

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT

TOWN OF CONCORD
COUNTY OF ESSEX

ROUTE NO. US 2 (RURAL PRINCIPAL ARTERIAL), BRIDGE NO. 117

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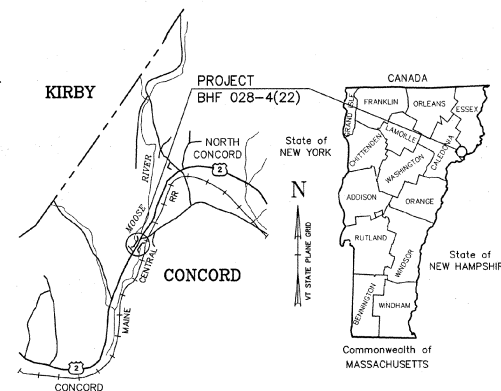
STANDARDS

A-76M	06-13-97	E-102AM	06-13-97	E-193M	06-13-97
B-5M	06-13-97	E-106M	06-13-97	G-1M	06-13-97
B-71M	06-13-97	E-107M	06-13-97	G-10M	06-13-97
BR1-97M	08-06-98	E-107AM	06-13-97	G-4M	06-13-97
BR2-97M	08-06-98	E-108M	06-13-97	G-18M	06-13-97
C-1M	06-13-97	E-121M	06-13-97	G-18AM	07-10-97
D-3M	06-13-97	E-140M	06-13-97	G-19M	10-21-98
D-4M	06-13-97	E-150M	06-13-97	T-1M	06-13-97
D-16M	06-13-97	E-160M	06-13-97	T-2M	06-13-97
E-100M	06-13-97	E-164M	06-13-97		
E-101M	06-13-97	E-175M	06-13-97		
E-102M	06-13-97	E-191M	06-13-97		

PROJECT LOCATION: BEGINNING AT A POINT ON US ROUTE 2, 6.86 km NORTHEAST OF THE KIRBY - CONCORD TOWN LINE AND EXTENDING NORTHEAST 0.11 km.

PROJECT DESCRIPTION: REMOVAL OF EXISTING SUPERSTRUCTURE, CONSTRUCTION OF A NEW STEEL BEAM, CONCRETE DECK SUPERSTRUCTURE, REHABILITATION OF SUBSTRUCTURE AND RELATED ROADWAY WORK.

LENGTH OF STRUCTURE: 73.420 m
LENGTH OF ROADWAY: 31.580 m
LENGTH OF PROJECT: 105.000 m



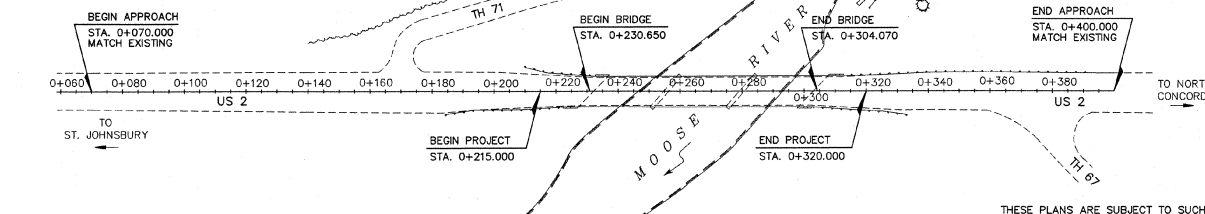
LOCATION MAP

RECORD PLANS

CONTRACTOR:	BECK AND BELLUCCI INC. - FRANKLIN N.H.
RESIDENT ENGINEER:	R. CLARK
CONSTRUCTION BEGAN:	FEBRUARY 24, 2000
CONSTRUCTION COMPLETE:	JANUARY 21, 2002
RECORD PLANS BY:	R. RICHIET
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.	
BY:	<i>[Signature]</i> RESIDENT ENGINEER
DATE:	6-30-03
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found on microfilm in Central Files.	

CONVENTIONAL SIGNS

---	COUNTY LINE
---	TOWN LINE
---	LIMITS OF ACCESS
X	POINT OF ACCESS
---	FENCE LINE
---	STONE WALL
---	TRAVELED WAY
---	GUARD RAIL
---	RAILROAD
---	SURVEY LINE
---	CULVERT
+	UTILITY POLE
+	TREES
---	CONTROL OF ACCESS
---	PROPERTY LINE
---	R.O.W.
---	SLOPE RIGHTS
---	TOP OF CUT
---	TOE OF CONST. SLOPE



10 0 10 20 30 40 50
SCALE IN METERS
1:750

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

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

VANASSE HANGEN BRUSTLIN, INC.



Metric

UNLESS OTHERWISE NOTED, ALL STATIONS ARE IN KILOMETERS, AND ALL ELEVATIONS ARE IN METERS, AND ALL DIMENSIONS ARE IN MILLIMETERS

APPROVED: *[Signature]* DATE: 4/4/99
DIRECTOR OF PROJECT DEVELOPMENT

PROJECT: CONCORD
BHF 028-4(22)
SHEET 1 OF 50 SHEETS

936067/sb06744

PLOTTED 10-27-99

ITEM NO.	ITEM DESCRIPTION	UNIT	ROADWAY	CHANNEL	SUPER- STRUCTURE	APPROACH SLAB 1	ABUTMENT NO.1	PIER NO.1	PIER NO.2	ABUTMENT NO.2	APPROACH SLAB 2	EROSION CONTROL	TRAINING	FULL E&C	TOTAL	FINAL
203.15	COMMON EXCAVATION	M ³	2895												2895	
203.31	SAND BORROW	M ³	1870												1870	
204.20	TRENCH EXCAVATION OF EARTH	M ³	60									30			90	
204.21	TRENCH EXCAVATION OF ROCK	M ³	1												1	
204.25	STRUCTURE EXCAVATION	M ³					42			28					70	
204.30	GRANULAR BACKFILL FOR STRUCTURES	M ³					35			22					57	
210.10	COLD PLANING - BITUMINOUS PAVEMENT	M ²	920												920	
301.35	SUBBASE OF DENSE GRADED CRUSHED STONE	M ³	1560									140			1700	
404.65	EMULSIFIED ASPHALT	KG	330		50	5					5				390	
406.25	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	T	1230		121 *	13 *					13 *				1377	
501.22	CONCRETE, CLASS A	M ³			300										300	
501.25	CONCRETE, CLASS B	M ³				34	44	27	24	12	34				175	
501.60	SILICA-FUME CONCRETE	M ³			30		2								32	
506.65	STRUCTURAL STEEL (ROLLED BEAM) (.107650 KG)	LS			1										1	
506.80	DRAIN TROUGH	M			16										16	
507.15	REINFORCING STEEL	KG					1830	2240	2240	580					6890	
507.16	DRILLING & GROUTING DOWELS	M					22	6	6	7					41	
507.17	EPOXY COATED REINFORCING STEEL	KG			34050	2750	150			170	2710				39830	
508.15	SHEAR CONNECTORS (.3510 - 22 mm x 180 mm)	LS			1										1	
513.25	STRUCTURAL PAINTING, SHOP APPLIED	LS			1										1	
513.40	SURFACE PREPARATION, SHOP	LS			1										1	
514.10	WATER REPELLENT	L			112		18	40	40	10					220	
516.10	BRIDGE EXPANSION JOINT	M			16										16	
519.20	SHEET MEMBRANE WATERPROOFING	M ²			727	76					76				879	
525.33	BRIDGE RAILING - NETC 2 RAIL	M			188										188	
528.11	TWO-WAY TEMPORARY BRIDGE	LS	1												1	
529.10	REMOVAL OF BRIDGE PAVEMENT	M ²			680										680	
529.20	PARTIAL REMOVAL OF STRUCTURE	EA			0.60		0.15	0.05	0.05	0.15					1	
531.10	BEARING DEVICE ASSEMBLY	EA					5	5	5						20	
580.13	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I	M ²						1	1						2	
580.14	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	M ²						5	5						10	
580.15	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS III	M ³						1	1						2	
** BEGIN OPTION **																
601.0005	300 mm CSP 1.63 mm (68 mm x 12 mm)	M	10												10	
601.0205	300 mm CAAP 1.52 mm (68 mm x 12 mm)	M	10												10	
** END OPTION **																
** BEGIN OPTION **																
601.0215	450 mm CAAP 1.52 mm (68 mm x 12 mm)	M	18												18	
601.0415	450 mm PCCSP 1.63 mm (68 mm x 12 mm)	M	18												18	
601.0815	450 mm RCP, CLASS III	M	18												18	
** END OPTION **																
601.0825	600 mm RCP, CLASS III	M	4												4	
** BEGIN OPTION **																
601.5005	300 mm CSP ELBOW 1.63 mm (68 mm x 12 mm)	EA	2												2	
601.5205	300 mm CAAP ELBOW 1.52 mm (68 mm x 12 mm)	EA	2												2	
** END OPTION **																
601.6825	600 mm RCPES, CLASS III	EA	1												1	
604.30	PRC CURB DROP INLET W/CAST IRON GRATE	EA	2												2	
608.25	ALL PURPOSE EXCAVATOR RENTAL, TYPE I (N.A.B.I.)	HR										1			1	
608.26	ALL PURPOSE EXCAVATOR RENTAL, TYPE II (N.A.B.I.)	HR	1												1	
608.37	TRUCK RENTAL (N.A.B.I.)	HR	1												1	
608.41	LOADER RENTAL, TYPE II (N.A.B.I.)	HR	1												1	
613.10	STONE FILL, TYPE I	M ³	20									15			35	
613.11	STONE FILL, TYPE II	M ³		100											100	
616.35	TREATED TIMBER CURB	M	9												9	
619.17	YIELDING MARKER POST	EA	4												4	
621.21	HEAVY DUTY STEEL BEAM GUARD RAIL	M	153												153	

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

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
QUANTITY SHEET (1 OF 2)			
Designed By	M.A. COLGAN	Drawn By	C.S. MERCER
Checked By	C.R. WILSON	Bridge Design Supervisor	S.M. GUNN
Date	9/99	Date	9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)

VANASSE HANGEN BRUSTLIN, INC.

I.G.C. Info. 93b067/9b067g3.1
Bridge Sheet No. 50541QNT

Sheet 3 of 50

ITEM NO.	ITEM DESCRIPTION	UNIT	ROADWAY	CHANNEL	SUPER- STRUCTURE	APPROACH SLAB 1	ABUTMENT NO.1	PIER NO.1	PIER NO.2	ABUTMENT NO.2	APPROACH SLAB 2	EROSION CONTROL	TRAINING	FULL E&C	TOTAL	FINAL
621.505	MANUFACTURED TERMINAL SECTION	EA	3												3	
621.72	GUARD RAIL APPROACH SECTION, NETC 2 RAIL	EA	4												4	
621.80	REMOVAL AND DISPOSAL OF GUARD RAIL	M	179												179	
630.10	UNIFORMED TRAFFIC OFFICERS	HR	100												100	
630.15	FLAGGERS	HR	200												200	
631.10	FIELD OFFICE - ENGINEERS	LS														
631.16	TESTING EQUIPMENT - CONCRETE	LS												1	1	
631.17	TESTING EQUIPMENT - BITUMINOUS	LS												1	1	
631.25	FIELD OFFICE - TELEPHONE (N.A.B.I.)	LU												1	1	
634.10	EMPLOYEE TRAINEESHIP	HR												1	1	
635.10	MOBILIZATION	LS	1										520		520	
641.10	TRAFFIC CONTROL	LS	1												1	
641.15	PORTABLE CHANGEABLE MESSAGE SIGN	LS	2												1	
646.40	DURABLE 100 mm WHITE LINE	M	1348												2	
646.41	DURABLE 100 mm YELLOW LINE	M	1238												1348	
646.46	DURABLE 600 mm STOP BAR	M	15												1238	
646.50	DURABLE LETTER OR SYMBOL	EA	8												15	
646.60	TEMPORARY 100 mm WHITE LINE	M	700												8	
646.61	TEMPORARY 100 mm YELLOW LINE	M	650												700	
646.66	TEMPORARY 600 mm STOP BAR	M	8												650	
646.76	LINE STRIPING TARGETS	EA	185												8	
646.85	REMOVAL OF EXISTING PAVEMENT MARKINGS	SM	50												185	
649.31	GEOTEXTILE UNDER STONE FILL	M ²		140											50	
649.51	GEOTEXTILE FOR SILT FENCE	M ²										1050			140	
651.15	SEED	KG										50			1050	
651.18	FERTILIZER	KG										350			50	
651.20	AGRICULTURAL LIMESTONE	T										2			350	
651.25	HAY MULCH	T										2			2	
651.26	HAY BALES FOR EROSION CONTROL	EA										30			2	
651.35	TOPSOIL	M ³										310			30	
651.40	GRUBBING MATERIAL	M ²										115			310	
654.10	EROSION MATTING	M ²										60			115	
675.20	TRAFFIC SIGNS, TYPE A	M ²	1												60	
675.50	REMOVING SIGNS	EA	11												1	
675.60	ERECTING SALVAGED SIGNS	EA	11												11	
* * BEGIN OPTION * *																
675.301	FLANGED CHANNEL SIGN POSTS	M	42												42	
675.341	SQUARE TUBE STEEL POST AND ANCHOR		42												42	
* * END OPTION * *																
678.41	TEMPORARY FLASHING BEACON	EA	4												4	

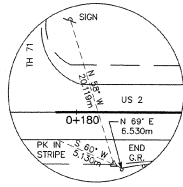
N.A.B.I. = NOT A BID ITEM

EARTHWORK SUMMARY		
DESCRIPTION	UNIT	TOTAL
FILL REQUIRED:		
PLANIMETERED FILL	M ³	100
FILL FACTOR (0.15)	M ³	15
FACTORED FILL	M ³	115
MATERIAL AVAILABLE FOR FILL:		
COMMON EXCAVATION (x 1.0)	M ³	2895
TOTAL MATERIAL AVAILABLE FOR FILL		
LESS FACTORED FILL	M ³	2895
BORROW	M ³	0
EXCESS FILL	M ³	2780

TEMPORARY EROSION CONTROL (INCLUDED UNDER EROSION CONTROL)			
ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
204.20	TRENCH EXCAVATION OF EARTH	M ³	30
301.35	SUBBASE OF DENSE GRADED CRUSHED STONE	M ³	140
608.25	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	HR	1
613.10	STONE FILL, TYPE I	M ³	15
649.51	GEOTEXTILE FOR SILT FENCE	M ²	1050
651.15	SEED	KG	5
651.26	HAY BALES FOR EROSION CONTROL	EA	30
654.10	EROSION MATTING	M ²	60

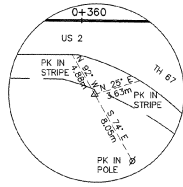
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
QUANTITY SHEET (2 OF 2)			
Designed By	M.A. COLGAN	Drawn By	C.S. MERCER
Checked By	C.R. WILSON	Bridge Design Supervisor	S.M. GUNN
Date	9/99	Date	9/99
PROJECT	CONCORD	PROJECT NO.	BHF 02B-4(22)
I.G.C. Info.	936067/550679.52		
Bridge Sheet No.	50541QNT	Sheet	4 of 50



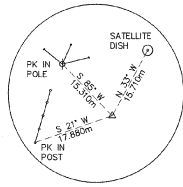
TR #1
REBAR & CAP
NORTHING = 217229.987
EASTING = 550159.605
ELEVATION = 295.758

TR #1
N.T.S.



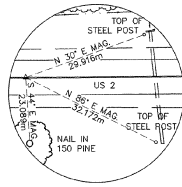
TR #2
REBAR & CAP
NORTHING = 217382.248
EASTING = 550254.054
ELEVATION = 296.744

TR #2
N.T.S.



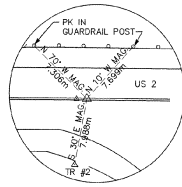
TR #3
REBAR & CAP
NORTHING = 217345.294
EASTING = 550170.630
ELEVATION = 296.042

TR #3
N.T.S.



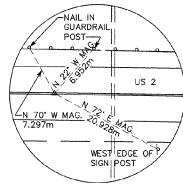
STA 0+105.000
PK SET
NORTHING = 217166.924
EASTING = 550112.711

POT STA. 0+105.000
N.T.S.



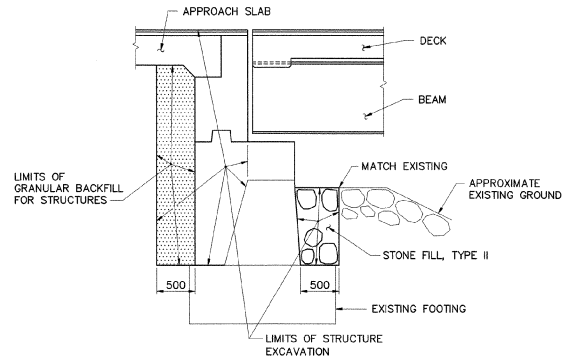
STA 0+363.904
PK SET
NORTHING = 217387.595
EASTING = 550248.119

PC STA. 0+363.904
N.T.S.

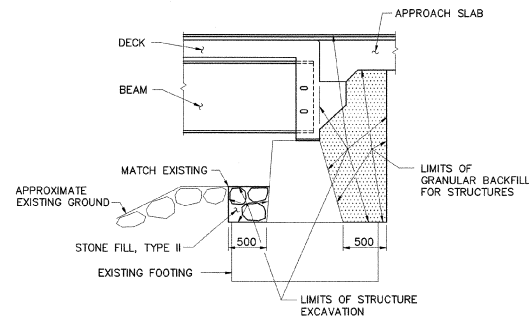


STA 0+400.000
PK SET
NORTHING = 217418.162
EASTING = 550267.314

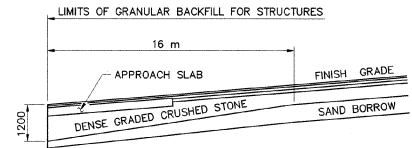
POC STA. 0+400.000
N.T.S.



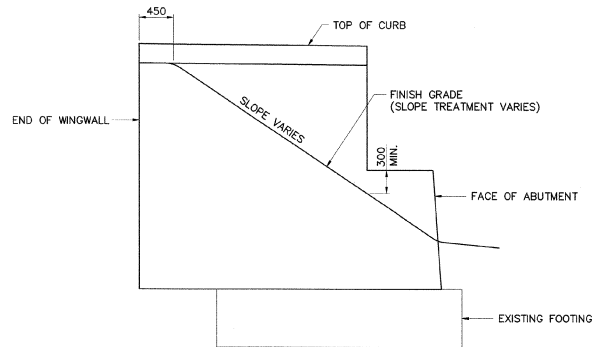
ABUTMENT NO. 1 EARTHWORK TYPICAL
N.T.S.



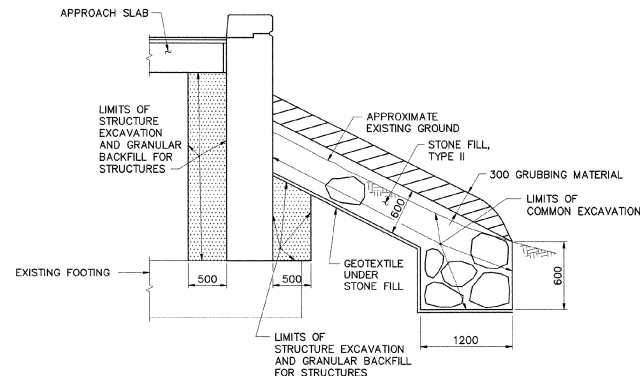
ABUTMENT NO. 2 EARTHWORK TYPICAL
N.T.S.



SUBBASE DETAIL AT ABUTMENTS
(ELEVATION IN CUT AND FILL)
N.T.S.



WINGWALL GRADING TYPICAL
N.T.S.



WINGWALL EARTHWORK TYPICAL
N.T.S.

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83-92

STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
TIE SHEET AND TYPICAL DETAILS			
Designed By	EIV/M.A. COLGAN	Drawn By	R.F. CLARK
Checked By	S.M.G./M.A.C.	Bridge Design Supervisor	S.M. GUNN
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info.	93b067/9b067typ		
Bridge Sheet No.	50541TE	Sheet	5 of 50

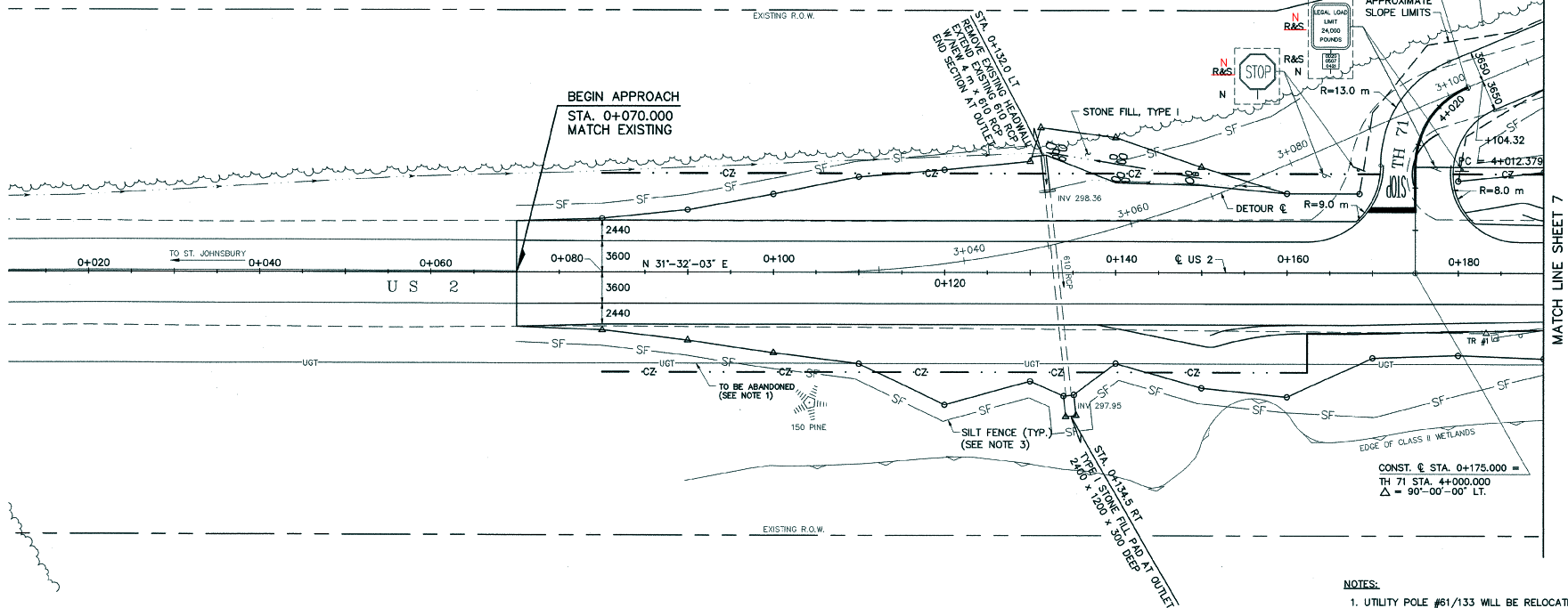
EXISTING LEGEND

- EXISTING GUARDRAIL
- TREELINE
- OHW — OVERHEAD UTILITY
- UGT — UNDERGROUND TELEPHONE
- CENTERLINE DITCH
- CULVERT
- UTILITY POLE W/GUY
- SIGN
- TELEPHONE MARKER
- TR #1 — TRAVERSE POINT

TH 71 CURVE INFO

Δ = 67°03'01"
R = 10.000 m
T = 6.625 m
L = 11.703 m
E = 1.996 m

DETOUR @ STA. P.O.T. 3+102.420 =
TH 71 P.T. STA. 4+024.082



MATCH LINE SHEET 7

CONSTRUCTION NOTES

REMOVAL AND DISPOSAL OF GUARD RAIL
STA. 0+184.4 - 0+190.0 RT.

HEAVY DUTY STEEL BEAM GUARD RAIL
STA. 0+162.4 - 0+190.0 RT.

MANUFACTURED TERMINAL SECTION
STA. 0+151.1 - 0+162.4 RT.

COLD PLANING BIT CONCRETE PAVEMENT
STA. 0+070.0 - 0+085.0

YIELDING MARKER POSTS
STA. 0+133.0 LT. & RT.

REMOVE & RESET SIGN
STA. 4+012.1 LT.
STA. 4+012.1 RT.

DURABLE 100 mm WHITE LINE
STA. 0+070.0 - 0+190.0 RT.
STA. 0+070.0 - 0+171.2 LT.
STA. 0+179.1 - 0+190.0 LT.

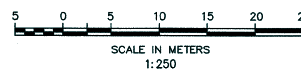
DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
STA. 0+070.0 - 0+163.0
STA. 0+187.0 - 0+190.0
STA. 0+175.0 - 0+181.0 LT. (TH 71)

DURABLE 600 mm STOP BAR
STA. 0+169.5 - 0+175.0 LT.

DURABLE LETTER OR SYMBOL = "STOP"
TH 71 STA. 4+010.0 LT.

SHOULDER TAPERS
0+170.0 LT. (2400 mm) TO 0+220.0 LT. (1500 mm)
0+170.0 RT. (2400 mm) TO 0+220.0 RT. (1500 mm)
0+320.0 LT. (1500 mm) TO 0+370.0 LT. (2440 mm)
0+320.0 RT. (1500 mm) TO 0+350.0 RT. (2100 mm)

PLAN
SCALE: 1:250



SIGN LEGEND

N = NEW
R = REMOVE
RET. = RETAIN
R&S = REMOVE & SALVAGE

NOTES:

- UTILITY POLE #61/133 WILL BE RELOCATED AND OVERHEAD WIRES WILL BE REMOVED FROM POLE #177A/201 TO POLE #203/1 PRIOR TO COMMENCEMENT OF WORK.
- SEE DETOUR SHEET FOR DETOUR ALIGNMENT.
- SEE SHEET 13 FOR TEMPORARY EROSION CONTROL.

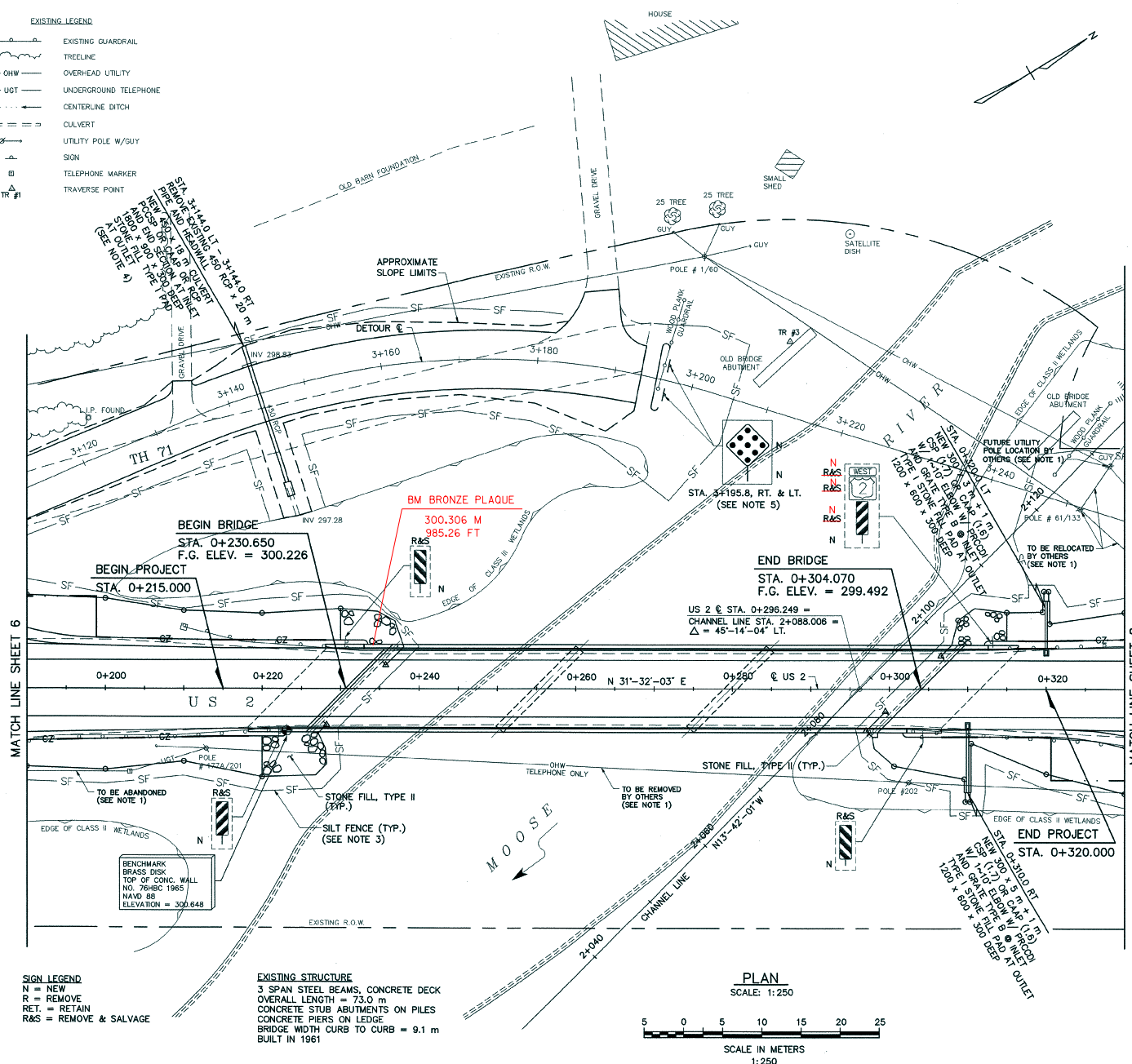
**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
PLAN (1 OF 3)			
Designed By	S. GUNN/R. CLARK	Drawn By	R.F. CLARK
Checked By	S.M. GUNN	Date	9/99
		Bridge Design Supervisor	S.M. GUNN
		Date	9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info.	936067/sb067p11		
Bridge Sheet No.	50541PLN	Sheet	6 of 50

VANASSE HANGEN BRUSTLIN, INC.

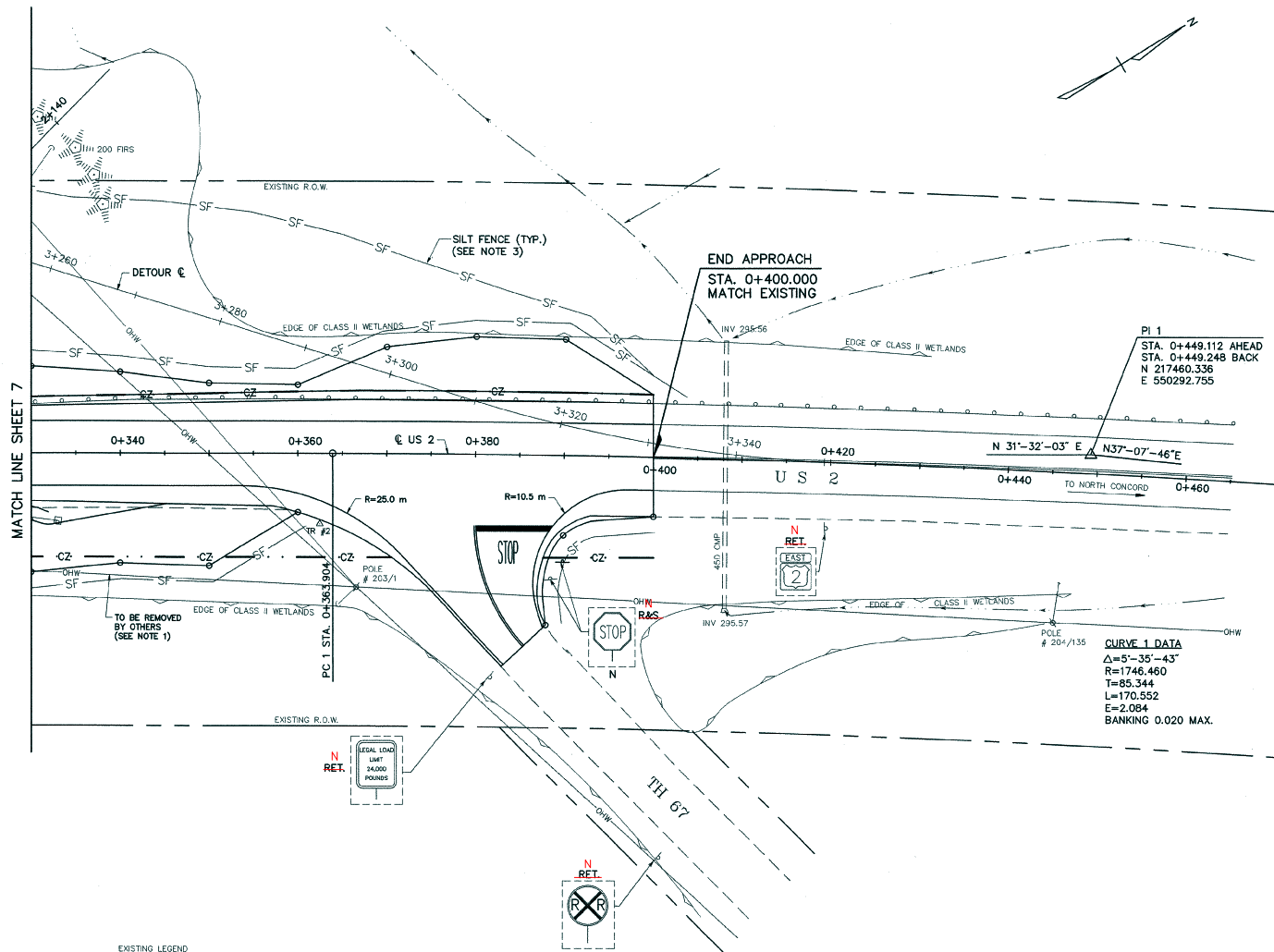
EXISTING LEGEND

- EXISTING GUARDRAIL
- TREELINE
- OVERHEAD UTILITY
- UGT UNDERGROUND TELEPHONE
- CENTERLINE DITCH
- CULVERT
- UTILITY POLE W/GUY
- SIGN
- TELEPHONE MARKER
- TRAVERSE POINT



STATE OF VERMONT AGENCY OF TRANSPORTATION

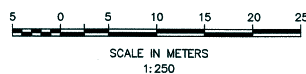
Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
PLAN (2 OF 3)			
Designed By	S. GUNN/R. CLARK	Drawn By	R.F. CLARK
Checked By	S.M. GUNN	Bridge Design Supervisor	
Date	9/99	Date	9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info.	93b067/sb067p12		
Bridge Sheet No.	50541PLN	Sheet 7 of 50	



EXISTING LEGEND

- EXISTING GUARDRAIL
- TREELINE
- OHW OVERHEAD UTILITY
- UGT UNDERGROUND TELEPHONE
- CENTERLINE DITCH
- CULVERT
- UTILITY POLE W/ GUY
- SIGN
- TELEPHONE MARKER
- TRAVERSE POINT

PLAN
SCALE: 1:250



SIGN LEGEND
N = NEW
R = REMOVE
RET. = RETAIN
R&S = REMOVE & SALVAGE

CONSTRUCTION NOTES

REMOVAL AND DISPOSAL OF GUARD RAIL
STA. 0+330.0 - 0+400.0 LT.
STA. 0+330.0 - 0+333.0 RT.

HEAVY DUTY STEEL BEAM GUARD RAIL
STA. 0+330.0 - 0+400.0 LT.

COLD PLANING BIT CONCRETE PAVEMENT
STA. 0+360.0 - 0+400.0

DURABLE 100 mm WHITE LINE
STA. 0+330.0 - 0+400.0 LT.
STA. 0+330.0 - 0+383.3 RT.
STA. 0+387.8 - 0+400.0 RT.

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
STA. 0+330.0 - 0+368.0
STA. 0+382.0 - 0+400.0

REMOVE & RESET SIGN
0+390.0 RT.

DURABLE 600 mm STOP BAR
0+380.0 - 0+388.8 RT.

DURABLE LETTER OR SYMBOL = "STOP"
STA. 0+383.6 RT.

SHOULDER TAPERS

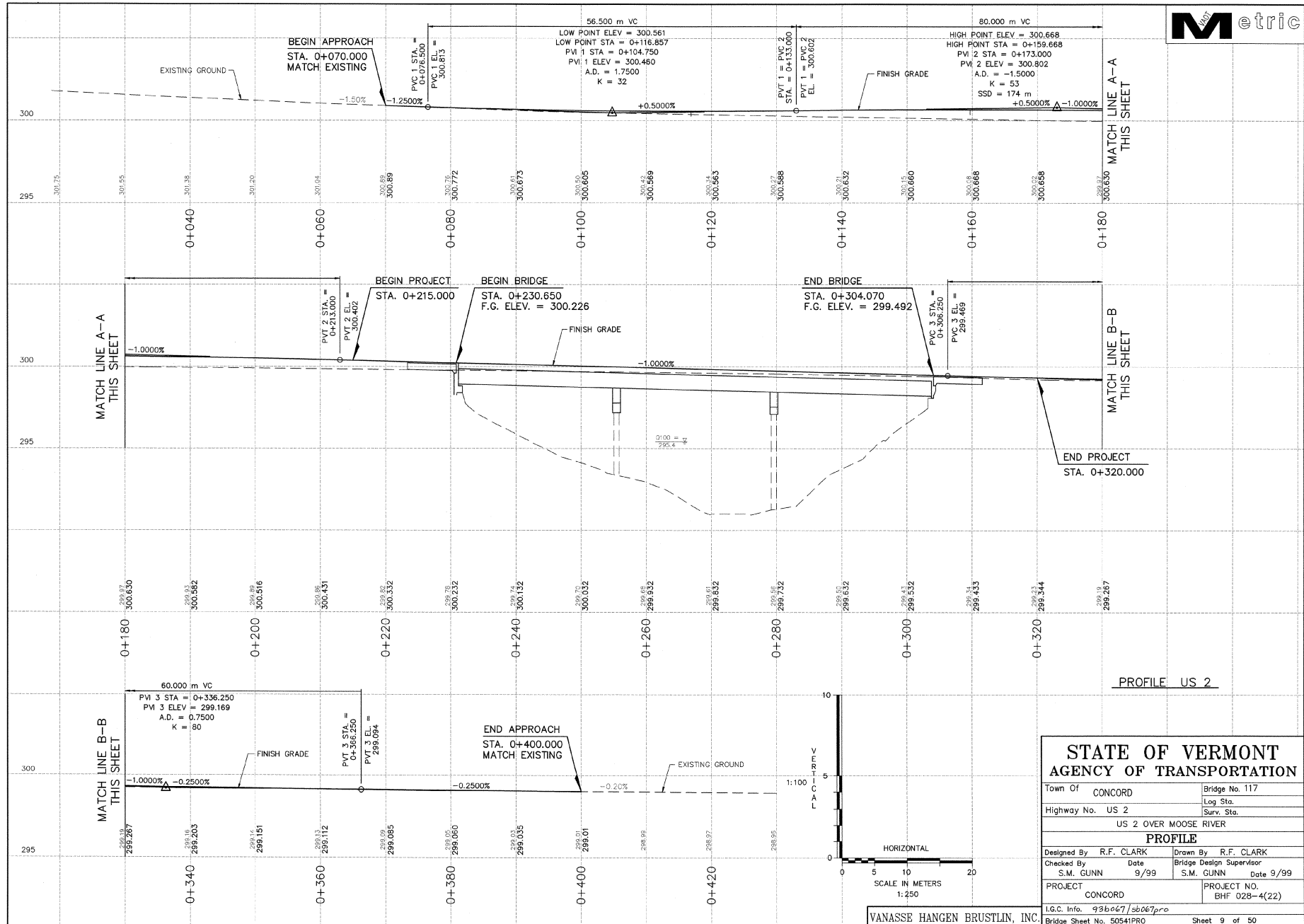
0+170.0 LT. (2400 mm) TO 0+220.0 LT. (1500 mm)
0+170.0 RT. (2400 mm) TO 0+220.0 RT. (1500 mm)
0+320.0 LT. (1500 mm) TO 0+370.0 LT. (2440 mm)
0+320.0 RT. (1500 mm) TO 0+350.0 RT. (2100 mm)

NOTES:

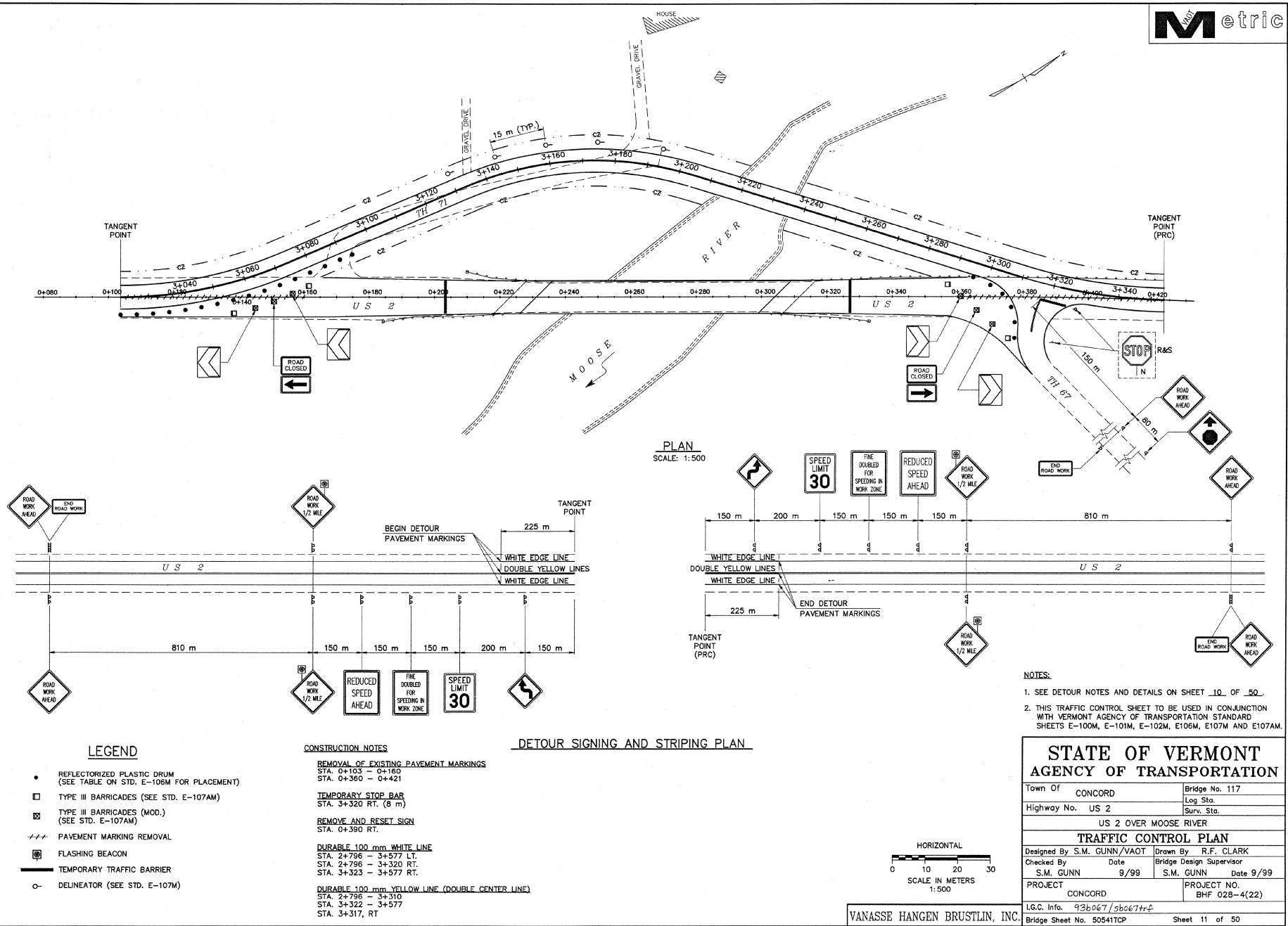
- UTILITY POLE #61/133 WILL BE RELOCATED AND OVERHEAD WIRES WILL BE REMOVED FROM POLE #177A/201 TO POLE #203/1 PRIOR TO COMMENCEMENT OF WORK.
- SEE DETOUR SHEET FOR DETOUR ALIGNMENT.
- SEE SHEET 13 FOR TEMPORARY EROSION CONTROL.
- THE 40 mm COLD PLANE AREA IS TO ENCOMPASS THE MAINLINE ROADWAY AND SHOULDERS AS WELL AS THE TH 67 AREA WITHIN THE LIMITS PROVIDED ON THE COLD PLANING DETAIL. THE 60 mm COLD PLANE AREA IS TO BE ONLY THE MAINLINE ROADWAY AND SHOULDERS.

