SEE SHEET 2 FOR INDEX OF SHEETS AND STANDARDS LIST

RECORD PLANS

CONTRACTOR: ALPINE CONSTRUCTION, LLC - SCHUYLERVILLE, NY

RESIDENT ENGINEER: JOE KNIPES

CONSTRUCTION BEGAN: JANUARY 6, 2012

CONSTRUCTION COMPLETE: JANUARY 9, 2014

RECORD PLANS BY: JOE KNIPES

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

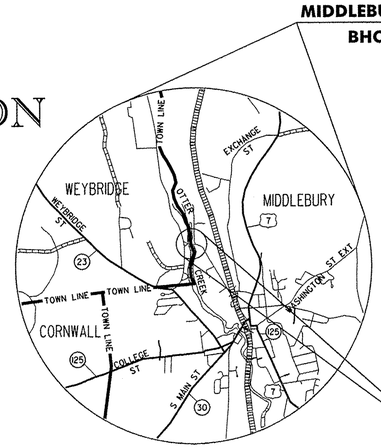
BY _____ RESIDENT ENGINEER

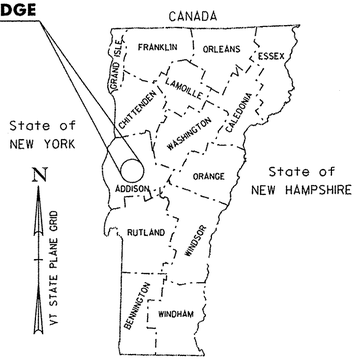
DATE 7-6-15

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.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

MIDDLEBURY–WEYBRIDGE
BHO 1445(33)





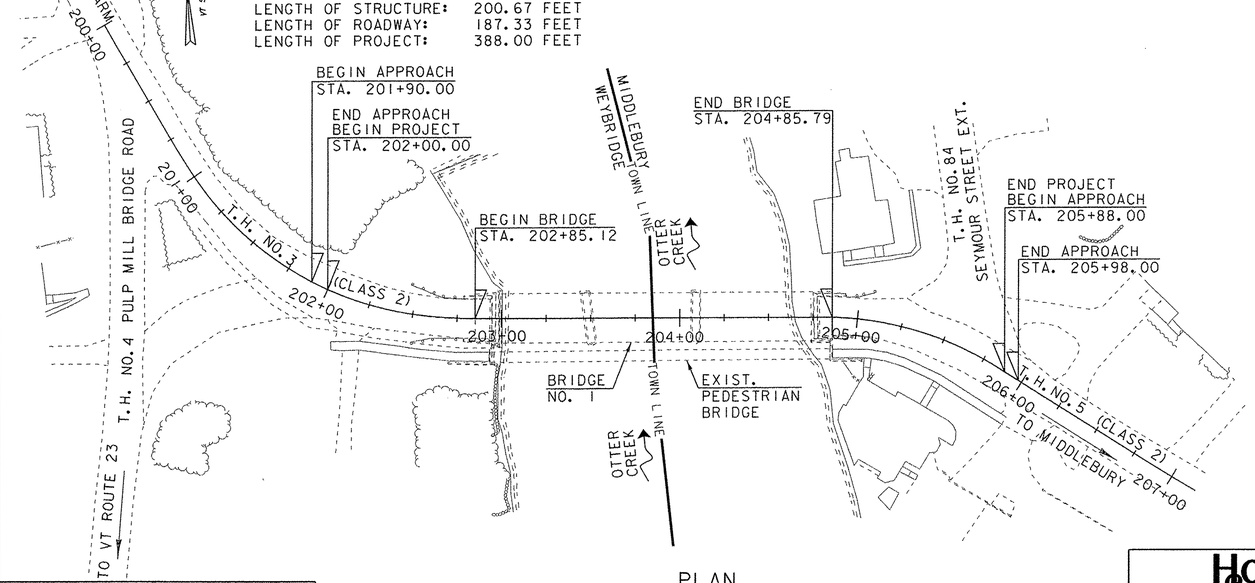
PROJECT LOCATION

PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWNS OF MIDDLEBURY AND WEYBRIDGE
COUNTY OF ADDISON
T.H. NOS. 3 AND 5 (CLASS 2) BRIDGE NO. 1

PROJECT LOCATION: ON T.H. NOS. 3 AND 5 BEGINNING APPROXIMATELY 0.34 MILES EAST OF ITS INTERSECTION WITH VT ROUTE 23 AND EXTENDING EASTERLY FOR 388 FEET.

PROJECT DESCRIPTION: REHABILITATION OF THE PULP MILL COVERED BRIDGE CONSISTS OF REPLACING THE DETERIORATED BRIDGE MEMBERS, INSTALLATION OF NEW SIDING AND A NEW METAL ROOF, SUBSTRUCTURE REPAIRS, INSTALLATION OF APPROACH RAILING AND RECONSTRUCTION OF ROADWAY APPROACHES.

LENGTH OF STRUCTURE: 200.67 FEET
LENGTH OF ROADWAY: 187.33 FEET
LENGTH OF PROJECT: 388.00 FEET



PLAN
SCALE: 1" = 40'-0"
0 40 80

CONVENTIONAL SYMBOLS

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

SURVEYED BY : L. ORVIS P.C. & G. HITCHCOCK
SURVEYED DATE : 3-14-07

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

Hoyle, Tanner & Associates, Inc.
125 College St. 4th Floor Burlington, VT 05401
Telephone: 802-860-1331 Fax: 802-860-6499
E-Mail: bridge-structures@hoyletanner.com Web Page: www.hoyletanner.com

HTA PROJECT NO.	MODEL
904217	Front

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 9/22/10

PROJECT MANAGER : M. D. SARGENT

PROJECT NAME : MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER : BHO 1445(33)

SHEET 1 OF 66 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

INDEX OF SHEETS

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4	PROPOSED TYPICAL PORTAL SECTION
5	EXISTING TYPICAL BRIDGE SECTION
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8	QUANTITY SHEET #1
9	QUANTITY SHEET #2
10	QUANTITY SHEET #3
11	TRAVERSE & GEODETIC CONTROL INFO.
12	TIE SHEET
13	T.H. NOS. 3 & 5 ROADWAY PLAN
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STANDARDS LIST

C-10	CURBING	02-11-2008
D-11	STEEL OR IRON GRATES & COVERS (TYPE A)	06-01-1994
D-15	PRECAST REINF CONC. MH-GRATES, CAST IRON GRATE WITH FRAME, TYPE D & E	06-01-1994
E-100	CONSTRUCTION APPROACH SIGNS	01-02-2004
E-102	CONSTRUCTION SIGN DETAILS	06-30-2003
E-102A	CONSTRUCTION SIGN DETAILS	05-01-2004
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	06-30-2003
E-107A	BREAKAWAY BARRICADE DETAILS	06-08-2009
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-141	REGULATORY SIGN DETAILS	09-20-1995
E-154	WARNING SIGN DETAILS	05-01-2004
E-155	WARNING SIGN DETAILS	05-01-2004
E-164	SQUARE STEEL SIGN POST	06-08-2009
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	01-03-2000
G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN)	01-03-2000
G-16	STEEL BEAM GUARDRAIL ATTACHMENTS TO EXISTING BRIDGE, TERMINAL CONNECTOR FOR STEEL BEAM GUARDRAIL	06-01-1994

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO. 904217

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: May 18, 2009

DRAINAGE AREA : 631 sq. mi.
CHARACTER OF TERRAIN : Hilly to mountainous
STREAM CHARACTERISTICS : Sinuous, incised, large stream
NATURE OF STREAMBED : Silt and ledge

PEAK FLOW DATA

Q 2.33 =	4,500 cfs	Q 50 =	11,000 cfs
Q 10 =	7,750 cfs	Q 100 =	13,000 cfs
Q 25 =	9,500 cfs	Q 500 =	16,000 cfs

DATE OF FLOOD OF RECORD : November 1927
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Approximately 320'
NATURAL STREAM VELOCITY : @ Q25 = Not calculated. *
ICE CONDITIONS : Low
DEBRIS: Low
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Yes
IF YES, DESCRIBE: A dam downstream backs water up through the bridge and controls the hydraulics at this site.

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: 3-span covered bridge
YEAR BUILT: 1853 ~~1820~~, reconstructed in 1980
CLEAR SPAN(NORMAL TO STREAM): 169' total
VERTICAL CLEARANCE ABOVE STREAMBED: 19'
WATERWAY OF FULL OPENING:
DISPOSITION OF STRUCTURE: Rehabilitate
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 =	*	VELOCITY =	*
Q10 =	317.7'	"	
Q25 =		"	
Q50 =	318.6'	"	
Q100 =	320.3'	"	

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 327.6'
DISCHARGE OVER ROAD @Q100: None

UPSTREAM STRUCTURE

TOWN: Middlebury DISTANCE: 1.0 mi.
HIGHWAY # : VT 30 (TH 2 - Main Street) STRUCTURE #: 101
CLEAR SPAN: Three spans at 40' each = 120' CLEAR HEIGHT: 26'
YEAR BUILT: 1893 FULL WATERWAY:
STRUCTURE TYPE: Three span stone arch

DOWNSTREAM STRUCTURE

TOWN: New Haven - Weybridge DISTANCE: 4.3 mi.
HIGHWAY # : TH 7 STRUCTURE #: 26
CLEAR SPAN: 148' CLEAR HEIGHT: 16'
YEAR BUILT: 1908 FULL WATERWAY:
STRUCTURE TYPE: Steel through truss bridge

WORKING STRESS LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	4	-					
POSTED	4	-	-		-	-	-
OPERATING		-	-	-	-	-	

COMMENTS: BOTTOM CHORD AND FLOOR BEAMS CONTROL THE LOAD RATING

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2010	1900	200	55	1.2	30
2030	2000	210	55	1.5	45

20 year ESAL for flexible pavement from 2010 to 2030 : 92,000
40 year ESAL for flexible pavement from 2010 to 2050 : NA
Design Speed : 25 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Rehabilitated 3-span covered bridge

CLEAR SPAN(NORMAL TO STREAM): 169' total
VERTICAL CLEARANCE ABOVE STREAMBED: 19'
WATERWAY OF FULL OPENING:

WATER SURFACE ELEVATIONS AT:

Q2.33 =	*	VELOCITY=	*
Q10 =	317.7'	"	
Q25 =	*	"	
Q50 =	318.6'	"	
Q100 =	320.3'	"	

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 327.6'
DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 324.9'
VERTICAL CLEARANCE: @ Q100 = 4.6'

SCOUR: *

REQUIRED CHANNEL PROTECTION: Stone Fill, Type II where needed

PERMIT INFORMATION

AVERAGE DAILY FLOW:	1330 cfs	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	560 cfs	Elev. 314'
ORDINARY HIGH WATER:	1930 cfs	Elev. 316'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: None
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

This project is for rehabilitation of the existing bridge with no hydraulic changes anticipated.
*No hydraulic study was done for this project. Water surface elevations are from the 1984 Middlebury Flood Insurance Study.

DESIGN CRITERIA

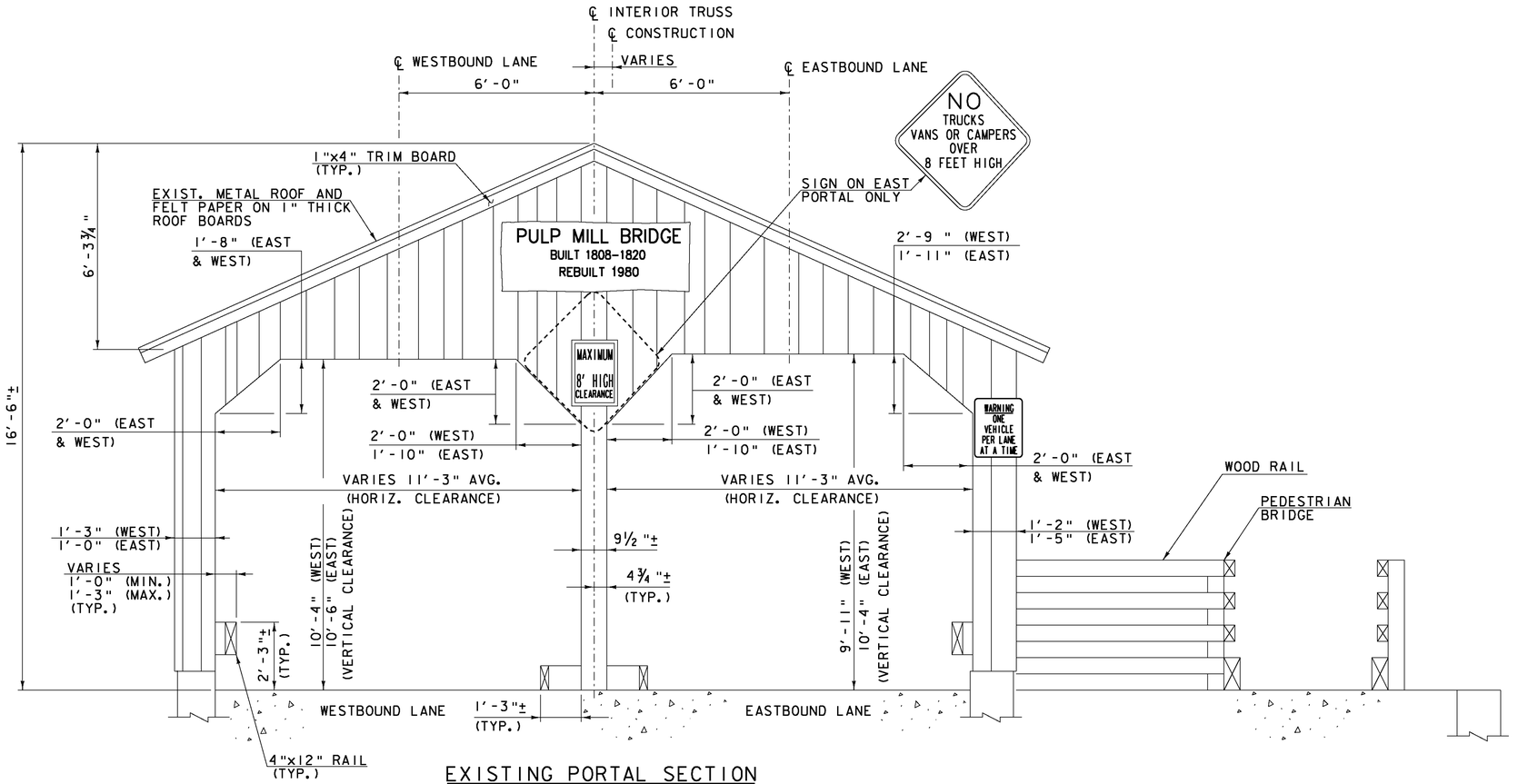
1. DESIGN LIVE LOAD AASHTO H4
2. DESIGN SPAN 3 SPAN CONTINUOUS - 180 FEET TOTAL
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL NA
   ON LEDGE NA
4. ALLOWABLE LOAD FOR PILING NA
   TYPE NA
   ESTIMATED LENGTH NA
5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE 50W
6. REINFORCING STEEL GRADE 60
7. CONCRETE, HIGH PERFORMANCE CLASS A f'c: N/A
   CONCRETE, HIGH PERFORMANCE CLASS B f'c: 3500 psi
8. DESIGN SOIL UNIT WEIGHT 140 PCF
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL NA

TRAFFIC MAINTENANCE

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

PROJECT NAME: **MIDDLEBURY-WEYBRIDGE**
PROJECT NUMBER: **BHO 1445(33)**

FILE NAME: **Z06J086PI.xls** PLOT DATE: **07/22/2011**
PROJECT MANAGER: **M.D.SARGENT** DRAWN BY: **J.B.MCQUAID**
DESIGNED BY: **J.BICJA** CHECKED BY: **S.T.JAMES**
PRELIMINARY INFORMATION SHEET SHEET **2** OF **66**



EXISTING PORTAL SECTION
(LOOKING EAST)

(WEST PORTAL SHOWN, EAST SIMILAR)
SCALE: ½" = 1'-0"

NOTE: DIMENSIONS OF TIMBER AND LUMBER MEMBERS SHOWN ON THE PLANS ARE THE ACTUAL SIZES UNLESS OTHERWISE NOTED.

SCALE: ½" = 1'-0"
1 0 1 2

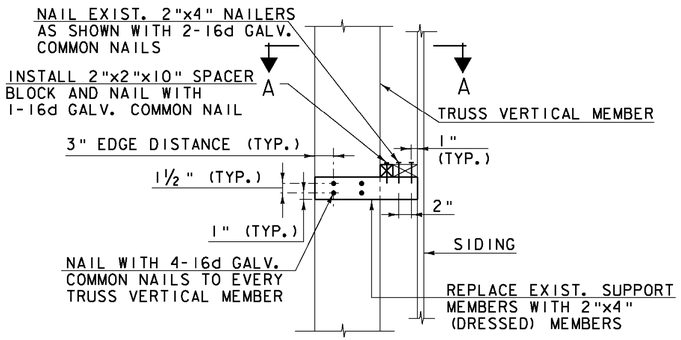
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Bridge Typ Sec

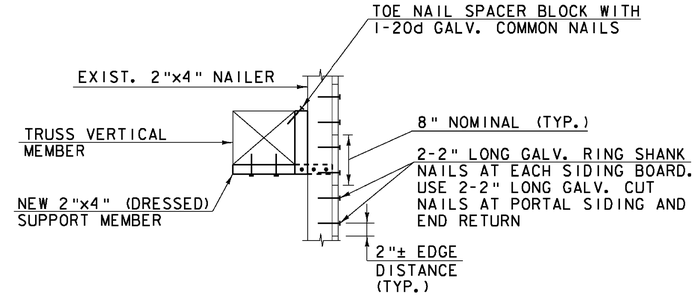
PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086sup2.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
EXISTING TYPICAL PORTAL SECTION

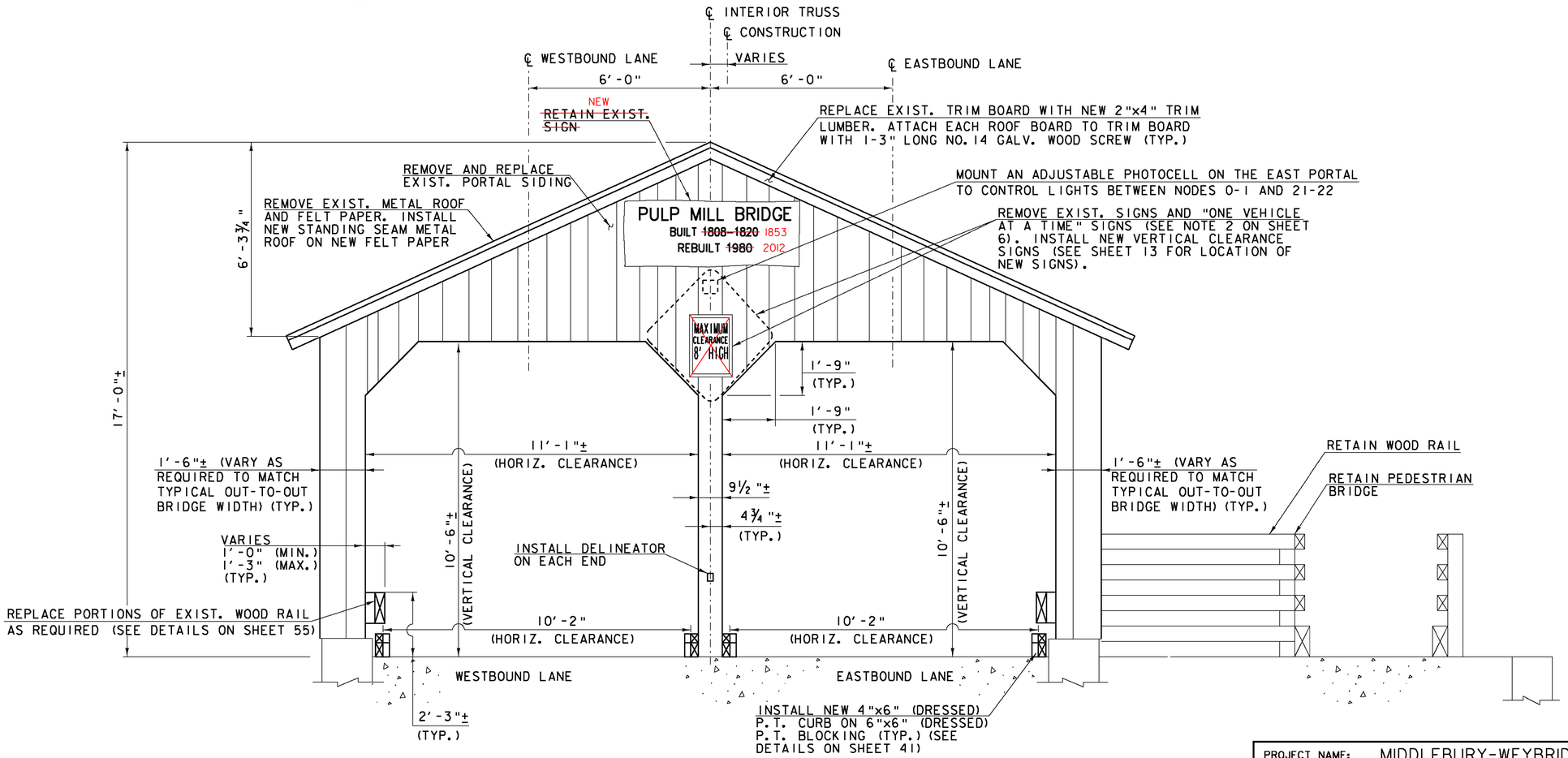
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 3 OF 66



SIDING NAILER DETAIL
(ELEVATION VIEW)
SCALE: 1" = 1'-0"



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



PROPOSED PORTAL SECTION (LOOKING EAST)
(WEST PORTAL SHOWN, EAST SIMILAR)
SCALE: ½" = 1'-0"

SCALE: ½" = 1'-0"
1 0 1 2
SCALE: 1" = 1'-0"
1 9 6 3 0 1 2

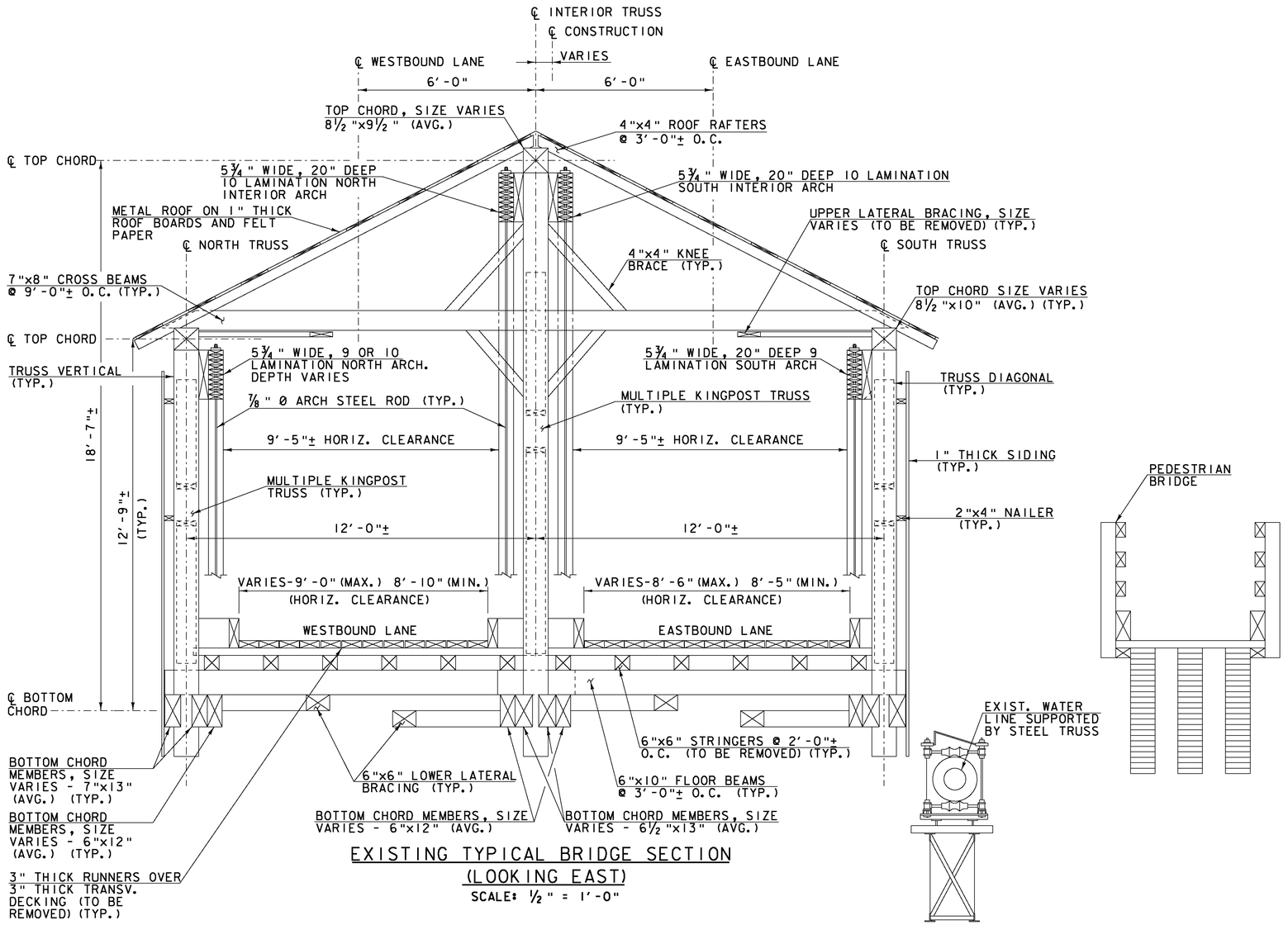
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Bridge Typ Sec

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086sup8.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
PROPOSED TYPICAL PORTAL SECTION

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 4 OF 66



EXISTING TYPICAL BRIDGE SECTION
(LOOKING EAST)

SCALE: ½" = 1'-0"

SCALE: ½" = 1'-0"
1 0 1 2

Hoyle, Tanner & Associates, Inc.

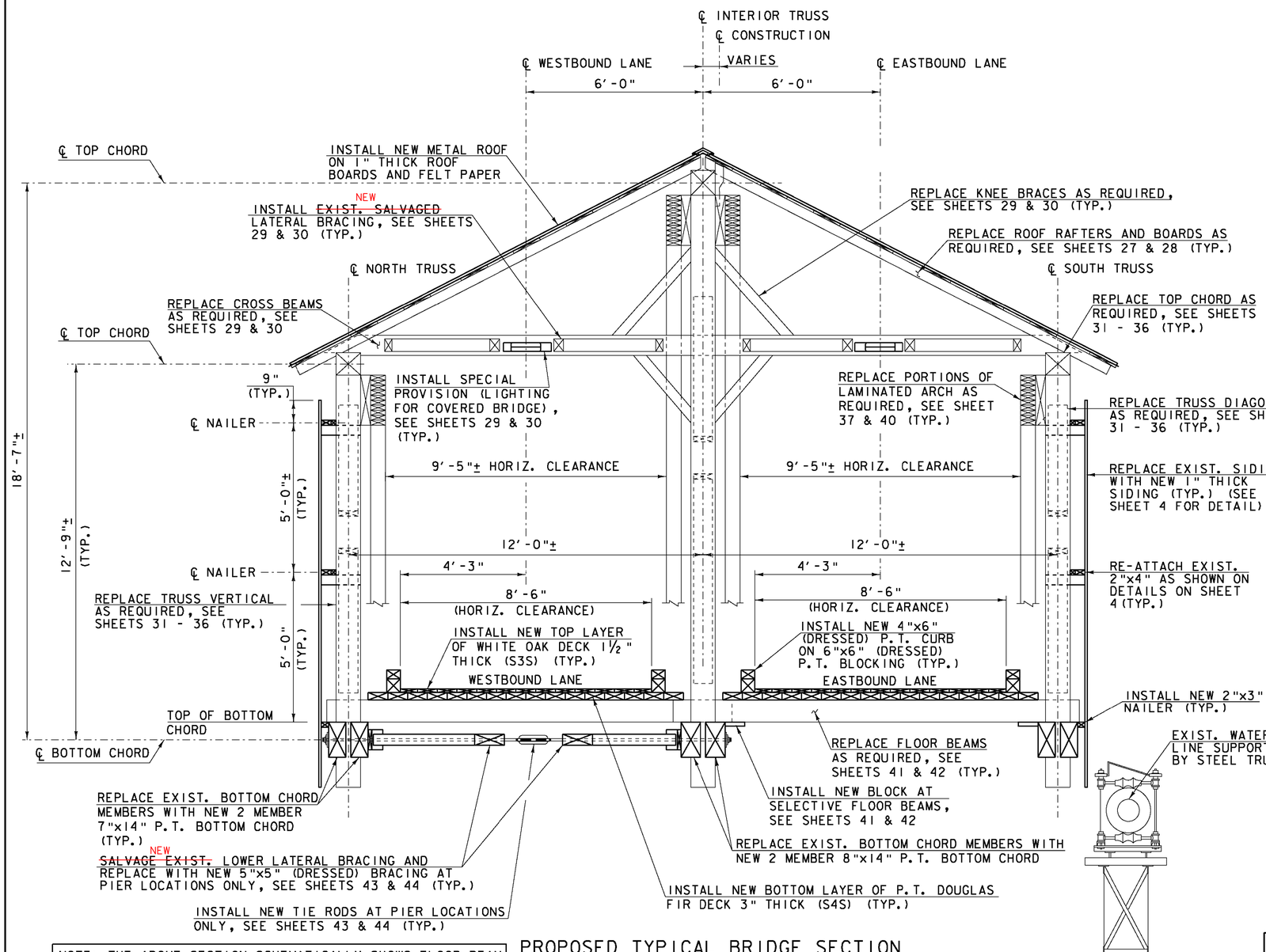
HTA PROJECT NO.	MODEL
904217	Bridge Typ Sec

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086sup0.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
EXISTING TYPICAL BRIDGE SECTION

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 5 OF 66



NOTE: THE ABOVE SECTION SCHEMATICALLY SHOWS FLOOR BEAM BLOCKING AND LOWER LATERAL BRACING EACH IN ONLY ONE BARREL. IT SHOULD BE NOTED THAT THE BLOCKING AND BRACING WHERE SPECIFIED IS REQUIRED IN BOTH BARRELS.

PROPOSED TYPICAL BRIDGE SECTION (LOOKING EAST)

SCALE: ½" = 1'-0"

SCALE: ½" = 1'-0"
1 0 1 2

PLAN NOTES:

1. APPLY CLEAR FIRE RETARDANT AND INSECTICIDE/FUNGICIDE TO WOODEN BRIDGE MEMBERS IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION SECTION 660.

2. REMOVE EXISTING SIGNS FROM THE BRIDGE PORTALS AS INDICATED ON THE PLANS AND DELIVER TO THE TOWN OF MIDDLEBURY PUBLIC WORKS DEPARTMENT LOCATED AT 1020 SOUTH ROUTE 7, MIDDLEBURY, VERMONT (PAID FOR UNDER ITEM 675.50, REMOVING SIGNS). CONTACT HIGHWAY AND EQUIPMENT DIVISION SUPERVISOR, DALE HAZZARD AT (802) 338-4045 AND PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE PRIOR TO DELIVERY.

3. NEW SIDING SHALL BE INSTALLED ON THE ENTIRE LENGTH OF THE UPSTREAM AND DOWNSTREAM FASCIAS OF THE BRIDGE, END RETURNS AND PORTAL SECTIONS UTILIZING EXISTING AND NEW SIDING SUPPORTS AS INDICATED ON THE PLANS.

4. SIDING BOARDS SHALL CONSIST OF SINGLE VERTICAL PIECES AT ALL LOCATIONS AND AS SHOWN ON THE PLANS. HORIZONTAL JOINTS IN THE SIDING WILL NOT BE ALLOWED.

5. THE FOLLOWING MEMBERS ARE INCLUDED IN THE ESTIMATED LUMBER AND TIMBER QUANTITIES OF:

   A. ITEM 522.20, STRUCTURAL LUMBER AND TIMBER, UNTREATED:

      -CROSS BEAMS (0.771 MFBM)
      -HARDWOOD BLOCKS (0.667 MFBM)
      -KNEE BRACES (0.047 MFBM)
      -LAMINATED ARCHES (2.288 MFBM)
      -LOWER LATERAL BRACING (0.583 MFBM)
      -LOWER LATERAL BRACING HARDWOOD BLOCKS (0.299 MFBM)
      -NAILERS/SIDING SUPPORT MEMBERS (0.741 MFBM)
      -NEW HORIZONTAL MEMBERS AT INTERIOR TRUSS (0.183 MFBM)
      -PORTAL TRIM LUMBER (0.043 MFBM)
      -ROOF RAFTERS (0.578 MFBM)
      -SAWN DECK (6.208 MFBM)
      -SUPPLEMENTAL DIAGONALS (0.367 MFBM)
      -TIMBER RAIL (0.124 MFBM)
      -TRUSS DIAGONALS (0.580 MFBM)
      -TRUSS TOP CHORD (3.042 MFBM)
      -TRUSS VERTICALS (6.507 MFBM)

   B. ITEM 522.25, STRUCTURAL LUMBER AND TIMBER, TREATED:

      -CURB AND CURB BLOCKING (2.933 MFBM)
      -DISTRIBUTION BEAMS (0.768 MFBM)
      -FLOOR BEAMS (2.170 MFBM)
      -SAW DECK (11.689 MFBM)
      -SLEEPER BEAMS (1.450 MFBM)
      -TRUSS BOTTOM CHORD (11.816 MFBM)

   C. ITEM 522.30, NON-STRUCTURAL LUMBER, UNTREATED:

      -ROOF BOARDS (1.246 MFBM)
      -SIDING (5.840 MFBM)

SEE WOOD NOTES ON SHEET 25 FOR MORE INFORMATION.

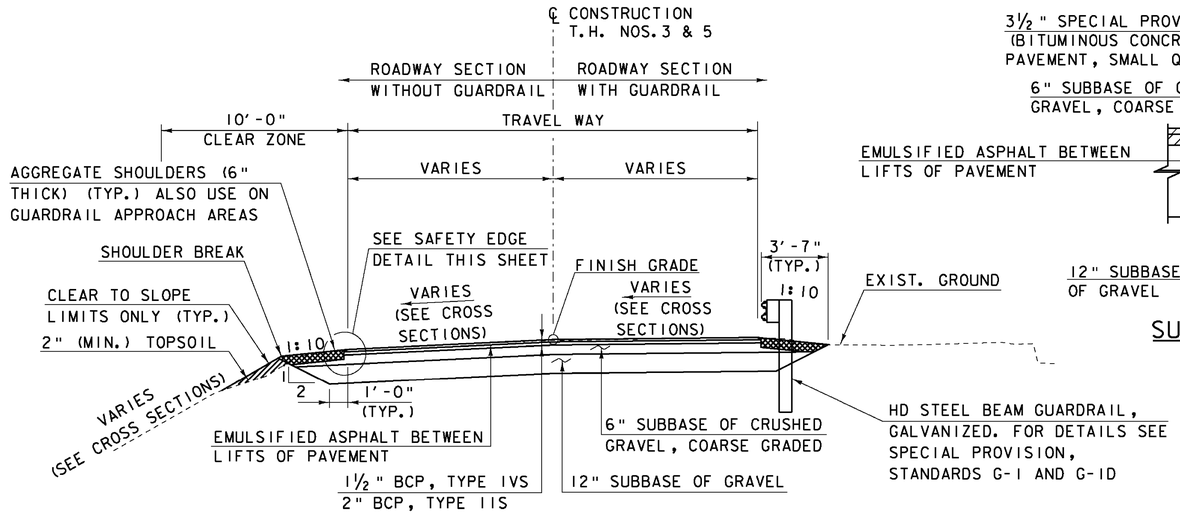
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Bridge Typ Sec

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086sup7.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
PROPOSED TYPICAL BRIDGE SECTION

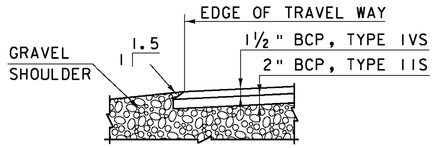
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 6 OF 66



BCP = SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)

TYPICAL ROADWAY SECTION

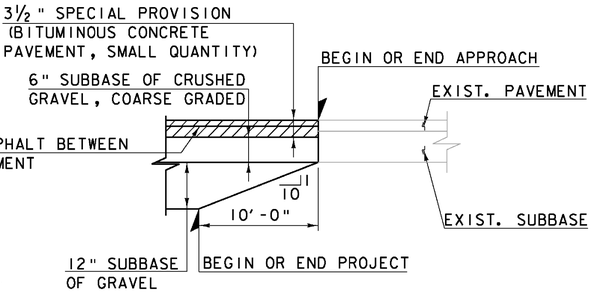
SCALE: ¼" = 1'-0"



SAFETY EDGE DETAIL

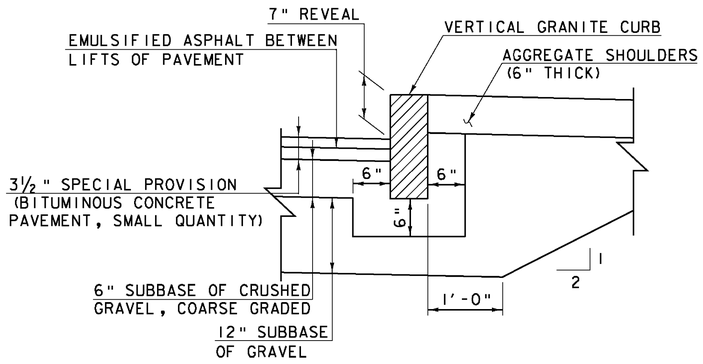
NOT TO SCALE

MATERIAL ITEM	TOLERANCE
SURFACE:	
-PAVEMENT	± ¼"
BASE COURSE	± ½"
SUBBASE	± 1"



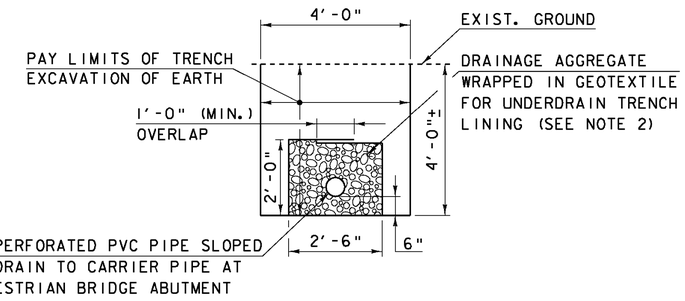
SUBBASE TRANSITION DETAIL

NOT TO SCALE



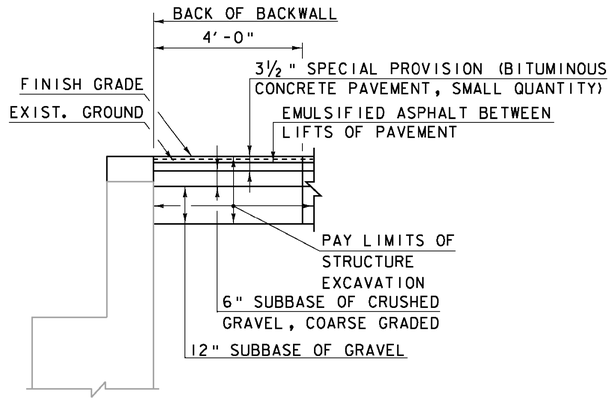
CURB DETAIL

SCALE: 1" = 1'-0"



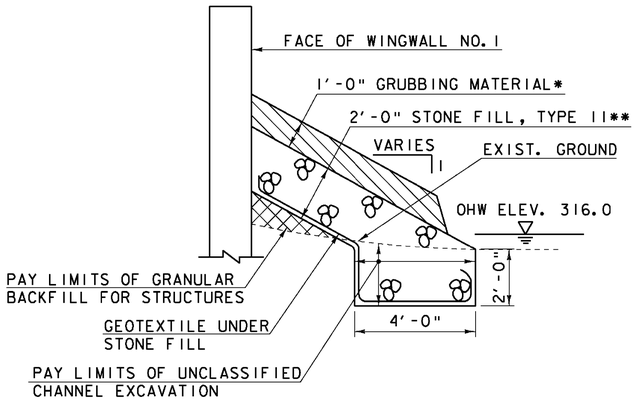
UNDERDRAIN DETAIL AT SW QUADRANT OF PROJECT

SCALE: ½" = 1'-0"



ABUTMENT EARTHWORK TYPICAL SECTION

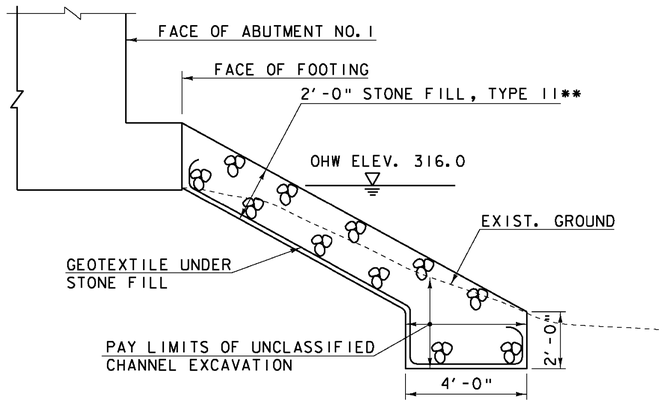
SCALE: ½" = 1'-0"



* GRUBBING MATERIAL SHALL NOT BE PLACED BELOW OHW.
** SEE T.H. NOS. 3 & 5 ROADWAY PLAN AND CROSS SECTIONS FOR LOCATIONS AND LIMITS OF STONE FILL.

TYPICAL SECTION OF STONE FILL WINGWALL NO. 1

(TAKEN TRANSVERSE TO MAINLINE)
SCALE: ⅜" = 1'-0"



** SEE T.H. NOS. 3 & 5 ROADWAY PLAN AND CROSS SECTIONS FOR LOCATIONS AND LIMITS OF STONE FILL.

TYPICAL SECTION OF STONE FILL ABUTMENT NO. 2

SCALE: ⅜" = 1'-0"

SHEET NOTES:

1. REMOVAL OF EXISTING PAVEMENT WITHIN THE LIMITS OF WORK SHALL BE PAID FOR UNDER ITEM 203.15, COMMON EXCAVATION.
2. ITEM 605.10, 6 INCH UNDERDRAIN PIPE INCLUDES THE GEOTEXTILE FOR UNDERDRAIN TRENCH LINING, DRAINAGE AGGREGATE, 6" PERFORATED PVC PIPE, NECESSARY BACKFILL MATERIAL ~~AND CORING EXISTING CONCRETE BACKWALL AT PEDESTRIAN BRIDGE COMPLETE IN PLACE.~~
3. ITEM 204.20, TRENCH EXCAVATION OF EARTH SHALL INCLUDE EXCAVATION FOR THE CONSTRUCTION OF NEW DRAINAGE PIPES, MANHOLE, CATCH BASIN AND UNDERDRAIN AS SHOWN ON SHEET 13 AND EXCAVATION FOR THE REMOVAL OF EXISTING UNDERDRAIN ON THE SOUTHWEST QUADRANT OF THE PROJECT.

SCALE: ½" = 1'-0"
0 1 2

SCALE: ⅜" = 1'-0"
0 1 2 3 4

SCALE: ¼" = 1'-0"
0 2 4

SCALE: 1" = 1'-0"
1 9 6 3 0 1 2

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	typ sec

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086typ.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
EARTHWORK TYPICALS

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 7 OF 66

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND
1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
520				520		CY	COMMON EXCAVATION	203.15	
60				60		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
180				180		CY	TRENCH EXCAVATION OF EARTH	204.20	
20				20		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
15				15		CY	STRUCTURE EXCAVATION	204.25	
		5		5		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	
280				280		CY	SUBBASE OF GRAVEL	301.15	
160				160		CY	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	301.25	
20				20		TON	AGGREGATE SHOULDERS	402.12	
1.2				1.2		CWT	EMULSIFIED ASPHALT	404.65	
1				1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	
		3		3		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
		1		1		LS	SHORING SUPERSTRUCTURE	502.10	
		1		1		LS	STRUCTURAL STEEL	506.75	
		112		112		LF	DRILLING AND GROUTING DOWELS	507.16	
		450		450		LB	EPOXY COATED REINFORCING STEEL	507.17	
		23.5		23.5		MFBM	STRUCTURAL LUMBER AND TIMBER, UNTREATED	522.20	
		31		31		MFBM	STRUCTURAL LUMBER AND TIMBER, TREATED	522.25	
		7.3		7.3		MFBM	NONSTRUCTURAL LUMBER, UNTREATED	522.30	
		140		140		LF	JOINT SEALER, POLYURETHANE	524.21	
		1		1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20	
		3		3		CY	REMOVAL OF CONCRETE OR MASONRY	529.25	
		15		15		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14	
							BEGIN OPTION AA		
54				54		LF	18" CSP .064 (2-2/3 X 1/2)	601.0015	
54				54		LF	18" CAAP .060 (2-2/3 X 1/2)	601.0215	
54				54		LF	18" PCCSP .064 (2-2/3 X 1/2)	601.0415	
54				54		LF	18" RCP CLASS III	601.0815	
54				54		LF	18" CPEP	601.0915	
							END OPTION AA		
							BEGIN OPTION BB		
30				30		LF	18" RCP CLASS III	601.0815	
30				30		LF	18" CPEP	601.0915	
							END OPTION BB		
							BEGIN OPTION CC		
1				1		EACH	18" CSPES .064 (2-2/3 X 1/2)	601.6015	
1				1		EACH	18" CAAPES .060 (2-2/3 X 1/2)	601.6215	
1				1		EACH	18" RCPES CLASS III	601.6815	
1				1		EACH	18" CPEPES	601.7015	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		TEMPORARY EROSION CONTROL ITEMS
		(INCLUDED IN EROSION CONTROL ITEMS)
5	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I
180	SY	GEOTEXTILE FOR SILT FENCE
360	SY	GEOTEXTILE FOR FILTER CURTAIN, WOVEN WIRE REINFORCED
10	LB	SEED
30	LB	FERTILIZER
1	TON	AGRICULTURAL LIMESTONE
1	TON	HAY MULCH
20	CY	TOPSOIL
30	SY	GRUBBING MATERIAL
1	LS	EPSC PLAN
150	HR	MONITORING EPSC PLAN
1	LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)
290	SY	TEMPORARY EROSION MATTING
10	CY	TEMPORARY STONE CHECK DAM, TYPE I
1	EA	INLET PROTECTION DEVICE, TYPE I
3	EA	FILTER BAG
		EARTHWORK SUMMARY
		FILL AVAILABLE:
520	CY	COMMON EXCAVATION: 520 X 1.0
18	CY	UNCLASSIFIED CHANNEL EXCAVATION: 60 X 0.3
60	CY	TRENCH EXCAVATION OF EARTH: 200 X 0.3
5	CY	STRUCTURE EXCAVATION: 15 X 0.3
603	CY	SUBTOTAL
7	CY	ROUNDING
610	CY	TOTAL
		FILL REQUIRED:
5	CY	TOTAL
610	CY	FILL AVAILABLE
5	CY	FILL REQUIRED
605	CY	WASTE
		NOTE: SEE SHEET 6 FOR SECTION 522
		PAY ITEM QUANTITIY VARIES.

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Notes

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086quant1.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
QUANTITY SHEET #1

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 8 OF 66

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							END OPTION CC					
1				1		EACH	PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE	604.20				
1				1		EACH	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER	604.21				
1				1		EACH	CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES	604.40				
50				50		LF	6 INCH UNDERDRAIN PIPE	605.10				
2				2		LF	6 INCH UNDERDRAIN CARRIER PIPE	605.20				
	5			5		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25				
55				55		CY	STONE FILL, TYPE II	613.11				
96				96		LF	VERTICAL GRANITE CURB	616.21				
149				149		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21				
4				4		EACH	TERMINAL CONNECTOR FOR STEEL BEAM GUARDRAIL	621.53				
4				4		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
130				130		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
80				80		LF	TEMPORARY TRAFFIC BARRIER	621.90				
24				24		HR	FLAGGERS	630.15				
			1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
			3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
		520		520		HR	EMPLOYEE TRAINEESHIP	634.10				
1				1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
1				1		LS	TRAFFIC CONTROL	641.10				
410				410		LF	4 INCH YELLOW LINE	646.21				
12				12		LF	24 INCH STOP BAR	646.26				
160				160		SY	GEOTEXTILE UNDER STONE FILL	649.31				
	180			180		SY	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515				
	360			360		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61				
	10			10		LB	SEED	651.15				
	30			30		LB	FERTILIZER	651.18				
	1			1		TON	AGRICULTURAL LIMESTONE	651.20				
	1			1		TON	HAY MULCH	651.25				
	20			20		CY	TOPSOIL	651.35				
	30			30		SY	GRUBBING MATERIAL	651.40				
	1			1		LS	EPSC PLAN	652.10				
	150			150		HR	MONITORING EPSC PLAN	652.20				
	1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
	290			290		SY	TEMPORARY EROSION MATTING	653.20				
	10			10		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
	1			1		EACH	INLET PROTECTION DEVICE, TYPE I	653.40				
	3			3		EACH	FILTER BAG	653.45				
120				120		LF	BARRIER FENCE	653.50				
550				550		LF	PROJECT DEMARCATION FENCE	653.55				

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Notes

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086quant2.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
QUANTITY SHEET #2

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 9 OF 66

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
		1		1		LS	TIMBER PAINTING, ENVIRONMENTAL PROTECTION	660.10				
		1		1		LS	TIMBER PAINTING, FIRE RETARDANT	660.20				
		1		1		LS	TIMBER PAINTING, INSECTICIDE/FUNGICIDE	660.30				
		695		695		SY	METAL ROOFING	661.10				
46				46		SF	TRAFFIC SIGNS, TYPE A	675.20				
140				140		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
6				6		EACH	REMOVING SIGNS	675.50				
2				2		EACH	ERECTING SALVAGED SIGNS	675.60				
		10		10		CY	SPECIAL PROVISION (GROUT BAGS)	900.608				
		50		50		EACH	SPECIAL PROVISION (WOOD EPOXY REPAIRS)	900.620				
		14		14		GAL	SPECIAL PROVISION (CONCRETE STAINING AND SEALING)	900.625				
		1		1		LS	SPECIAL PROVISION (FIRE PROTECTION SYSTEM)	900.645				
		1		1		LS	SPECIAL PROVISION (LIGHTING FOR COVERED BRIDGE)	900.645				
		1		1		LS	SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE)	900.645				
1				1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT SMALL QUANTITY (N.A.B.I.))	900.650				
1				1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT (N.A.B.I.))	900.650				
165				165		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Notes

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086quant3.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
QUANTITY SHEET #3

PLOT DATE: 10/3/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 10 OF 66

GEODETIC CONTROL INFORMATION

HVCTRL #1

LOWER AZ MK

NORTH = 556424.73
EAST = 1464112.91
ELEV. = 368.36

DESCRIBED BY VT PUBLIC SERVICE 1991 GENERAL LOCATION, EXCHANGE STREET, MIDDLEBURY, VERMONT. OWNERSHIP, CENTRAL VERMONT PUBLIC SERVICE CORPORATION. TO REACH, FROM THE MIDDLEBURY TOWN GREEN TAKE SEYMOUR STREET NORTHWEST FOR 0.3 MI (0.5 KM) TO AN INTERECTION, CONTINUE NORTHWEST ON EXCHANGE STREET FOR ABOUT 0.6 MI (1.0 KM). THE MARK IS ON THE EAST SIDE OF EXCHANGE STREET AND NEXT TO TRANSMISSION POLE 51. STATION MARK IS 1.5 INCH DIAMETER BRASS DISK SET IN A 10 INCH DIAMETER CONCRETE MONUMENT FLUSH WITH GROUND. IT IS 29 FT (8.8 M) N15E TRANSMISSION POLE 51, 35 FT (10.7 M) N62W SEWER MANHOLE, 54 FT (16.5 M) N77W CENTERLINE OF EXCHANGE STREET, 2 FT (0.6 M) WEST TO WITNESS POST.

HVCTRL #2

LOWER

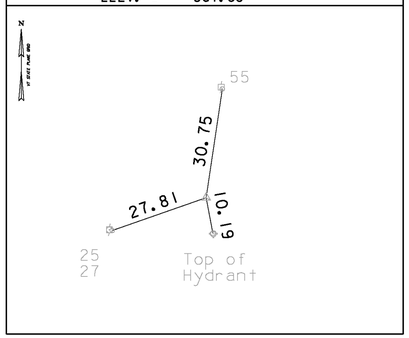
NORTH = 557346.16
EAST = 1462673.27
ELEV. = 382.32

DESCRIBED BY VT PUBLIC SERVICE 1991 GENERAL LOCATION, SEYMOUR STREET EXTENSION, MIDDLEBURY. OWNERSHIP, CENTRAL VERMONT PUBLIC SERVICE CORPORATION. TO REACH, FROM ROUTE 7 NORTH IN MIDDLEBURY, GO PAST THE MIDDLEBURY INN. TURN LEFT AT THE END OF THE TOWN GREEN (CONGRAGATIONAL CHURCH IS ON YOUR RIGHT). GO ACROSS MAIN STREET TO SEYMOUR STREET, FOLLOW SEYMOUR STREET TO ITS END, TURN LEFT AND GO THROUGH THE UNDERPASS. TURN RIGHT AND FOLLOW ROAD TO COVERED BRIDGE. TURN RIGHT AT THE BRIDGE ONTO SEYMOUR STREET EXTENSION. TURN RIGHT ONTO THE NEXT STREET, AT TOP OF HILL TURN RIGHT, GO TO END. THE MARK IS TO THE RIGHT UP ON A LEDGE. STATION MARK IS INCH DIAMETER BRASS DISK, SET IN LEDGE NEXT TO TRANSMISSION POLE IT IS 13 FT (4.0 M) N 70 E TRANSMISSION POLE 60, 9.5 FT (2.9 M) S 80 E WITNESS POST, 60 FT (18.3 M) E TO EDGE OF PARKING LOT.

TRAVERSE TIE INFORMATION

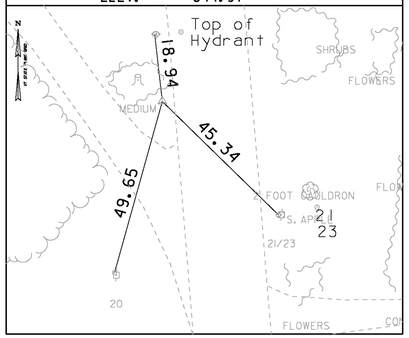
HVCTRL #3

NORTH = 557405.06
EAST = 1462366.21
ELEV. = 361.68



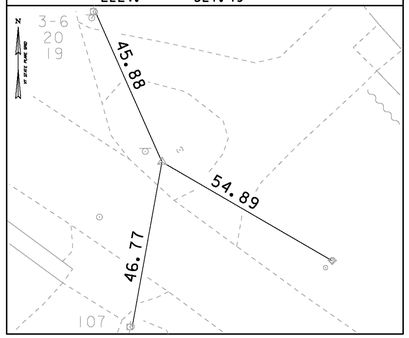
HVCTRL #4

NORTH = 556768.20
EAST = 1462380.60
ELEV. = 344.97



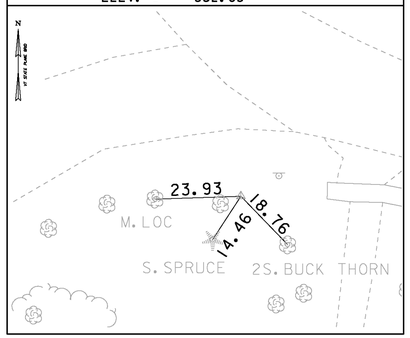
HVCTRL #5

NORTH = 556393.81
EAST = 1462459.02
ELEV. = 327.49



HVCTRL #6

NORTH = 556426.87
EAST = 1462033.85
ELEV. = 332.03



* MAIN TRAVERSE COMPLETED 03-14-2007 BY L.ORVIS P.C. & G.HITCHCOCK

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)
ADJUSTMENT COMPASS

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

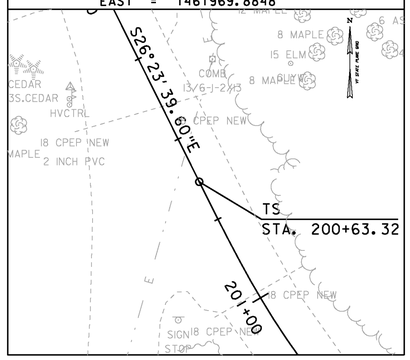
FILE NAME: z06J086t1.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY:
TRAVERSE & GEODETIC CONTROL INFO.

