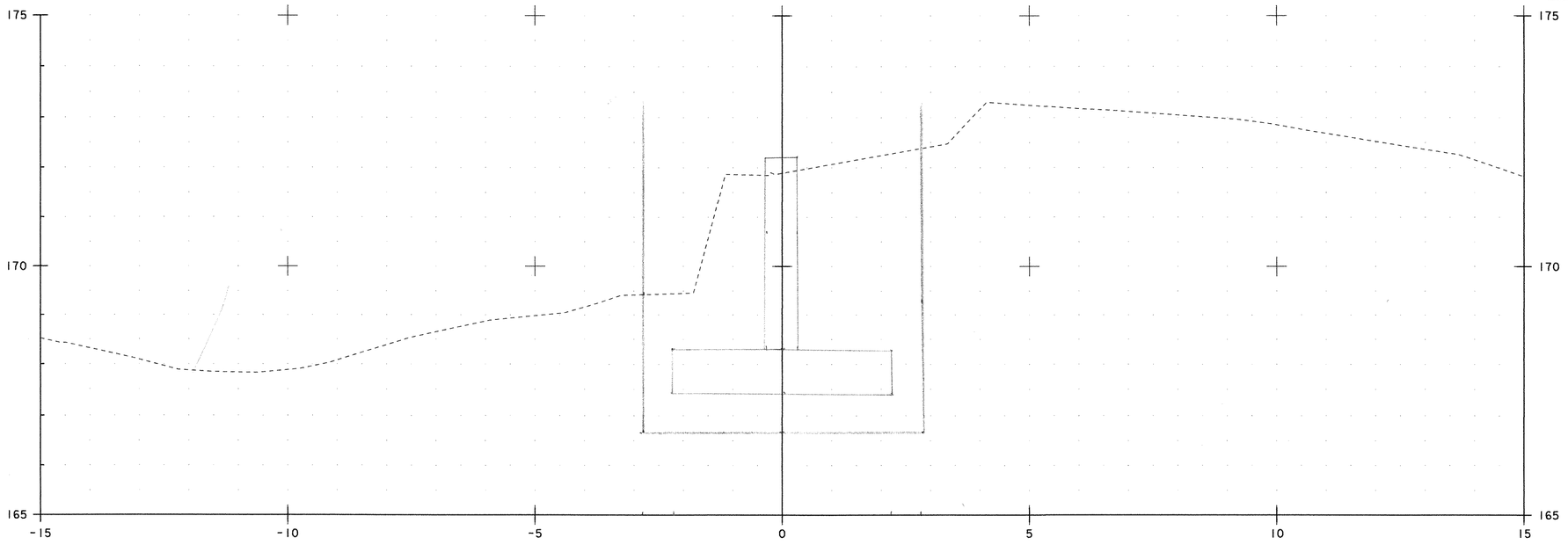
0 1 2 3 4 5

SCALE = 1:50

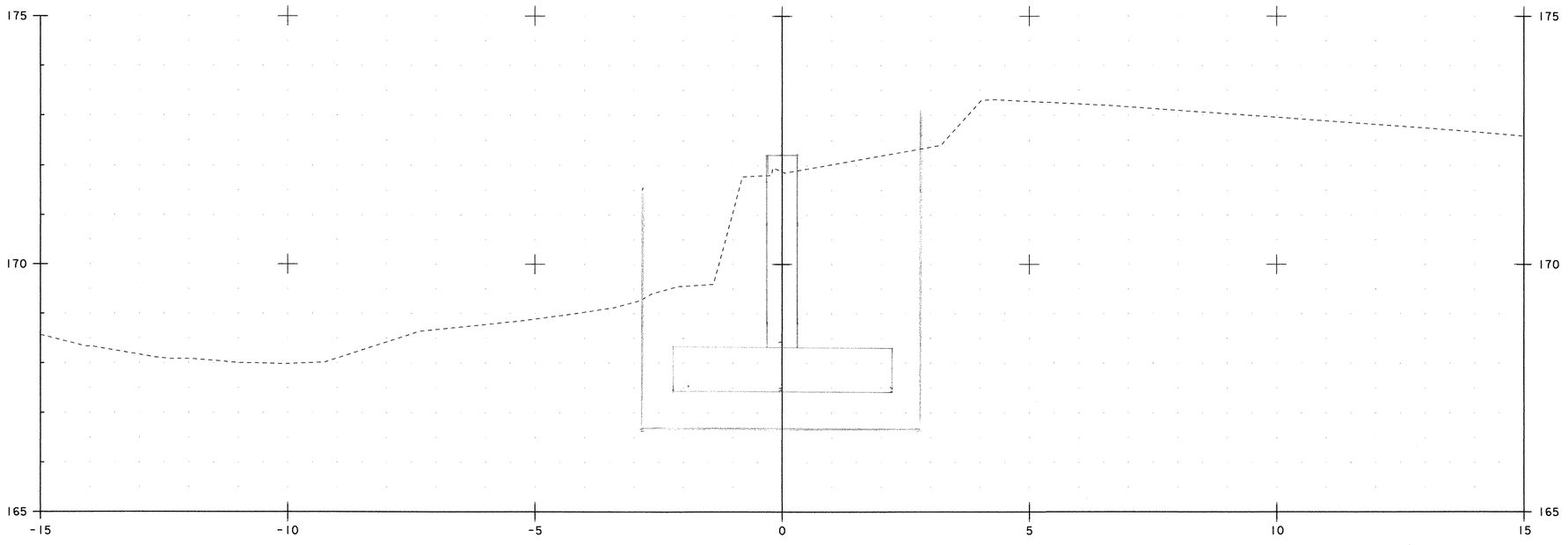
SHEET NAME: ABUTMENT NO. 2 CHANNEL SECTIONS (5)			
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/post bld/sJ084xs.dgn		PLOT DATE:	30-JUN-2006
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ084cx10.i
BRIDGE SHEET NUMBER:		SHEET	10 OF 17

