M:\1595402 Bostwick\HWY\DRAW\J196nu1.dgn

INDEX OF SHEETS

SEE SHEET 2

STATE OF VERMONT
AGENCY OF TRANSPORTATION

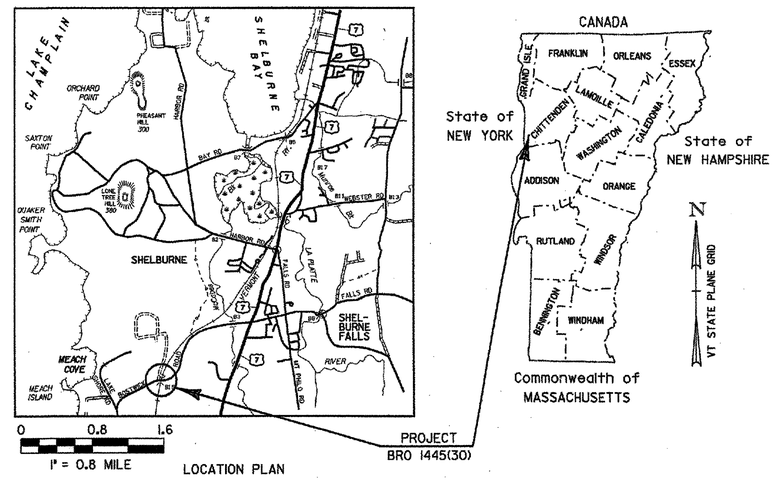
PROPOSED IMPROVEMENT

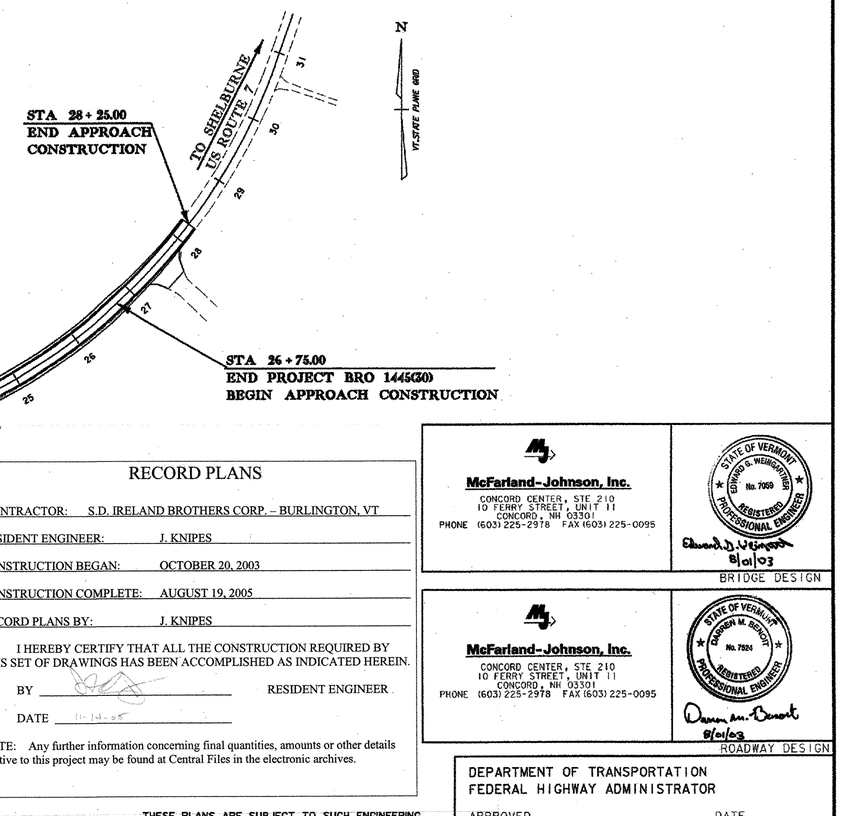
BRIDGE PROJECT
TOWN OF SHELBURNE
COUNTY OF CHITTENDEN
BOSTWICK ROAD
(TH3 BR15)

Beginning on Bostwick Road approximately 1.4 miles west of the junction of Bostwick Road and US Route 7 and extending along Bostwick Road 1625 feet, within the town limits of Shelburne.

Work to be performed on this project includes Roadway Reconstruction, Bridge Reconstruction, and the associated drainage, utility relocation, grading, subbase, pavement and other related items.

Length of Roadway = 0.291 miles = 1533 feet
Length of Bridge = 0.017 miles = 92 feet
Length of Project = 0.308 miles = 1625 feet





TRAFFIC DATA

2004 ADT = 2300	2024 ADT = 3100
2004 DHV = 230	2024 DHV = 300
2004 ADTT = 80	2024 ADTT = 100

%T = 3%
%D = 50%
V = 35mph
POSTED SPEED LIMIT = 35mph

2004-2024 (20 YEAR) 18K ESAL = 250,000
2004-2044 (40 YEAR) 18K ESAL = 350,000
LOCAL ROAD

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 : VERMONT SURVEYING & ENGINEERING
SURVEYED DATE : 8/1999

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

RECORD PLANS

CONTRACTOR: S.D. IRELAND BROTHERS CORP. – BURLINGTON, VT
RESIDENT ENGINEER: J. KNIPES
CONSTRUCTION BEGAN: OCTOBER 20, 2003
CONSTRUCTION COMPLETE: AUGUST 19, 2005
RECORD PLANS BY: J. KNIPES

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

BY _____ RESIDENT ENGINEER

DATE 11-14-05

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.

McFarland-Johnson, Inc.
CONCORD CENTER, STE 210
10 FERRY STREET, UNIT 11
CONCORD, NH 03301
PHONE (603) 225-2978 FAX (603) 225-0095

STATE OF VERMONT
EDWARD G. WEINGARTEN
No. 7059
REGISTERED
PROFESSIONAL ENGINEER
Edward G. Weingarten
8/01/03

BRIDGE DESIGN

McFarland-Johnson, Inc.
CONCORD CENTER, STE 210
10 FERRY STREET, UNIT 11
CONCORD, NH 03301
PHONE (603) 225-2978 FAX (603) 225-0095

STATE OF VERMONT
DARREN M. BENOIT
No. 7524
REGISTERED
PROFESSIONAL ENGINEER
Darren M. Benoit
8/01/03

ROADWAY DESIGN

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATOR
APPROVED _____ DATE _____

DIRECTOR OF PROJECT DEVELOPMENT
APPROVED _____ DATE 8/5/03

PROJECT MANAGER : ROGER WHITCOMB

PROJECT NAME : SHELBURNE
PROJECT NUMBER : BRO 1445(30)

SHEET 1 OF 73 SHEETS

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C-1	GRANITE SLOPE EDGING AND VERTICAL GRANITE CURB	01/03/00
D-4	TYPICAL WATERFALL FOR CULVERTS, EXTENSION SERVICE BOX & CURB STOP	06/01/94
D-8	REINFORCED CONCRETE DROP INLET W/ PRECAST COVER, REINFORCED	01/03/00
D-10	TOP FOR A DROP INLET WITH BITUMINOUS CONCRETE CURB	06/01/94
D-11	STEEL GRATE TYPE A CAST IRON COVER	06/01/94
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E-107A	BREAKAWAY BARRICADE DETAILS	08/08/95
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E-119	UTILITY WORK ZONE	08/08/95
E-121	STANDARD SIGN PLACEMENT CONVENTIONAL ROAD	08/08/95
E-134	BRIDGE NUMBER PLAQUE	08/08/95
E-142	REGULATORY SIGN DETAILS	09/20/95
E-143	REGULATORY SIGN DETAILS	09/20/95
E-160	FLANGED CHANNEL STEEL SIGN POST	05/20/99
G-1	STEEL BEAM GUARDRAIL W/ STEEL POSTS, WOOD POSTS	01/03/00
G-1d	STEEL BEAM GUARDRAIL APPROACH END TERMINAL	01/03/00
G-4	STEEL MARKER POSTS	06/01/94
G-18	PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER	06/01/94
J-3	MAILBOX SUPPORT DETAIL	08/07/95
L-1	SETTLEMENT PLATFORMS	03/09/95
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SB-R7-90	BRIDGE RAILING-HEAVY DUTY STEEL BEAM	01/11/95

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (1996)

STANDARD SHEETS AND INDEX

PROJECT NAME: SHELBURNE

PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\Index.dgn

PROJECT LEADER: MBZ PLOT DATE: 01-AUG-2003

DESIGNED BY: DMB DRAWN BY: MJF

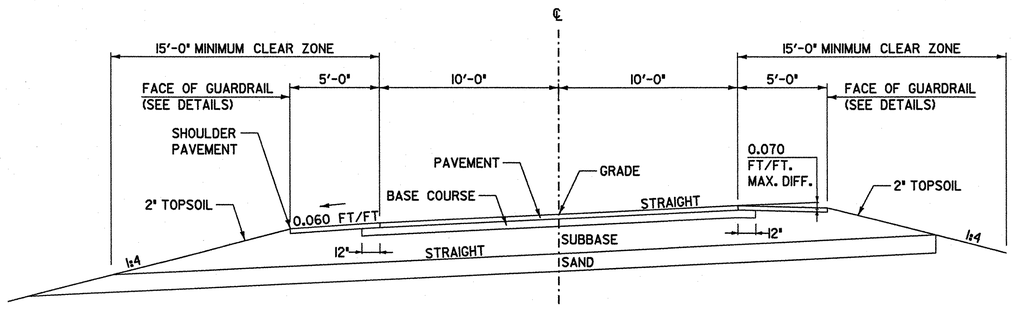
CHECKED BY: MDL SHEET 2 OF 73

TYPICAL SECTIONS

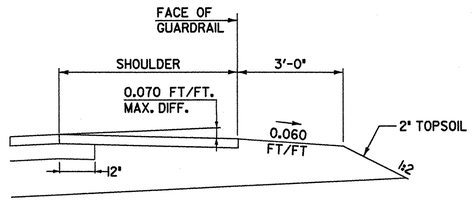
MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH)	1/4"
SUBBASE	1"
SAND	1"

TRAVELWAY: 3" BITUMINOUS CONCRETE PAVEMENT (2 1-1/2" LIFTS) TYPE III OR IV
5" BITUMINOUS CONCRETE PAVEMENT (2 2-1/2" LIFTS) TYPE I OR II
18" DENSE GRADED CRUSHED STONE
12" SAND BORROW

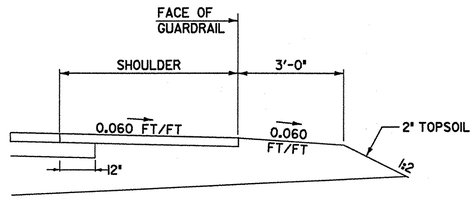
SHOULDERS: 3" BITUMINOUS CONCRETE PAVEMENT (2 1-1/2" LIFTS) TYPE III OR IV
18" DENSE GRADED CRUSHED STONE
12" SAND BORROW



MAXIMUM BANKED SECTION 0.053 FT/FT



DETAIL OF GUARDRAIL ON HIGH SIDE OF BANKED SECTION



DETAIL OF GUARDRAIL ON LOW SIDE OF BANKED SECTION

SEEDING FORMULA RURAL AREAS

% WT.	LBS/A	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 RYE GRASS	95	85
100.0	60.0			

GENERAL NOTES

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

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

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 1/4T/AC. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 T/AC, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 T/AC, OR AS DIRECTED BY THE ENGINEER.

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

TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.15 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

FOR SILT FENCE DETAIL, SEE STANDARD SHEET T-1

BOSTWICK ROAD TYPICAL SECTIONS

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

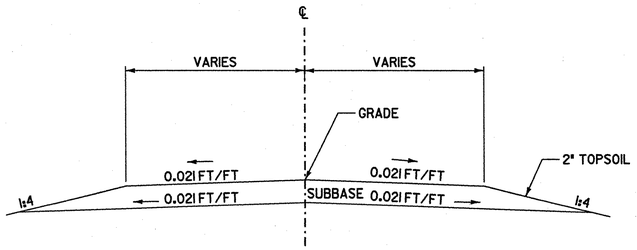
FILE NAME: M:\1595402 Bostwick\HWY\DRAW\TYPICALS\typ001.dgn
PROJECT LEADER: MBZ
PLOT DATE: 01-AUG-2003
DESIGNED BY: DMB
DRAWN BY: MJF
CHECKED BY: MDL
SHEET 3 OF 73

TYPICAL SECTIONS

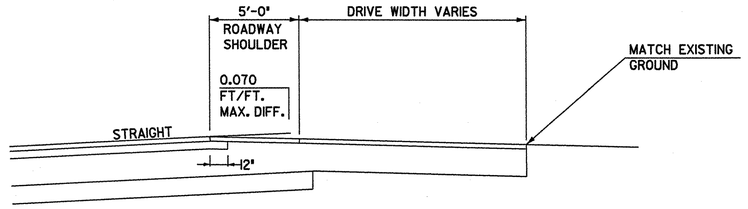
MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH)	1/4"
SUBBASE	1"
SAND	1"

PAVED DRIVES: 3" BITUMINOUS CONCRETE PAVEMENT (2 1-1/2" LIFTS) TYPE III OR IV
15" DENSE GRADED CRUSHED STONE

GRAVEL DRIVES: 3" AGGREGATE SURFACE COURSE
12" DENSE GRADED CRUSHED STONE



NORMAL CROWN



PAVED DRIVE

SEEDING FORMULA
RURAL AREAS

% WT.	LBS/A	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 RYE GRASS	95	85
100.0	60.0			

GENERAL NOTES

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

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

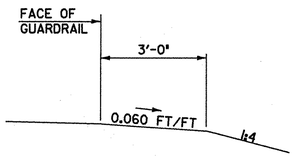
FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 1/4T/AC. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 T/AC, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 T/AC, OR AS DIRECTED BY THE ENGINEER.

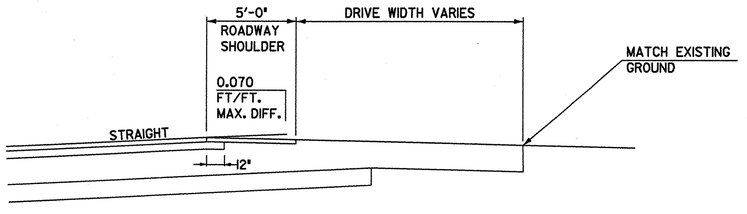
TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.15 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.



DETAIL OF GUARDRAIL SECTION

BOSTWICK FARM ROAD DRIVE



GRAVEL DRIVE

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

FOR SILT FENCE DETAIL, SEE STANDARD SHEET T-1

DRIVE TYPICAL SECTIONS

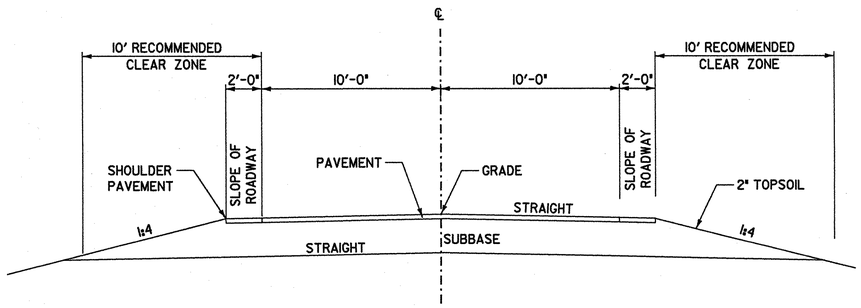
PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\TYPICALS\typ002.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: MJF
SHEET 4 OF 73

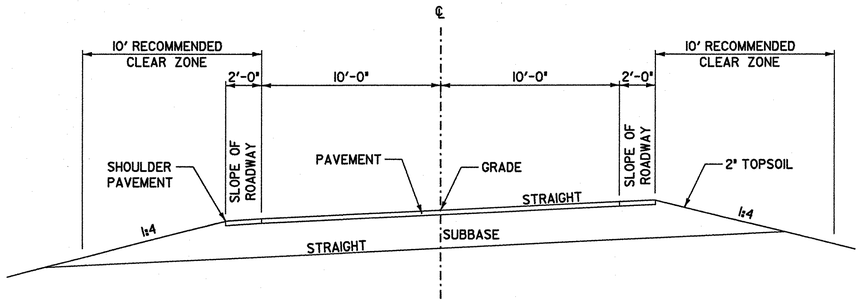
MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH)	1/4"
SUBBASE	1"
SAND	1"

DETOUR TYPICAL SECTIONS

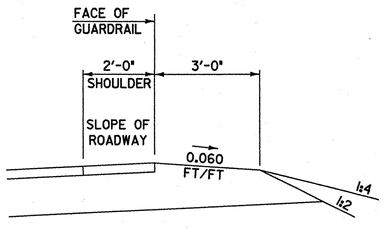
3" BITUMINOUS CONCRETE PAVEMENT TYPE III
12" DENSE GRADED CRUSHED STONE



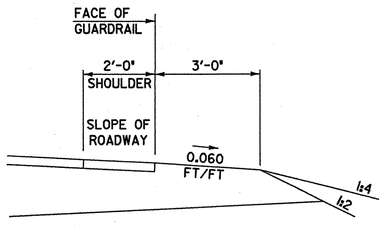
NORMAL CROWN SECTION



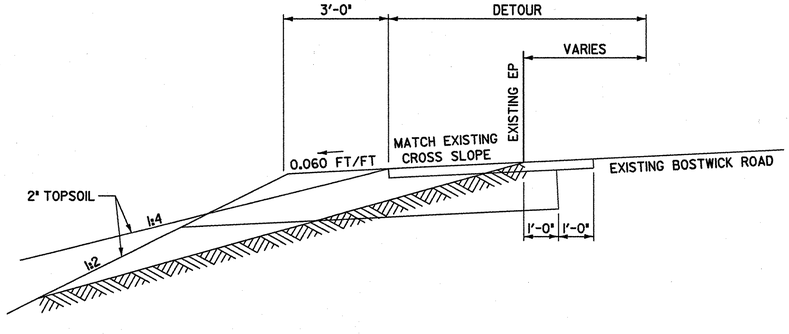
MAXIMUM BANKED SECTION 0.050 FT/FT



DETAIL OF GUARDRAIL ON HIGH SIDE OF BANKED SECTION



DETAIL OF GUARDRAIL ON LOW SIDE OF BANKED SECTION



DETOUR MATCH TO EXISTING ROAD
STA 16+25 TO 17+50
STA 24+00 TO 25+50

SEEDING FORMULA RURAL AREAS

% WT.	LBS/A	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 RYE GRASS	95	85
100.0	60.0			

GENERAL NOTES

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

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 1/4T/AC. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 T/AC, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 T/AC, OR AS DIRECTED BY THE ENGINEER.

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

TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.15 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

FOR SILT FENCE DETAIL, SEE STANDARD SHEET T-1

DETOUR TYPICAL SECTIONS

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\TYPICALS\dettyp001.dgn
PROJECT LEADER: MBZ
PLOT DATE: 01-AUG-2003
DESIGNED BY: DMB
DRAWN BY: MJF
CHECKED BY: MDL
SHEET 5 OF 73

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA			REMARKS
					AREA ±	AREA ±	TYPE	(T)/(P)	AREA ±	TOWN / CITY	BOOK	PAGE	
1A	MEACH COVE REAL ESTATE TRUST;	16,17,18	13+33.3 LT.	19+36.1 LT.			CONST.	T	3,090 S.F.	SHELBURNE			INCL. EROSION CONTROL
	ANASTASIOS PARAFESTAS, TRUSTEE		13+57.1 LT.	18+37.3 LT.			SLOPE	P	0.12A				5,150 S.F. ±; INCL. EROSION CONTROL
			14+13.1 LT.	14+19.8 LT.			CUL.	P					
			14+17.5 LT.	19+10.9 LT.			DITCH & DRAINAGE	P	2,840 S.F.				STONE LINED DITCH;
													INCL. EROSION CONTROL
			14+22.57 LT.				REMOVE	T					BOUND 31.58' LT.
			14+43.2 LT.				REMOVE	T					TREE
			14+90.9 LT.				REMOVE	T					TREE
			15+40.2 LT.				REMOVE	T					TREE
			15+87.3 LT.				REMOVE	T					TREE
			16+40.8 LT.				REMOVE	T					TREE
			16+86.3 LT.				REMOVE	T					TREE
			17+34.0 LT.				REMOVE	T					TREE
			17+79.3 LT.				REMOVE	T					TREE
			17+11.7 LT.	20+16.4 LT.			DETOUR	T	4,000 S.F.				INCL. EROSION CONTROL
			18+24.5 LT.				REMOVE	T					TREE
			18+72.4 LT.				REMOVE	T					TREE
			SL 40+00.00 CL	SL 41+00.00 CL			DRIVE	T					
			19+58.2 LT.	19+61.2 LT.			INSTALL & MAINTAIN	P					GUARDRAIL
			19+83.33 LT.				REMOVE & RESET	T					BOUND 33.04' LT.
			19+85.3 LT.				REMOVE & RESET	T					SIGN POST
			19+95.0 LT.	20+15.3 LT.			REMOVE & RESET	T					FENCE
			20+01.51 LT.				REMOVE & RESET	T					BOUND 32.84' LT.
1B		18,19	21+32.18 LT.				REMOVE & RESET	T		SHELBURNE			BOUND 31.86' LT.
			21+32.2 LT.	26+08.6 LT.			SLOPE	P	0.13A				5,475 S.F.±; INCL. DRAINAGE SWALE
			21+32.2 LT.	24+05.1 LT.			DETOUR	T	0.18A				7,930 S.F.±; INCL. EROSION CONTROL;
													INCLUDES TEMP. CULVERT
			21+65.0 LT.	22+17.8 LT.			INSTALL	T	280 S.F.				EROSION CONTROL
			21+78.0 LT.	21+86 LT.			CUL.	P					
			21+90.0 LT.				REMOVE	T					TREE
			22+39.5 LT.				REMOVE	T					TREE
			22+87.2 LT.				REMOVE	T					TREE
			23+30.3 LT.	26+73.2 LT.			CONST.	T	1,690 S.F.				INCL. EROSION CONTROL
			23+81.3 LT.				REMOVE	T					TREE
			24+22.1 LT.				REMOVE	T					TREE
1C		16,17,18	12+00.0 RT.	19+60.7 RT.			CONST.	T	0.21A	SHELBURNE			INCL. EROSION CONTROL; 8,990 S.F.±
			12+86.1 RT.	18+01.2 RT.			SLOPE	T	3,480 S.F.				INCL. EROSION CONTROL
			13+46.6 RT.	13+61.2 RT.			CUL., DIT. & DR.	P					
			13+53.8 RT.				REMOVE	T					TREE
			14+22.84 RT.				REMOVE & RESET	T					BOUND 34.47' RT.
			18+70.0 RT.				DRIVE	T					15' WIDE
			18+89.0 RT.	19+65.1 RT.			SLOPE	P	290 S.F.				
			19+65.11 RT.				REMOVE & RESET	T					BOUND 33.22' RT.
2	STATE OF VERMONT, LESSOR;	18	19+57.1 RT.	20+19.8 RT.			CONST.	T	740 S.F.	SHELBURNE			INCL. EROSION CONTROL
	VERMONT RAILWAY, INC., LESSEE		19+60.7 RT.	20+11.8 RT.			SLOPE	P	600 S.F.				
			19+65.11 RT.	21+32.18 LT.			HWY. CROSSING	P	0.19A				8,440 S.F.±
			20+01.5 LT.	21+65.0 LT.			DETOUR	T	3,600 S.F.				INCL. EROSION CONTROL
			20+22.4 RT.	20+78.8 RT.			CONST.	T	1,110 S.F.				INCL. EROSION CONTROL
			20+65.8 RT.	20+88.6 RT.			SLOPE	P	200 S.F.				
			21+37.4 LT.	21+70.1 LT.			INSTALL	T	160 S.F.				EROSION CONTROL
			20+92.7 LT.	21+43.5 LT.			SLOPE	P	436 S.F.				INCL. EROSION CONTROL
3	WAKE ROBIN CORPORATION	18,19	20+72.1 RT.	24+41.1 RT			CONST.	T	2,177 S.F.	SHELBURNE			INCL. EROSION CONTROL
			20+78.8 RT.	23+80.7 RT.			SLOPE	P	3,710 S.F.				INCL. EROSION CONTROL
			20+88.62 RT.				REMOVE & RESET	T					BOUND 33.99' RT.
			21+12.92 RT.				REMOVE & RESET	T					BOUND 34.45' RT.
			21+15.2 RT.				REPLACE	T					TREE
			21+46.1 RT.	21+56.6 RT.			CUL., DIT. & DR.	P					
			24+45 RT.				DRIVE	T					

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
		ELECTRONIC FILES TO STRUCTURES	07/31/2003
1	15,16	PARCEL NO. 1 CHANGE ALL "REMOVE & RESET (T)" TREES	08/06/2003
	17,18	TO "REMOVE." CHANGE "REPLACE (T)" TREE TO "REMOVE."	
	19	CHANGE REMOVE & RESET (T) "SHRUBS & SIGN POST"	
		TO REMOVE & RESET "SIGN POST" ONLY. PER C.O. 9308	

PLAN LEGEND

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

(P) -PERMANENT
(T) -TEMPORARY
DR. -DRAINAGE RIGHT
DIT. -DITCHING RIGHT
CH. -CHANNEL RIGHT
DRIVE -DRIVE RIGHT
CUL. -CULVERT RIGHT
C&T -CLEARING & TRIMMING RIGHT
SLOPE-SLOPE RIGHT
SL -SIDE LINE SURVEY

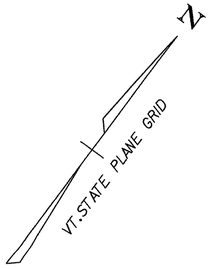
APPROVED: ROGER P. DUMAS DATE: 03-10-03
CHIEF, PLANS & TITLES

PROJECT NAME: **SHELBURNE**
PROJECT NUMBER: **BRO 1445(30)**

FILE NAME: **94J196DET**
PROJECT LEADER: **MBZ**
DESIGNED BY: **DMB**
R.O.W. SHEET 15 OF 19

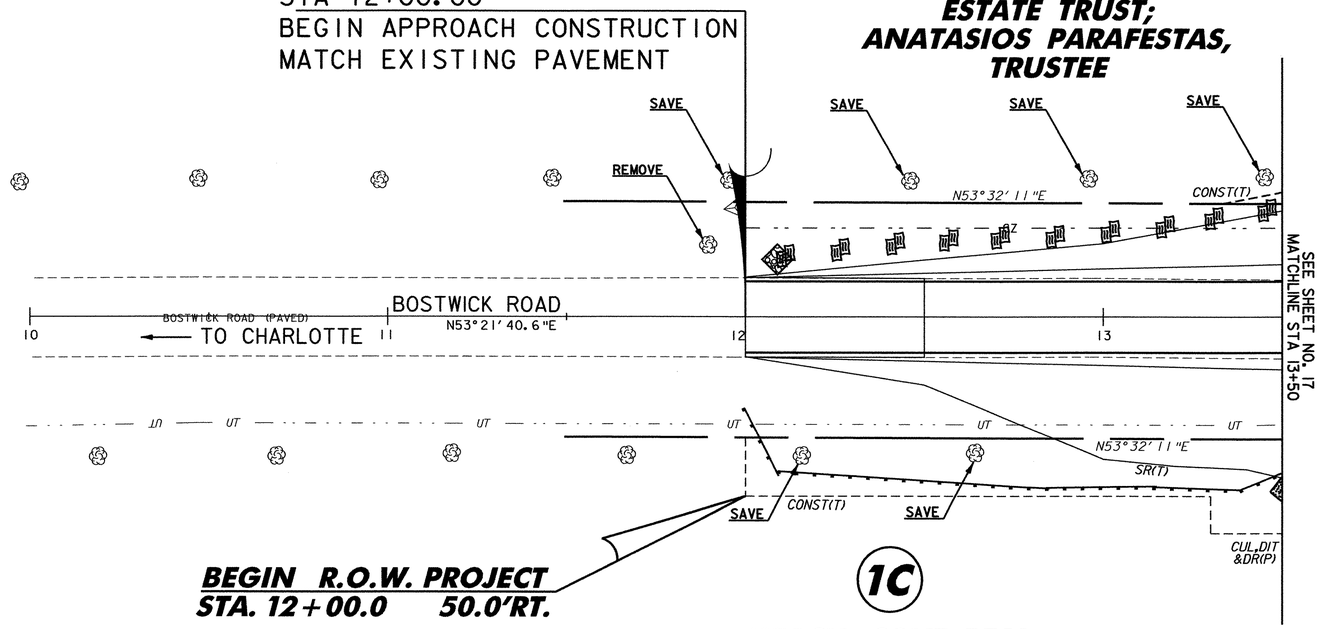
PLOT DATE: **07/31/03**
DRAWN BY: **EGP**
CHECKED BY: **GJF**
SHEET **6** OF **73**

GEOTEXTILE FOR SILT FENCE
12+00, RT - 13+50, RT



1A

MEACH COVE REAL ESTATE TRUST; ANATASIOS PARAFESTAS, TRUSTEE



BEGIN R.O.W. PROJECT
STA. 12+00.0 50.0'RT.

1C

MEACH COVE REAL ESTATE TRUST; ANATASIOS PARAFESTAS, TRUSTEE

STONE DITCH *(PERMANENT)*
WETLANDS
EROSION MATTING *(TEMPORARY)*
HAYBALES *(TEMPORARY)*
STONE CHECK DAM *(TEMPORARY)*

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

0 20 40
1" = 20'

FOR R.O.W. USE ONLY

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

LAYOUT SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)
FILE NAME: \\vaot_cadd\filingcabinet$\94J196\RightOfWay\layout1.dgn
PROJECT LEADER: MBZ PLOT DATE: 06-AUG-2003
DESIGNED BY: DMB DRAWN BY: MJF
CHECKED BY:

GEOTEXTILE FOR SILT FENCE
13+50, RT - 17+50, RT

MEACH COVE REAL ESTATE TRUST; ANATASIOS PARAFESTAS, TRUSTEE

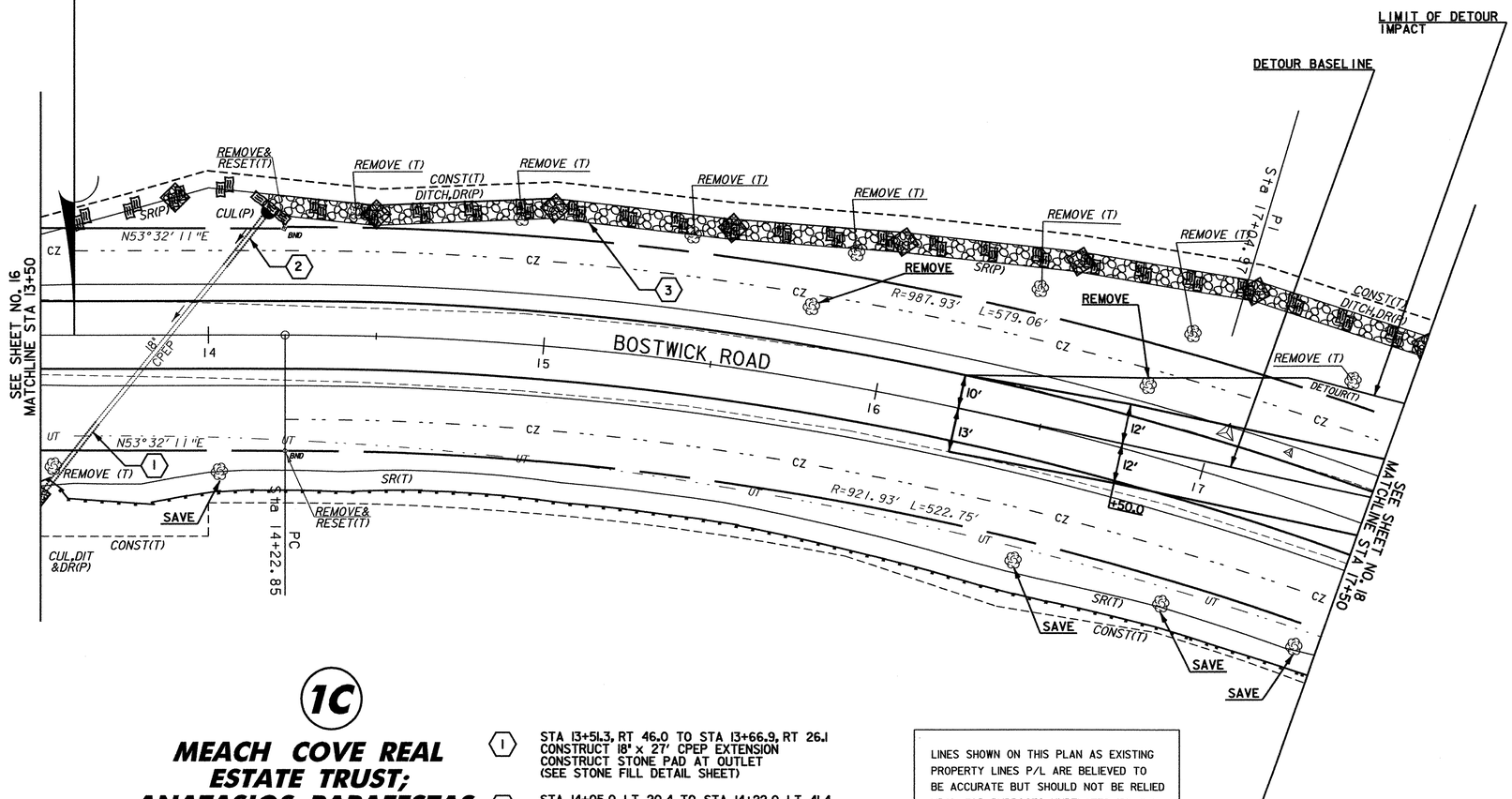
1A

BOSTWICK ROAD CURVE DATA CURVE #1
PI = 17+04.97
Δ = 33°04'46.1"LT
R = 950.00'
T = 282.12'
L = 548.48'
E = 41.01'
BANK = 5%

N

VT. STATE PLANE GRID

STA 13+60.00
BEGIN PROJECT BRO 1445(30)
END APPROACH CONSTRUCTION



1C

MEACH COVE REAL ESTATE TRUST; ANATASIOS PARAFESTAS, TRUSTEE

- STONE DITCH *(PERMANENT)*
- WETLANDS
- EROSION MATTING *(TEMPORARY)*
- HAYBALES *(TEMPORARY)*
- STONE CHECK DAM *(TEMPORARY)*

1. STA 13+51.3, RT 46.0 TO STA 13+66.9, RT 26.1
   CONSTRUCT 18" x 27' CPEP EXTENSION
   CONSTRUCT STONE PAD AT OUTLET
   (SEE STONE FILL DETAIL SHEET)
2. STA 14+05.0, LT 20.4 TO STA 14+22.0, LT 41.4
   CONSTRUCT 18" x 24' CPEP EXTENSION
3. STA 13+75, LT TO STA 19+25, LT
   CONSTRUCT 550' TOE OF SLOPE STONE DITCH
   (SEE CROSS SECTIONS AND DRAINAGE DETAIL SHEET)

0 20 40
1" = 20'

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

FOR R.O.W. USE ONLY

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (1996)

LAYOUT SHEET

LAYOUT SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)
FILE NAME: \\vaot_cadd\filingcabinet$\94J196\RightOfWay\layout2.dgn
PROJECT LEADER: MBZ PLOT DATE: 06-AUG-2003
DESIGNED BY: DMB DRAWN BY: MJF
R.O.W. SHEET 17 OF 19 SHEET 8 OF 73

GEOTEXTILE FOR SILT FENCE
3+90, LT - 3+90, RT
5+20, RT - 6+00, LT

GEOTEXTILE FOR SILT FENCE
17+50, RT - 20+37, RT
20+00, LT - 20+37, LT
20+67, RT - 21+00, RT
20+67, LT - 21+40, LT

EROSION MATTING
21+80, LT - 33+50, LT

BOSTWICK FARM ROAD DRIVE CURVE DATA
CURVE #1
PI = 40+61.44
Δ = 20°46'20.0"RT
R = 200.00'
T = 36.66'
L = 72.51'
E = 3.33'
BANK = N.C.

MEACH COVE REAL ESTATE TRUST; ANASTASIOS PARAFESTAS, TRUSTEE

1A

STATE OF VERMONT; LESSOR

VERMONT RAILWAY, INC.;LESSEE

2

MEACH COVE REAL ESTATE TRUST; ANASTASIOS PARAFESTAS, TRUSTEE

1B

N

VT. STATE PLANE GRID

STA 41+00.00
LIMIT OF WORK

BOSTWICK FARM ROAD DRIVE

REMOVE AND RESET FENCE

N25°20'00"E 311.80'

STA 20+00.88
STOP ROADWAY
BEGIN BRIDGE

RAILWAY

DETOUR BASELINE

LIMITS OF DETOUR IMPACT

N29°16'51"E 139.39'

N29°55'15.1"E

DRIVE(T)

GRAVEL

REMOVE (& RESET T) (SIGN POST AND SHRUBS)

REMOVE & RESET(T)

N87°04'39"E 18.14'

INSTALL & MAINT(P)

DO NOT DISTURB

SAVE

R=20'

N9°08'55.2"E

DETOUR(T)

CONSTRUCT BITUMINOUS CURB

REMOVE & RESET(T)

REMOVE

N86°45'05"E 129.83

CONSTRUCT PAVED APRON

REMOVE (T)

CONST(T) DITCH DR(P)

REMOVE (T) CONST(T)

SR(P)

CZ

12'

Sta 21+10.23 PC

HWY CROSSING (P)

REV B1

REV B2

REV B3

N25°08'35"E 75.34'

N66°26'26.7"E

N29°17'55"E 78.73'

N87°24'17"E 24.38'

INSTALL(T)

CONST(T)

REMOVE (T)

L=915.66'

R=785.51'

CUL(P)

BOSTWICK ROAD

12" CGMP

R=987.93' L=579.06'

R=921.93' L=522.75'

R=851.51' L=1,011.84'

SEE SHEET NO. 17 MATCHLINE STA 17+50

SEE SHEET NO. 19 MATCHLINE STA 23+50

AER EXT

N86°48'36"E 123.34'

N25°21'42"E 19.44'

REPLACE (T)

CUL.DIT &DR(P)

REMOVE

TRANS.

UE

UT

SAVE

CONSTRUCT GRAVEL DRIVE
STA 18+70.0, RT

NEW 1+35.0
29.5' RT

STA 19+35.86 BOSTWICK ROAD =
STA 40+00.00 BOSTWICK FARM ROAD DRIVE

Sta 19+71.33 PT

NEW 1+04.0
29' RT

N23°21'58"E 80.41'

PEMIC

IA

IB

STA 20+93.19
END BRIDGE
RESUME ROADWAY

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

1C

MEACH COVE REAL ESTATE TRUST; ANASTASIOS PARAFESTAS, TRUSTEE

2

STATE OF VERMONT; LESSOR

VERMONT RAILWAY, INC.;LESSEE

BRIDGE #15
BOSTWICK ROAD
OVER VERMONT RAILWAY

T1 STA 21+75, LT TO STA 22+75, LT
CONSTRUCT 100' OF TOE OF SLOPE DITCH
(SEE CROSS SECTIONS AND DRAINAGE DETAIL SHEET)
INCIDENTAL TO ITEM 528.11

T2 STA 21+84, LT 34.5 TO STA 21+85, LT 75.6
CONSTRUCT 12" x 5I' CGMP EXTENSION
INCIDENTAL TO ITEM 528.11

4A STA 19+77, LT 15.0' TO STA 19+10, LT 33.0'
CONSTRUCT 15" x 67' CPEP
CONSTRUCT DI-A STA 19+77, LT 15.0'

4 STA 21+50, RT 54.1 TO STA 21+86, LT 48.3
CONSTRUCT 18" x 106' CPEP
CONSTRUCT STONE PAD AT OUTLET
(SEE STONE FILL DETAIL SHEET)

5 STA 21+83, LT TO STA 21+83, RT
FILL WITH FLOWABLE FILL AND ABANDON

3 **FOR R.O.W. USE ONLY**

WAKE ROBIN CORPORATION

STONE DITCH (PERMANENT)
WETLANDS
EROSION MATTING (TEMPORARY)
HAYBALES (TEMPORARY)
STONE CHECK DAM (TEMPORARY)

0 20 40
1" = 20'

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (1996)

LAYOUT SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)
FILE NAME: \\vaot_cadd\filingcabinet$\94J196\Right0fWay\layout3.dgn
PROJECT LEADER: MBZ PLOT DATE: 06-AUG-2003
DESIGNED BY: DMB DRAWN BY: MJF
CHECKED BY: R.O.W. SHEET 18 OF 19 SHEET 9 OF 73

EROSION MATTING
23+50, LT - 25+00, LT

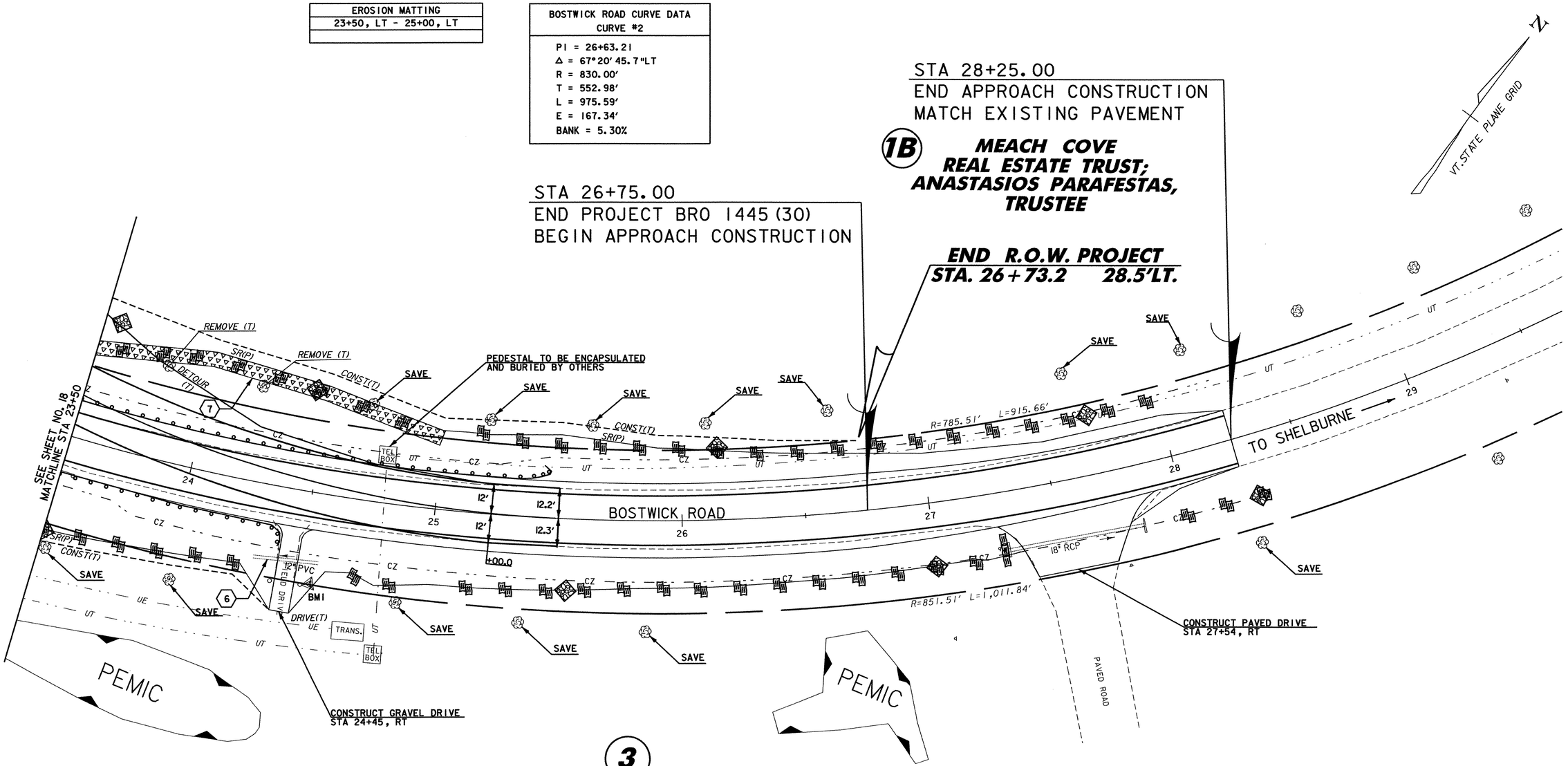
BOSTWICK ROAD CURVE DATA CURVE #2
PI = 26+63.21
Δ = 67°20'45.7"LT
R = 830.00'
T = 552.98'
L = 975.59'
E = 167.34'
BANK = 5.30%

STA 26+75.00
END PROJECT BRO 1445(30)
BEGIN APPROACH CONSTRUCTION

STA 28+25.00
END APPROACH CONSTRUCTION
MATCH EXISTING PAVEMENT

1B ***MEACH COVE REAL ESTATE TRUST; ANASTASIOS PARAFESTAS, TRUSTEE***

END R.O.W. PROJECT
STA. 26+73.2 28.5'LT.



3

WAKE ROBIN CORPORATION

BMI, STA 24+54.6, RT, 37.0'
STEEL REBAR SET IN GROUND
ELEVATION=236.89

6 STA 24+31, RT 29.2 TO STA 24+57, RT 28.7
REMOVE EXISTING 12" PVC

7 STA 21+80, LT TO STA 25+00, LT
CONSTRUCT 320' TOE OF SLOPE DITCH
(SEE CROSS SECTIONS AND DRAINAGE DETAIL SHEET)

STONE DITCH *(PERMANENT)*
WETLANDS
EROSION MATTING *(TEMPORARY)*
HAYBALES *(TEMPORARY)*
STONE CHECK DAM *(TEMPORARY)*

PI
Sta 26+63.21

0 20 40
1" = 20'

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

FOR R.O.W. USE ONLY

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (1996)

LAYOUT SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)
FILE NAME: \\vaot_cadd\filingcabinet$\94J196\RightOfWay\layout4.dgn
PROJECT LEADER: MBZ PLOT DATE: 06-AUG-2003
DESIGNED BY: DMB DRAWN BY: MJF
R.O.W. SHEET 19 OF 19 SHEET 10 OF 73

GPS CONTROL POINTS

F 65

STANDARD DISC STAMPED

F 65

** N = 80139.1286

E = 48455.5447

ELEV. = 266.361

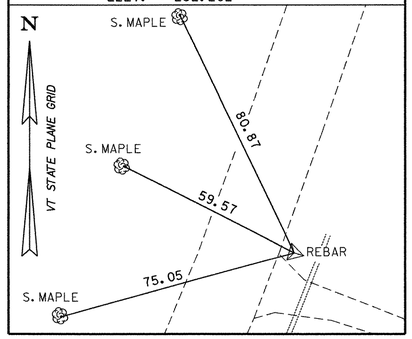
GENERAL LOCATION, SHELBURNE, VT. OWNERSHIP, COUNTRYSIDE MOTEL, SHELBURNE, VT. TO REACH FROM THE METHODIST CHURCH IN SHELBURNE VILLAGE GO SOUTH ALONG U.S. ROUTE 7 FOR 1.0 MI (1.6 KM) TO THE MARK ON THE LEFT IN THE LAWN AT THE COUNTRYSIDE MOTEL. TO REACH FROM THE JUNCTION OF VT ROUTE 22A AND U.S. ROUTE 7 IN VERGENNES GO NORTH ALONG U.S. ROUTE 7 FOR 13.1 MI (21.1 KM) TO THE MARK ON THE RIGHT. THE MARK IS 13.7 METERS (44.9 FT) NORTHEAST OF THE CENTERLINE OF U.S. ROUTE 7, 26.9 METERS (88.3 FT) SOUTH OF THE CENTERLINE OF A DRIVEWAY LEADING TO THE MOTEL, AND 13.5 METERS (44.3 FT) SOUTHWEST OF LIGHT POLE 01.

** TO ALLOW THE AGENCY DESIGN PLANE COORDINATES TO FIT THE STATE PLANE COORDINATES, ADD 600000 TO THE NORTHING & ADD 1400000 TO THE EASTINGS, TO THE ABOVE AND BELOW VALUES.
* DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT

TRAVERSE TIES

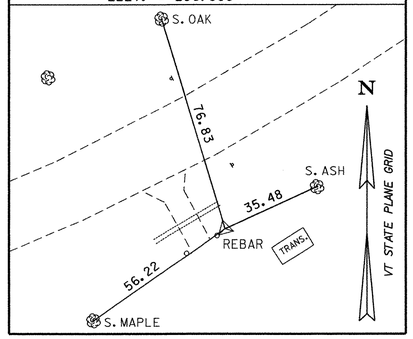
HVCTRL #1

NORTH = 80131.713
EAST = 44823.296
ELEV. = 232.202



HVCTRL #2

NORTH = 79650.813
EAST = 44426.053
ELEV. = 236.889

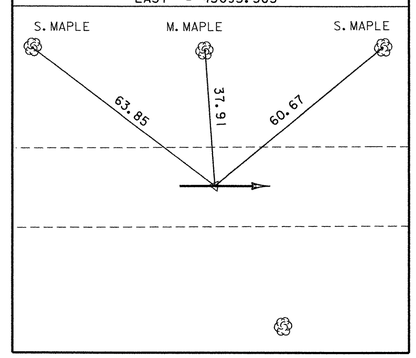


* MAIN TRAVERSE COMPLETED: JULY 1999 BY VS&E

ALIGNMENT TIES

POB 10+00.00

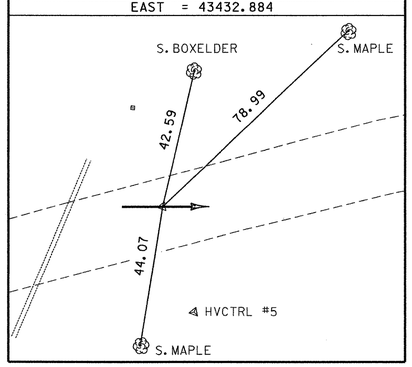
NORTH = 79145.807
EAST = 43093.585



ALIGNMENT TIES

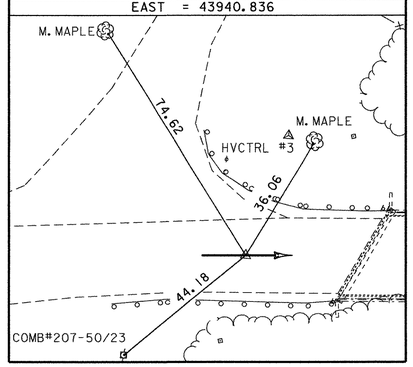
PC 14+22.847

NORTH = 79398.148
EAST = 43432.884



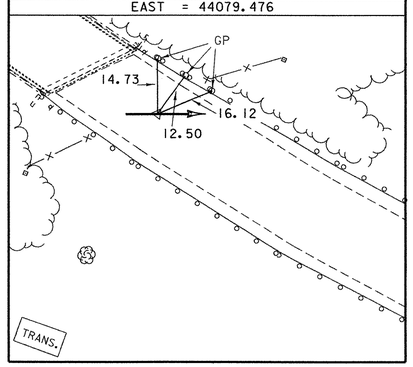
PT 19+71.325

NORTH = 79584.022
EAST = 43940.836



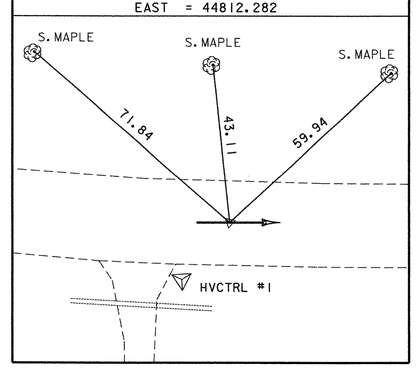
PC 21+10.234

NORTH = 79592.646
EAST = 44079.476



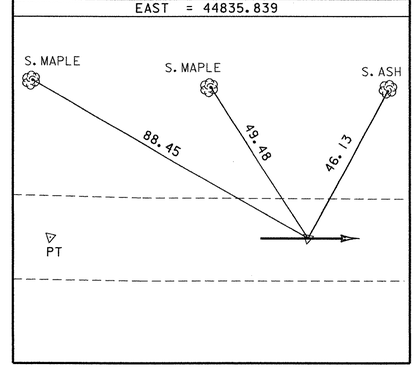
PT 30+85.824

NORTH = 80149.526
EAST = 44812.282



POE 31+57.834

NORTH = 80217.574
EAST = 44835.839



* ALIGMENT STAKED: OCTOBER 30, 2002 BY: L.ORVIS PC & J.HULETT

DATUM

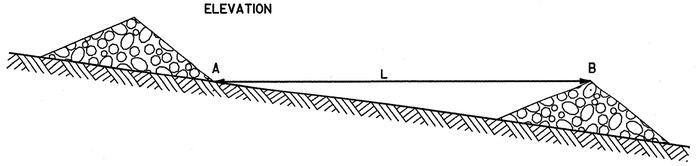
VERTICAL	NAVD88
HORIZONTAL	NAD83 (96)
ADJUSTMENT	LEAST SQ.

TIE SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

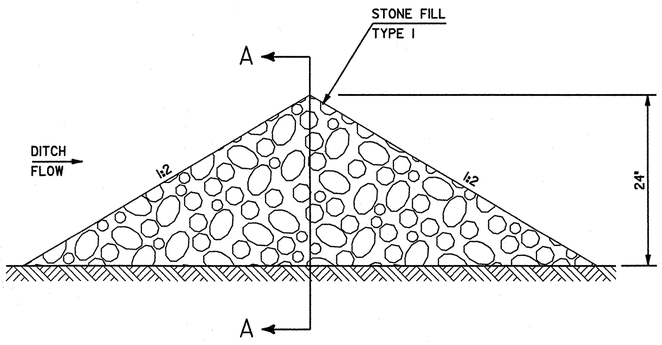
FILE NAME: 94J196/structures/sJ196tl.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
TIE SHEET

PLOT DATE: 04-AUG-2003
DRAWN BY: J.HULETT
CHECKED BY: P.HODGE
SHEET 11 OF 73



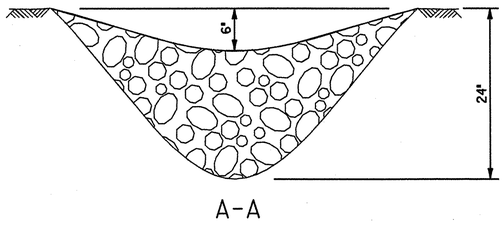
DISTANCE BETWEEN STONE CHECK DAMS (PROFILE)

NOT TO SCALE



STONE CHECK DAM PROFILE

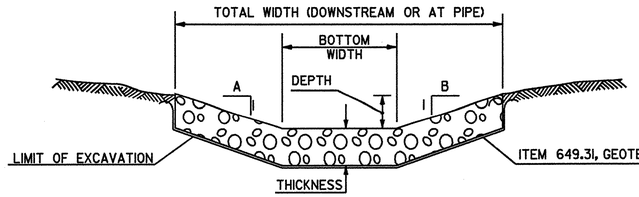
NOT TO SCALE

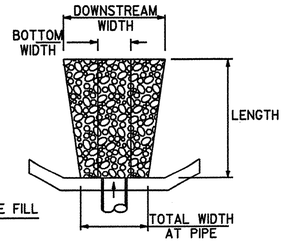


A-A

CROSS SECTION OF STONE CHECK DAM
NOT TO SCALE

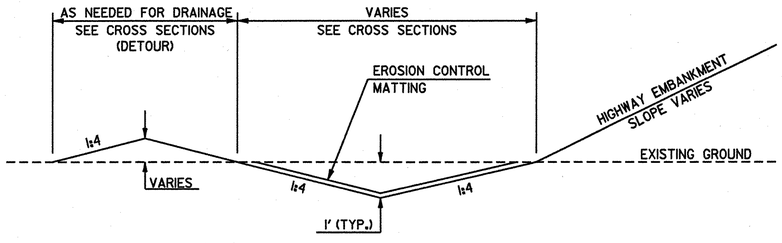
STONE FILL





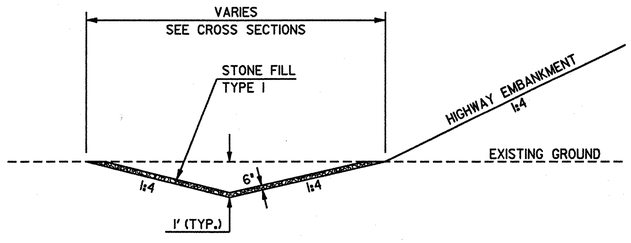
LOCATION	LENGTH	TOTAL WIDTH AT PIPE	A	B	BOTTOM WIDTH	DOWNSTREAM WIDTH	STONE TYPE	THICKNESS	REMARKS
21+50.0, RT 54	6	5	-	-	-	5	I	I	FLAT PAD

EXCAVATION FOR STONE FILL PADS COMPUTED AS ITEM 204.20, TRENCH EXCAVATION OF EARTH



TOE OF SLOPE DITCH DETAIL (SLOPE LESS THAN 2.5%)

NOT TO SCALE



TOE OF SLOPE DITCH DETAIL (SLOPE GREATER THAN 2.5%)

NOT TO SCALE

GENERAL NOTES:

1. ALL DIMENSIONS SHOWN ARE IN FEET UNLESS OTHERWISE NOTED.
2. PAD CONSTRUCTED AS CHANNEL ONLY WHEN SIDE SLOPES ARE GIVEN. OTHERWISE, CONSTRUCT AS FLAT PAD.

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (1996)

DRAINAGE DETAIL

PROJECT NAME: SHELBURNE

PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\DETAILS\dRNdet01.dgn

PROJECT LEADER: MBZ PLOT DATE: 01-AUG-2003

DESIGNED BY: DMB DRAWN BY: MJF

CHECKED BY: MDL SHEET 12 OF 73

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES

TEMP BRIDGE	BRIDGE	NON-GOVM'T PART.	RIGHT-OF-WAY	TRAINING	LAND-SCAPING	EROSION CONTROL	FULL E & C	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
								1	1	LS	CLEARING AND GRUBBING (INCLUDING INDIVIDUAL TREES AND STUMPS)	201.10	
								900	900	CY	COMMON EXCAVATION	203.15	
								5320	5320	CY	EARTH BORROW	203.30	
								3100	3100	CY	SAND BORROW	203.31	
								8000	8000	SY	FINE GRADING - SUBGRADE	203.40	
								220	220	CY	TRENCH EXCAVATION OF EARTH	204.20	
	900								900	CY	STRUCTURE EXCAVATION	204.25	
	860								860	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	
								250	250	SY	COLD PLANING - BITUMINOUS PAVEMENT	210.10	
								3900	3900	CY	SUBBASE OF DENSE-GRADED CRUSHED STONE	301.35	
								20	20	CY	AGGREGATE SURFACE COURSE	401.10	
								400	400	CWT	EMULSIFIED ASPHALT	404.65	
	72							2100	2172	T	BITUMINOUS PAVEMENT	406.25	
								4	4	CY	CONCRETE, CLASS D (MODIFIED) FLOWABLE FILL	501.31	
	103								103	CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33	
	362								362	CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
	1								1	LS	FURNISHING EQUIPMENT FOR PILE DRIVING	504.10	
	665								665	LF	STEEL PILING (HP 12x74)	505.16	
	105310								105310	LB	STRUCTURAL STEEL (PLATE GIRDER)	506.55	
	36380								36380	LB	REINFORCING STEEL	507.15	
	31020								31020	LB	EPOXY COATED REINFORCING STEEL	507.17	
	1								1	LS	SHEAR CONNECTORS (1030 STUDS)	508.15	
	19								19	GAL	WATER REPELLENT	514.10	
	34								34	LF	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG JOINT)	516.10	
	436								436	SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	
	200								200	LF	BRIDGE RAILING - HDSB/FASCIA MOUNTED/HANDRAIL	525.43	
1									1	LS	TWO WAY TEMPORARY BRIDGE	528.11	
	215								215	SY	REMOVAL OF BRIDGE PAVEMENT	529.10	
	1								1	LS	REMOVAL OF STRUCTURE	529.15	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

QUANTITY SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\QUANSUM\totsum01.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 04-AUG-2003
DRAWN BY: MJF
SHEET 13 OF 73

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES

TEMP BRIDGE	BRIDGE	NON-GOVM'T PART.	RIGHT-OF-WAY	TRAINING	LAND-SCAPING	EROSION CONTROL	FULL E & C	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
	10								10	EA	BEARING DEVICE ASSEMBLY	531.10	
								70	70	LF	15" CPEP PIPE	601.0910	
								140	140	LF	18" CPEP PIPE	601.0915	
								2	2	EA	PRC CURB DROP INLET WITH CAST IRON GRATE	604.30	
								10	10	HR	ROADWAY PATROL MAINTENANCE	607.10	
								10	10	HR	BULLDOZER RENTAL, TYPE I (NABI)	608.10	
								10	10	HR	POWER GRADER RENTAL (NABI)	608.15	
								10	10	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I (NABI)	608.25	
								10	10	HR	TRUCK RENTAL (NABI)	608.37	
								10	10	HR	LOADER RENTAL, TYPE I (NABI)	608.40	
								250	250	MGAL	DUST CONTROL WITH WATER	609.10	
								2	2	T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	
						25		85	110	CY	STONE FILL TYPE I	613.10	
	510								510	CY	STONE FILL, TYPE II	613.11	
	35							40	75	LF	VERTICAL GRANITE CURB	616.21	
								1	1	EA	RELOCATE MAILBOX	617.10	
								5	5	EA	YIELDING MARKER POST	619.17	
								5	5	EA	REMOVING AND RESETTING BOUNDARY MARKERS	619.20	
								250	250	LF	REMOVING AND RESETTING FENCE	620.50	
								800	800	LF	STEEL BEAM GUARDRAIL	621.20	
	100							100	200	LF	HEAVY DUTY STEEL BEAM GUARDRAIL	621.21	
								4	4	EA	ANCHOR FOR STEEL BEAM GUARDRAIL	621.60	
								670	670	LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	
								5	5	EA	GUIDE POSTS	621.85	
								3	3	EA	SETTLEMENT PLATFORMS	623.21	
								200	200	HR	UNIFORMED TRAFFIC OFFICERS	630.10	
								650	650	HR	FLAGGERS	630.15	
							1		1	LS	FIELD OFFICE - ENGINEERS	631.10	
							1		1	LS	TESTING EQUIPMENT - CONCRETE	631.16	
							1		1	LS	TESTING EQUIPMENT - BITUMINOUS	631.17	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

QUANTITY SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\QUANSUM\totsum01.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 04-AUG-2003
DRAWN BY: MJF
SHEET 14 OF 73

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES

TEMP BRIDGE	BRIDGE	NON-GOVM'T PART.	RIGHT-OF-WAY	TRAINING	LAND-SCAPING	EROSION CONTROL	FULL E & C	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
							1		1	LS	FIELD OFFICE - TELEPHONE (NABI)	631.25	
								1	1	LS	MOBILIZATION	635.10	
								3300	3300	LF	4" WHITE LINES	646.20	
								3300	3300	LF	4" YELLOW LINES	646.21	
	695							450	1145	SY	GEOTEXTILE UNDER STONE FILL	649.31	
						500			500	SY	GEOTEXTILE FOR SILT FENCE	649.51	
						50			50	LB	SEED-WINTER RYE	651.17	
						105			105	LB	SEED	651.15	
						900			900	LB	FERTILIZER	651.18	
						4			4	T	AGRICULTURAL LIMESTONE	651.20	
						4			4	T	HAY MULCH	651.25	
						50			50	EA	HAYBALES FOR EROSION CONTROL	651.26	
								475	475	CY	TOPSOIL	651.35	
						1			1	LS	EROSION AND SEDIMENT CONTROL PLAN	652.10	
						200			200	HR	MONITORING EROSION AND SEDIMENT CONTROL PLAN	652.20	
						1			1	LS	FIELD MAINT. OF EROSION & SEDIMENT CONTROL PLAN	652.30	
						360			360	SY	EROSION MATTING	654.10	
								5	5	SF	TRAFFIC SIGNS, TYPE A	675.20	
								40	40	LF	FLANGED CHANNEL SIGN POSTS	675.301	
								8	8	EA	REMOVING SIGNS	675.50	
								3	3	EA	ERECTING SALVAGED SIGNS	675.60	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

QUANTITY SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: m:\1595402 Bostwick\HWY\DRAW\QUANSUM\totsum01.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 04-AUG-2003
DRAWN BY: MJF
SHEET 15 OF 73

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE DETAIL SHEET

DRAINAGE STRUCTURES

STATION	STATION	POS.	ASKEW	INLET/OUTLET TYPE		DITCH		PIPE ARCH			PIPE		ALLOWABLE OPTIONS						PIPE ELBOW	FS	CB	DROP GRD	DEPTH DI	CONC CL B	REINF STEEL	DI GRATE	CHAN ELEV	CRM	TRENCH EXCAVATION		COMM EXC	UNC CHAN EXC	STRUCT EXCAV	GRAN BKFILL STRUCT	GRAN BORR	EROS MATT	STONE FILL		MARKER POSTS		GEOT. UNDER STONE FILL	PRCMN	FLOWABLE FILL	OUTLET STRUCTURE	#	REMARKS
				INLET	OUTLET	IN	OUT	SPAN in	RISE in	L ft	D in	L ft	PCCSP in	CAAP in	RCP CL	CSP in	CPEP SL	CPEP	NO. DEG	EA	EA		FT	FT	LB	TYPE	EA	ft	EARTH CY	ROCK CY	CY	CY	CY	CY	CY	SY	CY	TYPE	LT ea	RT ea	SY	ea	CY	ea		
13+63	13+67	RT									18	~~6~~	4					X											2																1	
14+05	14+22	LT									18	~~24~~	25					X											7										1					2	
14+20	19+10	LT																																		~~73~~	1			~~435~~				3	
19+77	19+10	LT									15	67						X			1								45										1					4A	
21+50	21+86	RT/LT									18	~~106~~	142					X											144								0.8	1	1	1	3.3				4	
21+83	21+83	RT/LT																																									4		5	FILL WITH FLOWABLE FILL AND ABANDON
24+31	24+57	RT																											15																6	
21+80	25+00	LT																																		356								7	
21+75	22+75	LT																																		88								T1	INCIDENTAL TO ITEM 528.11 (MOD 2-INSTALL.)
21+84	21+85	LT									12	51				X													108																T2	INCIDENTAL TO ITEM 528.11 (MOD 2-INSTALL.)
CHECK DAMS																																					25	1								
13+62		RT																			1																			1					1A	
SHEET TOTALS											15 18	67 136									2								213							356	98.8		3	2	438.3		4			

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

DRAINAGE DETAIL SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)
FILE NAME: M:\1595402 Bostwick\HWY\DRAW\QUANSUM\DRNO1.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: MJF
SHEET 16 OF 73

STATE OF VERMONT
AGENCY OF TRANSPORTATION

ITEM DETAIL SHEET

GUARD RAIL

BEGIN STATION	END STATION	POSITION LEFT ft	POSITION RIGHT ft	END TREATMENT BEGIN EA	END TREATMENT END EA
18+75.4	19+37.6		68.8	APPROACH END	
19+37.6	19+62.6		25(HD)		
19+57.8	19+61.6	12.5		APPROACH END	
19+61.6	19+81.5	25(HD)			
21+12.6	21+37.6		25(HD)		
21+37.6	24+41.5		310.5	APPROACH END	
21+31.8	21+56.8	25(HD)			
21+56.8	~~25~~ 27+50.6	~~400.4~~ 200		APPROACH END	
BEAM GUARDRAIL TOTAL				792.2	
HD BEAM GUARDRAIL TOTAL				100	
APPROACH END TERMINALS				4	
ANCHOR FOR STEEL BEAM RAIL TOTAL				4	

UNDERDRAIN

BEGIN STATION	END STATION	TYPE	POSITION	DIA. in	LENGTH ft	TRENCH EARTH cy	TRENCH ROCK cy	GRAN BKFILL cy	FB EA	MKR PST EA

GRANITE SLOPE EDGING

BEGIN STATION	END STATION	POSITION LEFT ft	POSITION RIGHT ft	REMARKS

BEGIN STATION	END STATION	POSITION LEFT ft	POSITION RIGHT ft	REMARKS

VERTICAL GRANITE CURB

BEGIN STATION	END STATION	POSITION LEFT ft	POSITION RIGHT ft	REMARKS

DATUM
VERTICAL: NAVD 88
HORIZONTAL: NAD 83 (1996)

ITEM DETAIL SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\QUANSUM\IDET01.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: MJF
SHEET 17 OF 73

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EARTHWORKS

STATION	DIST FT	TOTAL EXCAVATION EARTH AND ROCK AREA FT²	TOTAL EXCAVATION EARTH AND ROCK VOLUME CY	ROCK EXCAVATION AREA FT²	ROCK EXCAVATION VOLUME CY	EMBANKMENT AREA FT²	EMBANKMENT VOLUME CY	AREA FT²	VOLUME CY
BOSTWICK ROAD									
12+00		0				0			
12+50	50	0	0			3	2		
13+00	50	38	35			13	14		
13+50	50	59	89			30	40		
14+00	50	41	93			49	73		
14+50	50	32	68			35	78		
								C = 388	
15+00	50	27	55			46	75	F = 555	
								F. FAC. = 1.15	
15+50	50	12	36			68	106	EX. F. = 250	
16+00	50	1	12			112	167		
16+50	50	1	2			170	262		
17+00	50	1	2			204	346		
17+50	50	1	2			183	358		
18+00	50	1	2			70	234		
18+50	50	1	2			32	94		
								C = 15	
19+00	50	2	3			45	71	F = 1770	
								F. FAC. = 1.15	
19+50	50	0	2			94	129	EX. F. = 2020	
19+80.9	30.9	0	0			389	276		
20+00		BRIDGE							
20+50		BRIDGE							
21+00		BRIDGE							

STATION	DIST FT	TOTAL EXCAVATION EARTH AND ROCK AREA FT²	TOTAL EXCAVATION EARTH AND ROCK VOLUME CY	ROCK EXCAVATION AREA FT²	ROCK EXCAVATION VOLUME CY	EMBANKMENT AREA FT²	EMBANKMENT VOLUME CY	AREA FT²	VOLUME CY
21+13.2		0				843			
21+50	36.8	0	0			479	902		
22+00	50	1	1			447	857		
22+50	50	1	2			359	746		
23+00	50	1	2			257	571		
23+50	50	1	2			177	402		
								C = 23	
24+00	50	1	2			155	308	F = 4068	
								F. FAC. = 1.15	
24+50	50	7	7			57	197	EX. F. = 4655	
25+00	50	0	7			34	85		
25+50	50	21	19			16	46		
26+00	50	45	61			10	23		
26+50	50	67	104			5	14		
27+00	50	49	107			6	11		
								C = 388	
27+50	50	29	71			0	6	F = 101	
								F. FAC. = 1.15	
28+00	50	0	26			1	1	EX. C. = 272	
28+25	25	0	0			0	0		

STATION	DIST FT	TOTAL EXCAVATION EARTH AND ROCK AREA FT²	TOTAL EXCAVATION EARTH AND ROCK VOLUME CY	ROCK EXCAVATION AREA FT²	ROCK EXCAVATION VOLUME CY	EMBANKMENT AREA FT²	EMBANKMENT VOLUME CY	AREA FT²	VOLUME CY
BOSTWICK FARM ROAD									
								C = 0	
40+20		0				100		F = 94	
								F. FAC. = 1.15	
40+50	30	0	0			26	70	EX. F. = 108	
41+00	50	0	0			0	24		

STATION	DIST FT	TOTAL EXCAVATION EARTH AND ROCK AREA FT²	TOTAL EXCAVATION EARTH AND ROCK VOLUME CY	ROCK EXCAVATION AREA FT²	ROCK EXCAVATION VOLUME CY	EMBANKMENT AREA FT²	EMBANKMENT VOLUME CY	AREA FT²	VOLUME CY

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

EARTHWORKS SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\QUANSUM\EARTH01.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: MJF
SHEET 18 OF 73

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EARTHWORKS SUMMARY

SUMMARY AND BALANCES

STATION TO STATION		TOTAL EXC. EARTH+ROCK FT³	ROCK EXCAVATION FT³	EMBANKMENT FT³	EXCESSES CUT	EXCESSES FILL	ACCUMULATIVE EXCESSES CUT	ACCUMULATIVE EXCESSES FILL	MUCK EXCAVATION	ACC. MUCK EXCAVATION
BOSTWICK ROAD										
12+00	16+00	388		555		250		250		
16+50	19+80.9	15		1770		2020		2270		
21+13.2	25+00	23		4068		4655		6925		
25+50	28+25	388		101	272			6653		
BOSTWICK FARM ROAD										
40+20	41+00	0		94		108		6761		
DRIVEWAYS		35		25	6			6755		
FROM DRAINAGE		220		0	220			6535		
	TOTALS	1069	0	6613	498	7033		6535		

SUMMARY AND BALANCES

STATION TO STATION		TOTAL EXC. EARTH+ROCK FT³	ROCK EXCAVATION FT³	EMBANKMENT FT³	EXCESSES CUT	EXCESSES FILL	ACCUMULATIVE EXCESSES CUT	ACCUMULATIVE EXCESSES FILL

SUMMARY BY COLUMNS

SHEET NO.	COL NO.	EXCAVATION TOTAL CY	EXCAVATION ROCK CY	FILL CY
1	1	403		2674
	2	411		4794
	3	0		108
TOTAL		814		7576

REMARKS

EARTH AND ROCK EXCAVATION	1,069
SOLID ROCK EXCAVATION	0
EARTH EXCAVATION	1,069
PLANIMETERED FILL	6,613
LESS FACTORED SOLID ROCK	0
LESS DISPLACEMENT OF LARGE STRUCTURES	0
NET PLANIMETERED FILL	6,613
FACTOR	992
PLANIMETERED FILL INCLUDING FACTOR	7,605
MATERIALS AVAILABLE FOR FILL	
EARTH EXCAVATION	1,069
CHANNEL EXCAVATION	0
UNDERDRAIN EARTH EXCAVATION	0
UNDERDRAIN ROCK EXCAVATION (FACTORED)	0
STRUCTURE EXCAVATION	1,225
TOTAL MATERIAL AVAILABLE FOR FILL	2,294
TOTAL FILL INCLUDING FACTOR	7,605
TOTAL MATERIAL FOR FILL	2,294
BORROW	5,311
EXCESS EXCAVATION	0

DATUM

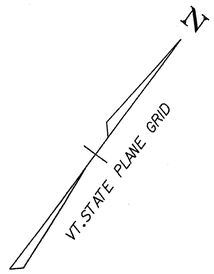
VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

EARTHWORKS SUMMARY SHEET

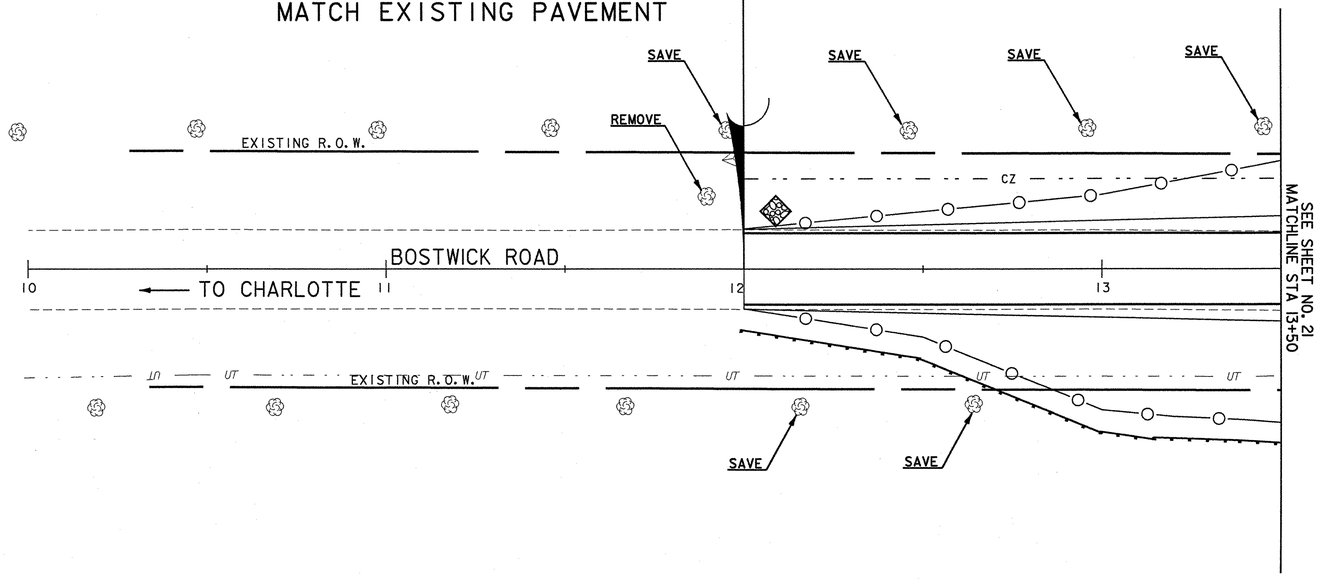
PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\QUANSUM\EARTHSUM.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: MJF
SHEET 19 OF 73

GEOTEXTILE FOR SILT FENCE
12+00, RT - 13+50, RT



STA 12+00.00
BEGIN APPROACH CONSTRUCTION
MATCH EXISTING PAVEMENT



STONE DITCH
WETLANDS
EROSION MATTING
HAYBALES
STONE CHECK DAM

0 20 40
1" = 20'

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (1996)

LAYOUT SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

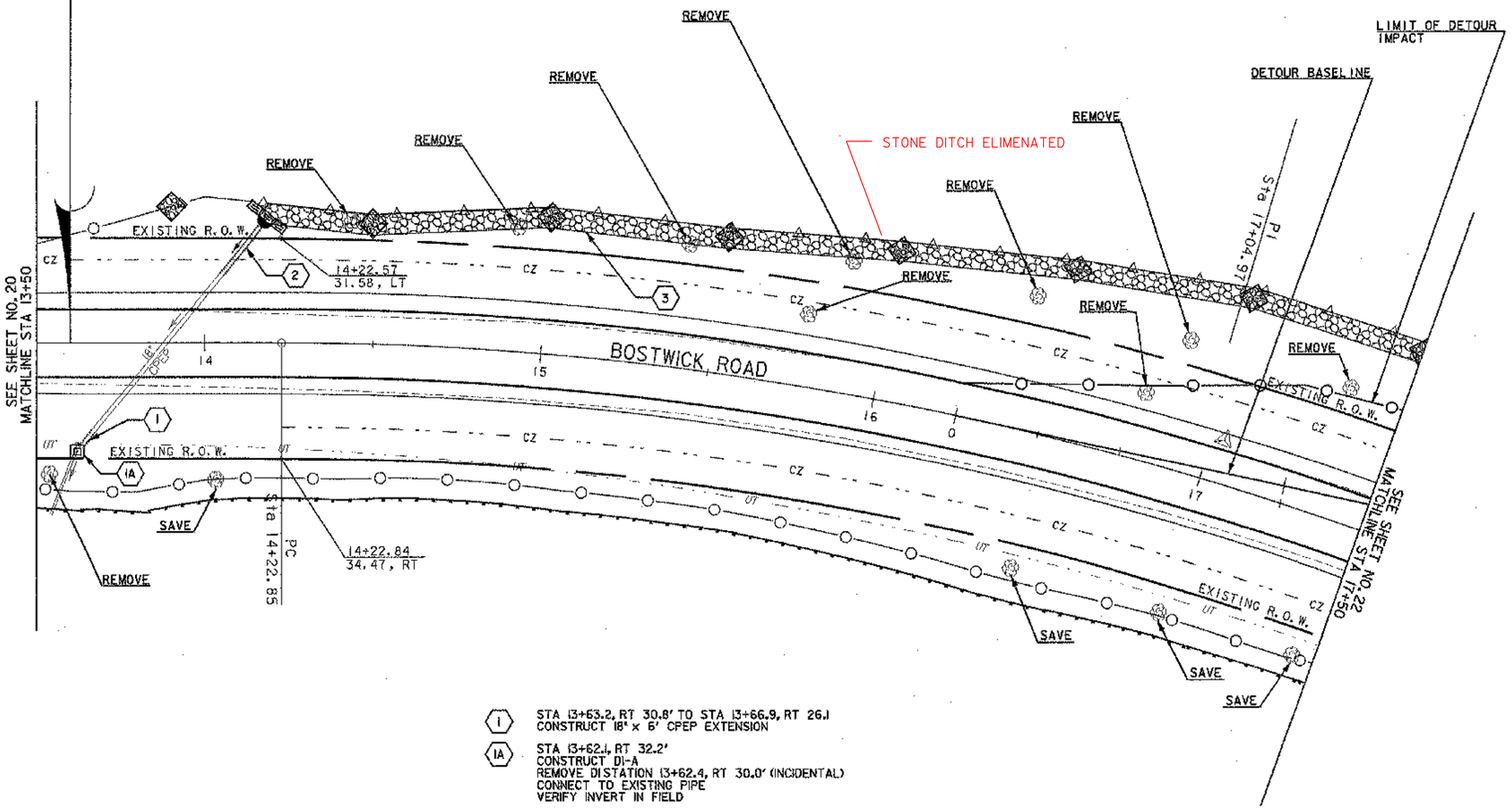
FILE NAME: M:\1595402 Bostwick\HWY\DRAW\GENPLN\gen001.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: MJF
SHEET 20 OF 73

GEOTEXTILE FOR SILT FENCE
13+50, RT - 17+50, RT

BOSTWICK ROAD CURVE DATA CURVE #1
PI = 17+04.97
Δ = 33°04'46.1"LT
R = 950.00'
T = 282.12'
L = 548.48'
E = 41.01'
BANK = 5%

VT. STATE PLANE GRID

STA 13+60.00
BEGIN PROJECT BRO 1445(30)
END APPROACH CONSTRUCTION



1 STA 13+63.2, RT 30.8' TO STA 13+66.9, RT 26.1
CONSTRUCT 18" x 6' CPEP EXTENSION

1A STA 13+62.1, RT 32.2'
CONSTRUCT DI-A
REMOVE DISTATION 13+62.4, RT 30.0' (INCIDENTAL)
CONNECT TO EXISTING PIPE
VERIFY INVERT IN FIELD

2 STA 14+05.0, LT 20.4 TO STA 14+22.0, LT 41.4
CONSTRUCT 18" x 24' CPEP EXTENSION

~~3~~ ~~STA 14+20, LT TO STA 19+10, LT~~
~~CONSTRUCT 490' TOE OF SLOPE STONE DITCH~~
~~(SEE CROSS SECTIONS AND DRAINAGE DETAIL SHEET)~~
STONE DITCH ELIMENATED

STONE DITCH
WETLANDS
EROSION MATTING
HAYBALES
STONE CHECK DAM

0 20 40
1" = 20'

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (1996)

LAYOUT SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)
FILE NAME: M:\1595402 Bostwick\HWY\DRAW\GENPLN\gen002.dgn
PROJECT LEADER: MBZ PLOT DATE: 04-AUG-2003
DESIGNED BY: DMB DRAWN BY: MJF
CHECKED BY: MDL SHEET 21 OF 73

BOSTWICK FARM ROAD DRIVE CURVE DATA
CURVE #1
PI = 40+61.44
Δ = 20°46'20.0"RT
R = 200.00'
T = 36.66'
L = 72.51'
E = 3.33'
BANK = N.C.