PLOT DATE: 9/20/2011
DRAWN BY: R.BULLOCK
CHECKED BY:
SHEET 11 OF 66

NEW ALIGNMENT TIE INFORMATION

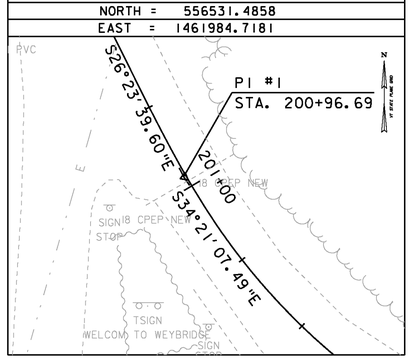
TS STA 200+63.32

NORTH = 556561.3746
EAST = 1461969.8848



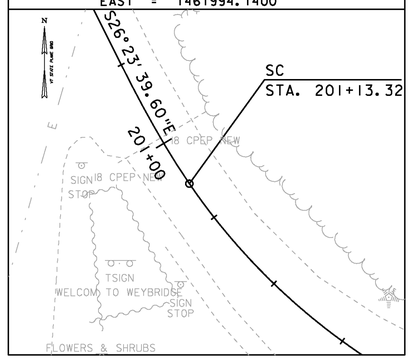
PI#1 STA 200+96.69 BK (SPIRAL)

NORTH = 556531.4858
EAST = 1461984.7181



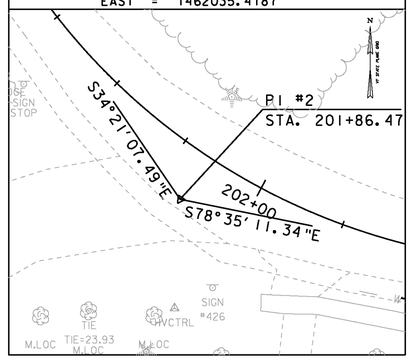
SC STA 201+13.32

NORTH = 556517.7008
EAST = 1461994.1400



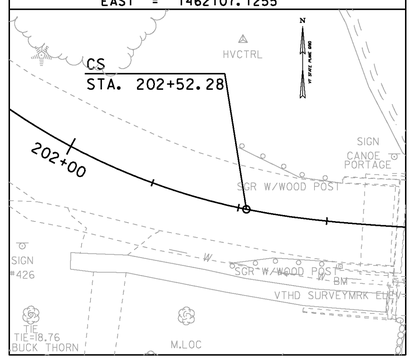
PI#2 STA 201+86.47 BK

NORTH = 556457.3064
EAST = 1462035.4187



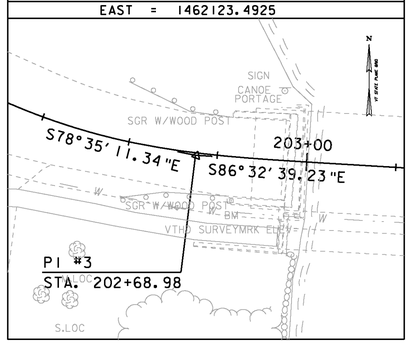
CS STA 202+52.28

NORTH = 556442.8301
EAST = 1462107.1255



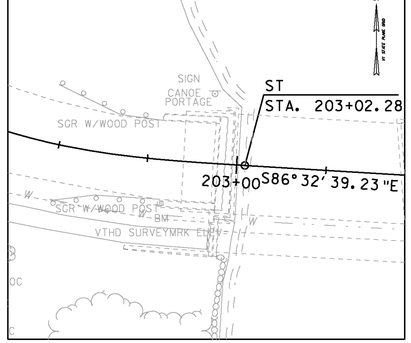
PI#3 STA 202+68.98 BK (SPIRAL)

NORTH = 556439.5259
EAST = 1462123.4925



ST STA 203+02.28

NORTH = 556437.5146
EAST = 1462156.7990



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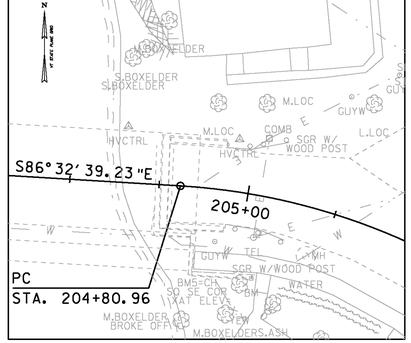

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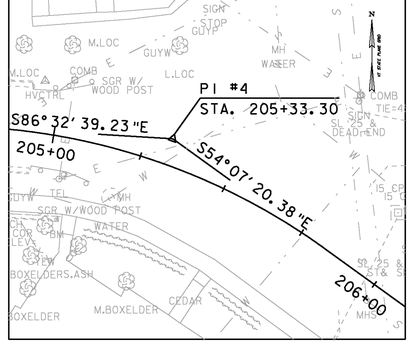

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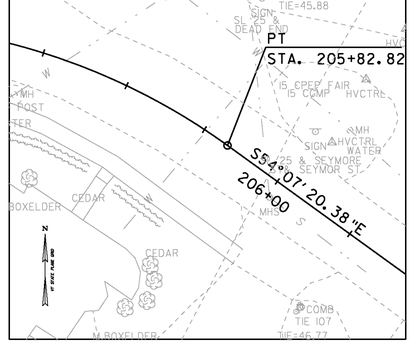


DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (96)

ADJUSTMENT COMPASS

Hoyle, Tanner & Associates, Inc.

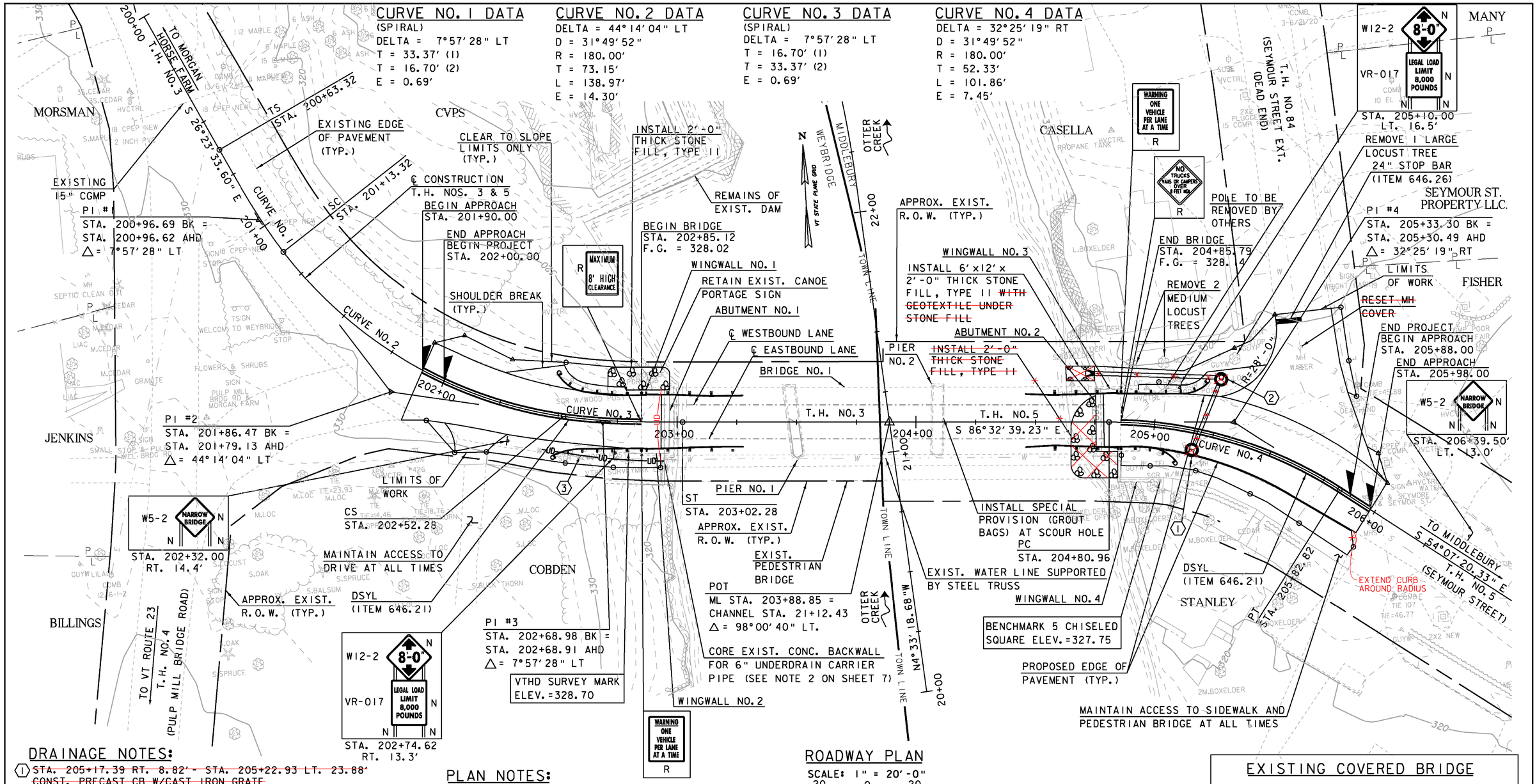
HTA PROJECT NO.	MODEL
904217	Alignment

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086t1.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
TIE SHEET

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 12 OF 66



DRAINAGE NOTES:

1. ~~STA. 205+17.39 RT. 8.82' - STA. 205+22.93 LT. 23.88'~~
   ~~CONST. PRECAST CB W/CAST IRON GRATE~~
   ~~(ADJUST AS NECESSARY TO PROVIDE 12" MIN. CLEARANCE TO EXISTING WATER MH)~~
   ~~INV. OUT ELEV. 320.58~~
   ~~GRATE ELEV. 327.29 (SLOPE PAVEMENT TO DRAIN TO GRATE)~~
   ~~CONST. 30'x18" DRAINAGE PIPE (SEE QUANTITY SHEETS FOR ALLOWABLE PIPE OPTIONS)~~

2. ~~STA. 205+22.93 LT. 23.88' - STA. 204+72.47 LT. 20.11'~~
   ~~CONST. PRECAST MH W/CAST IRON COVER~~
   ~~INV. IN ELEV. 320.43~~
   ~~INV. OUT ELEV. 319.93~~
   ~~COVER ELEV. 327.61~~
   ~~CONST. 54'x18" DRAINAGE PIPE W/END SECTION (SEE QUANTITY SHEET FOR ALLOWABLE PIPE OPTIONS)~~
   ~~INV. OUTLET ELEV. 319.66~~

3. STA. 202+42.3± RT. - STA. 202+~~93.3~~ 90 LT
   REPLACE EXIST. UNDERDRAIN WITH 6" UNDERDRAIN PIPE AND CONNECT TO EXIST. UNDERDRAIN. CONST. 6" UNDERDRAIN CARRIER PIPE (SEE NOTE 2 ON SHEET 7)

PLAN NOTES:

1. PROPOSED SIGN LOCATIONS SHOWN ARE APPROXIMATE. FINAL LOCATIONS TO BE DETERMINED BY THE RESIDENT ENGINEER IN THE FIELD TO PROVIDE MAXIMUM VISIBILITY.
2. ALL WORK SHALL BE COMPLETED WITHIN THE EXISTING RIGHT OF WAY (R.O.W.) AS SHOWN IN THESE PLANS.
3. ALL COSTS FOR INSTALLING TEMPORARY TRAFFIC BARRIERS DURING CONSTRUCTION AT EACH APPROACH OF THE BRIDGE, AS DIRECTED BY THE RESIDENT ENGINEER, SHALL BE PAID FOR UNDER ITEM 621.90, TEMPORARY TRAFFIC BARRIER.
4. ANY NEW STONE FILL ON THE STREAM BANKS AND GROUT BAGS ON EXISTING SCOUR HOLE SHALL SMOOTHLY MATCH INTO EXISTING CHANNEL BANKS. THERE SHALL BE NO ABRUPT CHANGES OR PROTRUSIONS INTO THE CHANNEL. NEW STONE FILL SHALL NOT CONSTRICT THE WATERWAY OPENING OF THE BRIDGE AND/OR CHANNEL.
5. SEE SHEET 55 FOR GUARDRAIL CONSTRUCTION NOTES.

ROADWAY PLAN

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

CURBING NOTES:

STA. 204+94.9, RT. 9.44' - STA. ~~205+95.74~~ 206+00 RT. 11.32'
CONSTRUCT ITEM 616.21, VERTICAL GRANITE CURB

LEGEND:

- N NEW SIGN OR POST
- R REMOVE EXIST. SIGN & RETURN TO TOWN OF MIDDLEBURY (SEE NOTE 2 ON SHEET 6)
- —E— EXIST. OVERHEAD UTILITY LINES
- -UD- UNDERDRAIN PIPE

EXISTING COVERED BRIDGE

DOUBLE BARREL WOOD COVERED BRIDGE
MULTIPLE KING POST WITH BURR ARCH
199'-0" OVERALL LENGTH - 3 SPAN CONTINUOUS
CONSTRUCTED CIRCA 1850
8'-5" EASTBOUND, 8'-10" WESTBOUND ROADWAY
WOODEN DECK WITH RUNNER PLANKS
9'-11" (MIN.) CLEAR HEIGHT
LAID-UP STONE AND CONCRETE-ENCASED ABUTMENTS AND PIERS

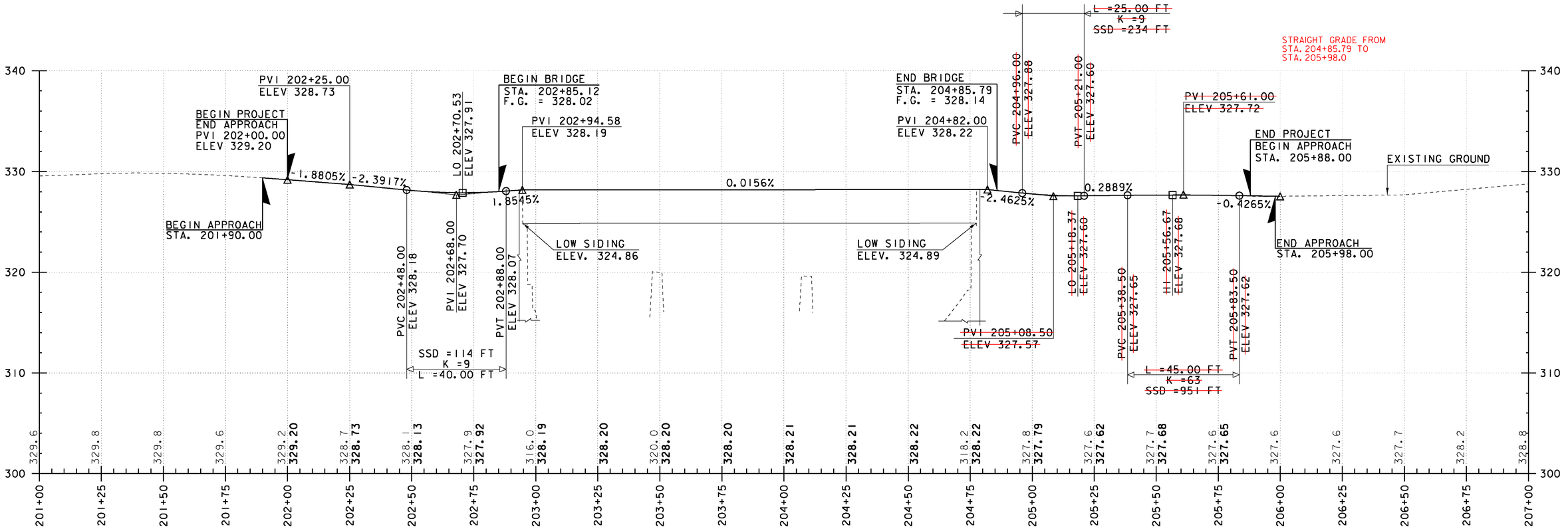
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Roadway

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086sht11ay.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
T.H. NOS. 3 & 5 ROADWAY PLAN

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 13 OF 66



PROFILE ALONG T.H. NOS. 3 & 5

NOTE: GRADES SHOWN TO THE NEAREST TENTH REPRESENT EXISTING GROUND ELEVATION ALONG THE PROPOSED ALIGNMENT. GRADES SHOWN TO THE NEAREST HUNDREDTH REPRESENT FINISH GRADE ELEVATION ALONG THE PROPOSED ALIGNMENT.

Hoyle, Tanner & Associates, Inc.

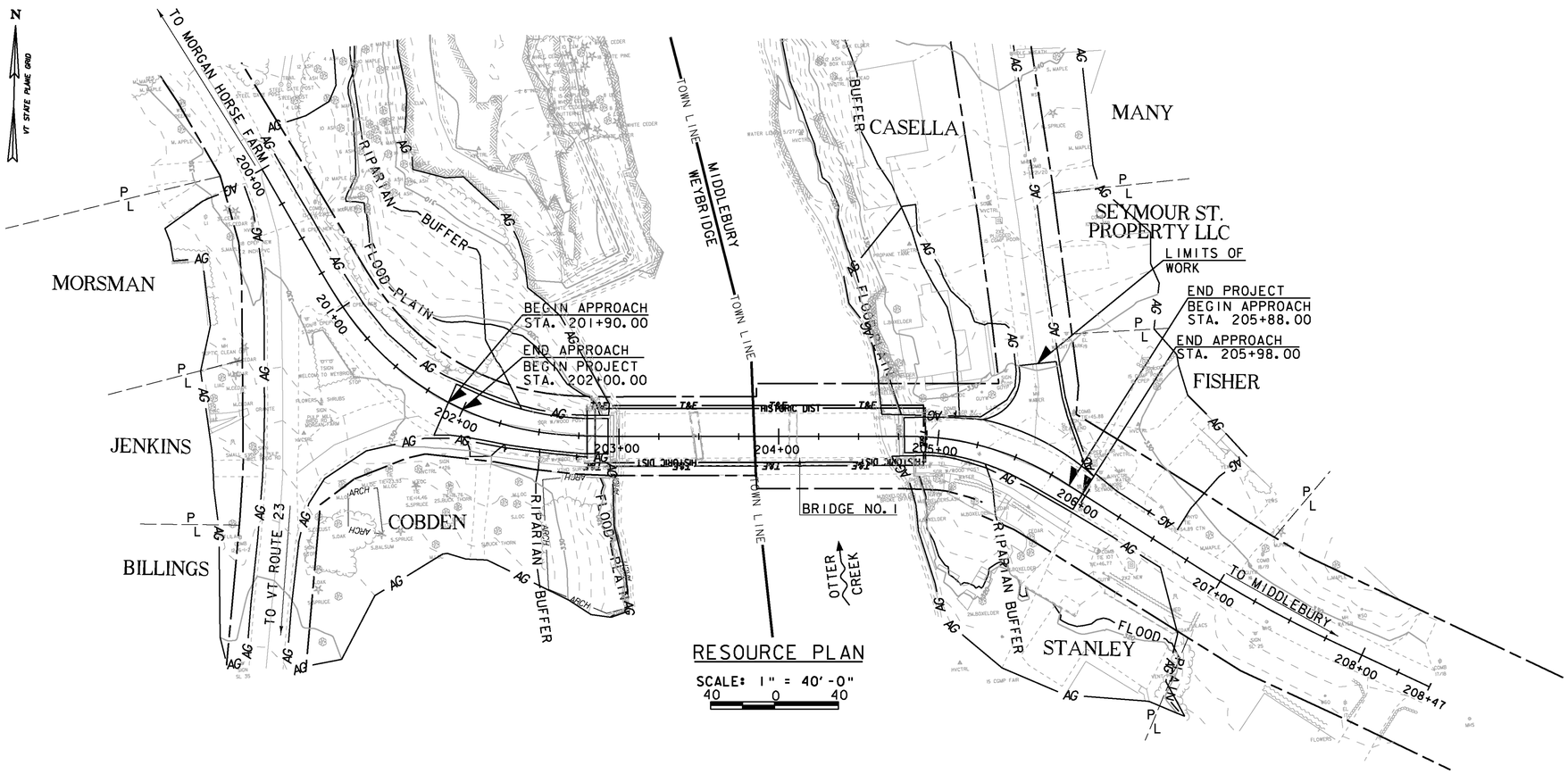
HTA PROJECT NO.	MODEL
904217	Profile

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086pro2.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
T.H. NOS. 3 & 5 ROADWAY PROFILE

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 14 OF 66



ENVIRONMENTAL RESOURCE	LEVEL	LINESTYLE NAME	CHECKED BY	DATE
WETLANDS	N/A	N/A	HOYLE, TANNER	1-31-2011
HISTORIC/HISTORIC DISTRICT	LAHD	HISTORIC DIST. ——— HISTORIC DIST –	HOYLE, TANNER	1-31-2011
ARCHAEOLOGICALLY SENSITIVE LAND	LAAS	ARCH. AREA — ARCH ——— ARCH —	UVM & HARTGEN	05-27-97 & JUNE, 2009
4F PROPERTY	N/A	N/A	HOYLE, TANNER	1-31-2011
6F PROPERTY	N/A	N/A	HOYLE, TANNER	1-31-2011
AGRICULTURAL LAND	LAAG	AGRICULT. LAND — AG ——— AG —	HOYLE, TANNER	1-31-2011
FISH & WILDLIFE HABITAT	N/A	N/A	HOYLE, TANNER	1-31-2011
FLOOD PLAINS	LAFP	FLD. PLAINS ——— FLOOD PLAIN ———	HOYLE, TANNER	1-31-2011
ENDANGERED SPECIES	LATE	THR. & END. SPEC. T&E ——— T&E –	GLENN GINGRAS, VTRANS	12-10-09
HAZARDOUS WASTE	N/A	N/A	HOYLE, TANNER	1-31-2011
STORMWATER	N/A	N/A	HOYLE, TANNER	1-31-2011
GREEN MOUNTAIN NATIONAL FOREST LAND	N/A	N/A	HOYLE, TANNER	1-31-2011

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (96)

ADJUSTMENT COMPASS

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Resource1-40

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086erol.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
RESOURCE LAYOUT SHEET

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 15 OF 66

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REHABILITATION OF THE PULP MILL COVERED BRIDGE (BRIDGE NO. 1) OVER THE OTTER CREEK. THE PROJECT IS LOCATED ON T.H. NO. 3, A PAVED CLASS 2 TOWN HIGHWAY, IN THE TOWN OF WEYBRIDGE AND ON T.H. NO. 5, A PAVED CLASS 2 TOWN HIGHWAY, IN THE TOWN OF MIDDLEBURY. THE BRIDGE IS OPEN TO TRAFFIC BUT WILL BE CLOSED DURING CONSTRUCTION WHILE TRAFFIC IS DETOURED. THE PROJECT CONSISTS OF REPLACING DETERIORATED BRIDGE MEMBERS, INSTALLATION OF NEW SIDING AND NEW ROOF, SUBSTRUCTURE REPAIRS, INSTALLATION OF APPROACH RAILING AND LIMITED RECONSTRUCTION OF ROADWAY APPROACHES. TOTAL ROADWAY APPROACH WORK, INCLUDING BOTH APPROACHES IS APPROXIMATELY 190 FT. THE SITE IS LOCATED, BASED UPON NAD 83 (96), AT N556424.73 E1464112.91 (HVCTRL #1 - SEE TRAVERSE & GEODETIC CONTROL INFO. SHEET).

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST TWO (2) CONSTRUCTION SEASONS.

THE AREA OF DISTURBANCE, SHOWN IN THESE PLANS WITHIN THE PROJECT VICINITY IS 0.28 ACRES. EARTH DISTURBANCE FOR ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS IS ESTIMATED TO BE APPROXIMATELY 0.24 ACRES. TOTAL AREA OF DISTURBANCE IS 0.52 ACRES.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY AND EXISTING UTILITIES

THE TOPOGRAPHY OF THE PROJECT SITE IS FLAT WITH SOME WOODED AREAS. RESIDENTIAL PROPERTIES ARE GENERALLY FLAT WITH THE GROUND SLOPING STEEPLY ADJACENT TO THE CHANNEL. WOODED AREAS ALSO SLOPE STEEPLY DOWN TO THE CHANNEL AS WELL. RESIDENTIAL BUILDINGS LOCATED ADJACENT TO THE PROJECT SITE ARE SHOWN ON THE EXISTING CONDITIONS PLANS. OVERHEAD UTILITY LINES ARE ON EACH ROADWAY APPROACH AND ARE SHOWN ON THE EXISTING CONDITIONS PLANS. THERE IS AN UNDERGROUND WATER LINE THAT RUNS PARALLEL TO THE ROADWAY AND CROSSES OTTER CREEK. THE WATER LINE IS SUPPORTED ON A STEEL TRUSS UPSTREAM OF THE COVERED BRIDGE. CARE SHALL BE TAKEN TO PROTECT THE WATER LINE DURING CONSTRUCTION. THERE IS AN UNDERGROUND SEWER LINE AND STORM DRAIN ON THE EAST APPROACH OF THE PROJECT. OVERHEAD UTILITY SERVICE LINES CROSS T.H. NO.5 AT MULTIPLE LOCATIONS ON THE EAST APPROACH OF THE BRIDGE. IT IS EXPECTED THAT THE UTILITY POLE AT STA. 205+03 + LT WOULD BE REQUIRED TO BE REMOVED OR TEMPORARILY SUPPORTED DURING CONSTRUCTION TO AVOID UNDERMINING DURING THE INSTALLATION OF THE DRAINAGE LINE.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE OTTER CREEK IS LOCATED IN THE PROJECT AREA. OTTER CREEK IS A MEANDERING WATERWAY THAT FLOWS IN NORTH-SOUTH DIRECTION WITHIN THE VICINITY OF THE PROJECT. THE STREAMBED OF THE OTTER CREEK IS MAINLY COMPOSED OF GRAVEL, COBBLES AND LEDGE. THE STREAM BANKS ARE MODERATELY STEEP THROUGHOUT THE PROJECT AREA. THERE IS A DAM DOWNSTREAM OF THE COVERED BRIDGE THAT BACKS WATER UP UNDER THE BRIDGE, AND CONTROLS THE HYDRAULICS AT THE SITE. THE CONTRIBUTING DRAINAGE AREA AT THE BRIDGE CROSSING IS 631 SQUARE MILES.

THERE ARE NO OTHER WATER BODIES OR WETLANDS WITHIN THE PROJECT AREA. ARCHAEOLOGICAL AND HISTORICAL RESOURCES ARE LOCATED WITHIN THE PROJECT AREA AND ARE SHOWN ON THE RESOURCE LAYOUT SHEET.

THE PROPERTY SURROUNDING THE PROJECT SITE CONSISTS OF RESIDENTIAL PROPERTIES EXCEPT THE NORTHEAST AND NORTHWEST QUADRANTS IN WHICH THERE ARE A MIXTURE OF HARDWOOD AND SOFTWOOD WOODED AREAS. THE RESIDENTIAL AREAS HAVE WELL ESTABLISHED VEGETATION AND ARE GENERALLY FLAT, WHILE THE WOODED AREAS SLOPE DOWN TO THE RIVER. THERE ARE SCATTERED SMALL AND MEDIUM HARDWOOD AND SOFTWOOD TREES LOCATED WITHIN THE RESIDENTIAL PROPERTIES. ON THE SOUTHEAST QUADRANT OF THE PROJECT THERE ARE REMAINS OF A STONE FOUNDATION WHICH ACT AS A RETAINING WALL. THE EXISTING T.H. NOS. 3 AND 5 HAVE A PAVED SURFACE WITH MODERATE SIDE SLOPES AND NO DEFINED DRAINAGE DITCHES. THE WEST APPROACH ON T.H. NO. 3 HAS A GRADE OF APPROXIMATELY 2% WHILE THE EAST APPROACH ON T.H. NO. 5 IS FAIRLY FLAT WITH A MAXIMUM GRADE OF 2.5%. ROADWAY RUNOFF IS CONVEYED VIA OVERLAND FLOW ALONG THE ROADWAY.

1.2.3 VEGETATION

THE LAND ON AND ADJACENT TO THE PROJECT SITE IS RURAL AND CONSISTS OF A MIX OF SMALL AND MEDIUM HARDWOOD AND SOFTWOOD TREES, UNDERGROWTH AND WELL ESTABLISHED VEGETATION. NO FIELDS OR AGRICULTURAL CROPS EXIST NEAR THE PROJECT. THERE IS EXPOSED LEDGE ON BOTH RIVER BANKS. FOLLOWING CONSTRUCTION OF THE REHABILITATED COVERED BRIDGE, THE EXISTING ROADWAY APPROACHES WILL BE RECONSTRUCTED WITH 12-INCHES OF GRAVEL, 6-INCHES OF CRUSHED GRAVEL SUBBASE AND 3½" OF BITUMINOUS CONCRETE PAVEMENT. DISTURBED SLOPES WILL BE STABILIZED AS SPECIFIED ON THE PLANS AND VEGETATION REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.4 SOILS

ACCORDING TO THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) AND THE VERMONT CENTER FOR GEOGRAPHIC INFORMATION (VCGI), THERE IS ONE (1) SOIL TYPE PRESENT ON THIS PROJECT SITE. VERGENNES CLAY (K=0.49) IS FOUND ON EACH APPROACH OF THE COVERED BRIDGE. THIS TYPE OF SOIL IS CONSIDERED HIGHLY ERODIBLE DUE TO PHYSICAL SOIL PROPERTIES.

THE MAJORITY OF THE PROJECT IS WITHIN A PREVIOUSLY DISTURBED AREA COMPRISING THE EXISTING ROADWAY AND BRIDGE EMBANKMENTS. EXISTING CHANNEL BANKS APPEAR STABLE UPSTREAM AND DOWNSTREAM OF THE COVERED BRIDGE.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING: 0.0-0.23 = LOW EROSION POTENTIAL; 0.24-0.36 = MODERATE EROSION POTENTIAL: 0.37 AND HIGHER = HIGH EROSION POTENTIAL.

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO

HISTORICAL OR ARCHAEOLOGICAL AREAS: YES. AN ARCHAEOLOGICAL FIELD INVESTIGATION PERFORMED BY THE CONSULTING ARCHAEOLOGY PROGRAM OF THE UNIVERSITY OF VERMONT ON MAY 27, 1997 IDENTIFIED THE REMAINS OF TWO STONE FOUNDATIONS FOR A RESIDENCE AND DRY HOUSE WHICH WERE PART OF A NINETEENTH-CENTURY PAPER MILL COMPLEX ON THE SOUTHWEST QUADRANT OF THE PROJECT. THIS ARCHAEOLOGICAL SENSITIVE AREA SHALL BE CORDONED OFF WITH PROTECTIVE CONSTRUCTION FENCING.

HARTGEN ASSOCIATES PERFORMED AN ARCHAEOLOGICAL FIELD INVESTIGATION ON APRIL 9, 2009 AND IDENTIFIED PRESENCE OF PRECONTRACT ARCHAEOLOGICAL SITES WITHIN ONE MILE OF THE PROJECT AREA. THESE ARCHAEOLOGICAL SENSITIVE AREAS ARE OUTSIDE OF PROJECT LIMITS AND ARE NOT EXPECTED TO BE AFFECTED. IF OTHER ARCHAEOLOGICAL SENSITIVE AREAS ARE FOUND CONTACT JEANNINE RUSSELL AT 802-828-3981.

PRIME AGRICULTURAL LAND: NO

THREATENED AND ENDANGERED SPECIES: YES. ENDANGERED SPECIES HAVE BEEN IDENTIFIED WITHIN THE PROJECT LIMITS. THE PROJECT IS WITHIN THE KNOWN RANGE OF THE FEDERALLY ENDANGERED INDIANA BAT. IN ORDER TO ENSURE THAT THE PROJECT WILL NOT IMPACT THIS SPECIES, TIMING RESTRICTIONS HAVE BEEN PLACED ON THE REMOVAL OF THE BRIDGE'S ROOF, WHICH CAN BE USED AS POTENTIAL ROOSTING HABITAT. THE ROOF WILL BE REMOVED BETWEEN OCTOBER 15 AND APRIL 1. BAT HOUSES WILL BE PLACED IN THE VICINITY OF CONSTRUCTION TO PROVIDE POTENTIAL ROOSTING HABITAT TO ANY BATS THAT MAY HAVE ROOSTED UNDER THE BRIDGE'S ROOF.

WATER RESOURCE: YES. THE OTTER CREEK IS THE ONLY WATER RESOURCE WITHIN THE PROJECT SITE. THERE ARE NO IDENTIFIED WETLANDS. STATEWIDE AND NPSL (NOT PRIME, STATEWIDE, OR LOCAL) AGRICULTURAL LAND IS IDENTIFIED WITHIN THE VICINITY OF THE PROJECT. THERE WILL BE NO IMPACTS TO THIS TYPE OF LAND. DISTURBANCE OF SOIL NEAR NATURAL WATERWAYS CONSISTS OF THAT WHICH IS NECESSARY TO CONSTRUCT THE PROJECT AS SHOWN ON THE PLANS.

WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF CONSTRUCTION GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES BASED ON THE PROJECT IMPACT AREA. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED. PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES.

1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

MAINTAINING VEGETATED BUFFERS ALONG OTTER CREEK BANKS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

1.4.3 STABILIZE CONSTRUCTION EXIT

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTOR'S PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCE AND EXIT ARE NOT ANTICIPATED IN THIS PROJECT.

1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

THE PROJECT AREA IS RELATIVELY FLAT. THERFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

STONE CHECK DAMS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN, AT A MINIMUM.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

PERMANENT CONTROL MEASURES ARE NOT ANTICIPATED IN THIS PROJECT.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE. THE FOLLOWING REQUIREMENTS MUST BE ADHERED TO:

1. ENLARGED ACCESS POINTS STABILIZED TO PROVIDE FOR SNOW STOCKPILING.
2. A MINIMUM 25 FOOT BUFFER SHALL BE MAINTAINED FROM PERIMETER CONTROLS SUCH AS SILT FENCE.
3. IN AREAS OF DISTURBANCE THAT DRAIN TO A WATER BODY WITHIN 100 FEET, TWO ROWS OF SILT FENCE MUST BE INSTALLED ALONG THE CONTOUR.
4. SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED AHEAD OF FROZEN GROUND.
5. MULCH USED FOR TEMPORARY STABILIZATION MUST BE APPLIED AT DOUBLE THE STANDARD RATE, OR A MINIMUM OF 3 INCHES WITH AN 80-90% COVER.
6. TO ENSURE COVER OF DISTURBED SOIL IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
   - IF NO PRECIPITATION WITHIN 24 HOURS IS FORECAST AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY.
   - DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS HOUSE FOUNDATIONS OR OPEN UTILITY TRENCHES.
7. PRIOR TO STABILIZATION, SNOW OR ICE MUST BE REMOVED TO LESS THAN 1 INCH THICKNESS.
8. USE STONE TO STABILIZE AREAS WHERE CONSTRUCTION VEHICLE TRAFFIC IS ANTICIPATED. STONE PATHS SHOULD BE 10–20 FEET WIDE TO ACCOMMODATE VEHICULAR TRAFFIC.

1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

TREATMENT OF DEWATERING TRENCHED EXCAVATION AREA IS ANTICIPATED. A LOCATION FOR TREATMENT HAS BEEN PROPOSED AND IS SHOWN ON THE PLANS. HOWEVER THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.4.13 SECTION 106 STIPULATIONS

1. FINAL PLANS AND ANY CHANGES THERETO WILL BE SUBJECT TO REVIEW APPROVAL BY THE VTRANS HISTORIC PRESERVATION OFFICER BEFORE SUCH CHANGES ARE IMPLEMENTED.
2. AS APPROPRIATE THE CONTRACTOR SHALL, EARLY IN THE CONSTRUCTION PHASE OF THE PROJECT, MAKE A GOOD FAITH EFFORT TO IDENTIFY ANY ADDITIONAL MEMBERS THAT ARE TARGETED FOR REPLACEMENT AND ARRANGE A SITE MEETING WITH THE VTRANS PROJECT MANAGER AND HISTORIC PRESERVATION OFFICER TO REVIEW THESE CHANGES.
3. PROTECTIVE FENCING WILL BE PLACED AROUND ARCHAEOLOGICAL SITE VT-AD-928 IN THE SOUTHWEST QUAD OF THE PROJECT AREA AND AVOIDED DURING PROJECT CONSTRUCTION.

1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUB SECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Notes

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086notesero.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
EPSC EROSION CONTROL NARRATIVE

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 16 OF 66

SOIL INFORMATION
VERGENNES CLAY 2% TO 6% SLOPES (K=0.49) HYDROLOGIC SOIL GROUP: D DEPTH TO BEDROCK: >80" DEPTH TO WATER TABLE: 12"-36" HIGHLY ERODIBLE LAND

SOIL INFORMATION
VERGENNES CLAY 2% TO 6% SLOPES (K=0.49) HYDROLOGIC SOIL GROUP: D DEPTH TO BEDROCK: >80" DEPTH TO WATER TABLE: 12"-36" HIGHLY ERODIBLE LAND

SOIL INFORMATION
VERGENNES CLAY 2% TO 6% SLOPES (K=0.49) HYDROLOGIC SOIL GROUP: D DEPTH TO BEDROCK: >80" DEPTH TO WATER TABLE: 12"-36" HIGHLY ERODIBLE LAND

SOIL INFORMATION
VERGENNES CLAY 2% TO 6% SLOPES (K=0.49) HYDROLOGIC SOIL GROUP: D DEPTH TO BEDROCK: >80" DEPTH TO WATER TABLE: 12"-36" HIGHLY ERODIBLE LAND

OTTER CREEK

TOWN LINE MIDDLEBURY WEYBRIDGE TOWN LINE

NAD 83 (96) VT STATE PLANE GRID

CVPS

COBDEN

CASELLA

SEYMOUR ST. PROPERTY LLC

FISHER

STANLEY

RIPARIAN BUFFER

FLOOD PLAIN

EXIST. DRAINAGE

SHRUBS, HARDWOOD AND SOFTWOOD TREES

APPROX. EXIST. R.O.W.

ABUTMENT NO. 1

ABUTMENT NO. 2

PIER NO. 1

PIER NO. 2

T&E

HISTORIC DIST

T.H. NO. 3

T.H. NO. 5 (SEYMOUR STREET)

SEYMOUR STREET EXT.)

ASSUMED FLOW

201+00

202+00

203+00

204+00

205+00

206+00

207+00

EXISTING CONDITIONS PLAN

SCALE: 1" = 20'-0"

20 0 20

LEGEND:

SOIL BOUNDARY

OVERHEAD UTILITY LINES

PLAN NOTE:

1. REFER TO RESOURCE LAYOUT SHEET FOR DESCRIPTIONS OF LINE STYLE SYMBOLS.

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)
ADJUSTMENT	COMPASS

Hoyle, Tanner & Associates, Inc.

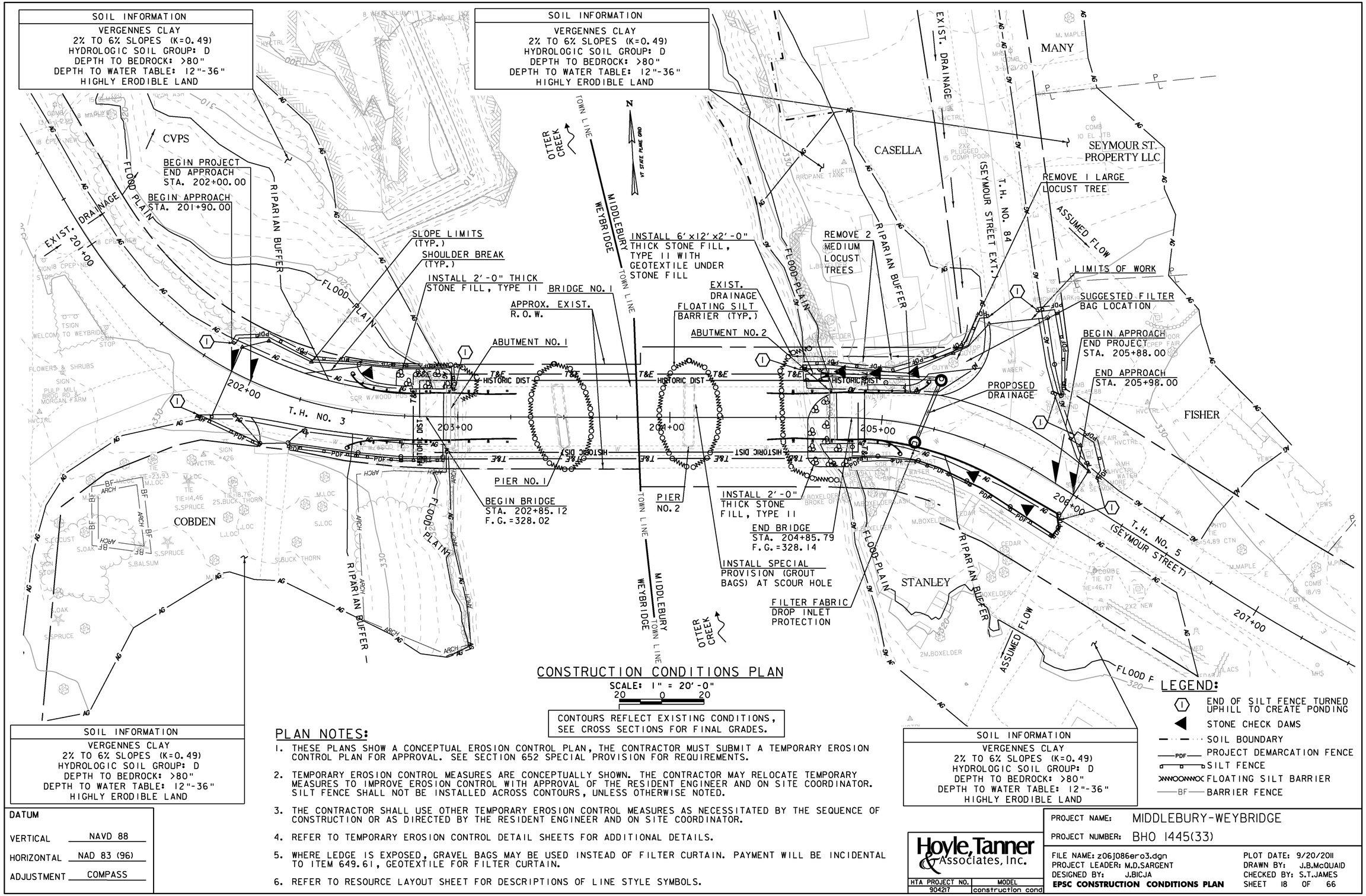
HTA PROJECT NO.	MODEL
904217	ECP

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086er02.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
EPSC EXISTING CONDITIONS PLAN

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 17 OF 66



CONSTRUCTION CONDITIONS PLAN

SCALE: 1" = 20'-0"

20 0 20

CONTOURS REFLECT EXISTING CONDITIONS, SEE CROSS SECTIONS FOR FINAL GRADES.

PLAN NOTES:

1. THESE PLANS SHOW A CONCEPTUAL EROSION CONTROL PLAN, THE CONTRACTOR MUST SUBMIT A TEMPORARY EROSION CONTROL PLAN FOR APPROVAL. SEE SECTION 652 SPECIAL PROVISION FOR REQUIREMENTS.
2. TEMPORARY EROSION CONTROL MEASURES ARE CONCEPTUALLY SHOWN. THE CONTRACTOR MAY RELOCATE TEMPORARY MEASURES TO IMPROVE EROSION CONTROL WITH APPROVAL OF THE RESIDENT ENGINEER AND ON SITE COORDINATOR. SILT FENCE SHALL NOT BE INSTALLED ACROSS CONTOURS, UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR SHALL USE OTHER TEMPORARY EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION OR AS DIRECTED BY THE RESIDENT ENGINEER AND ON SITE COORDINATOR.
4. REFER TO TEMPORARY EROSION CONTROL DETAIL SHEETS FOR ADDITIONAL DETAILS.
5. WHERE LEDGE IS EXPOSED, GRAVEL BAGS MAY BE USED INSTEAD OF FILTER CURTAIN. PAYMENT WILL BE INCIDENTAL TO ITEM 649.61, GEOTEXTILE FOR FILTER CURTAIN.
6. REFER TO RESOURCE LAYOUT SHEET FOR DESCRIPTIONS OF LINE STYLE SYMBOLS.

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)
ADJUSTMENT	COMPASS

Hoyle, Tanner & Associates, Inc.

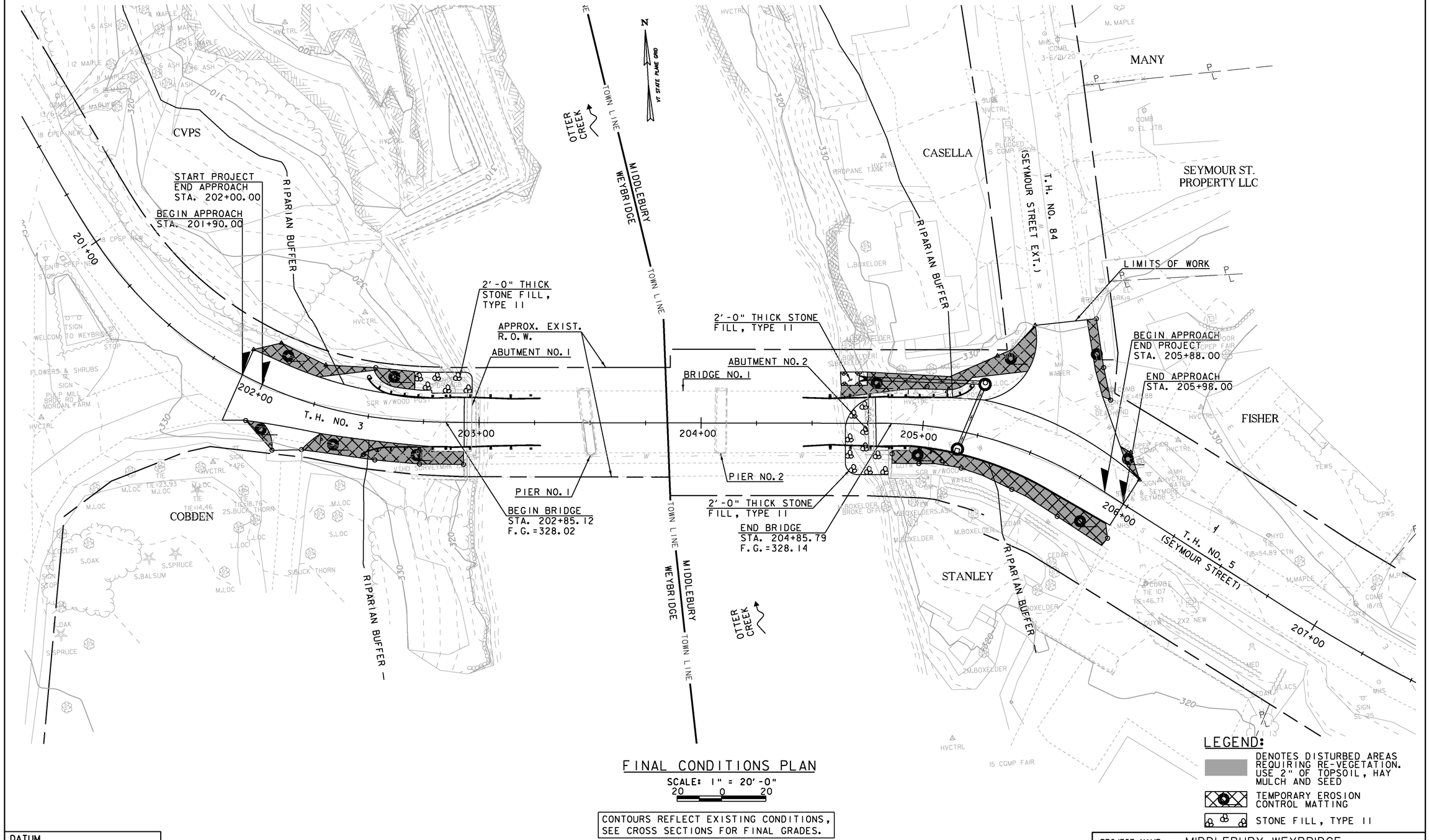
HTA PROJECT NO.	MODEL
904217	construction cond

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086ero3.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
EPSC CONSTRUCTION CONDITIONS PLAN

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 18 OF 66



FINAL CONDITIONS PLAN

SCALE: 1" = 20'-0"

20 0 20

CONTOURS REFLECT EXISTING CONDITIONS, SEE CROSS SECTIONS FOR FINAL GRADES.

LEGEND:

- DENOTES DISTURBED AREAS REQUIRING RE-VEGETATION. USE 2" OF TOPSOIL, HAY MULCH AND SEED
- TEMPORARY EROSION CONTROL MATTING
- STONE FILL, TYPE II

PLAN NOTE:

1. REFER TO RESOURCE LAYOUT SHEET FOR DESCRIPTIONS OF LINE STYLE SYMBOLS.

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)
ADJUSTMENT	COMPASS

Hoyle, Tanner & Associates, Inc.

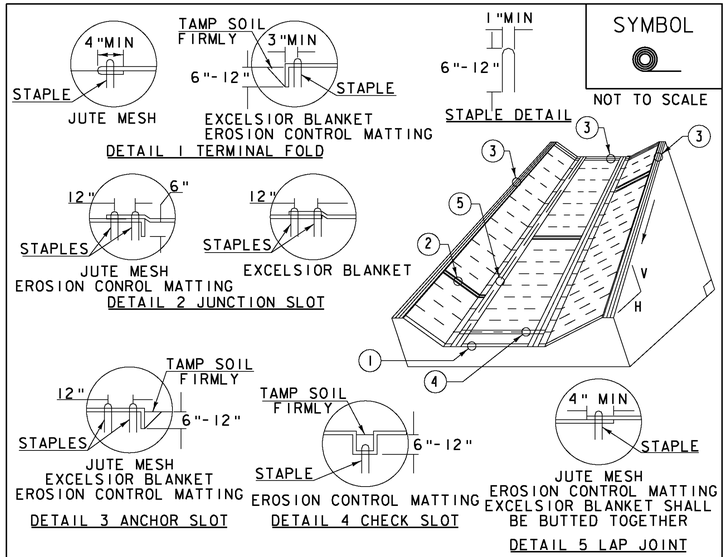
HTA PROJECT NO.	MODEL
904217	final cond

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086er04.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
EPSC FINAL CONDITIONS PLAN

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 19 OF 66



CONSTRUCTION SPECIFICATIONS

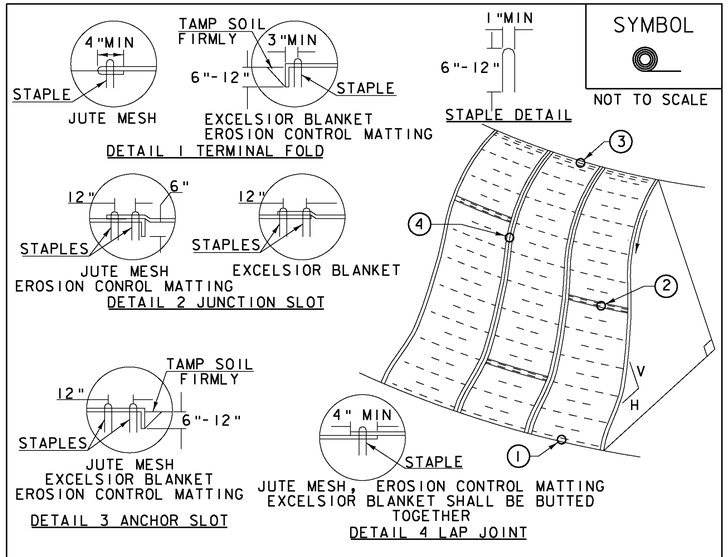
1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) DITCH

NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- ' FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) ~~OR PERMANENT EROSION MATTING (PAY ITEM 653.21)~~.

REVISIONS	
MARCH 8, 2007	JMF
APRIL 16, 2007	WHF
JANUARY 13, 2009	WHF



CONSTRUCTION SPECIFICATIONS

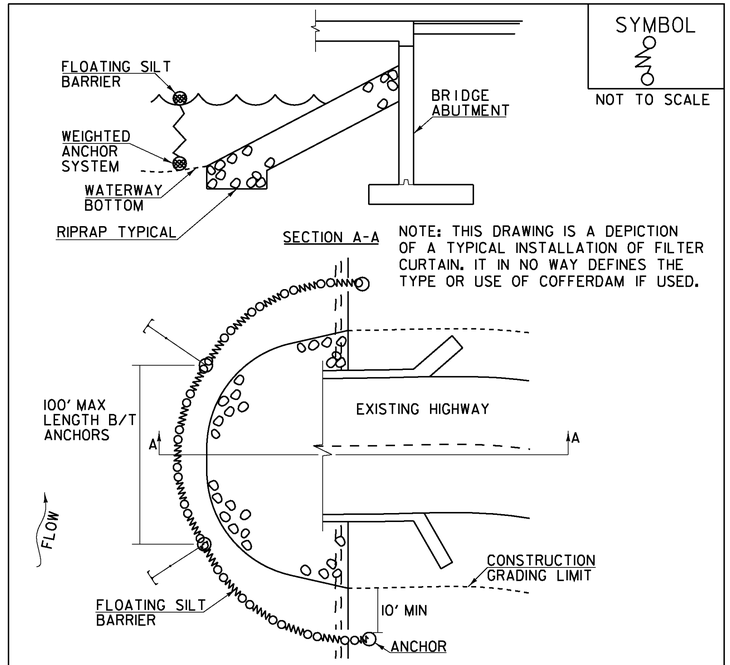
1. APPLY TO SLOPES GREATER THAN 3H: IV OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- ' FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) ~~OR PERMANENT EROSION MATTING (PAY ITEM 653.21)~~.

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF



CONSTRUCTION SPECIFICATIONS

1. FILTER CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FEET/SECOND.
2. MAXIMUM 100' LENGTH BETWEEN ANCHORS.
3. LAST SECTION SHALL TERMINATE A MINIMUM OF 10' BEYOND LIMIT OF DISTURBANCE.
4. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE WHICH ALLOWS THE CURTAIN TO CONFORM TO THE BOTTOM OF THE WATERWAY.
5. THE CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE MINIMIZING THE ESCAPE OF SEDIMENTS INTO WATERWAY.

FILTER CURTAIN

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.61).

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF
SEPTEMBER 4, 2009	WHF

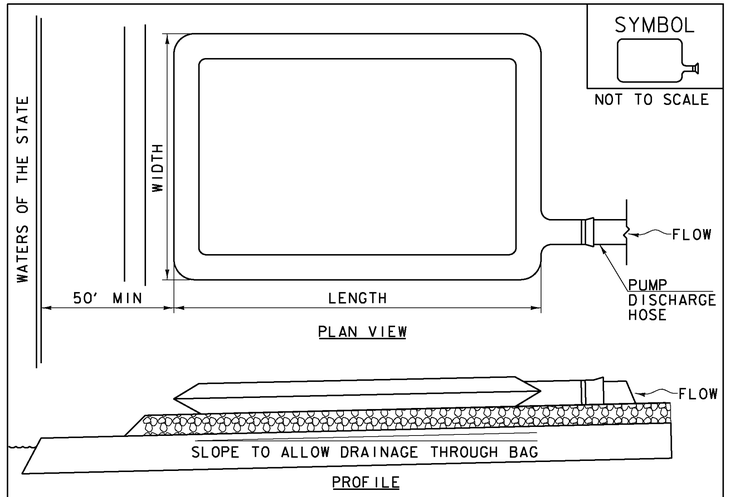
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Default

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086eronotesl.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
EPSC DETAILS SHEET (1 OF 3)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 20 OF 66



CONSTRUCTION SPECIFICATIONS

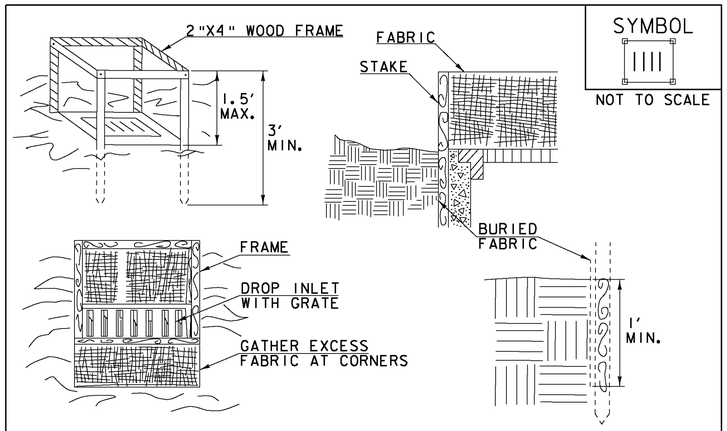
1. THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.
2. FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
3. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION EFFICIENCY.
4. FILTER BAGS SHALL BE LOCATED A MINIMUM OF 50' FROM WATERS OF THE STATE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. THE NECK OF THE FILTER BAG SHALL BE STRAPPED TIGHTLY TO THE DISCHARGE HOSE.
6. A FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A REASONABLE RATE.
7. FILTER BAG SHALL BE DISPOSED OF AS APPROVED IN THE EPSC PLAN OR AS DIRECTED BY THE ENGINEER.

FILTER BAG

NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- ' FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR FILTER BAG (PAY ITEM 653.45) AND AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3'.
4. SPACE STAKES EVENLY AROUND INLET 3' APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRE

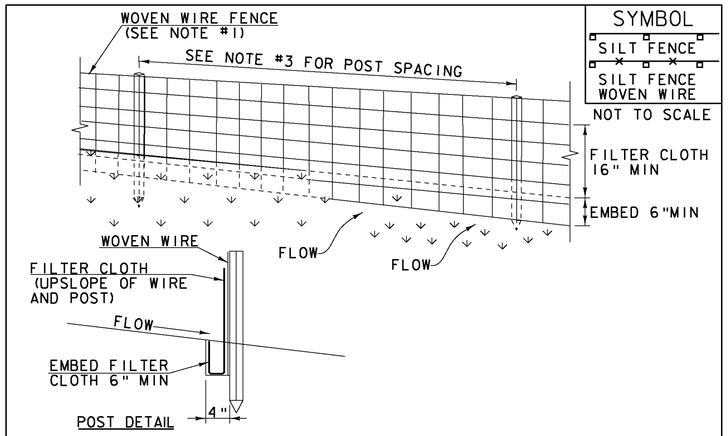
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FILTER FABRIC DROP INLET PROTECTION

NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- ' FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).