Metric

REDESIGN



20+001.2



19+999.0

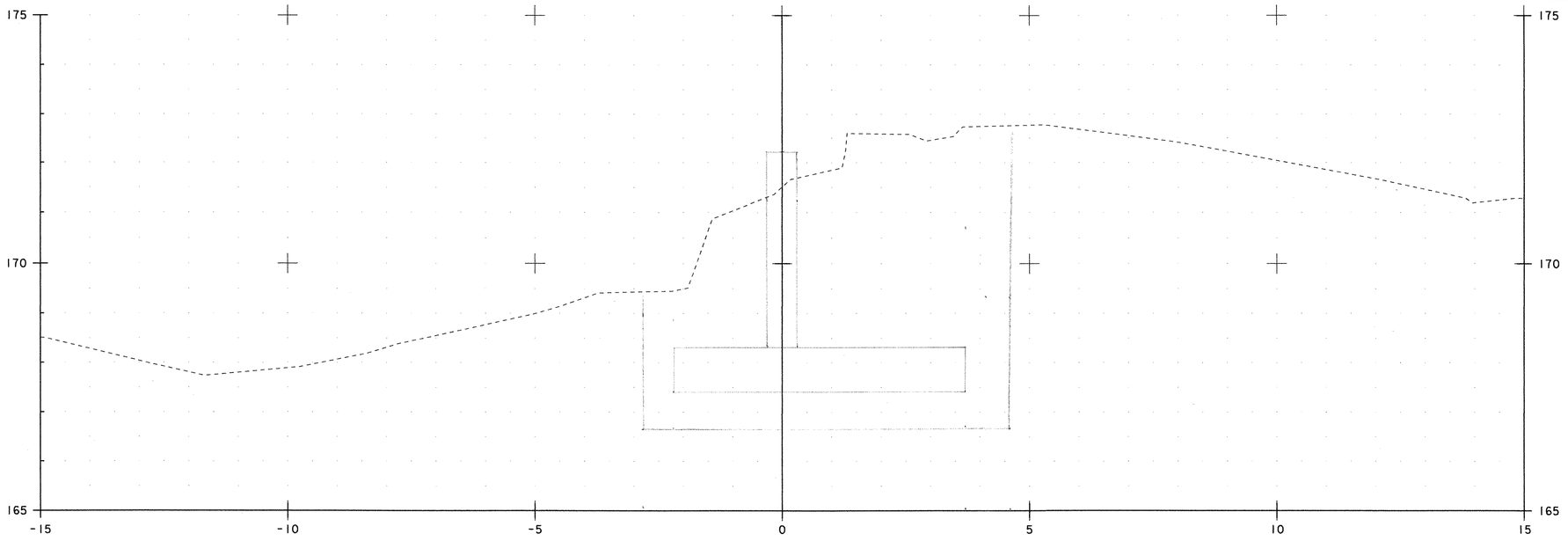
0 1 2 3 4 5

SCALE = 1:50

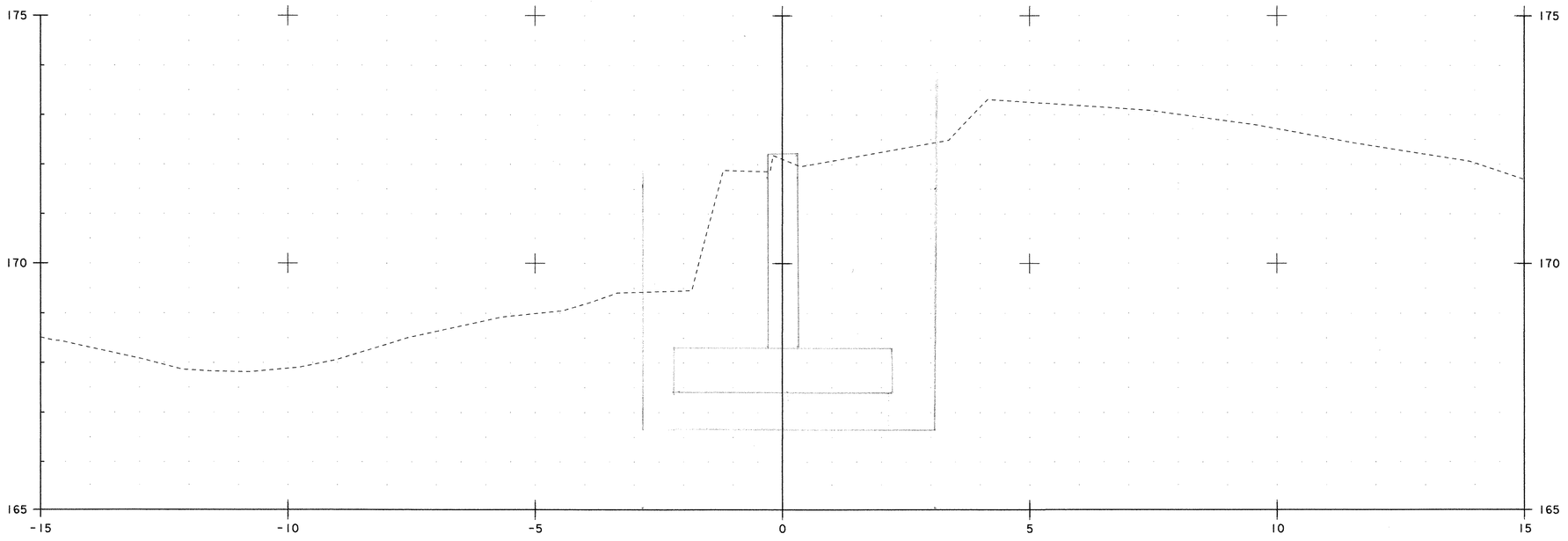
SHEET NAME: ABUTMENT NO. 2 CHANNEL SECTIONS (6)			
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/post bld/sJ084xs.dgn		PLOT DATE:	30-JUN-2006
PROJECT MANAGER: R. WHITCOMB		DRAWN BY:	G. ROY
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ084cx11.i
BRIDGE SHEET NUMBER:		SHEET	11 OF 17

