

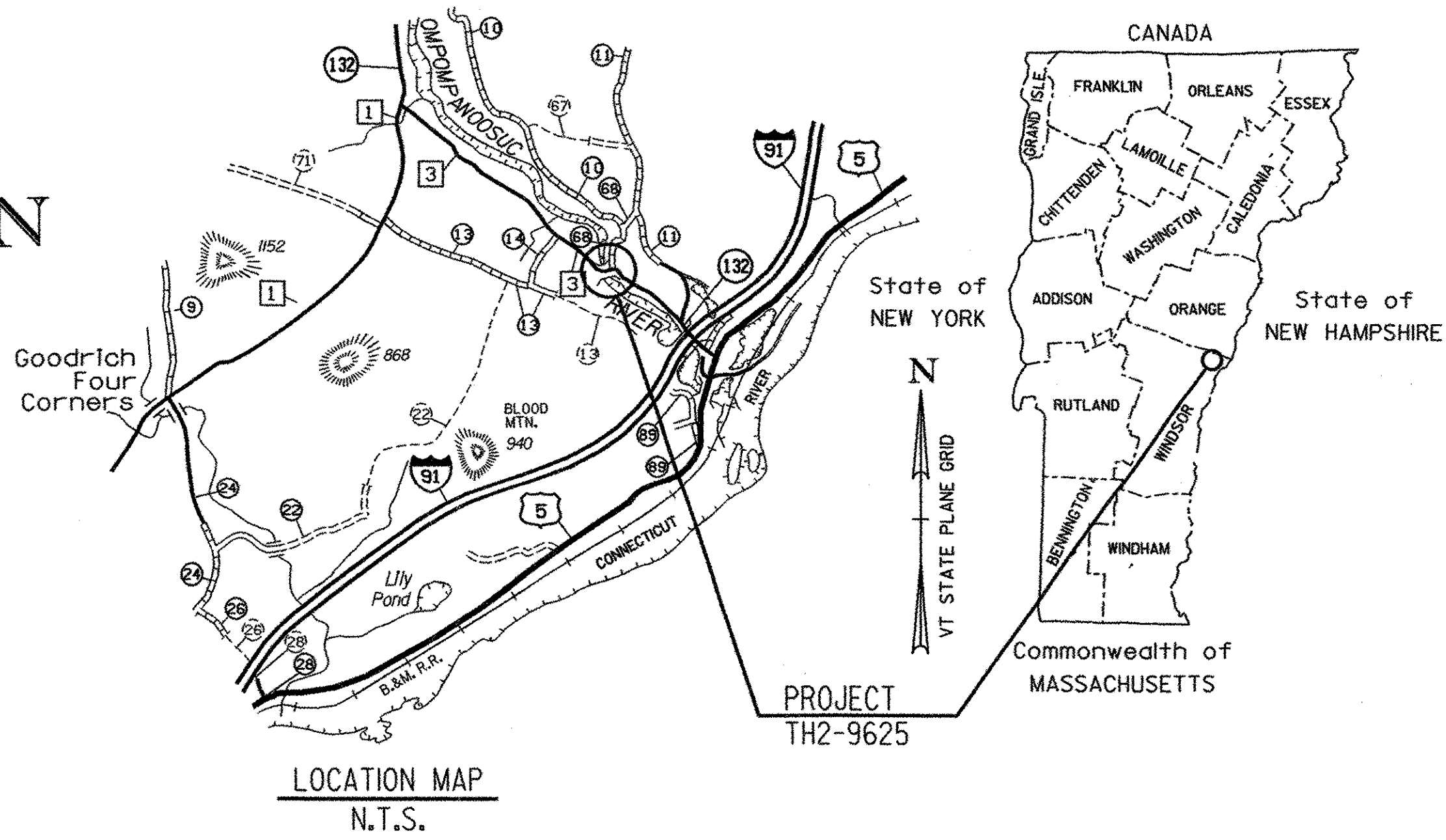
STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF NORWICH
COUNTY OF WINDSOR

BRIDGE NO. 46 ON STATE NUMBERED TOWN HIGHWAY 132
(TOWN HIGHWAY NO. 3)

INDEX OF SHEETS	
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3.	TYPICAL ROADWAY SECTIONS
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7.	LAYOUT SHEET
8.	PROFILE SHEET
9.	TRAFFIC CONTROL PLAN
10.	TRAFFIC CONTROL DETAILS
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15.	PLAN AND ELEVATION
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19.	DECK REINFORCING PLAN
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21.	MISCELLANEOUS STEEL DETAILS
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24.	SCUPPER DETAILS
25.	APPROACH SLAB DETAILS
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27.	ABUTMENT #2 DETAILS
28.	PIER DETAILS
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30.	TRAFFIC SIGN SUMMARY SHEET
31.	REINFORCING SCHEDULE
32.-37.	ROADWAY CROSS SECTIONS
38.-40.	CHANNEL CROSS SECTIONS



PROJECT LOCATION: BEGINNING AT APPROXIMATELY 0.71 MILES WEST OF THE INTERSECTION OF STATE NUMBERED TOWN HIGHWAY 132 (T.H. 3) AND U.S. ROUTE 5 AND EXTENDING EAST 0.064 MILES.

PROJECT DESCRIPTION: THIS PROJECT INVOLVES THE REMOVAL OF THE EXISTING BRIDGE SUPERSTRUCTURE, REHABILITATION OF EXISTING BRIDGE ABUTMENTS AND PIER, CONSTRUCTION OF THE NEW BRIDGE SUPERSTRUCTURE, STONE ARMORING AND MINOR APPROACH RECONSTRUCTION.
LENGTH OF STRUCTURE: 99.90 FEET (0.019 MILES)
LENGTH OF ROADWAY: 240.10 FEET (0.045 MILES)
LENGTH OF PROJECT: 340.00 FEET (0.064 MILES)

RECORD PLANS	
CONTRACTOR:	WINTERSET, INC. - LYNDONVILLE, VT.
RESIDENT ENGINEER:	TOM CHASE
CONSTRUCTION BEGAN:	APRIL 26, 2005
CONSTRUCTION COMPLETE:	OCTOBER 21, 2005
RECORD PLANS BY:	TOM CHASE & C. PIERCE
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.	
BY	<u>Thomas A. Chase</u> RESIDENT ENGINEER
DATE	<u>03/12/07</u>
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.	

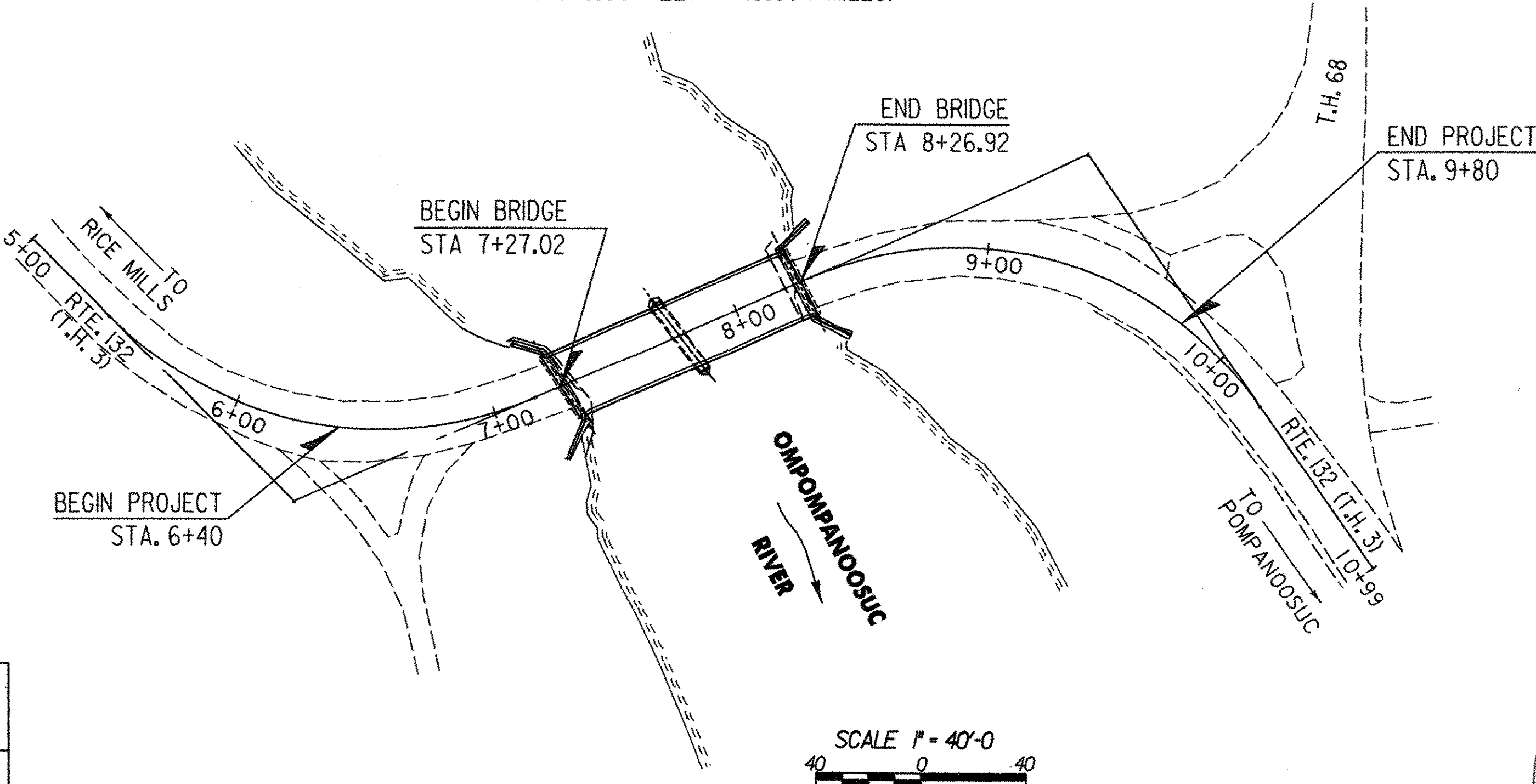
THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROJECT DEVELOPMENT.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL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

DIRECTOR OF PROGRAM DEVELOPMENT	APPROVED <u>[Signature]</u> DATE <u>4/7/04</u>
PROJECT MANAGER: MICHAEL J. CHENETTE	
PROJECT NAME: NORWICH	
PROJECT NUMBER: TH2-9625	
SHEET 1 OF 40 SHEETS	

PLANS PREPARED BY:
DH
Dufresne-Henry
BY: Michael J. Chenette

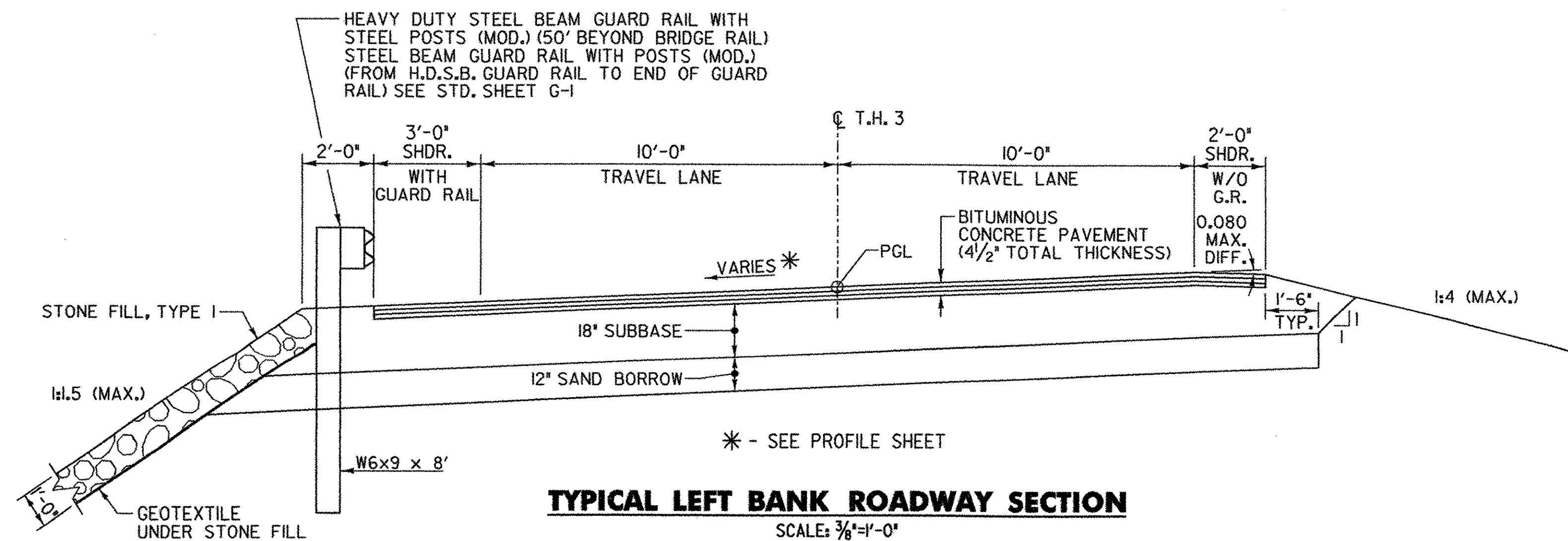


SCALE 1" = 40'-0"

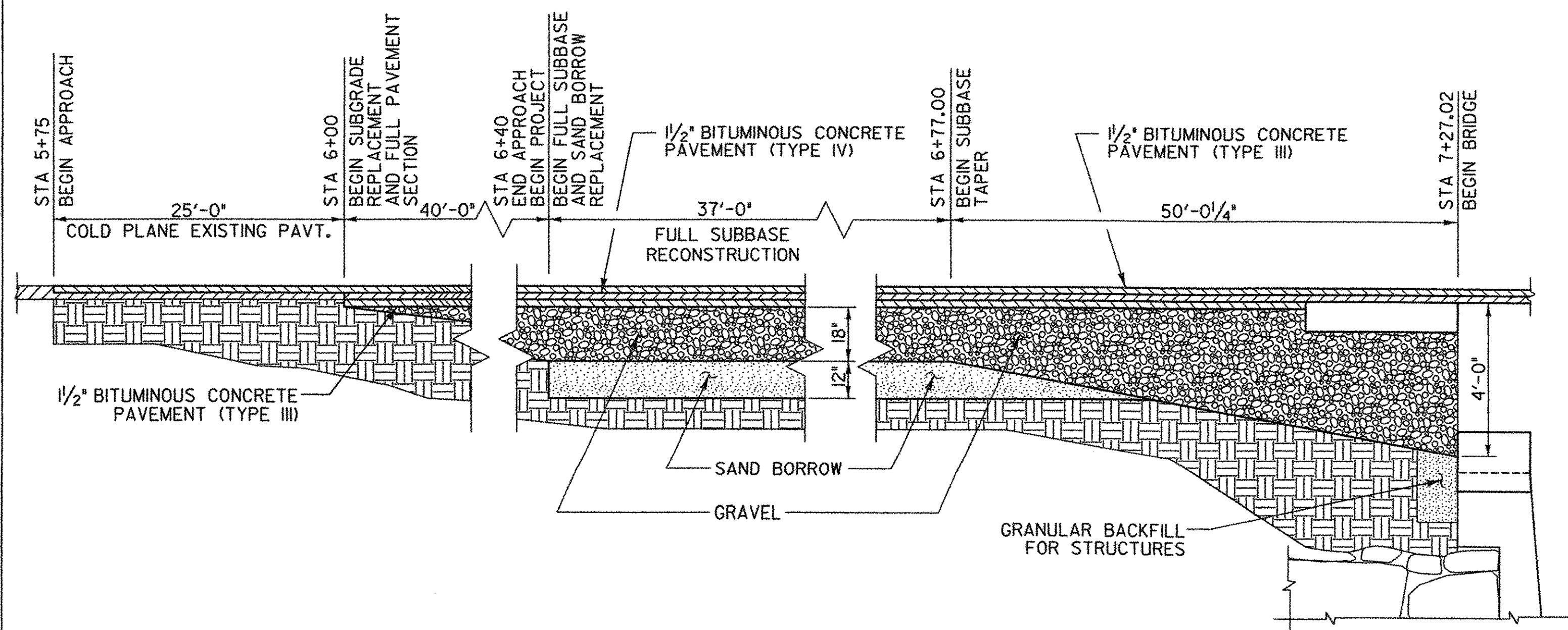
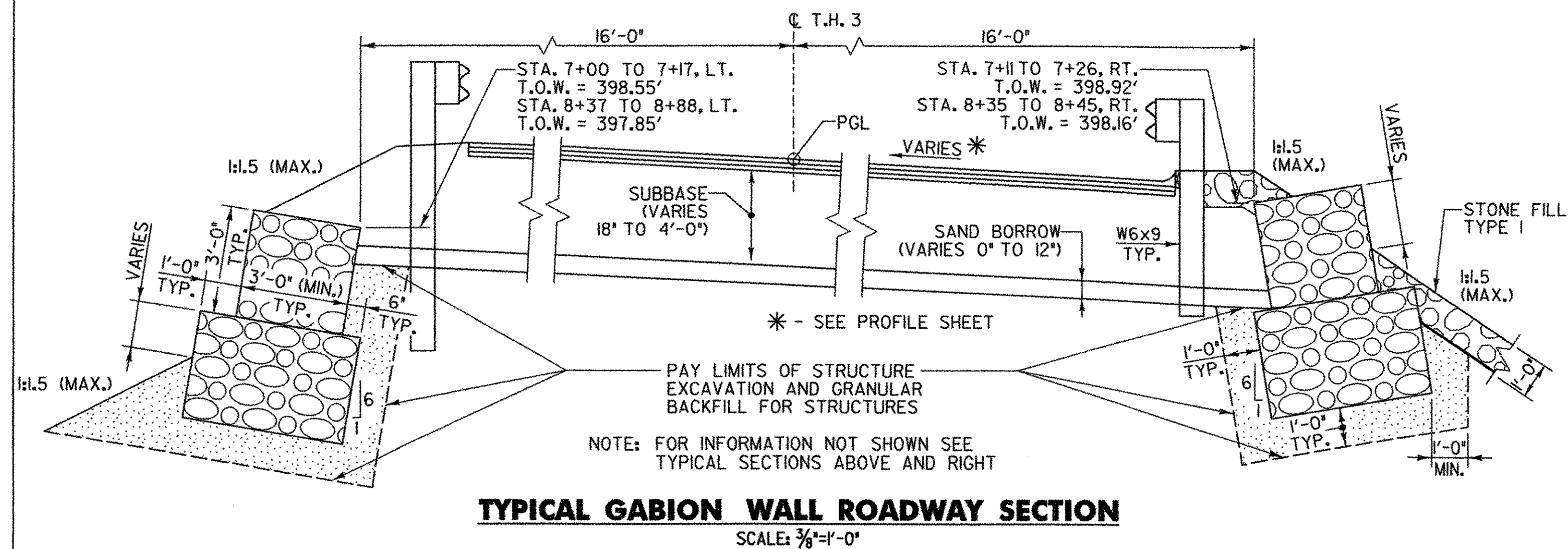


CONVENTIONAL SYMBOLS	
COUNTY LINE	
TOWN LINE	
LIMITS OF ACCESS	
POINT OF ACCESS	
FENCE LINE	
STONE WALL	
TRAVELED WAY	
GUARD RAIL	
RAILROAD	
SURVEY LINE	
CULVERT	
POWER POLE	
TELEPHONE POLE	
TREES	
CONTROL OF ACCESS	
PROPERTY LINE	
R.O.W. TAKING LINE	
SLOPE RIGHTS	
TOP OF CUT	
TOE OF SLOPE	

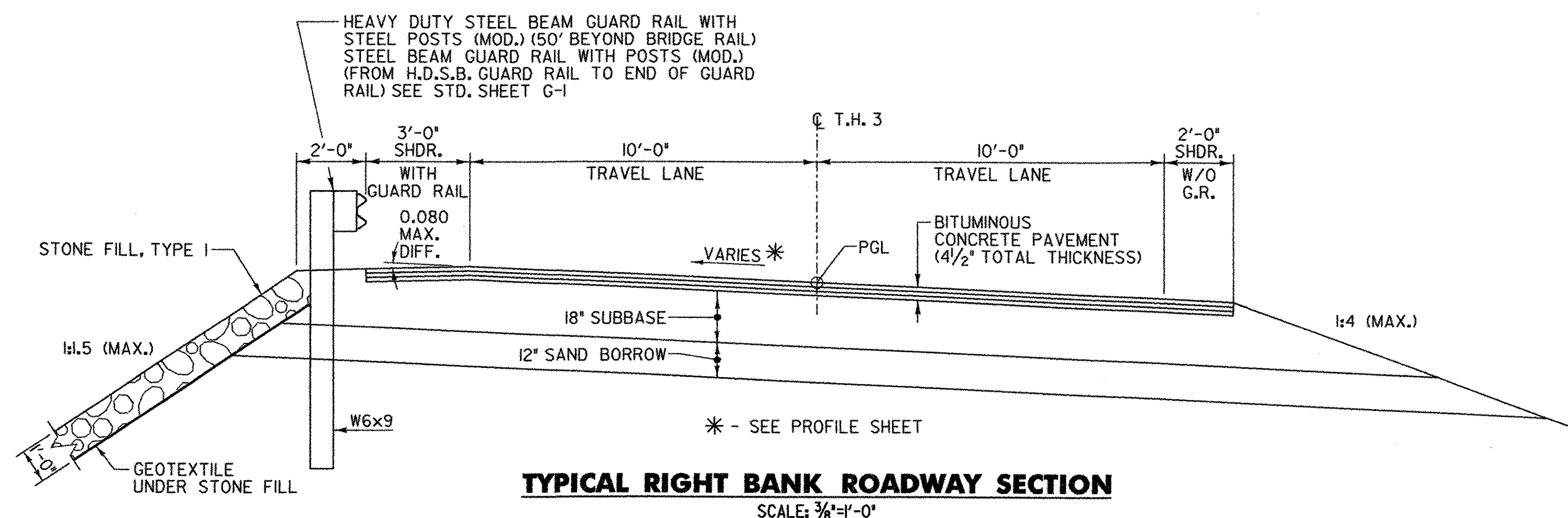
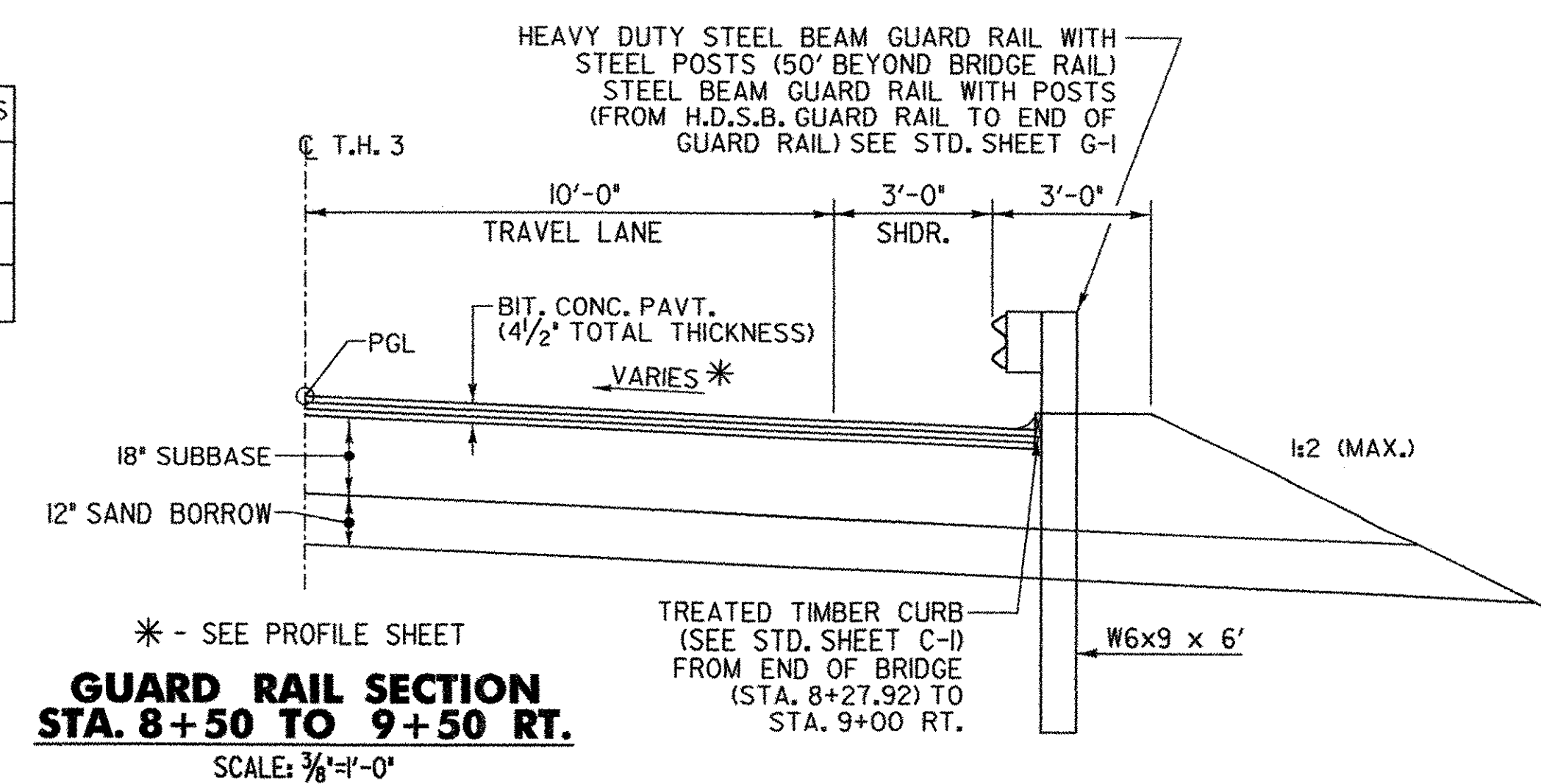
SURVEYED BY: VTRANS
SURVEYED DATE: DECEMBER 01, 2000
DATUM
VERTICAL NGVD 1988
HORIZONTAL NAD 1983



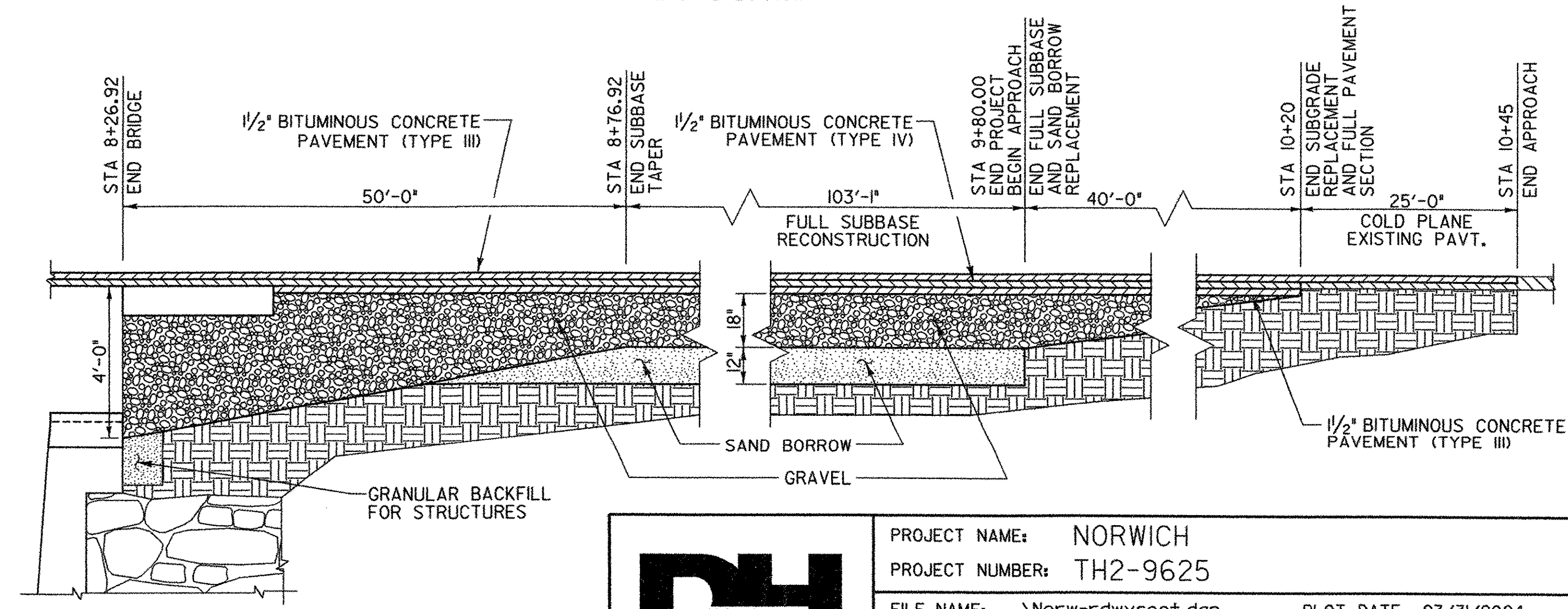
BITUMINOUS CONCRETE PAVEMENT:
1 1/2" TYPE III (LIFT), WEARING SURFACE
1 1/2" TYPE IV (LIFT), BINDER
1 1/2" TYPE III (LIFT), BASE COURSE
18" SUBBASE OF GRAVEL
12" SAND BORROW



MATERIAL ITEM	TOLERANCE
PAVEMENT	+/- 1/4" TOTAL THICKNESS
SUBBASE	+/- 1"
SAND BORROW	+/- 1"
GRANULAR BORROW	+/- 1"



BITUMINOUS CONCRETE PAVEMENT:
1 1/2" TYPE III (LIFT), WEARING SURFACE
1 1/2" TYPE IV (LIFT), BINDER
1 1/2" TYPE III (LIFT), BASE COURSE
18" SUBBASE OF GRAVEL
12" SAND BORROW



PROJECT NAME: NORWICH
PROJECT NUMBER: TH2-9625

FILE NAME: ...Norw-rdwyssect.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: S. BURBANK

PLOT DATE: 03/31/2004
DRAWN BY: S. BURBANK
CHECKED BY: M. CHENETTE
SHEET 3 OF 40

TYPICAL ROADWAY SECTIONS

STATE OF VERMONT AGENCY OF TRANSPORTATION															QUANTITY SHEET											
SUMMARY OF ESTIMATED QUANTITIES																TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES				
FULL C.E. ITEMS		ROADWAY		EROSION CONTROL		CHANNEL		ABUTMENT No. 1	PIER	ABUTMENT No. 2		APPROACH SLAB No. 1	APPROACH SLAB No. 2		DECK	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS	
		1																1			LS	CLEARING AND GRUBBING	201.10			
		650																650			CY	COMMON EXCAVATION	203.15			
						10										10		10			CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
		210																210			CY	SAND BORROW	203.31			
		110						12		11						23		133			CY	STRUCTURE EXCAVATION	204.25			
		44						12		11						23		67			CY	GRANULAR BACKFILL FOR STRUCTURES	204.30			
		125																	125		SY	COLD PLANING-BITUMINOUS PAVEMENT (MOD. - FP)	210.10			
		640																640			CY	SUBBASE OF GRAVEL	301.15			
		3																3			CWT	EMULSIFIED ASPHALT	404.65			
		224										8	8		46	62		286			TON	MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	406.27			
															96	96			96		CY	CONCRETE, HIGH PERFORMANCE CLASS A (MOD. - FP)	501.33			
								9	11	7						61		61			CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
															44350	44350			44350		LB	STRUCTURAL STEEL (ROLLED BEAM) (MOD. - FP)	506.50			
								1050	830	920						2800		2800			LB	REINFORCING STEEL (MOD. - FP)	507.15			
								75	65	70						210		210			LF	DRILLING AND GROUTING DOWELS (MOD. - FP)	507.16			
												1710	1710		25230	28650		28650			LB	EPOXY COATED REINFORCING STEEL (MOD. - FP)	507.17			
															1	1		1			LS	SHEAR CONNECTORS (1062 - 7/8" x 7")	508.15			
								6	9	7						8	30	30			GAL	WATER REPELLENT	514.10			
															52	52		52			LF	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG TYPE JOINT) (MOD. - FP)	516.10			
												42	42		281	365		365			SY	SHEET MEMBRANE WATERPROOFING (MOD. TORCH APPLIED) (MOD. - FP)	519.20			
															214	214		214			LF	BRIDGE RAILING - HDSB/ FASCIA MOUNTED / HAND RAIL (MOD. - FP)	525.44			
															220	220		220			SY	REMOVAL OF BRIDGE PAVEMENT (MOD. - FP)	529.10			
															1	1		1			EACH	PARTIAL REMOVAL OF STRUCTURE	529.20			
								5	9	5						19		19			CY	REMOVAL OF CONCRETE OR MASONRY	529.25			
								4	4	4						12		12			EACH	BEARING DEVICE ASSEMBLY	531.10			
								2	1	2						5		5			SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE CLASS I (MOD.)	580.13			
									5							5		5			SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE CLASS II (MOD.)	580.14			
		75																75			CY	GABION RETAINING WALL	612.10			
		70																70			CY	STONE FILL, TYPE I	613.10			
						31										31		31			CY	RIPRAP, HEAVY TYPE (MOD-GROUT BAGS)	613.15			
		72																	72		LF	TREATED TIMBER CURB (MOD. - FP)	616.35			
		100																100			LF	SNOW FENCE	620.70			
		117																	117		LF	STEEL BEAM GUARD RAIL (MOD. - FP)	621.20			
		117																	117		LF	STEEL BEAM GUARD RAIL (MOD.) (MOD. - FP)	621.20			
		63																	63		LF	HEAVY DUTY STEEL BEAM GUARD RAIL (MOD. - FP)	621.21			
		165																	165		LF	HEAVY DUTY STEEL BEAM GUARD RAIL (MOD.) (MOD. - FP)	621.21			
		3																3			EACH	ANCHOR FOR STEEL BEAM RAIL	621.60			
		435																	435		LF	REMOVAL AND DISPOSAL OF GUARD RAIL (MOD. - FP)	621.80			
1																		1			LS	FIELD OFFICE-ENGINEERS	631.10			
1																		1			LS	TESTING EQUIPMENT - CONCRETE	631.16			
NOTE: ITEMS IDENTIFIED AS (MOD. - FP) WILL BE PAID AT THE QUANTITY SHOWN WITHOUT FIELD MEASUREMENT. SEE SPECIAL PROVISIONS FOR DETAILS.																										
PROJECT NAME: NORWICH																										
PROJECT NUMBER: TH2-9625																										
FILE NAME: Norw-quant.xls PLOT DATE: 3/31/2004																										
PROJECT LEADER: M. CHENETTE DRAWN BY: A. THIBAUT																										
DESIGNED BY: S. BURBANK CHECKED BY: M. CHENETTE																										
QUANTITY SHEET #1 SHEET 4 OF 40																										

QUANTITY SHEET

PROJECT NAME:	NORWICH		
PROJECT NUMBER:	TH2-9625		
FILE NAME:	Norw-quant.xls	PLOT DATE:	3/31/2004
PROJECT LEADER:	M. CHENETTE	DRAWN BY:	A. THIBAUT
DESIGNED BY:	S. BURBANK	CHECKED BY:	M. CHENETTE
QUANTITY SHEET #2		SHEET	5 OF 40

HVCTRL # 1

STANDARD DISK STAMPED

OMPA AZ MK

N = 457696.9720
E = 1709707.3280
ELEV. = 459.940

GENERAL LOCATION - NORWICH, VT
TO REACH FROM THE INTERSECTION OF THE VERMONT ROUTE 113 BRIDGE OVER
INTERSTATE 91 IN THE FORD GO SOUTH ALONG INTERSTATE 91 FOR 4.5 MI
(7.2 KM) TO THE MARK ON THE RIGHT SET FLUSH IN THE TOP OF A CONCRETE
DROP INLET.

THE MARK IS LOCATED 34.5 M (113.2 FT) NORTHEAST OF MM 79/80, 24.2 M
(79.4 FT) WEST SOUTHWEST OF MM 79/85, 3.8 M (12.5 FT) NORTHWEST OF
AND ABOUT 0.5 M (1.6 FT) LOWER THAN THE NORTHWEST EDGE OF PAVEMENT OF
THE INTERSTATE 91 SOUTHBOUND LANE, AND 0.3 M (1.0 FT) SOUTHEAST OF A
FIBERGLASS WITNESS POST.

• TO ALLOW THE STATE PLANE COORDINATES TO FIT THE AGENCY DESIGN PLANE, SUBTRACT 400,000 FROM THE NORTHING AND SUBTRACT 1,700,000 FROM THE EASTING.
• DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT

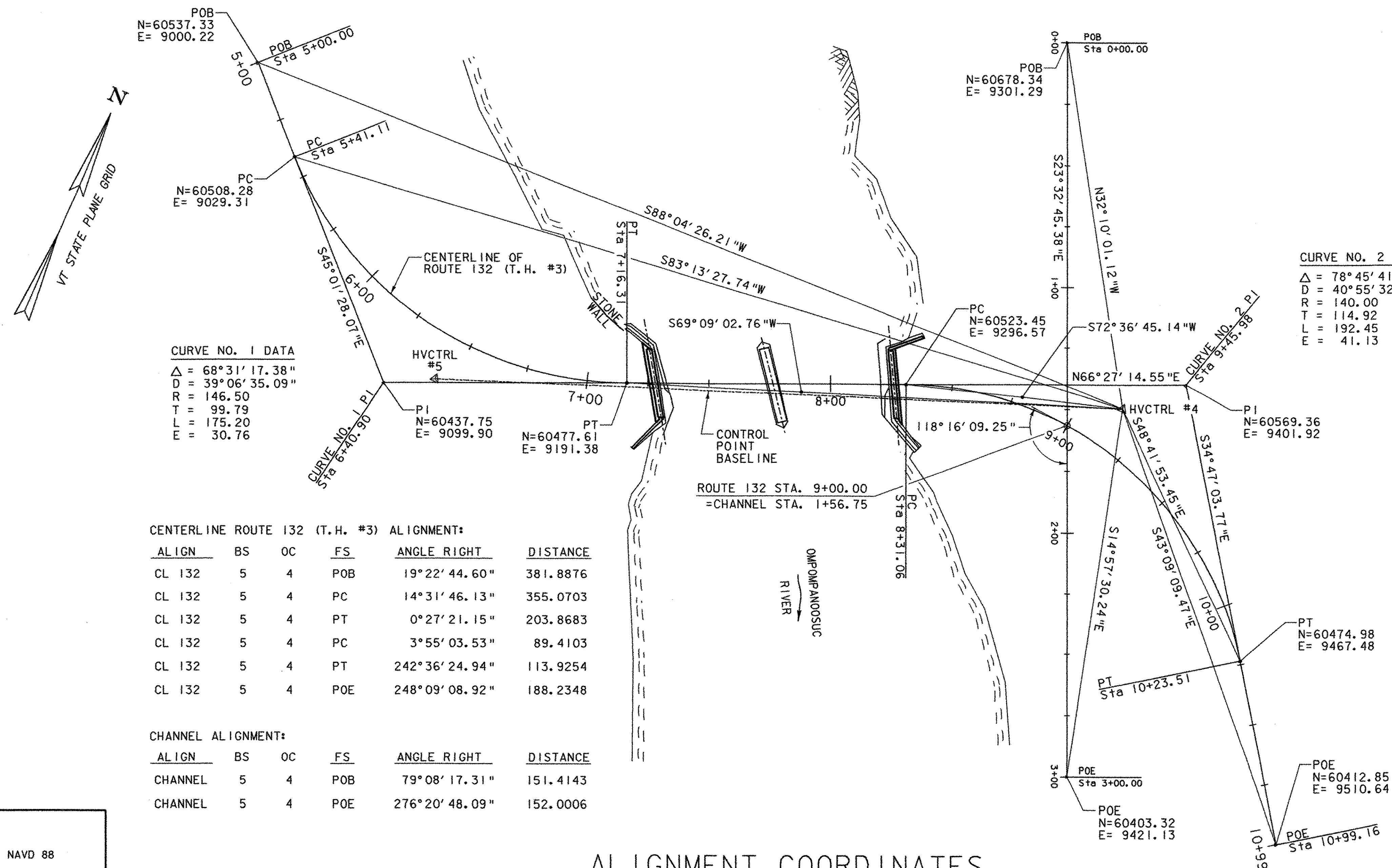
HVCTRL # 2

STANDARD DISK STAMPED

OMPA

N = 459617.8370
E = 1711293.0930
ELEV. = 418.077

GENERAL LOCATION - NORWICH, VT
TO REACH FROM THE INTERSECTION OF THE VERMONT ROUTE 113 BRIDGE OVER
INTERSTATE 91 IN THE FORD GO SOUTH ALONG INTERSTATE 91 FOR 4.0 MI
(6.4 KM) TO THE MARK ON THE LEFT SET NEAR THE SOUTH END OF A U-TURN.
THE MARK IS LOCATED 7.2 M (23.6 FT) SOUTH SOUTHEAST OF THE SOUTHEAST
EDGE OF PAVEMENT OF INTERSTATE 91 SOUTHBOUND LANE, 5.2 M (17.1 FT)
NORTH NORTHWEST OF THE NORTHWEST EDGE OF PAVEMENT OF THE INTERSTATE
91 NORTHBOUND LANE, 2.4 M (7.9 FT) WEST SOUTHWEST OF THE SOUTHWEST
EDGE OF PAVED U-TURN, AND 3.3 M (10.8 FT) NORTH OF A NO U-TURN SIGN
AND FIBERGLASS WITNESS POST AND SET 0.1 M (0.3 FT) BELOW GROUND
SURFACE.

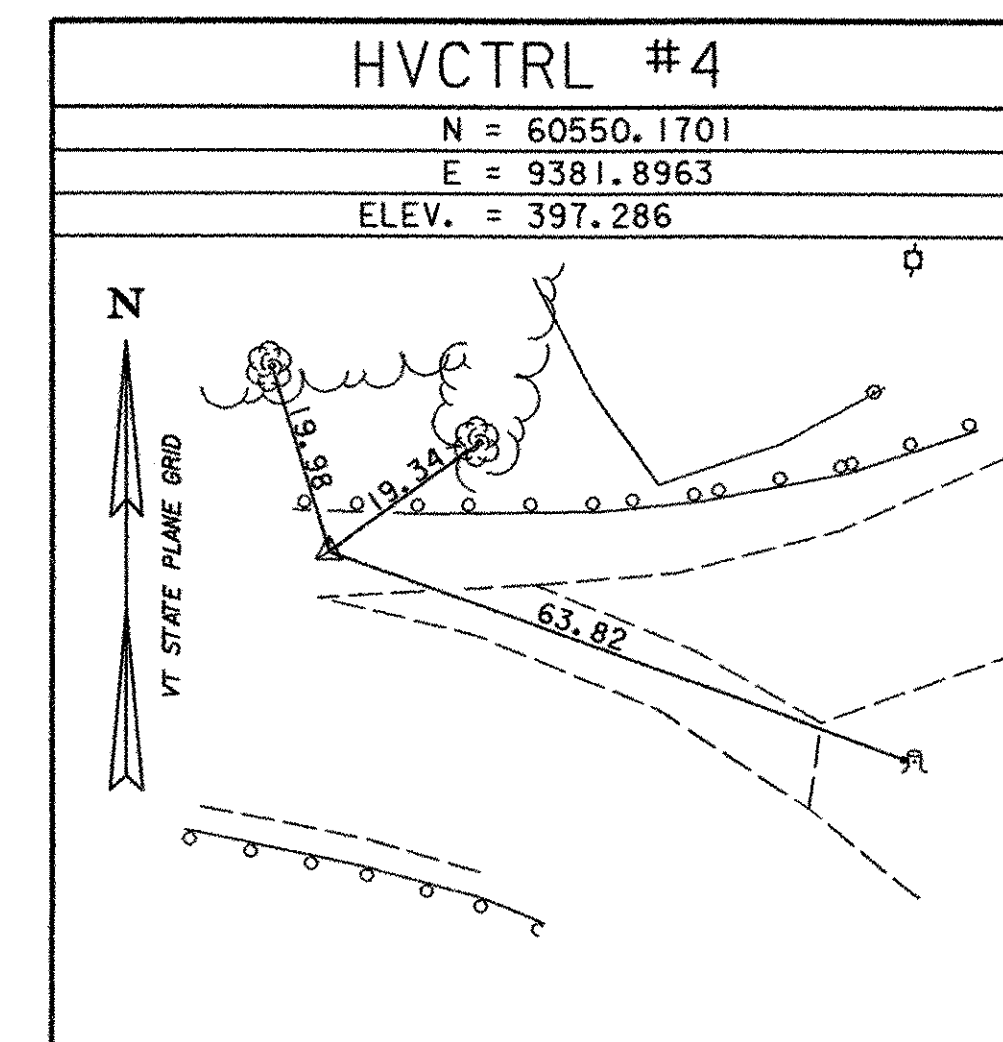


ALIGNMENT COORDINATES

DATUM

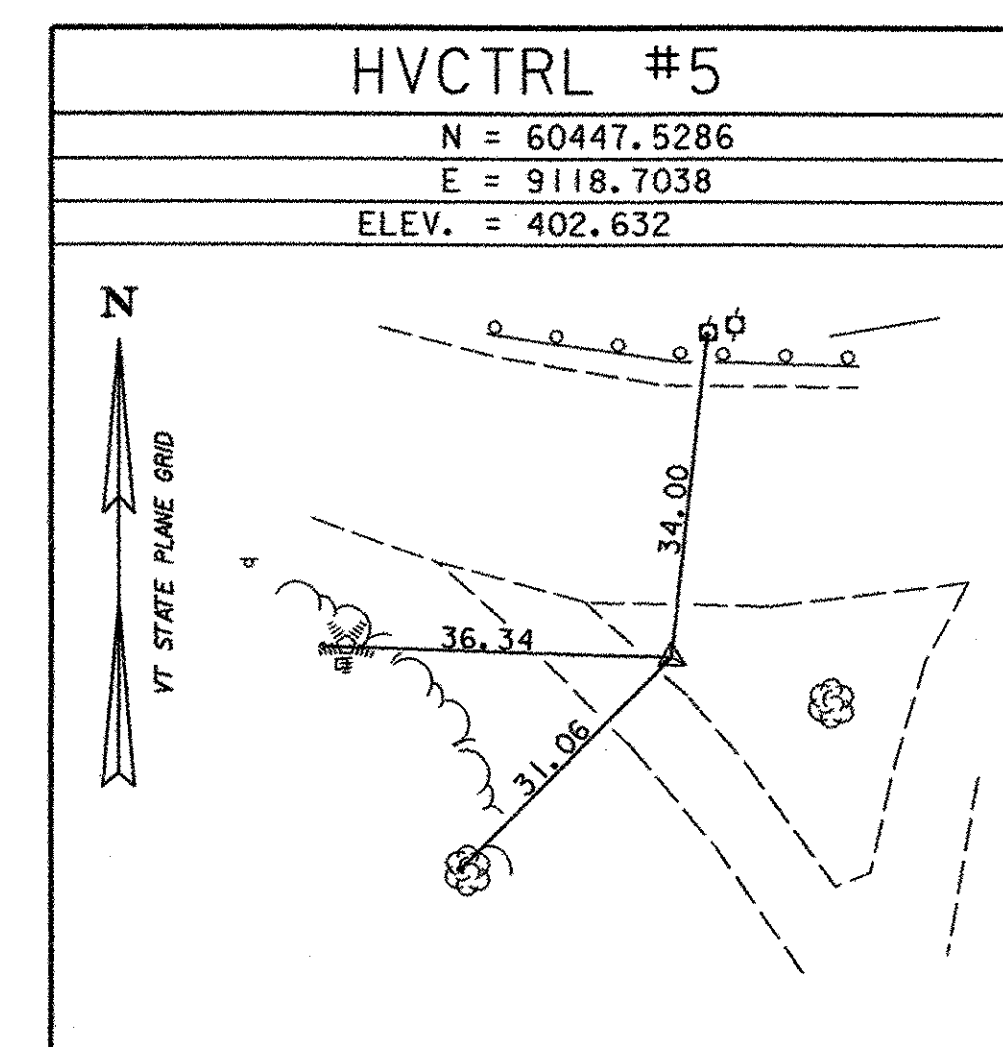
VERTICAL NAVD 88
HORIZONTAL NAD 83/96
ADJUSTMENT none

TRAVERSE TIE



* MAIN TRAVERSE COMPLETED 12/01/00 by R. Bullock

TRAVERSE TIE



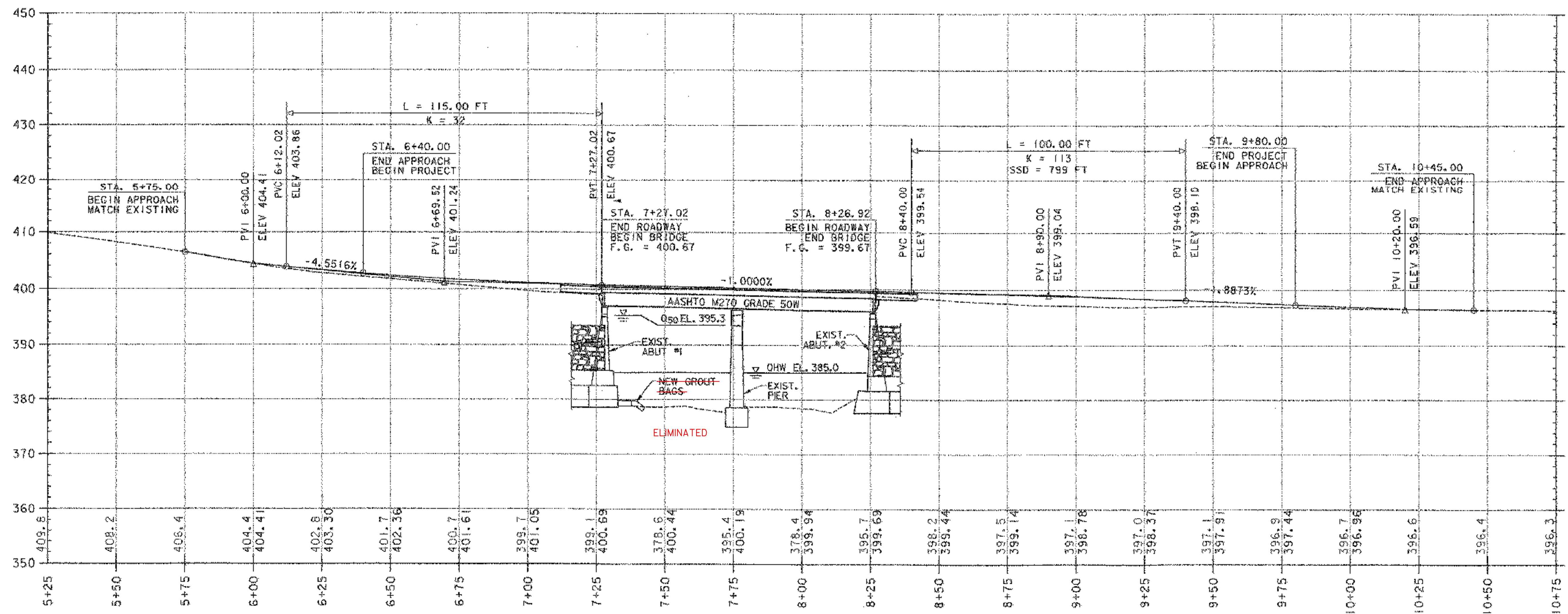
* MAIN TRAVERSE COMPLETED 12/01/00 by R. Bullock

DH
Dufresne-Henry

PROJECT NAME: NORWICH
PROJECT NUMBER: TH2-9625

FILE NAME: ...Norw-tie.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: VTrans
TIE SHEET

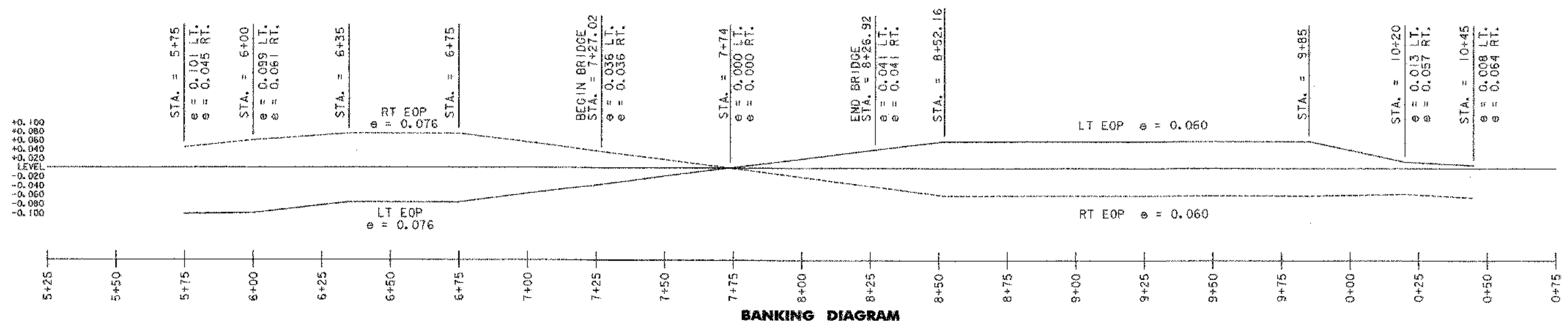
PLOT DATE: 03/31/2004
DRAWN BY: R. BULLOCK (VTrans)
CHECKED BY: M. CHENETTE
SHEET 6 OF 40



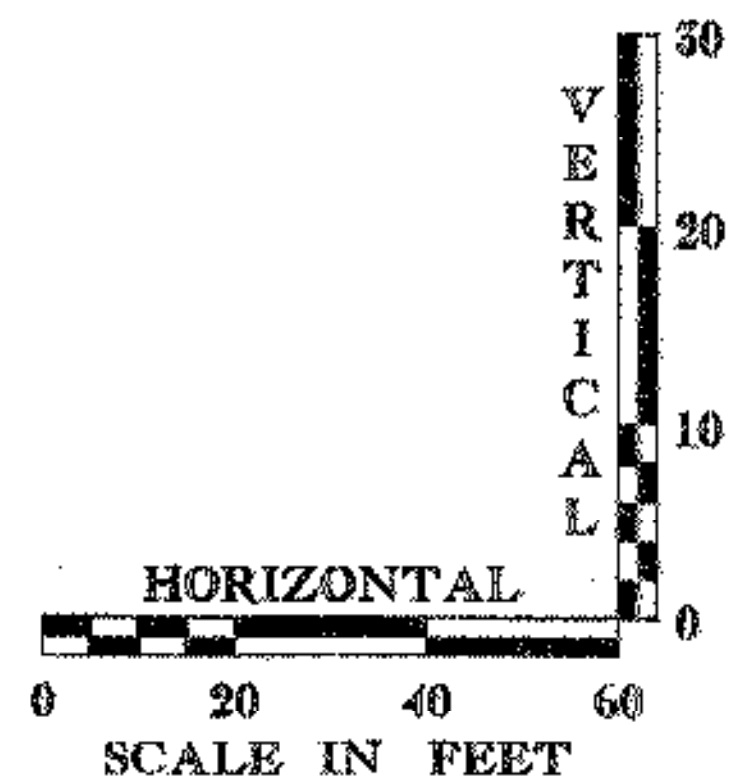
NOTE: GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG CENTERLINE.
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG CENTERLINE.

Profile Along Centerline of Route 132 (T.H. 3)

SCALE: HORIZ. 1" = 20'-0"
VERT. 1" = 10'-0"

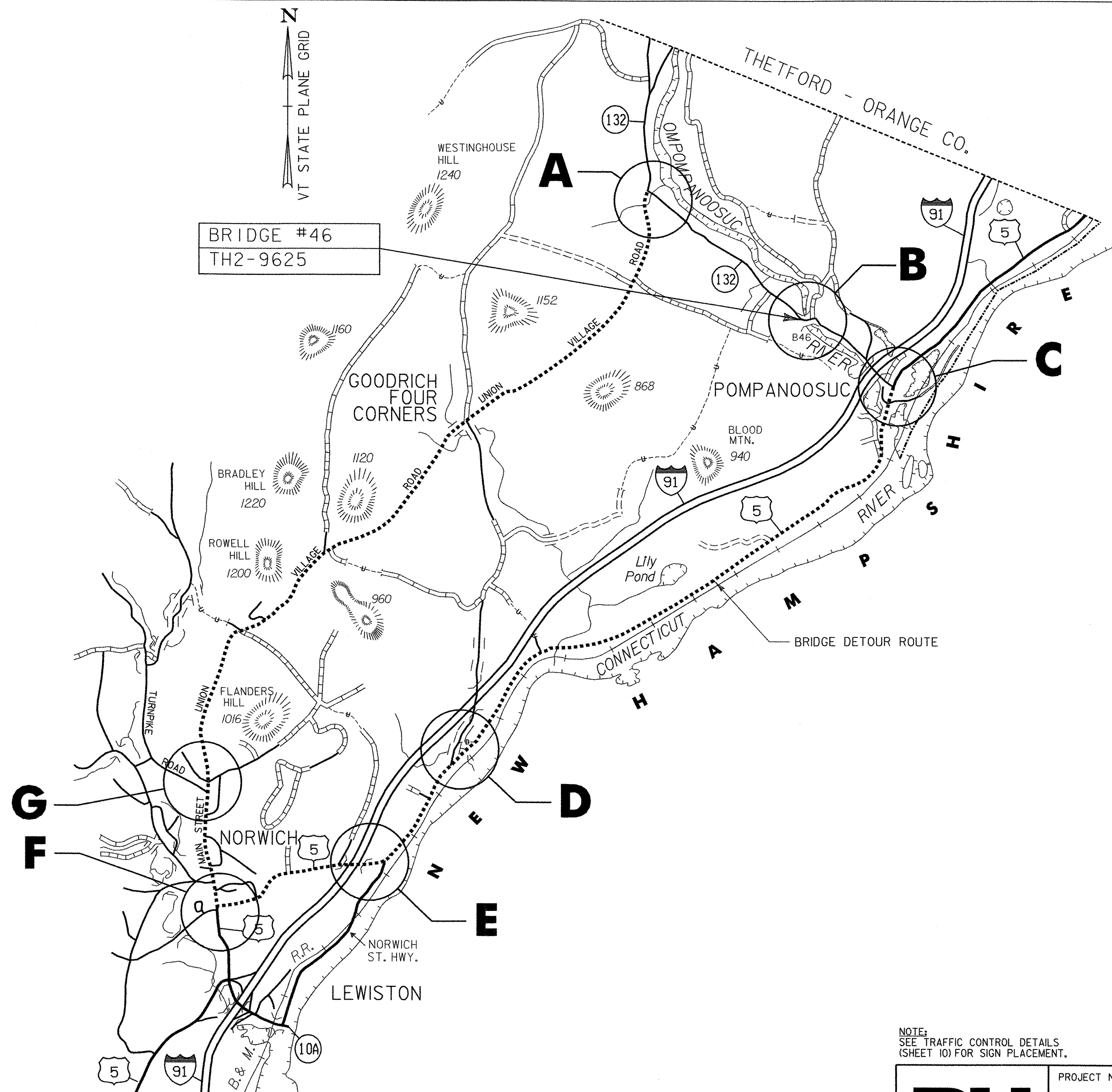


BANKING DIAGRAM



PROJECT NAME: NORWICH
PROJECT NUMBER: TH2-9625
FILE NAME: \\Norw-prof.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: S. BURBANK
PROFILE SHEET

PLOT DATE: 03/31/2004
DRAWN BY: S. BURBANK
CHECKED BY: M. CHENETTE
SHEET 8 OF 40



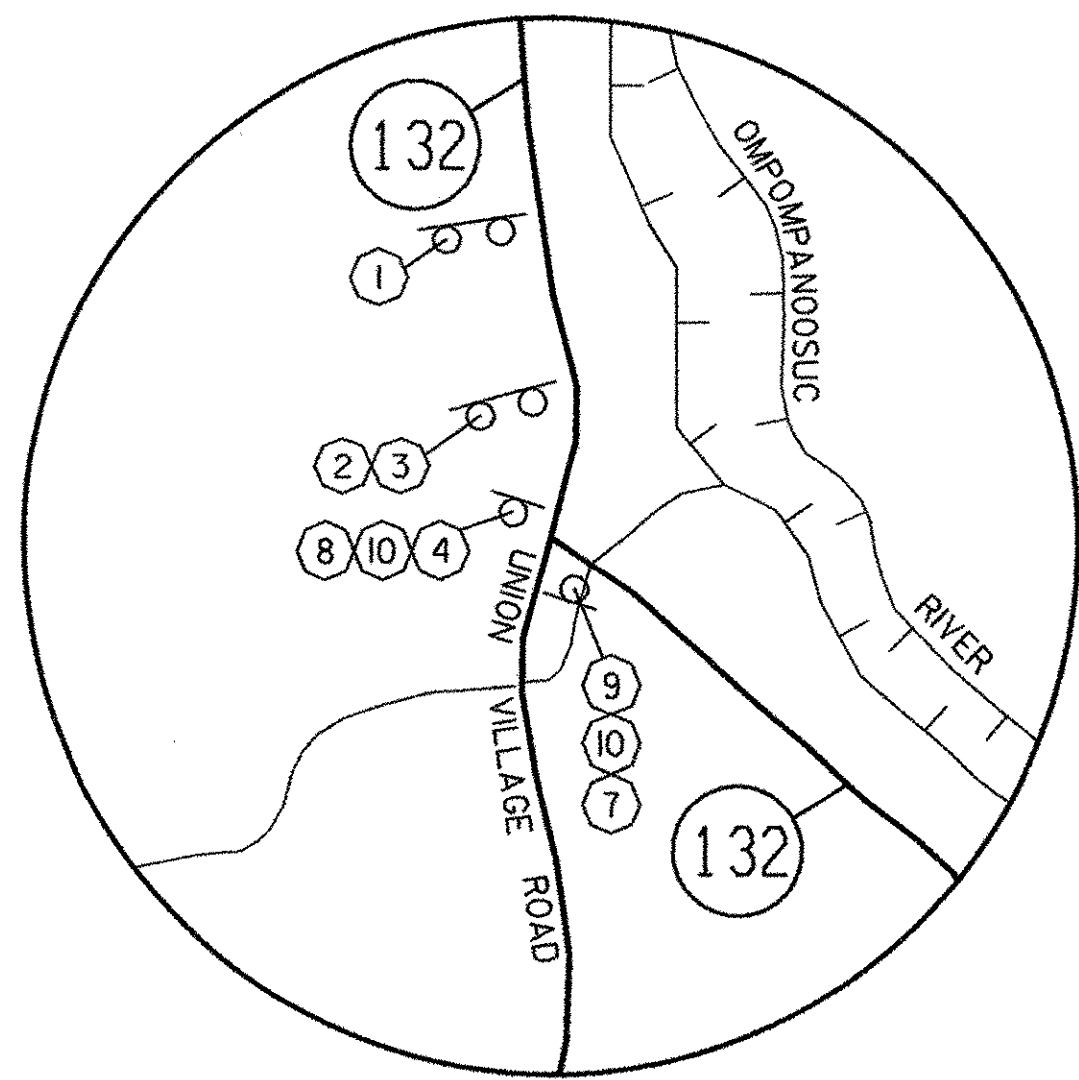
TRAFFIC CONTROL PLAN
N.T.S.