GEOTEXTILE FOR SILT FENCE
17+50, RT - 20+37, RT
20+00, LT - 20+37, LT
20+67, RT - 21+00, RT
20+67, LT - 21+40, LT

EROSION MATTING
21+80, LT - 33+50, LT

SETTLEMENT PLATFORMS, TYPE I		
STATION	OFFSET	NO.
19+50	20' RT	S1
21+50	20' LT	S2
21+50	20' RT	S3

N

VT. STATE PLANE GRID

STA 41+00.00
LIMIT OF WORK

BOSTWICK FARM ROAD DRIVE

STA 20+00.88
STOP ROADWAY
BEGIN BRIDGE

RAILROAD R.O.W.

RAILWAY

DETOUR BASELINE

22+27.33
142.42, LT

LIMITS OF DETOUR IMPACT

STONE DITCH ELIMINATED

REMOVE

SAVE

CONSTRUCT PAVED APRON

CONSTRUCT VERTICAL GRANITE CURB

20+01.51
32.84, LT

21+32.18
31.86, LT

Sta 3+09.26 PI

Sta 40+61.44 PI

Sta 3+95.23 PT

Sta 40+97.29 PT

Sta 6+73.42 PC

Sta 21+10.33 PC

Sta 40+54.78 PC

Sta 19+71.33 PT

Sta 22+27.34 SPC

EXISTING R.O.W.

SEE SHEET NO. 21 MATCHLINE STA 17+50

SEE SHEET NO. 23 MATCHLINE STA 23+50

BOSTWICK ROAD

CZ

UE&T

AER EXT

19+83.33
33.04, LT

19+65.11
33.22, RT

19+64.09
24.26, RT

19+55.06
50.12, RT

20+88.62
33.99, RT

21+12.96
34.42, RT

20+44.95
101.53, RT

NEW+35.0
129.5' RT

NEW+04.0
129' RT

CONSTRUCT GRAVEL DRIVE
STA 18+70.0, RT

STA 19+35.86 BOSTWICK ROAD =
STA 40+00.00 BOSTWICK FARM ROAD DRIVE

POLE NOT RELOCATED

TRANS.

STA 20+93.19
END BRIDGE
RESUME ROADWAY

BRIDGE #15
BOSTWICK ROAD
OVER VERMONT RAILWAY

VERMONT

4A STA 19+77, LT 15.0' TO STA 19+10, LT 33.0'
CONSTRUCT 15" x 67' CPEP
CONSTRUCT DI-A STA 19+77, LT 15.0'

4 STA 21+50, RT 54.1 TO STA 21+86, LT ~~48.3~~ STA 22+04 LT 78' LT
CONSTRUCT 18" x ~~106'~~ CPEP 142'
CONSTRUCT STONE PAD AT OUTLET
(SEE STONE FILL DETAIL SHEET)

5 STA 21+83, LT TO STA 21+83, RT
FILL WITH FLOWABLE FILL AND ABANDON

STONE DITCH
WETLANDS
EROSION MATTING
HAYBALES
STONE CHECK DAM

0 20 40
1" = 20'

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (1996)

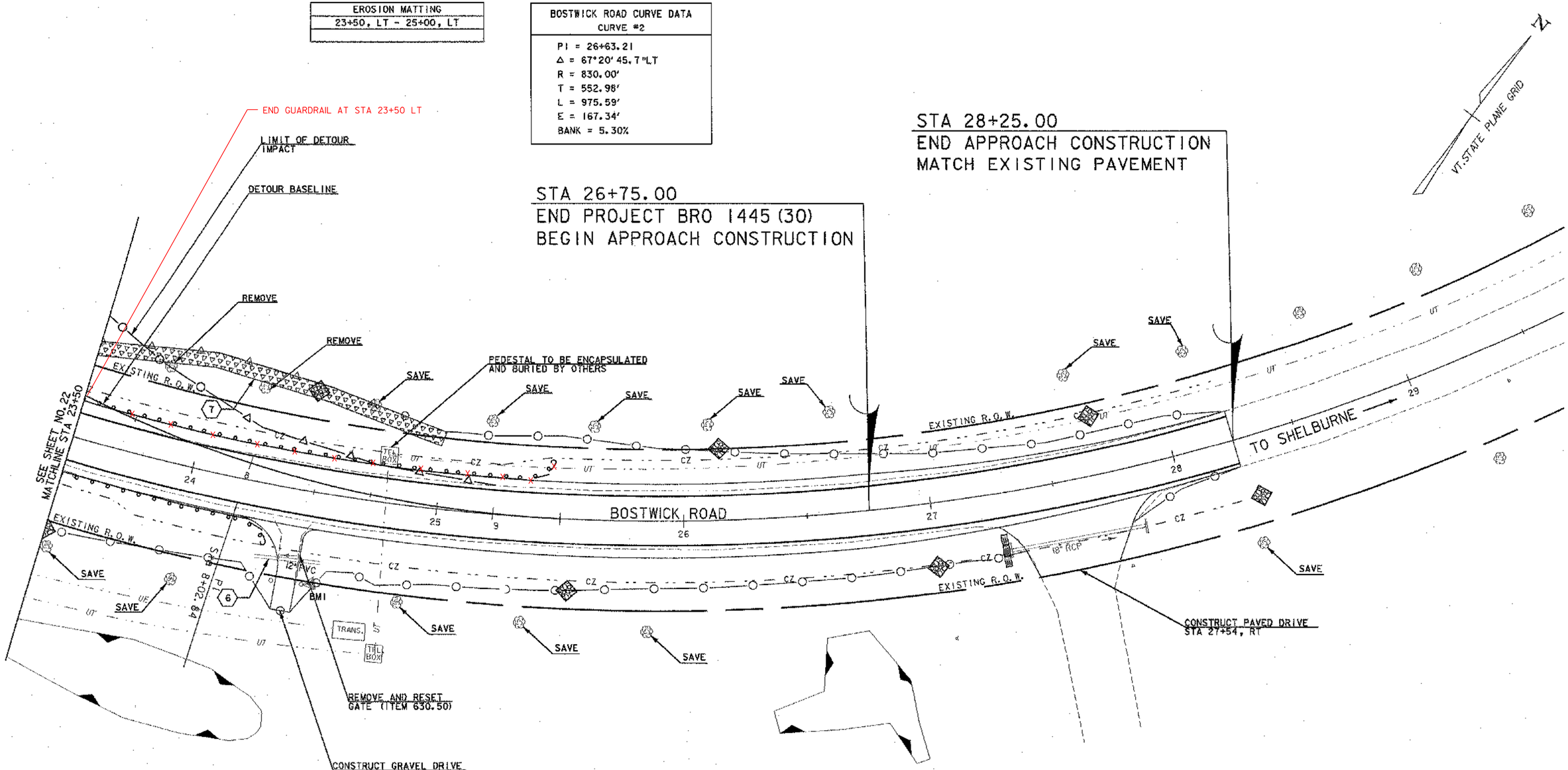
LAYOUT SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\GENPLN\gen003.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 04-AUG-2003
DRAWN BY: MJF
SHEET 22 OF 73

EROSION MATTING
23+50, LT - 25+00, LT

BOSTWICK ROAD CURVE DATA CURVE #2
PI = 26+63.21
Δ = 67°20'45.7"LT
R = 830.00'
T = 552.98'
L = 975.59'
E = 167.34'
BANK = 5.30%



⑥ STA 24+31, RT 29.2 TO STA 24+57, RT 28.7
REMOVE EXISTING 12" PVC

⑦ STA 21+80, LT TO STA 25+00, LT
CONSTRUCT 320' TOE OF SLOPE DITCH
(SEE CROSS SECTIONS AND DRAINAGE DETAIL SHEET)

STONE DITCH
WETLANDS
EROSION MATTING
HAYBALES
STONE CHECK DAM

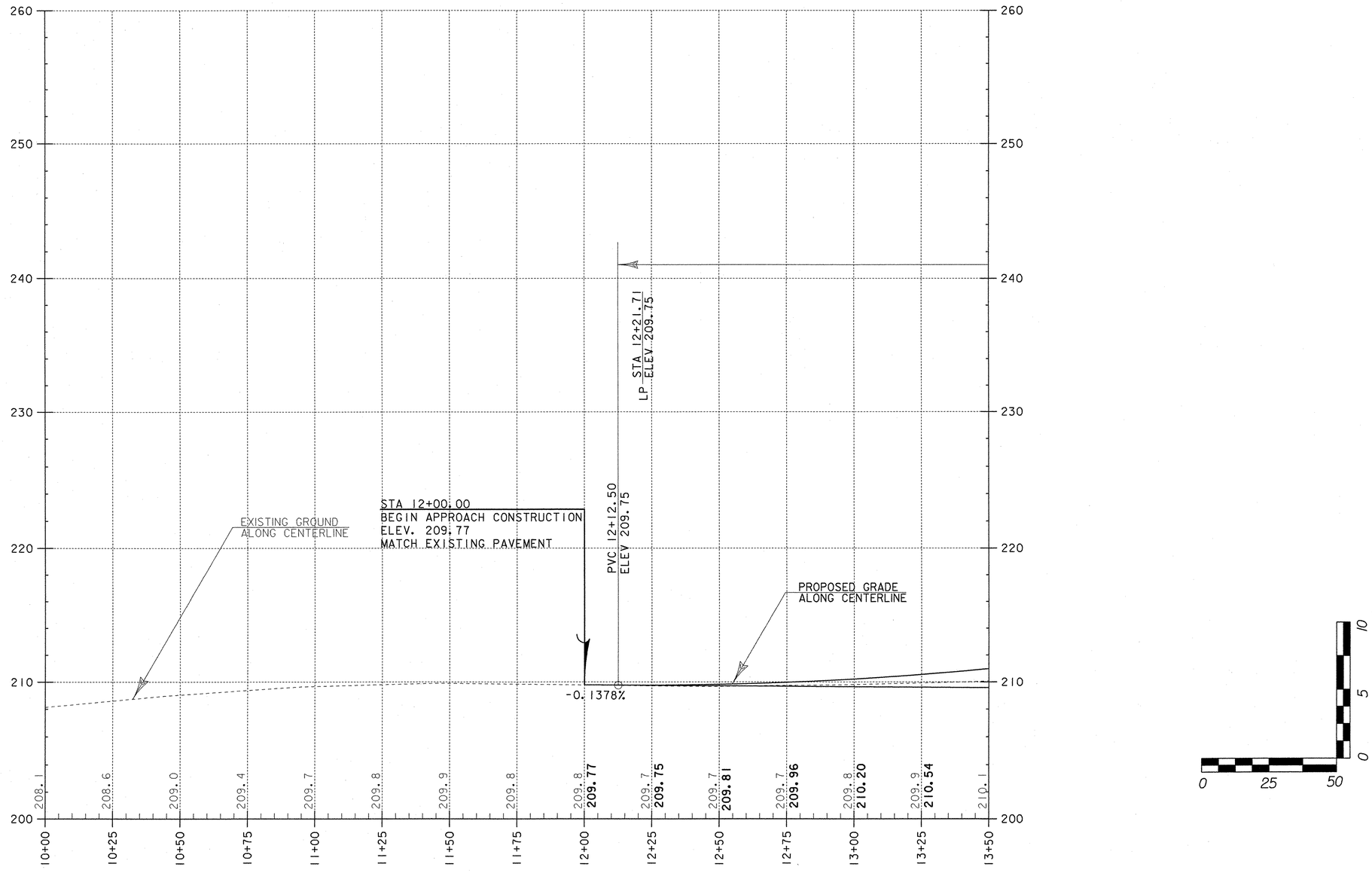
PI
Sta 26+63.21

0 20 40
1" = 20'

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

LAYOUT SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)
FILE NAME: M:\595402 Bostwick\HWY\DRAW\GENPLN\gen004.dgn
PROJECT LEADER: MBZ
PLOT DATE: 01-AUG-2003
DESIGNED BY: DMB
DRAWN BY: MJF
CHECKED BY: MDL
SHEET 23 OF 73



BOSTWICK ROAD

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (1996)

PROFILE

PROJECT NAME: SHELBURNE

PROJECT NUMBER: BRO 1445(30)

FILE NAME: m:\1595402 Bostwick\HWY\DRAW\PROFILES\prof001.dgn

PROJECT LEADER: MBZ

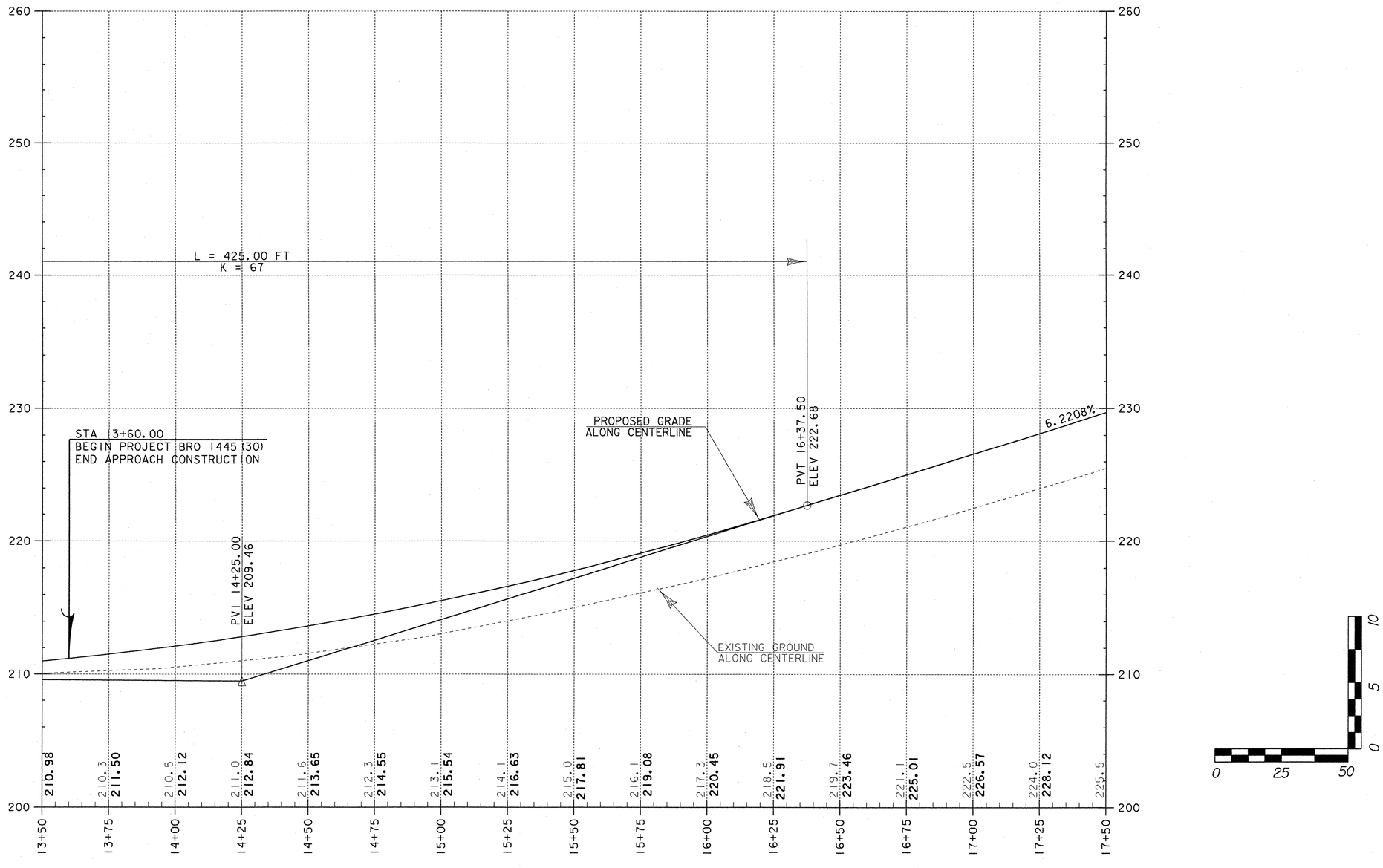
PLOT DATE: 01-AUG-2003

DESIGNED BY: DMB

DRAWN BY: MJF

CHECKED BY: MDL

SHEET 24 OF 73



BOSTWICK ROAD

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (1996)

PROFILE

PROJECT NAME: SHELBURNE

PROJECT NUMBER: BRO 1445(30)

FILE NAME: m:\1595402 Bostwick\HWY\DRAW\PROFILES\prof002.dgn

PROJECT LEADER: MBZ

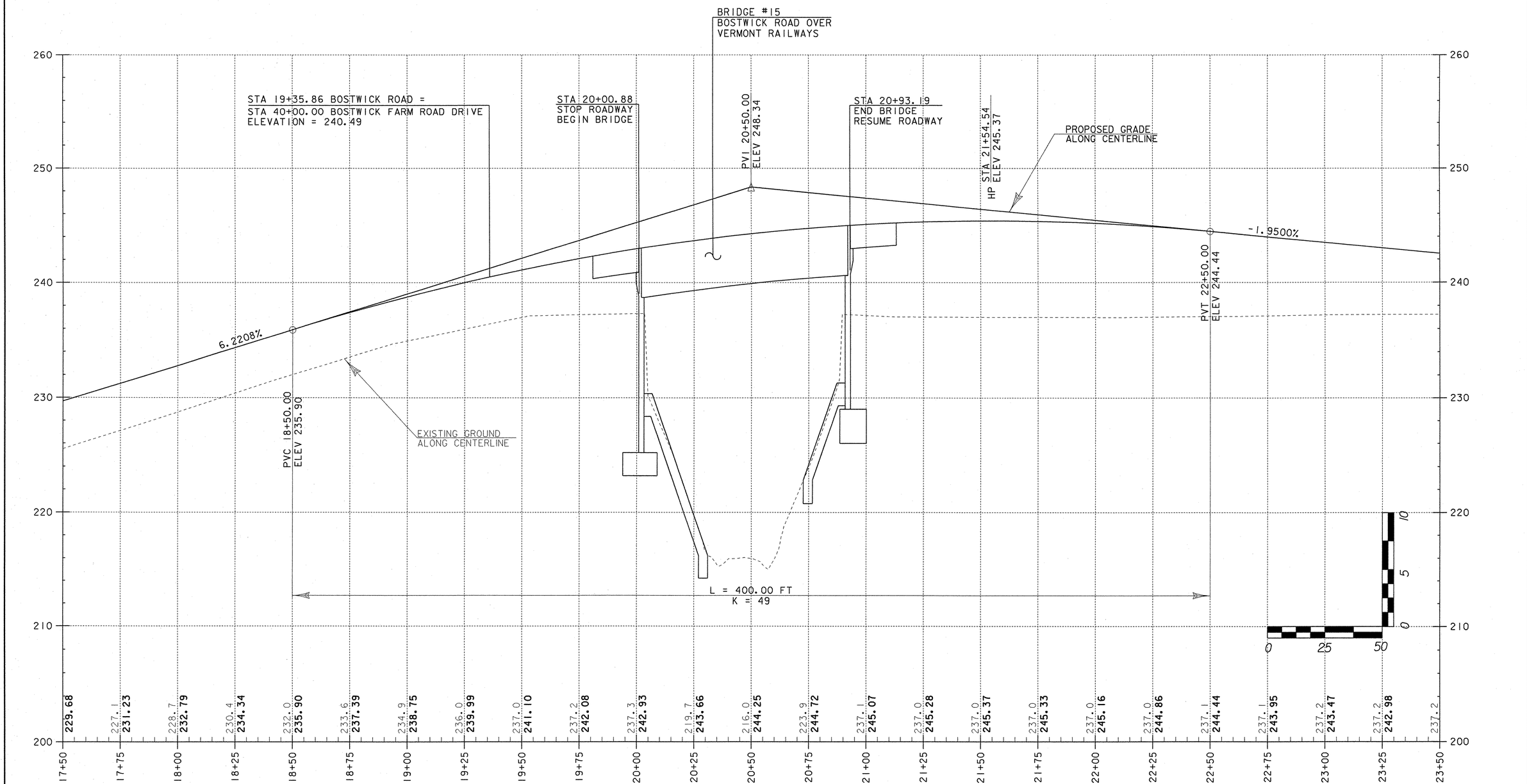
DESIGNED BY: DMB

CHECKED BY: MDL

PLOT DATE: 01-AUG-2003

DRAWN BY: MJF

SHEET 25 OF 73



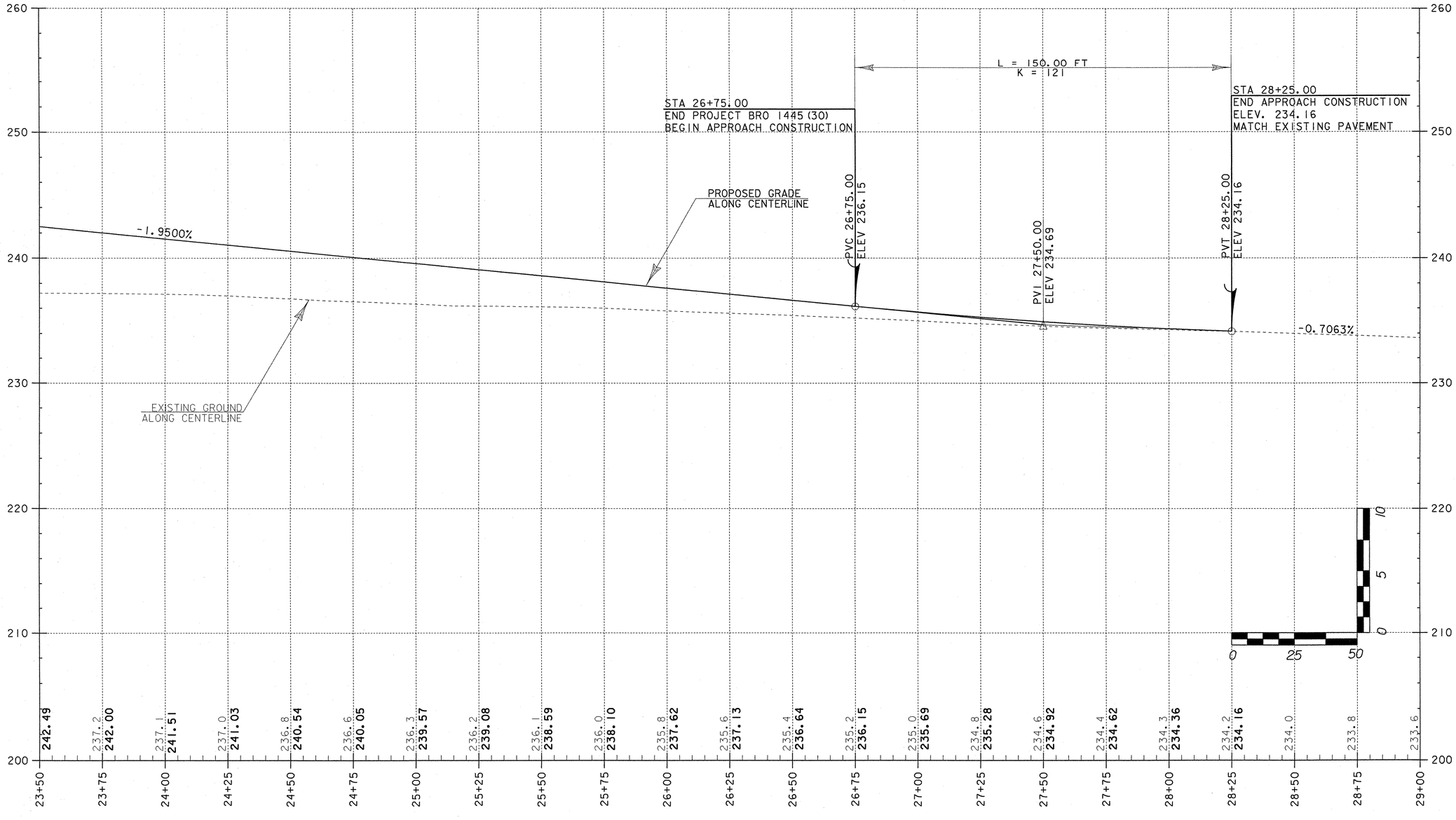
BOSTWICK ROAD

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (1996)

PROFILE

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: m:\1595402 Bostwick\HWY\DRAW\PROFILES\prof003.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: MJF
SHEET 26 OF 73



BOSTWICK ROAD

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (1996)

PROFILE

PROJECT NAME: SHELBURNE

PROJECT NUMBER: BRO 1445(30)

FILE NAME: m:\1595402 Bostwick\HWY\DRAW\PROFILES\prof004.dgn

PROJECT LEADER: MBZ

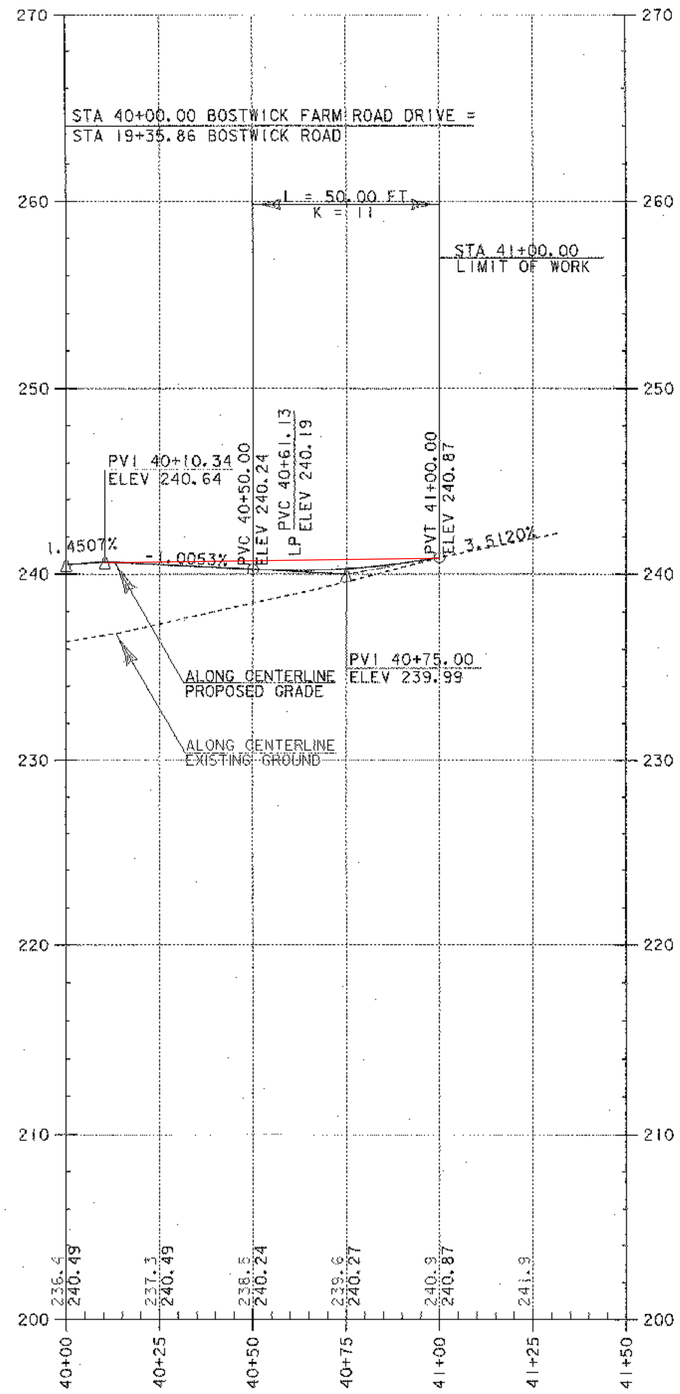
DESIGNED BY: DMB

CHECKED BY: MDL

PLOT DATE: 01-AUG-2003

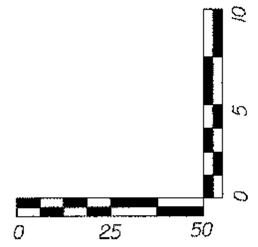
DRAWN BY: MJF

SHEET 27 OF 73



BOSTWICK FARM ROAD DRIVE

VERTICAL CURVE
ELIMINATED
STRAIGHT GRADE



DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (1996)

PROFILE

PROJECT NAME: SHELBURNE

PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\PROFILES\prof005.dgn

PROJECT LEADER: MBZ

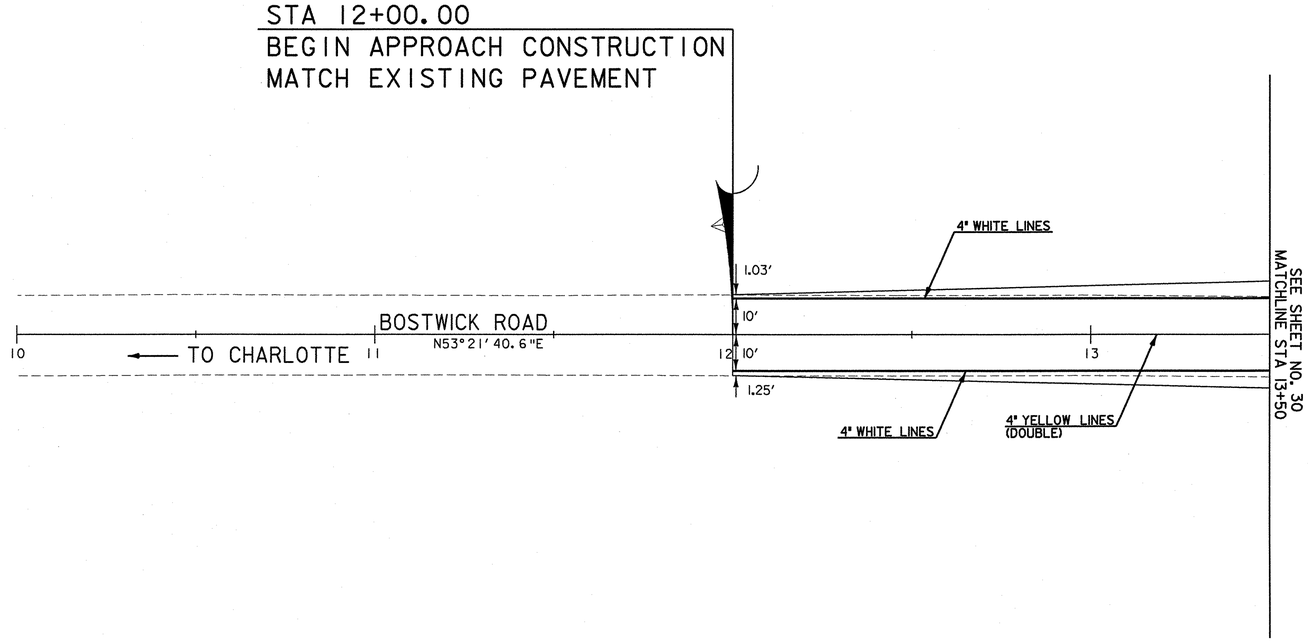
DESIGNED BY: DMB

CHECKED BY: MDL

PLOT DATE: 01-AUG-2003

DRAWN BY: MJF

SHEET 28 OF 73



SIGN LEGEND

R = REMOVE
S = SALVAGE
RR = REMOVE AND RESET
N = NEW
RET = RETAIN
B-B = BACK TO BACK
T-T = THINNING AND TRIMMING

EXISTING = [ ]

NEW = ▭

0 20 40
1" = 20'

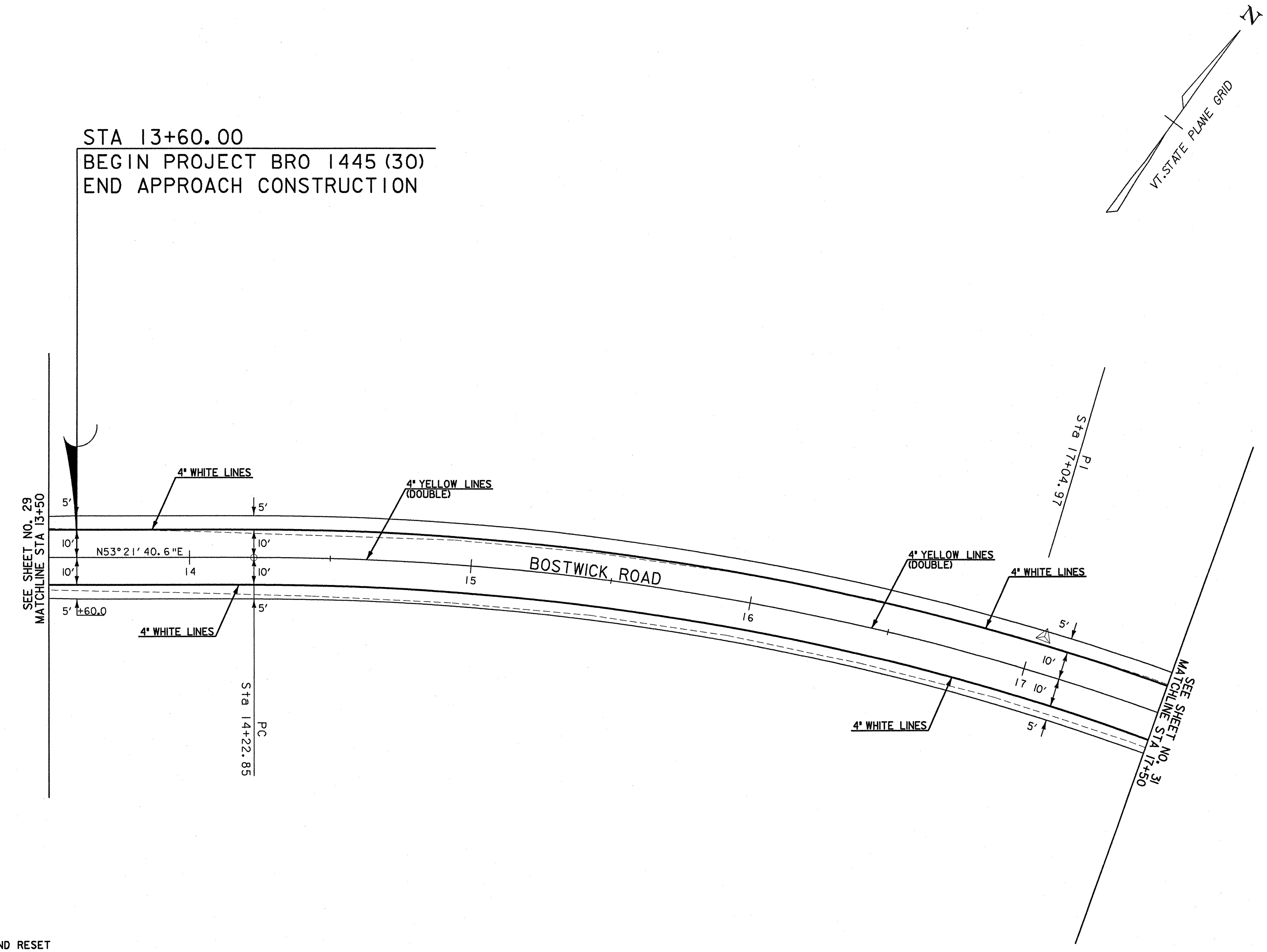
DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

ALIGNMENT SIGNING AND STRIPING

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\SGNPLNS\sgn001.dgn
PROJECT LEADER: MBZ PLOT DATE: 01-AUG-2003
DESIGNED BY: DMB DRAWN BY: MJF
CHECKED BY: MDL SHEET 29 OF 73



SIGN LEGEND

R = REMOVE
S = SALVAGE
RR = REMOVE AND RESET
N = NEW
RET = RETAIN
B-B = BACK TO BACK
T-T = THINNING AND TRIMMING

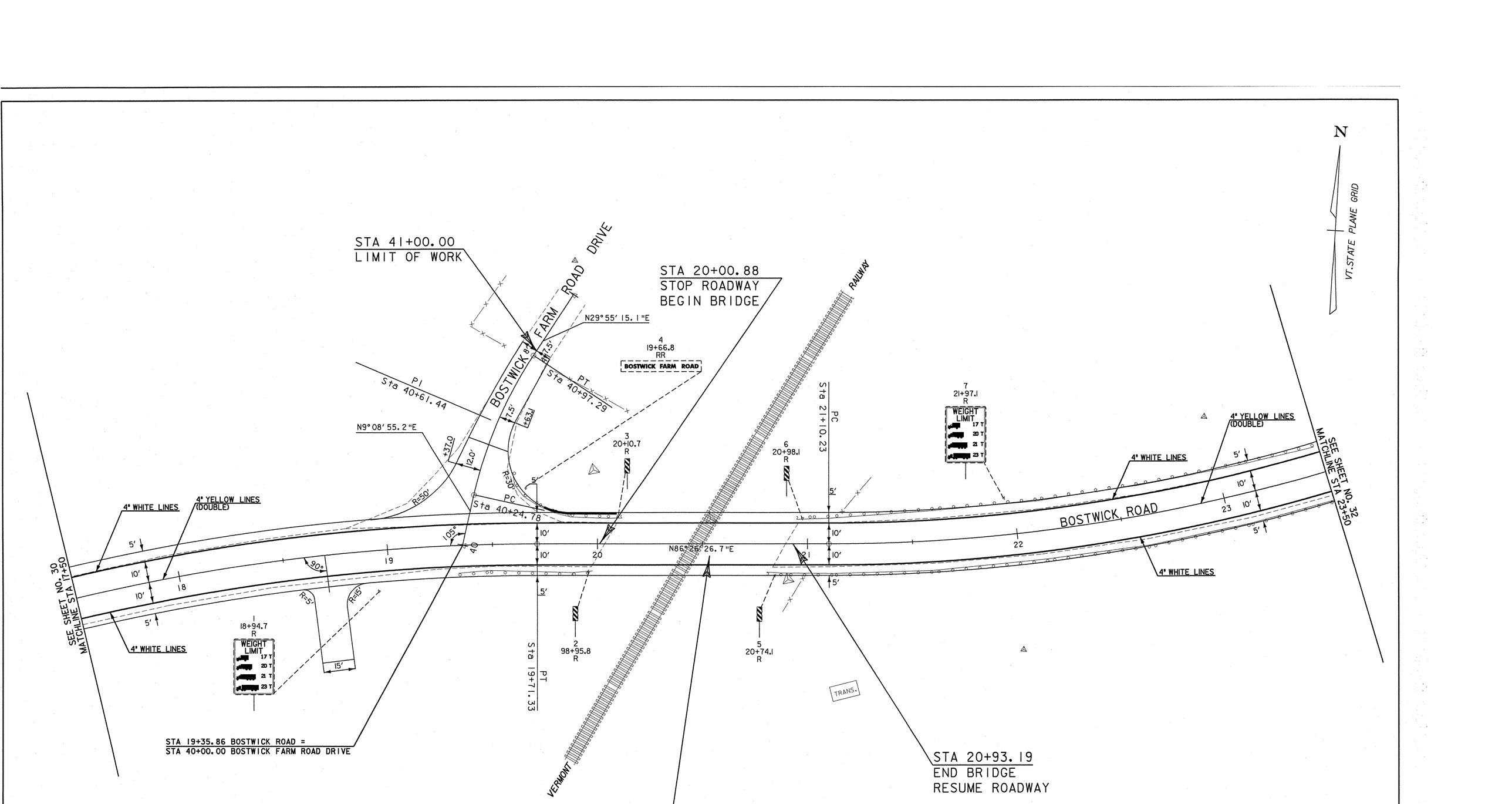
EXISTING = [dashed box]
NEW = [solid box]

0 20 40
1" = 20'

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (1996)

ALIGNMENT SIGNING AND STRIPING

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)
FILE NAME: M:\1595402 Bostwick\HWY\DRAW\SGNPLNS\sgn002.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: MJF
SHEET 30 OF 73



SIGN LEGEND

R = REMOVE
S = SALVAGE
RR = REMOVE AND RESET
N = NEW
RET = RETAIN
B-B = BACK TO BACK
T-T = THINNING AND TRIMMING

EXISTING = [ ]

NEW = ☐

0 20 40
1" = 20'

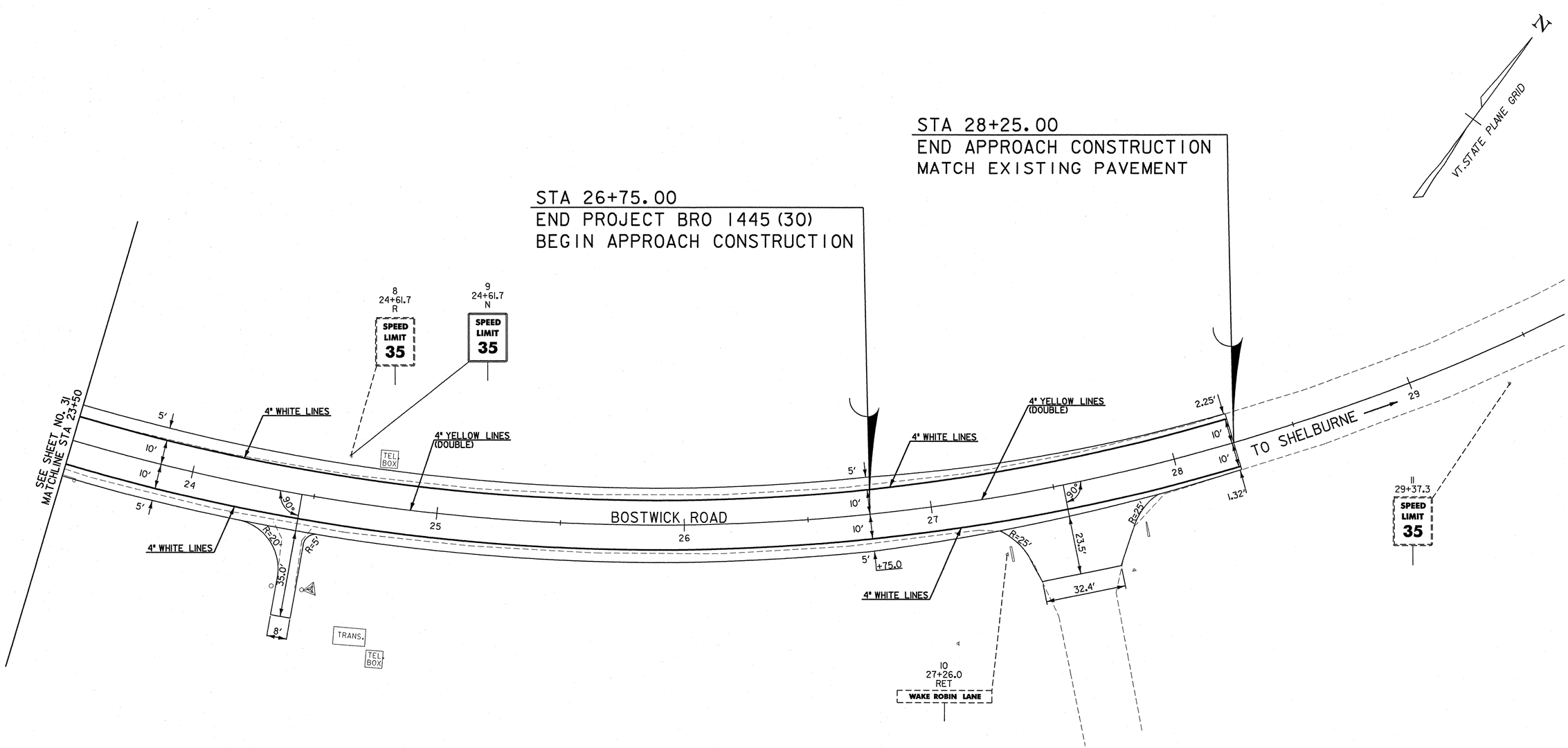
DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

ALIGNMENT SIGNING AND STRIPING

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\SGNPLNS\sgn003.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: MJF
SHEET 31 OF 73



SIGN LEGEND

R = REMOVE
S = SALVAGE
RR = REMOVE AND RESET
N = NEW
RET = RETAIN
B-B = BACK TO BACK
T-T = THINNING AND TRIMMING

EXISTING = [ ]

NEW = ▭

PI
Sta 26+63.21

0 20 40
1" = 20'

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

ALIGNMENT SIGNING AND STRIPING

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\SGNPLNS\sgn004.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: MJF
SHEET 32 OF 73

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS: EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS: "A"	"B"	SALV SIGN	SALV TIS	EXIST POST: RETAIN	SALVAGE
24+~~61.7~~60, LT	SPEED LIMIT 35	1	24	30	5					
19+~~66.8~~00, LT	BOSTWICK FARM ROAD	1					1			
27+~~26.0~~29, RT	WAKE ROBIN LANE	1					1			
TOTALS					SF 5	SF	EA. 2	SF		

NEW SIGN POSTS

MILEMARKER, STATION, OR SIGN NUMBER	NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) 1.75 (1.88 lb/ft)	2.0 (2.16)	2.5 (3.35)	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) 3.0 (1.3 lb/ft)	4.0 (1.7)	4.0 MOD (1.7)	FOUNDATION	TUBULAR STEEL Ø (in) 3.0 (7.6 lb/ft)	3.5 (9.0)	4.0 (10.8)	5.0 (14.6)	W-SHAPE STEEL FTG. SIZE 24'	30'	WEIGHT	POST SIZE	SIGN FRAME REQUIRED
		OPTION ITEMS																				
24+~~61.7~~60, LT	1			13.5 X																		
19+~~66.8~~00, LT	1			11 X																		
27+~~26.0~~29, RT	1			11 X																		
Units		FT	FT	FT	FT	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB					
TOTALS		FT 35			FT					LB			EA.	LB				EA.	EA.	LB		

MILEMARKER, STATION, OR SIGN NUMBER	REMARKS	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
24+~~61.7~~60, LT	R2-1		E-142M
19+~~66.8~~00, LT			
27+~~26.0~~29, RT			

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

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (1996)

QUANTITY SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\SGNPLNS\signsum.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: MJF
SHEET 33 OF 73

N

VT. STATE PLANE GRID

EXISTING R.O.W.

BOSTWICK ROAD

10 ← TO CHARLOTTE 11 12 13

SEE SHEET NO. 35
MATCHLINE STA 13+50

UT — UT — EXISTING R.O.W. UT — UT — UT — UT

STONE DITCH

WETLANDS

EROSION MATTING

HAYBALES

STONE CHECK DAM

0 20 40
1" = 20'

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (1996)

DETOUR LAYOUT SHEET

PROJECT NAME: SHELBURNE

PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\DETPLN\det001.dgn

PROJECT LEADER: MBZ

DESIGNED BY: DMB

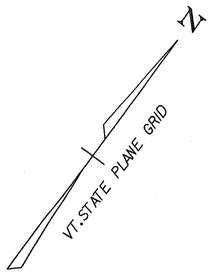
CHECKED BY: MDL

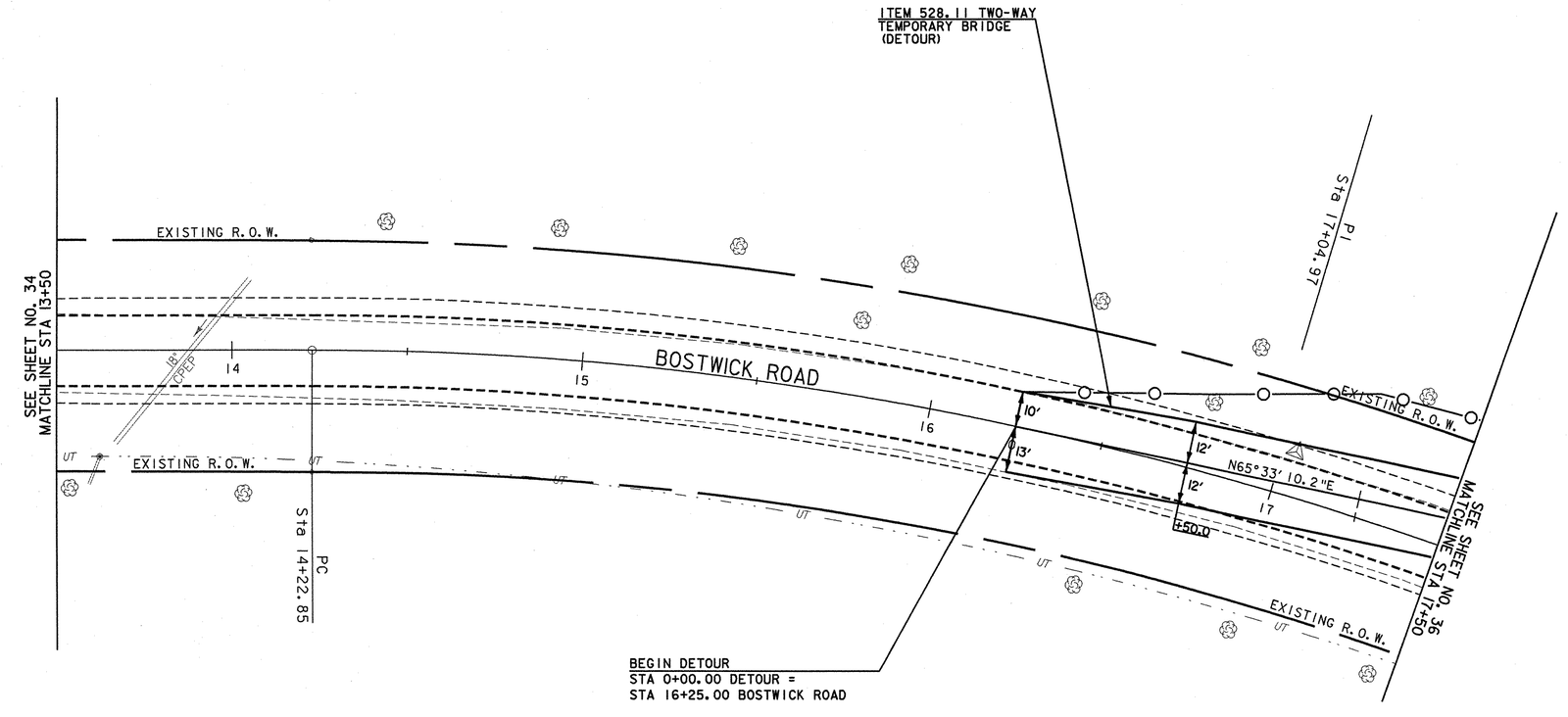
PLOT DATE: 01-AUG-2003

DRAWN BY: MJF

SHEET 34 OF 73

DETOUR CURVE DATA CURVE #1
PI = 3+09.26
Δ = 20°53' 16.6"RT
R = 477.00'
T = 87.92'
L = 173.90'
E = 8.04'
BANK = NONE





STONE DITCH

WETLANDS

EROSION MATTING

HAYBALES

STONE CHECK DAM

0 20 40

1" = 20'

DETOUR LAYOUT SHEET

PROJECT NAME:	SHELBURNE
PROJECT NUMBER:	BRO 1445(30)
FILE NAME:	M:\1595402 Bostwick\HWY\DRAW\DETPLN\det002.dgn
PROJECT LEADER:	MBZ
DESIGNED BY:	DMB
CHECKED BY:	MDL
PLOT DATE:	01-AUG-2003
DRAWN BY:	MJF
SHEET	35 OF 73

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (1996)

GEOTEXTILE FOR SILT FENCE
3+90, LT - 3+90, RT
5+20, RT - 6+00, LT

DETOUR CURVE DATA CURVE #2
PI = 8+02.84
Δ = 30°21'31.7"LT
R = 477.00'
T = 129.41'
L = 252.74'
E = 17.24'
BANK = VARIES

N

VT. STATE PLANE GRID

REMOVE AND RESET FENCE. PLANTING BED REMOVAL BY OTHERS.

LIMIT OF TEMPORARY PAVED APRON

PROTECT AS NEEDED

PI Sta 3+09.26

R=20'

BOSTWICK FARM ROAD DRIVE

R=10'

STA 3+85.00
BEGIN TEMPORARY BRIDGE

TEMPORARY TRAFFIC BARRIER (INCIDENTAL TO ITEM 528.11)

ITEM 528.11 TWO-WAY TEMPORARY BRIDGE (DETOUR)

RAILWAY

RAILROAD R.O.W.

PT Sta 3+95.23

PC Sta 21+10.23

STA 5+25.00
END TEMPORARY BRIDGE

PC Sta 6+73.42

T1

T2

12'

N86°26'26.9"E

EXISTING R.O.W.

SEE SHEET NO. 37 MATCHLINE STA 23+50

6:1 TAPER

BOSTWICK ROAD

12" CGMP

N65°33'10.2"E

SEE SHEET NO. 35 MATCHLINE STA 17+50

EXISTING R.O.W.

UT

AER E&T

UE

Sta 12+21.34 UPC

TEMPORARY TRAFFIC BARRIER (INCIDENTAL TO ITEM 528.11)

STA 19+35.86 BOSTWICK ROAD =
STA 40+00.00 BOSTWICK FARM ROAD DRIVE

PT Sta 19+71.33

VERMONT

RAILROAD R.O.W.

TRANS.

TEMPORARY TRAFFIC BARRIER (INCIDENTAL TO ITEM 528.11)

T1 STA 21+75, LT TO STA 22+75, LT
CONSTRUCT 100' OF TOE OF SLOPE DITCH
(SEE CROSS SECTIONS AND DRAINAGE DETAIL SHEET)
INCIDENTAL TO ITEM 528.11

T2 STA 21+84, LT 34.5 TO STA 21+85, LT 75.6
CONSTRUCT 12" x 51' CGMP EXTENSION
INCIDENTAL TO ITEM 528.11

STONE DITCH

WETLANDS

EROSION MATTING

HAYBALES

STONE CHECK DAM

GENERAL NOTES:

1. THE EXISTING BRIDGE HAS BEEN RECONFIGURED TO OPERATE AS A SIGNALIZED ALTERNATING ONE-WAY ROAD. THIS WORK IS NOT REFLECTED IN THE EXISTING DETAIL SHOWN ON THE LAYOUT PLANS.
2. VTRANS DISTRICT 5 FORCES WILL REMOVE THE TEMPORARY TRAFFIC SIGNALS AFTER THE TWO-WAY TEMPORARY BRIDGE IS OPENED. THE CONTRACTOR SHALL CONTACT THE DISTRICT 5 ADMINISTRATOR TWO WEEKS PRIOR TO THE OPENING OF THE TEMPORARY BRIDGE.
3. THE CONTRACTOR SHALL SALVAGE ALL SIGNS AND TEMPORARY BARRIER INSTALLED BY THE DISTRICT AND RETURN IT TO THE DISTRICT 5 OFFICE AT 5 BARNES AVENUE IN COLCHESTER. THE CONTRACTOR SHALL SALVAGE ALL PLYWOOD AND DIMENSIONAL LUMBER TO DISTRICT 5 (REPLACING ANY MATERIALS DAMAGED DURING DEMOLITION). CONTRACTOR HAS THE OPTION OF PROVIDING AN EQUIVALENT AMOUNT OF LUMBER TO THE DISTRICT. THESE TASKS WILL BE INCIDENTAL TO ITEM 529.15 - REMOVAL OF STRUCTURE.
4. SEE LAYOUT PLANS FOR ADDITIONAL EROSION CONTROL MEASURES.
5. SEE LAYOUT PLANS FOR LANDSCAPING SAVE AND REMOVAL INFORMATION.
6. DETOUR TRAFFIC CONTROL TO FOLLOW STANDARD E-107, UNLESS OTHERWISE SHOWN ON THESE DRAWINGS. DETOUR DESIGN SPEED IS 25 MPH.
7. INCIDENTAL TO ITEM 528.11 IS THE ACQUISITION AND PLACEMENT OF APPROXIMATELY 2000 CUBIC YARDS OF EARTH BORROW AND THE EXCAVATION AND REMOVAL OF APPROXIMATELY 1540 CUBIC YARDS OF THAT MATERIAL AFTER THE COMPLETION OF THE PROJECT. (SEE CROSS SECTIONS).
8. MATERIAL PLACED AT THE ENDS OF THE TEMPORARY CONCRETE BARRIER BY THE DISTRICT WILL BE REMOVED BY THE CONTRACTOR. ITEM 203.15 - COMMON EXCAVATION.