Metric

REDESIGN



20+003.0



20+001.5

0 1 2 3 4 5

SCALE = 1:50

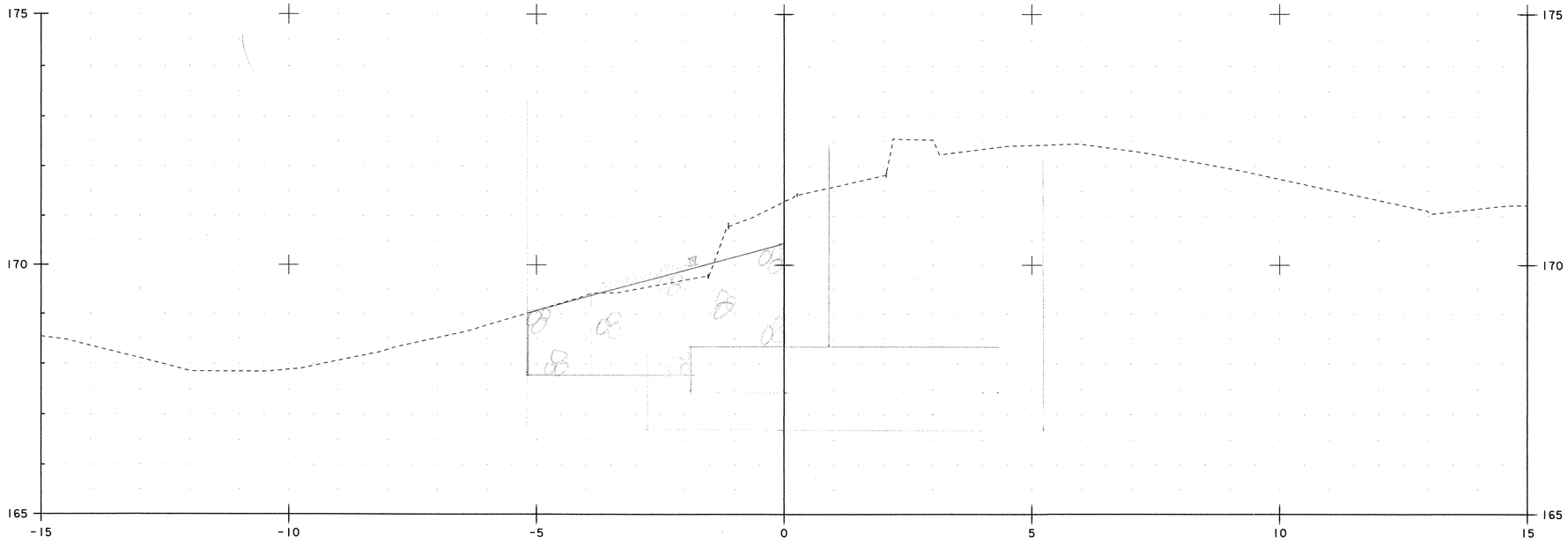
SHEET NAME: ABUTMENT NO. 2 CHANNEL SECTIONS (7)

PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK

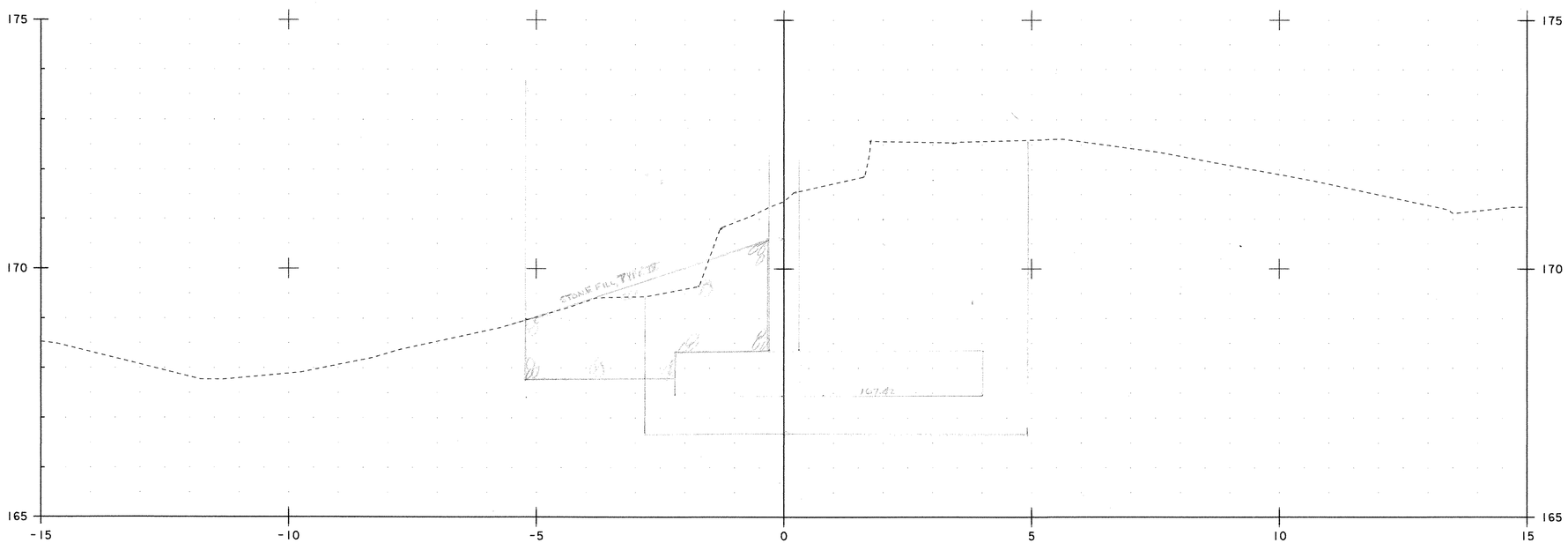
FILE NAME: /PW/94J084/post bid/sj084xs.dgn	PLOT DATE: 30-JUN-2006
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: C. CARLSON	IPARM NAME: sj084cx12.i
BRIDGE SHEET NUMBER:	SHEET 12 OF 17