NOTE:
SEE TRAFFIC CONTROL DETAILS
(SHEET 10) FOR SIGN PLACEMENT.

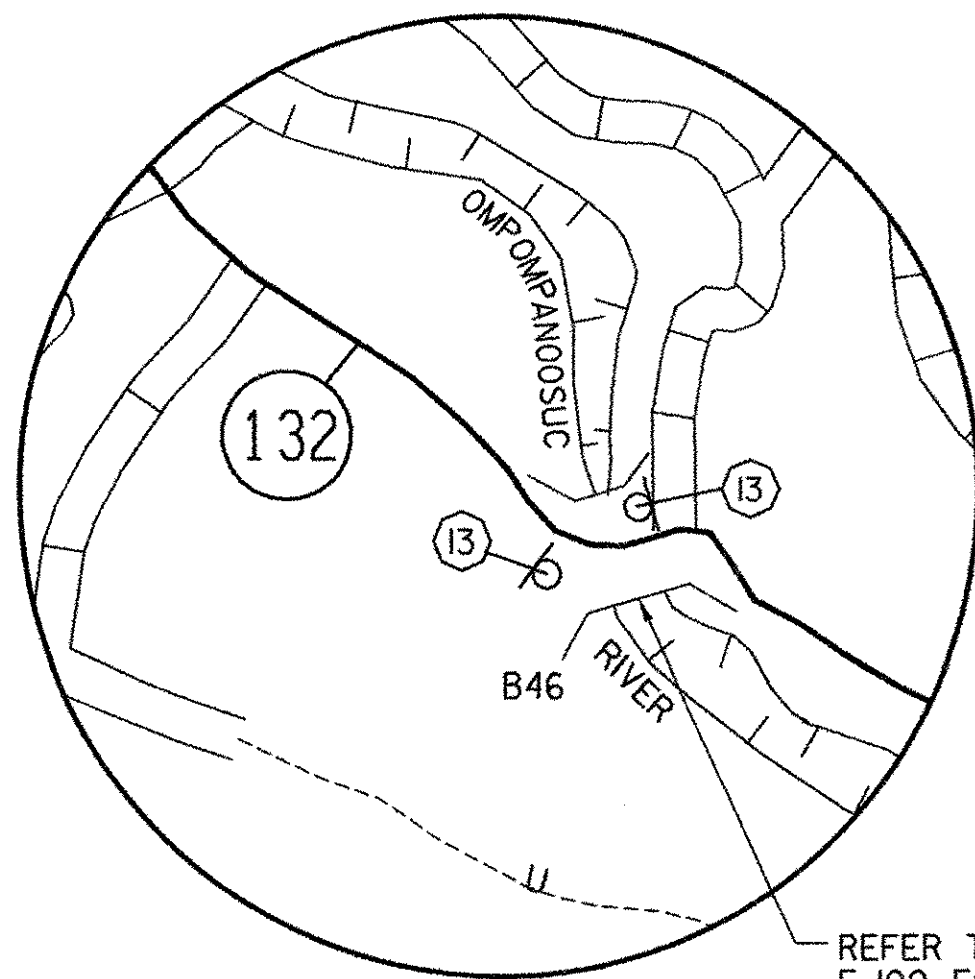


PROJECT NAME: NORWICH
PROJECT NUMBER: TH2-9625
FILE NAME: ...Norw-traffic.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: S. BURBANK
TRAFFIC CONTROL PLAN

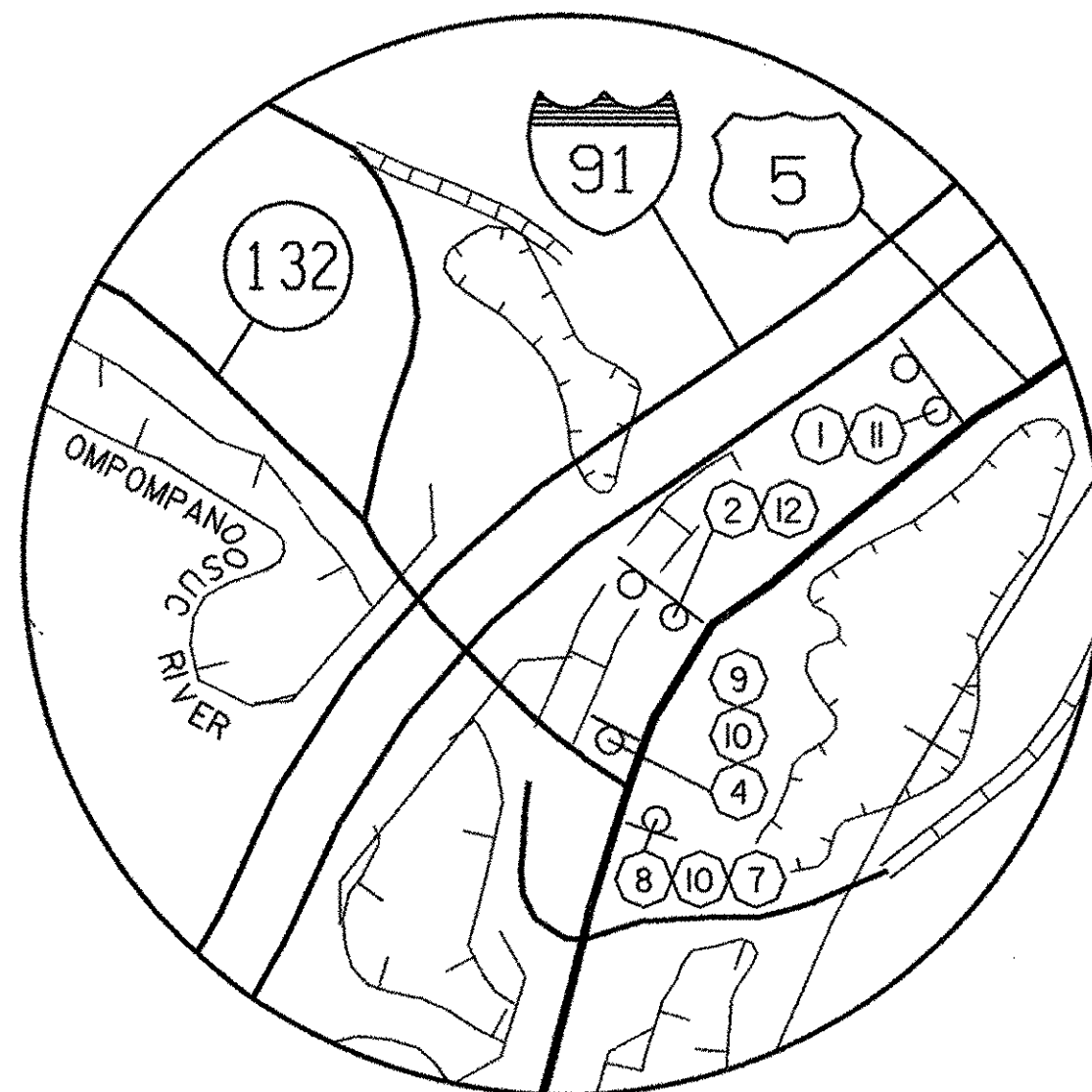
PLOT DATE: 03/31/2004
DRAWN BY: S. BURBANK
CHECKED BY: M. CHENETTE
SHEET 9 OF 40



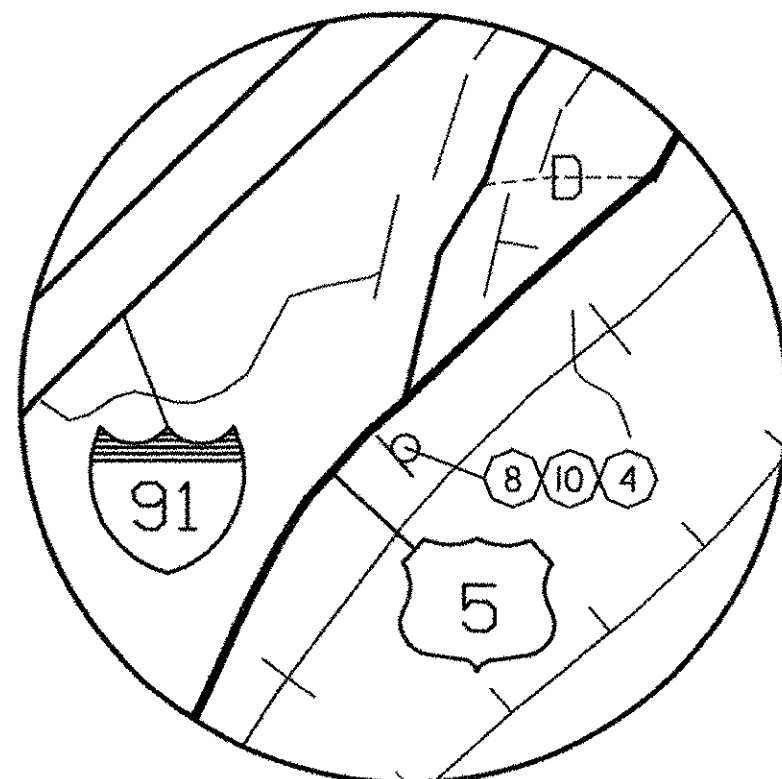
DETAIL A



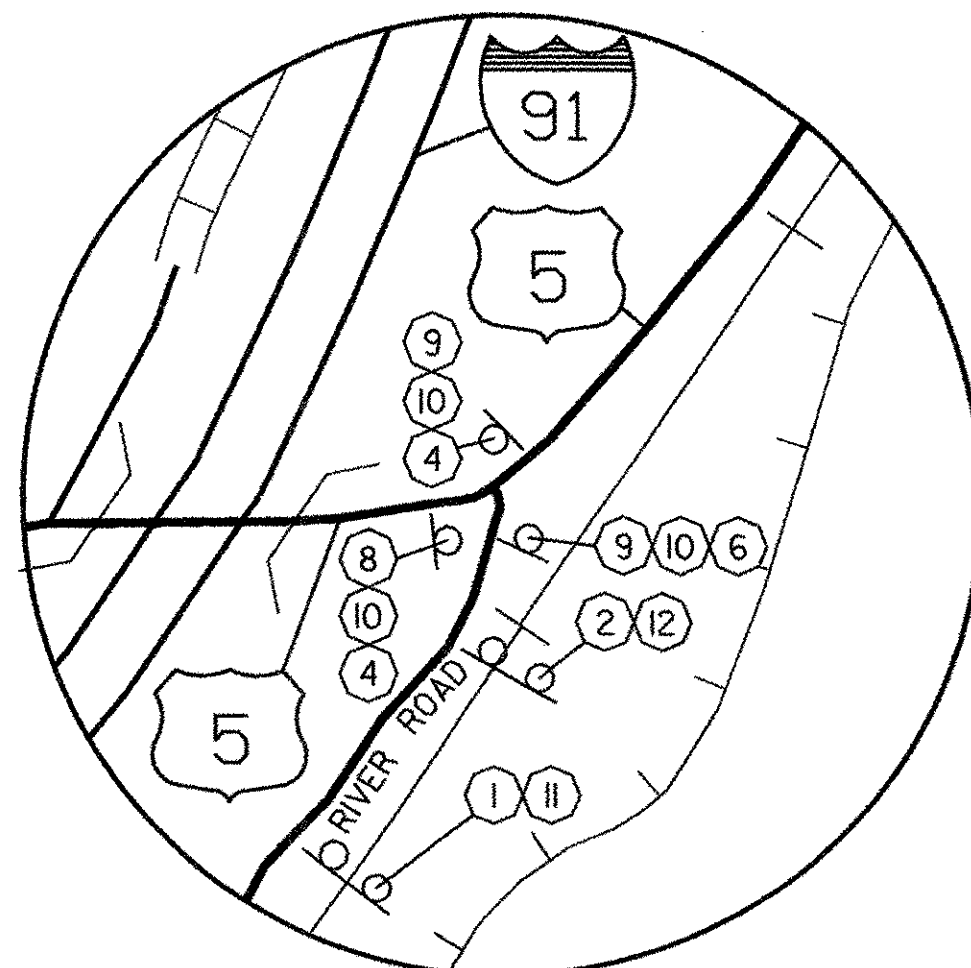
DETAIL B



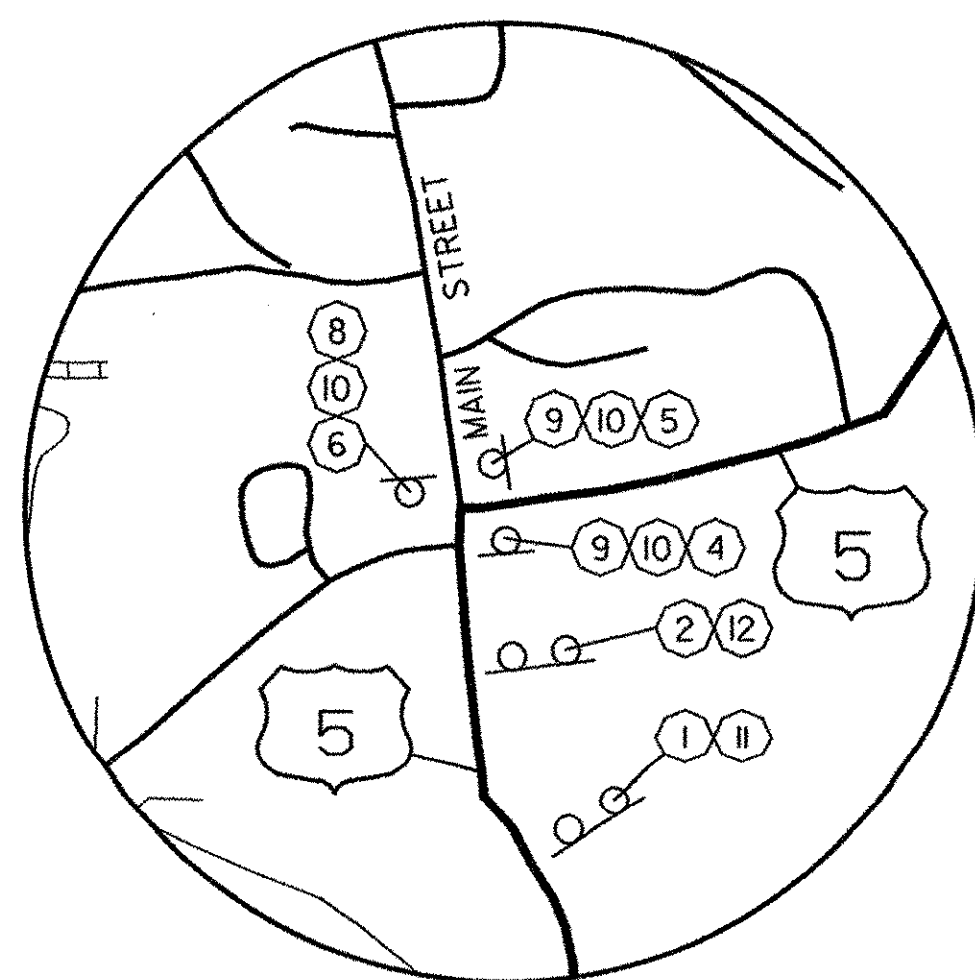
DETAIL C



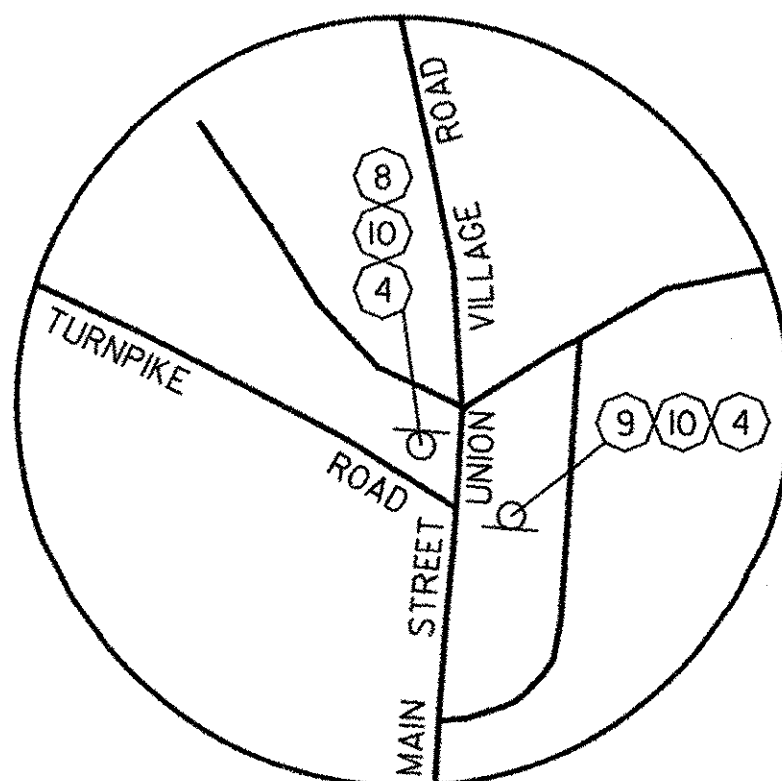
DETAIL D



DETAIL E



DETAIL F



DETAIL G

NOTES:

- ALL COSTS OF INSTALLING, MAINTAINING, AND REMOVING THE SIGNS AND BARRICADES IN THIS TRAFFIC CONTROL PLAN AS NECESSARY TO MEET PROJECT CONDITIONS WILL BE SUBSIDIARY TO ITEM 641.0, "TRAFFIC CONTROL".
- ALL TRAFFIC SIGNS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2003 EDITION.
- "BRIDGE CLOSED" SIGNS SHALL BE MOUNTED AND MAINTAINED ON LIGHTED TYPE III BARRICADES.
- TYPE III CONSTRUCTION BARRICADES SHALL BE PLACED SO AS TO PHYSICALLY EXCLUDE TRAFFIC FROM THE ENTIRE ROADWAY WIDTH OR AT THE DISCRETION OF THE ENGINEER.
- ALL ORANGE SIGNS SHALL BE FABRICATED USING REFLECTORIZED FLUORESCENT ORANGE COLORED ASTM TYPE III SHEETING.
- USE TYPE A SIGN WITH BACKGROUND PER NOTE 5 AND NON-REFLECTIVE BLACK LETTERING.
- THE "DETOUR AHEAD" SIGN SHALL BE ERECTED 1000 FT. PRIOR TO THE "DETOUR 500 FT" SIGN.
- THE "ROUTE 5 TRAFFIC NOT AFFECTED" SIGN SHALL BE ERECTED DIRECTLY BELOW THE "DETOUR AHEAD" SIGN.
- THE "BRIDGE CLOSED AHEAD" SIGN AND THE "BRIDGE CLOSED ON VT 132 USE DETOUR" SIGN SHALL BE ERECTED DIRECTLY BELOW THE "DETOUR 500 FT" SIGN.
- THE ROUTE "132" SIGN SHALL BE ERECTED DIRECTLY BELOW THE "EAST" OR "WEST" SIGNS.
- THE DETOUR (M4-9V, M4-9L&R AND M4-8a) SIGNS SHALL BE ERECTED DIRECTLY BELOW THE ROUTE "132" SIGN.

PLAN REF. SYMBOL	ID NUMBER	SIGN TEXT	SIZE OF SIGN		NUMBER OF SIGNS REQ'D.	POST SIZE AND NUMBER REQ'D., EACH SIGN	AREA OF EACH SIGN (SQ. FT.)	REMARKS
			WIDTH	HEIGHT				
①	W20-2	DETOUR AHEAD	48"	48"	4	TWO 3 LBS/FT FLANGED CHANNEL STEEL POSTS.	16.00	SEE NOTE 7
②	W20-2	DETOUR 500 FT	48"	48"	4	TWO 3 LBS/FT FLANGED CHANNEL STEEL POSTS.	16.00	
③	VC-821	BRIDGE CLOSED AHEAD	36"	36"	1	N/A	9.00	SEE NOTE 9
④	M4-9V	DETOUR	30"	24"	8	N/A	5.00	SEE NOTE 11
⑤	M4-9R	DETOUR	30"	24"	1	N/A	5.00	SEE NOTE 11
⑥	M4-9L	DETOUR	30"	24"	2	N/A	5.00	SEE NOTE 11
⑦	M4-8a	END DETOUR	24"	18"	2	N/A	3.00	SEE NOTE 11
⑧	M3-2	EAST	24"	12"	6	SINGLE - 3 LB/FT FLANGED CHANNEL STEEL POST.	2.00	
⑨	R11-2C	WEST	24"	12"	7	SINGLE - 3 LB/FT FLANGED CHANNEL STEEL POST.	2.00	
⑩	---	132	30"	24"	13	N/A	5.00	SEE NOTE 10
⑪	---	ROUTE 5 TRAFFIC NOT AFFECTED	36"	24"	3	N/A	6.00	SEE NOTE 8
⑫	---	BRIDGE CLOSED ON VT 132 USE DETOUR	60"	30"	3	N/A	12.50	SEE NOTE 9
⑬	R11-2C	BRIDGE CLOSED	48"	30"	2	N/A	10.00	SEE NOTES 3 AND 4



PROJECT NAME: NORWICH BRIDGE #46
PROJECT NUMBER: TH2-9625

FILE NAME: ...Norw-trafficdet.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: S. BURBANK
TRAFFIC CONTROL DETAILS

PLOT DATE: 03/31/2004
DRAWN BY: S. BURBANK
CHECKED BY: M. CHENETTE
SHEET 10 OF 40

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

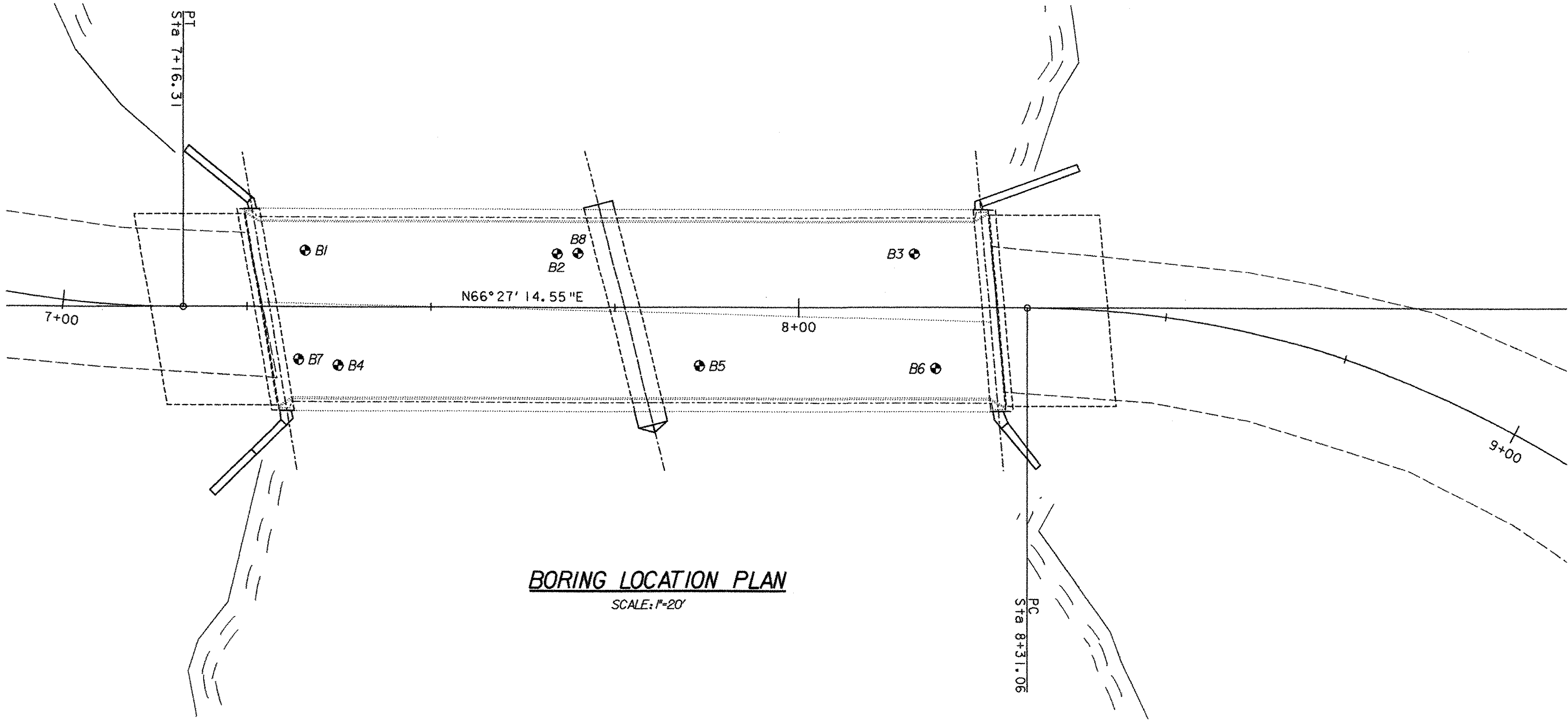
CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

▼	Water Elevation
⊕	Standard Penetration Boring
⊗	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 3/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)

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



BORING LOCATION PLAN
SCALE: 1"=20'

BORING CHART

HOLE NO.	STATION	OFFSET	GROUND ELEV.	ELEV. TLOB
B1	7+32.90	8.1' LT	378.21	376.04
B2	7+67.19	7.7' LT	377.89	369.06
B3	8+15.74	7.7' LT	378.97	370.97
B4	7+37.38	7.7' RT	379.02	375.19
B5	7+86.51	7.7' RT	378.84	372.17
B6	8+18.63	8.1' RT	379.94	365.69
B7	7+32.00	7.0' RT	385.25	374.25
B8	7+70.00	7.8' LT	377.13	369.83

DEFINITIONS (AASHTO)

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

BOULDER - A rock fragment with an average dimension > 12 inches.

COBBLE - Rock fragments with an average dimension between 3 and 12 inches.

GRAVEL - Rounded particles of rock < 3" and > 0.075" (#10 sieve).

SAND - Particles of rock < 0.075" (#10 sieve) and > 0.0025" (#200 sieve).

SILT - Soil < 0.0025" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

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

VARVED - Alternate layers of silt and clay.

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

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

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

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

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

DIP - Inclination of bed with a horizontal plane.

GENERAL NOTES

- The subsurface explorations shown herein were made between and by the Agency.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.

4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.

5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.

6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	NORWICH	Bridge No.	46
Highway No.	T.H. 3	Log Sta.	
		Surv. Sta.	
TOWN HIGHWAY NO. 3 OVER OMPOMPANOOSUC RIVER			
BORING INFORMATION SHEET (1)			
Designed By	S. BURBANK	Drawn By	S. BURBANK
Checked By	M. CHENETTE	Bridge Design Supervisor	M. CHENETTE
Date	12/03	Date	12/03
PROJECT	NORWICH	PROJECT NO.	TH2-9625
DH CAD File Name:	...Norw-borpin.dgn	Plot Date:	03/31/2004
Bridge Sheet No.		Sheet	11 of 40

DH Dufresne-Henry

ABUTMENT #1
TOP OF FOOTING
EL. 383.69'±

M & W Soils Engineering Inc. Main St. Charlestown, NH 03603										SHEET 1 OF 1	
TO DUFRESNE-HENRY, INC. ADDRESS SOUTH BURLINGTON, VT										DATE 8/26/02	
PROJECT NAME BRIDGE #46 LOCATION NORWICH, VT										HOLE NO. B-1	
REPORT SENT TO MIKE CHENETTE PROJ. NO.										LINE & STA.	
SAMPLES RETAINED BY M & W SOILS ENG., INC. OUR JOB NO. 8856-02										OFFSET	
GROUND WATER OBSERVATIONS										CASING SAMPLER CORE BAR	
AT 15' AT IMMEDIATELY HOURS										Type HSA SS	
Size I. D. 3 1/4" 1 1/2"										DATE STARTED 8/28/02	
Hammer Wt. 140# BIT										DATE COMPL. 8/28/02	
Hammer Fall 30"										BORING FORMAN M.H., J.F. & S.M.	
AT AT HOURS										INSPECTOR M. CHENETTE	
SOILS ENGR.											
LOCATION OF BORING AS MARKED - SOUTHWEST END OF BRIDGE DECK											
Depth	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6" on sampler	MOISTURE DENSITY OR CONSIST.	STRATA CHANGE ELEV.	FIELD SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, cond., hardness, Drilling time, seams and etc.	SAMPLE NO. / PEN / REC				
5'					1 1/2"	ASPHALT					
					8"	CONCRETE					
10'						AIR BETWEEN DECK AND WATER					
15'					15'						
20'						WATER					
25'	22'8" - 23'3"	SS	22	50/3"	21'6"	BOULDER	1	9"	6"		
					22'6"	GREY GRAVELLY SANDS WITH BOULDERS					
					23'3"	REFUSAL TO SPLIT SPOON					
					23'8"	WEATHERED ROCK					
						REFUSAL TO AUGERS - BEDROCK OR BOULDER					
GROUND SURFACE TO 23'8"											
USED CASING THEN summary											
Sample Type D-Dry C-Cored W-Washed											
UP-Unfinished Piston											
TP-Test Pit A-Auger V-Vane Test											
UT-Undisturbed Thinwall											
Proportions Used trace 0 to 10%											
little 10 to 20%											
some 20 to 35%											
and 35 to 50%											
Cohesionless Density 0-10 Loose											
10-30 Med. Dense											
30-50 Dense											
50+ Very Dense											
Cohesive Consistency 0-4 Soft 30 + Hard											
4-8 M/Stiff											
8-15 Stiff											
15-30 V-Stiff											
EARTH BORING 23'8"											
ROCK CORING											
SAMPLES 1											
HOLE NO. B-1											

PIER
TOP OF FOOTING
EL. 377.36'±

M & W Soils Engineering Inc. Main St. Charlestown, NH 03603										SHEET 1 OF 1	
TO DUFRESNE-HENRY, INC. ADDRESS SOUTH BURLINGTON, VT										DATE 8/26/02	
PROJECT NAME BRIDGE #46 LOCATION NORWICH, VT										HOLE NO. B-2	
REPORT SENT TO MIKE CHENETTE PROJ. NO.										LINE & STA.	
SAMPLES RETAINED BY M & W SOILS ENG., INC. OUR JOB NO. 8856-02										OFFSET	
GROUND WATER OBSERVATIONS										CASING SAMPLER CORE BAR	
AT 15'2" AT IMMEDIATELY HOURS										Type HSA SS	
Size I. D. 3 1/4" 1 1/2"										DATE STARTED 8/28/02	
Hammer Wt. 140# BIT										DATE COMPL. 8/28/02	
Hammer Fall 30"										BORING FORMAN M.H., J.F. & S.M.	
AT AT HOURS										INSPECTOR M. CHENETTE	
SOILS ENGR.											
LOCATION OF BORING AS MARKED - CENTER OF BRIDGE DECK											
Depth	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6" on sampler	MOISTURE DENSITY OR CONSIST.	STRATA CHANGE ELEV.	FIELD SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, cond., hardness, Drilling time, seams and etc.	SAMPLE NO. / PEN / REC				
5'					1 3/4"	ASPHALT					
					4"	CONCRETE					
10'						AIR BETWEEN DECK AND WATER					
15'					15'2"						
20'						WATER					
25'	21'8" - 23'1"	SS	1	2	21'6"	GREY FINE TO COARSE SAND AND FINE GRAVEL	1	19"	16"		
					23'1"	REFUSAL TO SPLIT SPOON					
	26'6" - 28'6"	SS	6	2		BOULDERS AND GREY COARSE SAND	2	24"	14"		
	28'6" - 29'5"	SS	3	12	29'	SANDY OXIDIZED WEATHERED ROCK	3	11"	10"		
30'						REFUSAL TO SPLIT SPOON					
						WEATHERED ROCK					
35'						REFUSAL TO AUGERS - BEDROCK OR BOULDER					
GROUND SURFACE TO 30'4"											
USED CASING THEN summary											
Sample Type D-Dry C-Cored W-Washed											
UP-Unfinished Piston											
TP-Test Pit A-Auger V-Vane Test											
UT-Undisturbed Thinwall											
Proportions Used trace 0 to 10%											
little 10 to 20%											
some 20 to 35%											
and 35 to 50%											
Cohesionless Density 0-10 Loose											
10-30 Med. Dense											
30-50 Dense											
50+ Very Dense											
Cohesive Consistency 0-4 Soft 30 + Hard											
4-8 M/Stiff											
8-15 Stiff											
15-30 V-Stiff											
EARTH BORING 30'4"											
ROCK CORING											
SAMPLES 3											
HOLE NO. B-2											

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of NORWICH Bridge No. 46
Highway No. T.H. 3 Log Sta.
Surv. Sta.

TOWN HIGHWAY NO. 3 OVER OMPOMPANOOSUC RIVER

BORING INFORMATION SHEET (2)

Designed By S. BURBANK Drawn By S. BURBANK
Checked By Date Bridge Design Supervisor
M. CHENETTE 12/03 M. CHENETTE Date 12/03

PROJECT NORWICH PROJECT NO. TH2-9625
DH CAD Filename: ...Norw-borel.dgn Plot Date: 03/31/2004

Bridge Sheet No. Sheet 12 of 40

DH Dufresne-Henry

ABUTMENT #2
TOP OF FOOTING
EL.381.68' ±

M & W Soils Engineering Inc. Main St. Charlestown, NH 03603										SHEET 1 OF 1	
TO DUFRESNE-HENRY, INC. ADDRESS SOUTH BURLINGTON, VT										DATE 8/26/02	
PROJECT NAME BRIDGE #46 LOCATION NORWICH, VT										HOLENO. B-3	
REPORT SENT TO MIKE CHENETTE PROJ. NO.										LINE & STA.	
SAMPLES RETAINED BY M & W SOILS ENG., INC. OUR JOB NO. 8856-02										OFFSET	
GROUND WATER OBSERVATIONS										SURFACE ELEV.	
AT 15'4" AT IMMEDIATELY HOURS										Type HSA SS	
Type HSA SS										DATE STARTED 8/26/02	
Size I. D. 3 1/4" 1 1/2"										DATE COMPL. 8/26/02	
Hammer Wt. 140# BIT										BORING FORMAN M.H., J.F. & S.M.	
Hammer Fall 30"										INSPECTOR M. CHENETTE	
SOILS ENGR.											
LOCATION OF BORING AS MARKED - NORTH END OF BRIDGE											
Depth	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6" on sampler	MOISTURE DENSITY OR CONSIST.	STRATA CHANGE ELEV.	FIELD SOIL IDENTIFICATION Remarks include color, gradation, type of soil etc. Rock-color, type, cond., hardness, Drilling time, seams and etc.			SAMPLE NO. / PEN / REC		
5'					1 1/2"	ASPHALT					
					8 1/4"	CONCRETE					
10'						AIR BETWEEN DECK AND WATER					
15'					15'4"						
						WATER					
20'					21'						
	22' - 23'	SS	17	82					1 12" 10"		
25'	24' - 26'	SS	11	7	MED. DENSE	GREY GRAVELLY SANDS WITH BOULDERS			2 24" 15"		
	26' - 28'	SS	13	15					3 24" 18"		
30'					27'						
						GREY FINE SAND WITH SOME SILT AND COBBLES					
					29'	REFUSAL TO AUGERS - BEDROCK OR BOULDER					
GROUND SURFACE TO 29'											
USED CASING THEN											
Sample Type											
D-Dry C-Cored W-Washed											
UP-Unfinished Piston											
TP-Test Pit A-Auger V-Vane Test											
UT-Undisturbed Thinwall											
Proportions Used											
trace 0 to 10%											
little 10 to 20%											
some 20 to 35%											
and 35 to 50%											
140 lb. wt. x 30"-fall an 2" O.D. Sampler											
Cohesionless Density											
0-10 Loose											
10-30 Med. Dense											
30-50 Dense											
50+ Very Dense											
Cohesive Consistency											
0-4 Soft 30 + Hard											
4-8 M/Stiff											
8-15 Stiff											
15-30 V-Stiff											
summary											
EARTH BORING 29'											
ROCK CORING											
SAMPLES 3											
HOLENO. B-3											

ABUTMENT #1
TOP OF FOOTING
EL.385.26' ±

M & W Soils Engineering Inc. Main St. Charlestown, NH 03603										SHEET 1 OF 1	
TO DUFRESNE-HENRY, INC. ADDRESS SOUTH BURLINGTON, VT										DATE 8/27/02	
PROJECT NAME BRIDGE #46 LOCATION NORWICH, VT										HOLENO. B-4	
REPORT SENT TO MIKE CHENETTE PROJ. NO.										LINE & STA.	
SAMPLES RETAINED BY M & W SOILS ENG., INC. OUR JOB NO. 8856-02										OFFSET	
GROUND WATER OBSERVATIONS										SURFACE ELEV.	
AT 14'8" AT IMMEDIATELY HOURS										Type HSA SS	
Type HSA SS										DATE STARTED 8/27/02	
Size I. D. 3 1/4" 1 1/2"										DATE COMPL. 8/27/02	
Hammer Wt. 140# BIT										BORING FORMAN M.H., J.F. & S.M.	
Hammer Fall 30"										INSPECTOR M. CHENETTE	
SOILS ENGR.											
LOCATION OF BORING AS MARKED - SOUTHEAST END OF BRIDGE DECK											
Depth	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6" on sampler	MOISTURE DENSITY OR CONSIST.	STRATA CHANGE ELEV.	FIELD SOIL IDENTIFICATION Remarks include color, gradation, type of soil etc. Rock-color, type, cond., hardness, Drilling time, seams and etc.			SAMPLE NO. / PEN / REC		
5'					1 1/2"	ASPHALT					
					7 1/2"	CONCRETE					
10'						AIR BETWEEN DECK AND WATER					
15'					14'8"						
						WATER					
20'					20'6"						
	22'6" - 23'11"	SS	13	14	MED. DENSE	GREY COARSE SAND AND FINE GRAVEL WITH COBBLES			1 17" 15"		
25'					23'6"						
					23'11"	BROWN GRAVELLY SILTS AND FINE SANDS					
					24'4"	WEATHERED ROCK - REFUSAL TO SPLIT SPOON					
						REFUSAL TO AUGERS - BEDROCK OR BOULDER					
GROUND SURFACE TO 24'4"											
USED CASING THEN											
Sample Type											
D-Dry C-Cored W-Washed											
UP-Unfinished Piston											
TP-Test Pit A-Auger V-Vane Test											
UT-Undisturbed Thinwall											
Proportions Used											
trace 0 to 10%											
little 10 to 20%											
some 20 to 35%											
and 35 to 50%											
140 lb. wt. x 30"-fall an 2" O.D. Sampler											
Cohesionless Density											
0-10 Loose											
10-30 Med. Dense											
30-50 Dense											
50+ Very Dense											
Cohesive Consistency											
0-4 Soft 30 + Hard											
4-8 M/Stiff											
8-15 Stiff											
15-30 V-Stiff											
summary											
EARTH BORING 24'4"											
ROCK CORING											
SAMPLES 1											
HOLENO. B-4											

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of NORWICH	Bridge No. 46
Highway No. T.H. 3	Log Sta.
Surv. Sta.	
TOWN HIGHWAY NO. 3 OVER OMPOMPANOOSUC RIVER	
BORING INFORMATION SHEET (3)	
Designed By S. BURBANK	Drawn By S. BURBANK
Checked By M. CHENETTE	Bridge Design Supervisor
Date 12/03	Date 12/03
PROJECT NORWICH	PROJECT NO. TH2-9625
DH CAD Filename: ...\\Norw-bore2.dgn Plot Date: 03/31/2004	
Bridge Sheet No.	Sheet 13 of 40

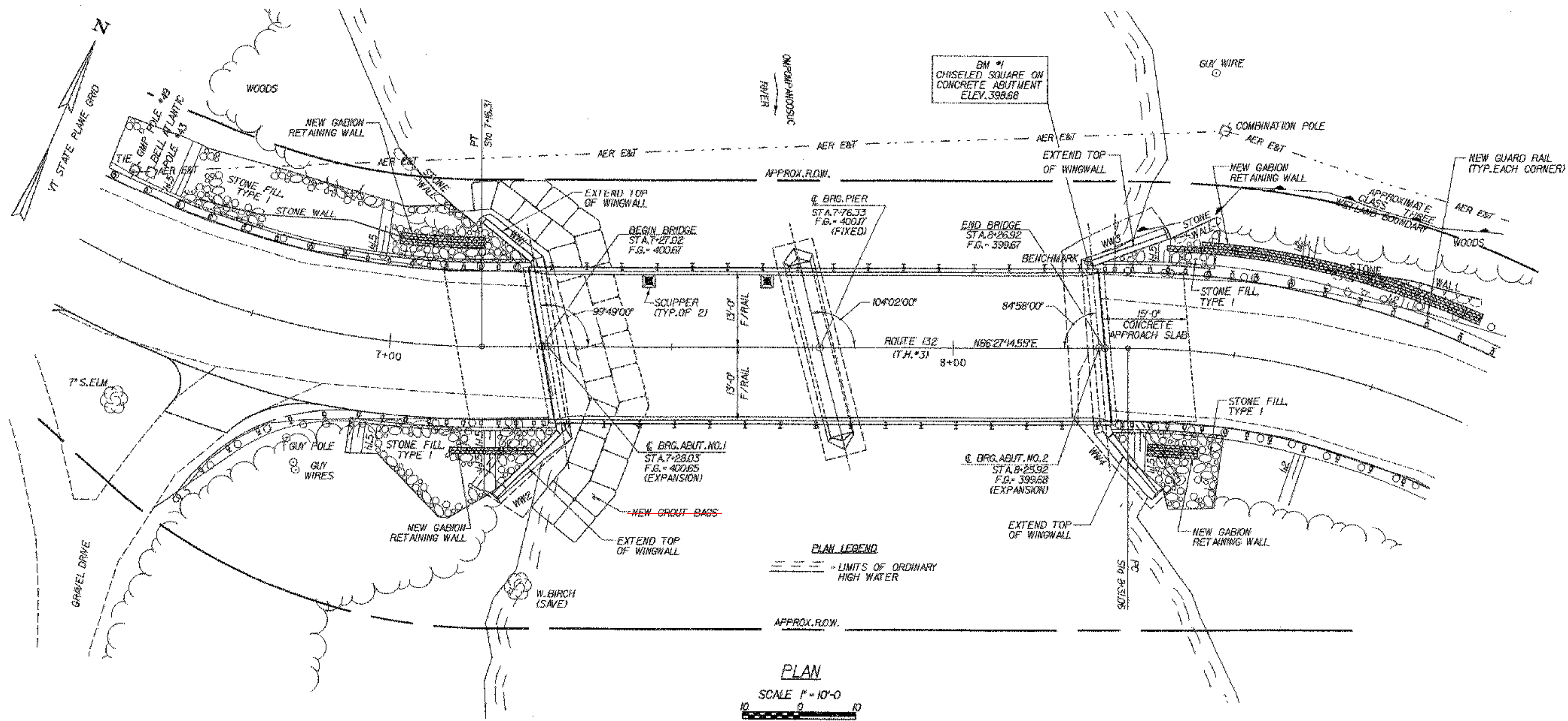
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M & W Soils Engineering Inc. Main St. Charlestown, NH 03603										DATE 1 OF 1 8/27/02			
TO DUFRESNE-HENRY, INC. ADDRESS SOUTH BURLINGTON, VT PROJECT NAME BRIDGE #46 LOCATION NORWICH, VT REPORT SENT TO MIKE CHENETTE PROJ. NO. _____ SAMPLES RETAINED BY M & W SOILS ENG. INC. OUR JOB NO. 8656-02										SHEET 1 OF 1 DATE 8/27/02 HOLE NO. B-6 LINE & STA. _____ OFFSET _____			
GROUND WATER OBSERVATIONS AT 15'3" AT IMMEDIATELY HOURS _____ AT _____ AT _____ HOURS _____					CASING HSA SAMPLER SS CORE BAR _____ Type Size I. D. 3 1 1/4" 1 1/2" BIT _____ Hammer Wt. 140# Hammer Fall 30"					SURFACE ELEV. _____ DATE STARTED 8/27/02 DATE COMPL. 8/27/02 BORING FORMAN M.H., J.F. & S.M. INSPECTOR M. CHENETTE SOILS ENGR. _____			
LOCATION OF BORING AS MARKED - NORTHEAST END OF BRIDGE DECK													
Depth	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6"	MOISTURE DENSITY OR CONSIST.	STRATA CHANGE ELEV.	FIELD SOIL IDENTIFICATION Remarks include color, gradation, type of soil etc. Rock-color, type, cond., hardness, Drilling time, seams and wet.	SAMPLE NO. PER FEET						
5'					1' 7/8"	ASPHALT CONCRETE							
					8"								
						AIR BETWEEN DECK AND WATER							
10'													
15'					15'3"								
20'	18'6" - 20'6"	SS	1 3		18"		1 24" 8"						
			19 19	MED. DENSE									
	20'0" - 22'6"	SS	11 8		21"	GREY FINE TO COARSE SAND AND GRAVEL WITH WOOD	2 24" 16"						
			7 14				3 24" 18"						
25'	22'6" - 24'6"	SS	24 18				4 24" 17"						
			7 14				5 24" 18"						
	25' - 27"	SS	6 5	MED. DENSE		GREY SILTY FINE GRAVEL	6 24" 20"						
			2 2										
30'	27' - 29"	SS	3 4		28"								
			13 17										
	29' - 31"	SS	32 11	MED. DENSE	30'8"	BROWN FINE SAND - TRACE OF WEATHERED ROCK							
			13 57		32'3"	WEATHERED ROCK REFUSAL TO AUGERS - BEDROCK OR BOULDER							
35'													
GROUND SURFACE TO 32'3"								USED CASING THEN					
Sample Type D-Dry C-Cored W-Washed U-Unlimited Piston TP-Test Pit A-Auger V-Vane UT-Undisturbed Thinwall				Proportions Used trace 0 to 10% little 10 to 20% some 20 to 35% and 35 to 60%				140 lb. wt. x 30' fall an 2" O.D. Sampler Cohesionless Density 0-10 Loose 10-30 Med. Dense 30-50 Dense 50+ Very Dense Cohesive Consistency 0-4 Soft 30 + Hard 4-8 M/Stiff 8-15 Stiff 15-30 V-Stiff				summary EARTH BORING 32'3" ROCK CORING SAMPLES 6 HOLE NO. B-6	

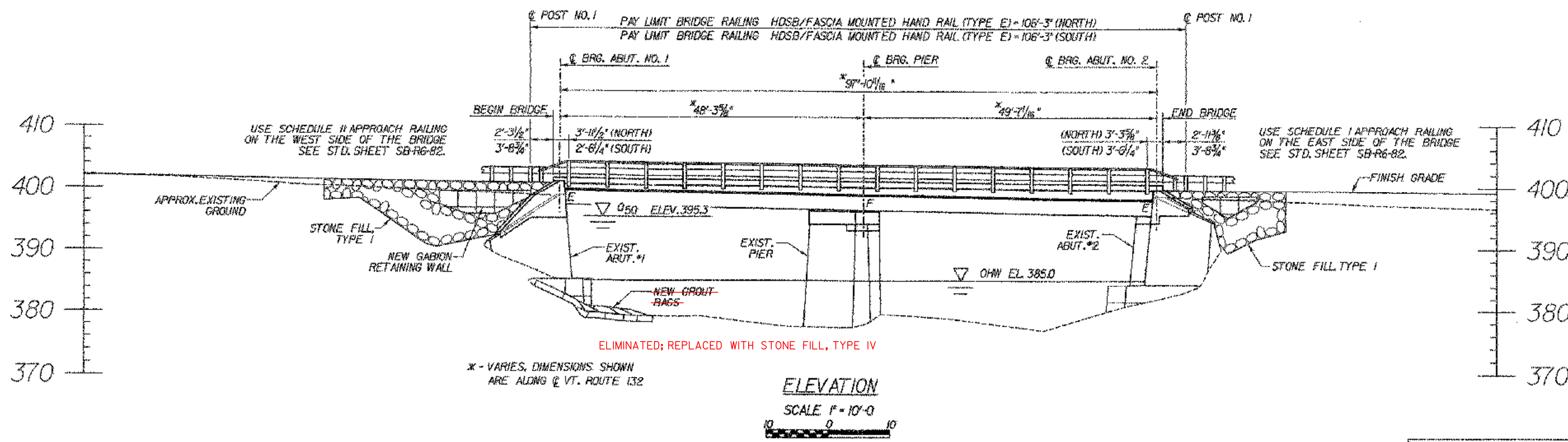
ABUTMENT #1
TOP OF
FOOTING
EL. 385.30±

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION				HOLE NO.: B-8 SHEET 1 OF 1 DATE STARTED: 03/27/03 DATE COMPLETED: 04/03/03				
PROJECT NAME: NORWICH				PROJECT NUMBER: TH2 9625				
SITE NAME: BR 46				SITE NO.: TH 3				
STATION: 7+10.00				DIST. TO: 7.00				
ROUND CL.: _____				C.W. DEPTH: _____				
BORING CREW: CREW CHIEF: HOLT DRILLER: YOUNG LOGGERS: _____				BORING RIG: _____ BORING TYPE: _____ SAMPLE TYPE: _____ TRUCK: _____ WASH BORE: _____ SPLIT BASKET: _____				
DEPTH	DIAGRAM	DESCRIPTION OF MATERIALS AND SOIL	BORING FEET	BL. IN.	SL. IN.	NO. OF SAND	NO. OF CL.	TH IN.
0		Top of footing BIOC. 0.0' - 7.3', Concrete footing						
5		Run#1: BXGDC, 3.0' - 8.0', Rac. = 5.0' See Geologist's Report.	Run	7	100	50	40	
10		Run#2: BXGDC, 8.0' - 10.0', Rac. = 1.9' See Geologist's Report.	Run	1	100	90	40	
15		Run#3: BXGDC, 10.0' - 15.0', Rac. = 5.0' See Geologist's Report.	Run	3	100	72	40	
20	Hole stopped @ 15.0'							
DRILLER'S NOTES: 1. Top of footing is 21.1' from top of pavement. 2. Top of footing is beneath water surface.								
GEOLOGIST'S REPORT: Top of footing is 3.0' above beginning of Run#1. Bottom of concrete lies directly on bedrock. Run#1: 7.3' - 8.0', Light gray quartz-saricite schist, Moderately hard, Unweathered. Run#2: 8.0' - 9.1', Light gray quartz-saricite schist, Moderately hard, Unweathered. Run#3: 9.1' - 10.0', Dark gray/green metatwincian with garnet porphyroblasts, Hard, Unweathered. Run#3: Dark gray/green metatwincian with garnet porphyroblasts, Hard, Unweathered.								

STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of NORWICH		Bridge No. 46	
Highway No. T.H. 3		Log Sta. Surv. Sta.	
TOWN HIGHWAY NO. 3 OVER OMPOMPANOOSUC RIVER			
BORING INFORMATION SHEET (4)			
Designed By S. BURBANK		Drawn By S. BURBANK	
Checked By M. CHENETTE	Date 12/03	Bridge Design Supervisor M. CHENETTE Date 12/03	
PROJECT NORWICH		PROJECT No. TH2-9625	
DH Chart Filename: ...Norw-bore3.dgn		Plot Date: 03/31/2004	
Bridge Sheet No.		Sheet 14 of 40	

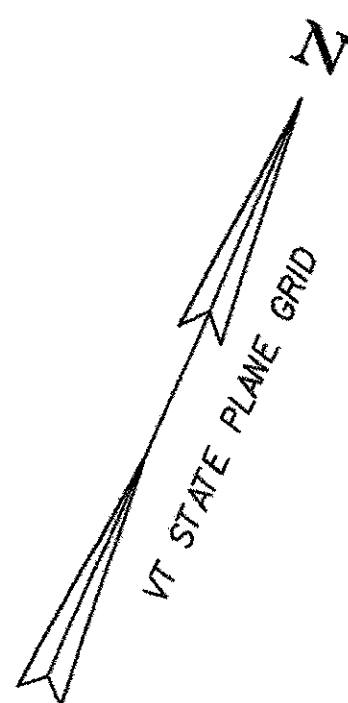


PLAN
SCALE 1" = 10'-0"



ELEVATION
SCALE 1" = 10'-0"

STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	NORWICH	Bridge No.	46
Highway No.	T.H. 3	Log Sta.	
TOWN HIGHWAY NO. 3 OVER OMPOMPANOOSUC RIVER		Surv. Sta.	
PLAN AND ELEVATION			
Designed By	S. BURBANK	Drawn By	S. BURBANK
Checked By	M. CHENETTE	Bridge Design Supervisor	M. CHENETTE
PROJECT	NORWICH	PROJECT NO.	TH2-9625
DH CAD Filename: ...Norw-plan.dgn		Plot Date	03/31/2004
Bridge Sheet No.		Sheet	15 of 40



GENERAL NOTES

1. THE CONTRACTOR SHALL SUBMIT AN EROSION CONTROL PLAN FOR THE PROJECT IN ACCORDANCE WITH SECTION 652 OF THE SPECIFICATIONS.
2. THE CONTRACTOR WILL HAVE ADEQUATE AMOUNTS OF SILT FENCE AND HAY BALES ON SITE FOR ANY REPAIRS OR MODIFICATIONS TO EROSION CONTROL PLAN AS DIRECTED BY THE ENGINEER.
3. THE CONTRACTOR WILL USE OTHER TEMPORARY OR PERMANENT EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE ENGINEER.

SEEDING FORMULA RURAL AREAS

% WEIGHT	LBS/ACRE	NAME	PUR %	GERM %
37.5	22.5	CREeping RED FESCUE	98	85
37.5	22.5	TALL FESCUE	95	90
5.0	3.0	RED TOP	95	90
15.0	9.0	BIRDSFOOT TREFOIL	98	85
5.0	3.0	ANNUAL RYEGRASS	95	85
100.0	60.0			

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

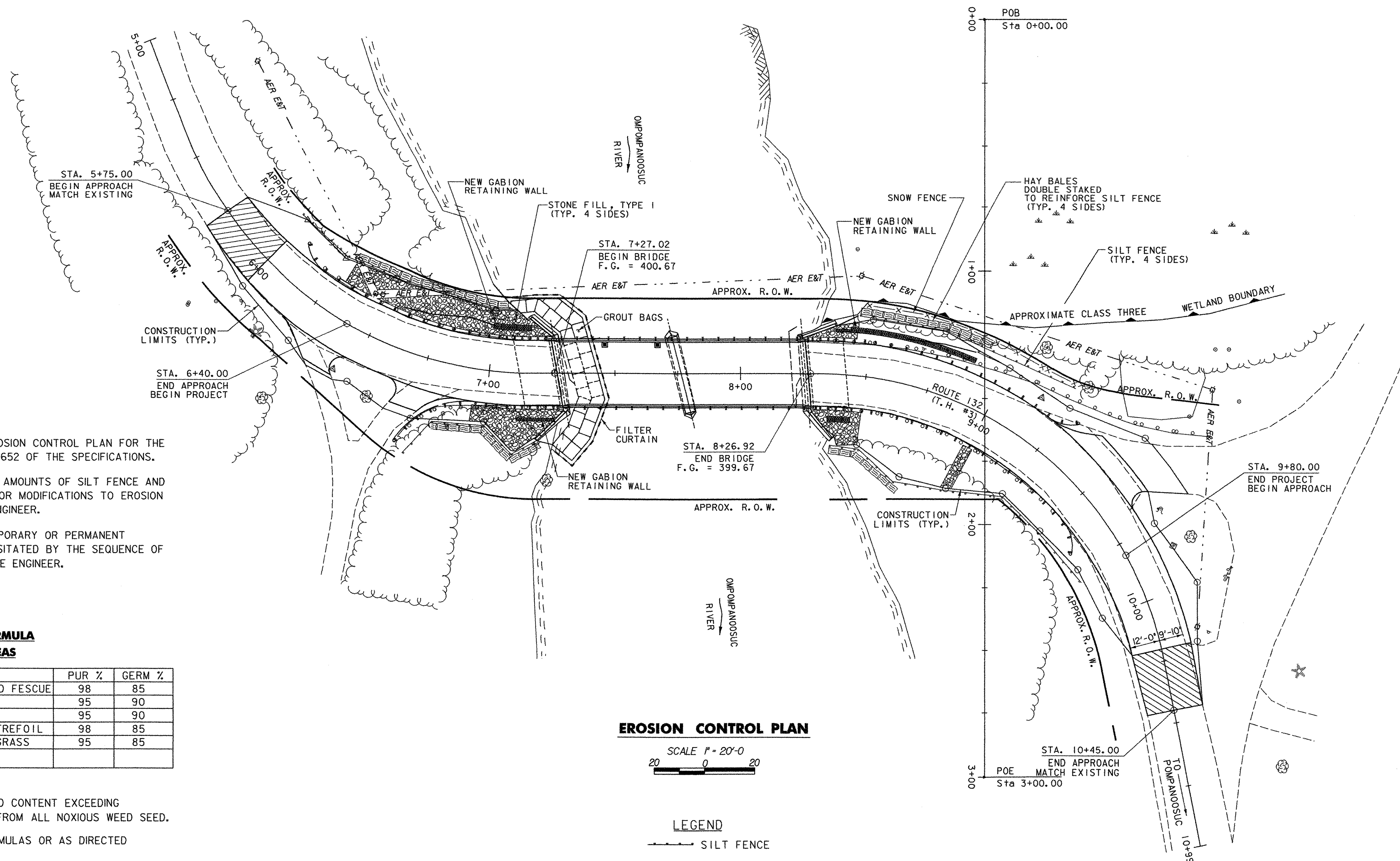
SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10 IS TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 POUNDS/ACRE. HYDRO SEEDERS MAY USE 19-19-19 FORMULA.