REVISIONS	
MARCH 7, 2008	WHF
JANUARY 13, 2009	WHF



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- ' FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR ~~GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR~~ GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Default

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086eronotes2.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
EPSC DETAILS SHEET (2 OF 3)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 21 OF 66

VAOT RURAL AREA MIX

% WEIGHT	LBS/AC BROADCAST	LBS/AC HYDROSEED	NAME	GERM %	PURITY %
37.5%	22.5	45	CREEPING RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX

% WEIGHT	LBS/AC BROADCAST	LBS/AC HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREEPING RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

GENERAL GUIDANCE

FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	19-19-19	PELLETIZED	LIQUID
500 LBS/AC		2 TONS/AC	4.4 GAL/AC

CONSTRUCTION GUIDANCE

1. RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
2. URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
7. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
8. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

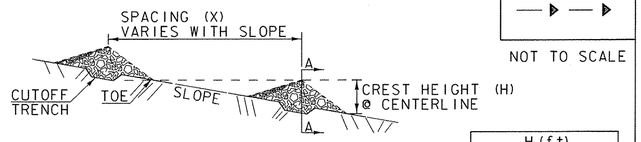
ADAPTED FROM VTRANS TECHNICAL LANSCAPE MAUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF

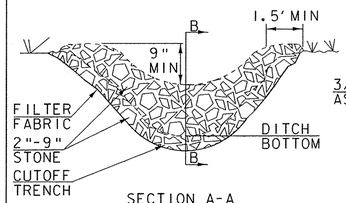
SYMBOL

NOT TO SCALE

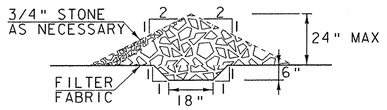


PROFILE

$$X = \frac{H\,(ft)}{SLOPE\,(ft/ft)}$$



SECTION A-A



SECTION B-B

CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OFTHE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
4. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA 2 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CHECK DAM

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

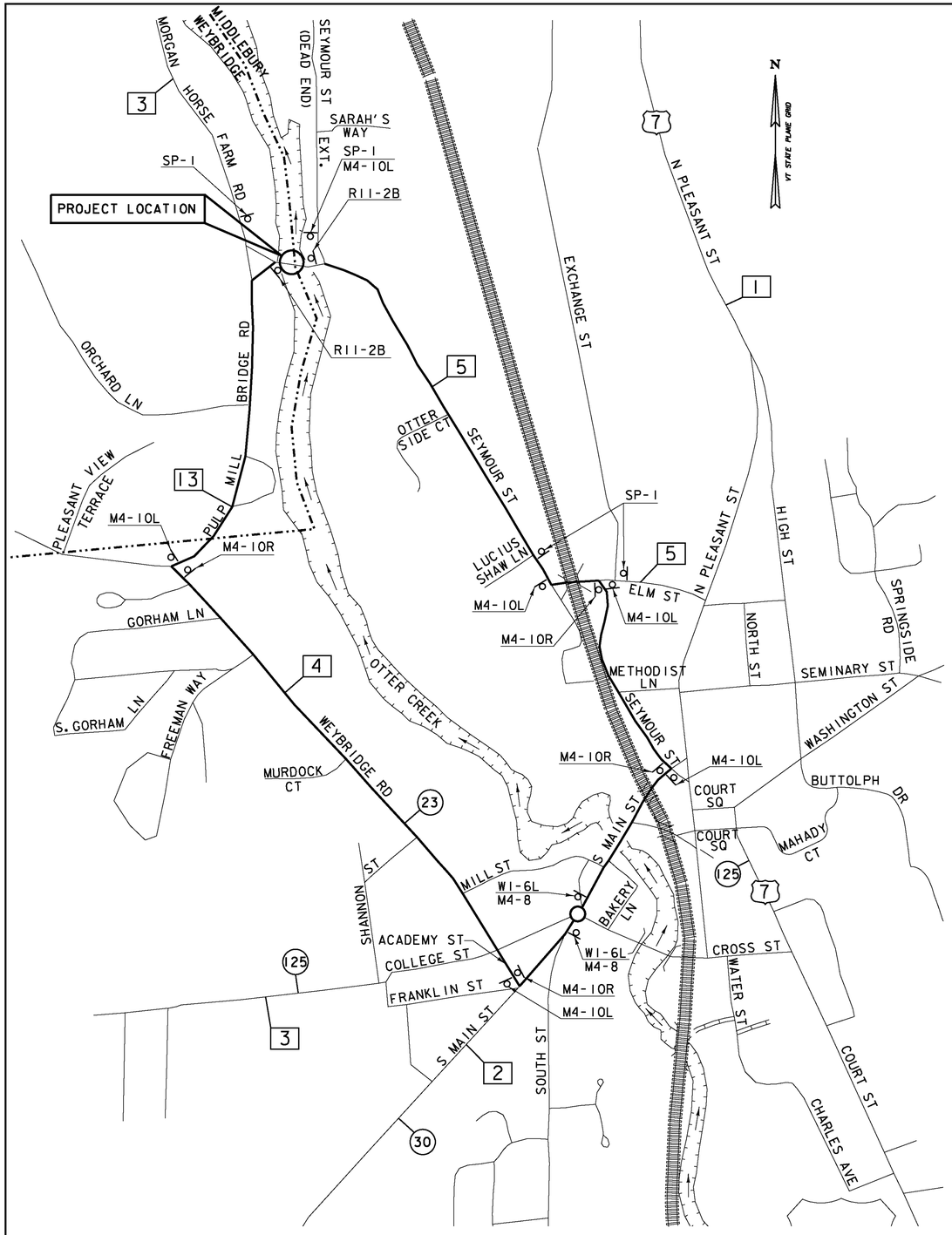
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Default

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086eronotes3.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
EPSC DETAILS SHEET (3 OF 3)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 22 OF 66



DETOUR PLAN
NOT TO SCALE

MAINTENANCE OF TRAFFIC

		SIZE WxH	SQ. FT.	NO. REQ.	TOTAL AREA	POST	COLOR	REMARKS
R11-2B	BRIDGE CLOSED	48"x30"	10	2	20	2 POSTS PER SIGN	B/W	8D COPY 8D COPY
SP-1	PULP MILL COVERED BRIDGE CLOSED	60"x30"	12.5	4	50	2 POSTS PER SIGN	B/W	ALL 5C COPY
M4-10R	DETOUR	48"x18"	6	4	24	1 POSTS PER SIGN	B/O	
M4-10L	DETOUR	48"x30"	6	6	36	1 POSTS PER SIGN	B/O	
M4-8	DETOUR	30"x15"	3.125	2	6.25	MOUNTED ON POST WITH W1-6L	B/O	
W1-6L		36"x12"	3	2	6	1 POST PER SIGN	B/O	

LEGEND:

- TEMPORARY CONSTRUCTION SIGN
- PROPOSED DETOUR ROUTE
- EXISTING ROADWAY
- STREAM OR RIVER
- TOWN LINE
- RAILROAD
- U.S. NUMBERED ROUTE
- STATE NUMBERED ROUTE
- TOWN HIGHWAY

PLAN NOTES:

1. ALL TEMPORARY SIGNS ARE VAOT TYPE A AND ARE ONLY SHOWN AS RECOMMENDATION FOR THE TOWN. SQUARE STEEL SIGN POSTS SHALL BE INSTALLED FOR EACH SIGN PER STANDARD E-164. THE TOWN IS RESPONSIBLE FOR PROVIDING AND INSTALLING TEMPORARY SIGNS OUTSIDE THE PROJECT AREA.
2. MAINTAIN ACCESS TO EXISTING SIDEWALK AND PEDESTRIAN BRIDGE AT ALL TIMES FOR THE DURATION OF CONSTRUCTION.
3. INSTALL TYPE III BARRICADES AT SIDEWALK WALKWAY AREAS TO SEPARATE WORK AREA FROM PEDESTRIAN TRAFFIC. EXACT LOCATIONS OF BARRICADES SHALL BE DETERMINED BY THE RESIDENT ENGINEER IN THE FIELD. THE COST OF FURNISHING, INSTALLING AND REMOVING TEMPORARY SIGNS AND TYPE III BARRICADES IS PAID FOR UNDER ITEM 641.10, TRAFFIC CONTROL.

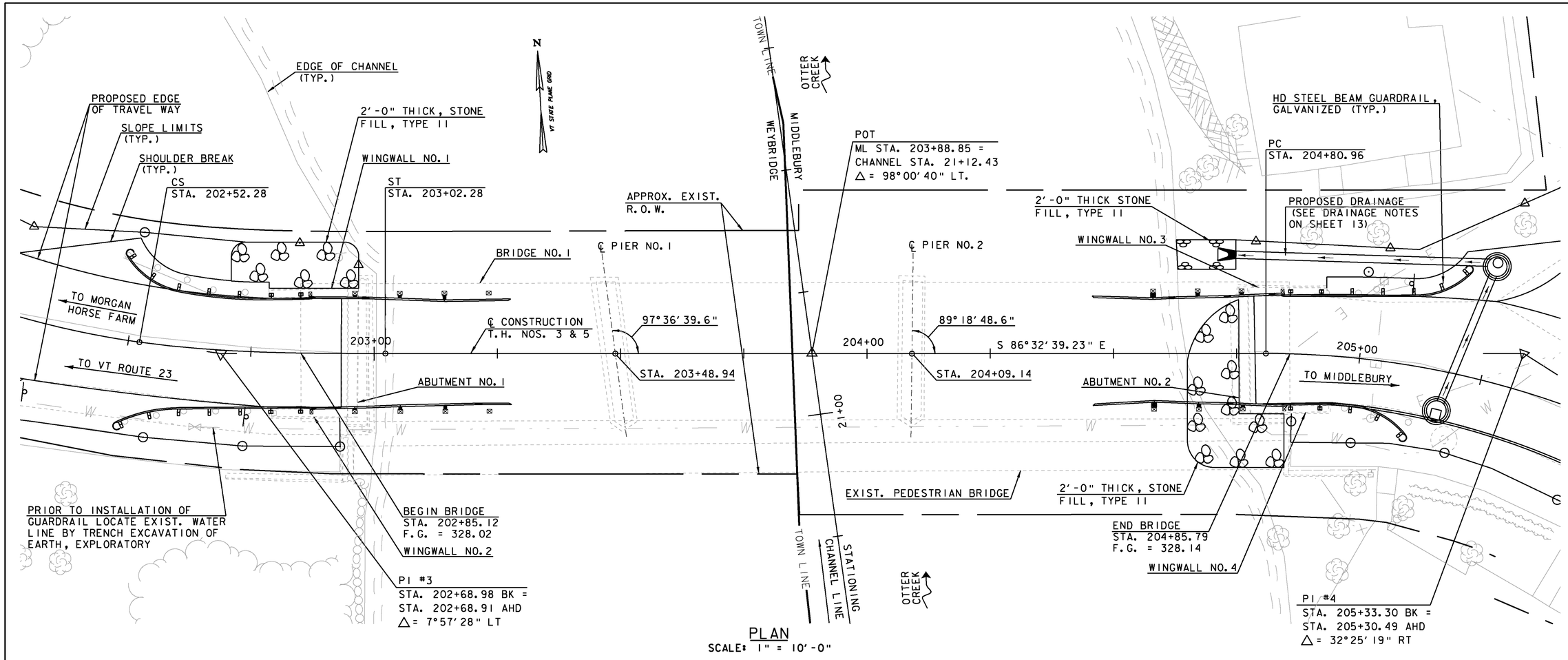
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Front

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

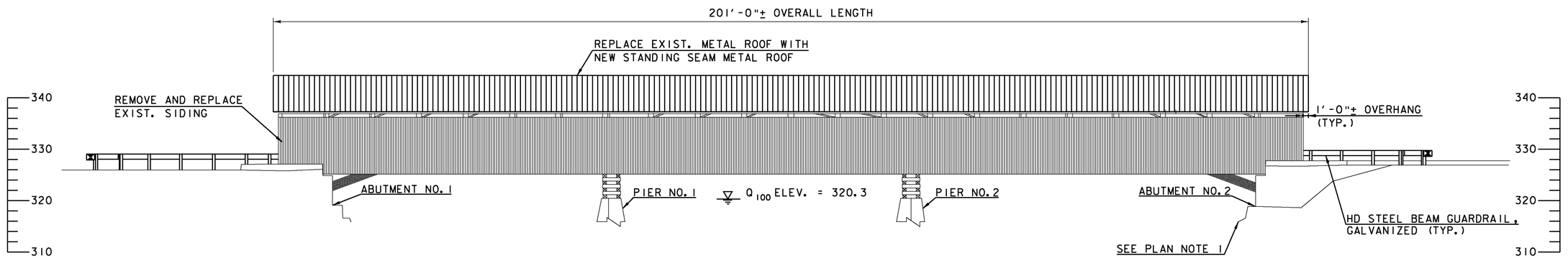
FILE NAME: z06J086dtr.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
DETOUR PLAN

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 23 OF 66



PLAN

SCALE: 1" = 10'-0"



ELEVATION AT UPSTREAM FASCIA

SCALE: 1" = 10'-0"

PLAN NOTES:

1. TOPOGRAPHIC SURVEY IS NOT AVAILABLE FOR OTTER CREEK CHANNEL BOTTOM. BOTTOM ELEVATION AND PROFILE OF CHANNEL IS NOT KNOWN.
2. PEDESTRIAN BRIDGE NOT SHOWN ON ELEVATION VIEW FOR CLARITY.
3. SEE SHEET 55 FOR GUARDRAIL LAYOUT.

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

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Roadway

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086gpe.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
COVERED BRIDGE PLAN & ELEVATION

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 24 OF 66

GENERAL NOTES:

G-1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006, AND ITS LATEST REVISIONS AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, DATED 2002, AND ITS LATEST REVISIONS.

G-2. DESIGN OF THE REHABILITATED STRUCTURE IS FOR AN AASHTO H4 LIVE LOAD.

G-3. THE CONTRACTOR SHALL TAKE SPECIAL CARE AND PRECAUTION TO ENSURE THAT NO DEBRIS FALLS INTO THE OTTER CREEK DURING CONSTRUCTION. ALL MATERIAL FALLING IN THE AREA BELOW AND ADJACENT TO THE BRIDGE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO COST TO THE STATE.

G-4. ALL WORK SHALL BE COMPLETED WITHIN THE EXISTING R.O.W SHOWN IN THESE PLANS. THE RIGHT-OF-WAY SHOWN IS ASSUMED TO BE APPROXIMATELY CENTERED ABOUT THE EXISTING CENTER LINE OF THE BRIDGE AND ROADWAY. NO PROVISIONS HAVE BEEN MADE FOR WORK OR ACTIVITIES OUTSIDE THE EXISTING RIGHT-OF-WAY LIMITS. SHOULD THE CONTRACTOR REQUIRE ANY ADDITIONAL RIGHT-OF-WAY IT WILL BE THE RESPONSIBILTY OF THE CONTRACTOR TO OBTAIN ALL EASEMENTS, AND BEAR THE COSTS OF SUCH EASEMENTS WITHOUT FURTHER COMPENSATION.

G-5. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTIONS AND OTHER INFORMATION AVAILABLE AT THE TIME OF BIDDING. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE CHECKED BY THE CONTRACTOR IN THE FIELD PRIOR TO COMMENCING THE WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THE DIMENSIONS AND DETAILS OF EXISTING BRIDGE FEATURES AND COMPONENTS PRIOR TO THE FABRICATION OF NEW BRIDGE COMPONENTS. ACTUAL WORK SHALL MATCH FIELD CONDITIONS UNLESS NOTED OTHERWISE. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

G-6. BRIDGE NO.1 SHALL REMAIN CLOSED TO VEHICULAR TRAFFIC FOR THE DURATION OF CONSTRUCTION.

G-7. EXCEPT AS NOTED OTHERWISE, ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE SHALL INCLUDE ANY WORK NECESSARY TO FACILITATE AND ACCOMPLISH THE SCOPE OF PROJECT WORK AS INDICATED BY THE CONTRACT DOCUMENTS AND DIRECTED BY THE ENGINEER: REMOVING AND DISPOSING OF SUPERSTRUCTURE MEMBERS AND PORTIONS OF MEMBERS; AS WELL AS REMOVING AND STOCKPILING MEMBERS AND PORTIONS OF MEMBERS FOR RE-USE, INCLUDING REMOVING AND STOCKPILING MEMBERS AND PORTIONS OF MEMBERS FOR THE CONTRACTOR'S METHODS OF REHABILITATION.

G-8. NO BURNING OF REMOVED MATERIALS AT THE PROJECT SITE WILL BE ALLOWED. THE EXISTING COVERED BRIDGE TIMBERS AND LUMBER MAY CONTAIN HAZARDOUS WOOD PRESERVATIVES. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS AND EMPLOYEES HARMLESS REGARDING THE CONTRACTOR'S HANDLING OF THESE MATERIALS AND SUBSEQUENT USE, RE-USE, OR DISPOSAL OF THESE MATERIALS.

G-9. THE COST OF INSTALLING AND MAINTAINING ALL TEMPORARY CONSTRUCTION SIGNS SHALL BE INCLUDED IN ITEM 641.10, TRAFFIC CONTROL. THE REMOVAL AND/OR RESETTING OF TRAFFIC SIGNS, AS DEEMED NECESSARY BY THE RESIDENT ENGINEER SHALL ALSO BE INCLUDED IN THE TRAFFIC CONTROL ITEM.

G-10. SPECIAL CARE SHALL BE TAKEN TO AVOID DAMAGE TO MEMBERS THAT ARE TO REMAIN AND TO AVOID MOVEMENT OF THE TRUSS THAT COULD RESULT IN DISTORTION OR MISALIGNMENT OF THE TRUSS AND ITS JOINTS. MEMBERS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AT CONTRACTOR'S EXPENSE.

G-11. ALL JOINTS IN REPLACED MEMBERS SHALL MATCH THE EXISTING JOINT, INCLUDING ALL NAILS, BOLTS OR SCREWS REQUIRED UNLESS NOTED OTHERWISE.

G-12. ALL EXISTING MEMBERS SHOWN TO BE REPLACED ARE TO BE REPLACED "IN-KIND" WITH NEW MEMBERS IDENTICAL IN DIMENSIONS AND CONFIGURATIONS AS THE MEMBERS ORIGINALLY USED IN THE COVERED BRIDGE (INCLUDING MORTISES, TENONS, NOTCHES, HOLES, ETC.) UNLESS NOTED OTHERWISE IN THESE PLANS.

STRUCTURAL STEEL NOTES:

S-1. EXCEPT AS NOTED OTHERWISE IN THE CONTRACT PLANS, ITEM 506.75, STRUCTURAL STEEL SHALL INCLUDE THE FOLLOWING:

- NEW LOWER LATERAL BRACING TIE RODS (INCLUDING NUTS, PLATES, WASHERS AND TURNBUCKLES)
- ALL NEW INTERIOR TRUSS TIE RODS (INCLUDING NUTS AND OGEE WASHERS)
- ALL NEW STEEL THROUGH BOLTS (INCLUDING NUTS AND WASHERS) THAT ARE TO CONNECT THE ARCHES TO TRUSS VERTICAL MEMBERS
- NEW CARRIAGE BOLTS WITH HEAVY SQUARE NUTS AND OGEE WASHERS THAT ARE TO CONNECT THE UPPER LATERAL BRACING MEMBERS
- ALL NEW STEEL STRAP PLATES AND HARDWARE AT VERTICAL TO TOP CHORD CONNECTION
- NEW LAG SCREWS TO CONNECT EXISTING WOOD MEMBERS
- FLOOR BEAM HOLD DOWN STAINLESS STEEL STRAPS

FABRICATION DRAWINGS AND ERECTION PLAN SUBMITTALS ARE NOT REQUIRED FOR ITEM 506.75, STRUCTURAL STEEL.

S-2. ALL NEW STRUCTURAL STEEL, EXCEPT STAINLESS STEEL BELOW DECK LEVEL, SHOWN IN THE PLANS INCLUDING PLATES, BOLTS, LAG BOLTS, TURNBUCKLES, NUTS, WASHERS, RODS, ANGLES AND MISCELLANEOUS STEEL, SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M 232/M 232M EXCEPT FOR PLATES WHICH SHALL BE GALVANIZED PER AASHTO M 111/ M 111M. ALL STEEL PLATES AND RODS, EXCEPT STAINLESS STEEL BELOW DECK LEVEL, SHALL BE ASTM A36.

S-3. ALL STEEL PLATES AND WASHERS BELOW DECK LEVEL SHALL BE STAINLESS STEEL, UNLESS NOTED OTHERWISE IN THE PLANS, CONFORMING TO THE REQUIREMENTS OF ASTM A 240/A 240M, TYPE 304. ALL BOLTS BELOW DECK LEVEL SHALL BE STAINLESS STEEL, UNLESS NOTED OTHERWISE IN THE PLANS, CONFORMING TO THE REQUIREMENTS OF ASTM F 593M/F 593, TYPE 304. ALL NUTS BELOW DECK LEVEL SHALL BE STAINLESS STEEL, UNLESS NOTED OTHERWISE IN THE PLANS, CONFORMING TO ASTM F 594/F 594M, TYPE 304. PAYMENT FOR ALL STAINLESS STEEL BELOW DECK LEVEL, EXCEPT FLOOR BEAM HOLD DOWN STRAPS, TO CONNECT NEW LUMBER AND TIMBER MEMBERS IS INCLUDED IN RESPECTIVE LUMBER AND TIMBER PAY ITEMS.

S-4. EXPOSED ENDS OF ALL STRUCTURAL STEEL AND HARDWARE BELOW DECK LEVEL SHALL BE COATED WITH 2 COATS OF A-H COAL TAR EPOXY 210 BY ANTI-HYDRO COMPANY, BITUMASTIC 300-M BY CARBOLINE, DURAL 306 BY TAMMS INDUSTRIES OR OTHER EQUIVALENT APPROVED EQUAL COAL TAR EPOXY. ALL COST FOR THIS WORK IS CONSIDERED INCIDENTAL TO ITEM 506.75, STRUCTURAL STEEL.

TIMBER CONNECTORS NOTES:

TC-1. EXCEPT AS SPECIFIED IN THE STRUCTURAL STEEL NOTES, PAYMENT FOR STRUCTURAL LUMBER AND TIMBER AND NON-STRUCTURAL LUMBER QUANTITIES SHALL BE FULL COMPENSATION FOR DETAILING, FURNISHING, TRANSPORTING, HANDLING, PLACING AND INSTALLING NEW AND REUSED TIMBER CONNECTORS WHICH ARE USED TO CONNECT NEW LUMBER AND TIMBER MEMBERS WITH EXISTING LUMBER AND TIMBER MEMBERS.

TC-2. EXCEPT AS SPECIFIED IN THE STRUCTURAL STEEL NOTES, DETAILING, FURNISHING, TRANSPORTING, HANDLING, AND INSTALLING NEW AND REUSED TIMBER CONNECTORS WHICH ARE USED TO CONNECT EXISTING LUMBER AND TIMBER MEMBERS SHALL BE CONSIDERED INCIDENTAL TO THE WORK REQUIRED FOR ITEM 900.645 SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).

WOOD NOTES:

W-1. ALL WOOD CONSTRUCTION SHALL COMPLY WITH THE LATEST AASHTO SPECIFICATIONS, THE NATIONAL DESIGN SPECIFICATION (NDS) AND SUPPLEMENT FOR WOOD CONSTRUCTION, AND THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) SPECIFICATION, 5TH EDITION.

W-2. THE MAXIMUM IN PLACE MOISTURE CONTENT OF THE WOOD USED SHALL BE AS FOLLOWS:

MEMBERS LESS THAN 5" THICK	16%
MEMBERS GREATER THAN 5" THICK	19%
TRUNNELS	10%
ALL HARDWOOD 2" AND THICKER MAY BE GREEN	

W-3. ALL NEW WOOD TRUNNELS SHALL BE MADE OF WHITE OAK. TRUNNELS SHALL BE DRIVEN IN A MANNER WHICH AVOIDS SPLITTING THE TRUNNELS OR THE MEMBER CONNECTED BY THEM. HOLES SHALL BE SIZED 1/16" IN DIAMETER SMALLER THAN THE TRUNNEL TO PROVIDE A FRICTION FIT. TRUNNELS SHALL BE DIPPED IN BOILED LINSEED OIL, MINERAL OIL OR AN APPROVED WAX PRIOR TO DRIVING. ALL NEW OR EXISTING WOOD TRUNNELS IN SOUND CONDITION THAT ARE TO BE RE-USED WITH PERMISSION OF THE RESIDENT ENGINEER FOR CONNECTING NEW OR REPLACED MEMBERS ARE CONSIDERED INCIDENTAL TO ITEM 522.20, STRUCTURAL LUMBER AND TIMBER, UNTREATED. TRUNNELS WHICH ARE SALVAGED AND REUSED IN CONJUNCTION WITH EXISTING MEMBERS THAT ARE TO REMAIN ARE PAID FOR UNDER ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).

W-4. DOWEL HOLES IN EXISTING ARCH AND TRUSS MEMBERS SHALL BE PLUGGED WITH AN APPROVED WOOD EPOXY OR HARDWOOD DOWEL AS APPROVED BY THE ENGINEER (COST OF SUCH REPAIRS IS INCLUDED UNDER ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE). APPROXIMATELY 300 LOCATIONS HAVE BEEN IDENTIFIED FOR BIDDING PURPOSES. AN ADDITIONAL 20 DOWEL HOLE REPAIRS ARE INCLUDED.

W-5. THE REPAIR OF APPROXIMATELY 5 SPLITS AND CHECKS IN EXISTING CROSS BEAMS SHALL BE MADE WITH AN APPROVED WOOD EPOXY TO ACHIEVE FULL STRENGTH OF THE REPAIRED MEMBER (PAY ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)). AN ADDITIONAL 5 ROTTED MEMBER REPAIRS (AS SHOWN ON "EPOXY REPAIR DETAIL" ON SHEET 27) ARE INCLUDED FOR BIDDING PURPOSES. SEE THE RECOMMENDED REPAIR SEQUENCE NOTES ON SHEET 27 FOR MORE INFORMATION.

W-6. EACH PIECE OF NEW LUMBER AND TIMBER SHALL BE GRADED, BY A RECOGNIZED LUMBER GRADING AGENCY. INDIVIDUAL PIECES SHOULD NOT BE STAMPED WITH A GRADE STAMP. MATERIAL CERTIFICATIONS SHALL BE SUBMITTED FOR ALL WOOD IN ACCORDANCE WITH SECTION 709.

W-7. THE QUANTITY OF ITEM 522.20, STRUCTURAL LUMBER AND TIMBER, UNTREATED ASSUMES REPLACEMENT OF 2 ADDITIONAL TRUSS VERTICAL MEMBERS, 2 ADDITIONAL TRUSS DIAGONAL MEMBERS, 5 ADDITIONAL KNEE BRACES, 100 FEET OF 2"x4" NAILERS, AND 5 ADDITIONAL RAFTERS FOR BIDDING PURPOSES THAT HAVE NOT BEEN IDENTIFIED IN THE PLANS. THE CONTRACTOR AND RESIDENT ENGINEER SHALL JOINTLY INSPECT ALL TRUSS CHORDS, WEB MEMBERS AND ALL ROOF RAFTERS AT THE TIME OF CONSTRUCTION TO IDENTIFY ADDITIONAL MEMBERS TO BE REPLACED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL LUMBER AND TIMBER DIMENSIONS AND SIZES REQUIRED FOR CONSTRUCTION.

W-8. THE QUANTITY OF ITEM 522.25, STRUCTURAL LUMBER AND TIMBER, TREATED ASSUMES REPLACEMENT OF 5 ADDITIONAL FLOOR BEAMS FOR BIDDING PURPOSES THAT HAVE NOT BEEN IDENTIFIED IN THE PLANS.

W-9. THE QUANTITY OF ITEM 522.30, NONSTRUCTURAL LUMBER, UNTREATED ASSUMES REPLACEMENT OF ALL UPSTREAM, DOWNSTREAM AND PORTAL SIDING AND 20% OF EXISTING ROOF BOARDS. THE CONTRACTOR AND RESIDENT ENGINEER SHALL JOINTLY INSPECT ALL ROOF BOARDS AFTER THE REMOVAL OF THE EXISTING METAL ROOF TO IDENTIFY ADDITIONAL MEMBERS TO BE REPLACED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL LUMBER DIMENSIONS AND SIZES REQUIRED FOR CONSTRUCTION.

W-10. ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE) SHALL INCLUDE ALL COSTS ASSOCIATED WITH RE-INSTALLING STOCKPILED COMPONENTS (FROM ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE) ON THE SUPERSTRUCTURE. SEE PLAN NOTES ON SHEET 29 AND CAMBER NOTES ON SHEET 47 FOR ADDITIONAL INFORMATION.

W-11. ALL NUTS, BOLTS, WASHERS, AND SCREWS SHALL CONFORM TO ASTM A307, ALL NAILS AND SPIKES SHALL CONFORM TO ASTM F1667 AND BE DOUBLE HOT DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M 232/M 232M. THE USE OF ELECTRO GALVANIZED NAILS WILL NOT BE ALLOWED. STAINLESS STEEL NAILS ARE REQUIRED IF NAIL GUNS ARE USED.

W-12. ALL STRUCTURAL LUMBER AND TIMBER NOT SHOWN ON THE WOOD MATERIALS LIST TABLE ON SHEET 26 SHALL BE DOUGLAS FIR NO.1 OR BETTER. LIKEWISE, ALL HARDWOOD SHALL BE WHITE OAK NO.1 OR BLACK LOCUST NO.1 OR BETTER WHERE THE SPECIES IS NOT NOTED.

W-13. ALL FIELD CUTS AND BORINGS OF TREATED WOOD SHALL BE TREATED WITH TWO COATS OF COPPER NAPHTHENATE LIBERALLY APPLIED PER SECTION 522.

W-14. EXISTING TOP CHORD, ROOF RAFTER, KNEE BRACING AND CROSS BEAM JOINTS SHALL BE REPLICATED ON ALL STRUCTURE MEMBERS TO BE REPLACED UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.

W-15. THE WOOD CURB BLOCKING, CURB, TRUSS BOTTOM CHORD, DISTRIBUTION BEAMS, BOTTOM LAYER OF DECKING AND SLEEPER BEAMS SHALL COMPLY WITH SUBSECTION 726.01 FOR TYPE III PENTACHLOROPHENOL TYPE C.

W-16. ALL LAG BOLTS AND NUTS FOR THROUGH BOLTS SHALL BE TIGHTENED SNUGLY BUT NOT SO TIGHTLY AS TO CAUSE CRUSHING OF THE WOOD UNDER THE WASHER OR PLATE.

W-17. TOP LAYER OF DECKING SHALL BE SURFACED THREE SIDES (S3S) (ROUGH SIDE ON TOP). BOTTOM LAYER OF DECKING SHALL BE SURFACED FOUR SIDES (S4S). BOTTOM CHORD MEMBERS SHALL BE SURFACED TWO SIDES (S2S) (WIDE FACE AGAINST TRUSS VERTICAL AND TOP NARROW FACE). ALL OTHER NEW LUMBER AND TIMBER SHALL BE ROUGH SURFACED.

W-18. DIMENSIONS OF ALL LUMBER AND TIMBER MEMBERS SHOWN IN THESE PLANS ARE THE ACTUAL SIZES AFTER SEASONING UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS. THE DIMENSIONS OF NARROW AND WIDE FACES OF NEW BOTTOM CHORD MEMBERS SHALL BE THE ACTUAL DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. FOR ALL NEW MEMBERS THAT ARE NOT SURFACED S4S, S3S OR S2S, CROSS-SECTIONAL DIMENSION VARIATIONS OF UP TO 1/8" WILL BE ALLOWED.

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
90421?	Notes

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086gen.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
PROJECT NOTES SHEET (1 OF 2)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 25 OF 66

CONCRETE AND REINFORCING STEEL NOTES:

C-1. REINFORCING STEEL SHALL CONFORM TO SECTION 507 AND DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE" (CRSI).

C-2. WHEN EPOXY COATED REINFORCING IS CUT, THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REINFORCING STEEL IS NOT PERMITTED.

C-3. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT; ANY DOWNWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE ABOVE THE JOINT.

C-4. REINFORCING PLACEMENT TOLERANCES SHALL BE:
SPACING +/- 1"
CLEARANCE +/- $^{1}/_{4}$ "

C-5. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE TWO (2) INCHES ALONG THE BACK FACES OF WALLS AGAINST EARTH AND THREE (3) INCHES ELSEWHERE, UNLESS NOTED OTHERWISE.

C-6. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1" UNLESS NOTED OTHERWISE.

C-7. TOP SURFACES OF FLOOR BEAM PEDESTALS SHALL BE LEVEL.

C-8. THE CONCRETE IN NEW FLOOR BEAM PEDESTALS SHALL BE HIGH PERFORMANCE CONCRETE CLASS B AND PAID UNDER ITEM 501.34, CONCRETE, HIGH PERFORMANCE CLASS B.

C-9. ALL NEW AND EXISTING EXPOSED CONCRETE SURFACES SHALL BE SEALED AND STAINED. PAYMENT WILL BE MADE UNDER ITEM 900.625, SPECIAL PROVISION (CONCRETE STAINING AND SEALING).

WINTER PROTECTION NOTES:

WP-1. IF A WINTER SHUTDOWN IS UTILIZED, THE FOLLOWING CONDITIONS MUST BE MET:

A. THE BRIDGE SHALL HAVE AN EQUIVALENT WATER TIGHTNESS AND STRUCTURAL CONDITION DURING THE SHUTDOWN TO WHAT IT CURRENTLY HAS.

B. ACCESS TO THE BRIDGE SHALL BE RESTRICTED WITH CHAIN LINK FENCE OR EQUIVALENT MEASURES APPROVED BY THE ENGINEER. COST FOR THIS WORK IS CONSIDERED INCIDENTAL TO ITEM 502.10, SHORING SUPERSTRUCTURE.

ENVIRONMENTAL PROTECTION NOTES:

E-1. DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL CONDUCT OPERATIONS IN SUCH A MANNER AS TO PREVENT OR REDUCE TO A MINIMUM ANY DAMAGE TO ANY STREAM FROM POLLUTION BY DEBRIS, SEDIMENT, OR OTHER FOREIGN MATERIAL OR FROM MANIPULATION OF EQUIPMENT AND/OR MATERIALS IN OR NEAR SUCH STREAMS. THE CONTRACTOR SHALL NOT RETURN DIRECTLY TO A STREAM ANY WATER WHICH HAS BEEN USED FOR WASH PURPOSES OR OTHER SIMILAR OPERATIONS WHICH CAUSE THIS WATER TO BECOME POLLUTED WITH SAND, SILT, CEMENT, OIL, OR OTHER IMPURITIES. IF THE CONTRACTOR USES WATER FROM A STREAM, THE CONTRACTOR SHALL CONSTRUCT AN INTAKE OR TEMPORARY DAM REQUIRED TO PROTECT AND SUSTAIN AQUATIC LIFE.

E-2. CONSTRUCTION ACTIVITIES SHALL ADHERE TO THE PERMIT REQUIREMENTS ISSUED FROM THE AGENCY OF NATURAL RESOURCES.

SUBSTRUCTURE REHABILITATION NOTES:

SR-1. EXISTING ABUTMENTS, PIERS, AND WINGWALLS SHALL BE INSPECTED FOR DETERIORATED CONCRETE JOINTLY BY THE RESIDENT ENGINEER AND CONTRACTOR. ALL DETERIORATED CONCRETE SHALL BE REMOVED. THE OUTSIDE LIMITS OF REMOVAL SHALL BE SAW CUT TO A 1" MINIMUM DEPTH TO PROVIDE CLEAN REMOVAL LINES. THE EXISTING CONCRETE SHALL BE BLAST CLEANED PRIOR TO PLACING NEW CONCRETE. ALL REMOVAL AND CLEANING SHALL BE AS SPECIFIED IN SECTION 580 AND PAID FOR UNDER ITEM 580.14, REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II.

SR-2. HOLES DRILLED IN EXISTING CONCRETE SHALL BE DRILLED 1" GREATER IN DIAMETER THAN THE BAR DIAMETER AND GROUTED WITH TYPE IV MORTAR OR OTHER APPROVED MATERIAL. BARS SHALL HAVE A MINIMUM EMBEDMENT LENGTH OF 1'-0" UNLESS NOTED OTHERWISE. ALL COSTS FOR DRILLING AND GROUTING SHALL BE INCLUDED IN ITEM 507.16, DRILLING AND GROUTING OF DOWELS.

LIGHTING PLAN NOTES:

LP-1. THERE ARE CURRENTLY TWO LIGHT FIXTURES INSTALLED ON THE BRIDGE. THE POWER TO THE LIGHTS IS PROVIDED BY OVERHEAD ELECTRICAL FEED FROM UTILITY POLE ON THE EAST APPROACH.

LP-2. THE EXISTING LIGHTS, EAST OVERHEAD ELECTRICAL LINE TO THE PORTAL, SUPPORTS AND CONDUITS SHALL BE REMOVED AND PAID UNDER ITEM 529.20. THE UNDERGROUND ELECTRICAL FEED SHALL BE INSTALLED AND PAID UNDER ITEM 900.645, SPECIAL PROVISION (LIGHTING FOR COVERED BRIDGE).

LP-3. SIXTEEN NEW LIGHT FIXTURES SHALL BE INSTALLED AS SHOWN ON SHEETS 29-30.

LP-4. THE NEW ELECTRICAL CONDUIT SHALL BE LOCATED ON THE ~~NORTH SIDE OF THE NORTH TRUSS TOP CHORD~~ SOUTH SIDE OF THE SOUTH TRUSS TOP NAILER. CONDUIT TO ROADWAY FIXTURES SHALL BE LOCATED ON THE TOP OF CROSS BEAM AND BRACING MEMBERS, HIDDEN FROM VIEW.

LP-5. THE CUTTING, NOTCHING OR ALTERING IN ANY WAY BRIDGE MEMBERS DURING INSTALLATION OF THE LIGHTING SYSTEM WILL NOT BE ALLOWED WITHOUT PERMISSION OF THE ENGINEER.

LP-6. END LIGHTS BETWEEN NODES 0-1 AND 21-22 SHALL BE CONNECTED TO AN ADJUSTABLE PHOTOCELL MOUNTED ON THE EAST PORTAL.

RECOMMENDED SEQUENCE OF WORK:

RS-1. INSTALL TEMPORARY TRAFFIC SIGNS AND CLOSE THE EXISTING COVERED BRIDGE TO TRAFFIC.

RS-2. REMOVE THE EXISTING FLOOR DECKING, STRINGERS, FLOOR BEAMS AND SIDING AS SHOWN IN THE PLANS. PROVIDE TEMPORARY SUPPORT OF THE LOWER AND UPPER CHORDS AND ARCHES AS REQUIRED.

RS-3. INSTALL TEMPORARY SHORING TO SUPPORT THE EXISTING BRIDGE. FOUR (4) WEEKS PRIOR TO COMMENCEMENT OF THE WORK THE CONTRACTOR SHALL SUBMIT PLANS AND DESIGN CALCULATIONS FOR THE PROPOSED WORK TO THE STRUCTURES ENGINEER IN ACCORDANCE WITH SECTION 105.

RS-4. THE EXISTING BRIDGE SHALL BE JACKED AND BRACED AS REQUIRED TO STRAIGHTEN, RELEASE STRESSES, PLUMB AND RE-ALIGN THE TRUSSES AND ARCHES. FOUR (4) WEEKS PRIOR TO COMMENCEMENT OF REALIGNMENT OPERATIONS THE CONTRACTOR SHALL SUBMIT THE PROPOSED METHOD OF WORK TO THE STRUCTURES ENGINEER IN ACCORDANCE WITH SECTION 105. (SEE ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE)).

RS-5. REPLACE BRIDGE MEMBERS AS DETAILED IN THE CONTRACT DOCUMENTS AND COMPLETE SUBSTRUCTURE WORK.

RS-6. REMOVE TEMPORARY SHORING TO SUPPORT STRUCTURE. COMPLETE REMAINING WORK ITEMS AS DETAILED IN THE CONTRACT DOCUMENTS AND REOPEN BRIDGE TO TRAFFIC.

WOOD MATERIALS LIST

COMPONENT	EXISTING (ACTUAL SIZE)	PROPOSED (ACTUAL SIZE)	PROPOSED SPECIES & GRADE
BEARING AND HARDWOOD BLOCKS	4" THICK	4" THICK	WHITE OAK NO. I
CROSS BEAMS	7"x8" & 4"x4"	7"x8" & 4"x4"	DOUGLAS FIR NO. I
DISTRIBUTION BEAMS	---	6"xI2"	P.T. DOUGLAS FIR SEL. STR.
FLOOR BEAMS	6"xI0"	6"xI0"	P.T. DOUGLAS FIR NO. I
KNEE BRACES	4"x4"	4"x4"	EASTERN SPRUCE NO. I & BTR
LAMINATED ARCHES	2"x5¾"•x2¼"x5¾"	2"x6", 2¼"x6" 3"x9"	SOUTHERN PINE NO. I
LOWER LATERAL BRACING	6"x6"	4½"x4½"	P.T. DOUGLAS FIR NO. I
NAILERS/SIDING SUPPORT MEMBERS	2"x4"	2"x4"	EASTERN SPRUCE NO. I
NEW HORIZONTAL MEMBERS AT INTERIOR TRUSS	---	4½"x4½"	DOUGLAS FIR SEL. STR.
PORTAL TRIM LUMBER	2"x4"	2"x4"	EASTERN SPRUCE NO. I
ROOF RAFTERS	4"x4"	4"x4"	DOUGLAS FIR SEL. STR.
ROOF BOARDS	I"x8"	I"x8"	EASTERN HEMLOCK NO. I COMMON
SAWN DECKING (BOTTOM LAYER)	3" THICK	3"x7¼"	P.T. DOUGLAS FIR
SAWN DECKING (TOP LAYER)	3" THICK	I½"x7¼"	WHITE OAK NO. I
SIDING	I" THICK	I" THICK	EASTERN WHITE PINE COMMON PREMIUM
SLEEPER BEAMS	---	I0"xI0"	P.T. DOUGLAS FIR NO. I
SUPPLEMENTAL DIAGONALS	---	2"xI0" &3"xI0"	DOUGLAS FIR SEL. STR.
TIMBER RAIL	4"xI2"	4"xI2"	EASTERN SPRUCE NO. I
TRUSS BOTTOM CHORD	7"xI3"&6"xI2"	7"xI4"&8"xI4"	P.T. DOUGLAS FIR SEL. STR.
TRUSS DIAGONALS	4"xI0"	4"xI0"&5"xI0"	DOUGLAS FIR SEL. STR.
TRUSS TOP CHORD	8½"xI0"	8½"xI0"	DOUGLAS FIR SEL. STR.
TRUSS VERTICALS	8½"xI0"	8½"xI0"•16'	DOUGLAS FIR SEL. STR.
WOOD CURB	---	3½"x5½"	P.T. DOUGLAS FIR NO. I & BTR
WOOD CURB BLOCKING	---	5½"x5½"	P.T. DOUGLAS FIR NO. I & BTR

• MATCH EXISTING MEMBER DIMENSIONS

MINIMUM ALLOWABLE WOOD STRESSES

SPECIES	SIZE	GRADE	F_b (PSI)	F_t (PSI)	F_v (PSI)	F_c (PSI)	$F_{c\perp}$ (PSI)	E (10^6 PSI)
DOUGLAS FIR	2"-4" THICK	NO. I & BTR	I200	800	I80	I550	625	I.8
DOUGLAS FIR	2"-4" THICK	SEL. STR.	I500	I000	I80	I700	625	I.9
DOUGLAS FIR	BEAMS & STRINGERS*	NO. I	I350	675	I70	925	625	I.6
DOUGLAS FIR	BEAMS & STRINGERS*	SEL. STR.	I600	950	I70	I100	625	I.6
DOUGLAS FIR	POSTS & TIMBERS**	NO. I	I200	825	I70	I000	625	I.6
DOUGLAS FIR	POSTS & TIMBERS**	SEL. STR.	I500	I000	I70	I150	625	I.6
EASTERN SPRUCE	2"-4" THICK	NO. I	775	350	I40	I000	335	I.I
SOUTHERN PINE	5"-6" WIDE	NO. I	I650	900	I75	I750	565	I.7
SOUTHERN PINE	9" WIDE	NO. I	I500	825	I75	I650	565	I.7
WHITE OAK	2"-4" THICK	NO. I	875	500	220	900	800	I.0

LEGEND:

P.T. PRESSURE TREATED
* 5" & THICKER AND MORE THAN 2 IN. GREATER THAN THICKNESS (E.G. 4½x8⅞)
** 5" & THICKER AND NOT MORE THAN 2 IN. GREATER THAN THICKNESS (E.G. 8¾x8)

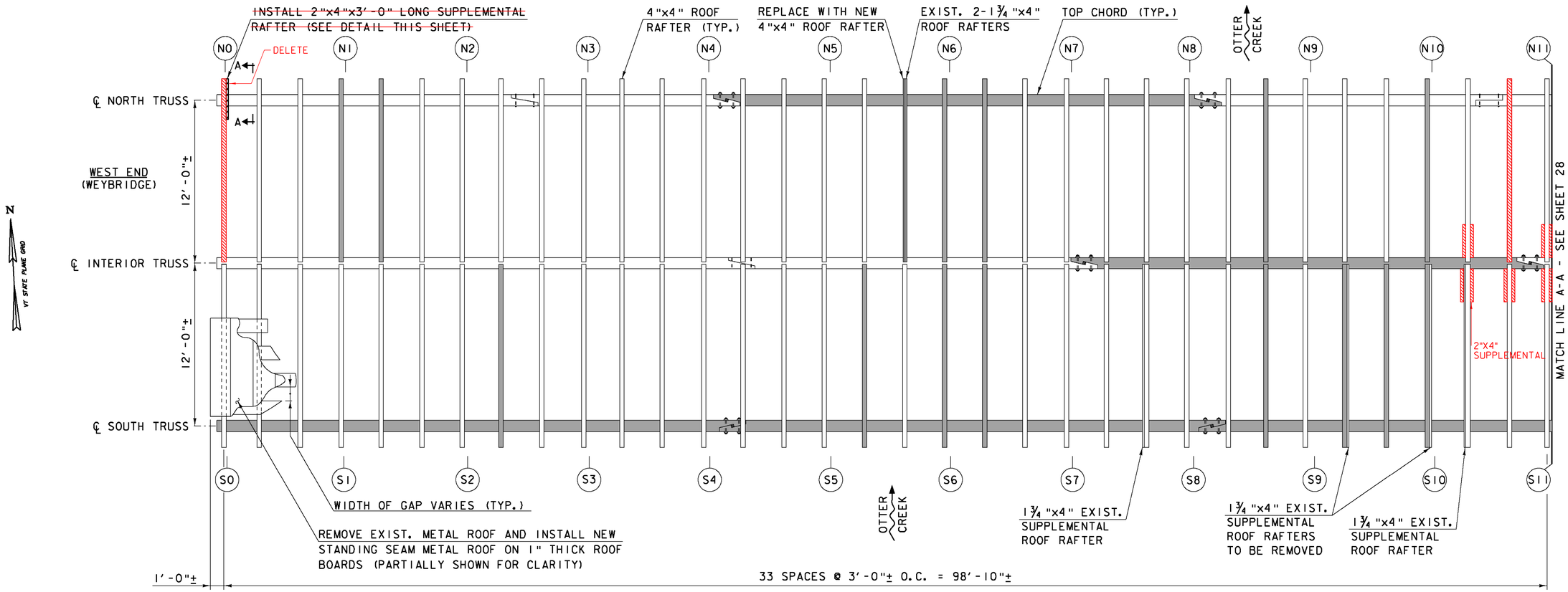
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	Notes

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO I445(33)

FILE NAME: z06J086gen2.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
PROJECT NOTES SHEET (2 OF 2)

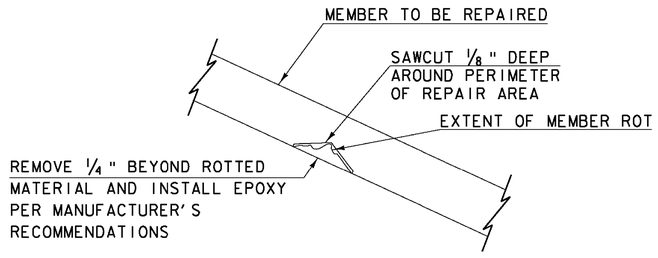
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 26 OF 66



STATIONING

ROOF FRAMING PLAN

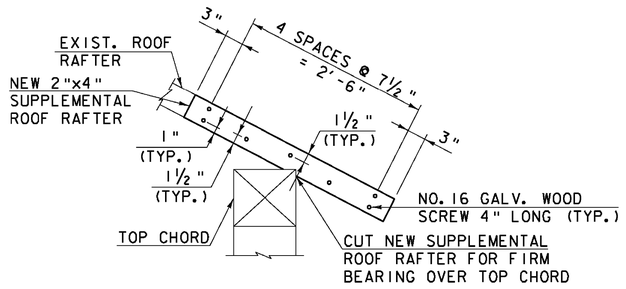
SCALE: ¼" = 1'-0"



RAFTER OR OTHER MEMBER (VARIOUS ITEM NUMBERS)

EPOXY REPAIR DETAIL

NOT TO SCALE



SECTION A-A

SCALE: 1" = 1'-0"

RECOMMENDED REPAIR SEQUENCE:

R-1. IDENTIFIED ROTTED MATERIAL IN LUMBER AND TIMBER MEMBERS, IF LESS THAN 1 INCH IN DEPTH, SHALL BE REPAIRED AS SHOWN ON THE "EPOXY REPAIR DETAIL". IF ROT IS GREATER THAN 1 INCH IN DEPTH, THE ENTIRE MEMBER SHALL BE REPLACED AS DIRECTED BY THE RESIDENT ENGINEER.

R-2. REMOVE ALL ROTTED MATERIAL TO A MINIMUM OF ¼" BEYOND EXTENT OF ROT. SAWCUT ⅛" DEEP AROUND PERIMETER OF REPAIR AREA.

R-3. CLEAN EXISTING MEMBER OF ALL DIRT, SAWDUST, ETC. AND PREPARE SURFACE PER MANUFACTURER'S RECOMMENDATIONS.

R-4. INSTALL/INJECT APPROVED EPOXY REPAIR MATERIAL PER MANUFACTURER'S RECOMMENDATIONS, (PAID UNDER ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)). COLOR OF REPAIR MATERIAL TO MATCH EXISTING WOOD. A COMPLETED TEST SECTION SHALL BE MADE FOR APPROVAL BY THE RESIDENT ENGINEER.

R-5. INSTALL TWO GALVANIZED LAG SCREWS INTO EXISTING SPLIT THROUGH REPAIR MATERIAL (IF REQUIRED). SIZE OF LAG SCREWS TO BE DETERMINED BY THE RESIDENT ENGINEER.

R-6. SEE NOTE W-5 ON SHEET 25 AND NOTE 1 ON SHEET 48 FOR ALL WORK TO BE PAID FOR UNDER ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS).

LEGEND:

- XXX — TRUSS NODE LOCATION
- PREDETERMINED MEMBER TO BE REPLACED
- NEW SUPPLEMENTAL RAFTER

SCALE: ¼" = 1'-0"
1 0 2 4 6
SCALE: 1" = 1'-0"
1 9 6 3 0 1 2

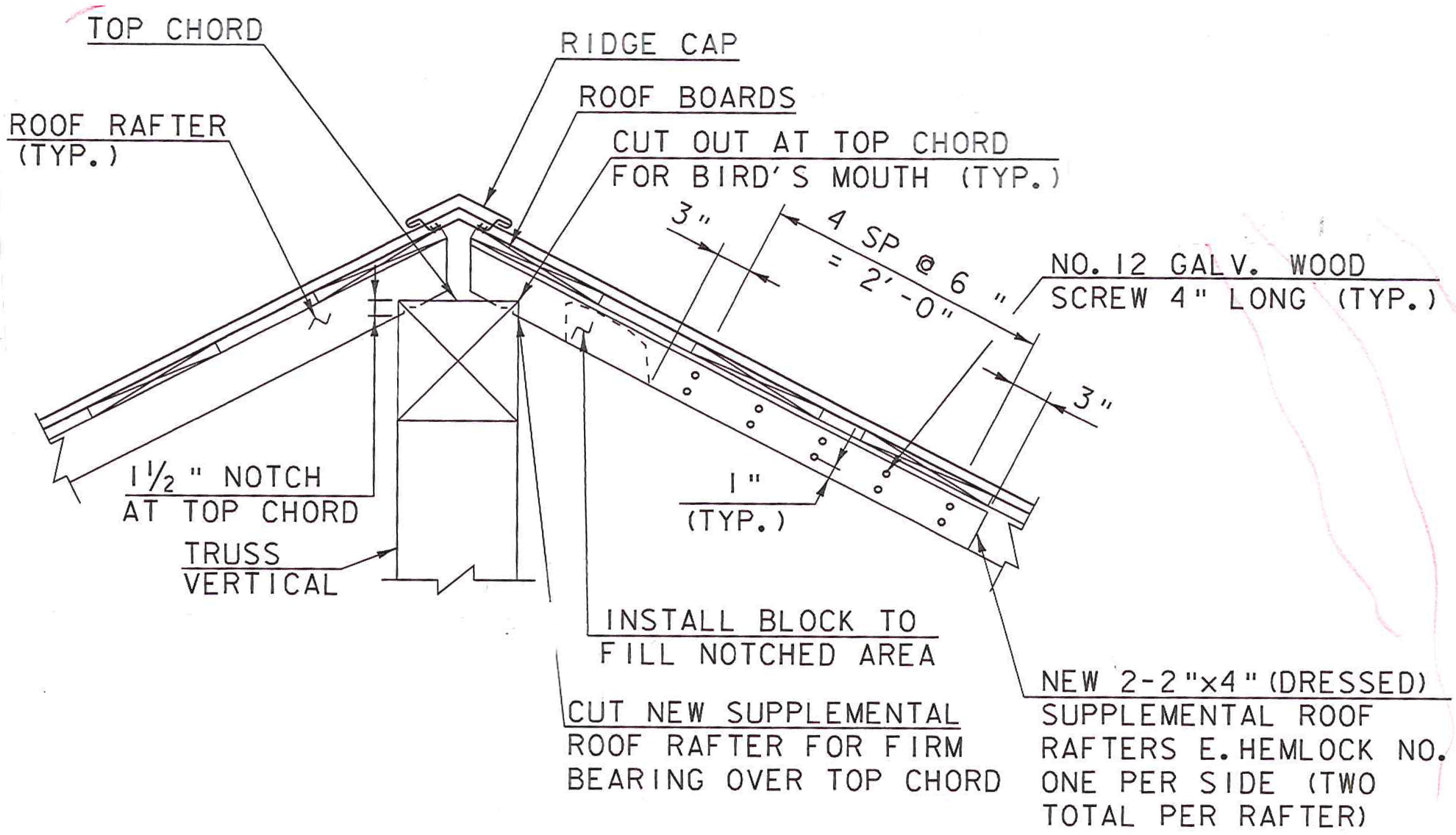
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	RoofFramel

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

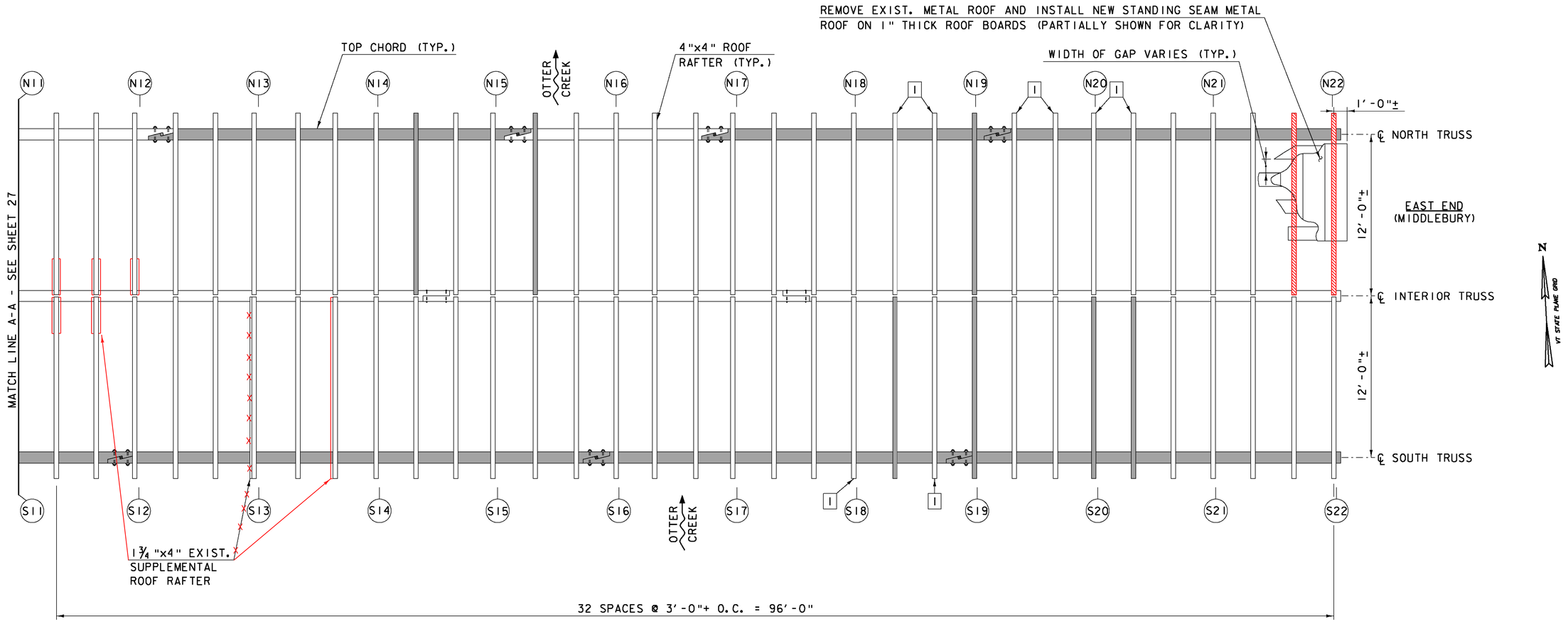
FILE NAME: z06j086supl.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
PLOT DATE: 10/3/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES

ROOF FRAMING PLAN & DETAILS (1 OF 2)



SUPPLEMENTAL ROOF RAFTER DETAIL

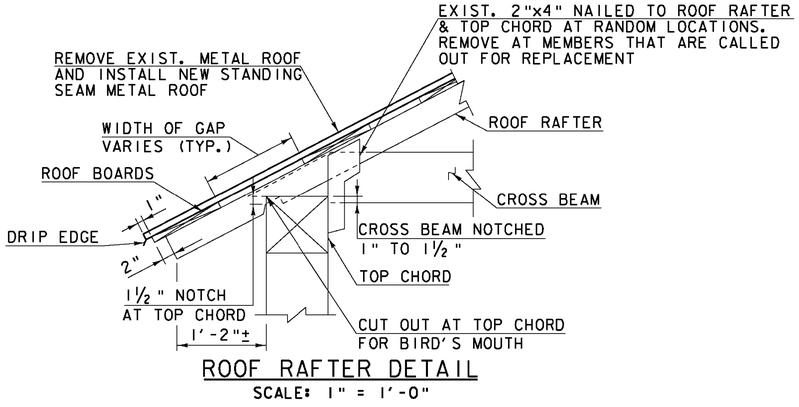
SCALE: 1" = 1'-0"



STATIONING

ROOF FRAMING PLAN

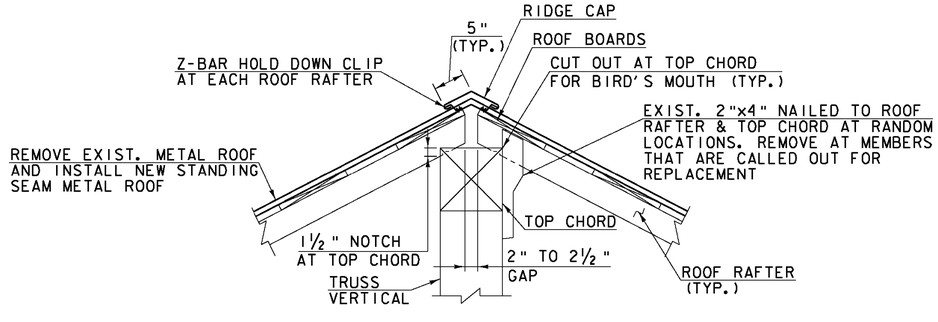
SCALE: ¼" = 1'-0"



ROOF RAFTER DETAIL

SCALE: 1" = 1'-0"

REVISED TO DETAIL ON PAGE 27A



ROOF RIDGE CAP DETAIL

SCALE: 1" = 1'-0"

LEGEND:

- (XXX) TRUSS NODE LOCATION
- PREDETERMINED MEMBER TO BE REPLACED
- [1] REMOVE 2"x4" TIMBER BELOW ROOF RAFTER AT TOP CHORD BEARING. RECUT RAFTER AS REQUIRED TO MATCH TYPICAL EXISTING BEARING.