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

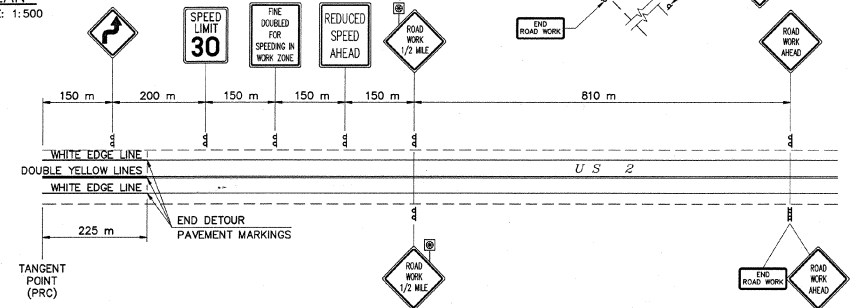
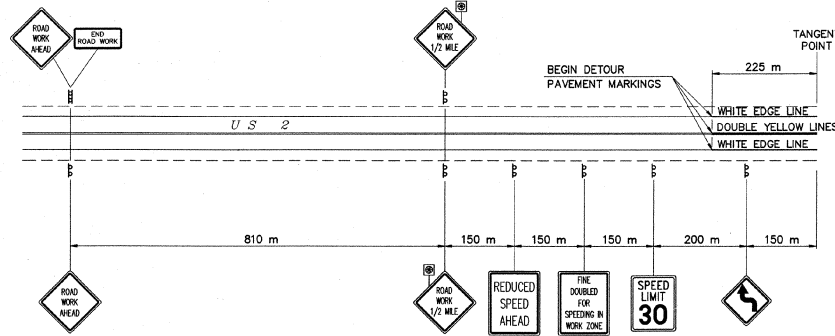
Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
PLAN (3 OF 3)			
Designed By	S. GUNN/R. CLARK	Drawn By	R.F. CLARK
Checked By	S.M. GUNN	Date	9/99
		Bridge Design Supervisor	S.M. GUNN Date 9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info. 936067/sb067p13		Sheet 8 of 50	
Bridge Sheet No. 50541PLN			



STATE OF VERMONT			
AGENCY OF TRANSPORTATION			
Town Of CONCORD		Bridge No. 117	
Highway No. US 2		Log Sta.	
		Date 9/99	
US 2 OVER MOOSE RIVER			
PROFILE			
Designed By R.F. CLARK		Drawn By R.F. CLARK	
Checked By S.M. GUNN		Bridge Design Supervisor	
Date 9/99		Date 9/99	
PROJECT CONCORD		PROJECT NO. BHF 028-4(22)	
I.G.C. Info. 93b067/5b067pro			
Bridge Sheet No. 50541PRO			



PLAN
SCALE: 1:500



LEGEND

- REFLECTORIZED PLASTIC DRUM (SEE TABLE ON STD. E-106M FOR PLACEMENT)
- TYPE III BARRICADES (SEE STD. E-107AM)
- ▣ TYPE III BARRICADES (MOD.) (SEE STD. E-107AM)
- +++ PAVEMENT MARKING REMOVAL
- Ⓢ FLASHING BEACON
- TEMPORARY TRAFFIC BARRIER
- DELINEATOR (SEE STD. E-107M)

CONSTRUCTION NOTES

REMOVAL OF EXISTING PAVEMENT MARKINGS
STA. 0+103 - 0+160
STA. 0+360 - 0+421

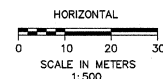
TEMPORARY STOP BAR
STA. 3+320 RT. (8 m)

REMOVE AND RESET SIGN
STA. 0+390 RT.

DURABLE 100 mm WHITE LINE
STA. 2+796 - 3+577 LT.
STA. 2+796 - 3+320 RT.
STA. 3+323 - 3+577 RT.

DURABLE 100 mm YELLOW LINE (DOUBLE CENTER LINE)
STA. 2+796 - 3+310
STA. 3+322 - 3+577
STA. 3+317, RT

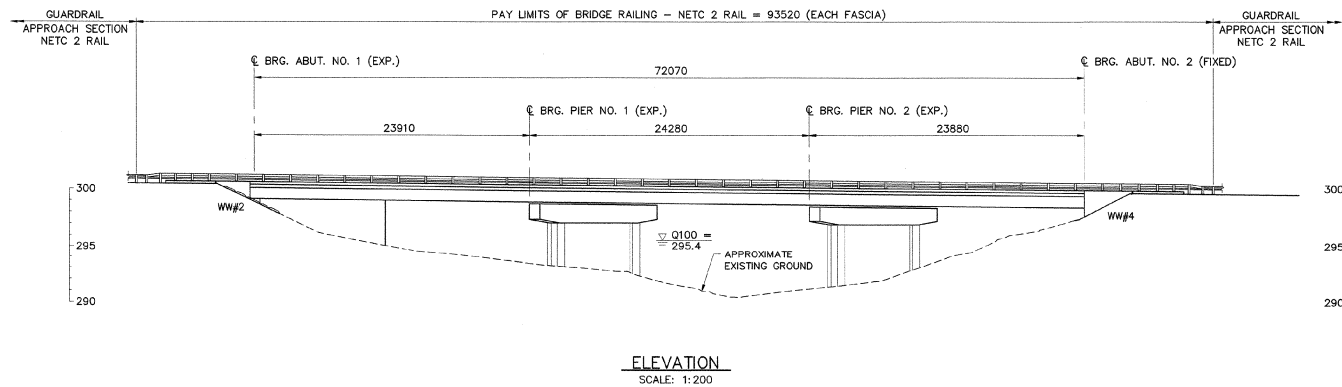
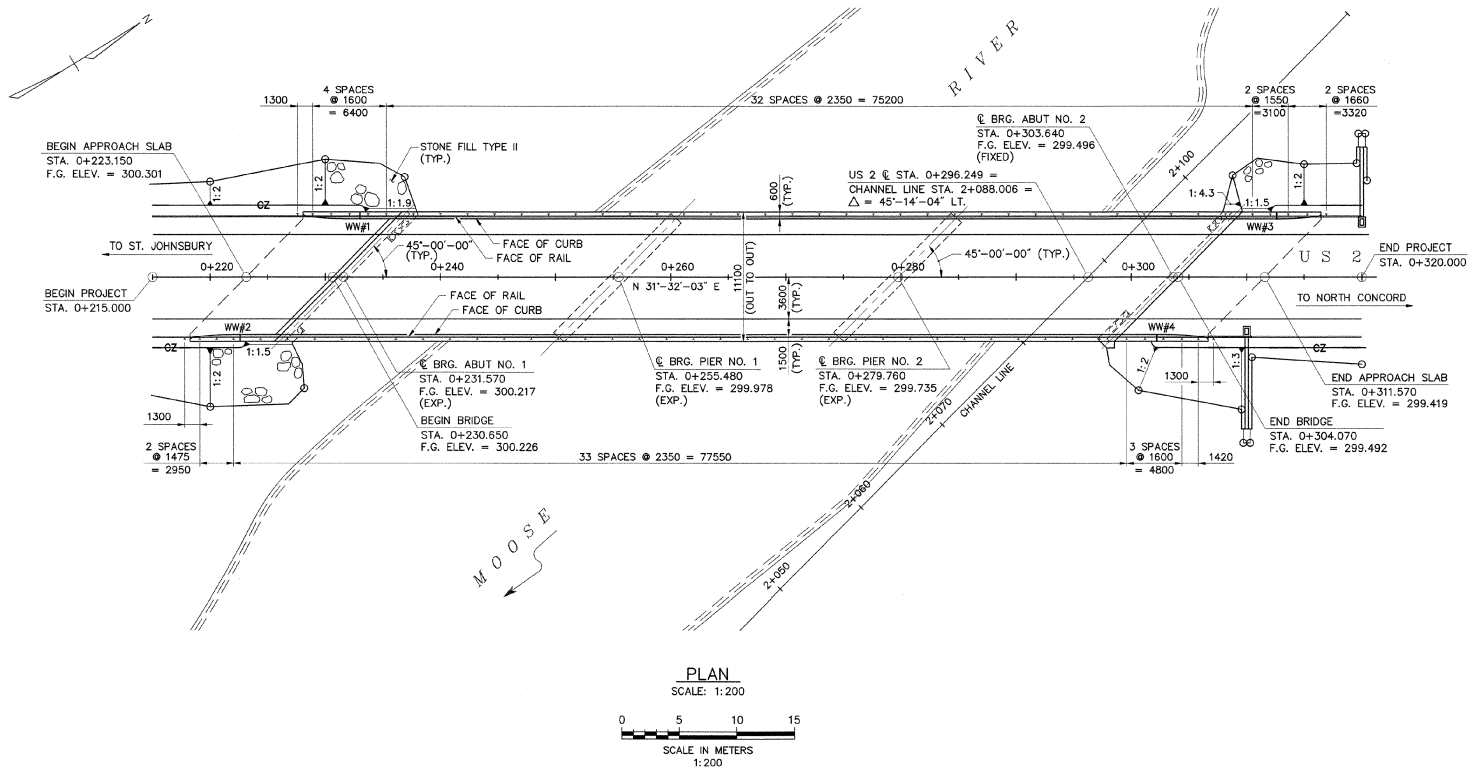
DETOUR SIGNING AND STRIPING PLAN



- NOTES:
- SEE DETOUR NOTES AND DETAILS ON SHEET 10 OF 50.
 - THIS TRAFFIC CONTROL SHEET TO BE USED IN CONJUNCTION WITH VERMONT AGENCY OF TRANSPORTATION STANDARD SHEETS E-100M, E-101M, E-102M, E-106M, E-107M AND E-107AM.

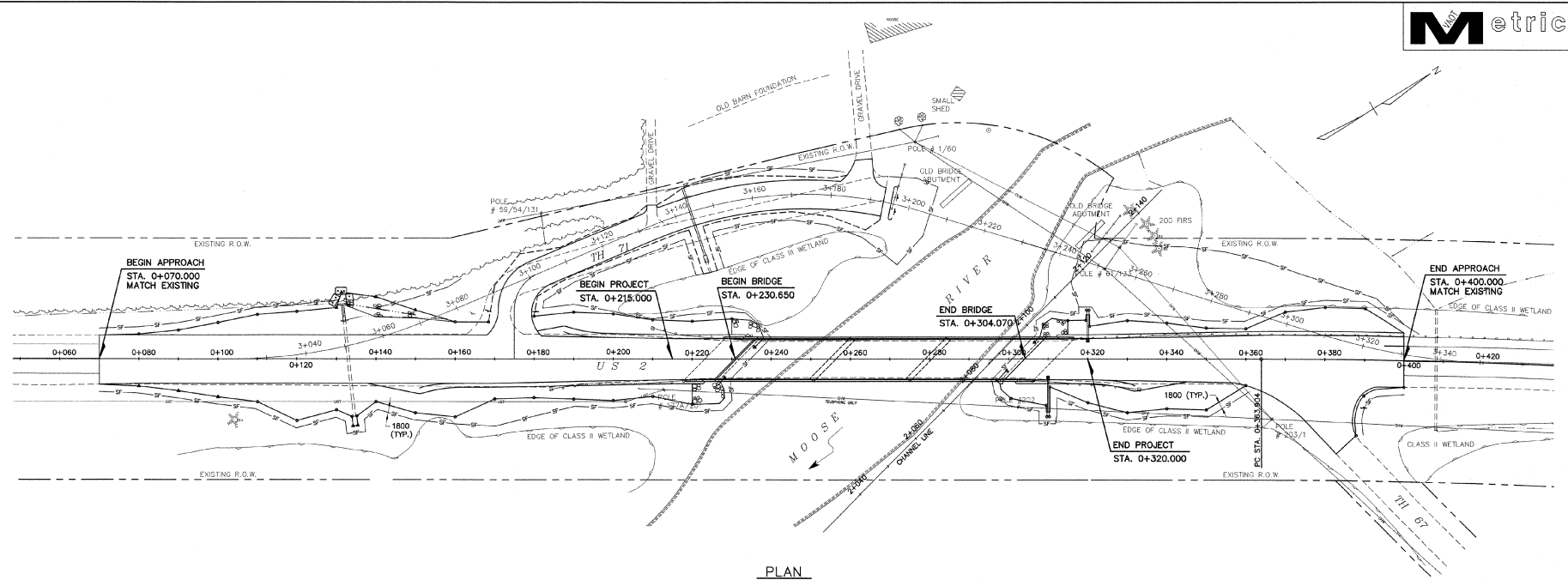
STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
	US 2 OVER MOOSE RIVER	Surv. Sta.	
TRAFFIC CONTROL PLAN			
Designed By	S.M. GUNN/VAOT	Drawn By	R.F. CLARK
Checked By	S.M. GUNN	Bridge Design Supervisor	
Date	9/99	Date	9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info. 93b067/sb067trf			
Bridge Sheet No. 50541TCP			
Sheet 11 of 50			

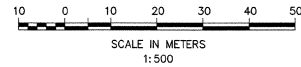


**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
PLAN AND ELEVATION			
Designed By	S.M. GUNN	Drawn By	R.F. CLARK
Checked By	M.A. COLGAN	Date	9/99
		Bridge Design Supervisor	
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info.	93b067/sb067pe		
Bridge Sheet No.	50541ELV	Sheet	12 of 50



PLAN
SCALE: 1:500



NOTE:

1. AN ALTERNATIVE TEMPORARY EROSION CONTROL PLAN MAY BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER.
2. REFER TO VAOT STANDARDS T-1M AND T-2M FOR ADDITIONAL DETAILS.
3. THE CONTRACTOR SHALL USE OTHER TEMPORARY OR PERMANENT EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION OR AS DIRECTED BY THE ENGINEER. SEE SECTION 105.23.

STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of CONCORD		Bridge No. 117	
Highway No. US 2		Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
EROSION CONTROL SHEET			
Designed By	R.F. CLARK	Drawn By	R.F. CLARK
Checked By	S.M. GUNN	Date	9/99
		Bridge Design Supervisor	Date 9/99
PROJECT CONCORD		PROJECT NO. BHF 028-4(22)	
I.G.C. Info. 93b067/sb067ero		Sheet 13 of 50	
Bridge Sheet No. 50541ERO			

LEGEND

- S— SILT FENCE
- HAY BALE

GENERAL NOTES:

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 1995, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 16TH EDITION, DATED 1996, AND ITS LATEST REVISIONS.
- DESIGN CRITERIA:
DESIGN LIVE LOAD FOR EXISTING STRUCTURE: H-20-S16-44
DESIGN LIVE LOAD FOR NEW SUPERSTRUCTURE: MS22.5
SEISMIC PERFORMANCE CATEGORY: A
- THE FOLLOWING MATERIAL CRITERIA, DESIGNATIONS AND UNIT WEIGHTS APPLY TO THESE PLANS FOR DESIGN PURPOSES:
CONCRETE:
CLASS "A" $f_c = 30$ MPa
CLASS "B" $f_c = 25$ MPa
SILICA FUME $f_c = 35$ MPa
STRUCTURAL STEEL: AASHTO M 270M GRADE 345W
REINFORCING STEEL: AASHTO M 31M GRADE 420
UNIT WEIGHT OF SOIL: 2243 kg/m³
- DIMENSIONS, ANGLES, BEARINGS, AND ELEVATIONS OF THE EXISTING BRIDGE SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND LIMITED FIELD INVESTIGATION AND MAY NOT ACCURATELY REFLECT ACTUAL FIELD CONDITIONS.
EXISTING PLANS INDICATE THAT THE CENTERLINE OF THE EXISTING ABUTMENT AND PIER MASONRY COINCIDES WITH THE CENTERLINE OF EXISTING ROADWAY. THE CENTERLINE OF ROADWAY DOES NOT CHANGE AS A RESULT OF THE NEW CONSTRUCTION. SURVEY INFORMATION INDICATES THE CENTERLINE OF THE EXISTING MASONRY IS OFFSET FROM THE CENTERLINE OF THE ROADWAY. THE SUBSTRUCTURE REMOVAL LIMITS AND NEW MASONRY DETAILS HAVE BEEN DEVELOPED BASED UPON SURVEY AND THE LIMITED FIELD INVESTIGATION. WHERE THERE WERE CONFLICTS BETWEEN EXISTING PLAN INFORMATION AND THE SURVEY AND FIELD INVESTIGATION INFORMATION, THE SURVEY AND FIELD INVESTIGATION INFORMATION WAS HELD.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING FIELD MEASUREMENTS OF ALL EXISTING STRUCTURE COMPONENTS IMPACTED BY THE NEW WORK TO ASSURE CONSISTENCY WITH THE PROPOSED MODIFICATIONS. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER, OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ADVANCING THE WORK.
- WORKING DRAWINGS REQUIRED FOR VARIOUS ITEMS OF WORK SHALL INDICATE THE ACTUAL FIELD MEASUREMENTS AND SHALL BE SO NOTED.
- DIMENSIONS OF THE EXISTING BRIDGE HAVE BEEN CONVERTED TO METRIC UNITS IN ACCORDANCE WITH THE VERMONT AGENCY OF TRANSPORTATION'S METRIC POLICY AND ROUNDED TO THE NEAREST MILLIMETER.
- PLANS OF THE EXISTING BRIDGE ARE AVAILABLE FOR REVIEW DURING THE BIDDING PERIOD AT THE CONTRACT ADMINISTRATION OFFICE OF THE VERMONT AGENCY OF TRANSPORTATION.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES CELSIUS, UNLESS NOTED OTHERWISE.
- SEE SHEET 30 FOR REMOVAL NOTES.
- SEE SHEET 35 FOR CONCRETE REPAIR NOTES.
- SEE SHEET 10 FOR DETOUR AND TEMPORARY BRIDGE NOTES.

CONSTRUCTION NOTES:

- THE CONTRACTOR SHALL CALL "DIG-SAFE" PRIOR TO PERFORMING ANY EXCAVATION, IN ACCORDANCE WITH DIG-SAFE'S RULES OF NOTIFICATION. THE COST OF COORDINATING WITH "DIG-SAFE" AND THE UTILITY COMPANIES SHALL BE SUBSIDIARY TO ITEM 635.10, MOBILIZATION.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT SILTATION, POLLUTION, AND DISCHARGE OF RAW CONCRETE INTO THE MOOSE RIVER, AS DIRECTED BY THE ENGINEER.
- IN-STREAM CONSTRUCTION SHALL BE CONDUCTED DURING THE PERIOD OF JUNE 1 THROUGH OCTOBER 1. THE AGENCY OF NATURAL RESOURCES MUST APPROVE ANY DEVIATION FROM THIS PERIOD IN WRITING.
- ITEM 204.25, STRUCTURE EXCAVATION SHALL BE USED TO EXCAVATE TO THE LIMITS SHOWN ON THE PLANS. SEE EARTHWORK TYPICALS ON SHEET 3.
- THE BRIDGE PLAQUE AND BENCH MARK SHALL BE FURNISHED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AS SHOWN ON THE PLANS. ALL COSTS SHALL BE INCLUDED IN ITEM 501.25, CONCRETE CLASS B.
- THE CONTRACTOR SHALL ERECT, MAINTAIN, REMOVE, AND/OR RESET AS REQUIRED ALL ON-PROJECT SIGNS AND BARRICADES. THE COST OF ALL CONSTRUCTION SIGNS AND BARRICADES SHALL BE INCLUDED IN ITEM 635.10, MOBILIZATION.
- ANY EXISTING SIGNS NOT REUSED SHALL REMAIN THE PROPERTY OF THE STATE. THESE SIGNS SHALL BE REMOVED BY THE CONTRACTOR AND STOCKPILED AS DIRECTED BY THE ENGINEER FOR REMOVAL BY THE STATE AND SHALL BE PAID AS ITEM 675.50, REMOVING SIGNS.
- GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE.
- A QUANTITY OF ITEM 204.21, TRENCH EXCAVATION OF ROCK HAS BEEN INCLUDED FOR REMOVING EXISTING HEADWALLS AT U.S. 2 STA. 0+132.0 LT. AND TH 71 STA. 3+144.0 LT.

STRUCTURAL STEEL NOTES:

- ALL NEW STRUCTURAL STEEL SHALL BE AASHTO M 270M, GRADE 345W UNLESS OTHERWISE NOTED.
- ITEM 506.65, STRUCTURAL STEEL (ROLLED BEAM), SHALL INCLUDE ROLLED BEAMS CONNECTION PLATES, DIAPHRAGMS, AND ALL REQUIRED FASTENERS.
- ALL BOLTED FIELD CONNECTIONS SHALL BE MADE WITH 22 MILLIMETER DIAMETER HIGH STRENGTH BOLTS IN 24 MILLIMETER DIAMETER HOLES UNLESS OTHERWISE NOTED.
- FIELD SPLICES ARE OPTIONAL. COST OF FIELD SPLICES SHALL BE INCLUDED IN ITEM 506.65, STRUCTURAL STEEL (ROLLED BEAM). FOUR BOLTED FIELD SPLICES WERE INCLUDED FOR ESTIMATION OF LUMP SUM STRUCTURAL STEEL WEIGHT.
- CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
- SHEAR STUD CONNECTORS SHALL BE FIELD WELDED USING AUTOMATICALLY TIMED STUD WELDING EQUIPMENT AND SHALL BE PAID AS ITEM 508.15, SHEAR CONNECTORS.
- AFTER THE SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE BEAM SHALL BE TAKEN, AS DIRECTED BY THE ENGINEER, FOR USE IN DETERMINING THE FINAL GRADE AND HAUNCH DEPTHS.
- ANY HOLES IN FASCIA BEAM WEBS NOT OTHERWISE FILLED SHALL BE FITTED WITH BUTTON HEAD OR HEX HEAD BOLTS.
- THE ENDS OF BEAMS SHALL BE VERTICAL UNDER FULL DEAD LOAD DEFLECTION.
- A CLASS B CONTACT SURFACE IS REQUIRED AT ALL BOLTED FIELD SPICE CONNECTIONS.
- ALL STRUCTURAL STEEL WITHIN 1600 MILLIMETERS OF THE END OF BEAMS AT ABUTMENT NO. 1 SHALL BE PAINTED. ALL COSTS SHALL BE INCLUDED IN ITEM 513.40, SURFACE PREPARATION, SHOP AND ITEM 513.25, STRUCTURAL PAINTING, SHOP APPLIED.

BEARING NOTES:

- PREFORMED FABRIC PAD DESIGN CRITERIA:
MAXIMUM ALLOWABLE BEARING PRESSURE ON CONCRETE = 8.9 MPa
MINIMUM ALLOWABLE DESIGN ROTATION = 0.015 RADIAN.
HORIZONTAL CAPACITY SHALL BE A MINIMUM OF 6% VERTICAL LOAD
DESIGN LOAD PER BEARING:
ABUTMENT NO. 1: 494 kN
PIER NO.1 & 2: 953 kN
ABUTMENT NO. 2: 494 kN
- BEARINGS SHALL BE PAID AS ITEM 531.10, BEARING DEVICE ASSEMBLY.
- ALL STEEL IN BEARING DEVICES (EXCEPT STAINLESS) SHALL BE AASHTO M 270M, GRADE 250.
- DRILL AND SET ANCHOR BOLTS WITH A MINIMUM OF 400 MILLIMETERS EMBEDMENT INTO CONCRETE. HOLES SHALL BE SEVENTY (70) MILLIMETERS IN DIAMETER AND BOLTS SHALL BE SET IN A TYPE IV MORTAR. ALL COSTS TO BE INCLUDED UNDER ITEM 531.10, BEARING DEVICE ASSEMBLY.
- ANCHOR BOLTS SHALL BE SWEDGED WITH 100 MILLIMETERS OF THREAD. EXPANSION BEARING NUTS ARE TO BE DRAWN UP FINGER TIGHT AND THEN BACKED OFF FIVE (5) MILLIMETERS. THREADS SHALL BE BURRED ABOVE NUT TO PREVENT NUT REMOVAL.
- THE CONTRACTOR SHALL TAKE ELEVATIONS OF EACH INTERIOR ABUTMENT NO. 2 BEARING SEAT AND ORDER SHIM PLATES OF SUFFICIENT THICKNESS TO EQUAL THE DIFFERENCE BETWEEN THE EXISTING BEARING SEAT ELEVATION AND THE NEW BOTTOM OF PREFORMED FABRIC PAD ELEVATION. THE BOTTOM OF PREFORMED FABRIC PAD ELEVATIONS ARE AS SHOWN ON SHEET 23. ALL COSTS SHALL BE INCLUDED IN ITEM 531.10, BEARING DEVICE ASSEMBLY. SHIM PLATE DETAILS SHALL BE SUBMITTED WITH THE BEARING FABRICATION DRAWINGS.
- ADJUSTMENT OF THE EXISTING ABUTMENT NO. 2 BEARING SEATS MAY BE REQUIRED TO PROVIDE A LEVEL SURFACE FOR THE NEW BEARINGS. ADJUSTMENTS TO THE BEARING SEATS SHALL BE AS DIRECTED BY THE ENGINEER AND ALL COSTS SHALL BE INCLUDED IN ITEM 531.10, BEARING DEVICE ASSEMBLY.
- ANY OUTLET (V-GROOVE) SHALL BE PROVIDED FOR ANY BEARING RECESSED INTO THE BRIDGE SEAT TO PREVENT WATER FROM PONDING NEAR THE BEARING. OUTLETS SHALL BE AS DIRECTED BY THE ENGINEER AND ALL COSTS SHALL BE INCLUDED IN ITEM 531.10, BEARING DEVICE ASSEMBLY.

REINFORCING STEEL NOTES:

- REINFORCING STEEL IN THE DECK, BACKWALL, CURTAIN WALL, APPROACH SLABS, AND BRUSH CURBS SHALL BE EPOXY COATED AND PAID AS ITEM 507.17, EPOXY COATED REINFORCING STEEL. ALL OTHER REINFORCING STEEL SHALL BE PAID AS ITEM 507.15, REINFORCING STEEL.
- DRILLING AND GROUTING DOWELS SHALL BE PAID AS ITEM 507.66, DRILLING AND GROUTING DOWELS. ALL DRILLED HOLES SHALL HAVE A MINIMUM OF 150 MILLIMETERS CLEAR COVER.
- MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:
ALONG BACK FACES OF WALLS AGAINST EARTH: FIFTY (50) MILLIMETERS
ALONG TOP SURFACE OF DECK SLAB: SIXTY-FIVE (65) MILLIMETERS
ALONG BOTTOM SURFACE OF DECK SLAB: FORTY (40) MILLIMETERS
ELSEWHERE UNLESS OTHERWISE INDICATED: EIGHTY (80) MILLIMETERS
- REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE:
SPACING: ± 25 MILLIMETERS
CLEARANCE: ± 5 MILLIMETERS

DOWNSPOUT NOTES:

- PAYMENT FOR ALL MATERIALS AND LABOR RELATED TO THE HOPPER AND DOWNSPOUT ASSEMBLY SHALL BE INCLUDED IN ITEM 506.65, STRUCTURAL STEEL (ROLLED BEAM).
- ALL PLATES, BARS AND ANGLES SHALL CONFORM TO AASHTO M 270M, GRADE 250.
- BOLTS AND RELATED HARDWARE SHALL CONFORM TO ASTM A 307 GRADE A.
- THE HOPPER AND DOWNSPOUT ASSEMBLY SHALL BE INSTALLED AFTER THE BRIDGE EXPANSION JOINT IS IN PLACE.
- ALL HOPPER AND DOWNSPOUT COMPONENTS AND HARDWARE SHALL BE GALVANIZED UNLESS OTHERWISE NOTED.

EXPANSION JOINT NOTES:

- BRIDGE EXPANSION JOINT SHALL BE PAID AS ITEM 516.10, BRIDGE EXPANSION JOINT.
- PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS. ALL COST SHALL BE INCLUDED IN ITEM 506.80, DRAIN TROUGH.
- BUTYL RUBBER TAPE SHALL CONFORM TO AASHTO SPECIFICATION M 198, TYPE II.
- THE FINAL FINISH OF THE EXPANSION DEVICE SHALL BE COVERED AND PROTECTED DURING THE PLACING OF CONCRETE.
- ALL STEEL COMPONENTS SHALL BE AASHTO M 270M GRADE 250.
- THE ANGLES SHALL BE FURNISHED AS ONE CONTINUOUS PIECE. THE BARS EACH SIDE OF THE JOINT SHALL BE PROVIDED IN TWO EQUAL LENGTHS.
- FILL COUNTERBORED HOLES WITH HOT POURED JOINT SEALER AFTER BOLT INSTALLATION. ALL COSTS SHALL BE INCLUDED IN ITEM 516.10, BRIDGE EXPANSION JOINT.
- FABRIC TROUGH SHALL BE THOROUGHLY CLEANED AND FLUSHED AFTER PAVING OPERATIONS.
- A DRIP BEAD OF 8 MILLIMETERS x 150 MILLIMETERS OF PREFORMED MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FABRIC TROUGH USING AN ADHESIVE APPROVED BY THE MANUFACTURER. THE DRIP BEAD SHALL BE 25 MILLIMETERS WIDE STARTING FROM THE DOWNSPOUT END OF THE TROUGH. ALL COSTS SHALL BE INCLUDED IN ITEM 516.10, BRIDGE EXPANSION JOINT.
- THE DRAIN TUBES SHALL BE EXTENDED BELOW THE BOTTOM OF THE ADJACENT BEAM AND FASTENED TO THE BEAMS USING A METHOD APPROVED BY THE ENGINEER.
- FINAL JOINT PROFILE SHALL MATCH THE NEW DECK AND CURB PROFILE.

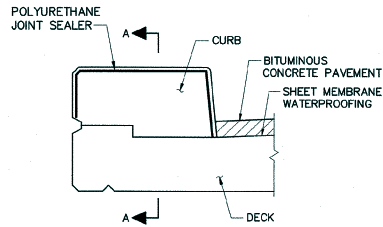
CONCRETE NOTES:

- CONCRETE PAYMENT AND CLASSIFICATION SHALL BE AS FOLLOWS:
ITEM 501.22, CONCRETE, CLASS A: DECK AND CURTAIN WALL
ITEM 501.60, SILICA-FUME CONCRETE: CURBS AND THE TOP OF BACKWALL ABOVE CONSTRUCTION JOINT
ITEM 501.25, CONCRETE, CLASS B: ALL OTHER COMPONENTS
- ITEM 514.10, WATER REPELLENT, SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON BRIDGE SUPERSTRUCTURE EXCEPT THE BOTTOM OF THE DECK BETWEEN THE DRIP NOTCHES. WATER REPELLENT SHALL ALSO BE APPLIED TO THE EXPOSED CONCRETE ON ALL NEW AND EXISTING SUBSTRUCTURES.
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 MILLIMETERS BY 25 MILLIMETERS, UNLESS OTHERWISE NOTED. A 15 MILLIMETER RADIUS SHALL BE USED ON THE TOP INSIDE CORNER OF CURBS.
- JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- SURFACES OF THE ABUTMENT AND PIER BRIDGE SEATS UNDER THE BEARING DEVICE SHALL BE LEVEL. OTHER NEW BRIDGE SEAT AREAS SHALL BE SLOPED 6 MILLIMETERS PER 300 MILLIMETERS.
- THE KEY ON CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT UNLESS OTHERWISE INDICATED. ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
- PAYMENT FOR WATERSTOPS SHALL BE INCLUDED IN ITEM 501.25, CONCRETE, CLASS B. OTHER CONFIGURATIONS THAN THOSE SHOWN MAY BE USED UPON APPROVAL OF THE ENGINEER.
- SEE SHEET 15 FOR DECK PLACEMENT SEQUENCE AND NOTES.

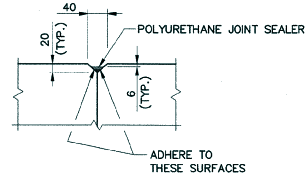
NOTE: SHIM PLATES NOT USED
R.E. ORDERED EXIST CONC. TAKE DOWN @ A-2
(ON TOTAL WIDTH OF 150-200 MM
WITH NEW BEARING PEDISTAL SEATS

STATE OF VERMONT AGENCY OF TRANSPORTATION

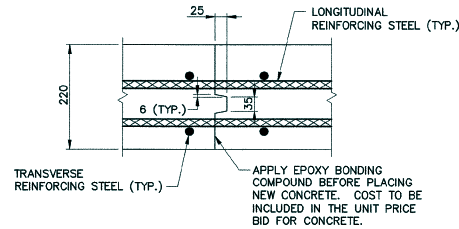
Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
CONSTRUCTION NOTES			
Designed By	M.A. COLGAN	Drawn By	C.S. MERCER
Checked By	Date	Bridge Design Supervisor	
S.M. SAREAULT	9/99	S.M. GUNN	Date 9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info.	93b067/sb067net+		
Bridge Sheet No.	50541NOT	Sheet	14 of 50



TYPICAL SECTION



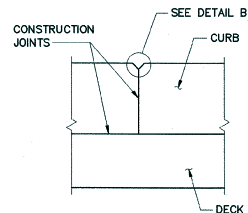
DETAIL B



TRANSVERSE DECK
CONSTRUCTION JOINT DETAIL
N.T.S.



SCORE MARK DETAIL
N.T.S.

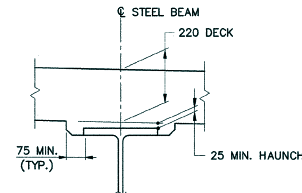


SECTION A-A

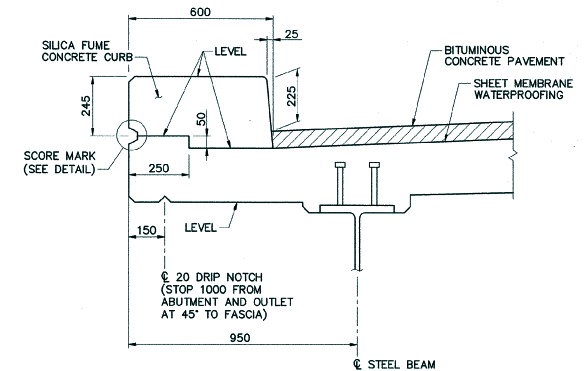
CURB CONSTRUCTION JOINT NOTES:

1. CONCRETE CURB CONSTRUCTION JOINTS SHALL BE SPACED A MAXIMUM OF 6000 mm CENTER TO CENTER AND SHALL BE 450 mm MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS BETWEEN ADJACENT POURS.
2. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS UNLESS OTHERWISE SHOWN.
3. POLYURETHANE JOINT SEALER, PER SUBSECTION 524.06(c), SHALL MATCH THE CONCRETE COLOR. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE.

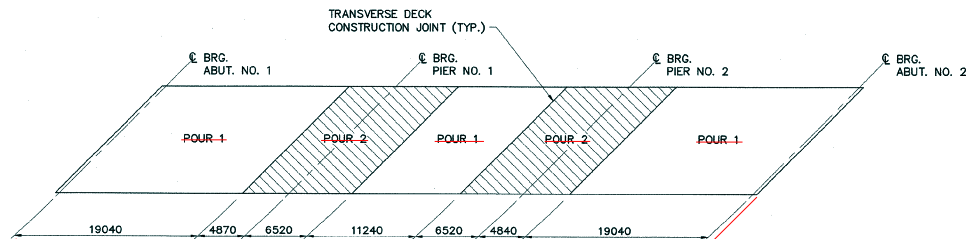
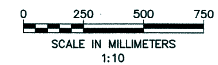
CONCRETE CURB CONSTRUCTION JOINT
N.T.S.



TYPICAL HAUNCH DETAIL
N.T.S.



TYPICAL CURB DETAIL
(BRIDGE RAIL NOT SHOWN)
SCALE: 1:10



DECK PLACEMENT SEQUENCE
N.T.S.