AGRICULTURAL LIMESTONE: TO BE APPLIED AT A RATE OF TWO (2) TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF TWO (2) TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

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



EROSION CONTROL PLAN

SCALE 1" = 20'-0"
20 0 20

LEGEND

- SILT FENCE
- x-x- SNOW FENCE
- HAY BALES
- FILTER CURTAIN
- LIMITS OF ORDINARY HIGH WATER



PROJECT NAME: NORWICH
PROJECT NUMBER: TH2-9625

FILE NAME: ...Norw-erosion.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: S. BURBANK
EROSION CONTROL SHEET

PLOT DATE: 03/31/2004
DRAWN BY: S. BURBANK
CHECKED BY: M. CHENETTE
SHEET 16 OF 40

PROJECT NOTES

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, 2001 STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2002, AND ITS LATEST REVISIONS.
2. ALL WORK ON THIS PROJECT SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY LIMITS. NO ADDITIONAL R.O.W. RIGHTS ARE ANTICIPATED FOR THIS PROJECT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY PROJECT SIGNING, AND TYPE III BARRICADES. THE COSTS WILL BE SUBSIDIARY TO THE ITEM 641J0, "TRAFFIC CONTROL".
4. DURING CONSTRUCTION, TRAFFIC SHALL BE DETOURED AROUND THE EXISTING BRIDGE THRU NORWICH VILLAGE. ACCESS TO ALL EXISTING SIDE ROADS, DRIVES, AND PARKING AREAS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. SEE THE TRAFFIC CONTROL PLAN.
5. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS, CONSTRUCTION DIMENSIONS AND ELEVATIONS. ANY DISCREPANCIES SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ENGINEER.
6. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AT 68 DEGREES FAHRENHEIT.

EARTHWORK AND RELATED ITEMS

7. THE FOLLOWING SHALL BE PAID FOR UNDER ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE": REMOVAL AND DISPOSAL OF THE EXISTING BRIDGE DECK, CURBS, GUARD RAILS, STEEL BEAMS AND BACK WALLS. REMOVAL AND DISPOSAL OF THE BRIDGE PAVEMENT SHALL BE PAID FOR UNDER ITEM 529J0, "REMOVAL OF BRIDGE PAVEMENT". REMOVAL AND DISPOSAL OF EXISTING ABUTMENT AND PIER CONCRETE SHALL BE PAID FOR UNDER ITEM 529.25, "REMOVAL OF CONCRETE OR MASONRY". ALL SALVAGEABLE MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE STRUCTURAL STEEL.
8. THE GROUT BAGS SHALL BE PLACED IN FRONT OF ABUTMENT NO. 1 AND ITS WINGWALLS BEFORE THE BEAMS ARE SET.
9. BACKFILLING BEHIND ABUTMENTS SHALL NOT BEGIN UNTIL THE ABUTMENT AND DECK CONSTRUCTION IS COMPLETE AND THE CURING PERIOD IS UP. BACKFILL BEHIND ABUTMENTS SHALL BE PLACED AND COMPACTED ACCORDING TO SUBSECTION 204J2 OF THE STANDARD SPECIFICATIONS.

CONCRETE AND REINFORCING STEEL

10. CONCRETE FOR THE DECK AND CURBS SHALL BE HIGH PERFORMANCE CLASS A AND WILL BE PAID FOR UNDER ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A". ALL OTHER CONCRETE SHALL BE HIGH PERFORMANCE CLASS B AND WILL BE PAID FOR UNDER ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B" UNLESS OTHERWISE NOTED.

11. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. OTHER BRIDGE SEAT AREAS SHALL BE SLOPED 1/2" PER FOOT. THE ABUTMENT SEATS SHALL BE SLOPED FULL WIDTH TOWARD MIDSPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE GIVEN A STEEL TROWEL FINISH.
12. NO CONCRETE SHALL BE PLACED IN THE ABUTMENTS OR WINGWALLS ABOVE THE ADJACENT BEAM SEAT ELEVATIONS UNTIL THE BEAMS HAVE BEEN PROFILED AND THE FINISHED GRADE OF THE DECK HAS BEEN DETERMINED BY THE ENGINEER.
13. EACH DECK POUR IS TO BE PLACED IN ONE CONTINUOUS POUR WITHIN A MAXIMUM DURATION OF EIGHT (8) HOURS. A CONSTRUCTION JOINT SHALL BE USED AS SHOWN ON THE PLANS BETWEEN POUR 1 AND 2. A NINETY-SIX (96) HOUR DELAY BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF ANY OTHER POUR SHALL BE OBSERVED.
14. NO TRAFFIC SHALL BE ALLOWED ON THE NEW DECK UNTIL THE CURE PERIOD IS UP AND THE 28-DAY DESIGN STRENGTH IS ATTAINED, AS EVIDENCED BY TEST CYLINDERS CURED UNDER FIELD CONDITIONS.
15. THE KEY-IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. UPWARD KEYS SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
16. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
17. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED ONE (1) INCH.
18. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF DECK BETWEEN DRIP BEADS.
19. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH AND APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE."
20. MINIMUM COVER FOR REINFORCING STEEL IN THE SUBSTRUCTURES SHALL BE TWO (2) INCHES ALONG WALL FACES AGAINST EARTH, AND THREE (3) INCHES ELSEWHERE, UNLESS DETAILED OTHERWISE.
21. ALL SUPERSTRUCTURE REINFORCING STEEL SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 507J7, "EPOXY COATED REINFORCING STEEL". WHEN EPOXY COATED REINFORCING STEEL IS TO BE CUT, THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REINFORCING STEEL WILL NOT BE PERMITTED.
22. ALL SUBSTRUCTURE REINFORCING STEEL SHALL BE PAID FOR UNDER ITEM 507J5, "REINFORCING STEEL".
23. REINFORCING PLACEMENT TOLERANCES SHALL BE:
SPACING +/- 1"
CLEARANCE +/- 1/4"

STRUCTURAL STEEL

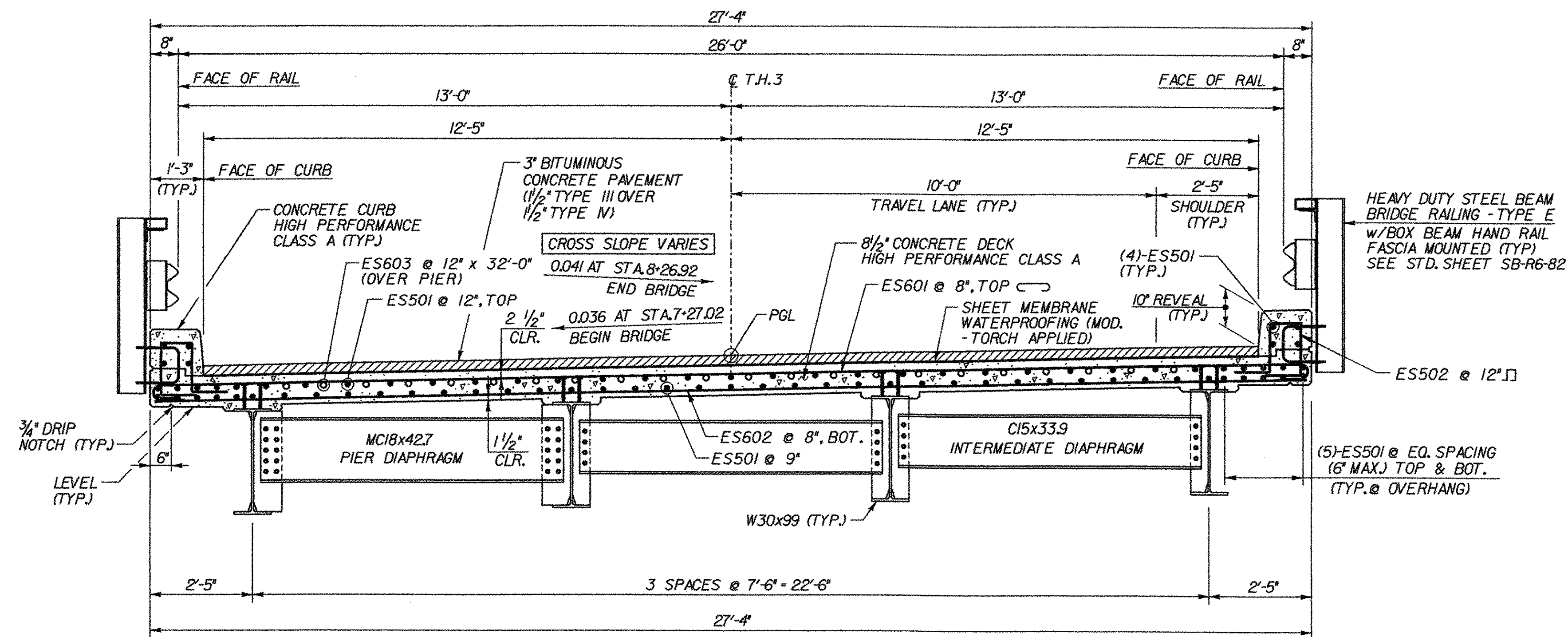
24. ALL STRUCTURAL STEEL PAID FOR UNDER ITEM 506.50, "STRUCTURAL STEEL (ROLLED BEAM)" SHALL CONFORM TO AASHTO M270 GRADE 50W UNLESS OTHERWISE NOTED.
25. THE CHARPY V-NOTCH TEST IS REQUIRED ONLY FOR THOSE MEMBERS DESIGNATED AS SUCH ON THE PLANS AS SPECIFIED IN SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.
26. AFTER THE SUPERSTRUCTURE STEEL HAS BEEN SET ON THE BEARINGS, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF EACH BEAM UNDER THE DIRECTION OF THE ENGINEER. THESE ELEVATIONS SHALL BE USED IN DETERMINING FINAL GRADE.
27. ALL FIELD CONNECTIONS SHALL BE MADE USING 7/8" DIAMETER BOLTS, CONFORMING TO AASHTO M 164 TYPE 3. HOLES SHALL BE 15/16" DIAMETER, UNLESS OTHERWISE NOTED. CONNECTIONS NOT DESIGNED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
28. FASCIA OVERHANG BRACKETS OR SIMILAR FALSE WORK SHALL BE SPACED AT A MAXIMUM OF FOUR (4) FEET. THE DESIGN OF THE FALSE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
29. ANY HOLES IN THE FASCIA BEAMS NOT OTHERWISE FILLED SHALL BE FITTED WITH BUTTON HEAD OR HEX HEAD BOLTS CONFORMING TO AASHTO M 164 TYPE 3. THE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506J9 OF THE STANDARD SPECIFICATIONS.

EROSION CONTROL

30. APPROPRIATE EROSION CONTROL MEASURES SHALL BE UTILIZED THROUGHOUT THE DURATION OF THE CONSTRUCTION AS INDICATED ON THE PLANS AND AS DIRECTED BY THE ENGINEER.

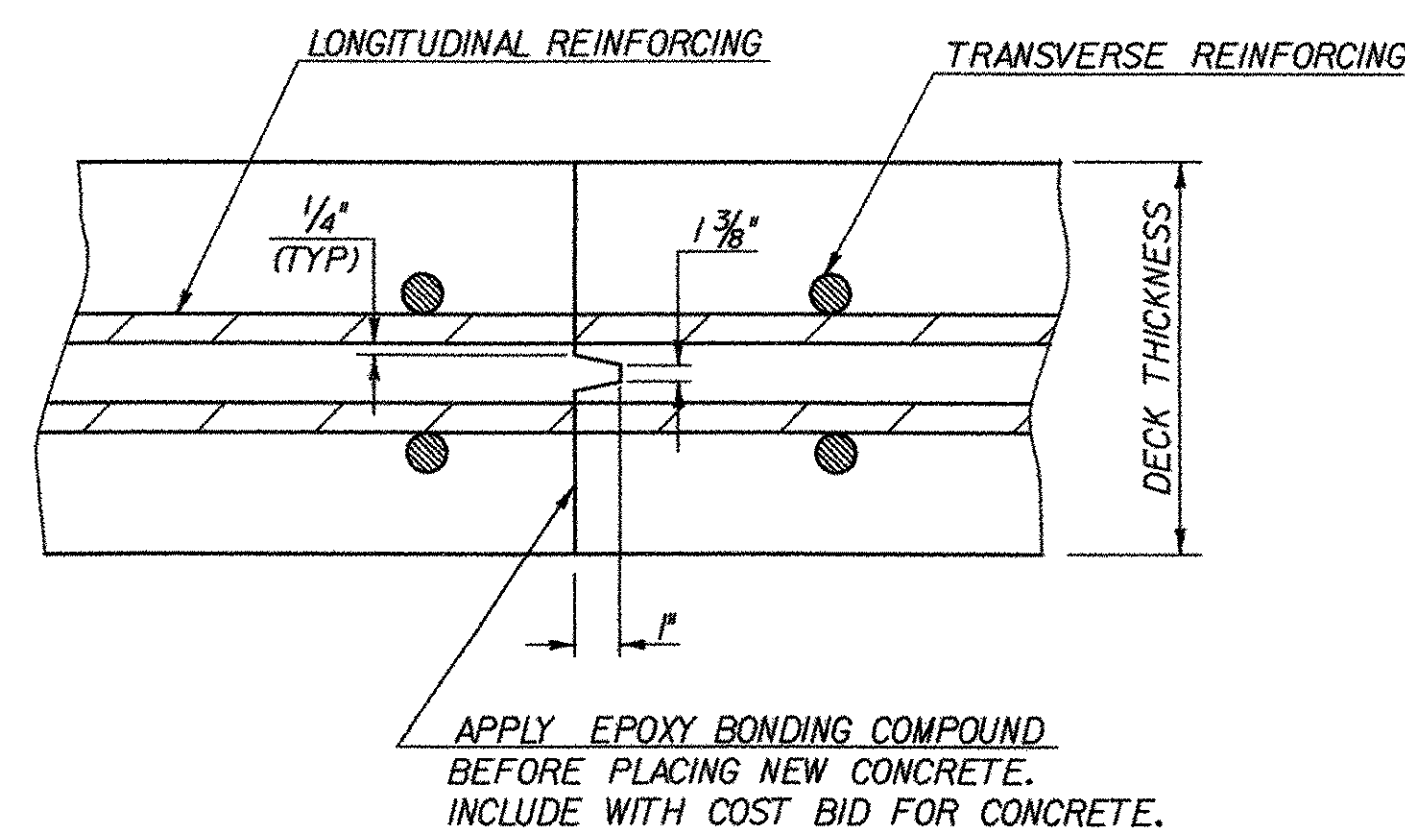
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of NORWICH		Bridge No. 46
Highway No. T.H. 3	Log Sta. Surv. Sta.	
TOWN HIGHWAY NO. 3 OVER OMPOMPANOOSUC RIVER		
PROJECT NOTES		
Designed By S. BURBANK	Drawn By A. THIBAUT	
Checked By M. CHENETTE	Date 12/03	Bridge Design Supervisor M. CHENETTE Date 12/03
PROJECT NORWICH		PROJECT NO. TH2-9625
DH CAD Filename: ...\\Norw-notes.dgn		Plot Date: 03/31/2004
Bridge Sheet No.		Sheet 17 of 40

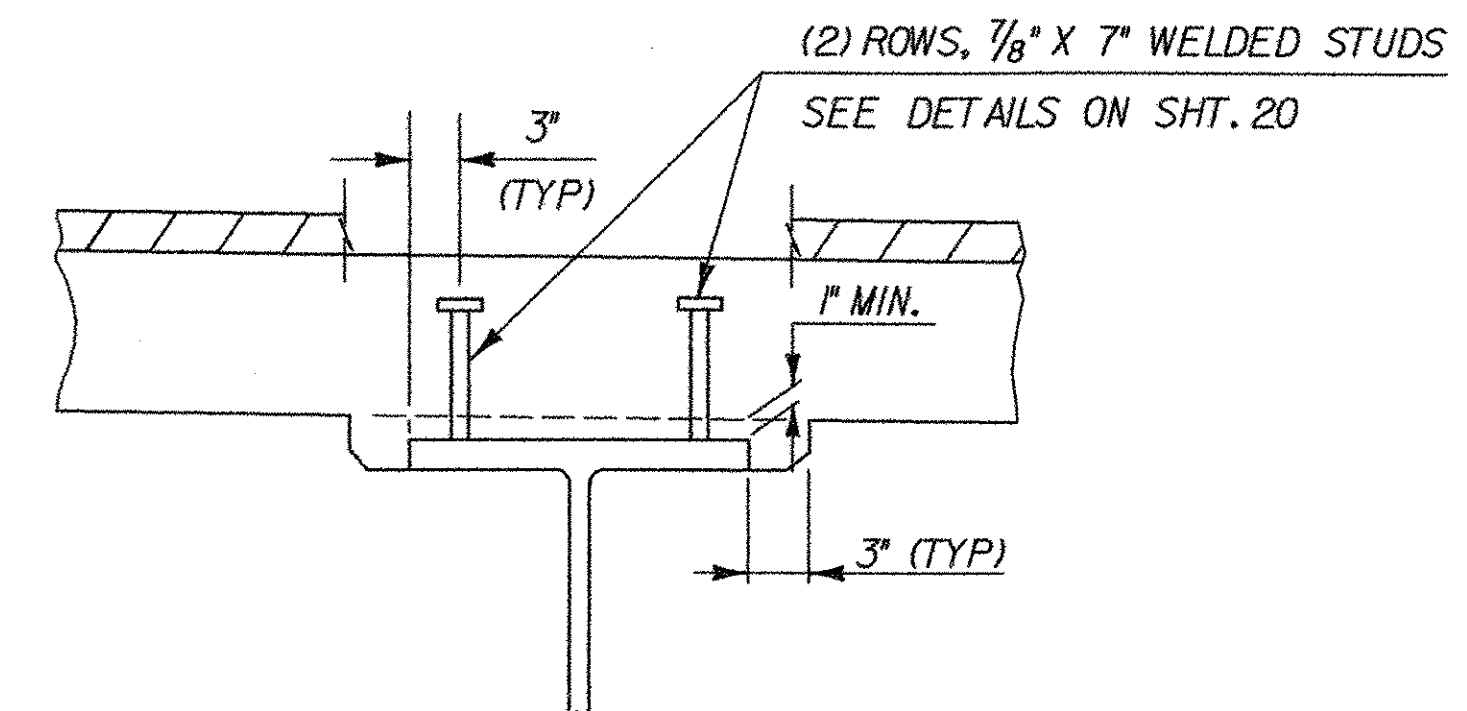


TYPICAL BRIDGE SECTION

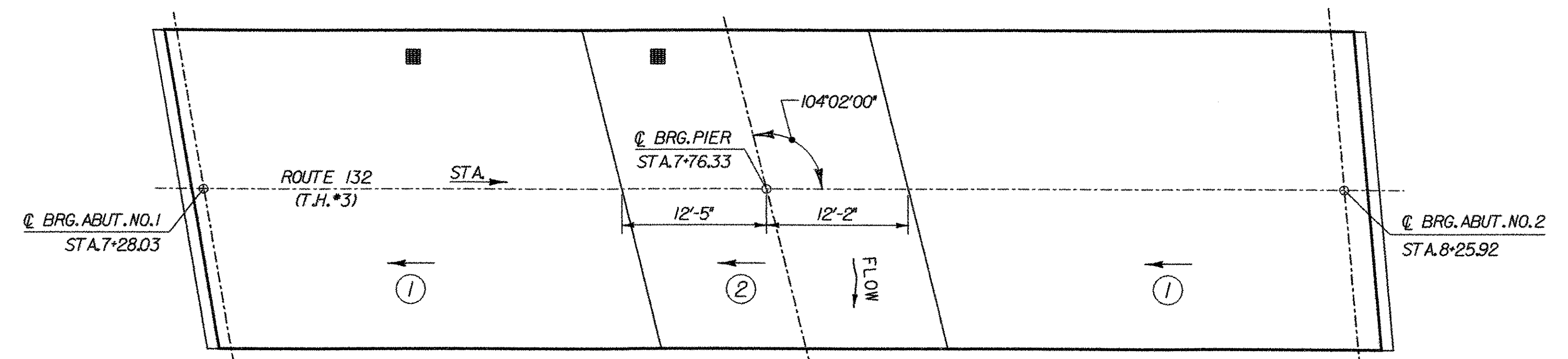
SCALE 1/2" = 1'-0"
1 0 1 2



TRANSVERSE BRIDGE SLAB
CONSTRUCTION JOINT DETAIL



HAUNCH AND SHEAR
CONNECTOR DETAILS



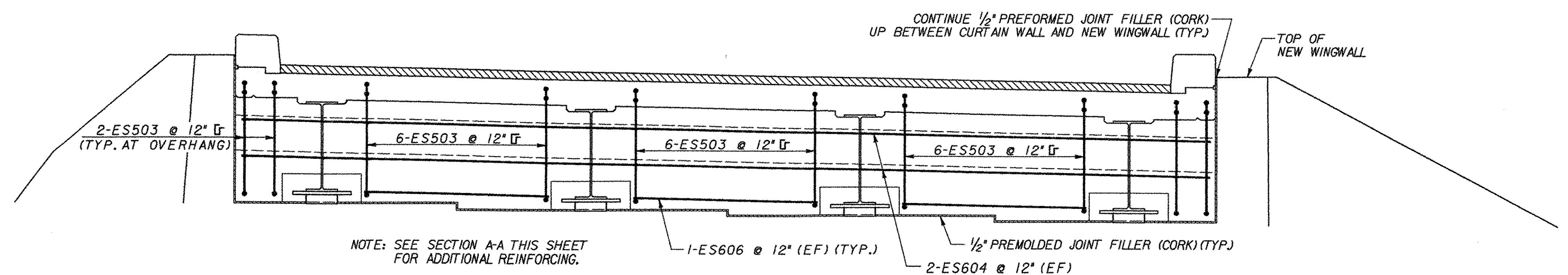
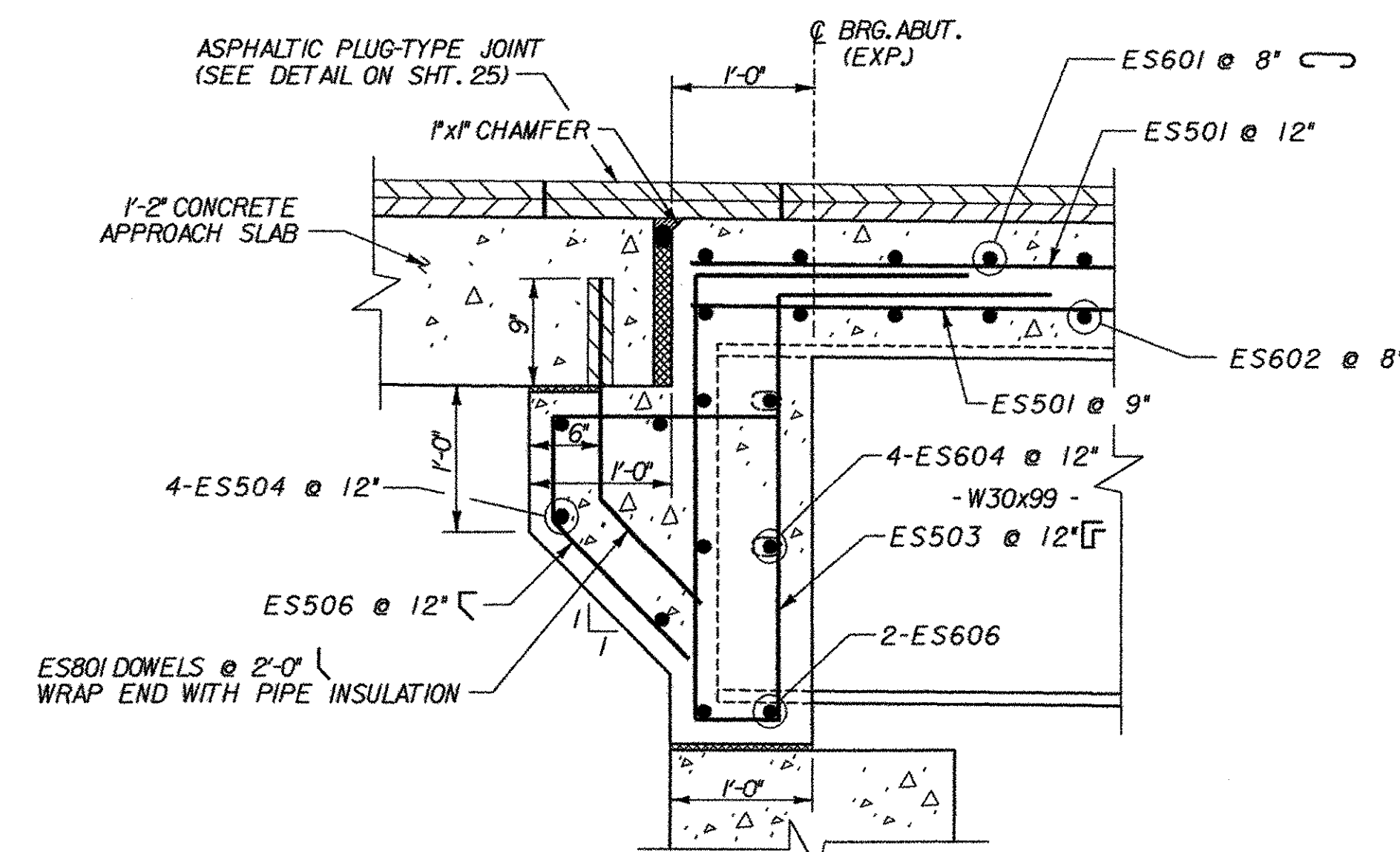
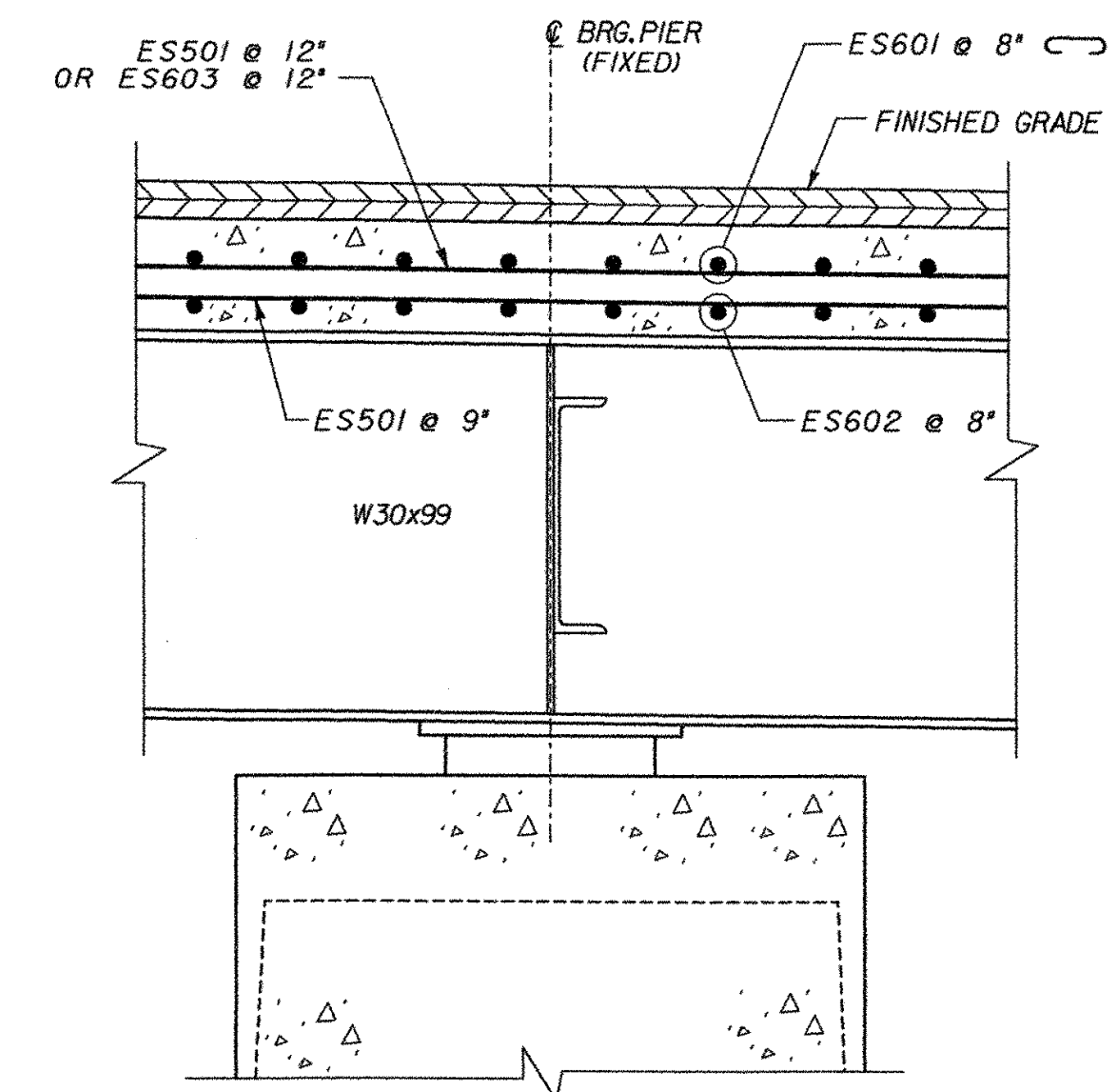
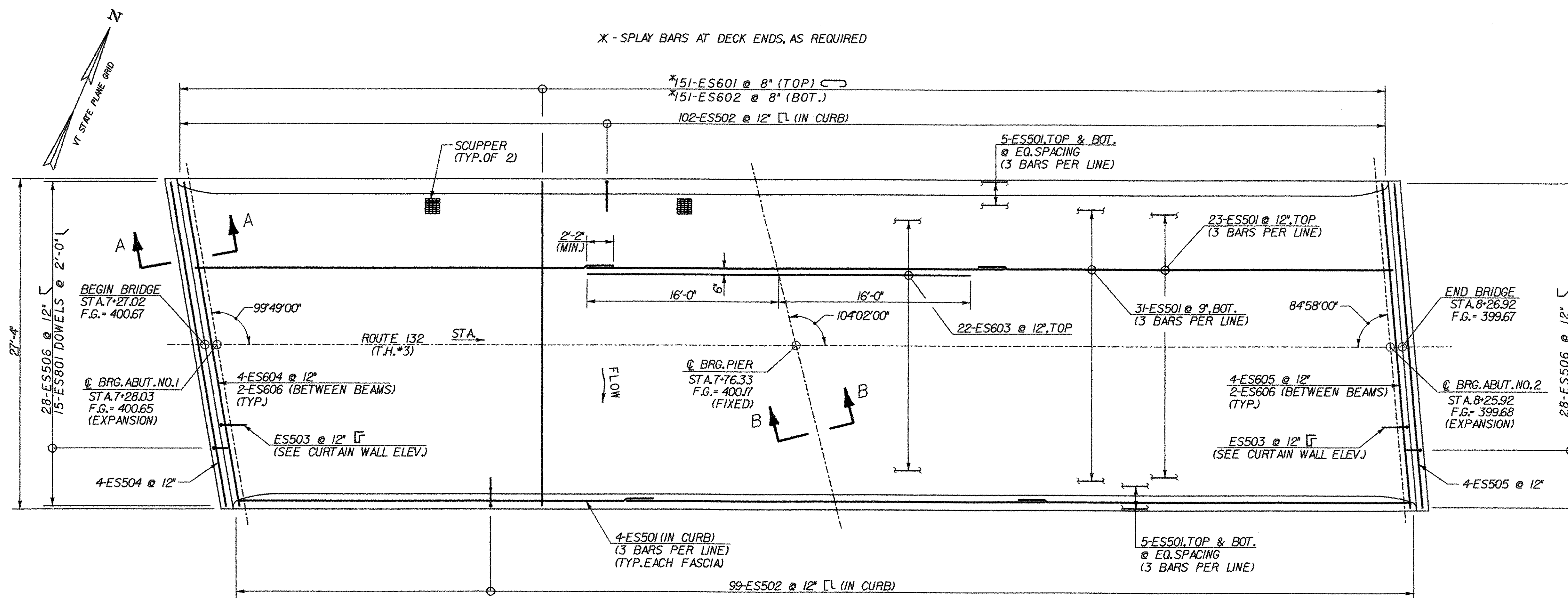
- NOTES:
1. THE ARROWS INDICATE THE DIRECTION OF THE CONCRETE PLACEMENT.
 2. ① - INDICATES THE POUR SEQUENCE.
 3. SEE PROJECT NOTES (SHT. 17) FOR ADDITIONAL DECK POUR NOTES.
 4. THE CONTRACTOR MAY SUBMIT AN ALTERNATE POUR PLAN TO THE ENGINEER FOR REVIEW.

POUR SEQUENCE

SCALE 1/8" = 1'-0"
1 0 2 4 6 8

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	NORWICH	Bridge No.	46
Highway No.	T.H. 3	Log Sta.	
		Surv. Sta.	
TOWN HIGHWAY NO. 3 OVER OMPOMPANOSUC RIVER			
TYPICAL BRIDGE SECTION			
Designed By	S. BURBANK	Drawn By	A. THIBAUT
Checked By	M. CHENETTE	Date	12/03
		Bridge Design Supervisor	M. CHENETTE Date 12/03
PROJECT	NORWICH	PROJECT NO.	TH2-9625
DH CAD Filename:	...Norw-brsect.dgn	Plot Date:	03/31/2004
Bridge Sheet No.		Sheet	18 of 40



STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	NORWICH	Bridge No.	46
Highway No.	T.H. 3	Log Sta.	
		Surv. Sta.	

TOWN HIGHWAY NO. 3 OVER OMPOMPANOOSUC RIVER

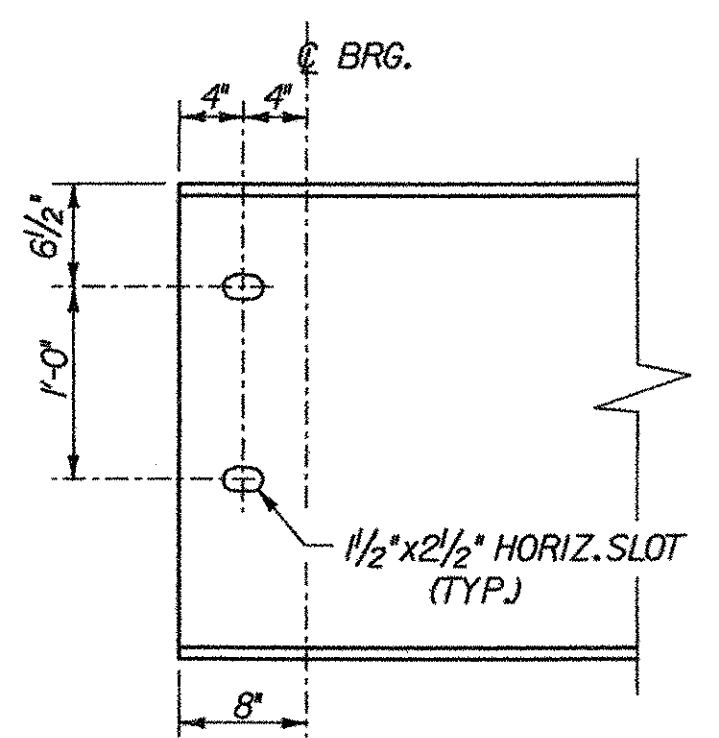
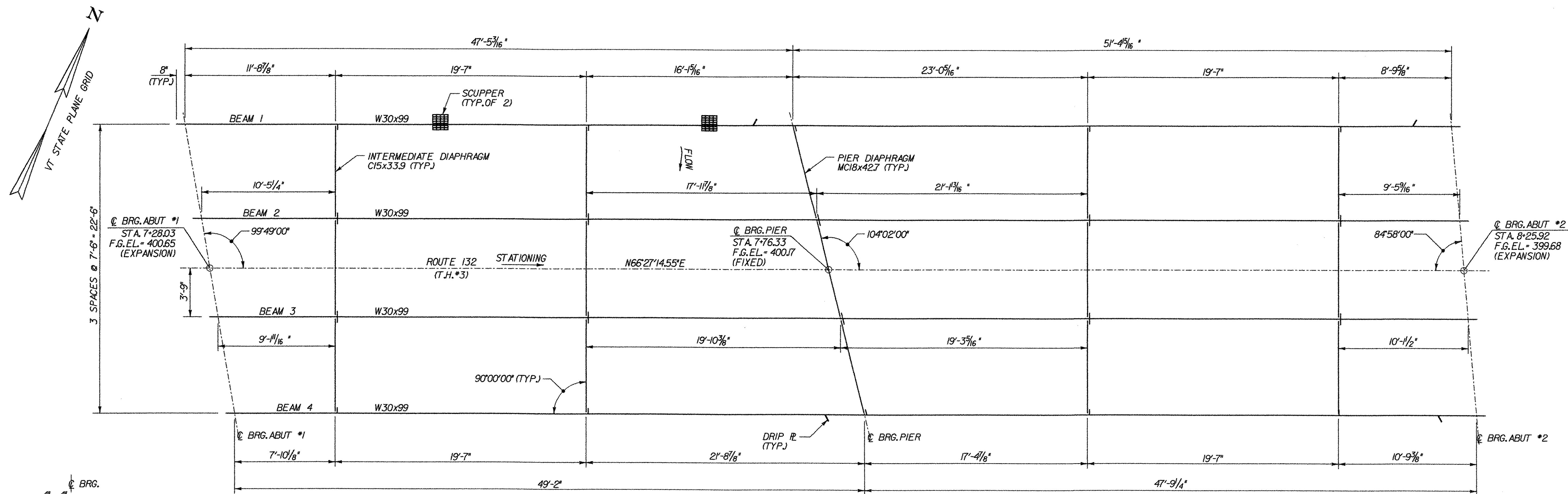
DECK REINFORCING PLAN

Designed By	S. BURBANK	Drawn By	A. THIBAUT
Checked By	Date	Bridge Design Supervisor	
M. CHENETTE	12/03	M. CHENETTE	Date 12/03

PROJECT	NORWICH	PROJECT NO.	TH2-9625
DH CAD Filename:	...Norw-deck.dgn	Plot Date:	03/31/2004

Bridge Sheet No.	Sheet 19 of 40
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DH Dufresne-Henry



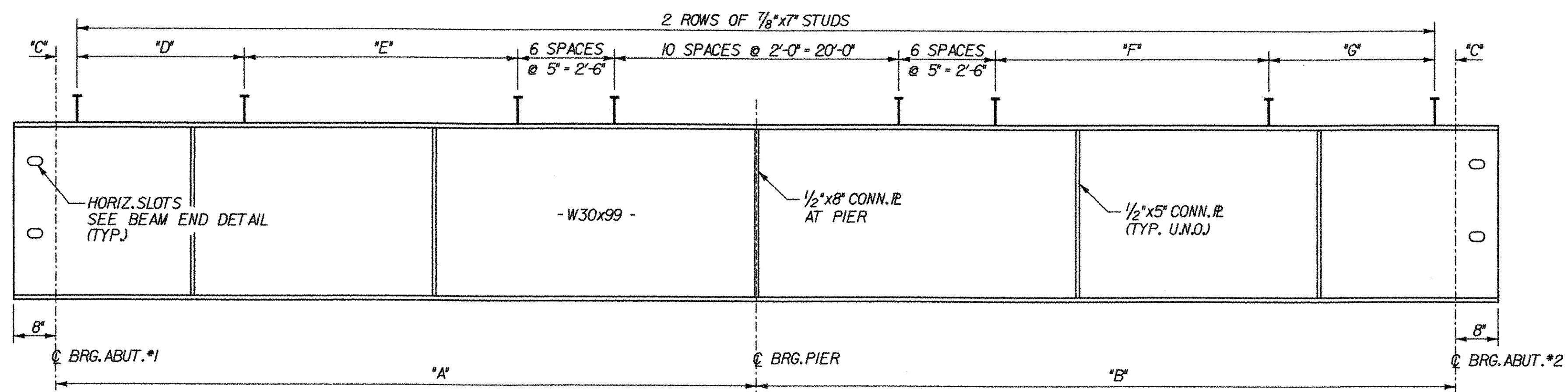
BEAM END DETAIL
SCALE 1" = 1'-0"
1 9 6 3 0 1 2

FRAMING PLAN
SCALE 1/4" = 1'-0"
1 0 2 4 6

BEAM DIMENSION TABLE								
BEAM NO.	"A"	"B"	"C"	"D"	"E"	"F"	"G"	STUDS/BEAM
1	47'-5 3/16"	51'-4 1/16"	2 1/16"	19 SPACES @ 6" = 9'-6"	33 SPACES @ 9" = 24'-9"	39 SPACES @ 9" = 29'-3"	20 SPACES @ 6" = 10'-0"	268
2	48'-0 1/8"	50'-2 3/8"	4 1/4"	19 SPACES @ 6" = 9'-6"	34 SPACES @ 9" = 25'-6"	36 SPACES @ 9" = 27'-0"	21 SPACES @ 6" = 10'-6"	266
3	48'-7 1/16"	48'-11 3/16"	4 5/16"	19 SPACES @ 6" = 9'-6"	35 SPACES @ 9" = 26'-3"	34 SPACES @ 9" = 25'-6"	21 SPACES @ 6" = 10'-6"	264
4	49'-2"	47'-9 1/4"	1 1/8"	20 SPACES @ 6" = 10'-0"	36 SPACES @ 9" = 27'-0"	33 SPACES @ 9" = 24'-9"	20 SPACES @ 6" = 10'-0"	264

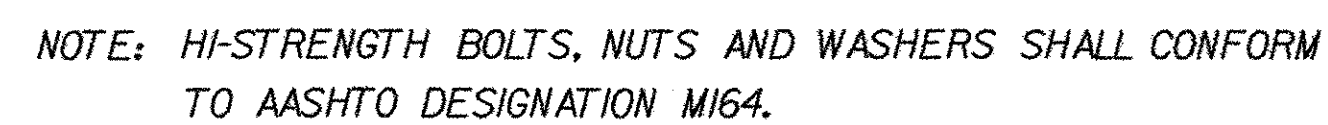
NOTES:

1. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W STEEL, UNPAINTED.
2. FOR CAMBER AND DEAD LOAD DEFLECTION DIAGRAM, SEE SHEET 21.
3. FOR DIAPHRAGM DETAILS, SEE SHEET 21.
4. THE ENDS OF THE BEAMS SHALL BE VERTICAL IN THE ERECTED POSITION.
5. THE CONNECTION PLATES SHALL BE PERPENDICULAR TO THE FLANGES AND THE WEBS.
6. FOR DRIP PLATE DETAILS, SEE SHEET 21.
7. CHARPY V-NOTCH TESTING IS REQUIRED OF ALL W30x99 BEAMS IN ACCORDANCE WITH 714.01.



TYPICAL BEAM ELEVATION
NOT TO SCALE

STATE OF VERMONT		AGENCY OF TRANSPORTATION	
Town of	NORWICH	Bridge No.	46
Highway No.	T.H. 3	Log Sta.	
TOWN HIGHWAY NO. 3 OVER OMPOMPAHOOSUC RIVER		Surv. Sta.	
FRAMING PLAN			
Designed By	S. BURBANK	Drawn By	A. THIBAUT
Checked By	M. CHENETTE	Date	12/03
PROJECT		Bridge Design Supervisor	M. CHENETTE Date 12/03
NORWICH		PROJECT NO.	TH2-9625
DH CAD Filename: ...Norw-frame.dgn		Plot Date:	03/31/2004
Bridge Sheet No.		Sheet 20 of 40	



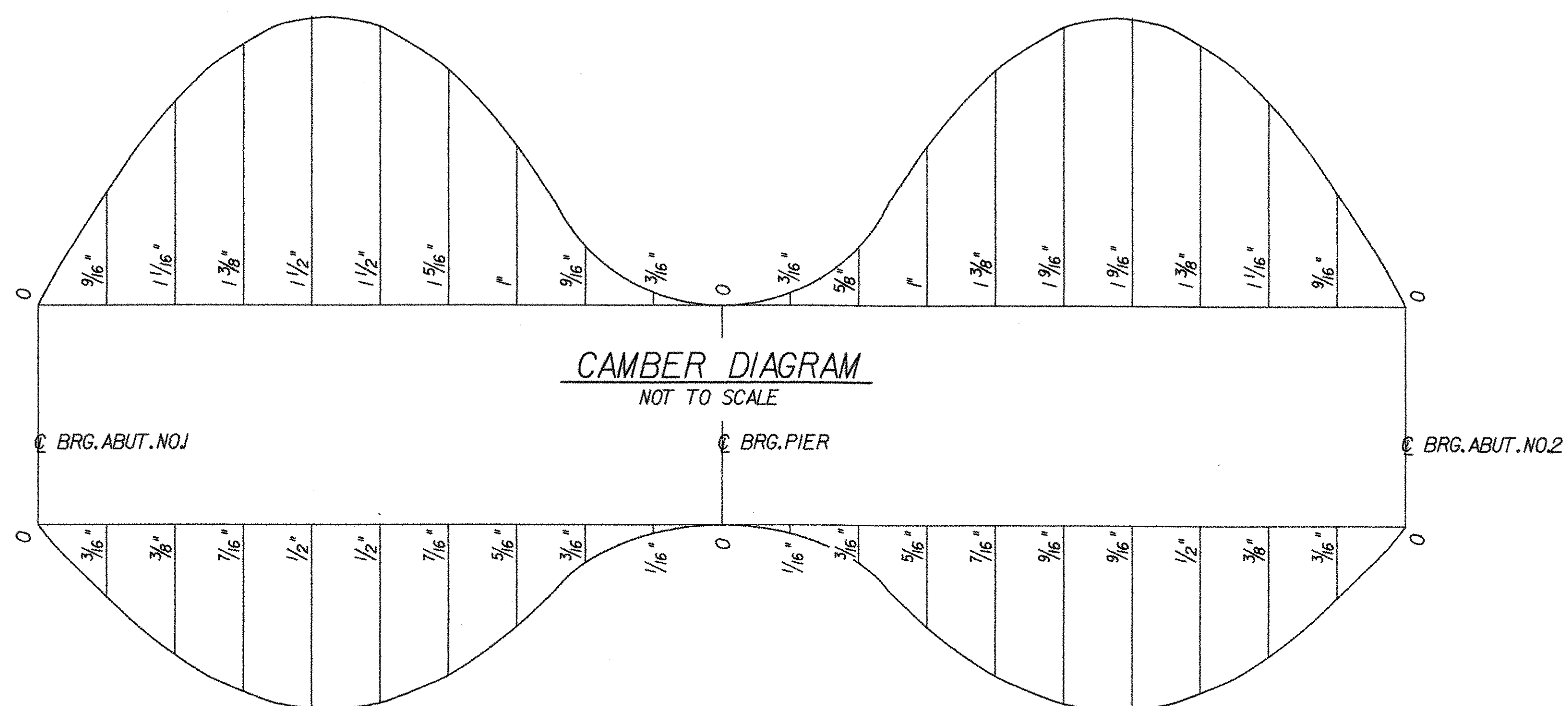
Technical drawing showing a cross-section of a pier diaphragm connection. The drawing includes a rolled beam, high strength bolts, and a termination detail with a weld. Key dimensions and labels include:

- ROLLED BEAM**: The vertical structural member.
- TIGHT FIT**: Indicated at the top of the beam.
- 2"**: Dimension for the top flange of the beam.
- 5/16"**: Dimension for the bolt spacing.
- 7/8" HIGH STRENGTH BOLTS**: The bolts used for the connection.
- 1 1/8" DIA. HOLES**: The diameter of the bolt holes.
- 1 1/2"**: Dimension for the bolt spacing.
- PIER DIAPHRAGM MC18 X 42.7**: The horizontal structural member.
- 3"**: Dimension for the bolt spacing.
- 1 1/2"**: Dimension for the bolt spacing.
- SEE WELD**: Indicated at the bottom of the beam.
- TERMINATION DETAIL (TYP)**: The detail of the weld.
- 1/2" PLATE PLACED ALONG ϕ BEARING**: A plate placed along the bearing.
- GRIND TO BEAR WITH DOUBLE 5/16" FILLET OR FULL PENETRATION WELD**: The welding requirement.
- 8"**: Dimension for the total width of the connection.

Technical drawings illustrating a beam-to-plate connection. The left drawing is a perspective view showing a beam with a bottom flange, a 60-degree gusset plate, and a 1/4 inch drip plate. The right drawing is a cross-section showing the beam's web and flange, the gusset plate, and the drip plate with a seal weld.

SECTION A - A

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

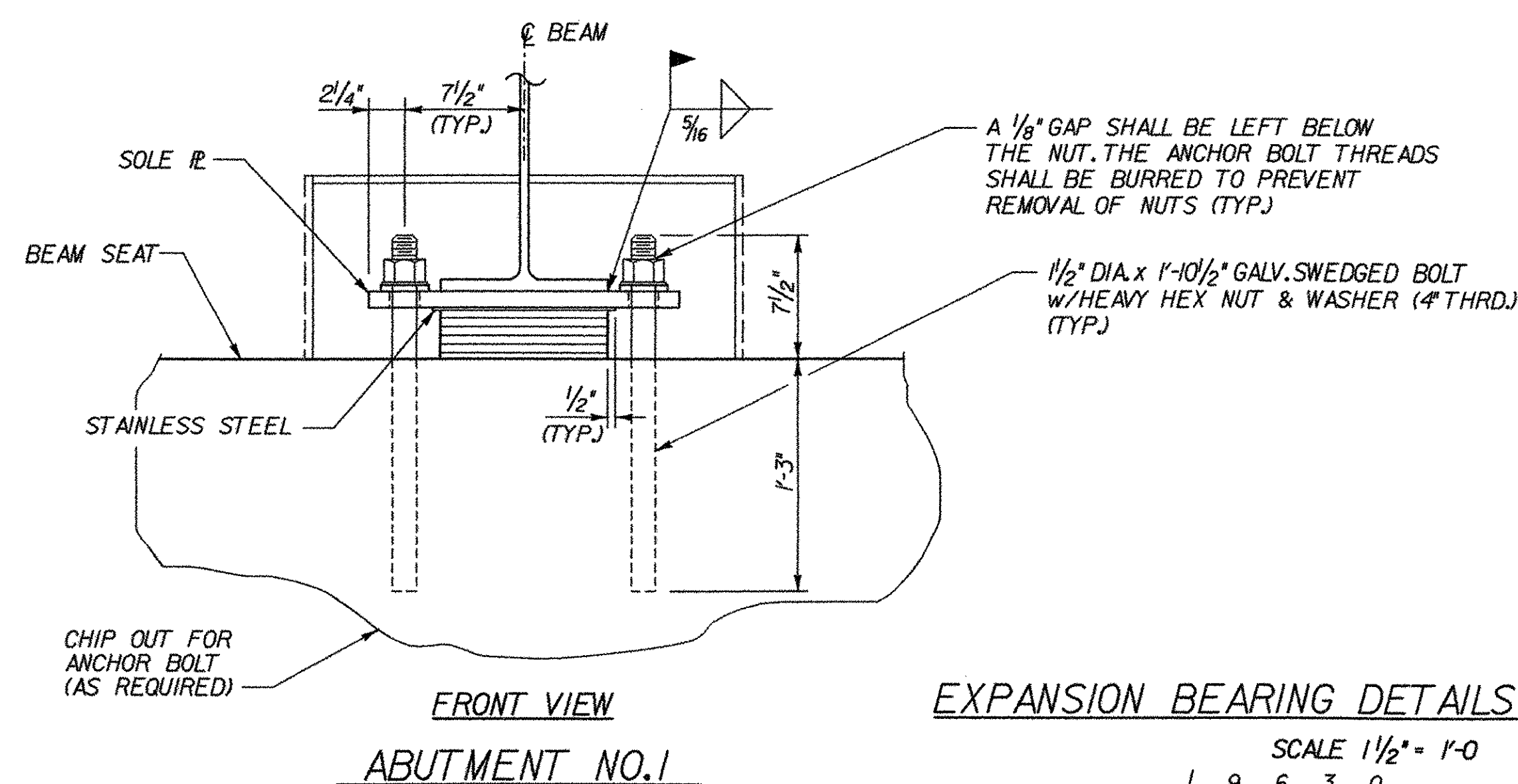
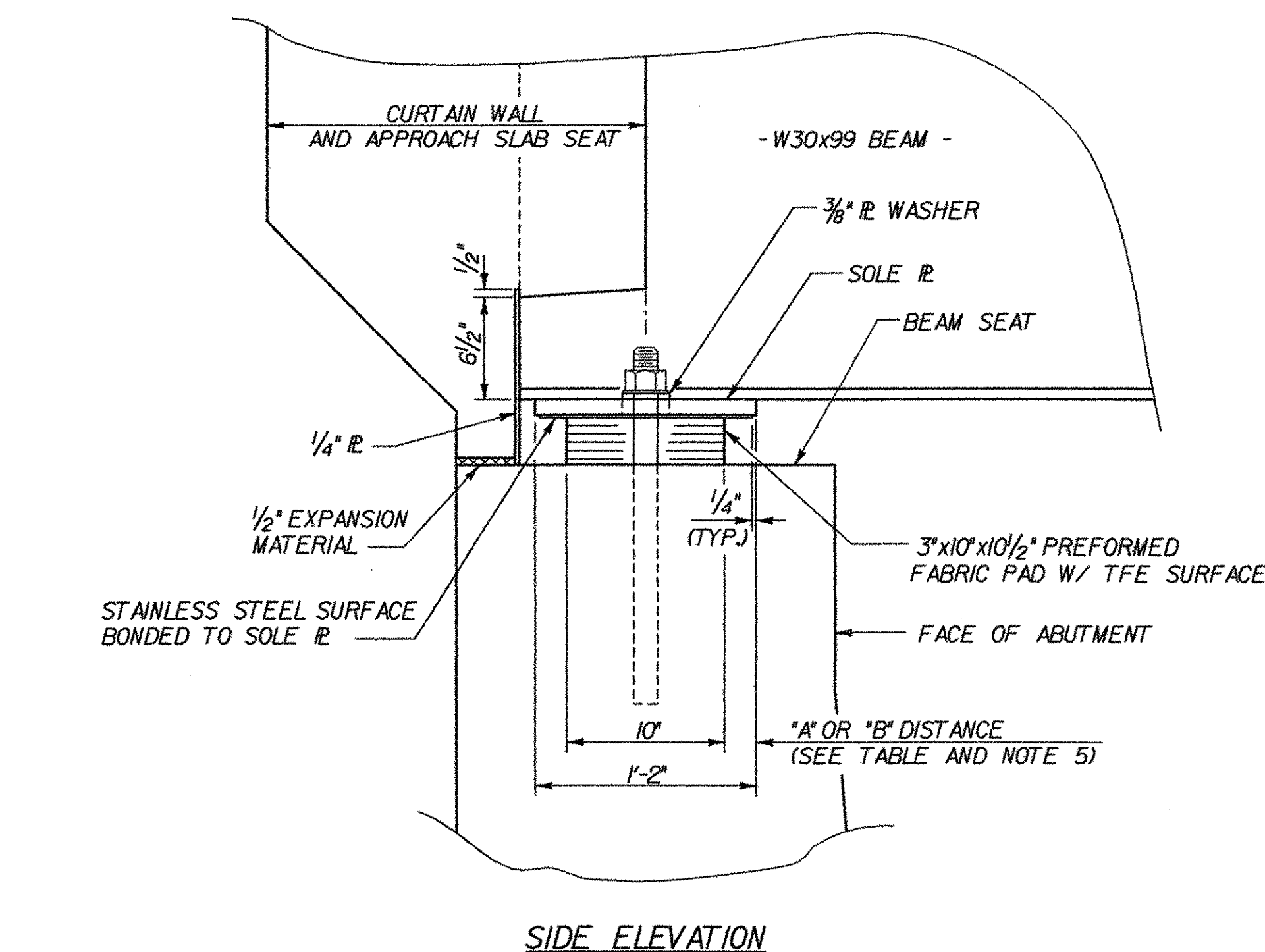
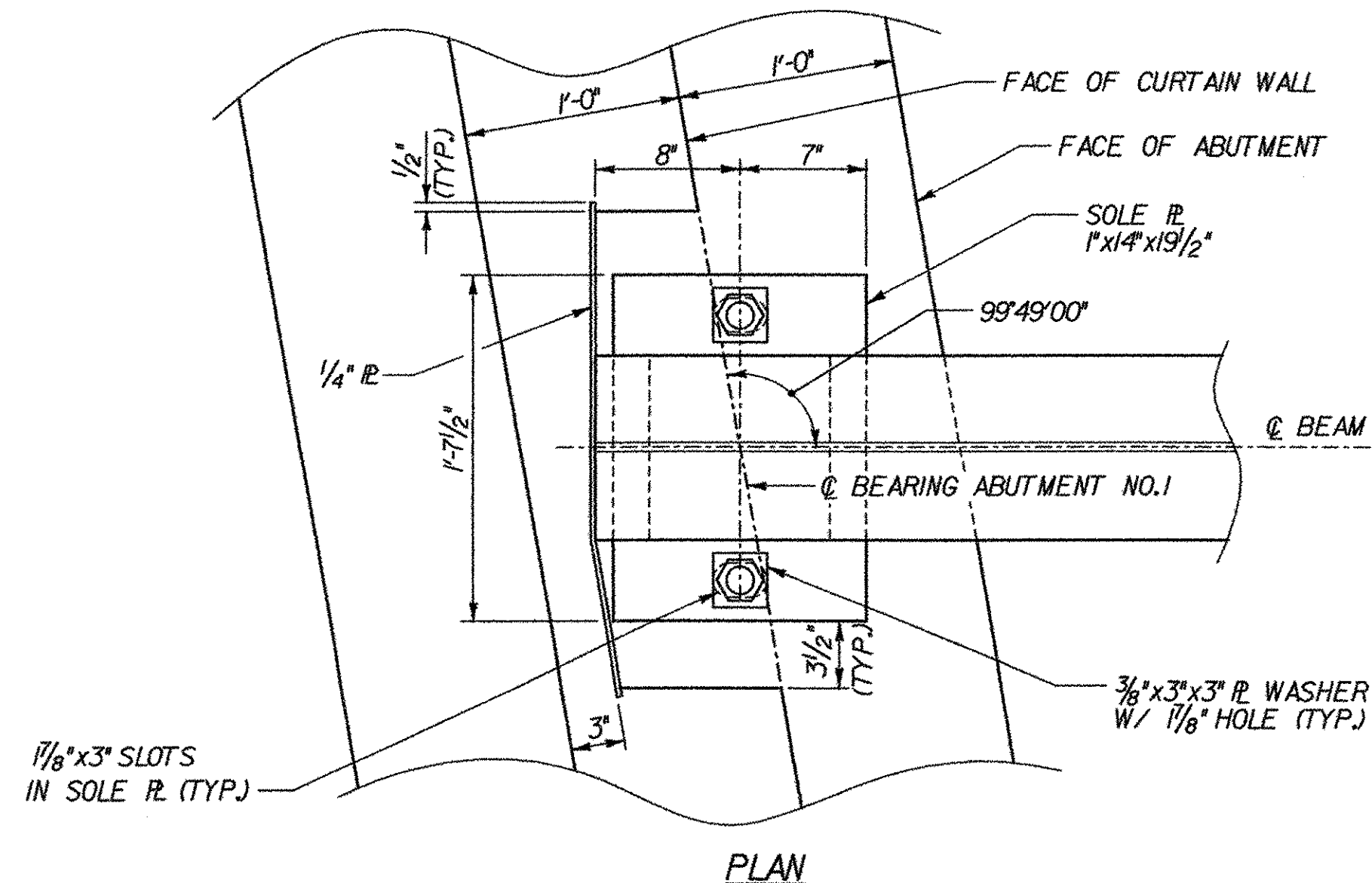


DEAD LOAD DEFLECTION DIAGRAM
NOT TO SCALE

NOTES:

2. DEAD LOAD DEFLECTIONS SHOWN ARE FOR ALL DEAD LOADS AND SUPERIMPOSED DEAD LOADS INCLUDING BEAM AND DIAPHRAGM WEIGHTS.

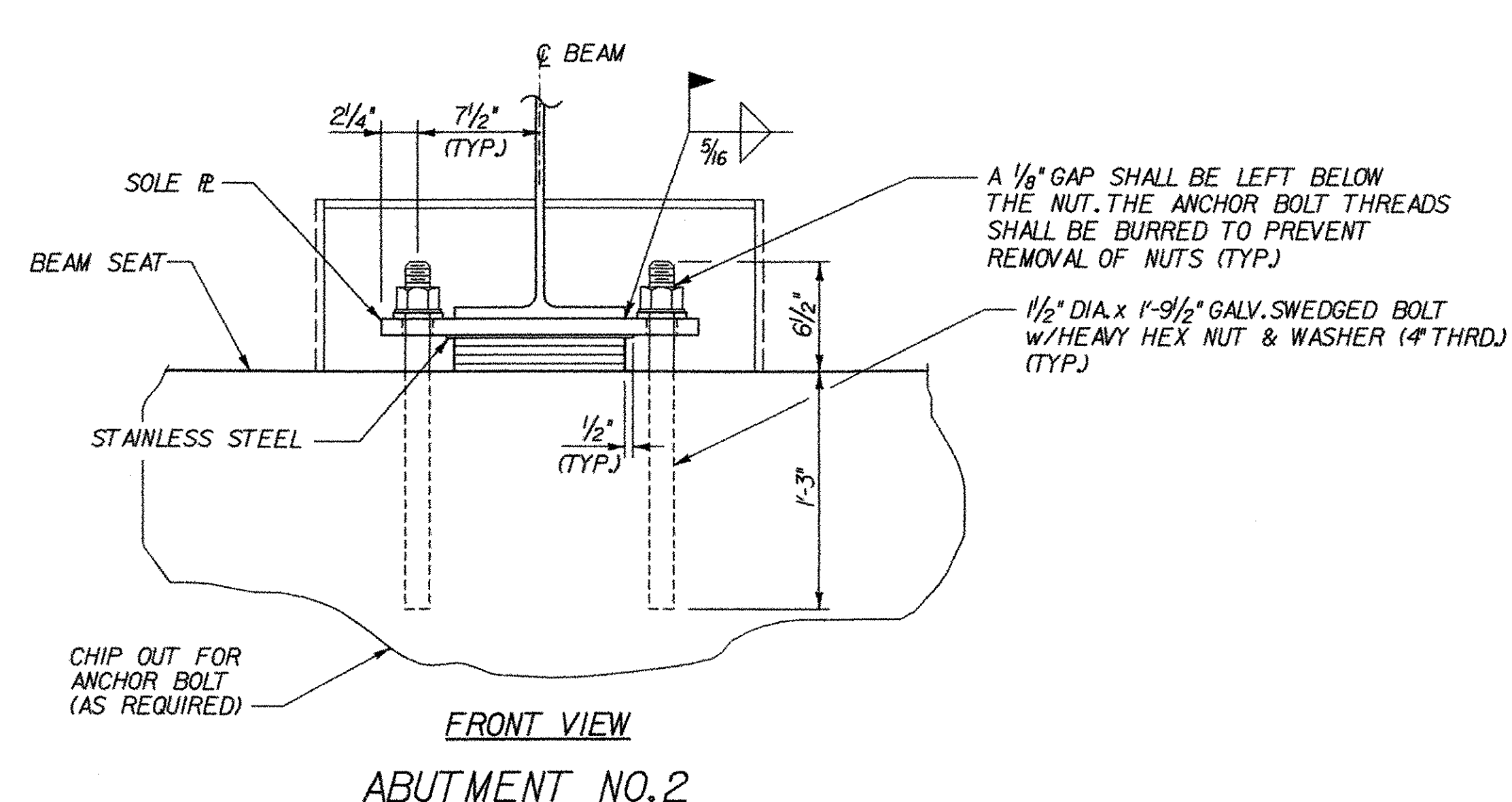
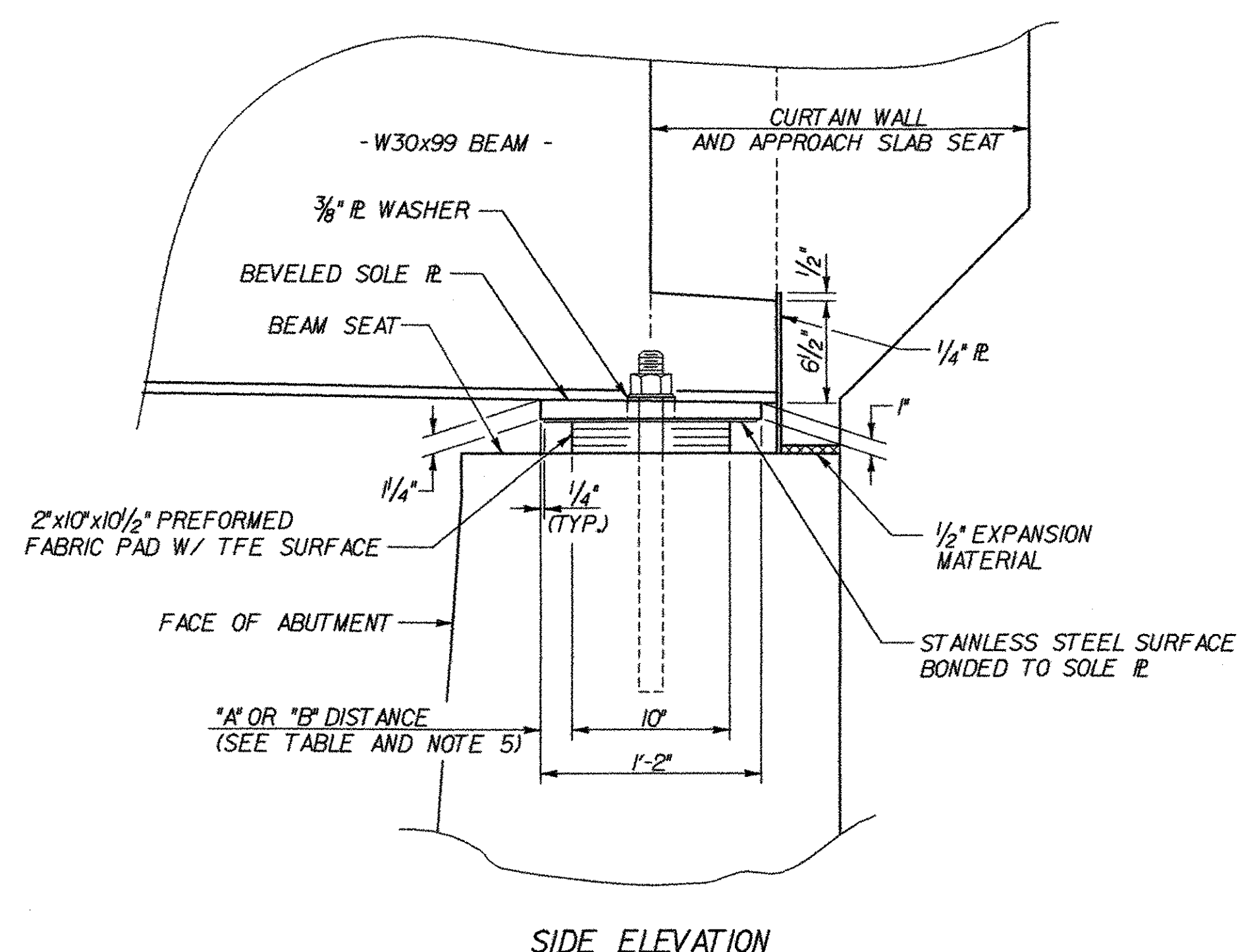
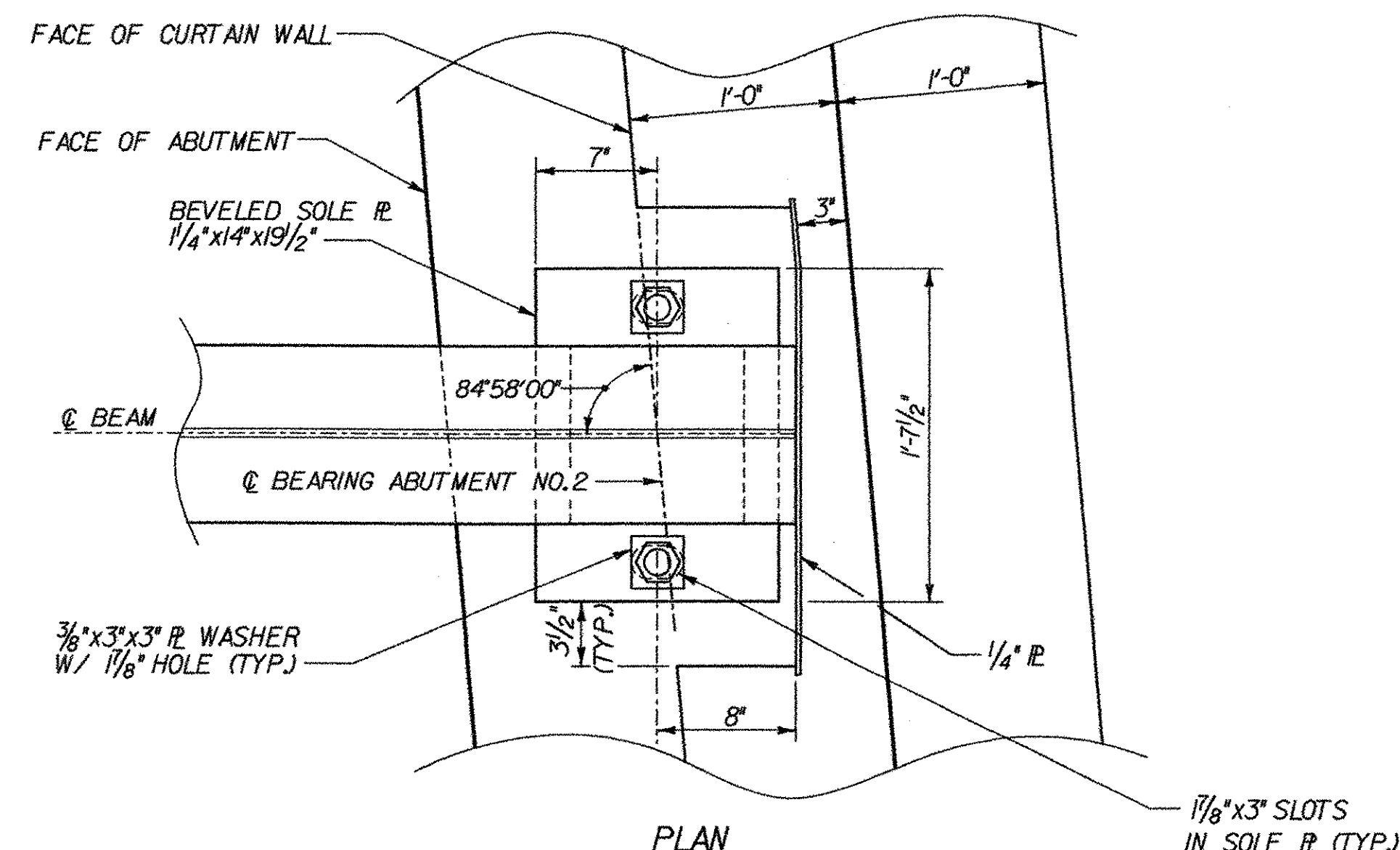
STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of NORWICH	Bridge No. 46
Highway No. T.H. 3	Log Sta. Surv. Sta.
TOWN HIGHWAY NO. 3 OVER OMPOMPANOOSE RIVER	
MISCELLANEOUS STEEL DETAILS	
Designed By S. BURBANK	Drawn By A. THIBAUT
Checked By Date M. CHENETTE 12/03	Bridge Design Supervisor M. CHENETTE Date 12/03
PROJECT NORWICH	PROJECT NO. TH2-9625
DH CAD Filename: ...Norw-steel details.dgn Plot Date: 03/31/2004	
Bridge Sheet No.	Sheet 21 of 40



EXPANSION BEARING DETAILS AT ABUTMENTS

SCALE 1 1/2" = 1'-0"

1 9 6 3 0



TEMPERATURE SETTING TABLE

TEMP	"A" DIST	"B" DIST
0° F	2 3/16"	2 1/4"
15° F	2 1/8"	2 3/16"
30° F	2 1/16"	2 1/8"
45° F	2"	2 1/16"
60° F	1 15/16"	2"
75° F	1 7/8"	1 15/16"
90° F	1 13/16"	1 7/8"
105° F	1 3/4"	1 13/16"

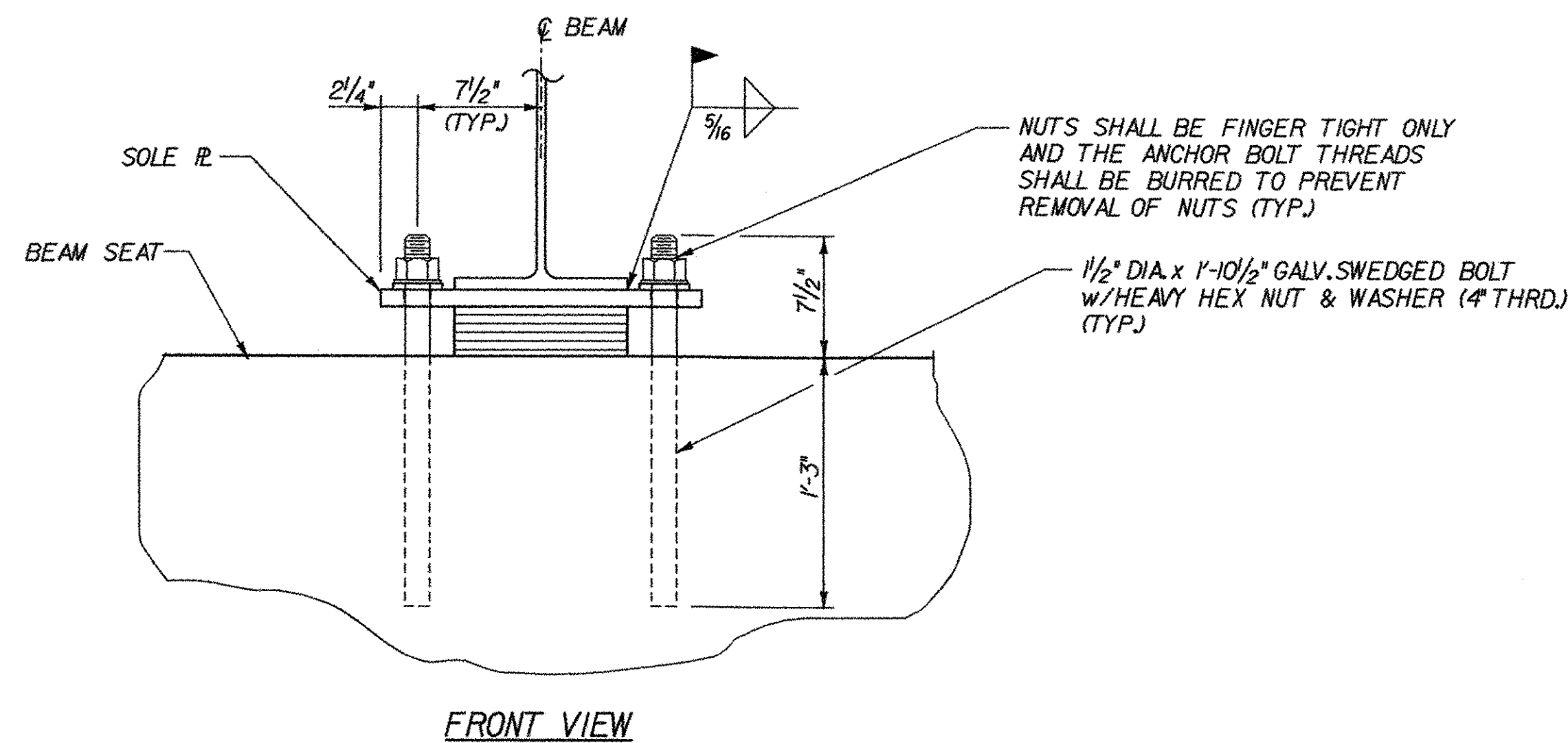
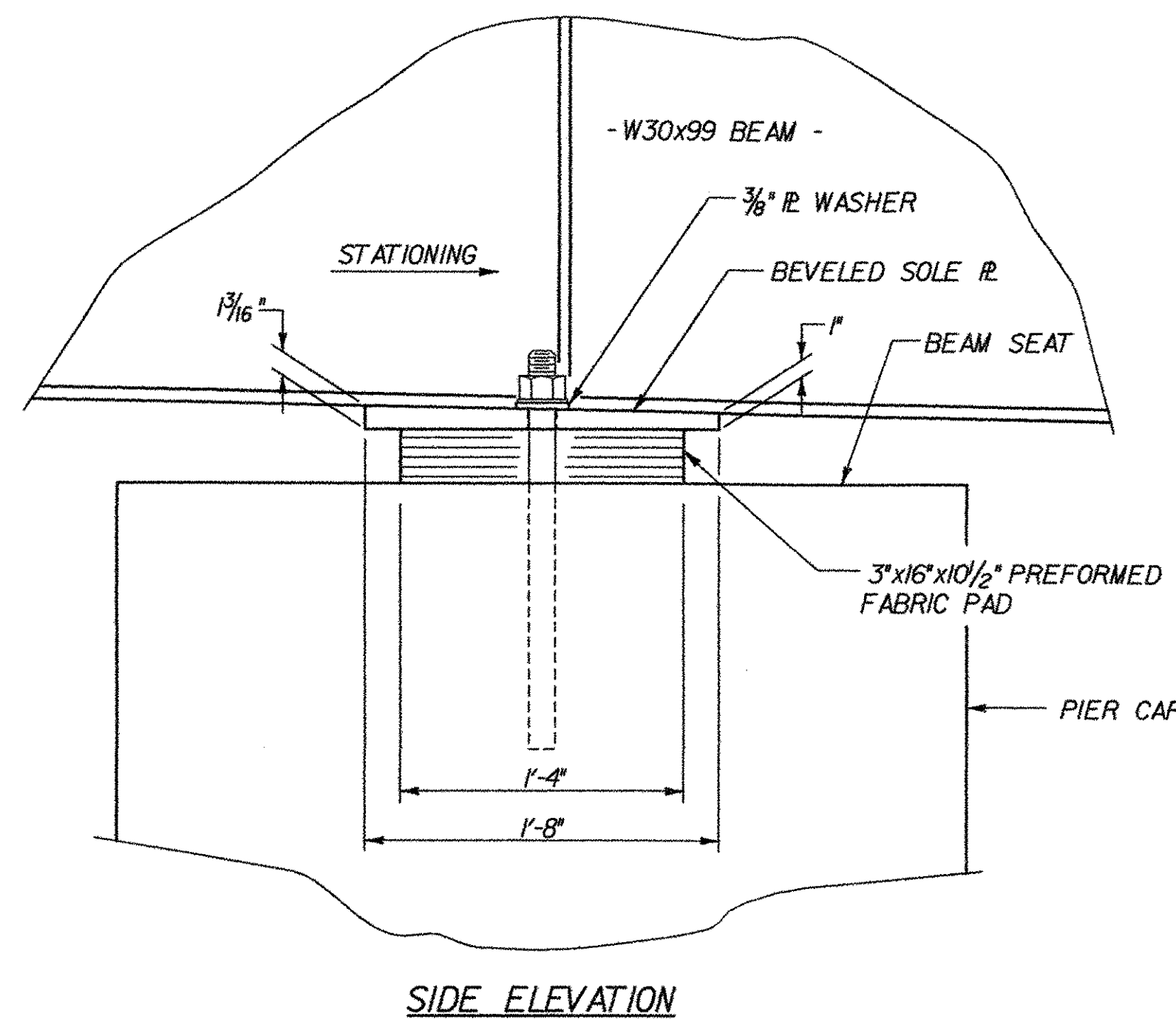
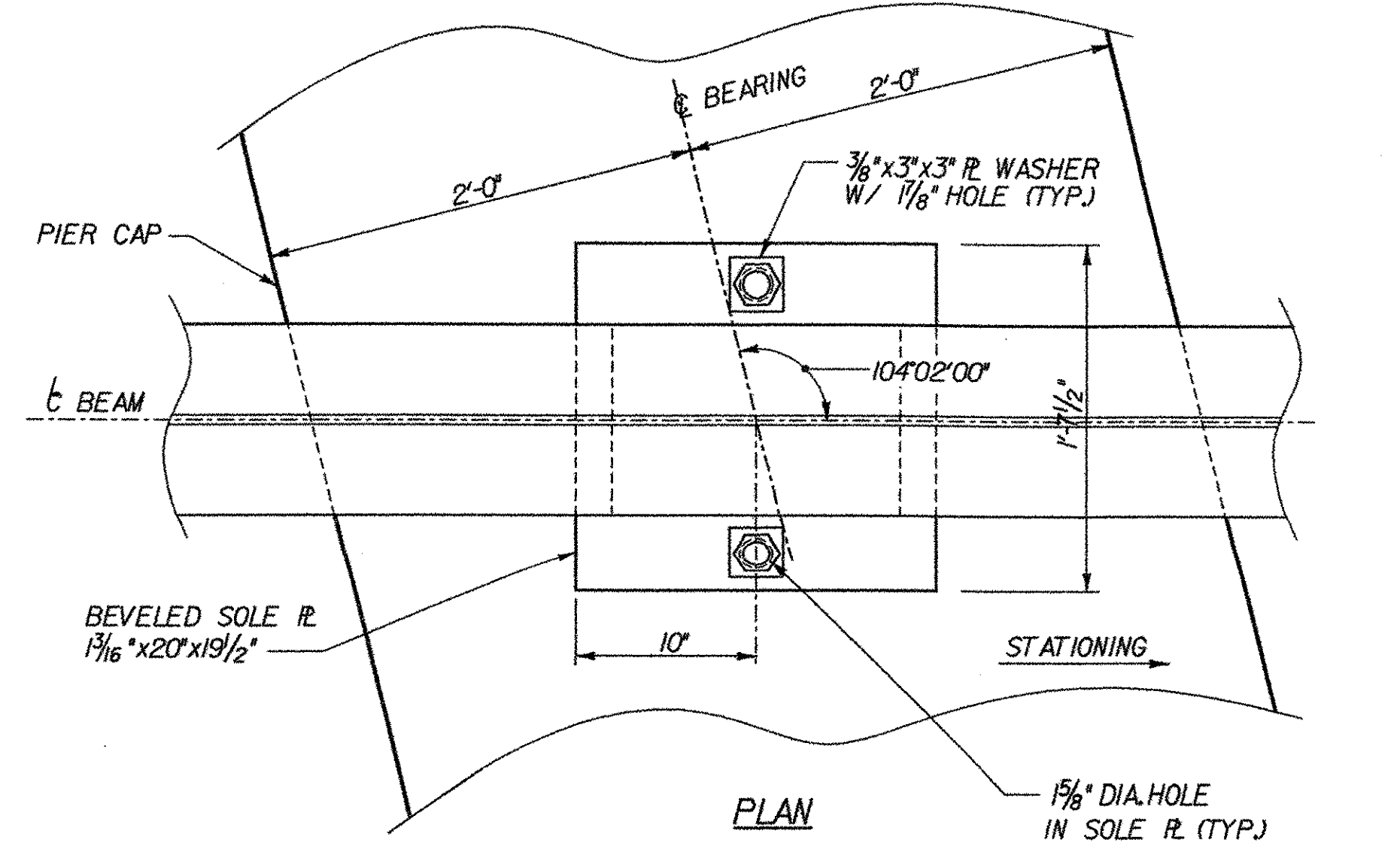
SEE NOTE 5 ON SHT. 23.

SEE SHT. 23 FOR BEARING NOTES.

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	NORWICH	Bridge No.	46
Highway No.	T.H. 3	Log Sta.	
		Surv. Sta.	
TOWN HIGHWAY NO. 3 OVER OMPOMPANOOSUC RIVER			
ABUTMENT BEARING DETAILS			
Designed By	S. BURBANK	Drawn By	A. THIBAUT
Checked By	M. CHENETTE	Date	12/03
		Bridge Design Supervisor	M. CHENETTE
		Date	12/03
PROJECT	NORWICH	PROJECT NO.	TH2-9625
DH CAD Filename:	...Norw-brgsabut.dgn	Plot Date:	03/31/2004
Bridge Sheet No.		Sheet	22 of 40

DH Dufresne-Henry



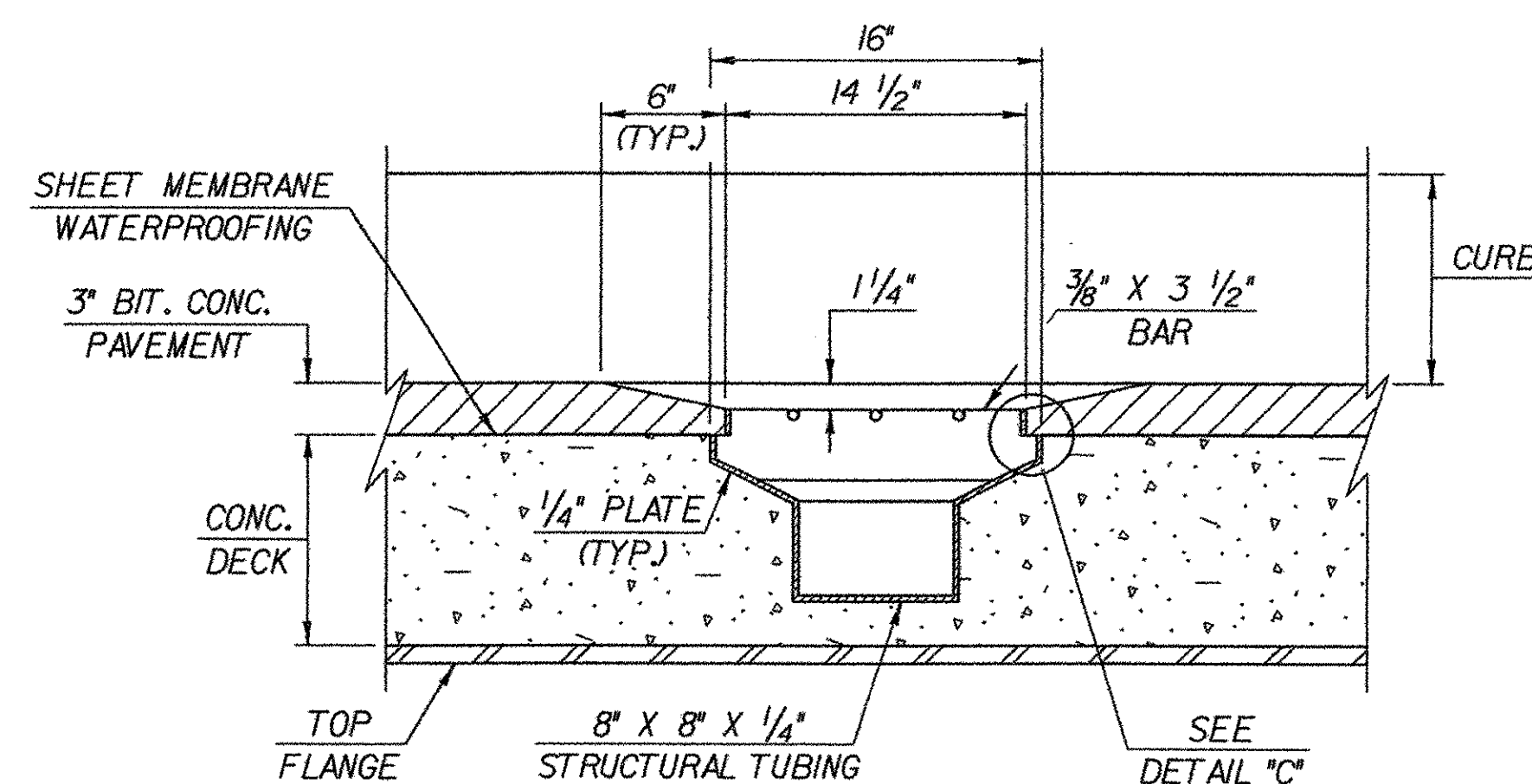
FIXED BEARING DETAILS AT PIER

SCALE 1 1/2" = 1'-0"

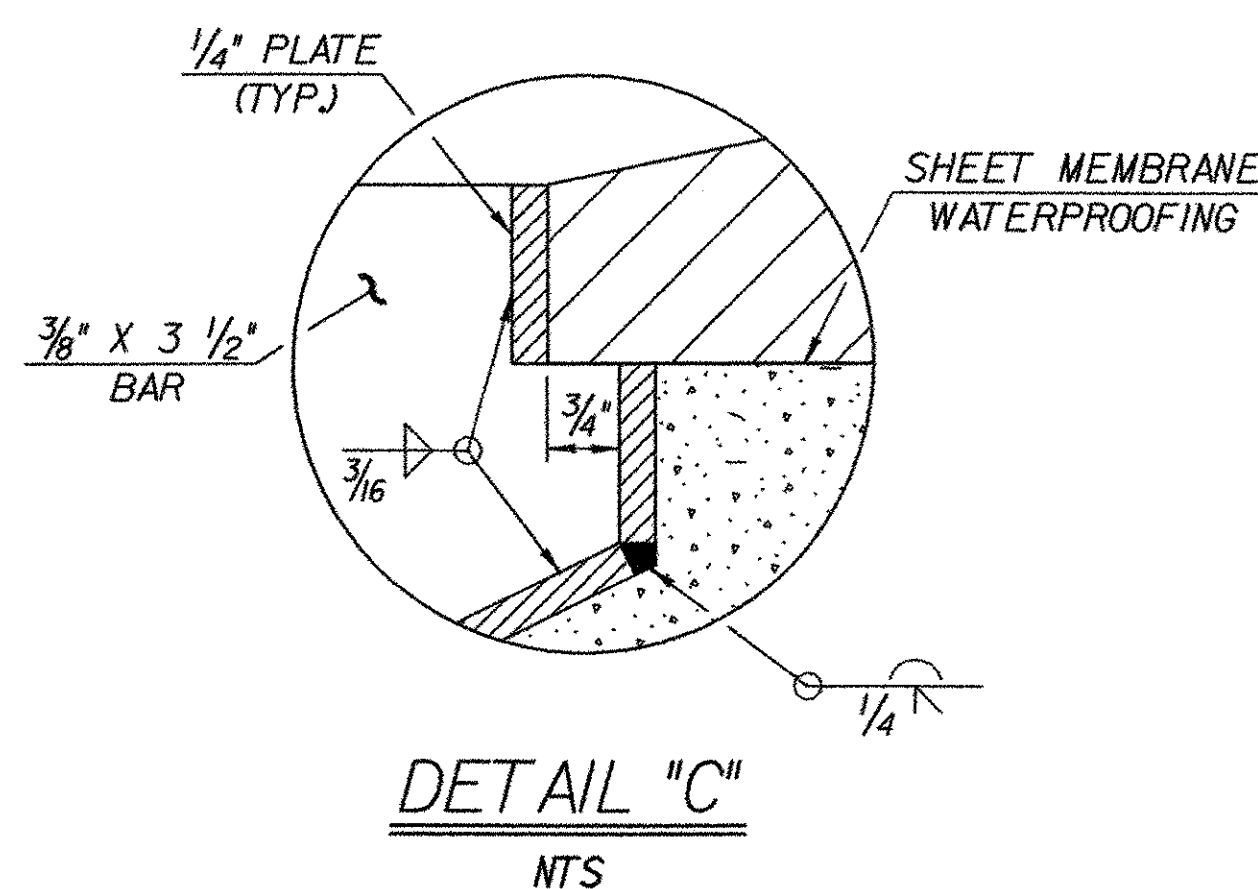
BEARING NOTES:

1. BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731.
2. BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.0 "BEARING DEVICE ASSEMBLY".
3. SHOP DRAWINGS CONFORMING TO SUBSECTION 513.03 SHALL BE SUBMITTED TO INCLUDE WELDING AND BONDING PROCEDURES.
4. THE CONCRETE SURFACE UNDER THE BEARING DEVICE SHALL BE LEVEL.
5. "A" DISTANCE IS THE FINAL SETTING FOR THE BEARING PAD AFTER THE CONCRETE SLAB, CURB, PAVEMENT, AND BRIDGE RAIL ARE PLACED. "B" DISTANCE IS LISTED FOR SETTING THE BEARING AFTER THE STRUCTURAL STEEL IS ERECTED AND BEFORE THE CONCRETE DECK IS PLACED. THE DIFFERENCE IS THE THEORETICAL ELONGATION OF THE BOTTOM FLANGE DUE TO DEAD LOAD DEFLECTION. THE FINAL "A" DISTANCE, AS SHOWN IN THE TABLE, MUST BE ATTAINED WITHIN 1/8".
6. DESIGN CRITERIA:
 - A. BASE PLATE TO CONCRETE DESIGN PRESSURE = 1000 P.S.I. MAXIMUM.
 - B. MAXIMUM ALLOWABLE DESIGN ROTATION = 0.020 RADIAN.
 - C. HORIZONTAL CAPACITY SHALL BE A MINIMUM OF 10% OF THE VERTICAL LOAD.
 - D. DESIGN LOAD PER BEARING AT ABUTMENT NO. 1 = 94 KIPS.
 - DESIGN LOAD PER BEARING AT PIER = 160 KIPS.
 - DESIGN LOAD PER BEARING AT ABUTMENT NO. 2 = 97 KIPS.
7. ALL STEEL IN BEARING DEVICES (EXCEPT STAINLESS STEEL) SHALL BE AASHTO M-270, (ASTM A-709) GRADE 36.
8. ANCHOR BOLTS SHALL HAVE A MINIMUM OF 15" EMBEDMENT INTO THE CONCRETE AND SHALL CONFORM TO SUBSECTION 714.08 IN THE "VERMONT SPECIFICATIONS". ANCHOR BOLTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-183 (ASTM A-36).
9. BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER SUBSECTIONS 531.04(b) AND 506.15(a) AND (b) AS MODIFIED BY THE GENERAL SPECIAL PROVISIONS FOR ALL PROJECTS. AREAS OF DAMAGED GALVANIZING SHALL BE COATED IN ACCORDANCE WITH ASTM A 760/A 760M AND A 780. AREAS OF DAMAGED METALIZING SHALL BE COATED WITH THE SAME SEALANT USED BY THE BEARING SUPPLIER.
10. ALL THE ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. ALL WASHERS SHALL BE 3/8" PLATE (MINIMUM). PAYMENT FOR ANCHOR BOLTS, NUTS AND WASHERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "BEARING DEVICE ASSEMBLY".
11. EXISTING STEEL ANCHOR BOLTS OR REINFORCING TO BE TERMINATED SHALL BE REMOVED 1" BELOW THE SURFACE OF ANY EXPOSED FACE.

STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of NORWICH		Bridge No. 46	
Highway No. T.H. 3		Log Sta.	
		Surv. Sta.	
TOWN HIGHWAY NO. 3 OVER OMPOMPANOSUC RIVER			
PIER BEARING DETAILS			
Designed By S. BURBANK		Drawn By A. THIBAUT	
Checked By M. CHENETTE		Bridge Design Supervisor M. CHENETTE	
Date 12/03		Date 12/03	
PROJECT NORWICH		PROJECT NO. TH2-9625	
DH CAD Filename: ... \Norw-brgsplier.dgn		Plot Date: 03/31/2004	
Bridge Sheet No.		Sheet 23 of 40	



SECTION B - B
SCALE: 1 1/2" = 1'-0"

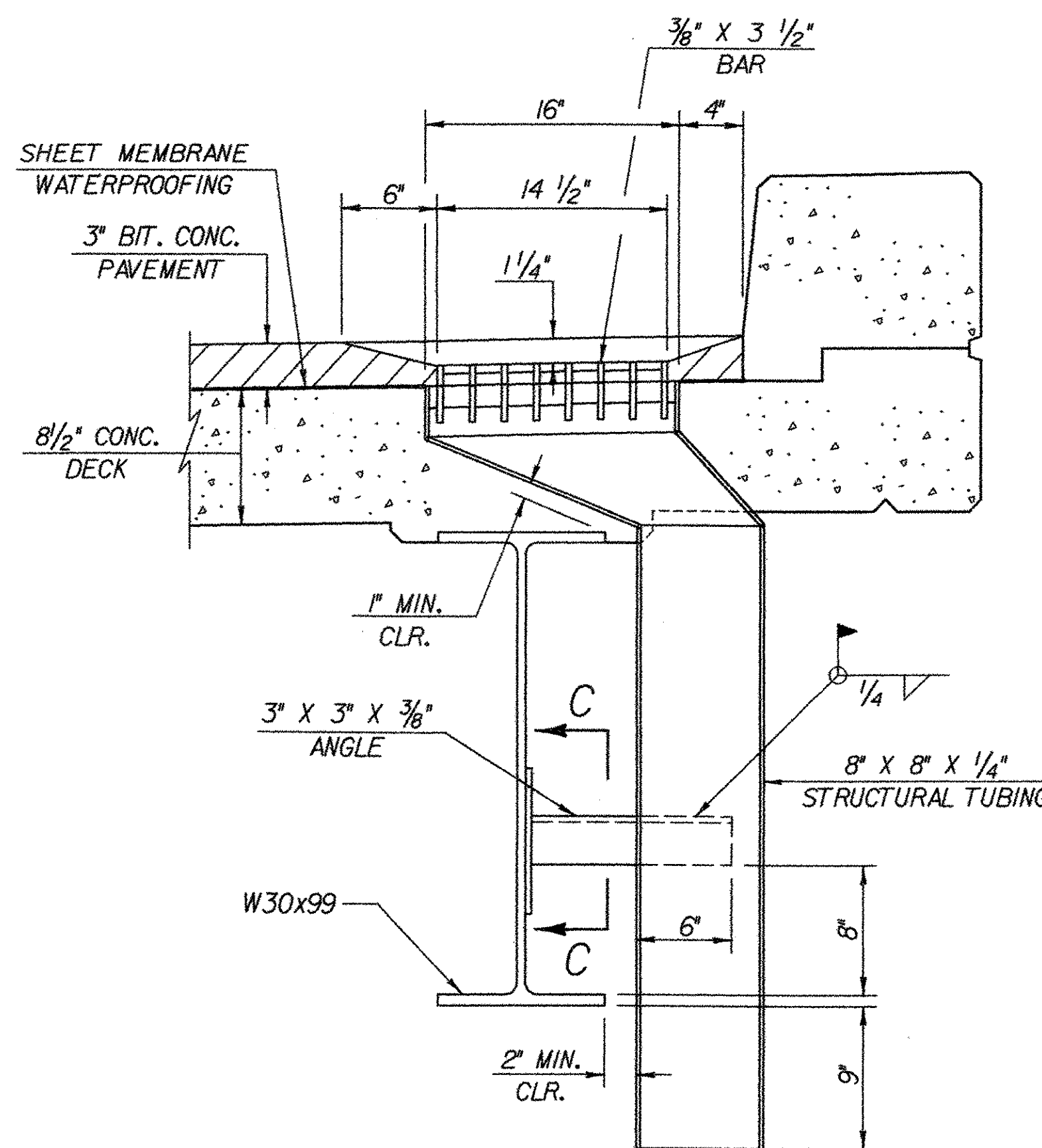


DETAIL "C"
NTS

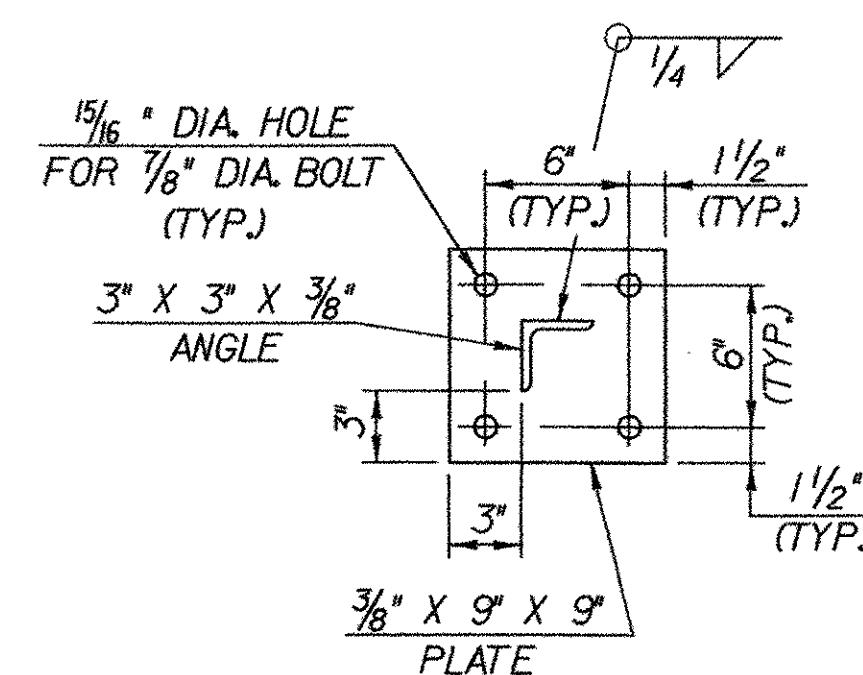
NOTES

THE FOLLOWING NOTES APPLY TO ALL SCUPPERS UNLESS OTHERWISE DETAILED ON PROJECT PLANS.

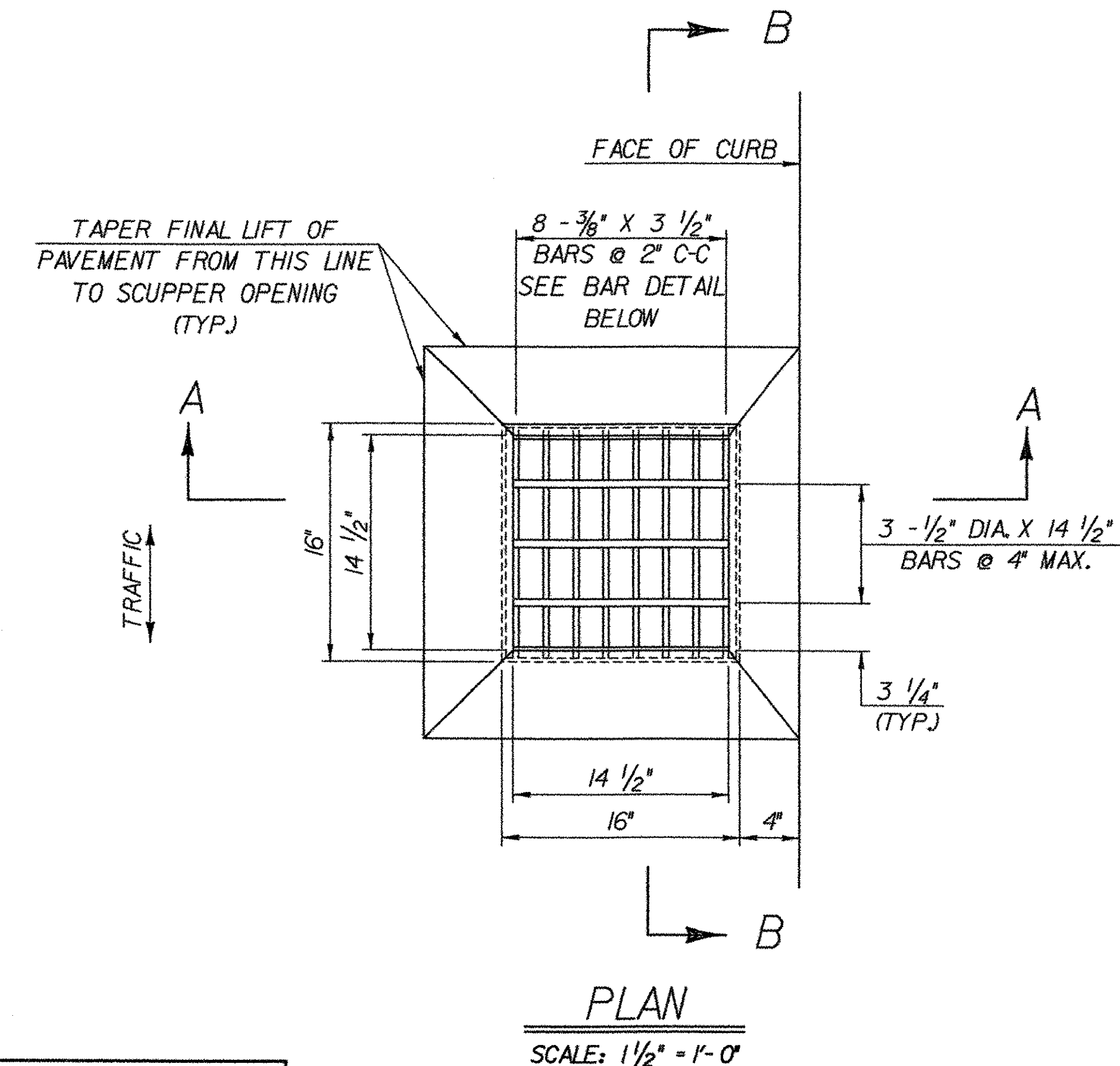
1. HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A-500 GR. B OR A-501.
2. ALL PLATES, BARS, AND ANGLES SHALL CONFORM TO AASHTO M 270 GR. 36.
3. ALL SCUPPERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AFTER FRABRICATION.
4. THE TOP SURFACE OF SCUPPER SHALL BE SLOPED TO MATCH ROADWAY SLOPE AND GRADE.
5. THE BAR AND GRATE SECTION MAY BE PREFABRICATED PROVIDING THE GEOMETRY AND SECTION PROPERTIES ARE EQUIVALENT TO THE DETAILS SHOWN.
6. SCUPPERS SHALL BE PAID FOR UNDER ITEM 506.50 "STRUCTURAL STEEL (ROLLED BEAM)".



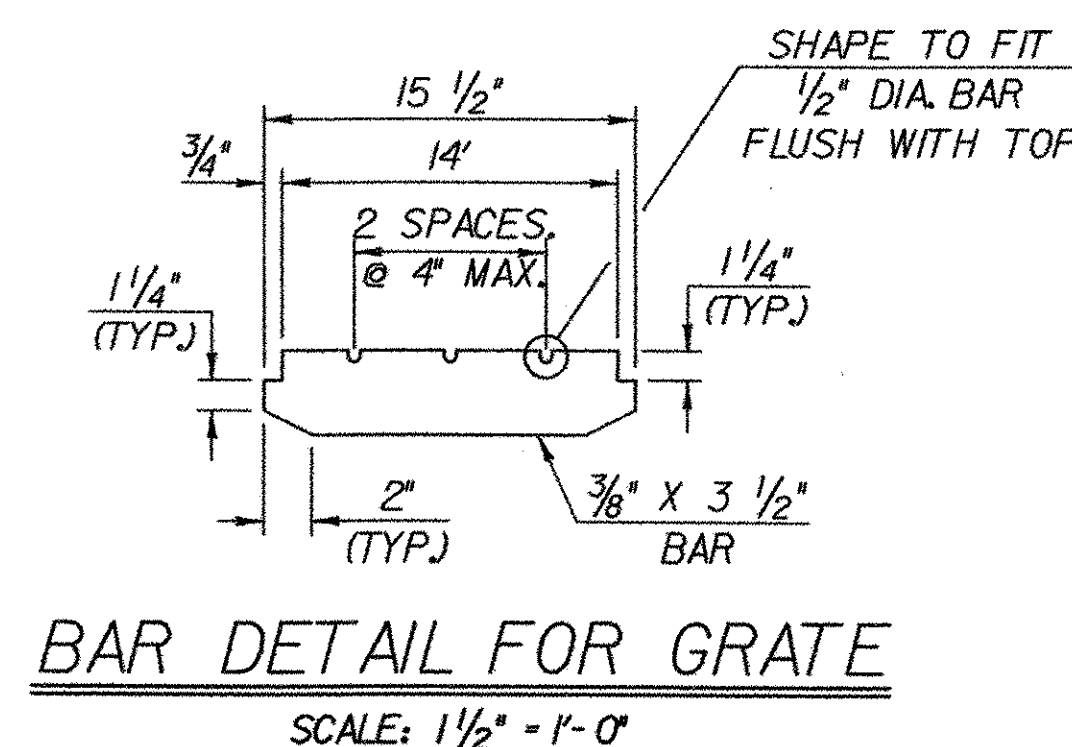
SECTION A - A
SCALE: 1 1/2" = 1'-0"



SECTION C - C
SCALE: 1 1/2" = 1'-0"



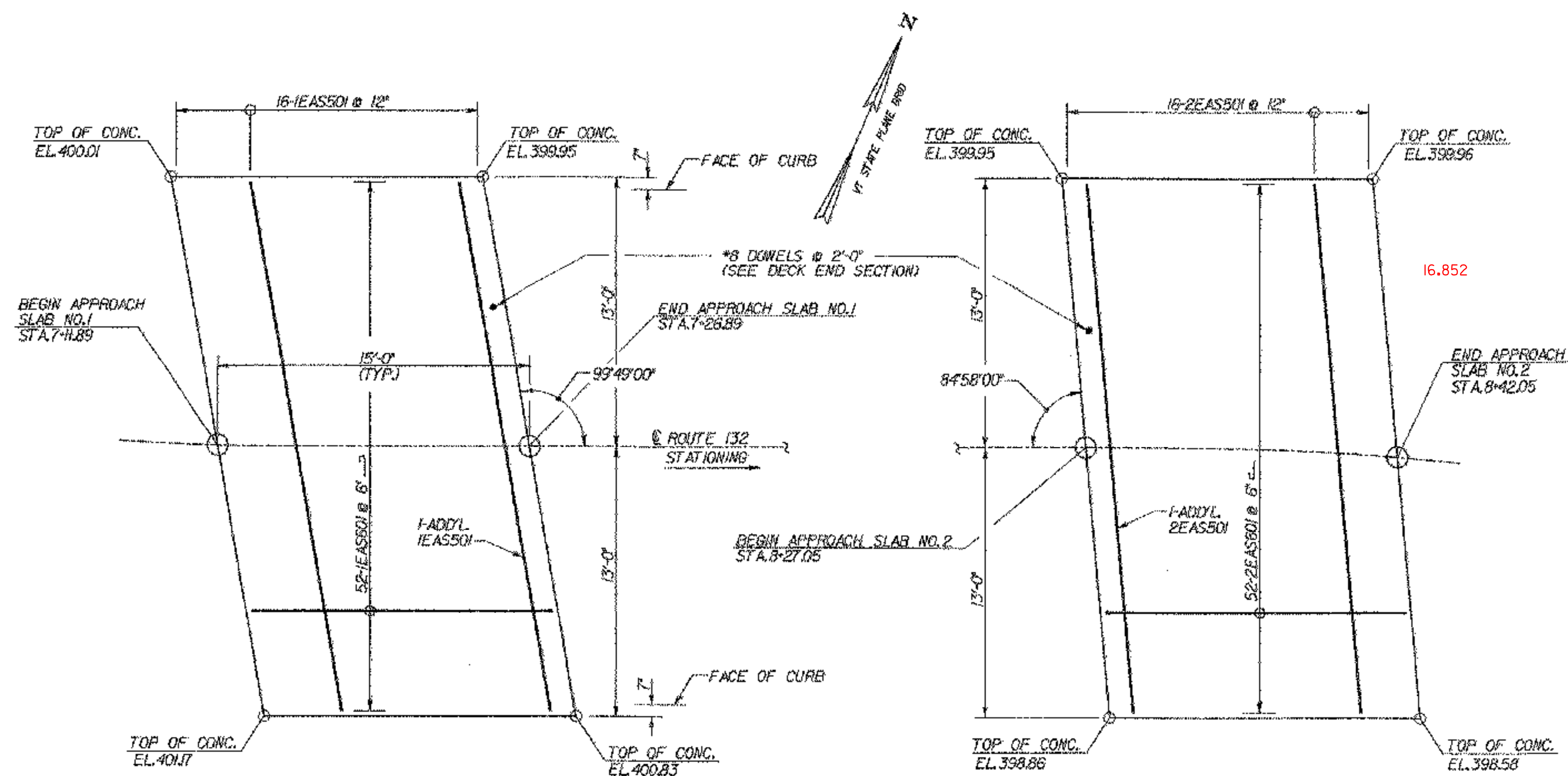
SCUPPER LOCATION
STA. 7+46 LT.
STA. 7+67 LT.
(SEE PLAN & ELEVATION
SHEET 15J)



BAR DETAIL FOR GRATE
SCALE: 1 1/2" = 1'-0"

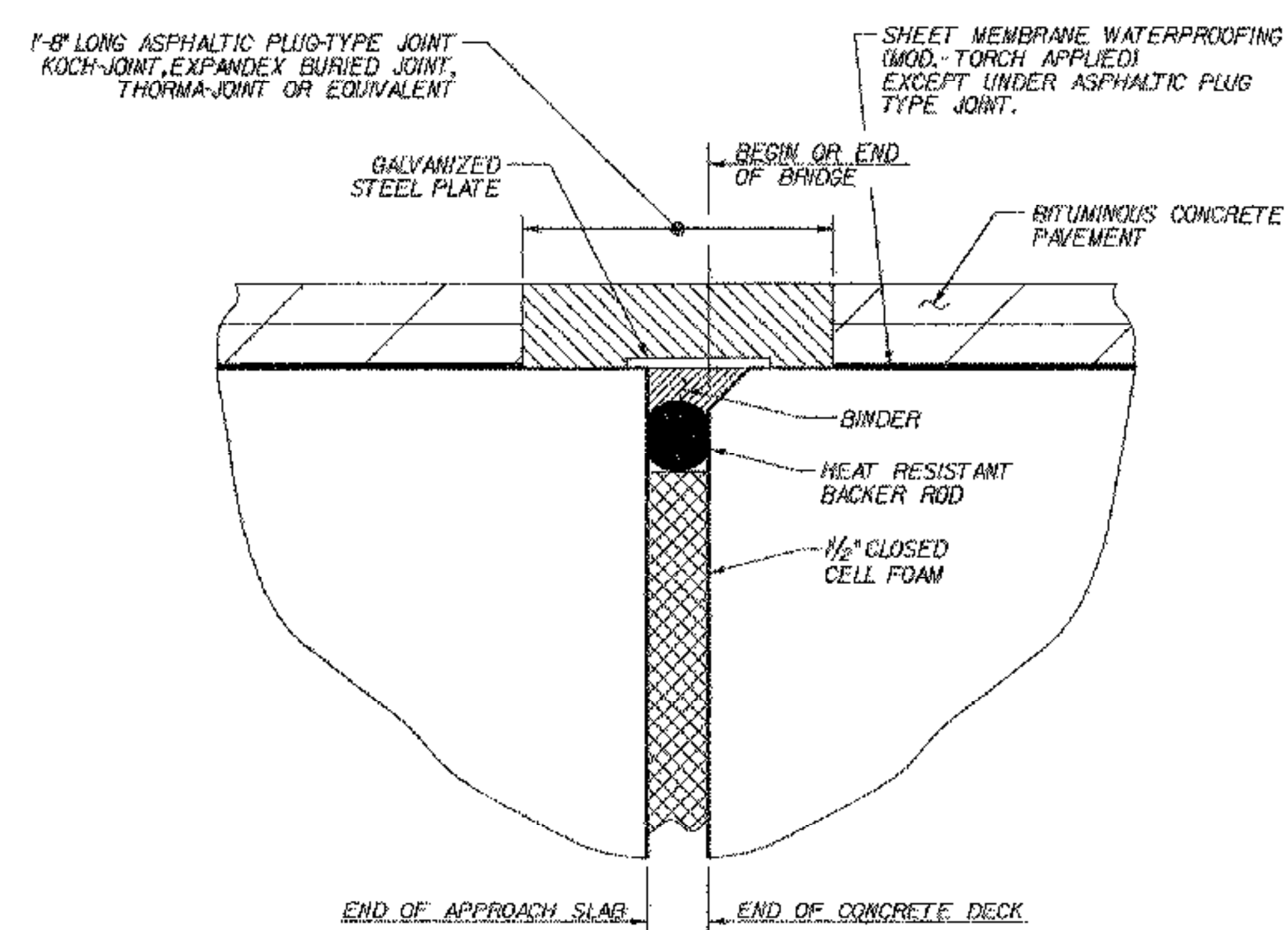
STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	NORWICH	Bridge No.	46
Highway No.	T.H. 3	Log Sta.	
		Surv. Sta.	
TOWN HIGHWAY NO. 3 OVER OMPOMPANOOSUC RIVER			
SCUPPER DETAILS			
Designed By	S. BURBANK	Drawn By	A. THIBAUT
Checked By	M. CHENETTE	Date	12/03
		Bridge Design Supervisor	M. CHENETTE Date 12/03
PROJECT	NORWICH	PROJECT NO.	TH2-9625
DH CAD Filename:	...Norw-scupper.dgn	Plot Date:	03/31/2004
Bridge Sheet No.		Sheet	24 of 40

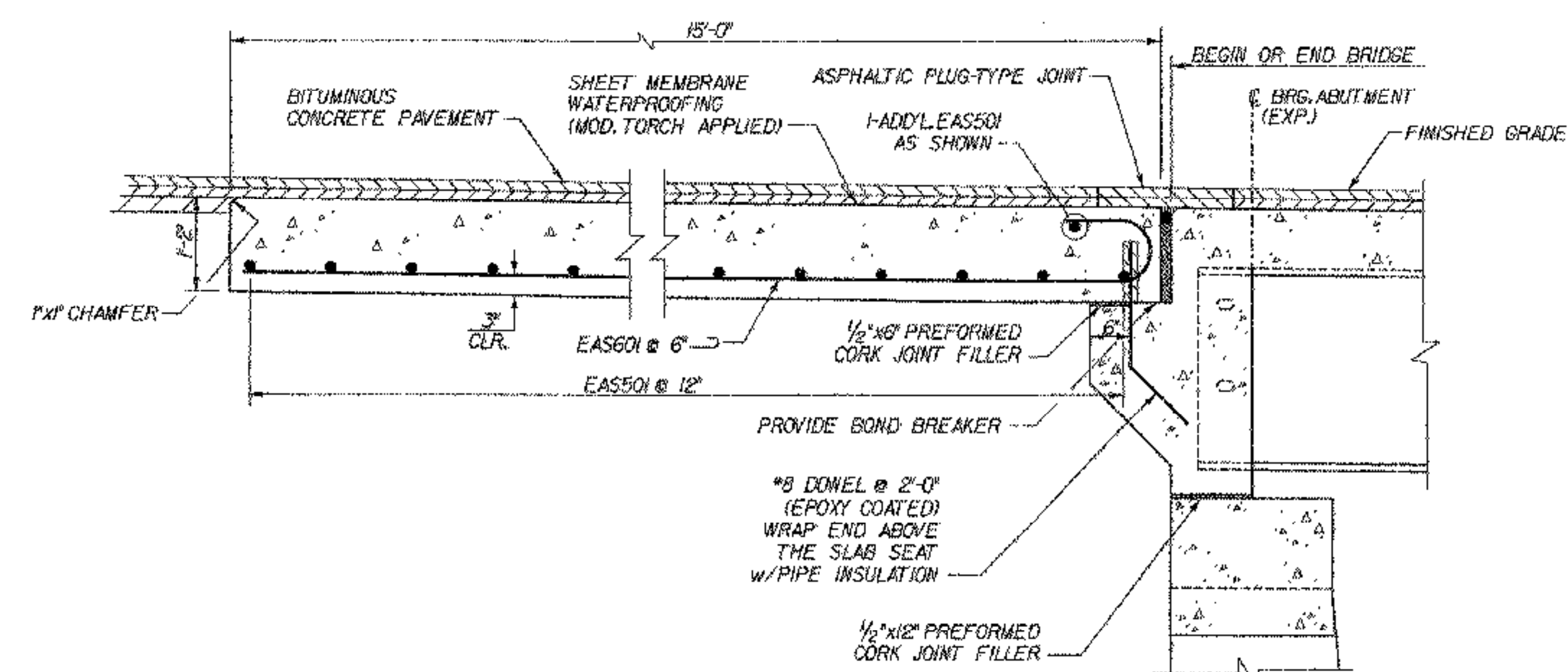


APPROACH SLAB PLAN

SCALE 1/4" = 1'-0"
1 2 4 8



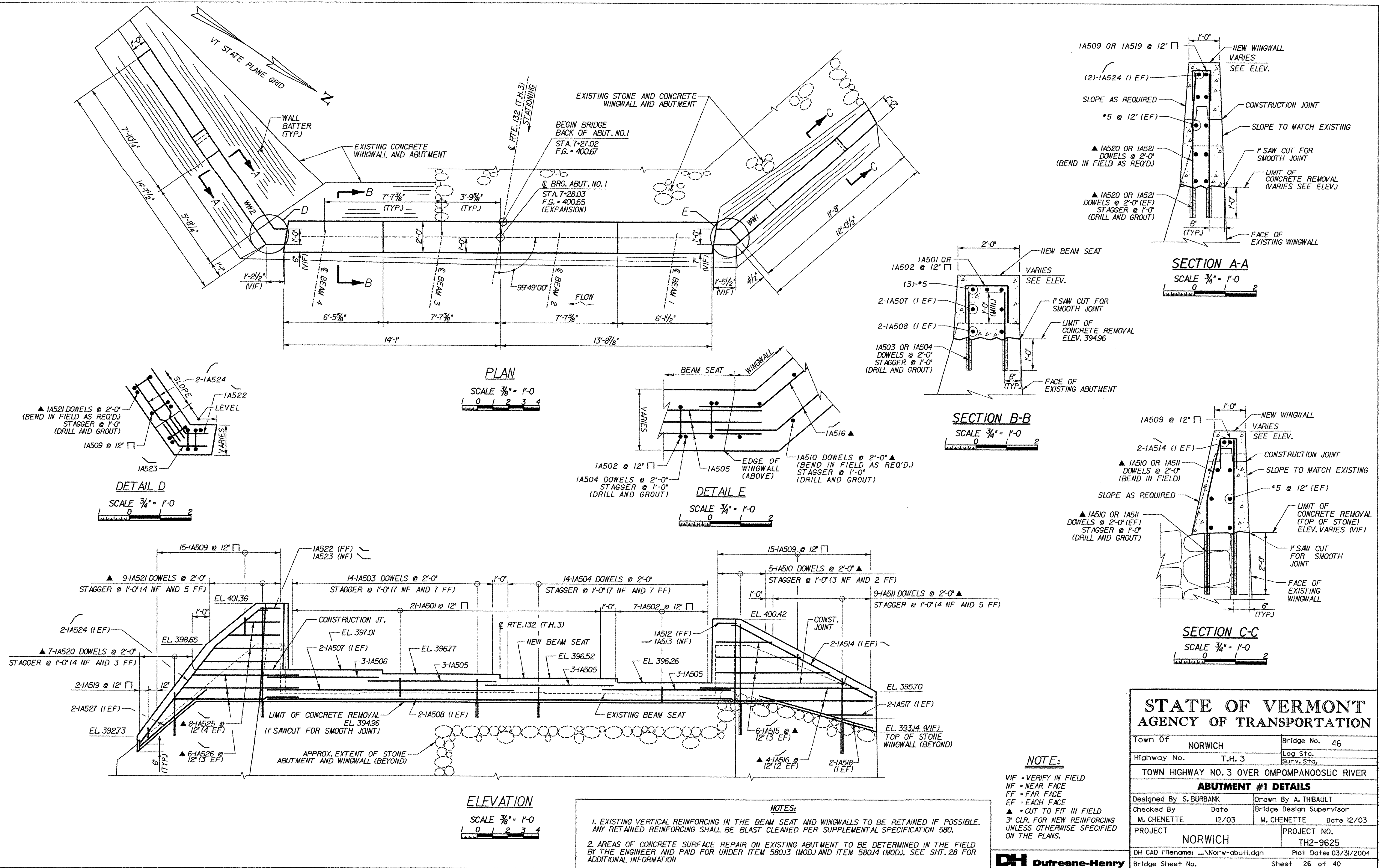
DETAIL FOR JOINT IN PAVEMENT AND SHEET MEMBRANE AT EXPANSION ENDS OF BRIDGE

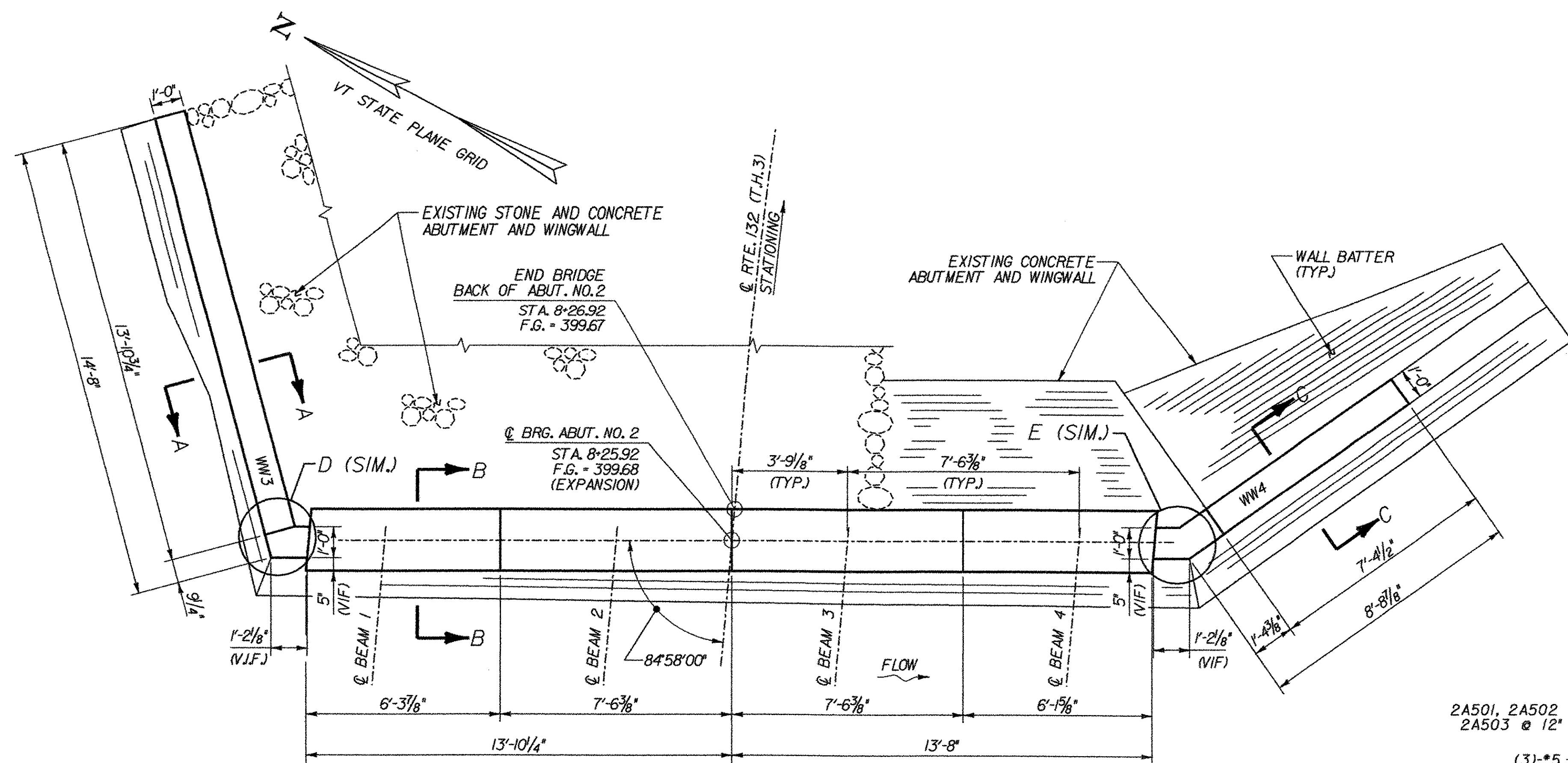


APPROACH SLAB SECTION

SCALE 3/4" = 1'-0"
0 2 4 8

STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	NORWICH	Bridge No.	46
Highway No.	T.H. 3	Log Sta.	
TOWN HIGHWAY NO. 3 OVER OMPOMPANOOSUC RIVER			
APPROACH SLAB DETAILS			
Designed By	S. BURBANK	Drawn By	A. THIRIAULT
Checked By	M. CHENETTE	Bridge Design Supervisor	M. CHENETTE
PROJECT	NORWICH	PROJECT NO.	TH2-9625
DH CAD Filename: ...Norw-appslab.dgn		Plot Date: 03/31/2004	
Bridge Sheet No.		Sheet 25 of 40	

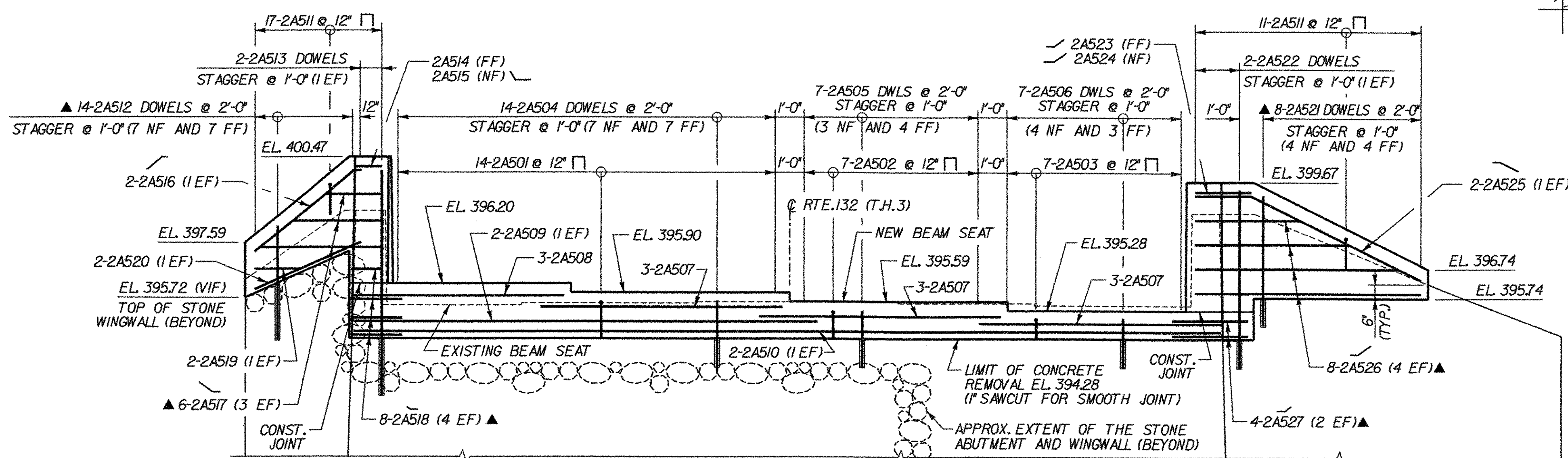




NOTE: SEE SHT. 26 FOR DETAILS D AND E.