SCALE: ¼" = 1'-0"
1 0 2 4 6

SCALE: 1" = 1'-0"
1 9 6 3 0 1 2

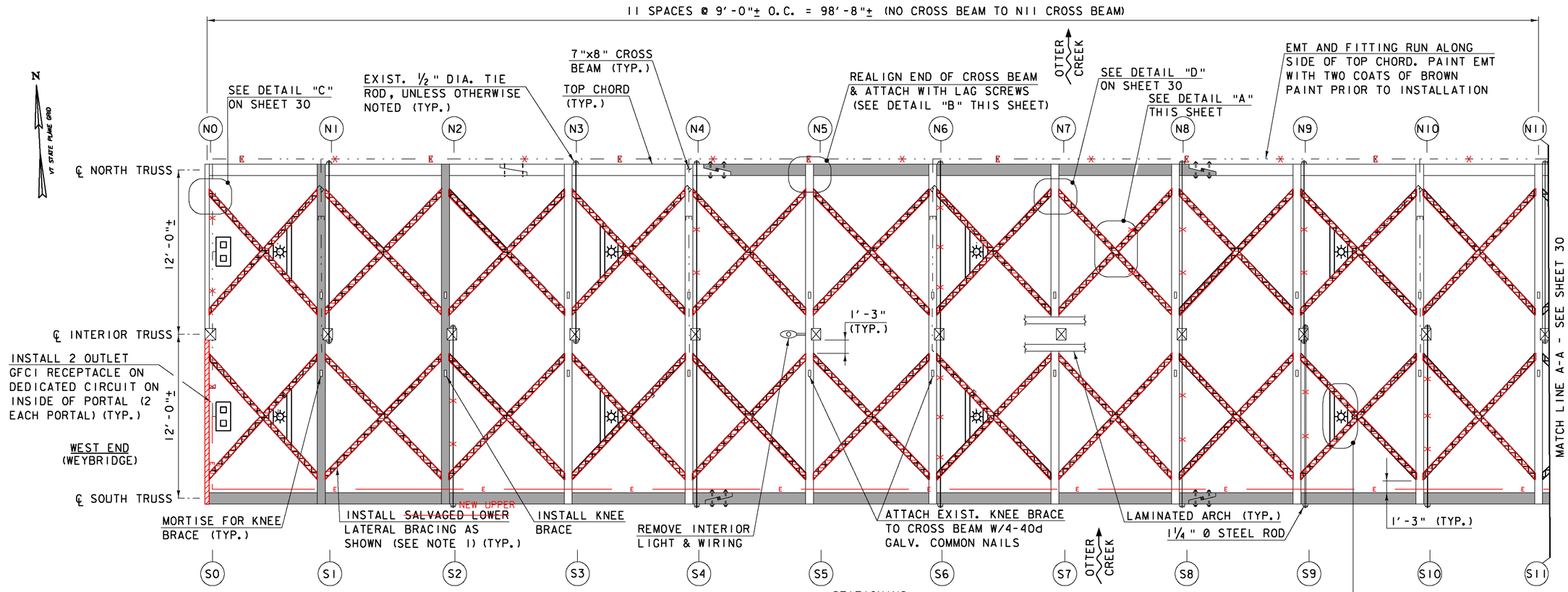
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	RoofFrame2

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086supl.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
ROOF FRAMING PLAN & DETAILS (2 OF 2)

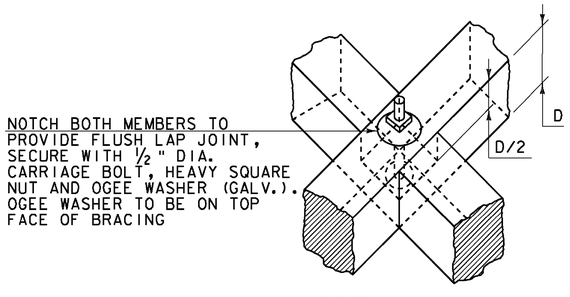
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 28 OF 66



NOTE: INTERIOR TRUSS TOP CHORD NOT SHOWN FOR CLARITY.

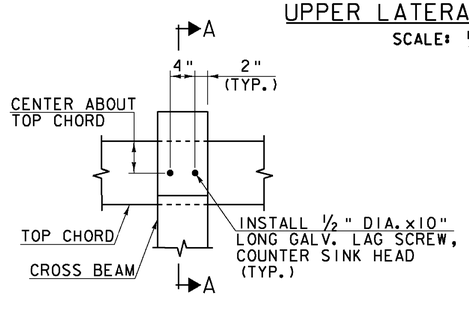
UPPER LATERAL BRACING PLAN

SCALE: ¼" = 1'-0"



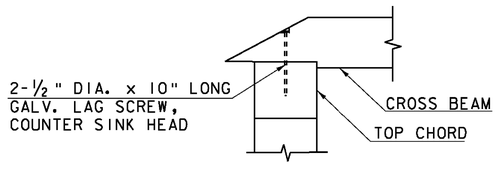
DETAIL "A"

NOT TO SCALE



DETAIL "B"

SCALE: 1" = 1'-0"



SECTION A-A

SCALE: 1" = 1'-0"

PLAN NOTES:

1. ~~EXISTING LOWER LATERAL BRACING SHALL BE REMOVED AND PLANED DOWN TO A 4"x4" DIMENSION PRIOR TO INSTALLING IT IN THE UPPER BRACING. EXISTING LUMBER WAS IDENTIFIED AS SOUTHERN PINE.~~
2. ~~MATERIAL CERTIFICATIONS FOR REUSED LOWER LATERAL BRACING ARE NOT REQUIRED.~~
3. ~~ALL COSTS ASSOCIATED WITH THE SALVAGING OF EXISTING LOWER LATERAL BRACING, ITS MODIFICATIONS FOR REUSE AND INSTALLATION AS UPPER LATERAL BRACING IS INCLUDED IN ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).~~

LEGEND:

- (XXX) TRUSS NODE LOCATION
- PREDETERMINED MEMBER TO BE REPLACED
- ~~SALVAGED MEMBER (SEE NOTE 1)~~
- — E — PROPOSED ELECTRIC

SCALE: ¼" = 1'-0"
1 0 2 4 6

SCALE: 1" = 1'-0"
1 9 6 3 0 1 2

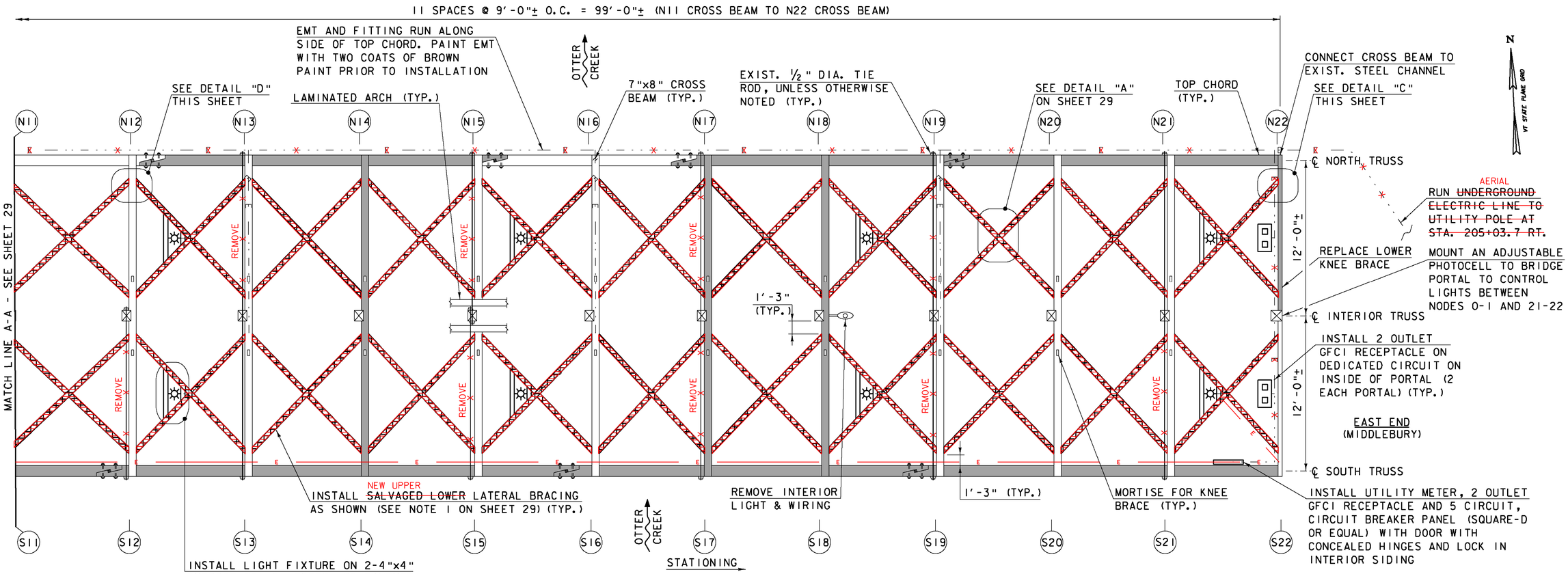
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	BracUpl

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086supl.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
UPPER LATERAL BRACING PLAN (1 OF 2)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 29 OF 66



NOTE: INTERIOR TRUSS TOP CHORD NOT SHOWN FOR CLARITY.

UPPER LATERAL BRACING PLAN

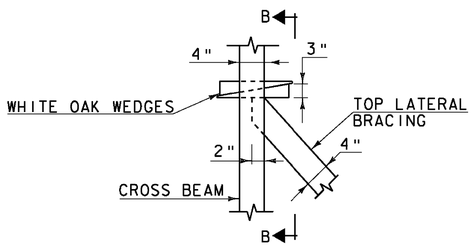
SCALE: ¼" = 1'-0"

100 AMP MAIN BREAKER		
NO.	AMP	DESCRIPTION
01	20	GFCI OUTLETS AND END LIGHTS BETWEEN NODES 0-1 AND 21-22
02	20 (NON AFCI)	FIRE PROTECTION SYSTEM
03	20	EAST BOUND INTERIOR LIGHTS (NODES 3-19)
04	20	WEST BOUND INTERIOR LIGHTS (NODES 3-19)
05	20	OPEN

LIGHTING AND LOAD PANEL

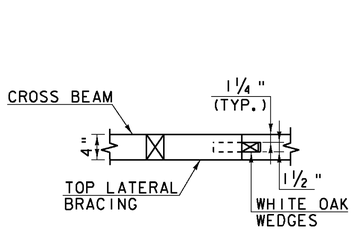
NOTE:
1. SEE SHEET 29 FOR NOTES THAT APPLY TO THIS SHEET.

LEGEND:
- (XXX) TRUSS NODE LOCATION
- PREDETERMINED MEMBER TO BE REPLACED
- ~~SALVAGED MEMBER (SEE NOTE 1 SHEET 29)~~
- — E — PROPOSED ELECTRIC



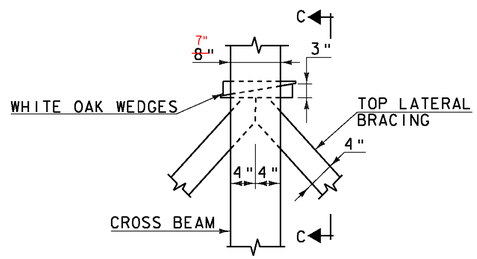
DETAIL "C"

SCALE: 1" = 1'-0"



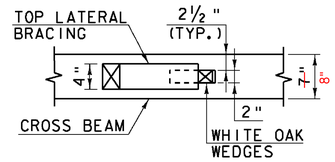
SECTION B-B

SCALE: 1" = 1'-0"



DETAIL "D"

SCALE: 1" = 1'-0"



SECTION C-C

SCALE: 1" = 1'-0"

SCALE: ¼" = 1'-0"
0 2 4 6
SCALE: 1" = 1'-0"
1 9 6 3 0 1 2

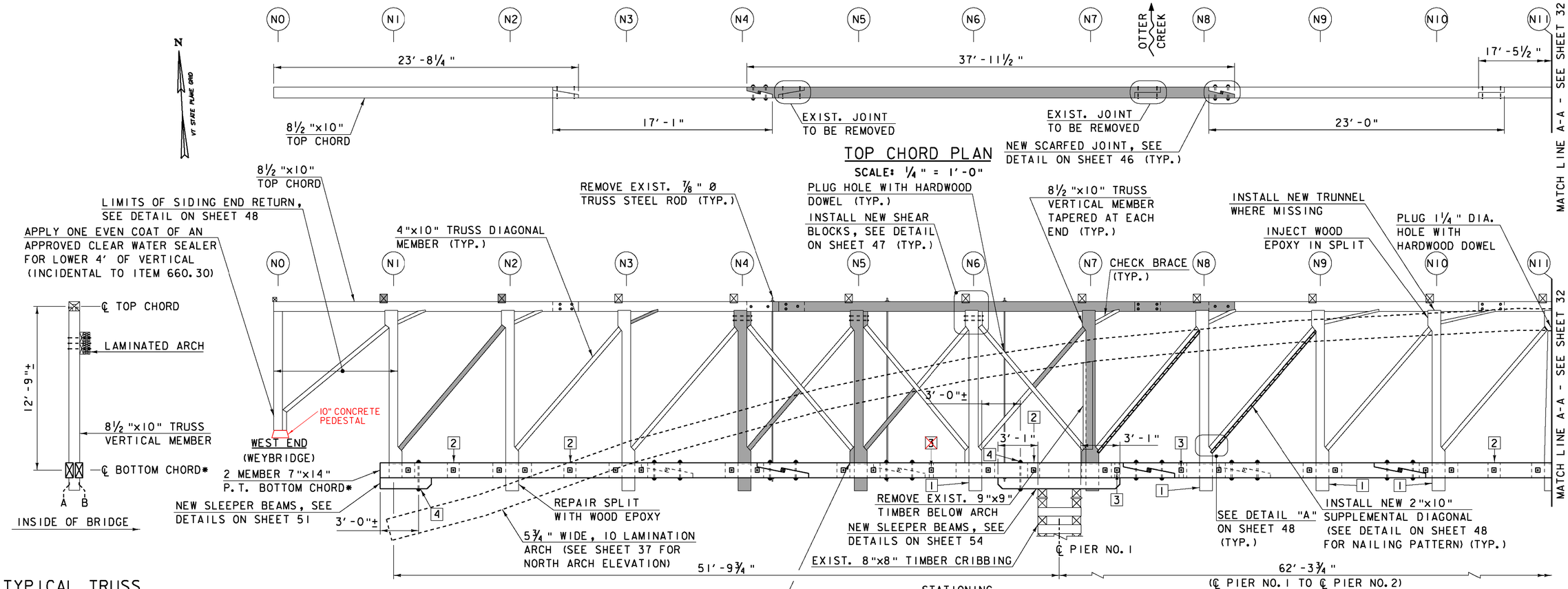
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	BracUp2

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086supl.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
UPPER LATERAL BRACING PLAN (2 OF 2)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 30 OF 66



TOP CHORD PLAN

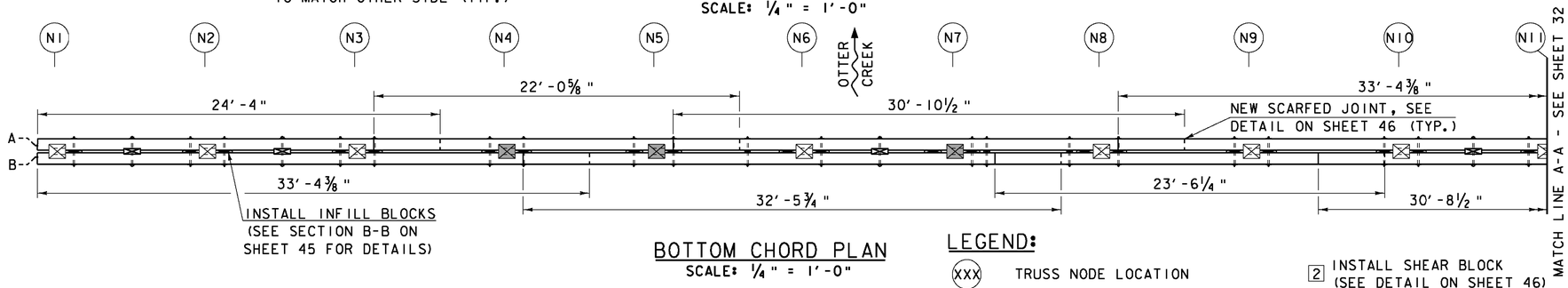
SCALE: ¼" = 1′-0"

TYPICAL TRUSS SECTION

SCALE: ¼" = 1′-0"

NORTH TRUSS INSIDE ELEVATION (LOOKING NORTH/DOWNSTREAM)

SCALE: ¼" = 1′-0"



BOTTOM CHORD PLAN

SCALE: ¼" = 1′-0"

*NOTE: BOTTOM CHORD IS TO BE REPLACED IN ITS ENTIRETY AND IT IS NOT SHOWN SHADED FOR CLARITY.

LEGEND:

- XXX — TRUSS NODE LOCATION
- PREDETERMINED MEMBER TO BE REPLACED
- NEW MEMBER
- [1] REPLACE THROUGH BOLT & PLATE (SEE DETAIL ON SHEET 48)
- [2] INSTALL SHEAR BLOCK (SEE DETAIL ON SHEET 46)
- [3] INSTALL THROUGH BOLT (SEE SCARFED JOINT DETAIL ON SHEET 46)
- [4] INSTALL THROUGH BOLT (SEE DETAILS ON SHEET 51 OR 54)

SCALE: ¼" = 1′-0"

1 0 2 4 6

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	truss north 1

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

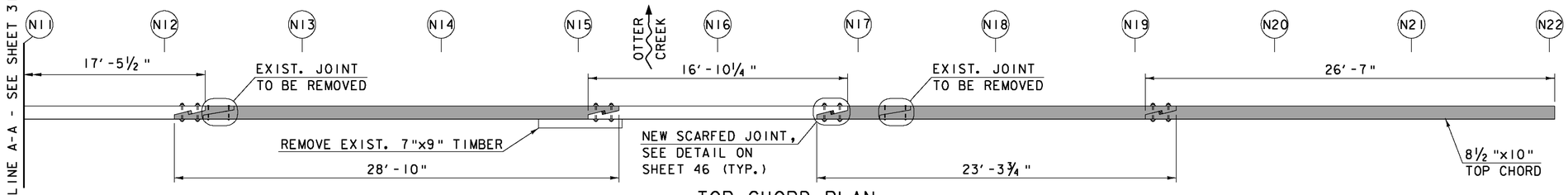
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086sup.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES

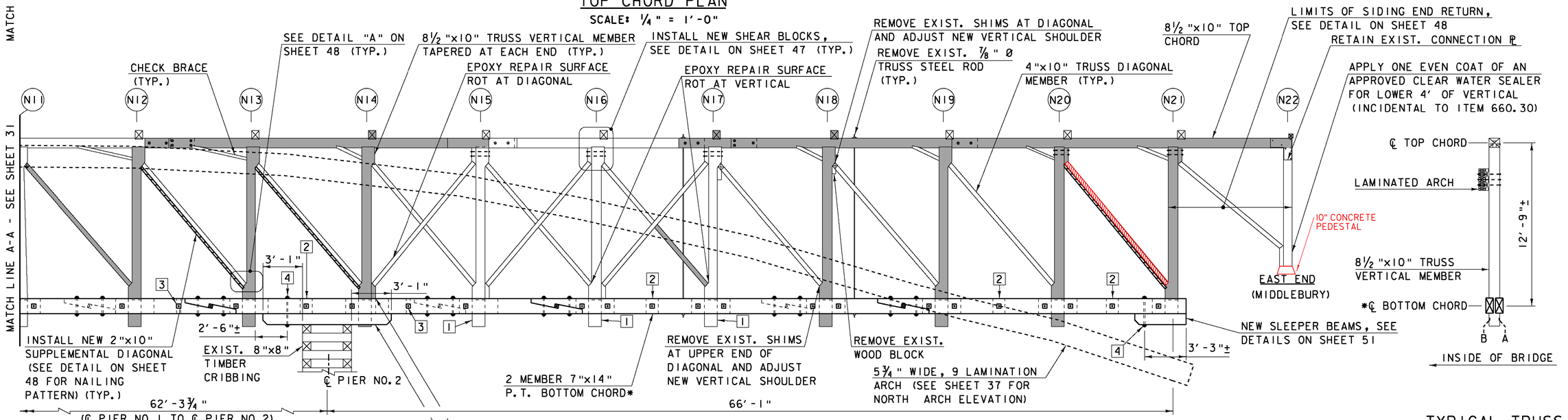
NORTH TRUSS ELEV. & PLAN (1 OF 2)

SHEET 31 OF 66



TOP CHORD PLAN

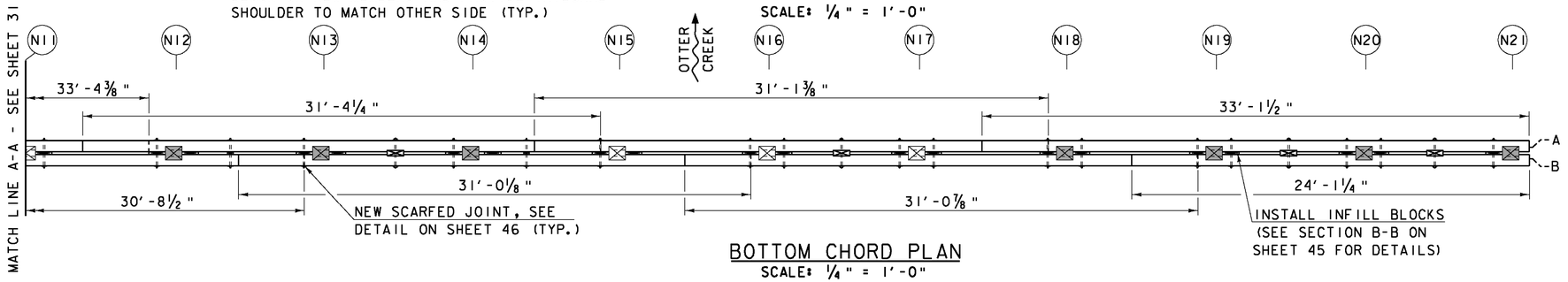
SCALE: ¼" = 1'-0"



STATIONING

NORTH TRUSS INSIDE ELEVATION (LOOKING NORTH/DOWNSTREAM)

SCALE: ¼" = 1'-0"



BOTTOM CHORD PLAN

SCALE: ¼" = 1'-0"

*NOTE: BOTTOM CHORD IS TO BE REPLACED IN ITS ENTIRETY AND IT IS NOT SHOWN SHADED FOR CLARITY.

TYPICAL TRUSS SECTION

SCALE: ¼" = 1'-0"

LEGEND:

- (XXX) TRUSS NODE LOCATION
- PREDETERMINED MEMBER TO BE REPLACED
- NEW MEMBER
- [1] REPLACE THROUGH BOLT & PLATE (SEE DETAIL ON SHEET 48)
- [2] INSTALL SHEAR BLOCK (SEE DETAIL ON SHEET 46)
- [3] INSTALL THROUGH BOLT (SEE SCARFED JOINT DETAIL ON SHEET 46)
- [4] INSTALL THROUGH BOLT (SEE DETAILS ON SHEET 51 OR 54)

N
VT STATE PLANE GRID

SCALE: ¼" = 1'-0"
1 0 2 4 6

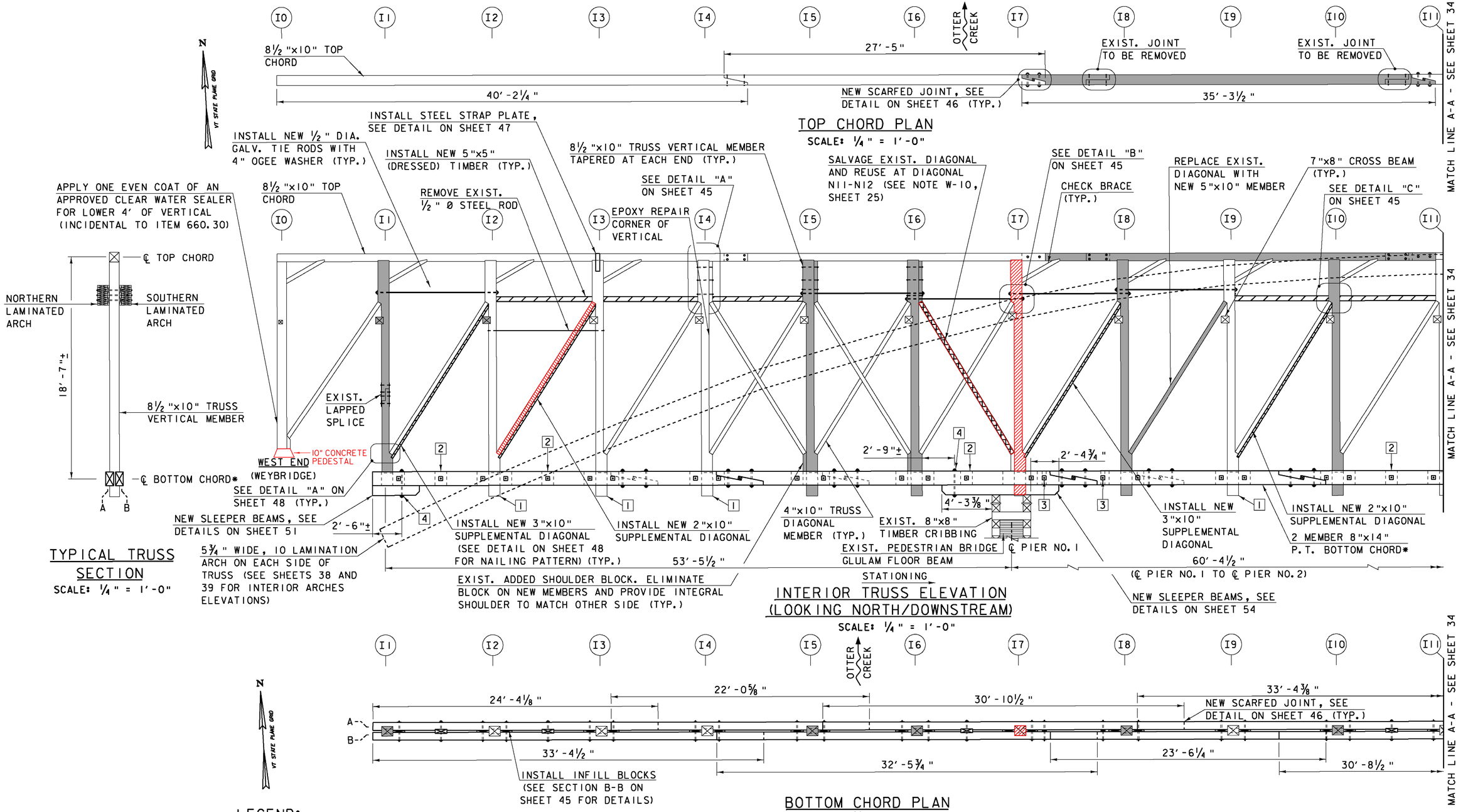
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	truss north 2

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086sup.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
NORTH TRUSS ELEV. & PLAN (2 OF 2)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 32 OF 66



SHEET NOTE:

1. VERTICAL AT NODE 8 IS BEING REPLACED DUE TO INADEQUATE STRUCTURAL CAPACITY AND NOT DUE TO CONDITION.

LEGEND:

- XXX — TRUSS NODE LOCATION
- PREDETERMINED MEMBER TO BE REPLACED
- NEW MEMBER
- PREDETERMINED MEMBER TO BE REPLACED AND SALVAGED FOR REUSE
- [1] REPLACE THROUGH BOLT & PLATE (SEE DETAIL ON SHEET 48)
- [2] INSTALL SHEAR BLOCK (SEE DETAIL ON SHEET 46)
- [3] INSTALL THROUGH BOLT (SEE SCARFED JOINT DETAIL ON SHEET 46)
- [4] INSTALL THROUGH BOLT (SEE DETAILS ON SHEET 51 OR 54)

*NOTE: BOTTOM CHORD IS TO BE REPLACED IN ITS ENTIRETY AND IT IS NOT SHOWN SHADED FOR CLARITY.

SCALE: ¼" = 1'-0"
1 0 2 4 6

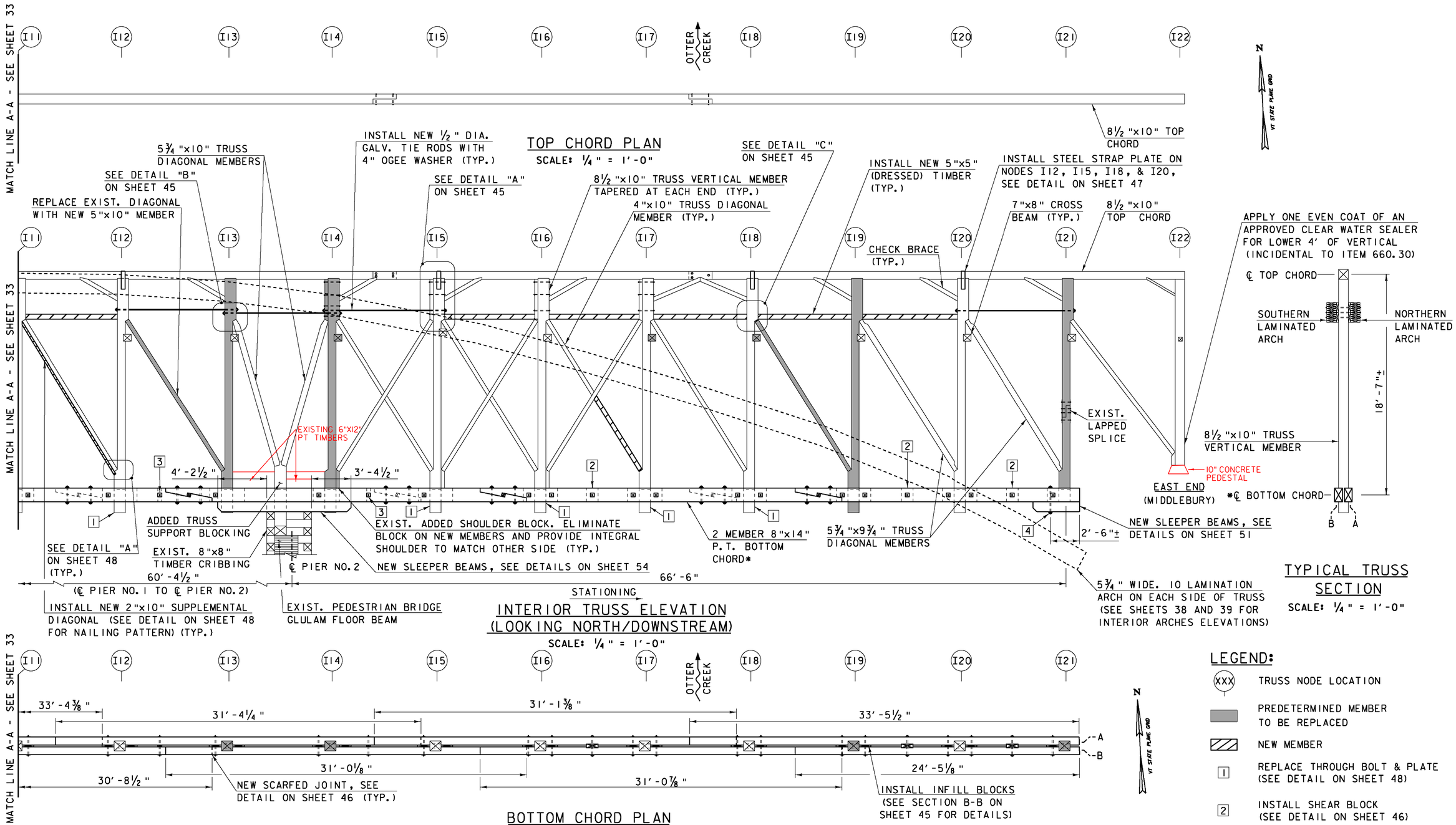
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	truss interior 1

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086sup.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
INTERIOR TRUSS ELEV. & PLAN (1 OF 2)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 33 OF 66



SHEET NOTE:

1. VERTICAL AT NODES 13 AND 14 ARE BEING REPLACED DUE TO INADEQUATE STRUCTURAL CAPACITY AND NOT DUE TO CONDITION.

SCALE: ¼" = 1'-0"
1 0 2 4 6

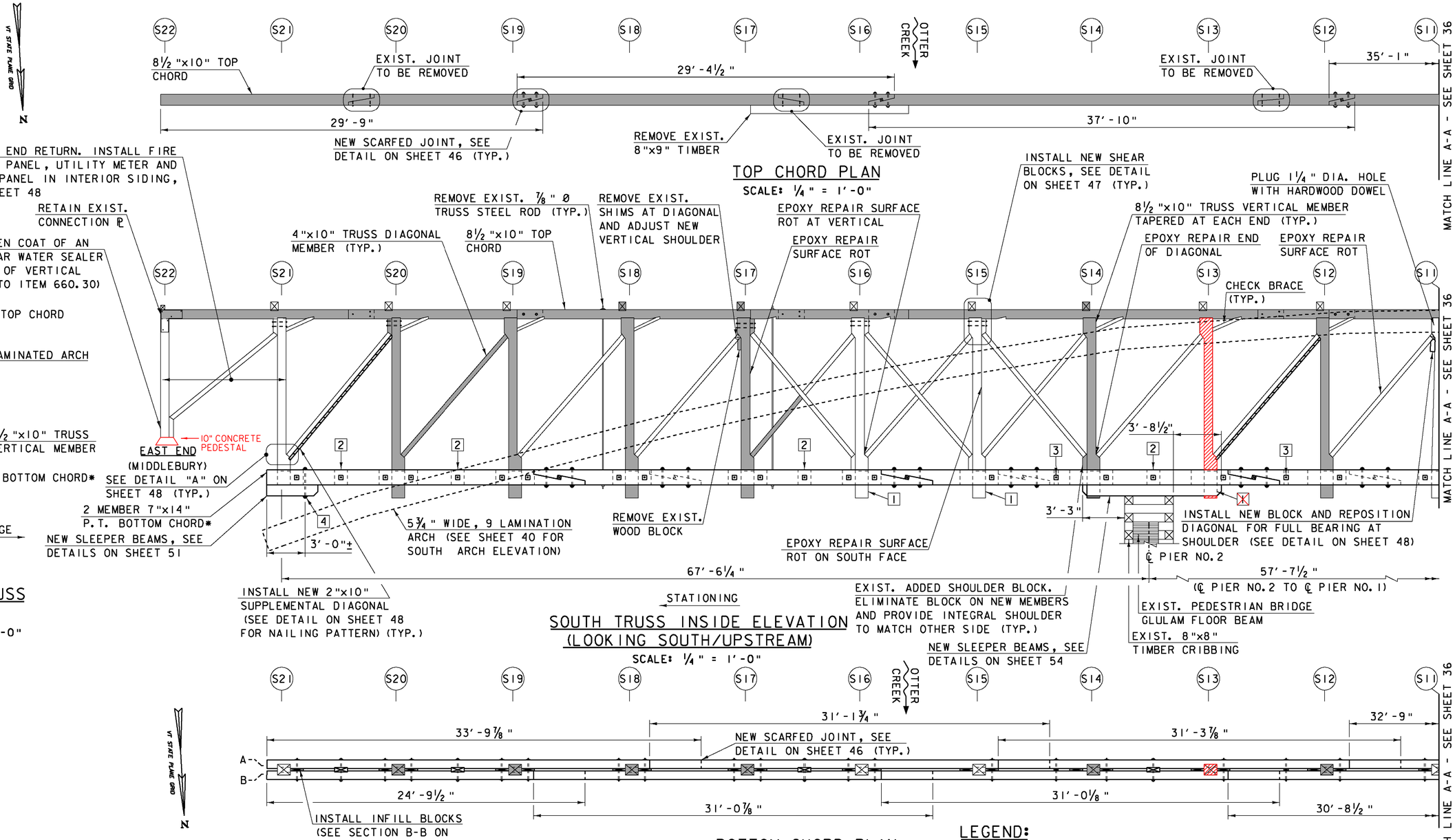
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	truss interior 2

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086sup.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
INTERIOR TRUSS ELEV. & PLAN (2 OF 2)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 34 OF 66



TOP CHORD PLAN

SCALE: ¼ " = 1'-0"

TYPICAL TRUSS SECTION

SCALE: ¼ " = 1'-0"

SOUTH TRUSS INSIDE ELEVATION (LOOKING SOUTH/UPSTREAM)

SCALE: ¼ " = 1'-0"

BOTTOM CHORD PLAN

SCALE: ¼ " = 1'-0"

*NOTE: BOTTOM CHORD IS TO BE REPLACED IN ITS ENTIRETY AND IT IS NOT SHOWN SHADED FOR CLARITY.

LEGEND:

- XXX — TRUSS NODE LOCATION
- PREDETERMINED MEMBER TO BE REPLACED
- NEW MEMBER
- [1] REPLACE THROUGH BOLT & PLATE (SEE DETAIL ON SHEET 48)
- [2] INSTALL SHEAR BLOCK (SEE DETAIL ON SHEET 46)
- [3] INSTALL THROUGH BOLT (SEE SCARFED JOINT DETAIL ON SHEET 46)
- [4] INSTALL THROUGH BOLT (SEE DETAILS ON SHEET 51 OR 54)

SCALE: ¼ " = 1'-0"
1 0 2 4 6

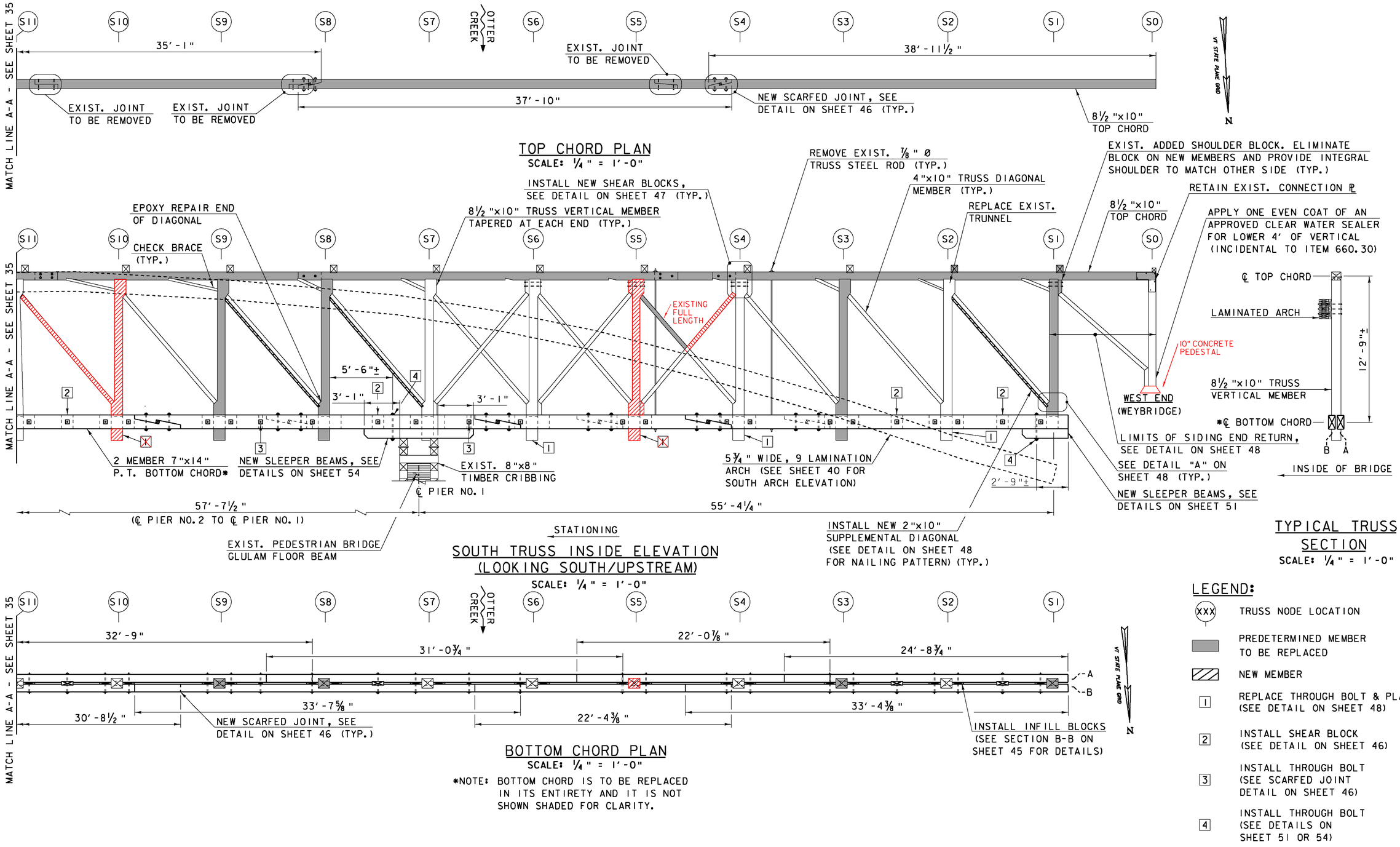
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	truss south 1

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086sup.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
SOUTH TRUSS ELEV. & PLAN (1 OF 2)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 35 OF 66



SCALE: ¼" = 1'-0"
1 0 2 4 6

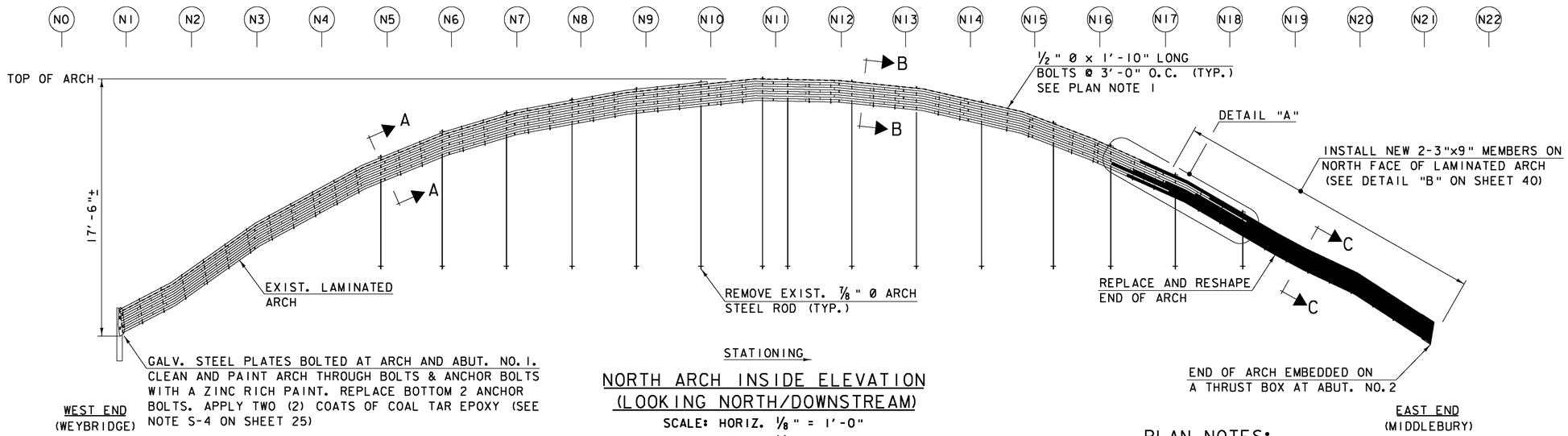
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	truss south 2

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086sup.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
SOUTH TRUSS ELEV. & PLAN (2 OF 2)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 36 OF 66



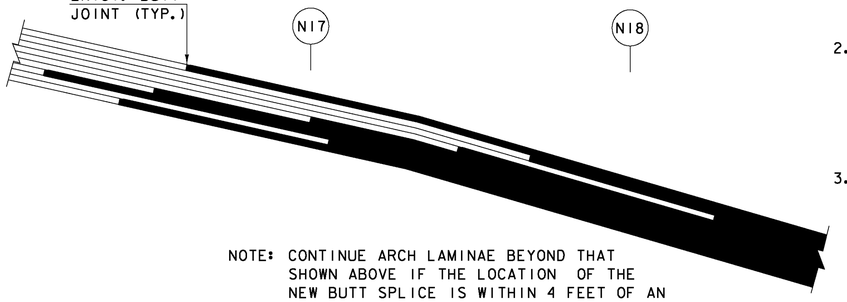
STATIONING

NORTH ARCH INSIDE ELEVATION (LOOKING NORTH/DOWNSTREAM)

SCALE: HORIZ. ⅛" = 1'-0"
VERT. ¼" = 1'-0"

PLAN NOTES:

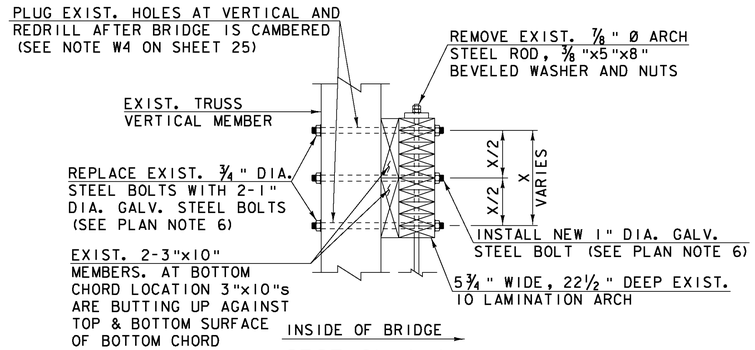
1. ALL EXISTING THROUGH BOLTS IN THE ARCHES SHALL BE RETIGHTENED AFTER ARCH REPAIRS.
2. THE EXISTING ARCH GEOMETRY VARIES AND IS HIGHLY DEFORMED IN SOME LOCATIONS. THE CONTRACTOR AND ENGINEER SHALL JOINTLY REVIEW THE ARCH GEOMETRY AND SET AN ARCH CURVATURE THAT CLOSELY MATCHES THE EXISTING UNDEFORMED ARCH RADII AND PROVIDE A SMOOTH TRANSITION OF SHAPE.
3. AS DIRECTED BY THE ENGINEER, EXISTING HARDWARE (NUT, CARRIAGE BOLT AND OGEE WASHERS) SHALL BE SALVAGED AND USED IN LOCATIONS WHERE HARDWARE IS MISSING OR WHERE NEW HARDWARE IS CALLED FOR. ALL REUSED HARDWARE SHALL BE CLEANED, PAINTED WITH ZINC RICH PAINT AND SHALL BE IN WORKING CONDITION. PORTIONS OF THE ARCHES THAT ARE TO BE REBUILT SHALL HAVE NEW STAINLESS STEEL HARDWARE (NUT, CARRIAGE BOLT AND WASHERS).
4. EXISTING NAILS BETWEEN ARCH LAMINAE ARE NOT SHOWN FOR CLARITY. REPLACE REMOVED NAILS WITH GALVANIZED NAILS OF SAME SIZE, LENGTH AND PATTERN.
5. PLUG ALL HOLES IN ARCHES WITH HARDWOOD DOWELS OR AN APPROVED WOOD EPOXY AFTER REMOVAL OF BRACING RODS, ARCH RODS AND FLOOR BEAM SUPPORTS (SEE NOTE W-4 ON SHEET 25).
6. INSTALL GALVANIZED OGEE WASHERS ON INSIDE FACE OF ARCH AND HEAVY WASHERS ON TRUSS VERTICAL END.



NOTE: CONTINUE ARCH LAMINAE BEYOND THAT SHOWN ABOVE IF THE LOCATION OF THE NEW BUTT SPLICE IS WITHIN 4 FEET OF AN EXISTING BUTT SPLICE (TYP.).

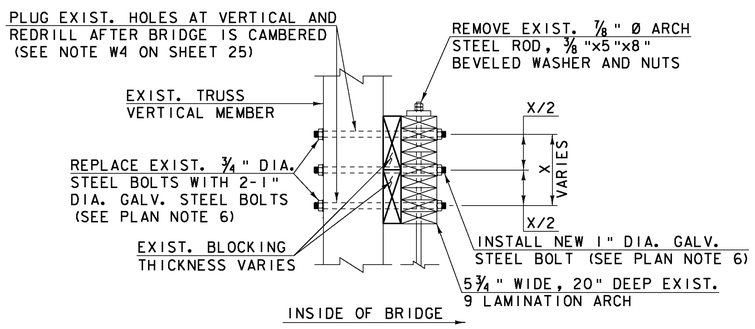
DETAIL "A"

SCALE: ½" = 1'-0"



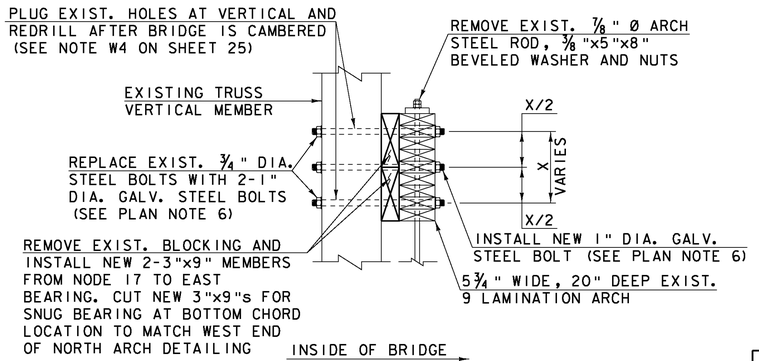
SECTION A-A

(FROM NODE N1 TO NODE N10)
SCALE: 1" = 1'-0"



SECTION B-B

(FROM NODE N10 TO NODE N17)
SCALE: 1" = 1'-0"



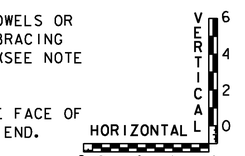
SECTION C-C

(FROM NODE N17 TO NODE N21)
NOTE: ARCH NOT SHOWN SHADED FOR CLARITY.
SCALE: 1" = 1'-0"

LEGEND:

(XXX) TRUSS NODE LOCATION

DETERIORATED PORTION OF ARCH LAMINAE TO BE REPLACED



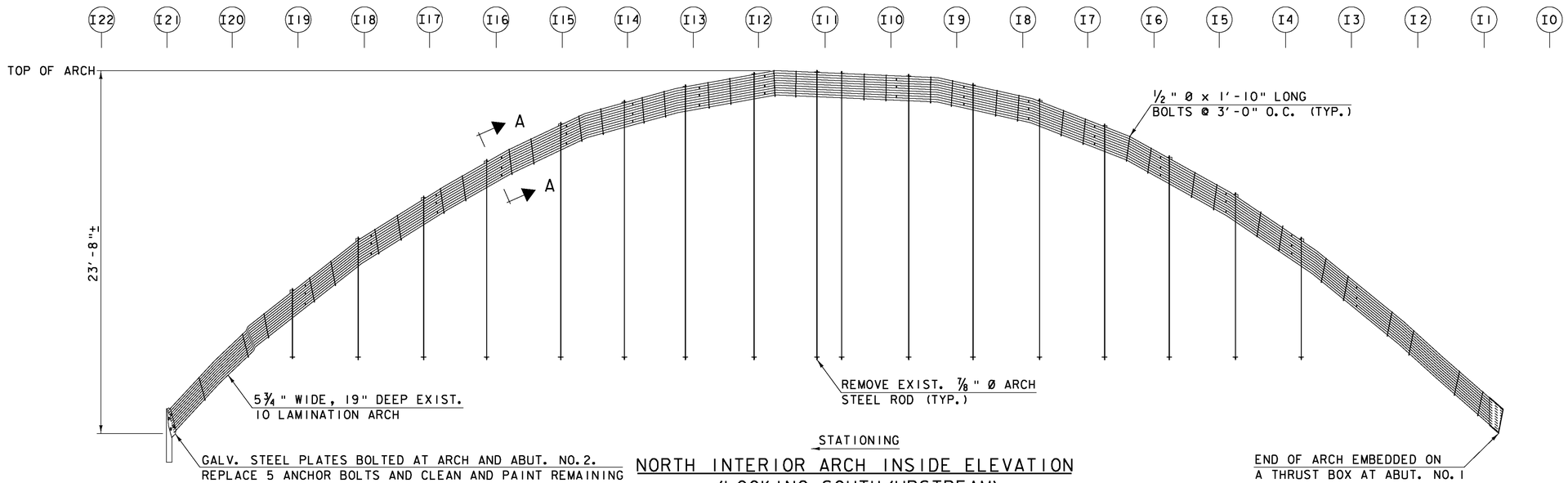
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	north elev

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

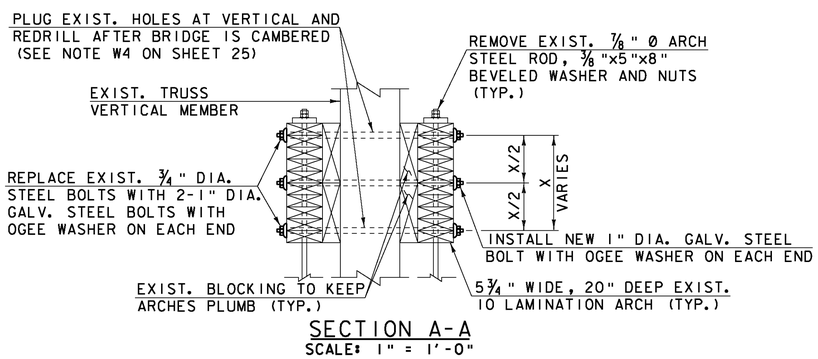
FILE NAME: z06J086sup6.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
NORTH ARCH ELEVATION & DETAILS

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 37 OF 66



NORTH INTERIOR ARCH INSIDE ELEVATION
(LOOKING SOUTH/UPSTREAM)

SCALE: HORIZ. 1/8" = 1'-0"
VERT. 1/4" = 1'-0"

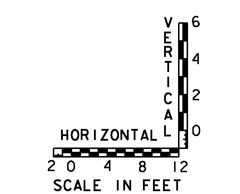


SECTION A-A

SCALE: 1" = 1'-0"

LEGEND:

XXX TRUSS NODE LOCATION



SCALE: 1" = 1'-0"
1 9 6 3 0 1 2

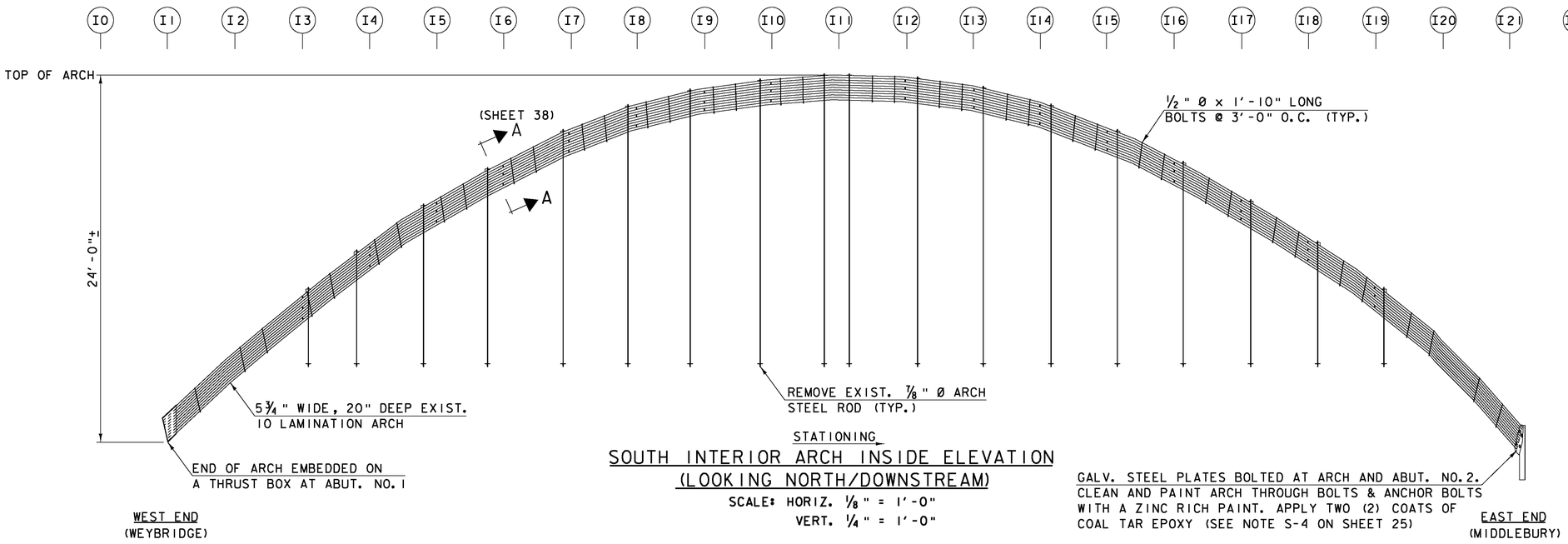
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	int north elev

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086sup6.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
N. INTERIOR ARCH ELEVATION & DETAILS

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 38 OF 66



LEGEND:

(XXX) TRUSS NODE LOCATION

VERTICAL 0 2 4 6

HORIZONTAL 2 0 4 8 12

SCALE IN FEET

SCALE: 1" = 1'-0"

1 9 6 3 0 1 2

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	int south elev

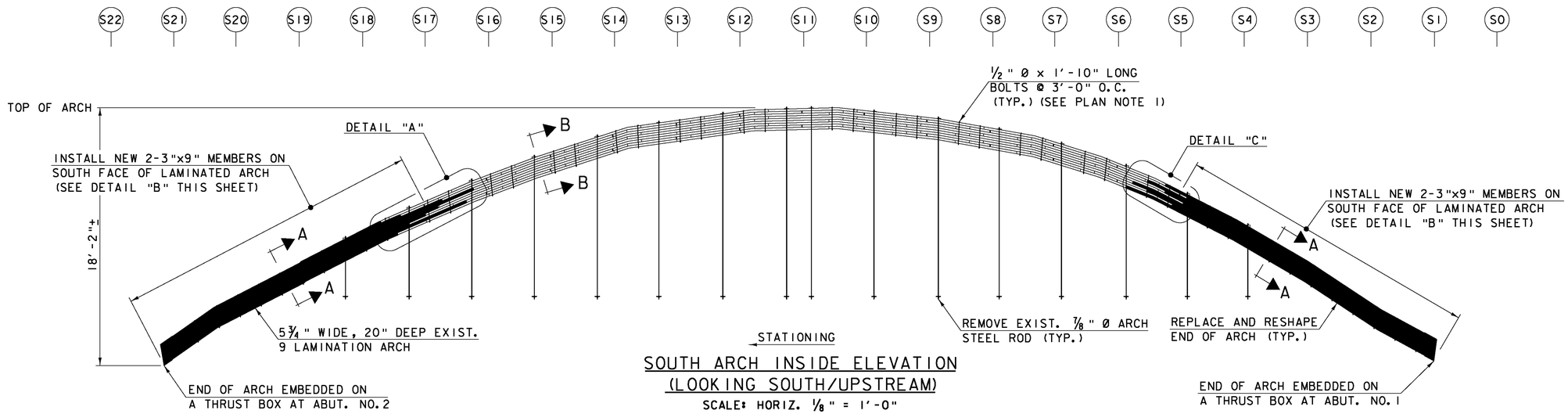
PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086sup6.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES

S. INTERIOR ARCH ELEVATION & DETAILS

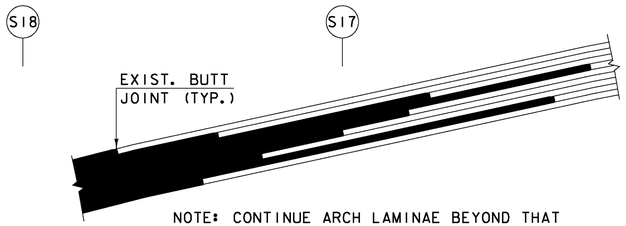


EAST END
(MIDDLEBURY)

WEST END
(WEYBRIDGE)

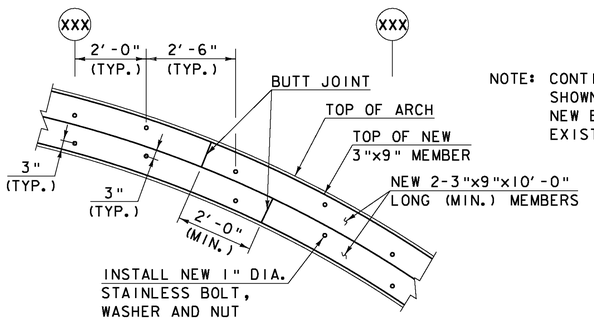
SOUTH ARCH INSIDE ELEVATION
(LOOKING SOUTH/UPSTREAM)

SCALE: HORIZ. ⅛" = 1'-0"
VERT. ¼" = 1'-0"

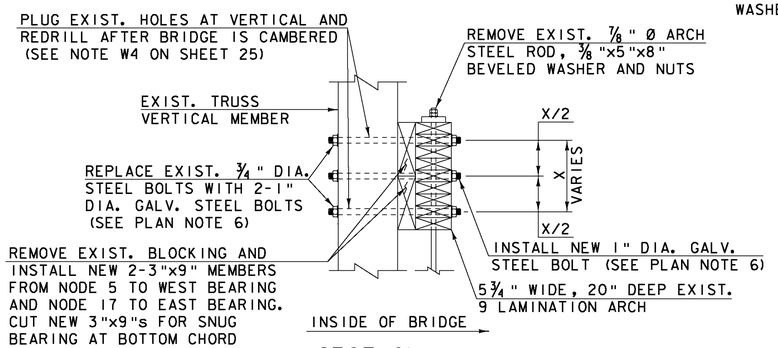


NOTE: CONTINUE ARCH LAMINAE BEYOND THAT SHOWN ABOVE IF THE LOCATION OF THE NEW BUTT SPLICE IS WITHIN 4 FEET OF AN EXISTING BUTT SPLICE (TYP.).