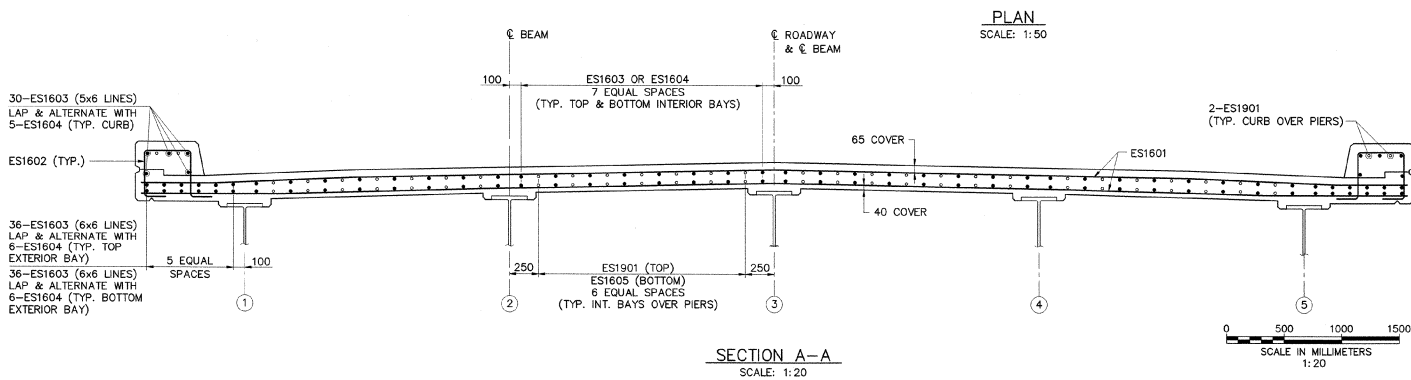
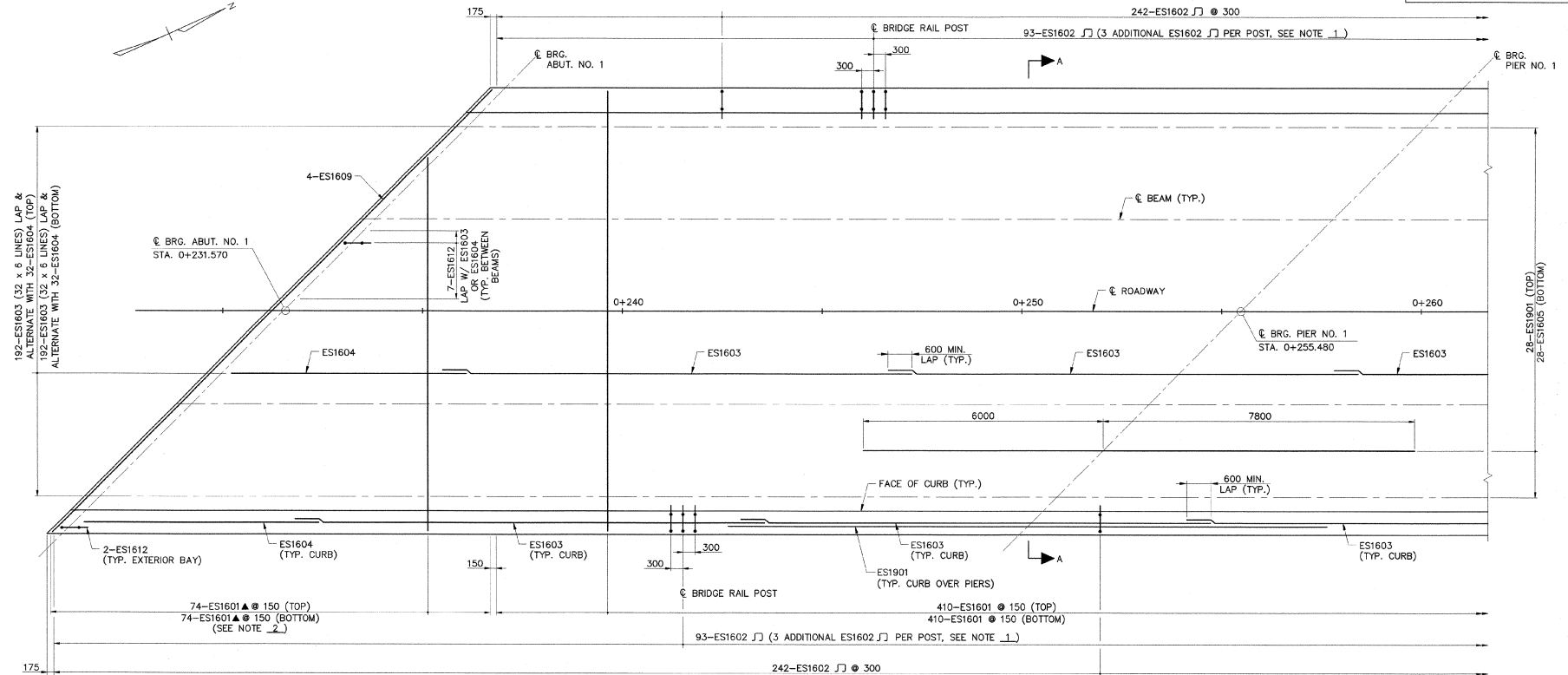
NOTES:

1. EACH CONCRETE DECK POUR SHALL BE PLACED CONTINUOUSLY WITHIN ONE EIGHT HOUR WORKING DAY. THERE SHALL BE A MINIMUM DELAY PERIOD OF 96 HOURS AFTER COMPLETION OF EACH POUR BEFORE BEGINNING ANOTHER POUR. INDIVIDUAL POUR NUMBERS AS SHOWN MAY BE COMBINED INTO A SINGLE POUR IF APPROVED BY THE ENGINEER.
2. THE DECK CONCRETE SHALL BE RETARDED SUFFICIENTLY TO REMAIN PLASTIC UNTIL EACH DAY'S PLACEMENT IS COMPLETE. THE QUANTITY OF RETARDER SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT. ANY DEVIATIONS FROM THIS PROCEDURE MUST BE APPROVED BY THE ENGINEER IN WRITING BEFORE THE POUR BEGINS.

NOTE: DECK POURED IN ONE POUR

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
DECK DETAILS			
Designed By	M.A. COLGAN	Drawn By	R.F. CLARK
Checked By	C.R. WILSON	Date	9/99
		S.M. GUNN	Date 9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info.	93b067/sb067dk1		



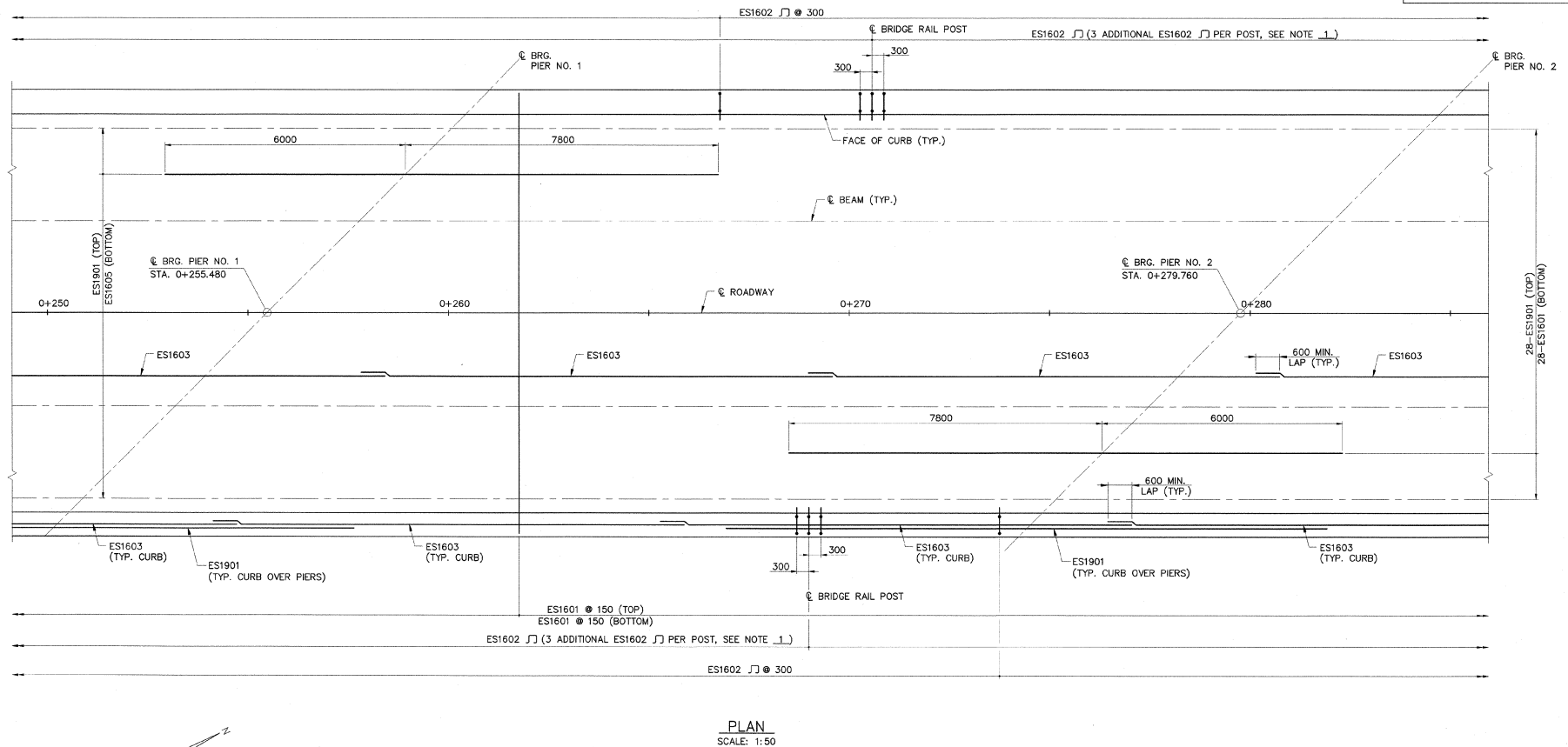
- NOTES:**
- SEE STANDARD SHEET BR1-97M FOR REINFORCING STEEL DETAIL AT BRIDGE RAIL POSTS.
 - USE CUTOFFS FROM THIS END FOR THE OTHER END OF BRIDGE.

KEY

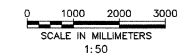
N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
▲ = CUT TO FIT IN FIELD

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
DECK REINFORCEMENT (1 OF 3)			
Designed By	C.R. WILSON	Drawn By	R.F. CLARK
Checked By	M.A. COLGAN	Date	9/99
		Bridge Design Supervisor	S.M. GUNN
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info.	93b067/sb067dk2		
Sheet	16	of	50

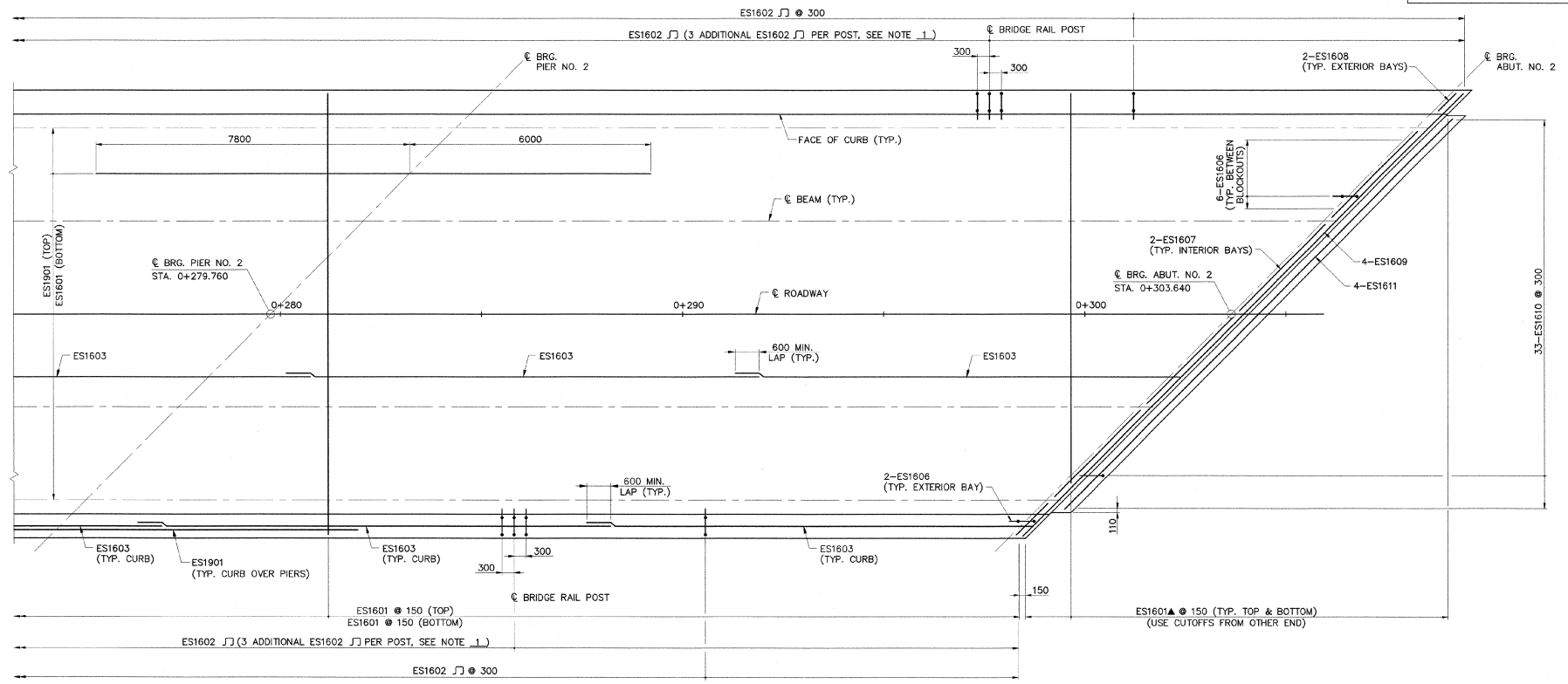


- NOTES:**
- SEE STANDARD SHEET BR1-97M FOR REINFORCING STEEL DETAIL AT BRIDGE RAIL POSTS.



VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of CONCORD		Bridge No. 117	
Highway No. US 2		Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
DECK REINFORCEMENT (2 OF 3)			
Designed By C.R. WILSON	Drawn By R.F. CLARK		
Checked By M.A. COLGAN	Date 9/99	Bridge Design Supervisor S.M. GUNN Date 9/99	
PROJECT CONCORD		PROJECT NO. BHF 028-4(22)	
I.G.C. Info. 93b067/sb067dk3			
Bridge Sheet No. 50541DR		Sheet 17 of 50	

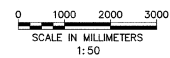


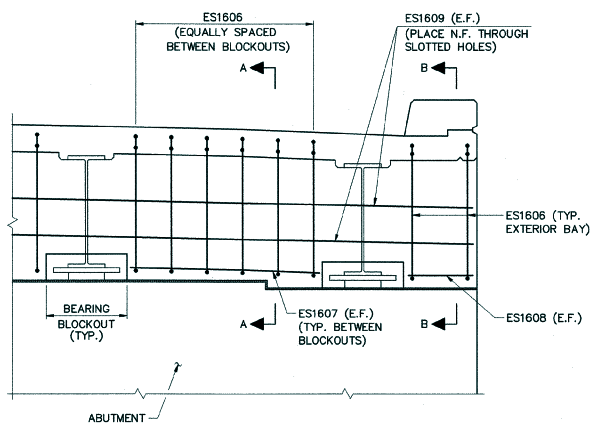
PLAN
SCALE: 1:50

- NOTES:**
- SEE STANDARD SHEET BR1-97M FOR REINFORCING STEEL DETAIL AT BRIDGE RAIL POSTS.

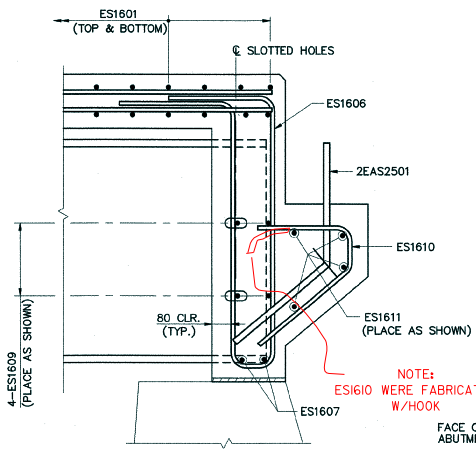
**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
DECK REINFORCEMENT (3 OF 3)			
Designed By	C.R. WILSON	Drawn By	R.F. CLARK
Checked By	M.A. COLGAN	Bridge Design Supervisor	S.M. GUNN
Date	9/99	Date	9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info.	93b067/sb067dk4		
Bridge Sheet No.	50541DR	Sheet	18 of 50

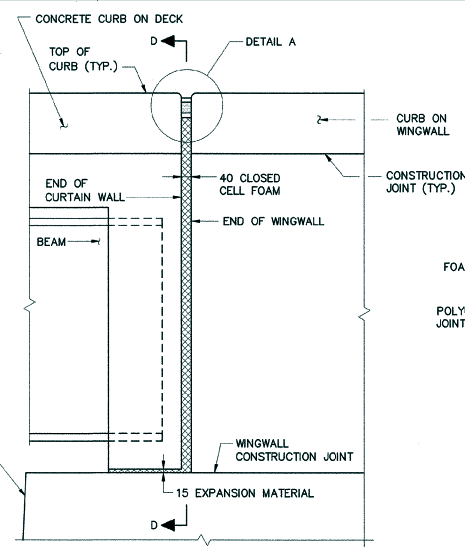




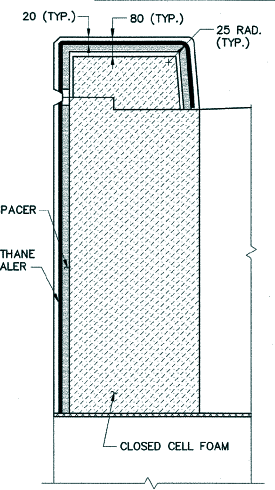
CURTAIN WALL ELEVATION
(PERPENDICULAR TO CENTERLINE BEAM)
SCALE: 1:20



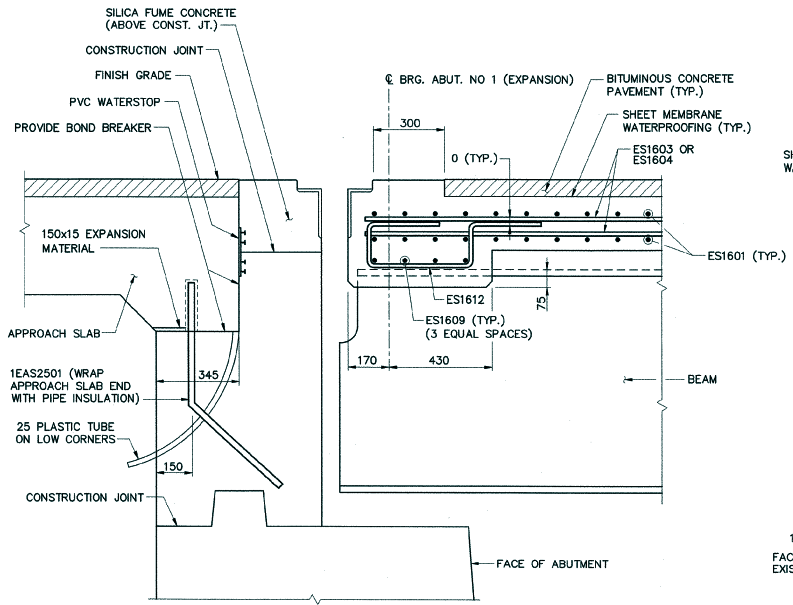
SECTION A-A
(PERPENDICULAR TO CENTERLINE BEARING)
SCALE: 1:10



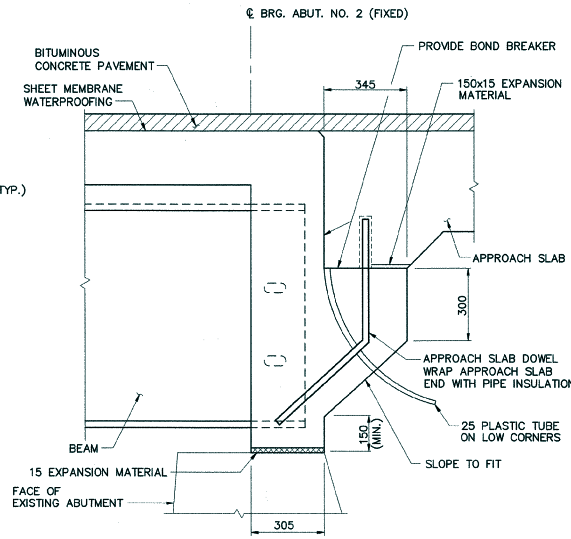
SECTION B-B
SCALE: 1:10



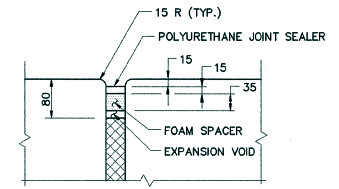
SECTION D-D
SCALE: 1:10



DECK END HAUNCH DETAIL
(PERPENDICULAR TO CENTERLINE BEARING)
SCALE: 1:10



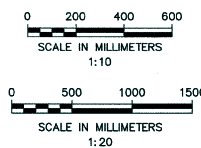
TYPICAL CURTAIN WALL SECTION
(PERPENDICULAR TO CENTERLINE BEARING)
SCALE: 1:10



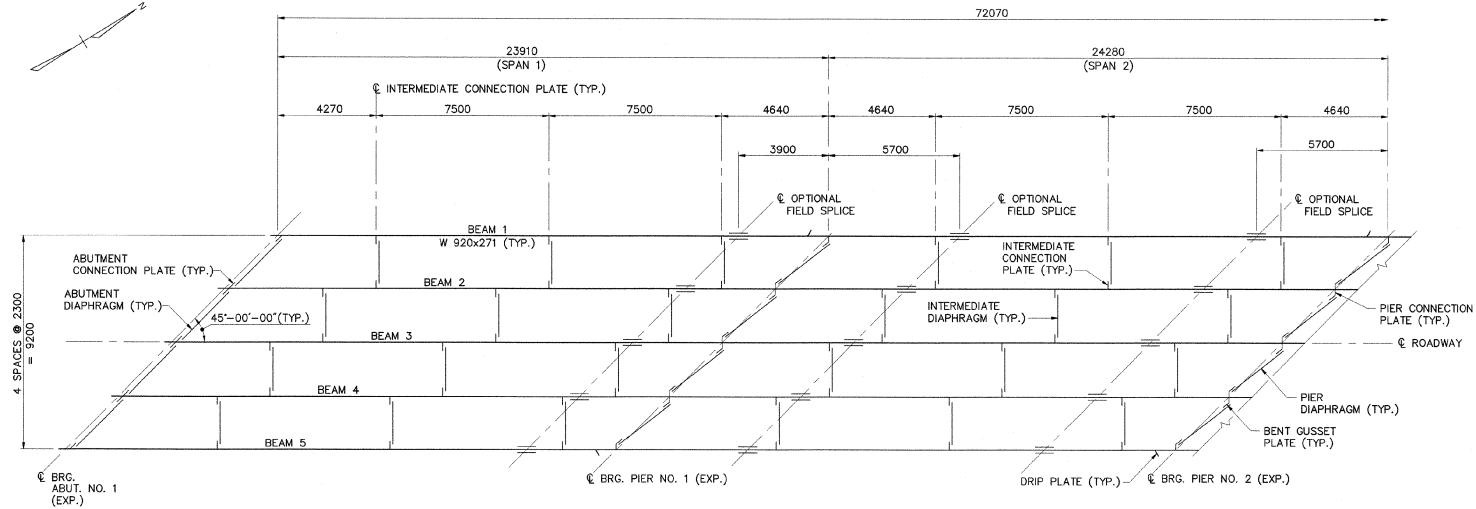
- NOTES:**
1. POLYURETHANE JOINT SEALER, PER SECTION 524, SHALL MATCH THE CONCRETE COLOR.
 2. ALL COSTS TO BE INCLUDED IN ITEM 501.25, CONCRETE CLASS B.

DETAIL A
N.T.S.

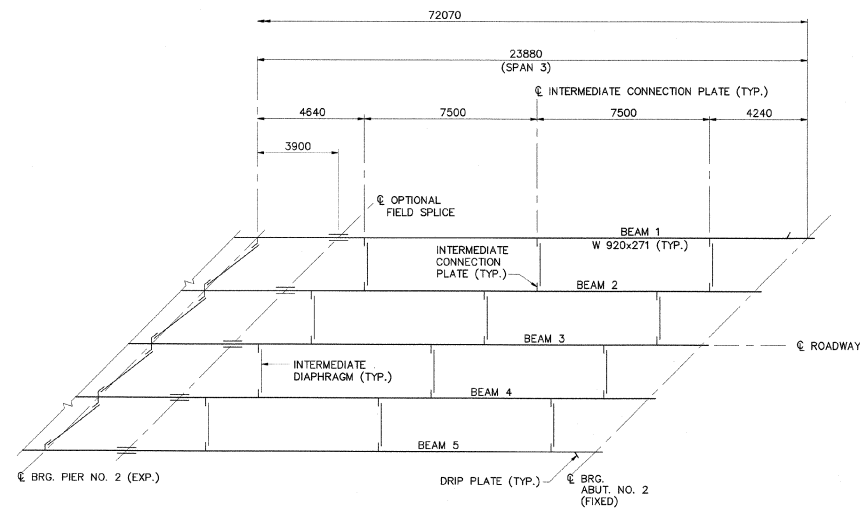
KEY
N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
▲ = CUT TO FIT IN FIELD



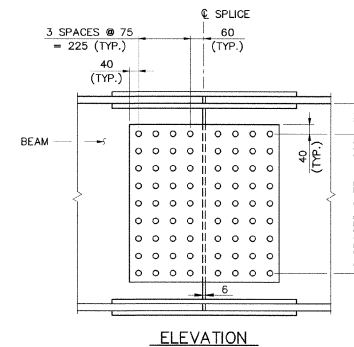
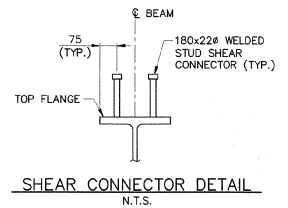
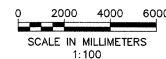
STATE OF VERMONT	
AGENCY OF TRANSPORTATION	
Town Of CONCORD	Bridge No. 117
Highway No. US 2	Log Sta.
Surv. Sta. 	
US 2 OVER MOOSE RIVER	
CURTAIN WALL & DECK END HAUNCH	
Designed By M.A. COLGAN	Drawn By C.S. MERCER
Checked By C.R. WILSON	Date 9/99
S.M. GUNN	Date 9/99
PROJECT CONCORD	PROJECT NO. BHF 028-4(22)
I.G.C. Info. 93b067/sb067cur	
Bridge Sheet No. 50541D74	Sheet 19 of 50



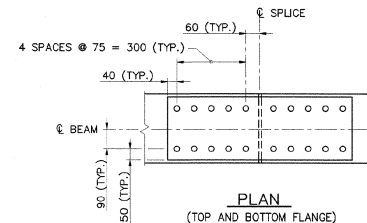
FRAMING PLAN (SPANS 1 & 2)
SCALE: 1:100



FRAMING PLAN (SPAN 3)
SCALE: 1:100

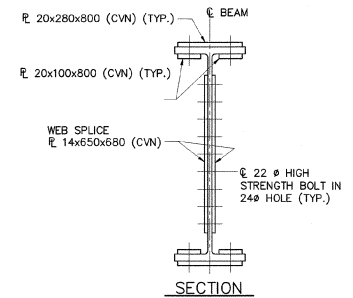


ELEVATION



PLAN
(TOP AND BOTTOM FLANGE)

SPLICE DETAILS
N.T.S.



CVN = CHARTER V NOTCH TESTING REQUIRED
PER SPECIFICATION

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
FRAMING PLAN			
Designed By	C.R. WILSON	Drawn By	R.F. CLARK
Checked By	M.A. COLGAN	Date	9/99
		Bridge Design Supervisor	S.M. GUNN
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info. 93b067/sb067fra			
Bridge Sheet No. 50541FRM			
Sheet 20 of 50			

Figure 10 is a diagram of the bridge deck showing camber and dead load deflection. The diagram is divided into three sections: BRG. ABUT. NO. 1 (EXP.), BRG. PIER NO. 1 (EXP.), and BRG. PIER NO. 2 (EXP.), with a final section for BRG. ABUT. NO. 2 (FIXED). The camber curve shows a peak of 61 in the first section, 32 in the second, and 69 in the third. The dead load deflection curve shows a maximum deflection of 44 in the first section, 7 in the second, and 44 in the third. The total length of the bridge is 72070. The camber curve is labeled 'CAMBER' and the dead load deflection curve is labeled 'DEAD LOAD DEFLECTION'.

Diagram C illustrates the detail of a beam-column joint. The diagram shows a cross-section of a beam with a central field splice. Above the beam, two horizontal dimension lines indicate the required length of shear connectors. The top dimension line, labeled "ONE ADDITIONAL ROW OF SHEAR CONNECTORS REQUIRED WITHOUT FIELD SPICE (2 EQUAL SPACES)", spans the entire length of the beam above the column. The bottom dimension line, labeled "SHEAR CONNECTORS NOT REQUIRED WITH FIELD SPICE", spans the length of the beam above the column, excluding the area around the field splice. The field splice is indicated by a vertical line and the label "FIELD SPICE". The beam is supported by a column, shown in cross-section below the beam. The diagram is labeled "DETAIL C" and "N.T.S." (Not To Scale).

FACE OF SUBSTRUCTURE

BOTTOM FLANGE

6 mm DRIP PLATE

900

60°

BEAM

6 mm DRIP PLATE

TIGHT FIT TO FLANGE WITH SEAL WELD

WEB

BOTTOM FLANGE

25

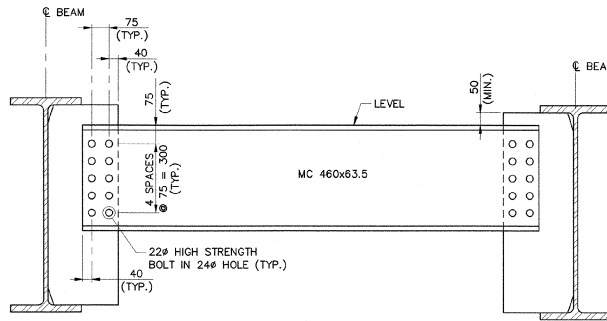
50 50

SECTION C-C

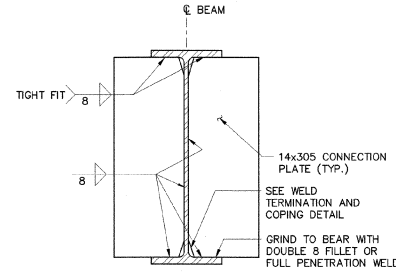
98
 200
 MIN. 75 RADIUS
 (GRIND EDGES
 TO 2 RADIUS)

SECTION A-A
N.T.S.

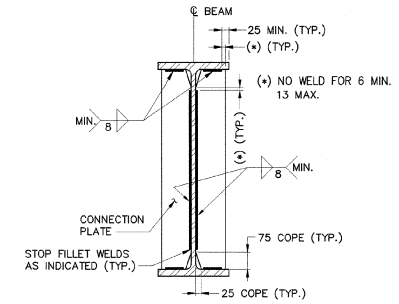
Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
SUPERSTRUCTURE DETAILS (1 OF 2)			
Designed By	C.R. WILSON	Drawn By	R.F. CLARK
Checked By	Date	Bridge Design Supervisor	
M.A. COLGAN	9/99	S.M. GUNN	Date 9/99
PROJECT CONCORD		PROJECT NO. BHF 028-4(22)	



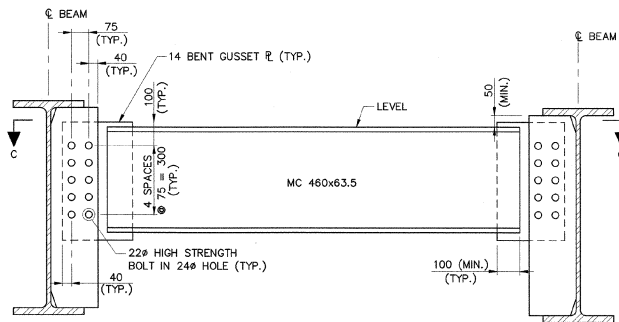
ABUTMENT NO. 1 DIAPHRAGM
N.T.S.



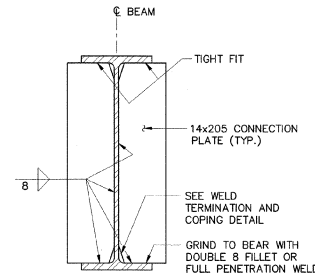
ABUTMENT NO. 1 CONNECTION PLATE DETAIL
N.T.S.



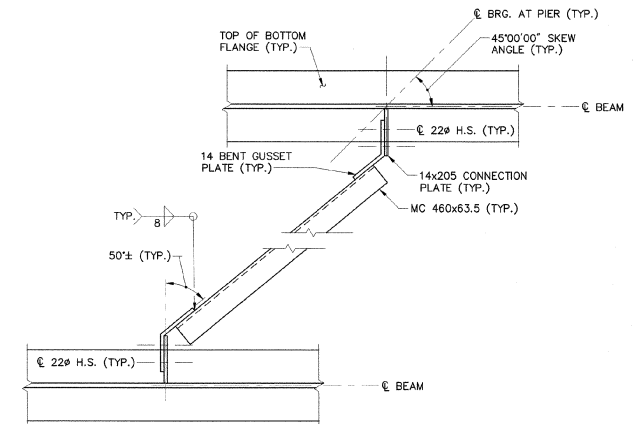
WELD TERMINATION AND COPING DETAIL
N.T.S.



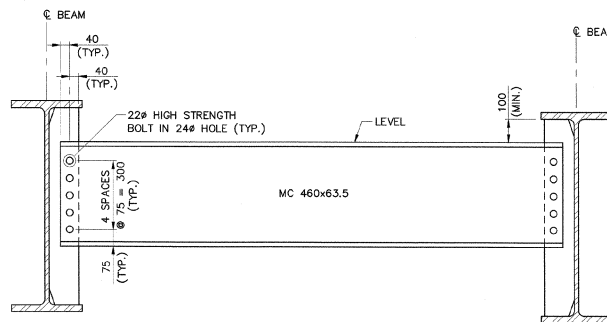
PIER DIAPHRAGM
N.T.S.



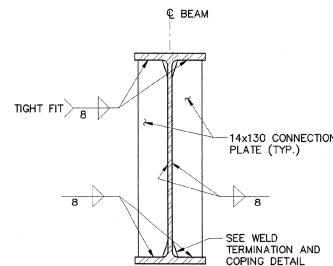
PIER CONNECTION PLATE DETAIL
N.T.S.



SECTION C-C
N.T.S.



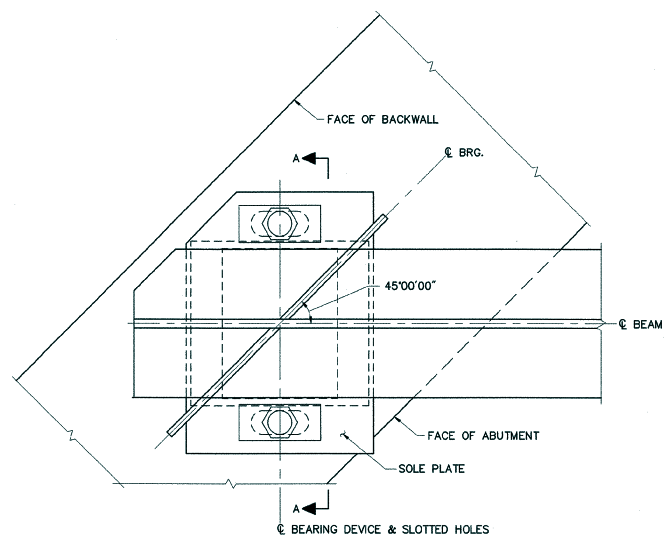
INTERMEDIATE DIAPHRAGM
N.T.S.



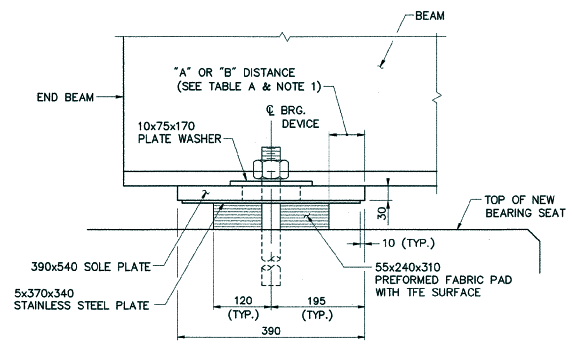
INTERMEDIATE CONNECTION PLATE DETAIL
N.T.S.

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
SUPERSTRUCTURE DETAILS (2 OF 2)			
Designed By	C.R. WILSON	Drawn By	R.F. CLARK
Checked By	M.A. COLGAN	Bridge Design Supervisor	
Date	9/99	Date	9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info.	93b067 / sp067su2		
Bridge Sheet No.	50541DT2	Sheet	22 of 50

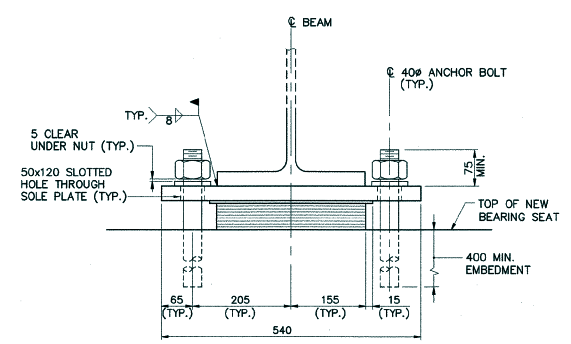


PLAN A-1

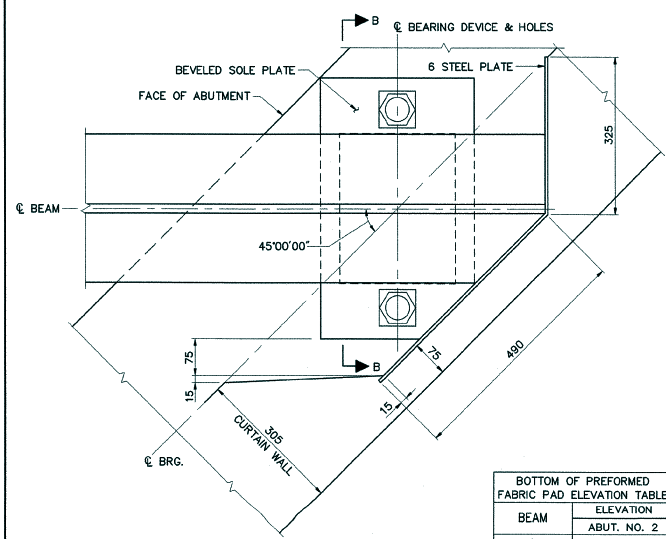


ELEVATION

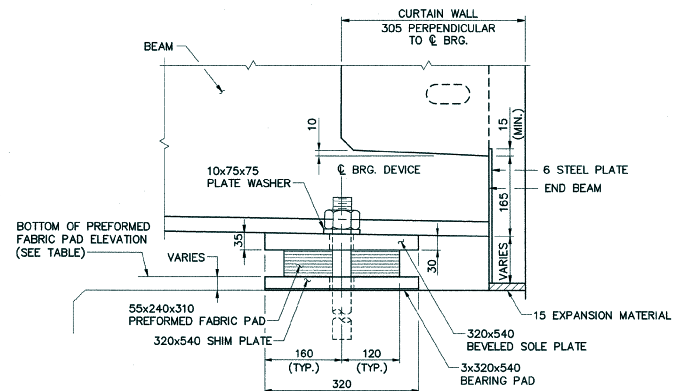
EXPANSION BEARINGS (ABUT. NO. 1)
SCALE: 1:5



SECTION A-A

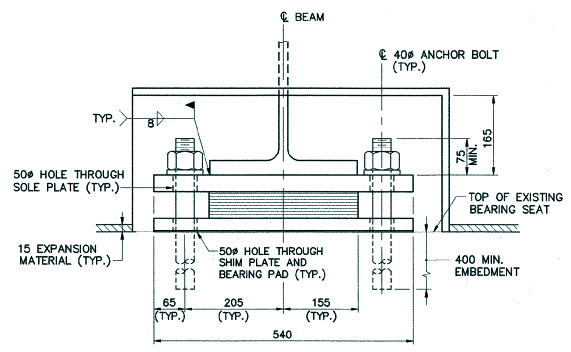


PLAN A-2



ELEVATION

FIXED BEARINGS (ABUT. NO. 2)
SCALE: 1:5



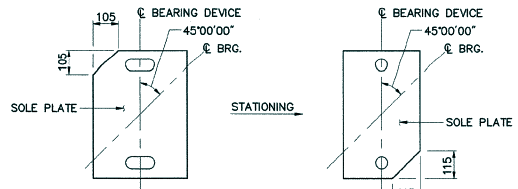
SECTION B-B

- NOTES:**
1. THE "A" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED AFTER THE DEAD LOAD HAS BEEN APPLIED. THE "B" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED BEFORE DEAD LOAD IS ADDED TO THE BEAM SELFWEIGHT. THE DIFFERENCE IS THE ELONGATION DUE TO DEAD LOAD DEFLECTION OF THE SLAB, BRUSH CURB, BRIDGE RAIL, AND PAVEMENT.