PLAN

SCALE $\frac{3}{8}" = 1'-0"$
0 1 2 3 4



ELEVATION

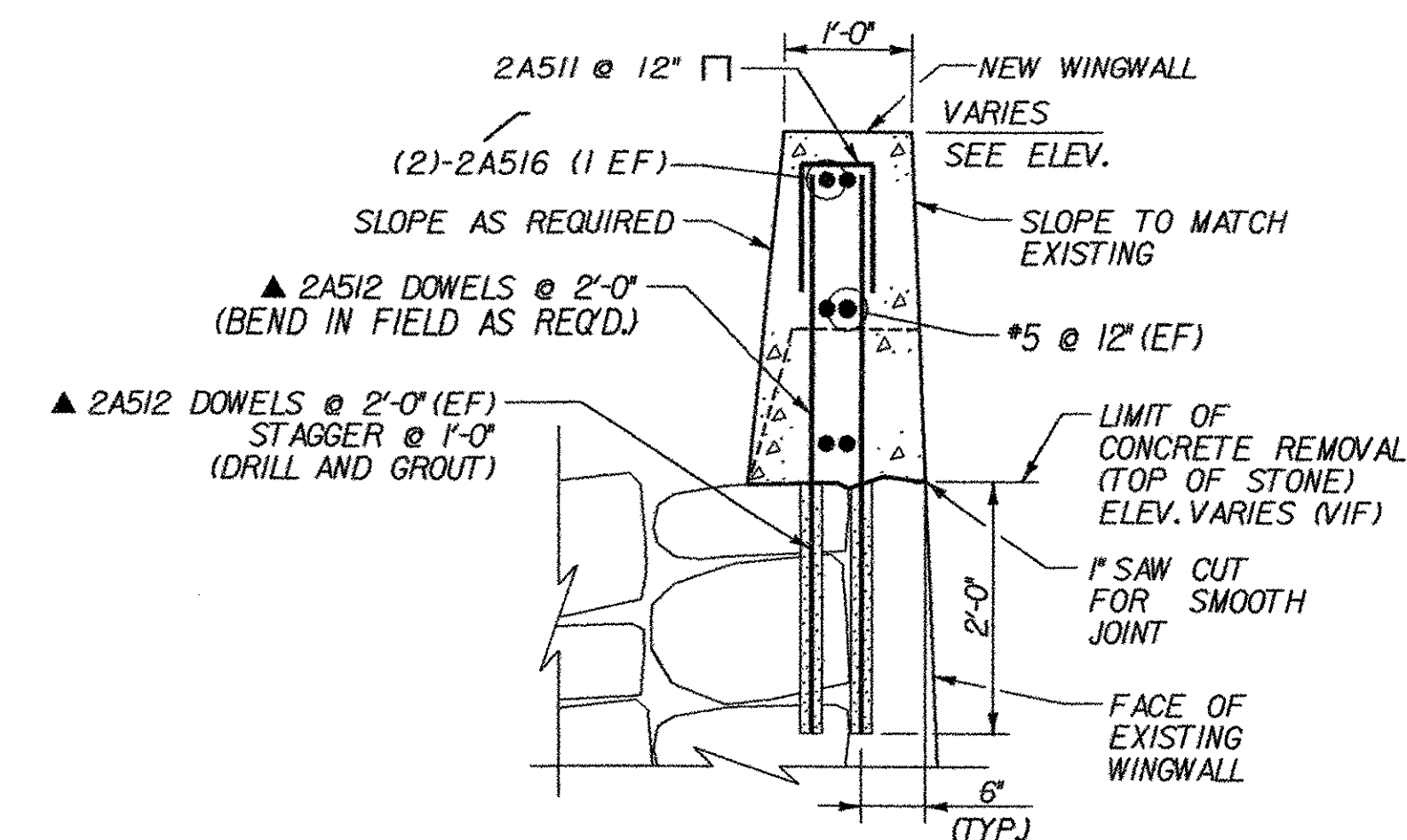
SCALE $\frac{3}{8}" = 1'-0"$
0 1 2 3 4

NOTES:

1. EXISTING VERTICAL REINFORCING IN THE BEAM SEAT AND WINGWALLS TO BE RETAINED IF POSSIBLE. ANY RETAINED REINFORCING SHALL BE BLAST CLEANED PER SUPPLEMENTAL SPECIFICATION 580.
2. AREAS OF CONCRETE SURFACE REPAIR ON EXISTING ABUTMENT TO BE DETERMINED IN THE FIELD BY THE ENGINEER AND PAID FOR UNDER ITEM 580J3 (MOD.) AND ITEM 580J4 (MOD.). SEE SHT. 28 FOR ADDITIONAL INFORMATION.

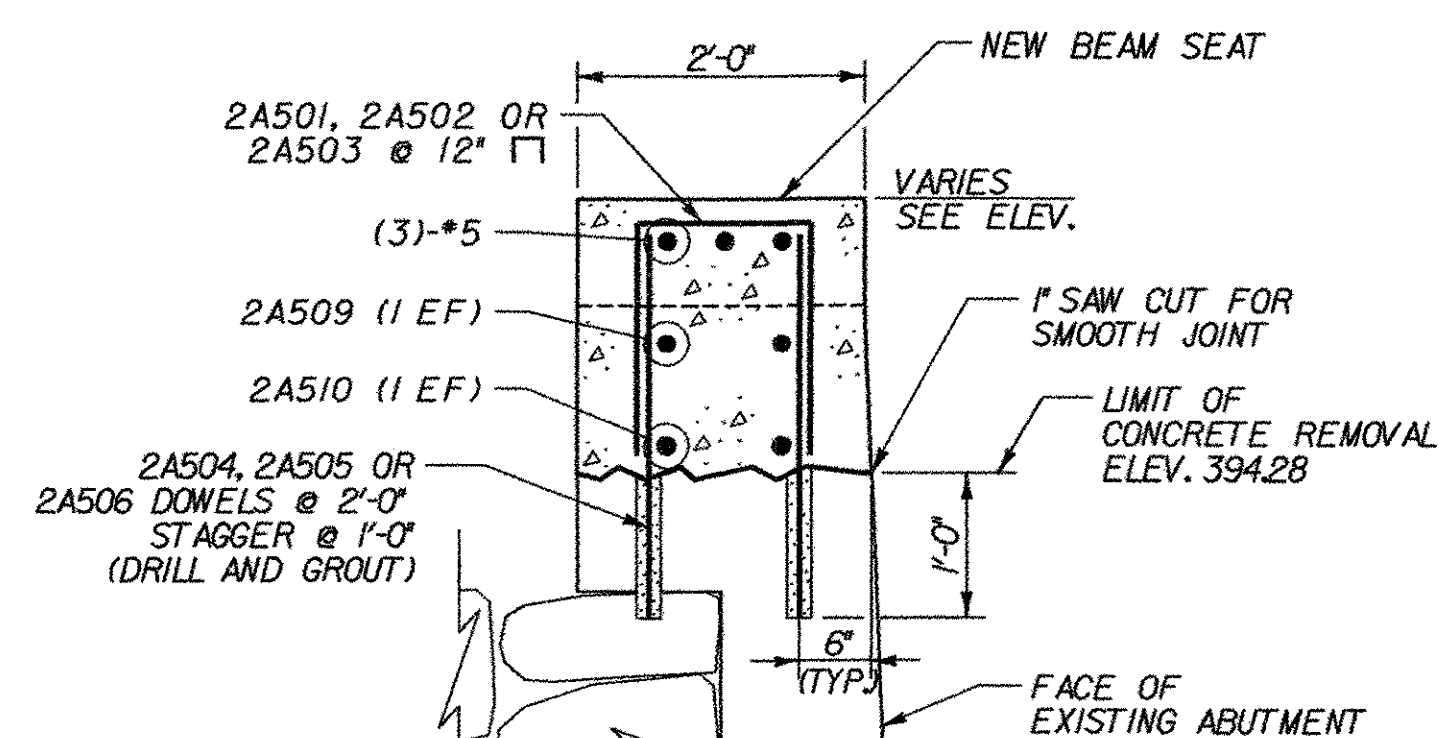
NOTE:

VIF - VERIFY IN FIELD
NF - NEAR FACE
FF - FAR FACE
EF - EACH FACE
▲ - CUT TO FIT IN FIELD
3" CLR. FOR NEW REINFORCING UNLESS OTHERWISE SPECIFIED ON THE PLANS.



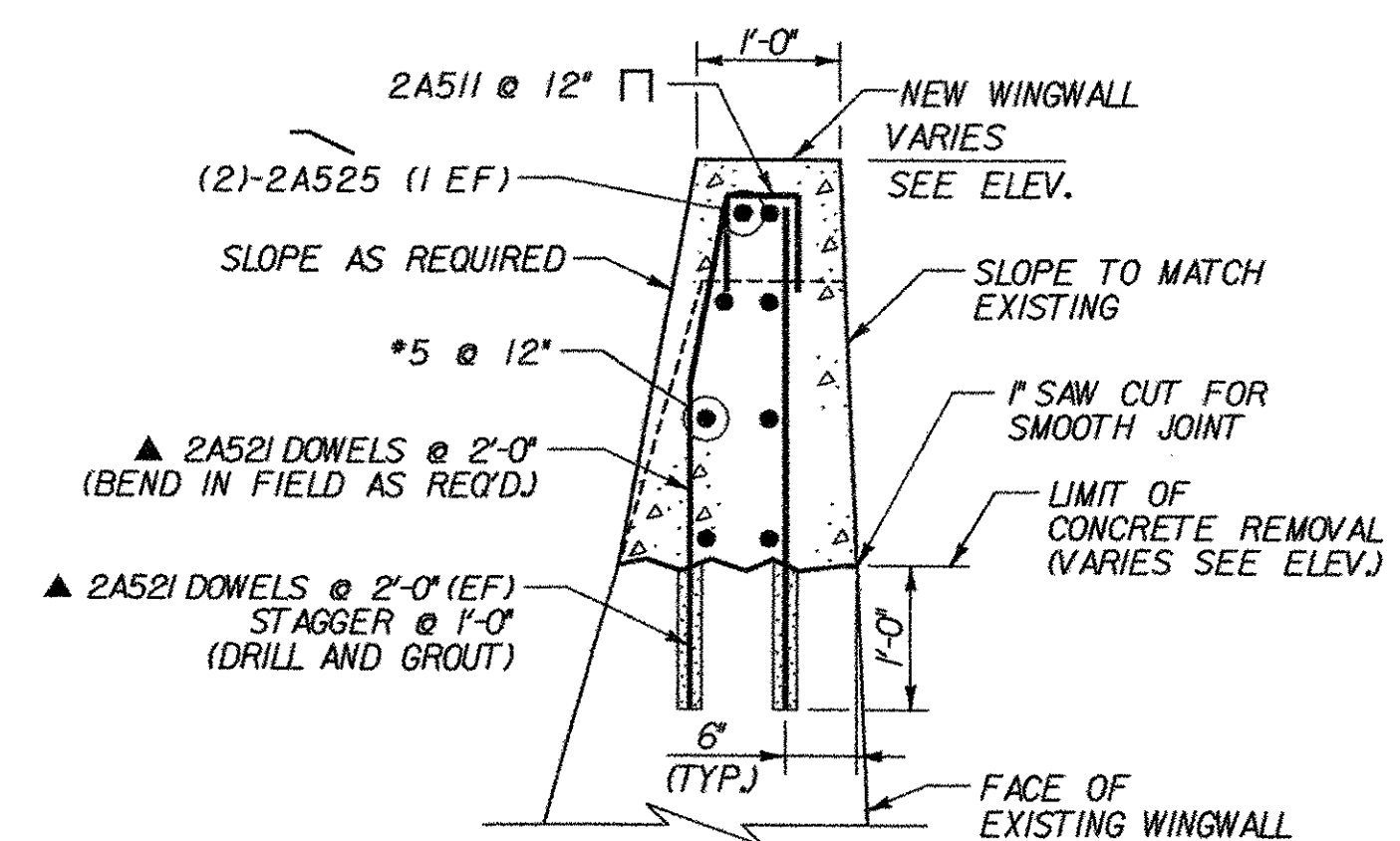
SECTION A-A

SCALE $\frac{3}{4}" = 1'-0"$
0 1 2



SECTION B-B

SCALE $\frac{3}{4}" = 1'-0"$
0 1 2



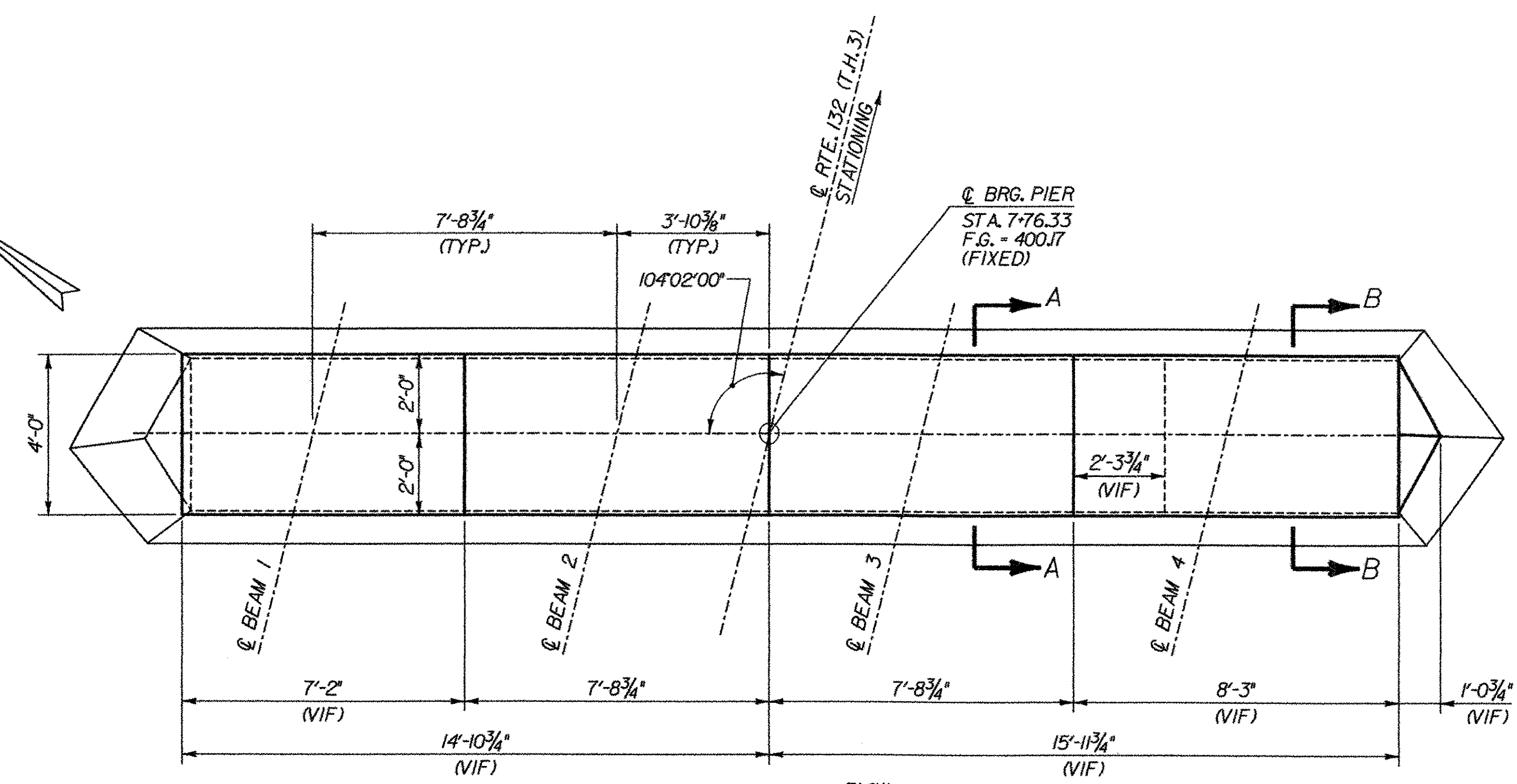
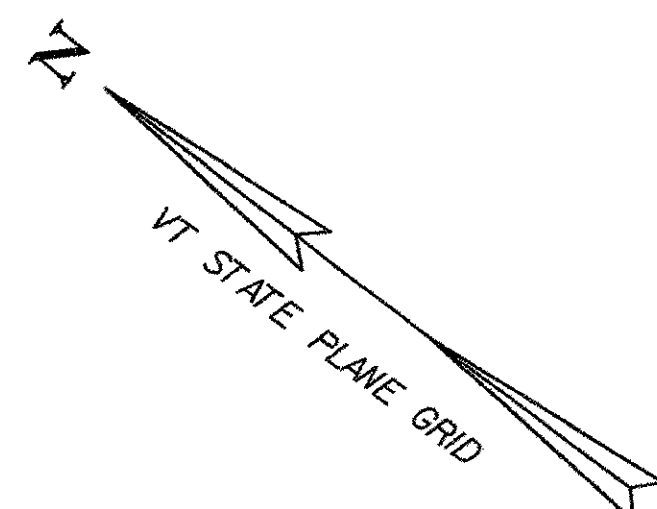
SECTION C-C

SCALE $\frac{3}{4}" = 1'-0"$
0 1 2

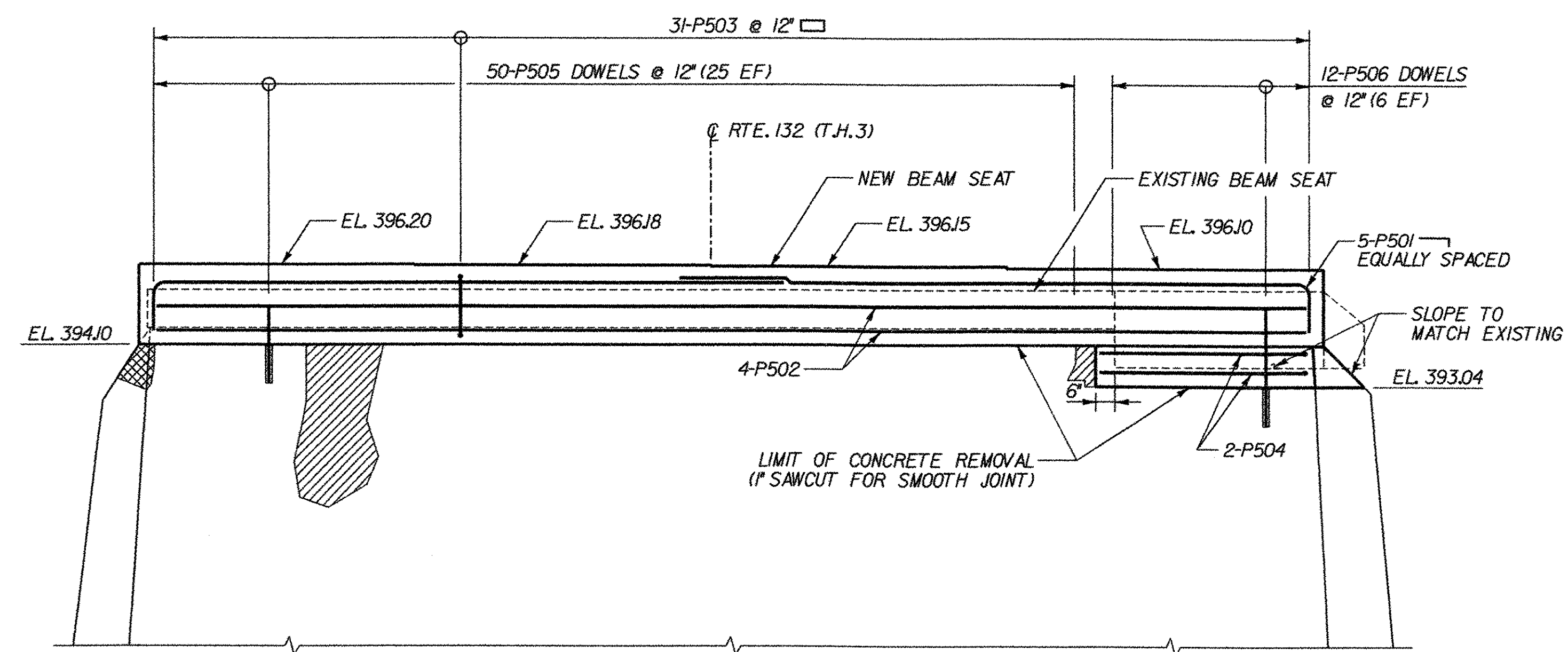
STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	NORWICH	Bridge No.	46
Highway No.	T.H. 3	Log Sta.	
		Surv. Sta.	
TOWN HIGHWAY NO. 3 OVER OMPOMPANOSUC RIVER			
ABUTMENT #2 DETAILS			
Designed By	S. BURBANK	Drawn By	A. THIBAUT
Checked By	Date	Bridge Design Supervisor	
M. CHENETTE	12/03	M. CHENETTE	Date 12/03
PROJECT	NORWICH	PROJECT NO.	TH2-9625
DH CAD Filename:	...Norw-abut2.dgn	Plot Date:	03/31/2004 01:28:34 PM
Bridge Sheet No.		Sheet	27 of 40

DH Dufresne-Henry



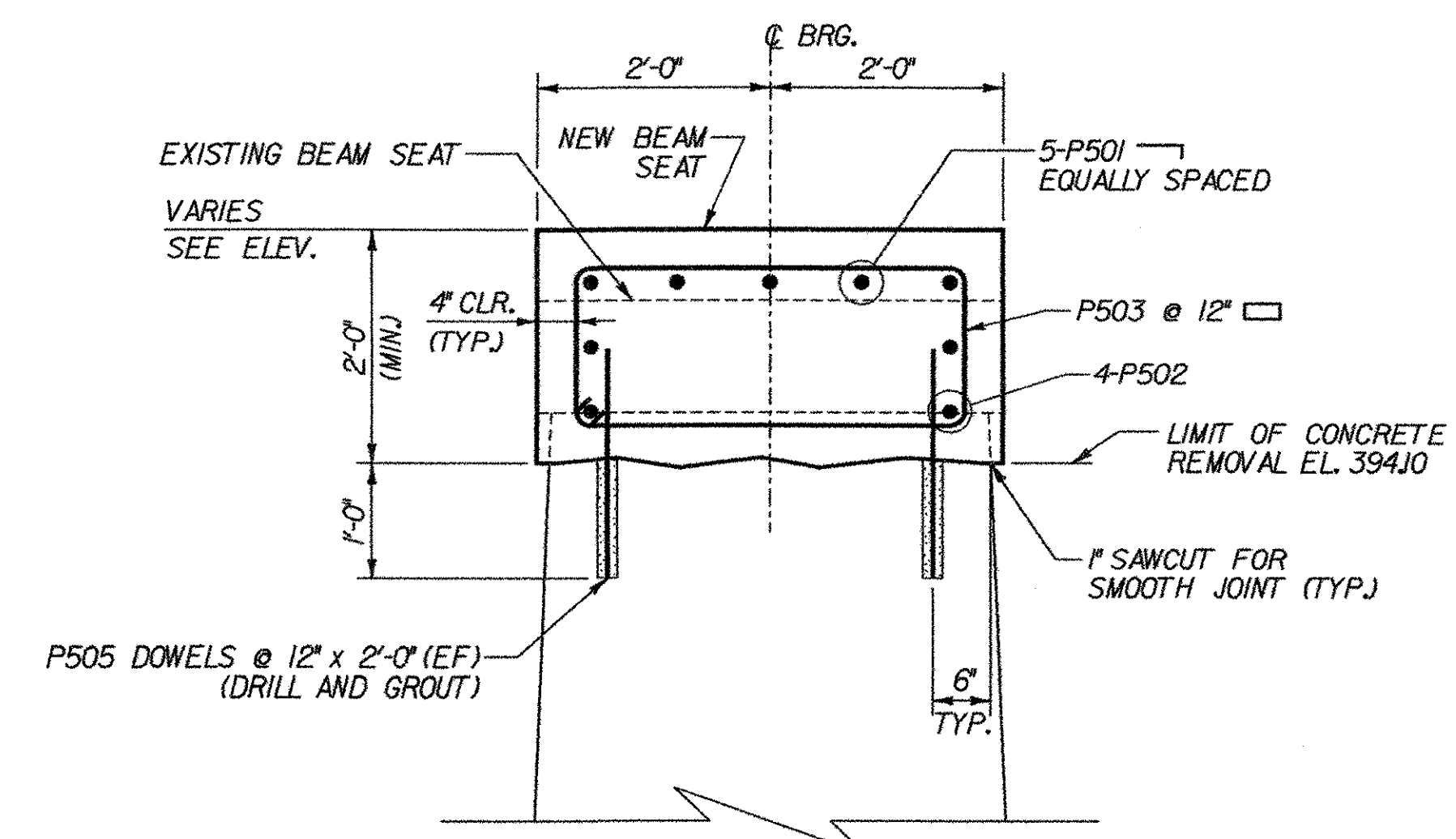
PLAN
SCALE 3/8" = 1'-0"
0 1 2 3 4



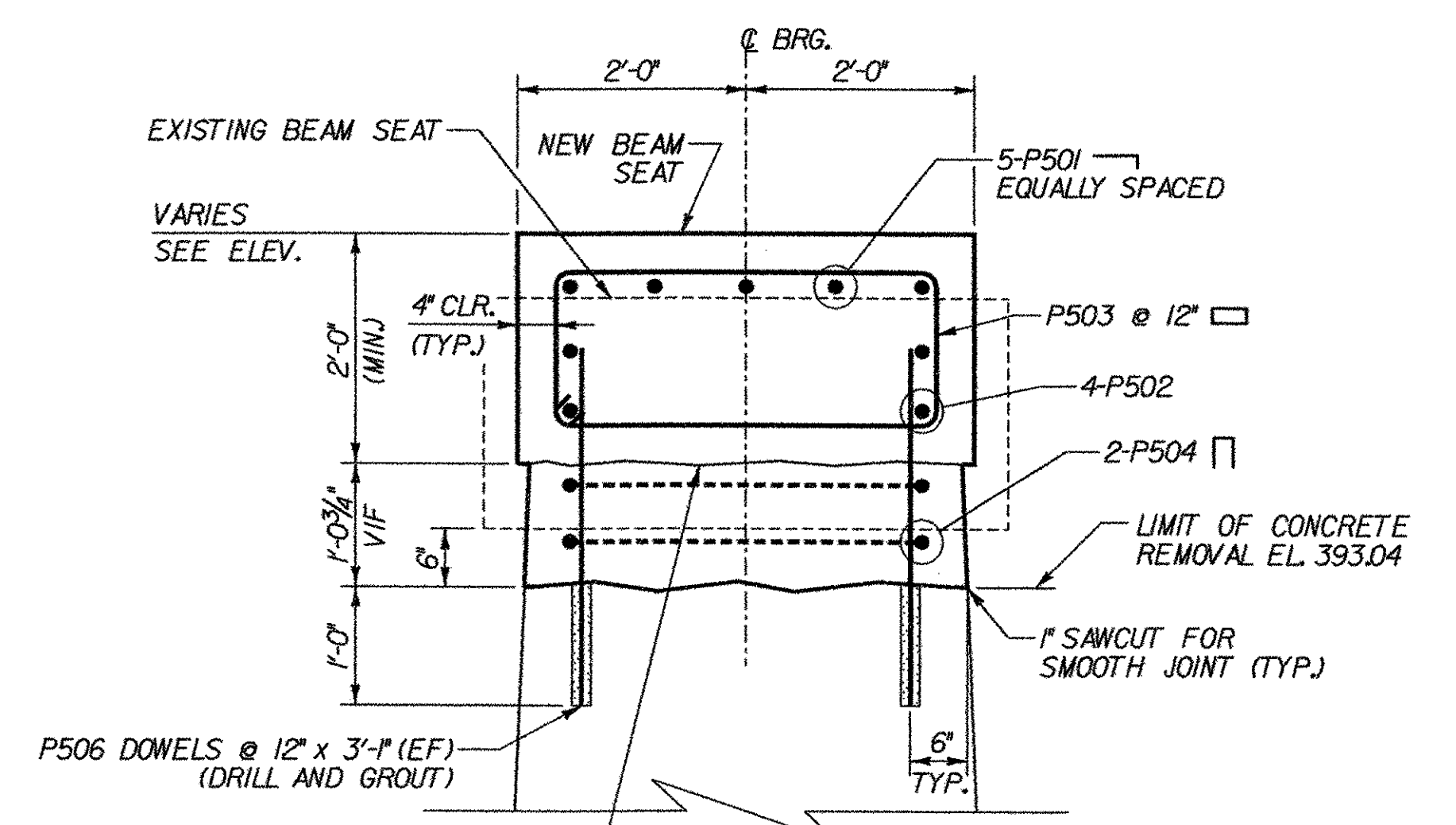
ELEVATION
SCALE 3/8" = 1'-0"
0 1 2 3 4

LEGEND FOR CONCRETE REPAIR

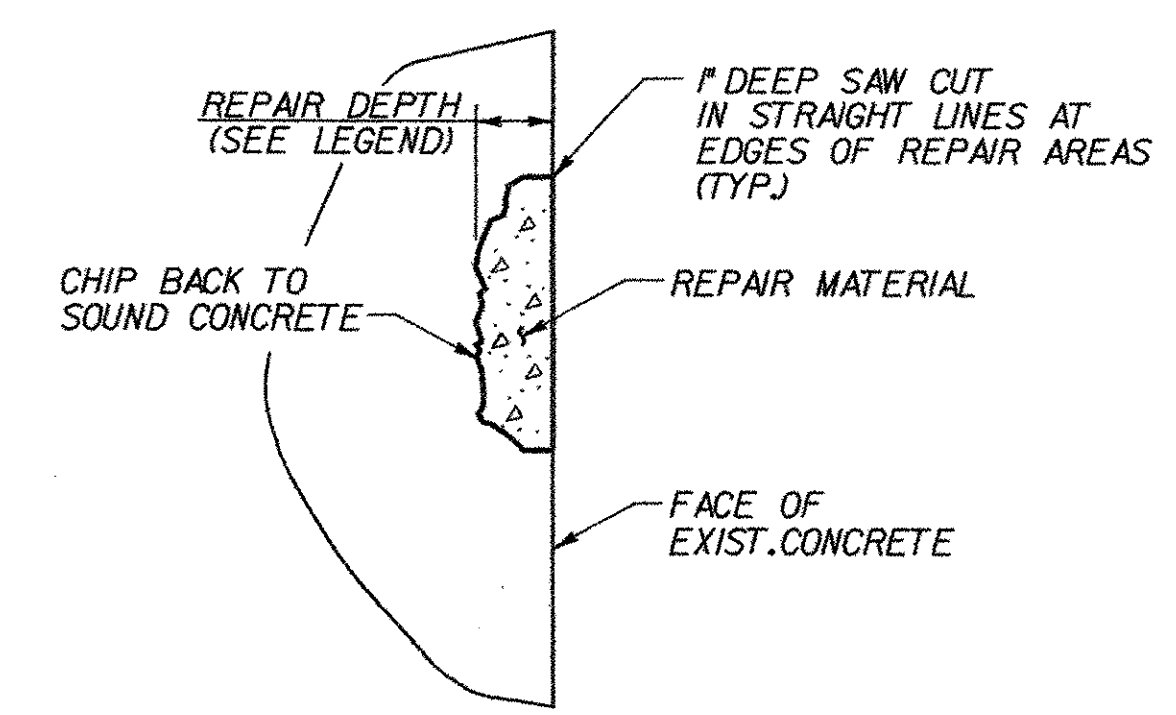
- APPROXIMATE LIMITS OF ITEM 580J3, REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I (MOD) (MAX. REPAIR DEPTH OF 3")
- APPROXIMATE LIMITS OF ITEM 580J4, REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II (MOD) (REPAIR DEPTH GREATER THAN 3", MAX. OF 6")



SECTION A-A
SCALE 3/4" = 1'-0"
0 1 2



SECTION B-B
SCALE 3/4" = 1'-0"
0 1 2



REFER TO SUPPLEMENTAL SPECIFICATION SECTION 580
"STRUCTURAL CONCRETE REPAIR FOR SURFACE
PREPARATION AND REPAIR MATERIAL REQUIREMENTS."

DETAIL CONCRETE REPAIR
NTS

NOTES:

- EXISTING VERTICAL REINFORCING IN THE PIER TO BE RETAINED IF POSSIBLE. ANY RETAINED REINFORCING SHALL BE BLAST CLEANED PER SUPPLEMENTAL SPECIFICATION 580.
- AREAS OF CONCRETE SURFACE REPAIR ON EXISTING ABUTMENT TO BE DETERMINED IN THE FIELD BY THE ENGINEER AND PAID FOR UNDER ITEM 580J3 (MOD) AND ITEM 580J4 (MOD). SEE SHT. 28 FOR ADDITIONAL INFORMATION.

NOTE:

- VIF - VERIFY IN FIELD
- NF - NEAR FACE
- FF - FAR FACE
- EF - EACH FACE
- ▲ - CUT TO FIT IN FIELD
- 3" CLR. FOR NEW REINFORCING UNLESS OTHERWISE SPECIFIED ON THE PLANS.



STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of NORWICH		Bridge No. 46	
Highway No. T.H. 3		Log Sta. Surv. Sta.	
TOWN HIGHWAY NO. 3 OVER OMPOMPANOOSUC RIVER			
PIER DETAILS			
Designed By S. BURBANK		Drawn By A. THIBAUT	
Checked By M. CHENETTE		Bridge Design Supervisor M. CHENETTE	
Date 12/03		Date 12/03	
PROJECT NORWICH		PROJECT NO. TH2-9625	
DH CAD Filename: ...Norw-pier.dgn		Plot Date: 03/31/2004	
Bridge Sheet No.		Sheet 28 of 40	

TRAFFIC SIGN SUMMARY SHEET

SIGN	DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	J	K	L	M
MIN	24	3/8	5/8	1 1/4	2 1/2	3 1/2	4 1/2	2 1/2	3	8 1/2	1 3/4	1 1/2
STD	30	1/2	3/4	1 1/2	3 1/2	4 3/4	1	3	3 3/4	10 1/2	1 3/4	1 3/8
EXPWY	36	5/8	1	1 7/8	4 1/2	5 1/4	1 1/4	3 1/2	4 1/2	12 1/2	1 3/4	2 1/4
SPECIAL	48	3/4	1 1/4	2 3/8	5 1/2	7	1 1/2	4	6	16 1/2	2 1/2	3

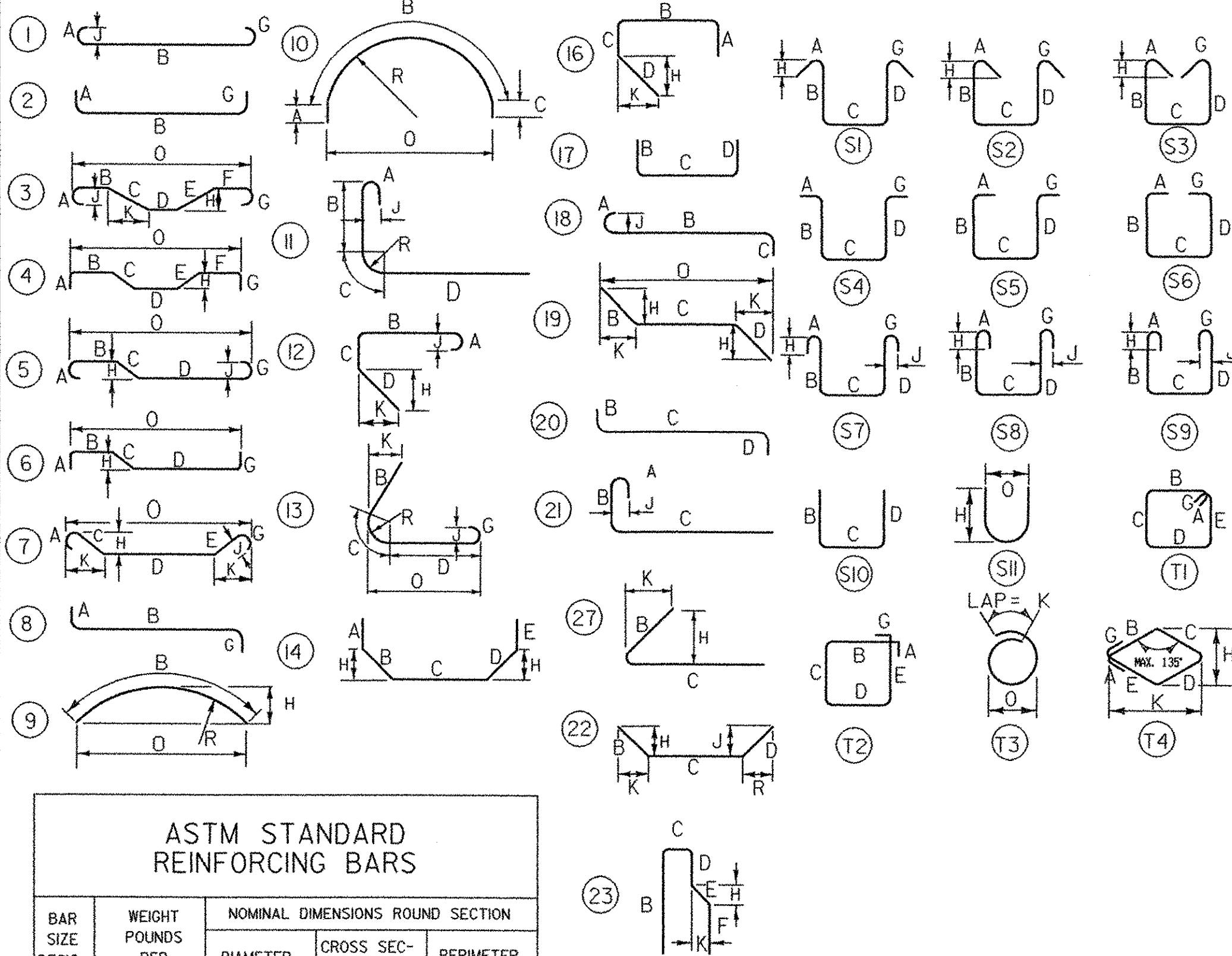
PLOT DATE: 03/31/2004
DRAWN BY: S. BURBANK
CHECKED BY: M. CHENETTE
SHEET 30 OF 40



[illegible]

~ NOTES ~

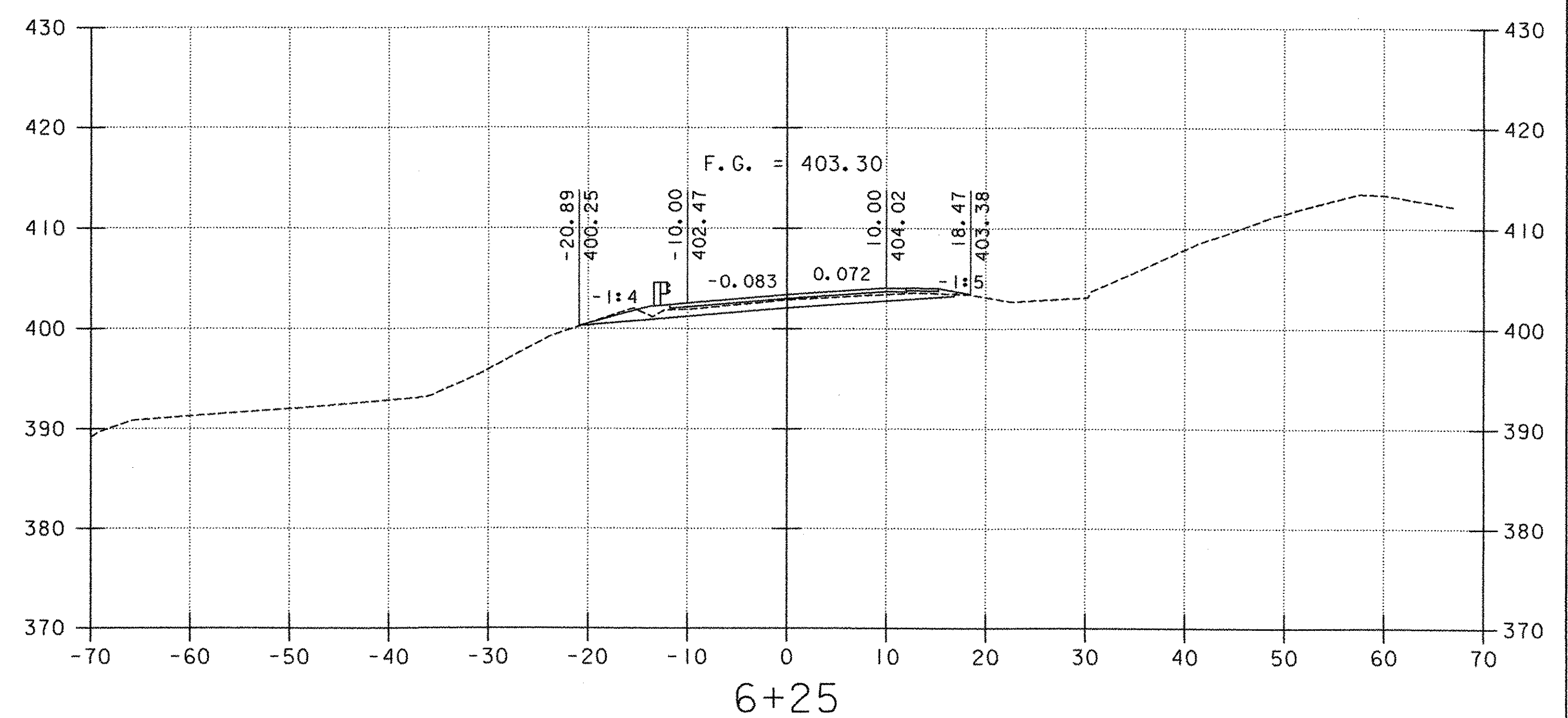
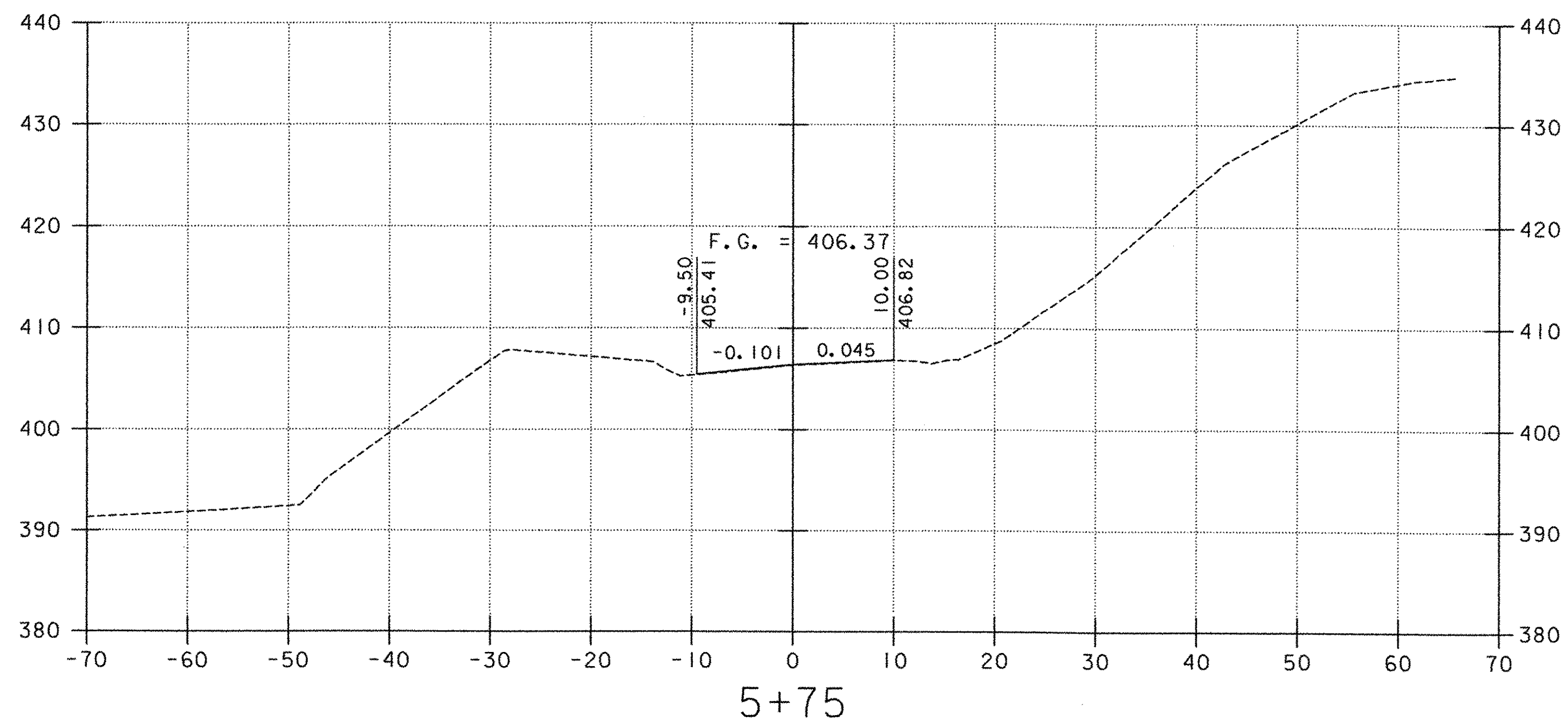
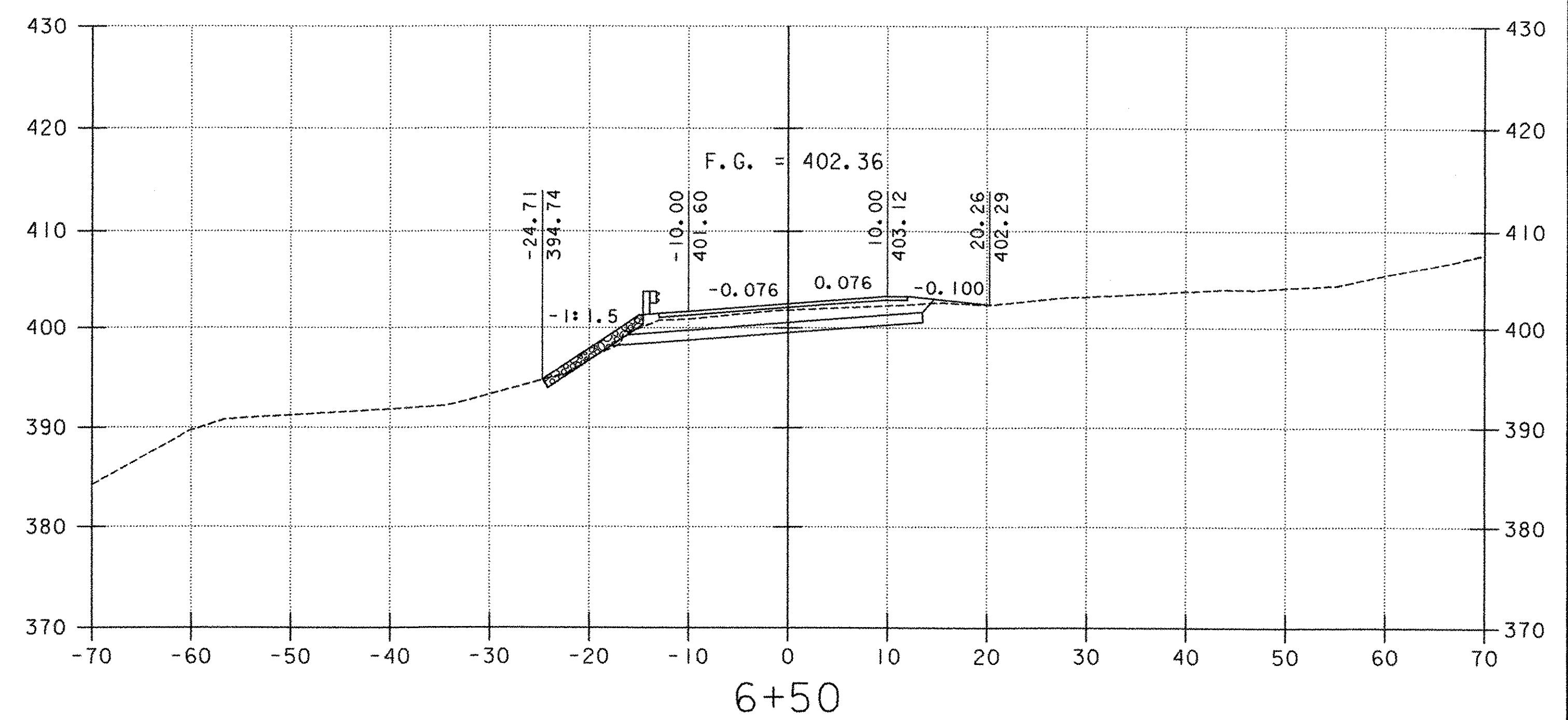
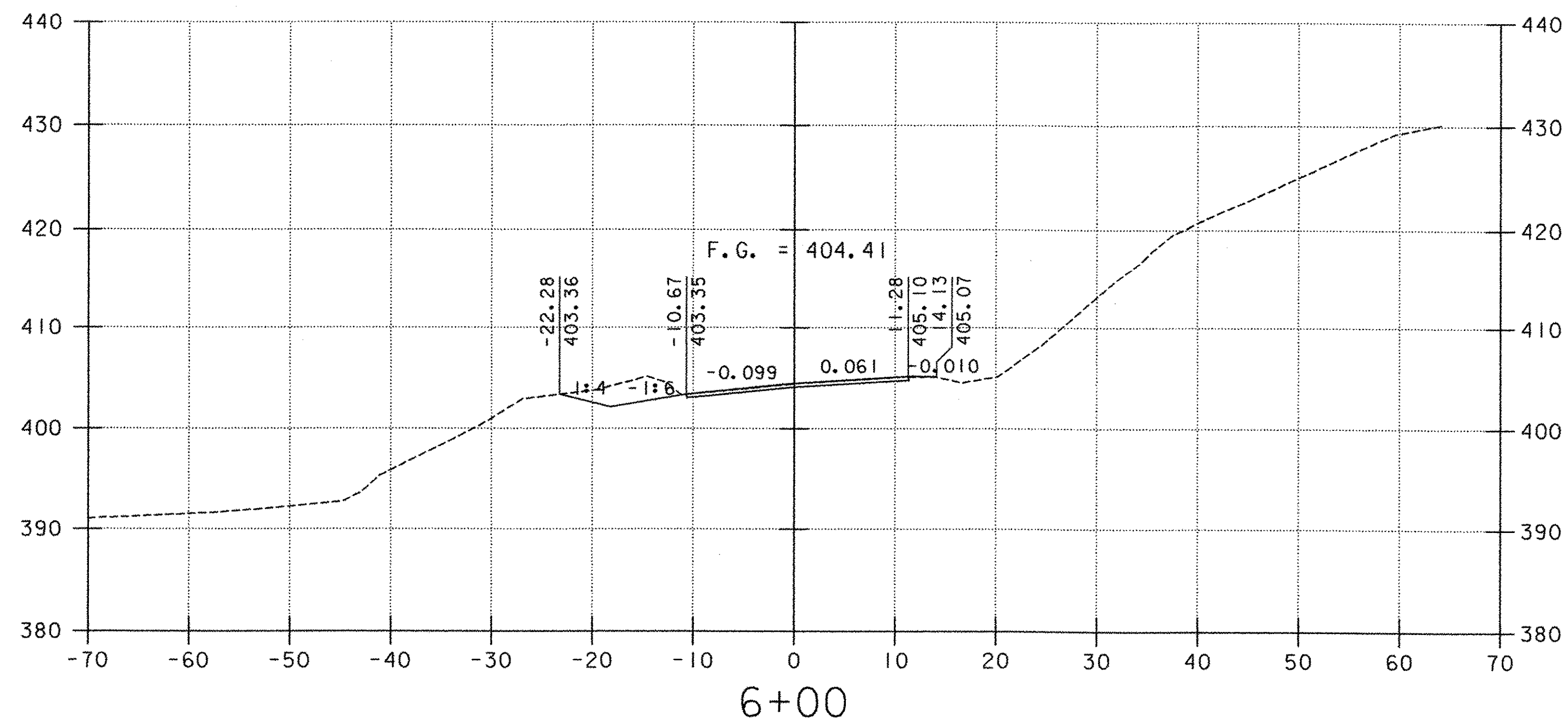
1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO.18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS				
BAR SIZE- NATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	CROSS SECTIONAL AREA SQ. INCHES	PERIMETER INCHES
#3	.376	.375	.11	1.178
#4	.668	.500	.20	1.571
#5	1.043	.625	.31	1.963
#6	1.502	.750	.44	2.356
#7	2.044	.875	.60	2.749
#8	2.670	1.000	.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of NORWICH		Bridge No. 46
Highway No. T.H. 3		Log Sta.
		Surv. Sta.
TOWN HIGHWAY NO. 3 OVER OMPOMPANOOSUC RIVER		
REINFORCING STEEL SCHEDULE		
Designed By S. BURBANK		Drawn By A. THIBAUT
Checked By M. CHENETTE	Date 12/03	Bridge Design Supervisor M. CHENETTE Date 12/03
PROJECT NORWICH		PROJECT NO. TH2-9625
DH CAD Filename: ...Norw-reinf.dgn		Plot Date: 03/31/2004
Bridge Sheet No.		Sheet 31 of 40