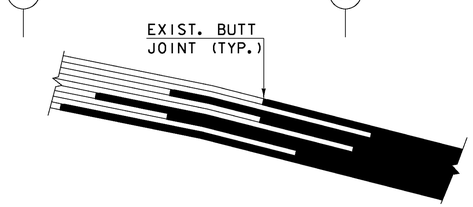
DETAIL "A"
SCALE: ½" = 1'-0"



DETAIL "B"
SCALE: ½" = 1'-0"

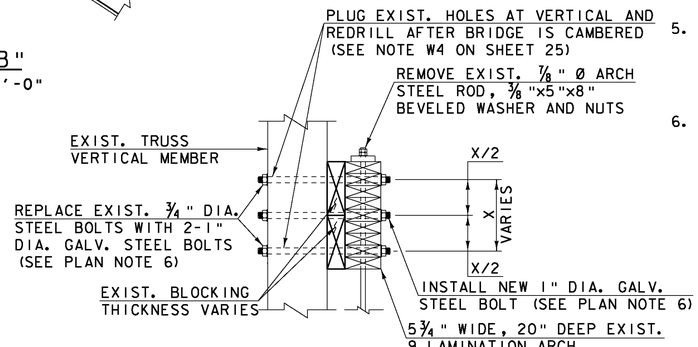


SECTION A-A
(FROM NODE S1 TO NODE S5 AND NODE S17 TO S21)
NOTE: ARCH NOT SHOWN SHADED FOR CLARITY.
SCALE: 1" = 1'-0"



NOTE: CONTINUE ARCH LAMINAE BEYOND THAT SHOWN ABOVE IF THE LOCATION OF THE NEW BUTT SPLICE IS WITHIN 4 FEET OF AN EXISTING BUTT SPLICE (TYP.).

DETAIL "C"
SCALE: ½" = 1'-0"



SECTION B-B
(FROM NODE S5 TO NODE S17)
SCALE: 1" = 1'-0"

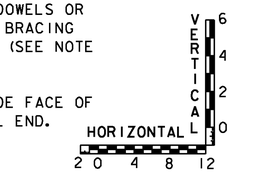
PLAN NOTES:

1. ALL EXISTING THROUGH BOLTS IN THE ARCHES SHALL BE RETIGHTENED AFTER ARCH REPAIRS.
2. THE EXISTING ARCH GEOMETRY VARIES AND IS HIGHLY DEFORMED IN SOME LOCATIONS. THE CONTRACTOR AND ENGINEER SHALL JOINTLY REVIEW THE ARCH GEOMETRY AND SET AN ARCH CURVATURE THAT CLOSELY MATCHES THE EXISTING UNDEFORMED ARCH RADII AND PROVIDE A SMOOTH TRANSITION OF SHAPE.
3. AS DIRECTED BY THE ENGINEER, EXISTING HARDWARE (NUT, CARRIAGE BOLT AND OGEE WASHERS) SHALL BE SALVAGED AND USED IN LOCATIONS WHERE HARDWARE IS MISSING OR WHERE NEW HARDWARE IS CALLED FOR. ALL REUSED HARDWARE SHALL BE CLEANED, PAINTED WITH ZINC RICH PAINT AND SHALL BE IN WORKING CONDITION. PORTIONS OF THE ARCHES THAT ARE TO BE REBUILT SHALL HAVE NEW STAINLESS STEEL HARDWARE (NUT, CARRIAGE BOLT AND WASHERS).
4. EXISTING NAILS BETWEEN ARCH LAMINAE ARE NOT SHOWN FOR CLARITY. REPLACE REMOVED NAILS WITH GALVANIZED NAILS OF SAME SIZE, LENGTH AND PATTERN.
5. PLUG ALL HOLES IN ARCHES WITH HARDWOOD DOWELS OR AN APPROVED WOOD EPOXY AFTER REMOVAL OF BRACING RODS, ARCH RODS AND FLOOR BEAM SUPPORTS (SEE NOTE W-4 ON SHEET 25).
6. INSTALL GALVANIZED OGEE WASHERS ON INSIDE FACE OF ARCH AND HEAVY WASHERS ON TRUSS VERTICAL END.

LEGEND:

XXX — TRUSS NODE LOCATION

DETERIORATED PORTION OF ARCH LAMINAE TO BE REPLACED



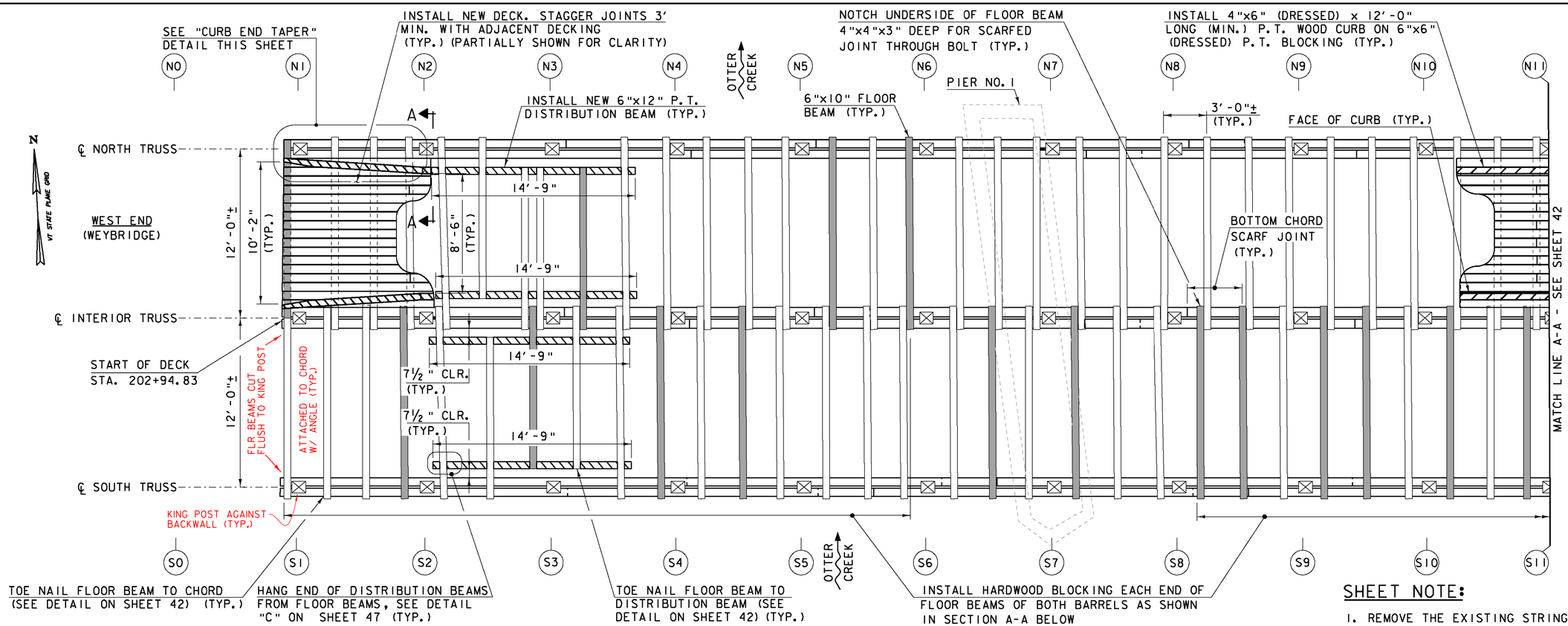
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	south elev

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086sup6.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
SOUTH ARCH ELEVATION & DETAILS

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 40 OF 66



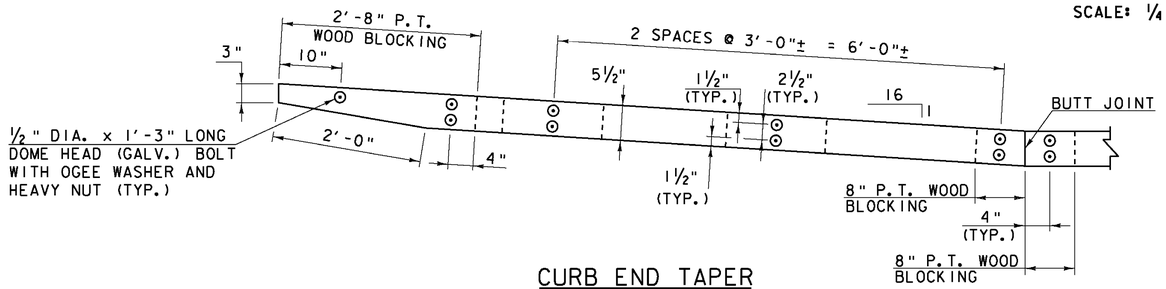
STATIONING

FLOOR FRAMING PLAN

SCALE: ¼" = 1'-0"

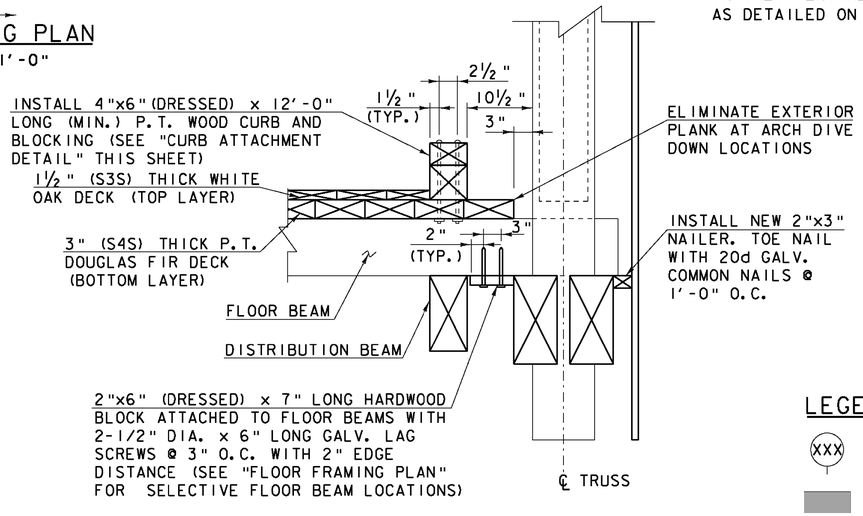
SHEET NOTE:

1. REMOVE THE EXISTING STRINGERS AND DECKING IN THEIR ENTIRETY AND CONSTRUCT NEW DECK AS DETAILED ON THIS SHEET.



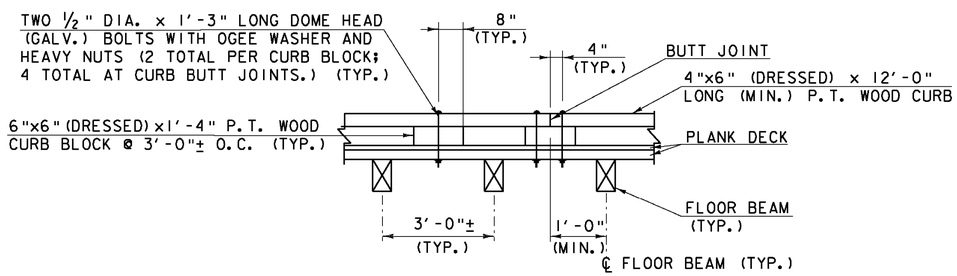
CURB END TAPER

SCALE: 1" = 1'-0"



SECTION A-A

SCALE: 1" = 1'-0"



CURB ATTACHMENT DETAIL

SCALE: ½" = 1'-0"

LEGEND:

- XXX — TRUSS NODE LOCATION
- PREDETERMINED MEMBER TO BE REPLACED
- NEW MEMBER

SCALE: ¼" = 1'-0" (1 0 2 4 6)

SCALE: ½" = 1'-0" (1 0 1 2)

SCALE: 1" = 1'-0" (1 9 6 3 0 1 2)

Hoyle, Tanner & Associates, Inc.

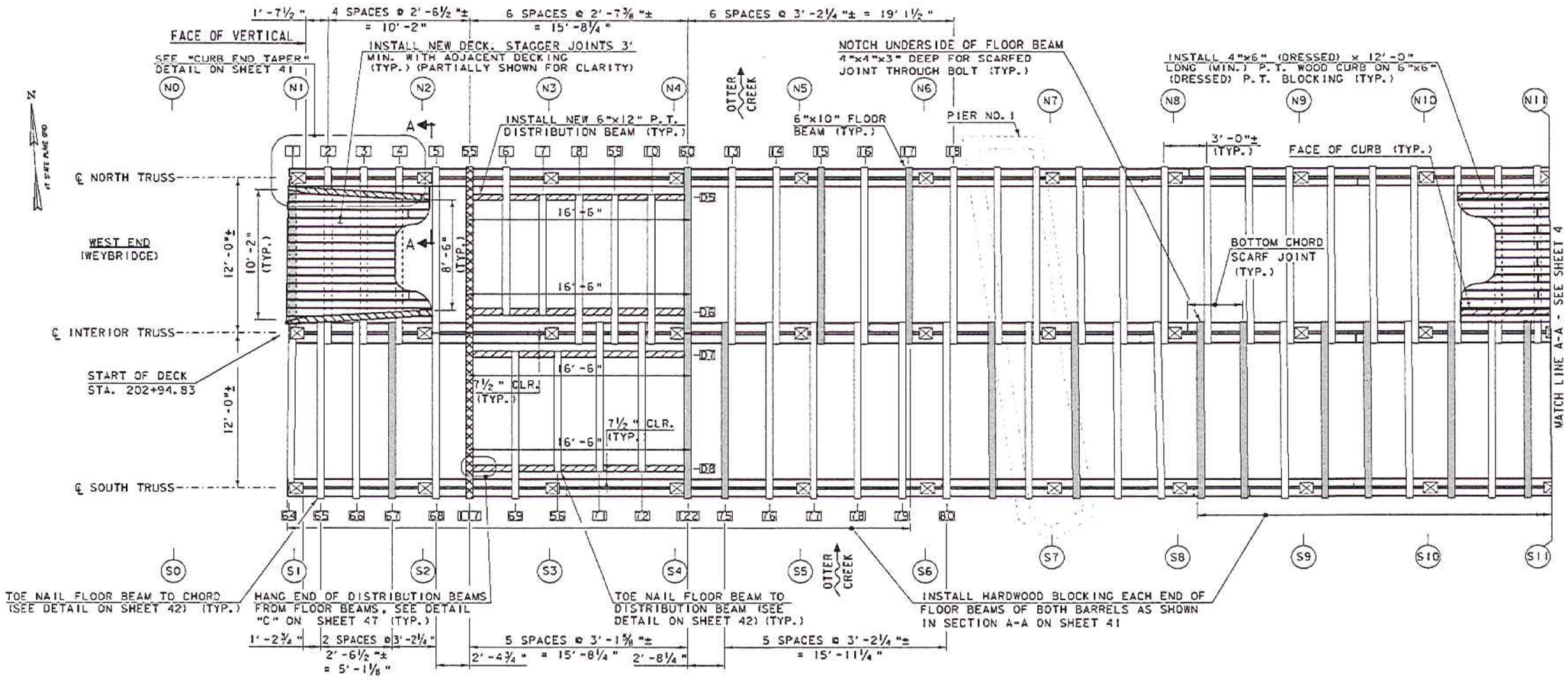
HTA PROJECT NO.	MODEL
90421T	framing1

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086sup4.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES

FLOOR FRAMING PLAN & DETAILS (1 OF 2) SHEET 41 OF 66



STATIONING

REVISED FLOOR FRAMING PLAN

SCALE: ¼" = 1'-0"

LEGEND:

- DX — DISTRIBUTION BEAM
- XX — FLOOR BEAM NUMBER
- (XXX) — TRUSS NODE LOCATION
- PREDETERMINED MEMBER TO BE REPLACED
- NEW MEMBER
- MEMBER TO BE REPLACED AND SALVAGED FOR REUSE AT OTHER LOCATION

Hoyle, Tanner & Associates, Inc.

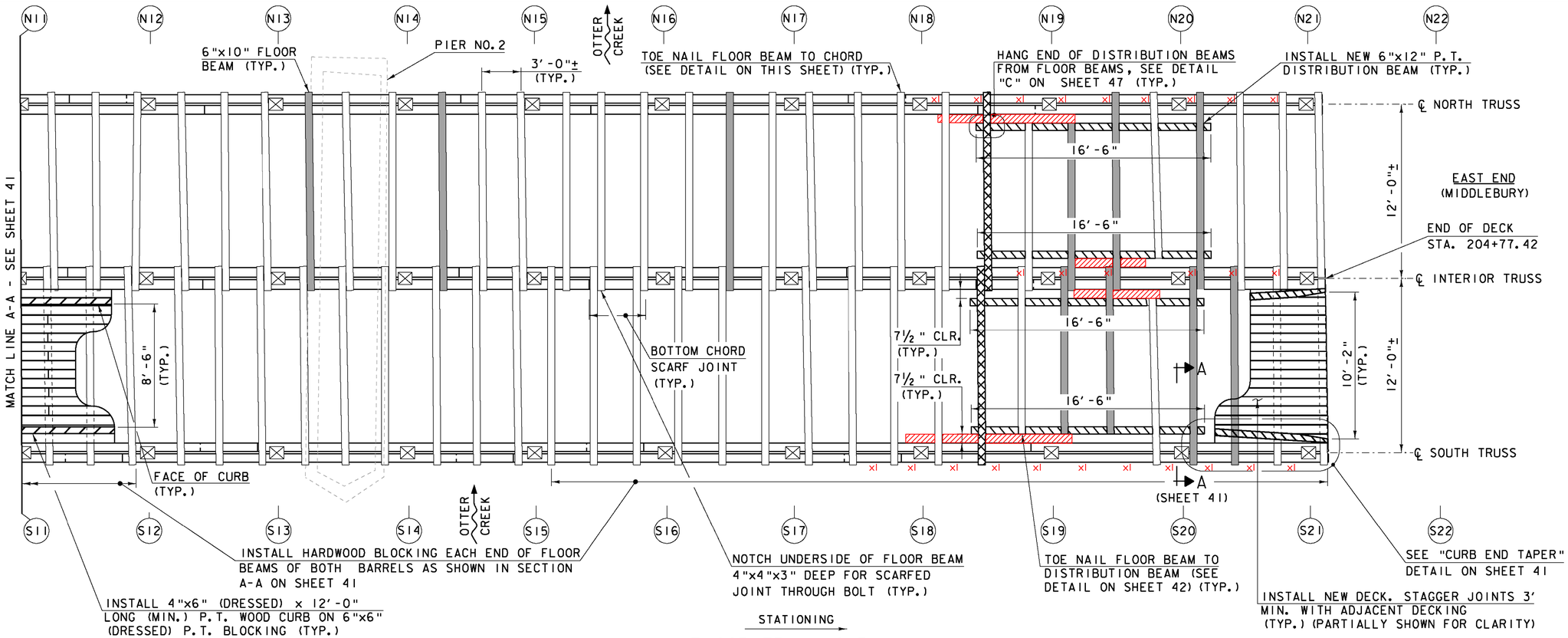
MTA PROJECT NO.	MODEL
90427	FRAMING 3

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086sup10.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
REVISED FLOOR FRAMING PLAN (1 OF 2)

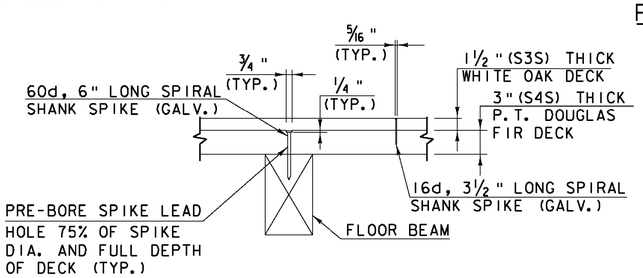
PLOT DATE: 7/5/2012
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 3 OF 4



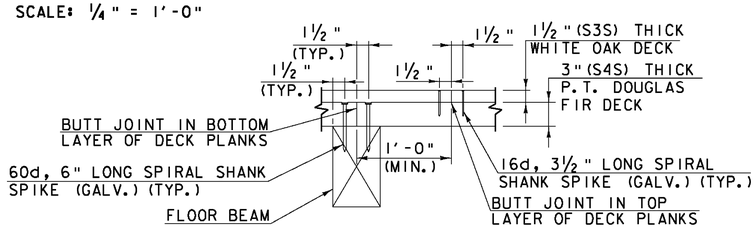
STATIONING

FLOOR FRAMING PLAN

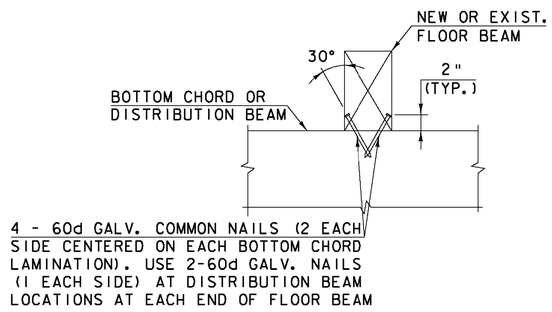
SCALE: 1/4" = 1'-0"



DECK OVER FLOOR BEAM



DECK BUTT JOINT OVER FLOOR BEAM



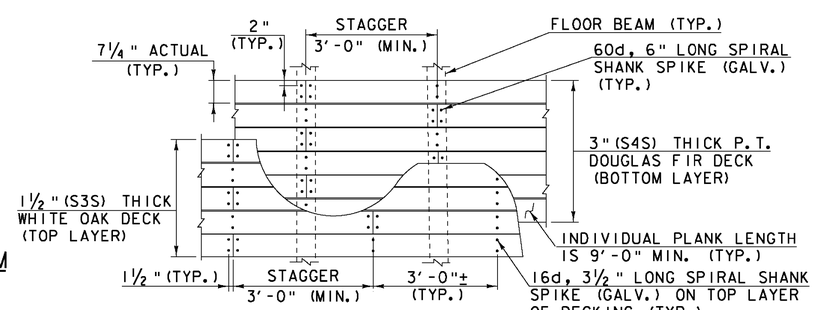
FLOOR BEAM TO BOTTOM CHORD/DISTRIBUTION BEAM TOE NAIL CONNECTION SECION DETAIL

NOT TO SCALE

NOTE: TOE NAILING OF FLOOR BEAMS TO DISTRIBUTION BEAMS IS NOT REQUIRED AT ENDS OF DISTRIBUTION BEAMS.

DECK SPIKE DETAILS

NOT TO SCALE



DECK ATTACHMENT

NOTE: PROPOSED DECKING IS PARTIALY SHOW FOR CLARITY
NOT TO SCALE

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

1 0 2 4 6

SHEET NOTE:

1. SEE SHEET 41 FOR NOTES THAT APPLY TO THIS SHEET.

LEGEND:

- XXX — TRUSS NODE LOCATION
- PREDETERMINED MEMBER TO BE REPLACED
- NEW MEMBER
- MEMBER TO BE REPLACED AND SALVAGED FOR REUSE AT OTHER LOCATION

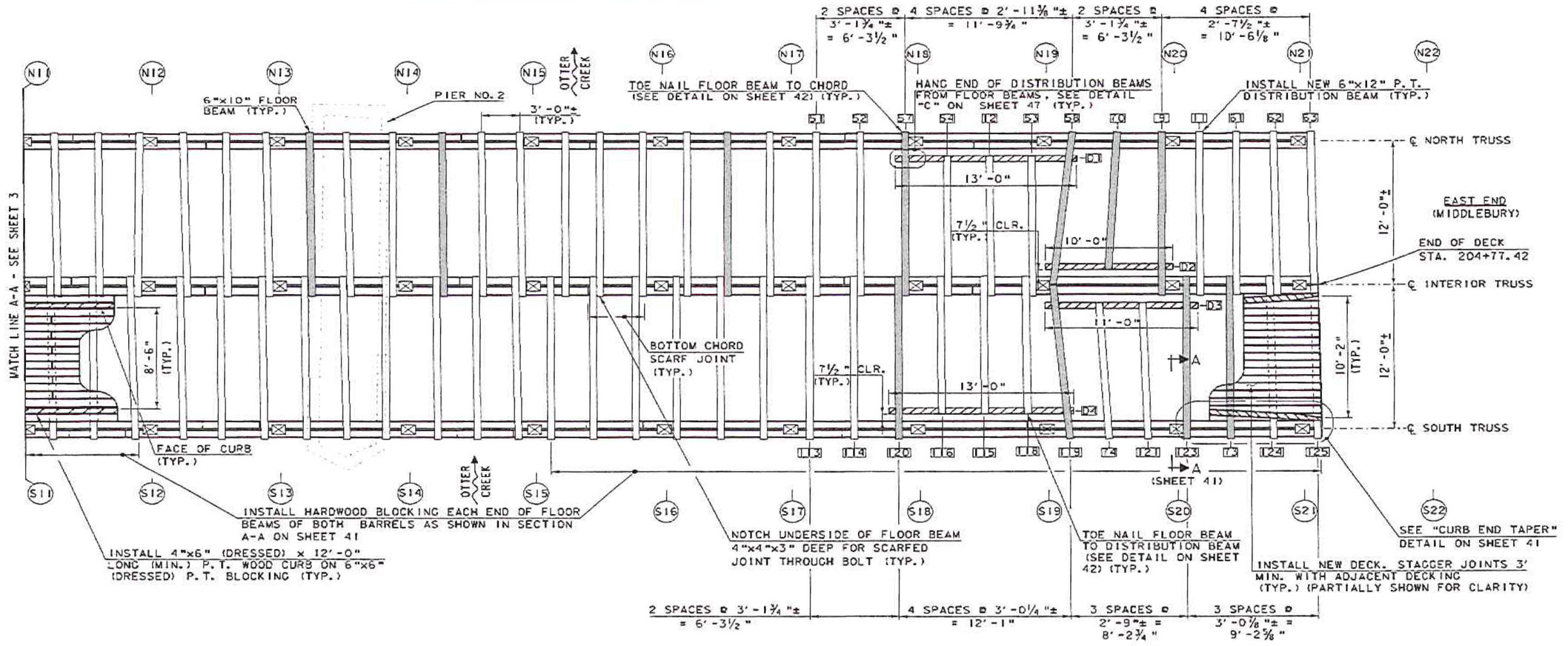
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	framing2

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086sup4.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES

FLOOR FRAMING PLAN & DETAILS (2 OF 2) SHEET 42 OF 66



STATIONING

REVISED FLOOR FRAMING PLAN

SCALE: ¼" = 1'-0"

LEGEND:

- DX — DISTRIBUTION BEAM
- XX — FLOOR BEAM NUMBER
- (XXX) — TRUSS NODE LOCATION
- PREDETERMINED MEMBER TO BE REPLACED
- NEW MEMBER

SCALE: ¼" = 1'-0"
1 0 2 4 6

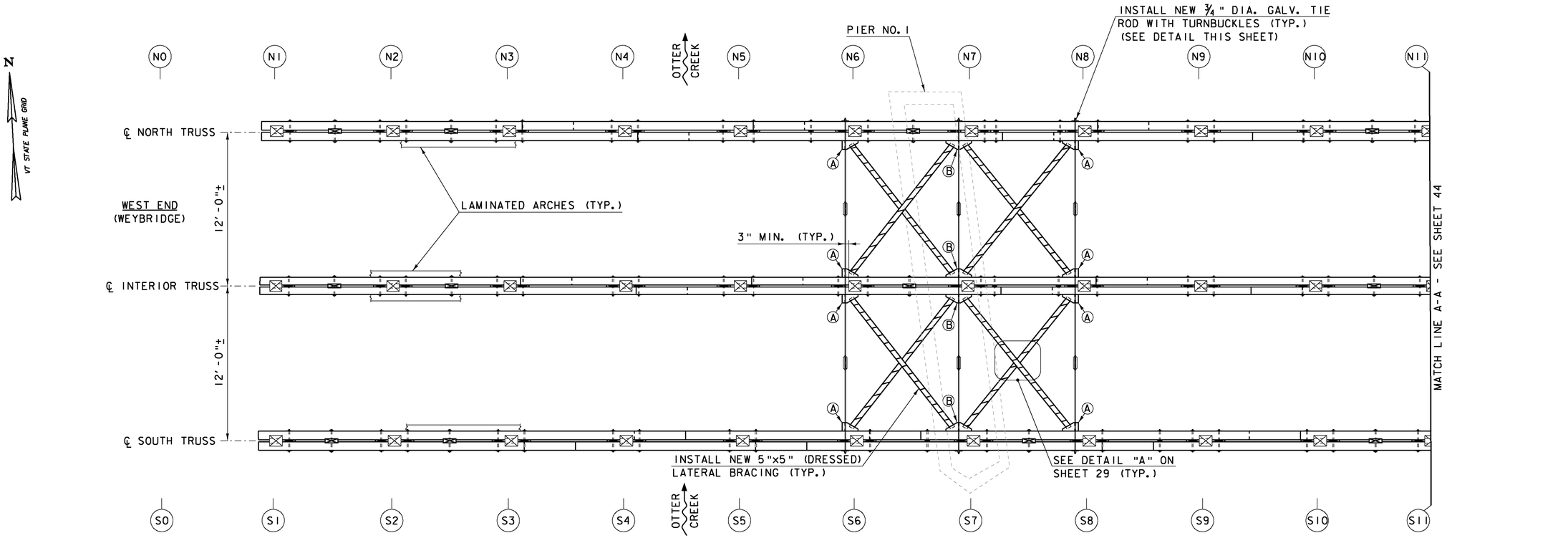
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	FRAMING 4

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

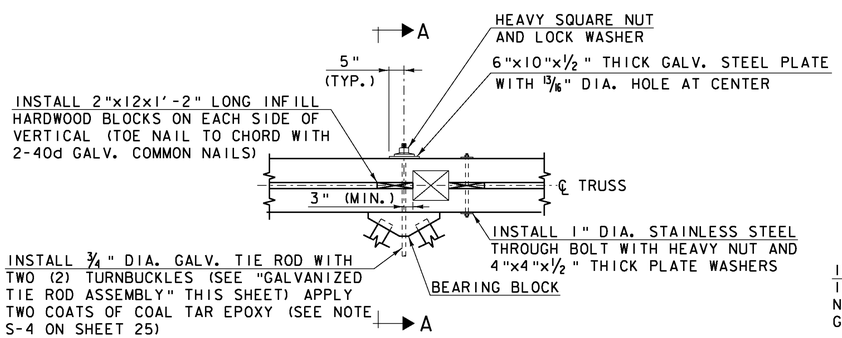
FILE NAME: z06j086sup10.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
REVISED FLOOR FRAMING PLAN (2 OF 2)

PLOT DATE: 7/5/2012
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 4 OF 4



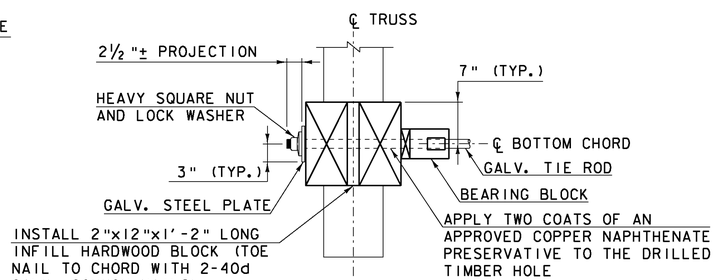
LOWER LATERAL BRACING PLAN

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



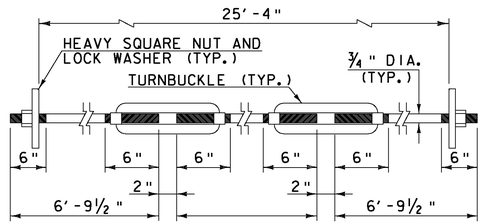
TIE ROD CONNECTION AT BOTTOM CHORD DETAIL

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



SECTION A-A

SCALE: 1" = 1'-0"



GALVANIZED TIE ROD ASSEMBLY

(7 REQUIRED)

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

NOTE: TIGHTEN NUTS AND TURNBUCKLES SNUG BUT NOT SO TIGHT AS TO CAUSE CRUSHING OF WOOD BEHIND THE STEEL PLATES.

LEGEND:

- XXX — TRUSS NODE LOCATION
- ⊗ — BEARING BLOCK TYPE (SEE SHEET 47 FOR DETAILS)
- NEW MEMBER

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

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

SCALE: 1 1/2 " = 1'-0"
1 9 6 3 0 1

SCALE: 1" = 1'-0"
1 9 6 3 0 1 2

Hoyle, Tanner & Associates, Inc.

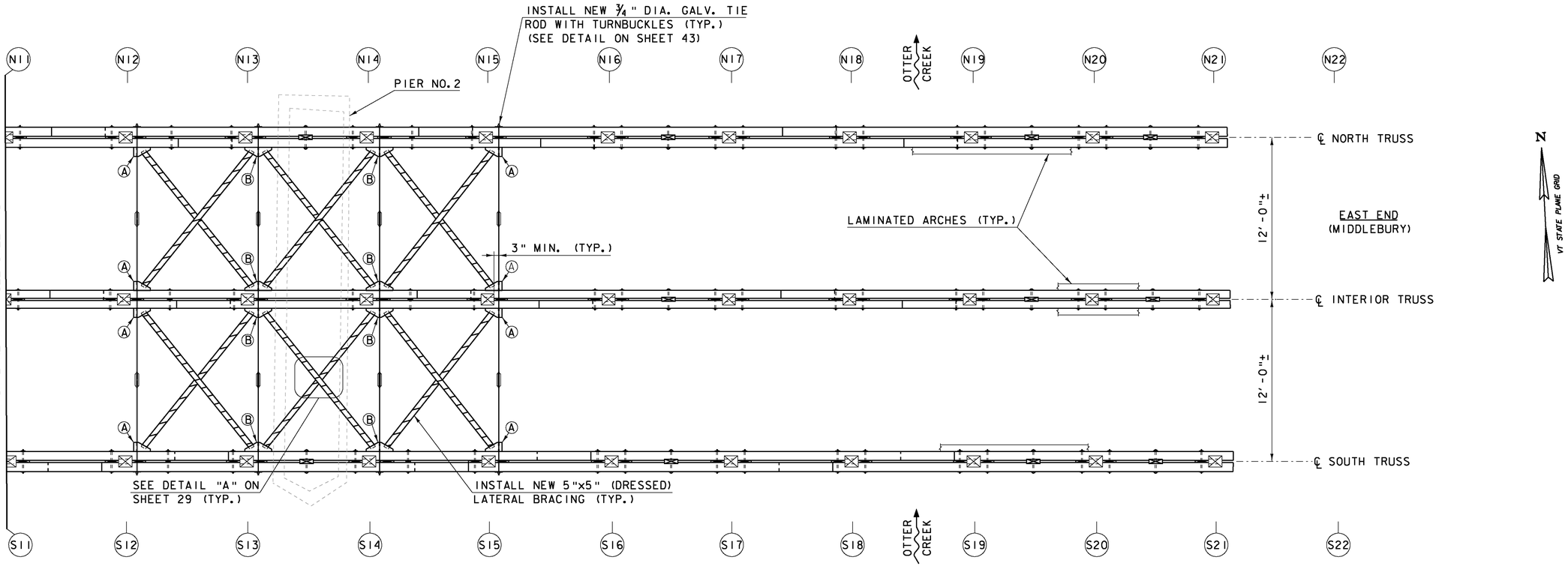
HTA PROJECT NO.	MODEL
904217	lower bracing 1

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086sup4.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
LOWER BRACING PLAN (1 OF 2)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 43 OF 66



LOWER LATERAL BRACING PLAN

SCALE: ¼" = 1'-0"

LEGEND:

- XXX — TRUSS NODE LOCATION
- X → — BEARING BLOCK TYPE (SEE SHEET 47 FOR DETAILS)
- NEW MEMBER

SCALE: ¼" = 1'-0"

1 0 2 4 6

Hoyle, Tanner & Associates, Inc.

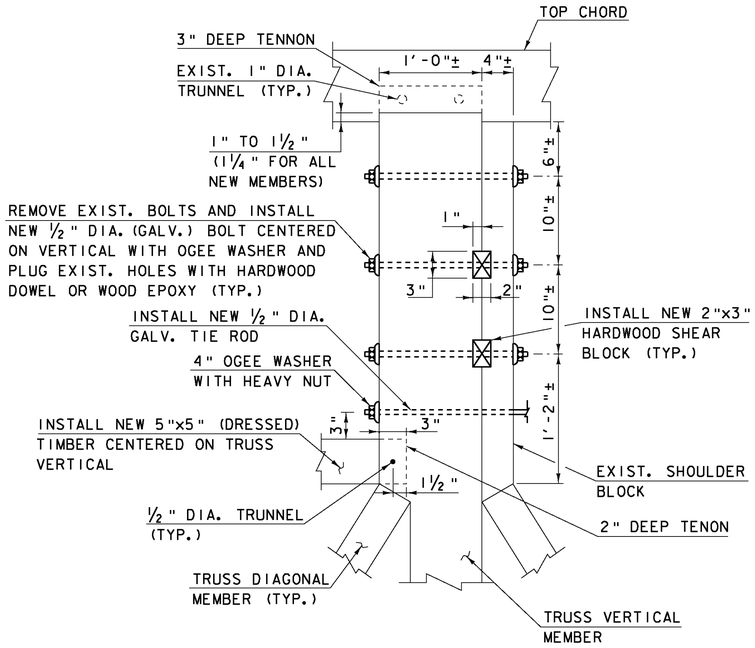
HTA PROJECT NO.	MODEL
904217	lower bracing 2

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

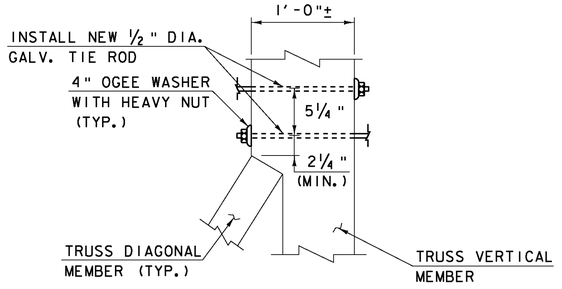
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086sup4.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
LOWER BRACING PLAN (2 OF 2)

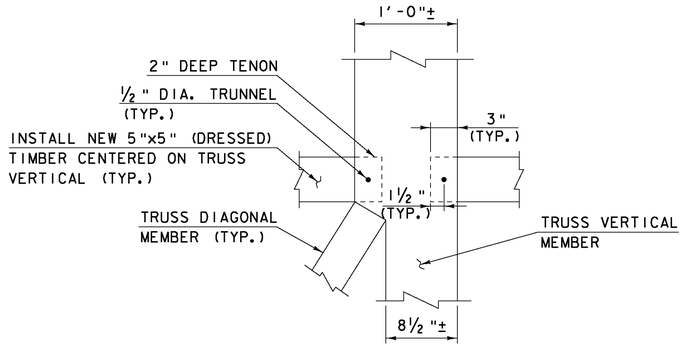
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 44 OF 66



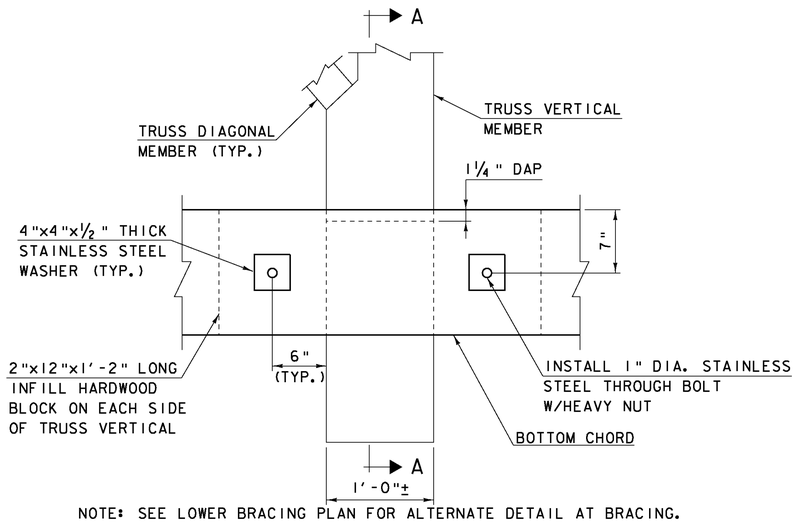
DETAIL "A"
SCALE: 1½" = 1'-0"



DETAIL "B"
SCALE: 1½" = 1'-0"

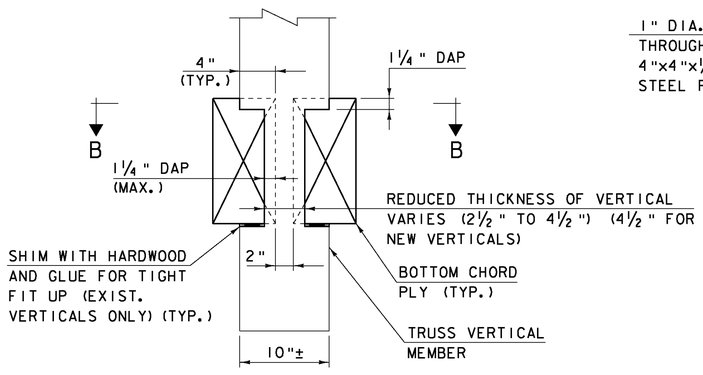


DETAIL "C"
SCALE: 1½" = 1'-0"

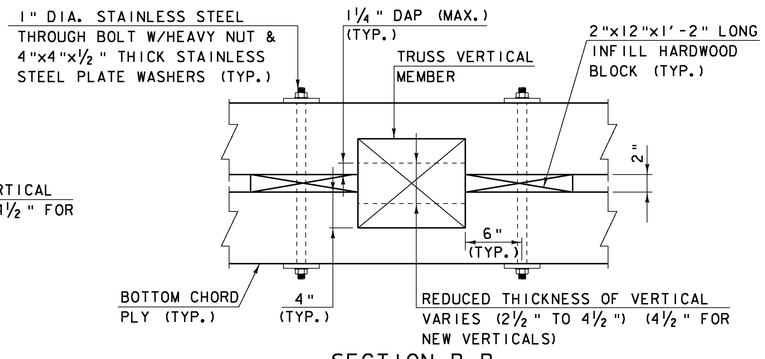


NOTE: SEE LOWER BRACING PLAN FOR ALTERNATE DETAIL AT BRACING.

VERTICAL TO BOTTOM CHORD CONNECTION DETAIL (ELEVATION VIEW)
SCALE: 1½" = 1'-0"



SECTION A-A
SCALE: 1½" = 1'-0"



SECTION B-B
SCALE: 1½" = 1'-0"

SCALE: 1½" = 1'-0
1 9 6 3 0 1

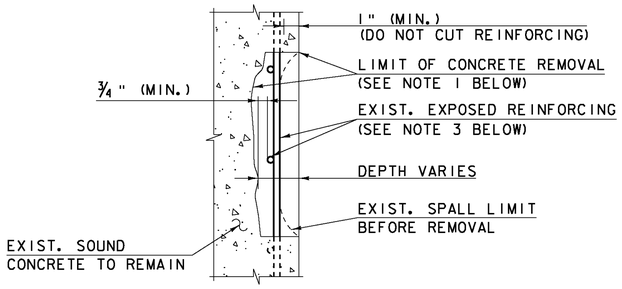
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	detail-1

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086Dtll.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
BRIDGE DETAILS (1 OF 4)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 45 OF 66

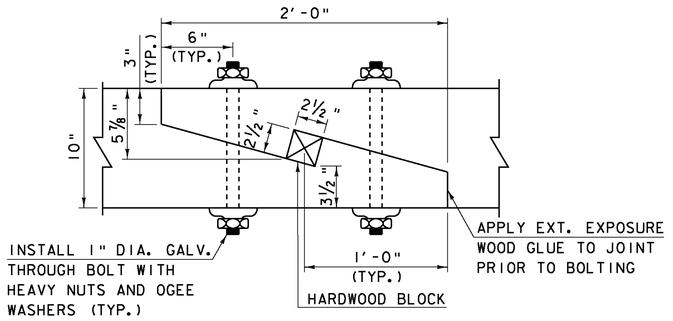


CLASS II VERTICAL CONCRETE REPAIR DETAIL

NOT TO SCALE

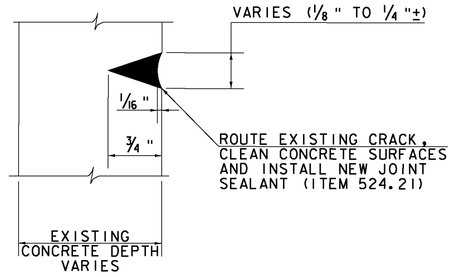
SHEET NOTES:

1. PREPARE SPALLED AREA BY REMOVAL OF ALL DETERIORATED CONCRETE TO A MINIMUM DEPTH OF 3/4" BEHIND THE INSIDE FACE OF THE FIRST MAT OF REINFORCING STEEL AND TO SOUND CONCRETE BY SQUARE CUTTING REPAIR AREA (PAID UNDER ITEM 580.14). FEATHERED REMOVAL EDGES WILL NOT BE PERMITTED. MINIMUM REPAIR AREA SHALL BE 1'x1'.
2. USE OF CHIPPING HAMMERS HEAVIER THAN NOMINAL 15 POUND CLASS IS NOT PERMITTED.
3. AFTER CONCRETE REMOVAL, THE REPAIR SURFACE AND EXISTING REINFORCING BARS SHALL BE THOROUGHLY CLEANED OF INJURIOUS RUST, CONCRETE, DIRT, GREASE, OR ANY OTHER BOND-INHIBITING MATERIALS. APPLY ONE COAT OF CONPROCO CORPORATION ECB (ELECTRO-CHEMICAL BARRIER), FERROSEAL BY ISOMAT, MAPEFER BY MAPEI OR APPROVED EQUAL TO ANY EXPOSED REINFORCING.
4. COAT ALL REPAIR SURFACES WITH AN APPROVED BONDING AGENT PRIOR TO PLACING REPAIR MATERIAL.
5. PATCH REPAIR AREA WITH CONCRETE CLASS AA (PAID UNDER ITEM 580.14). A HIGH RANGE WATER REDUCING ADMIXTURE CONFORMING TO THE REQUIREMENTS OF SUBSECTION 725.02(h) SHALL BE USED FOR THE CONCRETE. DOSAGE SHALL BE AS RECOMMENDED BY THE MANUFACTURER TO PRODUCE A SLUMP OF 6-8 INCHES.
6. APPLY A PENETRATING, CORROSION-INHIBITING IMPREGNATION COATING, SIKA FERROGARD 903, CORTEC CORPORATION MCI-2020 V/O, GRACE CONSTRUCTION PRODUCTS POSTRITE OR APPROVED EQUAL FOR A DISTANCE OF 3' BEYOND THE EDGE OF THE CONCRETE REPAIR 7 DAYS AFTER APPLYING REPAIR MATERIAL.
7. ALL WORK AND MATERIALS REQUIRED FOR CONCRETE REPAIRS DESCRIBED IN NOTES 1-6 ABOVE WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 580.14.



TOP CHORD SCARFED JOINT DETAIL (PLAN VIEW)

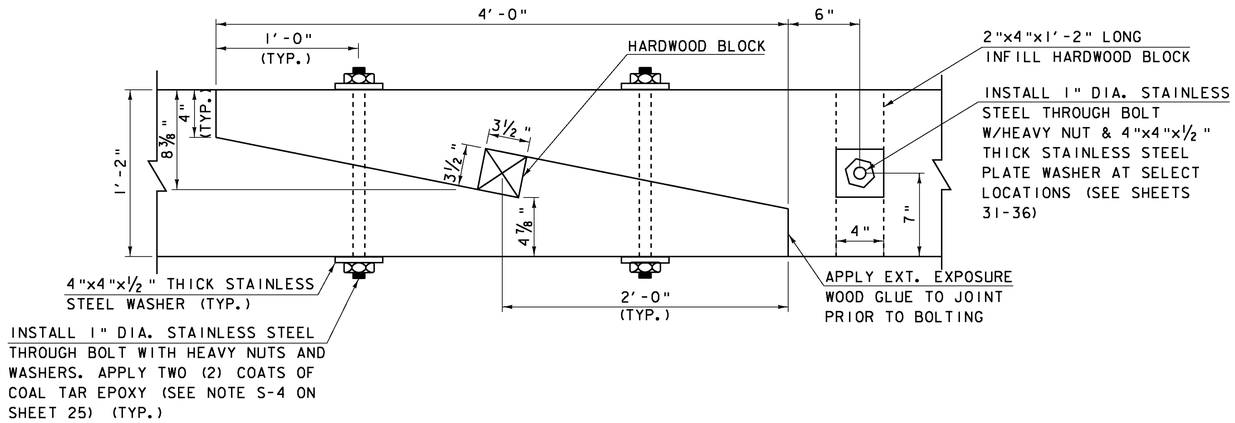
SCALE: 2" = 1'-0"



CRACK SEAL DETAIL

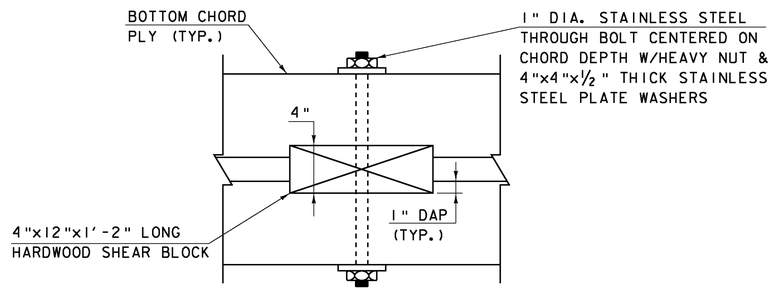
NOT TO SCALE

NOTE: NEW JOINT SEALANT SHALL BE AN APPROVED ONE COMPONENT POLYURETHANE ELASTOMERIC SEALANT COMPLYING WITH SUBSECTION 707.05.



BOTTOM CHORD SCARFED JOINT DETAIL (ELEVATION VIEW)

SCALE: 2" = 1'-0"



BOTTOM CHORD SHEAR BLOCK JOINT DETAIL (PLAN VIEW)

SCALE: 2" = 1'-0"

SCALE: 2" = 1'-0
6 0

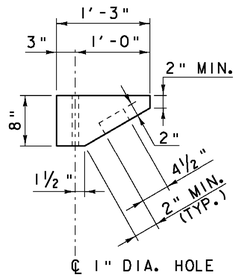
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
90217	detail-2

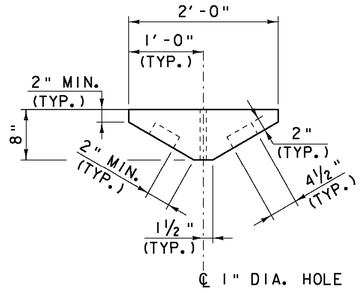
PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086Dtl2.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
BRIDGE DETAILS (2 OF 4)

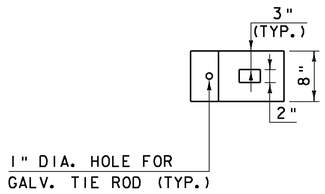
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 46 OF 66



PLAN

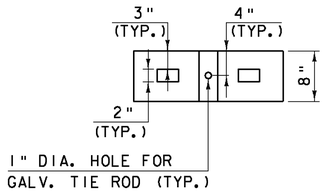


PLAN



ELEVATION

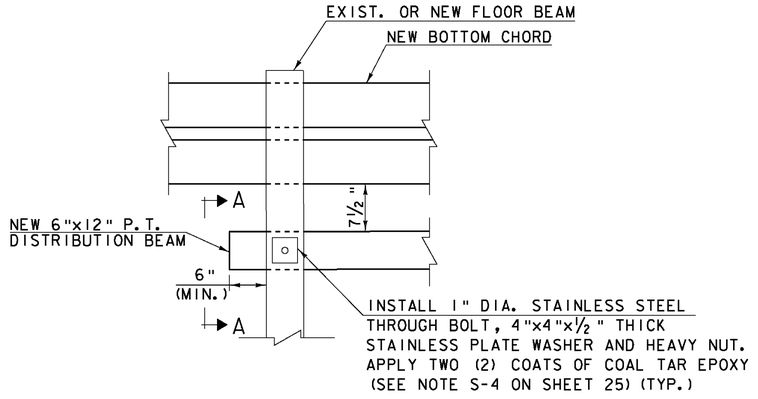
BEARING BLOCK DETAIL "A"



ELEVATION

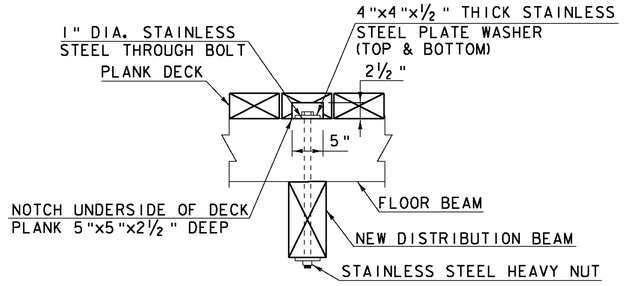
BEARING BLOCK DETAIL "B"

BEARING BLOCKS DETAILS
SCALE: 1" = 1'-0"



NOTE: DECKING NOT SHOWN FOR CLARITY.