Metric

REDESIGN



20+003.6



20+003.3

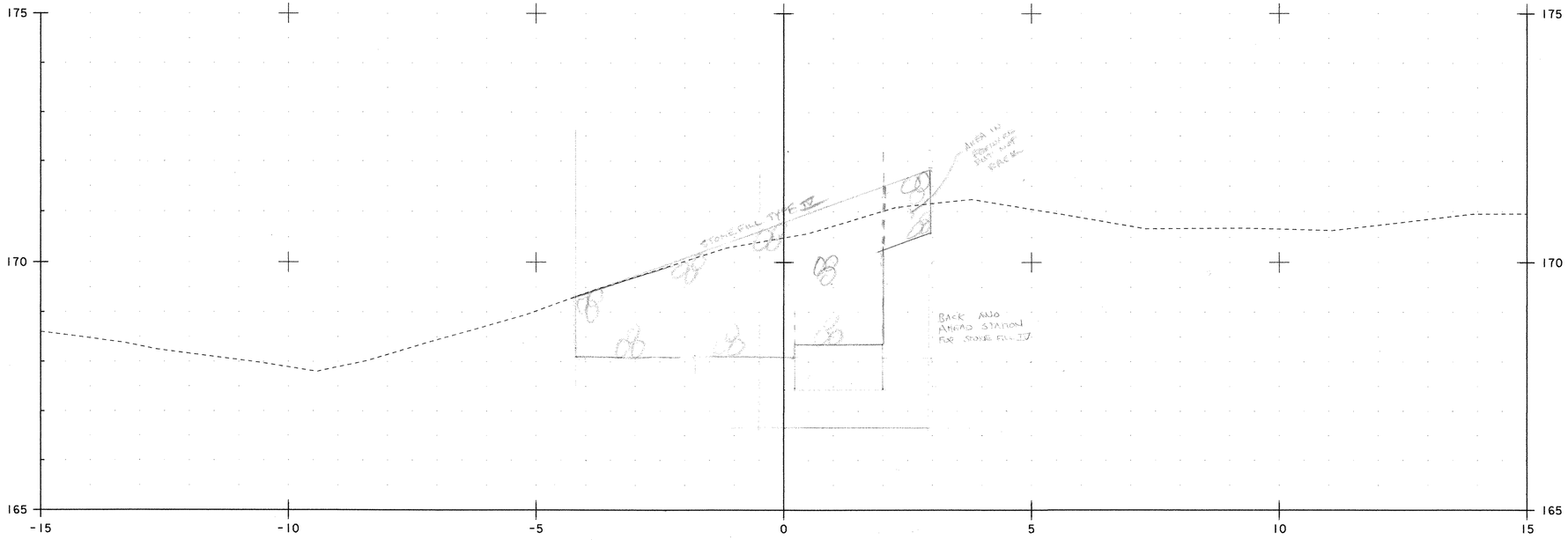
0 1 2 3 4 5

SCALE = 1:50

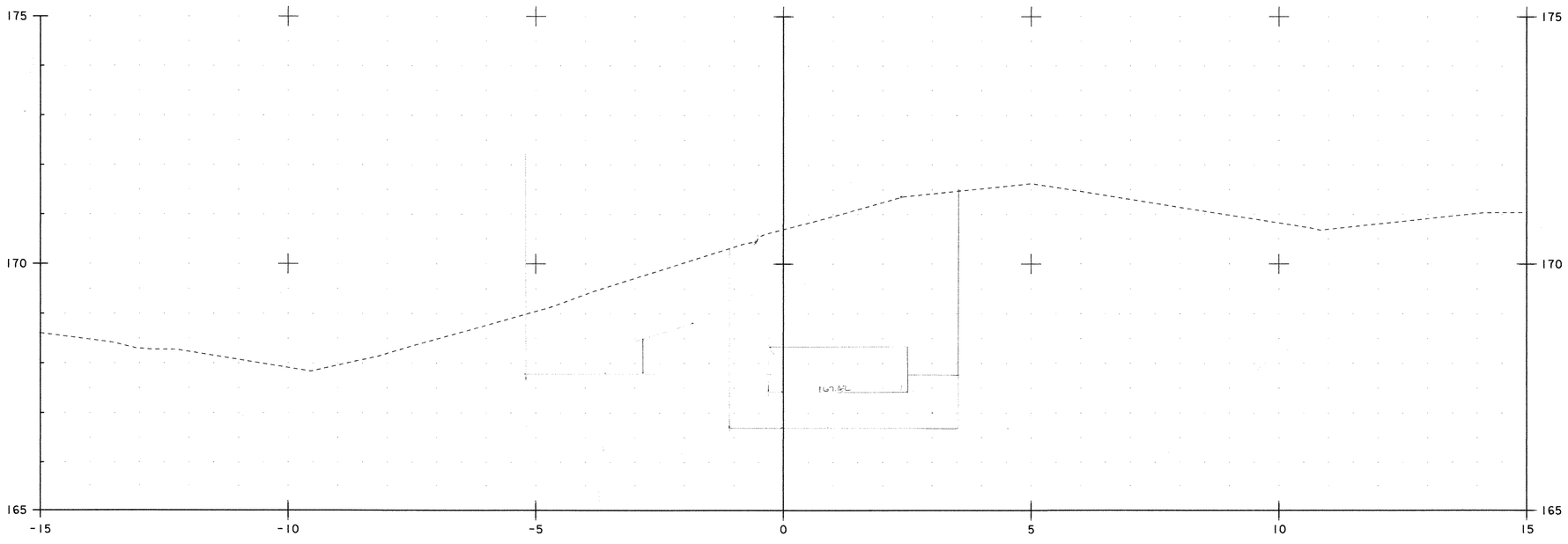
SHEET NAME: ABUTMENT NO. 2 CHANNEL SECTIONS (8)			
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/post bid/sJ084xs.dgn		PLOT DATE:	30-JUN-2006
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	G. ROY
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ084cxl3.i
BRIDGE SHEET NUMBER:		SHEET	13 OF 17