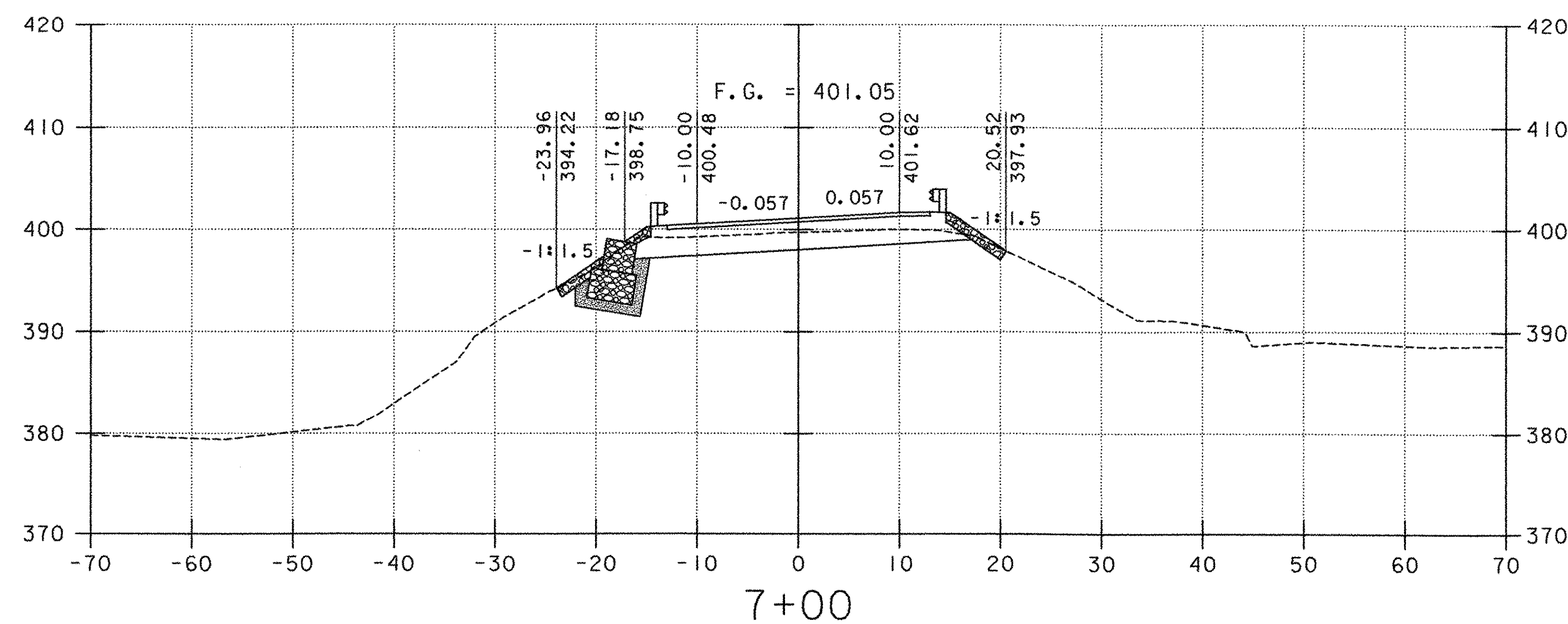
SCALE 1" = 10'-0"



PROJECT NAME: NORWICH
PROJECT NUMBER: TH2-9625

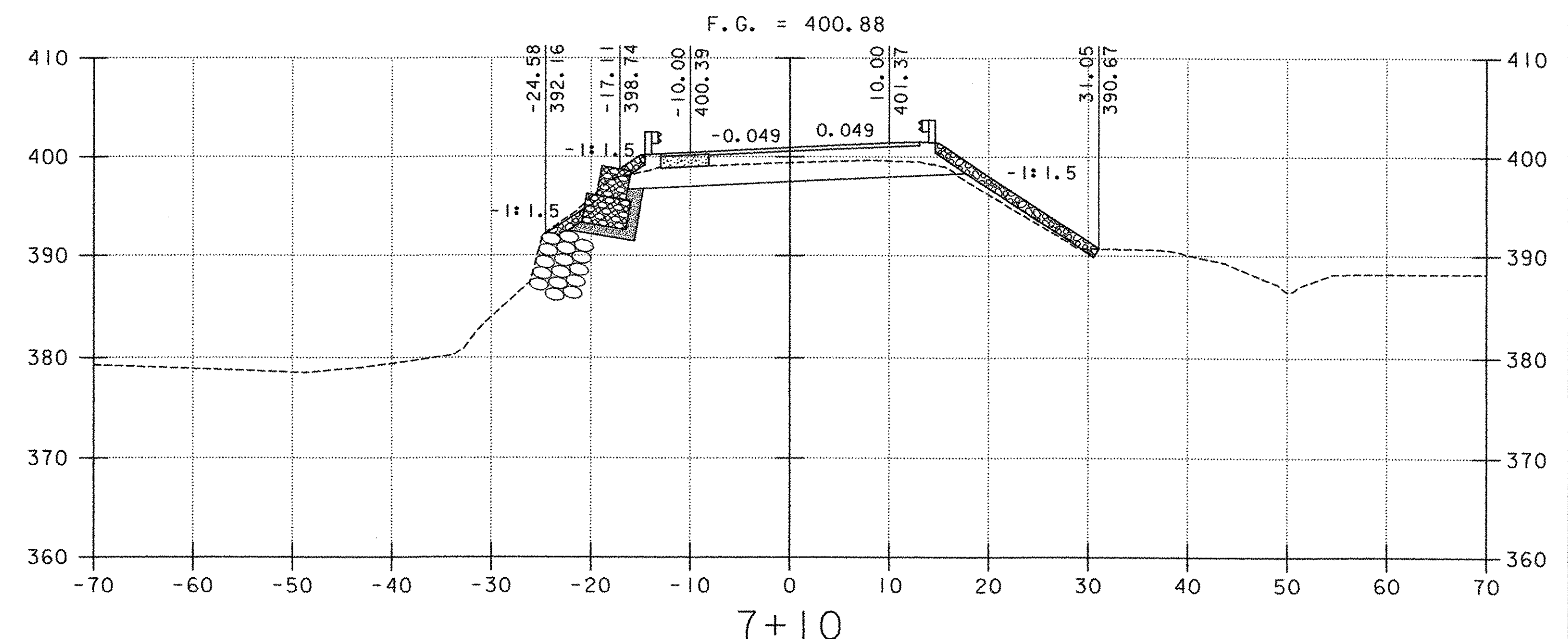
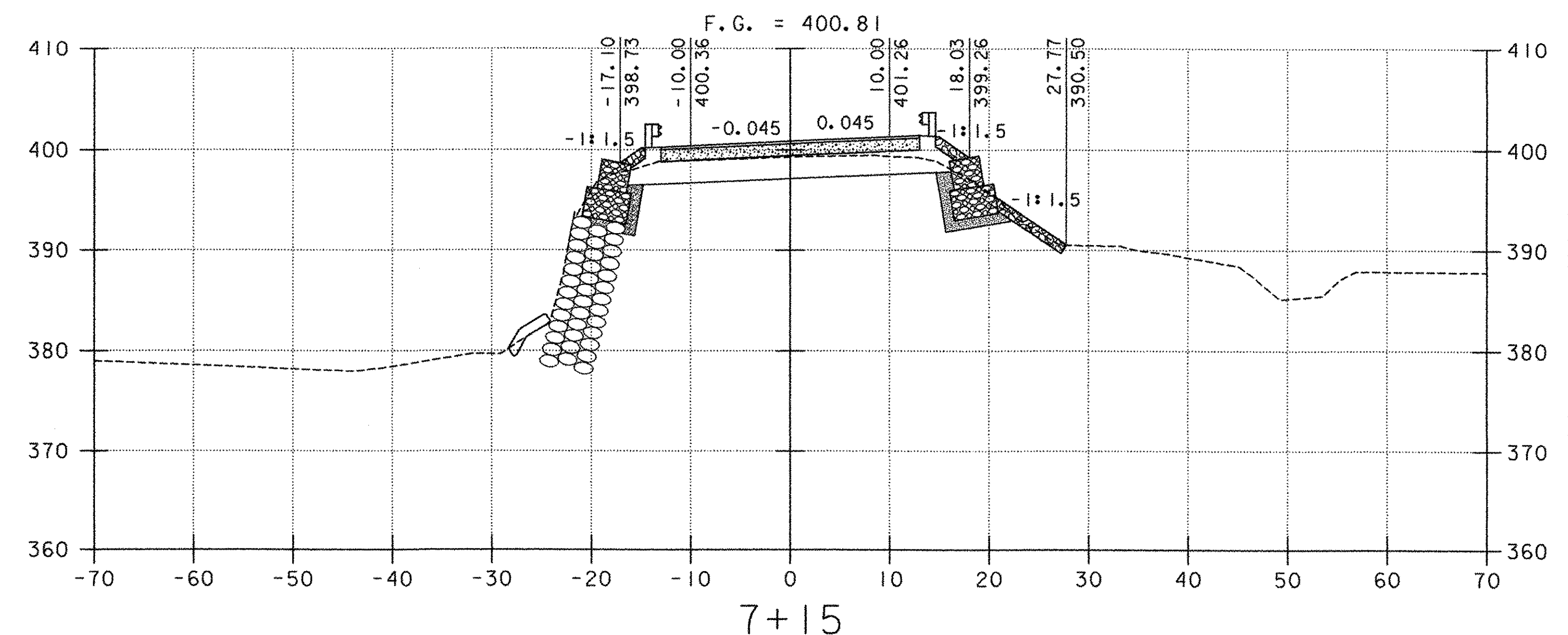
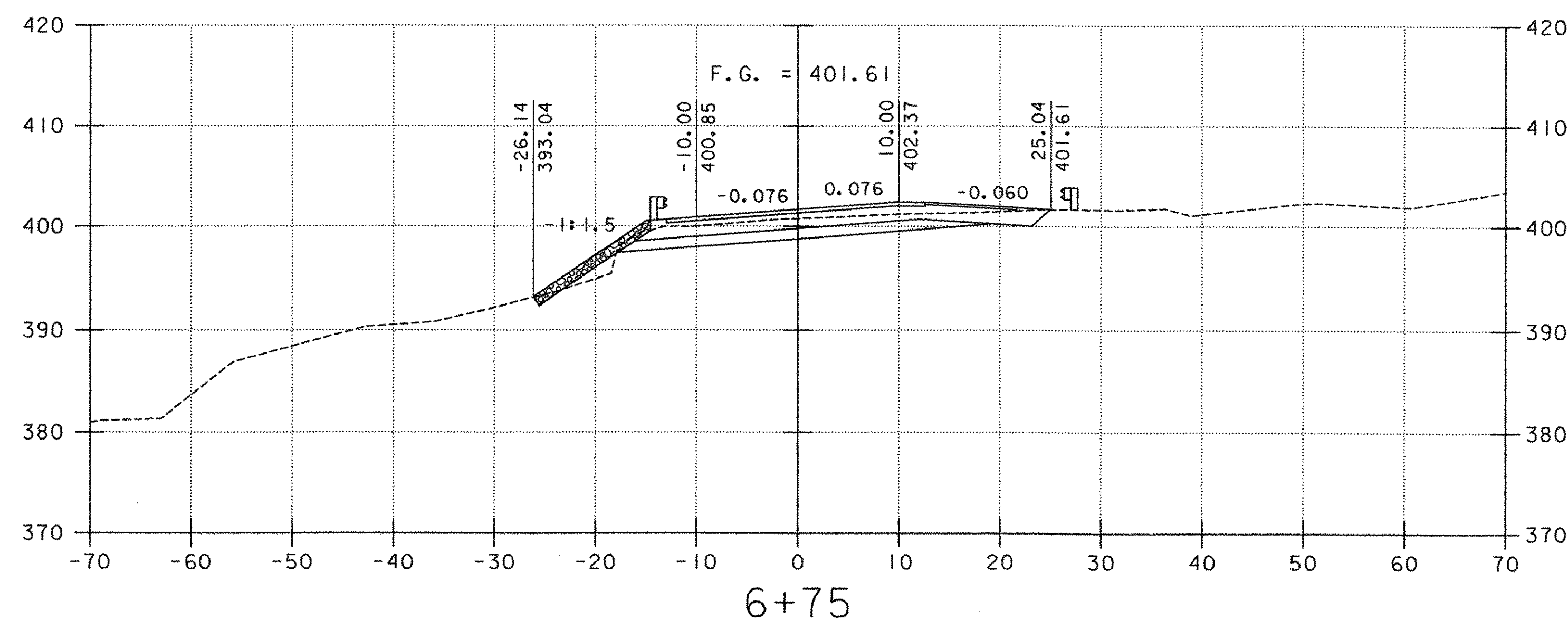
FILE NAME: ...Norw-xs.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: S. BURBANK
ROADWAY CROSS SECTIONS

PLOT DATE: 03/31/2004
DRAWN BY: S. BURBANK
CHECKED BY: M. CHENETTE
SHEET 32 OF 40



STA. 6+90.33 RT.
 BEGIN SHOULDER TRANSITION FROM
 8% MAX. ROLLOVER TO 0% ROLLOVER
 AT THE BEGINNING OF THE APPROACH
 SLAB AT STA. 7+14.33 RT.

STA. 6+90.33 RT.
 BEGIN TRANSITION FROM MATCHING THE
 ROLLOVER FROM THE FACE OF RAIL TO
 THE SHOULDER BREAK TO A 6% SLOPE
 FROM THE FACE OF RAIL TO THE
 SHOULDER BREAK AT THE BEGINNING OF
 THE APPROACH SLAB AT STA. 7+14.33 RT.



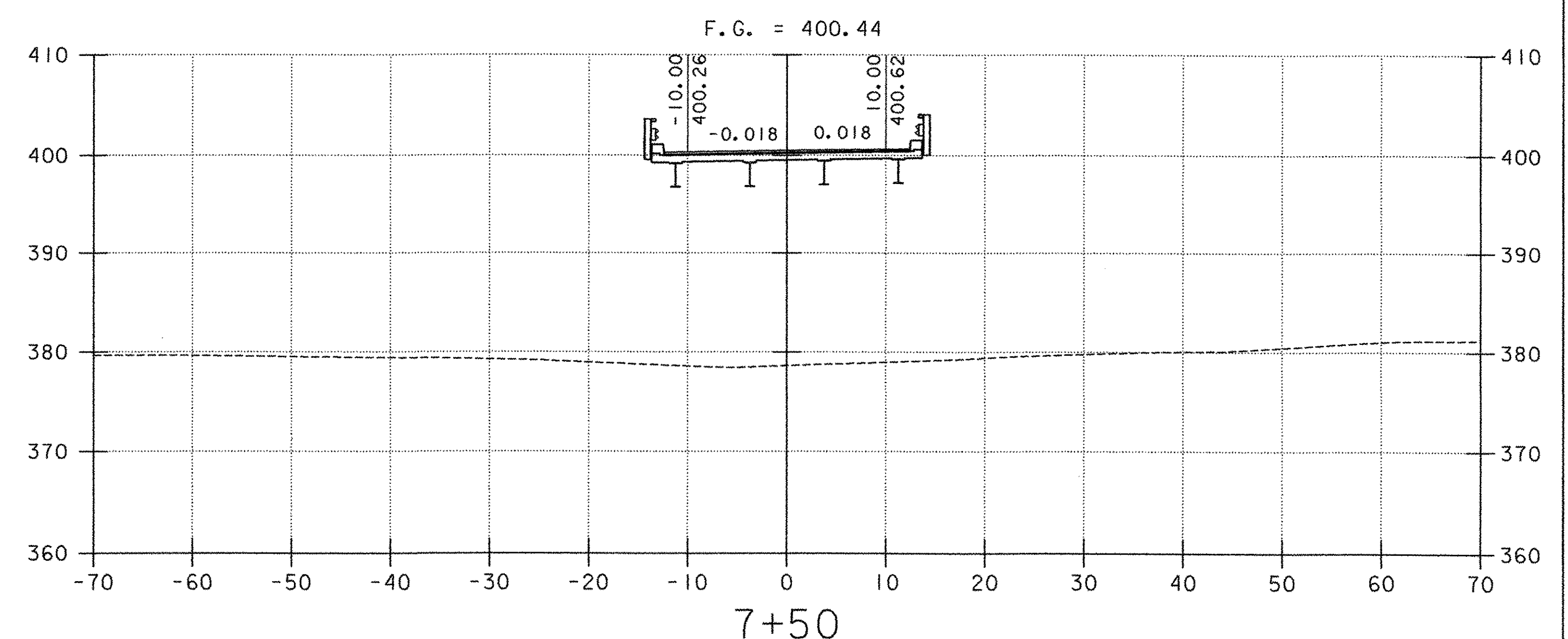
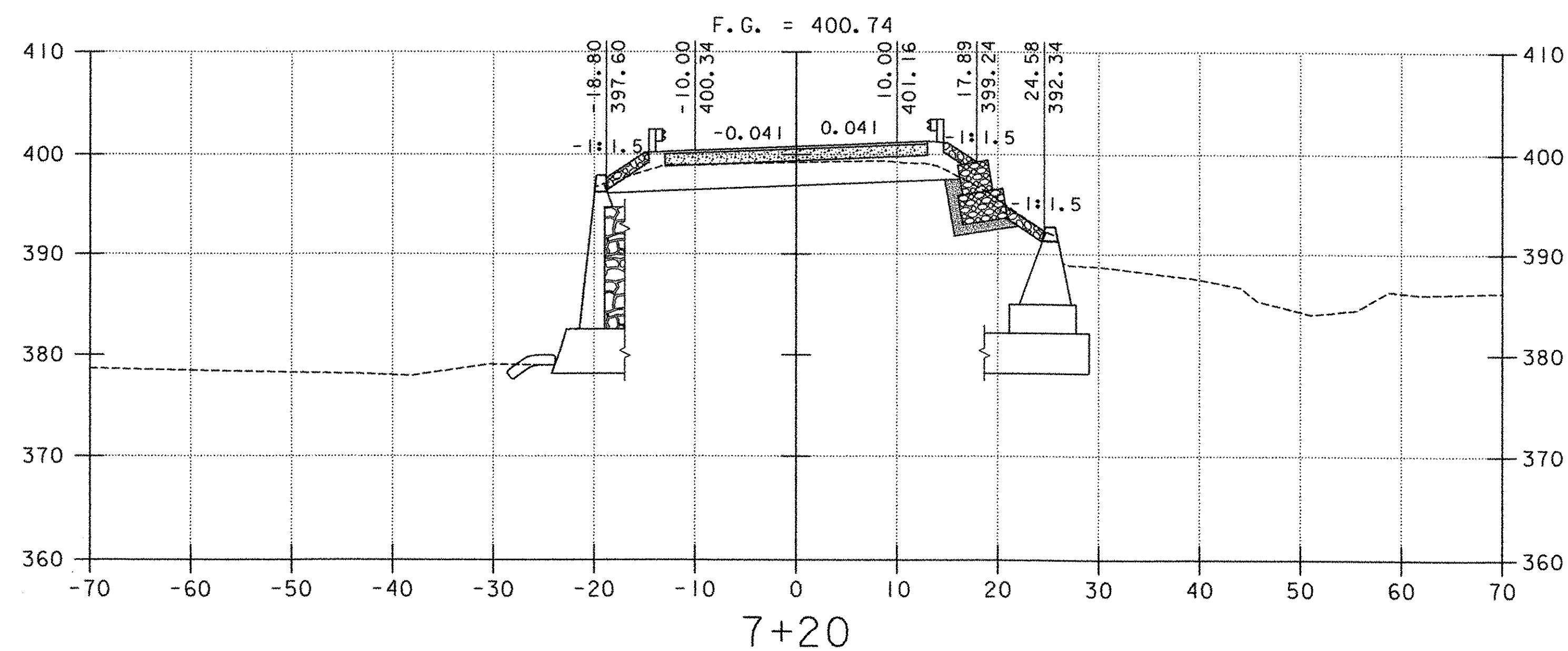
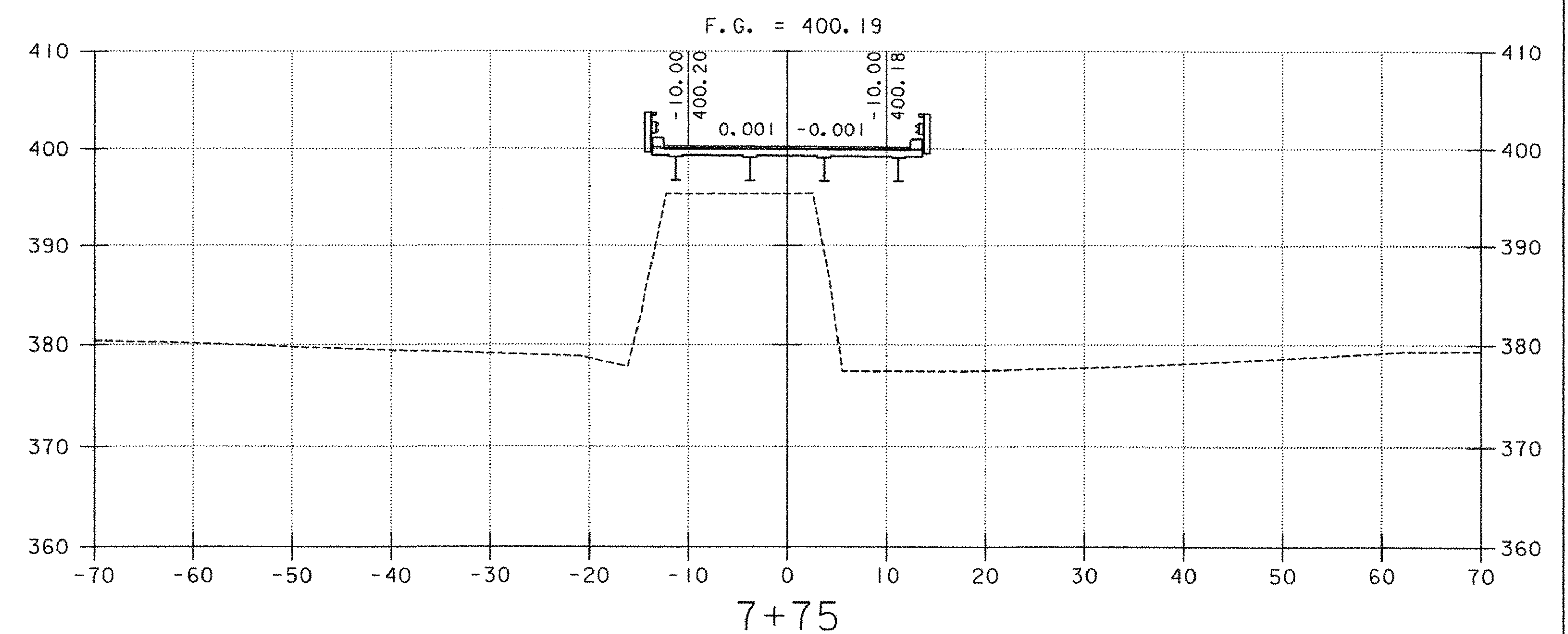
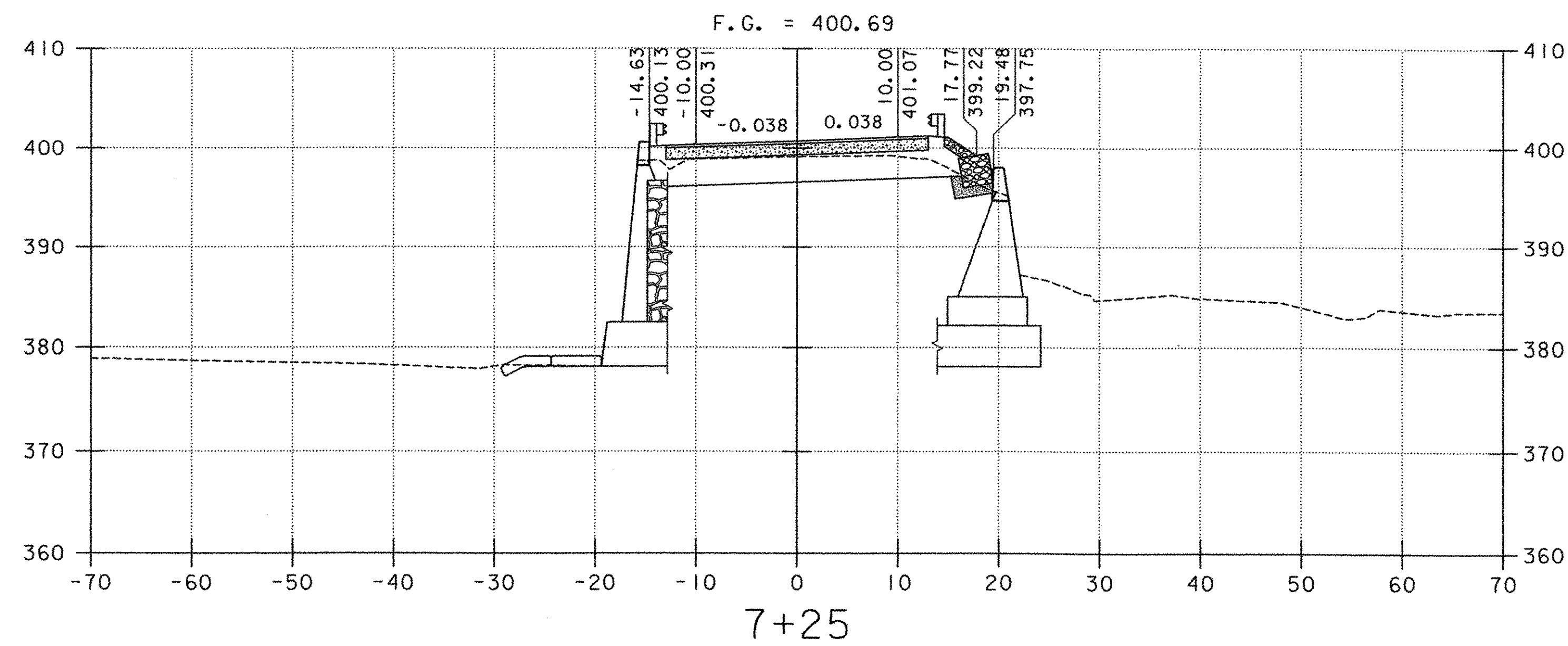
SCALE 1" = 10'-0"



PROJECT NAME: NORWICH
 PROJECT NUMBER: TH2-9625

FILE NAME: ...Norw-xs.dgn
 PROJECT LEADER: M. CHENETTE
 DESIGNED BY: S. BURBANK
 ROADWAY CROSS SECTIONS

PLOT DATE: 03/31/2004
 DRAWN BY: S. BURBANK
 CHECKED BY: M. CHENETTE
 SHEET 33 OF 40



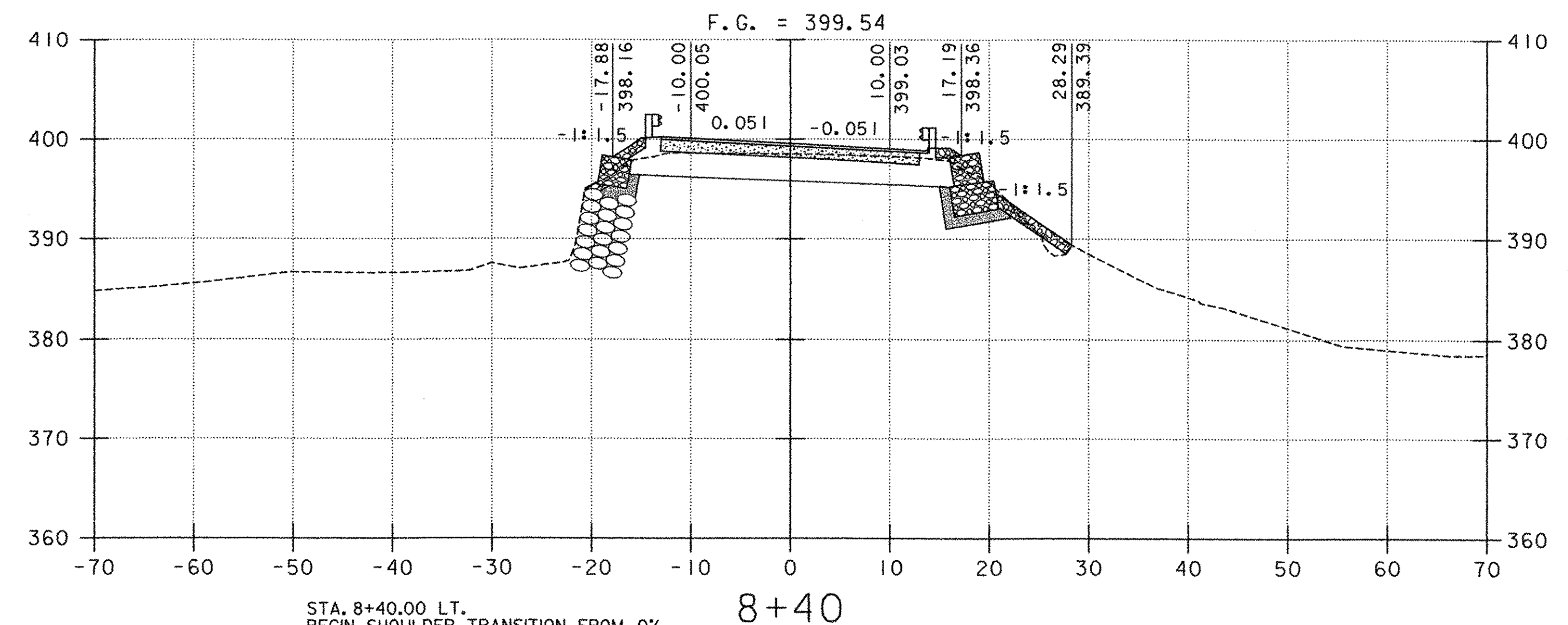
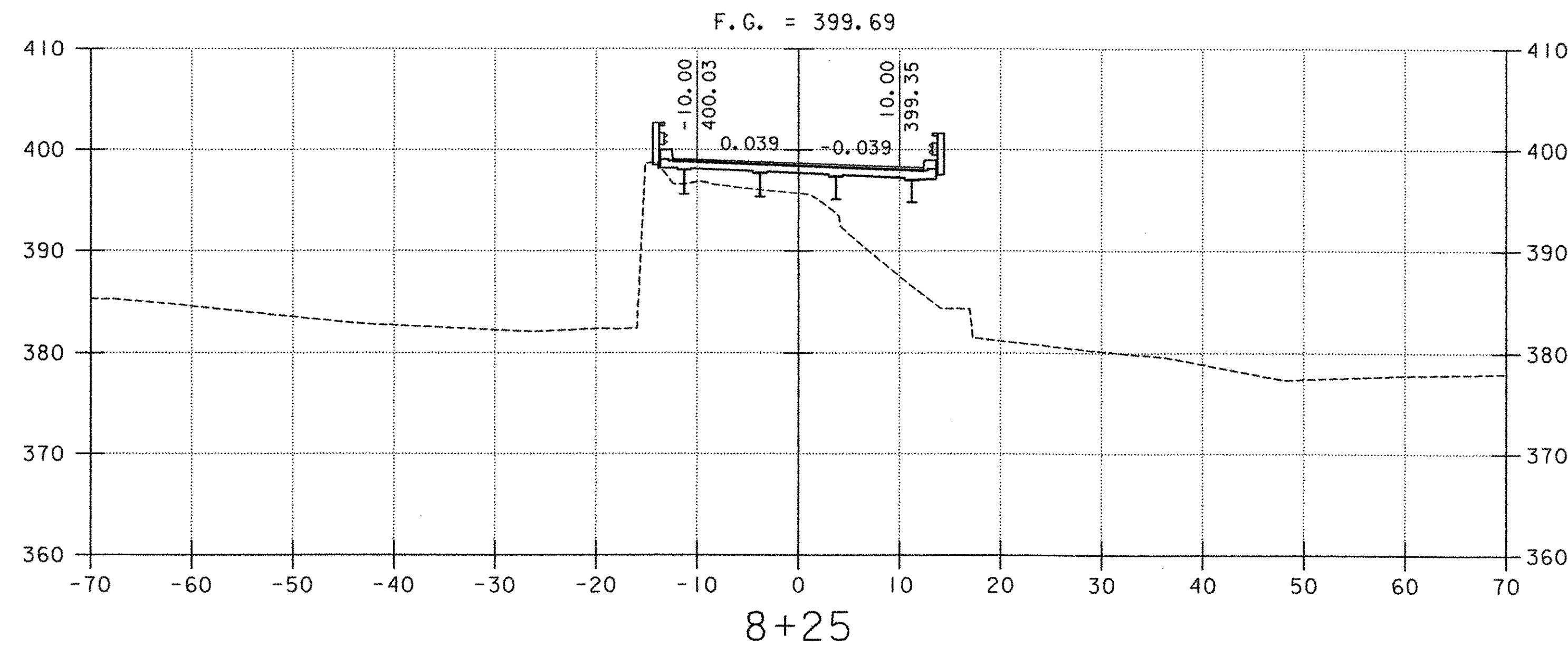
SCALE 1" = 10'-0"



PROJECT NAME: NORWICH
PROJECT NUMBER: TH2-9625

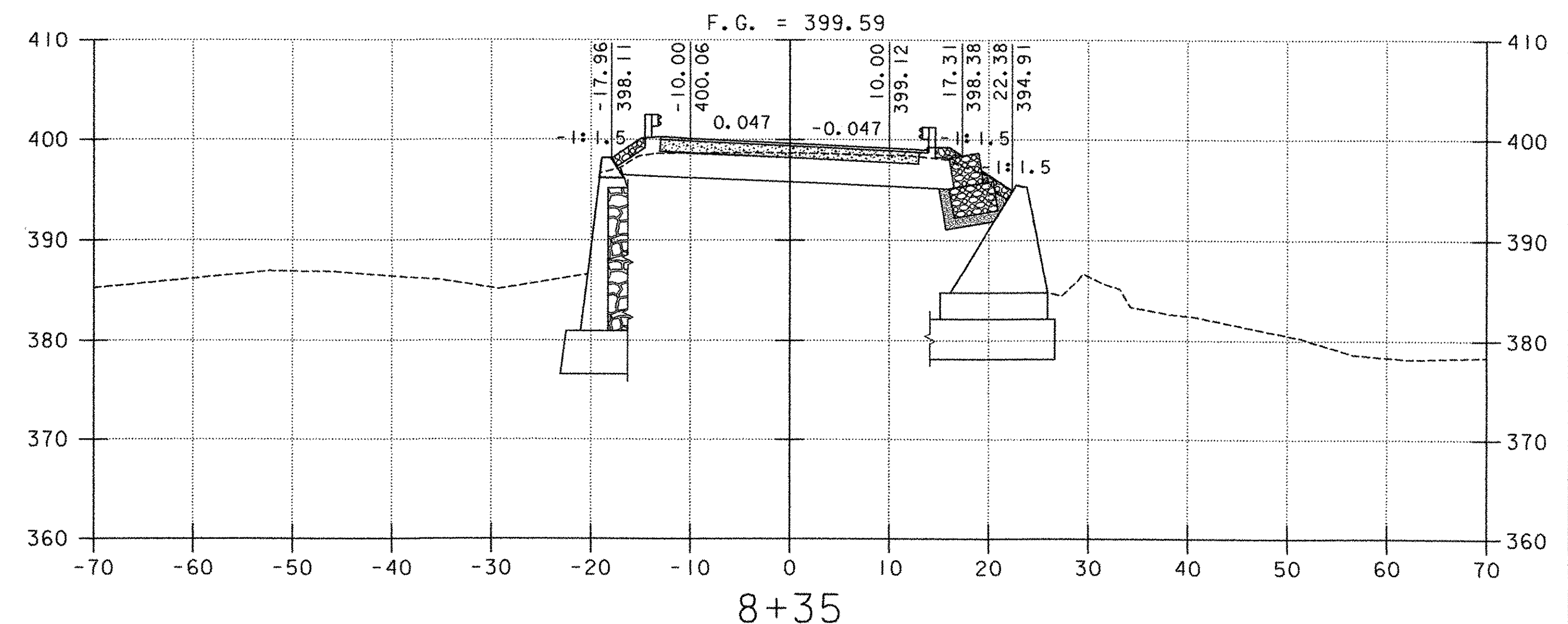
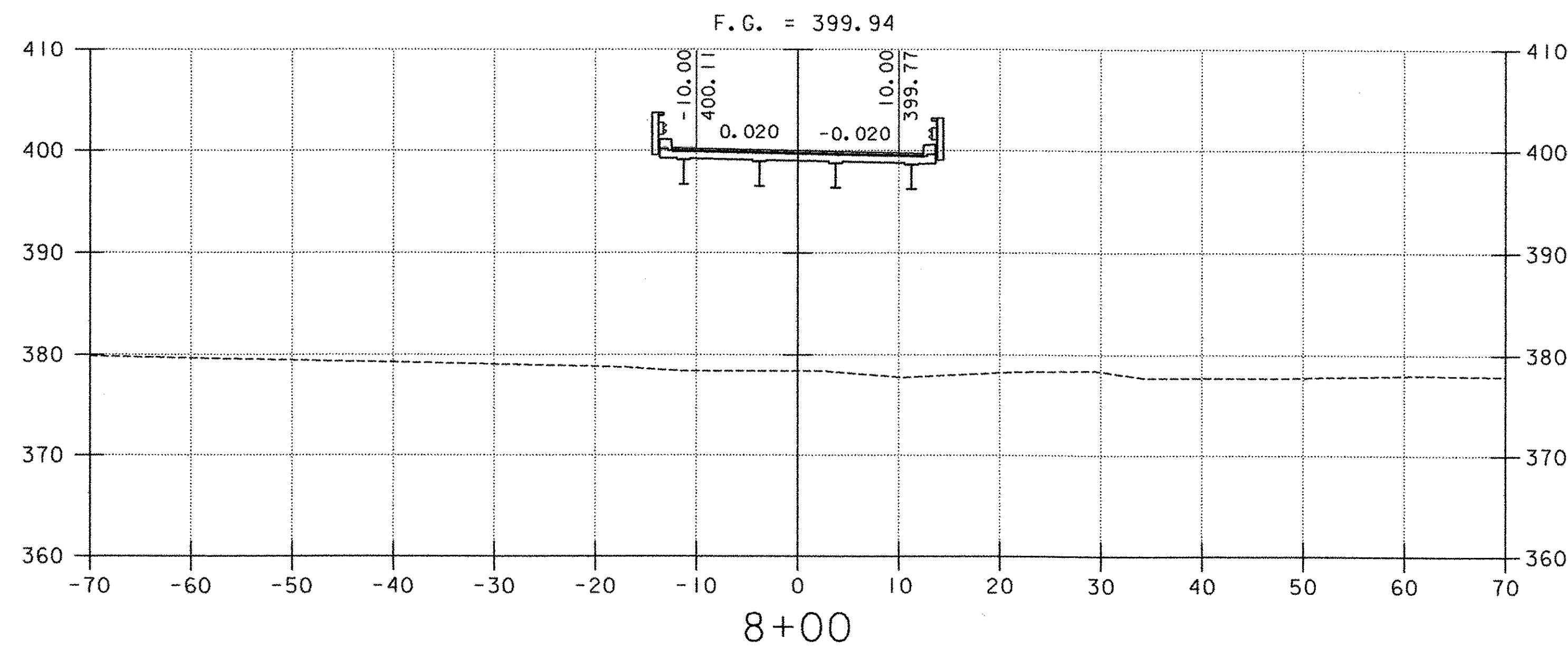
FILE NAME: ...Norw-xs.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: S. BURBANK
ROADWAY CROSS SECTIONS

PLOT DATE: 03/31/2004
DRAWN BY: S. BURBANK
CHECKED BY: M. CHENETTE
SHEET 34 OF 40



STA. 8+40.00 LT.
 BEGIN SHOULDER TRANSITION FROM 0%
 ROLLOVER AT THE END OF THE APPROACH
 SLAB STA. 8+40.00 LT. TO 8% MAX.
 ROLLOVER AT STA. 8+64.00 LT.

STA. 8+40.00 LT.
 BEGIN TRANSITION FROM A 6% SLOPE FROM
 THE FACE OF RAIL TO THE SHOULDER BREAK
 AT THE END OF THE APPROACH SLAB STA.
 8+40.00 TO MATCHING THE ROLLOVER FROM
 THE FACE OF RAIL TO THE SHOULDER BREAK
 AT STA. 8+64.00 LT.



SCALE 1" = 10'-0"

10 0 10

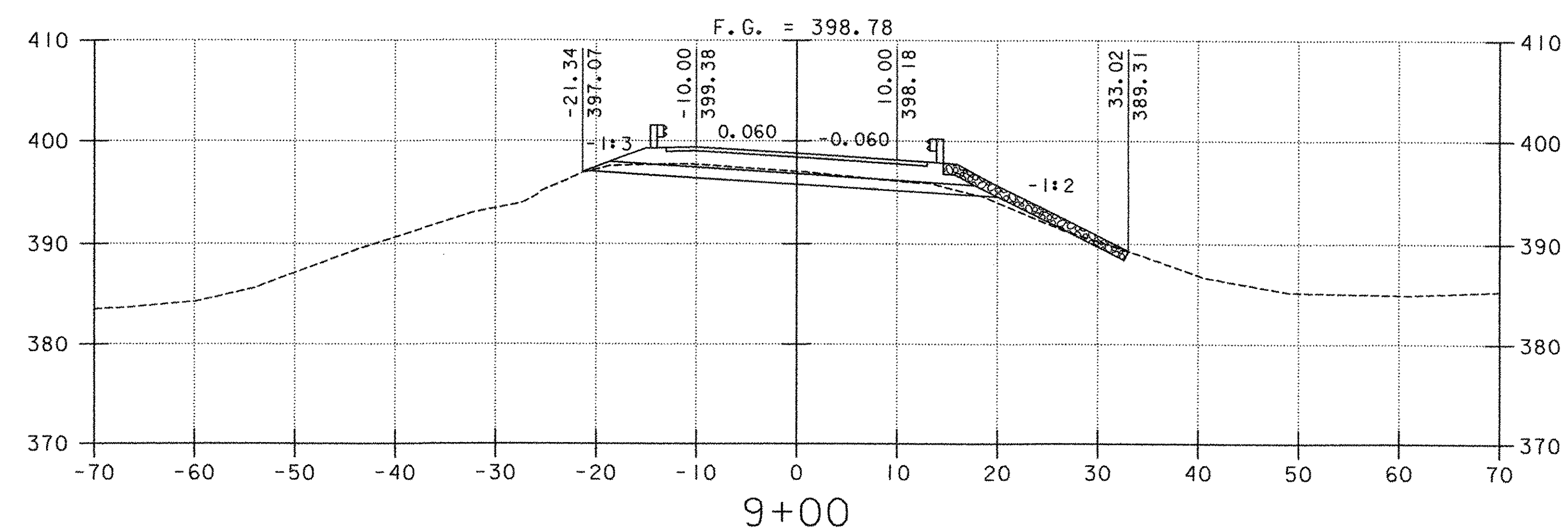
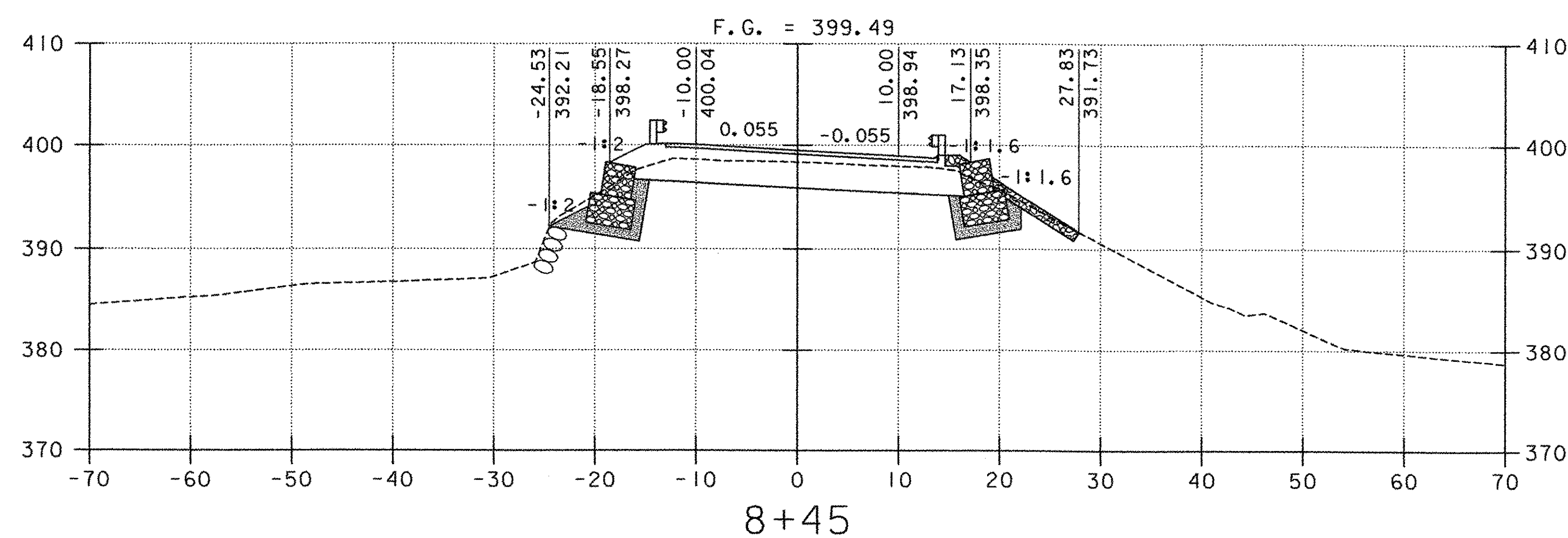
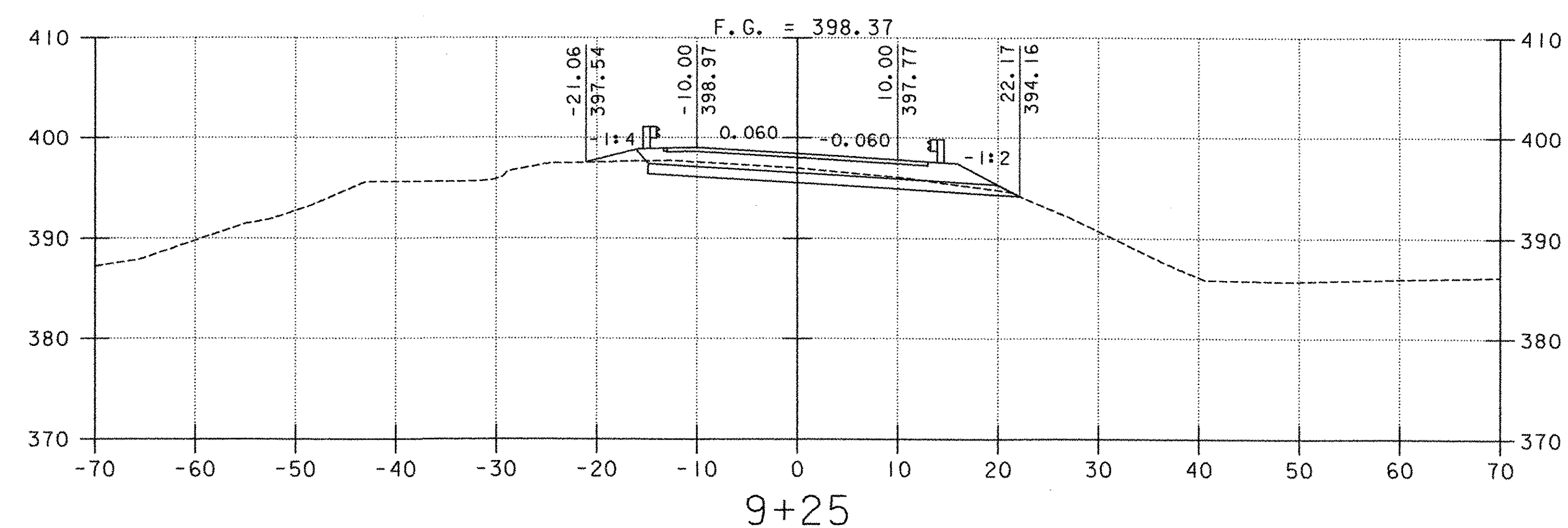
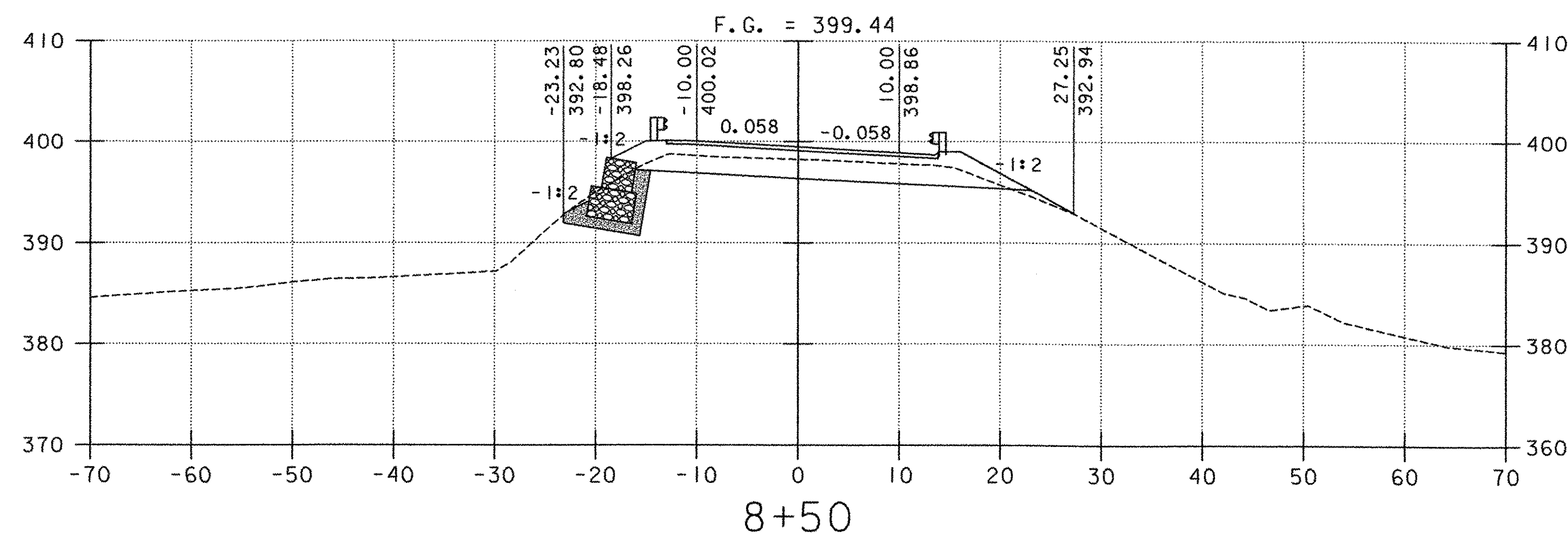
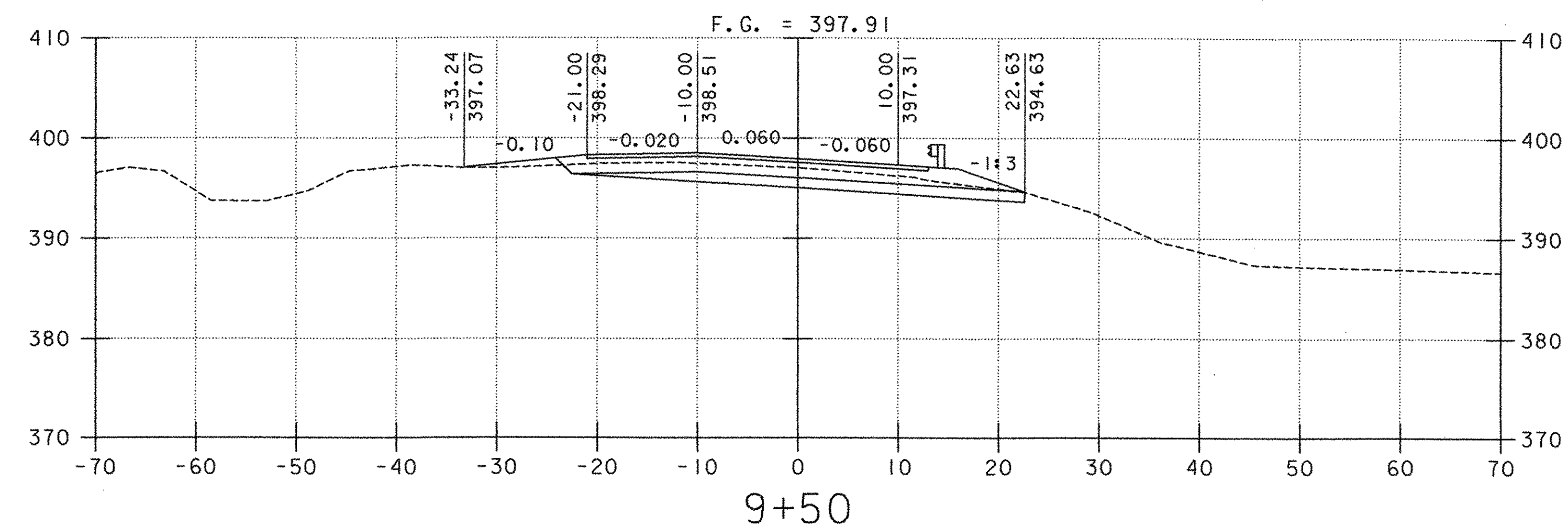
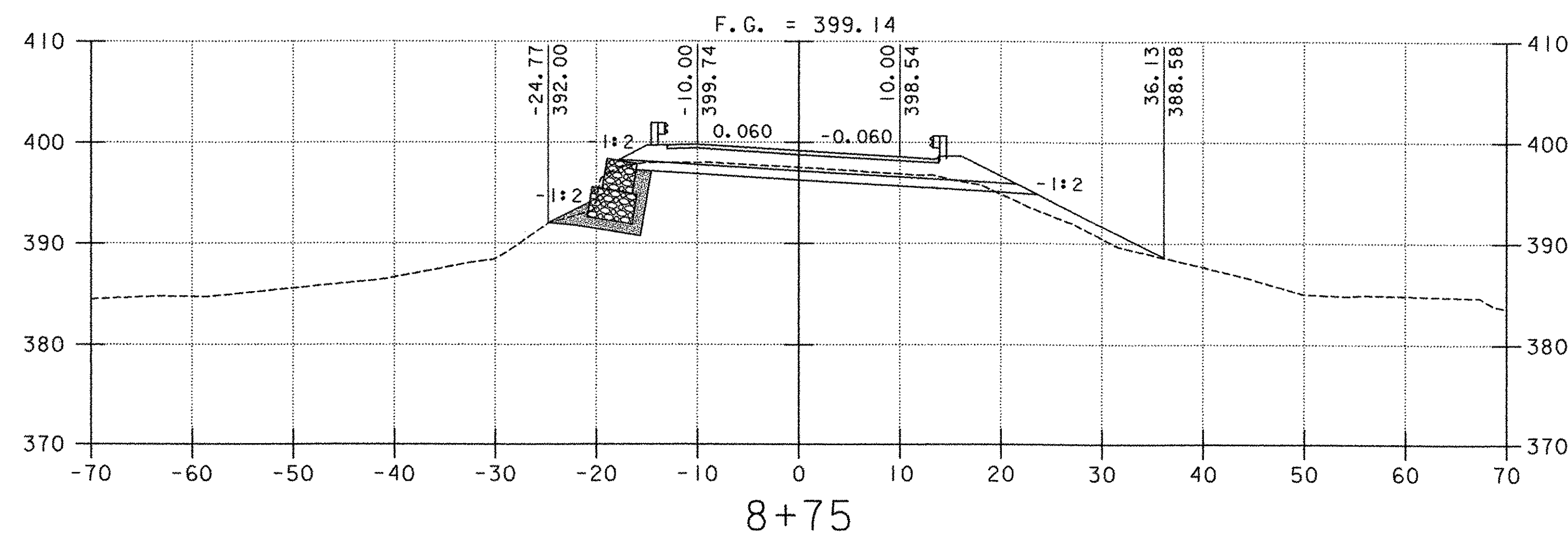