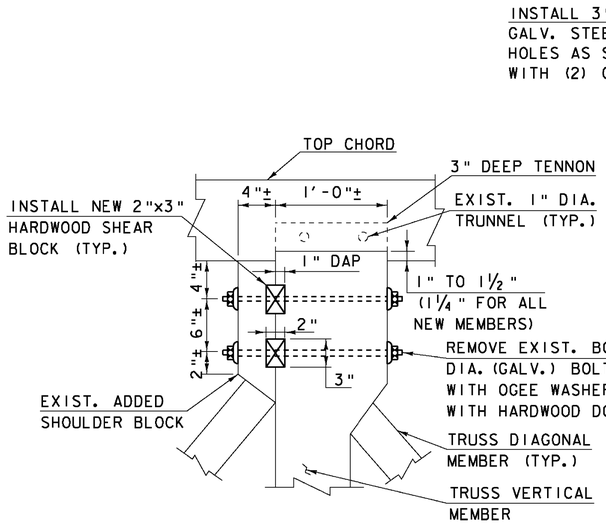
DETAIL "C"
SCALE: 1" = 1'-0"



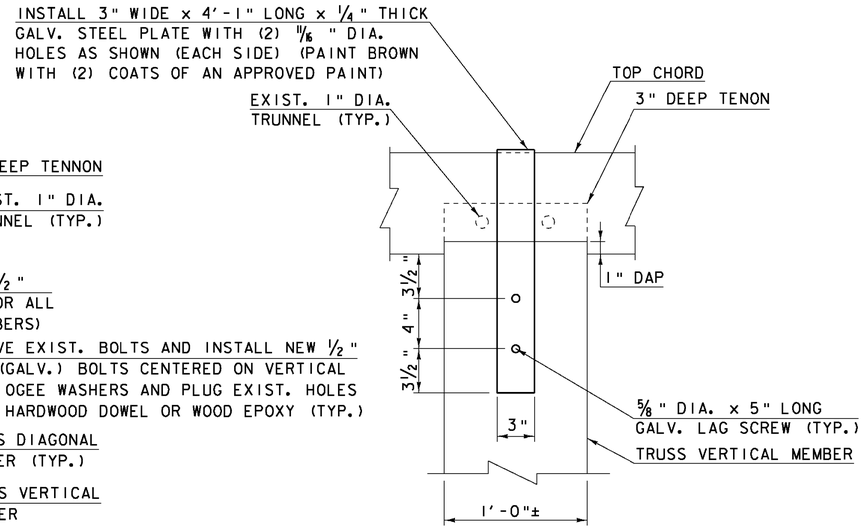
SECTION A-A
SCALE: 1" = 1'-0"

CAMBER NOTES:

1. ALL VALUES IN CAMBER TABLE ARE MEASURED FROM REFERENCE LINES THAT ARE A STRAIGHT LEVEL LINE CONNECTING POINTS LOCATED AT THE TOP OF BOTTOM CHORD. NEGATIVE VALUES INDICATE DOWN DIRECTIONS (SAG). ALL VALUES WERE OBTAINED IN NOVEMBER 2010 AND ARE APPROXIMATE.
2. THE EXISTING COVERED BRIDGE SHALL BE JACKED AND BRACED AS REQUIRED PRIOR TO THE START OF REALIGNMENT OPERATIONS. INSTALLATION OF NEW TRUSS MEMBERS SHALL NOT BEGIN UNTIL REALIGNMENT OPERATIONS ARE COMPLETE. SEE NOTE RS-4 ON SHEET 26 FOR MORE INFORMATION.
3. THE CONTRACTOR SHALL JACK THE BRIDGE TO A MAXIMUM ~~4~~ 2" MIDSPAN CAMBER ~~BETWEEN EACH SUPPORT~~ PRIOR TO REPLACING TRUSS MEMBERS. ALL COST OF SUCH WORK IS PAID FOR UNDER ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE). SEE SPECIAL PROVISIONS AND NOTE W-10 ON SHEET 25 FOR ADDITIONAL WORK TO BE PAID UNDER THIS PAY ITEM.
4. THE CONTRACTOR SHALL PROVIDE TO THE RESIDENT ENGINEER THE MEASUREMENTS OF THE AS-BUILT CAMBER. ALL COST OF SUCH WORK IS PAID FOR UNDER ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).



VERTICAL TO TOP CHORD JOINT DETAIL
SCALE: 1½" = 1'-0"



(INTERIOR TRUSS NODES I3, I12, I15, I18 AND I20)
NOTE: INSTALL CONNECTION PLATES AFTER REALIGNMENT OF TRUSSES AND ARCHES.

VERTICAL TO TOP CHORD CONNECTION DETAIL
SCALE: 2" = 1'-0"

EXISTING AND AS-BUILT TRUSS CAMBER (INCHES)*

NODES	(1A)	(1B)	(1C)	(2A)	(2B)	(2C)	NODES	(1A)	(1B)	(1C)	(2A)	(2B)	(2C)
0	-----	-----	-----				12	-0.55	-0.24	-1.72			
1	0.00	0.00	0.00				13	-0.37	+0.78	-0.58			
2	-1.09	-1.88	-1.39				14	-0.05	0.00	0.00			
3	-4.79	-2.31	-2.16				15	-2.87	-1.81	-3.10			
4	-3.06	-3.34	-2.57				16	-2.72	-3.13	-4.89			
5	-2.29	-3.12	-2.87				17	-0.83	-2.96	-5.84			
6	-0.91	-1.96	-1.42				18	-4.15	-3.68	-3.26			
7	-0.05	0.00	0.00				19	-4.93	-3.06	-2.28			
8	-5.07	-2.68	-0.63				20	-1.36	-1.83	-1.59			
9	-4.76	-3.51	-4.57				21	0.00	0.00	0.00			
10	-3.96	-4.57	-1.33				22	-----	-----	-----			
11	-1.54	-2.15	-1.41										

(1A) EXISTING CAMBER NORTH TRUSS
(1B) EXISTING CAMBER INTERIOR TRUSS
(1C) EXISTING CAMBER SOUTH TRUSS
(2A) AS-BUILT CAMBER NORTH TRUSS
(2B) AS-BUILT CAMBER INTERIOR TRUSS
(2C) AS BUILT CAMBER SOUTH TRUSS

* NEGATIVE VALUES INDICATE SAG AND POSITIVE VALUES INDICATE CAMBER

SCALE: 1" = 1'-0"
1 9 6 3 0 1 2

SCALE: 2" = 1'-0
1 6 0 1

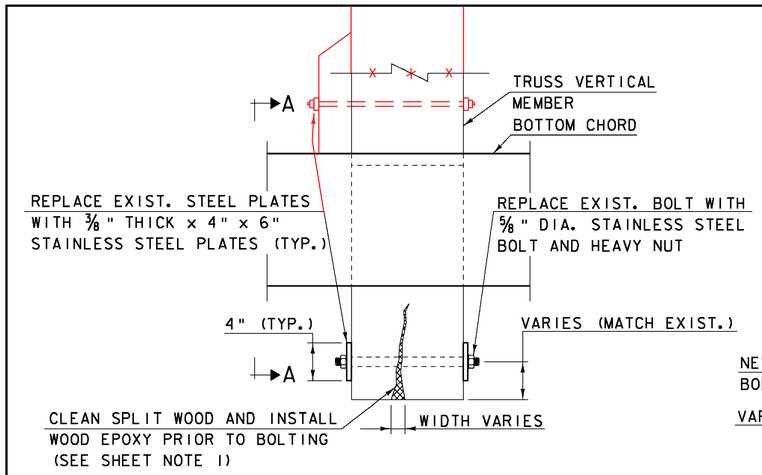
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	detail-3

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

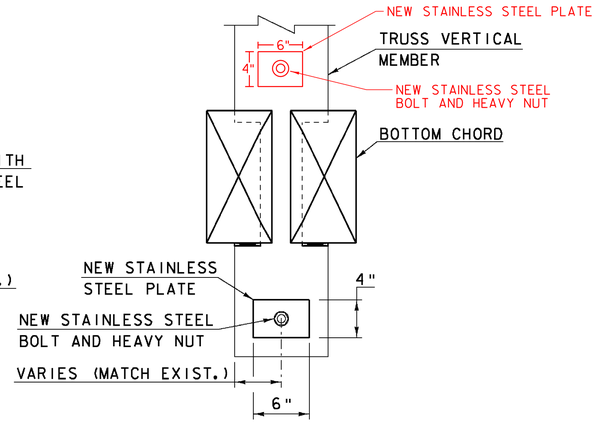
FILE NAME: z06j086Dtl3.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
BRIDGE DETAILS (3 OF 4)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 47 OF 66



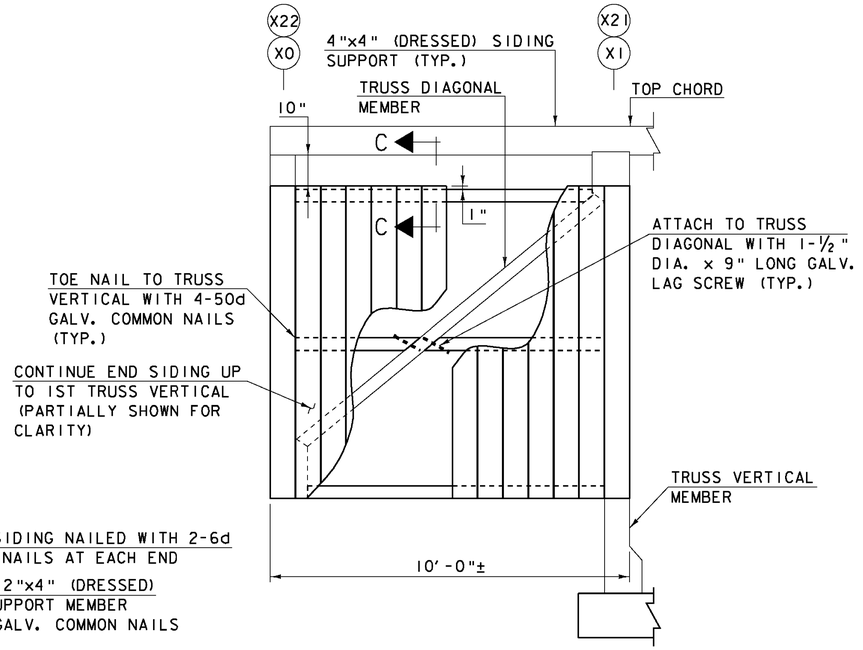
TRUSS VERTICAL TAIL REPAIR DETAIL

SCALE: 1½" = 1'-0"



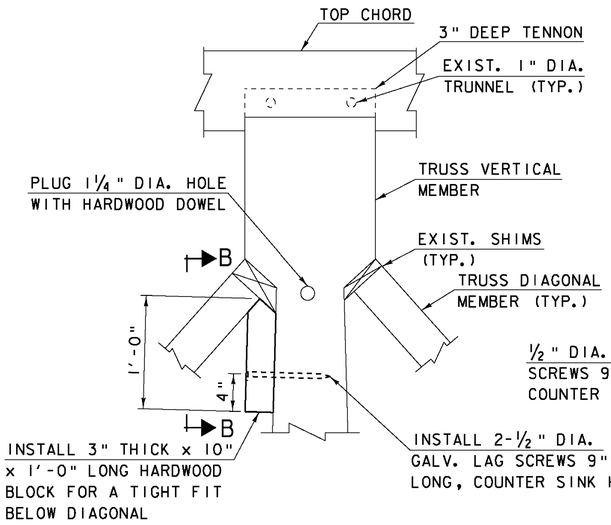
SECTION A-A

SCALE: 1½" = 1'-0"



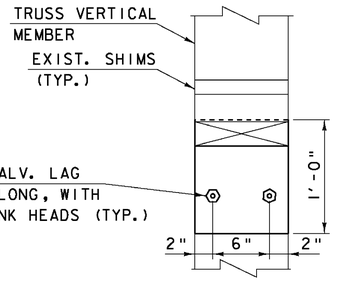
TYPICAL SIDING END RETURN

SCALE: ½" = 1'-0"



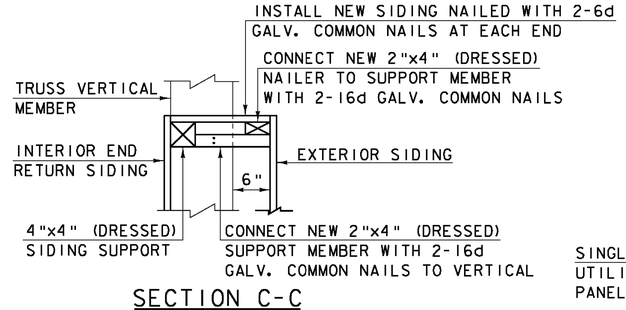
REPAIR DETAIL AT NODE (S11)

SCALE: 1½" = 1'-0"



SECTION B-B

SCALE: 1½" = 1'-0"

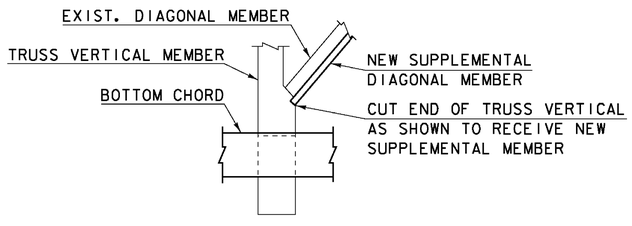


SECTION C-C

SCALE: 1" = 1'-0"

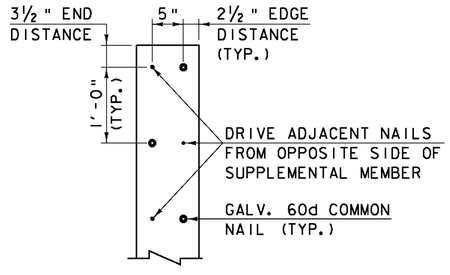
SE SIDING END RETURN ENCLOSURE

SCALE: ½" = 1'-0"



DETAIL "A"

SCALE: ½" = 1'-0"



TYPICAL NAILING PATTERN FOR SUPPLEMENTAL TRUSS DIAGONAL MEMBERS

SCALE: 1" = 1'-0"

SHEET NOTES:

1. THE REPAIR OF SPLIT IN TAILS OF TRUSS VERTICAL MEMBERS, AS SHOWN ON THIS SHEET, ARE TO BE PAID UNDER ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS). SEE SHEET 27 FOR THE RECOMMENDED REPAIR SEQUENCE.

SCALE: ½" = 1'-0"
0 1 2

SCALE: 1" = 1'-0"
1 9 6 3 0 1 2

SCALE: 1½" = 1'-0"
1 9 6 3 0

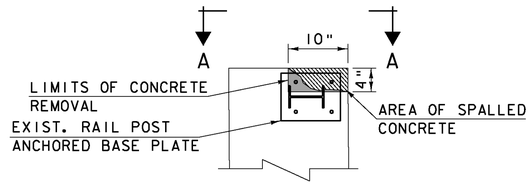
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	detail-4

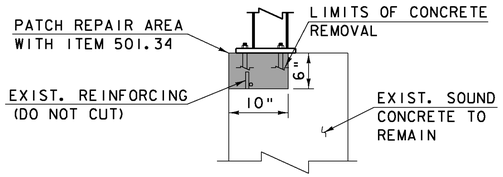
PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086Dt14.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
BRIDGE DETAILS (4 OF 4)

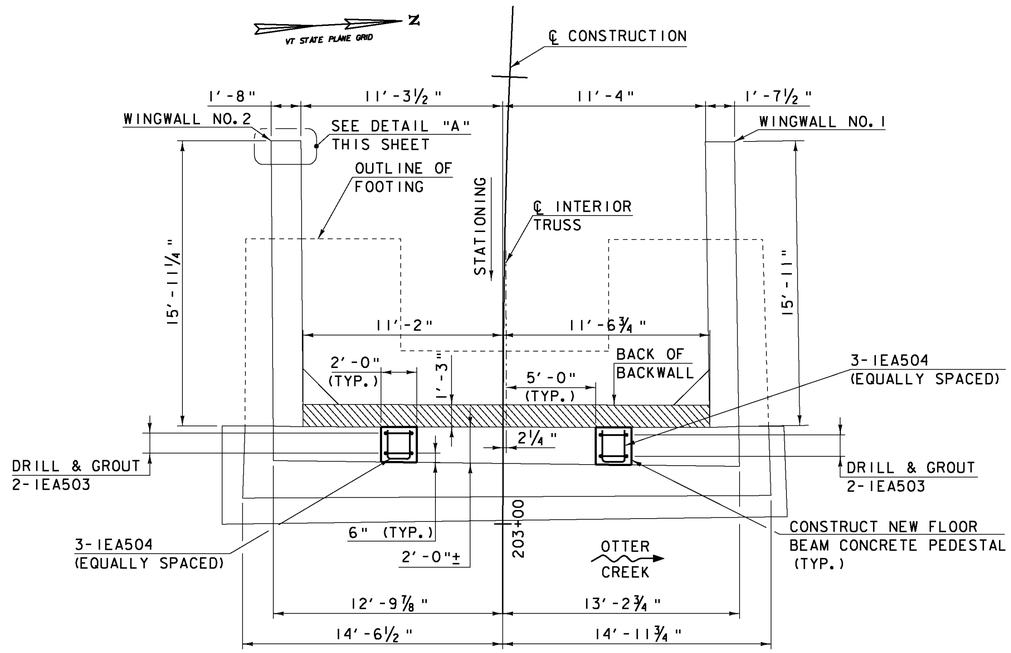
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 48 OF 66



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



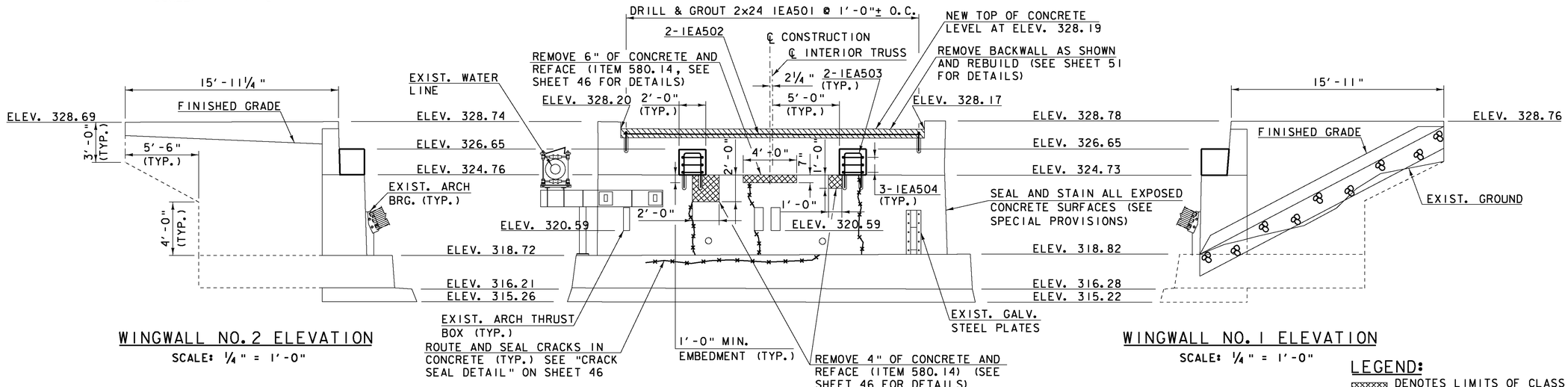
SECTION A-A
SCALE: 1" = 1'-0"



ABUTMENT NO. 1 PLAN
SCALE: ¼" = 1'-0"

SHEET NOTES:

1. SEE SHEET 51 FOR DETAILS THAT APPLY TO THIS SHEET.
2. APPROACH WORK DETAILS (GUARDRAIL, EDGE OF TRAVELWAY, ETC.) AND BRIDGE SUPERSTRUCTURE ARE NOT SHOWN FOR CLARITY.



WINGWALL NO. 2 ELEVATION
SCALE: ¼" = 1'-0"

ABUTMENT NO. 1 ELEVATION
SCALE: ¼" = 1'-0"

WINGWALL NO. 1 ELEVATION
SCALE: ¼" = 1'-0"

LEGEND:

- DENOTES LIMITS OF CLASS II VERTICAL CONCRETE REPAIR
- DENOTES CONCRETE REMOVAL
- LIMITS OF CRACK ROUTE AND SEAL

SCALE: ¼" = 1'-0"
1 0 2 4 6

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
90217	abut A

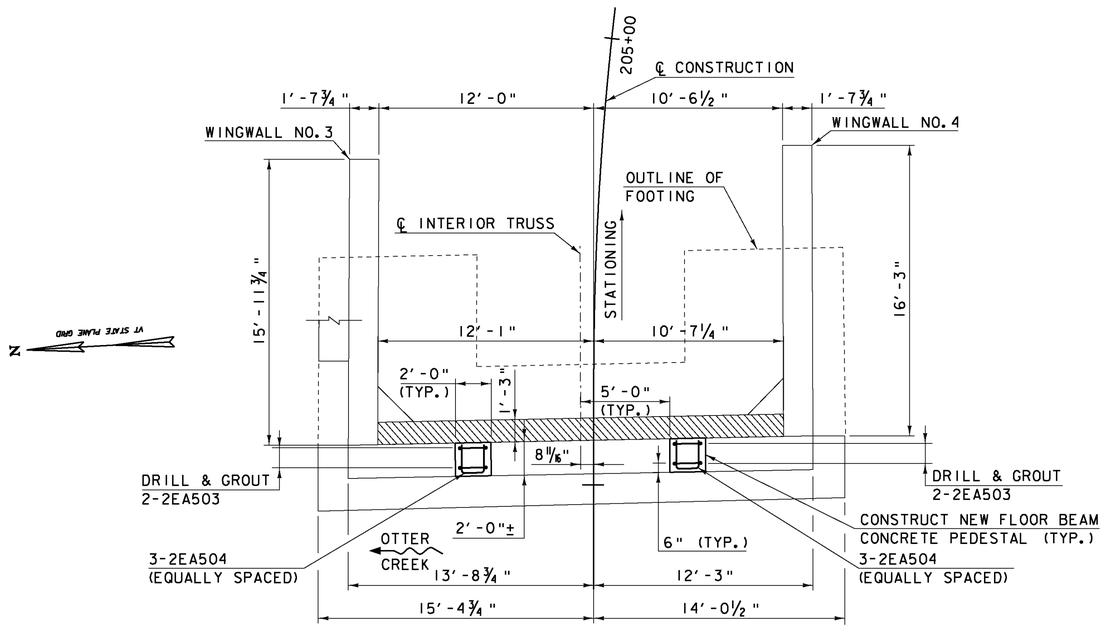
PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086subl.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
ABUTMENT NO.1 PLAN & ELEVATION

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 49 OF 66

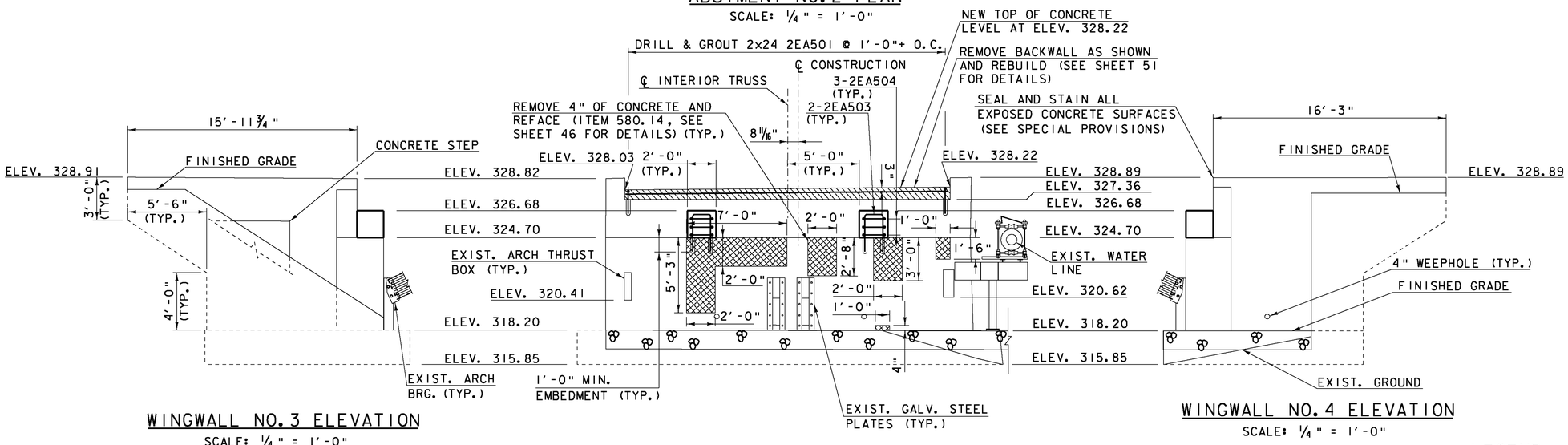
SHEET NOTES:

1. SEE SHEET 51 FOR DETAILS THAT APPLY TO THIS SHEET.
2. APPROACH WORK DETAILS (GUARDRAIL, EDGE OF TRAVELWAY, ETC.) AND BRIDGE SUPERSTRUCTURE ARE NOT SHOWN FOR CLARITY.



ABUTMENT NO. 2 PLAN

SCALE: ¼" = 1'-0"



WINGWALL NO. 3 ELEVATION

SCALE: ¼" = 1'-0"

WINGWALL NO. 4 ELEVATION

SCALE: ¼" = 1'-0"

ABUTMENT NO. 2 ELEVATION

SCALE: ¼" = 1'-0"

SCALE: ¼" = 1'-0"

1 0 2 4 6

LEGEND:

- DENOTES LIMITS OF CLASS II VERTICAL CONCRETE REPAIR
- DENOTES CONCRETE REMOVAL

Hoyle, Tanner & Associates, Inc.

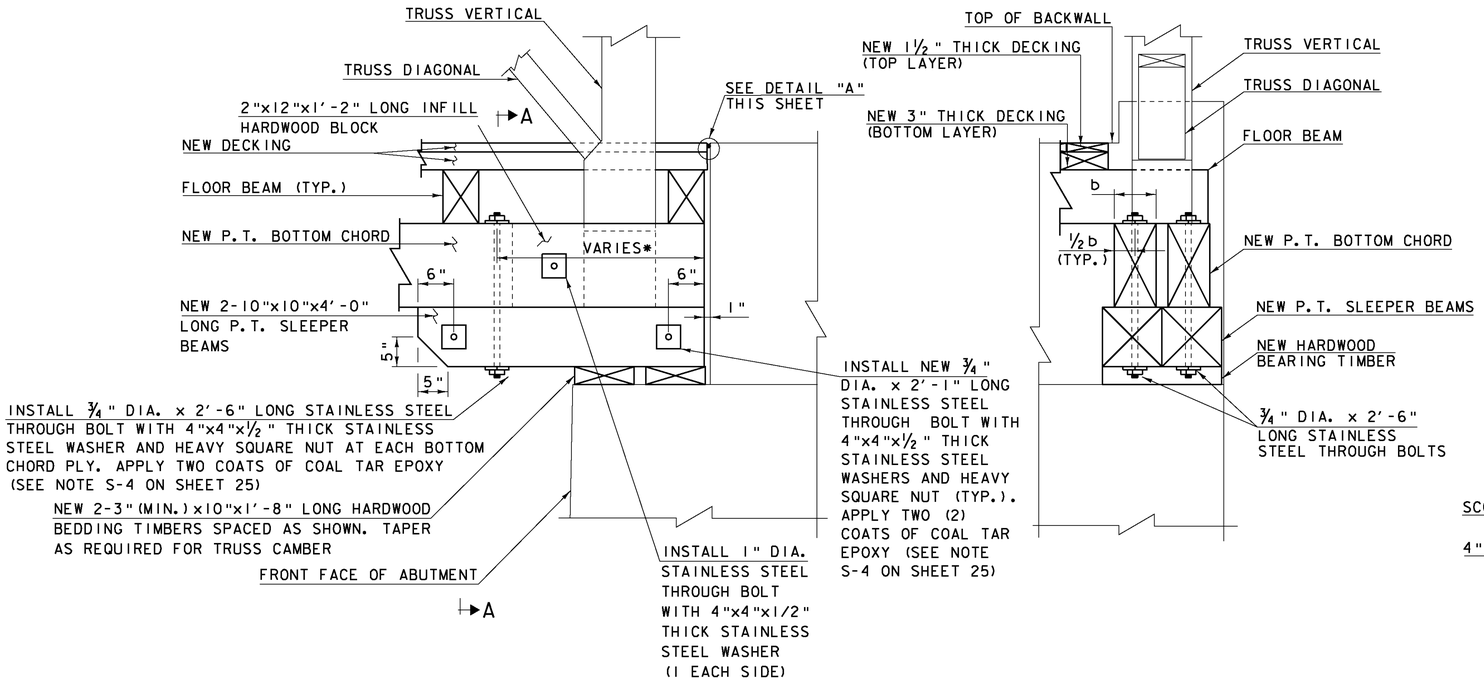
HTA PROJECT NO.	MODEL
904217	abut B

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086sub2.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
ABUTMENT NO.2 PLAN & ELEVATION

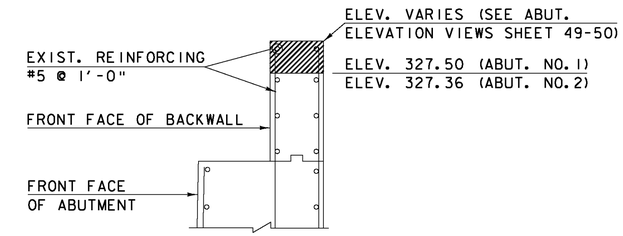
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 50 OF 66



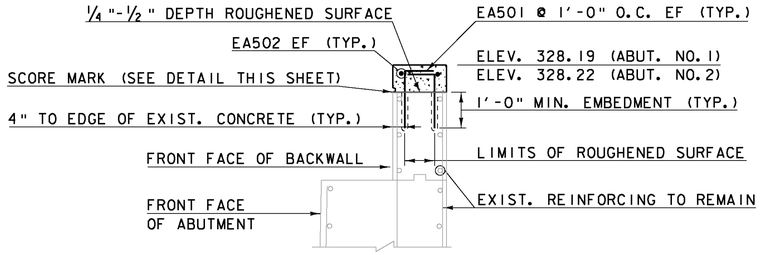
* DISTANCE VARIES TO AVOID CONFLICT WITH FLOOR BEAMS, SEE SHEETS 31-36.

TRUSS TYPICAL BEARING SEAT AT ABUTMENT
SCALE: 1" = 1'-0"

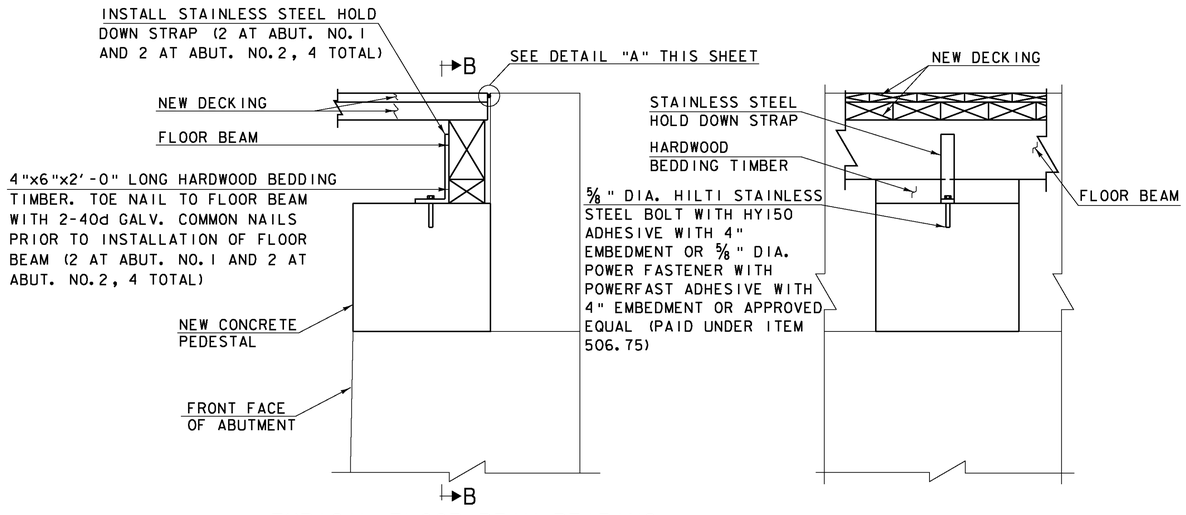
SECTION A-A
SCALE: 1" = 1'-0"



ABUTMENT REMOVAL TYPICAL SECTION
SCALE: 1/2" = 1'-0"

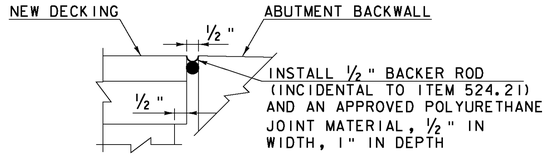


ABUTMENT MODIFICATIONS TYPICAL SECTION
SCALE: 1/2" = 1'-0"



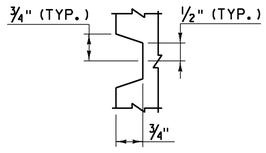
TYPICAL FLOOR BEAM BEARING SEAT AT CONCRETE PEDESTAL
SCALE: 1" = 1'-0"

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



DETAIL "A"
NOT TO SCALE

LEGEND
- DENOTES CONCRETE REMOVAL
- DENOTES NEW CONCRETE
- EF EACH FACE



SCORE MARK DETAIL
NOT TO SCALE

SHEET NOTES:
1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED. THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 501.34.
3. FLOOR BEAM HOLD DOWN STRAPS SHALL BE GALVANIZED WITH A MINIMUM UPLIFT CAPACITY OF 1,000 LBS PER FLOOR BEAM. ACCEPTABLE PRODUCTS ARE SIMPSON STRONG-TIE HTT4 OR USP CONNECTORS HTT16 OR APPROVED EQUAL (PAID UNDER ITEM 506.75, STRUCTURAL STEEL).

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

SCALE: 1" = 1'-0"
1 9 6 3 0 1 2

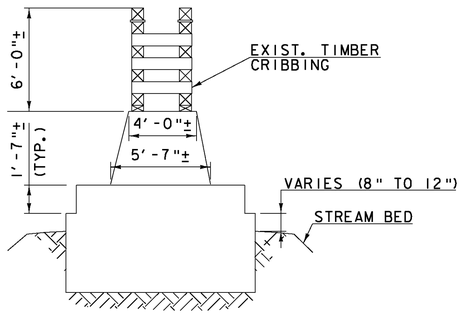
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	detail-5

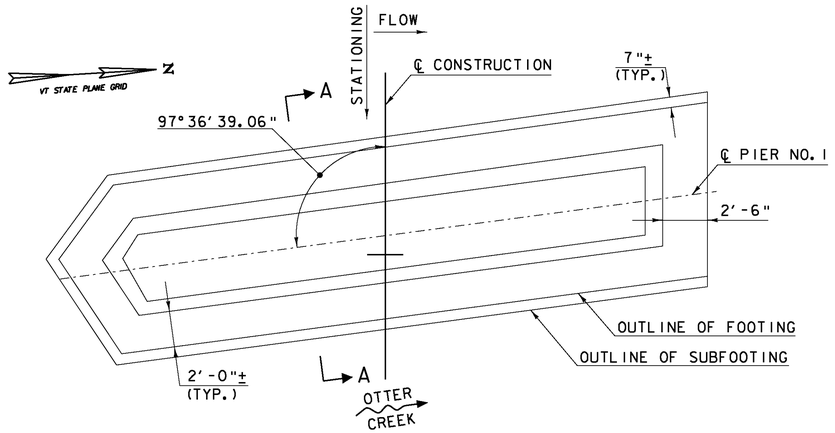
PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086Dtl5.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
ABUTMENT TYPICAL SECTIONS & DETAILS

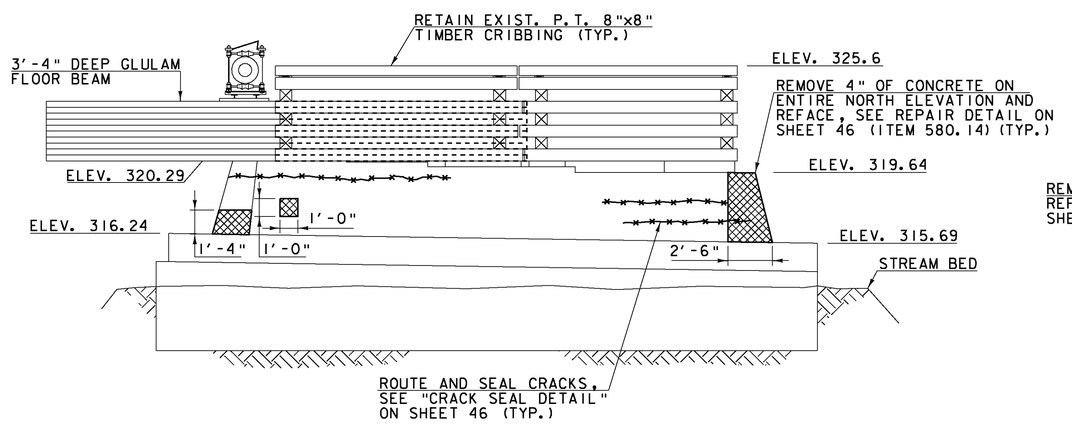
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 51 OF 66



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

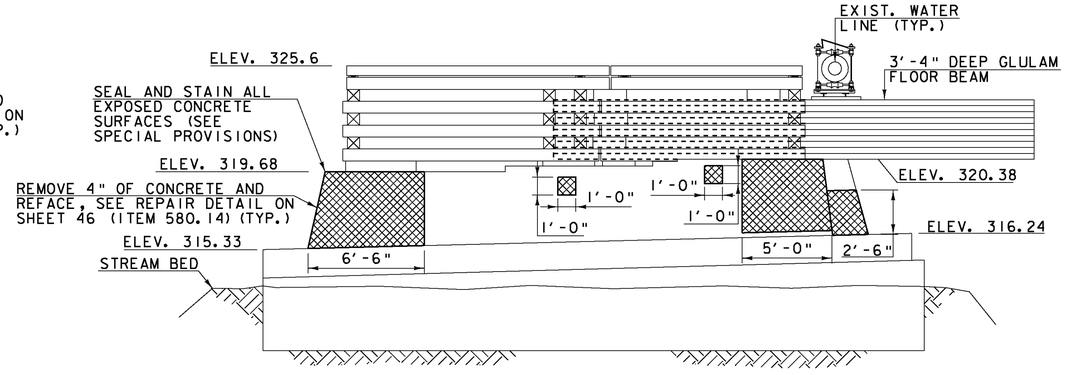


PIER NO. 1 PLAN
SCALE: 1/4" = 1'-0"



NOTE: PEDESTRIAN BRIDGE NOT SHOWN FOR CLARITY.

EAST ELEVATION
(LOOKING WEST)
SCALE: 1/4" = 1'-0"



NOTE: PEDESTRIAN BRIDGE NOT SHOWN FOR CLARITY.

WEST ELEVATION
(LOOKING EAST)
SCALE: 1/4" = 1'-0"

LEGEND:

- LIMITS OF CLASS II VERTICAL CONCRETE REPAIR
- LIMITS OF CRACK ROUTE AND SEAL

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	PIER 1

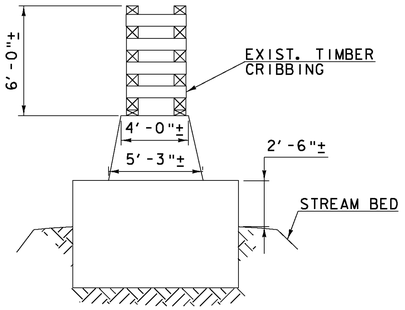
PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086sub3.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
PIER NO. 1 PLAN & ELEVATIONS

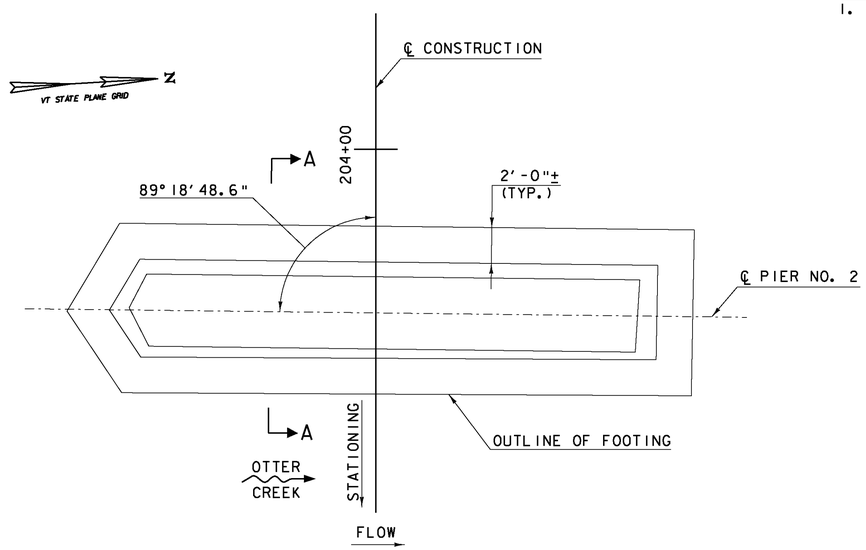
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 52 OF 66

SHEET NOTE:

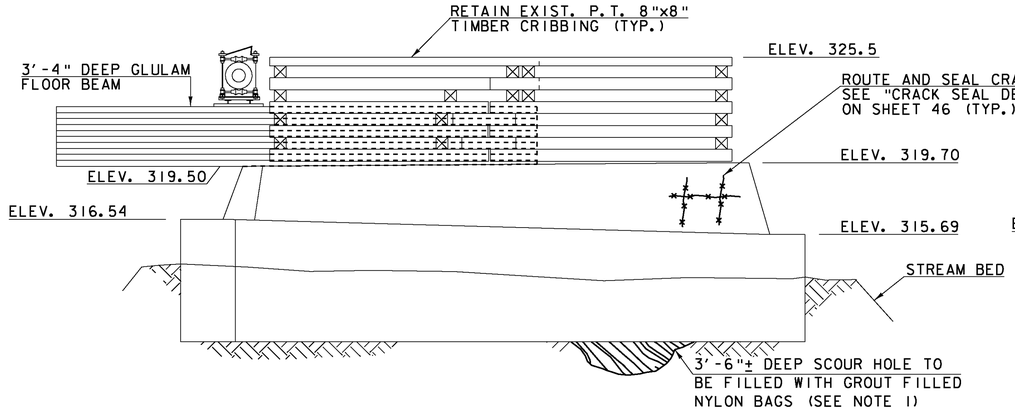
1. THERE IS AN EXISTING 4' x4"x3'-6" DEEP SCOUR HOLE UNDER THE EAST ELEVATION FOOTING OF PIER NO.2. THE SCOUR HOLE SHALL BE FILLED USING GROUT FILLED NYLON BAGS. ALL COSTS ASSOCIATED WITH REPAIRING THE SCOUR HOLE SHALL BE INCLUDED IN ITEM 900.608, SPECIAL PROVISION (GROUT BAGS).



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

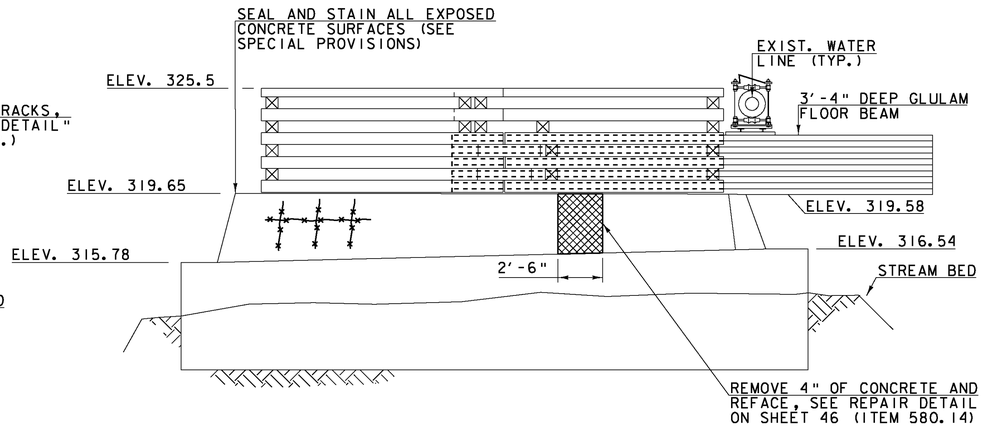


PIER NO.2 PLAN
SCALE: 1/4" = 1'-0"



NOTE: PEDESTRIAN BRIDGE NOT SHOWN FOR CLARITY.

EAST ELEVATION
(LOOKING WEST)
SCALE: 1/4" = 1'-0"



NOTE: PEDESTRIAN BRIDGE NOT SHOWN FOR CLARITY.

WEST ELEVATION
(LOOKING EAST)
SCALE: 1/4" = 1'-0"

LEGEND:

- LIMITS OF CLASS II VERTICAL CONCRETE REPAIR
- LIMITS OF CRACK ROUTE AND SEAL

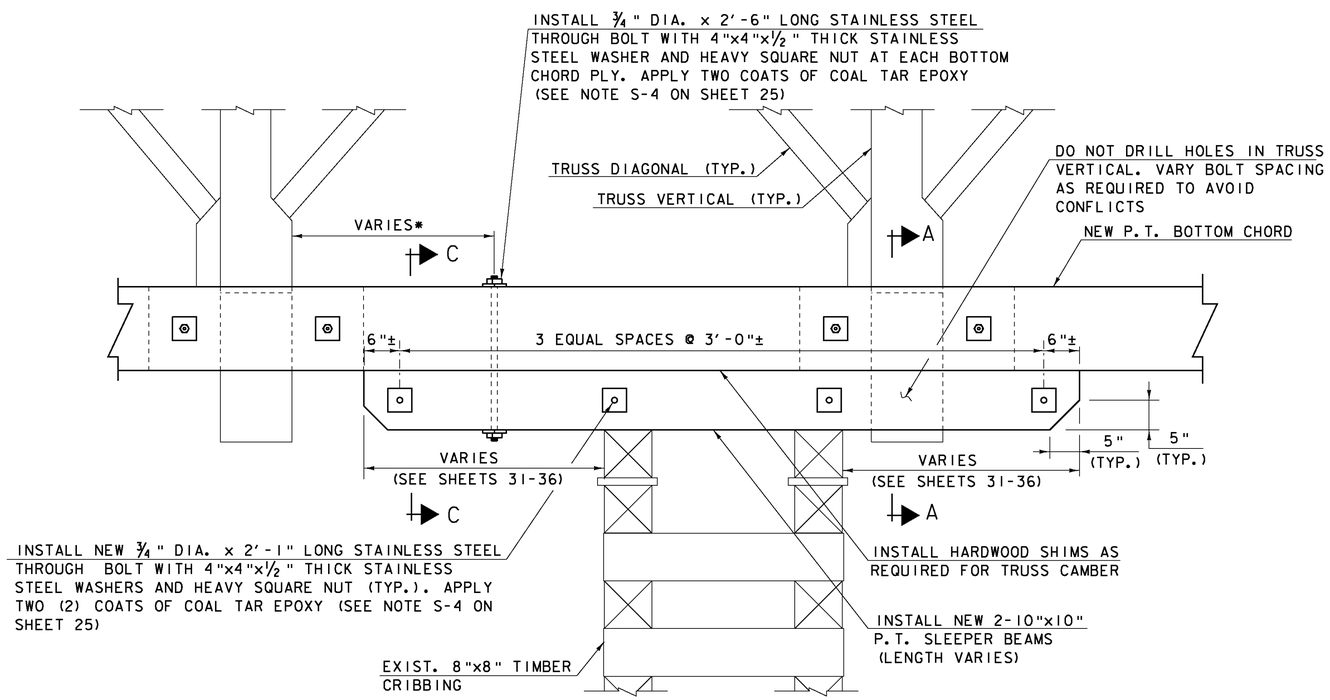
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	abut B

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086sub4.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
PIER NO. 2 PLAN & ELEVATIONS

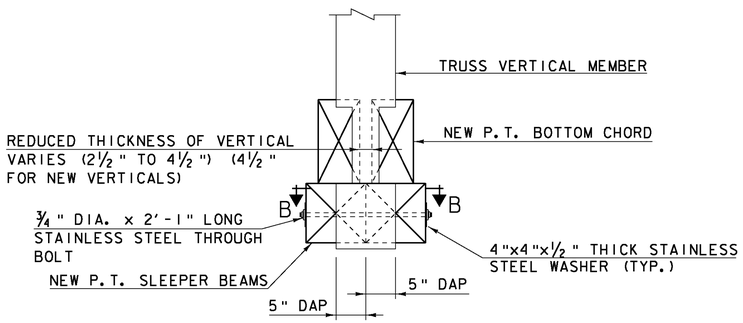
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 53 OF 66



* DISTANCE VARIES TO AVOID CONFLICT WITH FLOOR BEAMS, SEE SHEETS 31-36.

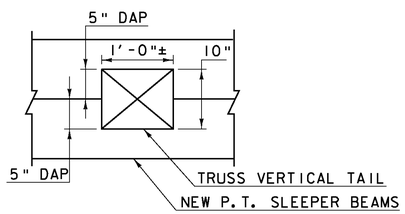
PIER BEARING TYPICAL DETAIL

SCALE: 1" = 1'-0"



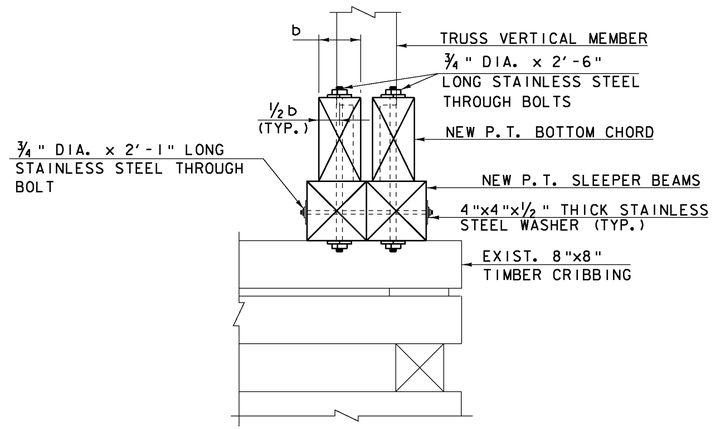
SECTION A-A

SCALE: 1" = 1'-0"



SECTION B-B

SCALE: 1" = 1'-0"



SECTION C-C

SCALE: 1" = 1'-0"

SCALE: 1" = 1'-0"
1 9 3 0 1 2

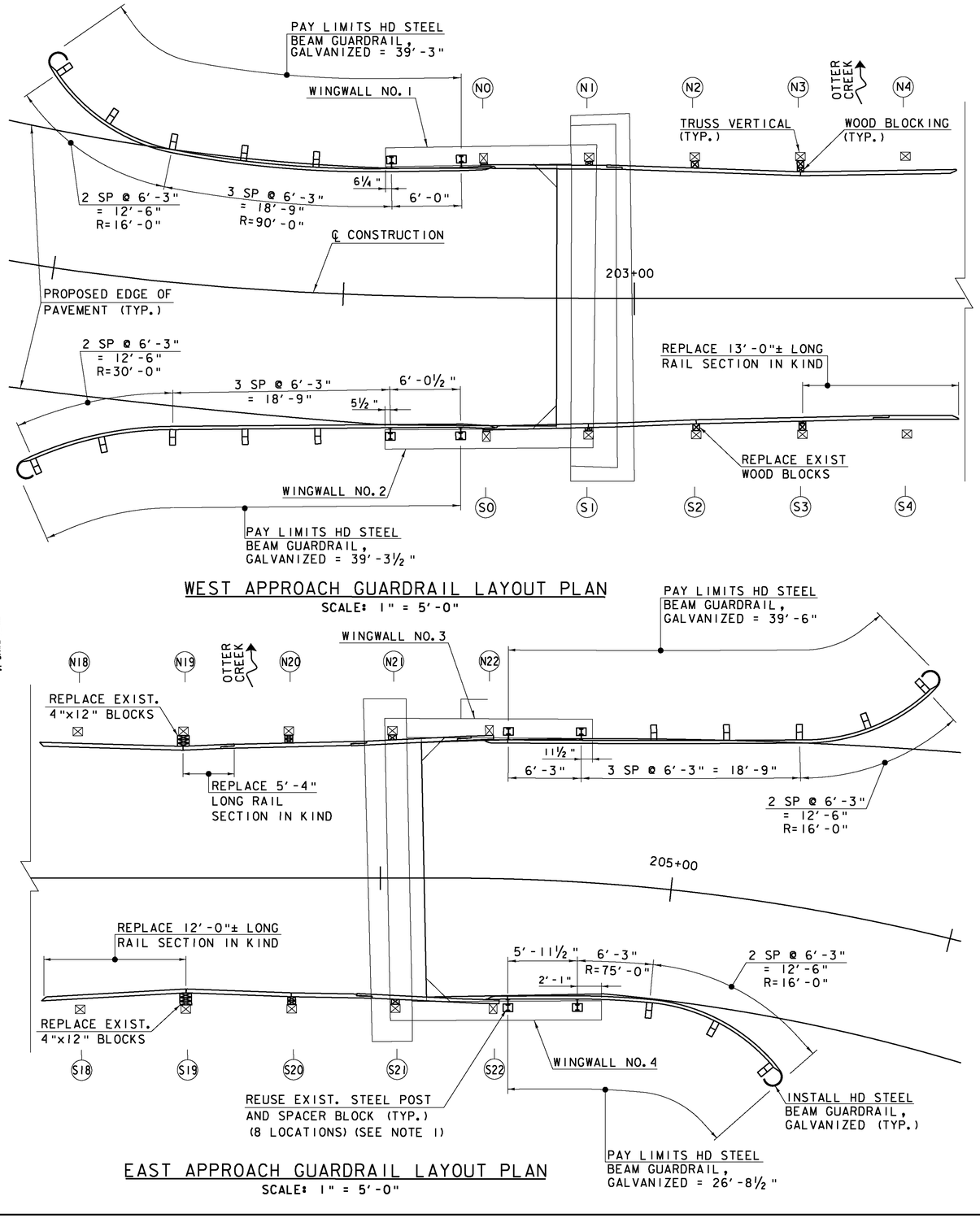
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	DETAILS

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086sup9.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
PIER TYPICAL SECTIONS & DETAILS

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 54 OF 66



WEST APPROACH GUARDRAIL LAYOUT PLAN

SCALE: 1" = 5'-0"

EAST APPROACH GUARDRAIL LAYOUT PLAN

SCALE: 1" = 5'-0"

SHEET NOTE:

1. EXISTING STEEL POSTS, SPACER BLOCKS AND HARDWARE (NUT, WASHERS & CARRIAGE BOLTS) SHALL BE CLEANED AND PAINTED BROWN WITH TWO COATS OF AN APPROVED PAINT. COST FOR REUSING EXISTING STEEL POSTS IS CONSIDERED INCIDENTAL TO ITEM 621.21, HD STEEL BEAM GUARDRAIL, GALVANIZED.