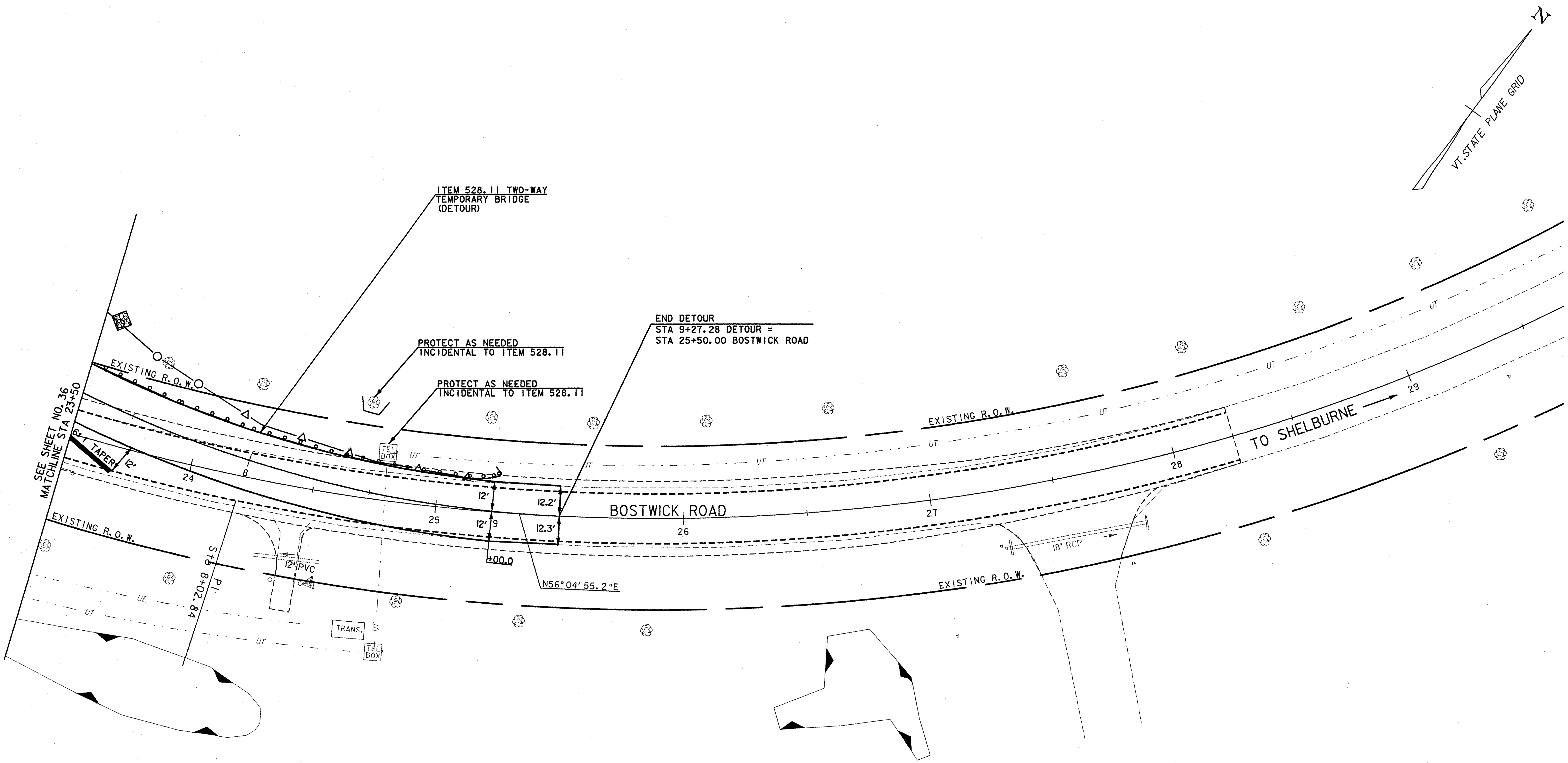
0 20 40
1" = 20'

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (1996)

DETOUR LAYOUT SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: m:\1595402 bostwick\hwy\DRAW\DETPLN\det003.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 04-AUG-2003
DRAWN BY: MJF
SHEET 36 OF 73



STONE DITCH

WETLANDS

EROSION MATTING

HAYBALES

STONE CHECK DAM

PI
Sta 26+63.21

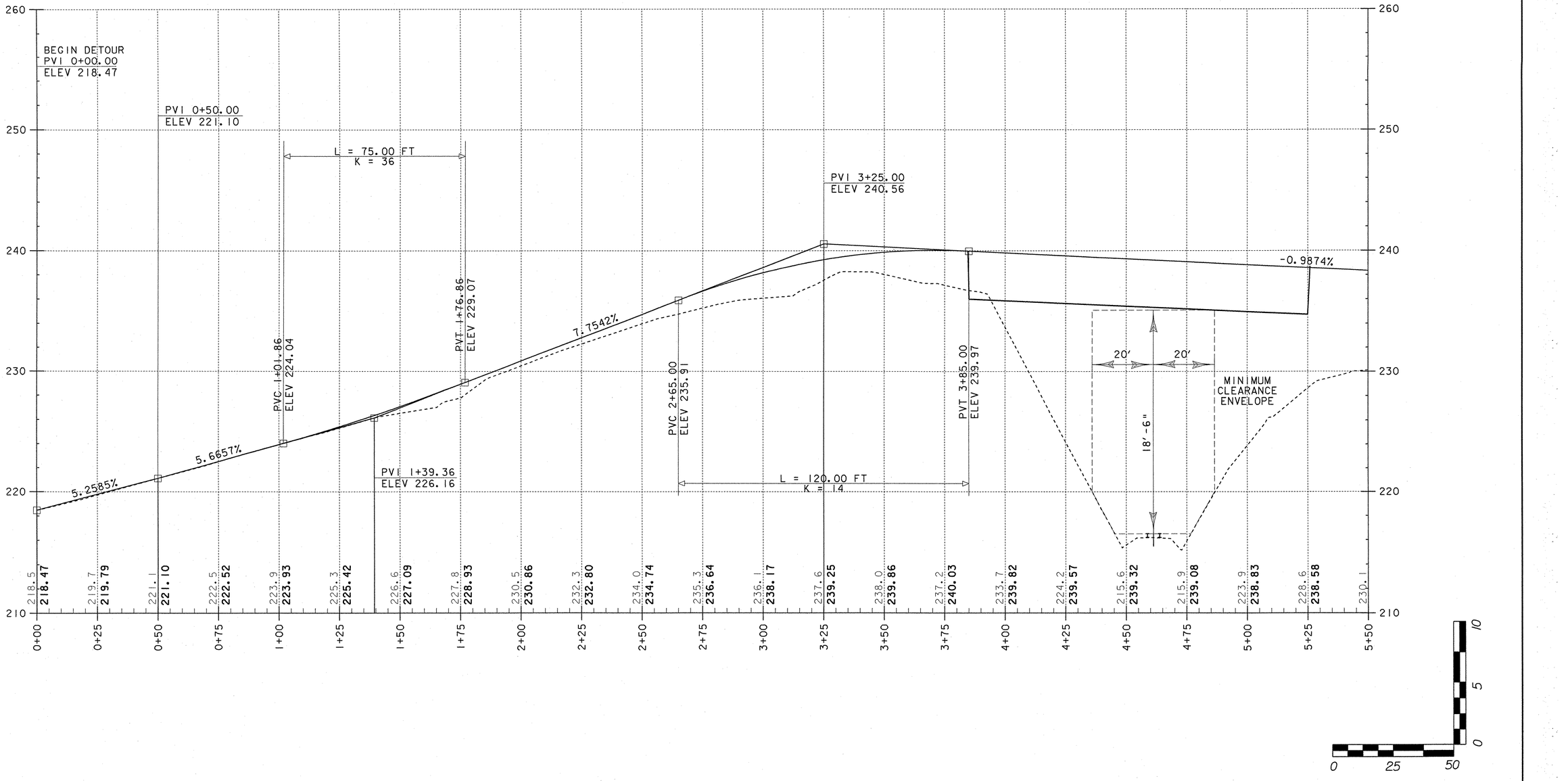
0 20 40
1" = 20'

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (1996)

DETOUR LAYOUT SHEET

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\DETPLN\det004.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: MJF
SHEET 37 OF 73



BOSTWICK ROAD DETOUR

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (1996)

DETOUR PROFILE

PROJECT NAME: SHELBURNE

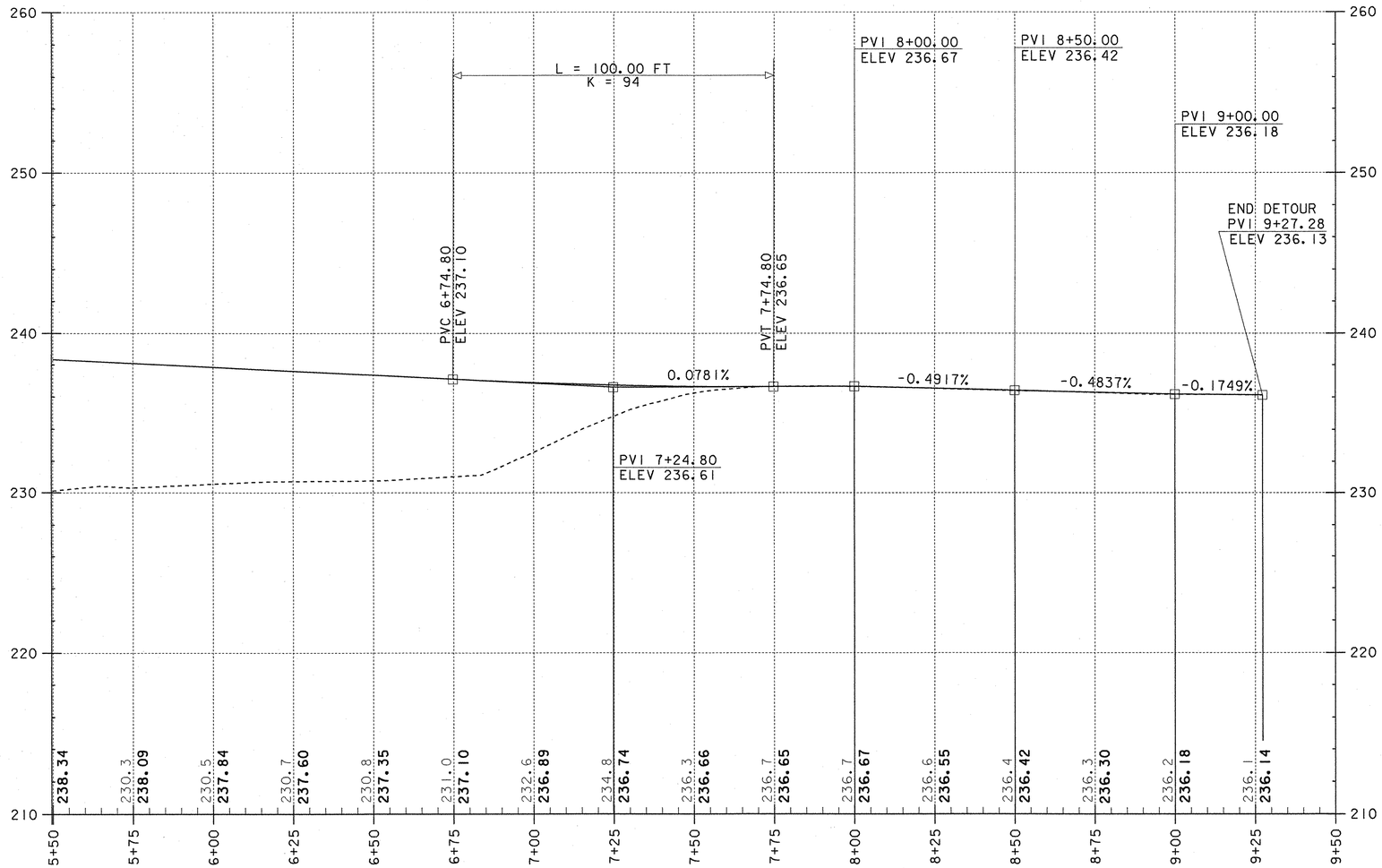
PROJECT NUMBER: BRO 1445(30)

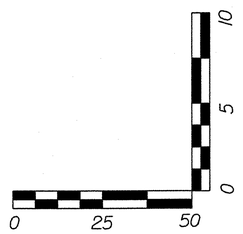
FILE NAME: M:\1595402 Bostwick\HWY\DRAW\PROFILES\detprof001.dgn

PROJECT LEADER: MBZ — PLOT DATE: 01-AUG-2003

DESIGNED BY: DMB — DRAWN BY: MJF

CHECKED BY: MDL — SHEET 38 OF 73





BOSTWICK ROAD DETOUR

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (1996)

DETOUR PROFILE

PROJECT NAME: SHELBURNE

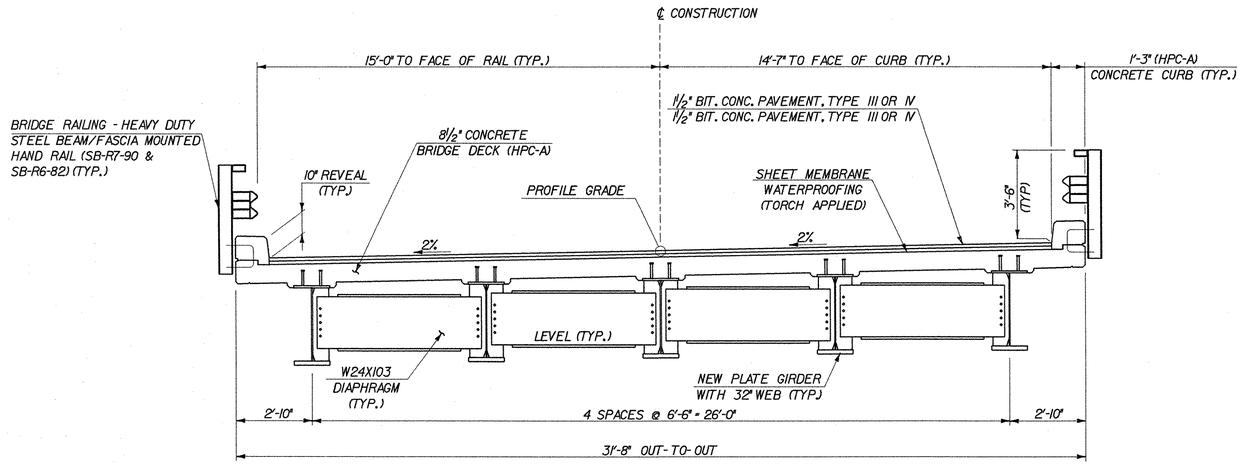
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\PROFILES\detprof002.dgn

PROJECT LEADER: MBZ PLOT DATE: 01-AUG-2003

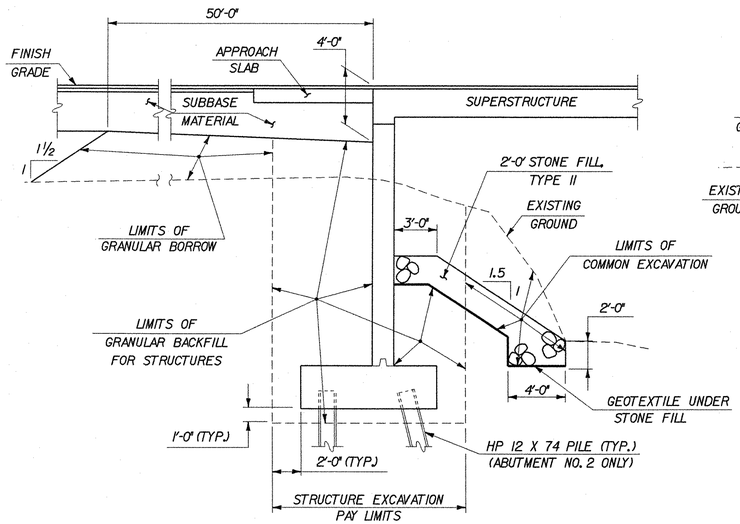
DESIGNED BY: DMB DRAWN BY: MJF

CHECKED BY: MDL SHEET 39 OF 73



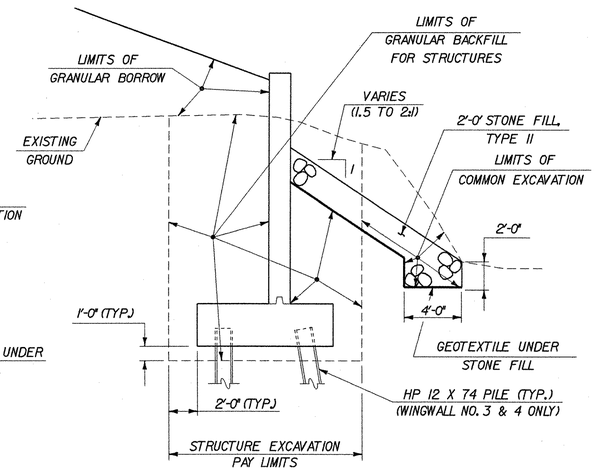
TYPICAL BRIDGE SECTION

SCALE: ⅜" = 1'-0"



TYPICAL ABUTMENT SECTION

(NOT TO SCALE)



TYPICAL WINGWALL SECTION

(NOT TO SCALE)

NOTE

1. FOR TYPICAL ROADWAY SECTION AND MATERIAL TOLERANCES, SEE SHEETS 3-5 OF 73.

FINAL HYDRAULICS REPORT

HYDROLOGIC DATA

DRAINAGE AREA = _____
CHARACTER OF TERRAIN: _____
CHARACTER & TYPE OF STREAM: _____

NATURE OF STREAMBED: _____

Q2.33 = _____ Q50 = _____
Q10 = _____ Q100 = _____
Q25 = _____ Q500 = _____

DATE OF FLOOD OF RECORD: _____
WATER SURFACE ELEV.: _____ ESTIMATED DISCHARGE: _____
NATURAL STREAM VELOCITY @ Q = _____
ICE CONDITIONS: _____ DEBRIS: _____
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? _____
IS ORDINARY RISE RAPID? _____
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? _____
IF YES, DESCRIBE. _____

WATERSHED STORAGE ___ HEADWATERS ___ UNIFORM THROUGHOUT WATERSHED ___ IMMEDIATELY ABOVE SITE ___

EXISTING STRUCTURE

THREE SPAN CONTINUOUS STEEL BEAM

STRUCTURE TYPE: WITH CONCRETE DECK YEAR BUILT: 1954
CLEAR SPAN (NORMAL TO STREAM): 699 FEET
VERTICAL CLEARANCE ABOVE STREAMBED: _____
WATERWAY OF FULL OPENING: _____
DISPOSITION OF STRUCTURE: BRIDGE TO BE REPLACED

TYPE OF MATERIAL UNDER SUBSTRUCTURE: _____

WATER SURFACE ELEV. @ Q2.33 = _____ VELOCITY= _____
Q10 = _____ " _____
Q25 = _____ " _____
Q50 = _____ " _____
Q100 = _____ " _____

LONG TERM STREAM BED CHANGES: _____

IS THE ROADWAY OVERTOPPED BELOW THE Q100? _____ FREQUENCY: _____
RELIEF ELEVATION: _____ DISCHARGE OVER ROAD @ Q100: _____

UPSTREAM STRUCTURE: TOWN: _____ DISTANCE: _____
HIGHWAY NO.: _____ STRUCTURE NO.: _____
STRUCTURE TYPE: _____
CLEAR SPAN: _____ CLEAR HEIGHT: _____
YEAR BUILT: _____ FULL WATERWAY: _____

DOWNSTREAM STRUCTURE: TOWN: _____ DISTANCE: _____
HIGHWAY NO.: _____ STRUCTURE NO.: _____
STRUCTURE TYPE: _____
CLEAR SPAN: _____ CLEAR HEIGHT: _____
YEAR BUILT: _____ FULL WATERWAY: _____

PROPOSED STRUCTURE

STRUCTURE TYPE: SINGLE SPAN STEEL BEAM WITH CONCRETE DECK

CLEAR SPAN (NORMAL TO RAILROAD): 76.2 FEET
VERTICAL CLEARANCE ABOVE RAILROAD: 23 FEET
WATERWAY OF FULL OPENING: _____

WATER SURFACE ELEV. @ Q2.33 = _____ VELOCITY= _____
Q10 = _____ " _____
Q25 = _____ " _____
Q50 = _____ " _____
Q100 = _____ " _____

IS THE ROADWAY OVERTOPPED BELOW THE Q100? _____ FREQUENCY: _____
RELIEF ELEVATION: _____ DISCHARGE OVER ROAD @ Q100: _____

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: _____
VERTICAL CLEARANCE @ Q = _____

SCOUR: _____
REQUIRED CHANNEL PROTECTION: _____

PERMIT INFORMATION

STRUCTURE TYPE: YEAR BUILT:

AVERAGE DAILY FLOW: _____
ORDINARY LOW WATER: _____ DEPTH: _____
ORDINARY HIGH WATER: _____ DEPTH: _____

ADDITIONAL COMMENTS

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2004	2300	230	50	3	80
2024	3100	300	50	3	100

18 kip ESAL for flexible pavement from 2004 to 2024: 250,000
18 kip ESAL for flexible pavement from 2004 to 2044: 350,000
Design speed: 35 mph

DESIGN CRITERIA:
1. DESIGN LIVE LOAD AASHTO HS 25-44
2. DESIGN SPAN 90.0 FEET
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 3.75 KSF (WEST) ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING 300 KIPS PER PILE TYPE HP 12 X 74 ESTIMATED LENGTH 25 FEET
5. STRUCTURAL STEEL AASHTO GRADE M270, GRADE 50W
6. REINFORCING STEEL GRADE 60
7. CONCRETE CLASS A (HPC-A) f'_c : 4000 PSI
   CONCRETE CLASS B (HPC-B) f'_c : 3500 PSI

TRAFFIC MAINTENANCE:
1. IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE NO OR ON TEMPORARY BRIDGE YES
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY TWO WAY TRAFFIC CONTROL SIGNALS REQUIRED NO
   BRIDGE DETOUR TO BE DESIGNED BY OTHERS

   ARE SIDEWALKS REQUIRED? NO IF SO, ON WHAT SIDE? N/A

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY A=2.17; B=1.00	48	68					
POSTED A=1.55; B=1.40	67	95	110		87	89	102
OPERATING A=1.30; B=1.67		113	131	153	104	106	

STRENGTH RF= $\frac{\phi M_N - 1.3\,M_{DL}}{A \times M_{LL+I}}$ SERVICEABILITY RF= $B\left[\frac{.95\,F_y S_{LL+I} - M_{DL}\frac{S_{LL+I}}{S_{DL}} - M_{SDL}\frac{S_{LL+I}}{S_{SDL}}}{1.67\,M_{LL+I}}\right]$

McFarland-Johnson, Inc.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE Bridge No. 15
Highway No. TH 3 Log Sta.
Surv. Sta.

BOSTWICK ROAD OVER VERMONT RAILWAY
PRELIMINARY INFORMATION SHEET

Designed By L. WIXSON Drawn By B. COLBURN
Checked By R. JOY Date 05/03 Bridge Design Supervisor M. ZYDEL Date 05/03
PROJECT SHELBURNE PROJECT NO. BRO 1445(30)
I.G.C. Info. m:\1595402 Bostwick\BRIDGE\6mylar\z_j196pl.dgn
Bridge Sheet No. BRI00 Sheet 40 of 73

PLOTTED 05-AUG-2003

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

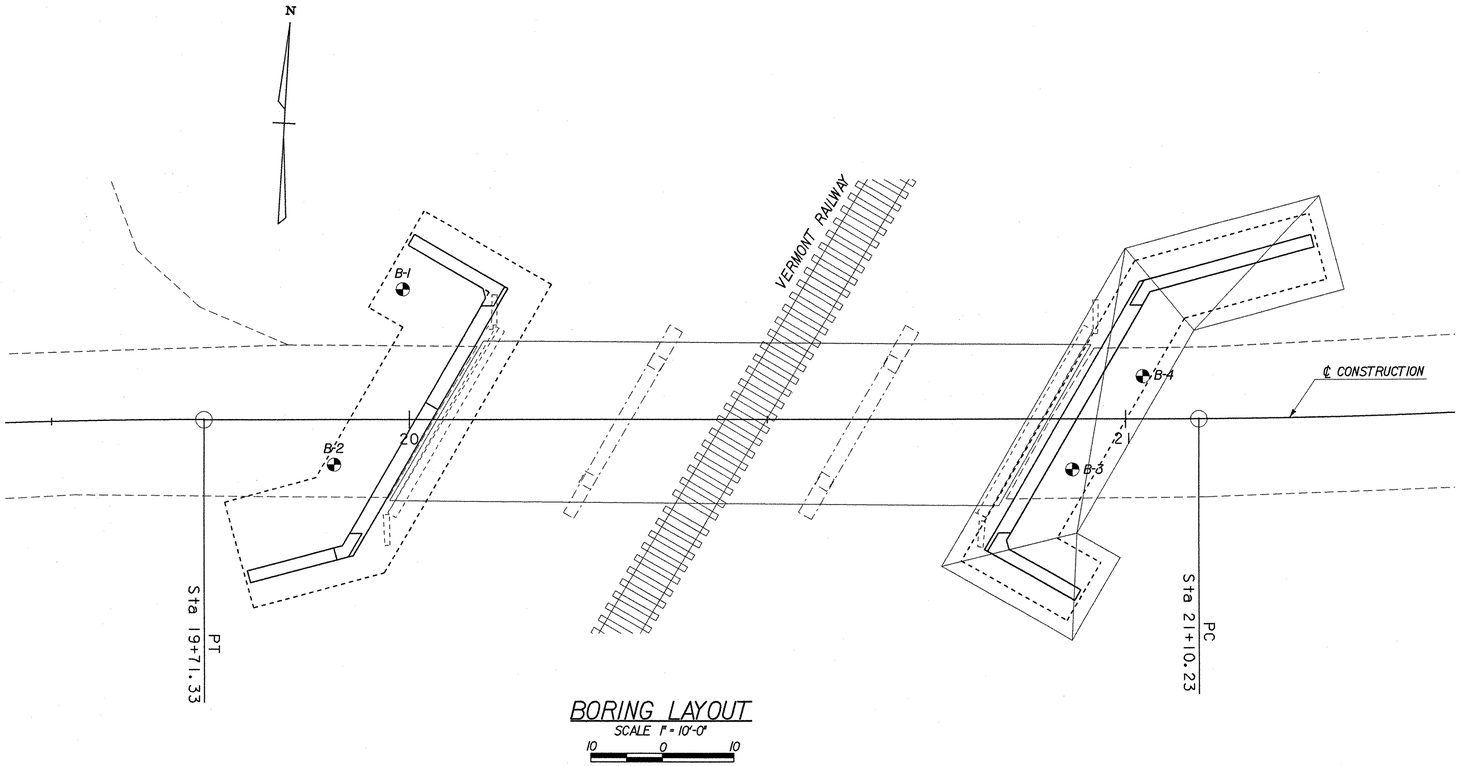
CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS) N	DESCRIPTIVE TERM	CONSISTENCY (COHESIVE SOILS) 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 5/8"
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	mlto	Multicolored
or	Orange		



BORING LAYOUT

SCALE 1" = 10'-0"

10 0 10

BORING CHART

BORING NO.	STATION	OFFSET	BEDROCK ELEV.
B-1	19+99.10	LT 18.16'	216.92
B-2	19+89.53	RT 6.25'	218.74
B-3	20+92.59	RT 7.00'	204.14
B-4	21+02.41	LT 6.00'	201.05

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 > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#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

1. The subsurface explorations shown herein were made between 10/7/02 and 10/9/02 by SJB Services, Inc.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
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McFarland-Johnson, Inc.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
BORING INFORMATION SHEET	
Designed By SJB SERVICES, INC.	Drawn By S.MERKWAN
Checked By L.WIXSON Date 05/03	Bridge Design Supervisor M.ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. M:\595402 Bostwick\BRIDGE\6mylar\z1196bpl.dgn	
Bridge Sheet No. BR101	Sheet 41 of 73

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MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 5/8"
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			
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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		

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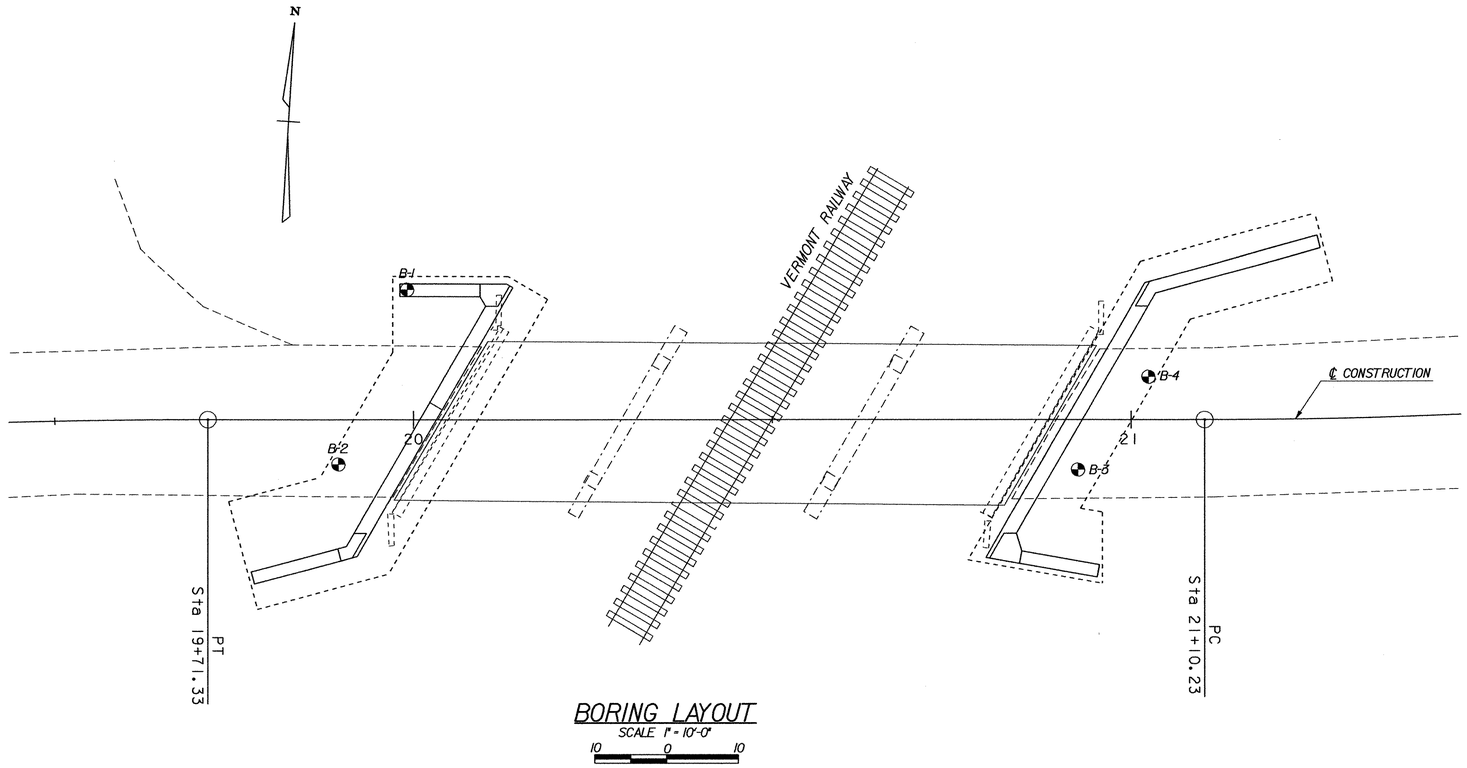

BORING LAYOUT

SCALE 1" = 10'-0"

10 0 10

BORING CHART

BORING NO.	STATION	OFFSET	BEDROCK ELEV.
B-1	19+99.10	LT 18.16'	216.92
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B-3	20+92.59	RT 7.00'	204.14
B-4	21+02.41	LT 6.00'	201.05

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McFarland-Johnson, Inc.

⚠ WINGWALL NO. 1 AND NO. 4 LAYOUT REVISED

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta.
	Surv. Sta.

BOSTWICK ROAD OVER VERMONT RAILWAY

BORING INFORMATION SHEET (REVISED)

Designed By SJB SERVICES, INC.	Drawn By S.MERKWAN
Checked By Date	Bridge Design Supervisor
L.WIXSON 03/04	M.ZYDEL Date 03/04
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)

I.G.C. Info. G:\Structures\STR3_Roger Whitcomb\Consultants\McFarland-Johnson\Shelburne\

Bridge Sheet No. BRIOIA Sheet 4IA of 73

SUBSURFACE LOG

DATE: START 10/7/2002 FINISH 10/7/2002 SHEET 1 OF 1

PJT NO. AD-02-069 HOLE NO. B-1 SURF.ELEV 236.92 GW.DEPTH See Notes

PROJECT: Bridge Reconstruction — LOCATION: Bostwick Rd.over Vermont Railway
Project BRO 1445 (30) — T/O Shelburne,Vermont

STATION: 19+99.103 — OFFSET: 18.155' LT

B.F. ABUT. NO. 1

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	REC (FT)	SOIL OR ROCK CLASSIFICATION	NOTES
								TOPSOIL	North side of west abutment.
	1	2	4	4	4	8		Possible Fill: Brown SILT with embedded SHALE FRAGMENTS (Moist - Medium)	No water present in hole prior to introducing water for core drilling.
5									
	2	4	4	5	5	9	1.5	Similar; rootlets noted	At completion of core drilling,water level at ground surface (Introduced water).
10									
	3	5	5	6	4	11	1.5	Brown,laminated SILT & CLAY (Moist - Medium)	Hard auger advance at approx.18'.
15									Drilled from 19.2' to 20.0' with tricone bit.
	4	3	11	14	7	25		Similar,with partings of fine sand; stiff,moist	
20	5	50/2						Gray SHALE FRAGMENTS (Damp - Very Compact) Iberville Shale: Gray,hard,weathered,laminated SLATE (weakly metamorphosed shale) with very hard,bedded siltstone layers. Veined with calcite and cut by 60 degree fractures (slaty cleavage) roughly parallel to relict bedding. Fracture surfaces frequently rust-stained. Completely shattered zones noted in recovered core,and as blockages wedged in core barrel washed away by drilling operation.	Core drilled from 20.0' to 30.0'. Run 1: 20.0' - 25.0' 3.2' Recovery (64%) RQD = 26% Run 2: 25.0' - 30.0' 3.4' Recovery (68%) RQD = 28% NX Core
25									
30								Boring Terminated @ 30.0'	No losses of water noted while coring.
35									
40									

N = NO.BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB.PIN WT.FALLING 30-INCHES PER BLOW
DRILLER: Mike Lenigan — DRILL RIG TYPE : CME 75
METHOD OF INVESTIGATION 4.25" I.D.Hollow Stem Auger,NX Diamond Core
CLASSIFICATION: Visual by Geologist

SUBSURFACE LOG

DATE: START 10/8/2002 FINISH 10/8/2002 SHEET 1 OF 1

PJT NO. AD-02-069 HOLE NO. B-2 SURF.ELEV 237.24 GW.DEPTH See Notes

PROJECT: Bridge Reconstruction — LOCATION: Bostwick Rd.over Vermont Railway
Project BRO 1445 (30) — T/O Shelburne,Vermont

STATION: 19+89.525 — OFFSET: 6.250' RT

B.F. ABUT. NO. 1

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	REC (FT)	SOIL OR ROCK CLASSIFICATION	NOTES
								ASPHALT 10"	South side of west abutment.
	1	5	5	4	4	9	1.5	Possible Fill: Brown SILT with embedded SHALE FRAGMENTS (Moist - Medium)	Samples 1 & 2 are "wet" due to introduction of water for casing advance and cleanout.
5									
	2	2	1	1	2	2	1.0	Similar,very soft	
10									
	3	2	7	7	9	14	1.5	Brown laminated SILT & CLAY (Moist - Medium)	
15									Drilled from 17.5' to 18.5' with tricone bit.
	4	9	12	15	14	27	1.5	Similar,with partings of fine sand; stiff,wet	
20								Iberville Shale: Gray,hard,weathered,laminated SLATE (weakly metamorphosed shale) with very hard,bedded siltstone layers. Veined with calcite and cut by 60 degree fractures (slaty cleavage) roughly parallel to relict bedding. Fracture surfaces frequently rust-stained. Completely shattered zones noted in recovered core,and as blockages wedged in core barrel washed away by drilling operation.	Core drilled from 18.5' to 28.5'. Run 1: 18.5' - 23.5' 3.0' Recovery (60%) RQD = 0% Run 2: 23.5' - 28.5' 3.0' Recovery (60%) RQD = 16% NX Core
25									
30								Run 1 very fractured throughout,as are uppermost and lowermost portions of Run 2. Slickensided surfaces noted at base of Run 1. Boring Terminated @ 28.5'	No losses of water noted while coring.
35									Samples become wet at approx.16'. Prior to core drilling,water level inside casing at 18' below ground surface.
40									

N = NO.BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB.PIN WT.FALLING 30-INCHES PER BLOW
DRILLER: Mike Lenigan — DRILL RIG TYPE : CME 75
METHOD OF INVESTIGATION 4" Flush Joint Casing,NX Diamond Core
CLASSIFICATION: Visual by Geologist

SUBSURFACE LOG

DATE: START 10/8/2002 FINISH 10/8/2002 SHEET 1 OF 1

PJT NO. AD-02-069 HOLE NO. B-3 SURF.ELEV 237.14 GW.DEPTH See Notes

PROJECT: Bridge Reconstruction — LOCATION: Bostwick Rd.over Vermont Railway
Project BRO 1445 (30) — T/O Shelburne,Vermont

STATION: 20+92.594 — OFFSET: 7.000' RT

B.F. ABUT. NO. 2

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	REC (FT)	SOIL OR ROCK CLASSIFICATION	NOTES
								ASPHALT 05'	South side of east abutment.
	1	4	8	8	7	6		Fill: Brown SHALE FRAGMENTS in SILT ,SAND and GRAVEL matrix (Moist - Stiff)	Samples above 20' are "wet" due to introduction of water for casing advance and cleanout.
5									
	2	1	2	3	2	5	0.0	No recovery; loose material,washed away by drilling operation	
10									
	3	4	3	3	2	6	0.0	No recovery; cuttings similar to Sample 1	
15									
	4	2	2	4	3	6	1.2	Brown SILT with embedded SHALE FRAGMENTS (Moist/Wet - Medium)	Samples become wet with groundwater at approx.17'. At completion of core drilling,water level at ground surface (Introduced water).
20									
	5	1	2	3	6	5	1.0	Brown fine SAND & SILT with seams of silt & clay; contorted bedding (?) (Wet - Loose)	
25									
	6	9	10	10	11	20	1.5	Gray fine SAND & SILT with gray clay seams (Wet - Firm)	
30									
	7	8	10	7	5	17	2.0	Gray laminated SILT & CLAY (Wet - Stiff)	Core drilled from 33.0' to 43.0'
35								Iberville Shale: Gray,hard,weathered,laminated SLATE (weakly metamorphosed shale) with very hard,bedded siltstone layers. Veined with calcite and cut by 60 degree fractures (slaty cleavage) roughly parallel to relict bedding. Fracture surfaces frequently rust-stained. Completely shattered zones noted in recovered core,and as blockages wedged in core barrel washed away by drilling operation.	Run 1: 33.0' - 38.0' 3.5' Recovery (70%) RQD = 16% Run 2: 38.0' - 43.0' 4.8' Recovery (96%) RQD = 22% NX Core No losses of water noted while coring.
40									
45								Run 1 highly weathered and fractured throughout,with very frequent calcite veins and slickensided surfaces. Run 2 less weathered and veined,with slickensided surfaces throughout. Boring Terminated @ 43.0'	
50									
55									
60									
65									
70									
75									
80									

N = NO.BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB.PIN WT.FALLING 30-INCHES PER BLOW
DRILLER: Mike Lenigan — DRILL RIG TYPE : CME 75
METHOD OF INVESTIGATION 4" Flush Joint Casing,NX Diamond Core
CLASSIFICATION: Visual by Geologist

SUBSURFACE LOG

DATE: START 10/9/2002 FINISH 10/9/2002 SHEET 1 OF 1

PJT NO. AD-02-069 HOLE NO. B-4 SURF.ELEV 237.05 GW.DEPTH See Notes

PROJECT: Bridge Reconstruction — LOCATION: Bostwick Rd.over Vermont Railway
Project BRO 1445 (30) — T/O Shelburne,Vermont

STATION: 21+02.408 — OFFSET: 6.000' LT

B.F. ABUT. NO. 2

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	REC (FT)	SOIL OR ROCK CLASSIFICATION	NOTES
								ASPHALT 10"	North side of east abutment.
	1	8	7	5	6	12	0.5	FILL: Brown rounded fine to medium GRAVEL and fine to coarse SAND,some silt (Moist - Firm)	
5									
	2	2	2	2	2	4	0.8	Brown SILT with embedded SHALE FRAGMENTS (Moist - Soft)	
10									
	3	2	3	2	1	5	0.8	Similar to Sample 2	
15									
	4	2	1	1	1	2	1.0	Brown SILT & CLAY,trace fine sand as matrix material and as partings (Wet - Very Soft)	Samples become wet with groundwater at approx.15'. At completion of core drilling,water level at ground surface (Introduced water).
20									
	5	1	1	1	1	2	1.0	Brown,grading gray,interbedded SILT & CLAY (Wet - Very Soft)	
25									
	6	2	7	6	4	13	1.5	Gray SILT & very fine SAND with partings of clay & fine sand (Wet - Medium)	
30									
	7	11	14	12	13	26	1.5	Gray fine SAND & SILT (Wet - Hard)	
35									
	8	8	6					Gray SILT & fine to medium SAND with embedded rounded medium GRAVEL & SHALE FRAGMENTS (Wet)	
								Iberville Shale: Gray,hard,highly fractured,severely weathered laminated SLATE (weakly metamophosed shale) with very hard,bedded siltstone layers. Veined with calcite and cut by 60 degree fractures (slaty cleavage) roughly parallel to relict bedding. Fracture surfaces frequently rust-stained. Completely shattered zones noted in recovered core,and as blockages wedged in core barrel washed away by drilling operation.	Core drilled from 36.0' to 41.0'. Run 1: 36.0' - 41.0' 2.8' Recovery (56%) RQD = 8% NX Core
40									
45								Boring Terminated @ 41.0'	No losses of water noted while coring.
50									
55									
60									
65									
70									
75									

N = NO.BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB.PIN WT.FALLING 30-INCHES PER BLOW
DRILLER: Mike Lenigan — DRILL RIG TYPE : CME 75
METHOD OF INVESTIGATION 4" Flush Joint Casing,NX Diamond Core
CLASSIFICATION: Visual by Geologist

NOTES

1. BOTTOM OF FOOTING ELEVATION AT ABUTMENT NO. 1 = 223.20
2. BOTTOM OF FOOTING ELEVATION AT ABUTMENT NO. 2 = 226.00

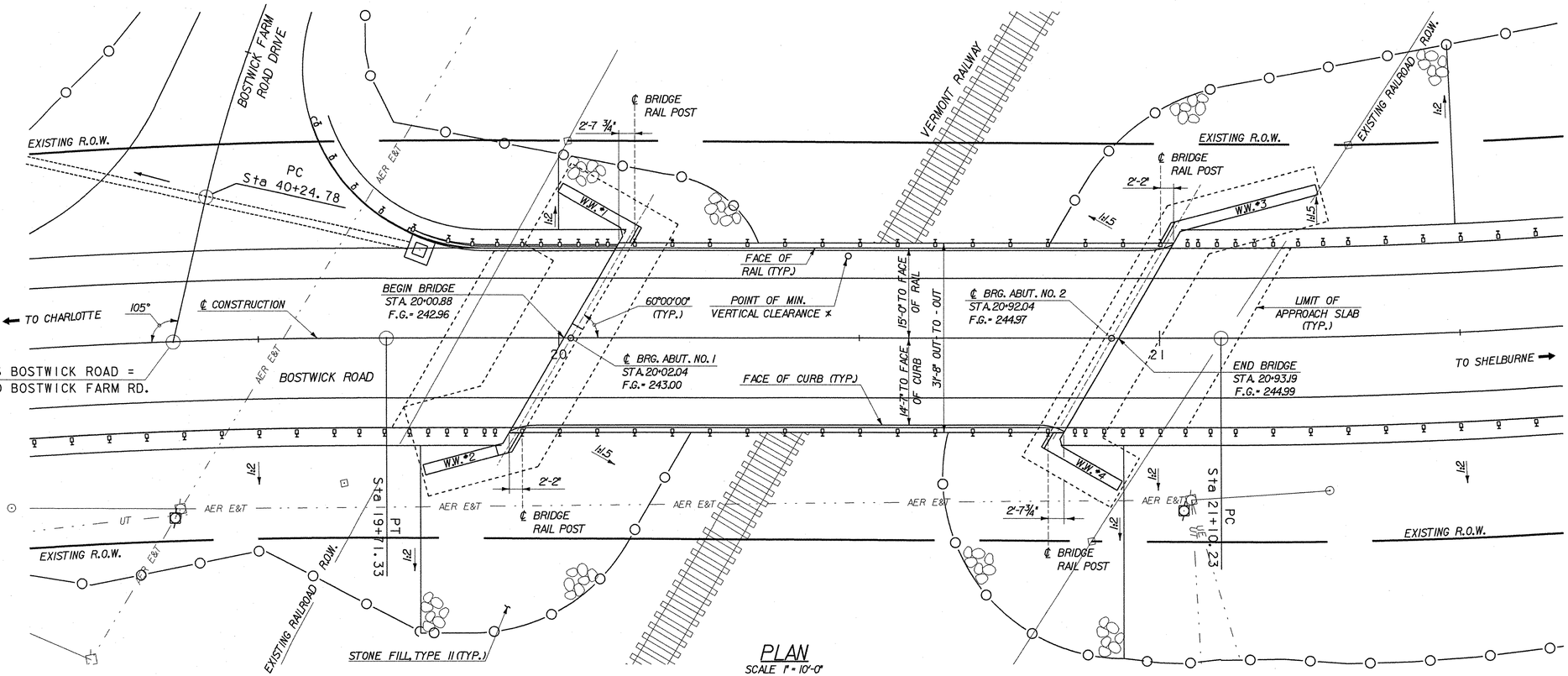
LEGEND

B.F. BOTTOM OF FOOTING ELEVATION

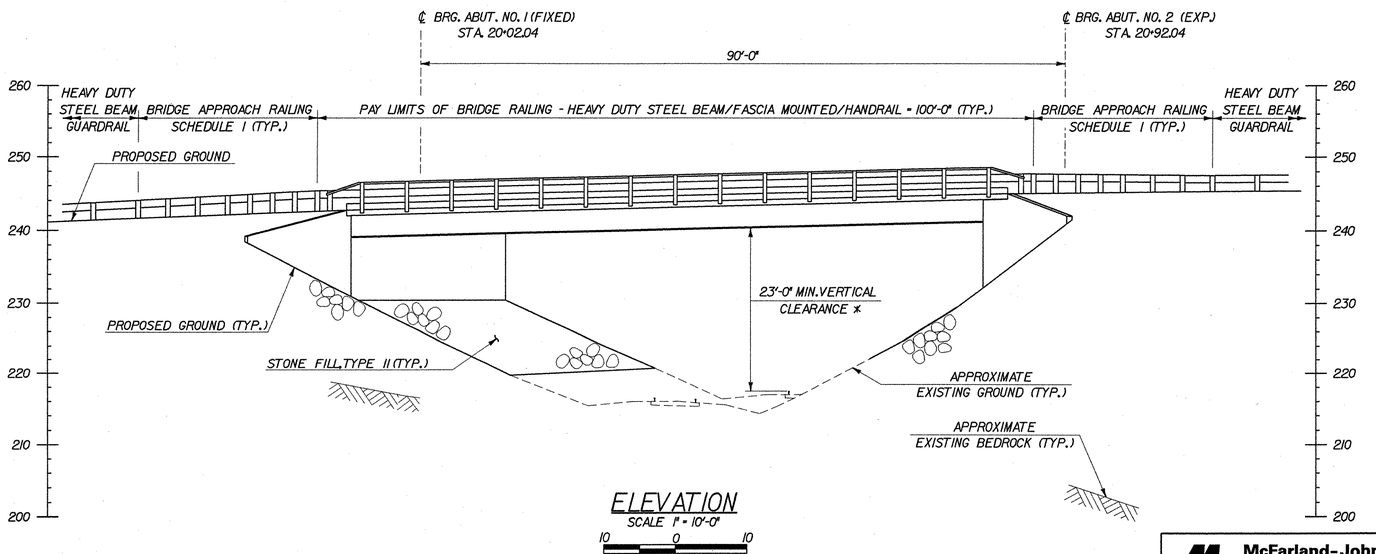
McFarland-Johnson, Inc.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
BORING LOGS	
Designed By SJB SERVICES, INC.	Drawn By S. MERKWAN
Checked By L. WIXSON Date 05/03	Bridge Design Supervisor M. ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. M:\1595402 Bostwick\BRIDGE\Mylar\zJ196bl.dgn	
Bridge Sheet No. BR102	Sheet 42 of 73



PLAN
SCALE 1" = 10'-0"



ELEVATION
SCALE 1" = 10'-0"

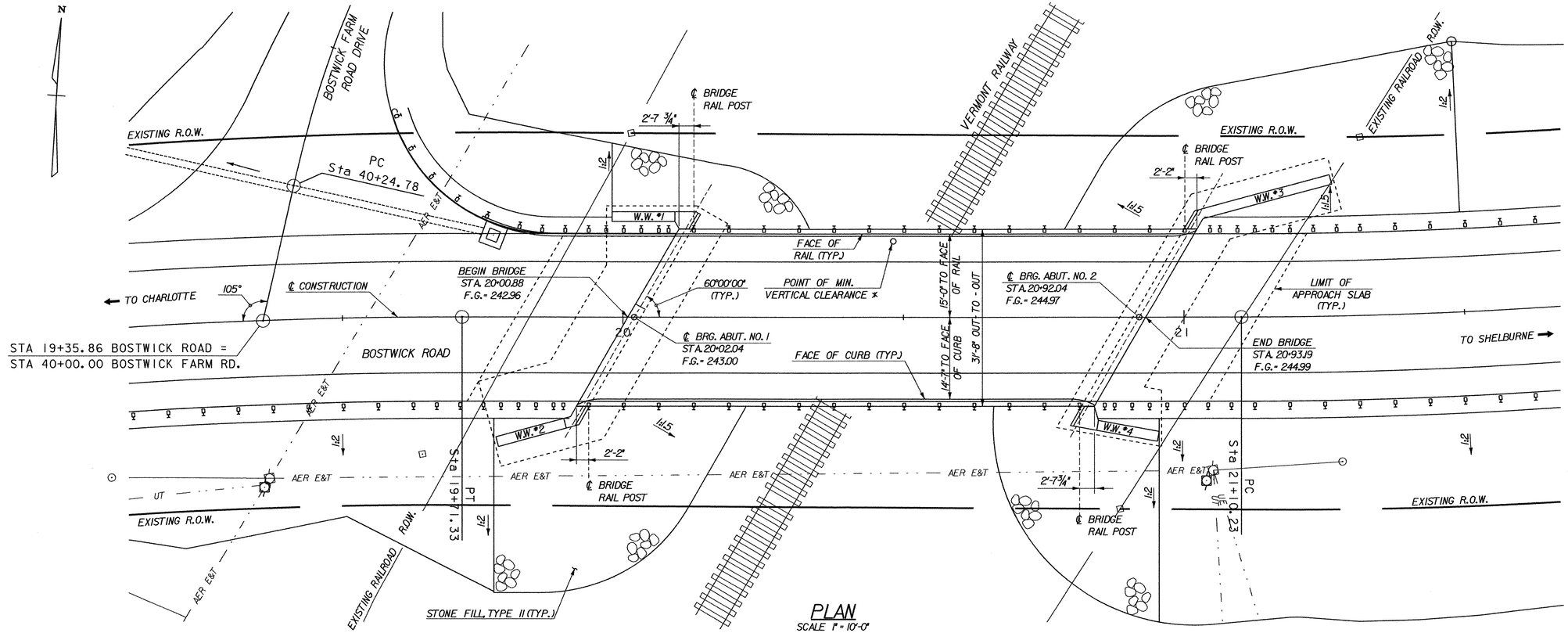
* VERTICAL CLEARANCE WAS CALCULATED AT A POINT 6'-1½" FROM THE CENTERLINE OF TRACK AT TOP OF RAIL. EXISTING TRACK SUPERELEVATION WAS CONSIDERED.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

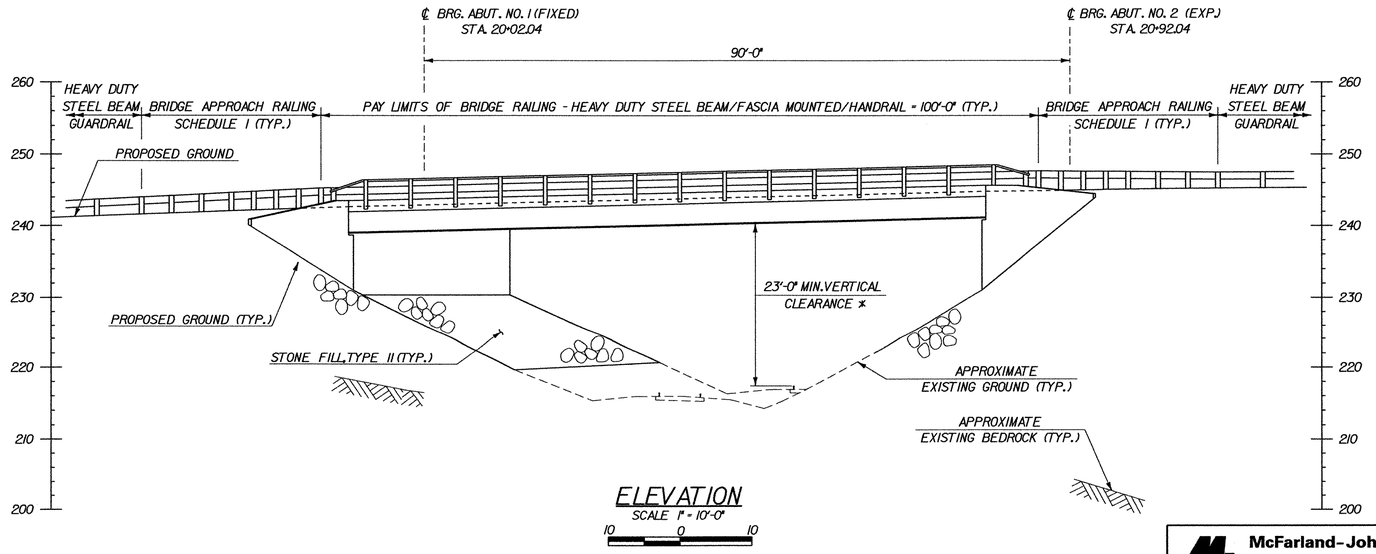
Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
PLAN AND ELEVATION	
Designed By L.WIXSON	Drawn By B. COLBURN
Checked By R. JOY Date 05/03	Bridge Design Supervisor M. ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. M:\595402 Bostwick\BRIDGE\6mylar\zJ196gpe.dgn	
Bridge Sheet No. BRI03	Sheet 43 of 73

McFarland-Johnson, Inc.

PLOTTED 01-AUG-2003



PLAN
SCALE 1" = 10'-0"
10 0 10



ELEVATION
SCALE 1" = 10'-0"
10 0 10

* VERTICAL CLEARANCE WAS CALCULATED AT A POINT 6'-1 1/2" FROM THE CENTERLINE OF TRACK AT TOP OF RAIL. EXISTING TRACK SUPERELEVATION WAS CONSIDERED.

1. WINGWALL NO. 4 LAYOUT REVISED
2. WINGWALL NO. 1 LAYOUT REVISED

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.

BOSTWICK ROAD OVER VERMONT RAILWAY

PLAN AND ELEVATION (REVISED)

Designed By L. WIXSON	Drawn By S. MERKWAN
Checked By R. JOY Date 03/04	Bridge Design Supervisor M. ZYDEL Date 03/04
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)

I.G.C. Info. G:\Structures\STR3_Roger Whitcomb\Consultants\McFarland-Johnson\Shelburne\

Bridge Sheet No. BRI03B Sheet 43B of 73

McFarland-Johnson, Inc.

PLOTTED 24-MAR-2004

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, DATED 2001, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, AND ITS LATEST REVISIONS.
2. DESIGN IS FOR HS25 LOADING, USING LOAD FACTOR METHOD.
3. ALL STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH SECTION 506.03 OF THE STANDARD SPECIFICATIONS.
4. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE GIRDERS SHALL BE TAKEN AS DIRECTED BY THE ENGINEER FOR USE IN DETERMINING FINAL GRADE.
5. ANY BOLT HOLES IN THE WEB OF THE FASCIA GIRDERS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS COMPATIBLE WITH THE GIRDER STEEL. THE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19.
6. FASCIA OVERHANG BRACKETS SHALL BE SPACED AT A MAXIMUM OF 4 FEET AND SHALL BE DESIGNED BY THE CONTRACTOR.
7. ALL FIELD CONNECTIONS SHALL BE MADE USING 7/8 INCH DIAMETER BOLTS MEETING ASTM DESIGNATION A 325 (AASHTO M 164). HOLES SHALL BE 15/16 INCH DIAMETER. ANY CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR.
8. ALL WELDING AND DIMENSIONAL TOLERANCES OF WELDED MEMBERS SHALL CONFORM TO THE LATEST ANSI/ AASHTO/AWS D1.5 - 95 CODE AND LATEST REVISIONS.
9. THE UNIT WEIGHT OF SOIL SHALL BE TAKEN AS 140 PCF.
10. ALL REINFORCING STEEL IN THE CONCRETE DECK, CURBS AND APPROACH SLABS SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 507.17. WHEN EPOXY COATED REBAR IS CUT, THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REBAR WILL NOT BE PERMITTED.
11. REINFORCING PLACEMENT TOLERANCES SHALL BE:
    SPACING: +/- 1 INCH
    CLEARANCE: +/- 1/4 INCH
12. MINIMUM COVER FOR REINFORCING STEEL IN SUBSTRUCTURES SHALL BE 2" ALONG BACK FACES OF WALLS AGAINST EARTH AND 3" ELSEWHERE, UNLESS OTHERWISE DESIGNATED ON PLANS.
13. DECK AND CURBS SHALL BE "CONCRETE, HPC CLASS A". ALL OTHER CONCRETE SHALL BE "CONCRETE, HPC CLASS B" UNLESS OTHERWISE DESIGNATED ON THE PLANS.
14. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1".
15. THE FOLLOWING THICKNESS TOLERANCES SHALL BE ADHERED TO:

MATERIAL	THICKNESS TOLERANCE
BIT. CONC. PAVEMENT (ON BRIDGE)	+/- 1/4"
BIT. CONC. PAVEMENT (OFF BRIDGE)	+/- 1/4" LIFT
GRANULAR BORROW	+/- 1"
SUBBASE	+/- 1"

16. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP BEADS.
17. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68° F.
18. TRAFFIC WILL BE DETOURED, DURING CONSTRUCTION OF THE BRIDGE.
19. TRAFFIC SHALL BE ALLOWED ON THE NEW BRIDGE ONLY AFTER THE SPECIFIED CURE PERIOD HAS EXPIRED AND THE 28 DAY DESIGN STRENGTH HAS BEEN REACHED, AS EVIDENCED BY TEST CYLINDERS CURED UNDER FIELD CONDITIONS.
20. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
21. THE KEY IN CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.
22. ITEM 529.15, "REMOVAL OF STRUCTURE", SHALL INCLUDE THE REMOVAL OF THE SUPERSTRUCTURE, ABUTMENTS AND PIERS TO 1 FOOT BELOW EXISTING GROUND LINE OR AS REQUIRED FOR THE NEW SUBSTRUCTURE ELEMENTS. THE STRUCTURAL STEEL SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED TO AND OFF-LOADED AT THE DISTRICT 5 HEADQUARTERS IN COLCHESTER. DTA RICHARD HOSKING SHALL BE NOTIFIED TWO WEEKS PRIOR TO DELIVERY TO MAKE FINAL ARRANGEMENTS FOR DISPOSITION OF BEAMS.
23. DECK POURS ARE TO BE CONSTRUCTED IN ONE CONTINUOUS OPERATION WITH A MAXIMUM DURATION OF 8 HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A 96 HOUR DELAY BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF ANOTHER DECK POUR SHALL BE OBSERVED.
24. STEEL HP12 x 74 (GRADE 50) PILES SHALL BE DRIVEN TO A REQUIRED ULTIMATE CAPACITY EQUAL TO 825 KIPS. PILE TIP REINFORCEMENT SHALL CONFORM TO SUBSECTION 505.04(D). STEEL PILING SHALL CONFORM TO ASTM A572.

STRUCTURAL STEEL NOTES

1. ALL NEW STEEL SHALL BE AASHTO M270 GRADE 50W.
2. CONNECTION PLATES SHALL BE PERPENDICULAR TO FLANGES.
3. ENDS OF GIRDERS SHALL BE FABRICATED TO BE PLUMB UNDER FULL DEAD LOAD AND SUPERIMPOSED DEAD LOAD.
4. ALL TENSION FLANGES, AND WEBS SHALL HAVE "CHARPY V-NOTCH TEST" PERFORMED AS SPECIFIED IN SUBSECTION 714.01 AND 714.03.
5. SHEAR CONNECTORS SHALL BE FIELD WELDED USING AUTOMATICALLY TIMED STUD WELDING EQUIPMENT AND SHALL BE PAID AS ITEM 508.15, SHEAR CONNECTORS.
6. ITEM 506.55, STRUCTURAL STEEL (PLATE GIRDER), SHALL INCLUDE GIRDERS, CONNECTION PLATES, AND DIAPHRAGMS.

SPECIAL NOTE

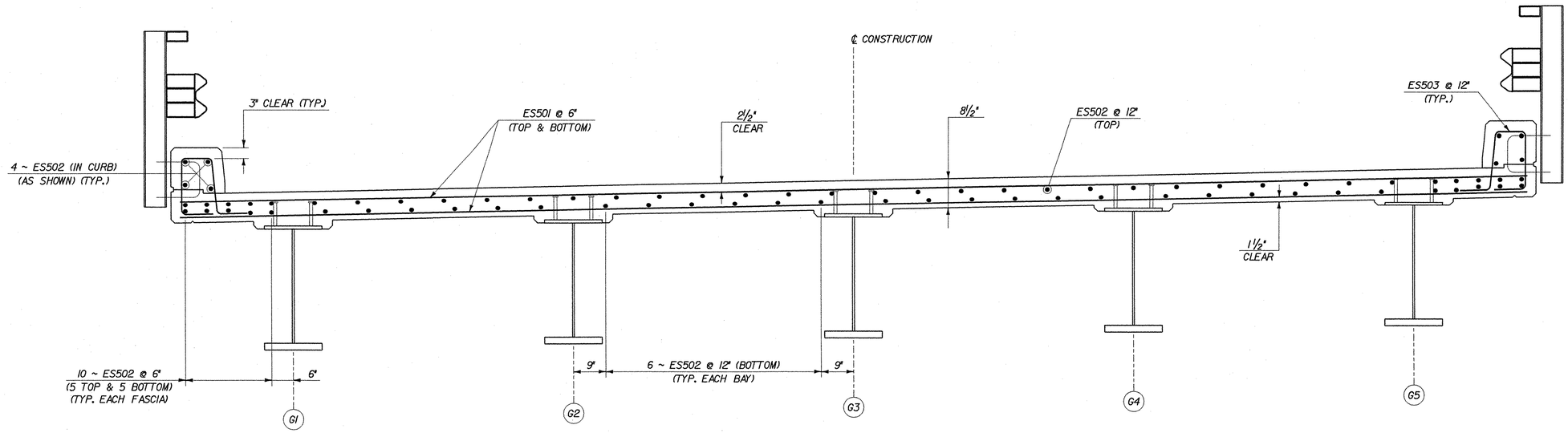
1. ABUTMENT NO. 1, INCLUDING WINGWALLS, SHALL BE CONSTRUCTED TO BEAM SEAT ELEVATION AT LEAST 30 DAYS PRIOR TO PLACEMENT OF STRUCTURAL STEEL.

PLOTTED 01-AUG-2003

McFarland-Johnson, Inc.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
GENERAL NOTES	
Designed By L. WIXSON	Drawn By S. MERKWAN
Checked By R. JOY Date 05/03	Bridge Design Supervisor M. ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. MN5954O2 Bostwick\BRIDGE\6mylar\z1196gnt.dgn	
Bridge Sheet No. BRI04	Sheet 44 of 73



DECK TYPICAL SECTION

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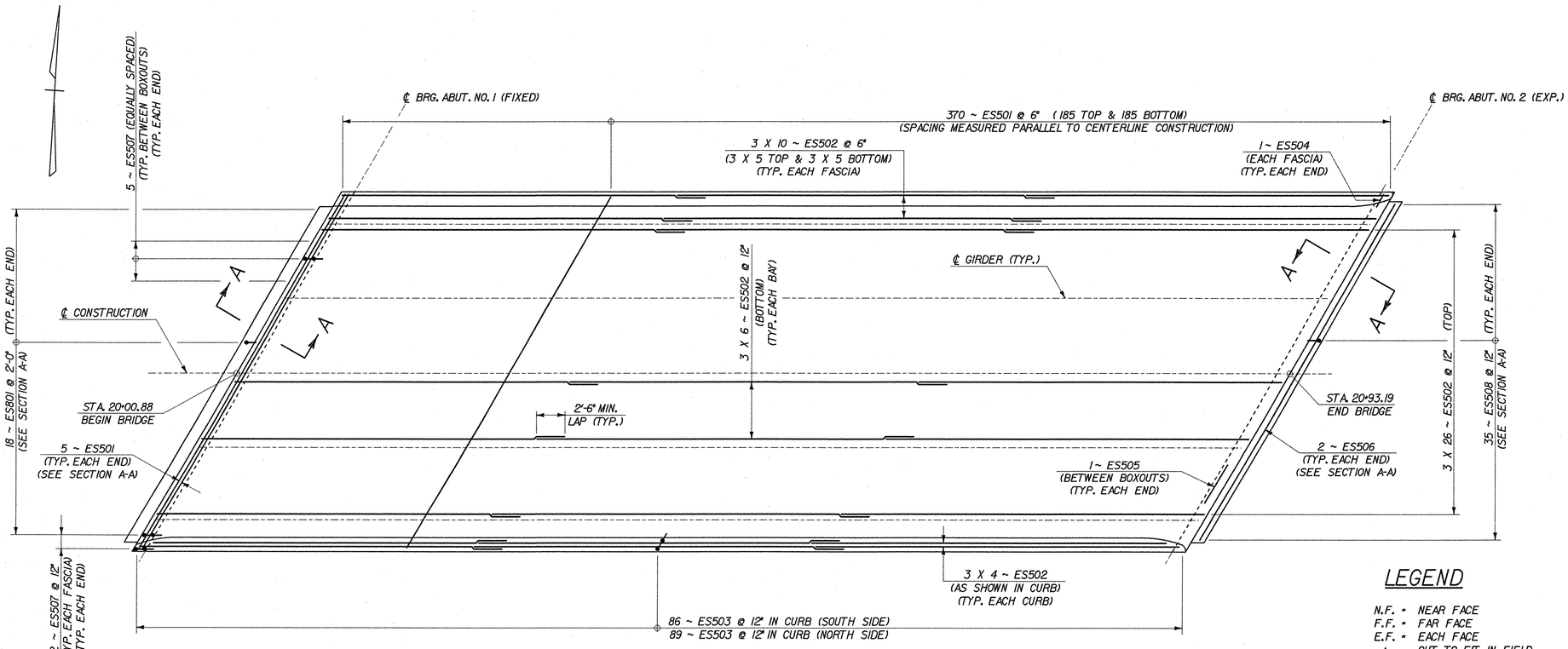


PLAN

SCALE: 3/16" = 1'-0"

NOTES

1. FOR SECTION A-A, SEE BRIDGE SHEET BRI07.

LEGEND

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

McFarland-Johnson, Inc.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

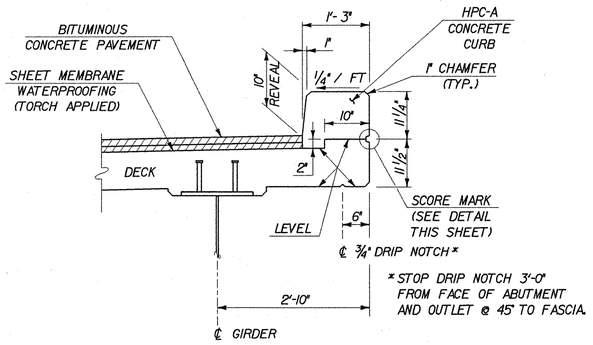
Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.

BOSTWICK ROAD OVER VERMONT RAILWAY

DECK REINFORCEMENT DETAILS

Designed By L. WIXSON	Drawn By S. MERKWAN
Checked By R. JOY Date 05/03	Bridge Design Supervisor M. ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. MN\595402 Bostwick\BRIDGE\6mylar\zJ196dbr.dgn	
Bridge Sheet No. BRI05	Sheet 45 of 73

PLOTTED 01-AUG-2003



TYPICAL CURB DETAIL

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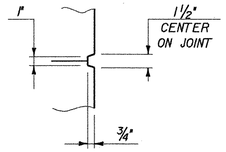
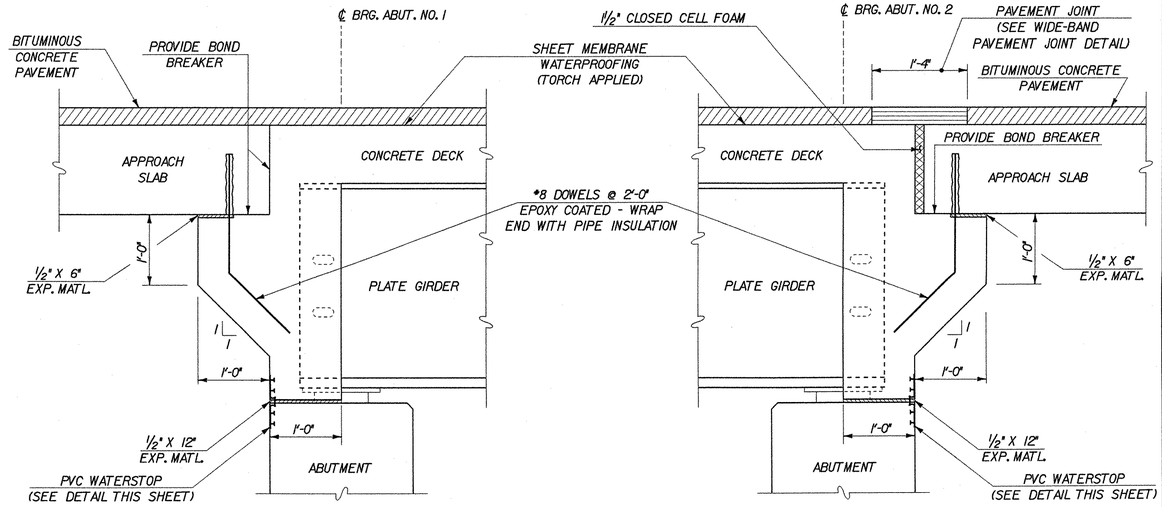


SCORE MARK DETAIL

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

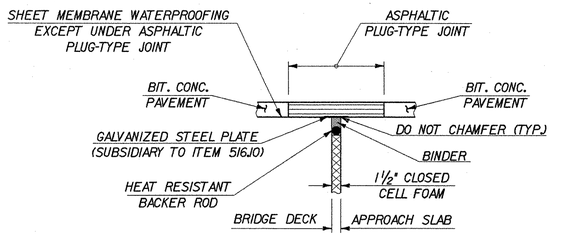


DECK END DETAIL (FIXED)

SCALE: 1" = 1'-0"

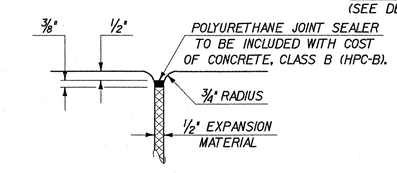
DECK END DETAIL (EXPANSION)

SCALE: 1" = 1'-0"



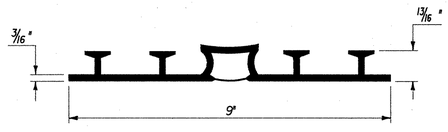
WIDE-BAND PAVEMENT JOINT DETAIL

NOT TO SCALE



JOINT BETWEEN FASCIA AND WINGWALL

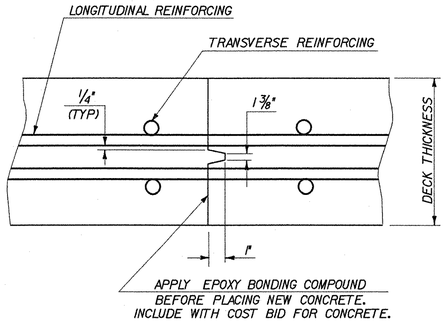
SCALE: 3" = 1'-0"



P.V.C. WATERSTOP

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

SCALE: 6" = 1'-0"



TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS

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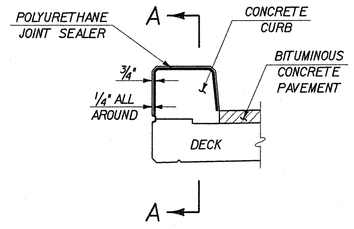

CONCRETE CURB CONSTRUCTION JOINT

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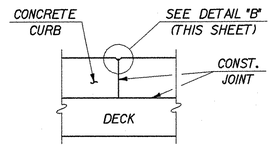
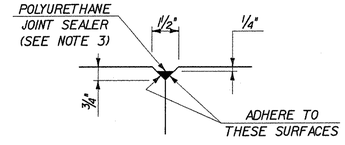


SECTION A-A

SCALE: 3/4" = 1'-0"



DETAIL "B"

SCALE: 3" = 1'-0"

CURB CONSTRUCTION JOINT NOTES

1. CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED MAXIMUM 15'-0" CENTER TO CENTER AND SHALL BE 1'-6" MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
2. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.
3. POLYURETHANE JOINT SEALER PER SUBSECTION 524.06C COLOR TO MATCH CONCRETE. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE.

McFarland-Johnson, Inc.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.

BOSTWICK ROAD OVER VERMONT RAILWAY

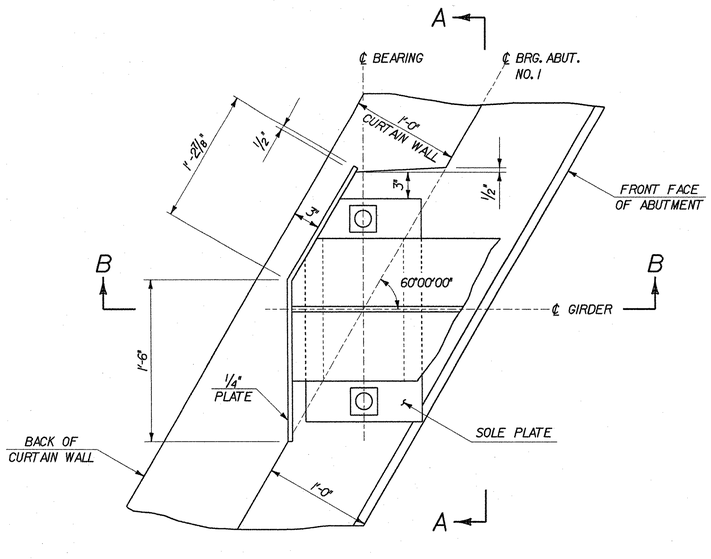
DECK DETAILS (1 OF 2)

Designed By L. WIXSON	Drawn By S. MERKWAN
Checked By R. JOY Date 05/03	Bridge Design Supervisor M. ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)

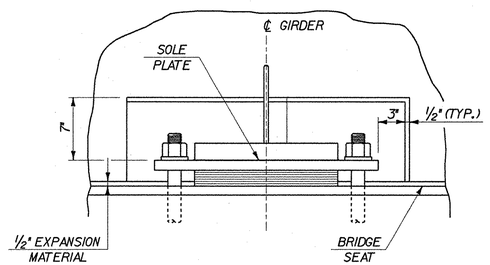
I.C.C. Info. MiN595402 Bostwick\BRIDGE\6mylar\zJ196dt1.dgn

Bridge Sheet No. BRI06 Sheet 46 of 73

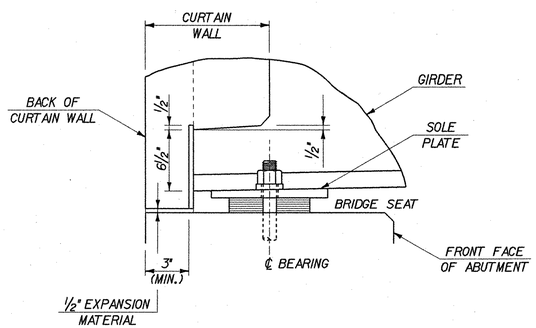
PLOTTED 01-AUG-2003



PLAN



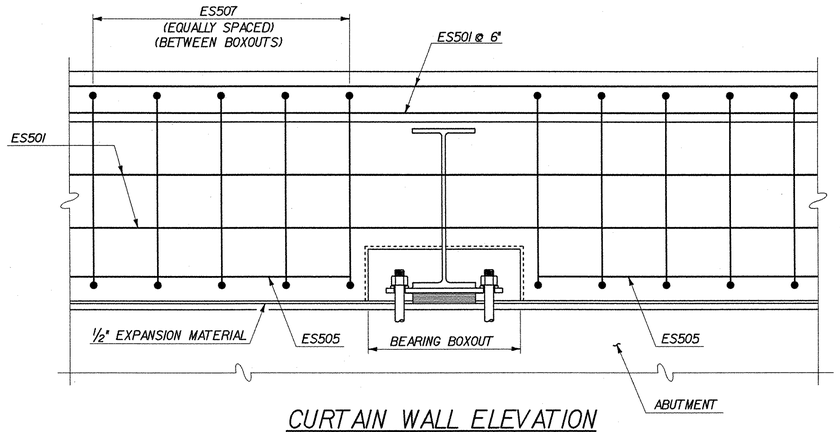
VIEW A-A



SECTION B-B

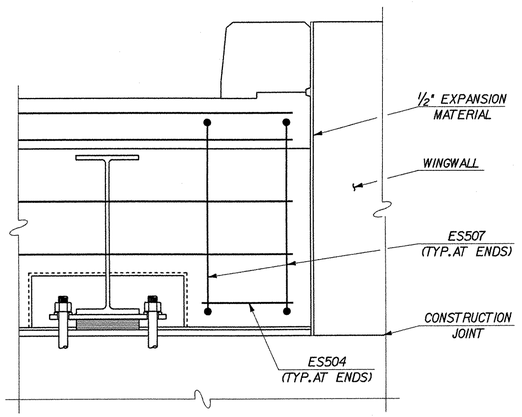
BEARING BOXOUT DETAILS

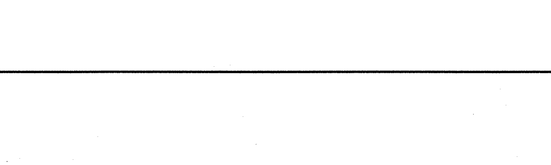
SCALE: 1 1/2" = 1'-0"



CURTAIN WALL ELEVATION

SCALE: 1" = 1'-0"

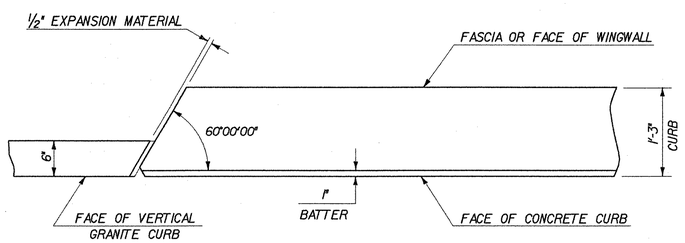




NOTE: TYPICAL AT NE, SE, AND SW ENDS OF THE BRIDGE

FLARED END DETAIL FOR 1'-3" CURB

NOT TO SCALE



NOTE: TYPICAL AT WWI ONLY

END DETAIL FOR 1'-3" CURB

NOT TO SCALE

SECTION A-A

SCALE: 1" = 1'-0"

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.