PROJECT NAME: NORWICH
 PROJECT NUMBER: TH2-9625

FILE NAME: ...Norw-xs.dgn
 PROJECT LEADER: M. CHENETTE
 DESIGNED BY: S. BURBANK

ROADWAY CROSS SECTIONS

PLOT DATE: 03/31/2004
 DRAWN BY: S. BURBANK
 CHECKED BY: M. CHENETTE
 SHEET 35 OF 40



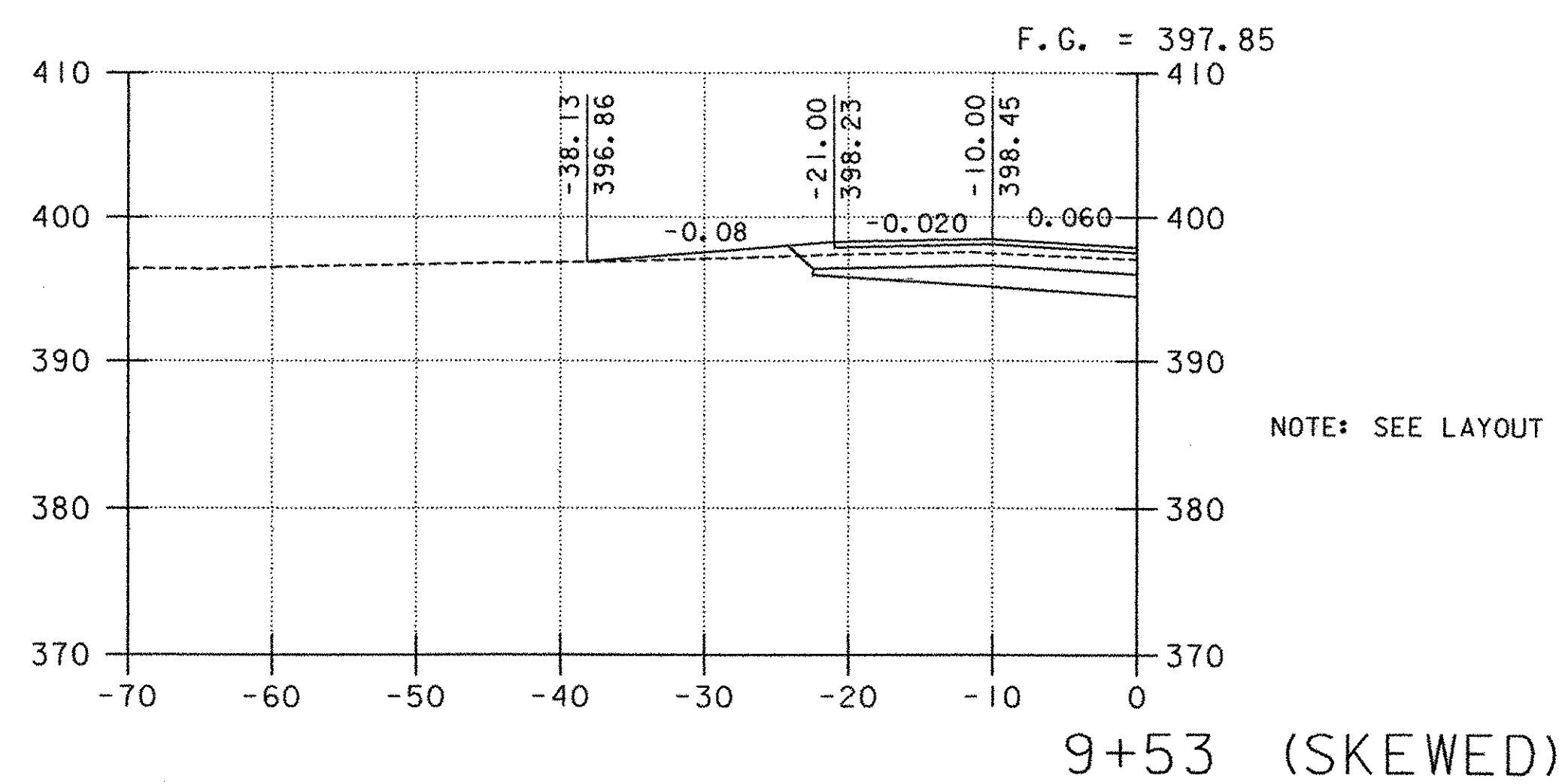
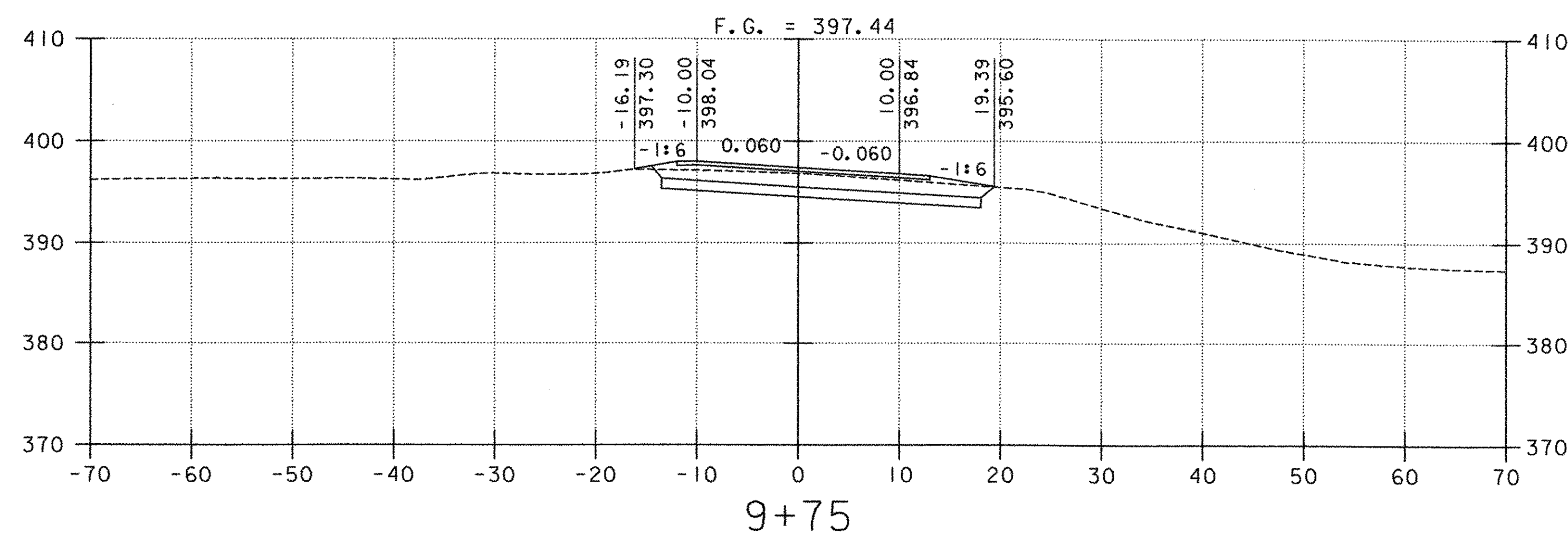
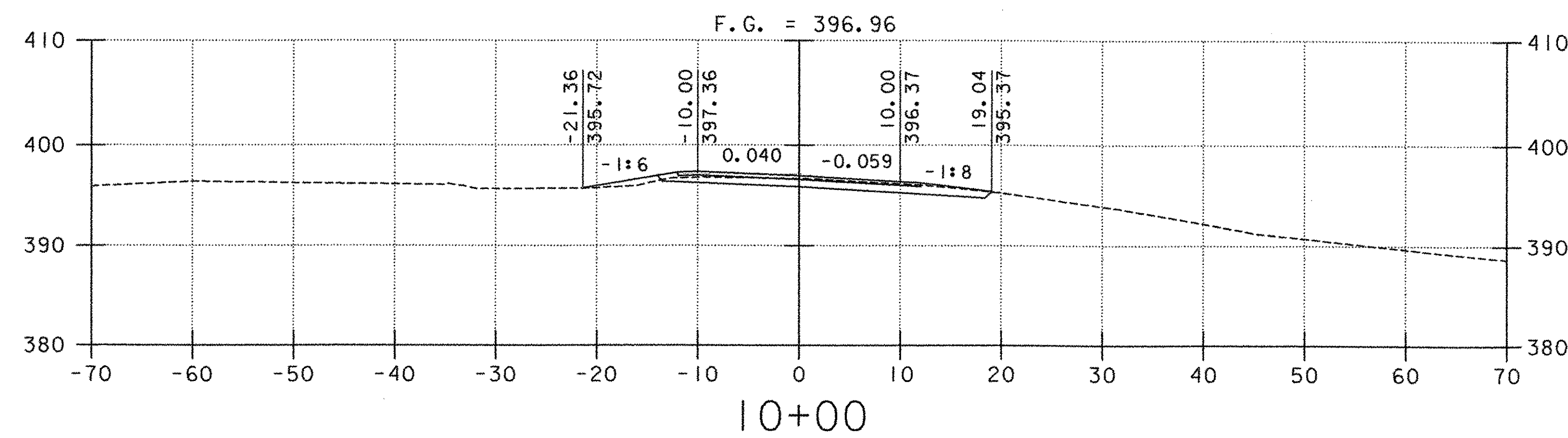
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PROJECT NAME: NORWICH
PROJECT NUMBER: TH2-9625

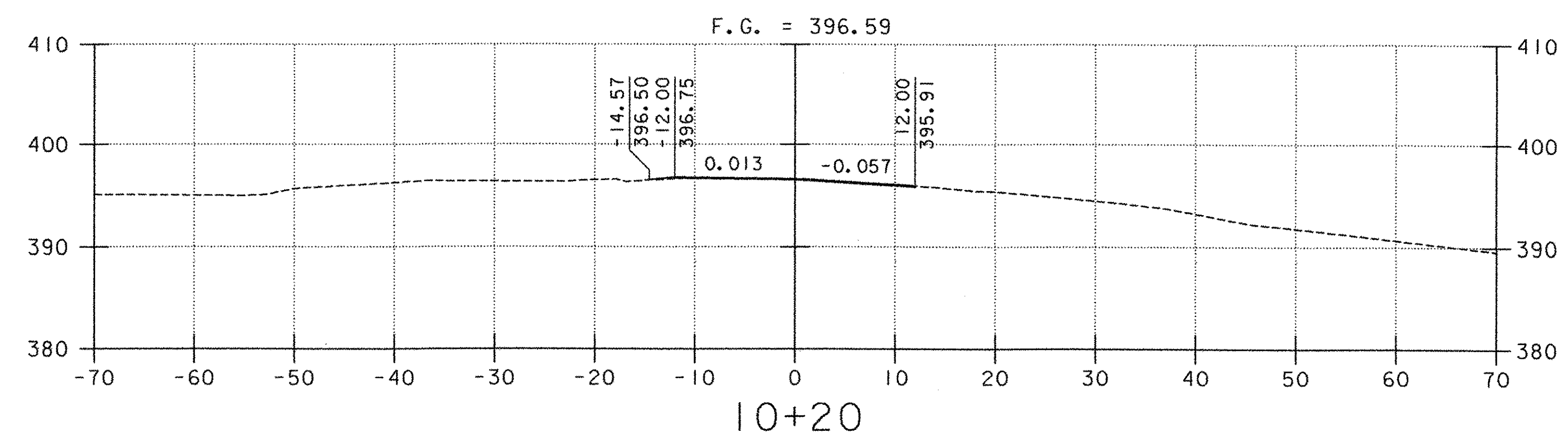
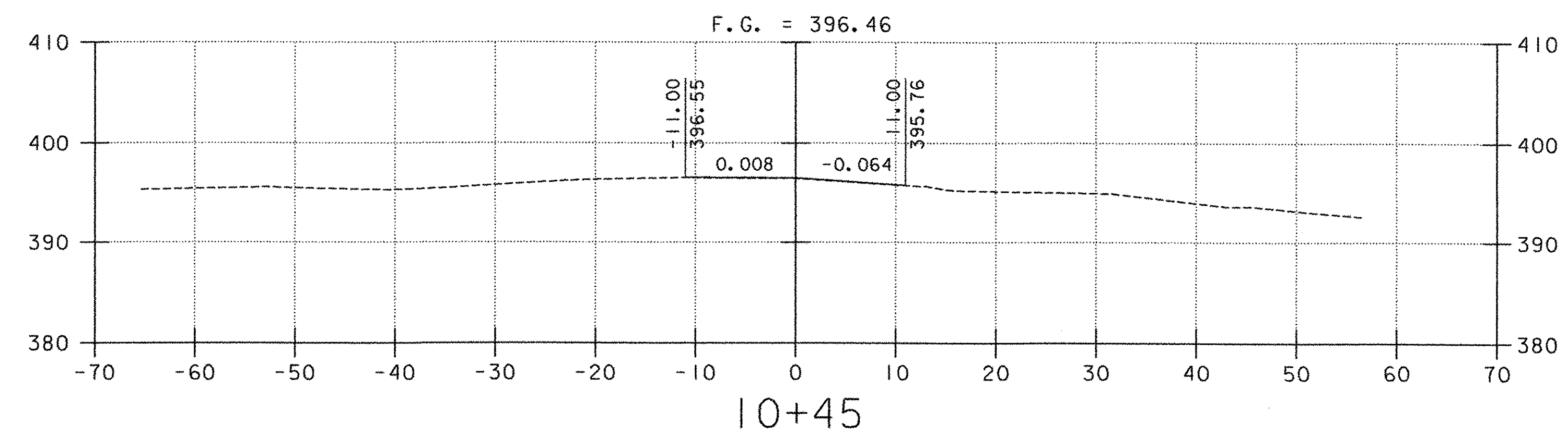
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PROJECT LEADER: M. CHENETTE
DESIGNED BY: S. BURBANK
ROADWAY CROSS SECTIONS

PLOT DATE: 03/31/2004
DRAWN BY: S. BURBANK
CHECKED BY: M. CHENETTE
SHEET 36 OF 40



NOTE: SEE LAYOUT SHEET FOR DIRECTION OF CROSS SECTION

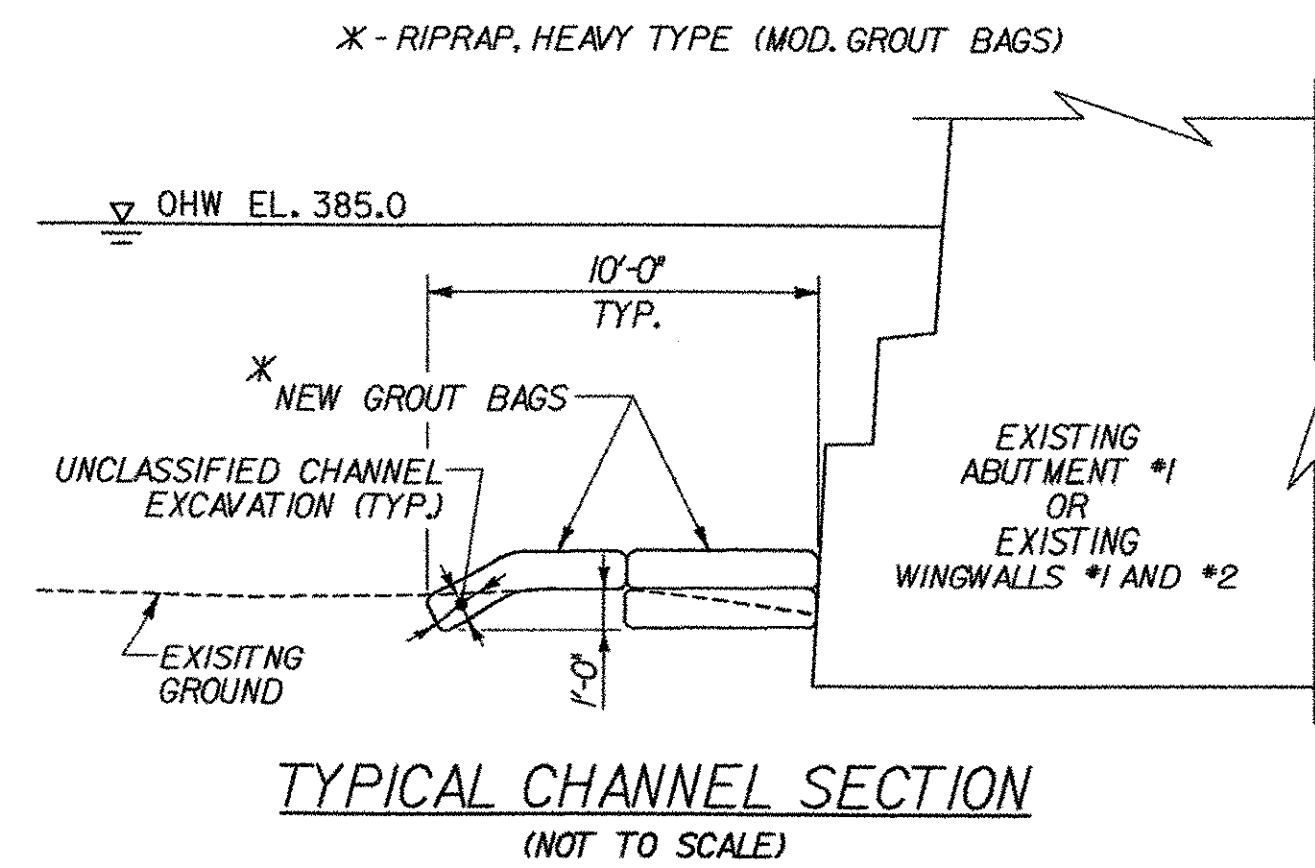
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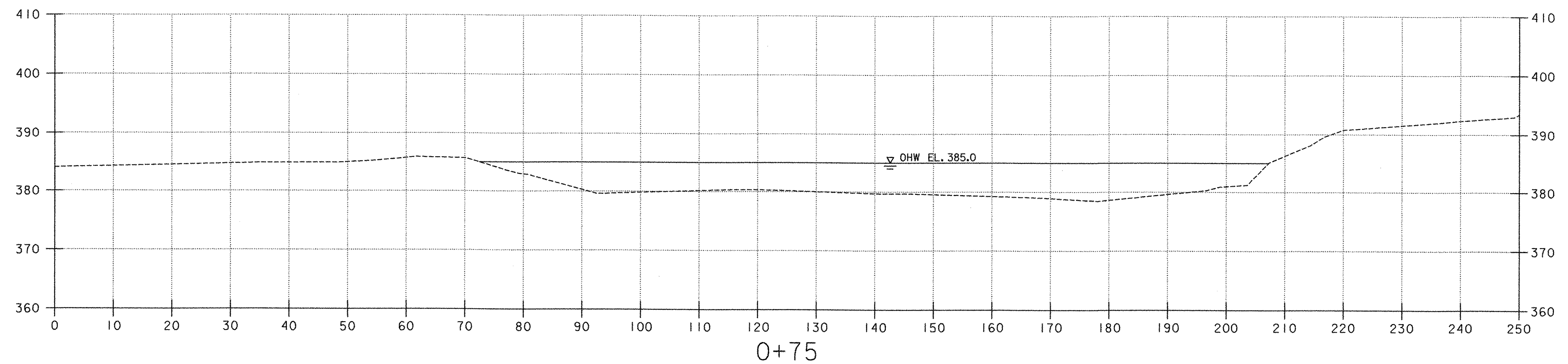
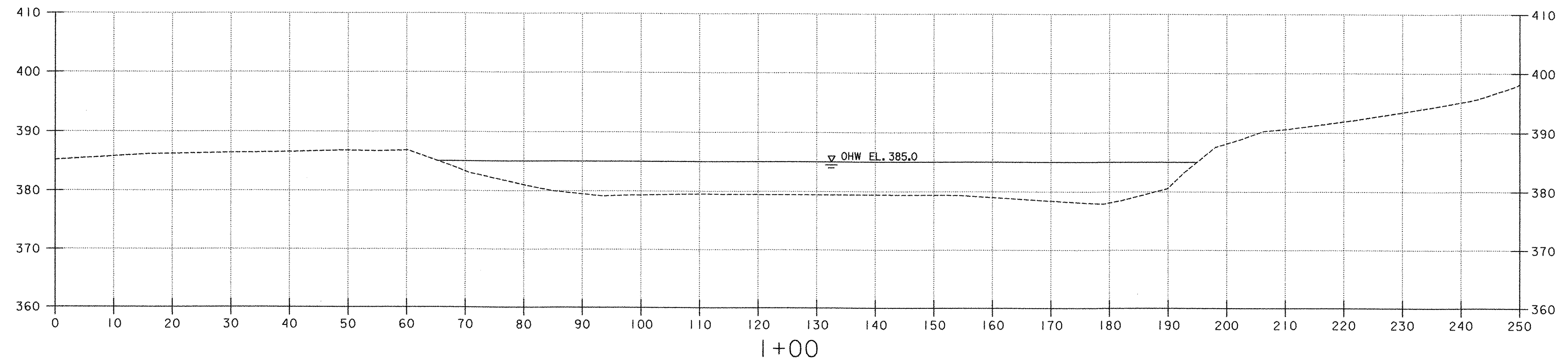
PROJECT NAME: NORWICH
PROJECT NUMBER: TH2-9625

FILE NAME: ...Norw-xs.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: S. BURBANK
ROADWAY CROSS SECTIONS

PLOT DATE: 03/31/2004
DRAWN BY: S. BURBANK
CHECKED BY: M. CHENETTE
SHEET 37 OF 40



STA. 1+06.00 RT.
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
RIPRAP, HEAVY TYPE (MOD. GROUT BAGS)



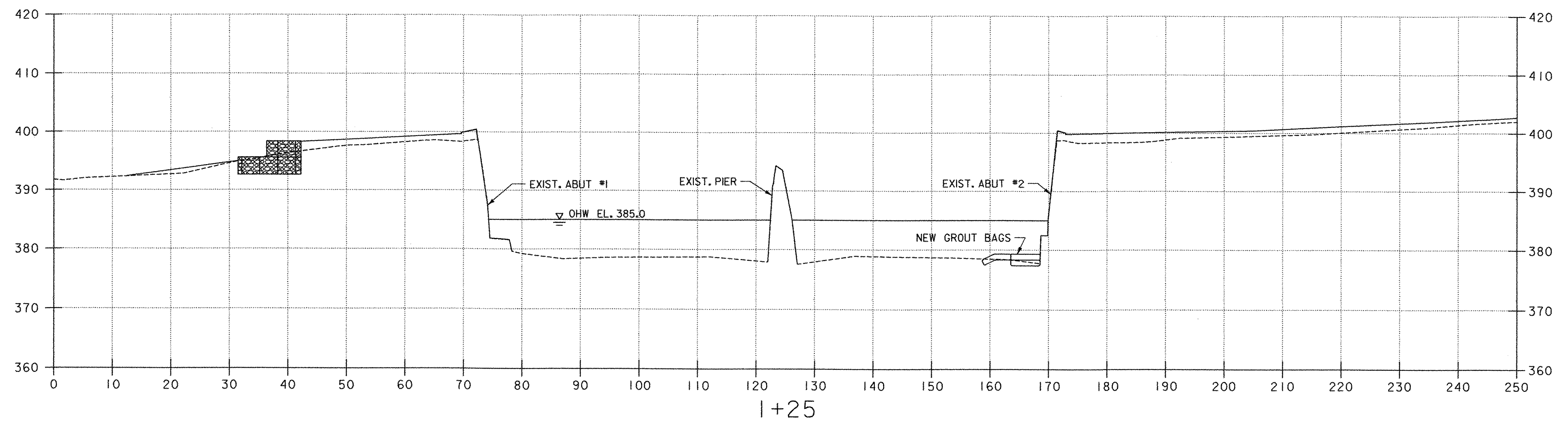
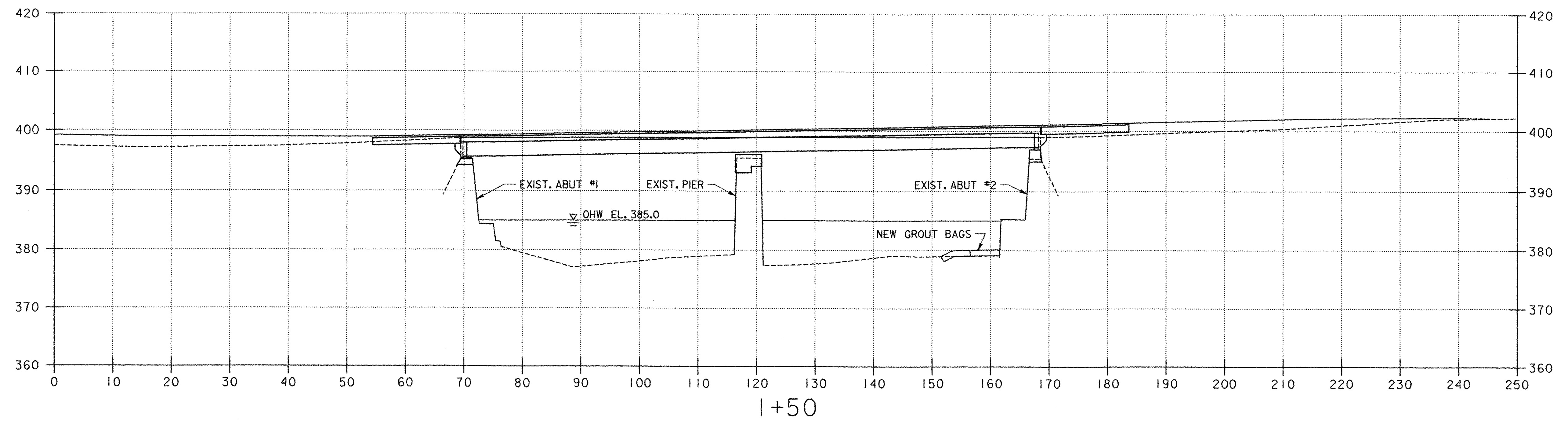
SCALE 1" = 10'-0"



PROJECT NAME: NORWICH
PROJECT NUMBER: TH2-9625

FILE NAME: ...Norw-xs.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: S. BURBANK
CHANNEL CROSS SECTIONS

PLOT DATE: 03/31/2004
DRAWN BY: S. BURBANK
CHECKED BY: M. CHENETTE
SHEET 38 OF 40



SCALE 1" = 10'-0"

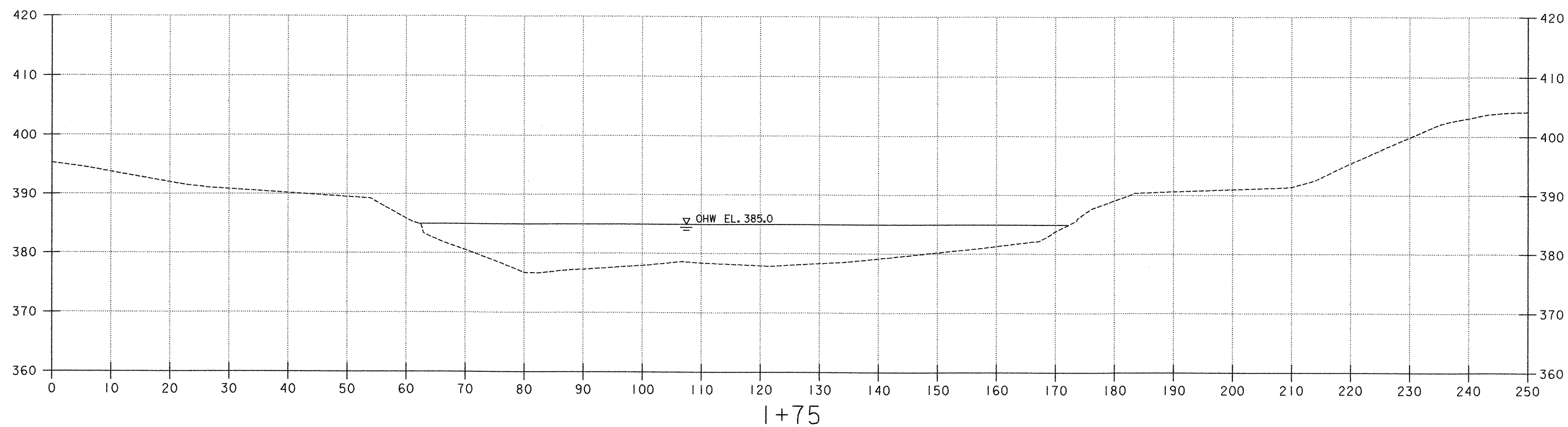
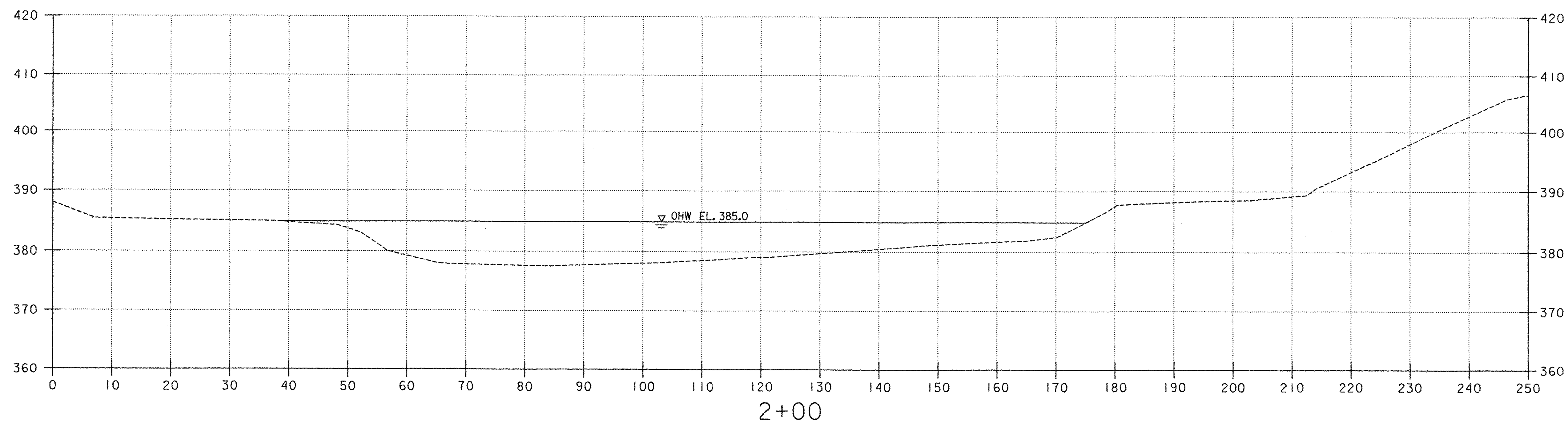


PROJECT NAME: NORWICH
PROJECT NUMBER: TH2-9625

FILE NAME: ...Norw-xs.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: S. BURBANK
CHANNEL CROSS SECTIONS

PLOT DATE: 03/31/2004
DRAWN BY: S. BURBANK
CHECKED BY: M. CHENETTE
SHEET 39 OF 40

\\sctur-las\design\norw-xs.dgn 03/31/2004 02:37:15 PM



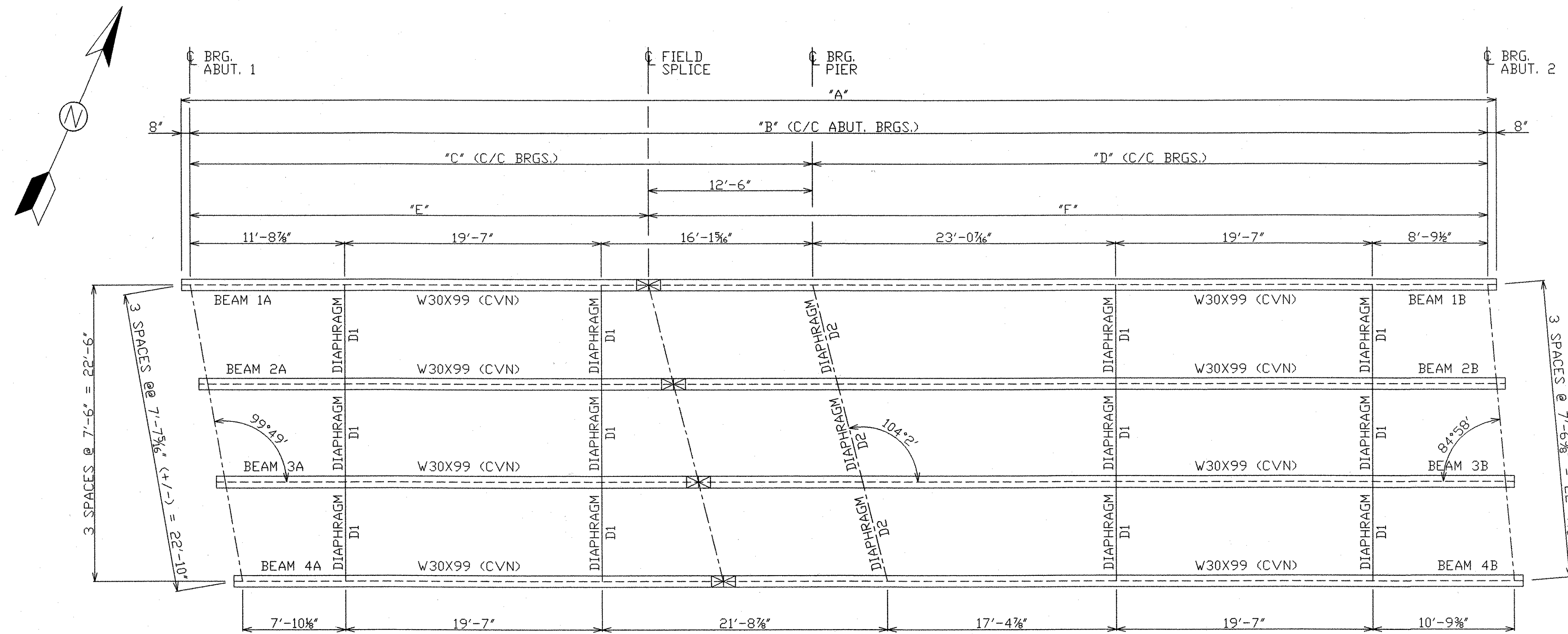
STA. 1+72.00 RT.
END UNCLASSIFIED CHANNEL EXCAVATION
RIPRAP, HEAVY TYPE (MOD. GROUT BAGS)

SCALE 1" = 10'-0"



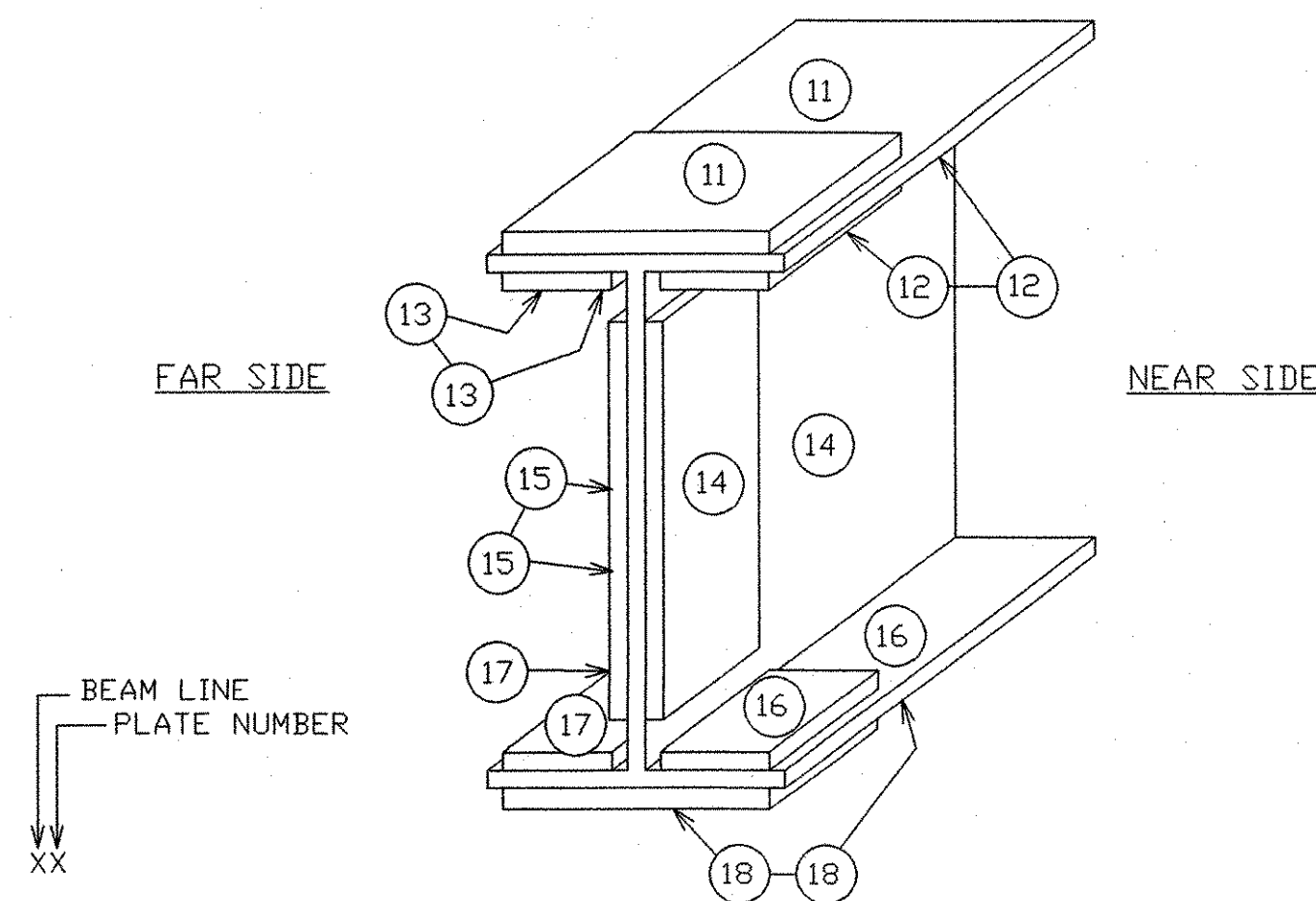
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PROJECT NUMBER: TH2-9625
FILE NAME: ...Norw-xs.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: S. BURBANK
CHANNEL CROSS SECTIONS

PLOT DATE: 03/31/2004
DRAWN BY: S. BURBANK
CHECKED BY: M. CHENETTE
SHEET 40 OF 40

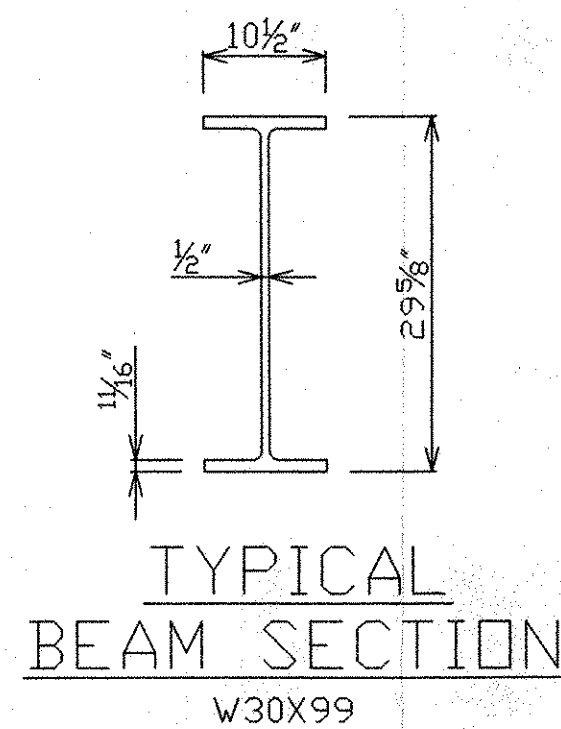


FRAMING PLAN

BEAM LINE	DIMENSION					
	"A"	"B"	"C"	"D"	"E"	"F"
1	100'-2 1/2"	98'-10 1/2"	47'-5 5/8"	51'-4 15/16"	34'-11 3/8"	63'-10 15/16"
2	99'-6 1/2"	98'-2 1/2"	48'-0 1/2"	50'-2 3/8"	35'-6 1/2"	62'-8 3/8"
3	98'-10 1/2"	97'-6 7/8"	48'-7 1/2"	48'-11 13/16"	36'-1 1/2"	61'-5 13/16"
4	98'-3 1/4"	96'-11 1/4"	49'-2"	47'-9 1/4"	36'-8"	60'-3 1/4"



MATCH MARKING FOR BEAM LINE 1
(SIMILAR FOR ALL OTHER SPLICES)



NOTE: DRAWINGS RELATIVE DO NOT SCALE

MATERIAL SCHEDULE

QUANTITY	DESCRIPTION	WEIGHT (LBS)
1 PC	BEAM 1A - W30X99 @ 35'-7 3/16" (CVN)	3524.3
1 PC	BEAM 1B - W30X99 @ 64'-6 15/16" (CVN)	6393.2
1 PC	BEAM 2A - W30X99 @ 36'-2 1/8" (CVN)	3581.5
1 PC	BEAM 2B - W30X99 @ 63'-4 3/8" (CVN)	6273.1
1 PC	BEAM 3A - W30X99 @ 36'-9 1/16" (CVN)	3638.8
1 PC	BEAM 3B - W30X99 @ 62'-1 13/16" (CVN)	6153.0
1 PC	BEAM 4A - W30X99 @ 37'-4" (CVN)	3696.0
1 PC	BEAM 4B - W30X99 @ 60'-11 1/4" (CVN)	6032.8
8 PCS	WEB PLATE - PL 1/2" X 13" X 27" (CVN)	397.8
8 PCS	OUTSIDE FLANGE PLATE - PL 1/2" X 10" X 26" (CVN)	294.7
16 PCS	INSIDE FLANGE PLATE - PL 1/2" X 4" X 26" (CVN)	235.7
4 PCS	DRIP PLATE - PL 1/4" X 2 3/4" X 8"	6.2
12 PCS	DIAPHRAGM D1 - C15X33.9 @ 7'-1 1/2"	2898.5
3 PCS	DIAPHRAGM D2 - MC18X42.7 @ 7'-4 3/8"	943.4
12 PCS	STIFFENER A - PL 1/2" X 5" X 28 1/4"	240.1
3 PCS	STIFFENER B - PL 1/2" X 5" X 28 1/4"	60.0
3 PCS	STIFFENER C - PL 1/2" X 5" X 28 1/4"	60.0
3 PCS	STIFFENER D - PL 1/2" X 5" X 28 1/4"	60.0
3 PCS	STIFFENER E - PL 1/2" X 5" X 28 1/4"	60.0
3 PCS	STIFFENER F - PL 1/2" X 8" X 28 1/4"	96.1
2 PCS	STIFFENER G - PL 1/2" X 8" X 28 1/4"	64.0
1 PC	STIFFENER H - PL 1/2" X 8" X 28 1/4"	32.0
156 PCS	7/8" X 2 1/4" A325 BOLT W/ NUT & WASHER	151.8
144 PCS	7/8" X 2 3/4" A325 BOLT W/ NUT & WASHER	152.4
128 PCS	7/8" X 3" A325 BOLT W/ NUT & WASHER	140.8
TOTAL		45186.2 LBS

NOTES:

ALL STEEL SHALL BE AASHTO M270 GRADE 50W (ASTM A709) UNLESS NOTED.

BEAMS AND SPLICE PLATES SHALL MEET CHARPY V-NOTCH REQUIREMENTS PER SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS (15 FT-LBS @ 40°F).

BEAM HOLES SHALL BE DRILLED FULL SIZE IN ASSEMBLY USING A TEMPLATE AND ROTO-BROACH, SHELL DRILL OR OTHER SIMILAR TOOL.

STRUCTURAL BOLTS SHALL BE 7/8" DIA. AASHTO M164 (ASTM A325) TYPE III WEATHERING UNLESS NOTED.

ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, 2001 STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2002, AND ITS LATEST REVISIONS.

CAMBER TOLERANCE: -0 TO +3/4"

STAMP HEAT NUMBERS ON BEAMS LEFT SIDE, NEAR SIDE OF WEB.

STEEL STAMPS FOR MARKING SHALL BE OF THE STRESSLESS TYPE.

ALL STEEL SHALL BE CLEANED TO SSPC-SP6 COMMERCIAL BLAST.

ALL ASTM A709 GRADE 50 STEEL IS TO BE LEFT UNPAINTED.

ALL WELDING PERFORMED IN COMPLIANCE WITH AMERICAN WELDING SOCIETY SPECIFICATIONS, ANSI/AASHTO/AWS D1.5.

BRIDGE LENGTH FIELD VERIFIED BY CONTRACTOR

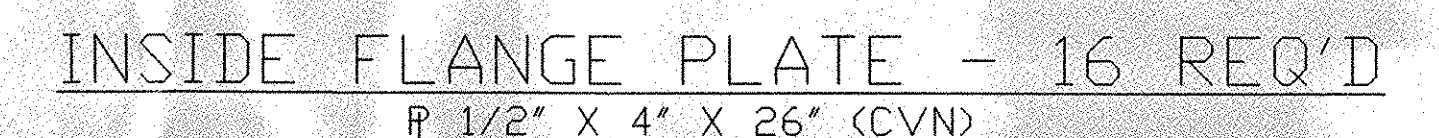
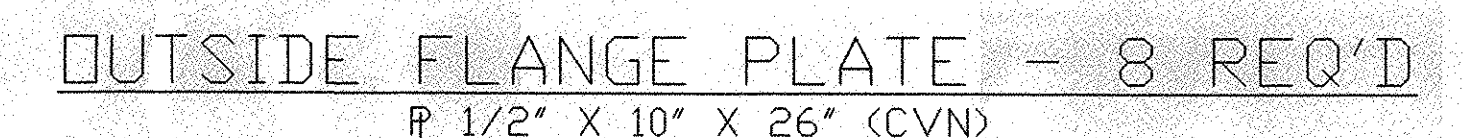
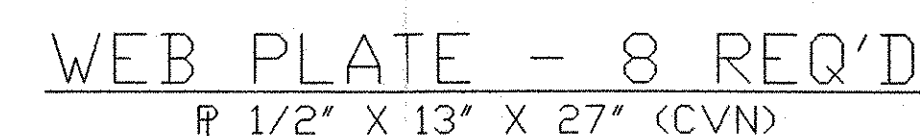
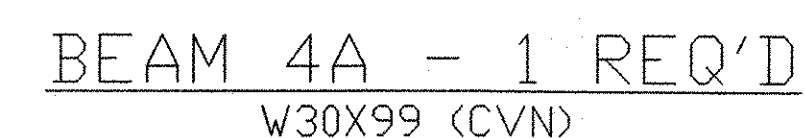
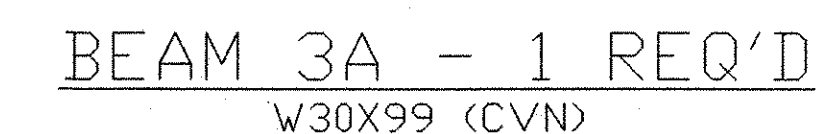
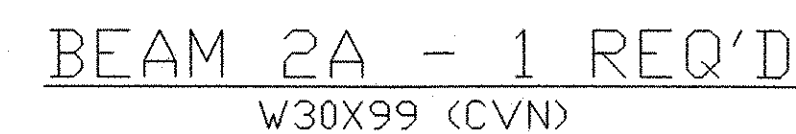
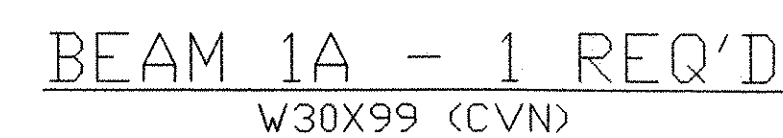
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JAN 03 2005
RESUBMIT: _____ APPROVED: [Signature]
BY: _____ DATE: _____

Verification must be prior to fabrication. Plans must be resubmitted if any dimensions change.

FRAMING PLAN
PROJECT NO. TH2-9625

US BRIDGE
201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725

FABRICATION DRAWING				ITEM 506.50	
BEAM BRIDGE				BRIDGE NO. 46	
TOWN OF NORWICH				TOWN HIGHWAY 3	
WINDSOR COUNTY, VERMONT				OVER OMPOMPANDOSUC RIVER	
DESIGN	DRAWN	DATE	DRAWING NO.	SHEET 1 OF 5	
CHECK/DATE J.HOFFMAN 10/14/04	P.BAKER	OCT. 12, 2004	NORWICH		
FABRICATOR US BRIDGE					



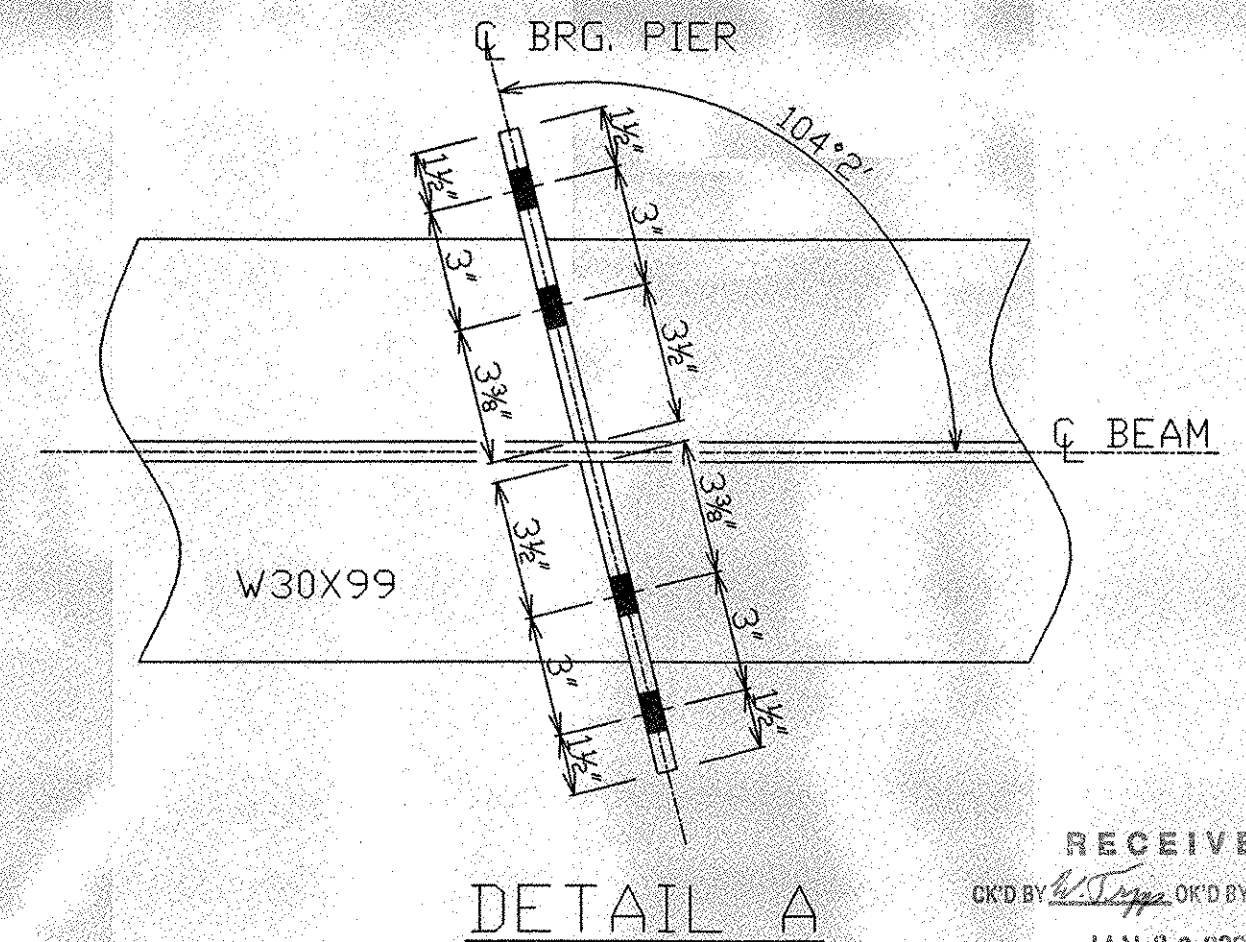
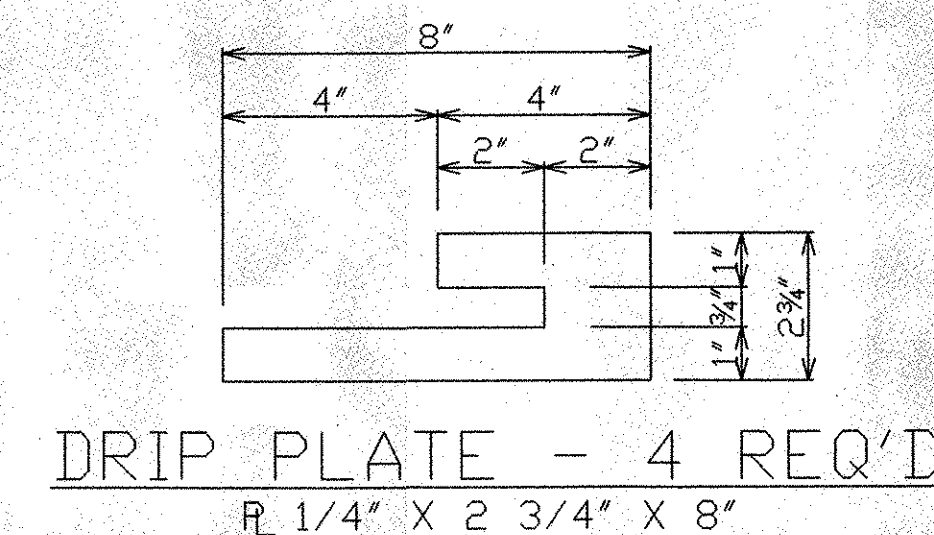
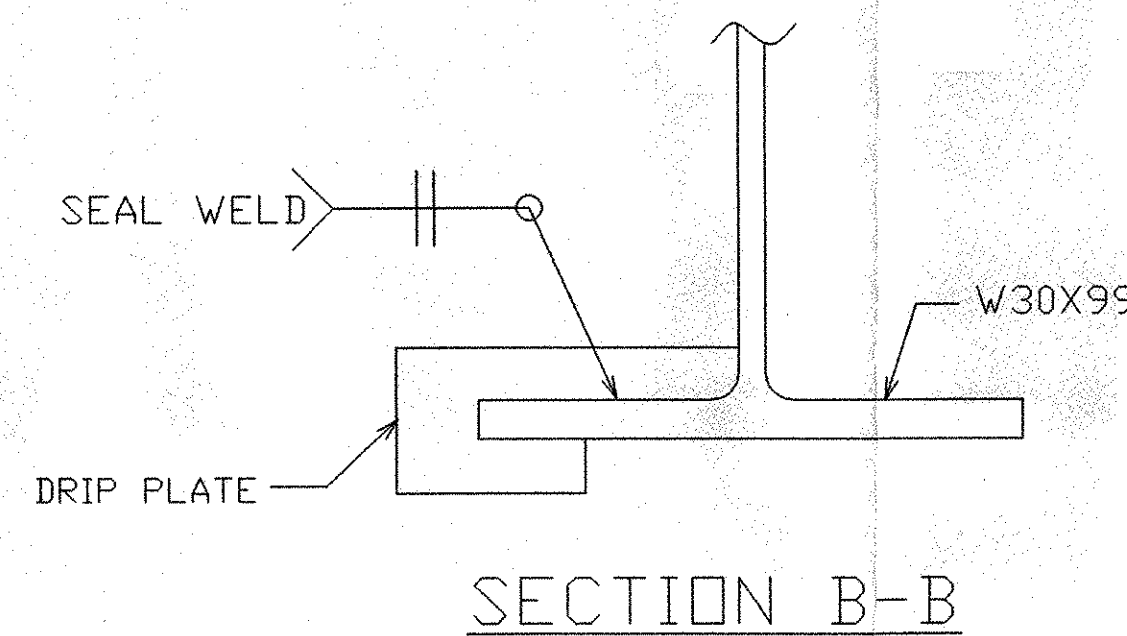
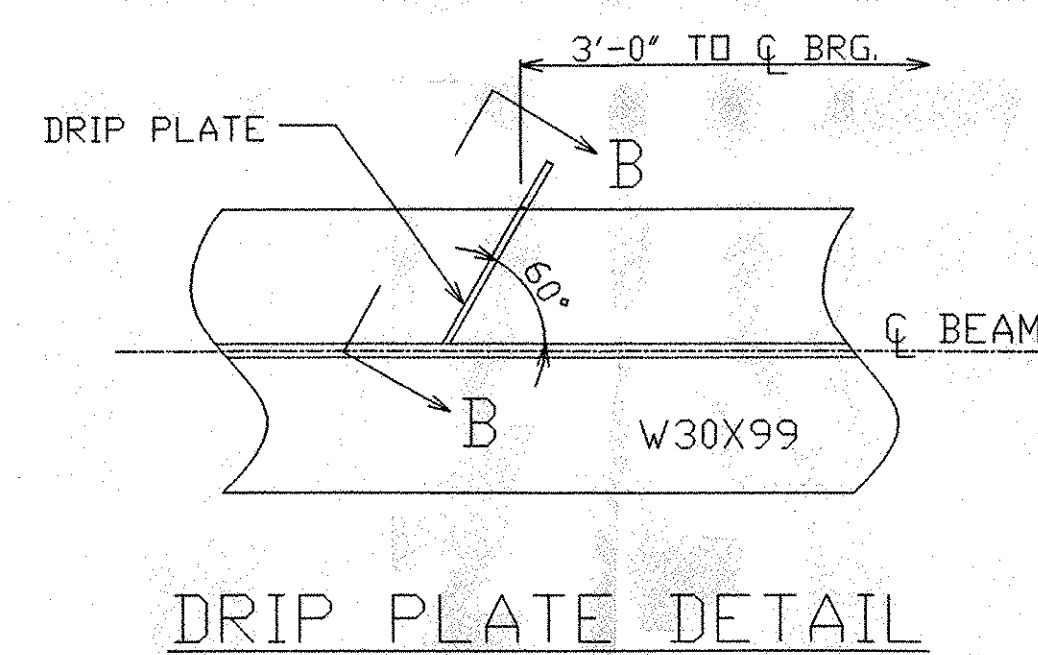
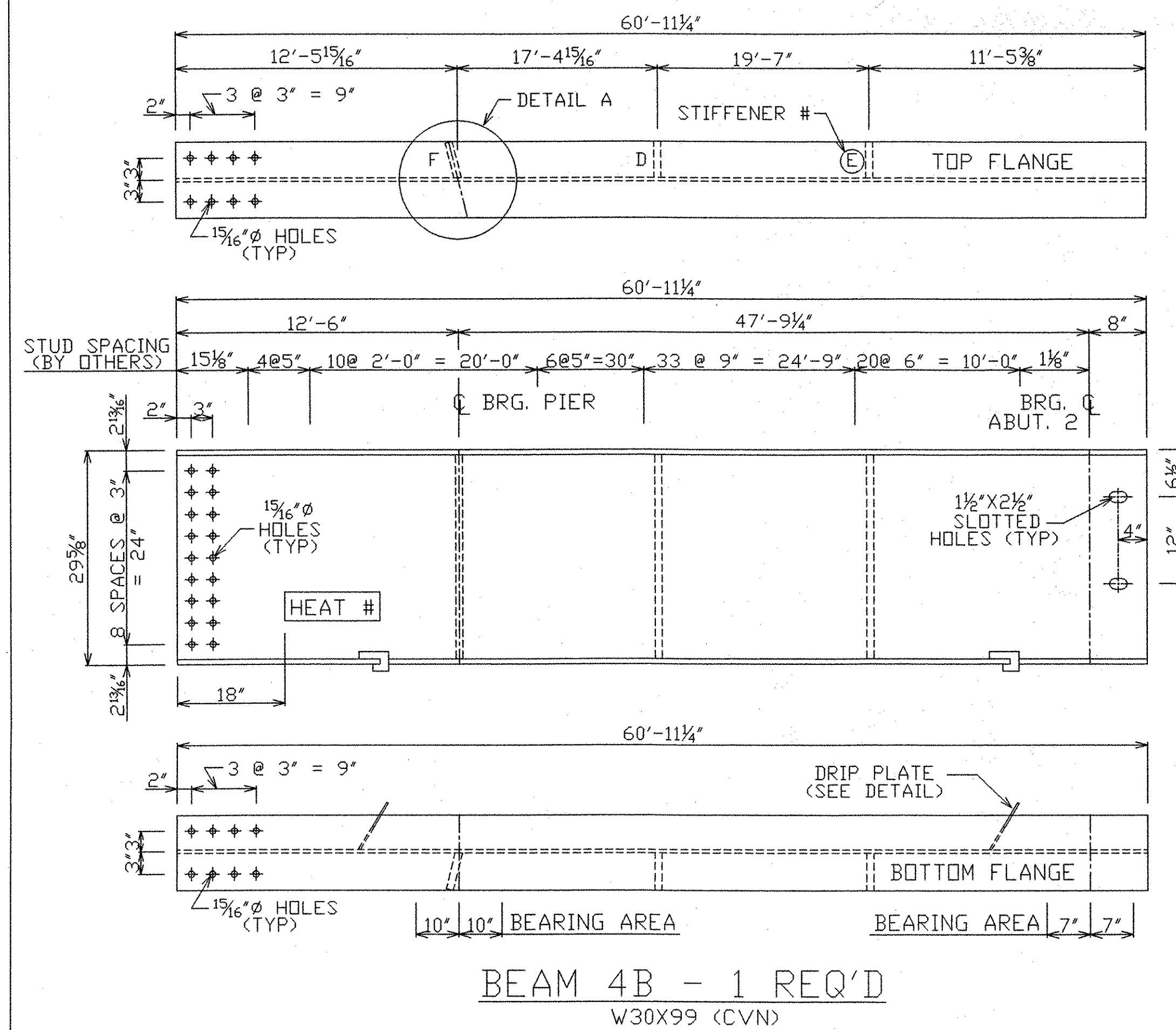
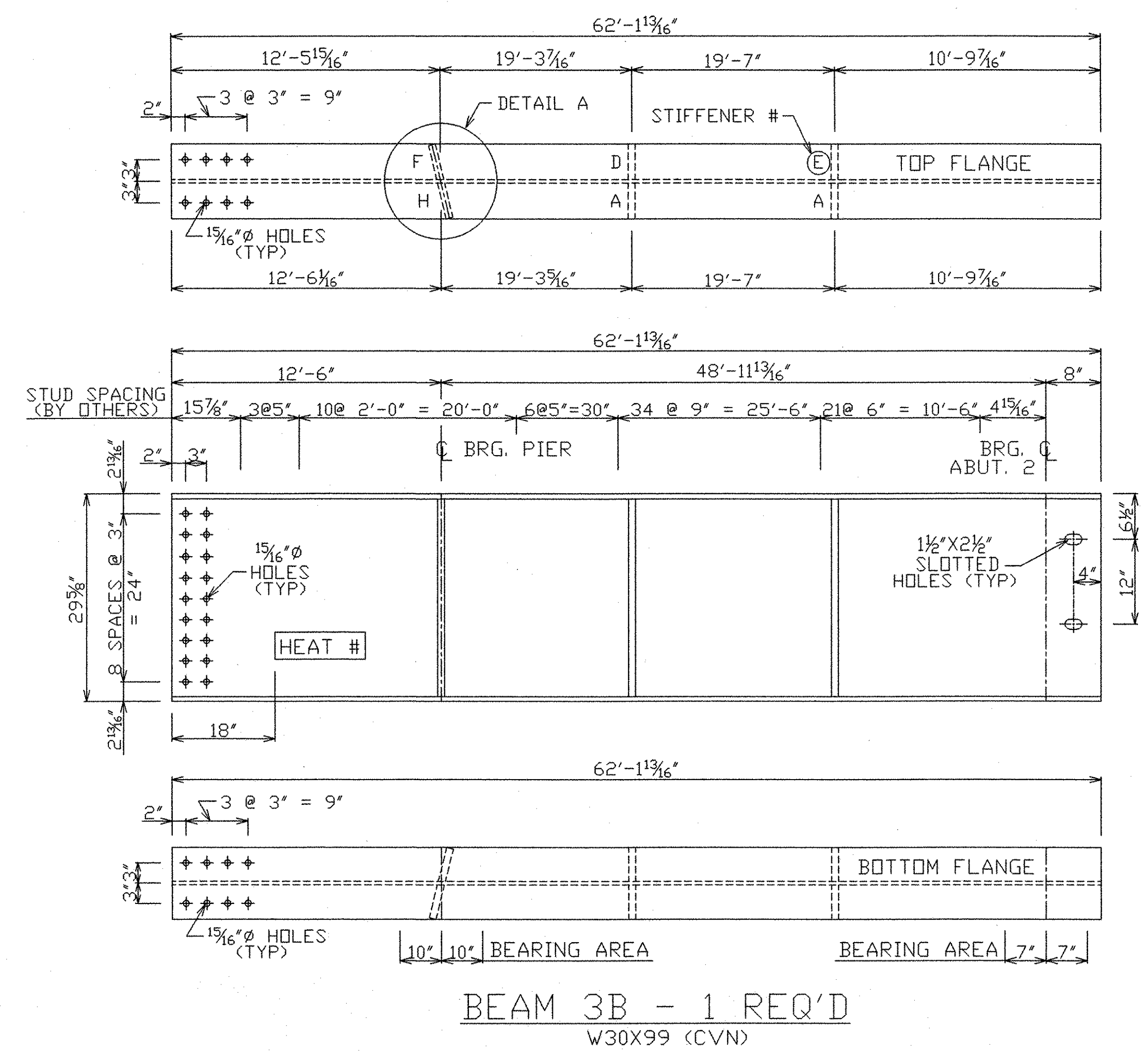
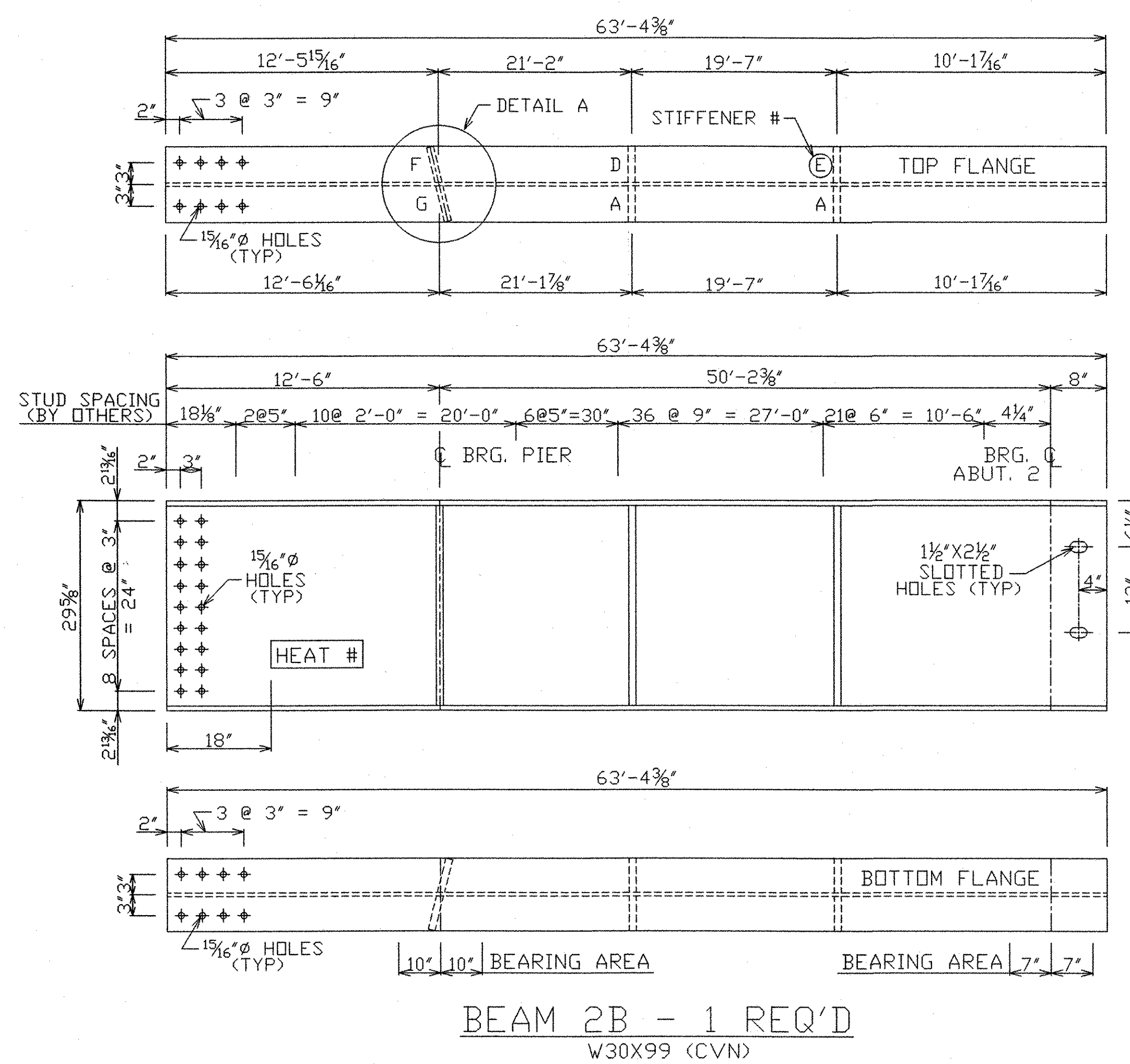
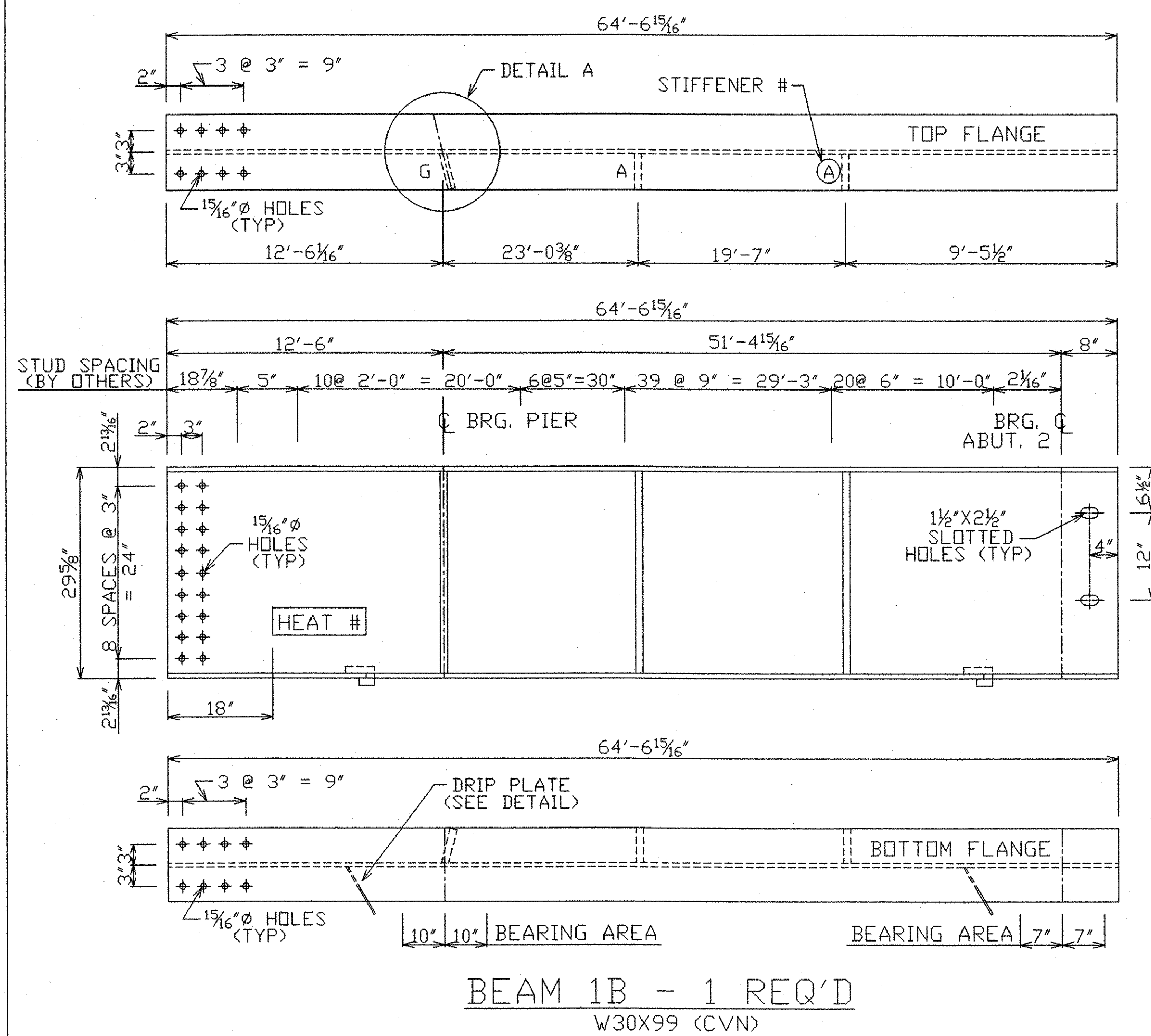
BEAM DETAILS
PROJECT NO. TH2-9625