BOTTOM OF PREFORMED FABRIC PAD ELEVATION TABLE	
BEAM	ELEVATION
1	297.955
2	298.047
3	298.116
4	298.093
5	298.050

* SHIM PLATE NOT REQUIRED

NOTE: SHIM PLATES NOT USED

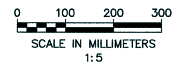


ABUT. NO. 1

ABUT. NO. 2

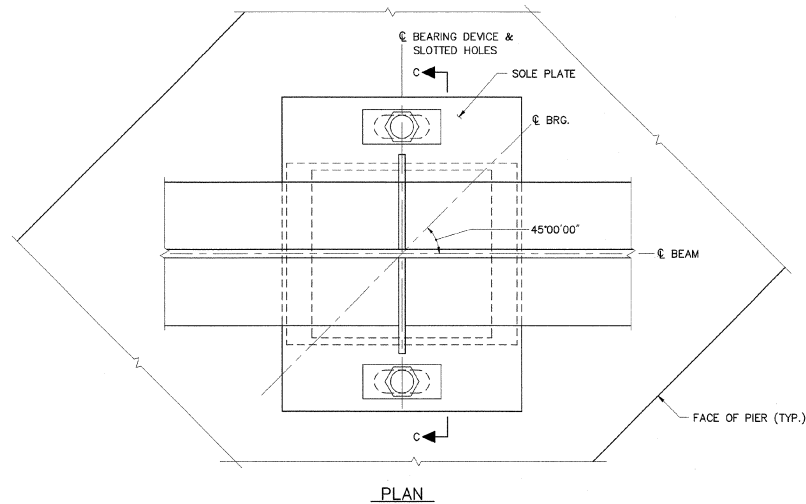
CLIPPING DETAILS
N.T.S.

TEMPERATURE ADJUSTMENT TABLE A		
TEMPERATURE	ABUT. NO. 1	ABUT. NO. 2
-18° C	96	104
-9° C	89	97
-1° C	82	90
7° C	75	83
16° C	68	76
24° C	61	69
32° C	54	62
41° C	47	55

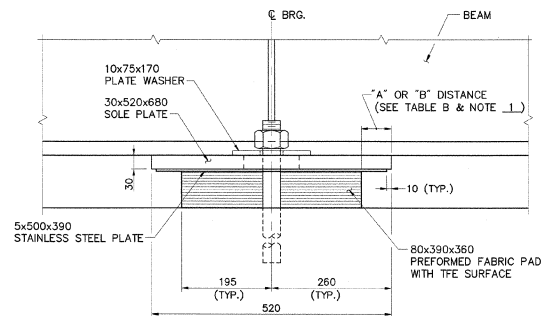


**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

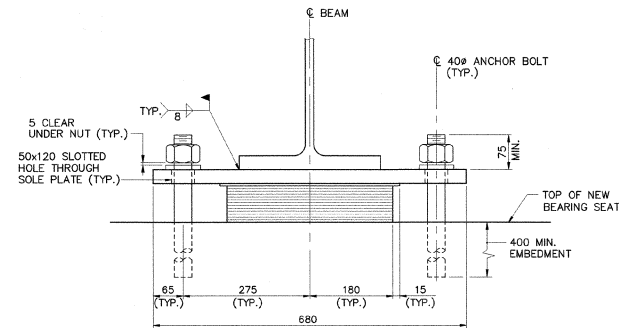
Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
ABUTMENT BEARING DETAILS			
Designed By	C.R. WILSON	Drawn By	R.F. CLARK
Checked By	M.A. COLGAN	Date	9/99
		Bridge Design Supervisor	S.M. GUNN
		Date	9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info. 93b067/sb067ab			
Bridge Sheet No. 50541BRG		Sheet 23 of 50	



TEMPERATURE ADJUSTMENT - TABLE B		
	PIER #1	PIER #2
TEMPERATURE	"A" OR "B"	"A" OR "B"
-18° C	79	72
-9° C	74	70
-1° C	70	67
7° C	65	65
16° C	60	63
24° C	56	60
32° C	51	58
41° C	46	56



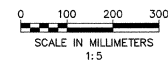
EXPANSION BEARINGS
(PIER NO. 1 & PIER NO. 2)
SCALE: 1:5

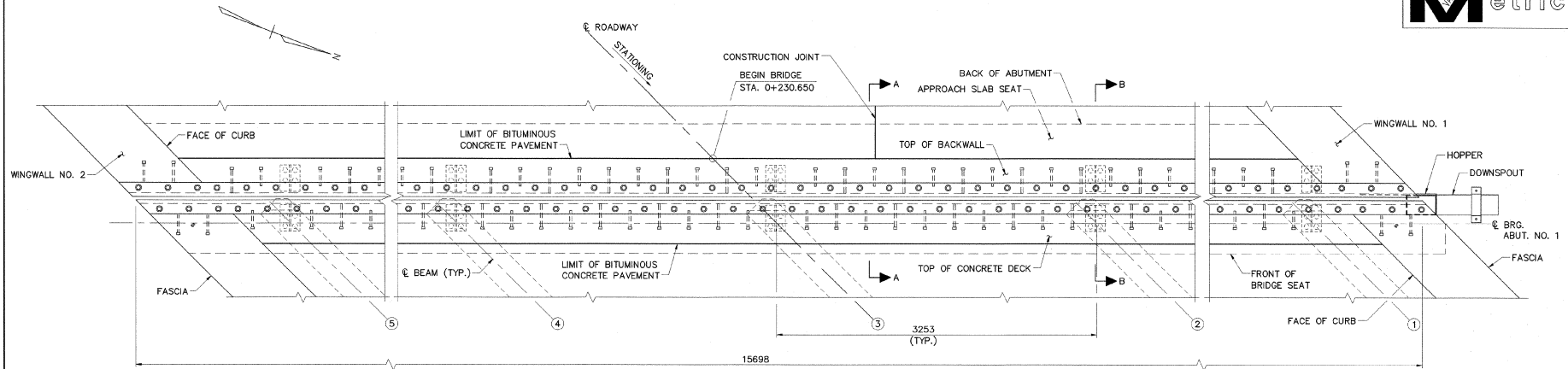


NOTE:
1. THE "A" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED AFTER THE DEAD LOAD HAS BEEN APPLIED. THE "B" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED BEFORE DEAD LOAD IS ADDED TO THE BEAM SELFWEIGHT. THE DIFFERENCE IS THE ELONGATION DUE TO DEAD LOAD DEFLECTION OF THE SLAB, BRUSH CURB, BRIDGE RAIL, AND PAVEMENT.

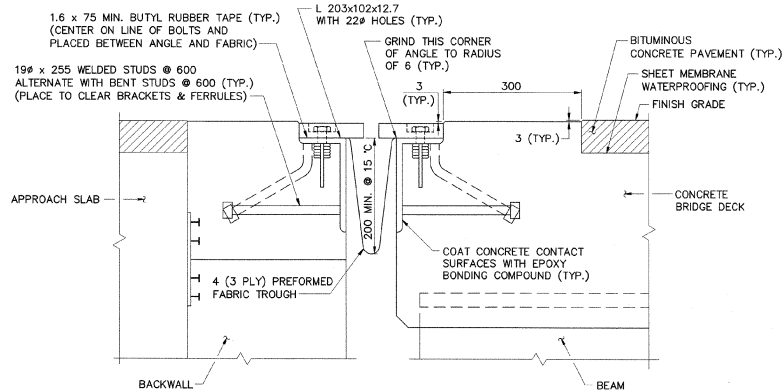
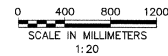
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
PIER BEARING DETAILS			
Designed By	C.R. WILSON	Drawn By	R.F. CLARK
Checked By	M.A. COLGAN	Bridge Design Supervisor	S.M. GUNN
	9/99	Date	9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info.	93b067/sb067pie		
Bridge Sheet No.	50541BRG	Sheet	24 of 50

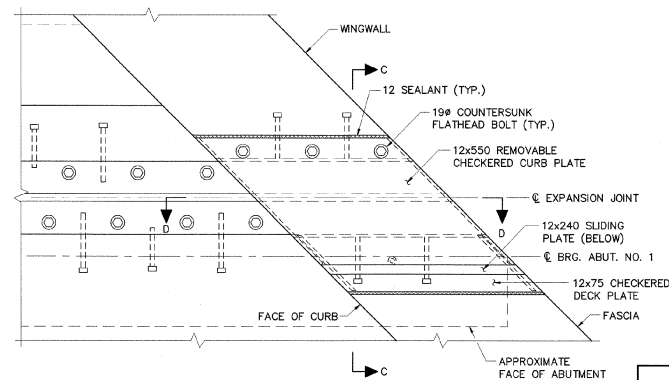




PLAN
(SHOWN AT ROADWAY ELEVATION)
(DRAIN TROUGH NOT SHOWN FOR CLARITY)
SCALE: 1:20



SECTION A-A
(REINFORCING STEEL NOT SHOWN)
SCALE: 1:5



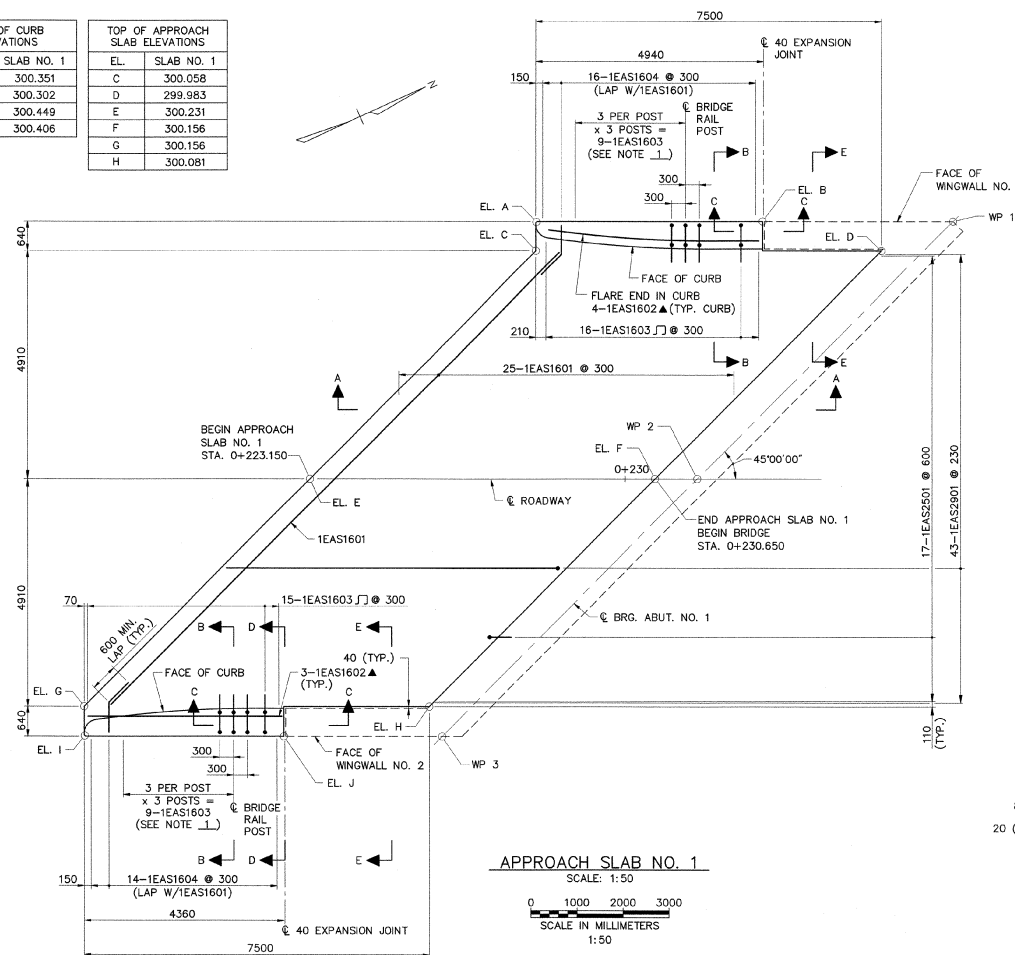
TYPICAL CURB PLAN
(SHOWN AT TOP OF CURB ELEVATION)
(DRAIN TROUGH AND DOWNSPOUT NOT SHOWN FOR CLARITY)
SCALE: 1:10



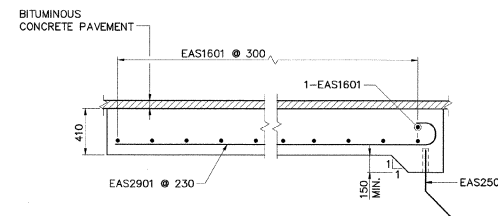
**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
EXPANSION JOINT (1 OF 2)			
Designed By	M.A. COLGAN	Drawn By	B.J. MASSE
Checked By	S.M. SAREAULT	Bridge Design Supervisor	
Date	9/99	Date	9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info. 93b067/sb067ej1			
Bridge Sheet No. 50541JT		Sheet 25 of 50	

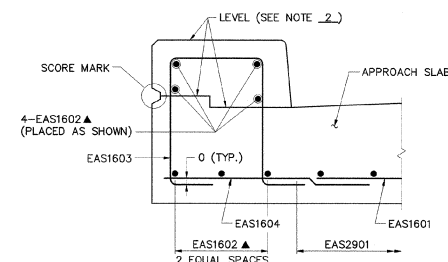
TOP OF CURB ELEVATIONS		TOP OF APPROACH SLAB ELEVATIONS	
EL.	SLAB NO. 1	EL.	SLAB NO. 1
A	300.351	C	300.058
B	300.302	D	299.983
I	300.449	E	300.231
J	300.406	F	300.156
		G	300.156
		H	300.081



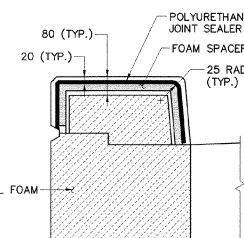
APPROACH SLAB NO. 1
SCALE: 1:50
0 1000 2000 3000
SCALE IN MILLIMETERS
1:50



SECTION A-A
SCALE: 1:20
0 400 800 1200
SCALE IN MILLIMETERS
1:20



SECTION B-B
SCALE: 1:10



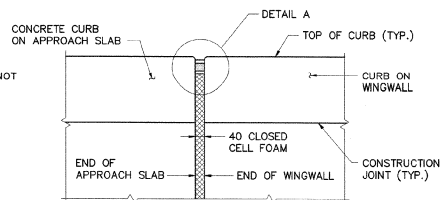
SECTION D-D
(TYPICAL CURB SECTION)
SCALE: 1:10

- NOTE:**
- BRIDGE RAIL NOT SHOWN FOR CLARITY. SEE STANDARD SHEET BR1-97M FOR REINFORCING STEEL DETAIL AT BRIDGE RAIL POSTS.
 - SEE SHEET 15 FOR TYPICAL CURB DETAIL.

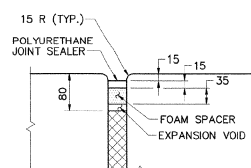
KEY
N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
▲ = CUT TO FIT IN FIELD

EXPANSION JOINT NOTES:

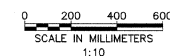
- LONGITUDINAL REINFORCING SHALL NOT PASS THROUGH EXPANSION JOINTS.
- POLYURETHANE JOINT SEALER, PER SECTION 524, SHALL MATCH THE CONCRETE COLOR.
- ALL COST TO BE INCLUDED IN ITEM 501.25, CONCRETE CLASS B.



SECTION C-C
SCALE: 1:10



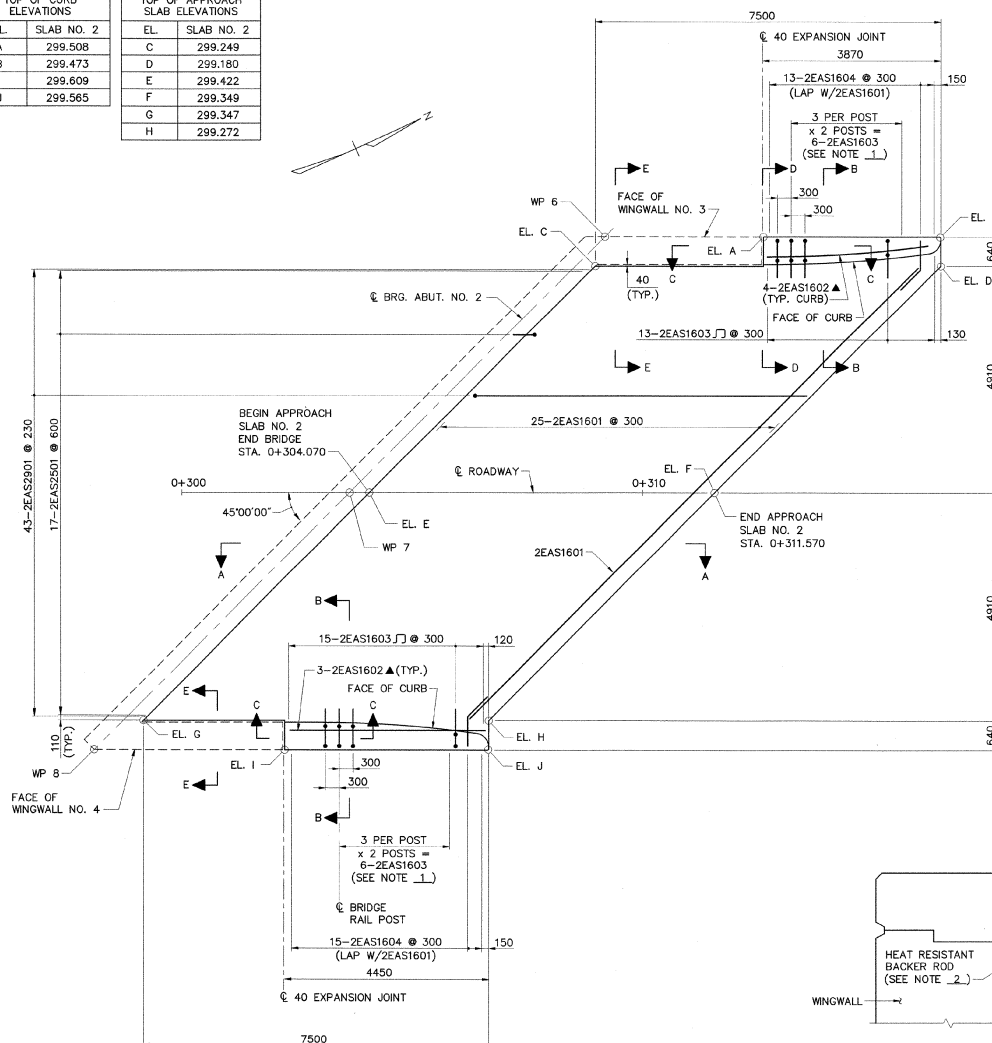
DETAIL A
N.T.S.



STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
APPROACH SLABS (1 OF 2)			
Designed By	M.A. COLGAN	Drawn By	R.F. CLARK
Checked By	C.R. WILSON	Bridge Design Supervisor	
Date	9/99	S.M. GUNN	Date 9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info. 93b067/sb067as1			
Bridge Sheet No. 50541AS1		Sheet 28 of 50	

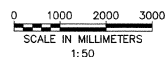
TOP OF CURB ELEVATIONS	
EL.	SLAB NO. 2
A	299.508
B	299.473
I	299.609
J	299.565

TOP OF APPROACH SLAB ELEVATIONS	
EL.	SLAB NO. 2
C	299.249
D	299.180
E	299.422
F	299.349
G	299.347
H	299.272

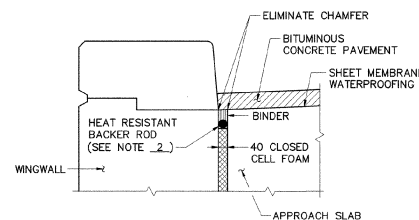


APPROACH SLAB NO. 2

SCALE: 1:50

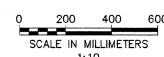


SCALE IN MILLIMETERS
1:50

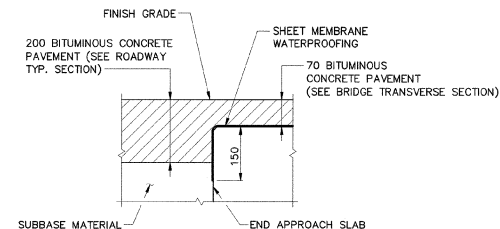


SECTION E-E

SCALE: 1:10

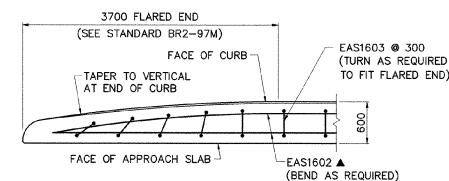


SCALE IN MILLIMETERS
1:10



DETAIL FOR SHEET MEMBRANE
AT APPROACH SLAB ENDS

N.T.S.



TYPICAL CURB FLARED END DETAIL

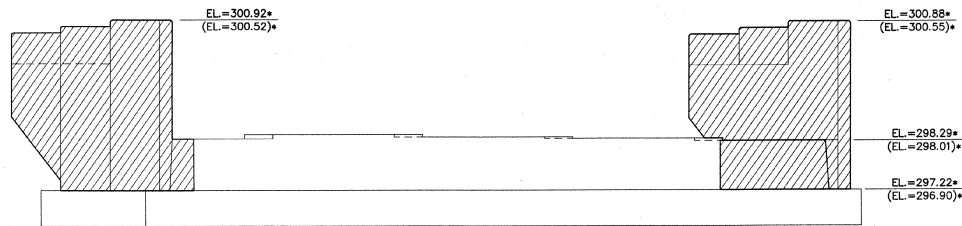
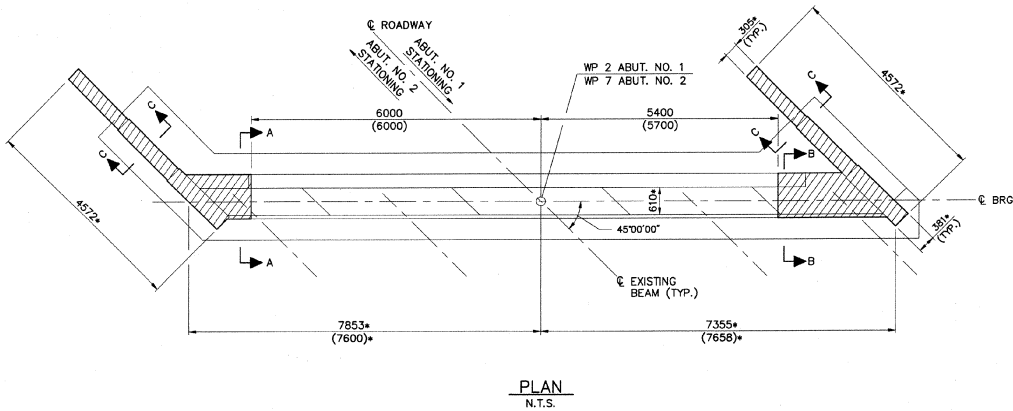
N.T.S.

NOTES:

- SEE STANDARD SHEET BR1-97M FOR REINFORCING STEEL DETAIL AT BRIDGE RAIL POSTS.
- HEAT RESISTANT BACKER ROD SHALL BE AS PER SUBSECTION 707.04(c). ALL COSTS FOR MATERIALS AND LABOR TO SEAL JOINT SHALL BE INCLUDED IN ITEM 501.25, CONCRETE, CLASS B.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

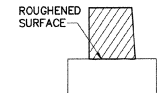
Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
APPROACH SLABS (2 OF 2)			
Designed By	M.A. COLGAN	Drawn By	R.F. CLARK
Checked By	Date	Bridge Design Supervisor	
C.R. WILSON	9/99	S.M. GUNN	Date 9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info. 936067/sb067as2			
Bridge Sheet No. 50541AS2			



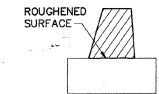
ELEVATION
N.T.S.

DENOTES LIMIT OF REMOVAL

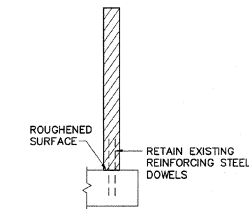
* APPROXIMATE EXISTING
ELEVATION OR DIMENSION



SECTION A-A
N.T.S.



SECTION B-B
N.T.S.



SECTION C-C
N.T.S.

REMOVAL NOTES:

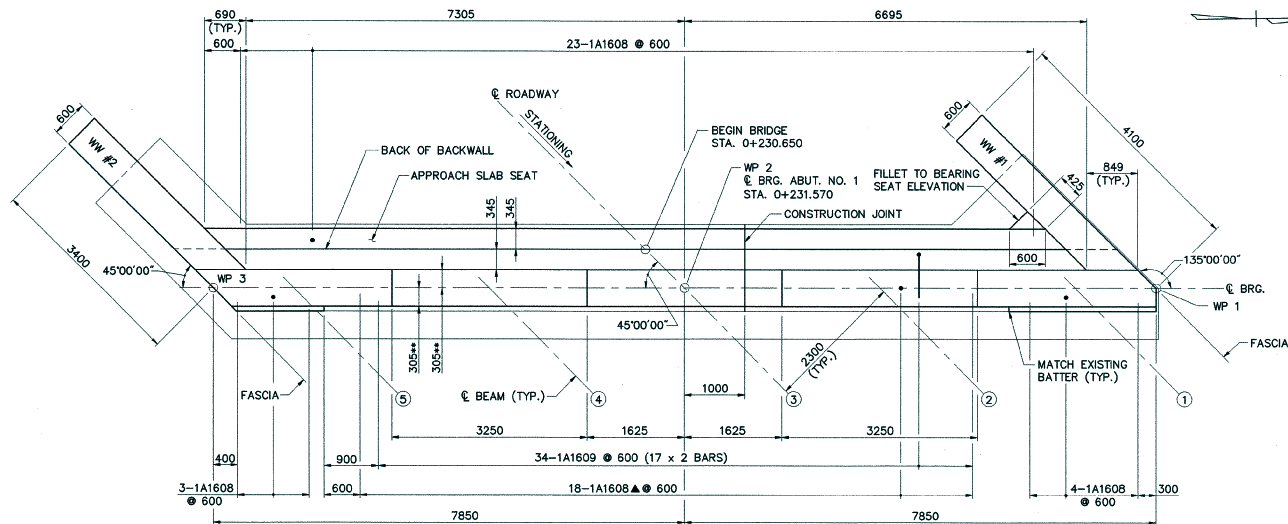
1. REMOVAL OF EXISTING BRIDGE PAVEMENT SHALL BE PAID AS ITEM 529.10, REMOVAL OF BRIDGE PAVEMENT.
2. ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE SHALL INCLUDE:
 - a. REMOVAL OF THE EXISTING BRIDGE RAILING, CONCRETE BRUSH CURBS, CONCRETE BRIDGE DECK, CURTAIN WALLS AND APPROACH SLABS.
 - b. REMOVAL OF THE EXISTING CONCRETE BARRIER. THE EXISTING CONCRETE BARRIER SHALL REMAIN THE PROPERTY OF THE STATE. THE CONTRACTOR SHALL REMOVE AND STOCKPILE THE EXISTING CONCRETE BARRIER AS DIRECTED BY THE ENGINEER.
 - c. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE BEAMS FROM THE BRIDGE AND LOADING THEM ON TRUCKS SUPPLIED BY OTHERS. NO OTHER WORK IS NECESSARY.
 - d. REMOVAL OF ALL THE BEARING DEVICES.
 - e. REMOVAL OF PORTIONS OF THE EXISTING ABUTMENTS, WINGWALLS, AND PIERS AS SHOWN ON THE PLANS AND DIRECTED BY THE ENGINEER.
 - f. ERECTION, MAINTENANCE, AND REMOVAL OF TEMPORARY STRUCTURES TO PREVENT DEBRIS FROM FALLING INTO THE MOOSE RIVER.
3. THE CONTRACTOR'S METHODS FOR PARTIAL REMOVAL OF THE EXISTING STRUCTURES SHALL BE APPROVED BY THE ENGINEER PRIOR TO ANY REMOVAL WORK.
4. LIMITS OF REMOVAL ARE APPROXIMATE. THE ENGINEER SHALL ESTABLISH ACTUAL LIMITS AFTER A COOPERATIVE INSPECTION BY THE CONTRACTOR AND THE ENGINEER. EXISTING ELEVATIONS SHALL BE FIELD VERIFIED TO ENSURE THE REMOVAL LIMITS ARE ADEQUATE TO OBTAIN THE REQUIRED DIMENSIONS AND ELEVATIONS OF THE NEW CONSTRUCTION.
5. SAWCUTS SHALL BE 25 MILLIMETERS DEEP ALONG ALL EXPOSED REMOVAL LINES WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE. ALL COSTS SHALL BE INCLUDED IN ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE.
6. EXISTING REINFORCING STEEL EXPOSED DURING REMOVAL OPERATIONS, WITHIN THE LIMITS OF THE NEW MASONRY, SHALL BE RETAINED AND INCORPORATED INTO THE NEW MASONRY. EXISTING REINFORCING STEEL TO BE RETAINED SHALL BE CLEANED OF ALL CONCRETE, DIRT, SCALE, PAINT, OIL, AND OTHER FOREIGN SUBSTANCES. ALL COSTS SHALL BE INCLUDED IN ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE.
7. EXISTING REINFORCING STEEL THAT WILL NOT BE INCORPORATED INTO THE NEW MASONRY SHALL BE REMOVED A MINIMUM OF 25 MILLIMETERS BEYOND THE MASONRY SURFACE. CAVITIES PRODUCED BY REMOVAL SHALL BE REPAIRED IN ACCORDANCE WITH REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I. ALL COSTS SHALL BE INCLUDED IN ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE.
8. EXISTING ANCHOR BOLTS SHALL BE PARTIALLY REMOVED OR INCORPORATED INTO THE NEW WORK AS DIRECTED BY THE ENGINEER. PARTIAL REMOVAL DETAILS FOR OR INCORPORATION INTO THE NEW WORK SHALL BE SIMILAR AS REQUIRED FOR REINFORCING STEEL.
9. SEE SHEET 35 FOR CONCRETE REPAIR DETAILS AND NOTES.

NOTE:

1. ABUTMENT NO. 1 IS SHOWN. ABUTMENT NO. 2 ELEVATIONS AND DIMENSIONS ARE SHOWN IN PARENTHESES.

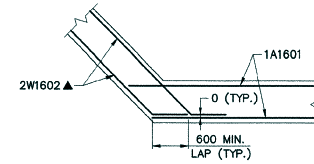
STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
ABUTMENT REMOVAL AND REPAIR			
Designed By	C.R. WILSON	Drawn By	B.J. MASSE
Checked By	M.A. COLGAN	Bridge Design Supervisor	S.M. GUNN
Date	9/99	Date	9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info.	93b067/ab067abr		
Bridge Sheet No.	50541AR	Sheet	30 of 50

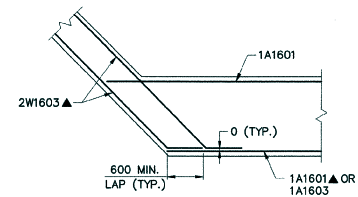


ABUTMENT NO. 1 PLAN
SCALE: 1:40

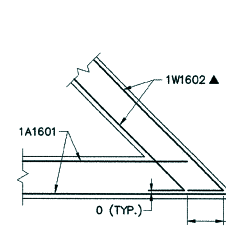
* ELEVATIONS ARE AT FACE OF BACKWALL
** APPROXIMATE EXISTING ELEVATION OR DIMENSION



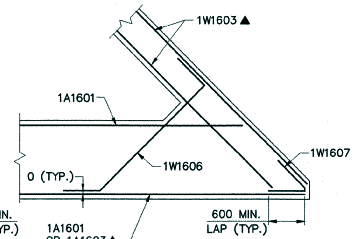
SECTION D-D
(VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY)
SCALE: 1:40



SECTION E-E
(VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY)
SCALE: 1:40



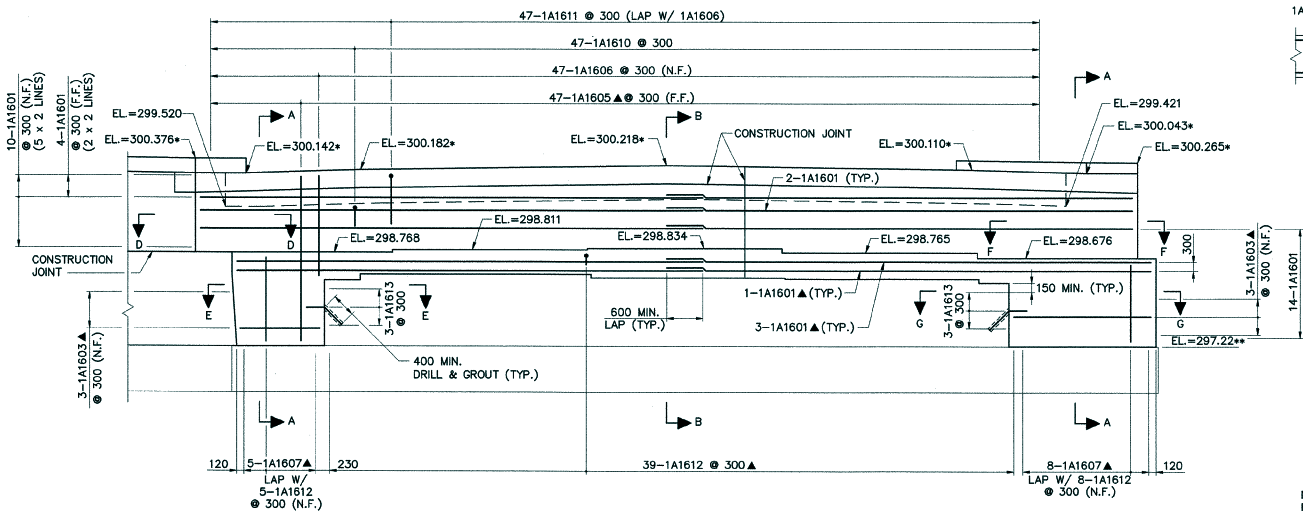
SECTION F-F
(VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY)
SCALE: 1:40



SECTION G-G
(VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY)
SCALE: 1:40

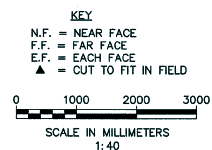
NOTES:

- ELEVATIONS SHOWN AT TOP OF BACKWALL ARE 3 MILLIMETERS BELOW FINISH GRADE.



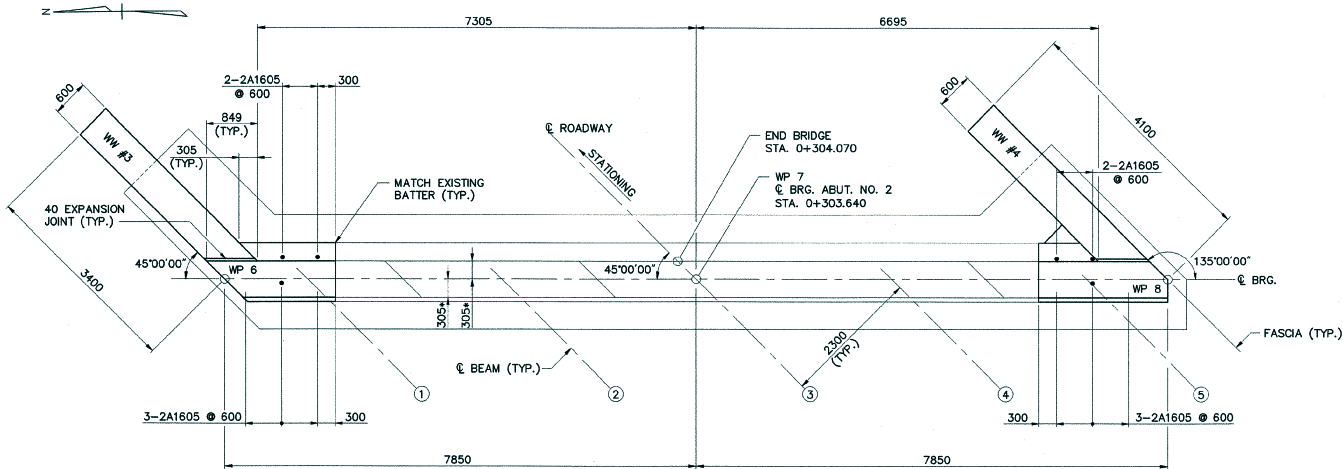
ABUTMENT NO. 1 ELEVATION
SCALE: 1:40

NOTE: ABUTMENT ELEVATION FIGURES AS PER PLAN



**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

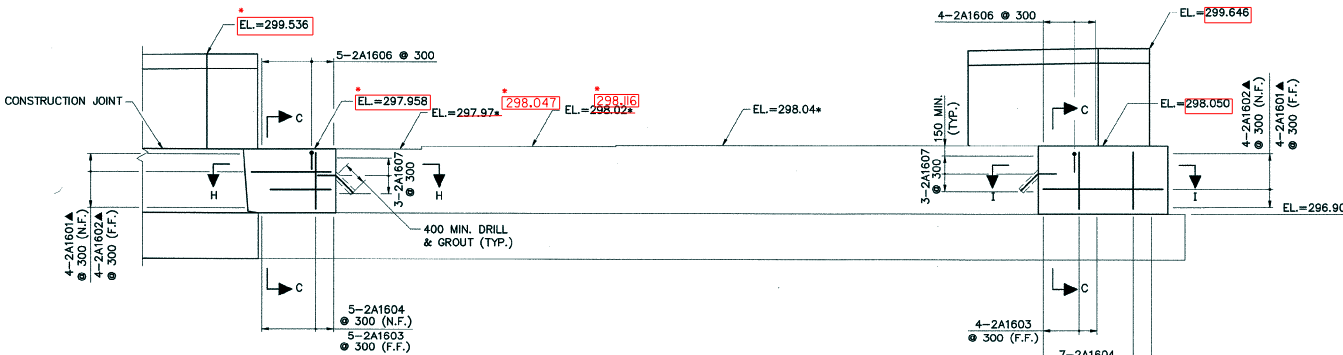
Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
ABUTMENT NO. 1			
Designed By	C.R. WILSON	Drawn By	R.F. CLARK
Checked By	M.A. COLGAN	Date	9/99
		Bridge Design Supervisor	S.M. GUNN
		Date	9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info. 93b067/sb067ab1			
Bridge Sheet No. 50541AB1		Sheet 31 of 50	



ABUTMENT NO. 2 PLAN
SCALE: 1:40

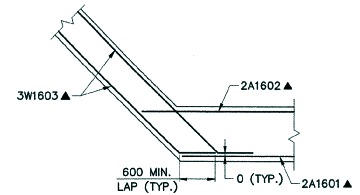
* APPROXIMATE EXISTING ELEVATION OR DIMENSION

* = NOTE: *AS BUILT ELEVATION

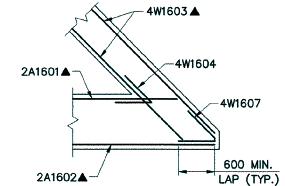


ABUTMENT NO. 2 ELEVATION
SCALE: 1:40

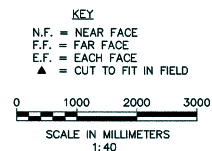
NOTE:
EXISTING ABUTEMENT CONCRETE REMOVED 150[±] MM
DOWELS AND RE-BAR CLEANED AND POURED
TO NOTED ELEVATIONS.



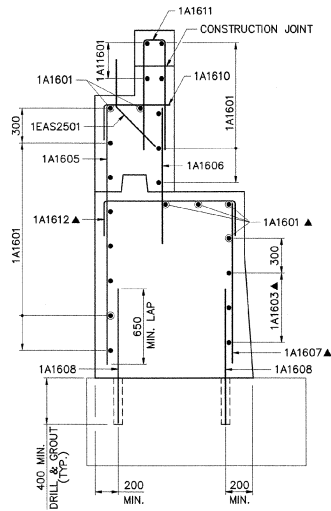
SECTION H-H
(VERTICAL REINFORCEMENT
NOT SHOWN FOR CLARITY)
SCALE: 1:40



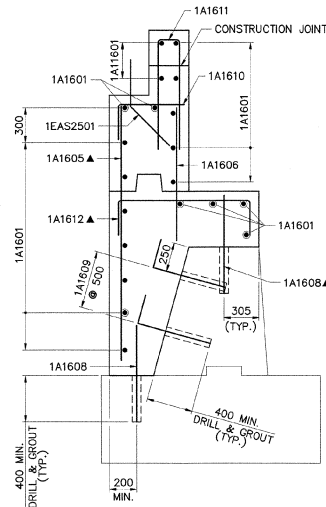
SECTION I-I
(VERTICAL REINFORCEMENT
NOT SHOWN FOR CLARITY)
SCALE: 1:40



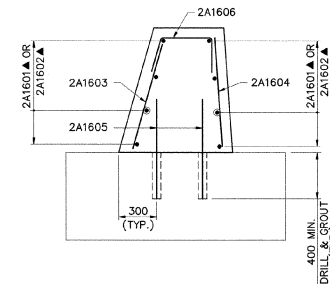
STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
ABUTMENT NO. 2			
Designed By	C.R. WILSON	Drawn By	B.J. MASSE
Checked By	M.A. COLGAN	Bridge Design Supervisor	S.M. GUNN
	9/99	Date	9/99
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
L.G.C. Info. 93b067/3b067ab2			
Bridge Sheet No. 50541AB2		Sheet 32 of 50	



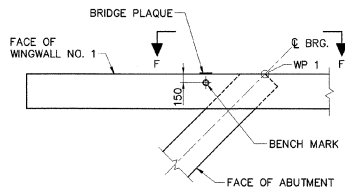
SECTION A-A
SCALE: 1:20



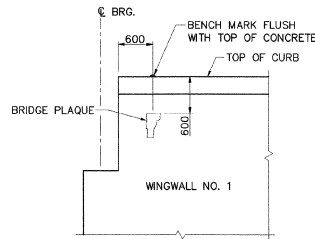
SECTION B-B
SCALE: 1:20



SECTION C-C
SCALE: 1:20



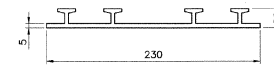
PLAN



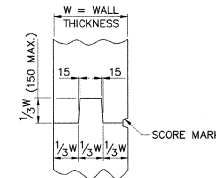
VIEW F-F

THE BENCH MARK AND BRIDGE PLAQUE SHALL BE INSTALLED BY THE CONTRACTOR AT WINGWALL NO. 1 AS SHOWN OR AS DIRECTED BY THE ENGINEER.