BOSTWICK ROAD OVER VERMONT RAILWAY

DECK DETAILS (2 OF 2)

Designed By L. WIXSON	Drawn By S. MERKWAN
Checked By R. JOY Date 05/03	Bridge Design Supervisor M. ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.C.C. Info. MN595402 Bostwick\BRIDGE\Sinylar\z1196dt2.dgn	
Bridge Sheet No. BRI07	Sheet 47 of 73

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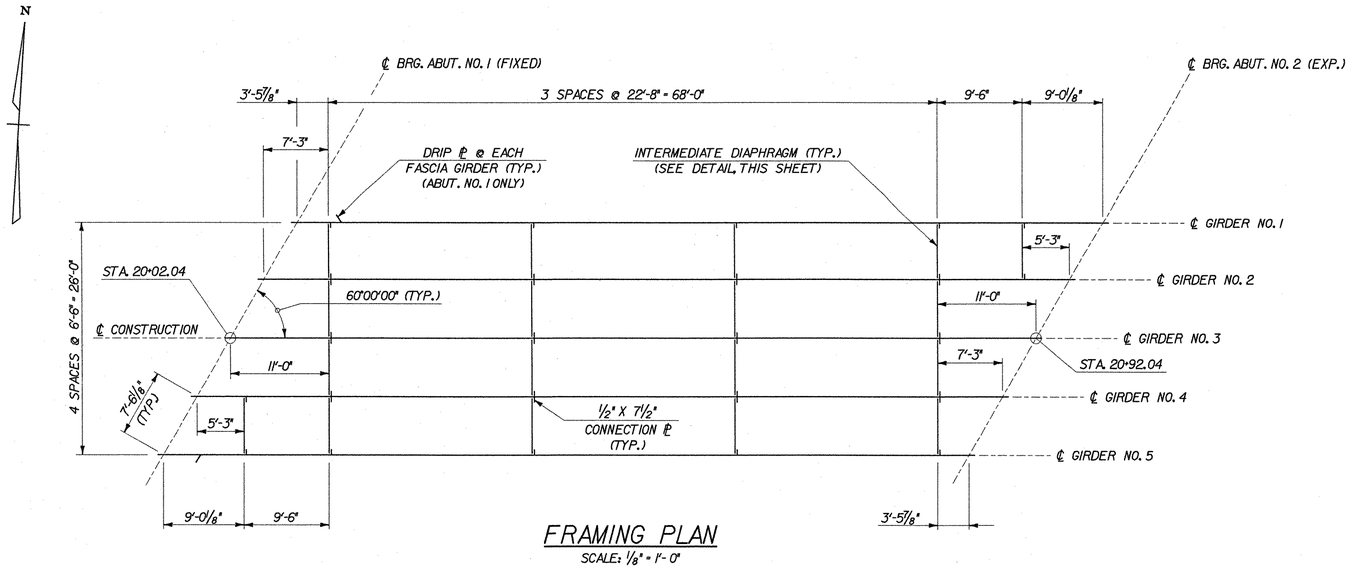
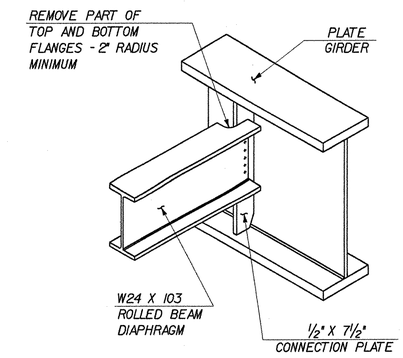


FRAMING PLAN

SCALE: ⅛" = 1'-0"

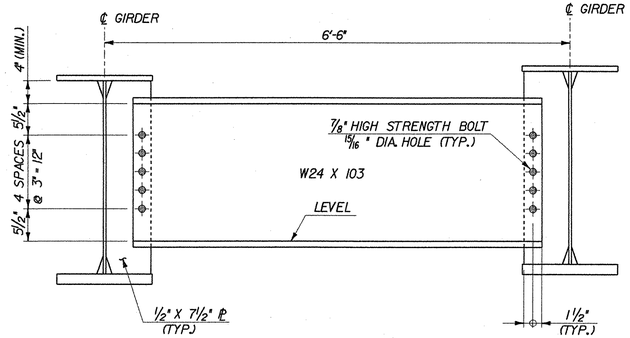


ROLLED BEAM USED AS DIAPHRAGM

NOT TO SCALE

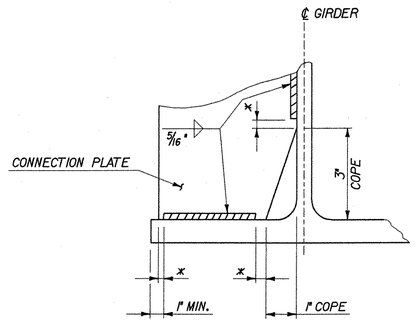
CONNECTION PLATE DETAIL

SCALE: 1" = 1'-0"



INTERMEDIATE DIAPHRAGM

SCALE: 1" = 1'-0"



* NO WELD FOR ¼" MIN. ½" MAX.
(EXCEPT MUST MAINTAIN 1" MIN. FROM EDGE OF FLANGE)

WELD TERMINATION AND COPING DETAIL

NOT TO SCALE

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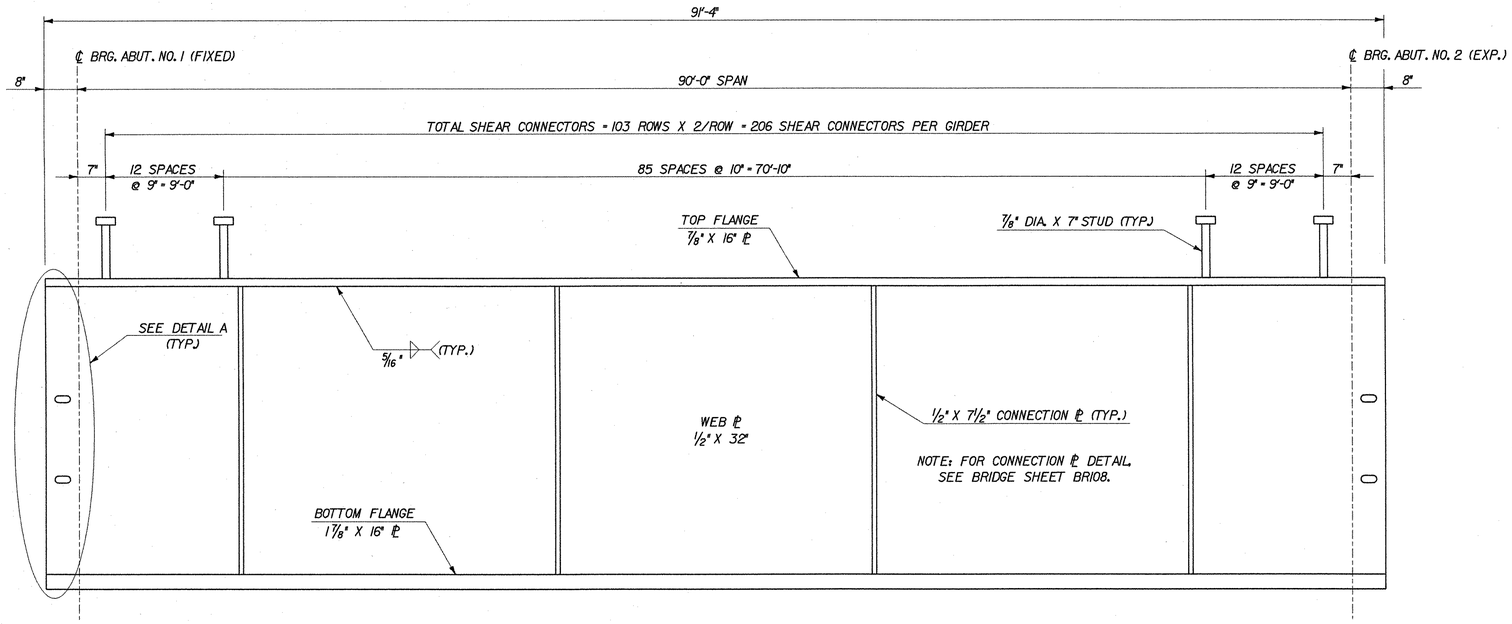
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.

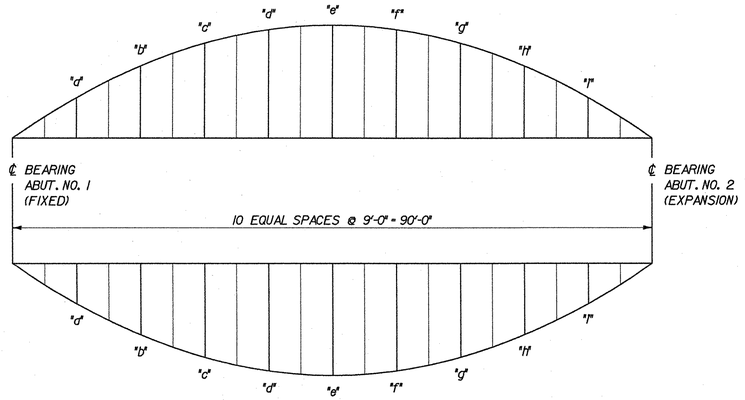
BOSTWICK ROAD OVER VERMONT RAILWAY

FRAMING PLAN AND DETAILS

Designed By L.WIXSON	Drawn By S.MERKWAN
Checked By R. JOY Date 05/03	Bridge Design Supervisor M. ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. MV5595402 Bostwick\BRIDGE\Smylar\zJ196fpl.dgn	
Bridge Sheet No. BRI08	Sheet 48 of 73



GIRDER ELEVATION
NOT TO SCALE



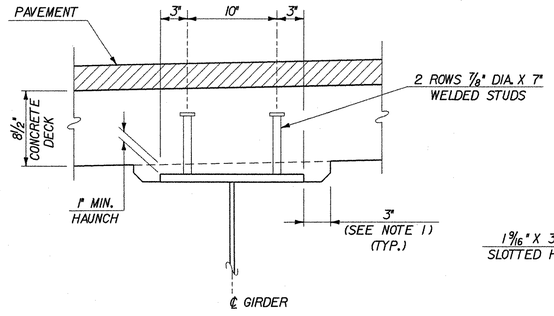
DL DEFLECTION AND CAMBER DIAGRAM
NOT TO SCALE

CAMBER AND DEFLECTION MEASUREMENTS ARE GIVEN IN INCHES AT TENTH POINTS

CAMBER AND DL DEFLECTION ORDINATE SCHEDULE

L = TOTAL LENGTH ℄ BRG. ABUT. NO. 1 TO ℄ BRG. ABUT. NO. 2 = 90'-0"

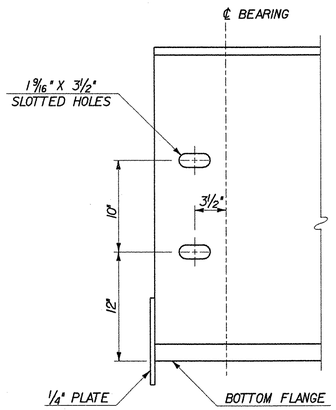
GIRDER NO.		℄ BRG. ABUT. NO. 1	"a" 0.10L	"b" 0.20L	"c" 0.30L	"d" 0.40L	"e" 0.50L	"f" 0.60L	"g" 0.70L	"h" 0.80L	"i" 0.90L	℄ BRG. ABUT. NO. 2
1 THRU 5	CAMBER	0"	2 3/8"	4 7/16"	6"	6 15/16"	7 1/4"	6 15/16"	6"	4 7/16"	2 3/8"	0"
	DL DEFLECTION	0"	1 1/2"	2 7/8"	3 7/8"	4 9/16"	4 3/4"	4 9/16"	3 7/8"	2 7/8"	1 1/2"	0"



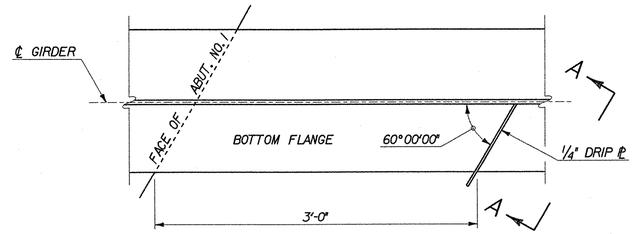
HAUNCH AND SHEAR CONNECTOR DETAIL
SCALE: 1 1/2" = 1'-0"

NOTES

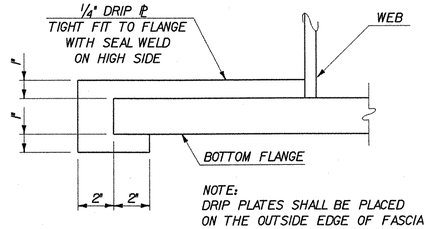
1. THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. SYSTEMS SHALL BE SUBMITTED FOR APPROVAL TO THE STRUCTURES ENGINEER. ALL VOIDS SHALL BE FILLED WITH MORTAR, TYPE IV OR AN EQUIVALENT PRODUCT FROM THE APPROVED PRODUCTS LIST.



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

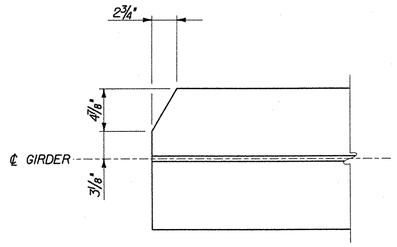


DRIP PLATE PLAN
SCALE: 1 1/2" = 1'-0"



NOTE:
DRIP PLATES SHALL BE PLACED ON THE OUTSIDE EDGE OF FASCIA GIRDERS ON THE ABUTMENT NO. 1 END. SEE FRAMING PLAN FOR LOCATION, BRIDGE SHEET BRI08.

DRIP PLATE SECTION A-A
SCALE: 3" = 1'-0"



TOP & BOTTOM FLANGE CLIP DETAIL
SCALE: 1 1/2" = 1'-0"

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.

BOSTWICK ROAD OVER VERMONT RAILWAY

GIRDER DETAILS

Designed By L. WIXSON	Drawn By S. MERKWAN
Checked By R. JOY Date 05/03	Bridge Design Supervisor M. ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.C.C. Info. MN\595402 Bostwick\BRIDGE\6my\ar\zJ196gdt.dgn	
Bridge Sheet No. BRI09	Sheet 49 of 73

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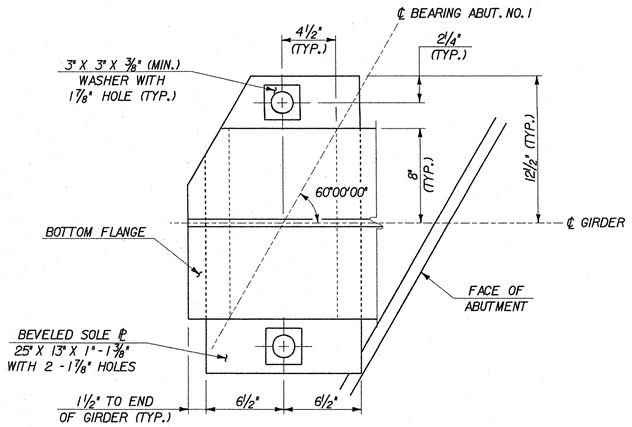
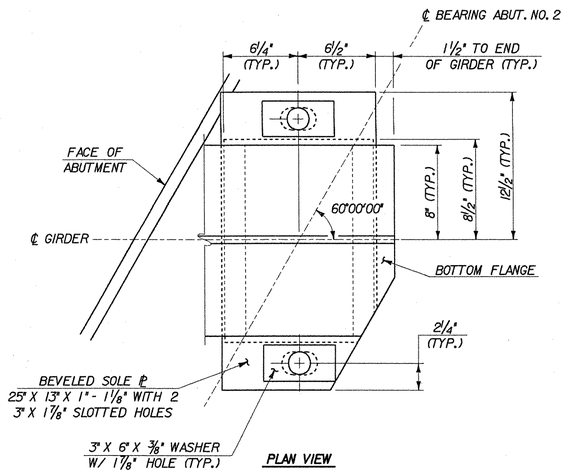
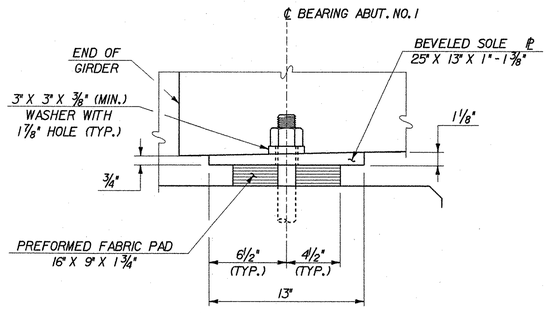


PLAN VIEW

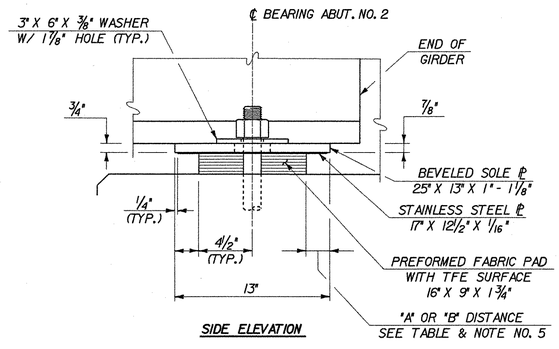


PLAN VIEW

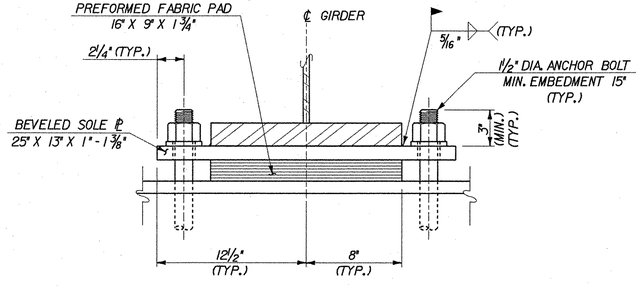
NOTE: FOR CURTAIN WALL BOXOUT DETAILS, SEE BRIDGE SHEET BRI07.



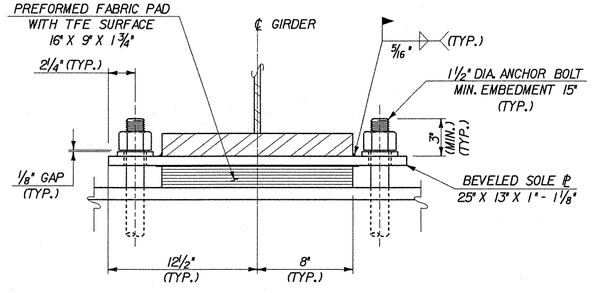
SIDE ELEVATION



SIDE ELEVATION



FRONT ELEVATION



FRONT ELEVATION

FIXED BEARING @ ABUTMENT NO. 1

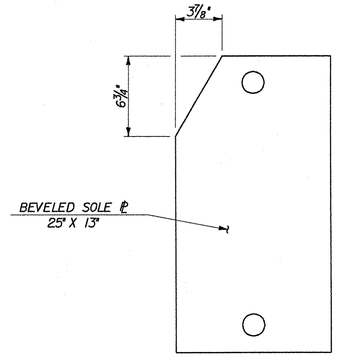
SCALE: 2" = 1'-0"

EXPANSION BEARING @ ABUTMENT NO. 2

SCALE: 2" = 1'-0"

BEARING NOTES

1. BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 & 731.
2. BEARINGS SHALL BE PAID FOR UNDER ITEM 531.10 "BEARING DEVICE ASSEMBLY".
3. SHOP DRAWINGS CONFORMING TO SUBSECTION 531.03 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 ALL DEAD LOAD HAS BEEN APPLIED. THE FINAL "A" DISTANCE, AS SHOWN IN THE TABLE, MUST BE ATTAINED WITHIN 1/8 INCH. "B" DISTANCE IS FOR SETTING THE BEARING AFTER THE STRUCTURAL STEEL IS ERECTED AND BEFORE THE CONCRETE DECK IS POURED.
6. DESIGN CRITERIA:
   A. BASE PLATE TO CONCRETE DESIGN PRESSURE = 1000 PSI MAXIMUM.
   B. MINIMUM DESIGN ROTATION = 0.015 RADIANS.
   C. HORIZONTAL CAPACITY SHALL BE A MINIMUM OF 6% VERTICAL LOAD.
   D. DESIGN LOAD PER BEARING @ ABUTMENTS NO. 1 & 2 (UNFACTORED).
      R_{DL+SDL} = 57 KIPS
      R_{LL+I} = 73 KIPS
7. ALL STEEL IN BEARING DEVICES (EXCEPT STAINLESS STEEL) SHALL BE AASHTO M-270, GRADE 36.
8. ANCHOR BOLTS SHALL BE SWEDGED AND GALVANIZED WITH 4" OF THREAD. EXPANSION BEARING NUTS ARE TO BE DRAWN UP FINGER TIGHT AND THEN BACKED OFF 1/8 INCH. THREADS SHALL BE BURRED TO PREVENT NUT REMOVAL. ANCHOR BOLTS SHALL HAVE A MINIMUM OF 15" EMBEDMENT INTO THE CONCRETE. ANCHOR BOLTS, NUTS AND WASHERS SHALL MEET THE REQUIREMENTS OF SECTION 714.08.
9. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALLIZED. AREAS OF GALVANIZING OR METALLIZING DAMAGED BY THE FIELD WELDS OR HANDLING SHALL BE REPAIRED PER SECTION 513 OF THE SUPPLEMENTAL SPECIFICATIONS.
10. ALL HORIZONTAL DIMENSIONS SHOWN @ 45° ARE FINAL CONDITION DIMENSIONS.
11. FOR TOP & BOTTOM FLANGE CLIP DETAIL, SEE BRIDGE SHEET BRI09.



SOLE PLATE CLIP DETAIL

SCALE: 2" = 1'-0"

NOTE: FIXED BEARING SHOWN, EXPANSION BEARING SIMLAR.

TEMPERATURE SETTING TABLE

ABUTMENT NO. 2

TEMP	"A" DIST	"B" DIST
0° F	2 5/16"	1 13/16"
15° F	2 3/16"	1 11/16"
30° F	2 1/8"	1 5/8"
45° F	2"	1 1/2"
60° F	1 7/8"	1 3/8"
75° F	1 13/16"	1 5/16"
90° F	1 11/16"	1 3/16"
105° F	1 9/16"	1 1/16"

McFarland-Johnson, Inc.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.

BOSTWICK ROAD OVER VERMONT RAILWAY

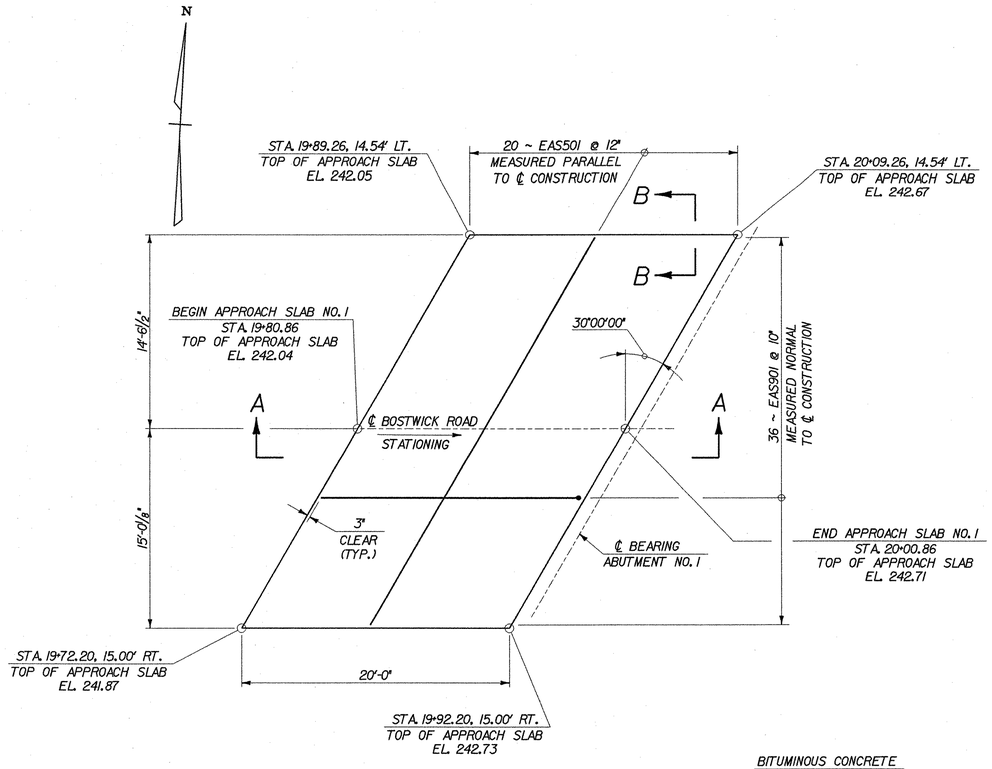
BEARING DETAILS

Designed By L. WIXSON	Drawn By S. MERKWAN
Checked By R. JOY Date 05/03	Bridge Design Supervisor M. ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)

I.G.C. Info. MN\595402 Bostwick\BRIDGE\Smylar\zJ196brg.dgn

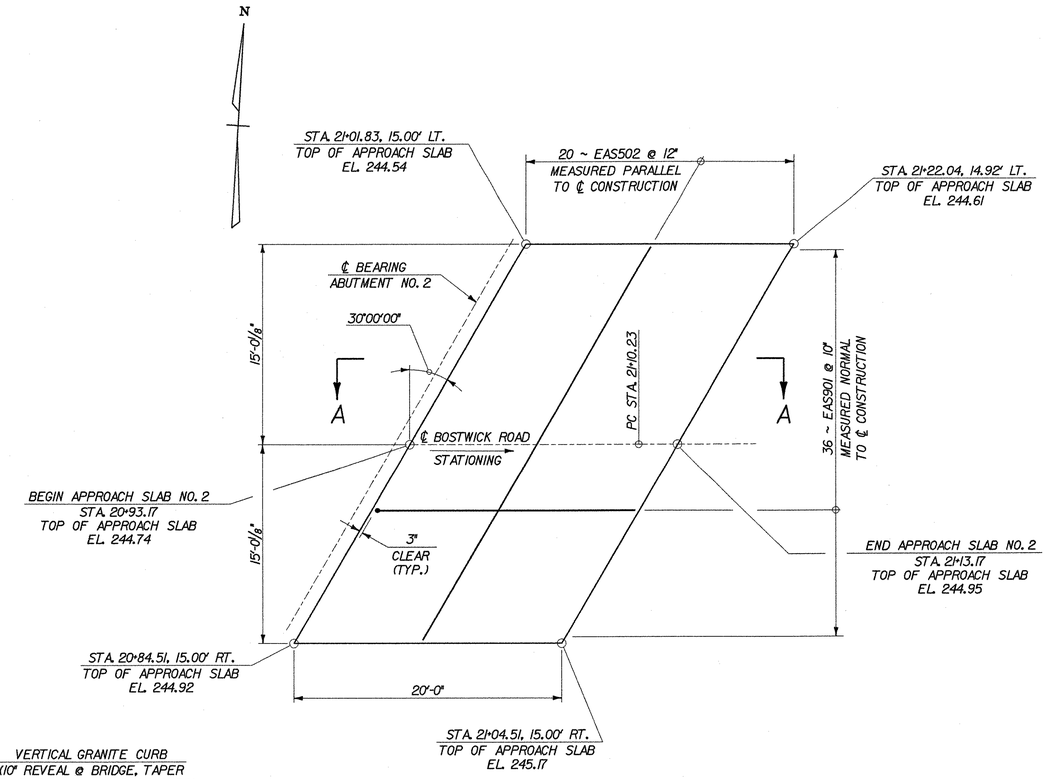
Bridge Sheet No. BRI10 Sheet 50 of 73

PLOTTED 01-AUG-2003



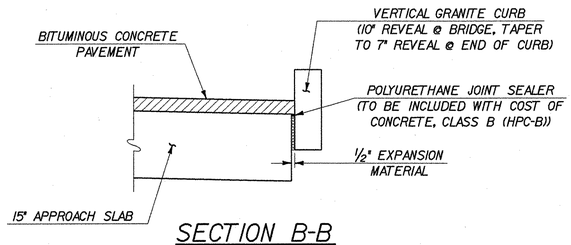
APPROACH SLAB NO. 1 PLAN

SCALE: 3/16" = 1'-0"



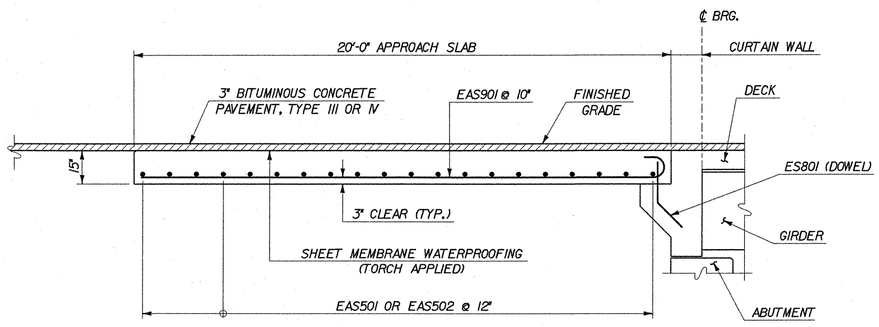
APPROACH SLAB NO. 2 PLAN

SCALE: 3/16" = 1'-0"



SECTION B-B

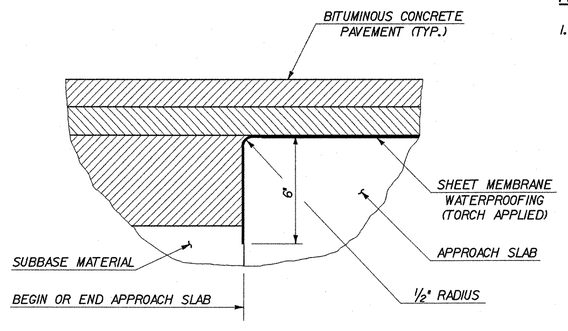
SCALE: ¾" = 1'-0"



SECTION A-A

SCALE: ⅜" = 1'-0"

NOTE: DECK JOINT NOT SHOWN FOR CLARITY



SHEET MEMBRANE DETAIL

SCALE: 3"=1'-0"

NOTES

1. ACUTE ANGLES IN APPROACH SLABS SHALL BE CLIPPED 6" X 6".

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STATE OF VERMONT
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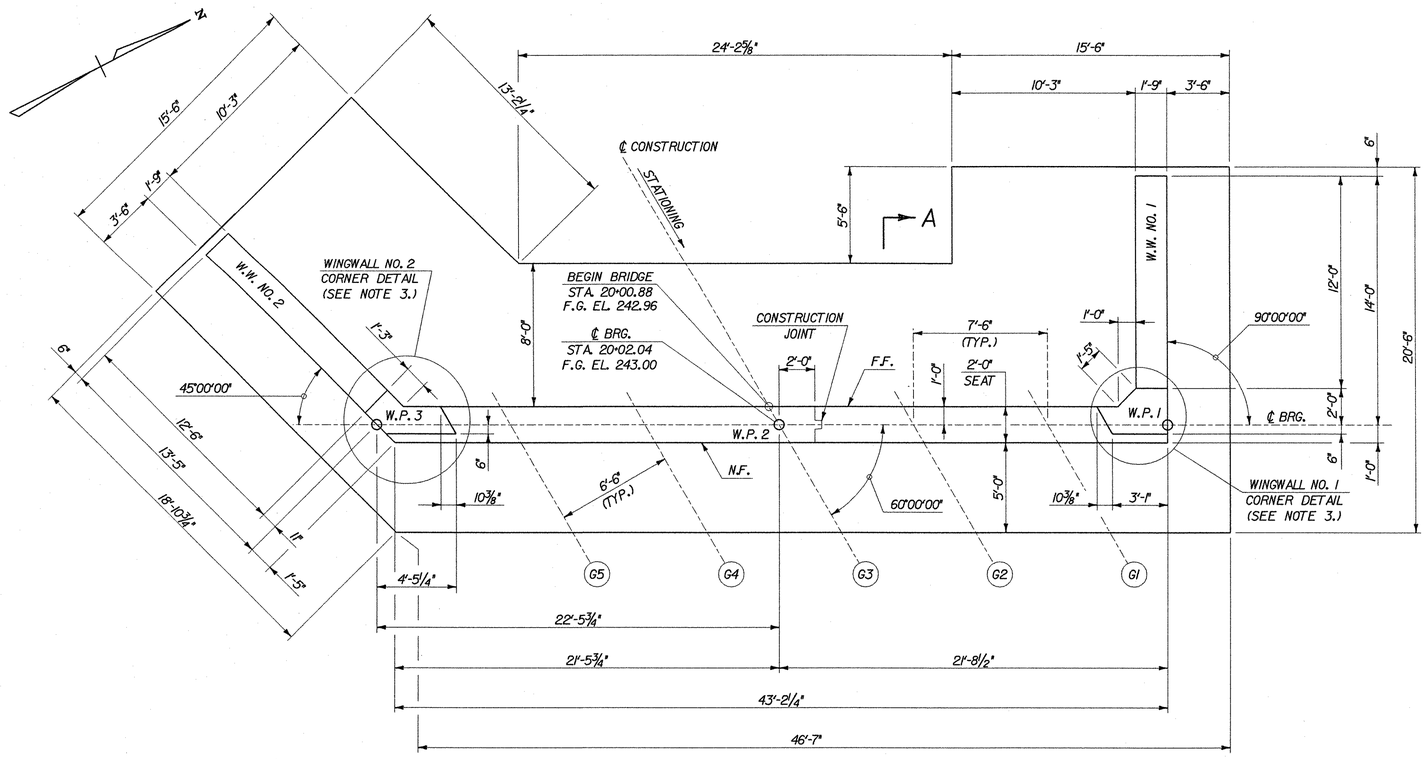
Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.

BOSTWICK ROAD OVER VERMONT RAILWAY

APPROACH SLABS

Designed By L.WIXSON	Drawn By S. MERKWAN
Checked By R. JOY — Date 05/03	Bridge Design Supervisor M. ZYDEL — Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. M:\1595402 Bostwick\BRIDGE\6mylar\zJ196asd.dgn	
Bridge Sheet No. BRIII	Sheet 51 of 73

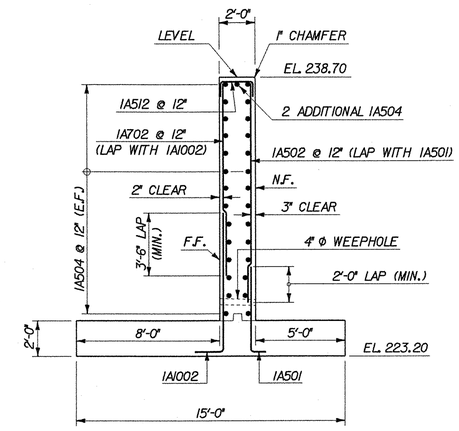
PLOTTED 01-AUG-2003



PLAN

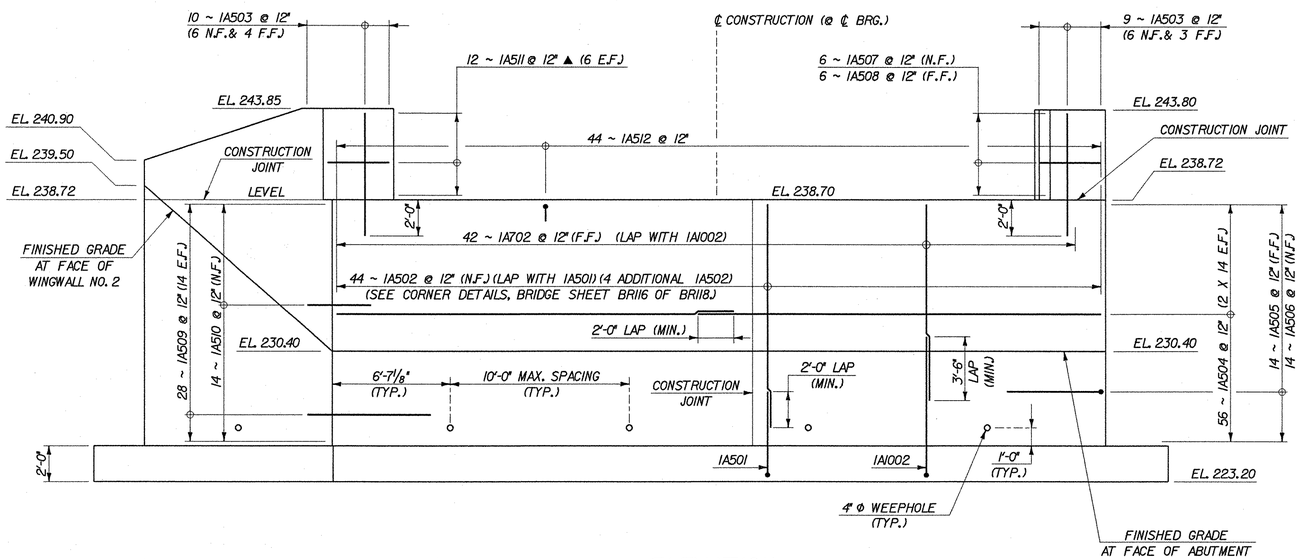
SCALE: 1/4" = 1'-0"

WORKING POINTS		
LOCATION	NORTHING	EASTING
W.P. 1	79605.3640	43981.1337
W.P. 2	79585.9275	43971.4687
W.P. 3	79565.7961	43961.4580



SECTION A-A

SCALE: 1/4" = 1'-0"



ELEVATION

SCALE: 1/4" = 1'-0"

NOTES

1. FOR FOOTING DETAILS, SEE BRIDGE SHEET BRII3.
2. FOR WINGWALL DETAILS, SEE BRIDGE SHEET BRII7.
3. FOR WINGWALL CORNER DETAILS, SEE BRIDGE SHEET BRII6.

LEGEND

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

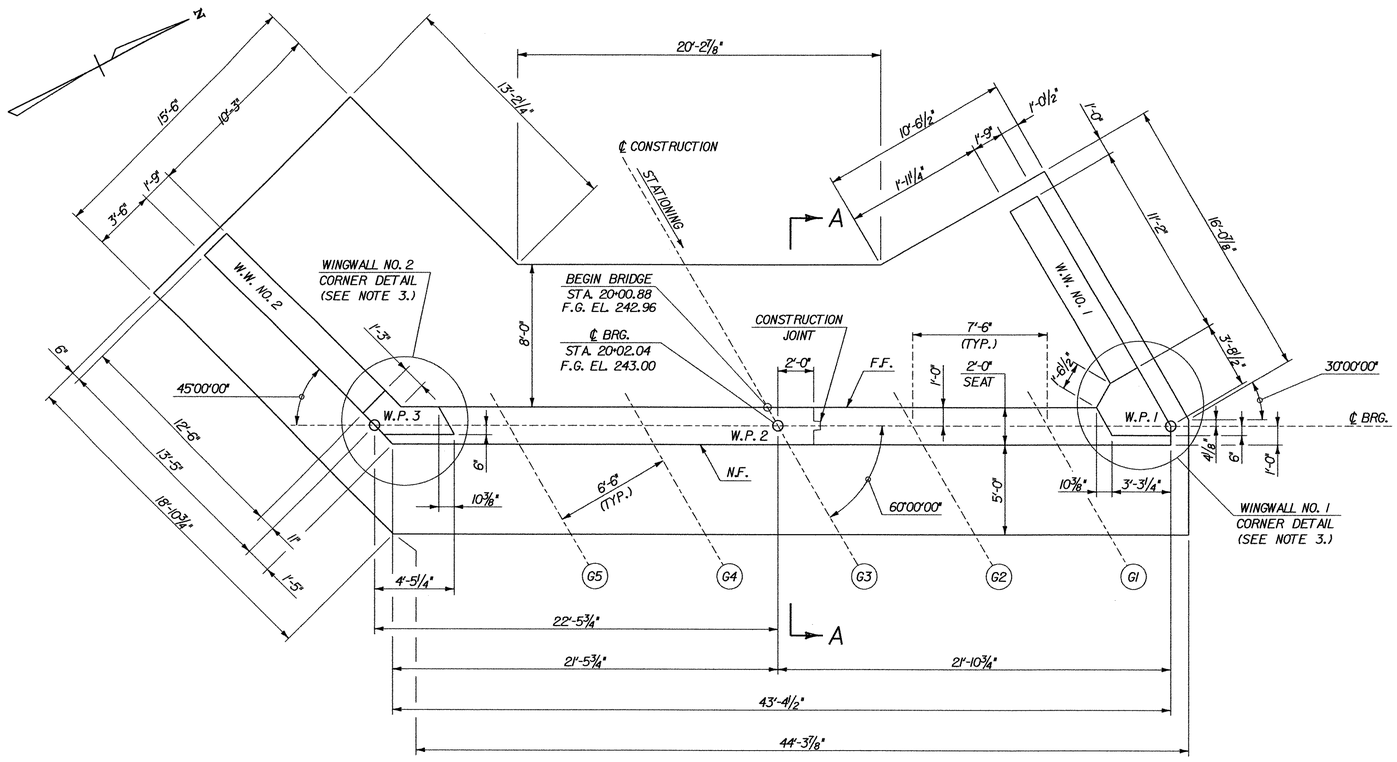
McFarland-Johnson, Inc.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

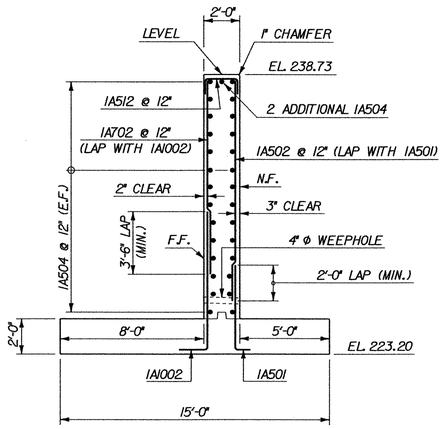
Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
ABUTMENT NO. 1	
Designed By L. WIXSON	Drawn By S. MERKWAN
Checked By R. JOY Date 05/03	Bridge Design Supervisor M. ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. M:\5595402 Bostwick\BRIDGE\6mylar\zJ196abl.dgn	
Bridge Sheet No. BRII2	Sheet 52 of 73

PLOTTED 01-AUG-2003

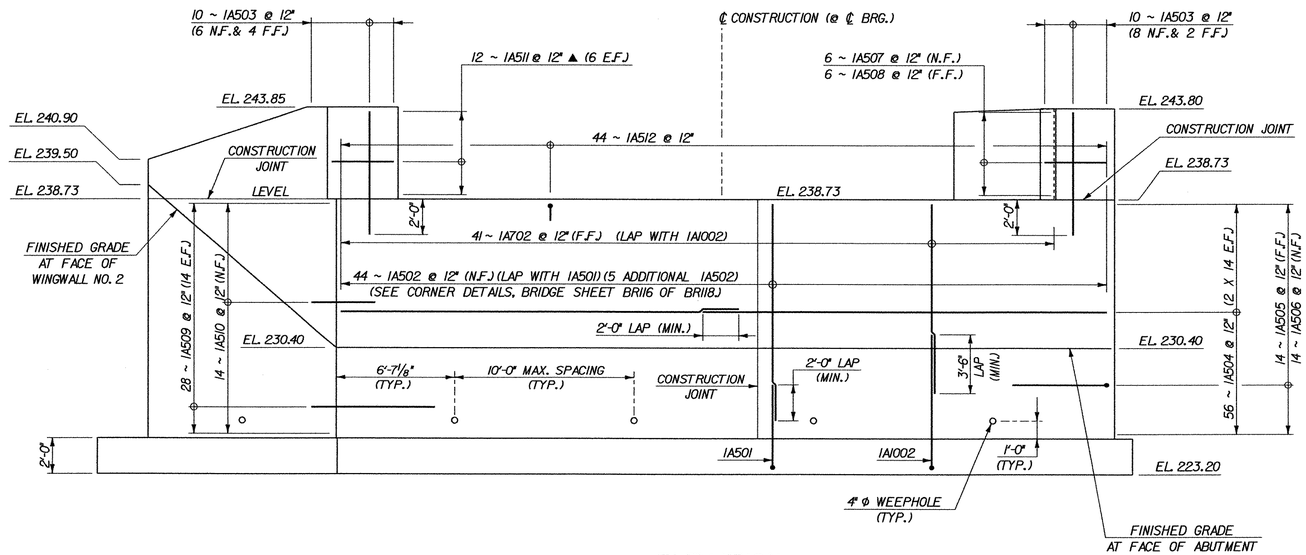
WORKING POINTS		
LOCATION	NORTHING	EASTING
W.P. 1	79605.5322	43981.2174
W.P. 2	79585.9275	43971.4687
W.P. 3	79565.7961	43961.4580



PLAN
SCALE: 1/4" = 1'-0"



SECTION A-A
SCALE: 1/4" = 1'-0"



ELEVATION
SCALE: 1/4" = 1'-0"

NOTES

1. FOR FOOTING DETAILS, SEE BRIDGE SHEET BRII3A.
2. FOR WINGWALL DETAILS, SEE BRIDGE SHEET BRII7B.
3. FOR WINGWALL CORNER DETAILS, SEE BRIDGE SHEET BRII6B.

LEGEND

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

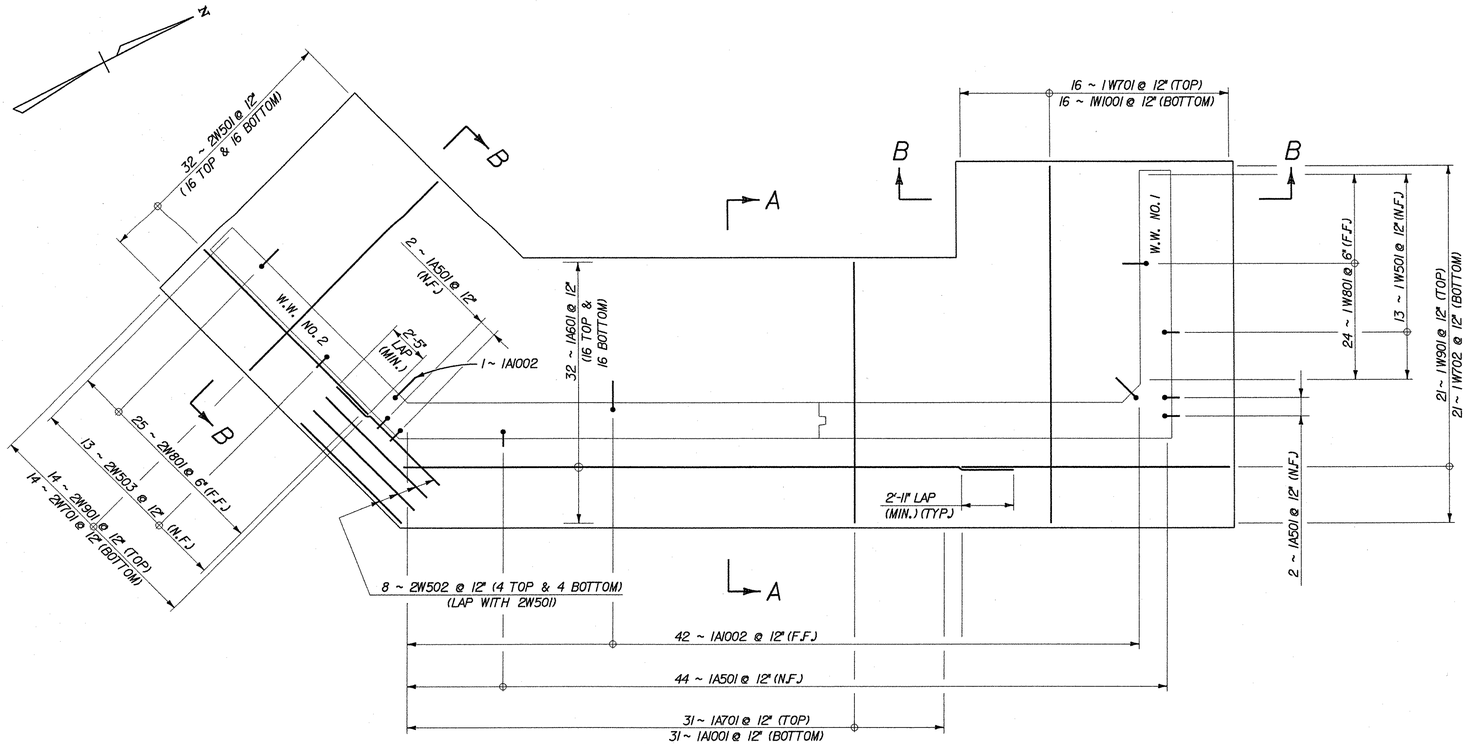
⚠1 REVISE THE BEARING SEAT ELEVATION
⚠2 WINGWALL NO. 1 LAYOUT REVISED

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
ABUTMENT NO. 1 (REVISED)	
Designed By L.WIXSON / S.DELIA	Drawn By S.MERKWAN / S.DELIA
Checked By R.JOY Date 03/04	Bridge Design Supervisor M.ZYDEL Date 03/04
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. G:\Structures\STR3_Roger Whitcomb\Consultants\McFarland-Johnson\Shelburne\	
Bridge Sheet No. BRII2A	Sheet 52A of 73

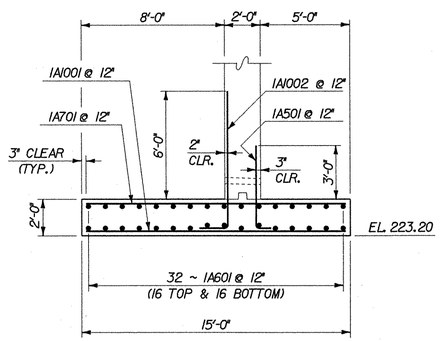
McFarland-Johnson, Inc.

PLOTTED 24-MAR-2004



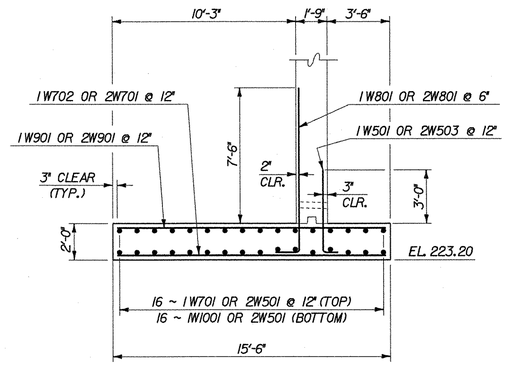
PLAN (REINFORCING)

SCALE: 1/4" = 1'-0"



SECTION A-A

SCALE: 1/4" = 1'-0"



SECTION B-B

SCALE: 1/4" = 1'-0"

NOTES

1. MINIMUM COVER FOR REINFORCING STEEL IN FOOTING SHALL BE 3".

LEGEND

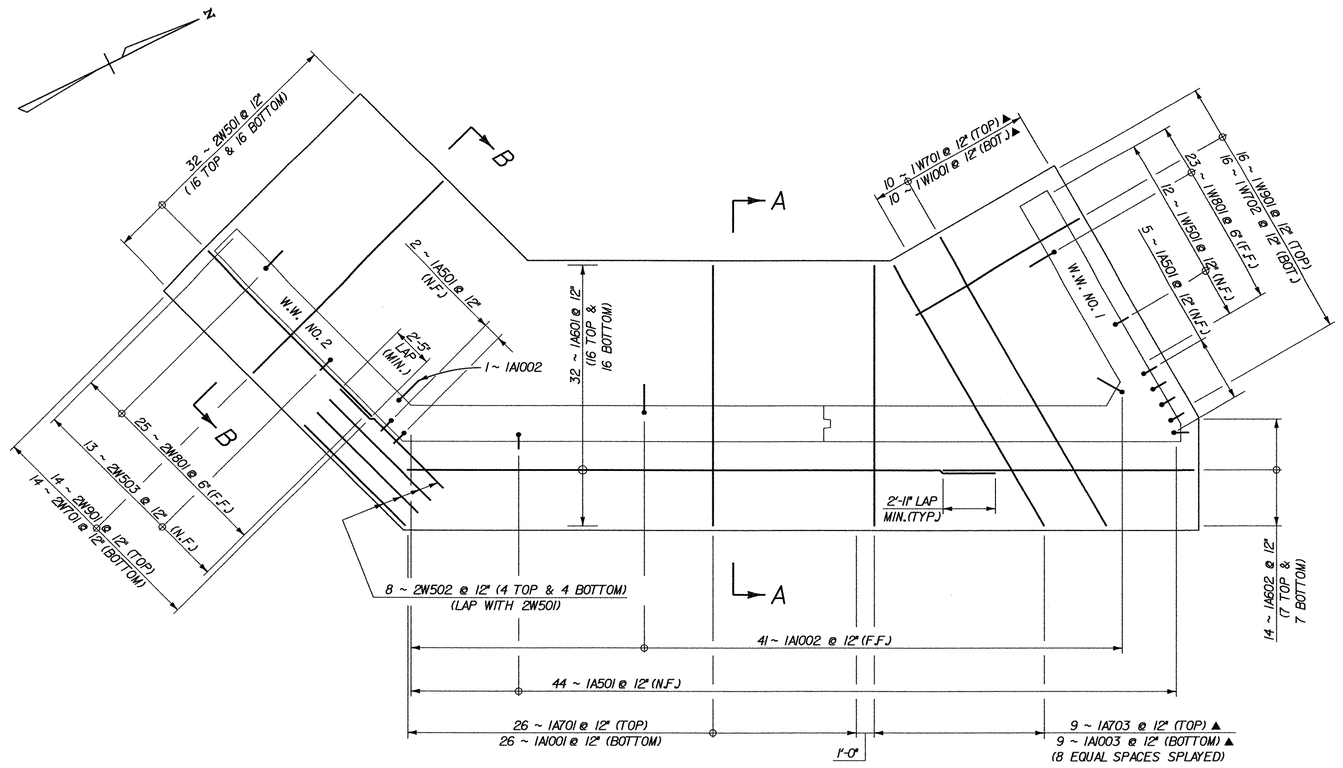
N.F. - NEAR FACE
F.F. - FAR FACE
E.F. - EACH FACE
▲ - CUT TO FIT IN FIELD

McFarland-Johnson, Inc.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

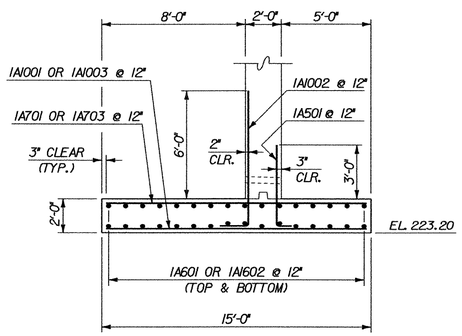
Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
ABUTMENT NO. 1 FOOTING	
Designed By L.WIXSON	Drawn By S.MERKWAN
Checked By R. JOY Date 05/03	Bridge Design Supervisor M. ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.C.C. Info. MN\595402 Bostwick\BRIDGE\6mylar\z1196alf.dgn	
Bridge Sheet No. BR113	Sheet 53 of 73

PLOTTED 01-AUG-2003



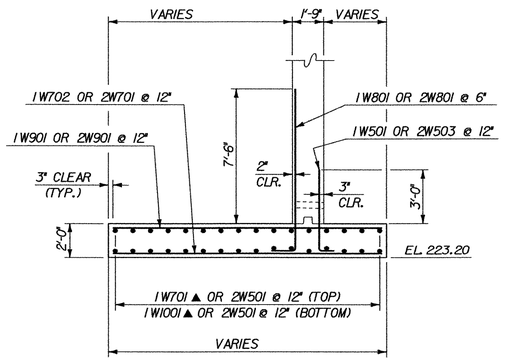
PLAN (REINFORCING)

SCALE: 1/4" = 1'-0"



SECTION A-A

SCALE: 1/4" = 1'-0"



SECTION B-B

SCALE: 1/4" = 1'-0"

NOTES

1. MINIMUM COVER FOR REINFORCING STEEL IN FOOTING SHALL BE 3".

LEGEND

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

McFarland-Johnson, Inc.

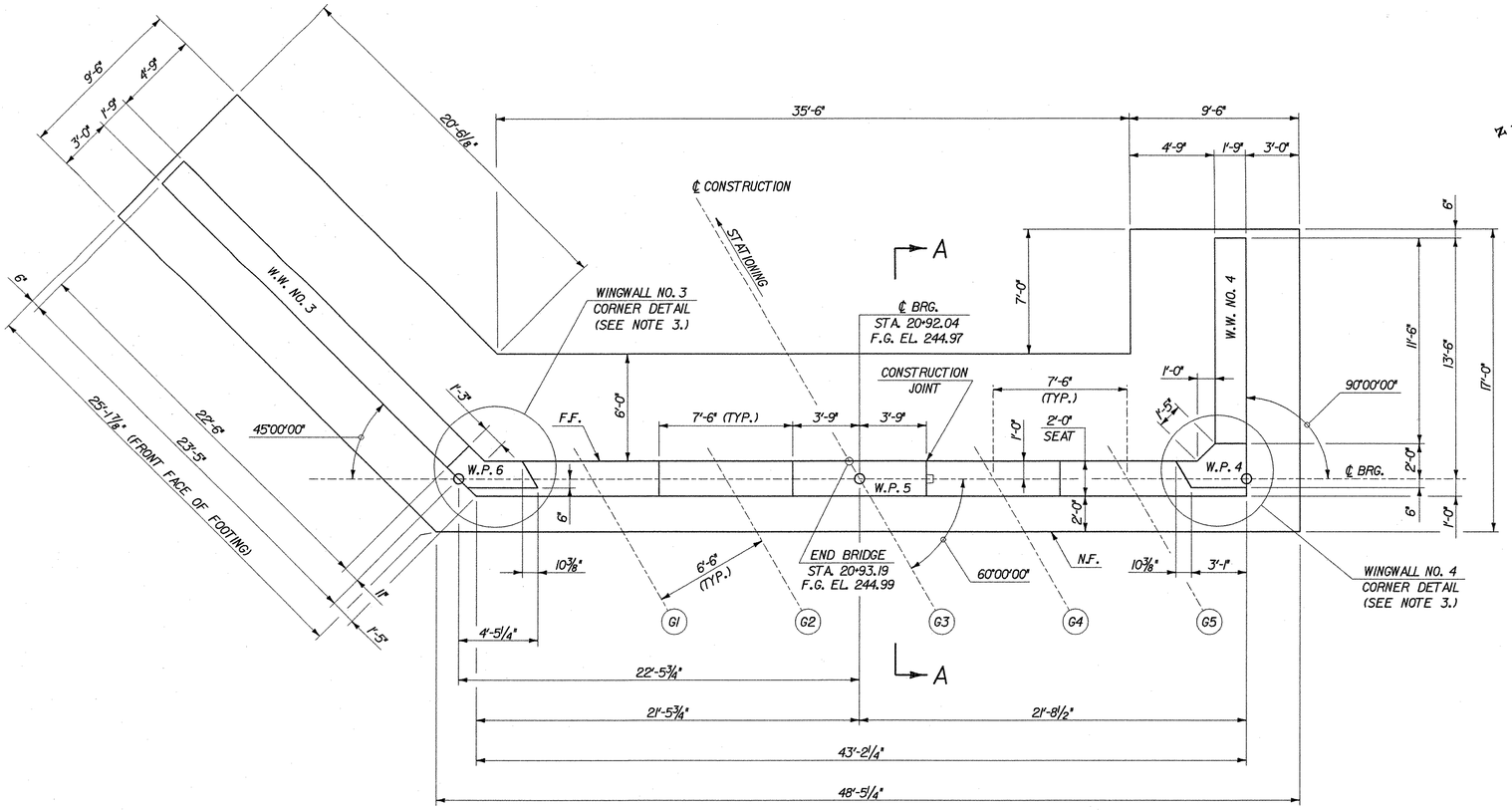
⚠ WINGWALL NO. 1 LAYOUT REVISED

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
ABUTMENT NO. 1 FOOTING (REVISED)	
Designed By L.WIXSON / S.DELIA	Drawn By S.MERKWAN / S.DELIA
Checked By R.JOY Date 03/04	Bridge Design Supervisor M.ZYDEL Date 03/04
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. G:\Structures\STR3_Roger Whitcomb\Consultants\McFarland-Johnson\Shelburne\	
Bridge Sheet No. BRI13A	Sheet 53A of 73

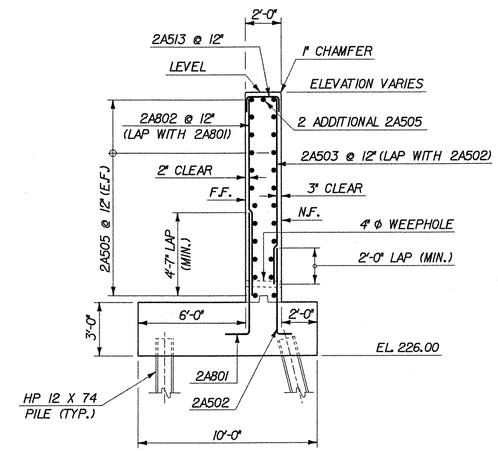
PLOTTED 24-MAR-2004

WORKING POINTS		
LOCATION	NORTHING	EASTING
W.P. 4	79572.0781	44051.6286
W.P. 5	79591.5147	44061.2936
W.P. 6	79611.6462	44071.3042



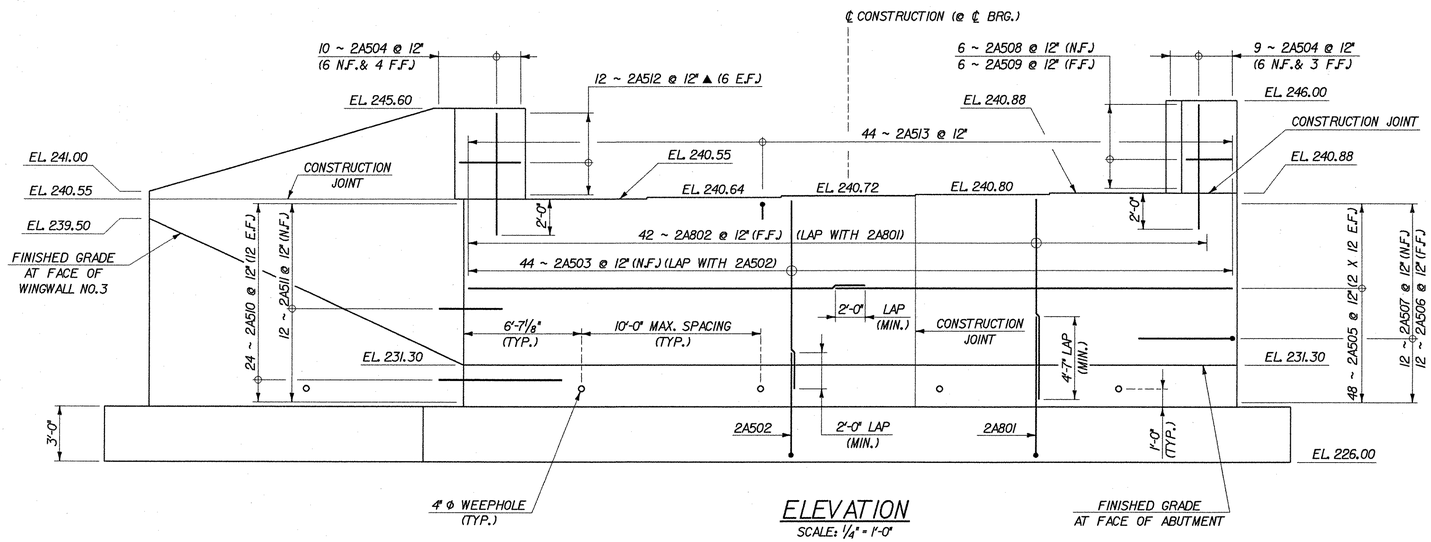
PLAN

SCALE: 1/4" = 1'-0"



SECTION A-A

SCALE: 1/4" = 1'-0"



ELEVATION

SCALE: 1/4" = 1'-0"

NOTES

1. FOR FOOTING DETAILS, SEE BRIDGE SHEET BRII5.
2. FOR WINGWALL DETAILS, SEE BRIDGE SHEET BRII7.
3. FOR WINGWALL CORNER DETAILS, SEE BRIDGE SHEET BRII6.

LEGEND

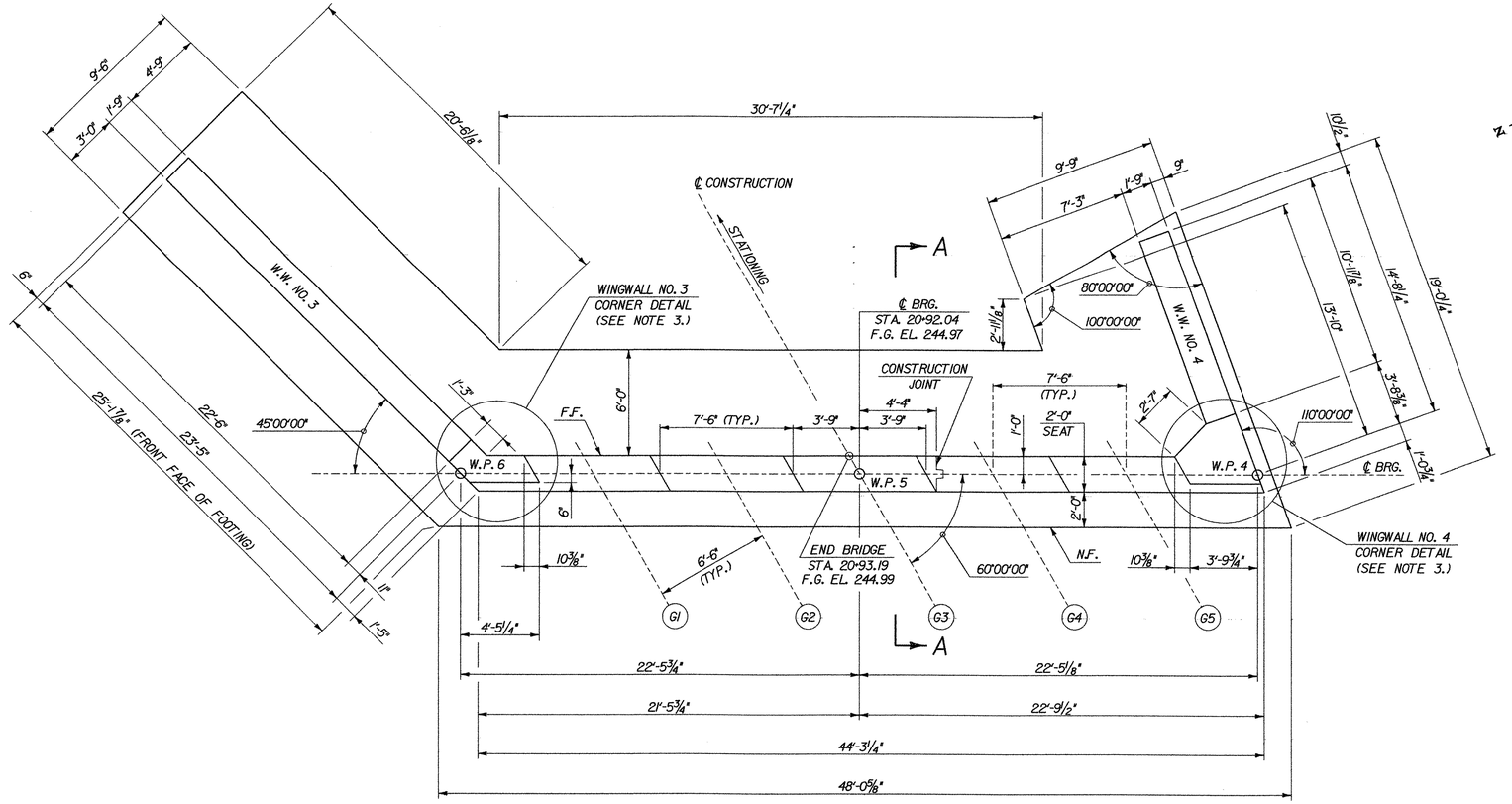
N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
▲ = CUT TO FIT IN FIELD

McFarland-Johnson, Inc.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
ABUTMENT NO. 2	
Designed By L.WIXSON	Drawn By S.MERKWAN
Checked By R.JOY Date 05/03	Bridge Design Supervisor M.ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. MAV595402 Bostwick\BRIDGE\6mylar\zJ196ab2.dgn	
Bridge Sheet No. BRII4	Sheet 54 of 73

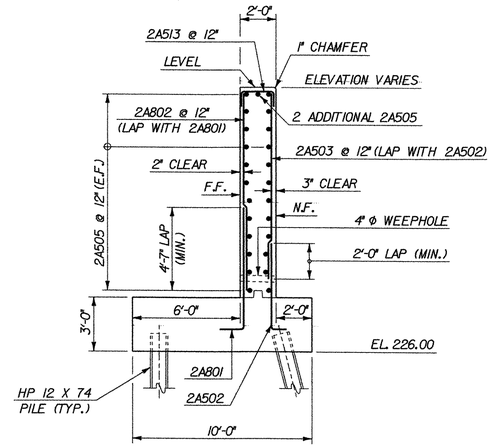
PLOTTED 01-AUG-2003



PLAN

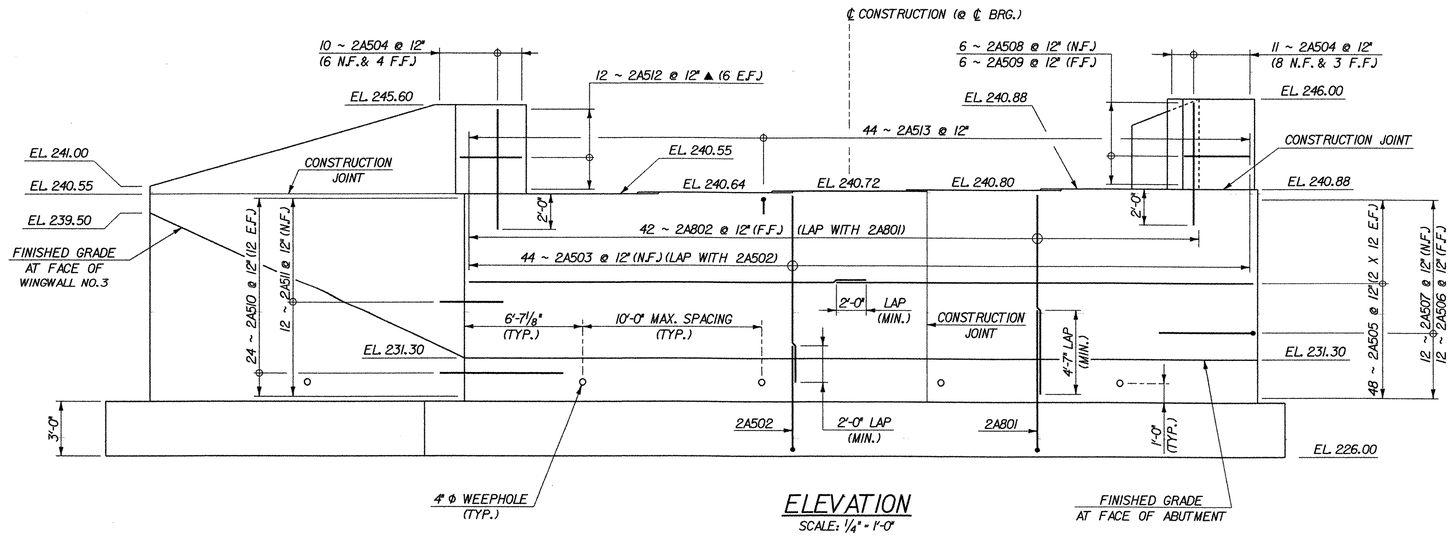
SCALE: 1/4" = 1'-0"

WORKING POINTS		
LOCATION	NORTHING	EASTING
W.P. 4	79571.4281	44051.3054
W.P. 5	79591.5147	44061.2936
W.P. 6	79611.6462	44071.3042



SECTION A-A

SCALE: 1/4" = 1'-0"



ELEVATION

SCALE: 1/4" = 1'-0"

NOTES

1. FOR FOOTING DETAILS, SEE BRIDGE SHEET BRII5A.
2. FOR WINGWALL DETAILS, SEE BRIDGE SHEET BRII7A.
3. FOR WINGWALL CORNER DETAILS, SEE BRIII6A.