VAOT Metric

REDESIGN



20+005.8

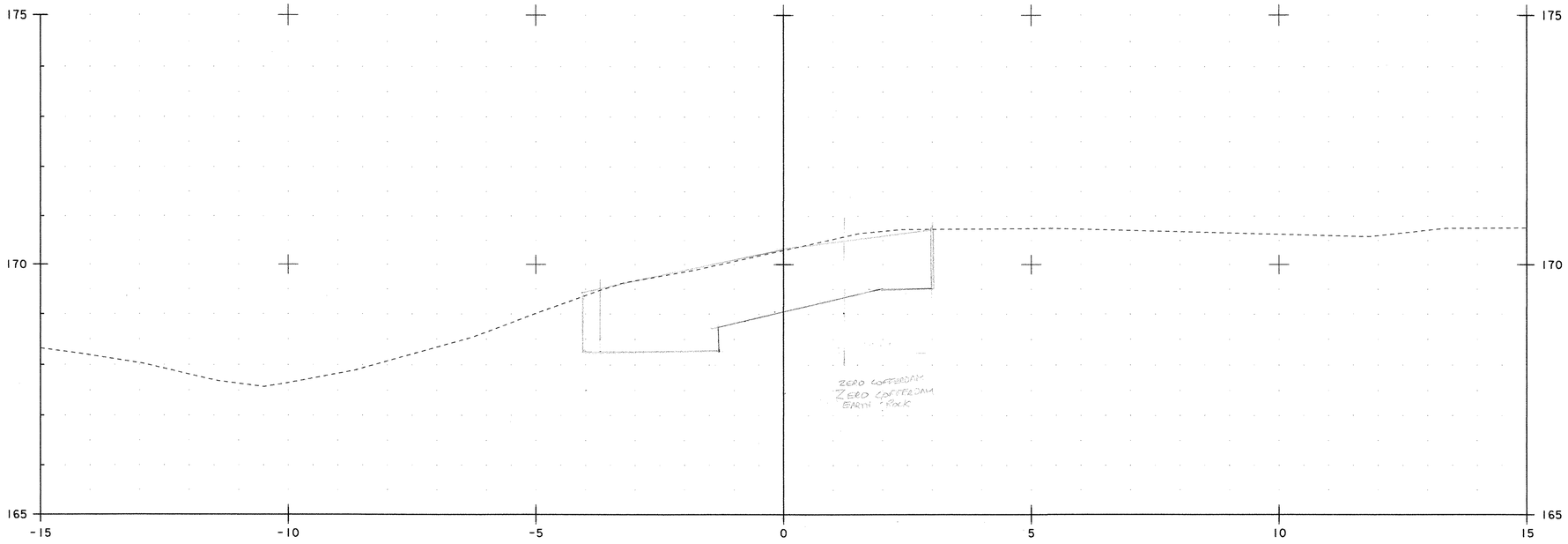


20+005.1

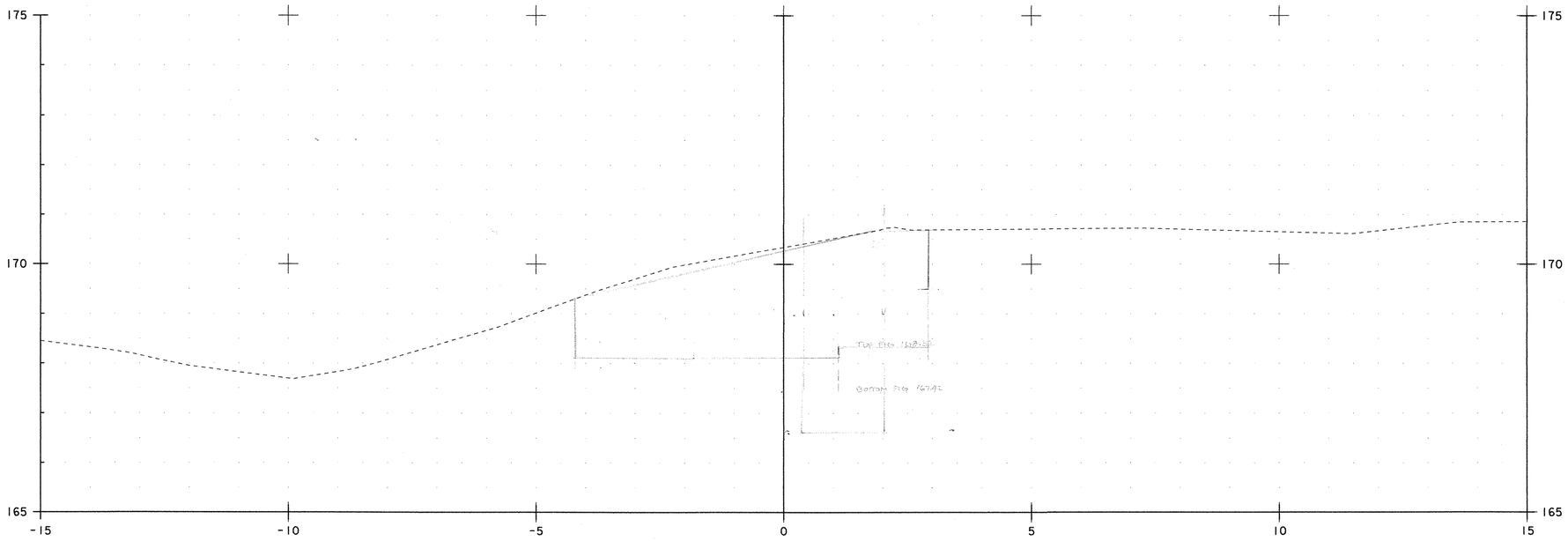
0 1 2 3 4 5

SCALE = 1:50

SHEET NAME: ABUTMENT NO. 2 CHANNEL SECTIONS (9)			
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/post bid/sj084xs.dgn		PLOT DATE:	30-JUN-2006
PROJECT MANAGER: R. WHITCOMB		DRAWN BY:	G. ROY
DESIGNED BY: C. CARLSON		IPARM NAME:	sj084cx14.i
BRIDGE SHEET NUMBER:		SHEET	14 OF 17