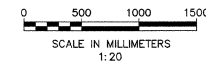
BENCH MARK AND BRIDGE PLAQUE LOCATION
N.T.S.



P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS
N.T.S.

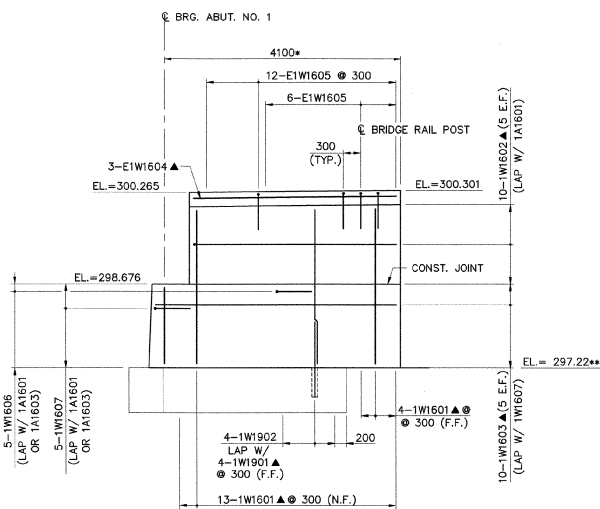


TYPICAL CONCRETE CONSTRUCTION JOINT
N.T.S.



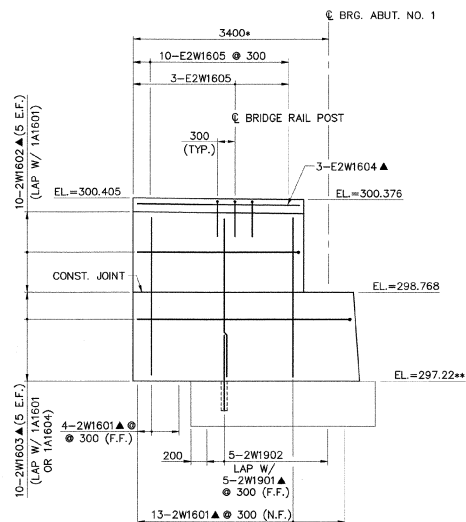
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
SUBSTRUCTURE DETAILS			
Designed By	C.R. WILSON	Drawn By	B.J. MASSE
Checked By	M.A. COLGAN	Date	9/99
		Bridge Design Supervisor	S.M. GUNN
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info. 93b067/5b067sub		Sheet 33 of 50	
Bridge Sheet No. 50541SD1		PLOTTED 9-22-99	

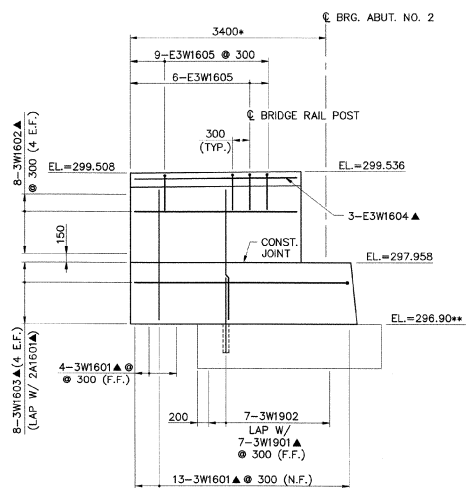


WINGWALL NO. 1 ELEVATION
SCALE: 1:40

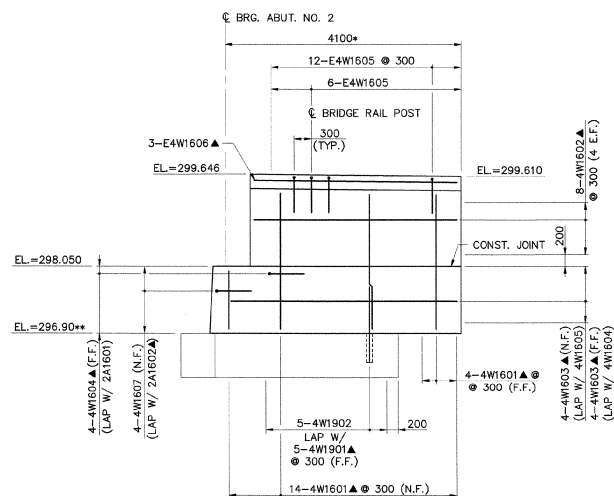
* DIMENSIONS ALONG FACE OF WINGWALL
** APPROXIMATE EXISTING ELEVATION OR DIMENSION



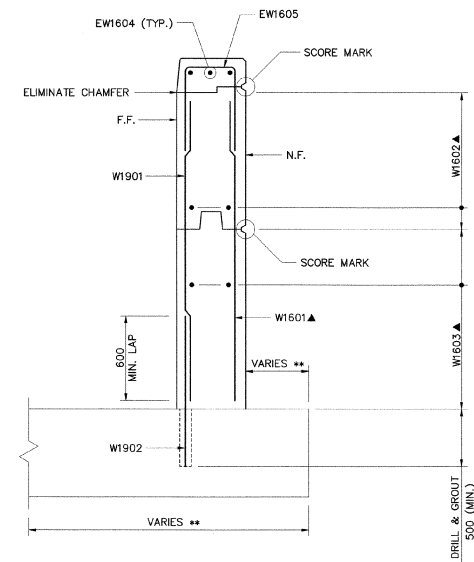
WINGWALL NO. 2 ELEVATION
SCALE: 1:40



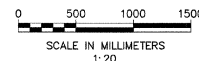
WINGWALL NO. 3 ELEVATION
SCALE: 1:40



WINGWALL NO. 4 ELEVATION
SCALE: 1:40



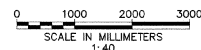
TYPICAL SECTION
SCALE: 1:20



NOTES:

- SEE STANDARD SHEET BR1-97M FOR REINFORCING STEEL DETAIL AT BRIDGE RAIL POSTS.
- SEE SHEET 15 FOR TYPICAL CURB DETAIL.

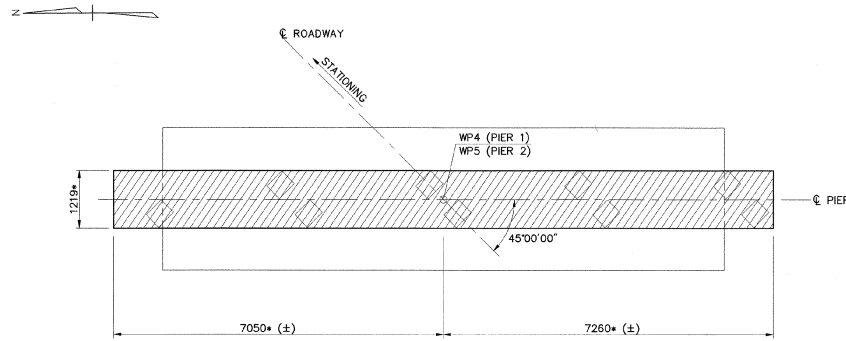
KEY
N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
▲ = CUT TO FIT IN FIELD



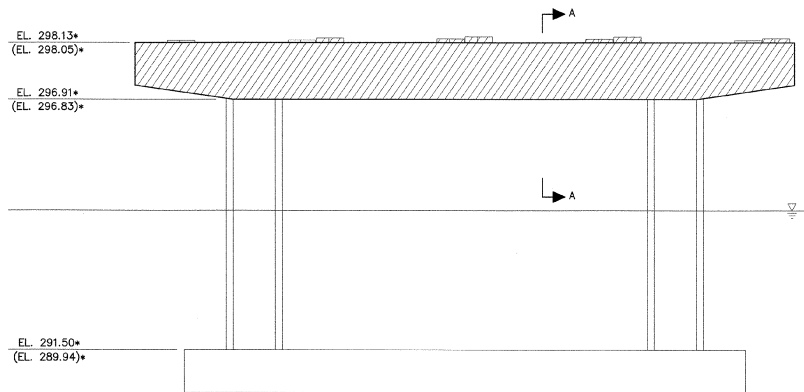
VANASSE HANGEN BRUSTLIN, INC.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
WINGWALL DETAILS			
Designed By	C.R. WILSON	Drawn By	R.F. CLARK
Checked By	Date	Bridge Design Supervisor	
M.A. COLGAN	9/99	S.M. GUNN	Date 9/99
PROJECT		PROJECT NO.	
CONCORD		BHF 028-4(22)	
I.G.C. Info. 93b067/sb067wmd			
Bridge Sheet No. 50541WWR		Sheet 34 of 50	



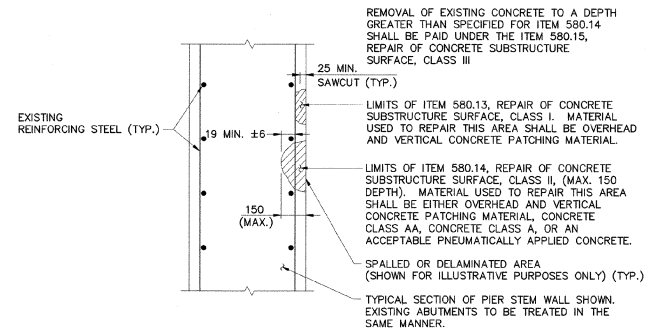
PLAN
N.T.S.



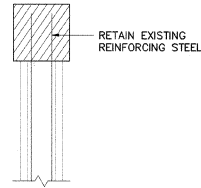
ELEVATION
(SPALLS, DELAMINATIONS AND CRACKS NOT SHOWN)
N.T.S.

▨ DENOTES LIMIT OF REMOVAL

* APPROXIMATE EXISTING ELEVATION OR DIMENSION



REPAIR OF CONCRETE SUBSTRUCTURE SURFACE
CLASS I OR CLASS II
N.T.S.



SECTION A-A
N.T.S.

CONCRETE REPAIR NOTE:

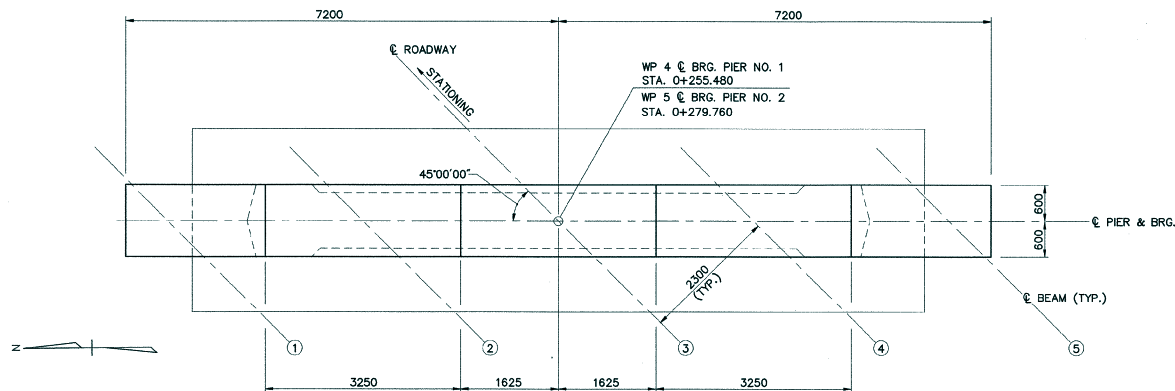
1. THE ENGINEER SHALL ESTABLISH ACTUAL REPAIR LIMITS AFTER A COOPERATIVE INSPECTION BY THE CONTRACTOR AND THE ENGINEER. AREAS OF CONCRETE FOUND TO BE SPALLED, DELAMINATED OR OTHERWISE UNSOUND WILL BE REPAIRED. THE CONTRACTOR SHALL SUPPLY ANY STAGING AND LADDERS REQUIRED FOR THIS INSPECTION. ALL COSTS SHALL BE INCLUDED UNDER ITEM 580.14, REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II.

NOTE:

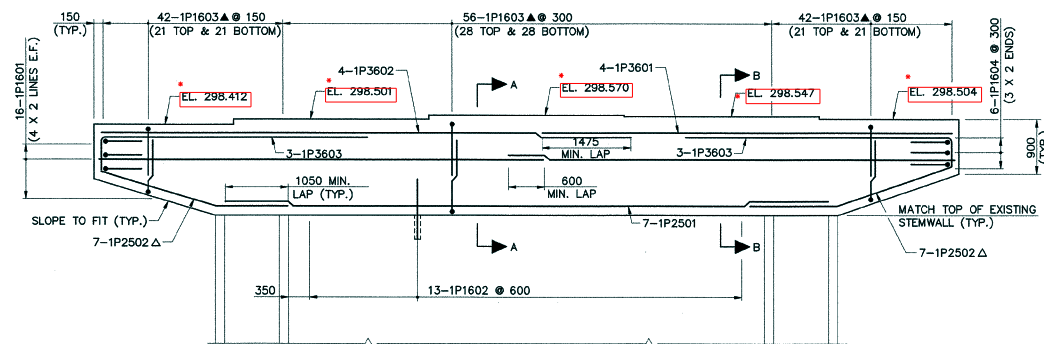
1. SEE SHEET 30 FOR REMOVAL NOTES.
2. PIER NO. 1 IS SHOWN. PIER NO. 2 ELEVATIONS ARE SHOWN IN PARENTHESES.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
PIER REMOVAL AND REPAIR			
Designed By	C.R. WILSON	Drawn By	B.J. MASSE
Checked By	M.A. COLGAN	Date	9/99
		Bridge Design Supervisor	S.M. GUNN
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
I.G.C. Info.	93b067/sbc67pr		
Bridge Sheet No.	50541PR	Sheet	35 of 50

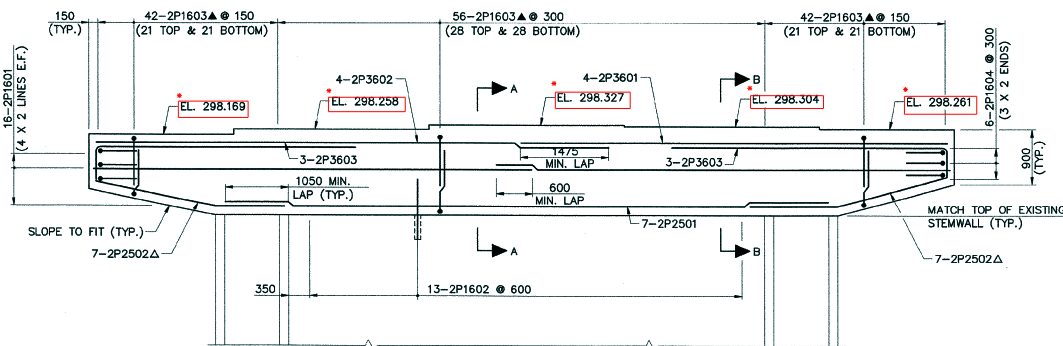


TYPICAL PLAN
SCALE: 1:40

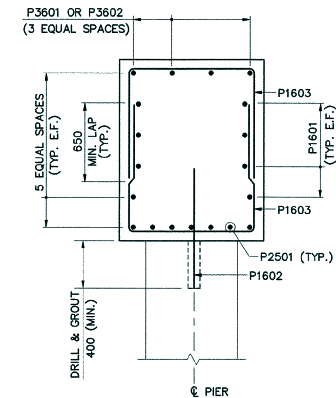


PIER NO. 1
SCALE: 1:40

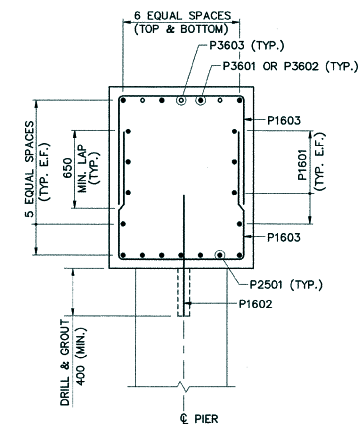
NOTE: * = AS BUILT ELEVATIONS



PIER NO. 2
SCALE: 1:40

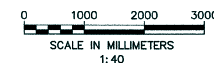


SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

KEY
Δ = BEND TO FIT IN FIELD
▲ = CUT TO FIT IN FIELD
E.F. = EACH FACE



VANASSE HANGEN BRUSTLIN, INC.

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
PIER NO. 1 AND PIER NO. 2			
Designed By	C.R. WILSON	Drawn By	B.J. MASSE
Checked By	M.A. COLGAN	Bridge Design Supervisor	S.M. GUNN
PROJECT	CONCORD	PROJECT NO.	BHF 028-4(22)
L.G.C. Info. 936067/sb067p12		Sheet 36 of 50	
Bridge Sheet No. 50541P1		PLOTTED 9-22-99	

[illegible]

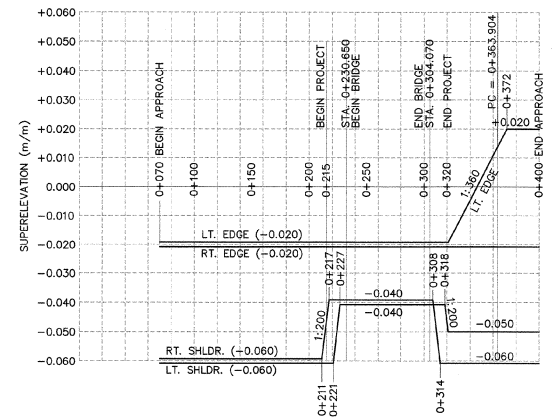
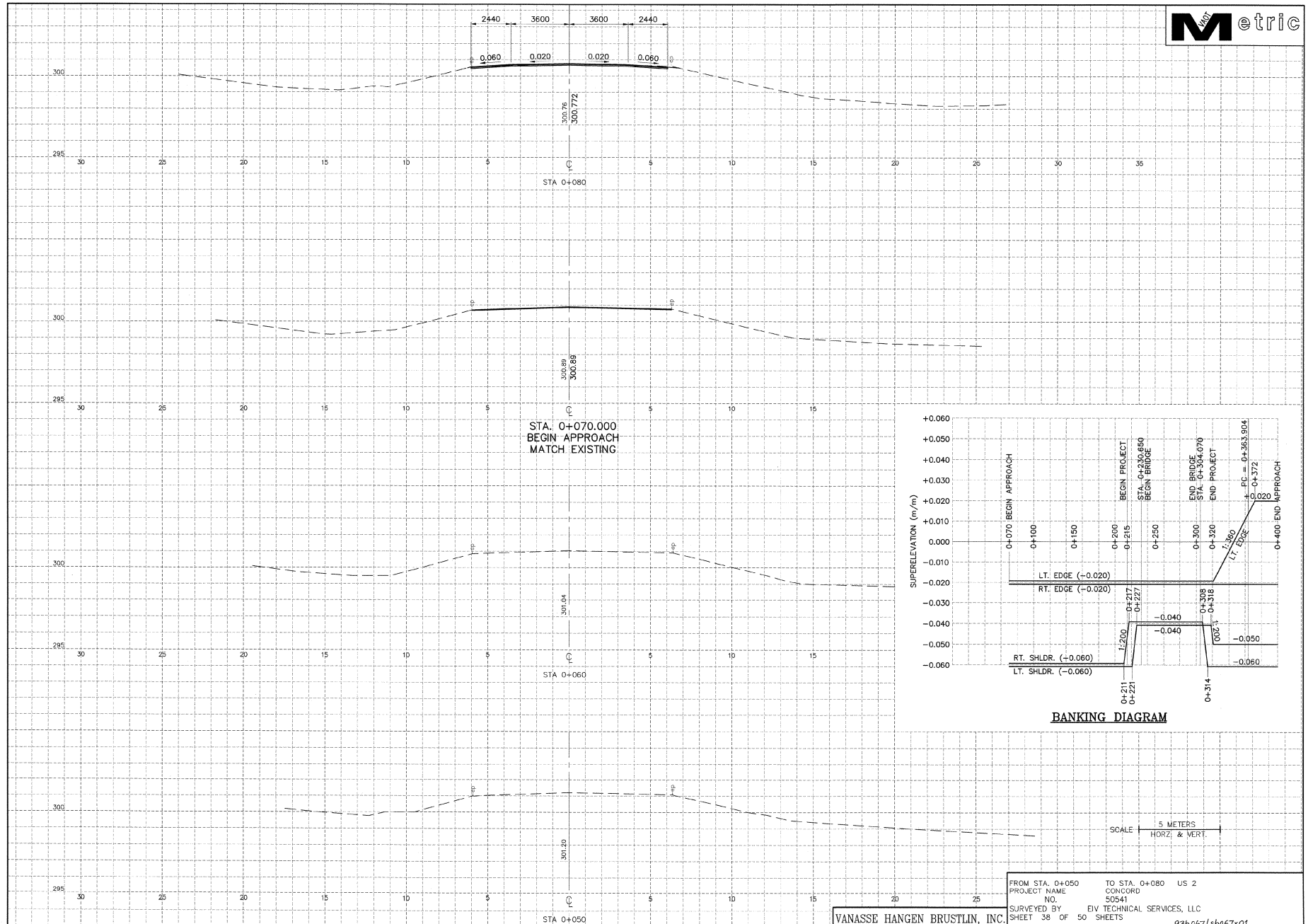
Metric

NOTES:

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 50M SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-S1). ALL BARS SHALL BE GRADE 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° AND 135° HOOKS.
5. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHEN 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. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.
8. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
9. * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. ** DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. Δ DENOTES BARS TO BE BENT TO FIT IN FIELD.
12. ▲ DENOTES BARS TO BE CUT TO FIT IN FIELD.

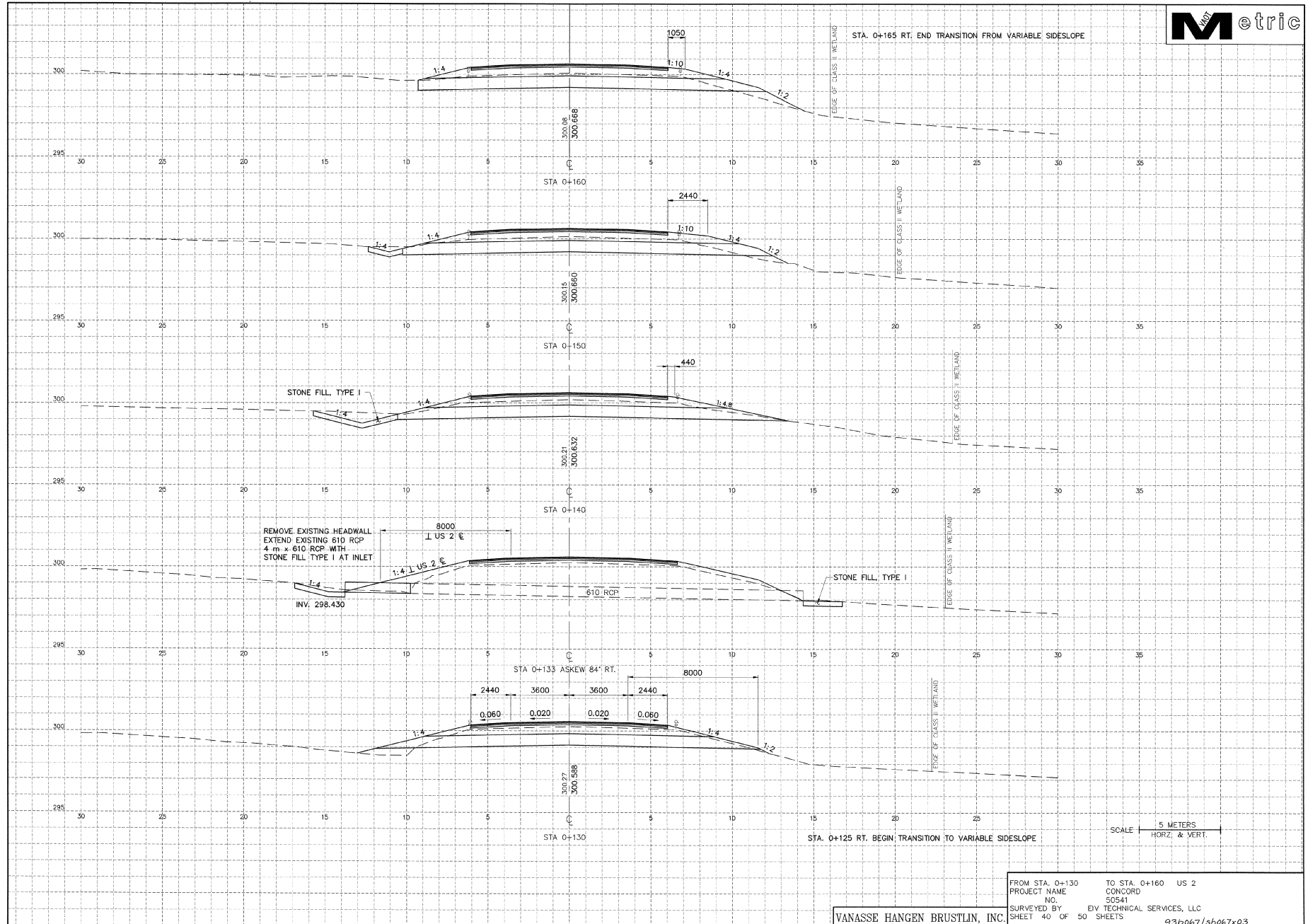
ASTM STANDARD REINFORCING BARS				
BAR SIZE DESIGNATION	MASS (kg/m)	NOMINAL DIAMETER (mm)	CROSS SECTIONAL AREA (mm ²)	SECTION PERIMETER (mm)
#10	0.560	9.5	71	29.9
#13	0.994	12.7	129	39.9
#16	1.552	15.9	199	49.9
#19	2.235	19.1	284	59.8
#22	3.042	22.2	387	69.8
#25	3.973	25.4	510	79.9
#29	5.060	28.7	645	90.0
#32	6.404	32.3	819	101.3
#36	7.907	35.8	1006	112.5
#43	11.38	43.0	1452	135.1
#57	20.24	57.3	2581	180.1

STATE OF VERMONT			
AGENCY OF TRANSPORTATION			
Town Of	CONCORD	Bridge No.	117
Highway No.	US 2	Log Sta.	
		Surv. Sta.	
US 2 OVER MOOSE RIVER			
REINFORCING STEEL SCHEDULE			
Designed By	M.A. COLGAN	Drawn By	B.J. MASSE
Checked By	C.R. WILSON	Bridge Design Supervisor	S.M. GUNN
Date	9/99	Date	9/99
CONCORD		PROJECT NO. BHF 028-4(22)	



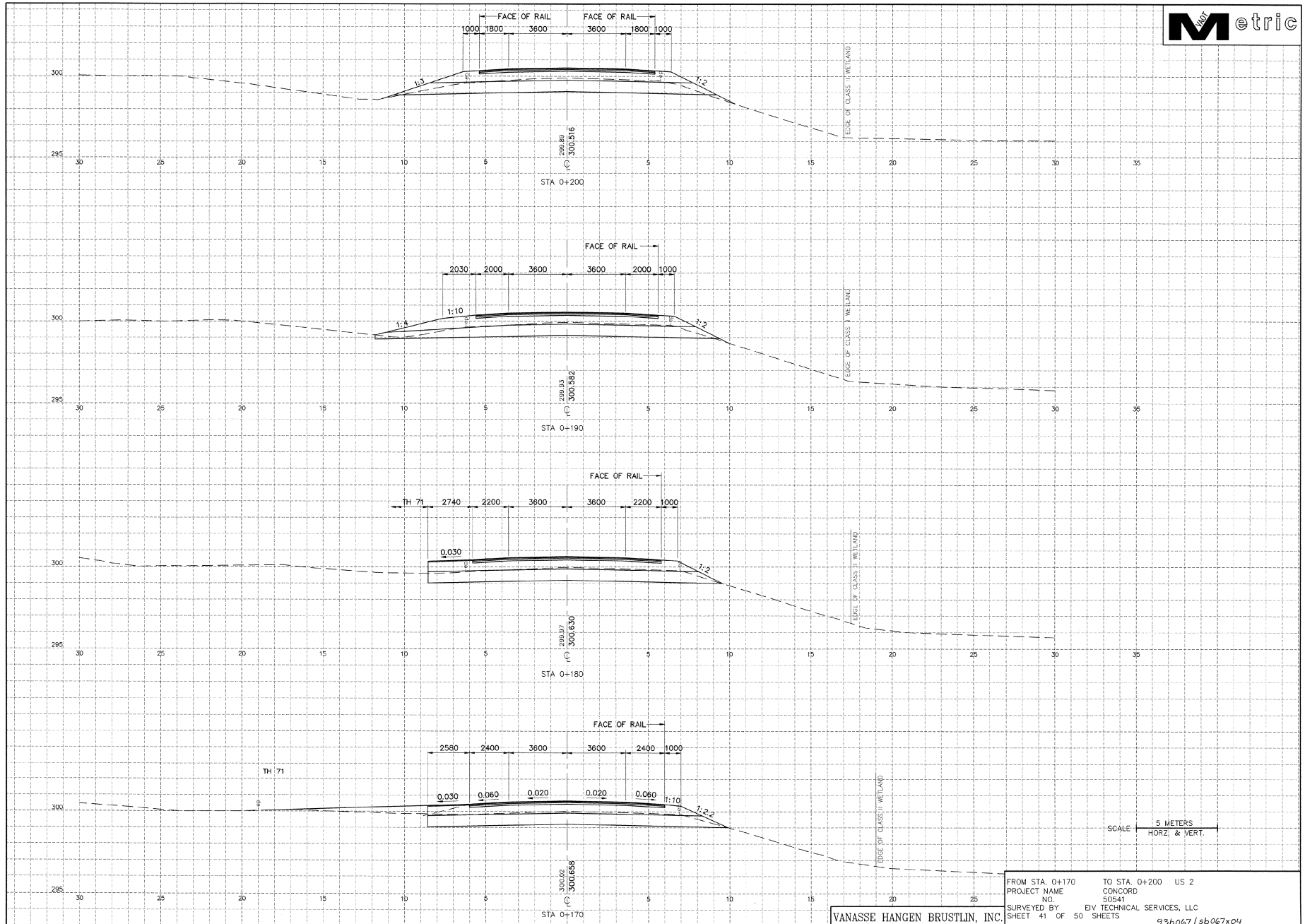
BANKING DIAGRAM

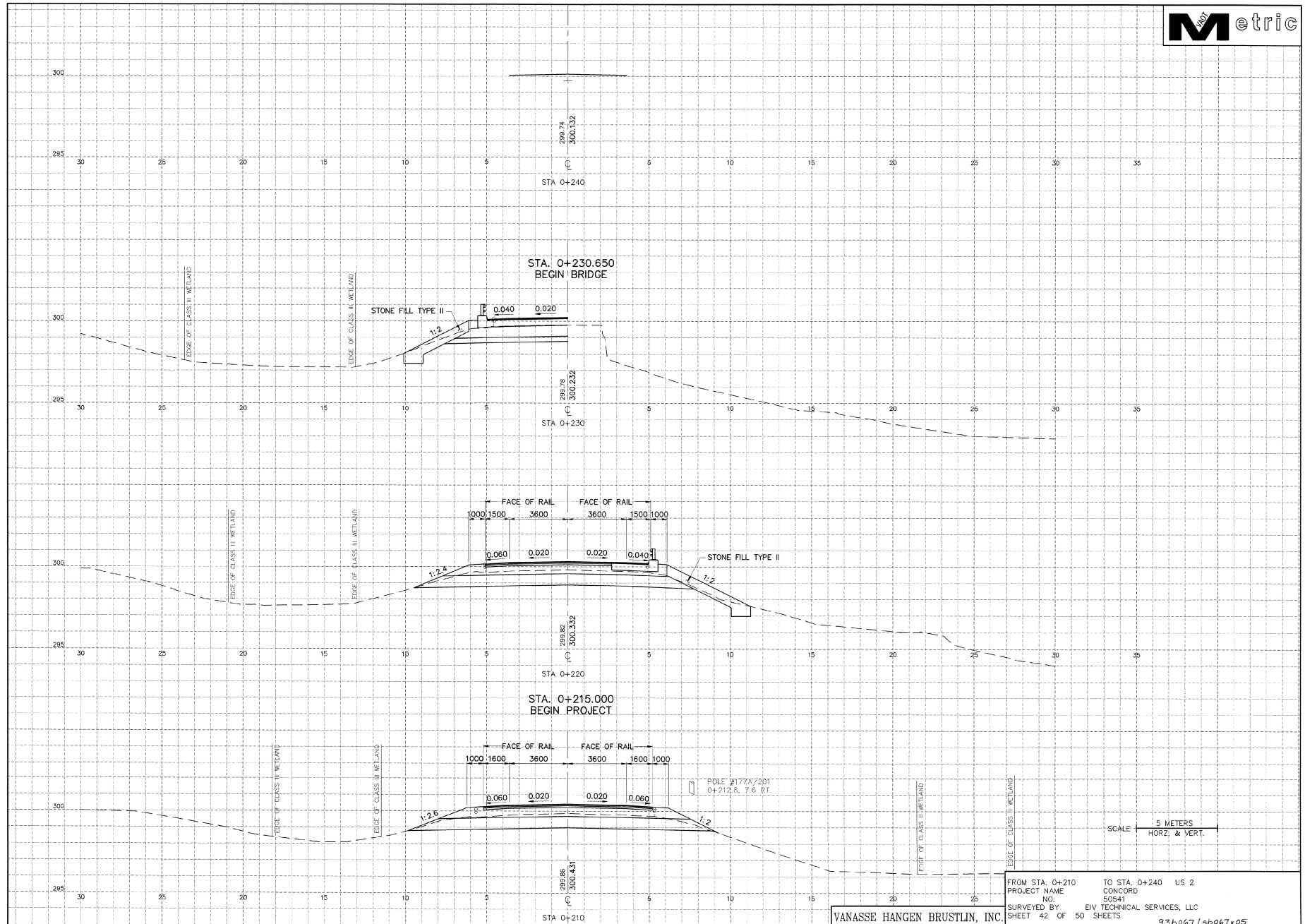
SCALE 5 METERS
HORZ & VERT.