LEGEND

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

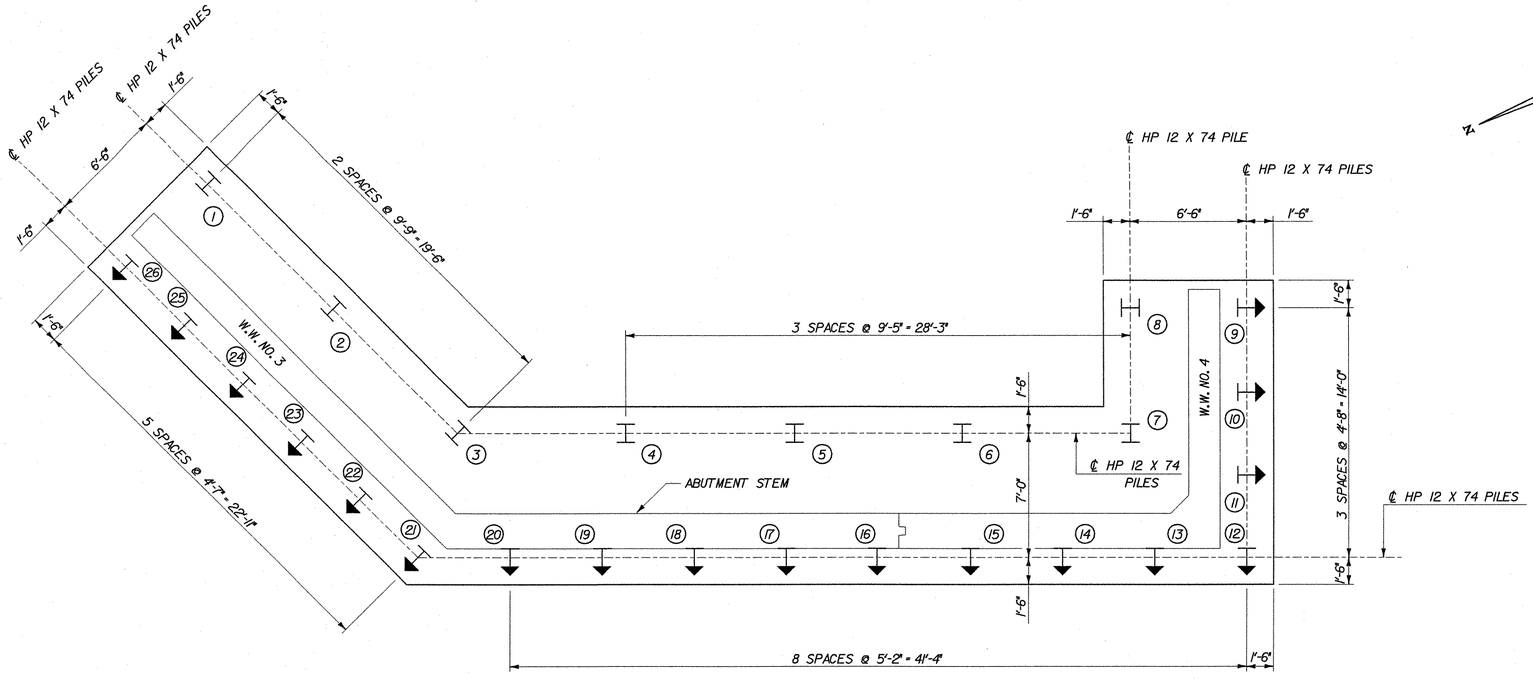
1 REVISE THE BEARING SEAT STEPS TO FOLLOW THE SKEW OF THE BRIDGE (11/12/03)
2 RELOCATE THE VERTICAL CONSTRUCTION JOINT (11/12/03)
3 WINGWALL NO. 4 LAYOUT REVISED

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
ABUTMENT NO. 2 (REVISED)	
Designed By L.WIXSON	Drawn By S.MERKWAN
Checked By R. JOY Date 03/04	Bridge Design Supervisor M. ZYDEL Date 03/04
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. G:\Structures\STR3_Roger Whitcomb\Consultants\McFarland-Johnson\Shelburne\	
Bridge Sheet No. BRII4A	Sheet 54A of 73

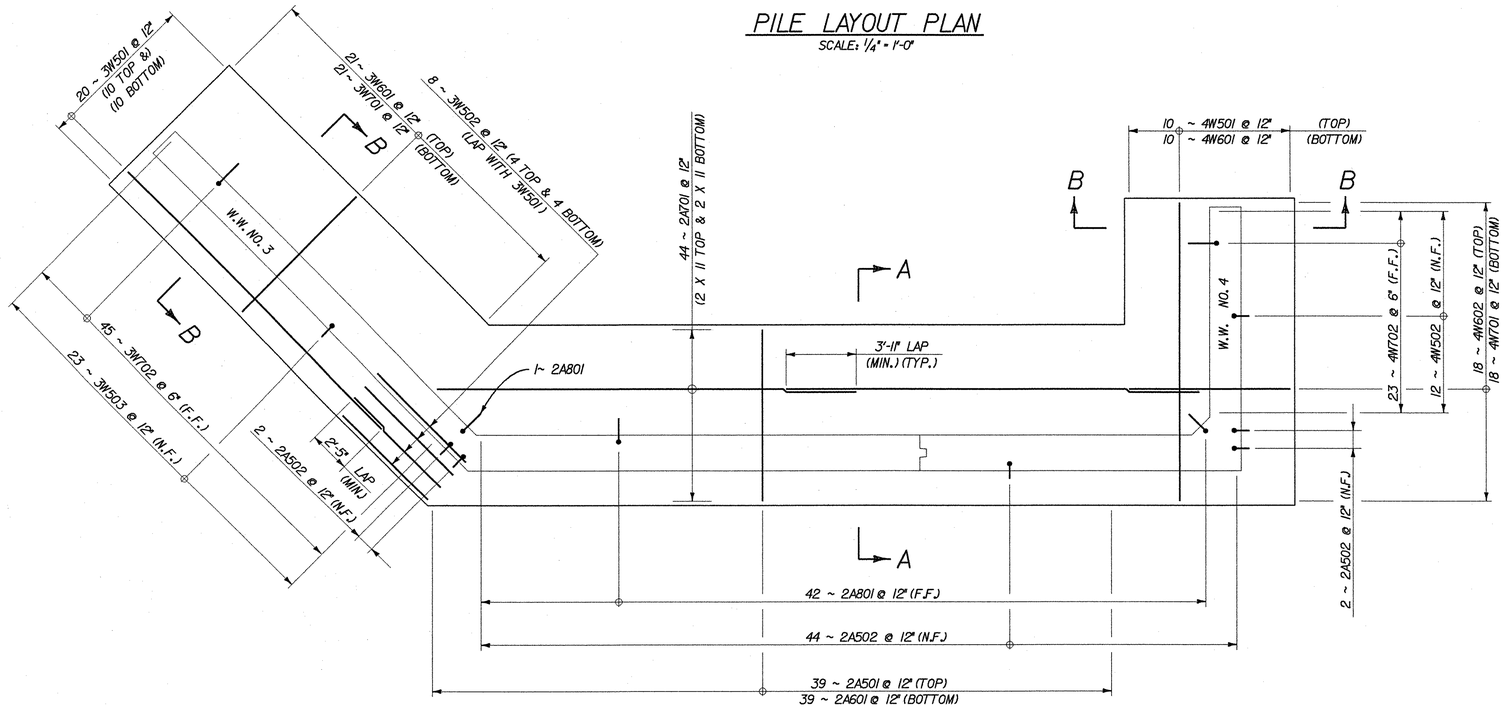
McFarland-Johnson, Inc.

PLOTTED 15-MAR-2004



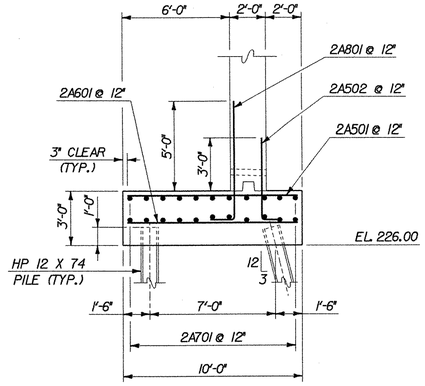
PILE LAYOUT PLAN

SCALE: 1/4" = 1'-0"



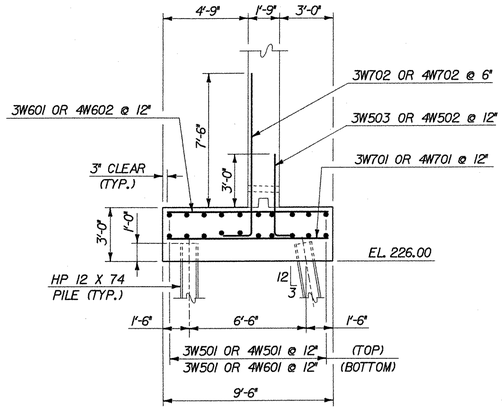
PLAN (REINFORCING)

SCALE: 1/4" = 1'-0"



SECTION A-A

SCALE: 1/4" = 1'-0"



SECTION B-B

SCALE: 1/4" = 1'-0"

NOTES

1. MINIMUM COVER FOR REINFORCING STEEL IN FOOTING SHALL BE 3".

LEGEND

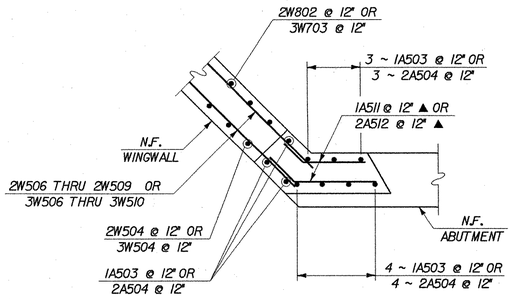
N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
▲ = CUT TO FIT IN FIELD
= VERTICAL PILE
= PILE BATTERED 3:12

McFarland-Johnson, Inc.

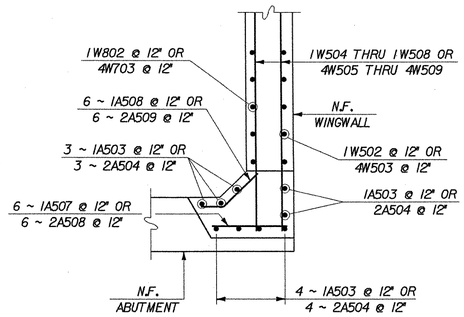
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
ABUTMENT NO. 2 FOOTING	
Designed By L.WIXSON	Drawn By S.MERKWAN
Checked By R. JOY Date 05/03	Bridge Design Supervisor M. ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. info. M:\595402 Bostwick\BRIDGE\Gmylar\zJ196a2f.dgn	
Bridge Sheet No. BRII5	Sheet 55 of 73

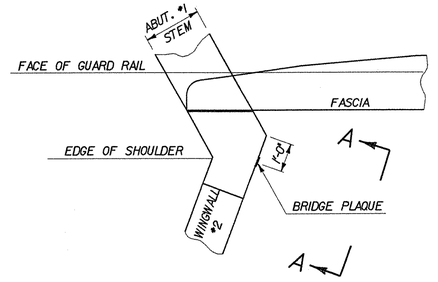
PLOTTED 01-AUG-2003



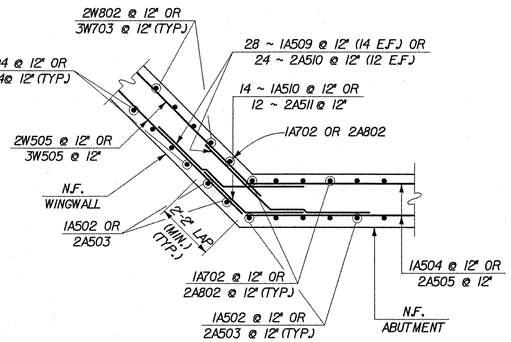
ABOVE BRIDGE SEAT



ABOVE BRIDGE SEAT



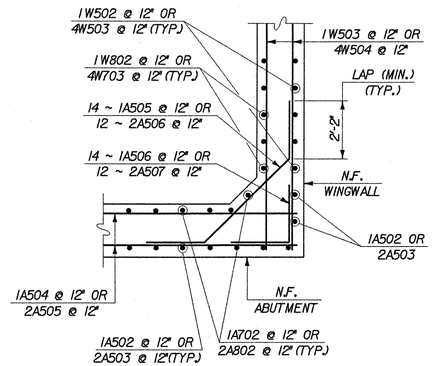
PLAN



AT ABUTMENT STEM

WINGWALL NO. 2 & NO. 3 CORNER DETAILS

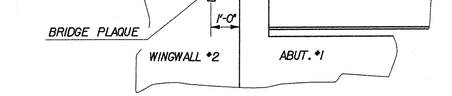
SCALE: 3/8" = 1'-0"



AT ABUTMENT STEM

WINGWALL NO. 1 & NO. 4 CORNER DETAILS

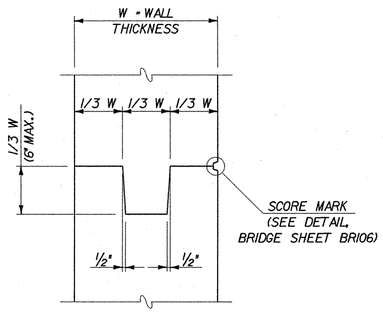
SCALE: 3/8" = 1'-0"



VIEW "A - A"

LOCATE BRIDGE PLAQUE

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.



TYPICAL CONCRETE CONSTRUCTION JOINT

SCALE: 1" = 1'-0"

NOTES

1. FOR FOOTINGS DETAILS, SEE BRIDGE SHEETS BRI13 AND BRI15.
2. FOR WINGWALL DETAILS, SEE BRIDGE SHEET BRI17.

LEGEND

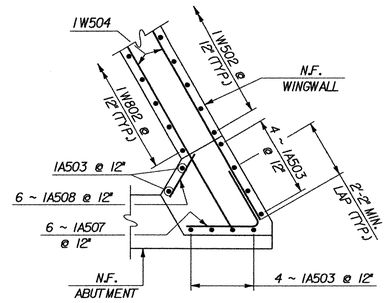
N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
▲ = CUT TO FIT IN FIELD

McFarland-Johnson, Inc.

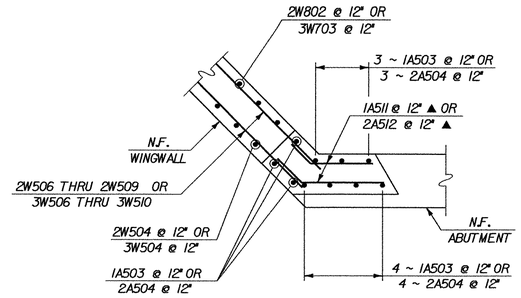
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
ABUTMENT DETAILS	
Designed By L.WIXSON	Drawn By S.MERKWAN
Checked By R.JOY Date 05/03	Bridge Design Supervisor M.ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. M:\595402 Bostwick\BRIDGE\6mylar\z_1196abd.dgn	
Bridge Sheet No. BRI16	Sheet 56 of 73

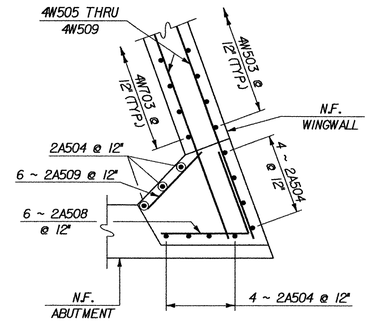
PLOTTED 01-AUG-2003



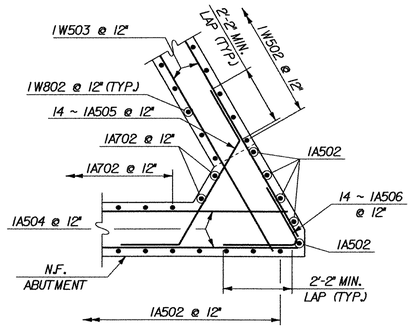
ABOVE BRIDGE SEAT



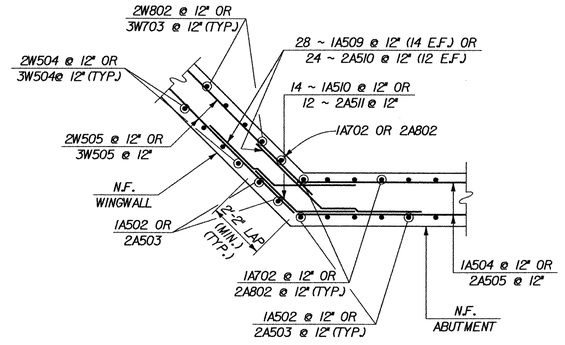
ABOVE BRIDGE SEAT



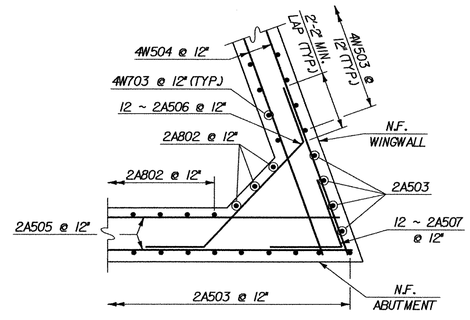
ABOVE BRIDGE SEAT



AT ABUTMENT STEM



AT ABUTMENT STEM



AT ABUTMENT STEM

WINGWALL NO. 1 CORNER DETAILS

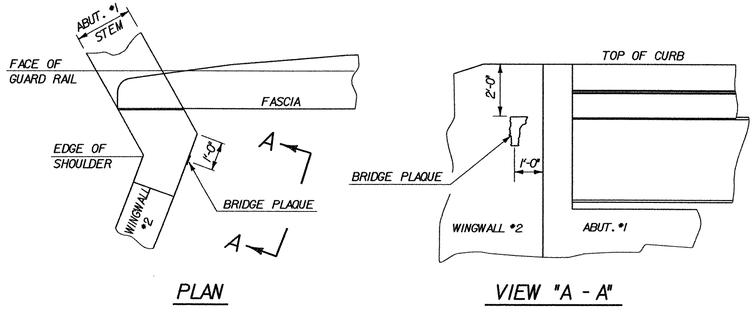
SCALE: 3/8" = 1'-0"

WINGWALL NO. 2 & NO. 3 CORNER DETAILS

SCALE: 3/8" = 1'-0"

WINGWALL NO. 4 CORNER DETAILS

SCALE: 3/8" = 1'-0"

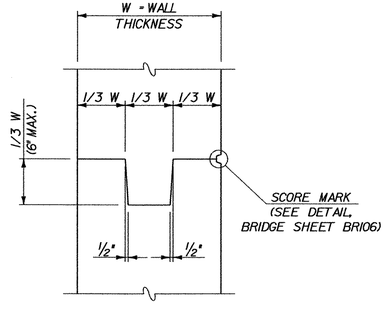


PLAN

VIEW "A - A"

LOCATE BRIDGE PLAQUE

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.



TYPICAL CONCRETE CONSTRUCTION JOINT

SCALE: 1" = 1'-0"

NOTES

1. FOR FOOTINGS DETAILS, SEE BRIDGE SHEETS BRII3A AND BRII5A.
2. FOR WINGWALL DETAILS, SEE BRIDGE SHEET BRII7B.

LEGEND

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

McFarland-Johnson, Inc.

1 WINGWALL NO. 4 LAYOUT REVISED
2 WINGWALL NO. 1 LAYOUT REVISED

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.

BOSTWICK ROAD OVER VERMONT RAILWAY

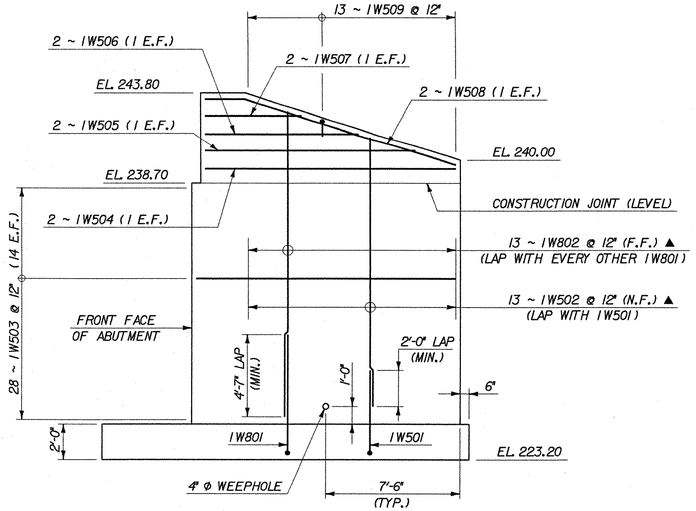
ABUTMENT DETAILS (REVISED)

Designed By L.WIXSON	Drawn By S.MERKWAN
Checked By R.JOY Date 03/04	Bridge Design Supervisor M.ZYDEL Date 03/04
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)

I.G.C. Info. G:\Structures\STR3_Roger Whitcomb\Consultants\McFarland-Johnson\Shelburne\

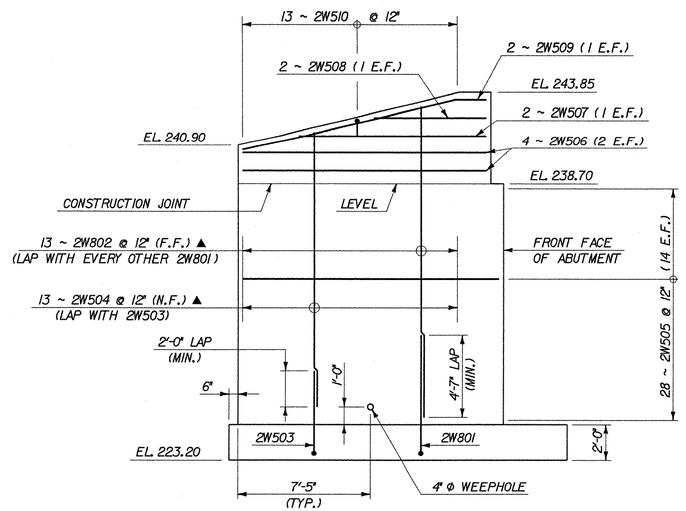
Bridge Sheet No. BRII6B Sheet 56B of 73

PLOTTED 24-MAR-2004



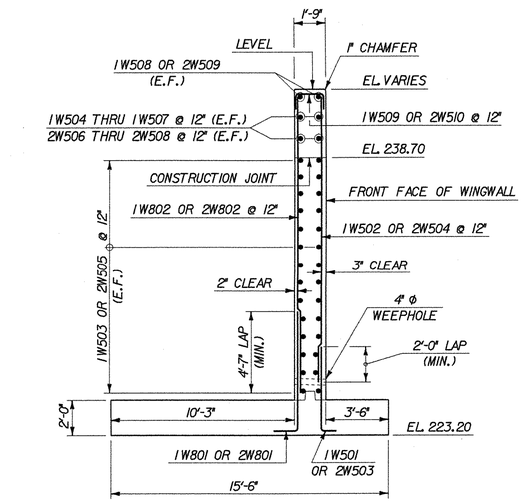
WINGWALL NO. 1 ELEVATION

SCALE: 1/4" = 1'-0"



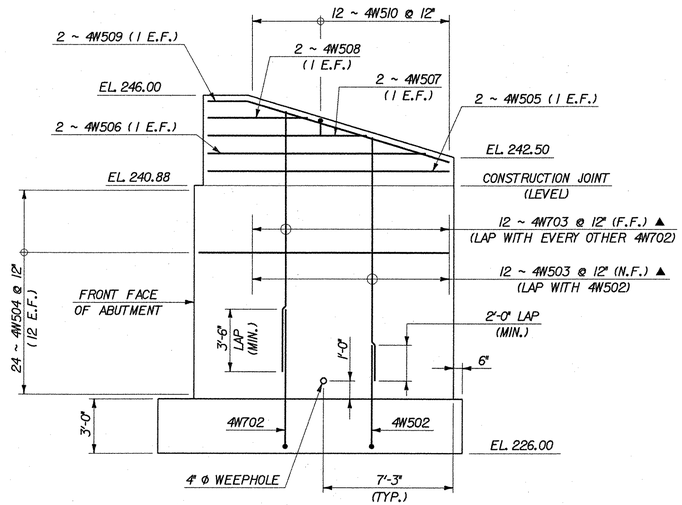
WINGWALL NO. 2 ELEVATION

SCALE: 1/4" = 1'-0"



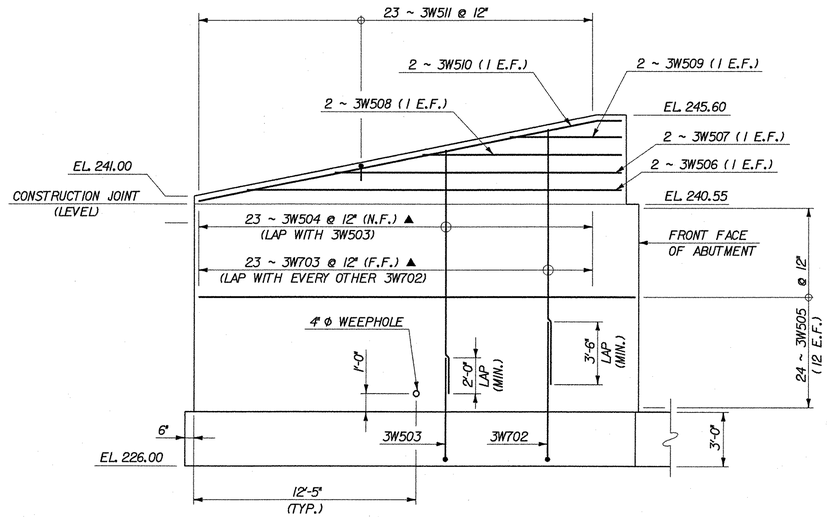
WINGWALL NO. 1 & NO. 2 TYPICAL SECTION

SCALE: 1/4" = 1'-0"



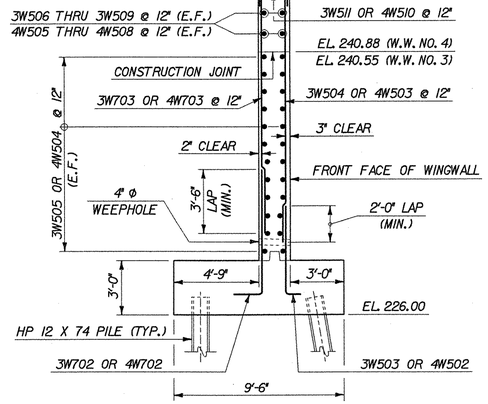
WINGWALL NO. 4 ELEVATION

SCALE: 1/4" = 1'-0"



WINGWALL NO. 3 ELEVATION

SCALE: 1/4" = 1'-0"



WINGWALL NO. 3 & NO. 4 TYPICAL SECTION

SCALE: 1/4" = 1'-0"

LEGEND

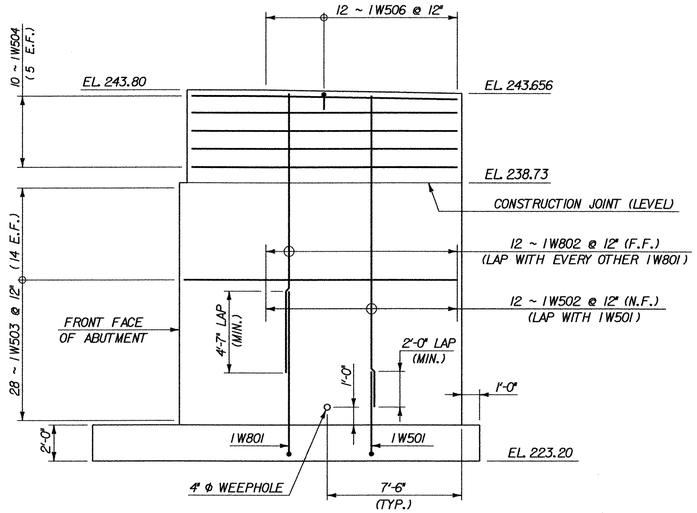
N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
▲ = CUT TO FIT IN FIELD

McFarland-Johnson, Inc.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

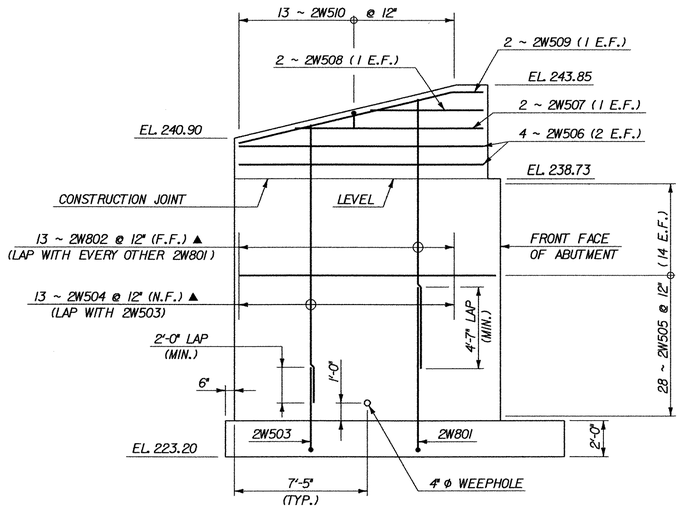
Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
WINGWALL DETAILS	
Designed By L.WIXSON	Drawn By S.MERKWAN
Checked By R.JOY Date 05/03	Bridge Design Supervisor M.ZYDEL Date 05/03
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. MN\595402 Bostwick\BRIDGE\6mylar\z1196wwd.dgn	
Bridge Sheet No. BRI17	Sheet 57 of 73

PLOTTED 01-AUG-2003



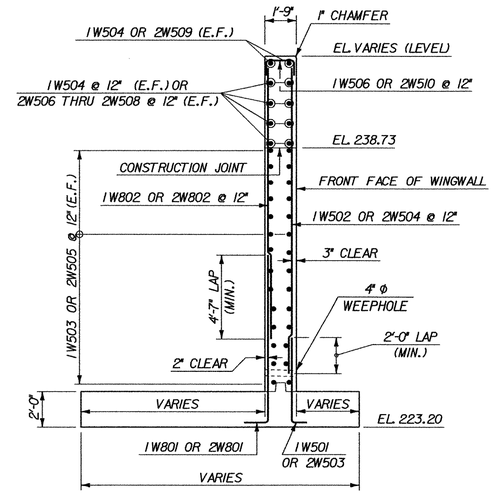
WINGWALL NO. 1 ELEVATION

SCALE: 1/4" = 1'-0"



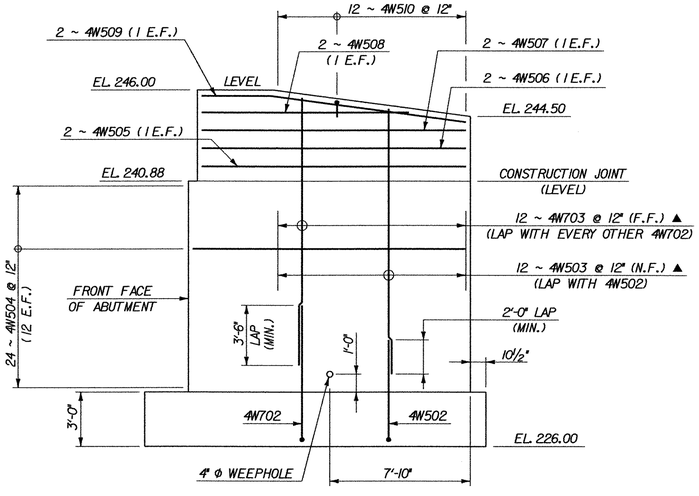
WINGWALL NO. 2 ELEVATION

SCALE: 1/4" = 1'-0"



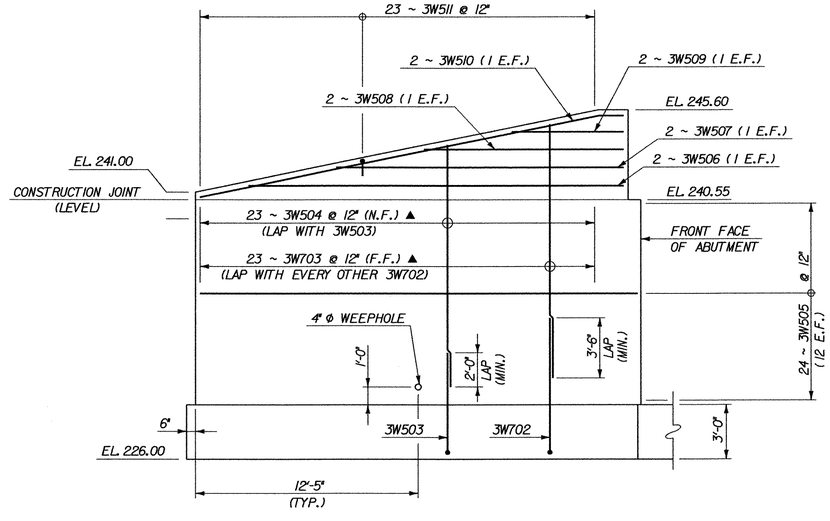
WINGWALL NO. 1 & NO. 2 TYPICAL SECTION

SCALE: 1/4" = 1'-0"



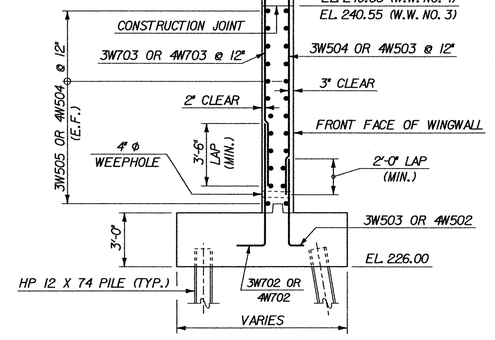
WINGWALL NO. 4 ELEVATION

SCALE: 1/4" = 1'-0"



WINGWALL NO. 3 ELEVATION

SCALE: 1/4" = 1'-0"



WINGWALL NO. 3 & NO. 4 TYPICAL SECTION

SCALE: 1/4" = 1'-0"

LEGEND

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

McFarland-Johnson, Inc.

PLOTTED 24-MAR-2004

⚠1 WINGWALL NO. 4 LAYOUT REVISED
⚠2 WINGWALL NO. 1 LAYOUT REVISED

STATE OF VERMONT
AGENCY OF TRANSPORTATION

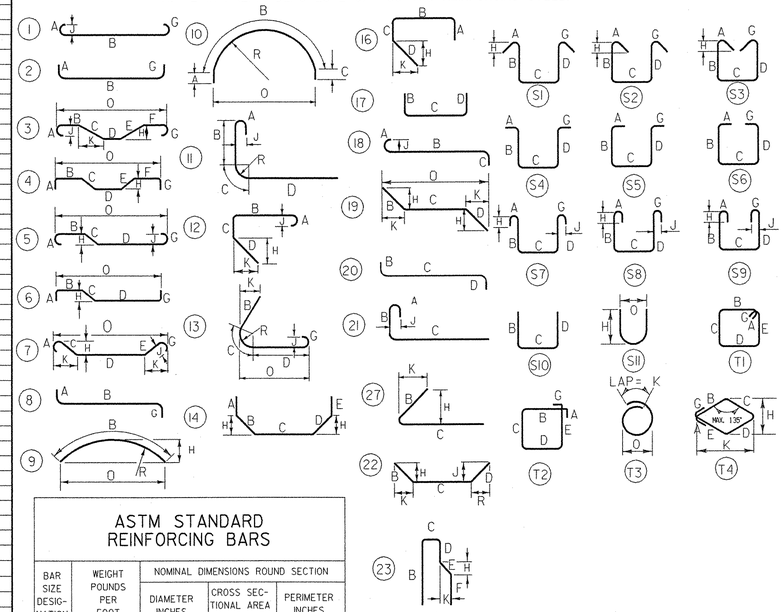
Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
WINGWALL DETAILS (REVISED)	
Designed By L.WIXSON / S.DELIA	Drawn By S.MERKWAN / S.DELIA
Checked By R.JOY Date 03/04	Bridge Design Supervisor M.ZYDEL Date 03/04
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.G.C. Info. G:\Structures\STR3_Roger Whitcomb\Consultants\McFarland-Johnson\Shelburne\	
Bridge Sheet No. BRI17B	Sheet 57B of 73

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
									DECK								
	380	5	36-1	ES501	STR												
	234	5	32-4	ES502	STR												
	175	5	5-1	ES503	S5	0-10	1-4½	0-8	1-4½			0-10					
	4	5	1-6	ES504	STR												
✳	9	5	4-3	ES505	STR												
	4	5	33-8	ES506	STR												
	48	5	9-5	ES507	S5	0-11.5	3-5	0-8	3-5			0-11.5					
	70	5	4-10	ES508	16	1-0	1-4	0-7	1-11				1-4¼		1-4¼		
	36	8	3-0	ES801	16	0-0	0-0	2-0	1-0				0-8½		0-8½		
									APPROACH SLABS								
✳	21	5	33-7	EAS501	STR												
	20	5	34-2	EAS502	STR												
✳	73	9	20-9	EAS901	1	1-3	19-6					0-0		11¾			
									ABUTMENT 1								
	48	5	5-7	1A501	17		0-0	4-9	0-10								
	48	5	12-6	1A502	STR												
✳	20	5	6-10	1A503	STR												
	58	5	22-5	1A504	STR												
	14	5	9-8	1A505	22		2-0	5-8	2-0				1-5	1-5	1-5	1-5	
	14	5	4-0	1A506	17			2-0	2-0								
	6	5	2-7	1A507	STR												
	6	5	2-3	1A508	22		0-11	1-4	0-0				0-8	0-0	0-8	0-0	
	28	5	6-1	1A509	22		2-2	3-11	0-0				1-6	0-0	1-6	0-0	
	14	5	4-4	1A510	22		2-2	2-2	0-0				1-6	0-0	1-6	0-0	
▲	12	5	4-9	1A511	22		1-4	3-5	0-0				0-11½	0-0	0-11½	0-0	
	44	5	3-3	1A512	17		0-10	1-7	0-10								
✳	33	6	34-0	1A601	STR												
✳	32	7	14-6	1A701	STR												
	43	7	22-3	1A702	STR												
✳	32	10	14-6	1A1001	STR												
✳	44	10	9-7	1A1002	17		0-0	7-9	1-10								
									ABUTMENT 2								
	39	5	9-6	2A501	STR												
	48	5	6-2	2A502	17		0-0	5-4	0-10								
	48	5	10-4	2A503	STR												
✳	20	5	6-11	2A504	STR												
	50	5	22-5	2A505	STR												
	12	5	9-8	2A506	22		2-0	5-8	2-0				1-5	1-5	1-5	1-5	
	12	5	4-0	2A507	17			2-0	2-0								
	6	5	2-7	2A508	STR												
	6	5	2-3	2A509	22		0-11	1-4	0-0				0-8	0-0	0-8	0-0	
	24	5	6-1	2A510	22		2-2	3-11	0-0				1-6	0-0	1-6	0-0	
	12	5	4-4	2A511	22		2-2	2-2	0-0				1-6	0-0	1-6	0-0	
▲	12	5	4-9	2A512	22		1-4	3-5	0-0				0-11½	0-0	0-11½	0-0	
	44	5	3-3	2A513	17		0-10	1-7	0-10								
✳	40	6	9-6	2A601	STR												
✳	45	7	23-5	2A701	STR												
	43	8	8-8	2A801	17		0-0	7-4	1-4								
✳	44	8	11-0	2A802	STR												
									WINGWALL NO. 1								
	13	5	5-7	1W501	17		0-0	4-9	0-10								
▲	13	5	17-4	1W502	STR												
	28	5	14-6	1W503	STR												
	2	5	14-0	1W504	STR												
	2	5	12-4	1W505	STR												
	2	5	9-1½	1W506	STR												
✳	3	5	5-11½	1W507	STR												
	2	5	14-6½	1W508	22		2-2½	12-4¼	0-0				0-8	0-0	2-1¼	0-0	
	13	5	3-0	1W509	17		0-10	1-4	0-10								
	16	7	20-0	1W701	STR												
✳	22	7	15-0	1W702	STR												
	24	8	10-7	1W801	17		0-0	9-3	1-4								
▲✳	14	8	15-5	1W802	STR												
✳	22	9	15-0	1W901	STR												
✳	17	10	20-0	1W1001	STR												

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
									WINGWALL NO. 2								
	32	5	13-0	2W501	STR												
	8	5	7-10	2W502	STR												
	13	5	5-7	2W503	17		0-0	4-9	0-10								
▲	13	5	17-5	2W504	STR												
	28	5	14-4	2W505	STR												
	4	5	13-7½	2W506	STR												
	2	5	11-3½	2W507	STR												
✳	3	5	7-1	2W508	STR												
	2	5	14-1	2W509	22		1-5½	12-7½	0-0				0-4	0-0	1-5	0-0	
	13	5	3-0	2W510	17		0-10	1-4	0-10								
✳	15	7	15-0	2W701	STR												
	25	8	10-7	2W801	17		0-0	9-3	1-4								
▲✳	14	8	15-6	2W802	STR												
✳	15	9	15-0	2W901	STR												
									WINGWALL NO. 3								
	20	5	20-4	3W501	STR												
✳	9	5	6-9	3W502	STR												
	23	5	5-10	3W503	17		0-0	5-0	0-10								
▲	23	5	15-4	3W504	STR												
	24	5	24-4	3W505	STR												
	2	5	21-11	3W506	STR												
	2	5	17-0	3W507	STR												
	2	5	12-11½	3W508	STR												
	2	5	7-3	3W509	STR												
	2	5	24-1	3W510	22		1-4	22-9	0-0				0-3¼	0-0	1-3¾	0-0	
	23	5	3-0	3W511	17		0-10	1-4	0-10								
✳	22	6	9-0	3W601	STR												
✳	22	7	9-0	3W701	STR												
	45	7	10-10	3W702	17		0-0	9-6	1-4								
▲	23	7	12-4	3W703	STR												
									WINGWALL NO. 4								
	10	5	16-6	4W501	STR												
	12	5	5-10	4W502	17		0-0	5-0	0-10								
▲	12	5	15-9	4W503	STR												
	24	5	14-0	4W504	STR												
	2	5	13-6	4W505	STR												
	2	5	12-9½	4W506	STR												
	2	5	9-6	4W507	STR												
✳	3	5	6-2	4W508	STR												
	2	5	14-0	4W509	22		2-2½	11-9½	0-0				0-7¾	0-0	2-1½	0-0	
	12	5	3-0	4W510	17		0-10	1-4	0-10								
	10	6	16-6	4W601	STR												
✳	19	6	9-0	4W602	STR												
✳	19	7	9-0	4W701	STR												
	23	7	10-10	4W702	17		0-0	9-6	1-4								
▲	12	7	12-9	4W703	STR												

~ 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 615-91). 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 DESIGNATION	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 SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.
BOSTWICK ROAD OVER VERMONT RAILWAY	
REINFORCING STEEL SCHEDULE	
Designed By L. WIXSON	Drawn By S. MERKWAN
Checked By / Date	Bridge Design Supervisor / Date
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)
I.C.C. Info. mN595402 Bostwick\BRIDGE\mylar\z1196rshdgn	
Bridge Sheet No. BRII8	Sheet 58 of 73

PLOTTED 01-AUG-2003

DECK

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
5	380	5	36-1	ES501	STR												
6	234	5	32-4	ES502	STR												
7	175	5	5-1	ES503	S5	0-10	1-4½	0-8	1-4½			0-10					
8	4	5	1-6	ES504	STR												
9✳	9	5	4-3	ES505	STR												
10	4	5	33-8	ES506	STR												
11	48	5	9-5	ES507	S5	0-11.5	3-5	0-8	3-5			0-11.5					
12	70	5	4-10	ES508	16	1-0	1-4	0-7	1-11				1-4¼		1-4¼		
13	36	8	3-0	ES801	16	0-0	0-0	2-0	1-0				0-8½		0-8½		

APPROACH SLABS

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
20✳	21	5	33-7	EAS501	STR												
21	20	5	34-2	EAS502	STR												
22✳	73	9	20-9	EAS901	1	1-3	19-6					0-0		11¾			

ABUTMENT 1

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
29	49	5	5-7	1A501	17		0-0	4-9	0-10								
30	49	5	12-6	1A502	STR												
31✳	22	5	6-10	1A503	STR												
32	58	5	22-9	1A504	STR												
33	14	5	8-10	1A505	22		2-2	4-6	2-2				1-10½	1-10½	1-1	1-1	
34	14	5	5-3	1A506	27	0-0	2-7½	2-7	0-0				2-6		1-4		
35	6	5	5-3	1A507	27	0-0	2-7½	2-7	0-0				2-6		1-4		
36	6	5	2-0	1A508	STR												
37	28	5	6-1	1A509	22		2-2	3-11	0-0				1-6	0-0	1-6	0-0	
38	14	5	4-4	1A510	22		2-2	2-2	0-0				1-6	0-0	1-6	0-0	
39▲	12	5	4-9	1A511	22		1-4	3-5	0-0				0-11½	0-0	0-11½	0-0	
40	44	5	3-3	1A512	17		0-10	1-7	0-10								
41✳	33	6	32-10	1A601	STR												
42	14	6	14-0	1A602	STR												
43✳	27	7	14-6	1A701	STR												
44	42	7	10-10	1A702	STR												
45▲	9	7	16-9	1A703	STR												
46✳	27	10	14-6	1A1001	STR												
47✳	43	10	9-7	1A1002	17		0-0	7-9	1-10								
48▲	9	10	16-9	1A1003	STR												

ABUTMENT 2

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
55	38	5	9-6	2A501	STR												
56	50	5	6-2	2A502	17		0-0	5-4	0-10								
57	50	5	10-4	2A503	STR												
58✳	22	5	6-11	2A504	STR												
59	50	5	22-11	2A505	STR												
60	12	5	10-2¾	2A506	22		2-2	5-10¾	2-2				1-7	1-11	1-5¾	0-11½	
61	12	5	5-4	2A507	22		2-8	2-8	0-0				2-6	0-0	0-11	0-0	
62	6	5	6-11	2A508	22		3-5½	3-5½	0-0				3-2¾	0-0	1-2⅛	0-0	
63	6	5	2-5½	2A509	STR												
64	24	5	6-1	2A510	22		2-2	3-11	0-0				1-6	0-0	1-6	0-0	
65	12	5	4-4	2A511	22		2-2	2-2	0-0				1-6	0-0	1-6	0-0	
66▲	12	5	4-9	2A512	22		1-4	3-5	0-0				0-11½	0-0	0-11½	0-0	
67	44	5	3-3	2A513	17		0-10	1-7	0-10								
68✳	39	6	9-6	2A601	STR												
69✳	45	7	25-9	2A701	STR												
70	43	8	8-8	2A801	17		0-0	7-4	1-4								
71✳	44	8	11-0	2A802	STR												

WINGWALL NO. 1

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
78	12	5	5-7	1W501	17		0-0	4-9	0-10								
79	12	5	17-5	1W502	STR												
80	28	5	14-7	1W503	STR												
81✳	11	5	14-1	1W504	STR												
82																	
83	12	5	3-0	1W506	17		0-10	1-4	0-10								
84▲	10	7	20-10	1W701	STR												
85✳	17	7	10-3½	1W702	STR												
86	23	8	10-7	1W801	17		0-0	9-3	1-4								
87✳	13	8	15-6	1W802	STR												
88✳	17	9	10-3½	1W901	STR												
89▲✳	11	10	20-10	1W1001	STR												

WINGWALL NO. 2

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
103	32	5	13-0	2W501	STR												
104	8	5	7-10	2W502	STR												
105	13	5	5-7	2W503	17		0-0	4-9	0-10								
106▲	13	5	17-5	2W504	STR												
107	28	5	14-4	2W505	STR												
108	4	5	13-7½	2W506	STR												
109	2	5	11-3½	2W507	STR												
110✳	3	5	7-1	2W508	STR												
111	2	5	14-1	2W509	22		1-5½	12-7½	0-0								
112	13	5	3-0	2W510	17		0-10	1-4	0-10								
113✳	15	7	15-0	2W701	STR												
114	25	8	10-7	2W801	17		0-0	9-3	1-4								
115▲✳	14	8	15-6	2W802	STR												
116✳	15	9	15-0	2W901	STR												

WINGWALL NO. 3

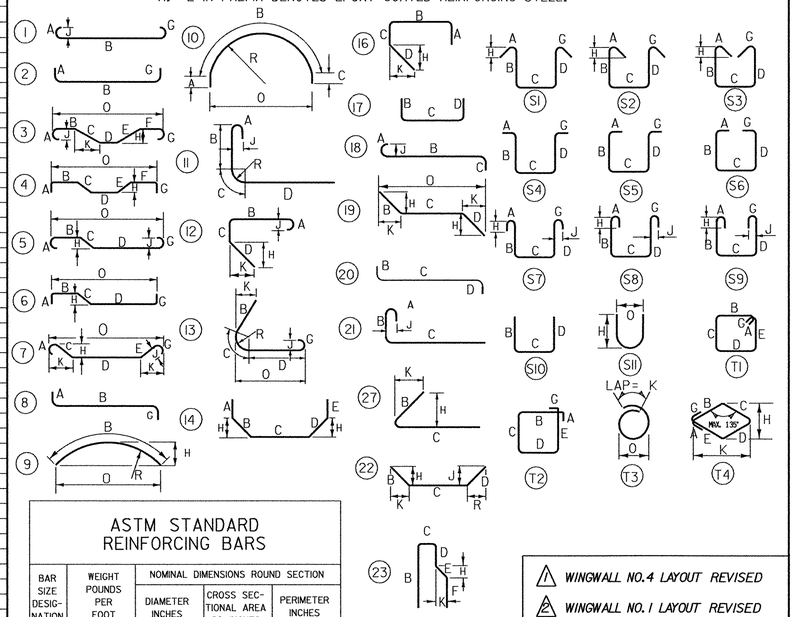
ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
120	20	5	20-4	3W501	STR												
121✳	9	5	6-9	3W502	STR												
122	23	5	5-10	3W503	17		0-0	5-0	0-10								
123▲	23	5	15-4	3W504	STR												
124	24	5	24-4	3W505	STR												
125	2	5	21-11	3W506	STR												
126	2	5	17-0	3W507	STR												
127	2	5	12-1½	3W508	STR												
128	2	5	7-3	3W509	STR												
129	2	5	24-1	3W510	22		1-4	22-9	0-0								
130	23	5	3-0	3W511	17		0-10	1-4	0-10								
131✳	22	6	9-0	3W601	STR												
132✳	22	7	9-0	3W701	STR												
133	45	7	10-10	3W702	17		0-0	9-6	1-4								
134▲	23	7	12-4	3W703	STR												

WINGWALL NO. 4

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
138▲	10	5	18-4½	4W501	STR												
139	12	5	5-10	4W502	17		0-0	5-0	0-10								
140▲	12	5	15-9	4W503	STR												
141	24	5	14-8	4W504	STR												
142	2	5	14-2	4W505	STR												
143	2	5	14-2	4W506	STR												
144	2	5	14-2	4W507	STR												
145✳	3	5	10-11	4W508	STR												
146	2	5	14-3	4W509	22		3-5	10-10	0-0								
147	12	5	3-0	4W510	17		0-10	1-4	0-10								
148▲	10	6	18-4½	4W601	STR												
149✳	9	6	9-5	4W602	STR												
150✳	9	7	9-5	4W701	STR												
151	23	7	10-10	4W702	17		0-0	9-6	1-4								
152▲	12	7	12-9	4W703	STR												

~ 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 615-91). 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 DESIGNATION	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

1 WINGWALL NO.4 LAYOUT REVISED
2 WINGWALL NO. 1 LAYOUT REVISED

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of SHELBURNE	Bridge No. 15
Highway No. TH 3	Log Sta. / Surv. Sta.

BOSTWICK ROAD OVER VERMONT RAILWAY

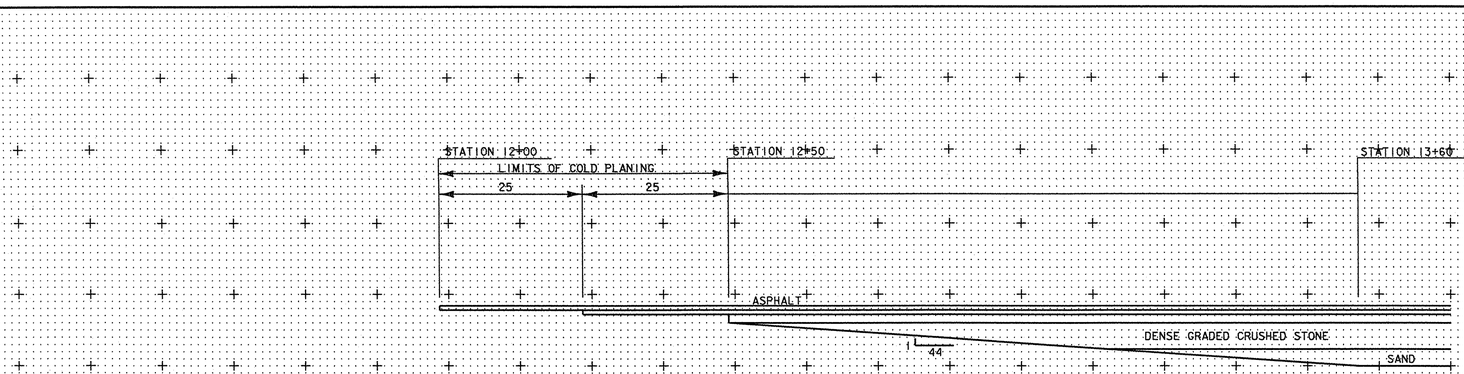
REINFORCING STEEL SCHEDULE (REVISED)

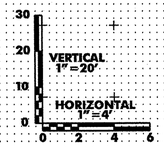
Designed By S. DELIA / S. MERKWAN	Drawn By S. MERKWAN
Checked By L. WIXSON — Date 03/04	Bridge Design Supervisor M. ZYDEL — Date 03/04
PROJECT SHELBURNE	PROJECT NO. BRO 1445(30)

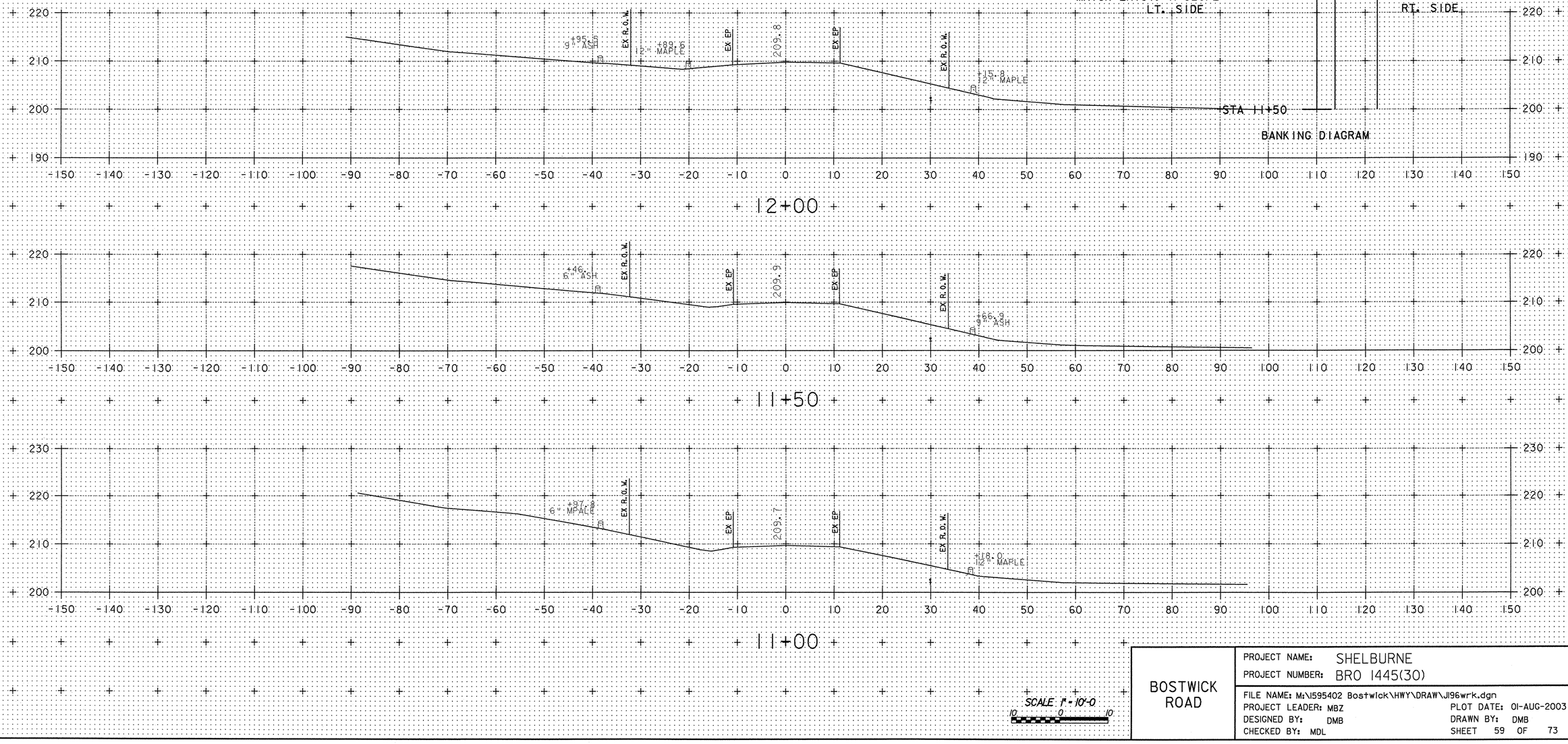
I.G.C. Info. G:\Structures\STR3_Roger Whitcomb\Consultants\McFarland-Johnson\Shel...

Bridge Sheet No. BRII8B — Sheet 58B of 73

PLOTTED 24-MAR-2004





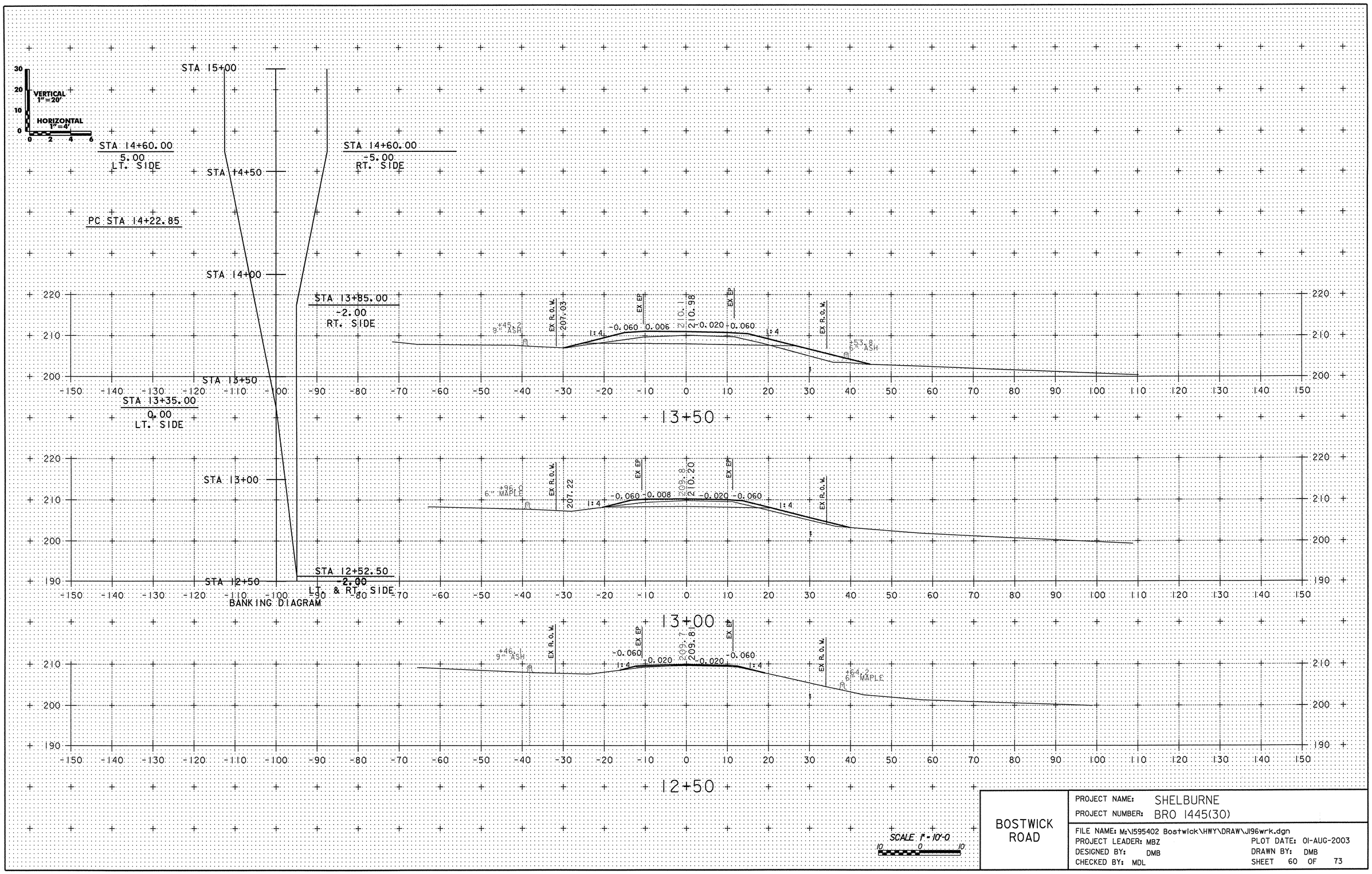


SCALE 1" = 10'-0
10 0 10

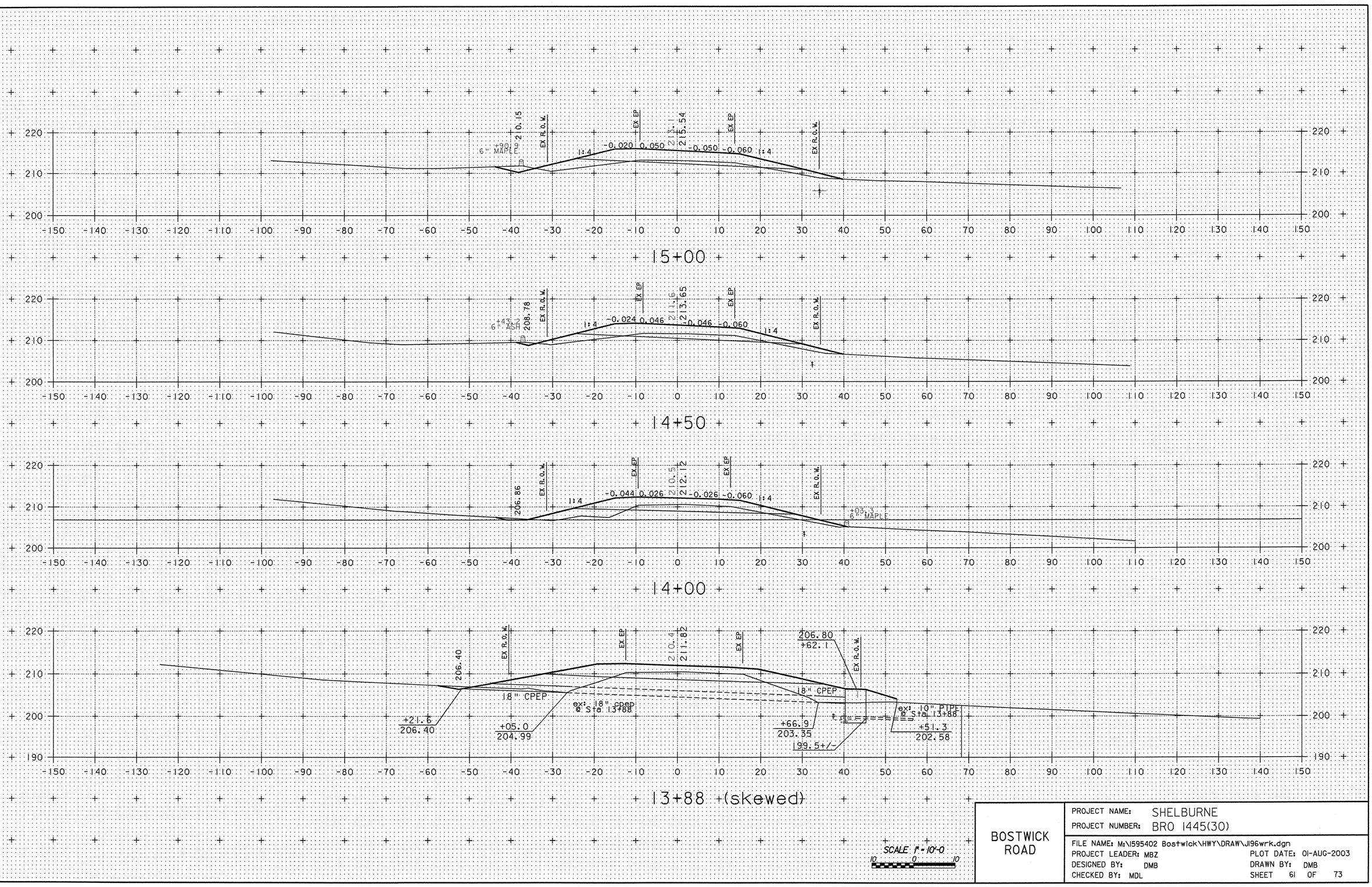
BOSTWICK ROAD

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J196wrk.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: DMB
SHEET 59 OF 73



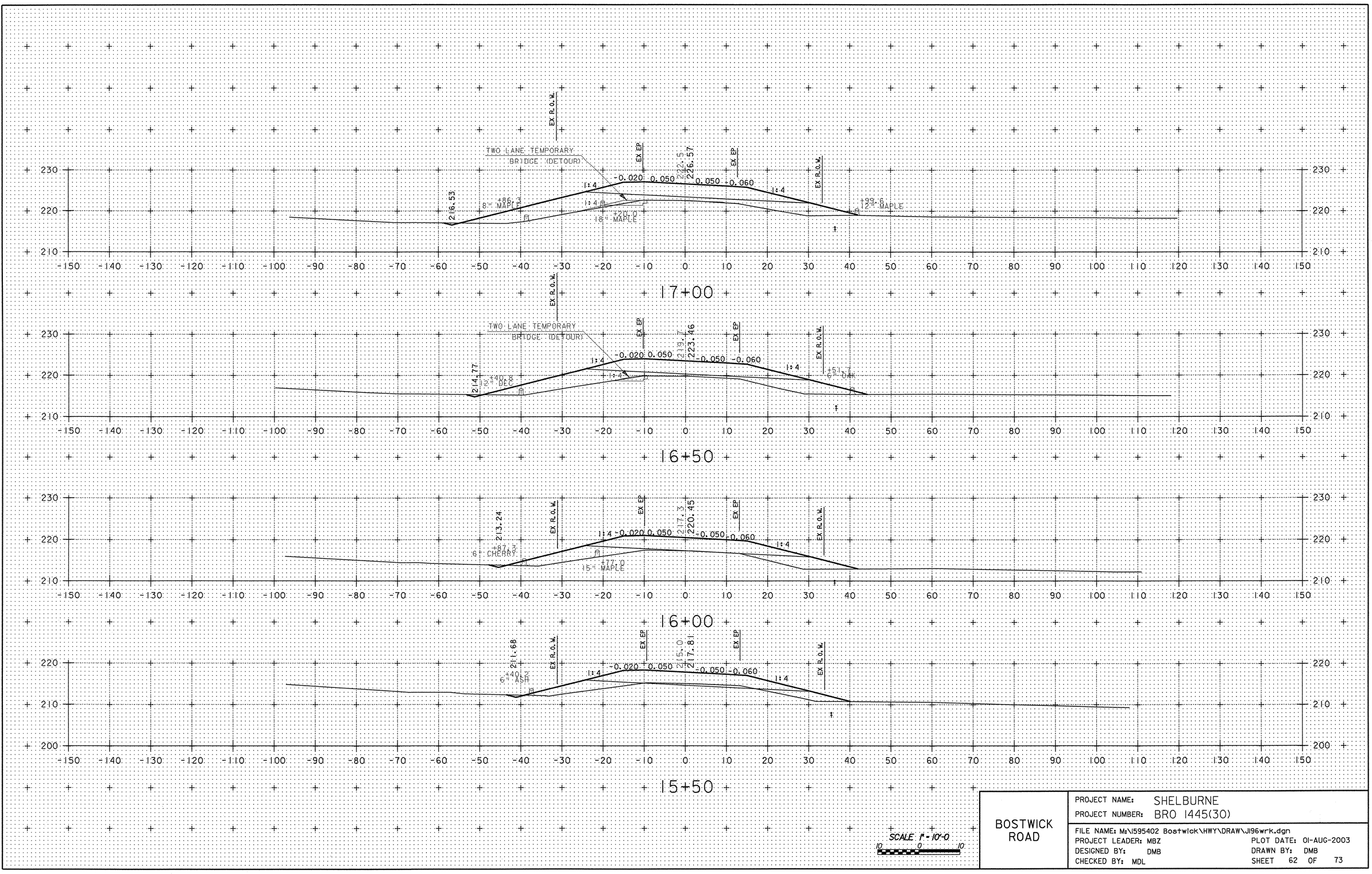
BOSTWICK ROAD	PROJECT NAME: SHELBURNE
	PROJECT NUMBER: BRO 1445(30)
	FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J196wrk.dgn
	PROJECT LEADER: MBZ — PLOT DATE: 01-AUG-2003
	DESIGNED BY: DMB — DRAWN BY: DMB
	CHECKED BY: MDL — SHEET 60 OF 73



BOSTWICK ROAD

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

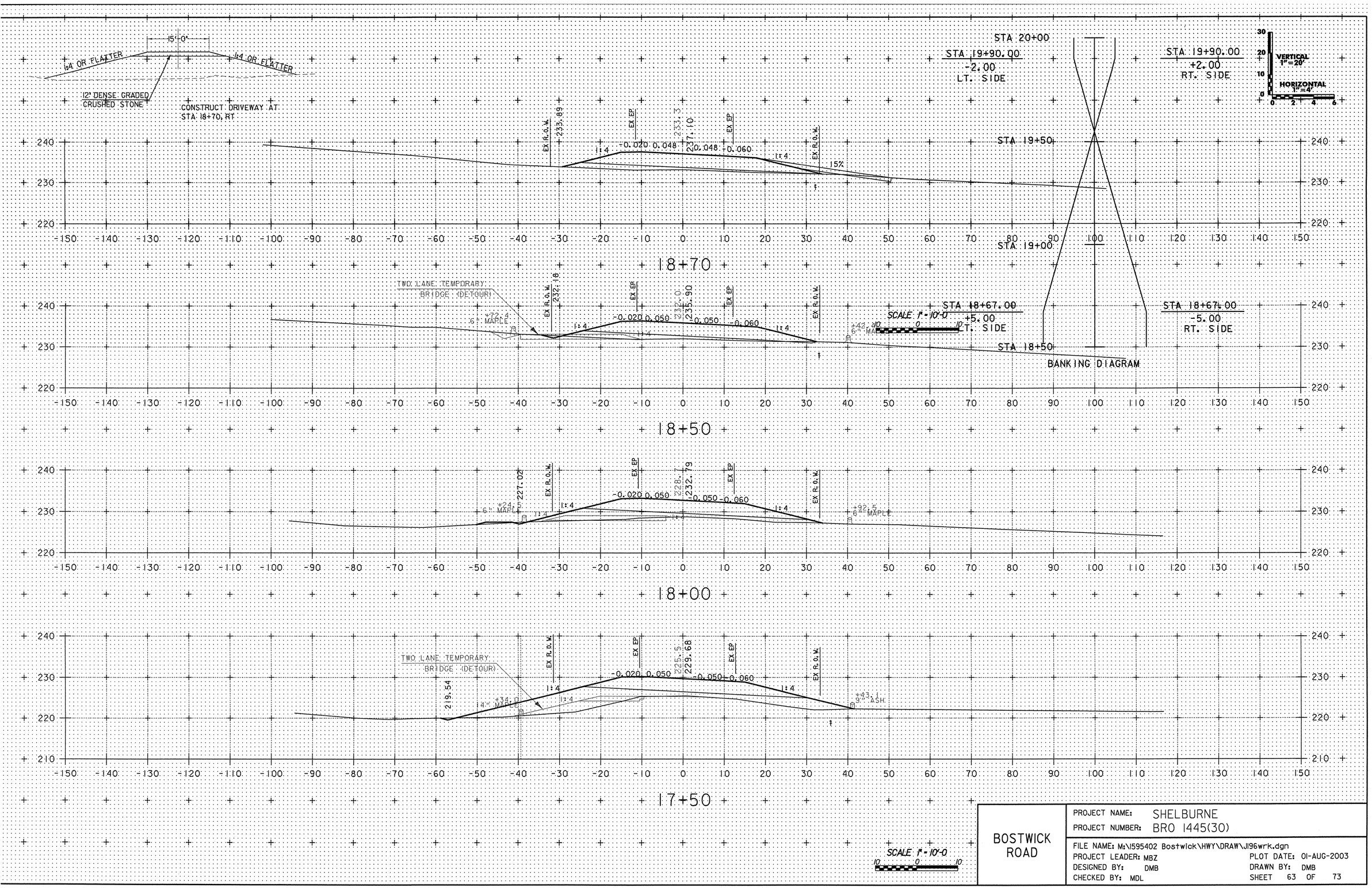
FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J196wrk.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: DMB
SHEET 61 OF 73



BOSTWICK ROAD

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J196wrk.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: DMB
SHEET 62 OF 73



BOSTWICK ROAD	PROJECT NAME: SHELBURNE PROJECT NUMBER: BRO 1445(30)
	FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J196wrk.dgn PROJECT LEADER: MBZ DESIGNED BY: DMB CHECKED BY: MDL PLOT DATE: 01-AUG-2003 DRAWN BY: DMB SHEET 63 OF 73

SHOULDER TRANSITION		
STATION	LT	RT
19+00	-0.020	-0.060
19+50	-0.020	-0.016
19+90	-0.020	+0.020

TWO LANE TEMPORARY BRIDGE (DETOUR)

FENCE

+00 18" MAPLE RT

EX R.O.W.