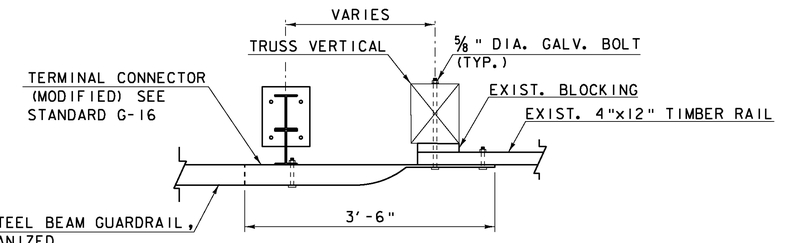
HD STEEL BEAM GUARDRAIL, GALVANIZED

STA. 202+47.41 LT. 16.35' - STA. 202+84.99 LT. 11.16'
STA. 202+50.51 RT. 16.30' - STA. 202+85.22 RT. 11.16'
STA. 204+85.68 LT. 11.94' - STA. 205+18.13 LT. 20.27'
STA. 204+86.25 RT. 10.33' - STA. 205+11.01 RT. 13.73'

ANCHOR FOR STEEL BEAM RAIL:

STA. 202+53.38 LT. 13.59'
STA. 202+56.04 RT. 14.52'
STA. 205+13.84 LT. 16.77'
STA. 205+05.17 RT. 11.42'

PAY FACTOR TABLE	
POST SPACING	FACTOR
6'-3"	1.0
<6'-3"	1.2



TYPICAL GUARDRAIL CONNECTION AT COVERED BRIDGE

SCALE: 1" = 1'-0"

LEGEND:

(XXX) TRUSS NODE LOCATION

SCALE: 1" = 5'-0"
5 0 5

SCALE: 1" = 1'-0"
1 9 3 0 1 2

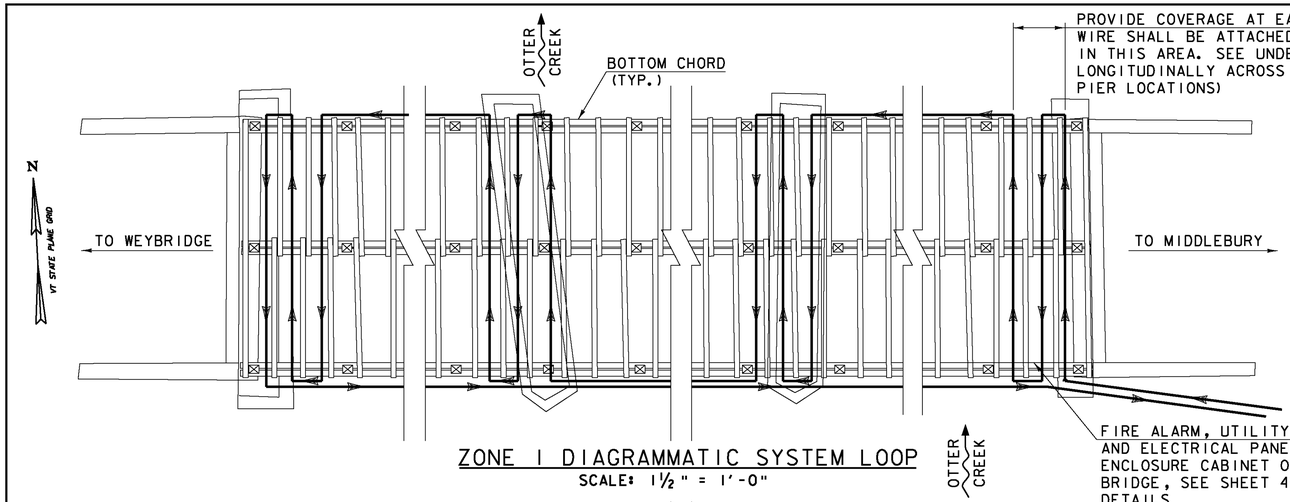
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	layout plan

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

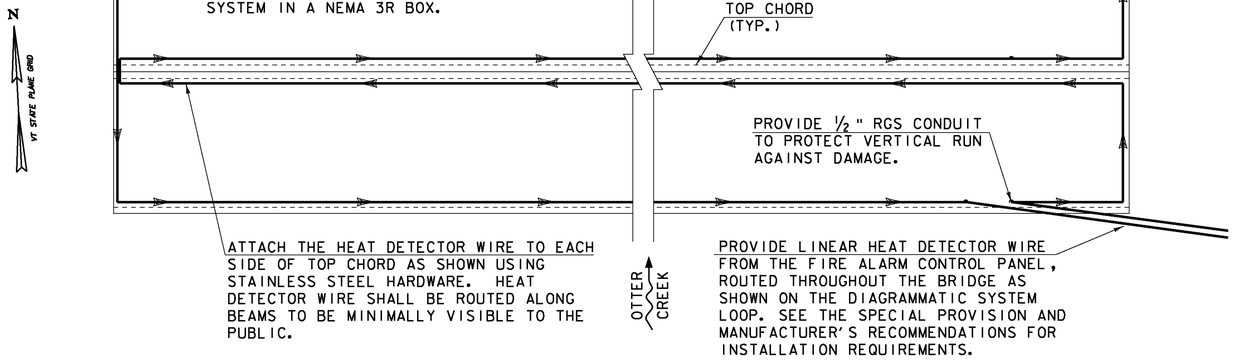
FILE NAME: z06J086grlp.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
GUARDRAIL LAYOUT SHEET

PLOT DATE: 10/3/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 55 OF 66



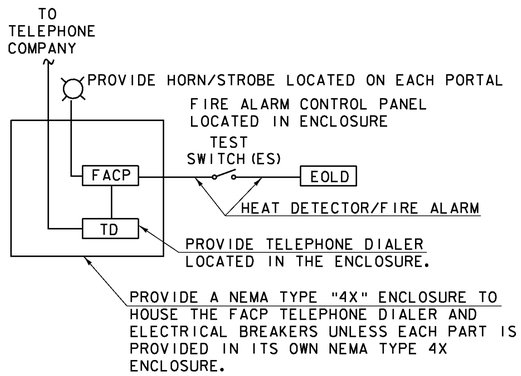
ZONE 1 DIAGRAMMATIC SYSTEM LOOP

SCALE: 1½" = 1'-0"



ZONE 2 DIAGRAMMATIC SYSTEM LOOP

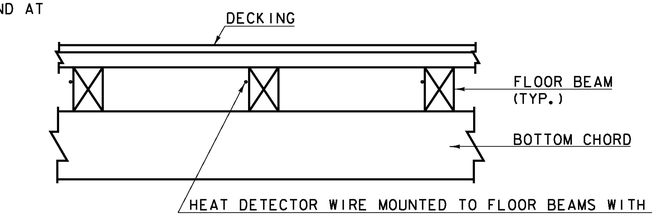
SCALE: 1½" = 1'-0"



RISER DIAGRAM

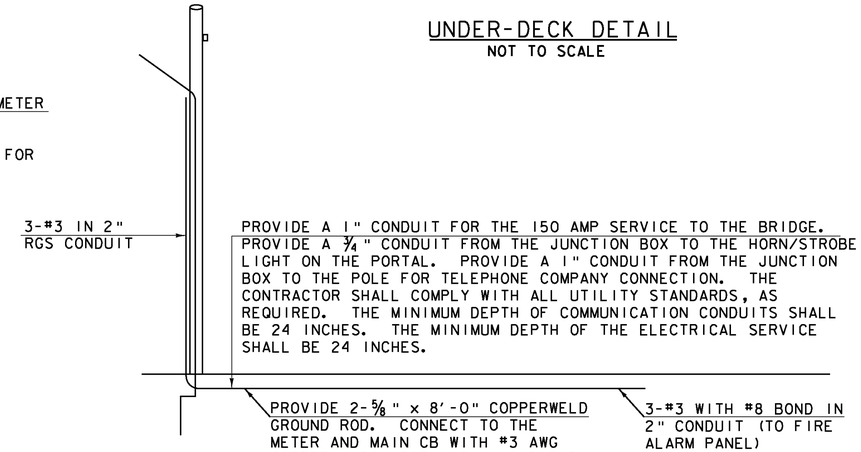
LEGEND:

⟜	TEST SWITCH
FACP	FIRE ALARM CONTROL PANEL
TD	TELEPHONE DIALER
EOLD	END OF LINE DEVICE
RGS	RIGID GALVANIZED STEEL



UNDER-DECK DETAIL

NOT TO SCALE



PARTIAL SIDE ELEVATION

PLAN NOTES:

1. ALL WORK SHALL COMPLY WITH THE APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES. WORK SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER.
2. THE DRAWING FOR THE LINEAR HEAT DETECTOR/FIRE ALARM SYSTEM IS DIAGRAMMATIC ONLY. THE CONTRACTOR SHALL INSTALL A SYSTEM IN ACCORDANCE WITH THE DRAWINGS, SPECIAL PROVISIONS AND THE MANUFACTURER GUIDELINES FOR PROPER INSTALLATION. THE LOCATIONS OF WIRE AND EQUIPMENT ARE APPROXIMATE AND SHALL BE VERIFIED WITH THE ENGINEER PRIOR TO INSTALLATION.
3. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL UTILITIES TO VERIFY THEIR REQUIREMENTS ARE MET WITH THE CONSTRUCTION.
4. THE BRIDGE IS 201 FEET LONG, AN OVERALL WIDTH OF 26 FEET AND A ROADWAY WIDTH OF 24 FEET. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXACT DIMENSIONS AS REQUIRED.
5. NO STRUCTURAL MEMBERS OF THE BRIDGE SHALL BE CUT OR NOTCHED BY THE CONTRACTOR AS PART OF INSTALLING THE FIRE PROTECTION SYSTEM.
6. THE CONTRACTOR SHALL COORDINATE WITH THE TOWN AND ITS ALARM MONITORING COMPANY AND ENSURE THAT THE SYSTEM IS FUNCTIONING PROPERLY.
7. ALL WORK DESCRIBED AND DETAILED ON THIS SHEET WILL BE PAID UNDER ITEM 900.645 (SPECIAL PROVISION, FIRE DETECTION SYSTEM).

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	FDSD

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086FDSD.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
FIRE DETECTION SYSTEM & DETAILS

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 56 OF 66

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	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75 1.88	2.0 2.42	2.5 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0 1.3	4.0 1.7	4.0 MOD 1.7	FOUNDATION	TUBULAR STEEL Ø (in) lb/ft 3.0 7.6	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	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
											OPTION ITEMS																									
STA. 202+74.62, RT. 13.3' STA. 205+10.00, LT. 16.5'	8'-0"	2	36"	36"	9.0						4					X		X																MUTCD W12-2		E-155
STA. 202+74.62, RT. 13.3' STA. 205+10.00, LT. 16.5'	LEGAL LOAD LIMIT 8,000 POUNDS	2	24"	30"	5.0																													VR-017		E-141
STA. 202+32.00, RT. 14.4' STA. 206+39.50, LT. 13.0'	NARROW BRIDGE	2	36"	36"	9.0						4					X		X																MUTCD W5-2		E-154

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 SECTION'S 'SIGN POST DESIGN GUIDELINE.'

	FT	FT	FT	FT	FT	FT 140.0	EA	LB	LB	LB		LB	LB	LB	LB																				
TOTALS	SF 46.0	SF	EA.	SF		FT		FT 140.0			LB		EA.		LB																						

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086Sgn.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
TRAFFIC SIGN SUMMARY SHEET

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 57 OF 66

STATE OF VERMONT
AGENCY OF TRANSPORTATION

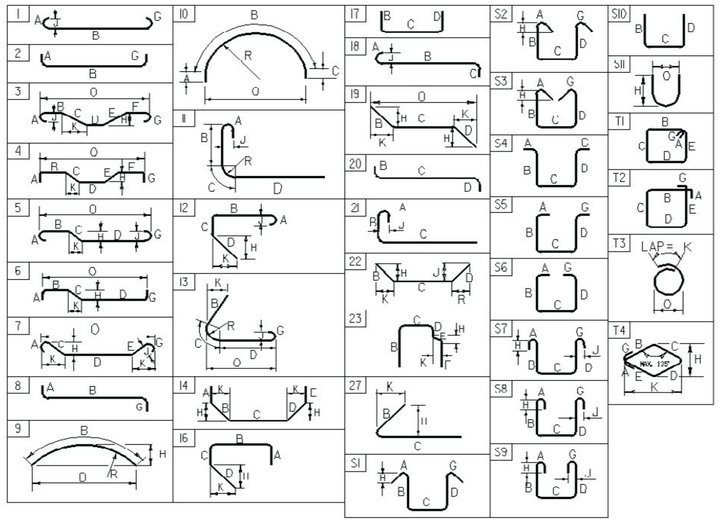
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
ABUTMENT NO.1																	
	48	5	2'- 2"	1EA501	S10		1'- 6"	0'- 8"	---								
	2	5	22'- 3"	1EA502	STR												
	4	5	7'- 0"	1EA503	S10		2'- 9"	1'- 6"	2'- 9"								
	6	5	4'- 5"	1EA504	S10		1'- 6"	1'- 5"	1'- 6"								
ABUTMENT NO.2																	
	48	5	2'- 3"	2EA501	S10		1'- 7"	0'- 8"	---								
	2	5	22'- 3"	2EA502	STR												
	4	5	7'- 0"	2EA503	S10		2'- 9"	1'- 6"	2'- 9"								
	6	5	4'- 5"	2EA504	S10		1'- 6"	1'- 5"	1'- 6"								

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

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-SI). 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 BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	AREA INCHES^2	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	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

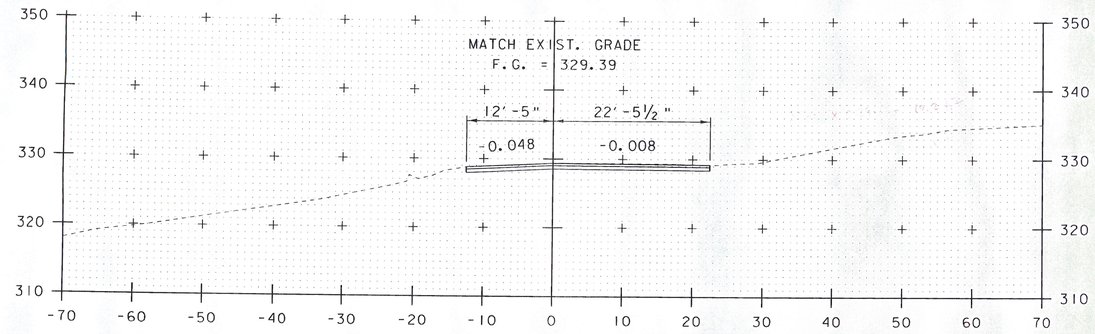
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO. 904217

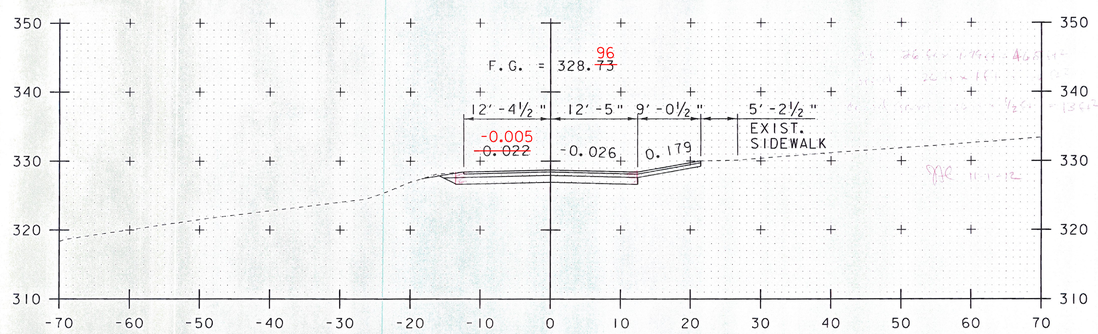
PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: Z06j086REINF.xls
PROJECT MANAGER: M.D.SARGENT
DESIGNED BY: J.BICJA
REINFORCING STEEL SCHEDULE SHEET

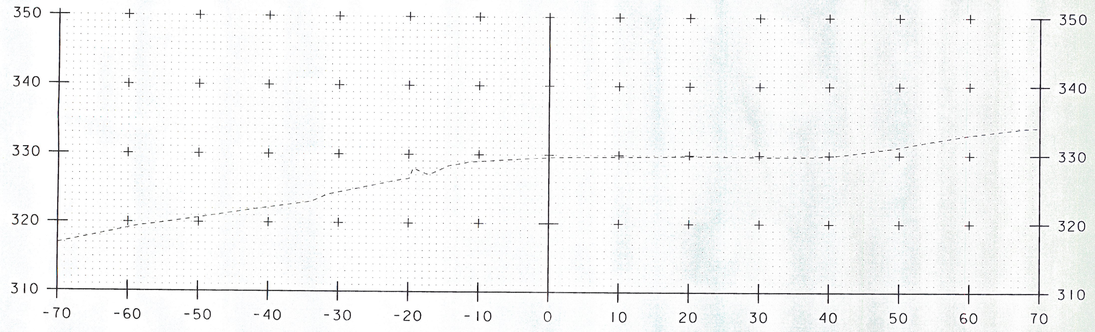
PLOT DATE: 1/25/2011
DRAWN BY: J.BICJA
CHECKED BY: S.T.JAMES
SHEET 58 OF 66



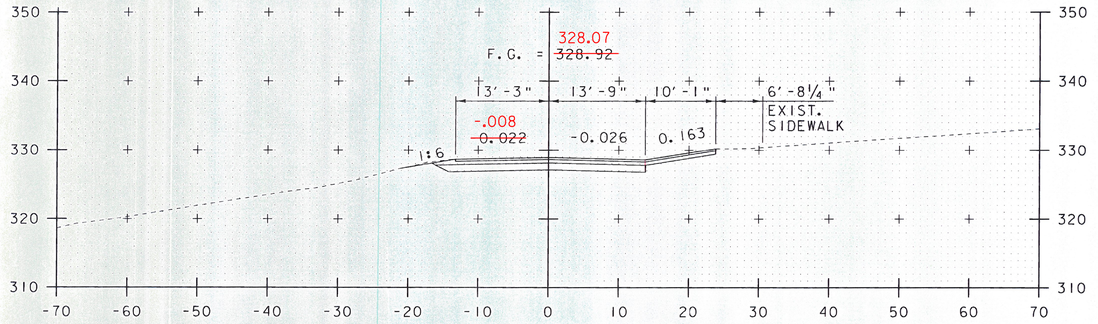
201+90
BEGIN APPROACH



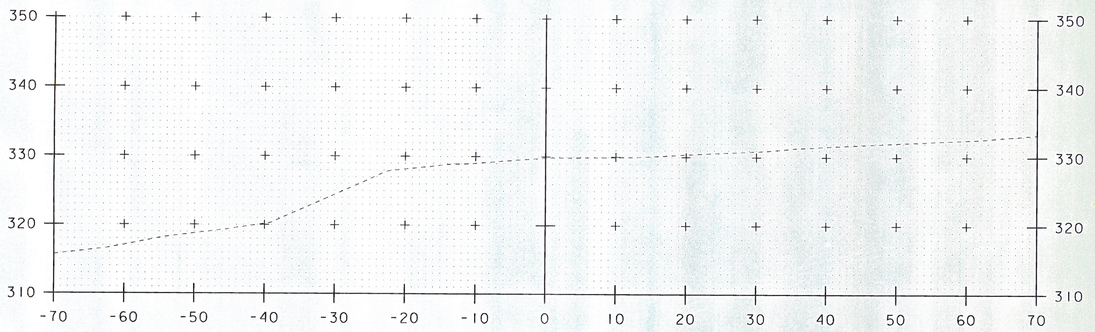
202+25



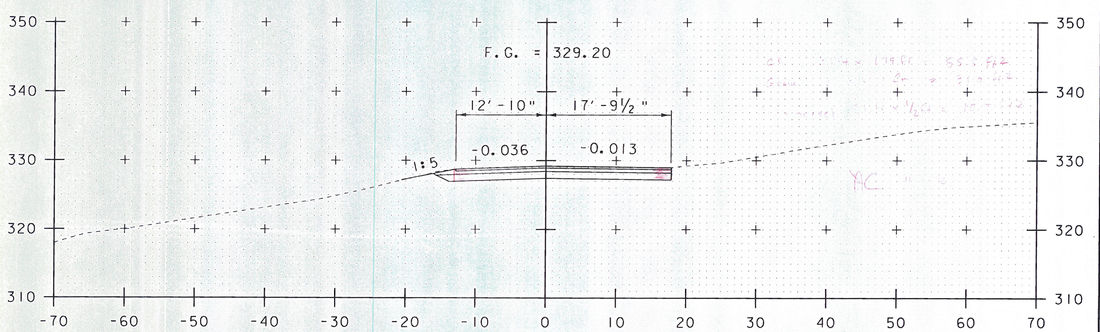
201+75



SKEWED DRIVE
SECTION AT 202+15



201+50



202+00
END APPROACH
BEGIN PROJECT

STA. 201+50 TO STA. 202+25

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

Hoyle, Tanner & Associates, Inc.

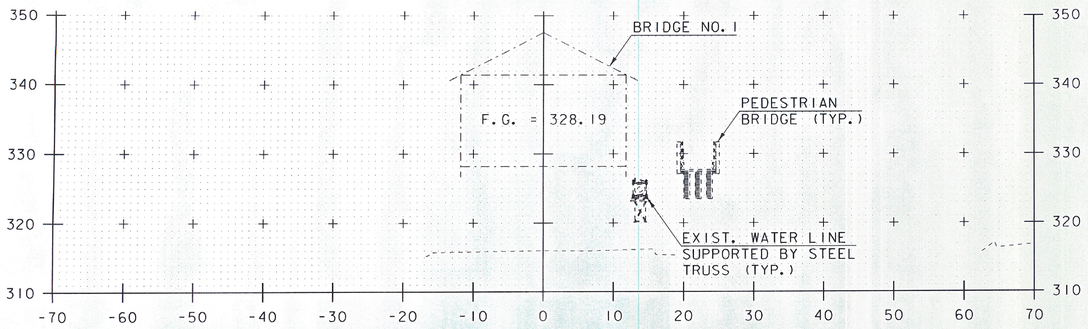
HTA PROJECT NO.	MODEL
904217	xs 1

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

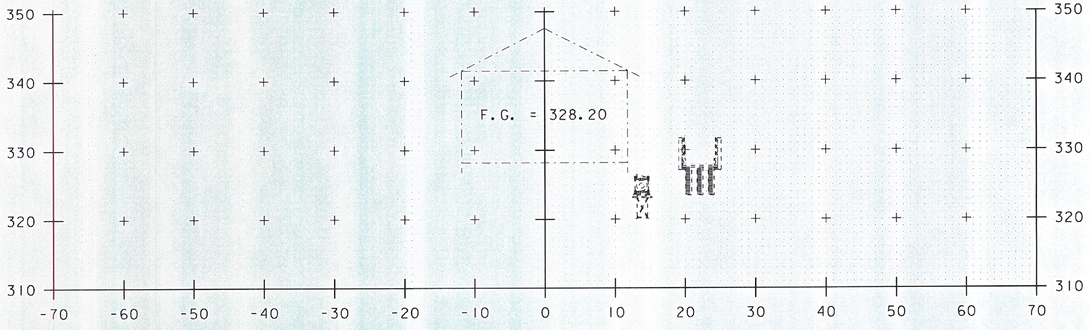
FILE NAME: z06j086xs2.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES

T.H. NOS. 3 & 5 CROSS SECTIONS (1 OF 4)

SHEET 59 OF 66

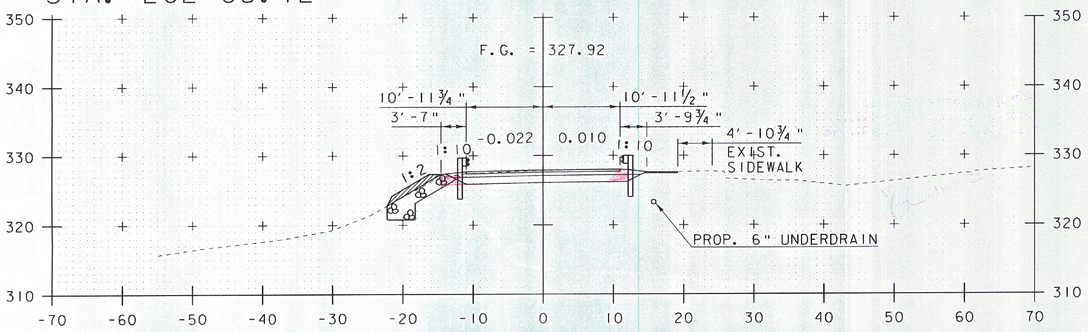


203+00

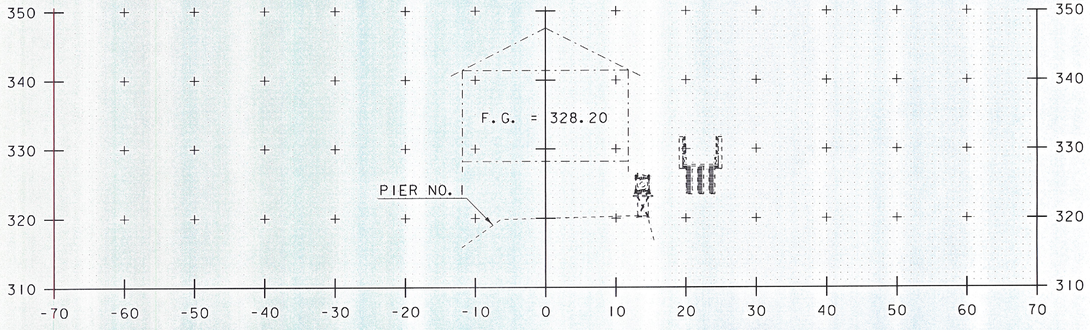


203+75

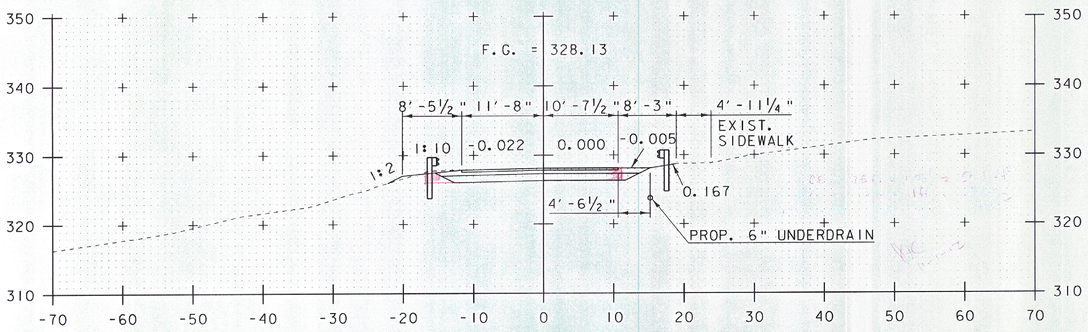
BEGIN BRIDGE
STA. 202+85.12



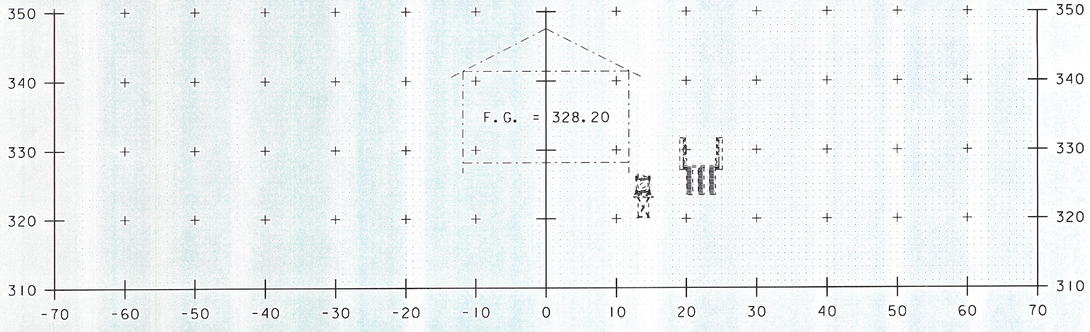
202+75



203+50



202+50



203+25

STA. 202+50 TO STA. 203+75

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

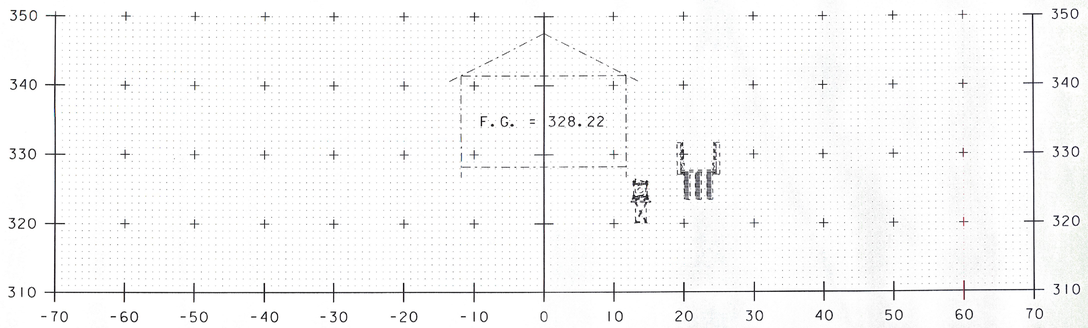
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	xs 2

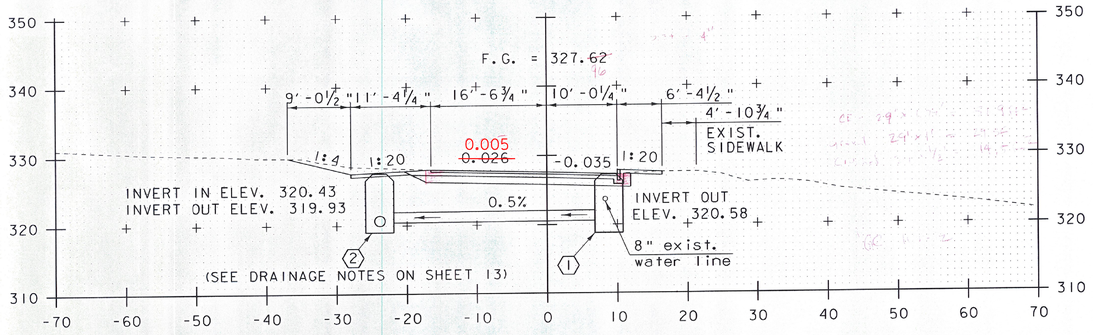
PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086xs2.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
T.H. NOS. 3 & 5 CROSS SECTIONS (2 OF 4)

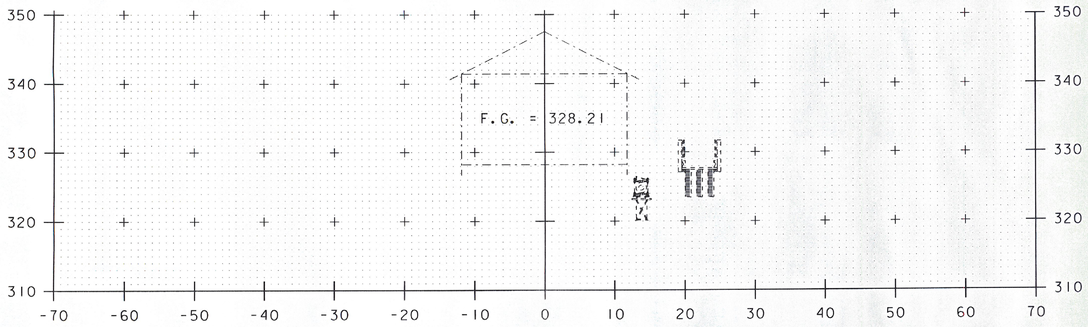
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 60 OF 66



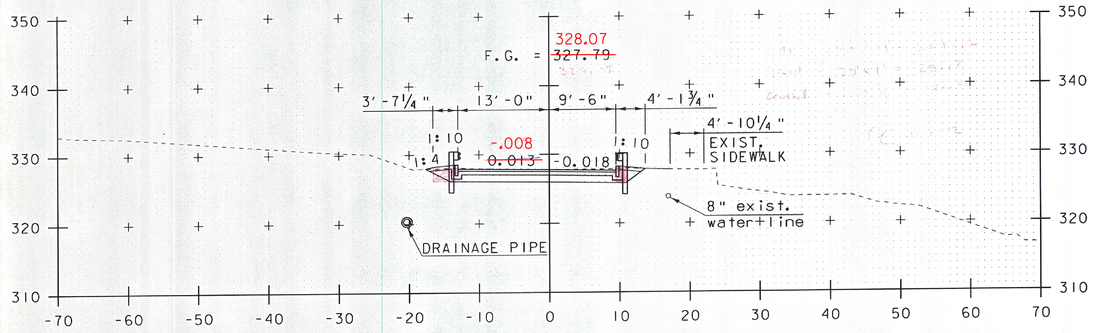
204+50



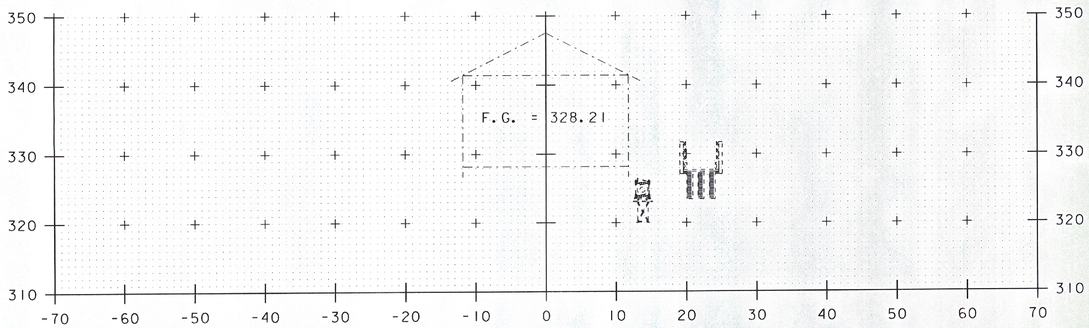
205+25



204+25

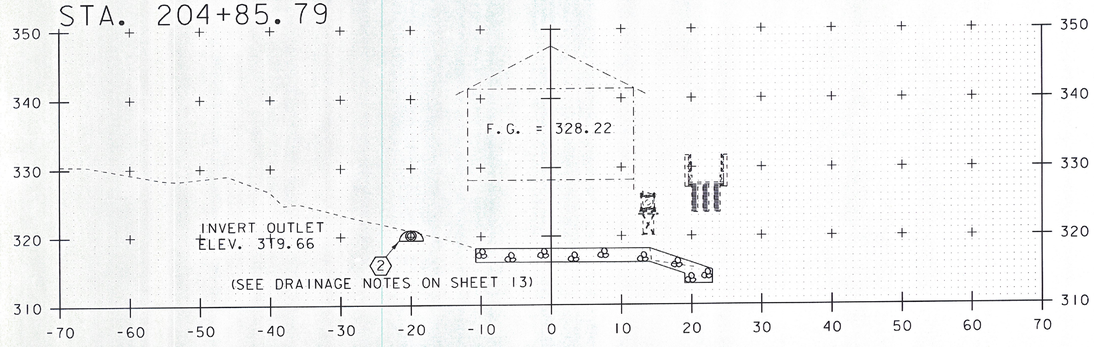


205+00



204+00

END BRIDGE
STA. 204+85.79



204+75

STA. 204+00 TO STA. 205+25

SCALE: 1" = 10'-0"

10 0 10

Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	xs 3

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

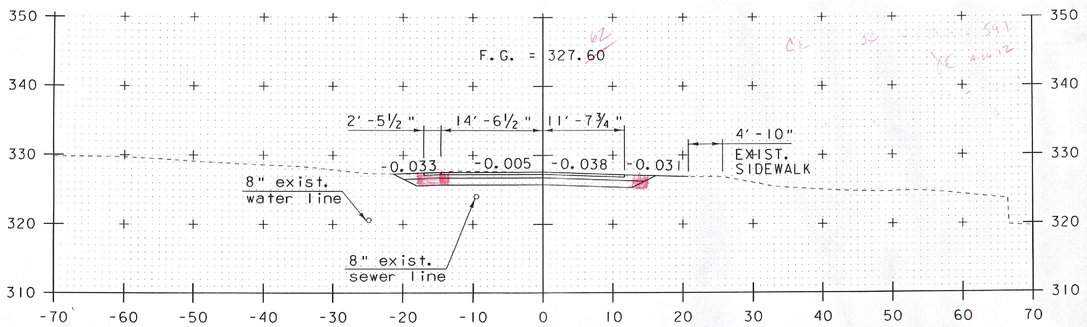
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06j086xs2.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA

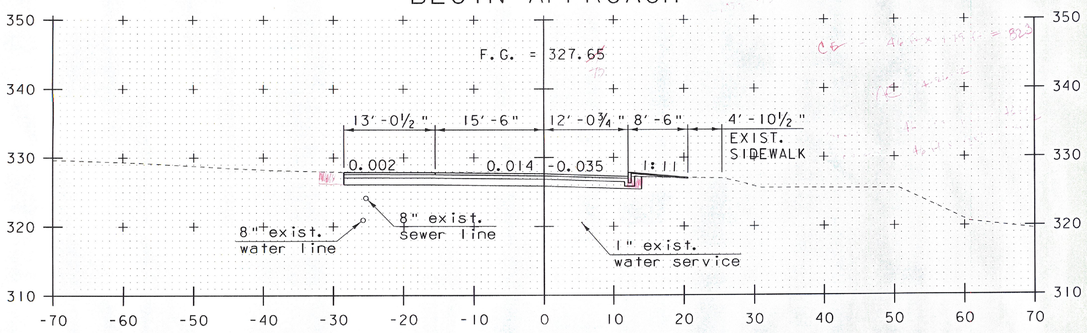
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES

T.H. NOS. 3 & 5 CROSS SECTIONS (3 OF 4)

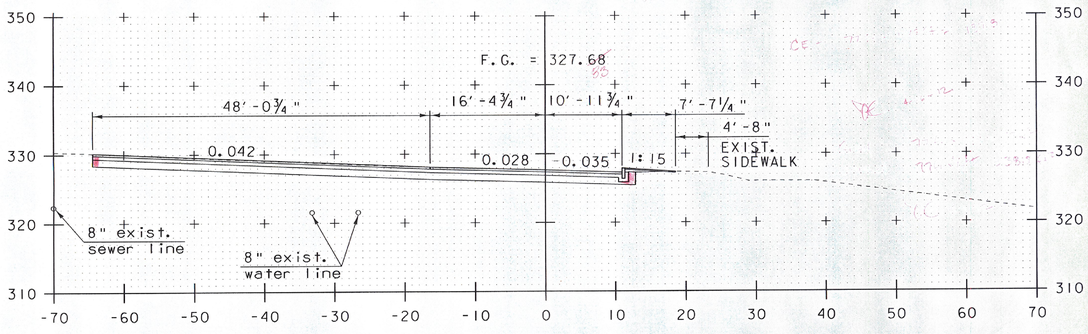
SHEET 61 OF 66



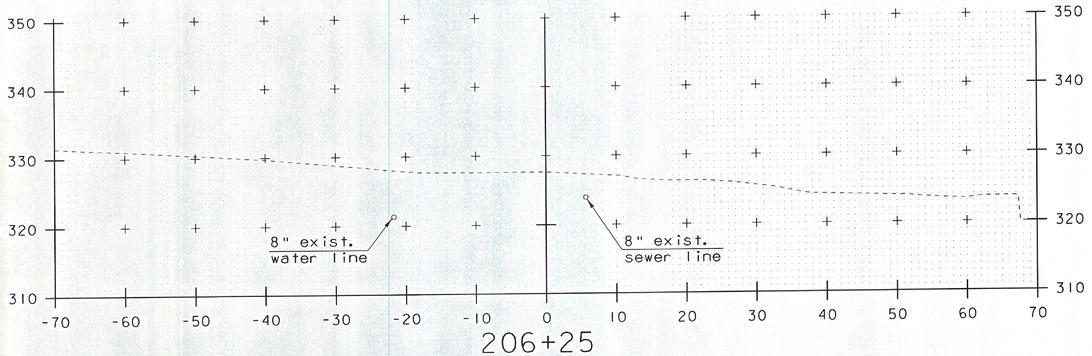
205+88.00
END PROJECT
BEGIN APPROACH



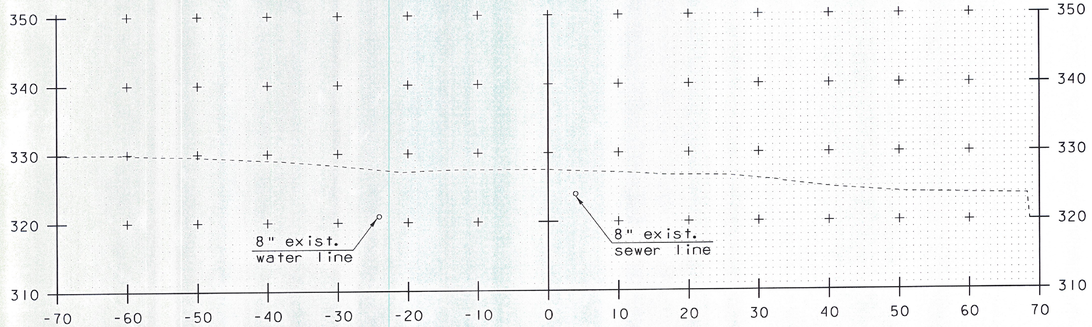
205+75



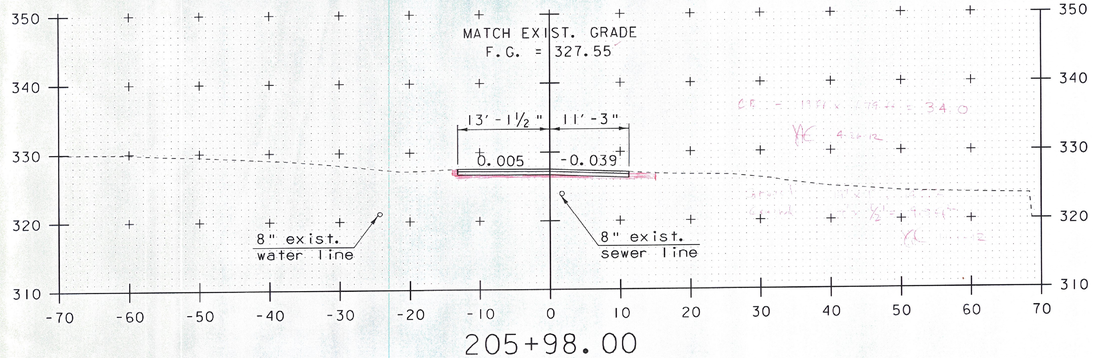
205+50



206+25



206+00



205+98.00
END APPROACH

STA. 205+50 TO STA. 206+25

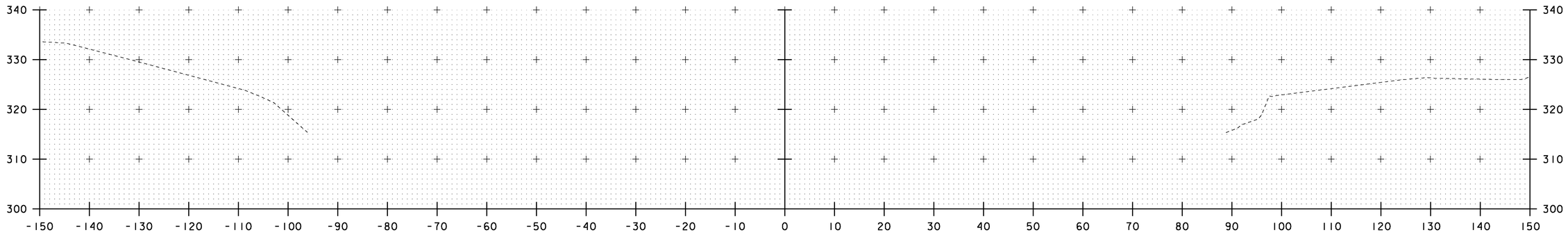
SCALE: 1" = 10'-0"
10 0 10

Hoyle, Tanner & Associates, Inc.

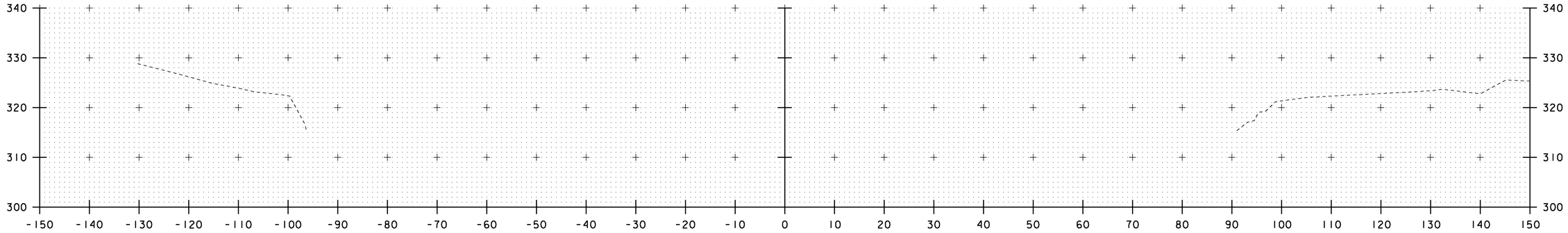
HTA PROJECT NO.	MODEL
904217	xs 4

PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

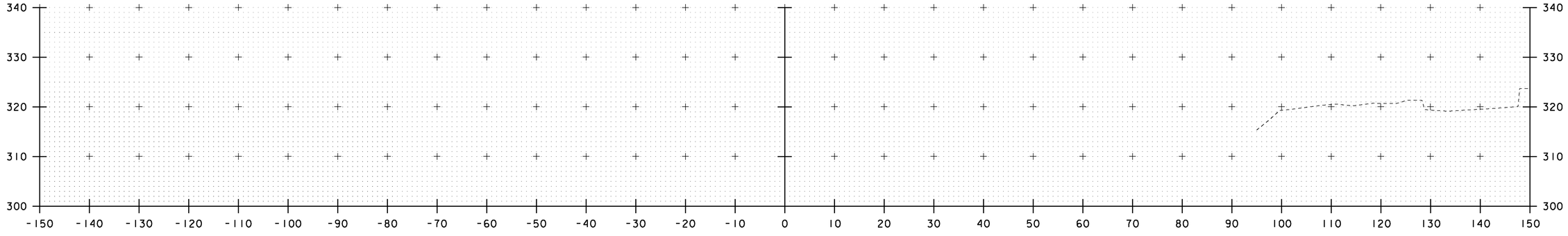
FILE NAME: z06j086xs2.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
T.H. NOS. 3 & 5 CROSS SECTIONS (4 OF 4)
SHEET 62 OF 66



20+50



20+25



20+00

STA. 20+00 TO STA. 20+50

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

Hoyle, Tanner & Associates, Inc.

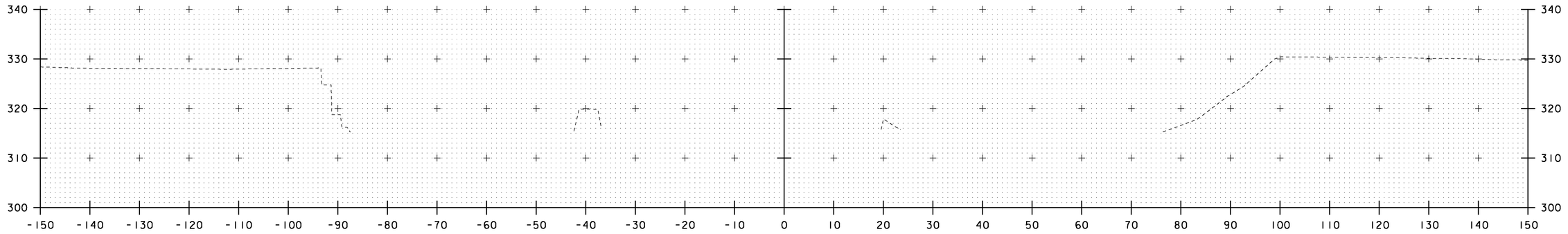
HTA PROJECT NO.	MODEL
904217	XSI

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

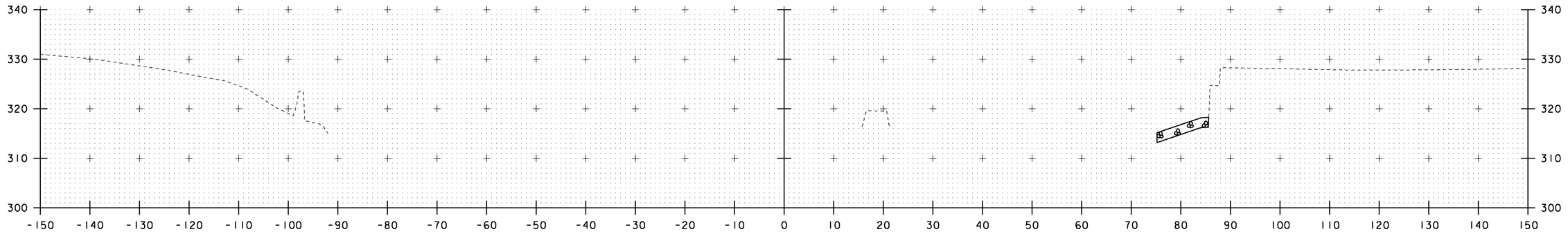
FILE NAME: z06J086xs3.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
CHANNEL CROSS SECTIONS (1 OF 4)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 63 OF 66



21+25

STA. 21+11 RT.
END - UNCLASSIFIED CHANNEL EXCAVATION
- GEOTEXTILE UNDER STONE FILL
- STONE FILL, TYPE II



21+00

STA. 20+76 RT.
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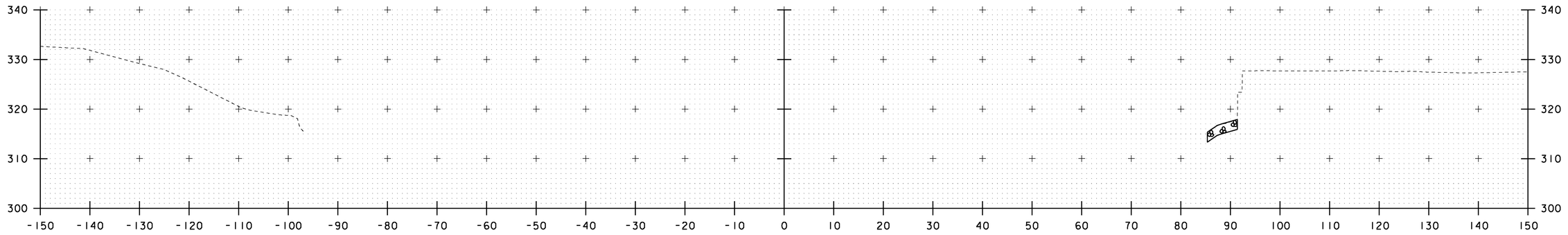
- STONE FILL, TYPE II



20+75

STA. 20+75 TO STA. 21+25

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

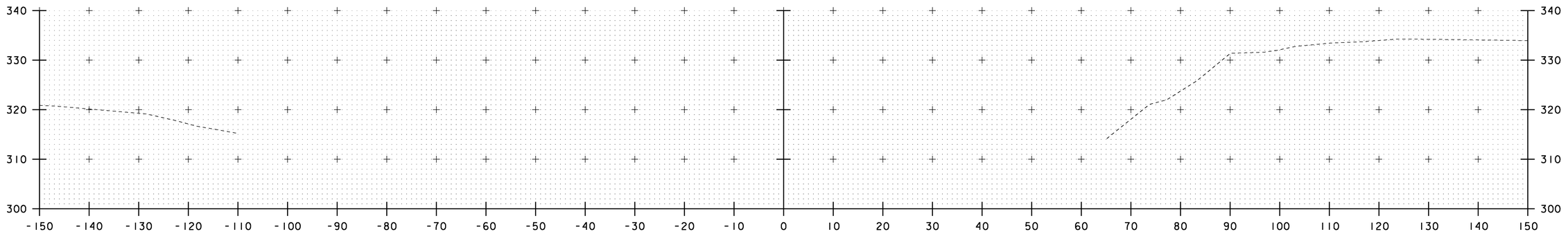
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	XS2

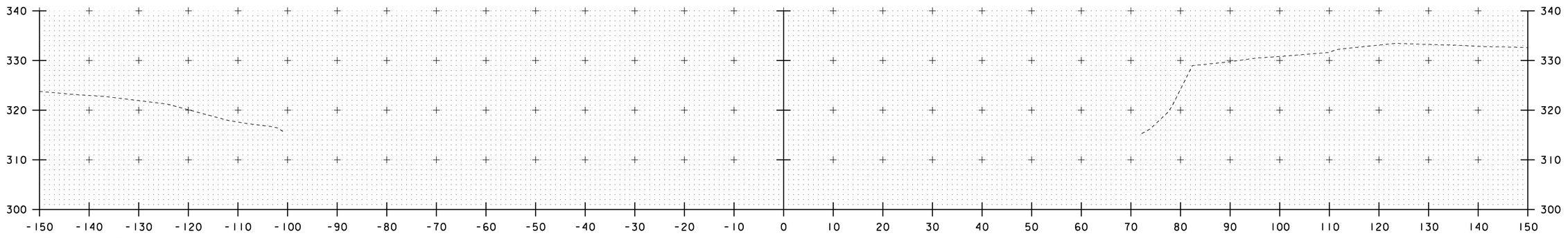
PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086xs3.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
CHANNEL CROSS SECTIONS (2 OF 4)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 64 OF 66

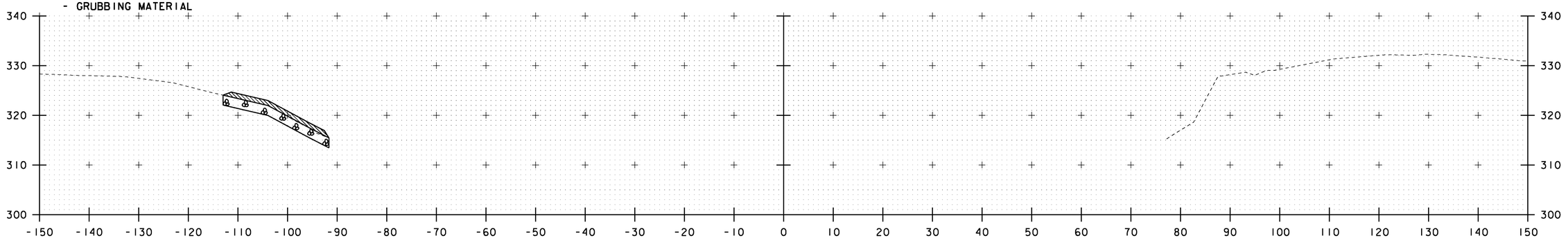


22+00



STA. 21+51 LT.
END - UNCLASSIFIED CHANNEL EXCAVATION
- GEOTEXTILE UNDER STONE FILL
- STONE FILL, TYPE II
- GRUBBING MATERIAL

21+75



STA. 21+38 LT.
BEGIN - UNCLASSIFIED CHANNEL EXCAVATION
- GEOTEXTILE UNDER STONE FILL
- STONE FILL, TYPE II
- GRUBBING MATERIAL

21+50

STA. 21+50 TO STA. 22+00

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

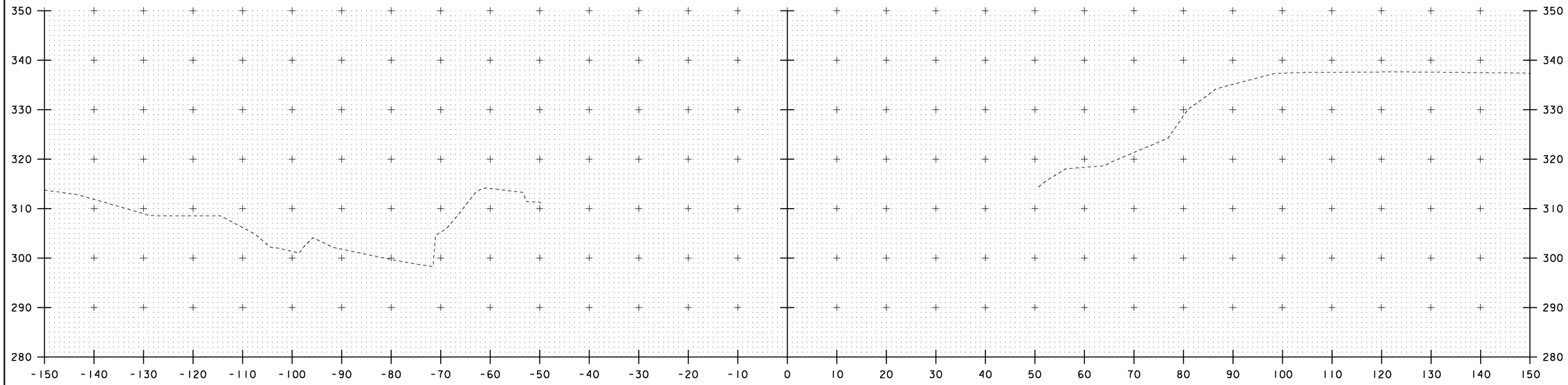
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
904217	XS3

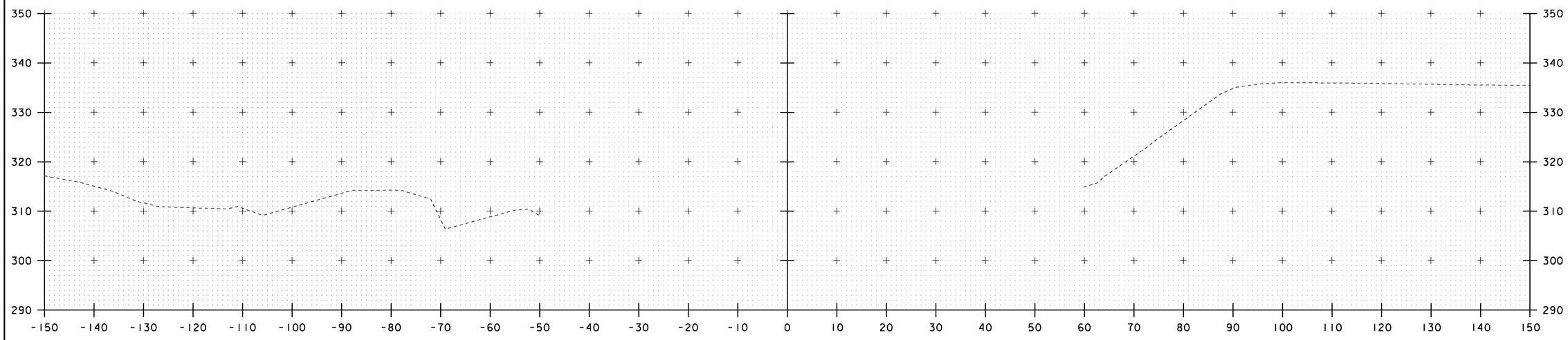
PROJECT NAME: MIDDLEBURY-WEYBRIDGE
PROJECT NUMBER: BHO 1445(33)

FILE NAME: z06J086xs3.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
CHANNEL CROSS SECTIONS (3 OF 4)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 65 OF 66



22+50



22+25

STA. 22+25 TO STA. 22+50

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

Hoyle, Tanner & Associates, Inc.