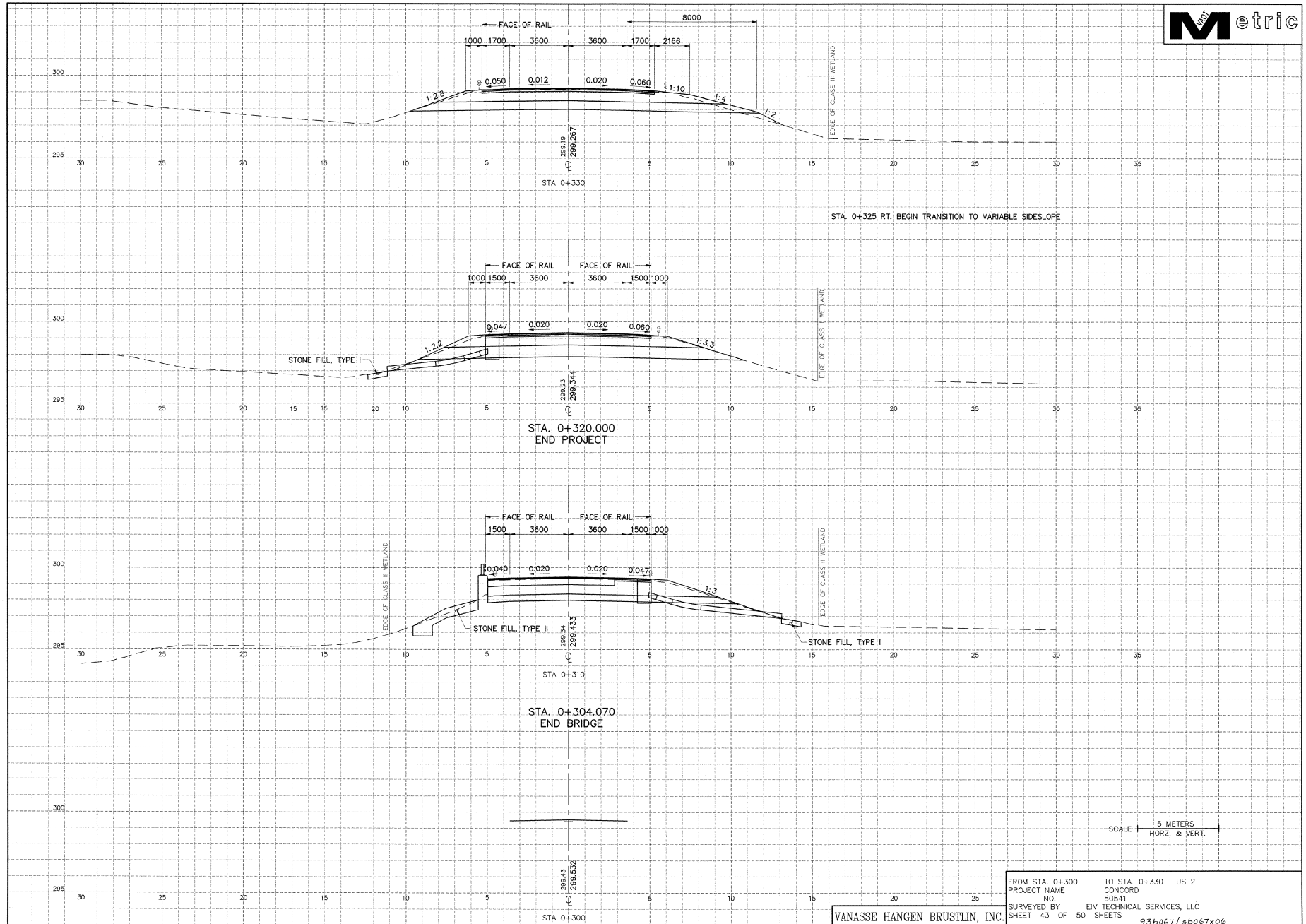


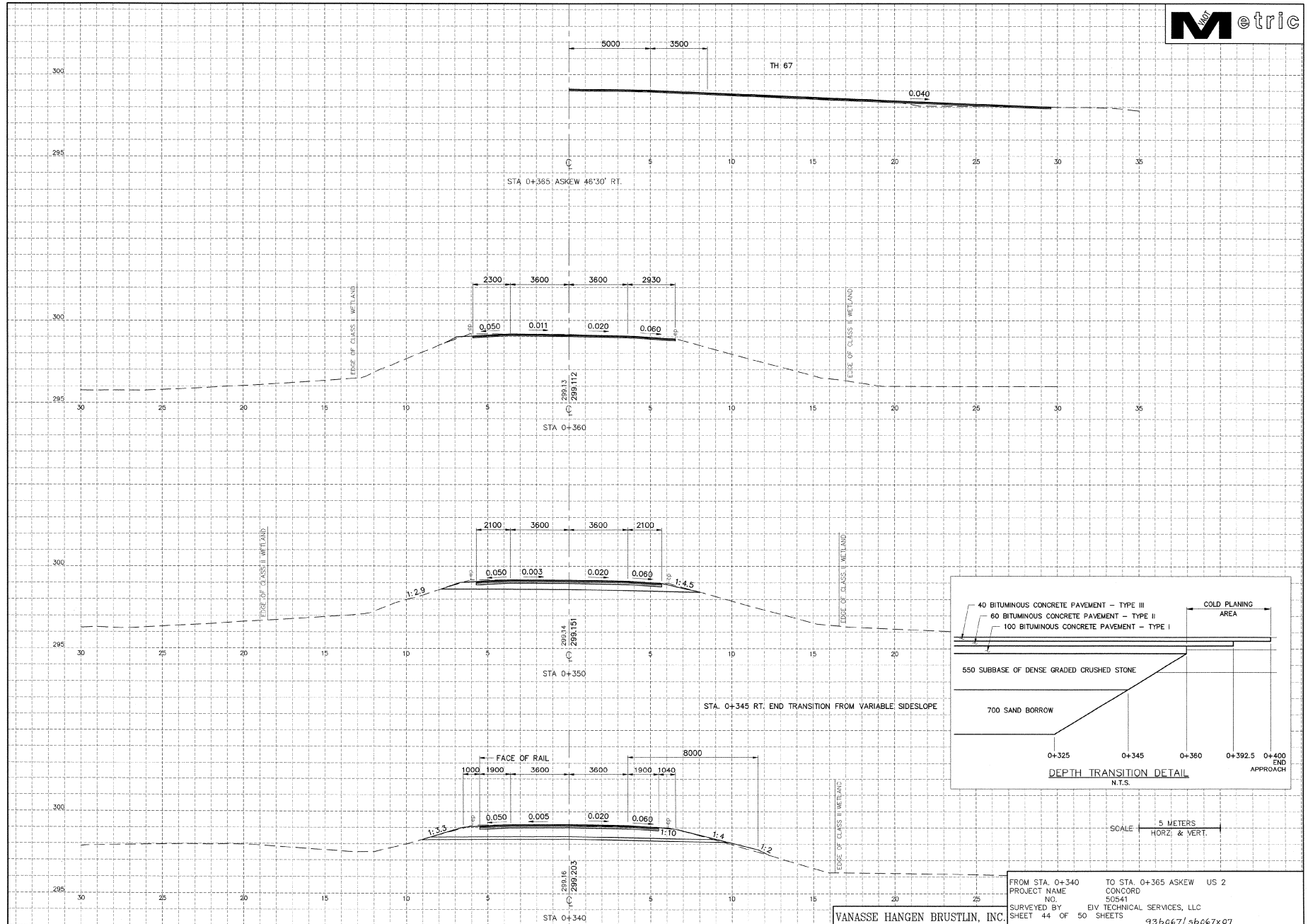
FROM STA. 0+130 TO STA. 0+160 US 2
PROJECT NAME CONCORD
NO. 50541
SURVEYED BY EIV TECHNICAL SERVICES, LLC
SHEET 40 OF 50 SHEETS
930607/sb067x03

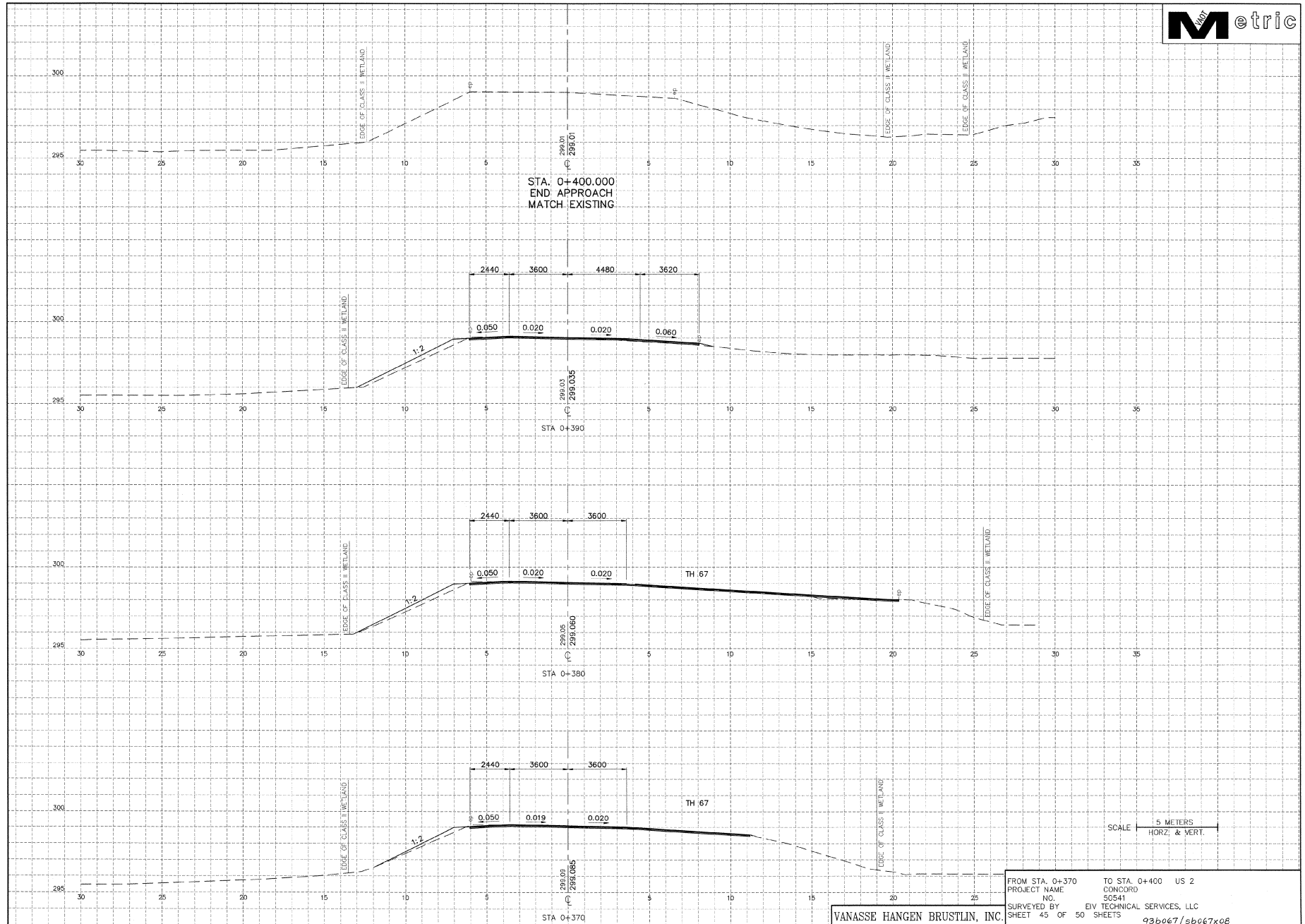
VANASSE HANGEN BRUSTLIN, INC.

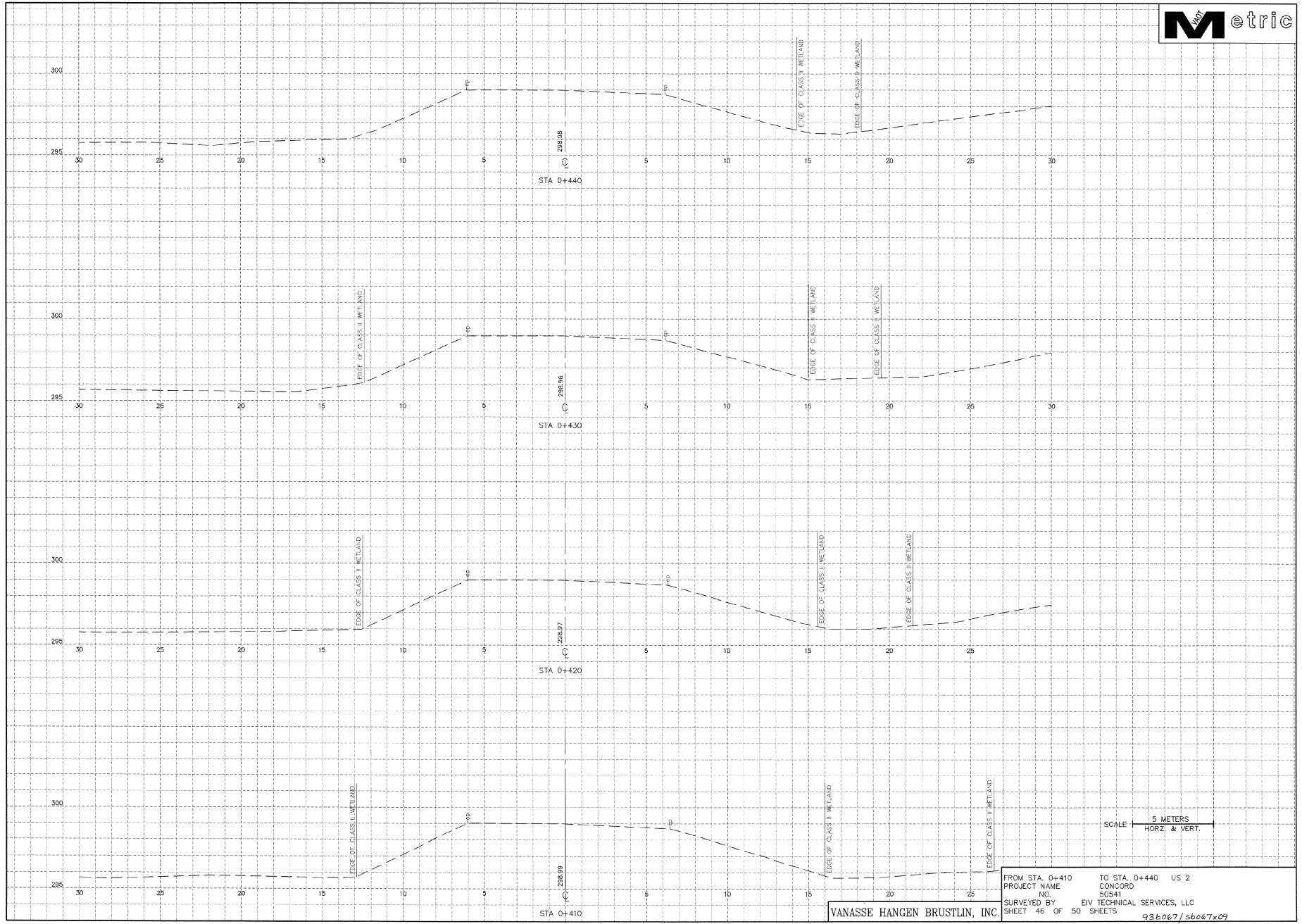






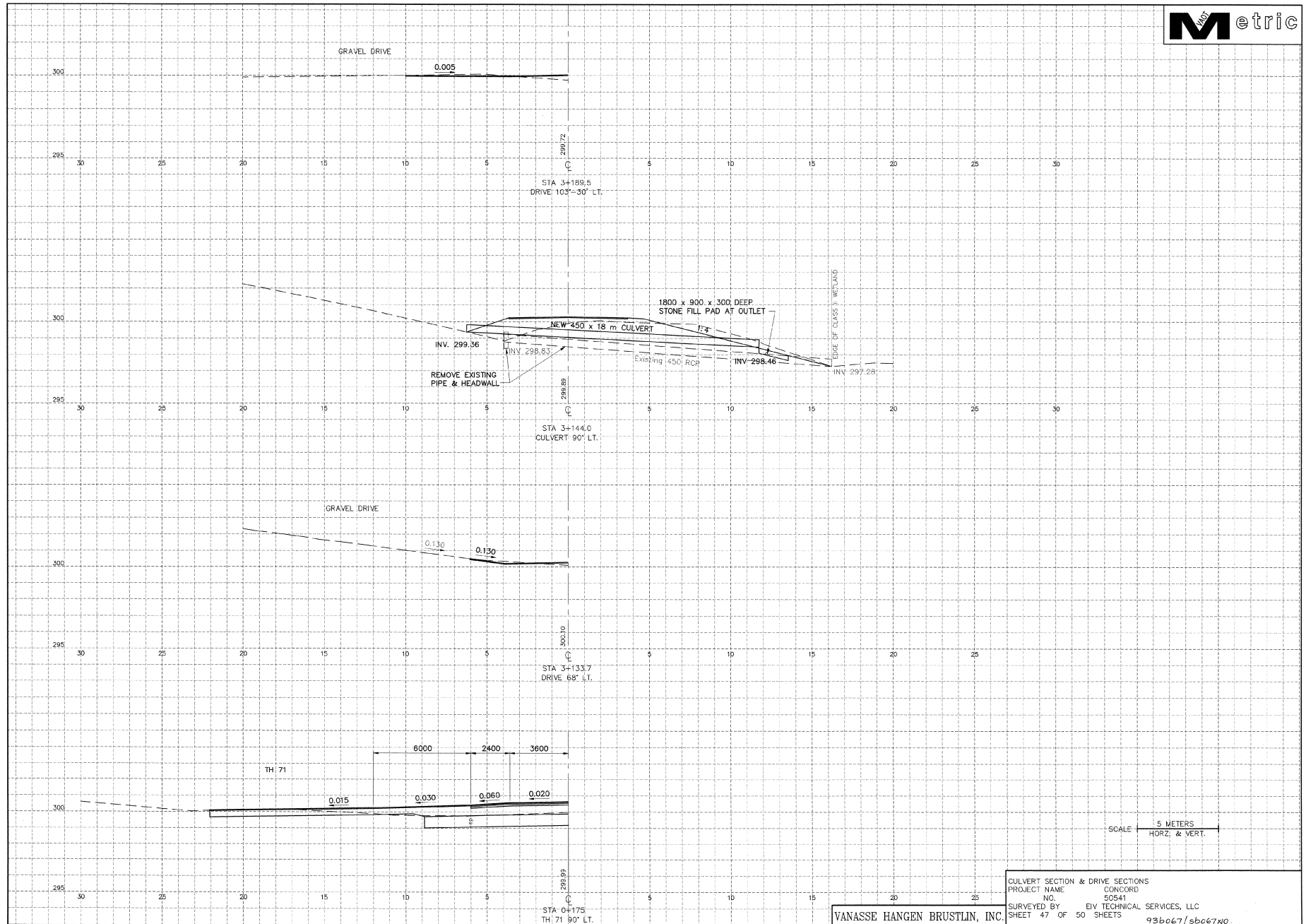


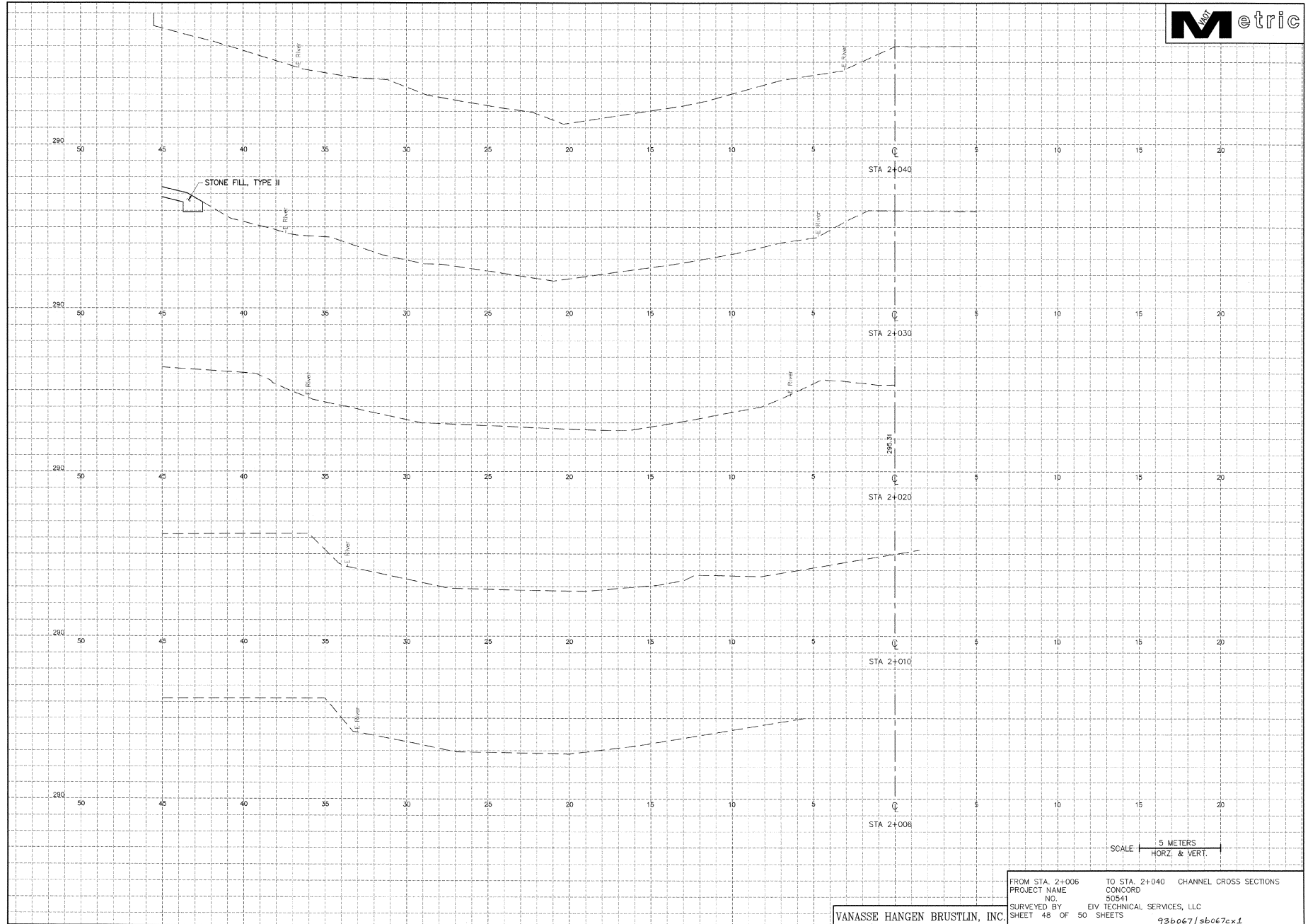




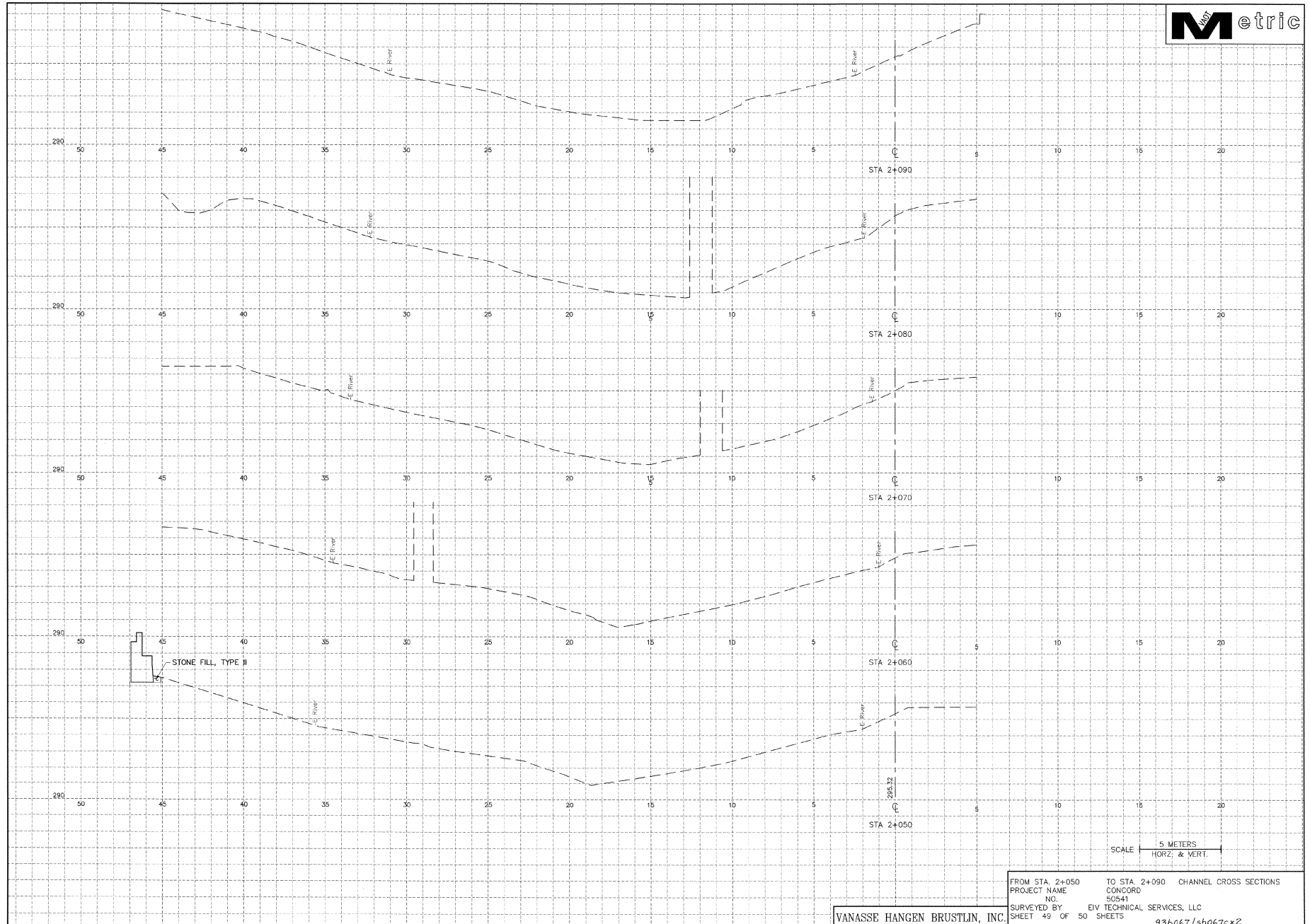
FROM STA. 0+410 TO STA. 0+440 US 2
 PROJECT NAME CONCORD
 NO. 50541
 SURVEYED BY EIV TECHNICAL SERVICES, LLC
 SHEET 46 OF 50 SHEETS 93b067/5b067x09

VANASSE HANGEN BRUSTLIN, INC.



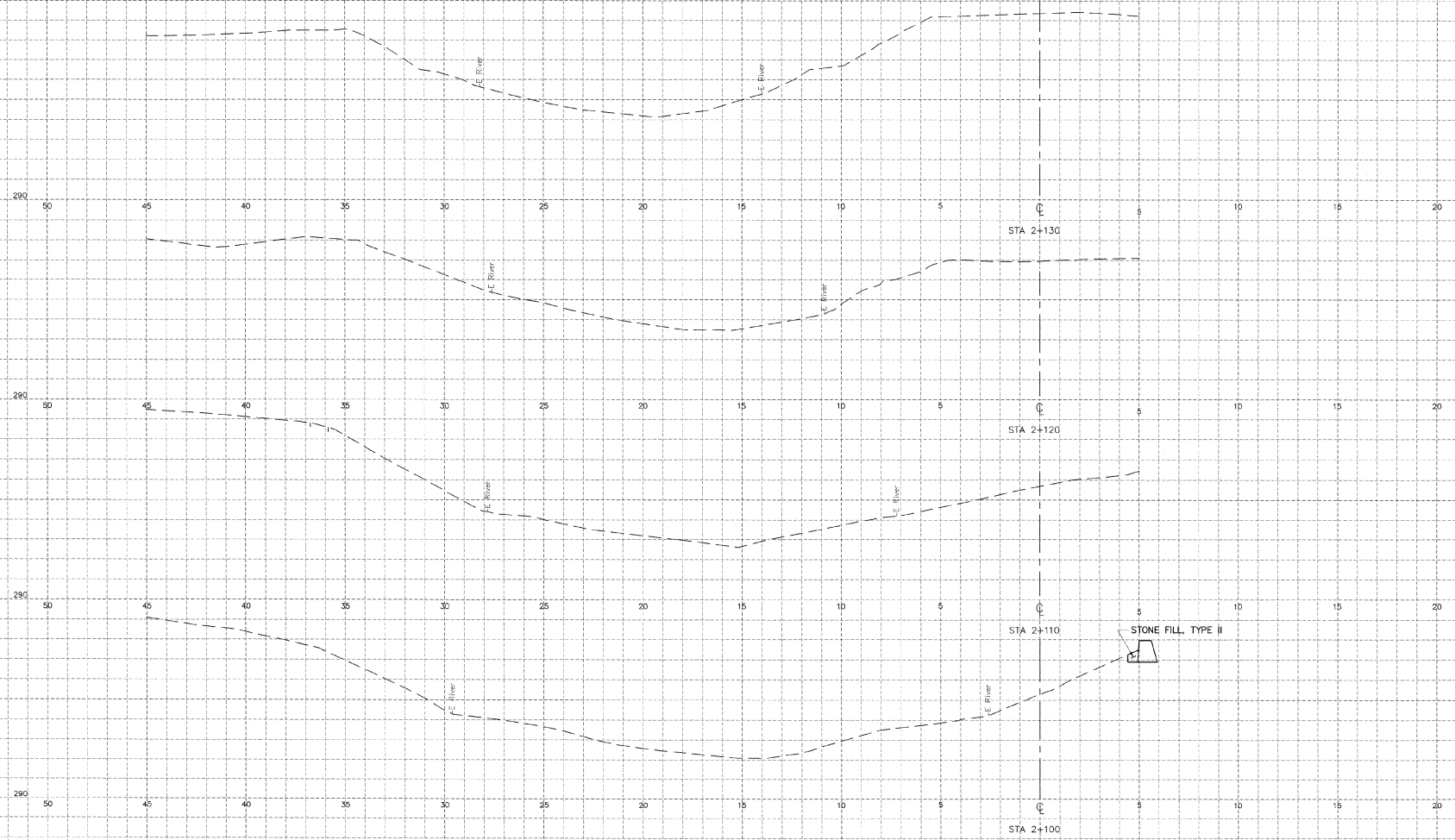


FROM STA. 2+006 TO STA. 2+040 CHANNEL CROSS SECTIONS
 PROJECT NAME CONCORD
 NO. 50541
 SURVEYED BY EIV TECHNICAL SERVICES, LLC
 SHEET 48 OF 50 SHEETS
 93b067/sb067cx1



FROM STA. 2+050 TO STA. 2+090 CHANNEL CROSS SECTIONS
 PROJECT NAME CONCORD
 NO. 50541
 SURVEYED BY EIV TECHNICAL SERVICES, LLC
 SHEET 49 OF 50 SHEETS 93b067/sb067cx2

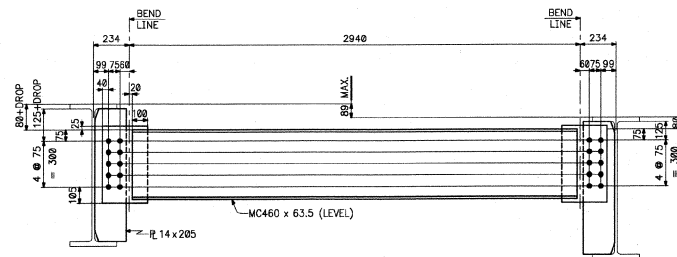
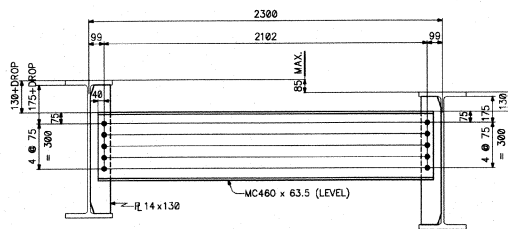
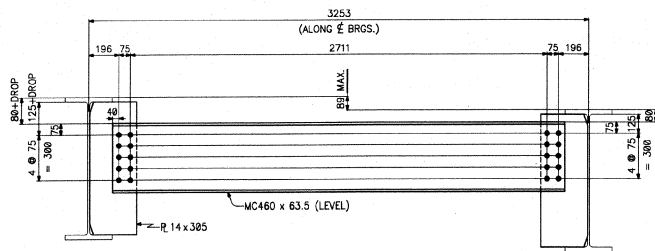
VANASSE HANGEN BRUSTLIN, INC.



SCALE 5 METERS
HORZ. & VERT.

VANASSE HANGEN BRUSTLIN, INC.

FROM STA. 2+100 TO STA. 2+130 CHANNEL CROSS SECTIONS
PROJECT NAME CONCORD
NO. 50541
SURVEYED BY EIV TECHNICAL SERVICES, LLC
SHEET 50 OF 50 SHEETS 93b067/sb067cx3



CUSTOMER ORDER NO.:
REFERENCE DRAWINGS: M370M
STEEL: ASTM A709M, GR.345W (WEATHERING)
WELDS: AS NOTED
HOLES: 24# (UN)
FIELD CONN.: 22# HSB (UN), A325M TYPE-3
SHOT BLAST: SSPC-SP10 (UN)
PAINT: NONE (UN) SPI0

LAYOUTS		
APPR	Sp	2-1-00
APPR		
APPR		
APPR	2-10-00	
SHOP		
FAB		
OWN	AV	1/00
CHKD	LD	1/00
REV 1		
REV 2		
REV 3		
REV 4		
REV 5		

MEGUIER & JONES
P.O. BOX 2540 1156 BROADWAY
SOUTH PORTLAND, MAINE 04106
PHONE (207)789-8555 FAX (207)767-2117

US 2 OVER MOOSE RIVER, BRIDGE NO. 117
PROJ. NO.: SHF 828-4(22)
CONCORD, VERMONT
CUSTOMER: BECK AND BELLUCCI
ENGINEER: STATE OF VERMONT, DEPARTMENT OF TRANSPORTATION

JOB NO. J-92 DWG. NO. WS2

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

- 1). ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 1995, AND IT'S LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 16TH EDITION, DATED 1996, AND IT'S LATEST REVISIONS.

MATERIAL SPECIFICATIONS

- 1). ALL STRUCTURAL STEEL SHALL BE AASHTO M270M GRADE 345W

- 2). HIGH STRENGTH BOLTS IN NON-PAINTED AREAS SHALL CONFORM TO THE FOLLOWING:

HIGH STRENGTH BOLTS: AASHTO M164 TYPE-3
HARD FLAT WASHERS: AASHTO M293 TYPE-3
HEAVY HEX NUTS: AASHTO M291 TYPE-3

- 3). HIGH STRENGTH BOLTS IN PAINTED AREAS SHALL BE MECHANICALLY GALVANIZED AND CONFORM TO THE FOLLOWING:

HIGH STRENGTH BOLTS: AASHTO M164 TYPE-1
HARD FLAT WASHERS: AASHTO M293 TYPE-1
HEAVY HEX NUTS: AASHTO M291 TYPE-1

ALL HIGH STRENGTH BOLTS, NUTS AND WASHERS SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH AASHTO M298, CLASS 50. HEAVY HEX NUTS SHALL BE TAPPED OVERSIZE TO THE MINIMUM AMOUNT REQUIRED FOR THE FASTENER ASSEMBLY.

BOLTS & NUTS SHALL BE ROTATIONAL CAPACITY TESTED AND MEET ALL OTHER REQUIREMENTS OF SUBSECTION 11.3.2 OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. DO NOT MIX NUTS & BOLTS FROM DIFFERENT CONTAINERS UNLESS ALL BOLTS & NUTS HAVE THE SAME LOT NUMBER.

- 4). MAIN LOAD CARRYING MEMBERS SHALL MEET THE FOLLOWING CHARPY V-NOTCH TESTING REQUIREMENTS OF ZONE 2, H FREQUENCY:

20J AT 4' C (UP TO 50mm WELDED)

DRAWINGS SHALL CALL OUT 'CVN' FOR EACH APPLICABLE ITEM IN THE BILLS OF MATERIAL.

- 5). ALL MATERIAL SUBSTITUTIONS SHALL BE SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL PRIOR TO FABRICATION.

FABRICATION

ALL WELDING AND DIMENSIONAL TOLERANCES OF WELDED MEMBERS SHALL CONFORM TO THE LATEST ANSI/AASHTO/AWS BRIDGE WELDING CODE AND IT'S LATEST REVISIONS.

FIELD CONNECTIONS

- 1). FIELD BOLTS SHALL HAVE HEAVY HEX NUT, HEX HEAD AND ONE HARD WASHER EACH.
- 2). PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS. ALL ERECTION MARKS, MATCH MARKS AND WEIGHT MARKS MUST NOT BE EXPOSED IN THE FINISHED STRUCTURE.

SURFACE PREPARATION

- 1). ALL SHARP CORNERS AND EDGES THAT ARE MARRED, CUT OR ROUGHENED IN HANDLING SHALL BE ROUNDED TO 1.6mm RADIUS BY GRINDING.
- 2). ALL NON-PAINTED STEEL SURFACES ARE TO BE BLAST CLEANED, IN ACCORDANCE WITH THE PROVISIONS OF SSPC-~~SP6~~ "COMMERCIAL BLAST CLEANING".
- 3). ALL PAINTED STEEL SURFACES ARE TO BE BLAST CLEANED, IN ACCORDANCE WITH THE PROVISIONS OF SSPC-SP10 "NEAR-WHITE BLAST CLEANING".

PAINT

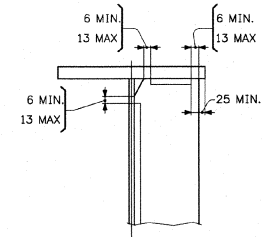
ALL STEEL 1600mm FROM THE END OF BEAMS AT ABUT. #1 SHALL BE PAINTED WITH THE FOLLOWING THREE COAT PAINT SYSTEM, EXCEPT AS NOTED IN ITEM #4:

- 1). PRIME COAT: CARBOLINE 859ZR EPOXY PRIMER (ORGANIC), 3.0-6.0 MILS DFT.
- 2). INTERMEDIATE COAT: CARBOLINE 888 EPOXY, 3.0-10.0 MILS DFT
- 3). TOP COAT: CARBOLINE 133HB ALIPHATIC POLYURETHANE, 3.0-5.0 MILS DFT
THE COLOR OF THE TOP COAT SHALL BE ~~BROWN~~ ^{BROWN}, COLOR #2248 ²⁰⁰⁵⁹ (per VTTRANS)
- 4). THE FOLLOWING SURFACES SHALL RECEIVE THE PRIME COAT ONLY:

- ALL SURFACES WITHIN 75mm OF OPEN HOLES.
- ALL SURFACES IN CONTACT WITH CONCRETE.

- ALL SURFACES TO BE FIELD WELDED.

- 5). INTERMEDIATE AND TOP COATS SHALL BE STAGGERED A MINIMUM OF 12.7 mm FROM THE FAYING SURFACES AND EACH OTHER.



TYP. WELD TERMINATION DETAIL

CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO M270M GR.345W (WEATHERING)
WELDS: AS NOTED
HOLES: 24# (LN)
FIELD CONN.: 22# HSB, A325M TYPE-3 (LN)
SHOT BLAST: AS NOTED
PAINT: AS NOTED

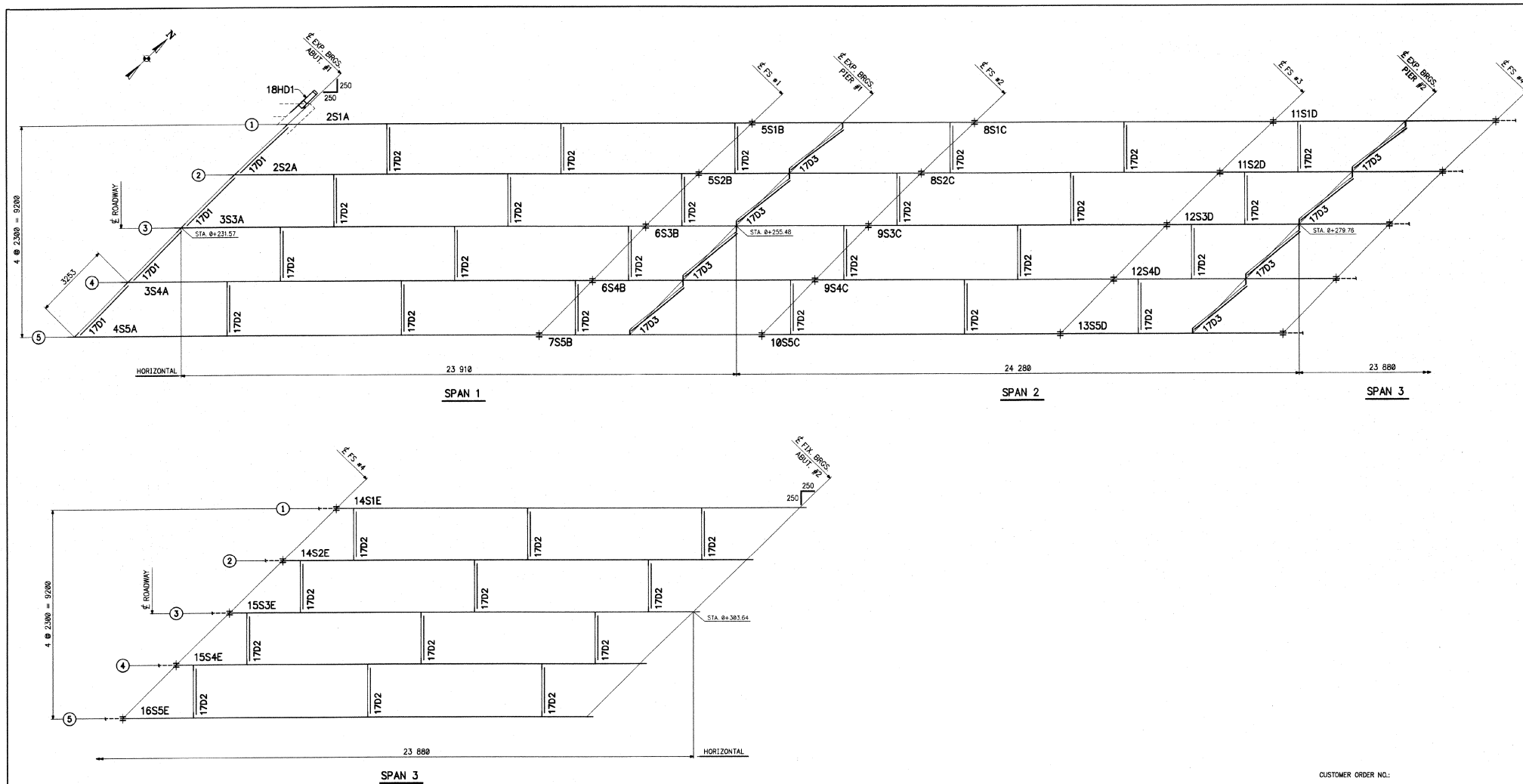
GENERAL NOTES			
APPR	Sp	2-7-00	
APPR			
APPR			
APPR	ZHP	2-10-00	
SHOP			
TND			
DWG	AV	1/00	
DWG	LD	1/00	
REV 1			
REV 2			
REV 3			
REV 4			
REV 5			

MEGQUIER & JONES
P.O. BOX 2640 1155 BROADWAY
SOUTH PORTLAND, MAINE 04106
PHONE (207)799-8555 FAX (207)757-2117

US 2 OVER MOOSE RIVER, BRIDGE NO. 117
PROJ. No.: BNF 828-4(22)
CONCORD, VERMONT

CUSTOMER: BECK AND BELLUCCI, INC.
ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION

JOB NO. J-92 DWG. NO. GN1



FIELD BOLT LIST									
No.	BOLT DIA.	BOLT LEN.	BOLTS / CONN.	No. OF CONN.	GRIP	THICKNESS OF PLS. CONNECTED	Pos. CONNECTED AND REMARKS		
80	22 [#]	64	20	4	28	14 14	ABUT. DIAPHS.		

FIELD BOLT LIST									
No.	BOLT DIA.	BOLT LEN.	BOLTS / CONN.	No. OF CONN.	GRIP	THICKNESS OF PLS. CONNECTED	Pos. CONNECTED AND REMARKS		
1440	22 [#]	83	72	20	46	14 18 14	WEB SPLICE		
800	22 [#]	108	20	40	70	20 30 20	TOP & BOT. FLG. SPLICE		
160	22 [#]	64	20	8	28	14 14	PIER DIAPHS.		
360	22 [#]	64	10	36	28	14 14	INT. DIAPHS.		

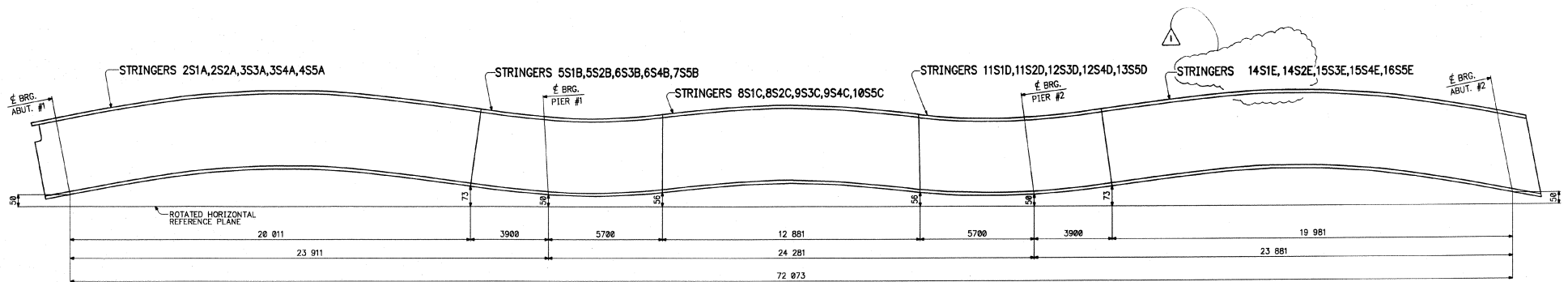
METRIC TO ENGLISH BOLT LENGTH CONVERSION

64mm = 2 1/2" LONG H.S.B.
83mm = 3 1/8" LONG H.S.B.
108mm = 4 1/4" LONG H.S.B.