1:2

EX EP -0.020 237.3 242.93 0.020

APPROACH SLAB

EX EP

BRIDGE ABUTMENT

EX R.O.W.

20+00

19+62.6

19+37.6

18+86.2

18+75.4

10' 5' 3'

FACE OF RAIL

END OF APPROACH RAIL

BEGIN HD

SLOPE BREAKLINE

MATCH DRIVE RADIUS

250 240 230 220 210

-150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

20+00

EX R.O.W.

242.15 +77

MATCH TO BOSTWICK FARM ROAD DRIVE CROSS SECTIONS

EX EP

-0.020

1:4

0.003

237.0 241.10

EX EP

SETTLEMENT PLATFORM

Comb Pole +35.0, RT 29.5'

Comb Pole +36.0

EX R.O.W.

0.003 -0.016 -0.060

1:2

236.71

FENCE FENCE

END OF APPROACH RAIL

19+81.5

FACE OF RAIL

3' 5' 10'

SLOPE BREAKLINE

MATCH DRIVE RADIUS

BEGIN HD

19+61.6

19+57.8

19+50

TWO LANE TEMPORARY BRIDGE (DETOUR)

+34.2 18" MAPLE RT

+26.0 15" MAPLE RT

EX R.O.W.

234.74

EX EP EX EP

234.9 238.75

EX EP

-0.020 +0.031 -0.031 -0.060

EX R.O.W.

Comb Pole +19.3

+94.2 6" MAPLE RT

235.74 +10

19+00

SCALE 1" = 10'-0

10 0 10

BOSTWICK ROAD

PROJECT NAME: SHELBURNE

PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J196wrk.dgn

PROJECT LEADER: MBZ

DESIGNED BY: DMB

CHECKED BY: MDL

PLOT DATE: 01-AUG-2003

DRAWN BY: DMB

SHEET 64 OF 73

SHOULDER TRANSITION		
STATION	LT	RT
21+10	-0.020	+0.020
21+50	-0.043	+0.004

VERTICAL 1"=20'
HORIZONTAL 1"=4'

TWO LANE TEMPORARY BRIDGE (DETOUR)

S2 SETTLEMENT PLATFORM
S3 SETTLEMENT PLATFORM
EX EP
EX R.O.W.
237.10
245.37
-0.060 -0.043
0.043 +0.004 -0.060
1:2
1:4
6"±90 ASH
227.45

STA 22+00

STA 21+68.00
-5.30
LT. SIDE

STA 21+68.00
+5.30
RT. SIDE

STA 21+50

21+50

Comb Pole +04, 29.0' RT
Comb Pole +5.2
EX EP
237.11
245.07
-0.020
0.020 -0.060
BRIDGE ABUTMENT
APPROACH SLAB
EX R.O.W.
1:2
227.19
ELECTRIC TRANSFORMER
6"±15.2 ASH

STA 21+10.00
-2.00
LT. SIDE

STA 21+00

STA 21+10.00
+2.00
RT. SIDE

BANKING DIAGRAM

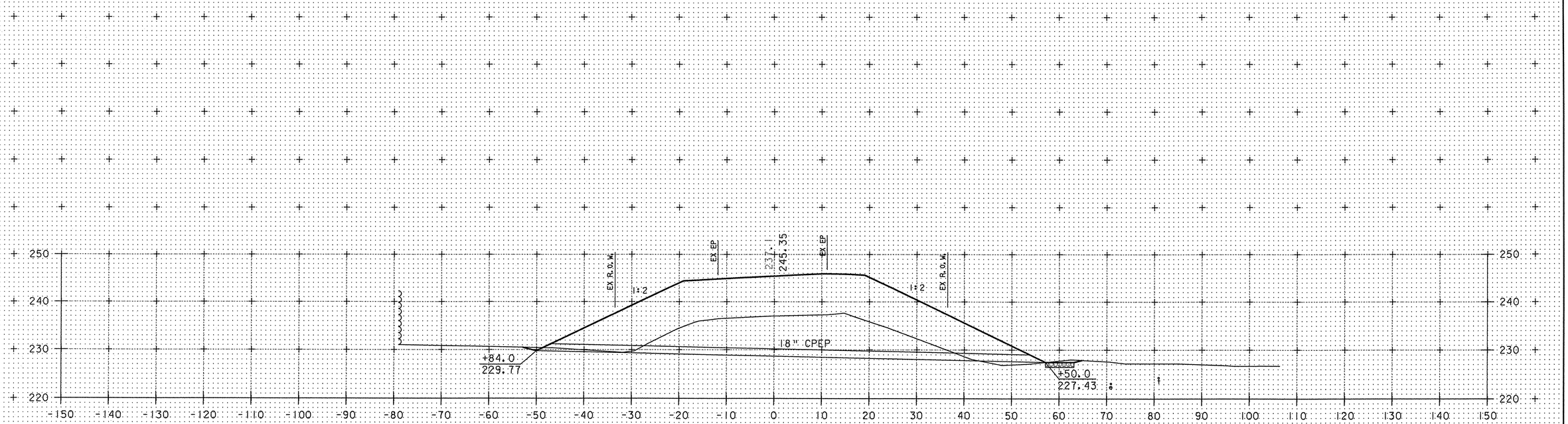
21+00

TWO LANE TEMPORARY BRIDGE (DETOUR)
EX EP
236.10
244.25
-0.020
0.020
BRIDGE
EX R.O.W.
EX R.O.W.

20+50

SCALE 1"-10'-0"

BOSTWICK ROAD	PROJECT NAME: SHELBURNE
	PROJECT NUMBER: BRO 1445(30)
	FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J196wrk.dgn
	PROJECT LEADER: MBZ — PLOT DATE: 01-AUG-2003
	DESIGNED BY: DMB — DRAWN BY: DMB
	CHECKED BY: MDL — SHEET 65 OF 73



21+68 (skewed)

SCALE 1"-10'-0

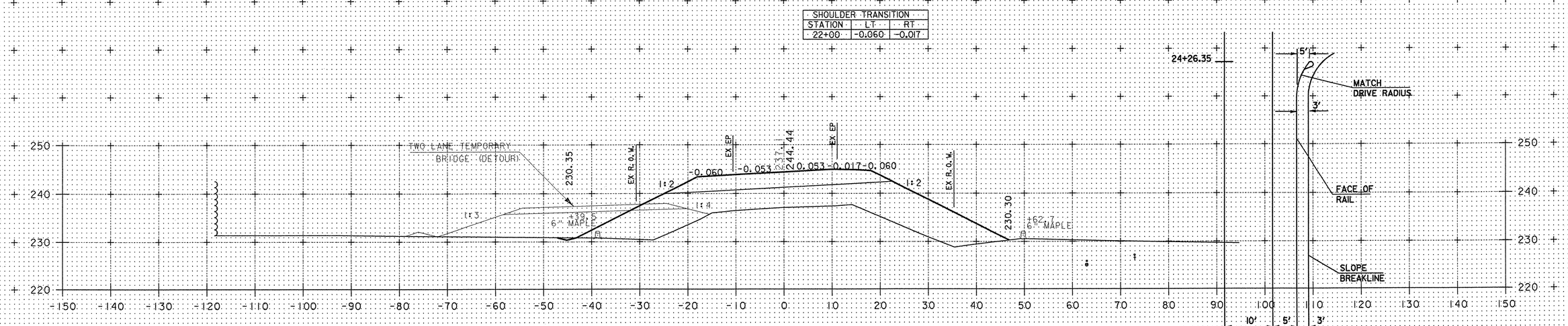
10 0 10

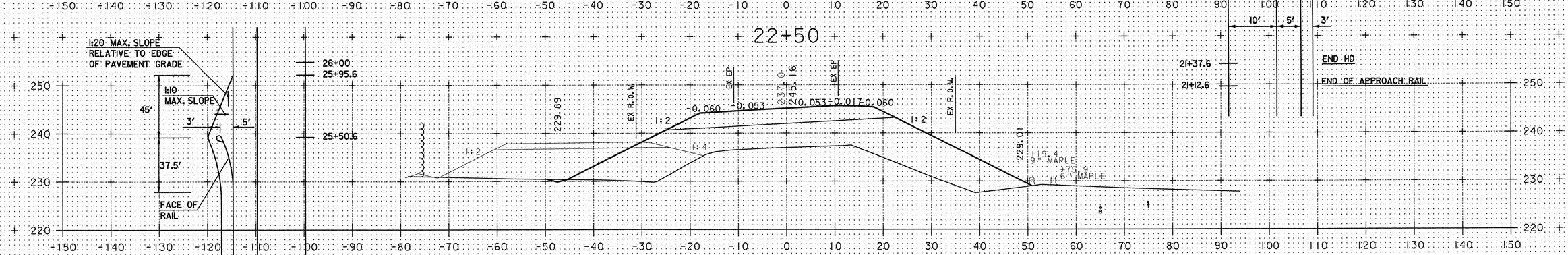
BOSTWICK ROAD

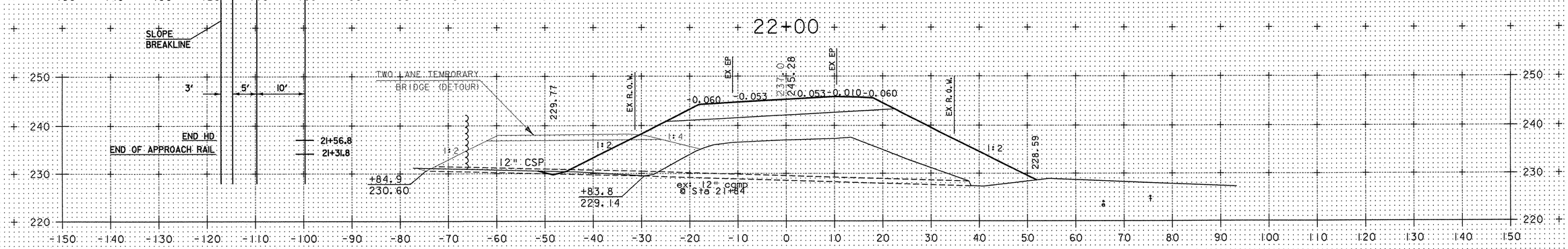
PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J196wrk.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: DMB
SHEET 66 OF 73

SHOULDER TRANSITION		
STATION	LT	RT
22+00	-0.060	-0.017







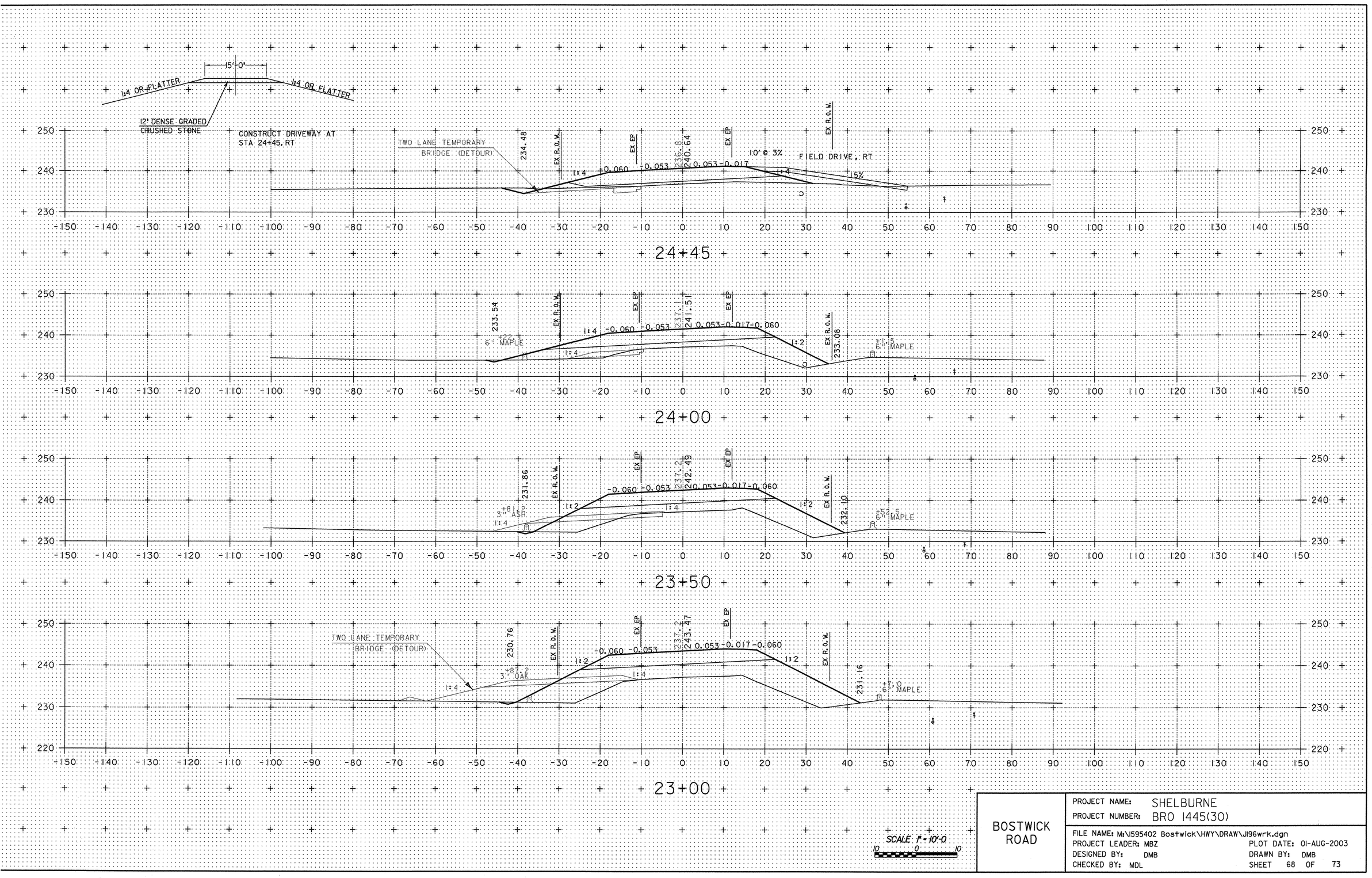
21+84

SCALE 1" = 10'-0"
10 0 10

BOSTWICK ROAD

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J196wrk.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: DMB
SHEET 67 OF 73



BOSTWICK ROAD

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\595402 Bostwick\HWY\DRAW\J196wrk.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: DMB
SHEET 68 OF 73

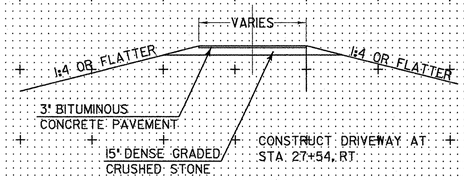
SCALE 1" = 10'-0

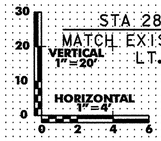
10 0 10

BOSTWICK ROAD

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J196wrk.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: DMB
SHEET 69 OF 73





STA 28+25.00
MATCH EXIST. X-SLOPE
LT. SIDE

STA 28+25.00
MATCH EXIST. X-SLOPE
RT. SIDE

STA 27+42.00
-5.30
LT. SIDE

STA 27+42.00
+5.30
RT. SIDE

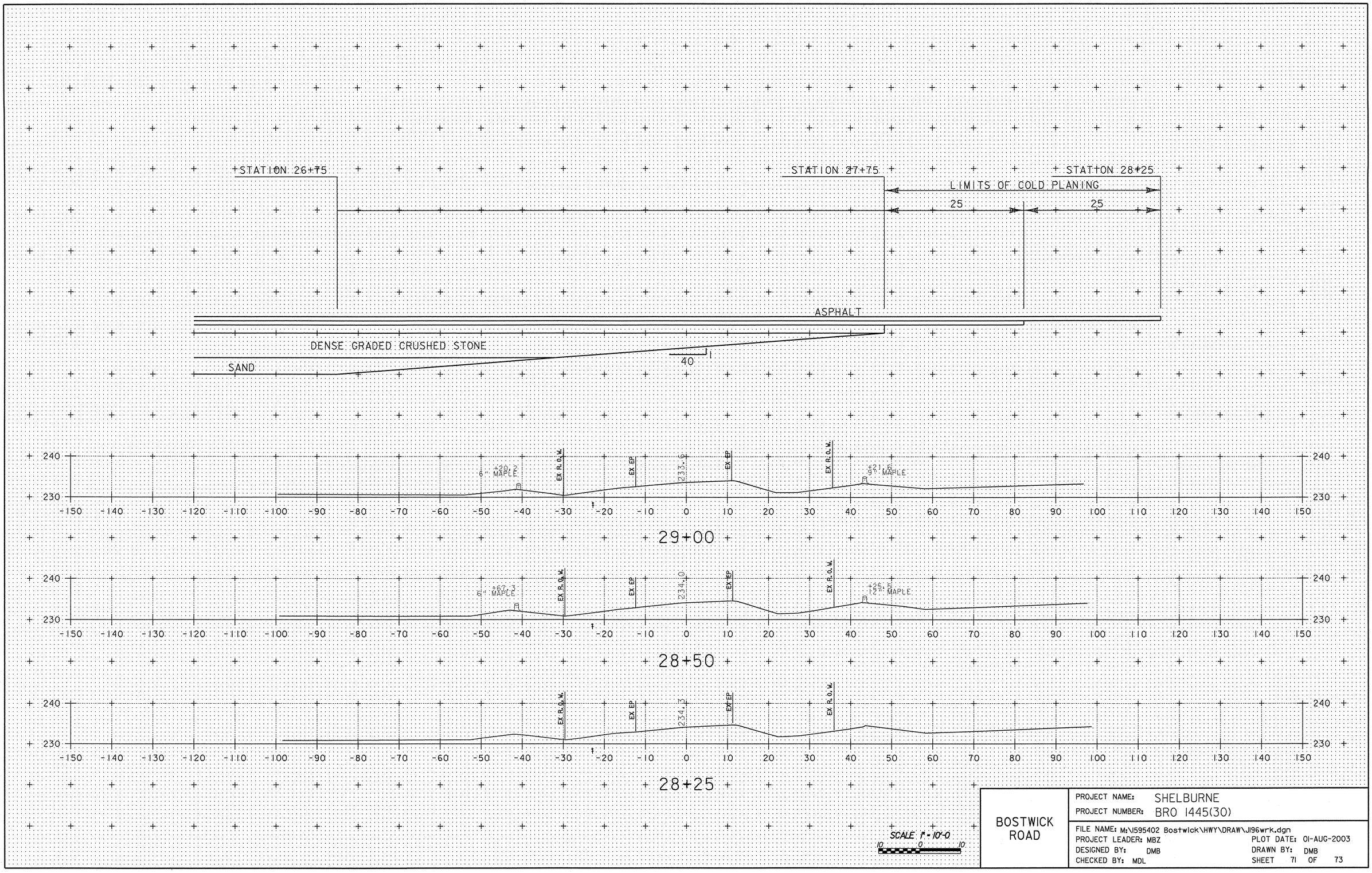
BANKING DIAGRAM

SCALE 1" = 10'-0

BOSTWICK ROAD

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

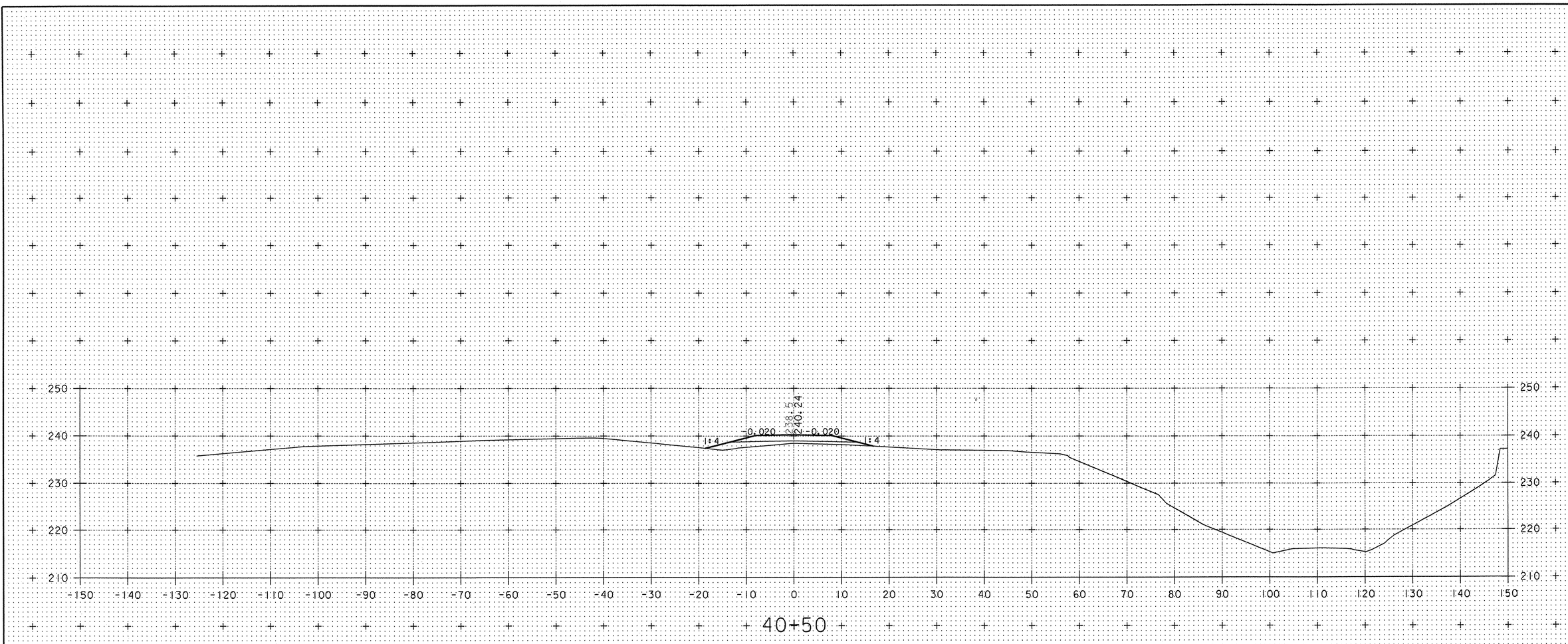
FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J196wrk.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: DMB
SHEET 70 OF 73



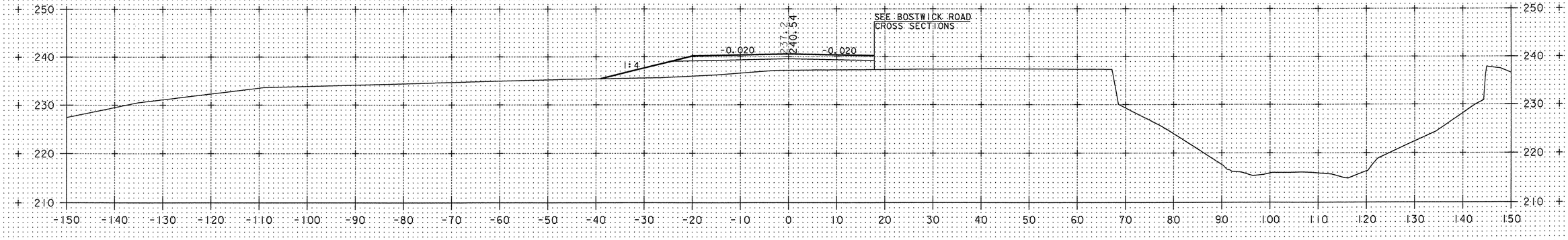
BOSTWICK ROAD

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J96wrk.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: DMB
SHEET 71 OF 73



40+50



40+20

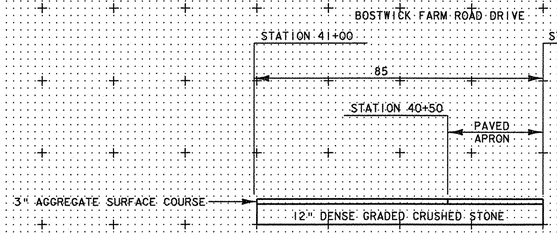
SCALE: 1" = 10'-0

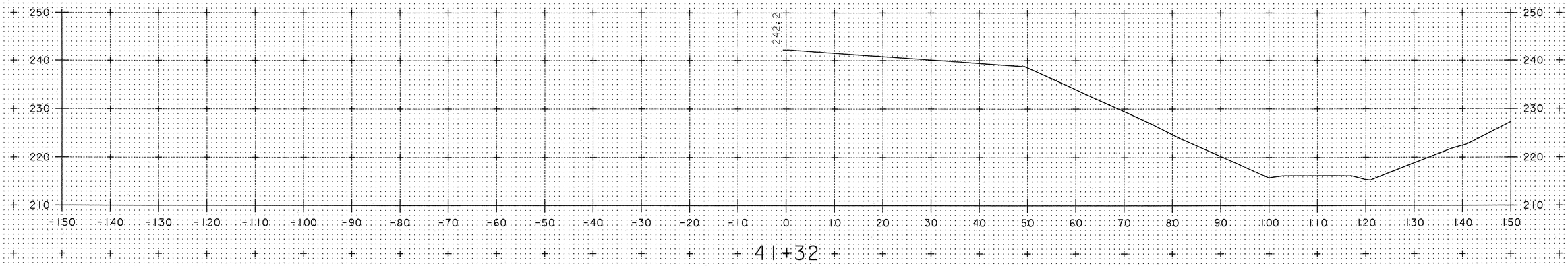
10 0 10

BOSTWICK FARM ROAD DRIVE

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

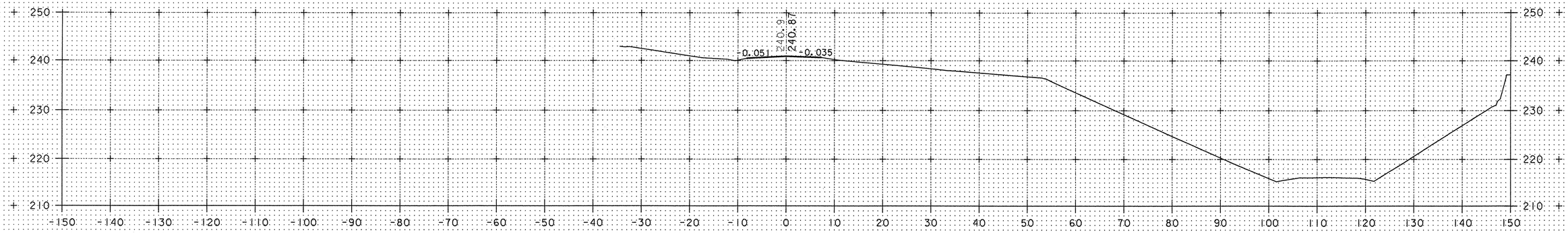
FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J196wrk.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: DMB
SHEET 72 OF 73





41+32

STATION 41+00 LIMIT OF WORK



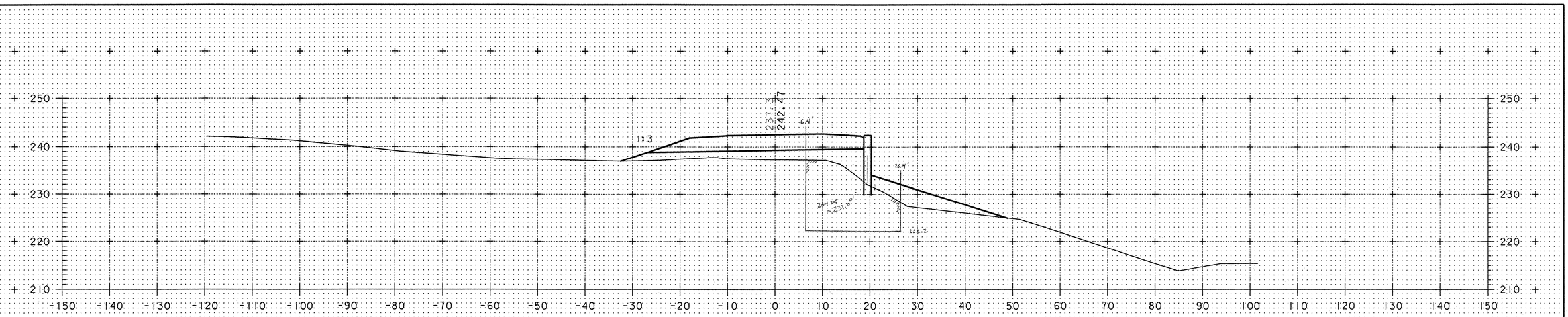
41+00

SCALE 1"-10'-0"
10 0 10

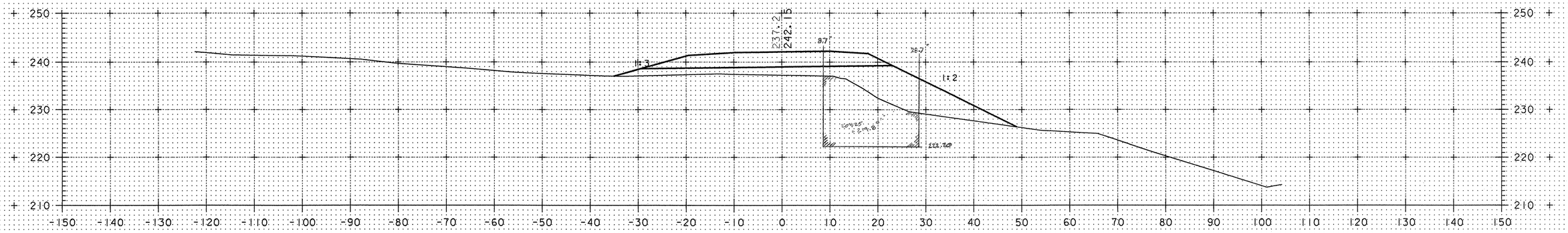
BOSTWICK FARM ROAD DRIVE

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

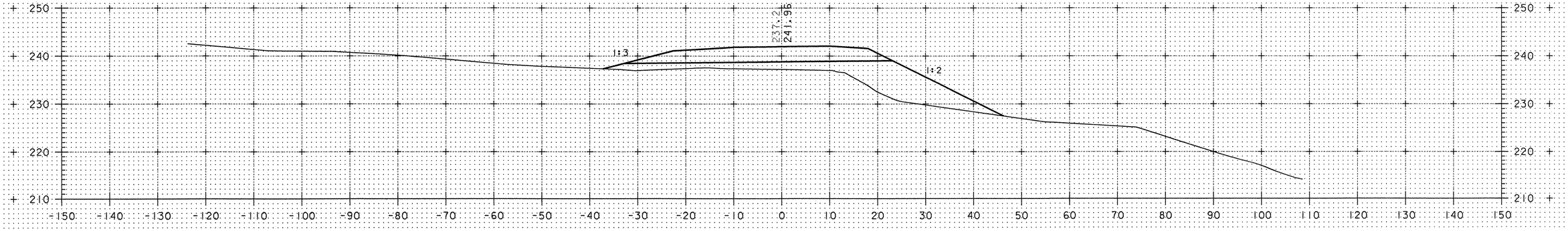
FILE NAME: M:\1595402 Bostwick\HWY\DRAW\J196wrk.dgn
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 01-AUG-2003
DRAWN BY: DMB
SHEET 73 OF 73



19+86.0



19+77.0



19+71.8

Begin Item 204.25 - Ø Section
(Alt. #1)

Item 204.25, Structure Excavation

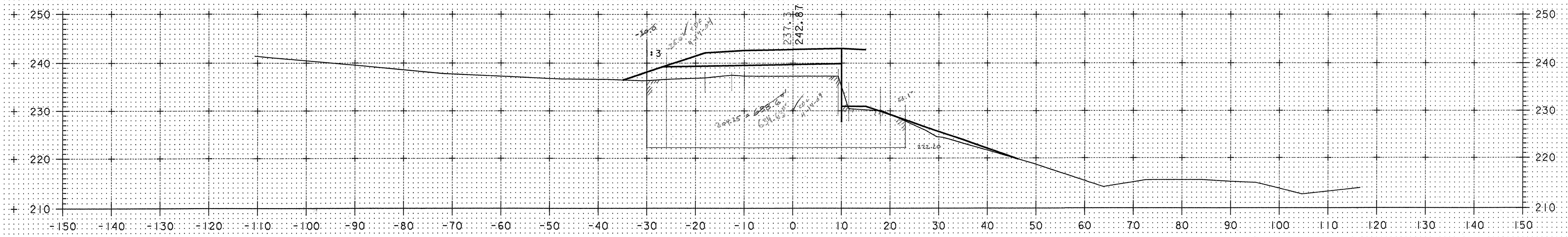
SCALE 1" = 10'-0"
10 0 10

BOSTWICK ROAD

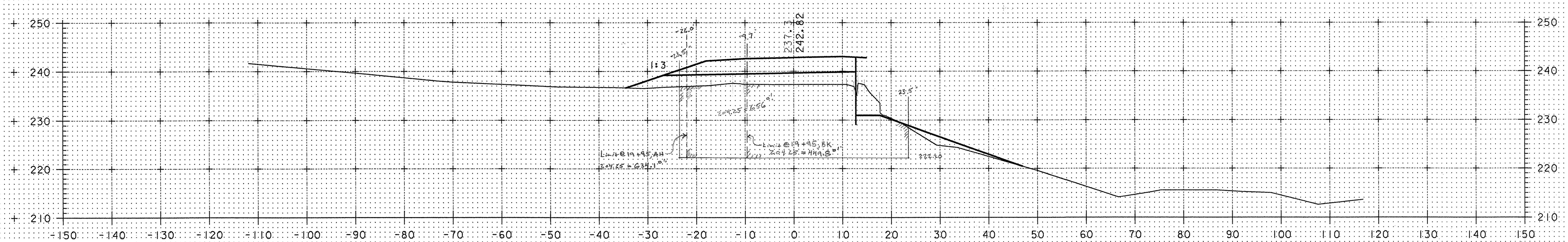
PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO J445(30)

FILE NAME: m:\595402 Bostwick\HWY\INROADS\BRC-Construction Sections.x
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 12-FEB-2004
DRAWN BY: DMB
SHEET 1 OF 6

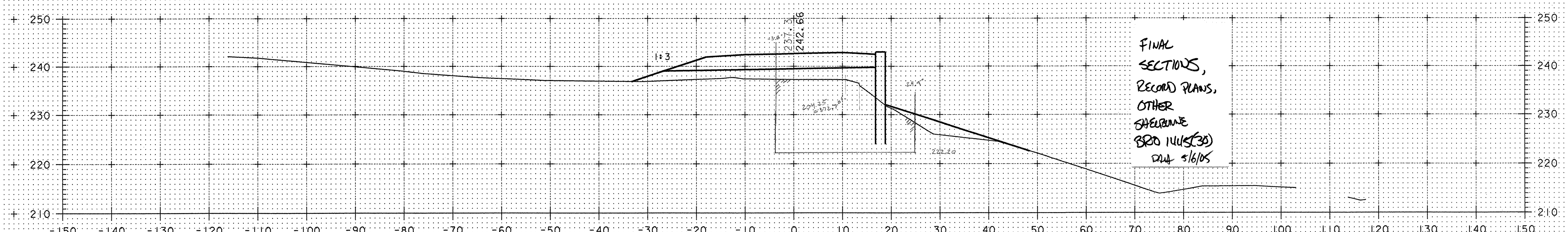
BK 1003E



19+98.0



19+96.4 = 19+95 (W.W.#1 Revision)

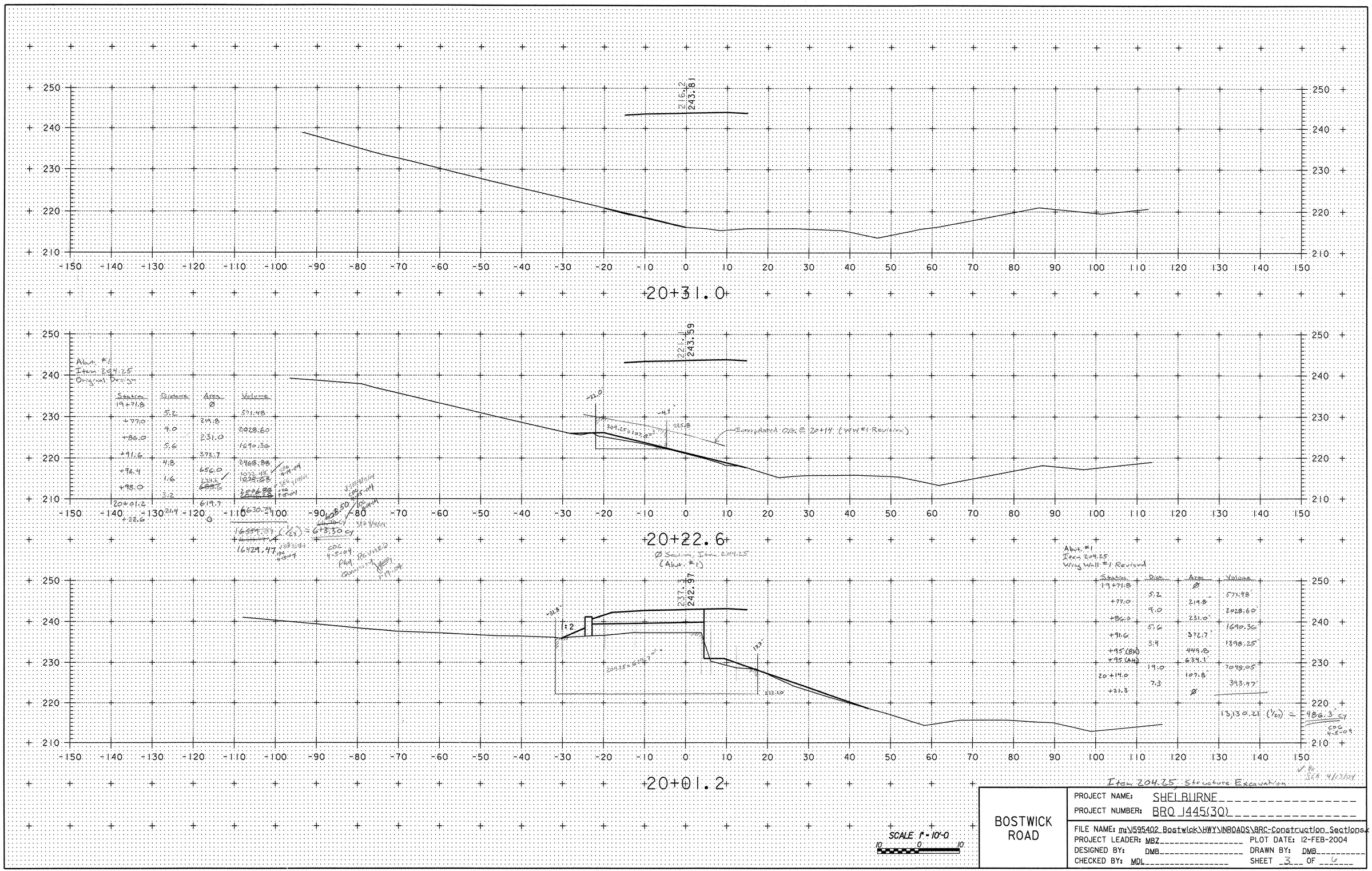


19+91.6

Item 204.25, Structure Excavation

SCALE 1" = 10'-0

BOSTWICK ROAD	PROJECT NAME: SHELBURNE	
	PROJECT NUMBER: BRO 1445(30)	
	FILE NAME: m:\595402_Bostwick\HWY\INROADS\BRC-Construction_Sections	
	PROJECT LEADER: MBZ	PLOT DATE: 12-FEB-2004
	DESIGNED BY: DMB	DRAWN BY: DMB
	CHECKED BY: MDL	SHEET 2 OF 6



BOSTWICK ROAD	PROJECT NAME: SHELBURNE
	PROJECT NUMBER: BRO J445(30)
	FILE NAME: m:\1595402 Bostwick\HWY\INROADS\BRC-Construction Sections.r
	PROJECT LEADER: MBZ — PLOT DATE: 12-FEB-2004
	DESIGNED BY: DMB — DRAWN BY: DMB
	CHECKED BY: MDL — SHEET 3 OF 6

SCALE 1" = 10'-0

BOSTWICK ROAD	PROJECT NAME: SHELBURNE
	PROJECT NUMBER: BRO J445(30)
	FILE NAME: m:\595402 Bostwick\HWY\INROADS\BRC-Construction Sections.x
	PROJECT LEADER: MBZ — PLOT DATE: 12-FEB-2004
	DESIGNED BY: DMB — DRAWN BY: DMB
	CHECKED BY: MDL — SHEET 4 OF 4

103 sc

BOSTWICK ROAD

PROJECT NAME: SHELBURNE

PROJECT NUMBER: BRO J445(30)

FILE NAME: m:\J595402 Bostwick\HWY\INROADS\BRC-Construction Sections.x

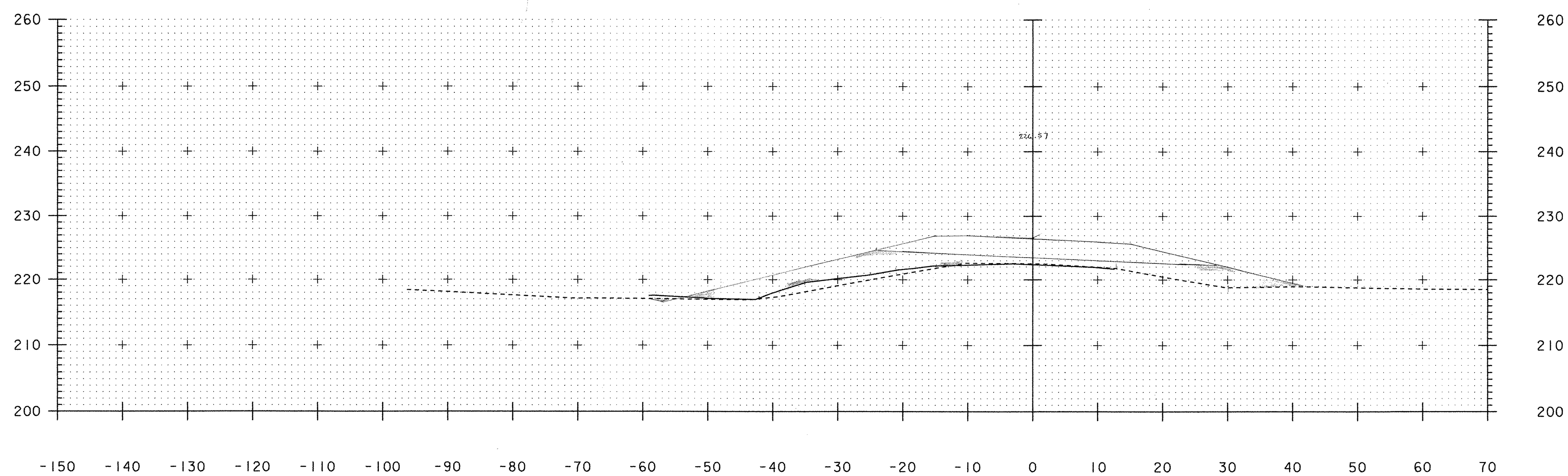
PROJECT LEADER: MBZ PLOT DATE: 12-FEB-2004

DESIGNED BY: DMB DRAWN BY: DMB

CHECKED BY: MDL SHEET 5 OF 6

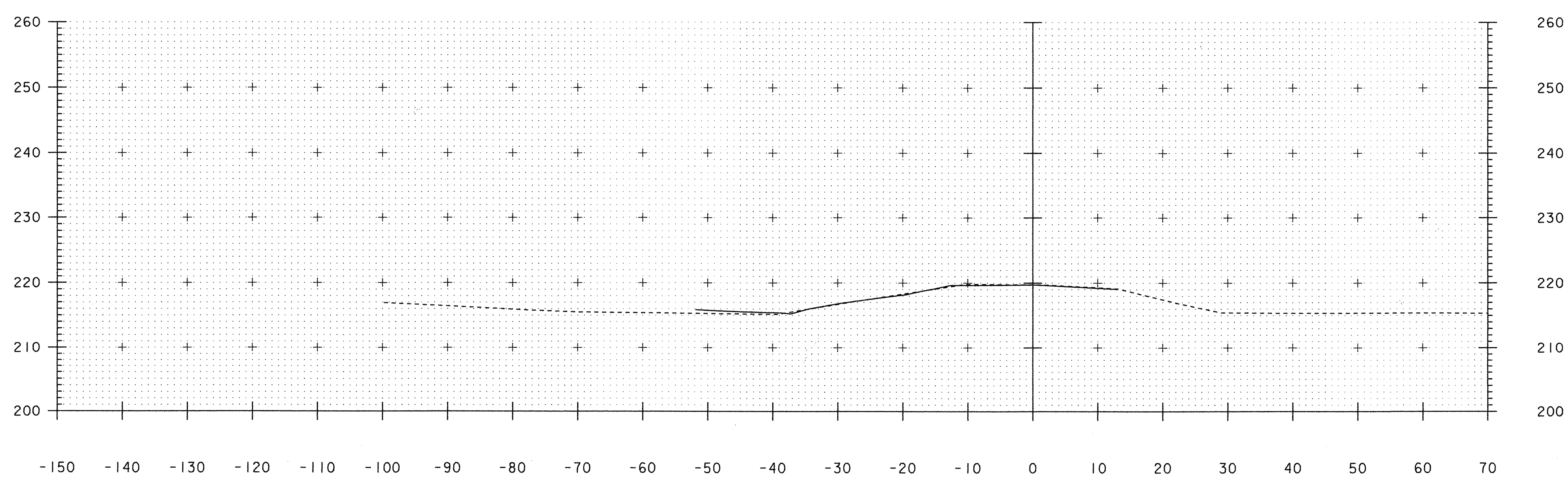
104 SF

237.0
245.37
1:2
1:2
250
240
230
220
-150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
21+50.0
237.0
245.32
1:2
1:2
250
240
230
220
210
-150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
21+31.0
237.0
245.30
1:2
1:2
250
240
230
220
210
-150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
21+27.4
Item 204.25, Structure Excavation
SCALE 1" = 10'-0
10 0 10
BOSTWICK ROAD
PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO J445(30)
FILE NAME: m:\595402 Bostwick\HWY\INROADS\BRC-Construction Sections.x
PROJECT LEADER: MBZ
PLOT DATE: 12-FEB-2004
DESIGNED BY: DMB
DRAWN BY: DMB
CHECKED BY: MDL
SHEET 6 OF 6
1055E



17+00

F - 123 x 1.55 = 190.6 SF (187.8 ok) - (43' x 2/12) = 183.4 SF (Topsoil deduct)
C - 1 x 1.55 = 1.6 SF
2-1-05
LWB 02/18/05

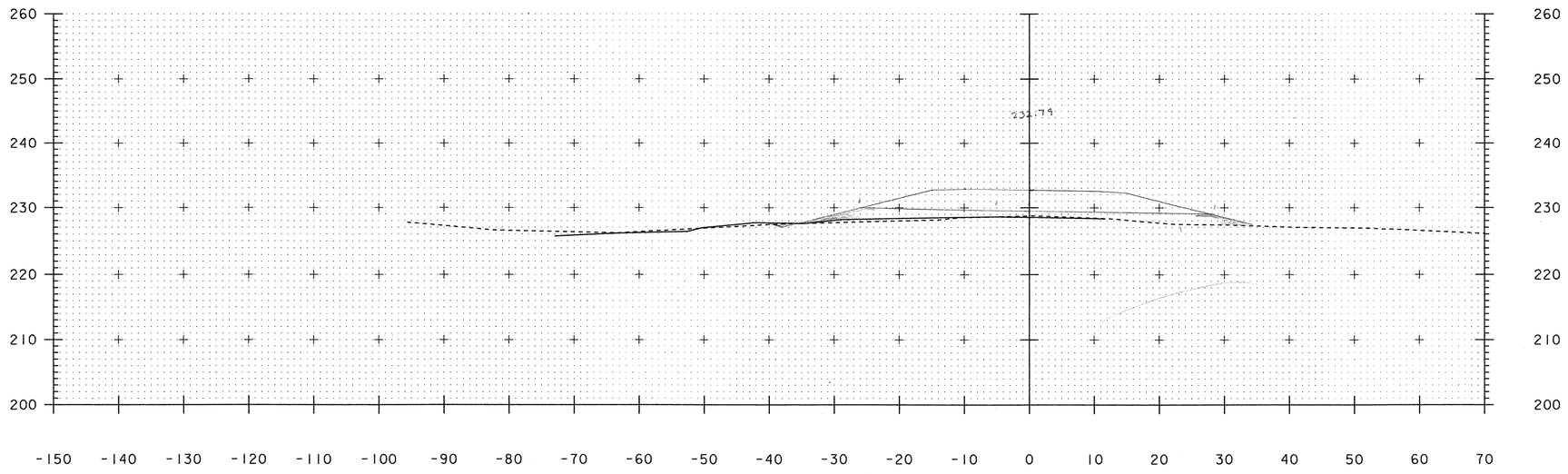


16+50

REVISED ORIGINAL SECTIONS

PROJECT NAME: SHELBURNE	
PROJECT NUMBER: BRO 1445(30	
FILE NAME: 94J196/SURVEY/X94J196DQ	PLOT DATE: 07-JUL-2004
PROJECT LEADER:	DRAWN BY: BEYOR
DESIGNED BY:	CHECKED BY:
DETOUR SECTIONS - MAY 28, 2004	SHEET 1 OF 9

106 xs



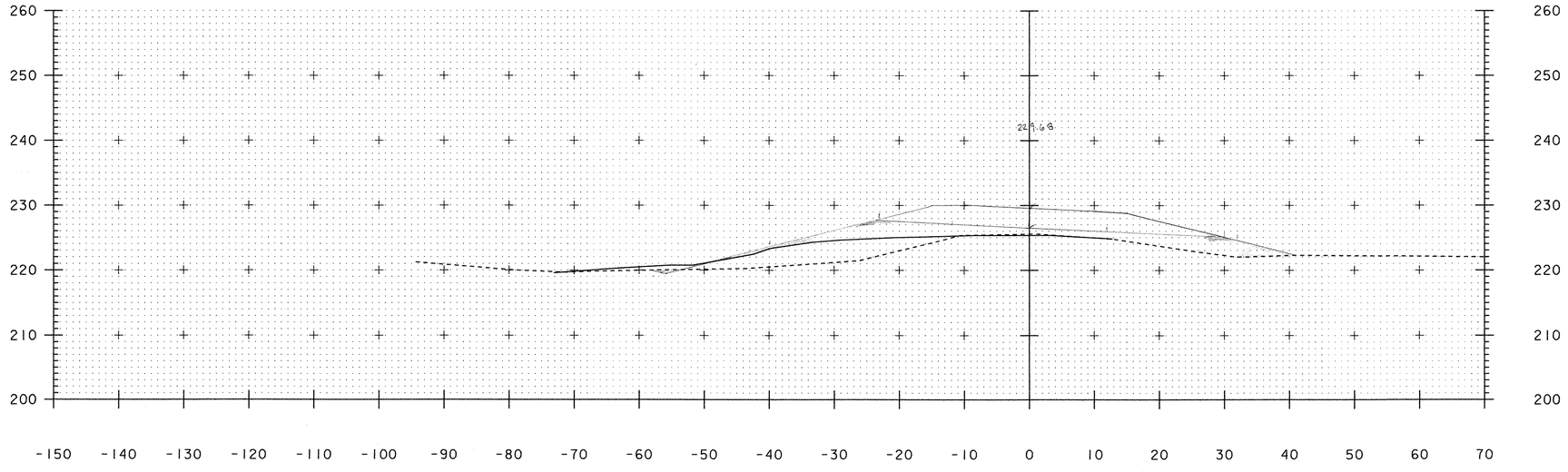
53 x 1.55 = 82.2 OK
83.1
80.4 3-11-05

F- 49 x 1.55 = 76.0 SF − (16 x 3/12) = 73.3 SF
C- 1 x 1.55 = 1.6 SF ✓

TOPSOIL DEDUCT

JJP 2-1-05

18+00



133.1
TOPSOIL DEDUCT
F- 84 x 1.55 = 130.2 SF − (37 x 3/12) = 124.0 SF ✓
C- 1 x 1.55 = 1.6 SF ✓

EB 02/16/05

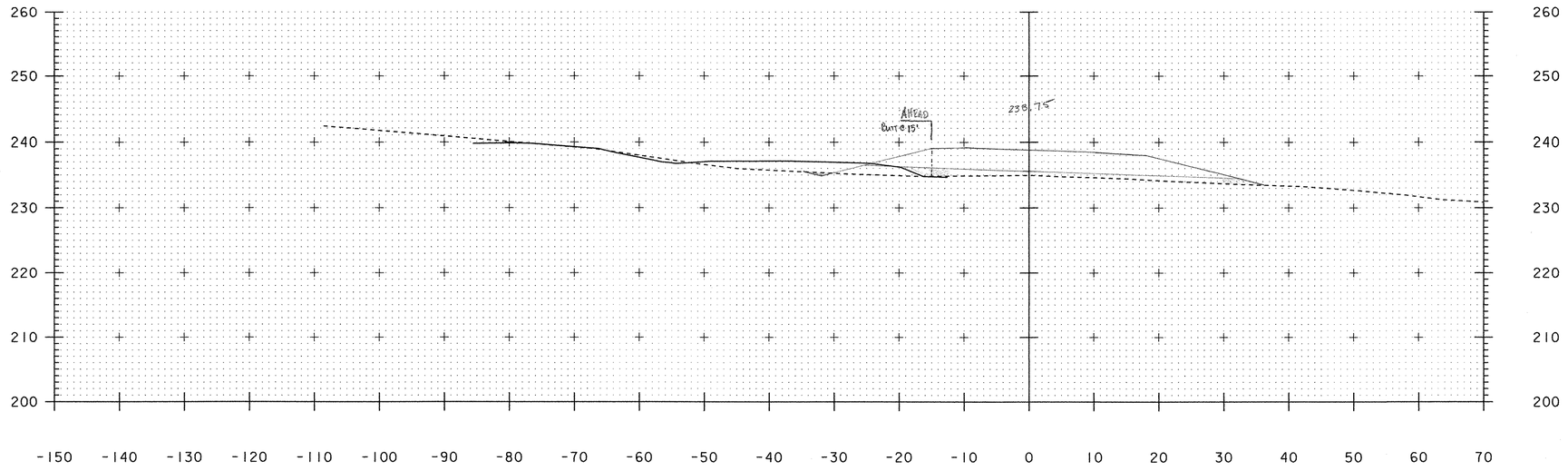
JJP 2-1-05

17+50

REVISED ORIGINAL SECTIONS

PROJECT NAME:	SHELBURNE
PROJECT NUMBER:	BRO 1445(30
FILE NAME: 94JI96/SURVEY/X94JI96DQ	PLOT DATE: 07-JUL-2004
PROJECT LEADER:	DRAWN BY: BEYOR
DESIGNED BY:	CHECKED BY:
DETOUR SECTIONS - MAY 28, 2004	SHEET 2 OF 9

107 BTS

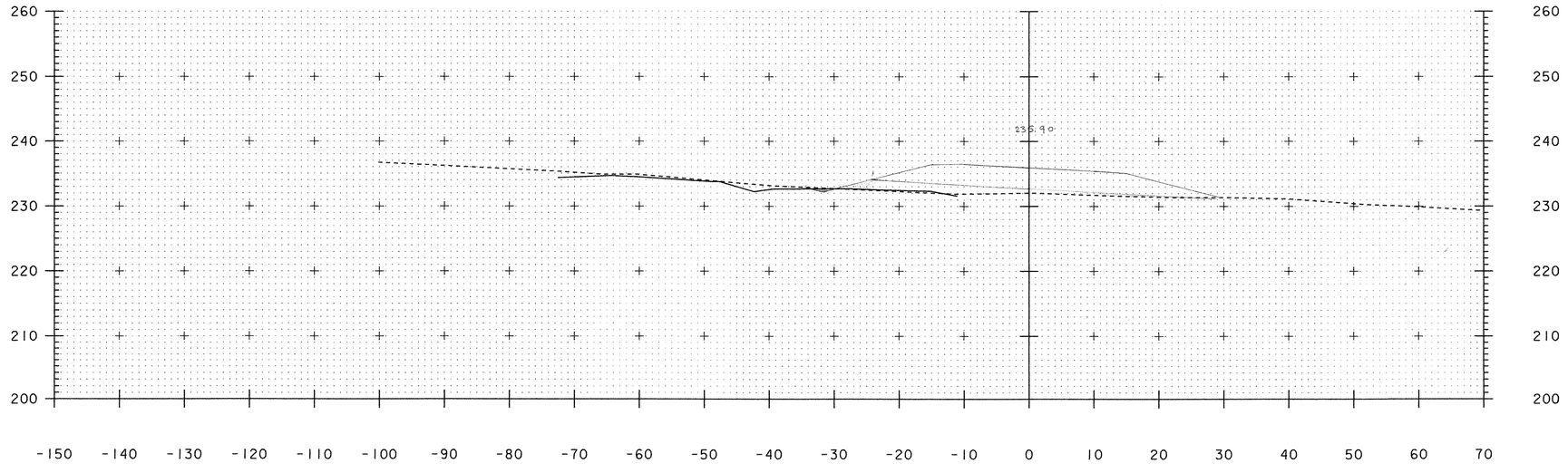


28 BACK 56.7
F- 28 x 1.55 = 43.4 SF
-(4x2/12) = (42.7 SF) OK 3-15-05
C- 1 x 1.55 = 1.6 KSF

24 AHEAD 53.7
F- 24 x 1.55 = 37.2 SF - (4 x 2/12) = (36.5 SF) OK 3-15-05
C- OK
2-1-05

TOPSOIL DEDUCT

19+00



1.32

26 x 1.55 40.3 40.5 OK

TOPSOIL DEDUCT 39.5

F- 24 x 1.55 = 37.2 SF - (6 x 2/12) = 36.2 SF JZR 3-11-05

C- 1 x 1.55 = 1.6 KSF

JZR 2-1-05

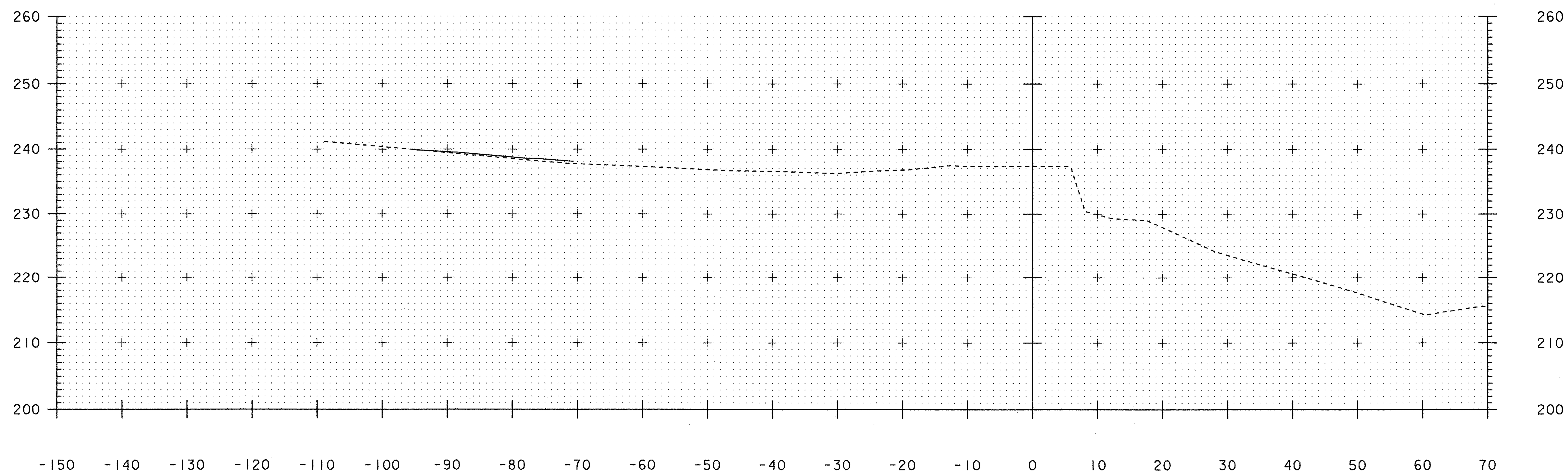
39
24

18+50

REVISED ORIGINAL SECTIONS

PROJECT NAME: SHELBURNE	
PROJECT NUMBER: BRO 1445(30	
FILE NAME: 94JI96/SURVEY/X94JI96DQ	PLOT DATE: 07-JUL-2004
PROJECT LEADER:	DRAWN BY: BEYOR
DESIGNED BY:	CHECKED BY:
DETOUR SECTIONS - MAY 28, 2004	SHEET 3 OF 9

108 BTS



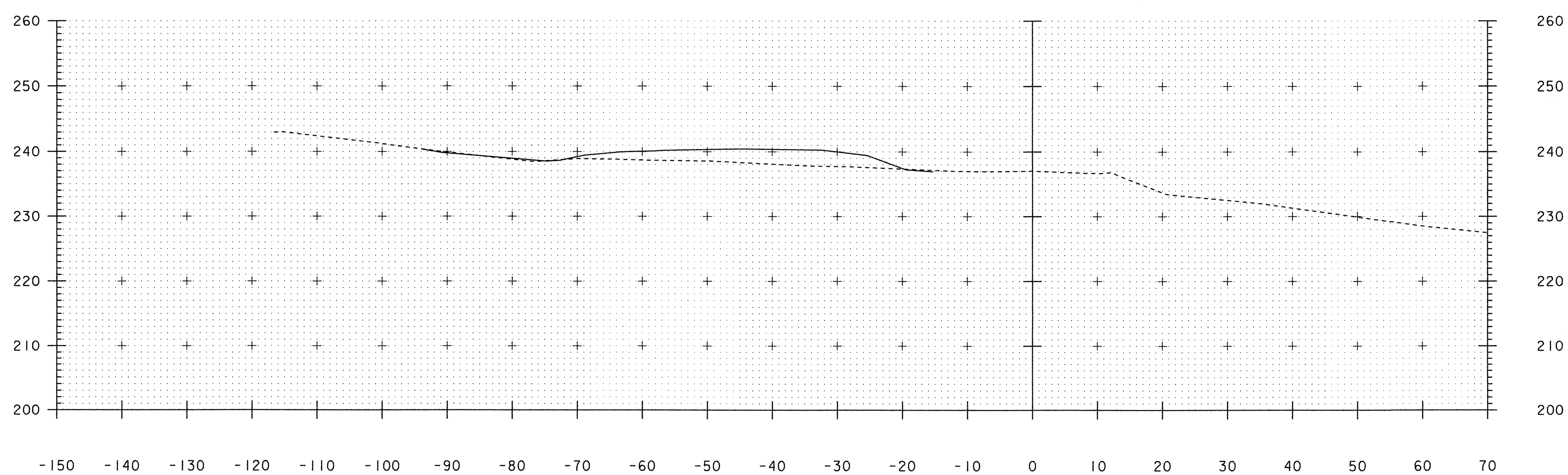
20+00

21+02
G.B.F.S.

21+13.17
SLAB

19+91.5
G.B.F.S.