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JAN 03 2005
RESUBMIT _____ APPROVED [Signature]
BY _____ DATE _____

US BRIDGE
201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725

NO.	DATE	REVISIONS	BY					CADLINE, CHD 4575
1	12/13/04	AS PER REVIEW	PAB	FABRICATION DRAWING				ITEM 506.50
				BEAM BRIDGE				BRIDGE NO. 46
				TOWN OF NORWICH				TOWN HIGHWAY 3
				WINDSOR COUNTY, VERMONT				OVER OMPOMPANOOSUC RIVER
				DESIGN	DRAWN P.BAKER	DATE OCT. 12, 2004	DRAWING NO. NORWICH	SHEET 2 OF 5
				CHECK/DATE J.HOFFMAN	FABRICATOR US BRIDGE			

NOTE: DRAWINGS RELATIVE DO NOT SCALE



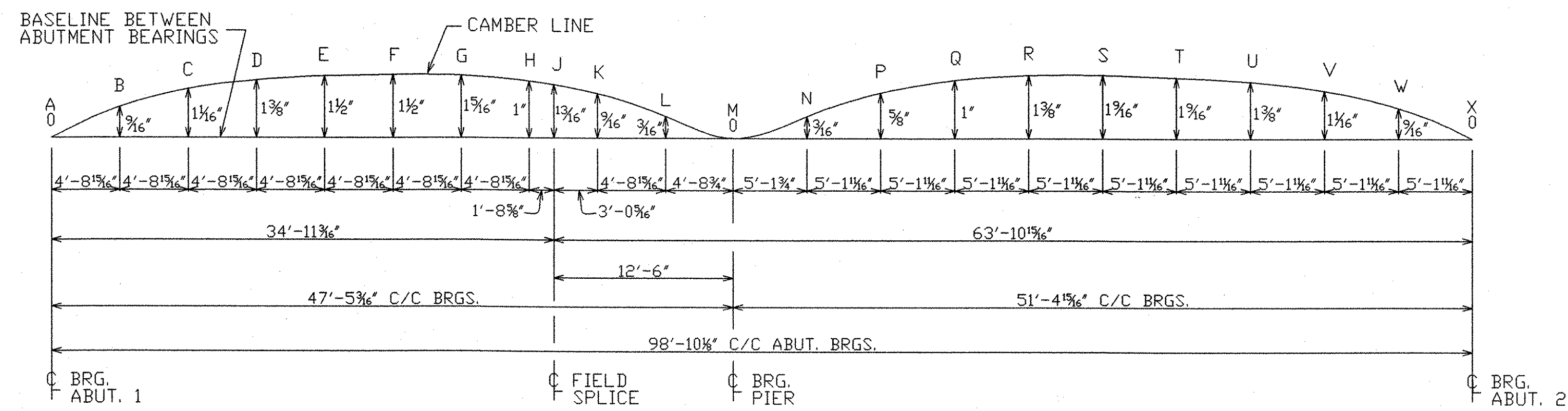
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CHK'D BY: *[Signature]* OK'D BY: *[Signature]*
JAN 03 2005
RESUBMIT: _____ APPROVED: _____
BY: _____ DATE: _____

BEAM DETAILS
PROJECT NO. TH2-9625

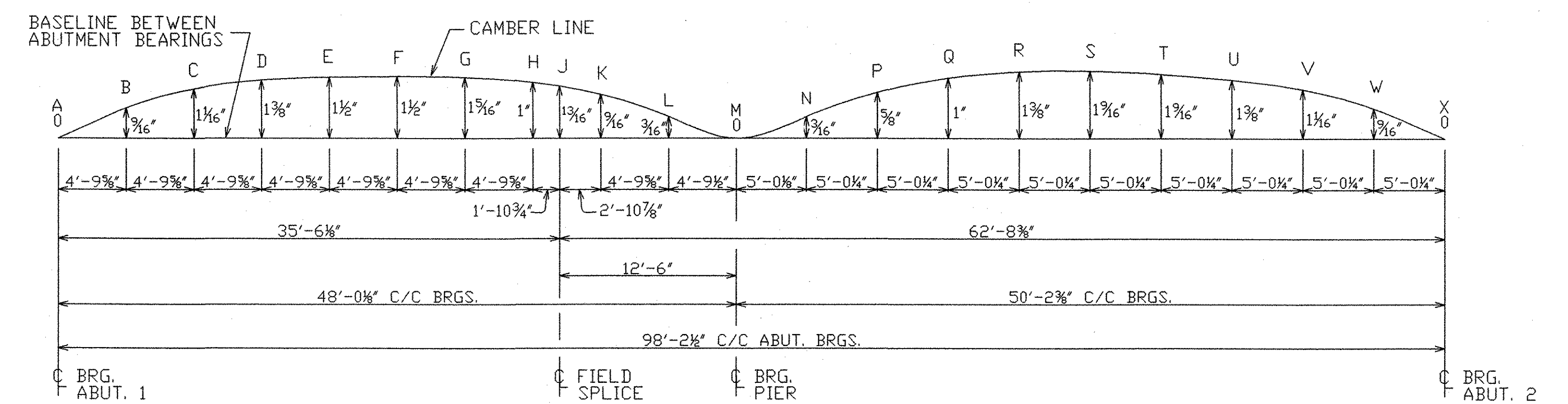
US BRIDGE
201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725

NO.	DATE	REVISIONS	BY	FABRICATION DRAWING	ITEM 506.50
1	12/13/04	AS PER REVIEW	PAB	BEAM BRIDGE	BRIDGE NO. 46
				TOWN OF NORWICH	TOWN HIGHWAY 3
				WINDSOR COUNTY, VERMONT	OVER OMPOMPANDOSUC RIVER
				DESIGN	DRAWING NO.
				DRAWN P. BAKER	NORWICH
				DATE OCT. 12, 2004	
				CHECK/DATE J. HOFFMAN 10/14/04	FABRICATOR US BRIDGE
					SHEET 3 OF 5

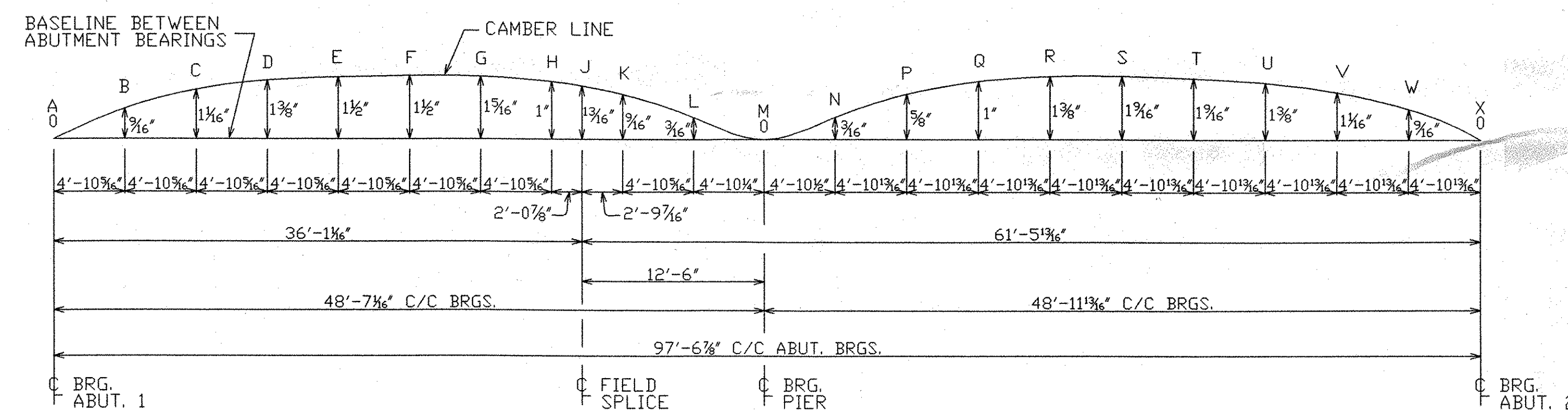
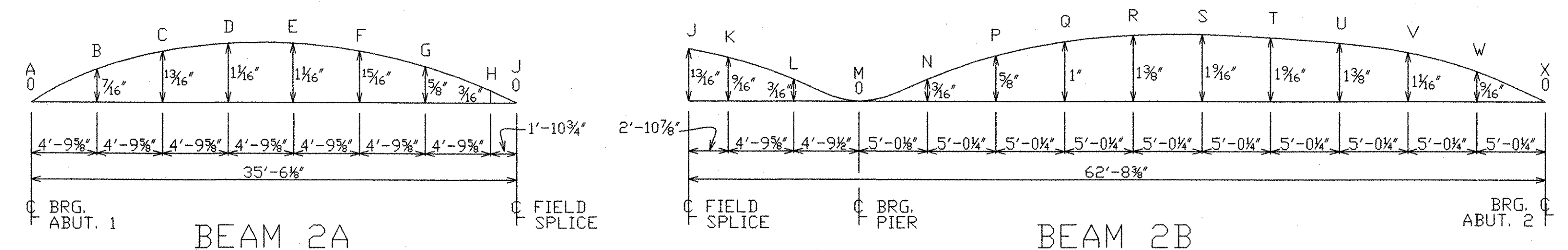
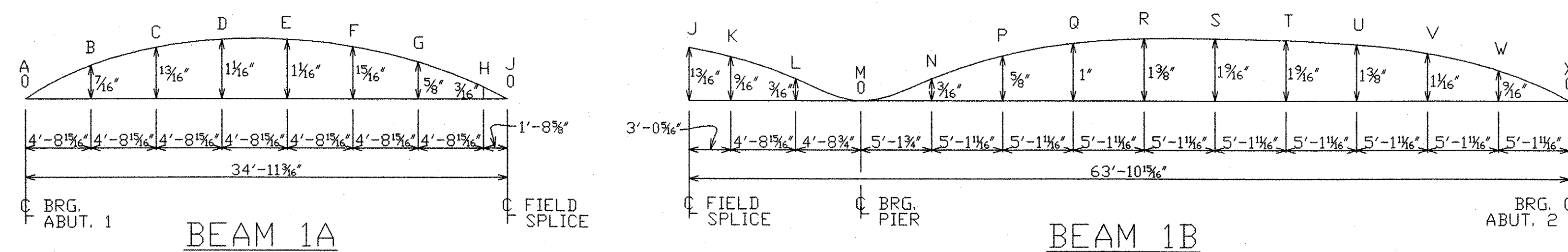
NOTE: DRAWINGS RELATIVE DO NOT SCALE



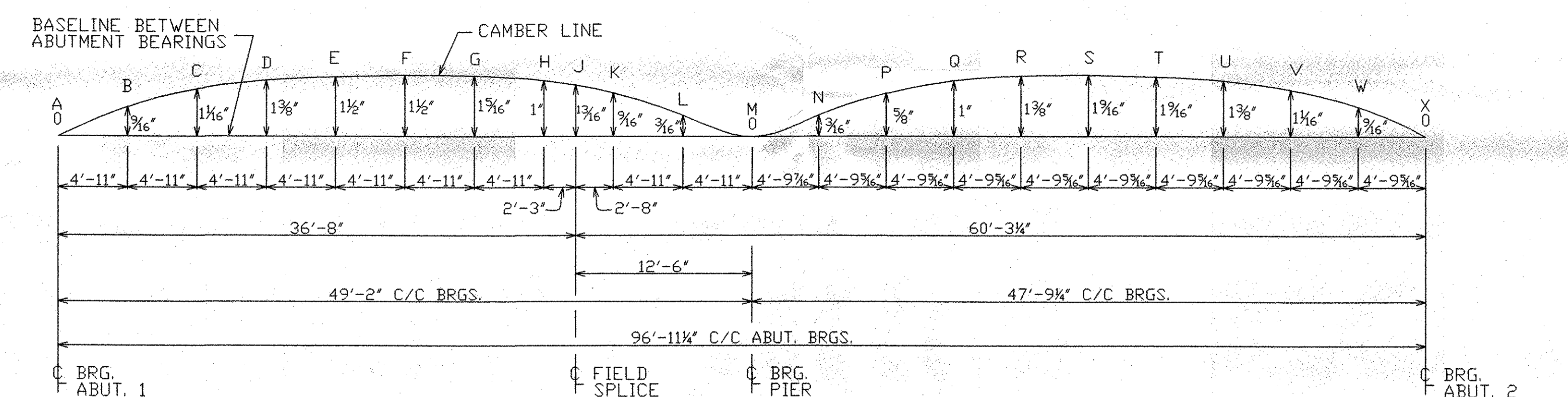
OVERALL CAMBER & BLOCKING DIAGRAM - BEAM LINE 1



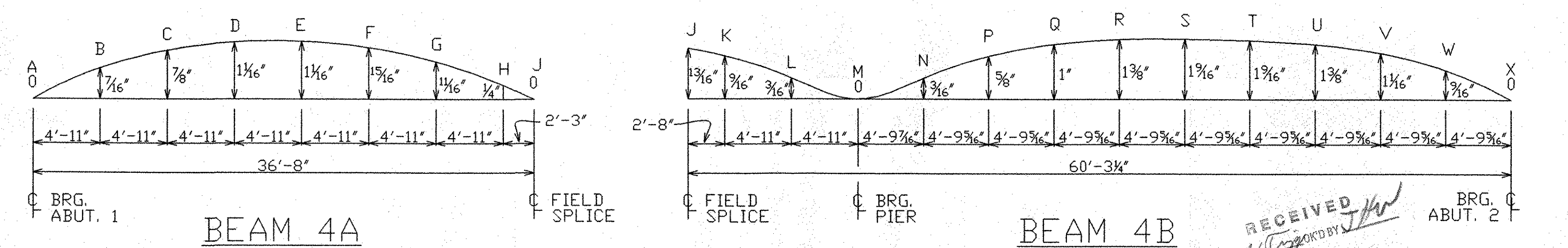
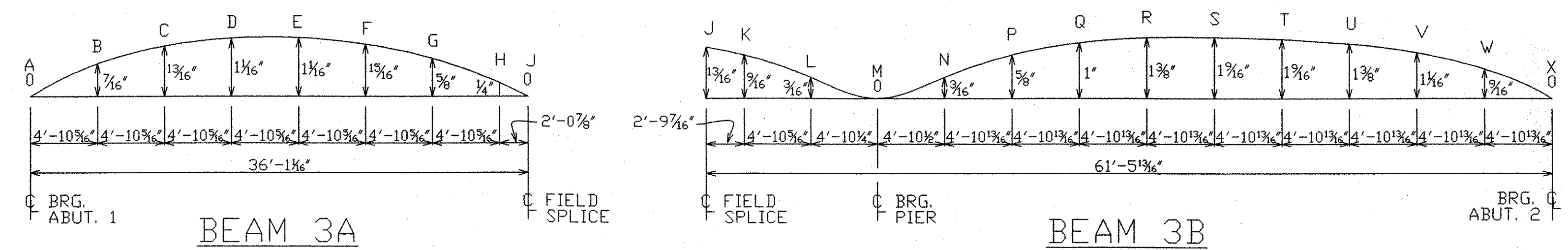
OVERALL CAMBER & BLOCKING DIAGRAM - BEAM LINE 2



OVERALL CAMBER & BLOCKING DIAGRAM - BEAM LINE 3



OVERALL CAMBER & BLOCKING DIAGRAM - BEAM LINE 4



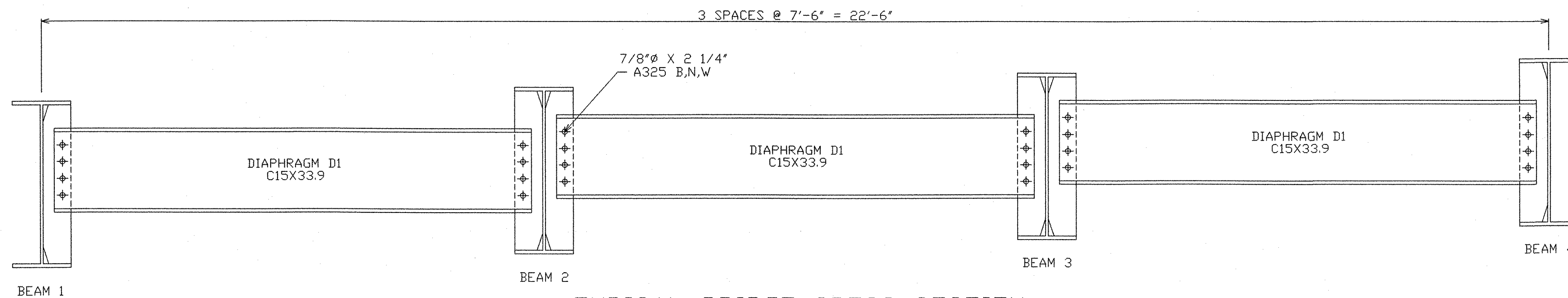
NOTE: DRAWINGS RELATIVE DO NOT SCALE

CAMBER DIAGRAMS
PROJECT NO. TH2-9625

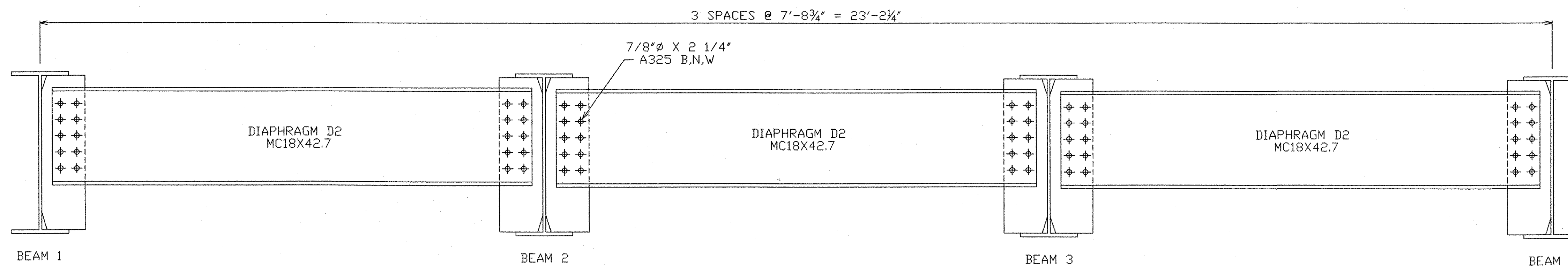
RECEIVED
CITY OF NORWICH
JAN 03 2005
APPROVED
DATE

US BRIDGE
201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725

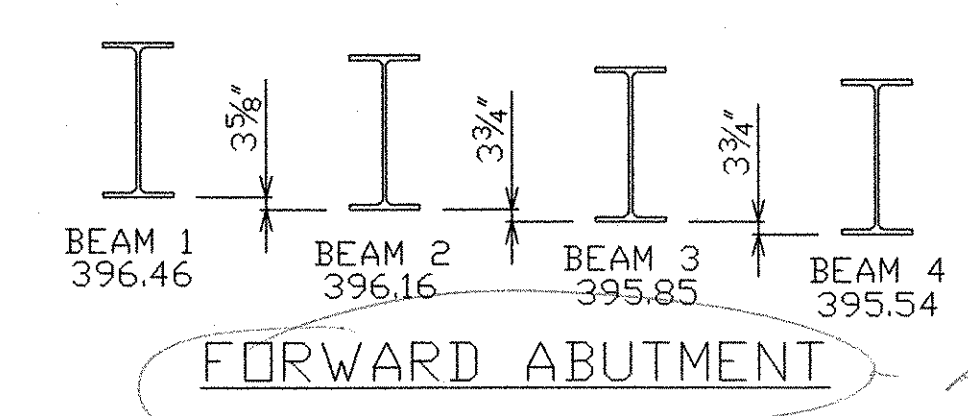
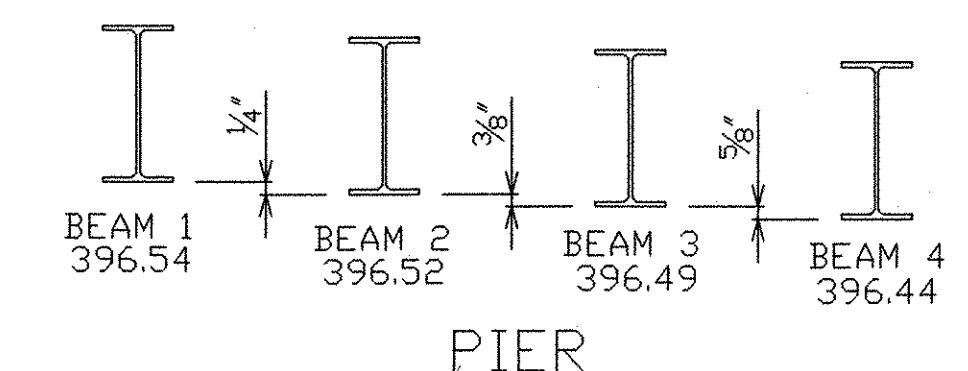
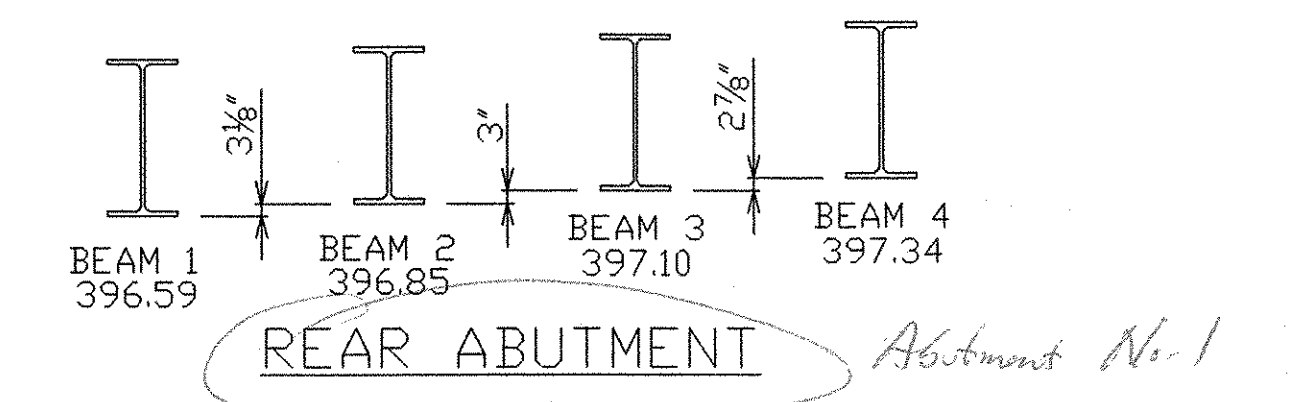
NO.	DATE	REVISIONS	BY	PAB	FABRICATION DRAWING	ITEM 506.50
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					TOWN OF NORWICH	TOWN HIGHWAY 3
					WINDSOR COUNTY, VERMONT	OVER OMPOMPANDUSUC RIVER
					DESIGN	DRAWN
					P.BAKER	OCT. 12, 2004
					CHECK/DATE	FABRICATOR
					J.HOFFMAN	US BRIDGE
					10/14/04	
					DRAWING NO.	NORWICH
					SHEET	4 OF 5



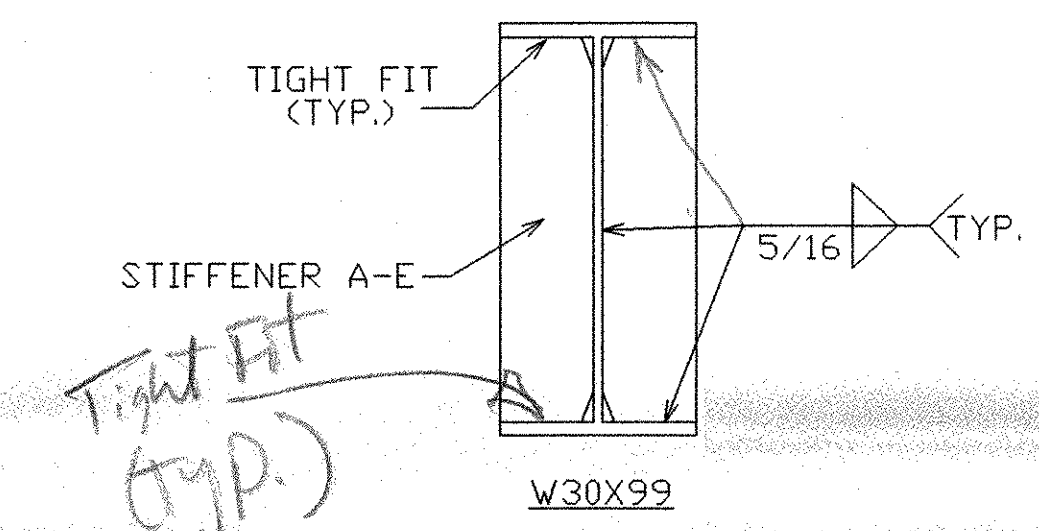
TYPICAL BRIDGE CROSS SECTION



BRIDGE CROSS SECTION @ PIER

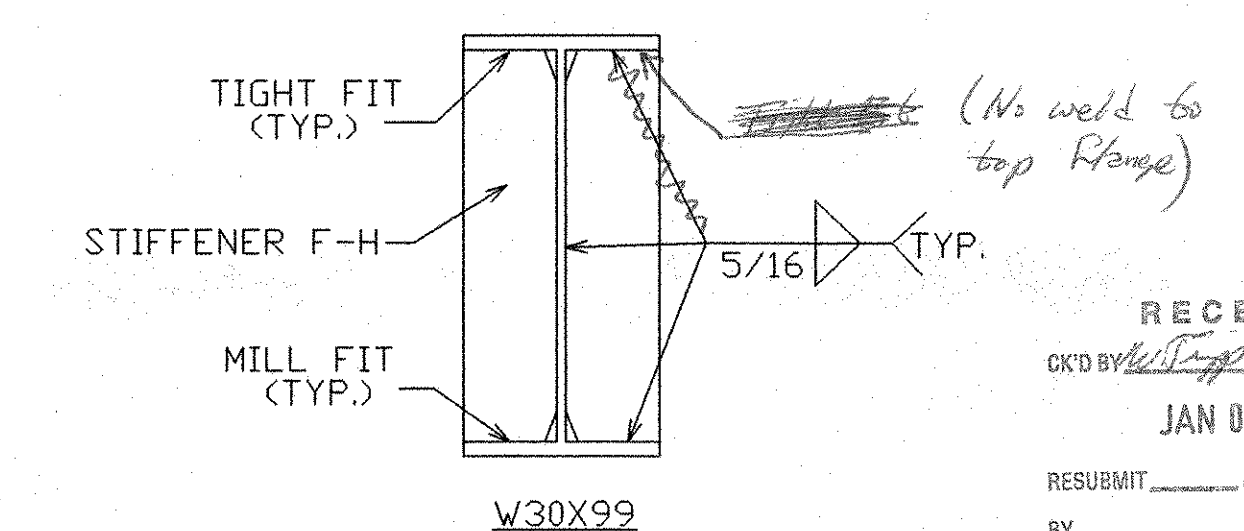


NOTE: ALL ELEVATIONS SHOWN TO BOTTOM OF BOTTOM FLANGE



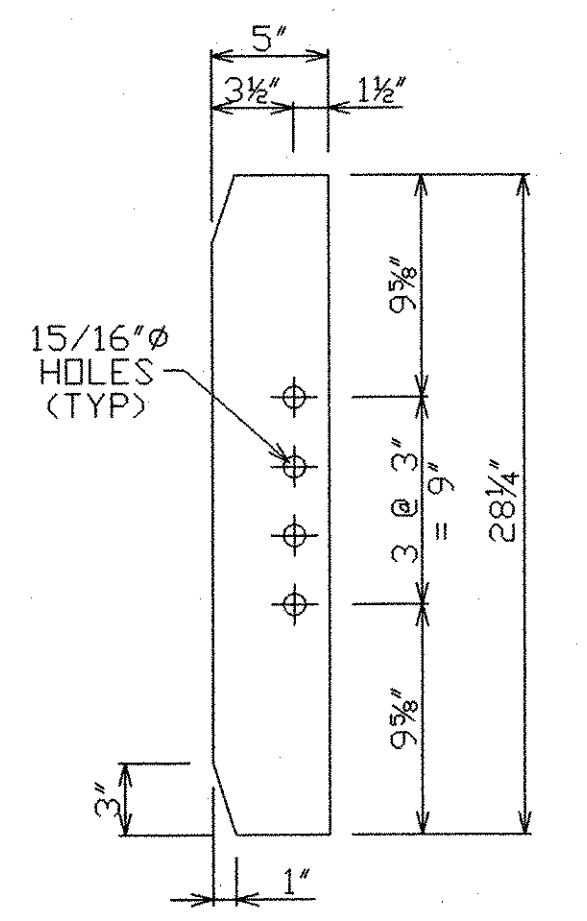
INTERMEDIATE DIAPHRAGM STIFFENERS

- NOTE: WELD TERMINATION AS FOLLOWS:
- 1.) STIFFENER PLATE TO STRINGER FLANGE 1/4" MIN TO 1/2" MAX
*MUST MAINTAIN 1" MIN FROM EDGE OF FLANGE
 - 2.) STIFFENER PLATE TO STRINGER WEB 1/4" MIN TO 1/2" MAX

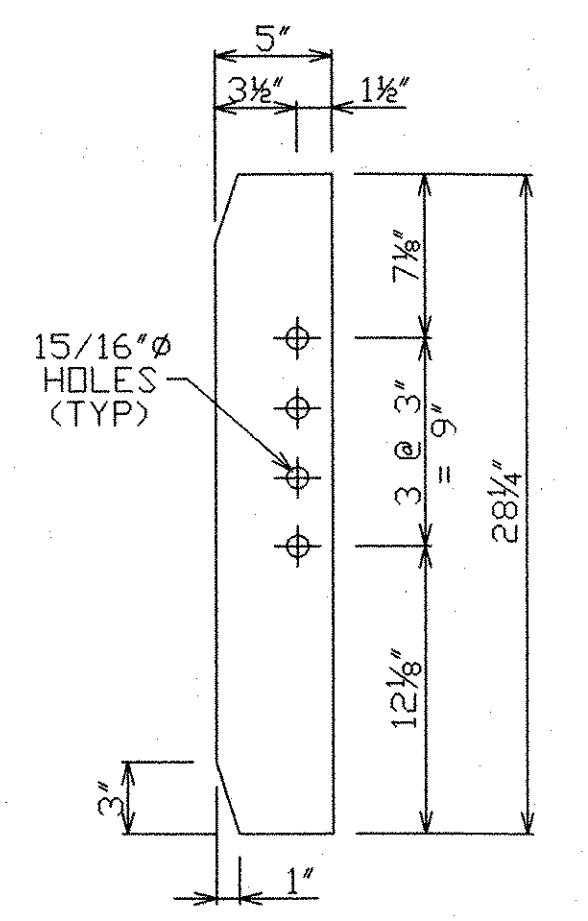


PIER DIAPHRAGM STIFFENERS

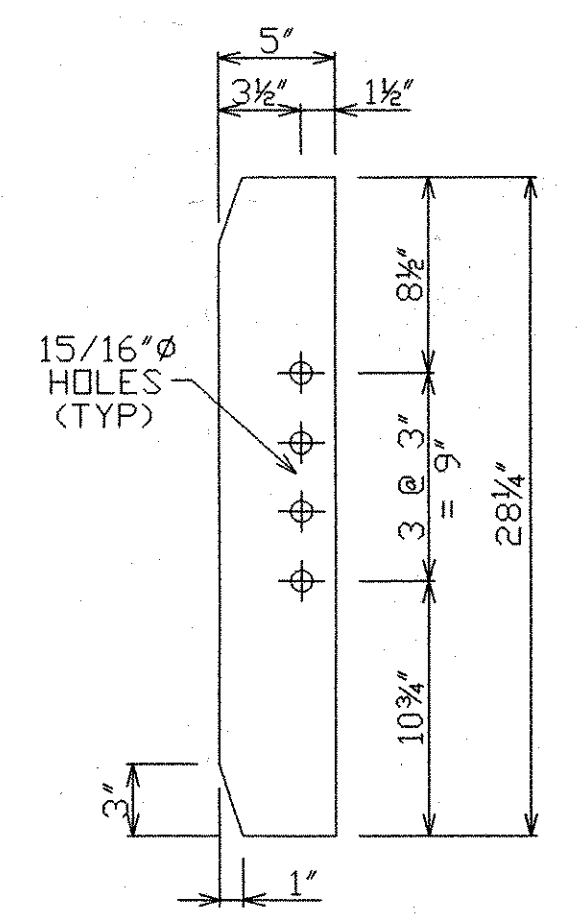
- NOTE: WELD TERMINATION AS FOLLOWS:
- 1.) STIFFENER PLATE TO STRINGER FLANGE 1/4" MIN TO 1/2" MAX
*MUST MAINTAIN 1" MIN FROM EDGE OF FLANGE
 - 2.) STIFFENER PLATE TO STRINGER WEB 1/4" MIN TO 1/2" MAX



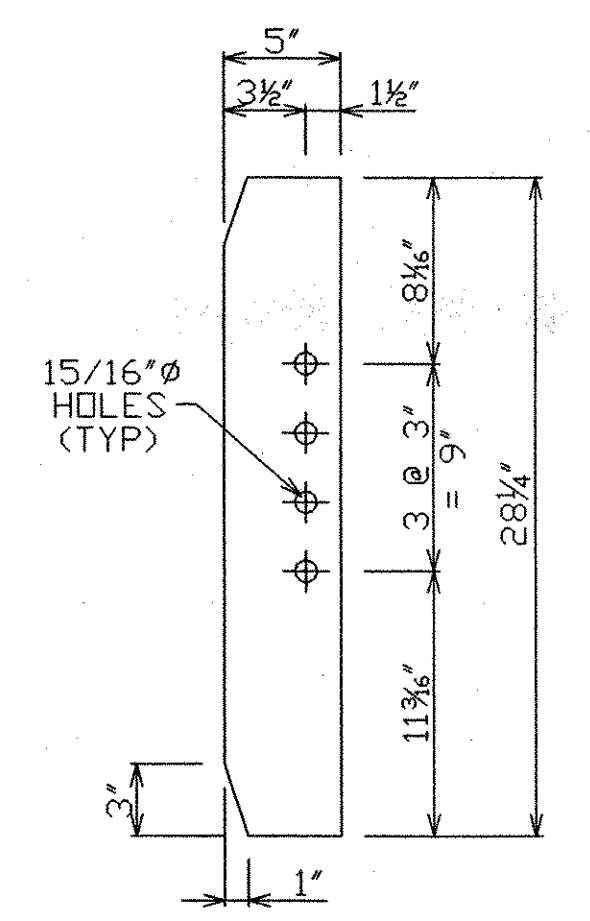
STIFFENER A
12 REQ'D
PL 1/2" X 5" X 28 1/4"



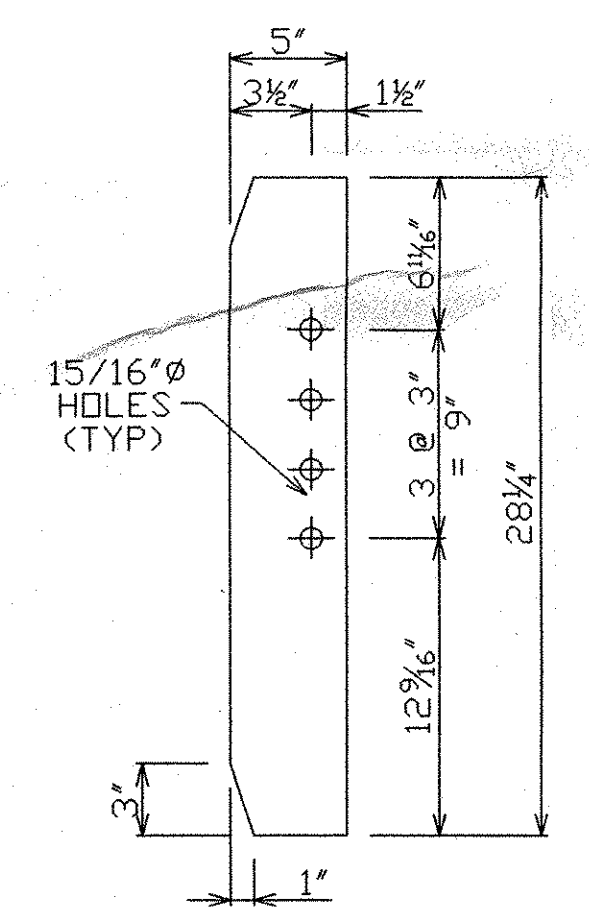
STIFFENER B
3 REQ'D
PL 1/2" X 5" X 28 1/4"



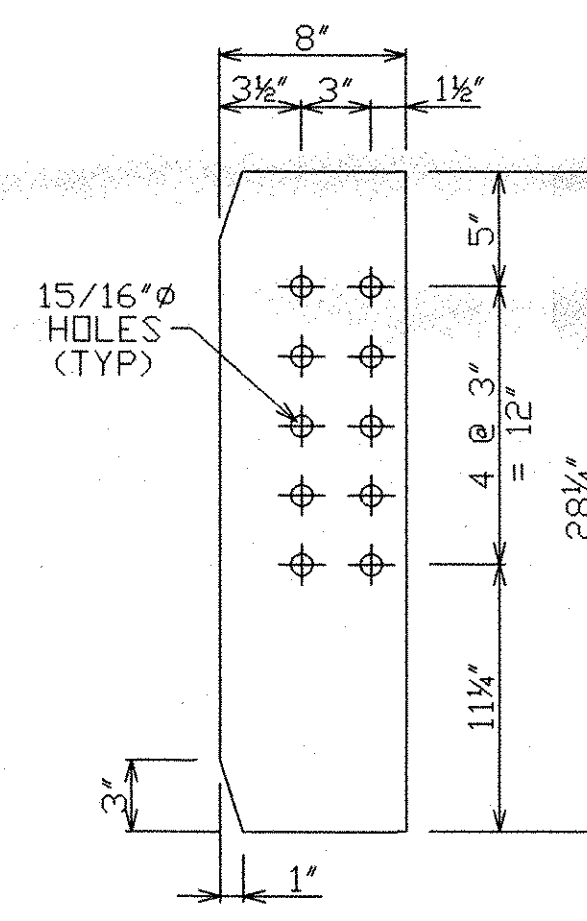
STIFFENER C
3 REQ'D
PL 1/2" X 5" X 28 1/4"



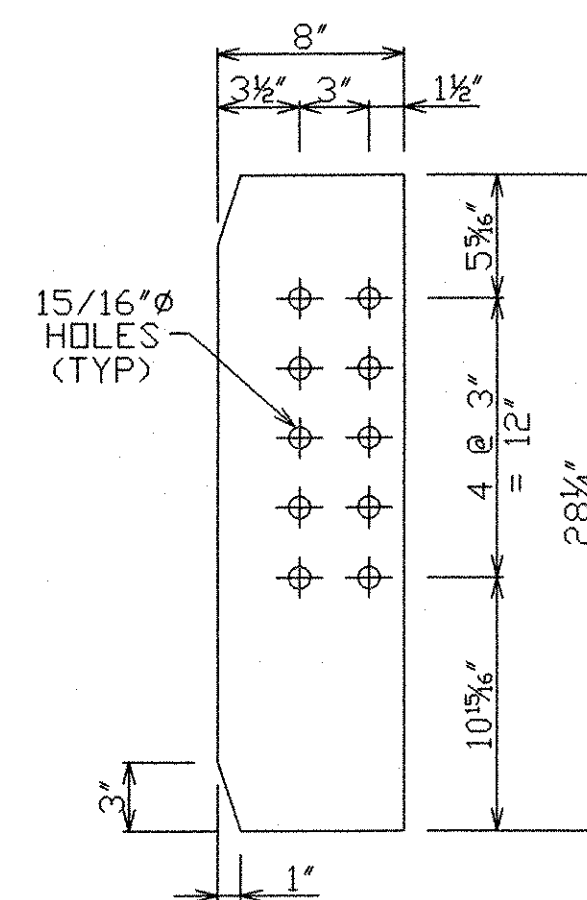
STIFFENER D
3 REQ'D
PL 1/2" X 5" X 28 1/4"



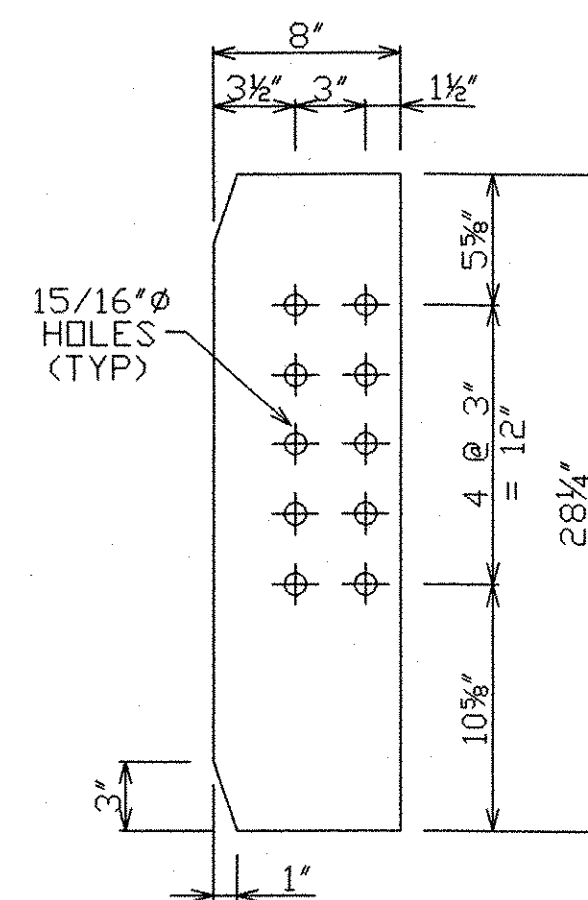
STIFFENER E
3 REQ'D
PL 1/2" X 5" X 28 1/4"



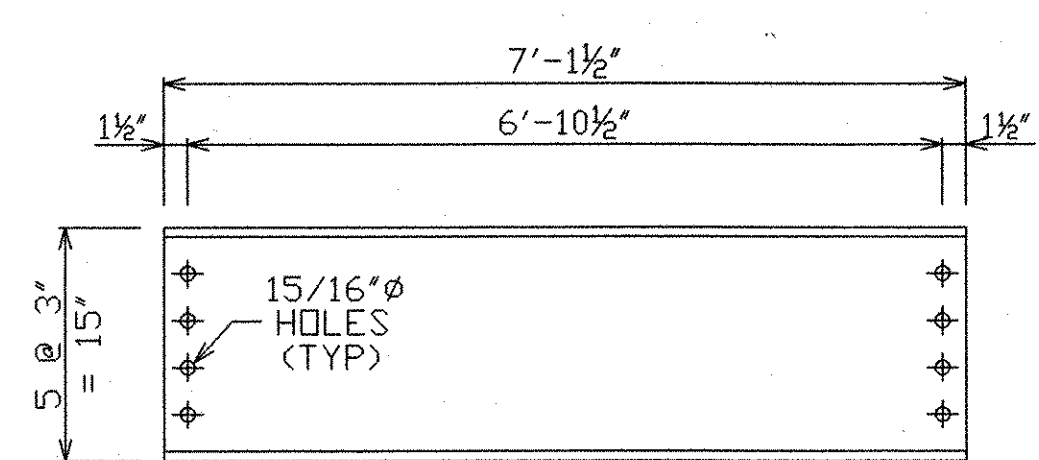
STIFFENER F
3 REQ'D
PL 1/2" X 8" X 28 1/4"



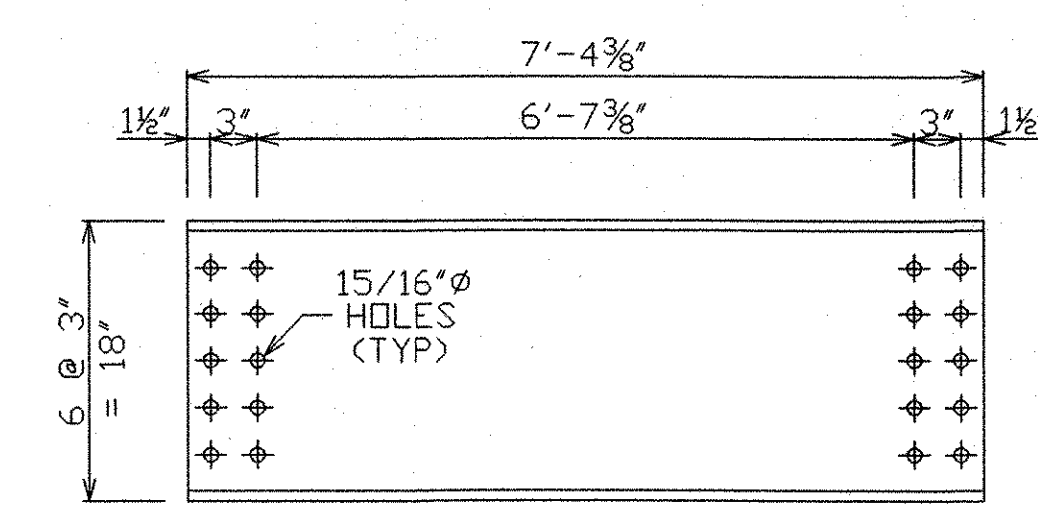
STIFFENER G
2 REQ'D
PL 1/2" X 8" X 28 1/4"



STIFFENER H
1 REQ'D
PL 1/2" X 8" X 28 1/4"



DIAPHRAGM D1 - 12 REQ'D
C15X33.9



DIAPHRAGM D2 - 3 REQ'D
MC18X42.7

NOTE: DRAWINGS RELATIVE DO NOT SCALE

NO.	DATE	REVISIONS	BY
1	12/13/04	AS PER REVIEW	PAB

DIAPHRAGMS & STIFFENERS
PROJECT NO. TH2-9625

FABRICATION DRAWING
BEAM BRIDGE
TOWN OF NORWICH
WINDSOR COUNTY, VERMONT

DESIGN
P.BAKER
OCT. 12, 2004

CHECK/DATE
J.HOFFMAN
10/14/04

DRAWING NO.
NORWICH

ITEM 506.50
BRIDGE NO. 46
TOWN HIGHWAY 3
OVER OMPOMPANOSUC RIVER

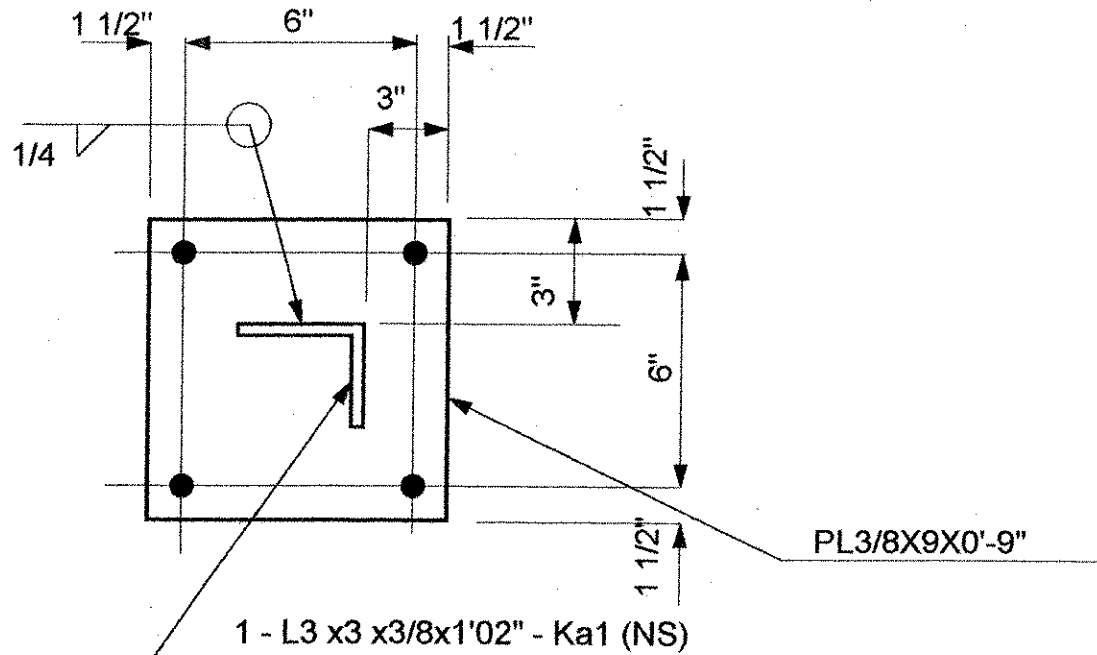
SHEET
5 OF 5

US BRIDGE
201 WHEELING AVE.
P.O. BOX 757
CAMBRIDGE, OHIO 43725

RECEIVED
OK'D BY [Signature]
JAN 03 2005
RESUBMIT APPROVED [Signature]
BY DATE

HSS 8 X 8 X 1/4"

Pl - pb1
ns/fs



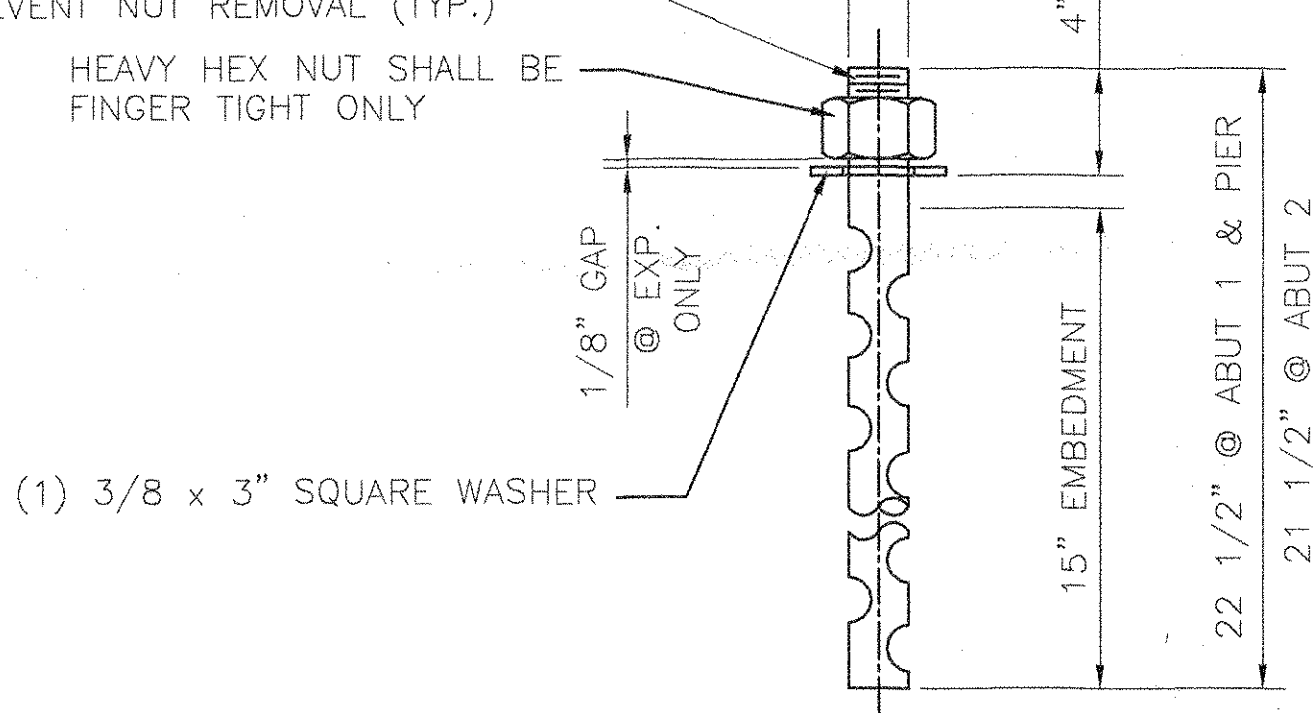
2 - Brackets - M1B

1' - 2"

8"

SECTION "A"

HEAVY HEX NUT SHALL BE
FINGER TIGHT ONLY



N.T.S.

1 1/2"Ø ASTM F1554 GRADE 55, SWEDGED
ANCHOR BOLT WITH (1) ASTM A563 HEAVY
HEX NUT & (1) 3/8" x 3" x 3" ASTM A36
PLATE WASHER WITH 1 7/8"Ø HOLE @ Q_L ,
ALL GALVANIZED