FRAMING PLAN

CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO W270M GR.345W (WEATHERING)
WELDS: AS NOTED
HOLES: 24" (UN)
FIELD CONN.: 22[#] HSB, A325M TYPE-3 (UN)
SHOT BLAST: SSPC-SP10 (UN)
PAINT: NONE (UN) *SP10*

APPR	Sp	2-7-00	FRAMING PLAN	
APPR			MEGQUIER & JONES	
APPR			P.O. BOX 2649 1165 BROADWAY	
APPR			SOUTH PORTLAND, MAINE 04106	
SHOP			PHONE (207)799-8555 FAX (207)767-2117	
ENG			US 2 OVER MOOSE RIVER, BRIDGE NO. 117	
DWG	AV	1/80	PROJ. No.: BHV 829-4(22)	
CHKD	LD	1/80	CONCORD, VERMONT	
REV 1			CUSTOMER: BECK AND BELLUCCI, INC.	
REV 2			ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION	
REV 3				
REV 4				
REV 5				
			JOB NO. J-92	DWG. NO. E1



VERTICAL BLOCKING DIAGRAM FOR STRINGER LINES 1 THRU 5

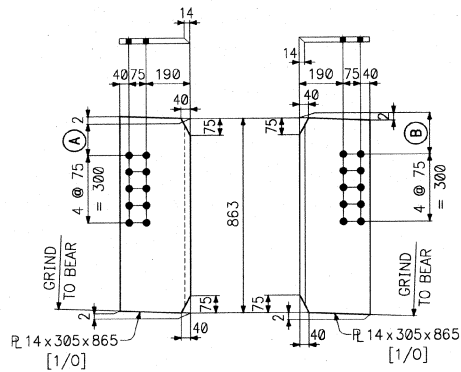
BLOCKING NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. ALL DIMENSIONS ARE MEASURED ALONG OR TAKEN AT E STRINGERS.
3. ALL VERTICAL BLOCKING DIMENSIONS ARE GIVEN TO THE BOT. OF BOT. FLANGE OF STRINGERS.

CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO W270M GR.345W (WEATHERING)
WELDS: AS NOTED
HOLES: 24# (UN)
FIELD CONN.: 22# HSB, A325M TYPE-3 (UN)
SHOT BLAST: SSPC-SP10 (UN)
PAINT: NONE (UN) *SP10*

APPR	SP	1-1-00	VERTICAL BLOCKING DIAGRAM
APPR			MEGQUIER & JONES
APPR			P.O. BOX 2849 1156 BROADWAY
APPR			SOUTH PORTLAND, MAINE 04106
SHIP	2-10-02		PHONE (207)799-8555 FAX (207)767-2117
TRK			US 2 OVER WOODS RIVER, BRIDGE NO. 117
TRK	AY	1/00	PROJ. No.: BIF 428-4(22)
CHWD	LD	1/00	CONCORD, VERMONT
REV 1		2-10-02	CUSTOMER BECK AND BELLUCCI, INC.
REV 2			ENGINEER STATE OF VERMONT, AGENCY OF TRANSPORTATION
REV 3			
REV 4			
REV 5			

JOB NO. J-92 DWG. NO. SA1

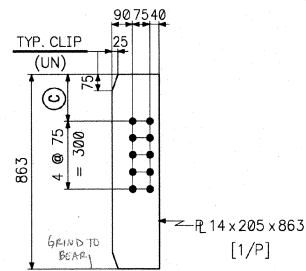


BRG. CONN. PLTS.

MARK	No. REQ'D.	(A)
p1	2	125
p4	1	148
p6	1	168

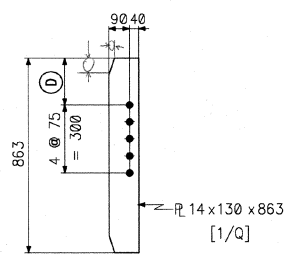
BRG. CONN. PLTS.

MARK	No. REQ'D.	(B)
p2	1	214
p3	1	194
p5	2	125



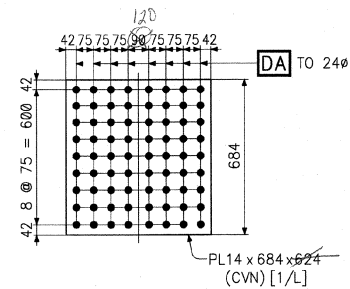
BRG. CONN. PLTS.

MARK	No. REQ'D.	(C)
p7	8	125
p8	2	214
p9	2	194
p10	2	148
p11	2	168

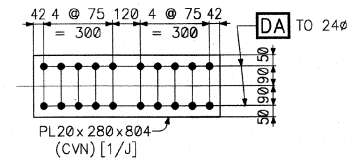
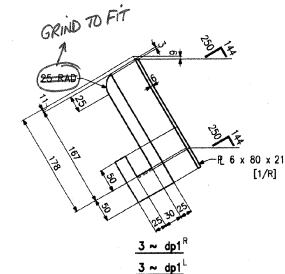


INT. CONN. PLTS.

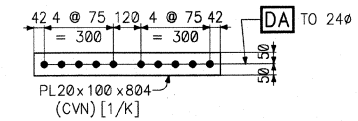
MARK	No. REQ'D.	(D)
p12	36	175
p13	4	255
p14	7	235
p15	4	205
p16	7	225
p17	3	215
p18	3	245
p19	3	240
p20	3	220
p21	1	200
p22	1	260



40 ~ WEB SPLICE PLTS. ~ p23



40 ~ TOP & BOTT. FLG. SPLICE PLTS. ~ p24



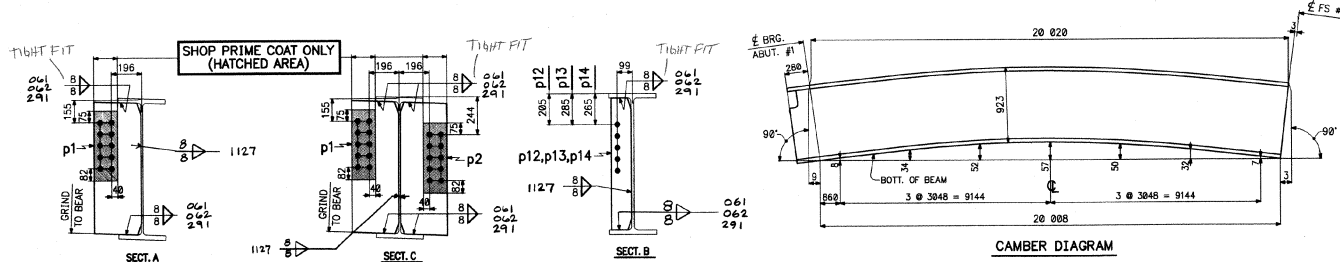
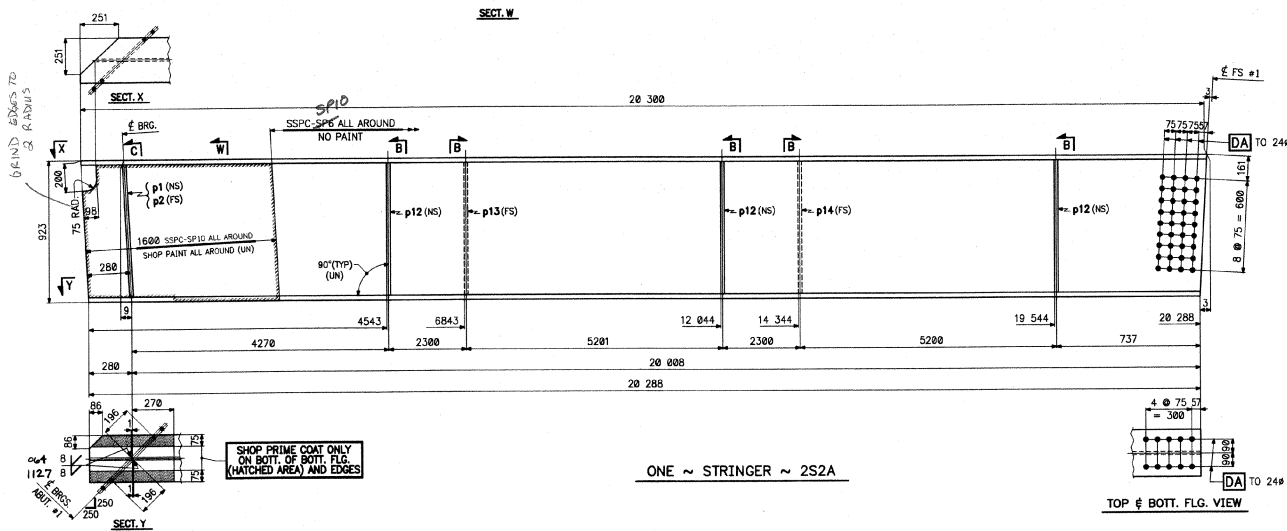
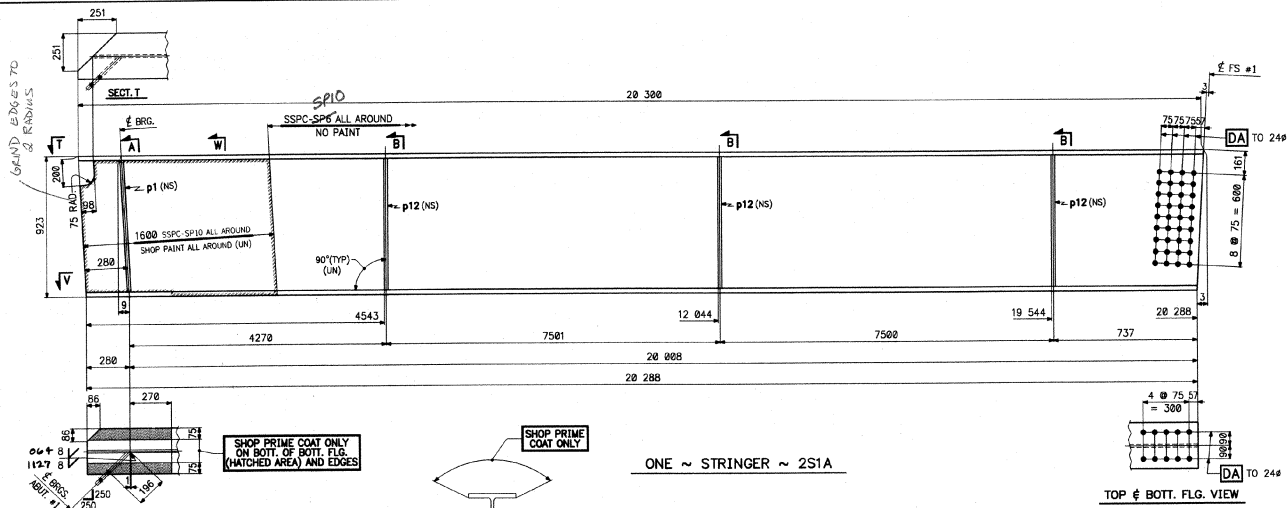
80 ~ TOP & BOTT. FLG. SPLICE PLTS. ~ p25

SHOP NOTE:

1. [DA] DENOTES HOLES TO BE DRILLED FULL SIZE AT ASSEMBLY.
2. CVN DENOTES CHARRY V-NOTCH TESTING REQ'D.

CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO M270M GR.345W (WEATHERING)
WELDS: AS NOTED
HOLES: 24# (UN)
FIELD CONN.: 22# HSB, A325M TYPE-3 (UN)
SHOT BLAST: SSPC-SP10
PAINT: NONE

APPR	Sp	1-1-00	STANDARD PARTS
APPR			MEGQUIER & JONES
APPR			P.O. BOX 2649 1158 BROADWAY
APPR			SOUTH PORTLAND, MAINE 04106
SHOP			PHONE (207)799-8555 FAX (207)767-2117
TRD			US 2 OVER MOOSE RIVER, BRIDGE NO. 117
OWN	AV	1/00	PROJ. No.: BNF 828-4(22)
CHD	LD	1/00	CONCORD, VERMONT
REV 1			CUSTOMER: BECK AND BELLUCCI, INC.
REV 2			ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION
REV 3			
REV 4			
REV 5			JOB NO. J-82 DWG. NO. 1



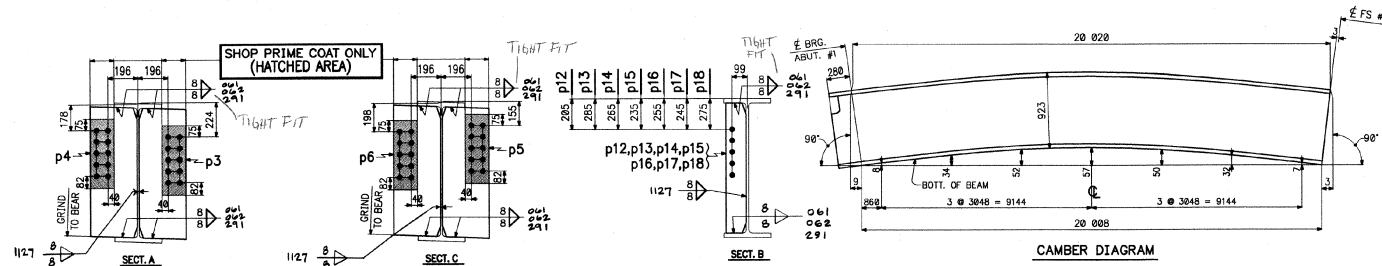
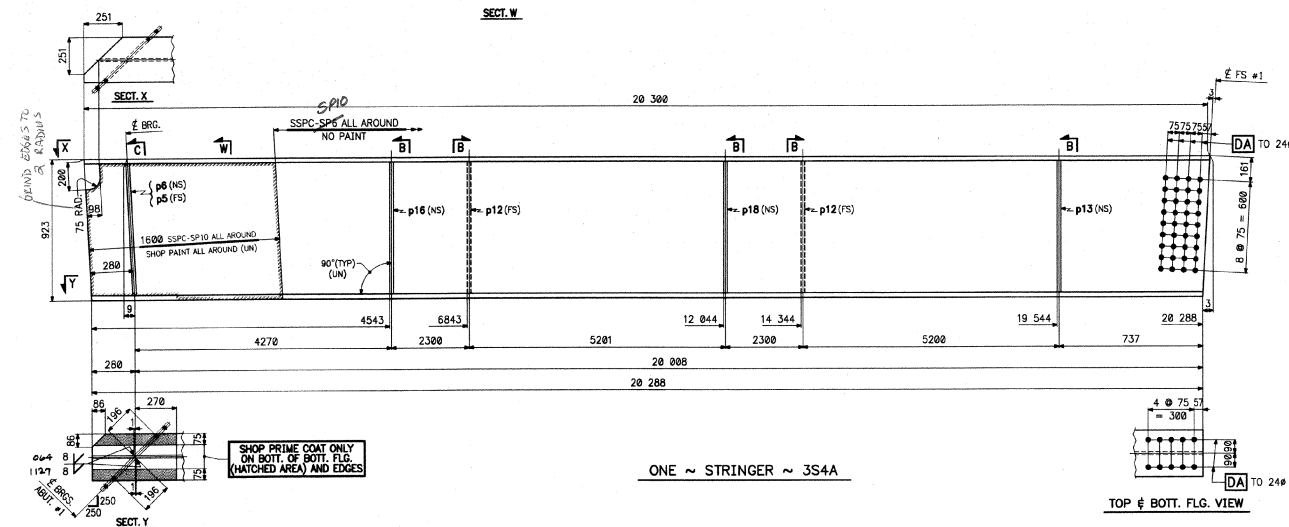
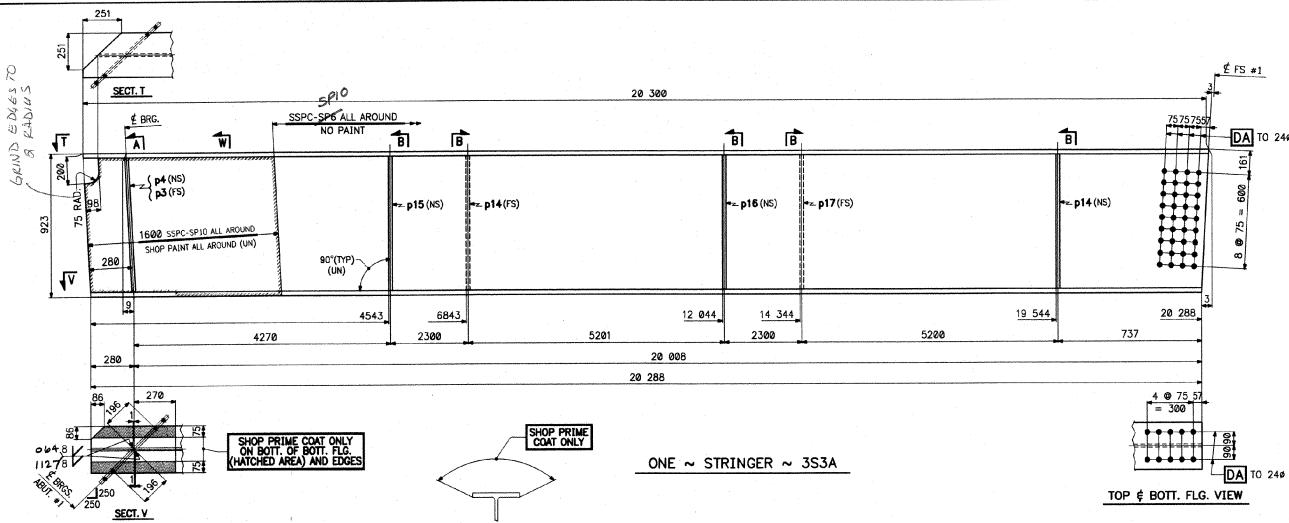
PAGE	LINE	SHIP MARK	BILL OF MATERIAL	NO.	MARK	SHAPE	LENGTH	WT.	REMARKS
1	D	2S1A	1		SSPO	271	20 300		CWN
1	O		1	p1	PL 14 x 305		865		
1	Q		3	p12	PL 14 x 130		863		
1	D	2S2A	1		SSPO	271	20 300		CWN
1	O		1	p1	PL 14 x 305		865		
1	O		1	p2	PL 14 x 305		865		
1	Q		3	p12	PL 14 x 130		863		
1	Q		1	p13	PL 14 x 130		863		
1	Q		1	p14	PL 14 x 130		863		

SHOP NOTE:

- [DA] DENOTES HOLES TO BE DRILLED FULL SIZE AT ASSEMBLY.
- CWN DENOTES CHARTER V-NOTCH TESTING REQD.
- SHOP PAINT DENOTES THE FULL THREE COAT PAINT SYSTEM AS DESCRIBED ON GNT.

CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO M270M GR.345W (WEATHERING)
WELDS AS NOTED
HOLES: 24# (UN)
FIELD CONN.: 22# HSB, A325M TYPE-3 (UN)
SHOT BLAST: AS NOTED
PAINT: AS NOTED

APPR	Sp	2-1-00	STRINGERS ~ 2S1A & 2S2A
APPR			MEGQUER & JONES
APPR			P.O. BOX 2849 1156 BROADWAY
APPR			SOUTH PORTLAND, MAINE 04106
APPR			PHONE (207)799-8555 FAX (207)787-2117
REV 1			US 2 OVER MOOSE RIVER, BRIDGE NO. 117
REV 1			PROJ. No.: BHF 828-4(22)
REV 1			CONCORD, VERMONT
REV 2			CUSTOMER: BECK AND BELLUCCI, INC.
REV 2			ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION
REV 3			
REV 4			
REV 5			



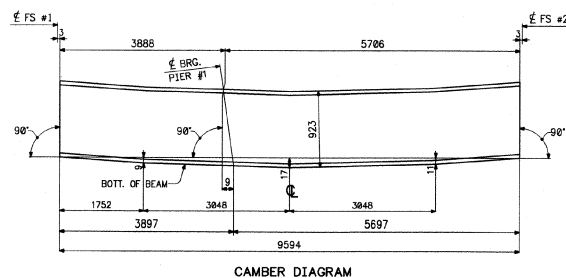
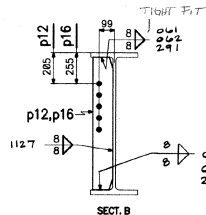
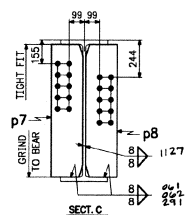
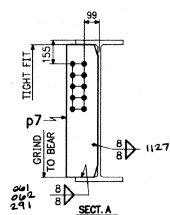
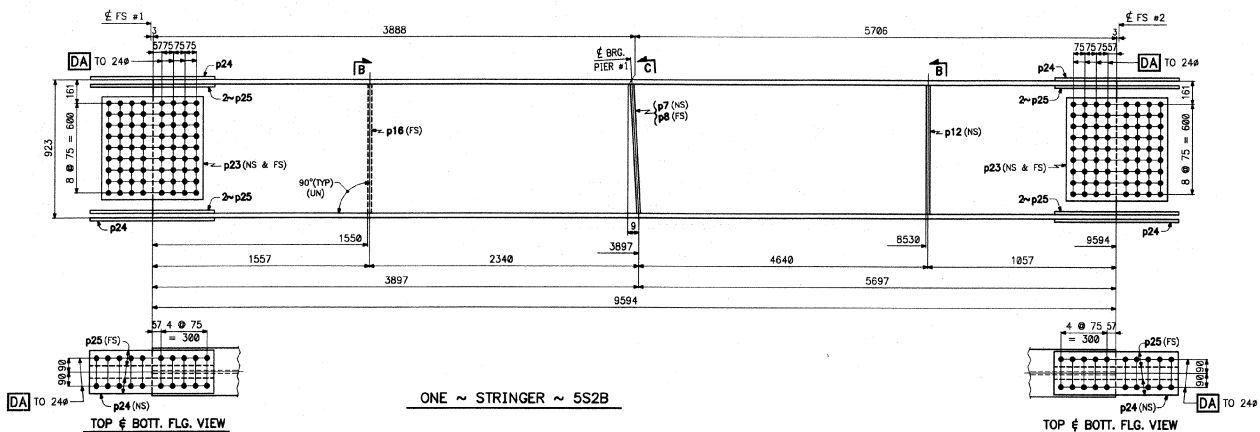
PAGE	LINE	SHEET	BILL OF MATERIAL		JOB NO. J-92	DWG. NO. 3	REMARKS
			NO.	MARK			
1	D	3S3A	1	W928 x 271	20 300		CWN
1	O		1	p3	PL 14 x 305	865	
1	O		1	p4	PL 14 x 305	865	
1	Q		2	p14	PL 14 x 130	863	
1	Q		1	p15	PL 14 x 130	863	
1	Q		1	p16	PL 14 x 130	863	
1	Q		1	p17	PL 14 x 130	863	
1	D	3S4A	1	W928 x 271	20 300		CWN
1	O		1	p5	PL 14 x 305	865	
1	O		1	p6	PL 14 x 305	865	
1	Q		2	p12	PL 14 x 130	863	
1	Q		1	p13	PL 14 x 130	863	
1	Q		1	p16	PL 14 x 130	863	
1	Q		1	p18	PL 14 x 130	863	

SHOP NOTE:

1. [DA] DENOTES HOLES TO BE DRILLED FULL SIZE AT ASSEMBLY.
2. CWN DENOTES CHAMFY V-NOTCH TESTING REQ'D.
3. SHOP PAINT DENOTES THE FULL THREE COAT PAINT SYSTEM AS DESCRIBED ON QNT.

CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO M270M GR.345M (WEATHERING)
WELDS: AS NOTED
HOLES: 240 (UN)
FIELD CONN.: 22" HSB, A325M TYPE-3 (UN)
SHOT BLAST: AS NOTED
PAINT: AS NOTED

APPR	Sp	2-7-00	STRINGERS ~ 3S3A & 3S4A
APPR			MEQUER & JONES
APPR			P.O. BOX 2640 1156 BROADWAY
APPR			SOUTH PORTLAND, MAINE 04106
APPR			PHONE (207)799-8555 FAX (207)767-2117
APPR			US 2 OVER MOOSE RIVER, BRIDGE NO. 117
APPR			FIELD NO.: SHP 838-A(22)
APPR			CONCORD, VERMONT
REV 1	AY	1/00	CUSTOMER BECK AND BELLUCCI, INC.
REV 2	ED	1/00	ENGINEER STATE OF VERMONT, AGENCY OF TRANSPORTATION
REV 3			
REV 4			
REV 5			
JOB NO. J-92			DWG. NO. 3

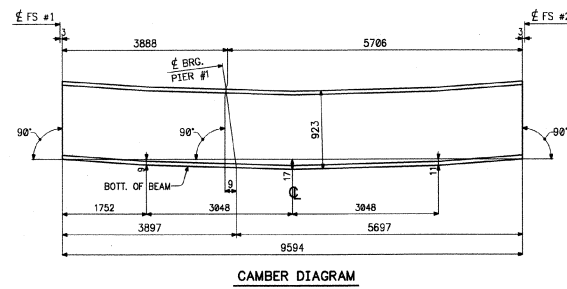
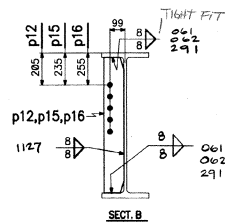
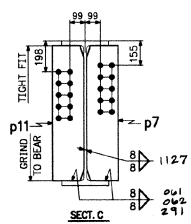
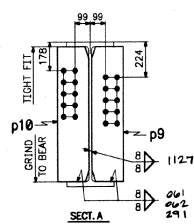
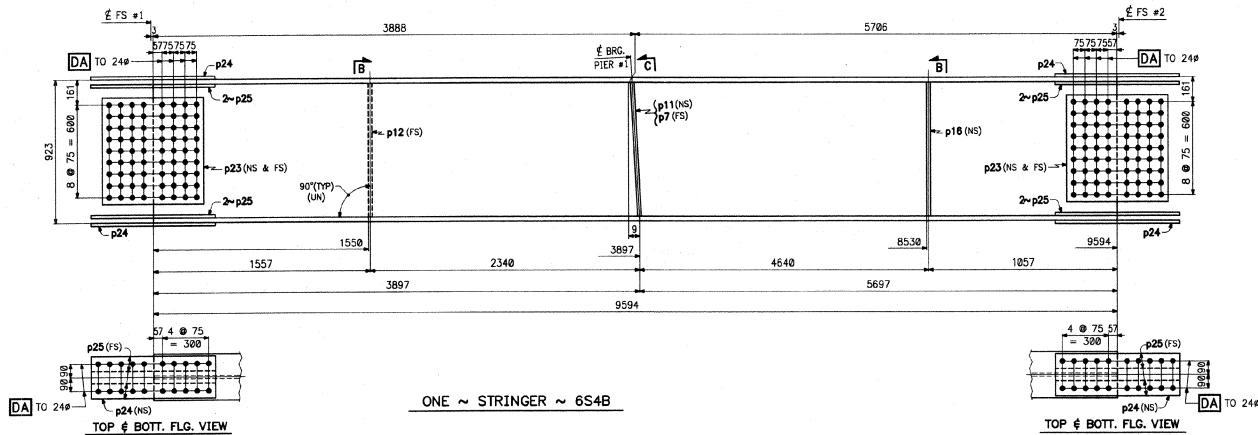
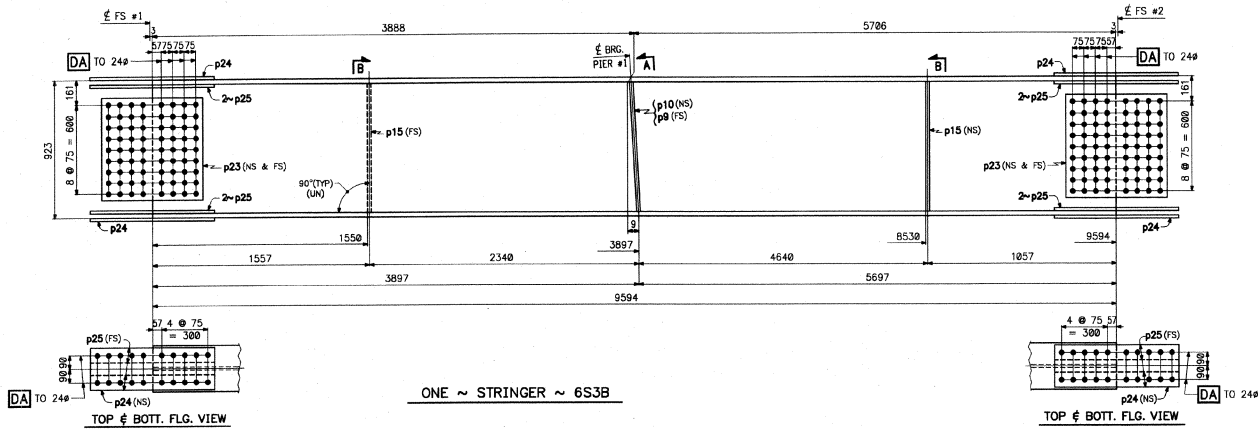
[illegible]

SHOP NOTE:

1. **DA** DENOTES HOLES TO BE DRILLED
FULL SIZE AT ASSEMBLY.
2. **CVN** DENOTES CHARPY V-NOTCH
TESTING REQ'D.

CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO M270M GR.345W (WEATHERING)
WELDS: AS NOTED
HOLES: 24# (UN)
FIELD CONN.: 22# HSB, A325M TYPE-3 (UN)
SHOT BLAST: SSPC-~~SP6~~SP10
PAINT: NONE

APPR	SP	2.7-00	STRINGERS ~ 251B & 252B
APPR			
APPR			MEGQUIN & JONES
APPR			P.O. BOX 2649 1156 BROADWAY
APPR			SOUTH PORTLAND, MAINE 04106
APPR	PLUP	2.10-00	PHONE (207)798-8555 FAX (207)767-2117
SWCH			
TAC			
OWN	AV	1/00	US 2 OVER WOODRIDGE BRIDGE NO. 117
OWN	LD	1/00	PROJ. NO.: SHF 828-422
REV 1			CONQ, WORME RIVER
REV 2			
REV 3			CUSTOMER BECK AND BELLUCI, INC.
REV 4			ENGINEER STATE OF VERMONT, AGENCY OF TRANSPORTATION
REV 5			
			JOB NO. 9-2
			DWG. NO. 5



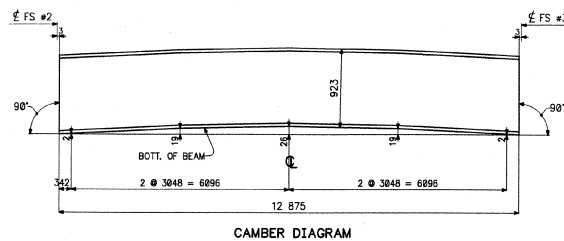
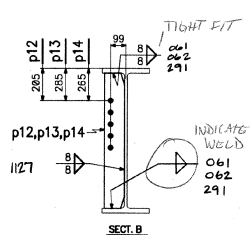
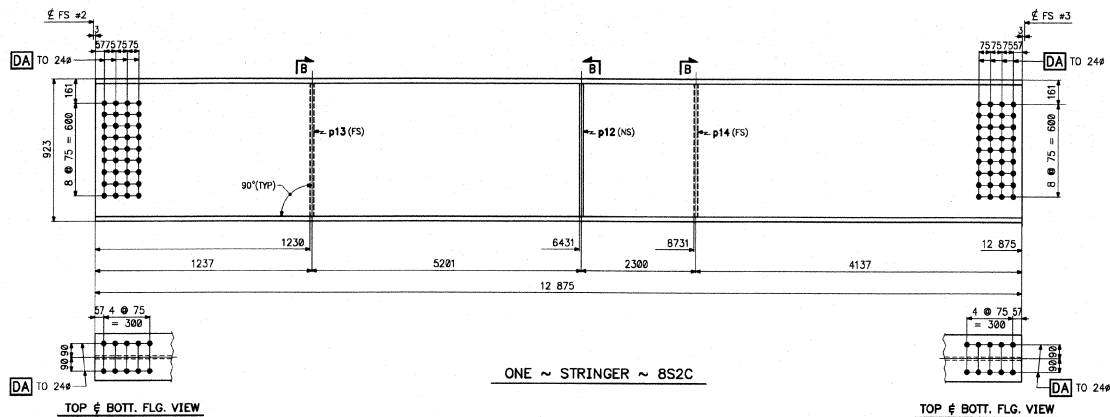
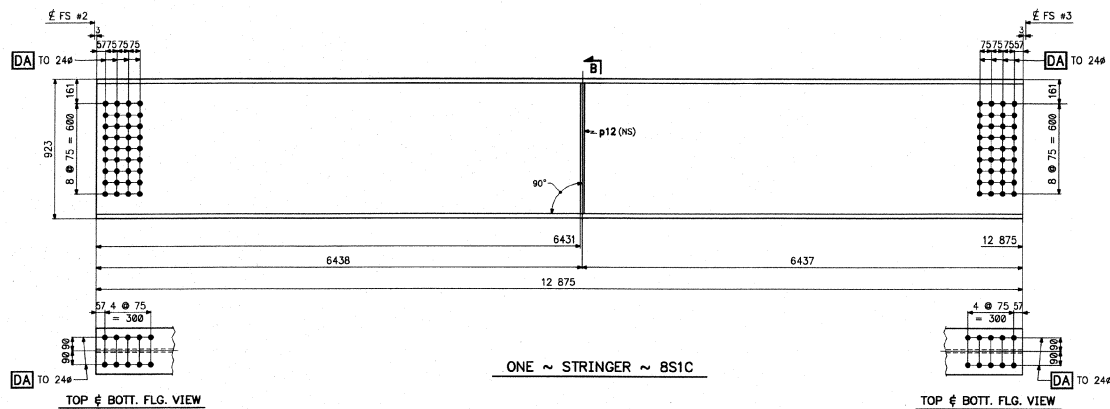
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1	L		4	p23	PL 14 x 584	524		CWN
1	J		4	p24	PL 20 x 250	584		CWN
1	K		8	p25	PL 20 x 180	584		CWN
1	P		1	p9	PL 14 x 285	563		
1	P		1	p10	PL 14 x 285	563		
1	Q		2	p15	PL 14 x 130	563		
1	E	6S4B	1		STRINGER			
1	L		4	p23	PL 14 x 584	524		CWN
1	J		4	p24	PL 20 x 250	584		CWN
1	K		8	p25	PL 20 x 180	584		CWN
1	P		1	p7	PL 14 x 285	563		
1	P		1	p11	PL 14 x 285	563		
1	Q		1	p12	PL 14 x 130	563		
1	Q		1	p16	PL 14 x 130	563		

SHOP NOTE:

- [DA] DENOTES HOLES TO BE DRILLED FULL SIZE AT ASSEMBLY.
- CWN DENOTES CHAMFY V-NOTCH TESTING REQ'D.

CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO W270W GR.355W (WEATHERING)
WELDS: AS NOTED
HOLES: 2" (UN)
FIELD CONN.: 22" HSB, A325W TYPE-3 (UN)
SHOT BLAST: SSPC-SP10
PAINT: NONE

APPR	Sp	2-1-00	STRINGERS ~ 6S3B & 6S4B
APPR			MEGQUIER & JONES
APPR			P.O. BOX 2640 1156 BROADWAY
APPR			SOUTH PORTLAND, MAINE 04106
SHOP		2-10-00	PHONE (207)799-8555 FAX (207)767-2117
ENG			US 2 OVER MOOSE RIVER, BRIDGE NO. 117
OWN	AV	1/00	PROJ. No.: BNF 829-4(22)
CHGD	LD	1/00	CONCORD, VERMONT
REV 1			CUSTOMER: BECK AND BELLUCCI, INC.
REV 2			ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION
REV 3			
REV 4			
REV 5			JOB NO. J-92 DWG. NO. 6



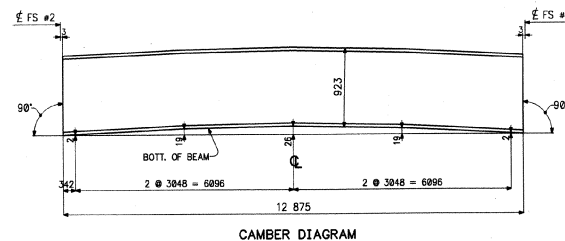
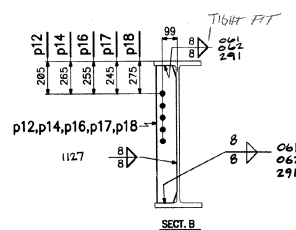
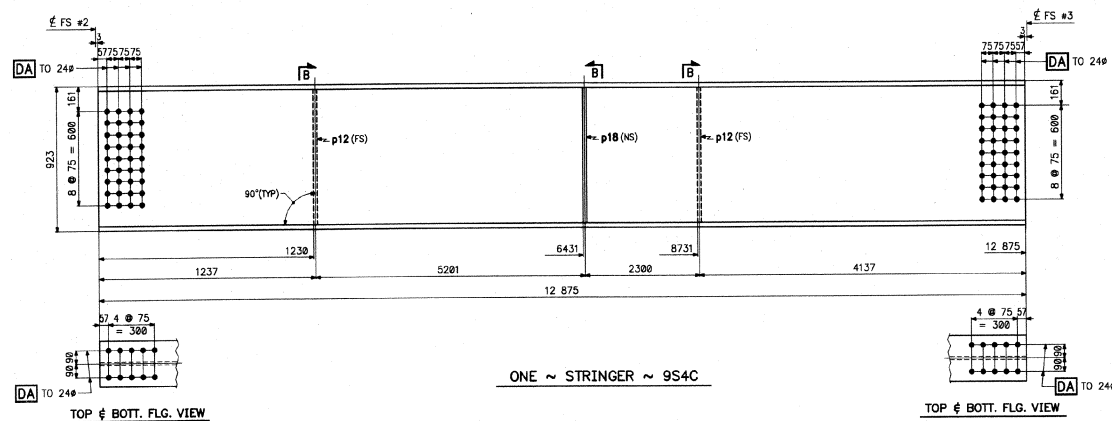
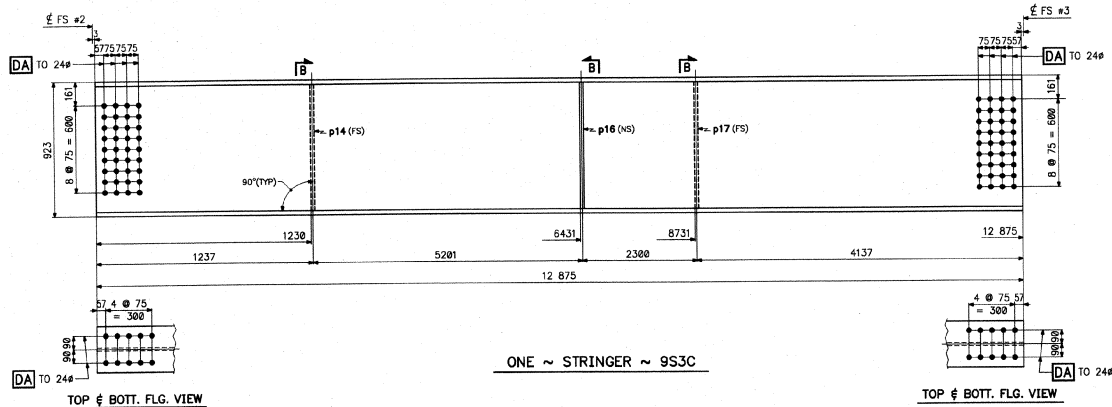
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1	F	8S1C	1		W928 x 271	12 875			CWN	
1	Q		1	p12	PL14 x 130	863				
1	F	8S2C	1		W928 x 271	12 875			CWN	
1	Q		1	p12	PL14 x 130	863				
1	Q		1	p13	PL14 x 130	863				
1	Q		1	p14	PL14 x 130	863				

SHOP NOTE:

1. [DA] DENOTES HOLES TO BE DRILLED FULL SIZE AT ASSEMBLY.
2. CWN DENOTES CHARTY V-NOTCH TESTING REQ'D.