19+80.6
SLAB

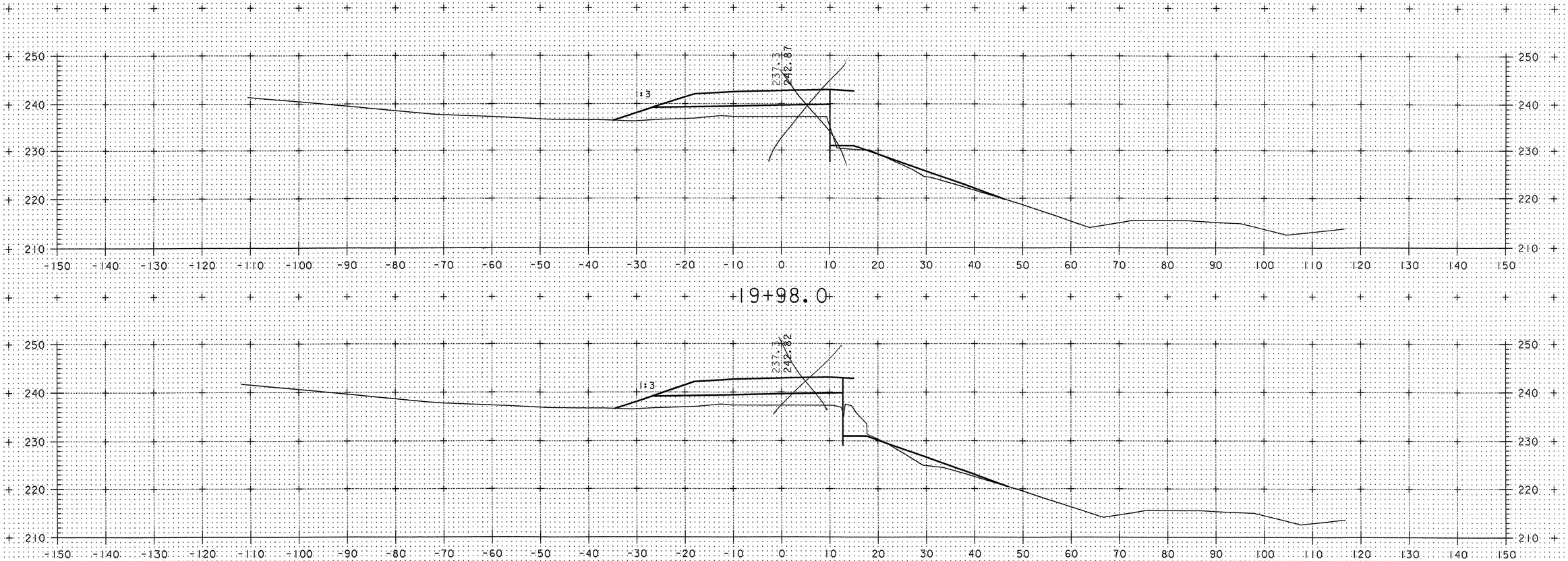


19+50

REVISED ORIGINAL SECTIONS

PROJECT NAME: SHELBURNE	
PROJECT NUMBER: BRO 1445(30	
FILE NAME: 94JI96/SURVEY/X94JI96DQ	PLOT DATE: 07-JUL-2004
PROJECT LEADER:	DRAWN BY: BEYOR
DESIGNED BY:	CHECKED BY:
DETOUR SECTIONS - MAY 28, 2004	SHEET 4 OF 9

109



19+98.0

19+96.4

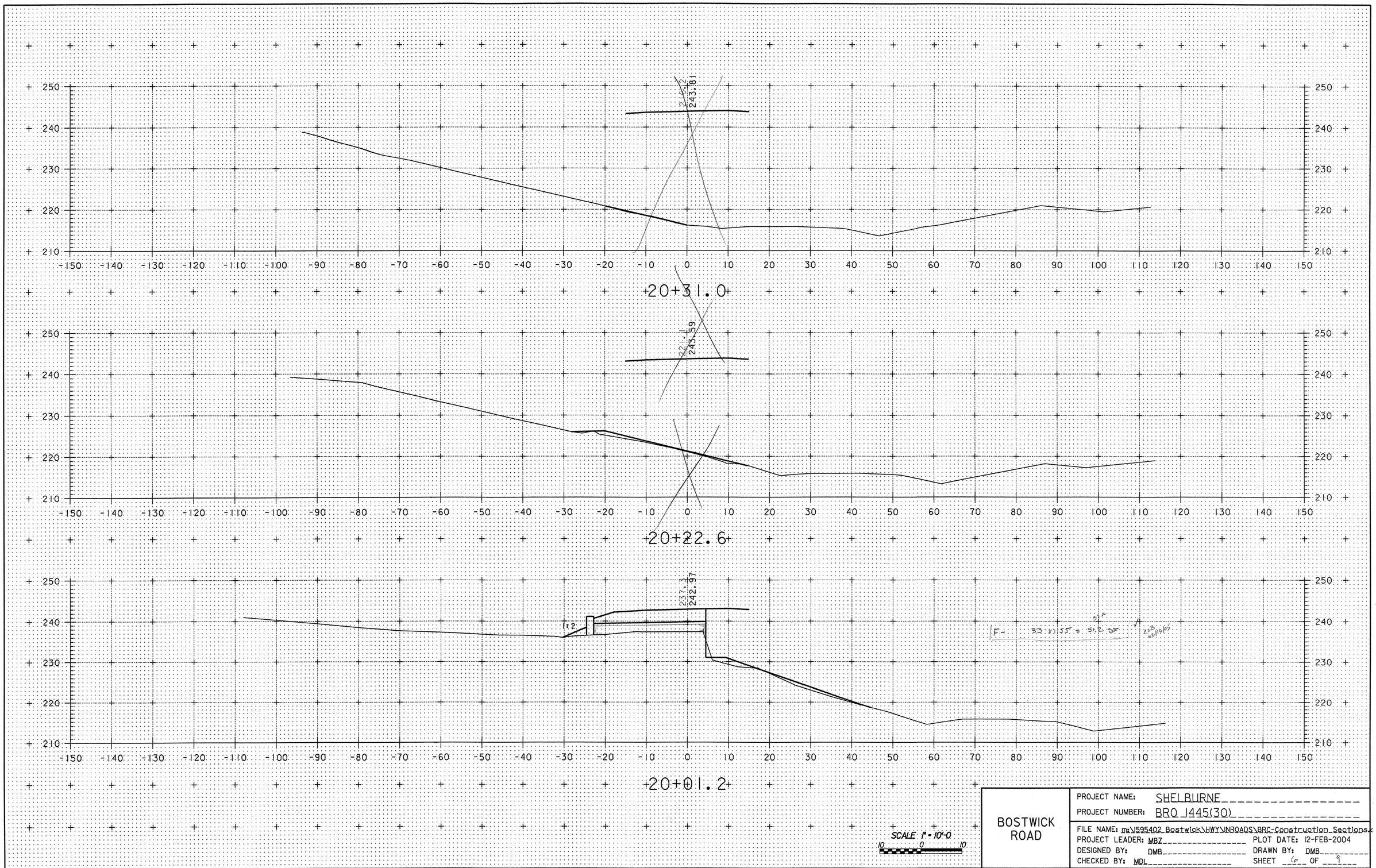
19+91.6

SCALE 1" = 10'-0
10 0 10

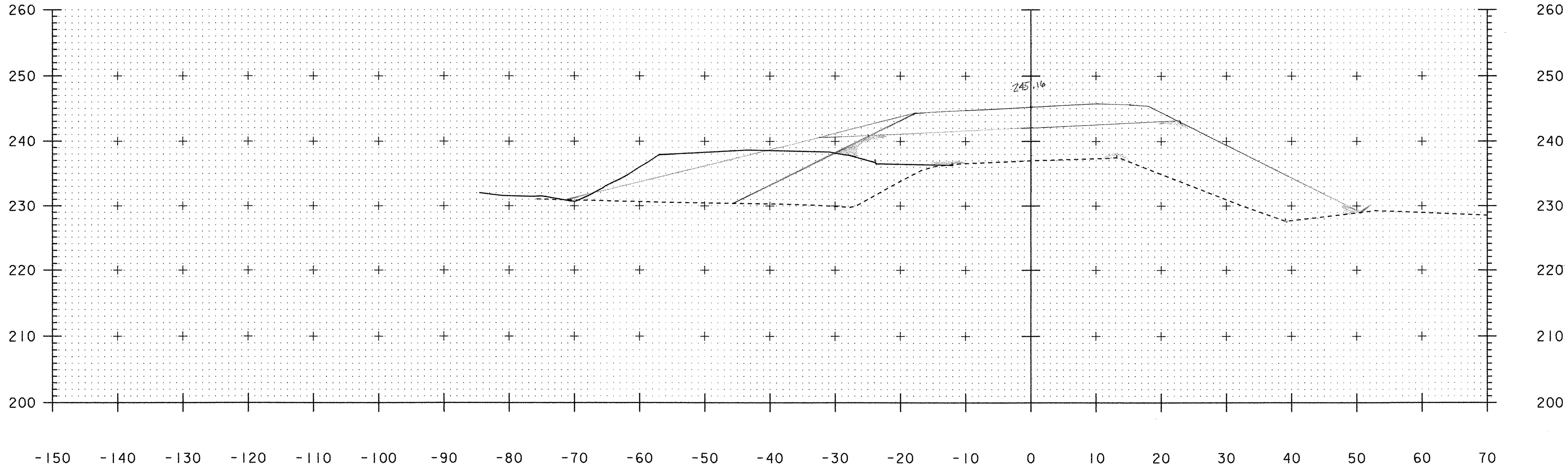
BOSTWICK ROAD

PROJECT NAME: SHELBURNE
PROJECT NUMBER: BRO 1445(30)

FILE NAME: m:\595402 Bostwick\HWY\INROADS\BRC-Construction Sections.x
PROJECT LEADER: MBZ
DESIGNED BY: DMB
CHECKED BY: MDL
PLOT DATE: 12-FEB-2004
DRAWN BY: DMB
SHEET 5 OF 9

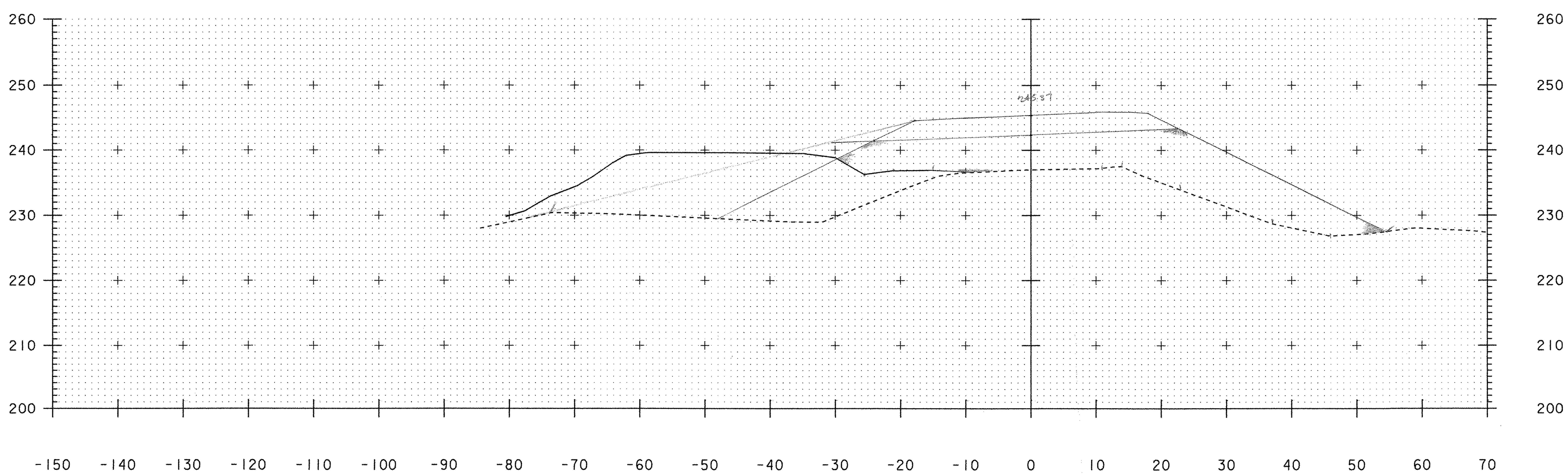


BOSTWICK ROAD	PROJECT NAME: SHELBURNE
	PROJECT NUMBER: BRO J445(30)
	FILE NAME: m:\1595402 Bostwick\HWY\INROADS\BRC-Construction Sections.x
	PROJECT LEADER: MBZ — PLOT DATE: 12-FEB-2004
	DESIGNED BY: DMB — DRAWN BY: DMB
	CHECKED BY: MDL — SHEET 6 OF 9



22+00

F= 230 x 1.55 = 434 SF 436.7 ✓
− (37' x 2/12) = 427.8 SF ✓
TOPSOIL DEDUCT
JC 2-2-05
CGB 02/16/05



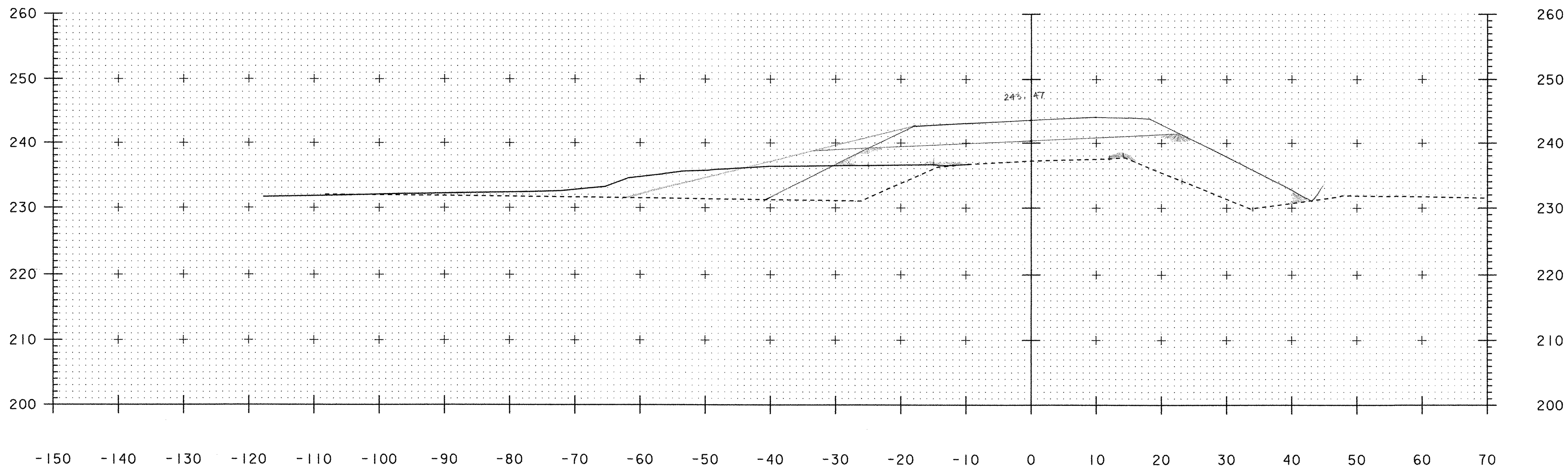
21+50

F= 309 x 1.55 = 479 483 ✓
TOPSOIL DEDUCT
− (40' x 2/12) = 472.3 SF ✓
CGB 02/16/05
JC 2-2-05
1.23

REVISED ORIGINAL SECTIONS

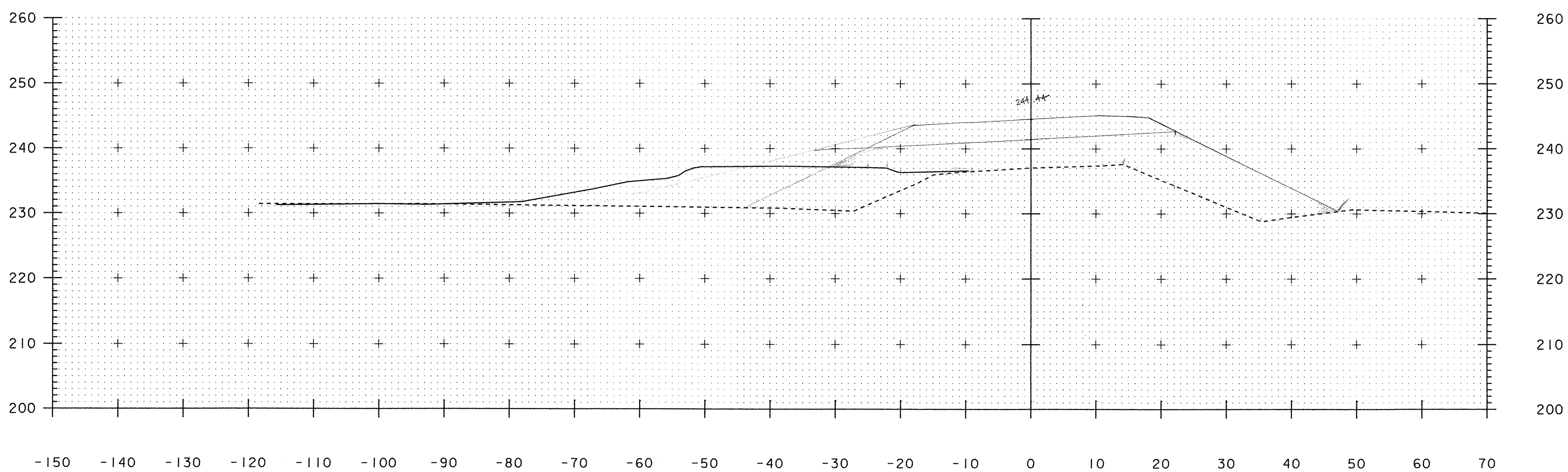
PROJECT NAME: SHELBURNE	
PROJECT NUMBER: BRO 1445(30	
FILE NAME: 94J196/SURVEY/X94J196DQ	PLOT DATE: 07-JUL-2004
PROJECT LEADER:	DRAWN BY: BEYOR
DESIGNED BY:	CHECKED BY:
DETOUR SECTIONS - MAY 28, 2004	SHEET 7 OF 9

112 ~~of~~ 113



23+00

F = 176 x 1.55 = 272.8 SF − (Topsoil 28' x 2/12) = 268.1 SF
2-2-05
LGS 02/16/05



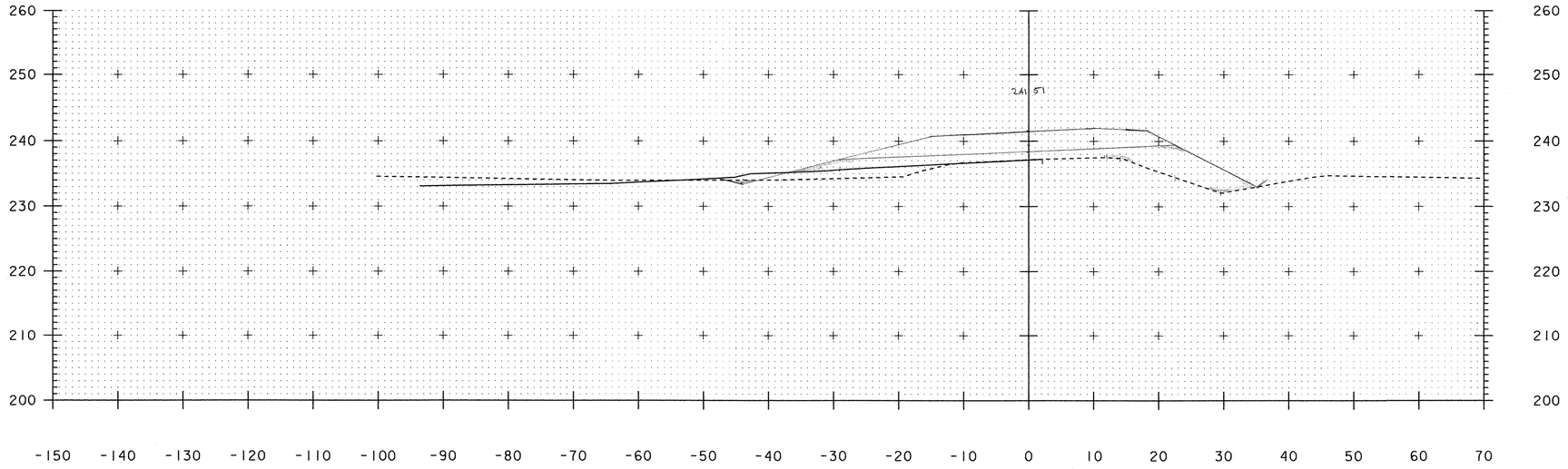
22+50

F = 379.8 SF − (Topsoil 34' x 2/12) = 374.1 SF
2-2-05
LGS 02/16/05

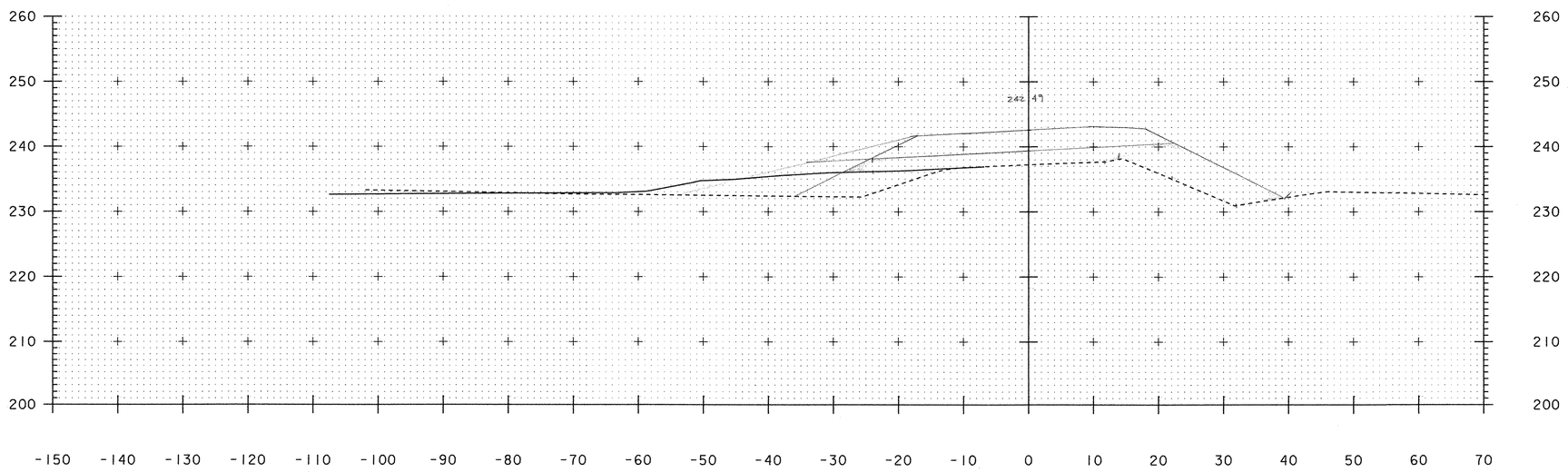
REVISED ORIGINAL SECTIONS

PROJECT NAME: SHELBURNE	
PROJECT NUMBER: BRO 1445(30	
FILE NAME: 94J196/SURVEY/X94J196DQ	PLOT DATE: 07-JUL-2004
PROJECT LEADER:	DRAWN BY: BEYOR
DESIGNED BY:	CHECKED BY:
DETOUR SECTIONS - MAY 28, 2004	SHEET 8 OF 9

113 XS



24+00

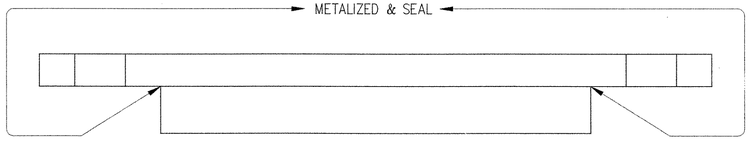


23+50

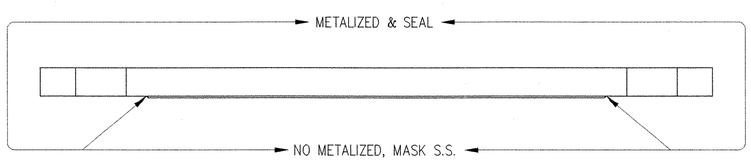
REVISED ORIGINAL SECTIONS

PROJECT NAME: SHELBURNE	
PROJECT NUMBER: BRO 1445(30	
FILE NAME: 94JI96/SURVEY/X94JI96DQ	PLOT DATE: 07-JUL-2004
PROJECT LEADER:	DRAWN BY: BEYOR
DESIGNED BY:	CHECKED BY:
DETOUR SECTIONS - MAY 28, 2004	SHEET 9 OF 9

114 xs



FIXED BEARING COATING LIMITS



EXPANSION BEARING COATING LIMITS

GENERAL NOTES:

1. PAD AND MATERIALS SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, DATED 2001 AND THE LATEST REVISIONS, INCLUDING SUPPLEMENTARY SPECIFICATIONS, CONTRACT PLANS, AND THE SPECIAL PROVISIONS. GENERAL SHOP PRACTICES, STRUCTURAL FABRICATION, WELDING AND ASSEMBLY SHALL BE GOVERNED BY ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.

2. THESE SHOP DRAWINGS ARE PREPARED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. THE D.S. BROWN COMPANY DOES NOT ACCEPT LIABILITY FOR THE DESIGN OF THE PRODUCTS DETAILED IN THESE SHOP DRAWINGS.

3. THE D.S. BROWN COMPANY TO SUPPLY ONLY THE PARTS SHOWN ON THESE DRAWINGS.

4. ALL STEEL SHALL BE PRODUCED IN THE UNITED STATES OF AMERICA.

5. THE MAXIMUM COEFFICIENT OF FRICTION BETWEEN THE PTFE AND STAINLESS STEEL SHALL NOT EXCEED 0.06 AT 800 PSI.

6. ALL CORNERS AND EDGES OF STEEL PLATES SHALL BE GROUND TO A 0.063" RADIUS.

7. PTFE SHALL BE PURE VIRGIN UNFILLED POLYTETRAFLUOROETHYLENE.

8. STAINLESS STEEL SHALL CONFORM TO ASTM A240–TYPE 304 AND SHALL BE ~~10~~ 14 GA. (0.075~~0.060~~"). STAINLESS STEEL SLIDING SURFACES IN CONTACT WITH PTFE SHALL HAVE A NO. 8 MIRROR FINISH AND ALL OTHERS SHALL HAVE A 2B FINISH.

9. ALL STRUCTURAL STEEL SURFACES TO BE METALIZED SHALL BE CLEANED IN ACCORDANCE WITH SSPC–SP10.

10. ALL SPECIFIED STEEL TO BE ZINC METALIZED IN ACCORDANCE WITH AWS C 2.18 SPECIFICATIONS TO A MINIMUM DRY FILM THICKNESS OF 6 MILS. THE ZINC METALIZED SHALL CONSIST OF 99.9% ZINC. EXTERIOR SURFACES SHALL BE SEALED WITH CARBOLINE SEALER "RUSTABOND" WITH A MINIMUM DRY FILM THICKNESS 2 MILS. SEE COATING LIMITS FOR LOCATIONS.

11. UNLESS OTHERWISE NOTED, DIMENSIONAL TOLERANCES & SURFACE FINISHES SHALL SATISFY THE REQUIREMENTS OF AASHTO DIVISION II, SECTION 18, TABLE 18.5.1.5–1.

12. THE TEMPERATURE OF THE STEEL ADJACENT TO THE PTFE & FABRIC PAD SHALL NOT EXCEED 300°F (149°C). TEMPERATURE SHALL BE CONTROLLED BY THE USE OF TEMPERATURE INDICATING CRAYON OR OTHER DEVICES APPROVED BY THE ENGINEERS.

RECEIVED
CK'D BY _____ OK'D BY _____
JAN 05 2004
RESUBMIT _____ APPROVED As Noted
BY RKW DATE 1-8-04

REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332

4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000

DSBROWN.COM

ITEM	QUANTITY
LOCATION — BOSTWICK ROAD OVER VERMONT RAILWAY	–
BRIDGE — 15	–
PROJECT — BRO 1445(30)	–
HIGHWAY — TH3	–
P.O. NO. — 7890	–
DESIGNER — McFARLAND–JOHNSON, INC.	–
CUSTOMER — S.D. IRELAND CONSTRUCTION	–
	–

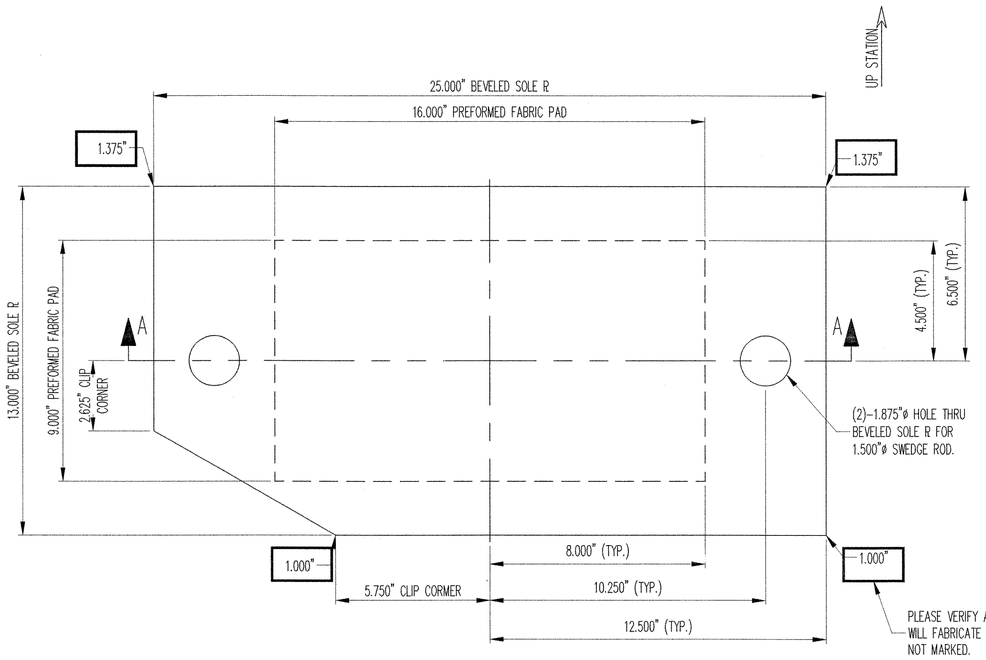
DESCRIPTION: GENERAL NOTES & COATING LIMITS
CHITTENDEN CO., VERMONT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	D.ANDERSON	R. SCHADE	12/23/03	–
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET	
10251	1106	1	GN1	

115 BE

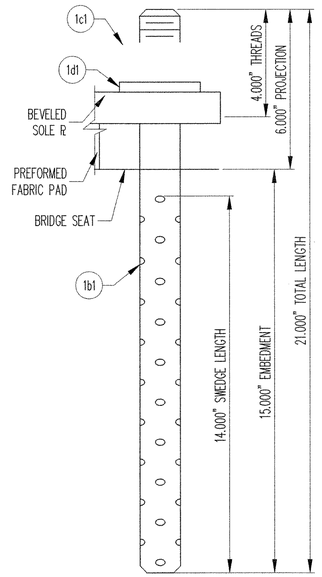
MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
1A	5	PREFORMED FABRIC BEARING				
1a1	5	1.750" X 16.000"	AASHTO 18.4.10.1	9.000"	EPOXY BOND TO SOLE PLATE	
1sp1	5	1.375" X 25.000"	A709 GR 36	13.000"	BEVEL, CLIP CORNER; METALIZE	
1B	10	SWEDGE ROD				
1b1	10	1.500"ø X 21.000"	A449		4.000" THREADS, 14.000" SWEDGE, A153-HDG	
1C	10	HEAVY HEX NUT				
1c1	10	1.500"ø	A563-DH/A194-2H		A153-HDG	
1D	10	WASHER PLATE				
1d1	10	0.375" X 3.000"	A36	3.000"	1.875" DIAMETER HOLE @ CENTER OF PLATE; A123-HDG	

NOTE: ALL MATERIAL SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

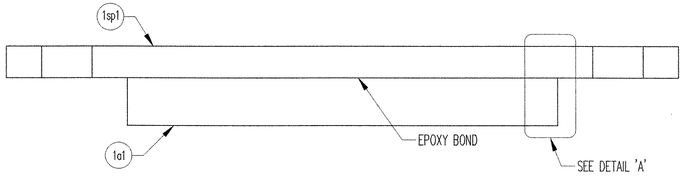


PLAN VIEW

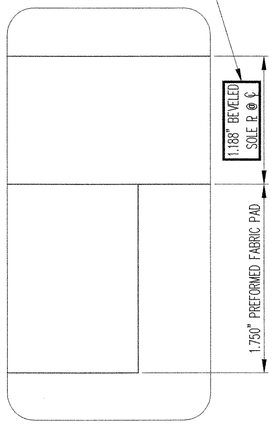
FIXED PREFORMED FABRIC BEARING
(5) REQ'D @ ABUT. 1



SWEDGE ROD DETAIL



SECTION 'A-A'



DETAIL 'A'

LOAD TABLE

LOAD DATA	KIPS
DL + SDL	57
LL + I	73
TOTAL	130

RECEIVED
CK'D BY _____ OK'D BY _____
JAN 05 2004
RESUBMIT _____ APPROVED
BY RRW DATE 1-8-04

SEE SHT. GN1 FOR GENERAL NOTES & COATING LIMITS.

REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332

4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000

DSBROWN.COM

	ITEM	QUANTITY
LOCATION — BOSTWICK ROAD OVER VERMONT RAILWAY	10251-1106-1	5 OF 5
BRIDGE — 15	–	–
PROJECT — BRO 1445(30)	–	–
HIGHWAY — TH3	–	–
P.O. NO. — 7890	–	–
DESIGNER — McFARLAND-JOHNSON, INC.	–	–
CUSTOMER — S.D. IRELAND CONSTRUCTION	–	–
	–	–

DESCRIPTION: FIXED PREFORMED FABRIC BEARING
CHITTENDEN CO., VERMONT

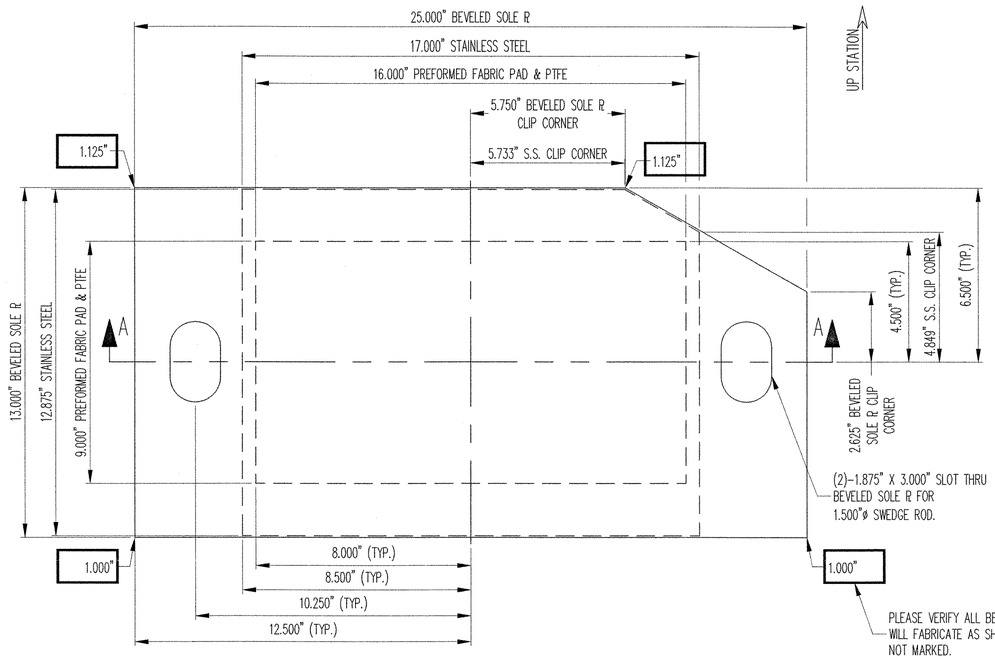
SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	D.ANDERSON	R. SCHADE	12/23/03	–

PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
10251	1106	1	01

116 BE

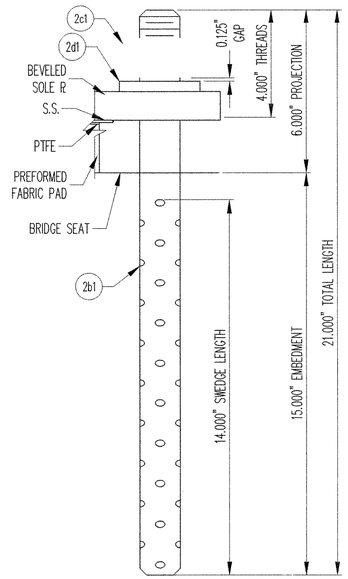
MK	QTY.	DESCRIPTION	MATERIAL	LENGTH	REMARKS	PART NO.
2A	5	SLIDING PREFORMED FABRIC BEARING				
2a1	5	1.750" X 16.000"	AASHTO 18.4.10.1	9.000"	EPOXY BOND TO SOLE PLATE	
2a2	5	0.063" X 16.000"	PTFE	9.000"	PURE VIRGIN UNFILLED	
2a3	5	14 GA. X 17.000"	A240,304,#8	12.875"	CLIP CORNER; PLAIN	
2sp1	5	1.125" X 25.000"	A709 GR 36	13.000"	BEVEL, CLIP CORNER; METALIZE	
2B	10	SWEDGE ROD				
2b1	10	1.500"ø X 21.000"	A449		4.000" THREADS, 14.000" SWEDGE; A153-HDG	
2C	10	HEAVY HEX NUT				
2c1	10	1.500"ø	A563-DH/A194-2H		A153-HDG	
2D	10	WASHER PLATE				
2d1	10	0.375" X 3.000"	A36	6.000"	1.875" DIAMETER HOLE @ CENTER OF PLATE; A123-HDG	

NOTE: ALL MATERIAL SPECIFICATION DESCRIPTIONS ARE ASTM, UNLESS OTHERWISE NOTED.

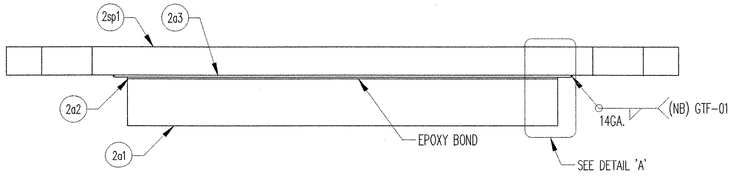


PLAN VIEW

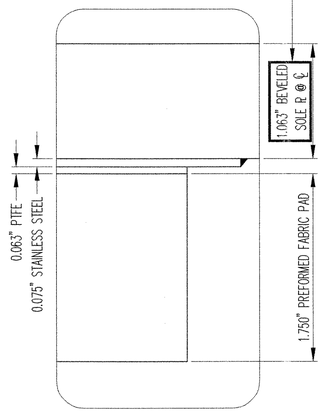
SLIDING PREFORMED FABRIC BEARING
(5) REQ'D @ ABUT. 2



SWEDGE ROD DETAIL



SECTION 'A-A'



DETAIL 'A'

LOAD TABLE

LOAD DATA	KIPS
DL + SDL	57
LL + I	73
TOTAL	130

RECEIVED
CK'D BY_____ OK'D BY_____
JAN 05 2004
RESUBMIT_____ APPROVED
BY RRW DATE 1-8-04

SEE SHT. GN1 FOR GENERAL NOTES & COATING LIMITS.

REV.	DESCRIPTION	DATE	DET.	CK'D.

D.S. BROWN
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332

4201 NOREX DRIVE
CHASKA, MINNESOTA 55318
952.368.3000
FAX: 952.448.7000

DSBROWN.COM

	ITEM	QUANTITY
LOCATION — BOSTWICK ROAD OVER VERMONT RAILWAY	10251-1106-2	5 OF 5
BRIDGE — 15	–	–
PROJECT — BRO 1445(30)	–	–
HIGHWAY — TH3	–	–
P.O. NO. — 7890	–	–
DESIGNER — McFARLAND-JOHNSON, INC.	–	–
CUSTOMER — S.D. IRELAND CONSTRUCTION	–	–
	–	–

DESCRIPTION: SLIDING PREFORMED FABRIC BEARING
CHITTENDEN CO., VERMONT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	D.ANDERSON	R. SCHADE	12/23/03	–
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET	
10251	1106	1	02	

117BE

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

1). ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001 WITH LATEST REVISIONS.

DESIGN SPECIFICATIONS

1). AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (A.A.S.H.T.O) STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1996 EDITION WITH LATEST REVISIONS.

MATERIAL SPECIFICATIONS

1). UNLESS NOTED, ALL STEEL TO BE AASHTO M270 GRADE 50W (ASTM A709-50W).

2). HIGH STRENGTH BOLTS: AASHTO M164 (ASTM A325 TYPE 3) (7/8") DIA.

3). GIRDER WEB & BOTTOM FLANGES SHALL BE CHARPY V NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS. DRAWINGS SHALL CALL OUT "H2-3" FOR EACH APPLICABLE ITEM IN THE BILLS OF MATERIAL.

FABRICATION

1). ALL HOLES SHALL BE PUNCHED OR DRILLED FULL SIZE (UN).
2). STUDS ARE FURNISHED AND FIELD APPLIED BY OTHERS.

WELDING

1). THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-02 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

2). WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES. ALL WELDS ARE CONTINUOUS U.N.

3). NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.

CLEANING:

1). ALL STEEL SHALL BE BLAST CLEANED AS PER SSPC SP-10 PER SPEC. 506.14(a)

PAINTING

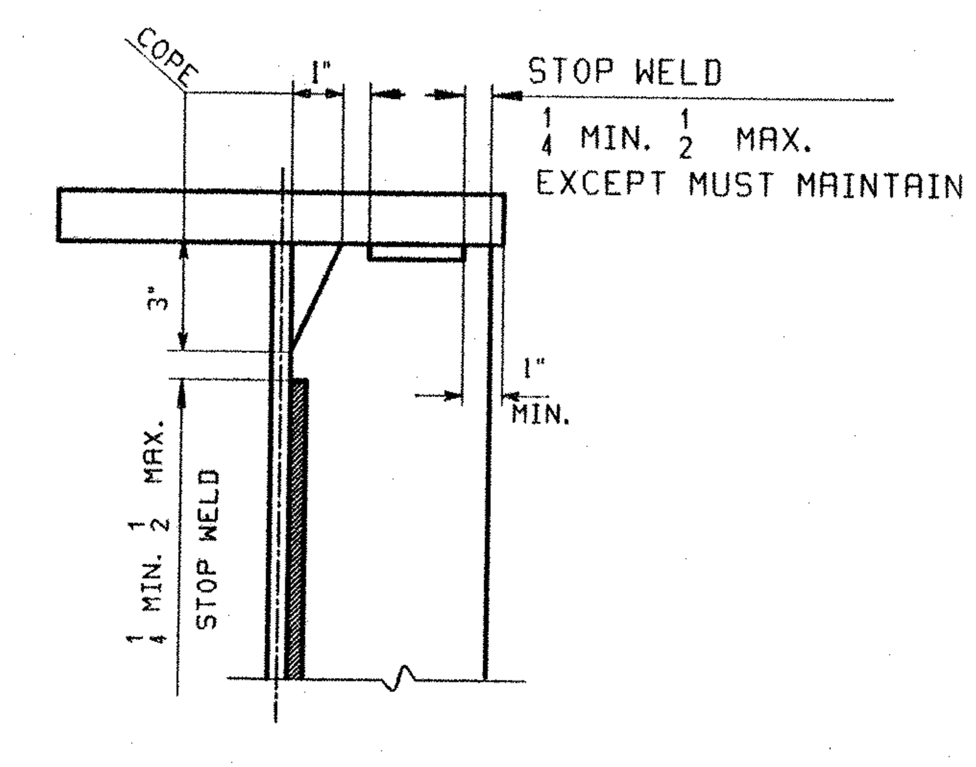
1). NONE

FIELD CONNECTIONS

1). ALL FIELD CONNECTIONS SHALL BE MADE WITH (7/8") DIAMETER HIGH STRENGTH A-325 BOLTS, INSTALLED PER SECTION 506.19(c).

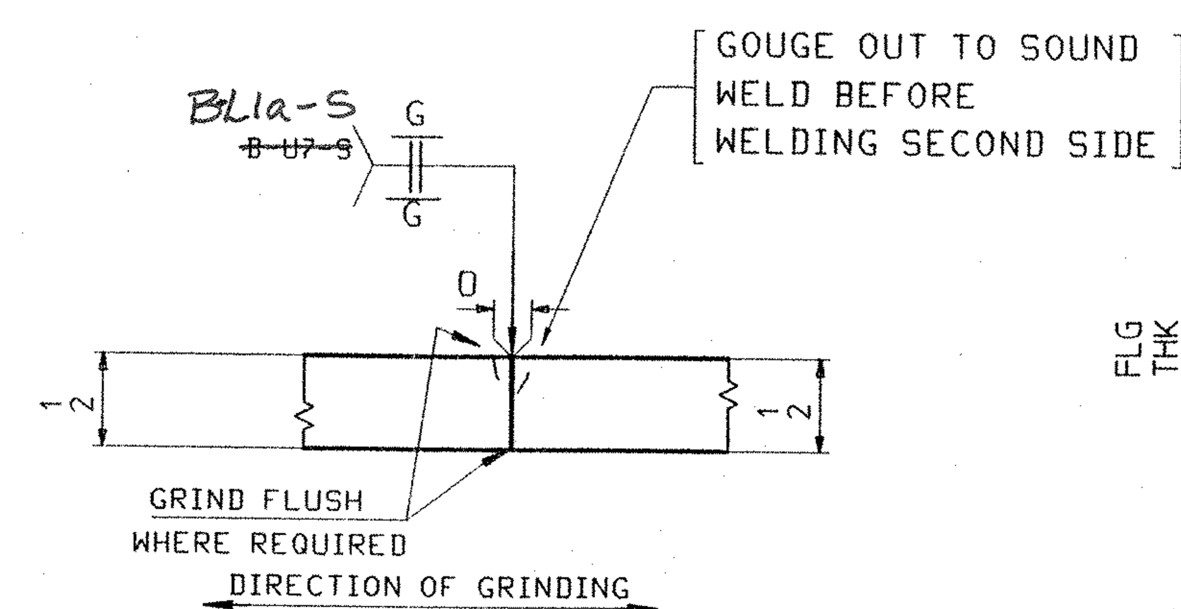
2). BOLTS SHALL HAVE HEAVY HEX NUT, HEX HEAD, & ONE FLAT WASHER EACH (WASHER TO BE PLACED UNDER TURNED ELEMENT).

3). PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS.

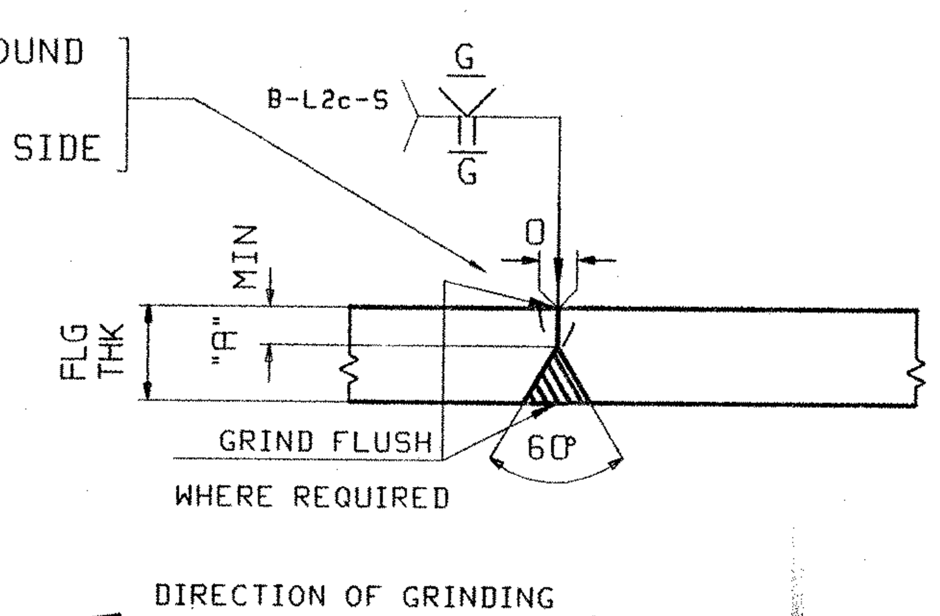


DETAIL "WS1"

RECEIVED
CK'D BY ____ OK'D BY ____
DEC 09 2003
RESUBMIT ____ APPROVED As Noted
BY RRW DATE 1-8-04



WEB PLATE SPLICE DETAIL "WA"



FLANGE PLATE SPLICE DETAIL "FA"

FLG THK	'A'
7/8	1/4
1 7/8	5/8

NOTE TO ENGINEER:
THESE NOTES ARE NOT I[illegible]NDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVA[illegible] SPECIFICATIONS REMAIN UNCHANGED.

OUT FOR APPROVAL		12-1[illegible]3										
OUT FOR APPROVAL												
ISSUED TO SHOP												
FIELD & OFFICE												
REV.	REMARKS	DATE	[illegible]WN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER	

MATERIAL: | ELEC[illegible]DES: | HOLES: | SHOP BOLTS:

SURFACE PREP. & PAINT:

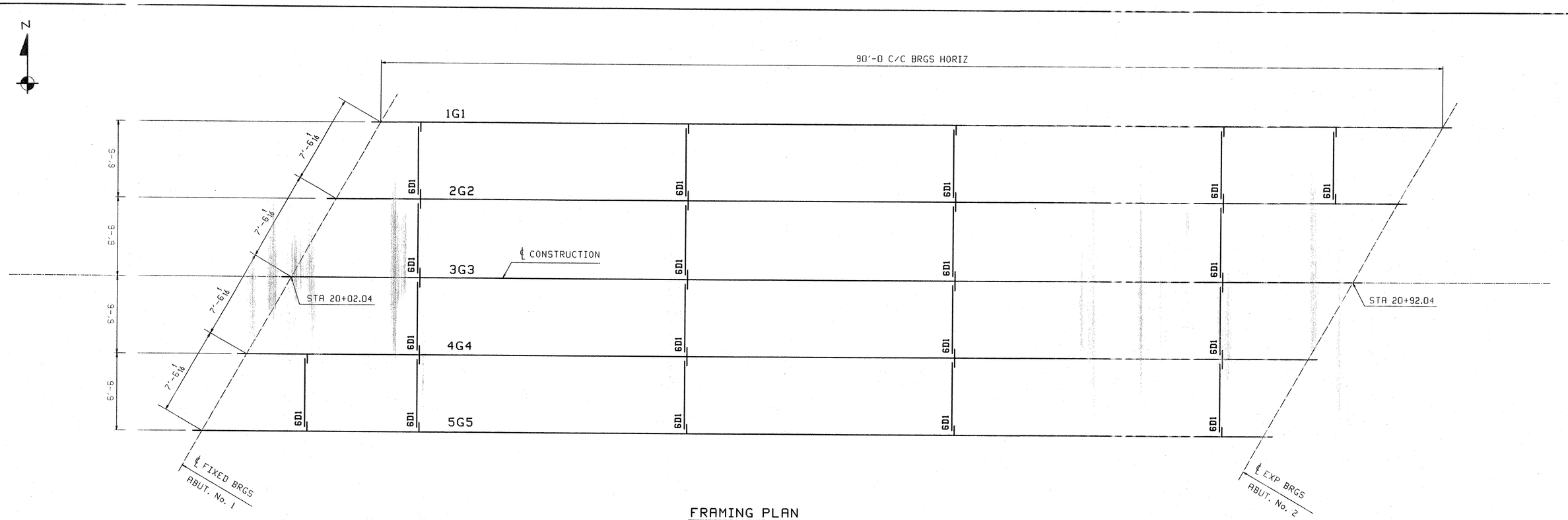
DESCRIPTION: [illegible]ENERAL NOTES
JOB: BOSTWICK ROA[illegible] OVER VERMONT RAILWAY
BRIDGE NO. 15 HIGHWAY NO. TH 3
TOWN OF SHEL[illegible]RNE
ENGR: McFarla[illegible]-Johnson, INC.
CONTRACTOR: [illegible]. IRELAND BROS. CORP.
TENSOR 2409
PROJ NO. BRO 1445(30
CUSTOMER: VERMONT AG[illegible]CY OF TRANSPORTATION

DRAWN BY	DATE
JTB	11-4
CHKD BY	
FTM	11-9
APPROV BY	
SUPERVISOR	T. [illegible]TT
Q.A.	

CASCO BAY STE[illegible]. STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-736[illegible] FAX. (207) 282-1179

JOB NO. 209 | DRG. NO. G[illegible] | REV. △

12055



FRAMING PLAN

RECEIVED
CK'D BY_____ CK'D BY_____
DEC 09 2003
RESUBMIT_____ APPROVED_____
BY RRW DATE 1-8-04

FIELD BOLT LIST — A325 Type 3 BOLTS

LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS / CONN.	# OF CONN.	THICKNESS OF PCS. CONNECTED	WASH CODE	PIECES CONNECTED AND REMARKS
1								DIAPHRAGM 6D1
2	180	7/8	2 1/2	5	36	1/16, 9/16, 1/2	1	DIAPHRAGM WEB TO CONNECTION PLATE

1: 1 Hard Flat Washer

WASHER CODES

FIELD BOLT SUMMARY — 2% ADDED + 3, MIN. 2 EXTRA

LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN.	ACTUAL COUNT	REMARKS
1	187	7/8	A325 Type 3	2 1/2	180	
2						
3	187	Hard Flat Washers for 7/8 ø BOLT				
4						
5						
6						

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	12/1/03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL: | ELECTRODES: | HOLES: | SHOP BOLTS:

SURFACE PREP. & PAINT:

DESCRIPTION: FRAMING PLAN

JOB: BOSTWICK ROAD OVER VERMONT RAILWAY
BRIDGE NO. 15 HIGHWAY NO. TH 3
TOWN OF SHELBURNE
ENGR: McFarland-Johnson, INC.
CONTRACTOR: S.D. IRELAND BROS. CORP.

TENSOR 2409

PROJ NO. BRO 1445(30)

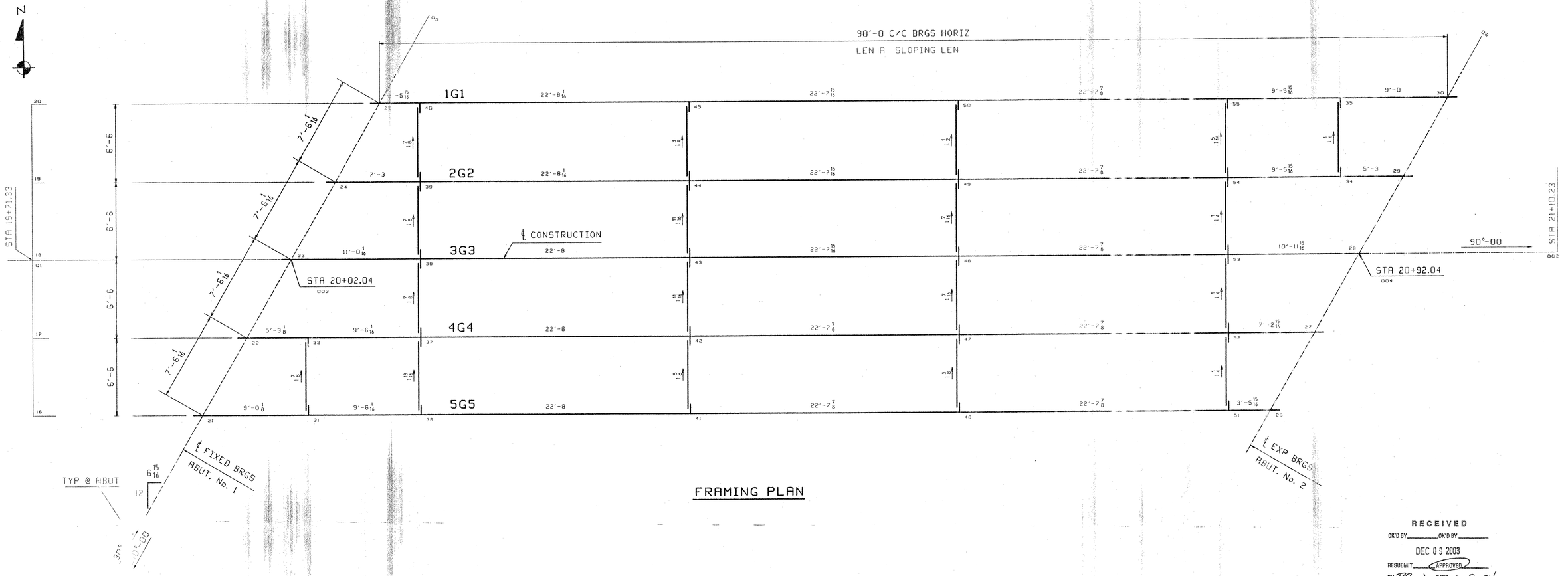
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION

DRAWN BY	DATE
JTB	11/14
CHK'D BY	
FTM	11/21/03
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
209	E1
	REV. △

17 / 35



FRAMING PLAN

Line	LEN A	Abut 1	Abut 2
1	89'-11 3/4	.0092	.0116
2	89'-11 13/16	.0100	.0124
3	89'-11 13/16	.0107	.0132
4	89'-11 7/8	.0115	.0139
5	89'-11 7/8	.0123	.0147

**** NOTE ****
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

NOTES
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTT OF HE WITH CORRECTIONS MADE FOR VERTICAL CURVE, GRADE & DL CAMBER (UNO.
2. TRANSVERSE DIMENSIONS ARE IN A HORIZ. PLANE (UNO.
3. ARROW POINTS TOWARDS LOW END OF MEMBER.
4. ENDS OF GIRDERS AND BRG. STIFF'S ARE VERTICAL AFTER D ROTATION.
5. DIAPHRAGM STIFFENERS ARE NORMAL TO GRADE.
6. BOTT PT NUMBERS = TOP PT NUMBERS + 100
7. FOR LAYOUTS SEE DWG TD1.
8. DIAPHRAGM DROPS ARE CALCULATED USING 50% CAMBERED / ES.
9. COMBINE DIAPHRAGMS FOR DROPS (+/- 1/16)

RECEIVED
CK'D BY _____ OK'D BY _____
DEC 03 2003
RESUBMIT _____ APPROVED
BY RRW DATE 1-8-04

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	12-1-03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:

SURFACE PREP. & PAINT:

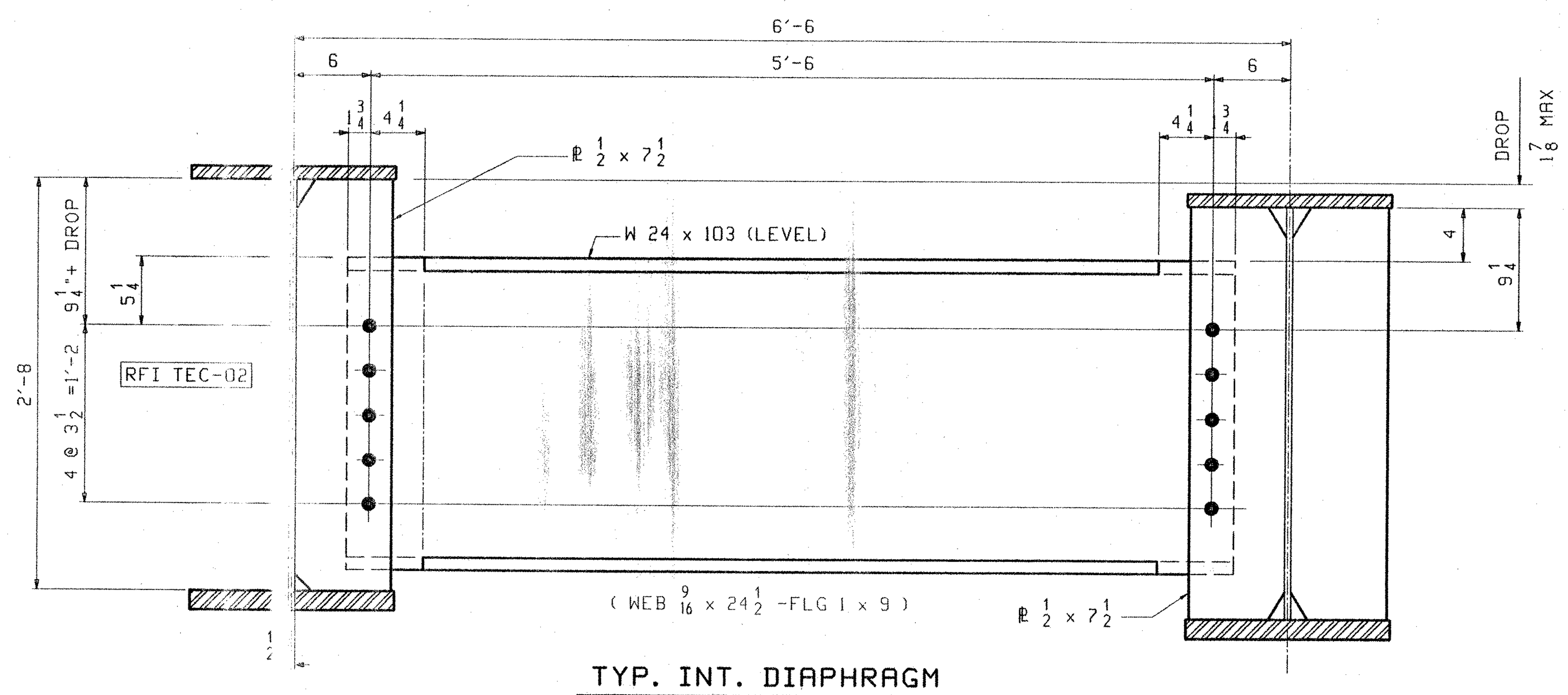
DESCRIPTION: CALCULATION PLAN
JOB: BOSTWICK ROAD OVER VERMONT RAILWAY
BRIDGE NO. 15 HIGHWAY NO. TH 3
TOWN OF SHELBURNE
ENGR: McFarland-Johnson, INC.
CONTRACTOR: S.D. IRELAND BROS. CORP.
PROJ NO. BRO 1445(30)
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION

DRAWN BY	DATE
WJG	11/03
CHKD BY	
JTB	11/14
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

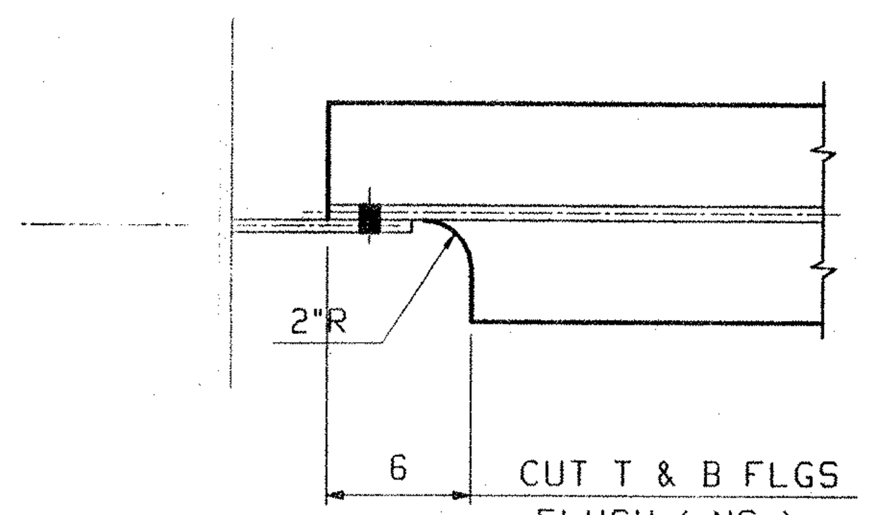
JOB NO.	DRG. NO.
209	WS1
	REV. 1

122 35



TYP. INT. DIAPHRAGM

LOOKING WEST (BK STATION)



CUT T & B FLGS
FLUSH (NS)
BOTH ENDS

RECEIVED
CK'D BY ______ OK'D BY ______
DEC 0 9 2003
RESUBMIT ______ APPROVED
BY RKW DATE 1-8-04

OUT FOR APPROVAL	12/03										
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

MATERIAL: | ELECTRODES: | HOLES: | SHOP BOLTS:

SURFACE PREP. & PAINT:

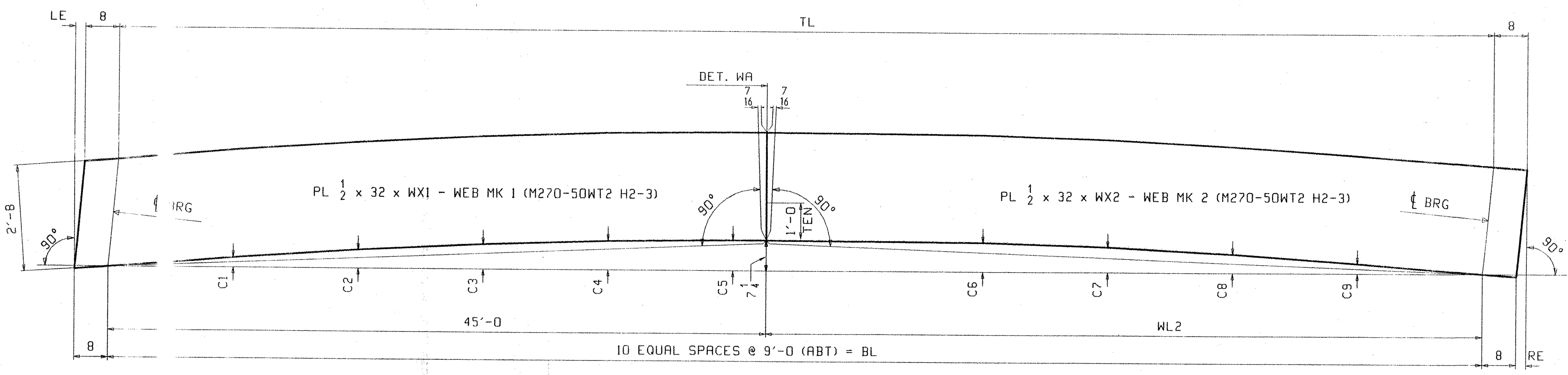
DESCRIPTION: LAYOUTS	DRAWN BY	DATE
JOB: BOSTWICK ROAD OVER VERMONT RAILWAY	WJG	11/03
BRIDGE NO. 15 HIGHWAY NO. TH 3	CHKD BY	
TOWN OF SHELBURNE	JTB	11/14
ENGR: McFarland-Johnson, INC.	APPROV BY	
CONTRACTOR: S.D. IRELAND BROS. CORP.	SUPERVISOR	W. J. GATTI
PROJ NO. BRO 1445(30)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		
CASCO BAY STEEL STRUCTURES, INC.	JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072	209	TD1
PHONE (207) 282-7360 FAX. (207) 282-1179		REV. △

TENSOR 2409

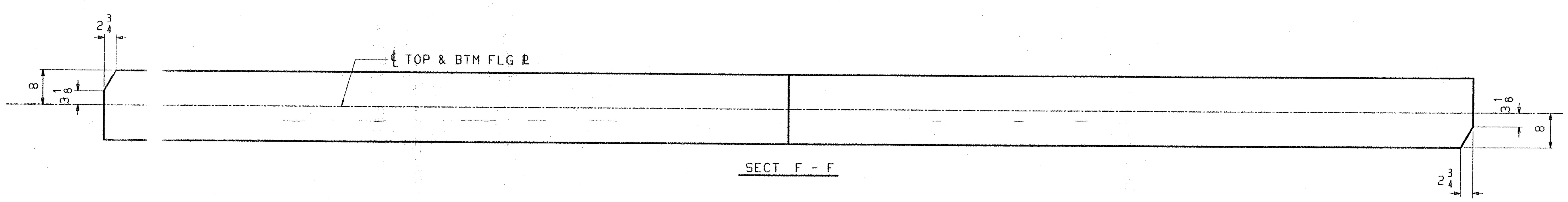
** NOTE **
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

MATL A709-50W
HOLES ... 15/16 ø
BOLTS.... 7/8 ø A325-3

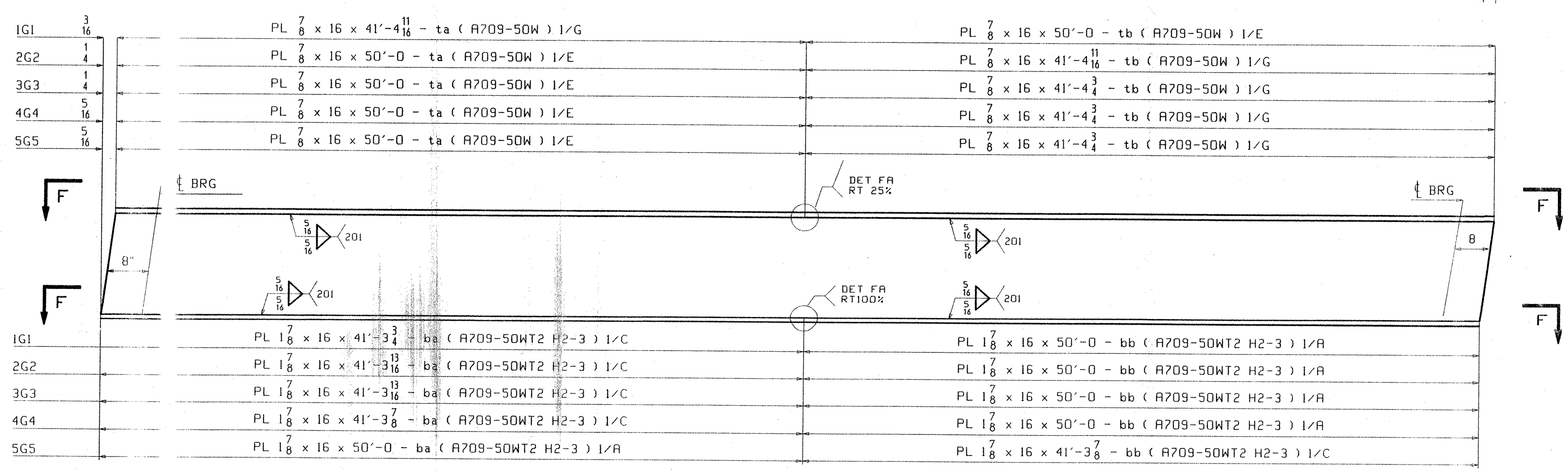
1235c



MARK	TL	BL	LE	RE	WL2	WX1	WX2	C1	C2	C3	C4	C5	C6	C7	C8	C9	WEB MK 1	PG/LINE	WEB MK 2	PG/LINE
1G1	90'-0 11/16	89'-11 3/4	3/16	1 1/8	44'-11 3/4	45'-8 1/2	45'-8 15/16	2 3/8	4 7/16	5 15/16	6 7/8	7 1/4	6 15/16	6	4 7/16	2 3/8	wa	1/ J	wb	1/ J
2G2	90'-0 11/16	89'-11 13/16	1/4	1 1/8	44'-11 13/16	45'-8 1/2	45'-9	2 3/8	4 7/16	5 15/16	6 7/8	7 1/4	6 15/16	6	4 7/16	2 3/8	wa	1/ J	wb	1/ J
3G3	90'-0 3/4	89'-11 13/16	1/4	1 3/16	44'-11 13/16	45'-8 1/2	45'-9 1/16	2 7/16	4 7/16	5 15/16	6 15/16	7 1/4	6 15/16	5 15/16	4 7/16	2 3/8	wa	1/ J	wb	1/ J
4G4	90'-0 3/4	89'-11 7/8	5/16	1 3/16	44'-11 7/8	45'-8 1/2	45'-9 1/8	2 7/16	4 7/16	6	6 15/16	7 1/4	6 7/8	5 15/16	4 3/8	2 3/8	wa	1/ J	wb	1/ J
5G5	90'-0 3/4	89'-11 7/8	5/16	1 3/16	44'-11 7/8	45'-8 1/2	45'-9 1/8	2 3/8	4 1/2	6	6 15/16	7 1/4	6 7/8	5 15/16	4 3/8	2 3/8	wa	1/ J	wb	1/ J



SECT F - F



FLANGE DIAGRAM FOR 1G1 THRU 5G5

RECEIVED
CK'D BY ____ OK'D BY ____
DEC 09 2003
RESUBMIT ____ APPROVED
BY RRW DATE 1-8-04

NOTES:

1. FOR GENERAL NOTES AND WELD DETAILS SEE SHT. GN1.
2. H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2

OUT FOR APPROVAL	12-1-03											
OUT FOR APPROVAL												
ISSUED TO SHOP												
FIELD & OFFICE												
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER	

MATERIAL: | ELECTRODES: | HOLES: | SHOP BOLTS:

SURFACE PREP. & PAINT:

DESCRIPTION: CAMBER DIAGRAM — DRAWN BY: WJG — DATE: 11/03

JOB: BOSTWICK ROAD OVER VERMONT RAILWAY
BRIDGE NO. 15 HIGHWAY NO. TH 3
TOWN OF SHELBURNE
ENGR: McFarland-Johnson, INC.
CONTRACTOR: S.D. IRELAND BROS. CORP.

CHKD BY: JTB 11/14
APPROV BY:
SUPERVISOR: W. J. GATTI
Q.A.