20+007.5



20+006.7

0 1 2 3 4 5

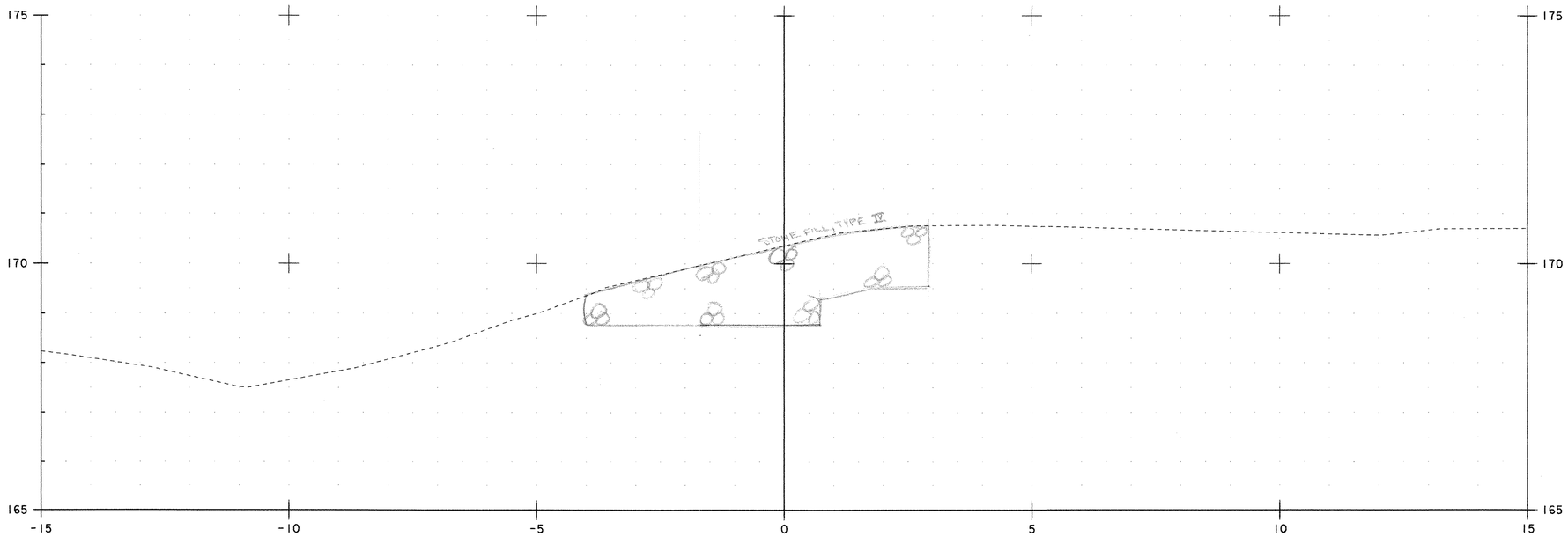
SCALE = 1:50

REDESIGN

SHEET NAME: ABUTMENT NO. 2 CHANNEL SECTIONS (10)			
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/post bld/sJ084xs.dgn		PLOT DATE:	30-JUN-2006
PROJECT MANAGER: R. WHITCOMB		DRAWN BY:	G. ROY
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ084cx15.I
BRIDGE SHEET NUMBER:		SHEET	15 OF 17

VAOT Metric

REDESIGN



20+008.0

0 1 2 3 4 5

SCALE = 1:50

SHEET NAME: ABUTMENT NO. 2 CHANNEL SECTIONS (II)			
PROJECT NAME:	WALLINGFORD	HIGHWAY NO.:	TH 60
PROJECT NUMBER:	BRO 1443(31)	BRIDGE NO.:	50
		OVER:	OTTER CREEK
FILE NAME: /PW/94J084/post bld/sJ084xs.dgn		PLOT DATE:	30-JUN-2006
PROJECT MANAGER: R. WHITCOMB		DRAWN BY:	G. ROY
DESIGNED BY:	C. CARLSON	IPARM NAME:	sJ084cx16.I
BRIDGE SHEET NUMBER:		SHEET	16 OF 17