CUSTOMER ORDER NO:
REFERENCE DRAWINGS:
STEEL: AASHTO M270M GR.345W (WEATHERING)
WELDS: AS NOTED
HOLES: 24# (UN)
FIELD CONN.: 27# HSB, A325M TYPE-3 (UN)
SHOT BLAST: SSPC-SP10
PAINT: NONE

APPR	Sp	1-1-00	STRINGERS ~ 8S1C & 8S2C
APPR			MEGQUIER & JONES
APPR			P.O. BOX 2649 1156 BROADWAY
APPR			SOUTH PORTLAND, MAINE 04106
APPR	2-10-00	2-10-00	PHONE (207)799-8505 FAX (207)767-2117
SHOP			US 2 OVER MOOSE RIVER, BRIDGE NO. 117
FMO			PROJ. NO.: BIF 028-4(22)
OWN	AV	1/00	CONCORD, VERMONT
CHKD	LD	1/00	CUSTOMER BECK AND BELLUCCI, INC.
REV 1			ENGINEER STATE OF VERMONT, AGENCY OF TRANSPORTATION
REV 2			
REV 3			
REV 4			
REV 5			



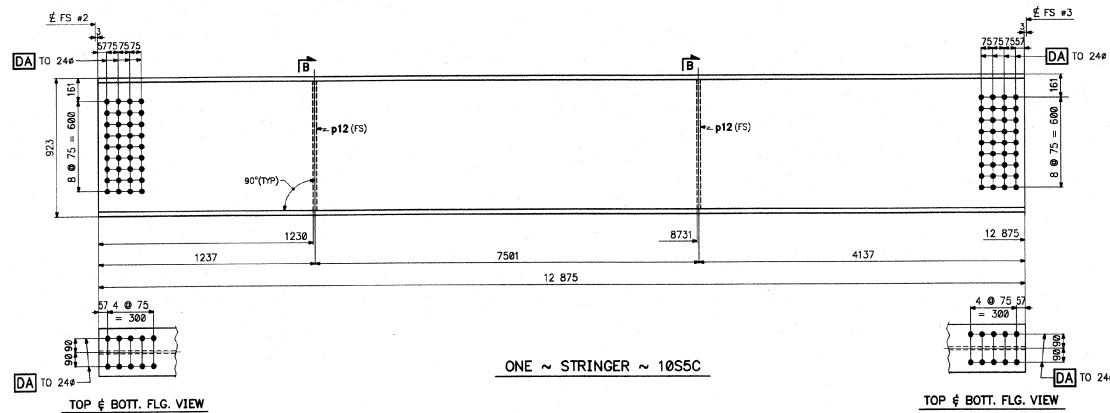
PAGE	LINE	SHIP MARK	NO.	MARK	SHAPE	LENGTH	WT.	REMARKS
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1	Q		1	p16	PL 14 x 130	863		
1	Q		1	p17	PL 14 x 130	863		
1	F	9S4C	1		W920 x 271	12 875		CWN
1	Q		2	p12	PL 14 x 130	863		
1	Q		1	p18	PL 14 x 130	863		

SHOP NOTE:

1. [DA] DENOTES HOLES TO BE DRILLED FULL SIZE AT ASSEMBLY.
2. CWN DENOTES CHARPY V-NOTCH TESTING REQ'D.

CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO M270M GR.345W (WEATHERING)
WELDS: AS NOTED
HOLES: 24# (UN)
FIELD CONN.: 22# HSB, A325M TYPE-3 (UN)
SHOT BLAST: SSPC-SP6 SP10
PAINT: NONE

APPR	Sp	1-1-00	STRINGERS ~ 9S3C & 9S4C
APPR			MEGQUIER & JONES
APPR			P.O. BOX 2649 1156 BROADWAY
APPR			SOUTH PORTLAND, MAINE 04106
APPR			PHONE (207)799-8850 FAX (207)767-2117
SHOP	CH	2-10-00	
END			
OWN	AV	1/80	US 2 OVER MOOSE RIVER, BRIDGE NO. 117
CHD	LD	1/80	PROJ. No.: BHF 828-4(22)
REV 1			CONCORD, VERMONT
REV 2			CUSTOMER BECK AND BELLUCCI, INC.
REV 3			ENGINEER STATE OF VERMONT, AGENCY OF TRANSPORTATION
REV 4			
REV 5			
		JOB NO. J-92	DWG. NO. 9



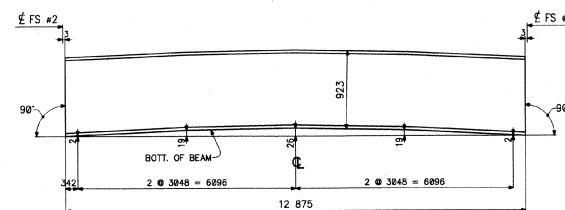
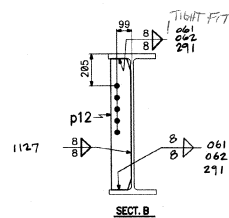
TOP & BOT. FLG. VIEW

PAGE	LINE	BILL OF MATERIAL			JOB NO. J-92		DWG. NO. 10	
		SHIP MARK	NO. MARK	SHAPE	LENGTH	WT.	REMARKS	
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1	G		2	p12	PL 14 x 138	863		

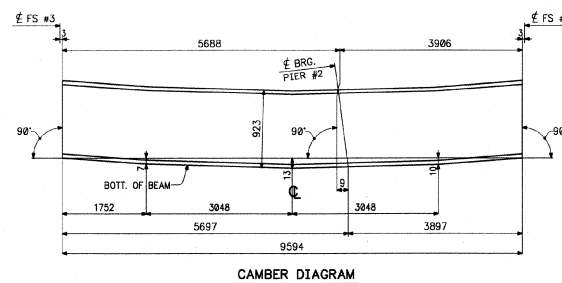
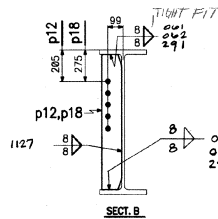
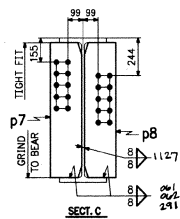
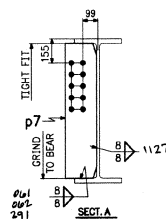
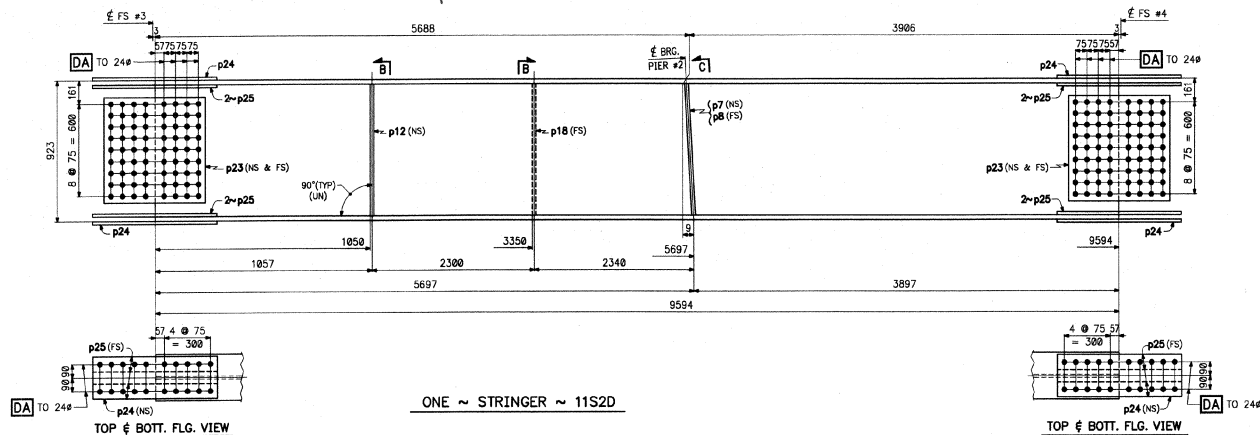
SHOP NOTE:

1. [DA] DENOTES HOLES TO BE DRILLED FULL SIZE AT ASSEMBLY.
2. CVN DENOTES CHARPY V-NOTCH TESTING REQD.

CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO M270M GR.345W (WEATHERING)
WELDS: AS NOTED
HOLES: 244 (UN)
FIELD CONN.: 22# HSB, A325M TYPE-3 (UN)
SHOT BLAST: SSPC-SP10
PAINT: NONE



APPR	Sp	2-1-00	STRINGER ~ 10S5C	
APPR			MEGQUIER & JONES	
APPR			P.O. BOX 2849 1156 BROADWAY	
APPR			SOUTH PORTLAND, MAINE 04106	
SHOP		2-16-00	PHONE (207)799-8555 FAX (207)767-2117	
FIELD			US 2 OVER MOOSE RIVER, BRIDGE NO. 117	
OWN	AV	1/00	PROJ. No.: SHF 628-4(22)	
CHD	LD	1/00	CONCORD, VERMONT	
REV 1			CUSTOMER BECK AND BELLUCCI, INC.	
REV 2			ENGINEER STATE OF VERMONT, AGENCY OF TRANSPORTATION	
REV 3				
REV 4				
REV 5				
			JOB NO. J-92	DWG. NO. 10



PAGE	LINE	SHIP MARK	BILL OF MATERIAL			JOB NO. J-92	DWG. NO. 11
		NO.	MARK	SHAPE	LENGTH	WT.	REMARKS
				STRINGER			
1	E	11S1D	1	W928 x 271	9594		CWN
1	L		4	p23 PL 14 x 654	624		CWN
1	J		4	p24 PL 28 x 250	984		CWN
1	K		8	p25 PL 28 x 180	984		CWN
1	P		1	p7 PL 14 x 285	863		
1	Q		1	p12 PL 14 x 130	863		
1	R		1	dp1 PL 6 x 60	217		
				STRINGER			
1	E	11S2D	1	W928 x 271	9594		CWN
1	L		4	p23 PL 14 x 654	624		CWN
1	J		4	p24 PL 28 x 250	984		CWN
1	K		8	p25 PL 28 x 180	984		CWN
1	P		1	p7 PL 14 x 285	863		
1	P		1	p8 PL 14 x 285	863		
1	Q		1	p12 PL 14 x 130	863		
1	Q		1	p18 PL 14 x 130	863		

1. **DA** DENOTES HOLES TO BE DRILLED
FULL SIZE AT ASSEMBLY.
2. CVN DENOTES CHARPY V-NOTCH
TESTING REQ'D.

CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO M270M GR.345W (WEATHERING)
WELDS: AS NOTED
HOLES: 24# (UN)
FIELD CONN.: 22# HSB, A325M TYPE-3 (UN)
SHOT BLAST: SSPC-SP6 *SP10*
PAINT: NONE

APPR	SP	2-7-00	
APPR			
APPR			
APPR	SP	2-15-00	
TRF			
DNW	LD	1/00	
DNW	LD	1/00	
REV 1			
REV 2			
REV 3			
REV 4			
REV 5			

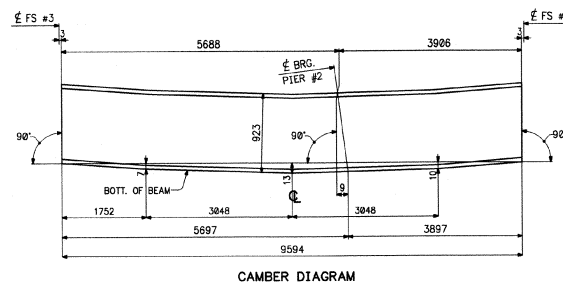
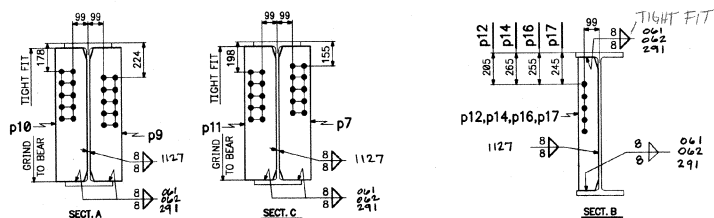
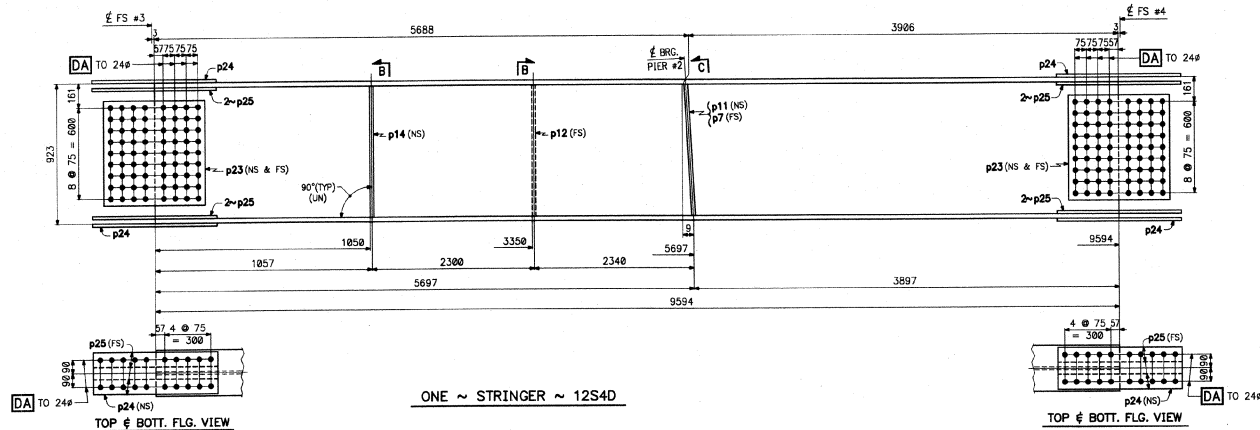
STRINGERS ~ 11SD1 & 11SD2

MEGQUIER & JONES
P.O. BOX 2648 1156 BRIDGEWAY
SOUTH PORTLAND, MAINE 04106
PHONE (207)799-8555 FAX (207)767-2117

U.S. 2 OVER MOOSE RIVER, BRIDGE NO. 117
PROD. NO.: SHF 8226-122
CONCORD, VERMONT

CUSTOMER BECK AND BELLUCCI, INC.
ENGINEER STATE OF VERMONT, AGENCY OF TRANSPORTATION

JOB NO. J-02 DWG. NO. 11



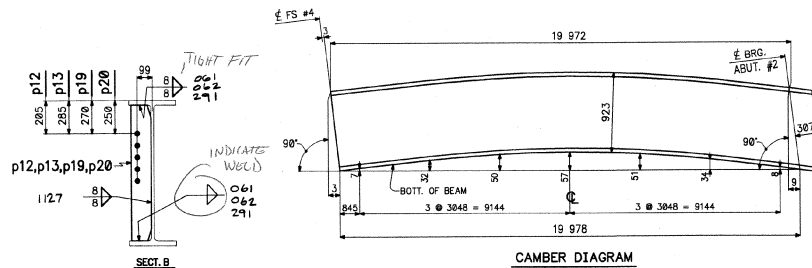
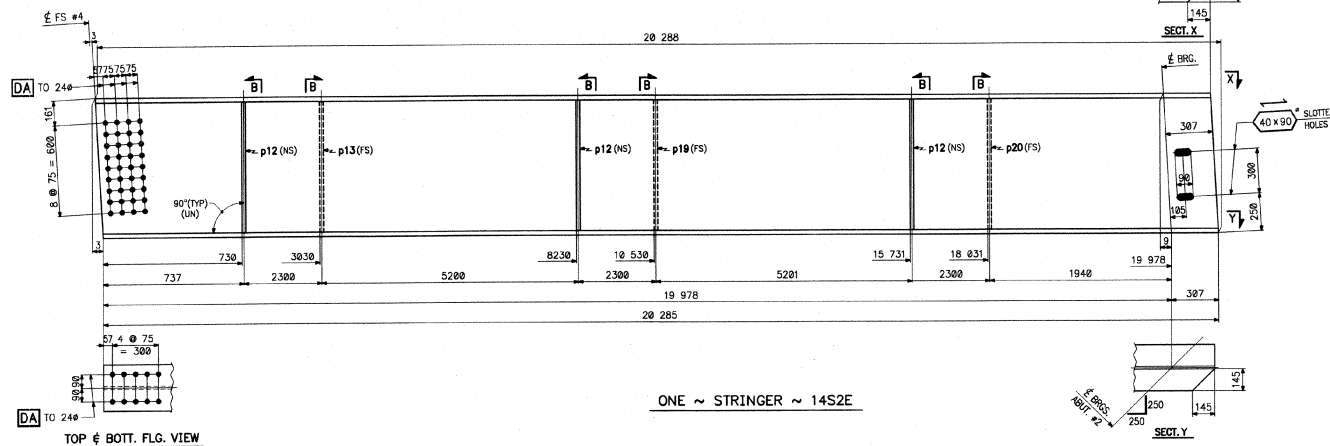
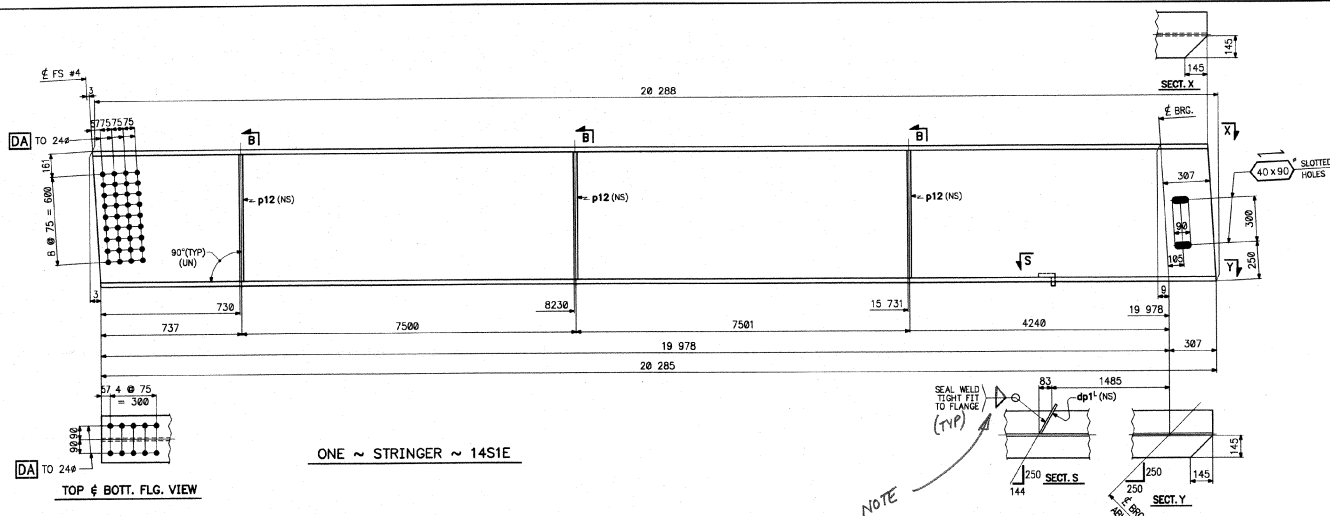
PAGE	LINE	BILL OF MATERIAL					JOB NO.	J-92	DWG. NO. 12
		SHIP MARK	NO	MARK	SHAPE	LENGTH			
					<u>STRINGER</u>				
1	E	12530	1		W928 x 271	9594			CWN
1	L		4	p23	PL 14 x 684	624			CWN
1	J		4	p24	PL 20 x 260	984			CWN
1	K		8	p25	PL 20 x 180	984			CWN
1	P		1	p9	PL 14 x 285	863			
1	P		1	p10	PL 14 x 285	863			
1	Q		1	p16	PL 14 x 130	863			
1	Q		1	p17	PL 14 x 130	863			
					<u>STRINGER</u>				
1	E	12540	1		W928 x 271	9594			CWN
1	L		4	p23	PL 14 x 684	624			CWN
1	J		4	p24	PL 20 x 260	984			CWN
1	K		8	p25	PL 20 x 180	984			CWN
1	P		1	p7	PL 14 x 285	863			
1	P		1	p11	PL 14 x 285	863			
1	Q		1	p12	PL 14 x 130	863			
1	Q		1	p14	PL 14 x 130	863			

SHOP NOTE:

1. **DA** DENOTES HOLES TO BE DRILLED
FULL SIZE AT ASSEMBLY.
2. CWN DENOTES CHARPY V-NOTCH
TESTING REQ'D.

CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO M270M GR.345W (WEATHERING)
WELDS: AS NOTED
HOLES: 24# (UN)
FIELD CONN.: 22# HSB, A325M TYPE-3 (UN)
SHOT BLAST: SSPC-SP8 ~~SP8~~ *SP10*
PAINT: NONE

APPR	Sp	2-7-00	STRINGERS ~ 12S3D & 12S4D
APPR			
APPR			MEGGUEIR & JONES
APPR			P.O. BOX 2649 1156 BROADWAY
APPR	2-16-00		SOUTH PORTLAND, MAINE 04106
APPR			PHONE (207)790-8555 FAX (207)767-2117
INFO			
TRK			US 2 OVER MOOSE RIVER, BRIDGE NO. 117
DMV	AL	1/00	PROJ. NO. BHJ 428-422
CHRD	LD	1/00	CONCORD, VERMONT
REV 1			CUSTOMER BECK AND BELLUCCI, INC.
REV 2			ENGINEER STATE OF VERMONT, AGENCY OF TRANSPORTATION
REV 3			
REV 4			
REV 5			
JOB NO.	J-02		DWG. NO. 12



LINE	SHIP MARK	NO.	MARK	SHAPE	LENGTH	WT.	REMARKS
1 G	14S1E	1		W20 x 271	20 288		CWN
1 Q		3	p12	PL 14 x 130		863	
1 R		1	dp1	PL 6 x 50		217	
1 G	14S2E	1		W20 x 271	20 288		CWN
1 Q		3	p12	PL 14 x 130		863	
1 Q		1	p13	PL 14 x 130		863	
1 Q		1	p19	PL 14 x 130		863	
1 Q		1	p20	PL 14 x 130		863	

SHOP NOTE:

1. DA DENOTES HOLES TO BE DRILLED FULL SIZE AT ASSEMBLY.
2. CWN DENOTES CHARPY V-NOTCH TESTING REQ'D.

CUSTOMER ORDER NO.:
 REFERENCE DRAWINGS:
 STEEL: AASHTO M270M GR.345W (WEATHERING)
 WELDS: AS NOTED
 HOLES: 24# (UN)
 FIELD CONN.: 22# HSB, A325W TYPE-3 (UN)
 SHOT BLAST: SSPC-SP-10
 PAINT: NONE

APPR	DATE	BY	CHKD	REV	DESCRIPTION
APPR					
APPR					
APPR					
SHOP					
FAB					
DRN					
CHKD					
REV 1					
REV 2					
REV 3					
REV 4					
REV 5					

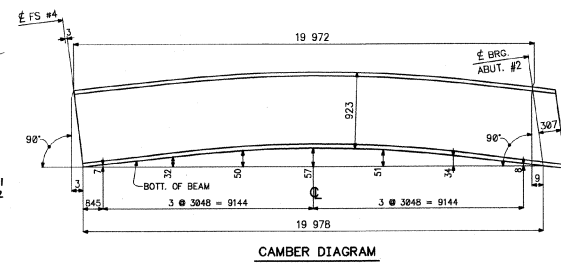
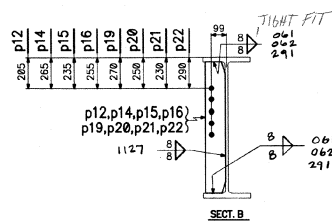
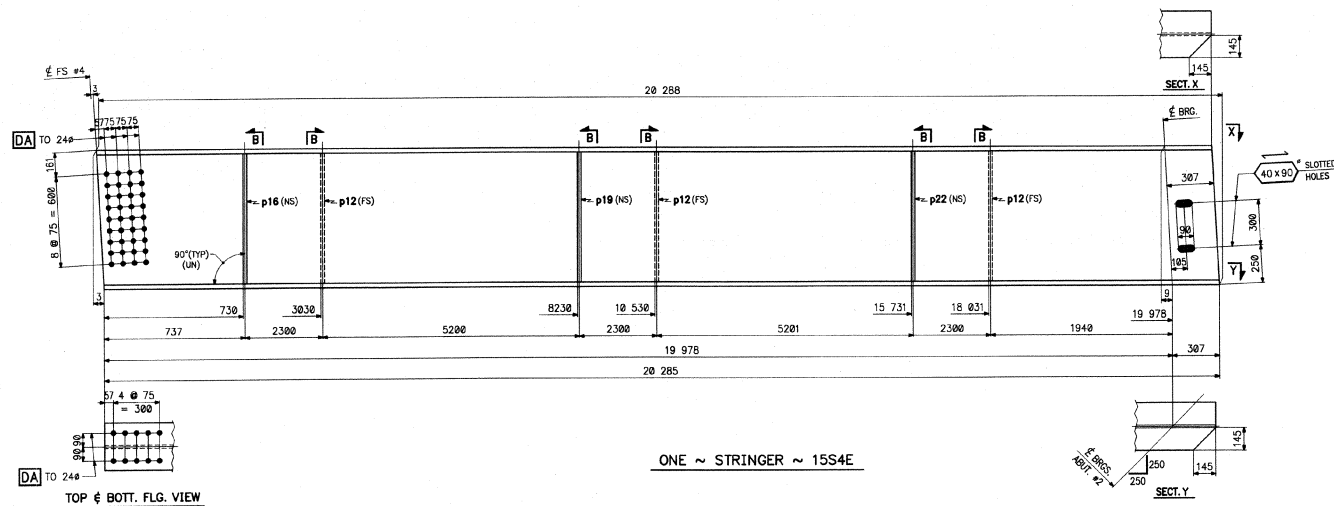
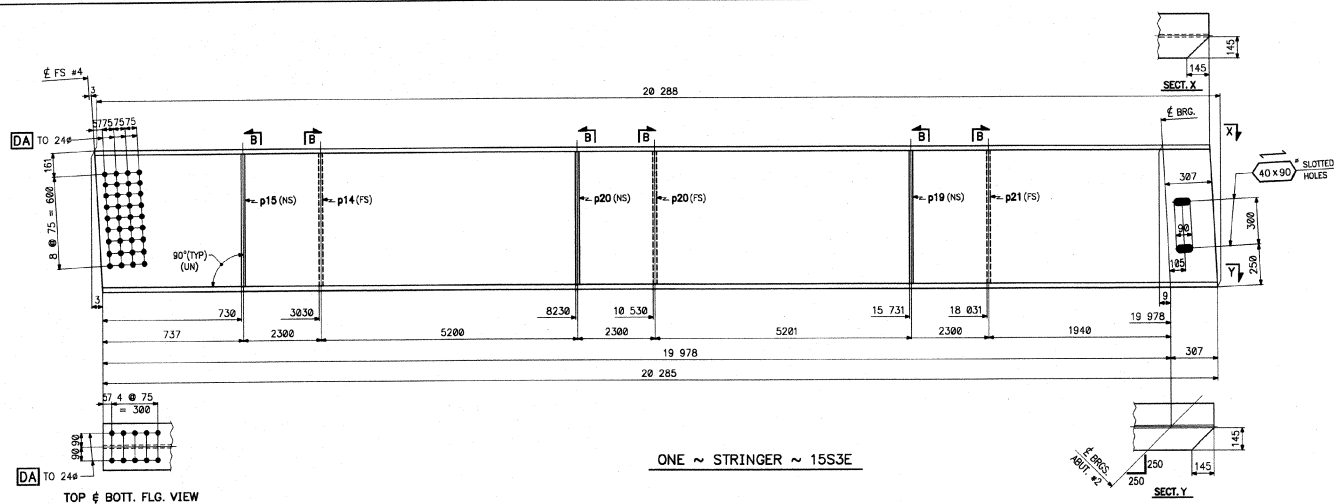
STRINGERS ~ 14S1E & 14S2E

MEQUIER & JONES
 P.O. BOX 2840 1156 BROADWAY
 SOUTH PORTLAND, MAINE 04106
 PHONE (207)760-8555 FAX (207)767-2117

US 2 OVER WOODS RIVER, BRIDGE NO. 117
 PROJ. NO.: BHF 028-4(22)
 CONCORD, VERMONT

CUSTOMER: BECK AND BELLUCCI, INC.
 ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION

JOB NO. J-92 DWG. NO. 14



PAGE	LINE	SHIP MARK	BILL OF MATERIAL			JOH NO.	J-92	DWG. NO.	15
			NO.	MARK	SHAPE				
1	G	15S3E	1		- STRINGER W920 x 271	20	288		CW
1	Q		1	p14	PL 14 x 130	863			
1	Q		1	p15	PL 14 x 130	863			
1	Q		1	p19	PL 14 x 130	863			
1	Q		2	p20	PL 14 x 130	863			
1	Q		1	p21	PL 14 x 130	863			

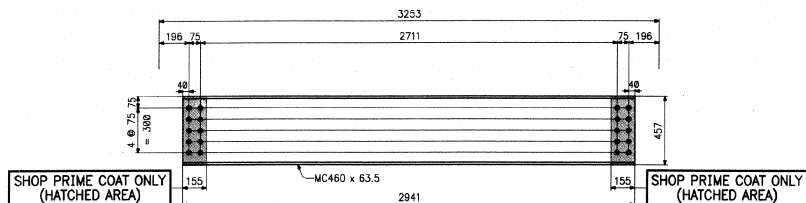
SHOP NOTE:

1. [DA] DENOTES HOLES TO BE DRILLED FULL SIZE AT ASSEMBLY.
2. CWN DENOTES CHAIRPY V-NOTCH TESTING REQ'D.

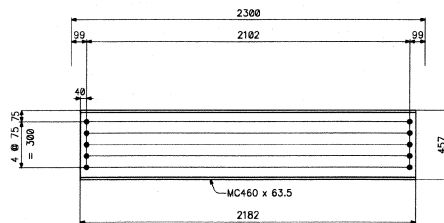
CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO M270M GR.345N (WEATHERING)
WELDS AS NOTED
HOLES 240 (UN)
FIELD CONN.: 22° HSB, A325M TYPE-3 (UN)
SHOT BLAST: SSPC-SP10
PAINT: NONE

APPR	Sp	2-7-00	STRINGERS ~ 15S3E & 15S4E
APPR			MEQUIER & JONES
APPR			P.O. BOX 2640 1156 BROADWAY
APPR			SOUTH PORTLAND, MAINE 04106
SHIP			PHONE (207)799-8555 FAX (207)787-2117
OWN	AV	1/00	US 2 OVER MOOSE RIVER, BRIDGE NO. 117
CHD	LD	1/00	PROJ. NO.: DHF 808-4(22)
REV 1			CONCORD, VERMONT
REV 2			CUSTOMER BECK AND BELLUCI, INC.
REV 3			ENGINEER STATE OF VERMONT, AGENCY OF TRANSPORTATION
REV 4			
REV 5			

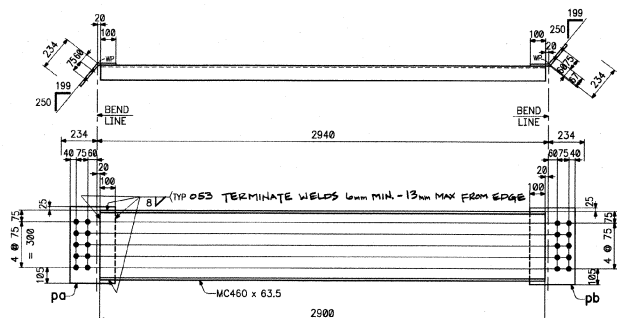
JOB NO. J-92 DWG. NO. 15



4 ~ ABUTMENT DIAPHRAGMS ~ 1701
(SHOP PAINT)



36 ~ INTERMEDIATE DIAPHRAGMS ~ 1702
(NO PAINT)

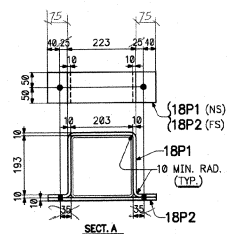


8 ~ PIER DIAPHRAGMS ~ 1703
(NO PAINT)

PAGE	LINE	BILL OF MATERIAL				JOB NO. J-92	DWG. NO. 17	REMARKS
		SHIP MARK	NO. MARK	SHAPE	LENGTH			
1	Y	1701	4	ABUT. DIAPHR.	2941			
				MC460 x 63.5				
				INT. DIAPHR.				
1	AA	1702	36	MC460 x 63.5	2182			
				PIER DIAPHR.				
1	Z	1703	8	MC460 x 63.5	2900			
1	BB		8	PL14 x 505	295			BENT
1	BB		8	PL14 x 505	309			BENT

CUSTOMER ORDER NO.:
REFERENCE DRAWINGS:
STEEL: AASHTO W270M GR.345W (WEATHERING)
WELDS: AS NOTED
HOLES: 24# (UN)
FIELD CONN.: 22# HSB, A325M TYPE-3 (UN)
SHOT BLAST: AS NOTED
PAINT: AS NOTED

APPR	2p	2-7-00	DIAPHRAGM DETAILS MEGQUIER & JONES P.O. BOX 3849 1156 BROADWAY SOUTH PORTLAND, MAINE 04106 PHONE (207)799-8555 FAX (207)767-2117 US 2 OVER MOOSE RIVER, BRIDGE NO. 117 PROJ. NO.: BHF 828-4(22) CONCORD, VERMONT CUSTOMER: BECK AND BELLUCCI, INC. ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION JOB NO. J-92 DWG. NO. 17
APPR			
APPR			
APPR	21p	2-10-00	
SHOP			
ENC			
DWG	AV	1/00	
DWG	LD	1/00	
REV 1			
REV 2			
REV 3			
REV 4			
REV 5			



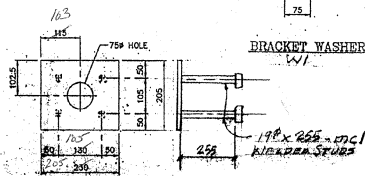
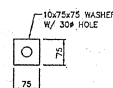
APPR	2P	2-7-00	HOPPER & DOWNSPOUT DETAILS
APPR			MEQUIER & JONES
APPR		2-0-00	P.O. BOX 2640 1156 BROADWAY
APPR	SLIP	2-0-00	SOUTH PORTLAND, MAINE 04106
INFO			PHONE: (207)799-8555 FAX: (207)767-2117
FLAC			
CHNG	AV	1/00	US 2 OVER MOORE RD BRIDGE NO. 117
CHNG	LD	1/00	CONC. BRK. 828-4223
REV 1			CONCORD, VERMONT
REV 2			CUSTOMER: BECK AND BELLUCCI, INC.
REV 3			ENGINEER: STATE OF VERMONT, AGENCY OF TRANSPORTATION
REV 4			
REV 5			JOB NO. J-92
			DWG. NO. 18

25° TREADED ROD
#1/2 HEX NUTS
2 WASHERS.
W1

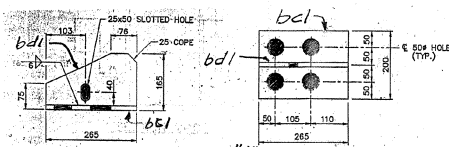
A vertical assembly is shown. At the top, a horizontal bar is labeled '25° TREADED ROD'. Below this bar, there are two hexagonal nuts and two circular washers, labeled '#1/2 HEX NUTS' and '2 WASHERS.' respectively. The entire assembly is supported by a base labeled 'W1'. Below the assembly, there are two horizontal dimension lines. The first dimension line is labeled '20-TS1' on the left and '180' on the right. The second dimension line is labeled '20-TS2' on the left and '275' on the right.

20-TS1 180

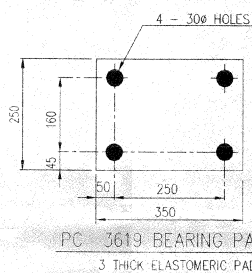
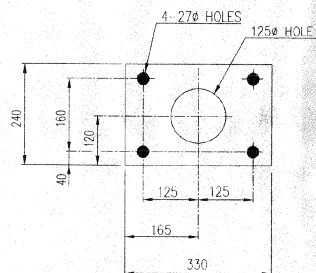
20-TS2 275



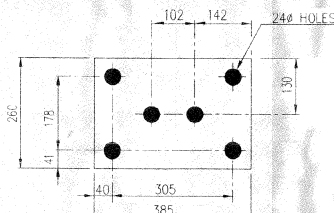
DO NOT GALVANIZE THIS PLATE
 PLATE "A" DETAIL - API 5R 50'0"

[illegible]





PC 3619 BEARING PAD
3 THICK ELASTOMERIC PAD

[illegible]

PC 925 END SHOE
(AASHTO M180)

FINISH: GALV. (ASTM A123) / AASHTO M111

METRIC MEASUREMENTS NOTE

ALL DIM. ARE IN MILLIMETERS UNLESS NOTED.

[illegible]

SHOP DRAWING USING
METRIC
DIMENSIONS

This drawing and the information shown thereon is the sole property of TRINITY INDUSTRIES, INC. Neither the drawing nor such information is to be used for any purpose other than that for which it was specifically furnished by TRINITY INDUSTRIES, INC., nor is any reproduction authorized without written permission.

BILL OF MATERIAL						
PRODUCT CODE	QTY.	DESCRIPTION	WT / EA	REMARKS		
87438A	80	POST x 610	42 kg			
87437G	4	POST x 1980	79 kg			
87436B	1	POST x 2135	84 kg			
87435G	80	ANCHOR PLATE	7 kg			
3619B	80	BEARING PAD	1 Kg			
87434C	4	BACK-UP PLATE	8 kg			
35107A	24	SPLICE 178 x 76 x 9.5	17.7 kg			
35103A	24	SPLICE 76 x 76 x 7.9	8.5 kg			
925C	4	END SHOE (10 GA.)	10 kg			GUARDRAIL TERMINAL CONNECTOR
HARDWARE						
3391G	192	16# x 45 mm HEX HD BOLT G/6" x 1 3/4" HEX HD BOLT			A325 GRA	A153
3446G	16	WASHER 4" OD (5/8" WASHER 1 3/4" O.D.)	TYPE A HARDENED	F436		A153
3310G	192	16 LOCKWASHER (5/8" LOCKWASHER)		F436		A153
3637G	368	10# x 50 HD HD BOLT (3/4" x 6" HD HD BOLT)	SLOTTED HEAD	A307		A153
3702G	368	10 PLAIN WASHER 55 T.D. (3/4" PLAIN WASHER 2" O.D.)	TYPE A HARDENED	F436		A153
4700G	368	19 LOCK HEX NUT (1 1/2" LOCK HD NUT)		A563 GRA		A153
4914G	320	24# x 30 ANCHOR STUD (1 1/2" x 12" ANCHOR STUD)	FULLY THREADED	A449		A153
4902G	320	1 PLAIN WASHER (1") PLAIN WASHER		F436		A153
3910G	320	24 HEX NUT (1 1/2" HD NUT)		A563 GRA		A153
3808G	320	24 HEX NUT (1 1/2" HD NUT)		A563 DH		A153
4910G	320	24 HEX JAM NUT (1 1/2" HEX JAM NUT)		A563 GRA		A153
35209G	48	19 x 50H 40 PPFT #12 L0 3/4" 50H 40 TPEL x 1 1/2" L0	0.1#	A53		A125 NOT DETAILLED
PAY QUANTITY						
187.04M		ITEM NO. 525.33		STEEL BRIDGE RAIL (NETC.)		

(*) ANCHORAGE TO BE SHIPPED PRIOR TO REMAINDER OF MATERIAL

(**) HARDWARE TO BE SUPPLIED IN ENGLISH

NOTES:

Tubing and posts shall meet the requirements of Section 732 - Railing materials of the Standard Specifications for Construction. All exposed cut or sheared edges shall be rounded to a 1.6 mm radius and be free of burrs.

GALVANIZED SURFACES SHALL HAVE A UNIFORM APPEARANCE AND GALVANIZED MATERIAL SHALL BE PROPERLY STORED WITH WOOD BLOCKING BETWEEN PIECES.

Rail bars.....ASTM A500, Grade B or ASTM A501

SEE SECTION 732.03, SUBSECTION 3

Rail posts.....ASTM A709/A709M, Grade 345 CWN

SEE SECTION 732.03, SUBSECTION 2

All other shapes & plates.....AS NOTE

ERECTION DETAILS ARE ON E1 AND E2 OF 2

GIRARD ENGINEERING DEPT.
1881

APPROVAL DRAWING

ISSUED

MAR 08 2000

TRINITY INDUSTRIES, INC.
1170 N. STATE STREET
GIRARD, OHIO 44420

REV	CHK'D	BY	DATE	REMARKS
-----	-------	----	------	---------

PAY ITEM 525.33 NETC 2-RAIL

STATE OF VERMONT AGENCY OF TRANSPORTATION
U.S. ROUTE 2 OVER MOOSE RIVER
TOWN OF CONCORD COUNTY OF ESSEX
STATE PROJECT NO. RHE-028-4(22) BRIDGE NO. 1

DRAWN	DDC
-------	-----

CHECKED	IP
---------	----

APPROVED

CUSTOMER	BECK & BELUCCI INC	P.O. No.	DATE	02/18/00
----------	--------------------	----------	------	----------

DECLASSIFIED BY: 60322 UCBAW/STW	ENC. FILE # 22-102334-D1
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TRINITY INDUSTRIES, INC. SHT. No. D1 OF 2


HIGHWAY CONSTRUCTION PRODUCTS
 3000 STEWARTS FERRYWAY, SUITE 100, TAMPA, FL 33607

2525 STEMMONS FREEWAY, DALLAS, TX 75207	(22) 102334	0
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Engr. Steven E. Williams, P.E., No. 102734, Exp. 03/15/2010, P. 1 of 1