TENSOR 2409

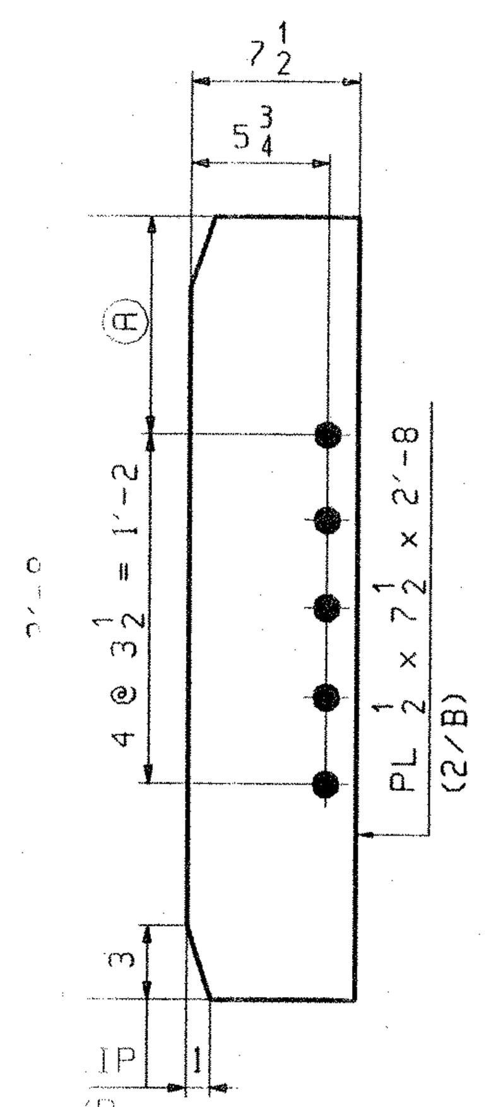
PROJ NO. BRO 1445(30)

CUSTOMER: VERMONT AGENCY OF TRANSPORTATION

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO. 209 | DRG. NO. C1 | REV. △

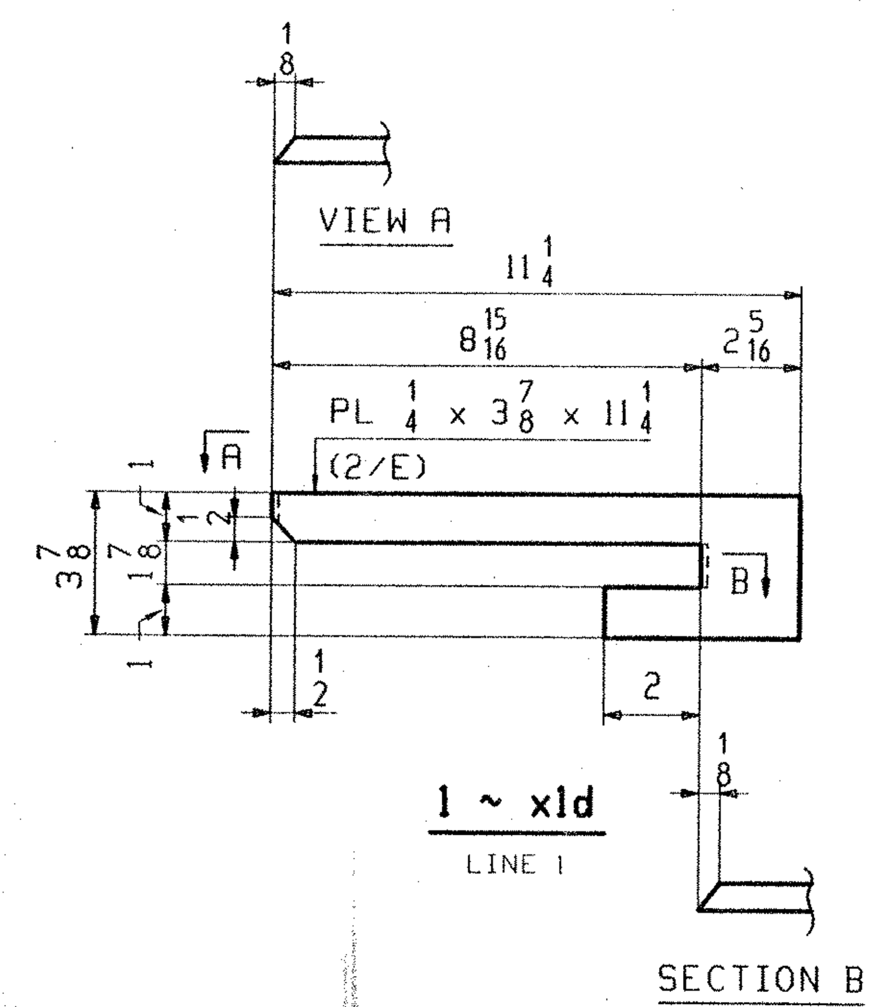
12455



MARK "A"

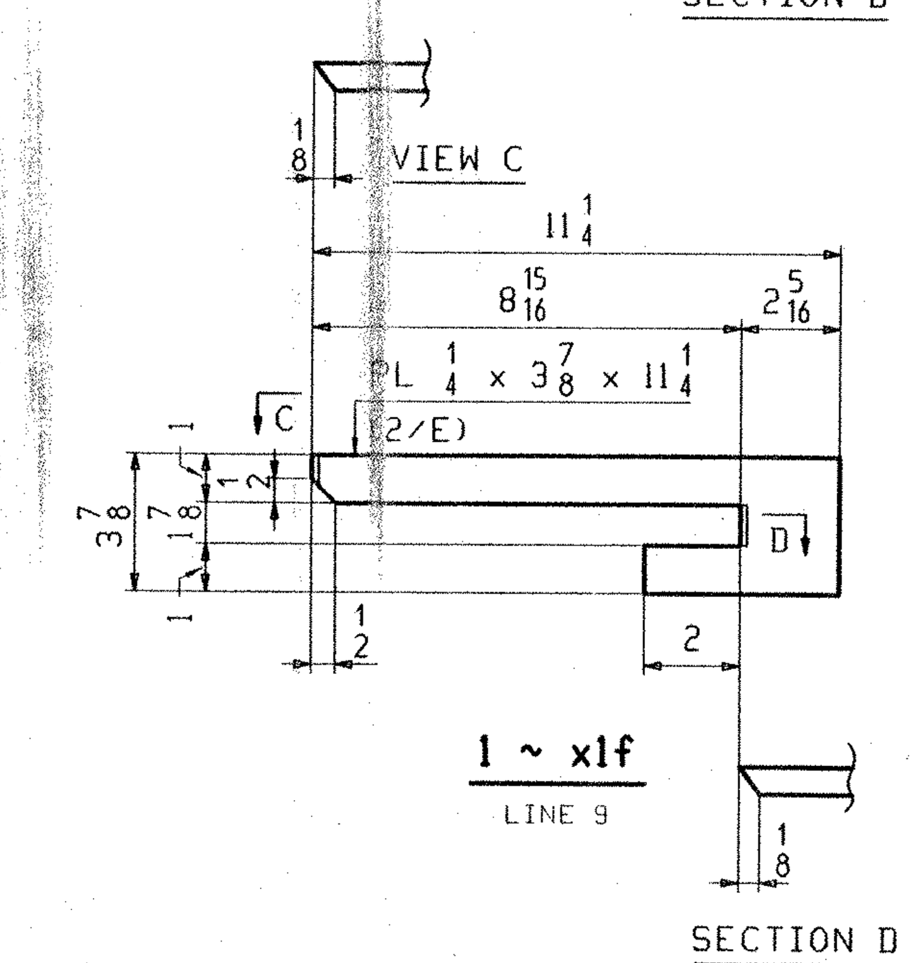
DIAPH CONN PL

MARK "A"	QTY	(A)
a	18	$9\frac{1}{4}$
b	9	$10\frac{5}{8}$
c	9	11



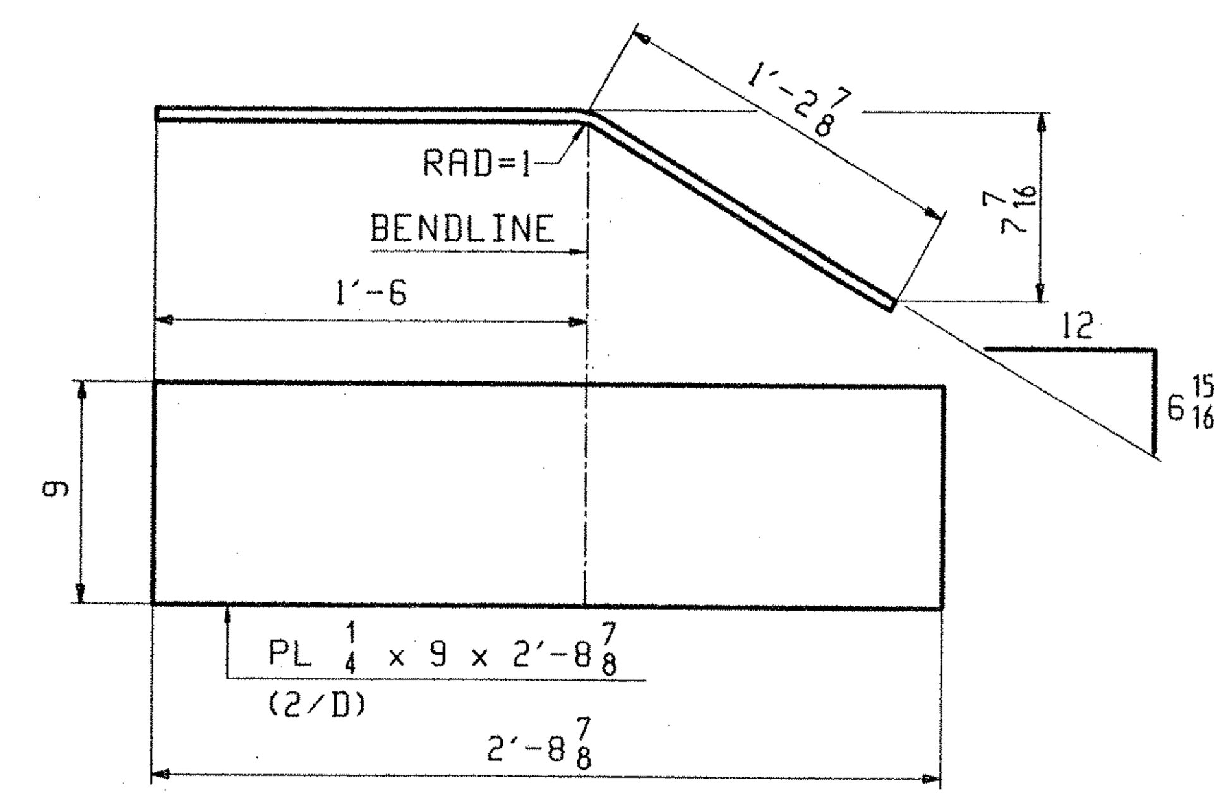
1 ~ x1d

LINE 1



1 ~ x1f

LINE 9



10 ~ x1g

GIRDER ENDS

RECEIVED
CK'D BY____ OK'D BY____
DEC 09 2003
RESUBMIT____ (APPROVED)
BY RRW DATE 1-8-04

NOTES:

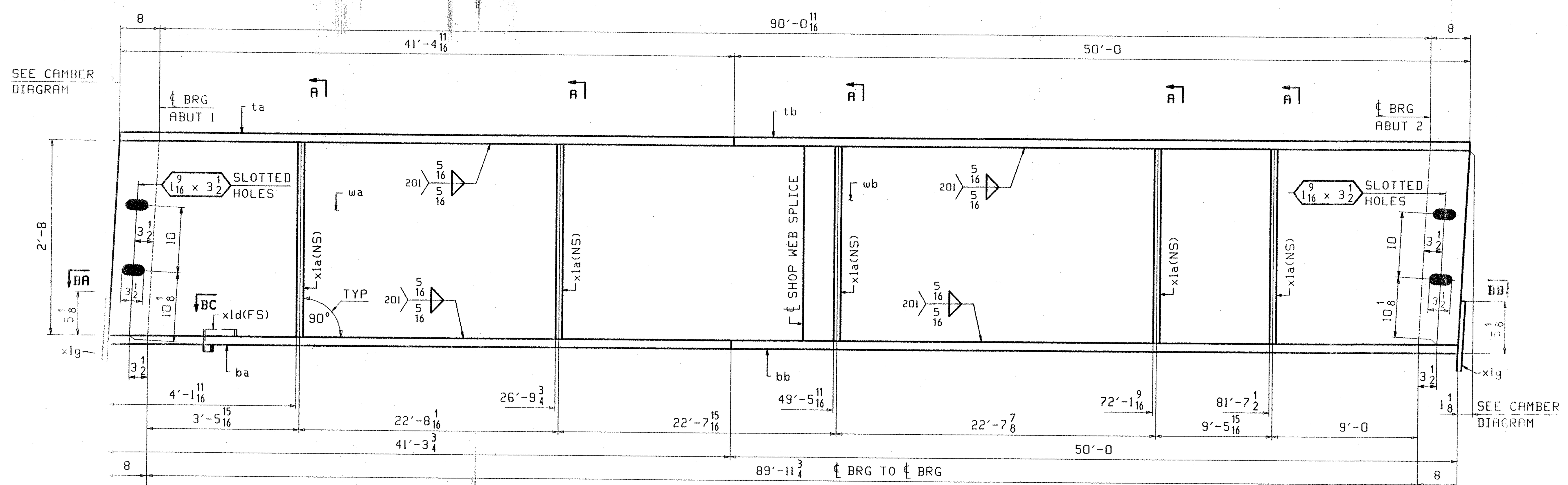
1. ALL MATERIAL TO BE A709-50W.
2. FOR GENERAL NOTES SEE DRAWING GN1.
3. ALL BOLT HOLES SHALL BE $\frac{15}{16}$"ø FOR $\frac{7}{8}$"ø HSB.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	12-1-03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
A709-50W		$\frac{15}{16}$"ø	NONE

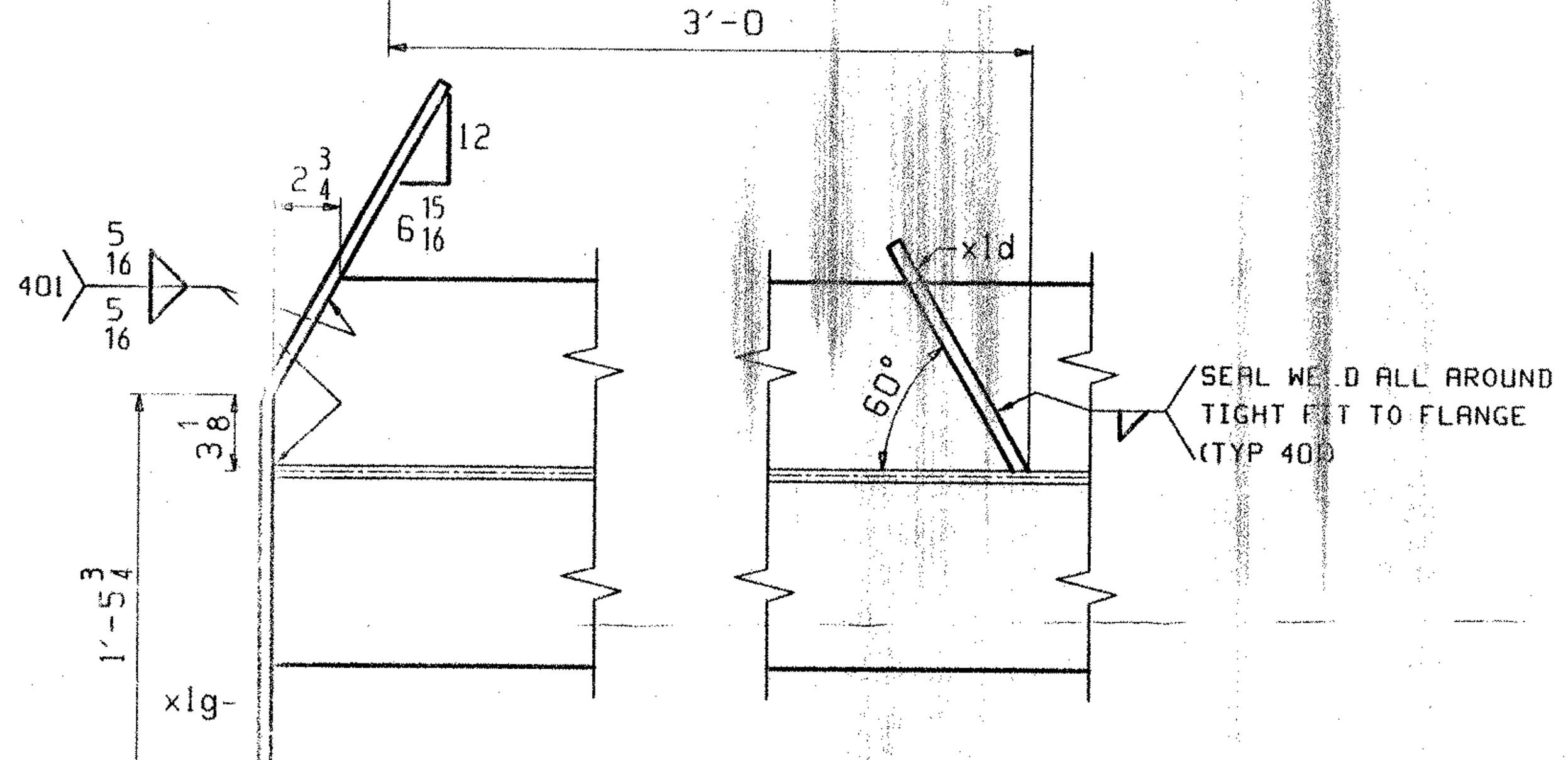
SURFACE PREP. & PAINT:
NONE

DESCRIPTION: GIRDER STANDARDS	DRAWN BY	DATE
JOB: BOSTWICK ROAD OVER VERMONT RAILWAY	JTB	11/14
BRIDGE NO. 15 HIGHWAY NO. TH 3	CHKD BY	
TOWN OF SHELBURNE	FTM	11/21/03
ENGR: McFarland-Johnson, INC.	APPROV BY	
TENSOR 2409 CONTRACTOR: S.D. IRELAND BROS. CORP.	SUPERVISOR	W. J. GATTI
PROJ NO. BRO 1445(30)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		
CASCO BAY STEEL STRUCTURES, INC.	JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072 PHONE (207) 282-7360 FAX. (207) 282-1179	209	X1
		REV. △

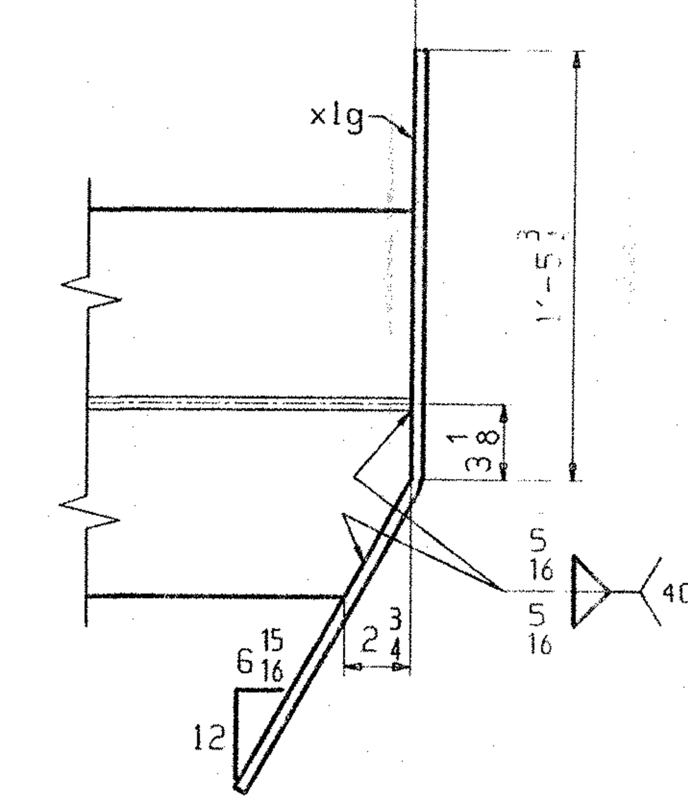


ONE - GIRDER - 1G1

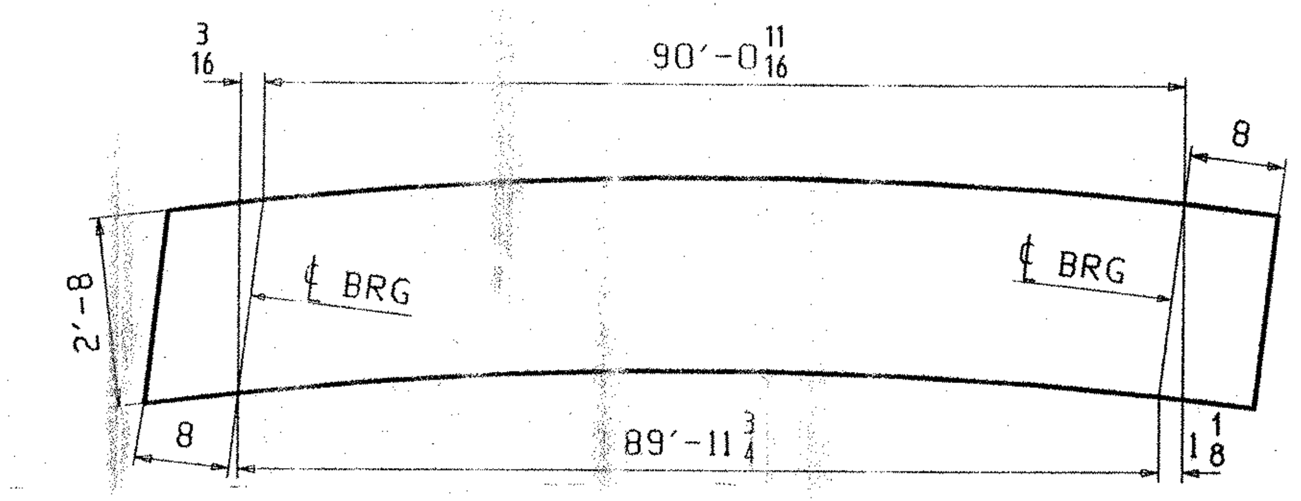
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



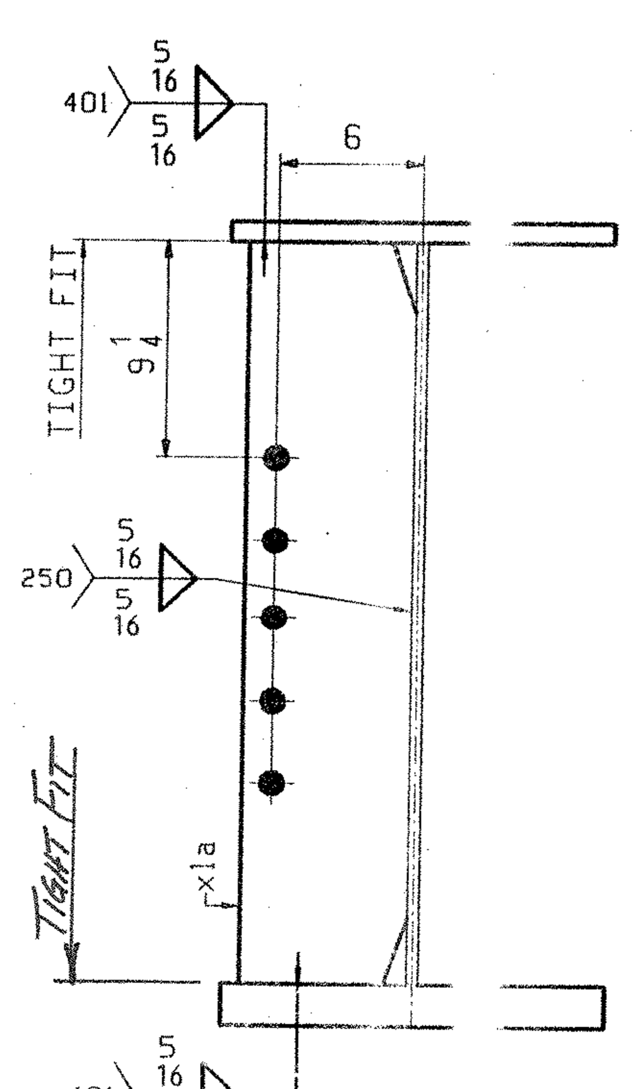
SECTION BA   SECTION BC



SECTION BB



ORIENTATION DIAGRAM
SEE C1



SECTION A

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									1	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	INCHES	REMARKS	WT	PROCUREMENT NOTES
		1G1	1		GIRDER				19122	
1	J		1	wa	PL $\frac{1}{2}\times33\frac{5}{8}$	45	$8\frac{1}{2}$	(M270-50WT2) (H2-3)		
1	J		1	wb	PL $\frac{1}{2}\times33\frac{5}{8}$	45	$8\frac{15}{16}$	(M270-50WT2) (H2-3)		
1	G		1	ta	PL $\frac{7}{8}\times16$	41	$4\frac{11}{16}$			
1	E		1	tb	PL $\frac{7}{8}\times16$	50	0			
1	C		1	ba	PL $1\frac{7}{8}\times16$	41	$3\frac{3}{4}$	(A709-50WT2) (H2-3)		
1	A		1	bb	PL $1\frac{7}{8}\times16$	50	0	(A709-50WT2) (H2-3)		
2	B		5	x1a	PL $\frac{1}{2}\times7\frac{1}{2}$	2	8			
2	E		1	x1d	PL $\frac{1}{4}\times3\frac{7}{8}$	0	$11\frac{1}{4}$			
2	D		2	x1g	PL $\frac{1}{4}\times9$	2	$8\frac{7}{8}$	BENT		

RECEIVED
CK'D BY______ OK'D BY______
DEC 09 2003
RESUBMIT______ APPROVED As Noted
BY RRW DATE 1-8-04

		DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
OUT FOR APPROVAL		K/03									
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

MATERIAL: A709-50W (UN)
ELECTRODES:
HOLES: $\frac{15}{16}$"Ø (UN)
SHOP BOLTS: NONE

SURFACE PREP. & PAINT:
NONE

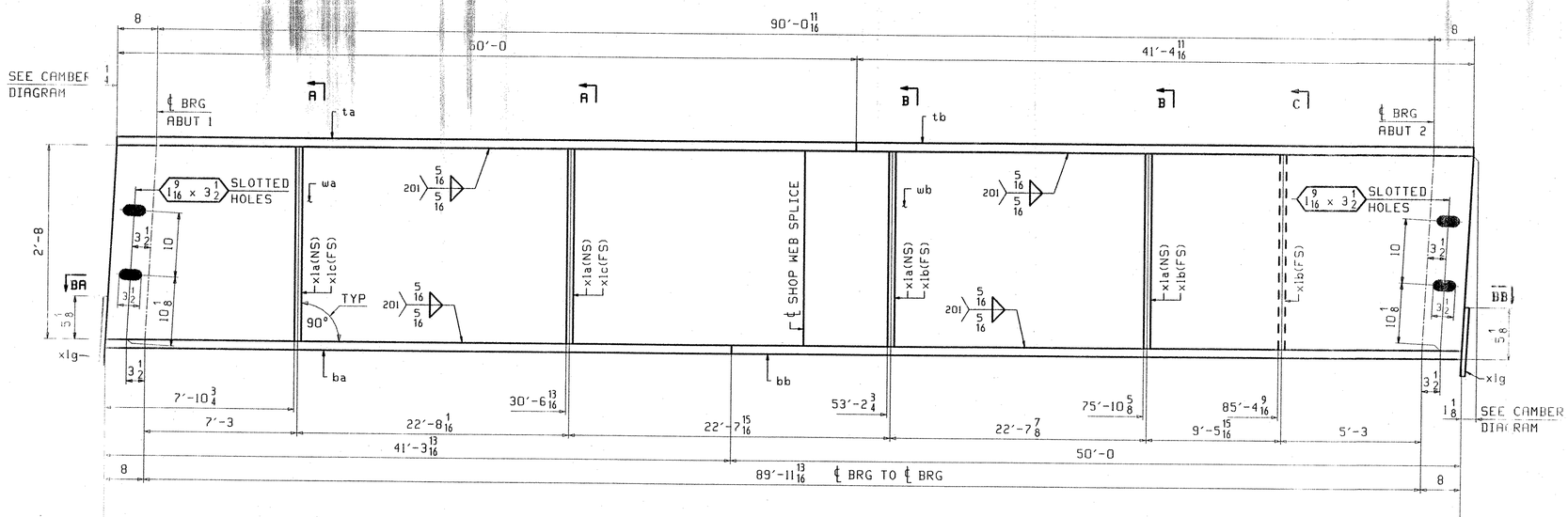
DESCRIPTION: GIRDER - 1G1	DRAWN BY	DATE
JOB: BOSTWICK ROAD OVER VERMONT RAILWAY	JTB	11/14
BRIDGE NO. 15 HIGHWAY NO. TH 3	CHKD BY	
TOWN OF SHELBURNE	FTM	11/21/03
ENGR: McFarland-Johnson, INC.	APPROV BY	
CONTRACTOR: S.D. IRELAND BROS. CORP.	SUPERVISOR	W. J. GATTI
PROJ NO. BRO 1445(30)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		

TENSOR 2409

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

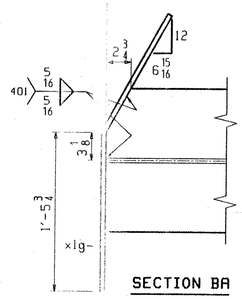
JOB NO. 209 | DRG. NO. 1 | REV.

176 55

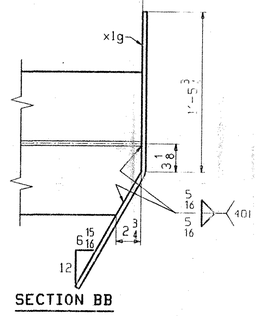


ONE - GIRDER - 2G2

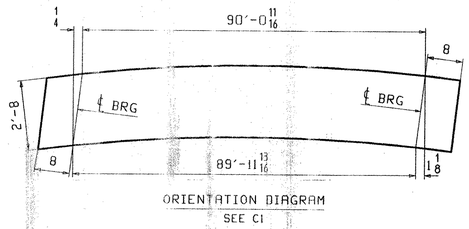
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



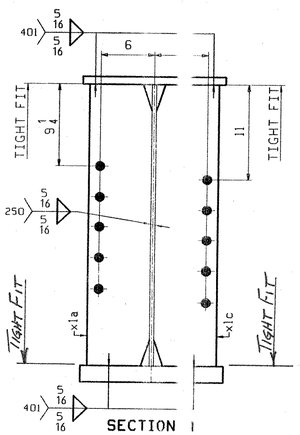
SECTION BA



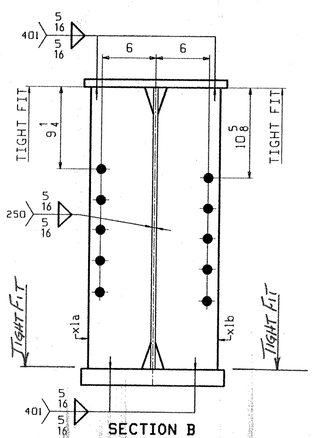
SECTION BB



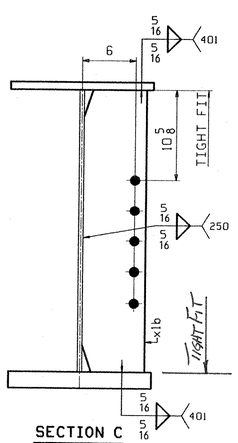
ORIENTATION DIAGRAM
SEE C1



SECTION A



SECTION B



SECTION C

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									2	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		2G2	1		GIRDER				19247	
1	J		1	wa	PL 1/2 x 33 1/2	45	8 1/2	(M270-50WT2) (H2-3)		
1	J		1	wb	PL 1/2 x 33 5/8	45	9	(M270-50WT2) (H2-3)		
1	E		1	ta	PL 7/8 x 16	50	0			
1	G		1	tb	PL 7/8 x 16	41	4 11/16			
1	C		1	ba	PL 1 7/8 x 16	41	3 13/16	(A709-50WT2) (H2-3)		
1	A		1	bb	PL 1 7/8 x 16	50	0	(A709-50WT2) (H2-3)		
2	B		4	xla	PL 1/2 x 7 1/2	2	8			
2	B		2	xlc	PL 1/2 x 7 1/2	2	8			
2	B		3	xlb	PL 1/2 x 7 1/2	2	8			
2	D		2	xlg	PL 1/4 x 9	2	8 7/8	BENT		

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	12-03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

RECEIVED
DEC 09 2003
RESUBMIT ____ APPROVED As Noted
BY RAW DATE 12-8-04

MATERIAL: A709-50W (UN)
ELECTRODES:
HOLES: 15/16-ø (UN)
SHOP BOLTS: NONE
SURFACE PREP. & PAINT: NONE

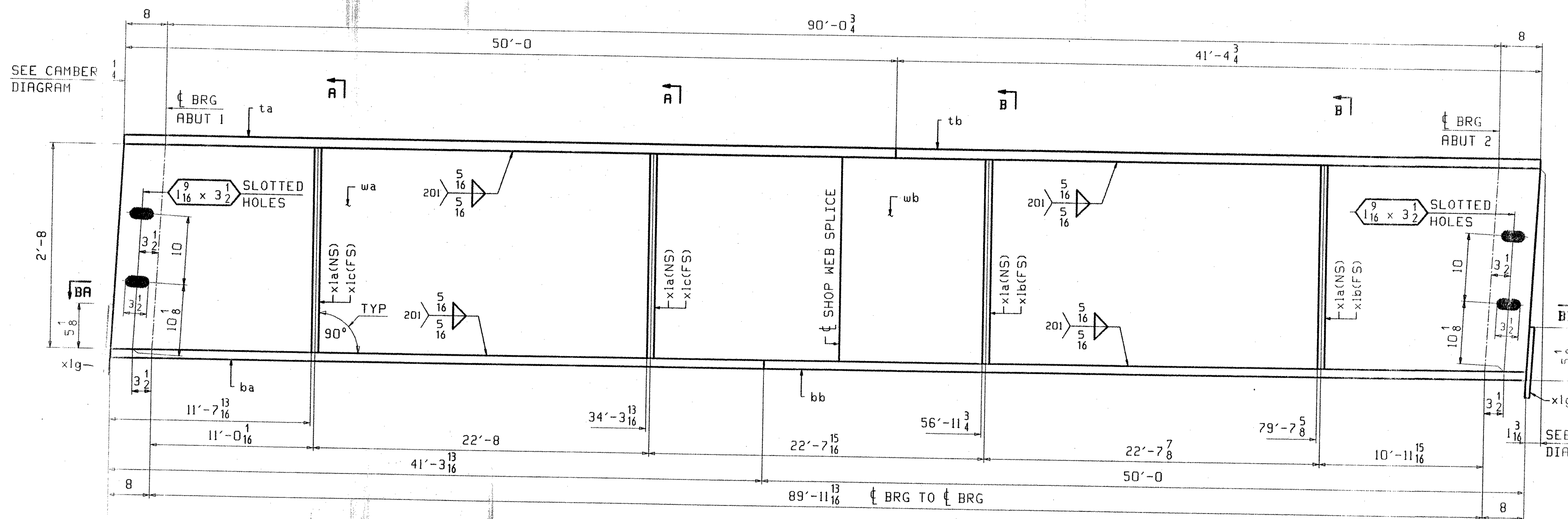
DESCRIPTION: GIRDER - 2G2
JOB: BOSTWICK ROAD OVER VERMONT RAILWAY
BRIDGE NO. 15 HIGHWAY NO. TH 3
TOWN OF SHELBURNE
ENGR: McFarland-Johnson, INC.
CONTRACTOR: S.D. IRELAND BROS. CORP.
PROJ NO. BRG 1445(30)
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION

DRAWN BY	DATE
JTB	11/14
CHKD BY	
FTM	11/21/03
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

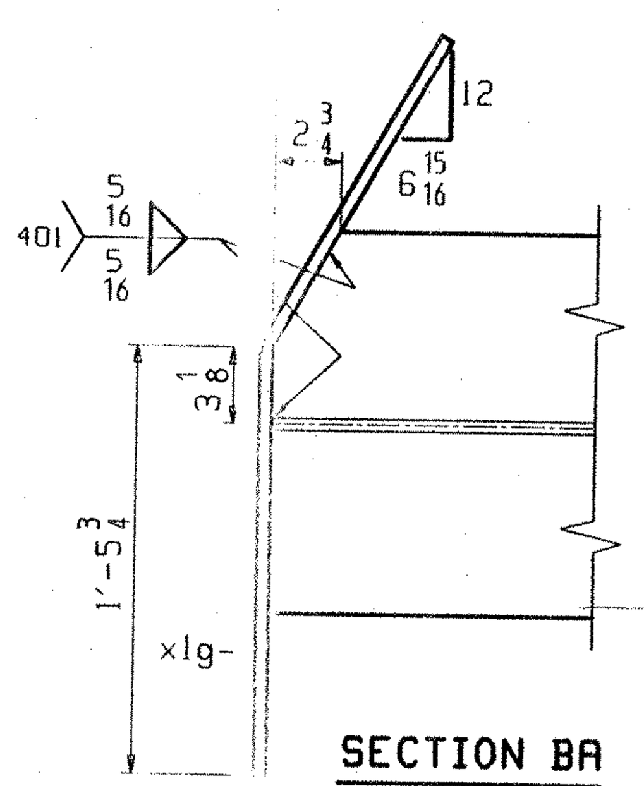
JOB NO.	DRG. NO.
209	2
	REV. △

12755

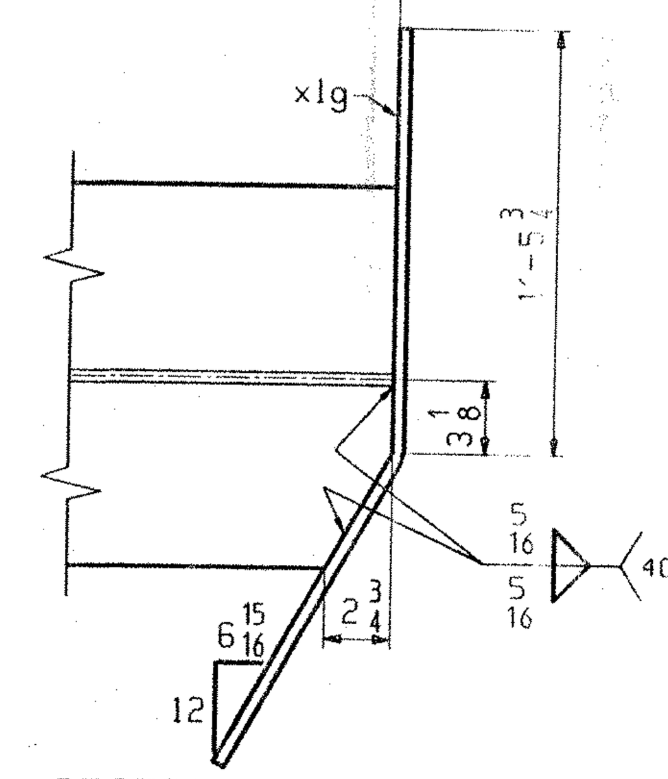


ONE - GIRDER - 3G3

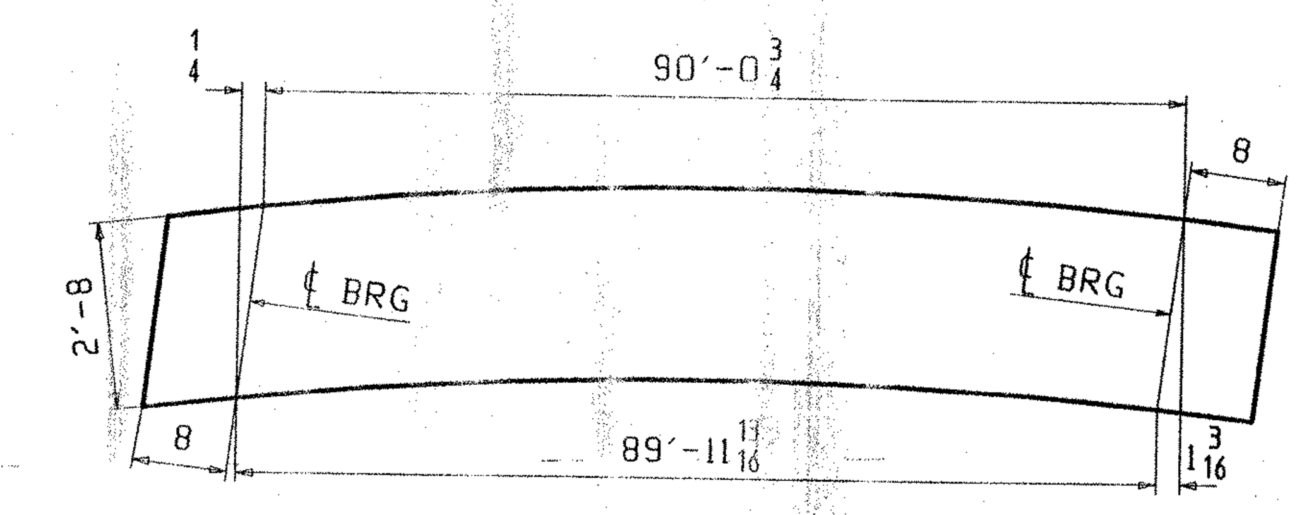
FOR GIRDER STANDARD DETAILS SEE DRAWING XI.
FOR CAMBER DIAGRAM SEE DRAWING CI.
FOR GENERAL NOTES SEE DRAWING GNI.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



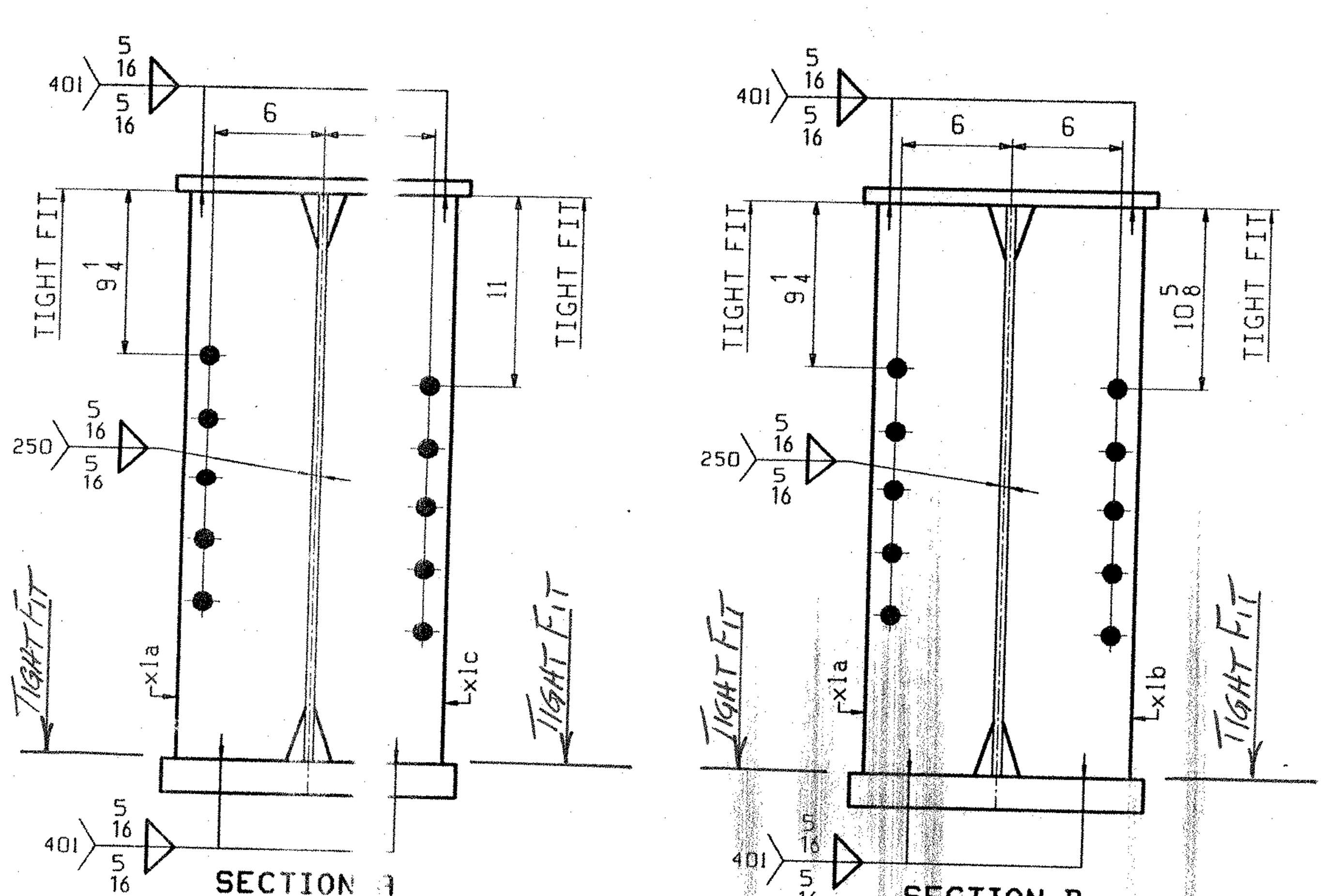
SECTION BA



SECTION BB



ORIENTATION DIAGRAM
SEE CI



SECTION A   SECTION B

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		3G3	1		GIRDER				19223	
1	J		1	wa	PL 1/2x33 5/8	45	8 1/2	(M270-50WT2) (H2-3)		
1	J		1	wb	PL 1/2x33 5/8	45	9 1/16	(M270-50WT2) (H2-3)		
1	E		1	ta	PL 7/8x16	50	0			
1	G		1	tb	PL 7/8x16	41	4 3/4			
1	C		1	ba	PL 1 7/8x16	41	3 13/16	(A709-50WT2) (H2-3)		
1	A		1	bb	PL 1 7/8x16	50	0	(A709-50WT2) (H2-3)		
2	B		4	xla	PL 1/2x7 1/2	2	8			
2	B		2	xlc	PL 1/2x7 1/2	2	8			
2	B		2	xlb	PL 1/2x7 1/2	2	8			
2	D		2	xlg	PL 1/4x9	2	8 7/8	BENT		

BILL OF MATERIAL — JOB NO. — DRAWING NO. 3 — REV.

RECEIVED
CK'D BY ____ OK'D BY ____
DEC 09 2003
RESUBMIT ____ APPROVED As Noted
BY RRW DATE 1-8-04

	REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.
OUT FOR APPROVAL			12-1-03				
OUT FOR APPROVAL							
ISSUED TO SHOP							
FIELD & OFFICE							

NO.	DIA.	LGT	TYPE	WASHER

MATERIAL: A709-50W (UN)
ELECTRODES:
HOLES: 15/16"Ø (UN)
SHOP BOLTS: NONE
SURFACE PREP. & PAINT: NONE

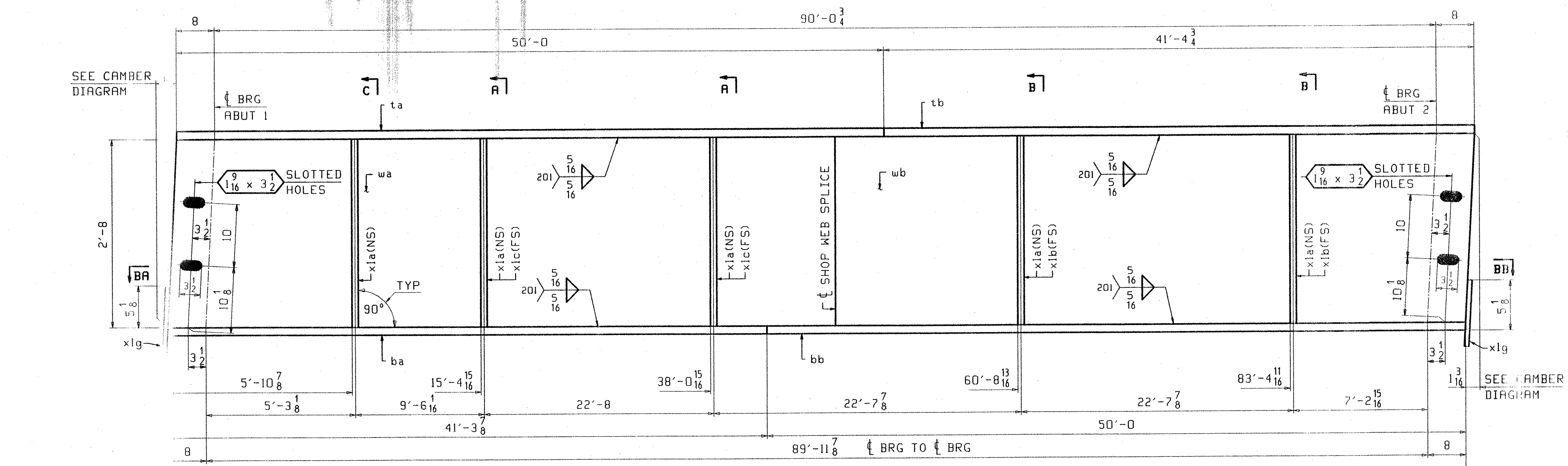
DESCRIPTION: GIRDER - 3G3
JOB: BOSTWICK ROAD OVER VERMONT RAILWAY
BRIDGE NO. 15 HIGHWAY NO. TH 3
TOWN OF SHELBURNE
ENGR: McFarland-Johnson, INC.
CONTRACTOR: S.D. IRELAND BROS. CORP.
TENSOR 2409
PROJ NO. BRO 1445(30)
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION

DRAWN BY	DATE
JTB	11/14
CHKD BY	
FTM	11/21/03
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

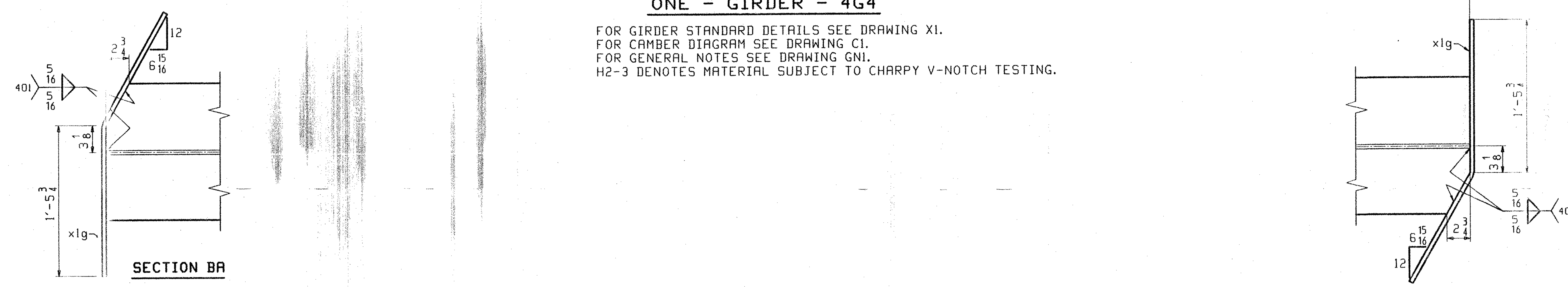
JOB NO. 209 DRG. NO 3 REV. 1

12855



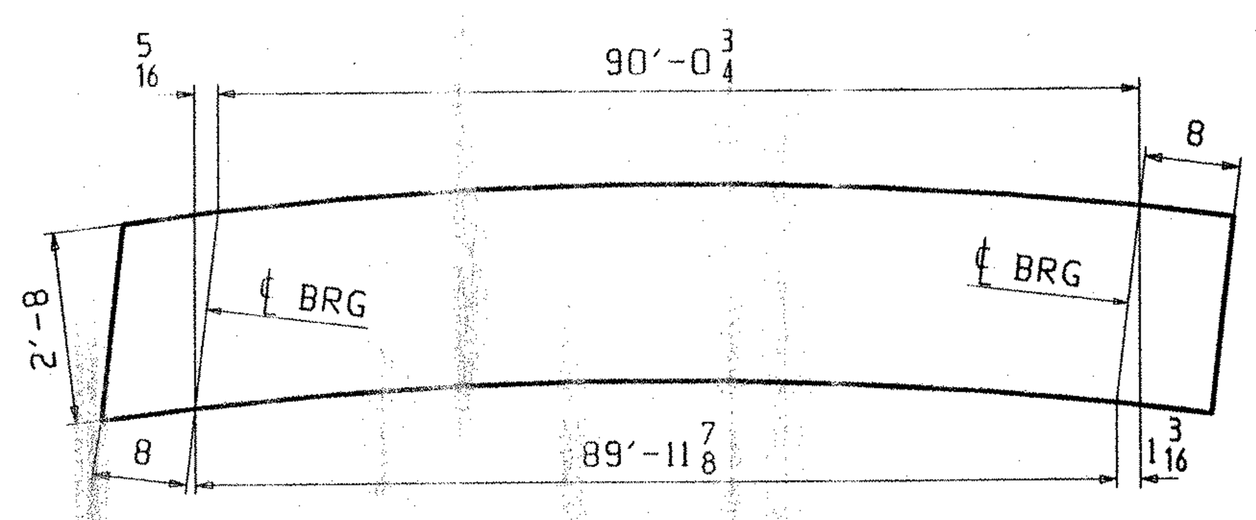
ONE - GIRDER - 4G4

FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

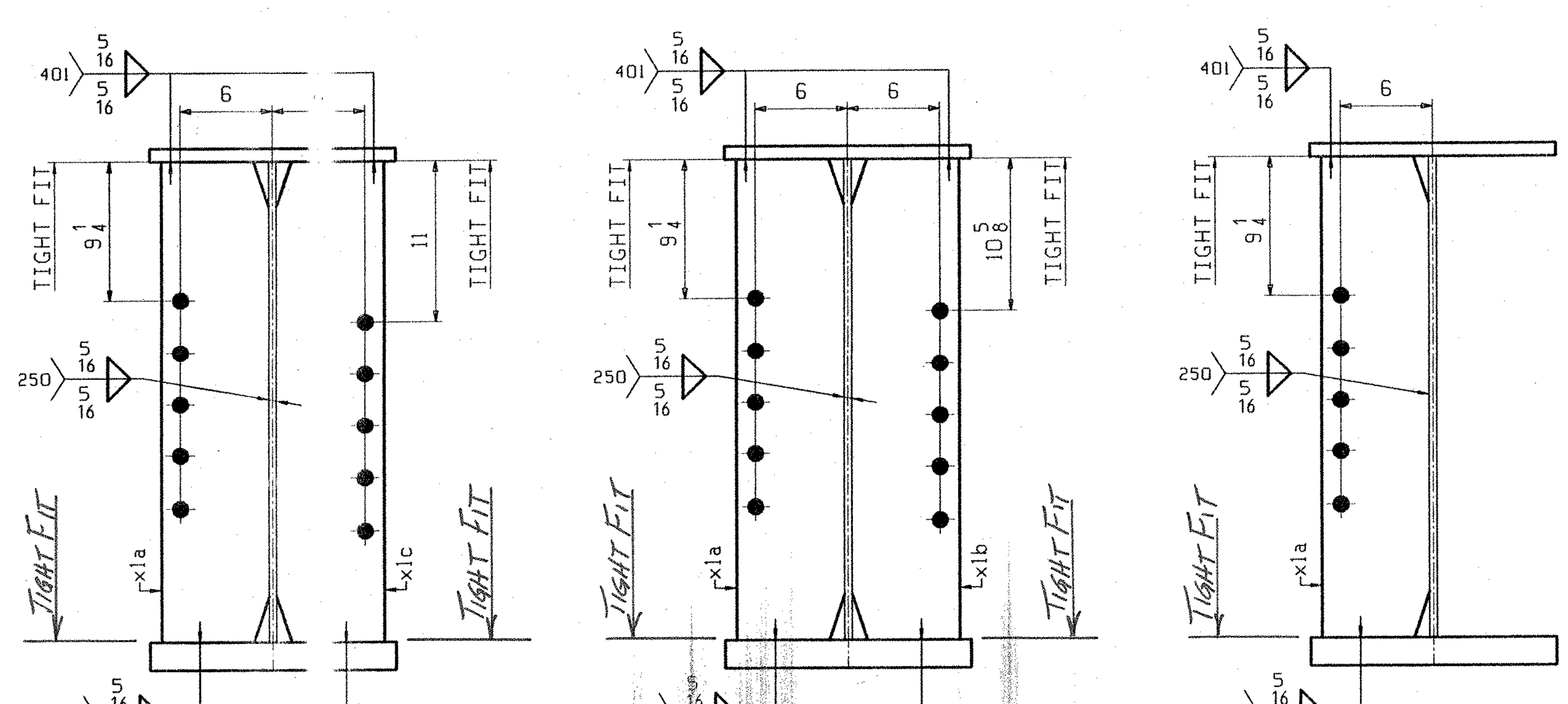


SECTION BA

SECTION BB



ORIENTATION DIAGRAM
SEE C1



SECTION A

SECTION B

SECTION C

ABM INFO		SHIP	BILL OF MATERIAL						JOB NO.	DRAWING NO. 4	REV.
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTE	
		4G4	1		GIRDER				19248		
1	J		1	wa	PL $\frac{1}{2}$x33$\frac{5}{8}$	45	8$\frac{1}{2}$	(M270-50WT2) (H2-3)			
1	J		1	wb	PL $\frac{1}{2}$x33$\frac{1}{2}$	45	9$\frac{1}{8}$	(M270-50WT2) (H2-3)			
1	E		1	ta	PL $\frac{7}{8}$x16	50	0				
1	G		1	tb	PL $\frac{7}{8}$x16	41	4$\frac{3}{4}$				
1	C		1	ba	PL 1$\frac{7}{8}$x16	41	3$\frac{7}{8}$	(A709-50WT2) (H2-3)			
1	A		1	bb	PL 1$\frac{7}{8}$x16	50	0	(A709-50WT2) (H2-3)			
[illegible]	B		5	x1a	PL $\frac{1}{2}$x7$\frac{1}{2}$	2	8				
[illegible]	B		2	x1c	PL $\frac{1}{2}$x7$\frac{1}{2}$	2	8				
[illegible]	B		2	x1b	PL $\frac{1}{2}$x7$\frac{1}{2}$	2	8				
[illegible]	D		2	x1g	PL $\frac{1}{4}$x9	2	8$\frac{7}{8}$	BENT			

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	12-1-03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

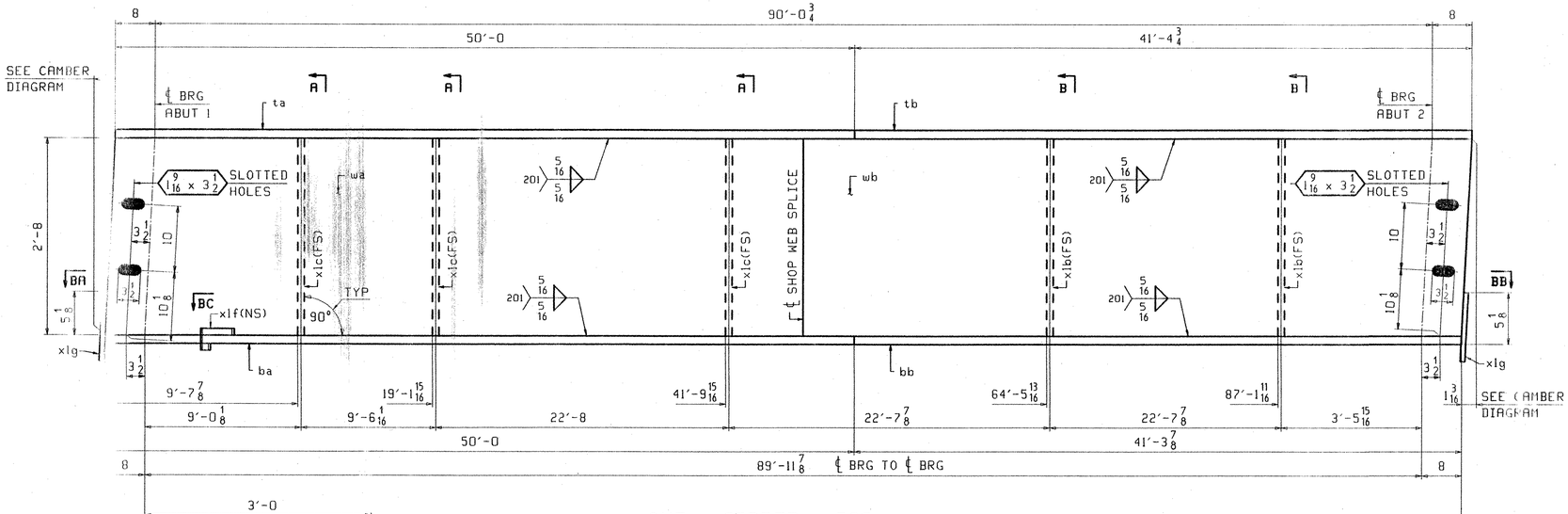
MATERIAL: A709-50W (UN)
ELECTRODES:
HOLES: $\frac{15}{16}$"Ø (UN)
SHOP BOLTS: NONE
SURFACE PREP. & PAINT: NONE

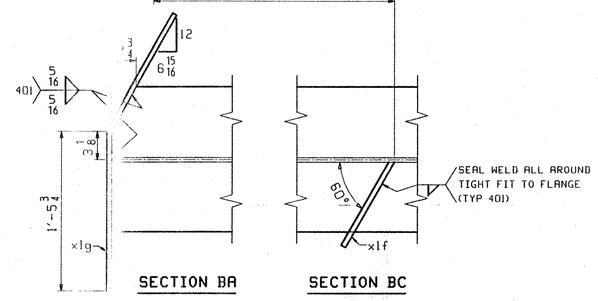
RECEIVED
CK'D BY ____ OK'D BY ____
DEC 09 2003
RESUBMIT ____ APPROVED As Noted
BY RRW DATE 1-8-04

DESCRIPTION: GIRDER - 4G4	DRAWN BY	DATE
JOB: BOSTWICK ROAD OVER VERMONT RAILWAY	JTB	11/14
BRIDGE NO. 15 HIGHWAY NO. TH 3	CHKD BY	
TOWN OF SHELBURNE	FTM	11/21/03
ENGR: McFarland-Johnson, INC.	APPROV BY	
CONTRACTOR: S.D. IRELAND BROS. CORP.	SUPERVISOR	W. J. GATTI
PROJ NO. BRO 1445(30)	Q.A.	
CUSTOMER: VERMONT AGENCY OF TRANSPORTATION		
CASCO BAY STEEL STRUCTURES, INC.	JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072	209	4
PHONE (207) 282-7360 FAX. (207) 282-1179		REV. △

TENSOR 2409

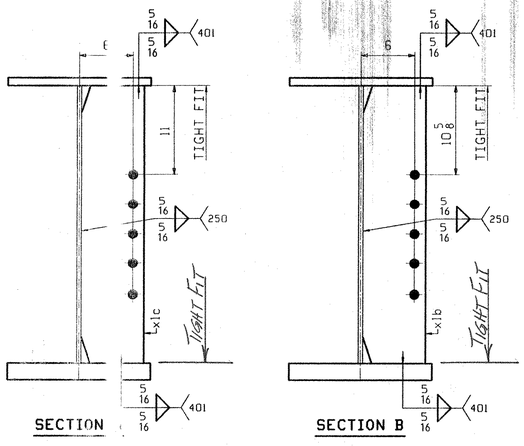
12955





SECTION BA

SECTION BC

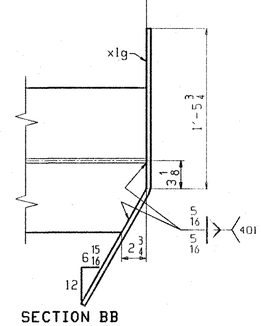


SECTION

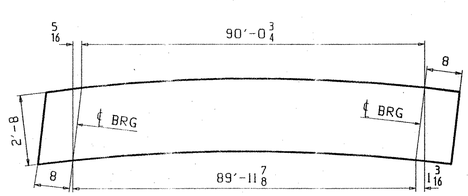
SECTION B

ONE - GIRDER - 5G5

FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION BB



ORIENTATION DIAGRAM
SEE C1

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									5	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTE
		5G5	1		GIRDER				19115	
1	J		1	wa	PL 1/2 x 33 5/8	45	8 1/2	(M220-50WT2) (H2-3)		
1	J		1	wb	PL 1/2 x 33 1/2	45	5 1/8	(M220-50WT2) (H2-3)		
1	E		1	ta	PL 7/8 x 16	50	0			
1	G		1	tb	PL 7/8 x 16	41	4 3/4			
1	A		1	ba	PL 1 7/8 x 16	50	0	(A709-50WT2) (H2-3)		
1	C		1	bb	PL 1 7/8 x 16	41	3 7/8	(A709-50WT2) (H2-3)		
2	B		3	x1c	PL 1/2 x 7 1/2	2	8			
2	B		2	x1b	PL 1/2 x 7 1/2	2	8			
2	E		1	x1f	PL 1/4 x 3 7/8	0	11 1/4			
2	D		2	x1g	PL 1/4 x 9	2	8 7/8	BENT		

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	12-1-03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

RECEIVED
CK'D BY _____ OK'D BY _____
DEC 05 2003
RESUBMIT _____ APPROVED As Noted
BY RHW DATE 1-8-04

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
A709-50W (UN)		15/16"Ø (UN)	NONE

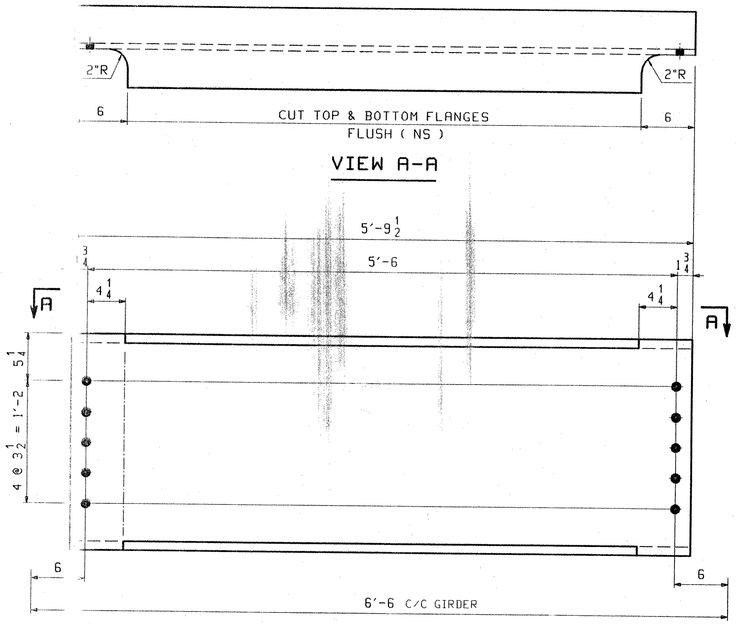
SURFACE PREP. & PAINT:
NONE

DESCRIPTION:	GIRDER - 5G5	DRAWN BY	DATE
JOB:	BOSTWICK ROAD OVER VERMONT RAILWAY BRIDGE NO. 15 HIGHWAY NO. TH 3	JTB	11/14
		CHKD BY	
	TOWN OF SHELBURNE	FTM	11/21/03
	ENGR: McFarland-Johnson, INC.	APPROV BY	
TENSOR 2409	CONTRACTOR: S.D. IRELAND BROS. CORP.	SUPERVISOR	W. J. GATTI
PROJ NO.	BRO 1445(30)	Q.A.	
CUSTOMER:	VERMONT AGENCY OF TRANSPORTATION		

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
209	5
	REV. △

130 55



18 ~ DIAPHRRAGM - 6D1

LOOKING WEST (BK STATION)

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
					DIAPHRAGMS					
2	H		18	6D1	W 24x103	5	9 1/2	(A709-50W)		

RECEIVED
CK'D BY _____ CK'D BY _____
DEC 09 2003
RESUBMIT _____ APPROVED
BY RKW DATE 12-8-04

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	12-1-03									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
A709-50W		15/16"Ø	NONE

SURFACE PREP. & PAINT:
NONE

DESCRIPTION: INTERMEDIATE DIAPHRAGM

JOB: BOSTWICK ROAD OVER VERMONT RAILWAY
BRIDGE NO. 15 HIGHWAY NO. TH 3
TOWN OF SHELBURNE
ENGR: McFarland-Johnson, INC.
CONTRACTOR: S.D. IRELAND BROS. CORP.

PROJ NO. BRO 1445(30)

CUSTOMER: VERMONT AGENCY OF TRANSPORTATION

DRAWN BY	DATE
JTB	11/14
CHKD BY	
FTM	11/21/03
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	

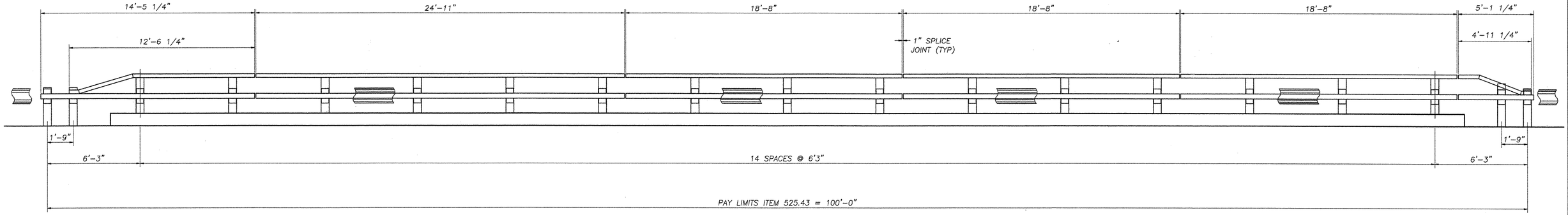
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
209	6
	REV. 1

13155

BILL OF MATERIAL				
Qty.	Description	Size/Shape	Length	Material
30	FASCIA MTD. POST	W8 x 24	4'-1"	A572 GR 50
6	DRIVEN POST	W8 x 24	6'-0"	A572 GR 50
2	DRIVEN POST	W8 x 24	6'-4"	A572 GR 50
16	HDSB RAIL 12'-6" / 6'-3"	W-BEAM	12'-6"	AASHTO M180 B2
2	HAND RAIL TUBE	TS 6 x 3 x 1/4"	24'-11"	A500 GR B
6	HAND RAIL TUBE	TS 6 x 3 x 1/4"	18'-8"	A500 GR B
2	HAND RAIL DROP END	TS 6 x 3 x 1/4"	12'-6.250"	A500 GR B
2	HAND RAIL DROP END	TS 6 x 3 x 1/4"	4'-11.250"	A500 GR B
2	BRIDGE TUBING	TS 8 x 4 x 3/16"	24'-11"	A500 GR B
6	BRIDGE TUBING	TS 8 x 4 x 3/16"	18'-8"	A500 GR B
2	BRIDGE TUBING	TS 8 x 4 x 3/16"	14'-5.250"	A500 GR B
2	BRIDGE TUBING	TS 8 x 4 x 3/16"	5'-1.250"	A500 GR B
20	SPLICE PLATE	.750" x 5"	2'-7"	A572 GR 50
30	SHELF BRACKET	L5 x 3 1/2 x 3/8"	6.500"	A36
72	TUBE BLOCK TS 8x4x3/16x6" LG.	TS 8 x 4 x 3/16"	6"	A500 GR B
~~40~~ 38	SPECIAL PLATE WASHER .1875	~~2.50~~ 2.50" x 1.750"	3"	A572 GR 50
10	SPLICE CHANNEL	C7 x 12.25	2'-7"	A572 GR 50
40	HEX BOLT W/HEAVY HEX NUT & FLAT WASHER	3/4"ø	4"	A307
~~40~~ 38	HEX BOLT W/NUT & STD. WASHER	5/8"ø	10"	A325
30	HEX BOLT W/NUT & (2) STD. WASHERS	5/8"ø	4.500"	A307
72	HEX BOLT W/NUT & STD. WASHER	5/8"ø	2"	A325
60	HEX BOLT W/NUT & STD. WASHER	5/8"ø	2"	A307
40	HEX BOLT W/STD. WASHER	5/8"ø	2"	A325
128	RD HEAD SPLICE BOLT W/NUT	5/8"ø	1.250"	A307
~~34~~ 38	HEX BOLT W/NUT & (2) STD. WASHERS	5/8"ø	13"	A325
* 60	U-BOLT ANCH. W/(4)NUTS&(2)STD. WASHERS	1"ø	- - -	A449
*120	PLATE WASHER	.250" x 2"	5"	A36

* - PROVIDED BY OTHERS - NOT SUPPLIED BY HIGHWAY SAFETY CORP.



ELEVATION - NORTH BRIDGE RAIL
FACING NORTH FROM ℄ OF ROADWAY
SOUTH BRIDGE RAILING SIMILAR

TOTAL PAY LIMITS FOR ITEM 525.43 (STEEL BRIDGE RIALING HDSB WITH HANDRAIL) = 200 LF

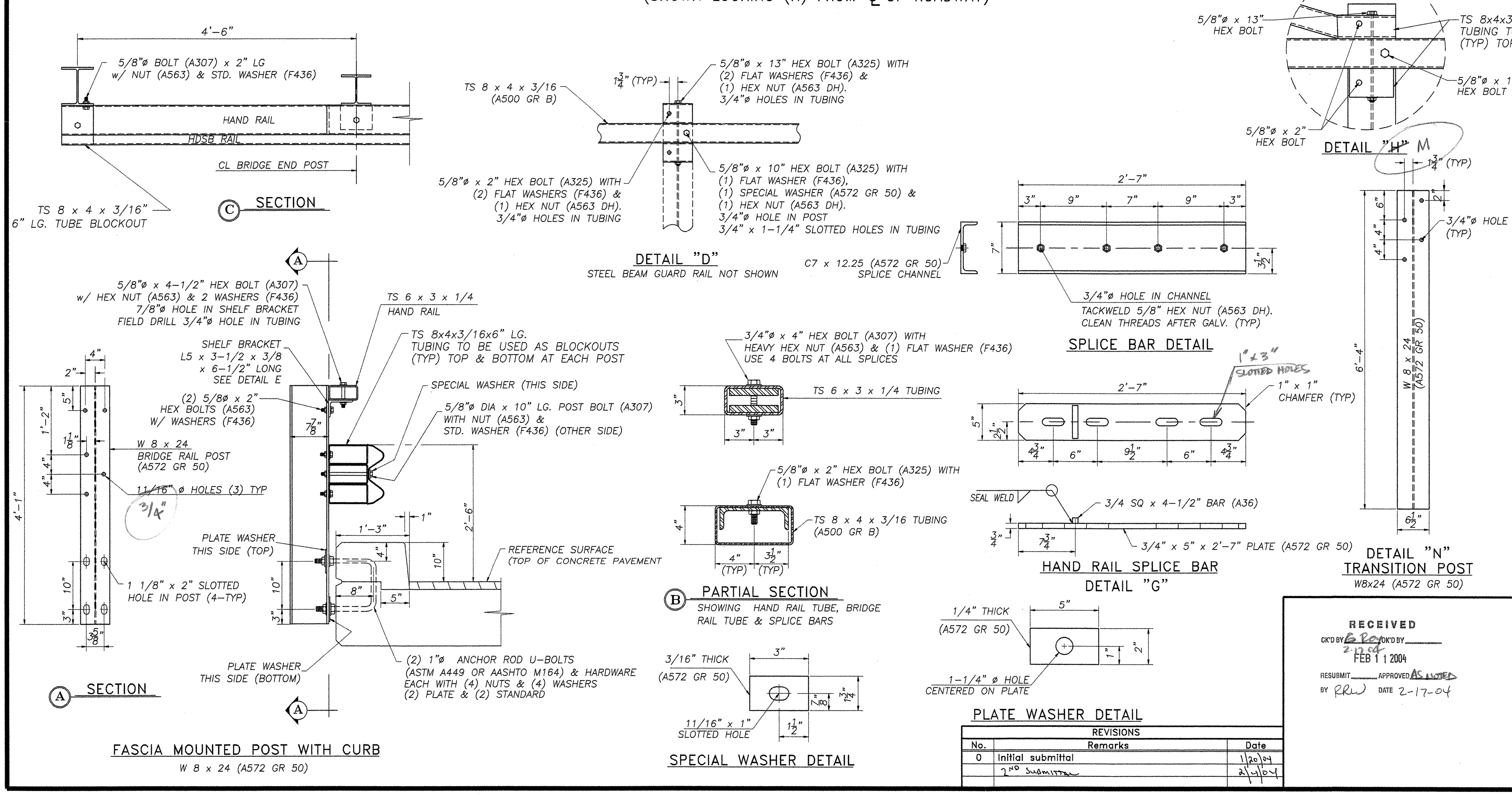
REVISIONS		
No.	Remarks	Date
0	Initial submittal	1/20/04
	2ND SUBMITTAL	2/4/04

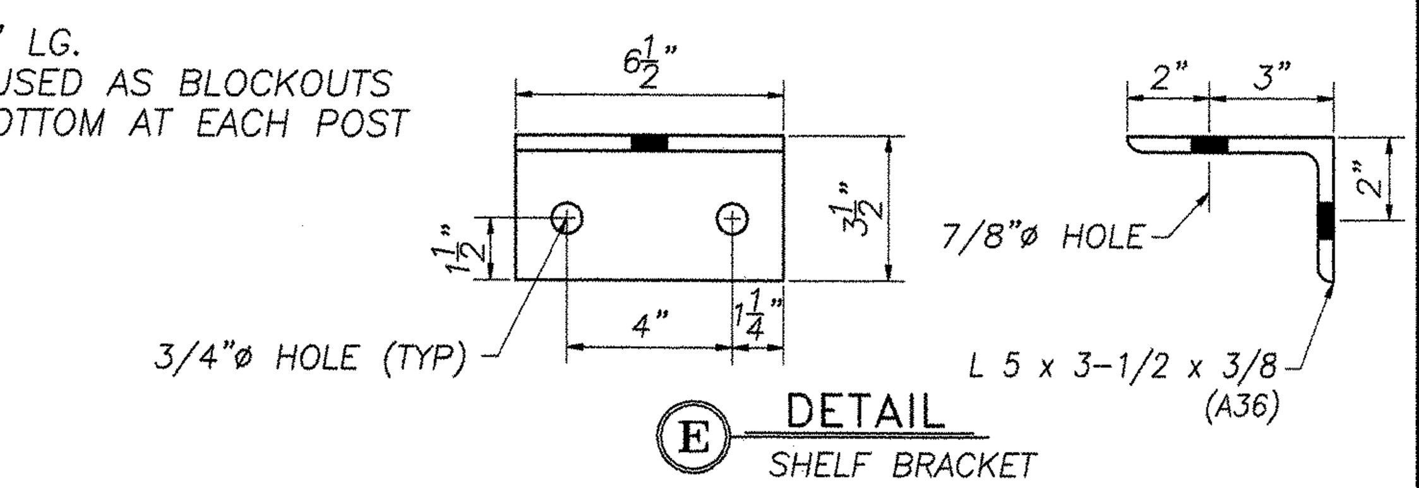
RECEIVED
O'K'D BY G Rey 2-17-04 O'K'D BY _____
FEB 11 2004
RESUBMIT _____ APPROVED AS NOTED
BY RRW DATE 2-17-04

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

ITEM 525.43 STEEL BRIDGE RAIL - HDSB W/HANDRAIL
TOWN OF SHELBURNE, CHITTENDEN COUNTY
BOSTWICK ROAD OVER VERMONT ROAD
BRIDGE No. 15
BHO 1445 (30)

DRAWN	J. Ruiz
CHECKED	
DATE	1/19/04
SCALE	NONE
HSC REFERENCE NO.	1412
SIZE	D
REVISION	0
SHEET NO.	1 of 2
GENERAL CONTRACTOR	
SUB CONTRACTOR	F.R. LAFAYETTE, INC.





GENERAL ERECTION NOTES

1. Heavy duty steel beam guard rail shall conform to VT. specification 732. AASHTO M180 B2
2. Structural steel tubing shall conform to VT. specification 732. ASTM A500 gr B
3. Anchor bolts, nuts and washers shall be galvanized in accordance with AASHTO M 232 and shall conform to VT. specification 714 unless otherwise noted.
4. Bridge rail posts, special washers, splice bars and plate washers shall conform to AASHTO M 223 / M 223M and shall be galvanized after fabrication in accordance with AASHTO M 111. Prior to galvanizing all corners and edges of steel plates, shapes, etc., shall be ground to a 1/16" radius.
5. See standard drawing G-1 and G-1d for additional details concerning guard rail.
6. See standard drawing SB-R6-82 for approach rail details and for information relative to schedule I and schedule II. All approach rail shall be heavy duty steel beam guard rail. Also see Std. Dwg. SB-R6-82 for handrail details (except end details) if hand rail is required.
7. All posts shall be set normal to grade.
8. Splices for the steel beam guard rail shall lap in the direction of traffic.
9. See Standard drawing G-1 for details of delineators. A delineator shall be located at every fifth post. Payment shall be subsidiary to other items.
10. A railing joint splice shall be provided at each superstructure expansion joint.
11. All field cut or drilled areas shall be coated with zinc rich paint.
12. For radii less than 950 feet, the steel tubing shall be shop bent to fit the applicable curve.
13. The drop-weight tear test in section 732 shall not apply to the structural tubing on this standard.
14. All bolts and related hardware shall conform to AASHTO M164 type 1 bolts, hot dipped or mechanically galvanized per specification.

RECEIVED
CK'D BY G. Roy 2.17.04 OK'D BY ____
FEB 1 1 2004
RESUBMIT ____ APPROVED AS NOTED
BY RRW DATE 2-17-04

REVISIONS		
No.	Remarks	Date
0	Initial submittal	1/20/04
	2nd Submittal	2/4/04

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

ITEM 525.43 STEEL BRIDGE RAIL – HDSB W/HANDRAIL
TOWN OF SHELBURNE, CHETTENDEN COUNTY
BOSTWICK ROAD OVER VERMONT ROAD
BRIDGE No. 15
BHO 1445 (30)

GENERAL CONTRACTOR
SUB CONTRACTOR F.R. LAFAYETTE, INC.

DRAWN	J. Ruiz
CHECKED	[illegible]
DATE	1/19/04
SCALE	NONE
HSC REFERENCE NO.	1412
SIZE	D
REVISION	0
SHEET NO.	2 of 2