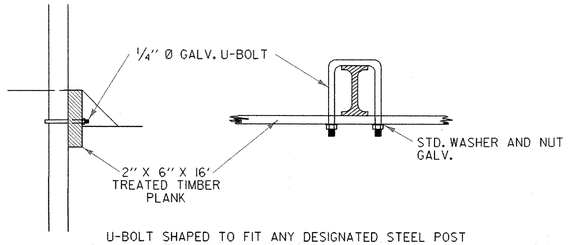
HTA PROJECT NO.	MODEL
904217	XS4

PROJECT NAME: MIDDLEBURY-WEYBRIDGE

PROJECT NUMBER: BHO 1445(33)

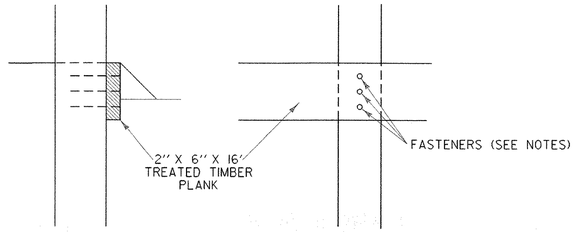
FILE NAME: z06J086xs3.dgn
PROJECT LEADER: M.D.SARGENT
DESIGNED BY: J.BICJA
CHANNEL CROSS SECTIONS (4 OF 4)

PLOT DATE: 9/20/2011
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 66 OF 66

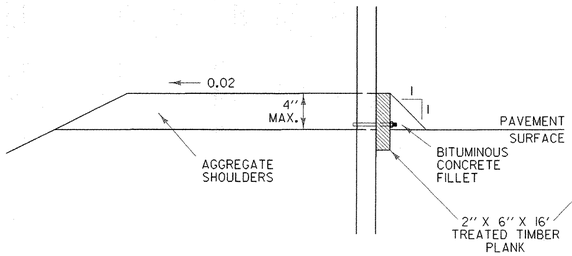


U-BOLT SHAPED TO FIT ANY DESIGNATED STEEL POST

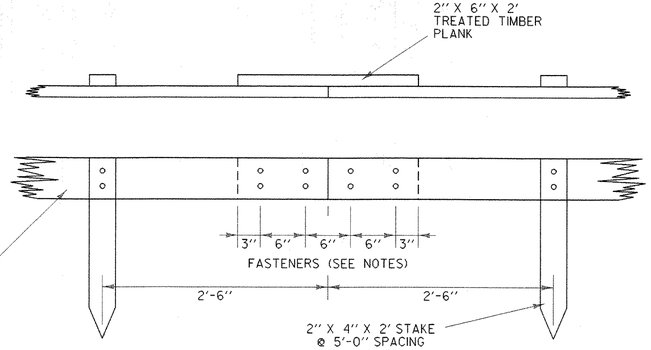
WITH STEEL POSTS



WITH WOOD POSTS (EXISTING CONDITION)

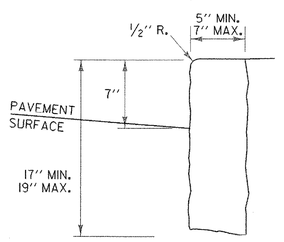


BITUMINOUS CONCRETE FILLET DETAIL

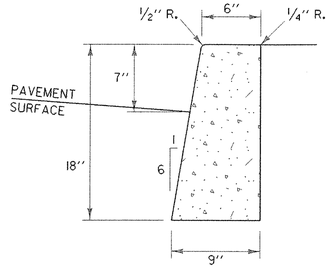


SPLICE DETAIL

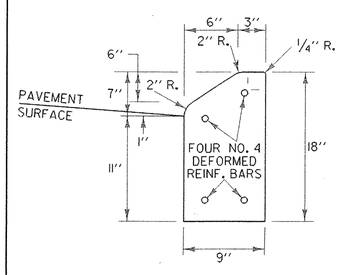
TREATED TIMBER CURB



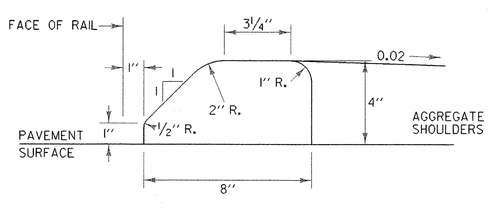
VERTICAL GRANITE CURB



CAST IN PLACE CONCRETE CURB, TYPE B

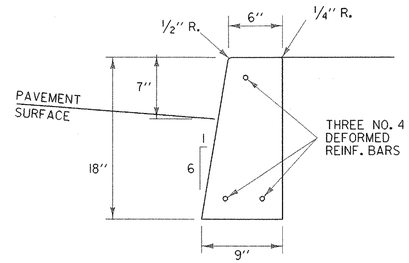


PRECAST REINFORCED CONCRETE CURB, TYPE A

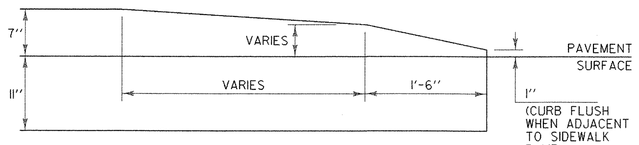


USE ONLY WITH STEEL BEAM GUARDRAIL

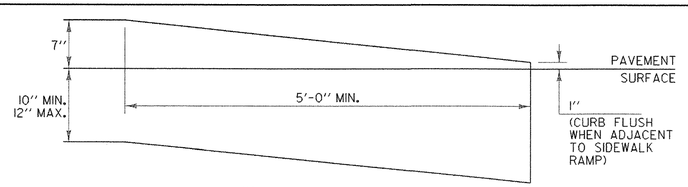
BITUMINOUS CONCRETE CURB, TYPE A



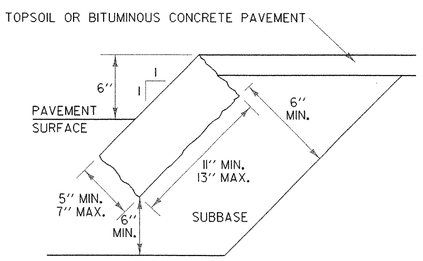
PRECAST REINFORCED CONCRETE CURB, TYPE B



CONCRETE CURB END



VERTICAL GRANITE CURB END



EDGING TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.

GRANITE SLOPE EDGING

GENERAL NOTES:

1. HEIGHT OF REVEAL OF CURB SHALL NOT EXCEED FOUR INCHES WHERE DESIGN OR POSTED SPEED IS EQUAL TO OR GREATER THAN 40 MPH AND WHEN INSTALLED WITH GUARDRAIL (STANDARD SHAPE TO BE BURIED TO THIS DEPTH).
2. WHEN CONCRETE SIDEWALK IS CONSTRUCTED ADJACENT TO CONCRETE OR VERTICAL GRANITE CURB, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDEWALK AND CURB FOR THE TOTAL DEPTH OF THE SIDEWALK.
3. FASTENERS (20d NAILS OR SCREWS) SHALL BE CORROSION RESISTANT TO THE TREATED LUMBER.
4. FOR SPECIFICATIONS FOR EXPANSION/CONTRACTION JOINTS AND LENGTHS OF SECTIONS, SEE SECTION 616.
5. JOINTS BETWEEN CURB SECTIONS SHALL BE MORTARED IN CONFORMANCE WITH SECTION 616.
6. BITUMINOUS CONCRETE AND TREATED TIMBER CURB SHALL BE IN CONFORMANCE WITH SECTION 616.
7. TWO INCH MINIMUM CLEARANCE FROM FACE OF CONCRETE TO EDGE OF REINFORCING STEEL.

OTHER STDS. REQUIRED: **NONE**

REVISIONS AND CORRECTIONS

FEB. 11, 2008 - ORIGINAL APPROVAL DATE

APPROVED

Kevin S. Marshia
ROADWAY, TRAFFIC & SAFETY ENGINEER

DIRECTOR OF PROGRAM DEVELOPMENT

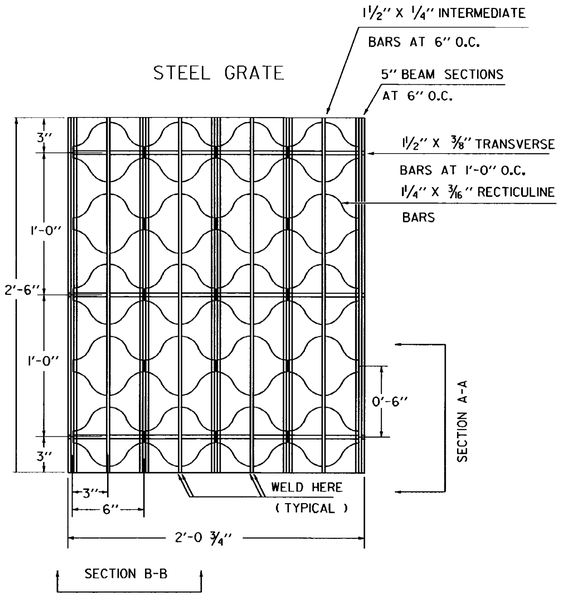
Mark D. Richter
FEDERAL HIGHWAY ADMINISTRATION

CURBING

VERMONT AGENCY OF TRANSPORTATION

STANDARD
C-10

STEEL GRATE

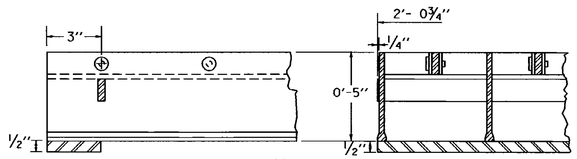


PLAN

GRATE SIZE SINGLE 24 ¾" X 30"
DOUBLE 24 ¾" X 54"

WEIGHT 95 LBS OR MORE
GRATES SHALL BE CAPABLE OF SUPPORTING H-20 (32,000 LB. AXLE LOAD) INCLUDING 30% IMPACT.

UNIT STRESSES (LBS PER SQ. IN.)		18,000	20,000
MAIN BAR PARALLEL TO TRAFFIC	H-20	49"	53"
MAIN BAR PERPENDICULAR TO TRAFFIC	H-20	39"	42"

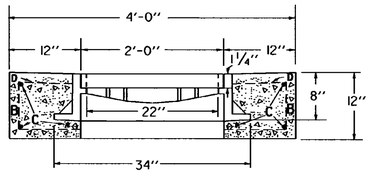


SECTION A-A SECTION B-B

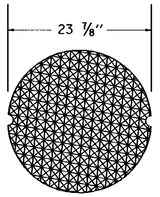
CAST IRON COVER WITH FRAME

BAR	NO.	LENGTH	
B	4		8" | 3'-8" | 8"
C	6	3'-8"	STRAIGHT
D	4	3'-8"	STRAIGHT

ALL REINFORCING STEEL TO BE No. 5 DEFORMED BARS



ELEVATION

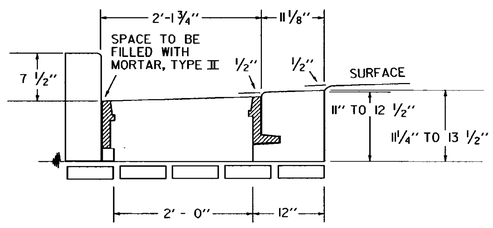


PLAN

GENERAL NOTES:

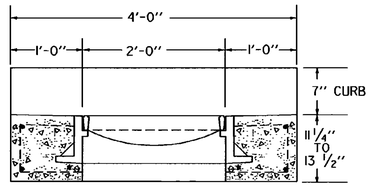
WEIGHT OF FRAME AND COVER = 425 LBS.

CAST IRON GRATE WITH FRAME



ELEVATION OF REINFORCED CONCRETE DROP INLET WITH VERTICAL GRANITE CURB AND 3 FLANGE CAST IRON FRAME FOR CAST IRON GRATE

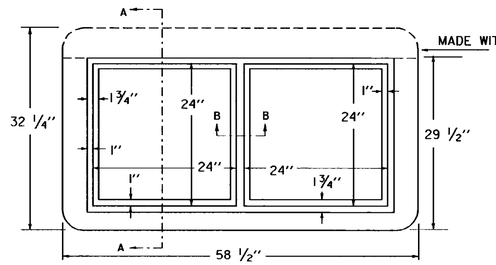
SEE STANDARD D-9 FOR CONCRETE VOLUME, REINFORCING STEEL SCHEDULE, AND CURB JOINT DETAIL.



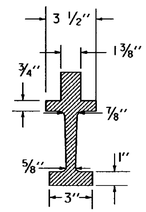
ELEVATION

WEIGHT OF 3 FLANGED FRAME AND GRATE

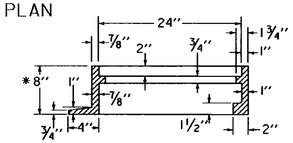
GRATE	220 LBS
FRAME	260 LBS
TOTAL	480 LBS



PLAN

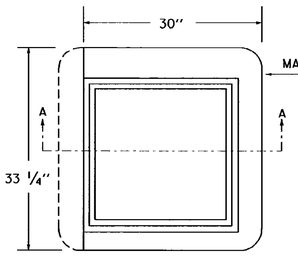


SECTION B-B

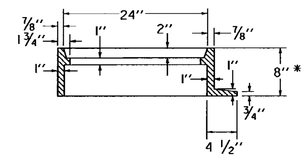


SECTION A-A

RECTANGULAR CAST IRON FRAME FOR TWO 24" SQUARE CAST IRON GRATES



PLAN

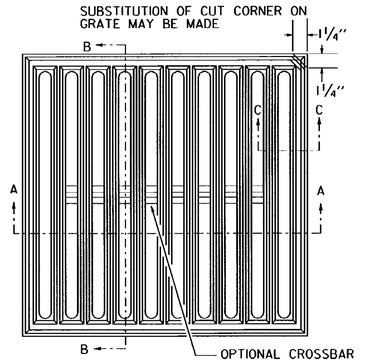


SECTION A-A

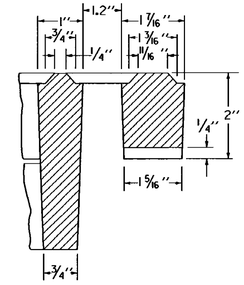
SQUARE CAST IRON FRAME FOR CAST IRON GRATE TYPE A

* NOTE: FRAME DEPTH TO BE "6" WHEN USED IN CONJUNCTION WITH DROP INLET DETAILED ON STANDARD D-6.

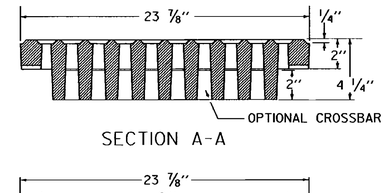
CAST IRON GRATE, TYPE A



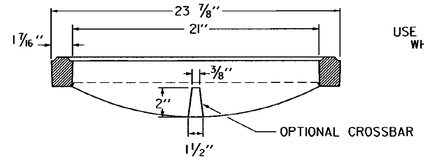
PLAN



SECTION C-C



SECTION A-A



SECTION B-B

USE OF THE TYPE A GRATE IS PROHIBITED WHERE BICYCLE TRAFFIC IS EXPECTED

THIS FRAME TO BE PLACED IN DROP INLET TOP BEFORE CONCRETE IS POURED.

4 FLANGES UNLESS OTHERWISE INDICATED. FRAMES TO BE FURNISHED WITH 3 FLANGES WHEN USED IN CONJUNCTION WITH CURB OR AS DIRECTED BY THE ENGINEER.

REVISIONS AND CORRECTIONS

DEC. 6, 1971 - ORIGINAL APPROVAL
APR. 25, 1972 - CAST IRON COVER CHANGED FROM SQUARE TO CIRCULAR
SEPT. 4, 1980 - OPTIONAL CROSSBAR ADDED TO A GRATE; NOTE ADDED TO A GRATE FRAME DETAIL
AUG. 25, 1981 - NOTE ADDED RESTRICTING USE OF TYPE A GRATE
JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

APPROVED

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

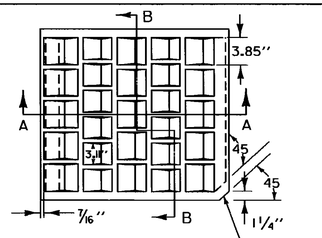
Gordon S. MacArthur, P.E.
DIRECTOR OF ENGINEERING

Robert M. Murphy, P.E.
DESIGN ENGINEER

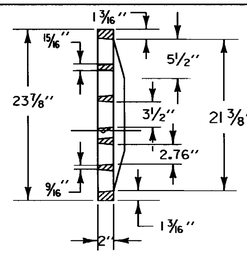
STEEL GRATE
CAST IRON GRATE TYPE A
CAST IRON COVER

VERMONT AGENCY OF TRANSPORTATION

STANDARD D-11



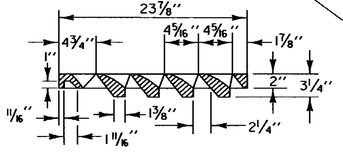
NOTE: FLOW →



SECTION B-B

NOTE: THIS CORNER LEFT OFF FOR "RIGHT" GRATE DIAGONALLY OPPOSITE CORNER FOR "LEFT" GRATE TO FIT IN KEYED FRAMES.

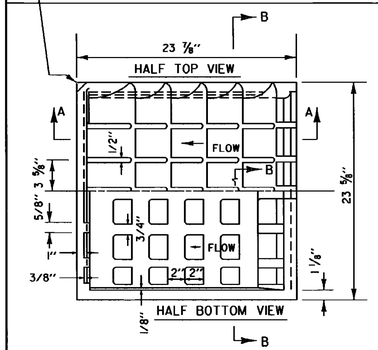
THIS CORNER LEFT OFF FOR "RIGHT" GRATE, DIAG. OPPOSITE CORNER FOR "LEFT" GRATE, TO FIT IN KEYED FRAMES.

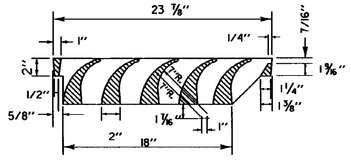


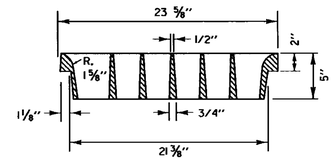
SECTION A-A

TYPE "E" GRATE
(NOT TO SCALE)

NOTE: ALTERNATE TYPE E GRATE BELOW







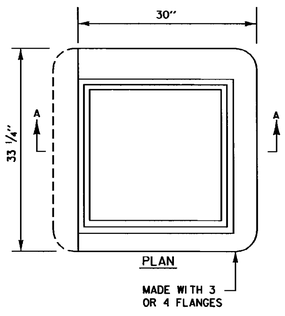
SECTION B-B

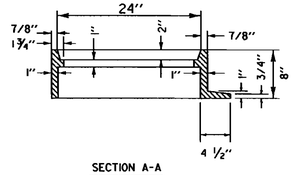
CAST IRON GRATE
TYPE E

NOTE: THIS FRAME TO BE PLACED IN DROP INLET TOP BEFORE CONCRETE IS POURED.

4 FLANGES UNLESS OTHERWISE INDICATED.

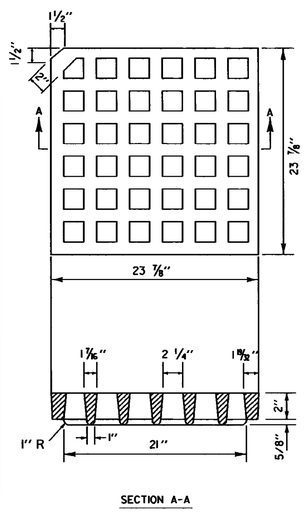
FRAMES TO BE FURNISHED WITH 3 FLANGES WHEH USED IN CONJUNCTION WITH CURB OR AS DIRECTED BY THE ENGINEER.





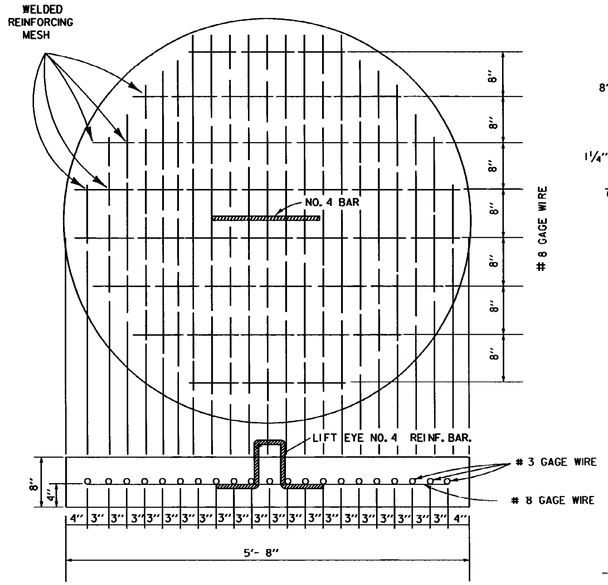
SECTION A-A

FRAME
FOR
TYPE D OR TYPE E
GRATE

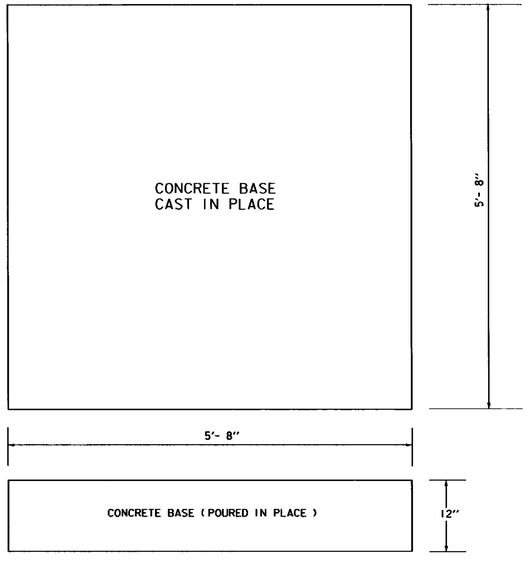


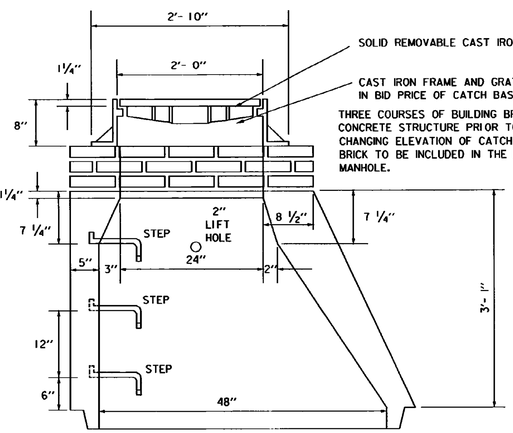
SECTION A-A

CAST IRON GRATE
TYPE D



PRECAST REINFORCED CONCRETE BASE

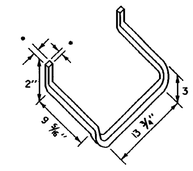




SOLID REMOVABLE CAST IRON COVER OR GRATE

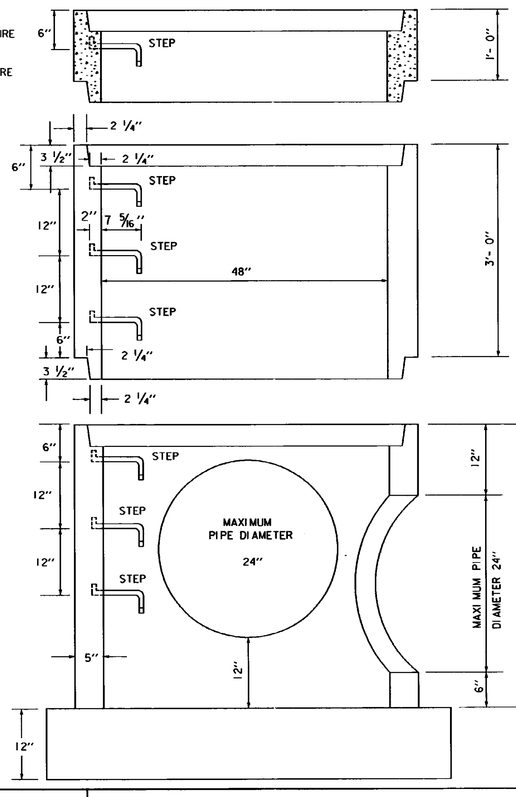
CAST IRON FRAME AND GRATE, OR COVER, TO BE INCLUDED IN BID PRICE OF CATCH BASIN OR MANHOLE.

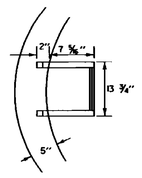
THREE COURSES OF BUILDING BRICK TO BE PLACED ON TOP OF CONCRETE STRUCTURE PRIOR TO PLACING FRAME TO FACILITATE CHANGING ELEVATION OF CATCH BASIN OR MANHOLE WHEN REQUIRED. BRICK TO BE INCLUDED IN THE BID PRICE FOR CATCH BASIN OR MANHOLE.



ALUMINUM STEP
(DROP FRONT)

* - INDIVIDUAL METAL RUNGS SHALL HAVE A MINIMUM DIMENSION OF 1" OR SHALL BE PAINTED OR OTHERWISE TREATED TO RESIST CORROSION AND RUSTING.





STEP DETAIL
TOP VIEW

REVISIONS AND CORRECTIONS

DEC. 6, 1971 - ORIGINAL APPROVAL
OCT. 22, 1976 - CAST IRON GRATE WITH FRAME, TYPE E ADDED
OCT. 6, 1978 - TYPE D GRATE ADDED
OCT. 30, 1985 - IMPERFECT TRENCH DETAILS DELETED
FEB. 17, 1993 - SECOND CAST IRON GRATE TYPE E ADDED.
MAR. 23, 1994 - ADDED NOTE FOR STEP DETAILS
JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

APPROVED

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

Gordon S. MacArthur
DIRECTOR OF ENGINEERING

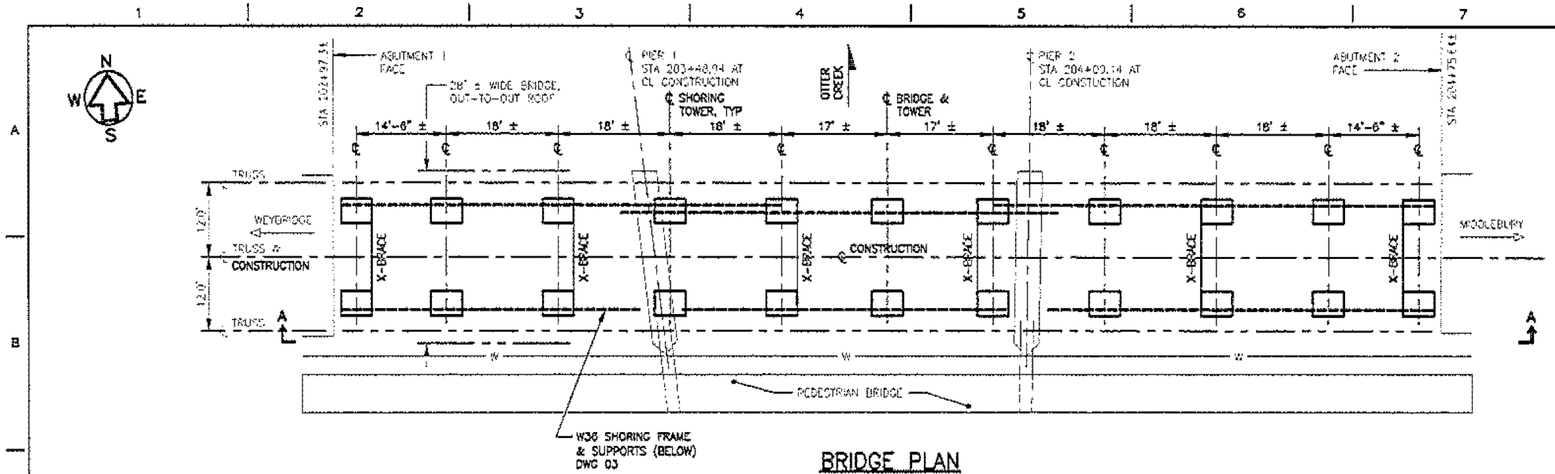
DESIGN ENGINEER

PRECAST REINFORCED CONCRETE CATCH BASIN W/ CAST IRON GRATE
PRECAST REINFORCED CONCRETE MANHOLE W/ CAST IRON COVER

CAST IRON GRATE WITH FRAME, TYPE D
CAST IRON GRATE WITH FRAME, TYPE E

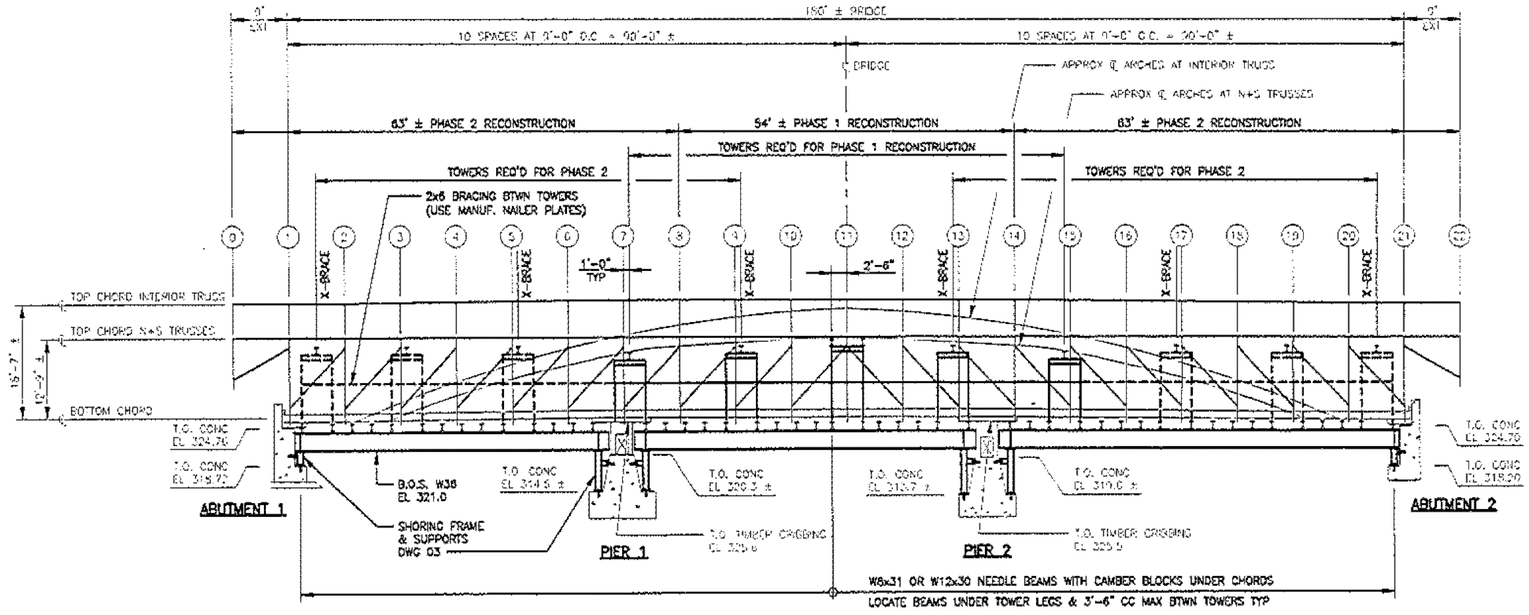
VERMONT AGENCY OF TRANSPORTATION

STANDARD
D-15



BRIDGE PLAN

SCALE 0 10 20 FEET



ELEVATION A–A

SCALE 0 10 20 FEET

NOTE

1. USE THIS DRAWING IN CONJUNCTION WITH THE DRAWINGS LISTED AND INFORMATION PROVIDED ON THE FOLLOWING DRAWING:

   MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33)
   TEMPORARY SHORING FOR REHAB
   DRAWING LIST & SITE LOCATION PLAN
   KFS DWG. NO. ALP–MW–01, SHEET 1

STATE OF VERMONT · KYLE F. SWIERSKI · NO. 9059 · Structural · LICENSED PROFESSIONAL ENGINEER

Kyle F. Swierski
01-06-2012

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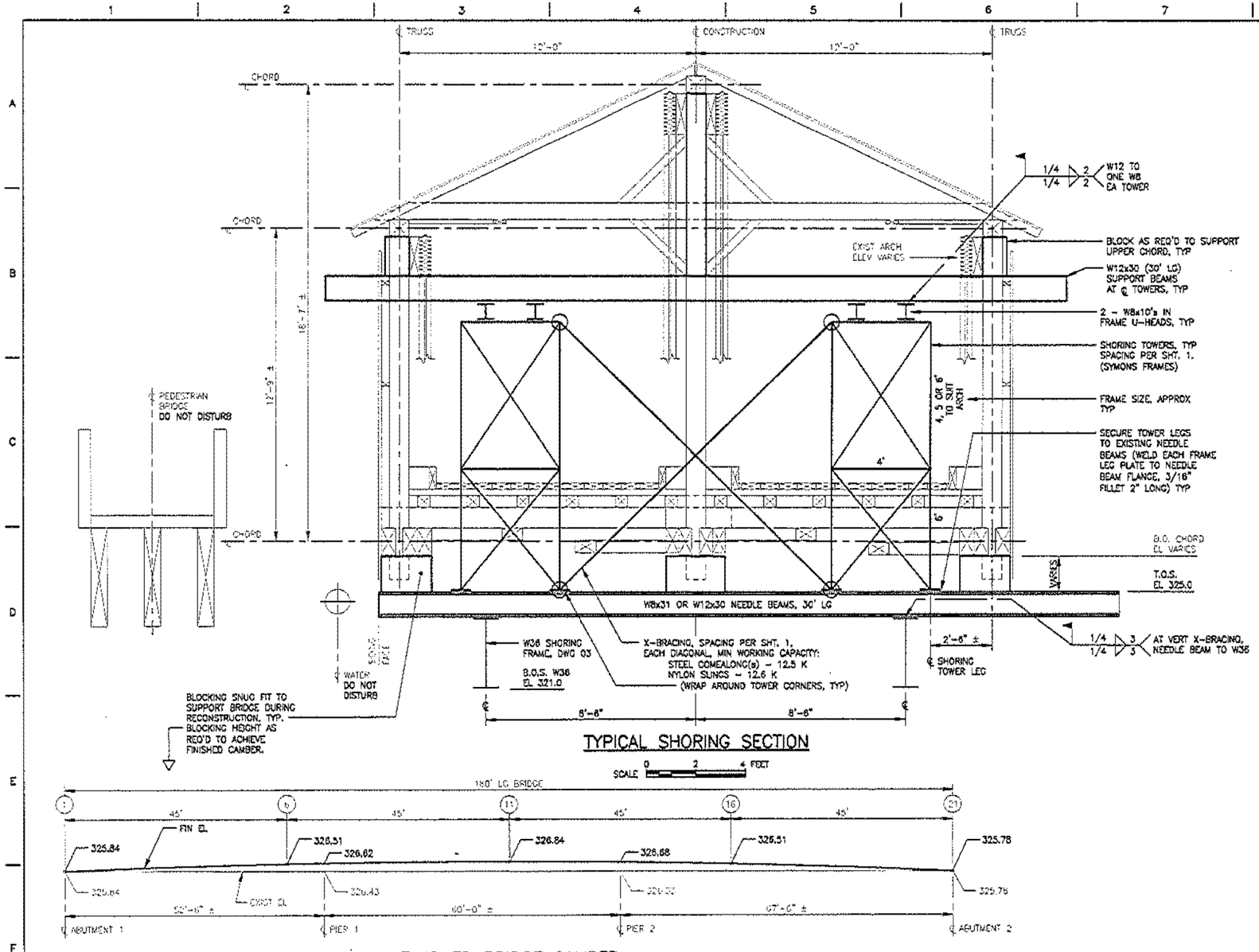
ALPINE CONSTRUCTION, LLC
VERMONT AGENCY OF TRANSPORTATION

MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33)
TEMPORARY SHORING FOR REHAB
GENERAL ARRANGEMENT
PLAN & ELEVATION

DATE	REV.	DESCRIPTION OF REVISIONS	DRAWN BY	CHECKED BY
01–06–2012	0	ISSUED FOR CONSTRUCTION	LSS	KFS

KYLE F. SWIERSKI, P.E., LLC
41 Soil Drive
Elma, New York 14059
(715) 655–6722
kfswierski@roadrunner.com

PROJECT ID: ALP–MW
DRAWING NUMBER: ALP–MW–02
SHEET 1 OF 4
REV. 0



TYPICAL SHORING SECTION

SCALE 0 2 4 FEET

FINISHED BRIDGE CAMBER (B.O. LOWER CHORD ELEVATIONS)

HORIZ SCALE 0 10 20 FEET

VERT SCALE EXAGGERATED

NOTE

1. USE THIS DRAWING IN CONJUNCTION WITH THE DRAWINGS LISTED AND INFORMATION PROVIDED ON THE FOLLOWING DRAWING:

   MIDDLEBURY-WEYBRIDGE BRIDGE BHO 1445(33)
   TEMPORARY SHORING FOR REHAB
   DRAWING LIST & SITE LOCATION PLAN
   KFS DWG. NO. ALP-MW-01, SHEET 1

LEGEND

T.O.	TOP OF
T.O.S.	TOP OF STEEL
B.O.	BOTTOM OF

STATE OF VERMONT KYLE F. SWIERSKI NO. 9056 Structural LICENSED PROFESSIONAL ENGINEER

01-04-2012

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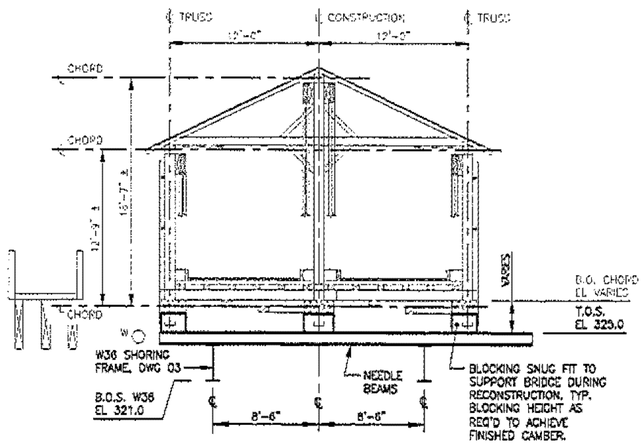
ALPINE CONSTRUCTION, LLC
VERMONT AGENCY OF TRANSPORTATION

MIDDLEBURY-WEYBRIDGE BRIDGE BHO 1445(33)
TEMPORARY SHORING FOR REHAB
GENERAL ARRANGEMENT
TYPICAL SHORING SECTION

DATE	REV.	DESCRIPTION OF REVISIONS	DRAWN BY	CHECKED BY
01-05-2012	0	ISSUED FOR CONSTRUCTION	LSS	KFS

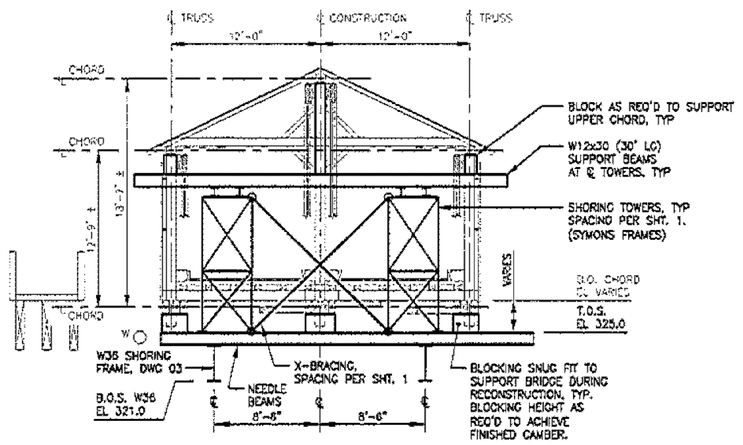
KYLE F. SWIERSKI, P.E., LLC
41 Boll Drive
Elma, New York 14059
(716) 655-6722
kfswierski@roadrunner.com

PROJECT ID: ALP-MW
DRAWING NUMBER: ALP-MW-02
SHEET 2 OF 4
REV. 0



SECTION LOOKING WEST

SCALE 0 5 10 FEET



SECTION LOOKING WEST

SCALE 0 5 10 FEET

STEP 1 – PREPARE EXISTING BRIDGE FOR RECONSTRUCTION

WORK SCOPE / SEQUENCE:

1. PERFORM THE FOLLOWING TASKS (MAY BE PERFORMED CONCURRENTLY):

   A. INSTALL TEMPORARY SHORING SYSTEM BELOW EXISTING BRIDGE, INCLUDING W36 SHORING FRAME, NEEDLE BEAMS & BLOCKING 'SNUG FIT' TO UNDERSIDE OF BRIDGE FOR SUPPORT DURING RECONSTRUCTION. (FOR ADDITIONAL DETAILS REFER TO SHEET 1 & DWG 03).

   B. IN ORDER TO REDUCE BRIDGE TOTAL WEIGHT PRIOR TO BRIDGE RECONSTRUCTION, CONTRACTOR MAY (AT CONTRACTOR'S OPTION) REMOVE THE FOLLOWING EXISTING BRIDGE MATERIALS IN A SEQUENCE THAT WILL 'UNIFORMLY & SYMMETRICALLY' UNLOAD THE EXISTING BRIDGE WEIGHT.

   - FLOOR CURBS, RUNNER BOARDS, PLANK DECKING & FLOOR STRINGERS (FLOOR BEAMS & LOWER LATERAL BRACING TO REMAIN)
   - SIDING [PRIOR TO SIDING REMOVAL AT PORTALS, MEASURE SIDING PORTAL GEOMETRY FOR FUTURE REFERENCE]

   C. INSTALL PROTECTIVE COVER ON EXISTING BRIDGE TO REMAIN, AS THE WORK PROGRESSES.

STEP 2 – REHAB BRIDGE: PHASE 1 WORK AREA

WORK SCOPE / SEQUENCE

1. LOCALLY REMOVE EXISTING BRIDGE FLOORING / STRINGERS AS REQ'D AND INSTALL TEMPORARY SHORING ABOVE NEEDLE BEAMS IN ACCORDANCE WITH SHTS. 1 & 2.

2. REHABILITATE EXISTING BRIDGE AND ABUTMENTS IN ACCORDANCE WITH CONTRACT DOCUMENTS BY OTHERS. TYPICAL BRIDGE REHAB SEQUENCE:

   A. SUPPORT ARCHES ON SHORING TOWER BEAMS & DISCONNECT ARCHES FROM KINGPOSTS.

   B. REMOVE FLOORING / FLOOR STRINGERS / FLOOR BEAMS AND REBUILD LOWER CHORD & KINGPOSTS. INSTALL LOWER CHORD TO THE 'CAMBER' ELEVATION INDICATED ON SHT. 2.

   C. REBUILD REMAINDER OF TRUSS (DIAGONALS, UPPER CHORDS), LOWER LATERAL BRACING, FLOOR BEAMS, CROSS BEAMS & UPPER LATERAL BRACING.

   D. RE-CONNECT ARCHES TO KINGPOSTS.

STEP 3 – REHAB BRIDGE: PHASE 2 WORK AREAS

WORK SCOPE / SEQUENCE: REPEAT STEP 2 IN PHASE 2 WORK AREAS

NOTE

1. USE THIS DRAWING IN CONJUNCTION WITH THE DRAWINGS LISTED AND INFORMATION PROVIDED ON THE FOLLOWING DRAWING:

   MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33)
   TEMPORARY SHORING FOR REHAB
   DRAWING LIST & SITE LOCATION PLAN
   KFS DWG. NO. ALP–MW–01, SHEET 1

LEGEND

T.O.	TOP OF
T.O.S.	TOP OF STEEL
B.O.	BOTTOM OF

STATE OF VERMONT
KYLE F. SWIERSKI
NO. 9059
Structural I
LICENSED
PROFESSIONAL ENGINEER

01-06-2012

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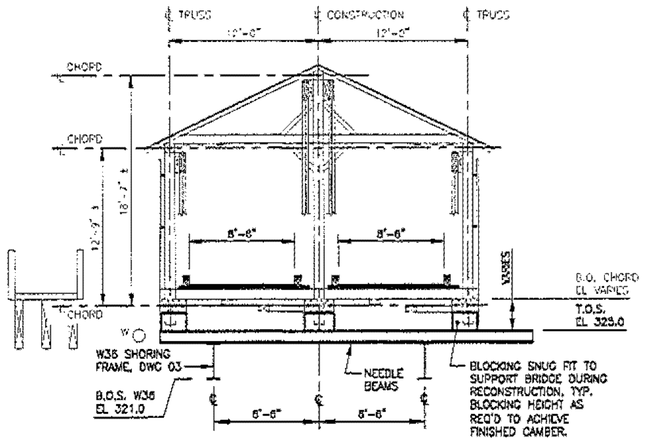
ALPINE CONSTRUCTION, LLC
VERMONT AGENCY OF TRANSPORTATION

MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33)
TEMPORARY SHORING FOR REHAB
GENERAL ARRANGEMENT
WORK SEQUENCE

DATE	REV.	DESCRIPTION OF REVISIONS	DRAWN BY	CHECKED BY
01-06-2012	0	ISSUED FOR CONSTRUCTION	LSS	KFS

KYLE F. SWIERSKI, P.E., LLC
41 Boll Drive
Elmo, New York 14059
(716) 655-5722
kfswierski@roadrunner.com

PROJECT ID: ALP–MW
DRAWING NUMBER: ALP–MW–02
SHEET 3 OF 4
REV. 0



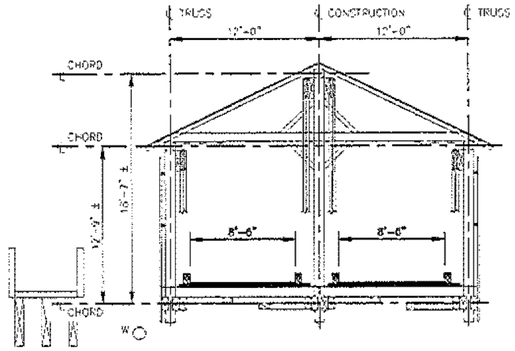
SECTION LOOKING WEST

SCALE 0 5 10 FEET

STEP 4 – REBUILD ROOF, REMOVE UPPER SHORING & INSTALL FLOOR

WORK SCOPE / SEQUENCE:

1. REBUILD ROOF INCLUDING KNEE BRACES, RAFTERS & METAL ROOF.
2. REMOVE UPPER SHORING INCLUDING SHORING BEAMS, TOWERS & X-BRACING.
3. INSTALL TOP & BOTTOM FLOOR DECK LAYERS & CURBS.



SECTION LOOKING WEST

SCALE 0 5 10 FEET

STEP 5 – INSTALL SIDING & REMOVE LOWER SHORING

WORK SCOPE / SEQUENCE:

1. INSTALL SIDING.
2. REMOVE REMAINDER OF TEMPORARY SHORING BELOW BRIDGE BOTTOM CHORD (CAMBER BLOCKS, NEEDLE BEAMS, SHORING FRAME & SUPPORTS).

NOTE

1. USE THIS DRAWING IN CONJUNCTION WITH THE DRAWINGS LISTED AND INFORMATION PROVIDED ON THE FOLLOWING DRAWING:

   MIDDLEBURY-WEYBRIDGE BRIDGE BHO 1445(33)
   TEMPORARY SHORING FOR REHAB
   DRAWING LIST & SITE LOCATION PLAN
   KFS DWG. NO. ALP-MW-01, SHEET 1

LEGEND

T.O.	TOP OF
T.O.S.	TOP OF STEEL
B.O.	BOTTOM OF

STATE OF VERMONT
KYLE F. SWIERSKI
NO. 9059
Structural I
LICENSED
PROFESSIONAL ENGINEER

Kyle F. Swierski
01-06-2012

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ALPINE CONSTRUCTION, LLC
VERMONT AGENCY OF TRANSPORTATION

MIDDLEBURY-WEYBRIDGE BRIDGE BHO 1445(33)
TEMPORARY SHORING FOR REHAB
GENERAL ARRANGEMENT
WORK SEQUENCE

DATE	REV.	DESCRIPTION OF REVISIONS	DRAWN BY	CHECKED BY
01-06-2012	0	ISSUED FOR CONSTRUCTION	LSS	KFS

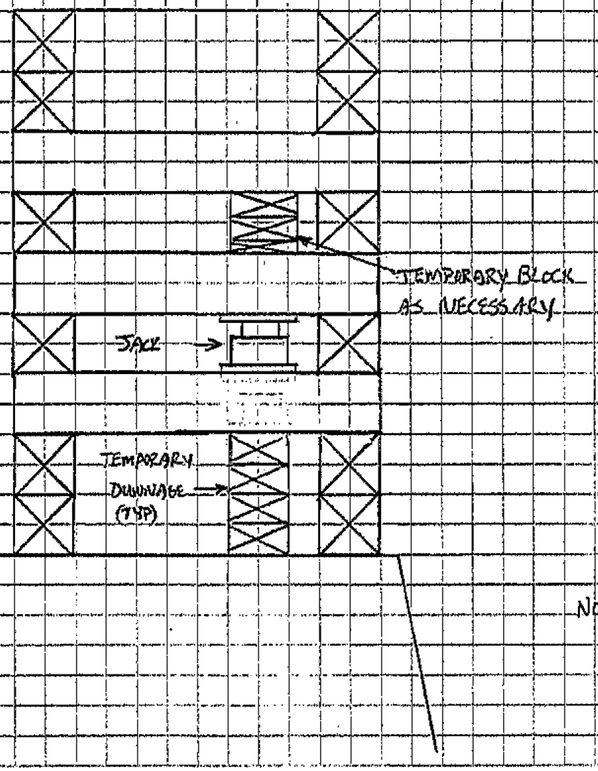
KYLE F. SWIERSKI, P.E., LLC
41 Bell Drive
Elma, New York 14059
(716) 655-6722
kfswierski@roadrunner.com

PROJECT ID: ALP-MW
DRAWING NUMBER: ALP-MW-02
SHEET 4 OF 4
REV. 0

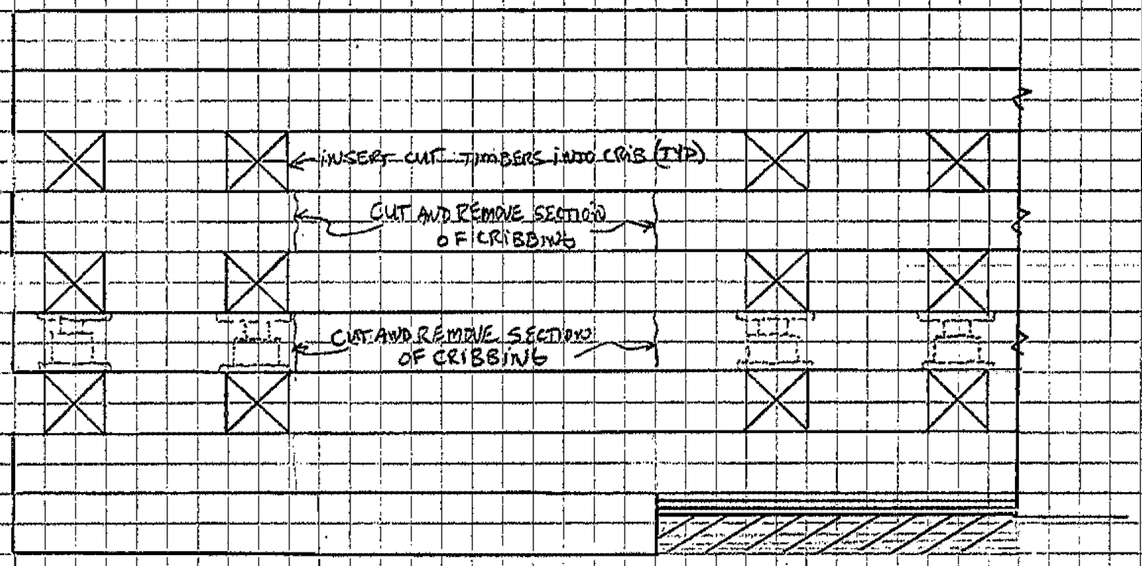
ALPINE SKETCH #1 (REVISED)

REPLACEMENT OF TIMBER CRIB MEMBERS ON PIERS

END VIEW

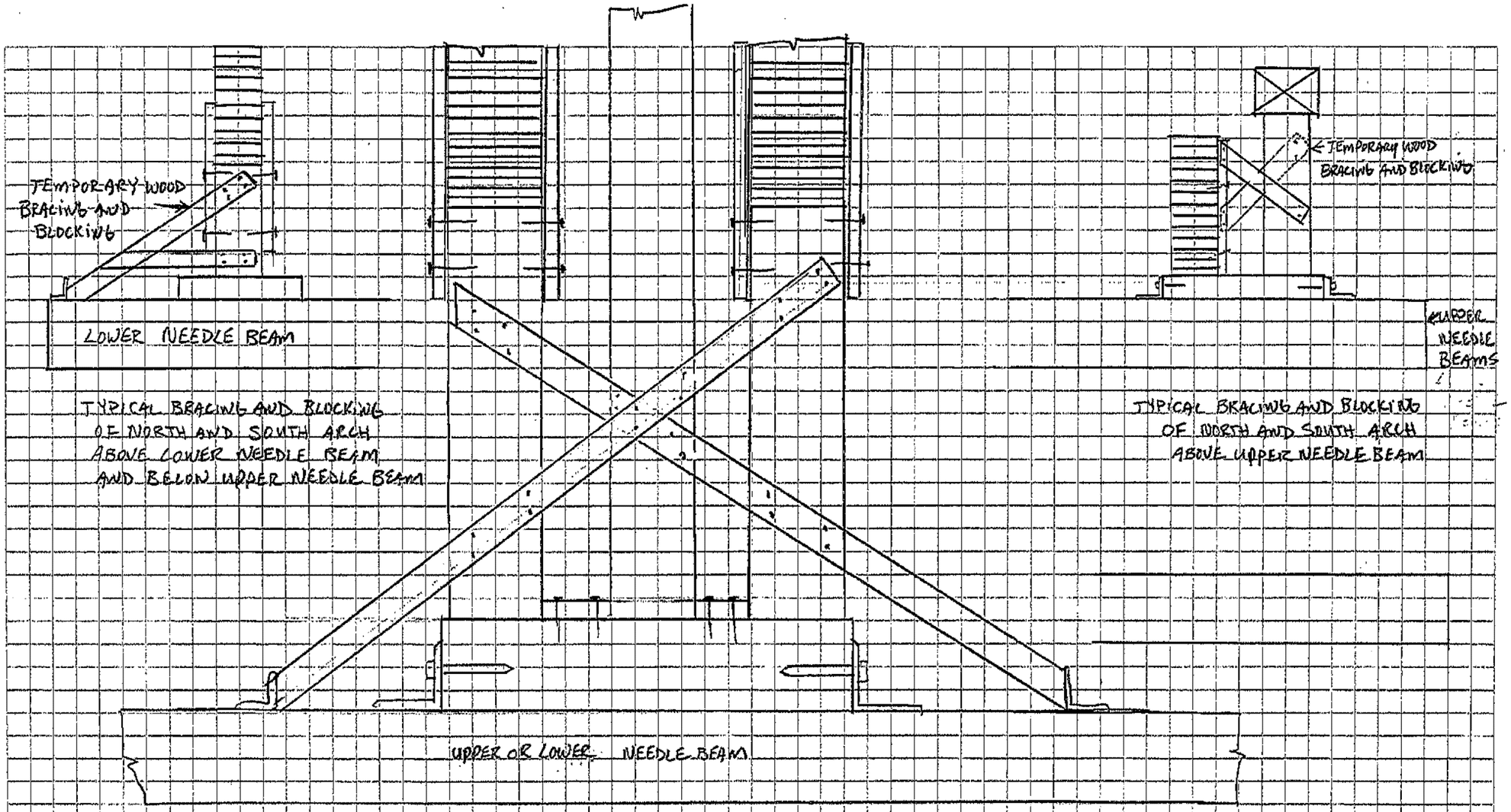


SIDE VIEW



NOTES:
1. PLACE FOUR JACKS AT LOCATIONS SHOWN WITH TEMPORARY DUNNAGE.
2. JACK FOUR LOCATIONS TILL BLOCKING IS DAY LIGHTED.
3. REMOVE SHORT BLOCKS REPLACE WITH LONGER CRIBBING TIMBERS.
4. REPEAT PROCESS UNTILL CUT CRIBBING TIMBERS ARE REPLACED.

Free Path Graph Paper - http://incompetech.com/graphpaper/



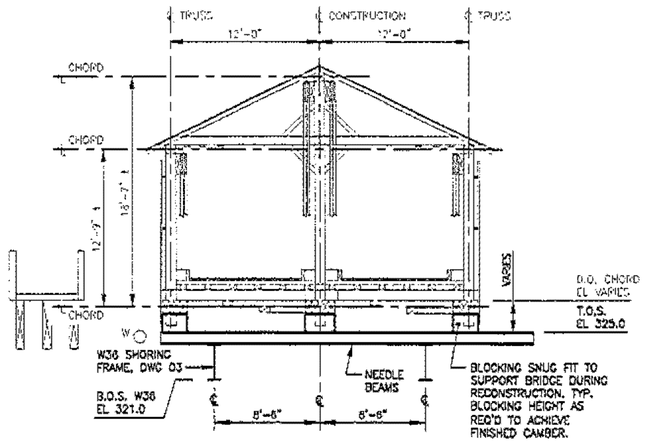
TYPICAL BRACING AND BLOCKING OF NORTH AND SOUTH ARCH ABOVE LOWER NEEDLE BEAM AND BELOW UPPER NEEDLE BEAM

TYPICAL BRACING AND BLOCKING OF NORTH AND SOUTH ARCH ABOVE UPPER NEEDLE BEAM

TYPICAL BRACING AND BLOCKING OF INTERIOR ARCH AND TOP CHORD

ALPINE SKETCH #2 (REVISED)

Free Plain Graph Paper from http://incompetech.com/



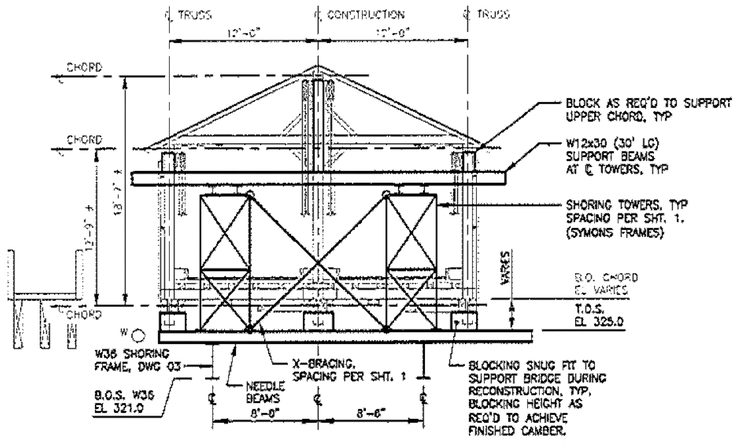
SECTION LOOKING WEST

SCALE 0 5 10 FEET

STEP 1 – PREPARE EXISTING BRIDGE FOR RECONSTRUCTION

WORK SCOPE / SEQUENCE:

1. PERFORM THE FOLLOWING TASKS (MAY BE PERFORMED CONCURRENTLY):
   - A. INSTALL TEMPORARY SHORING SYSTEM BELOW EXISTING BRIDGE, INCLUDING W36 SHORING FRAME, NEEDLE BEAMS & BLOCKING 'SNUG FIT' TO UNDERSIDE OF BRIDGE FOR SUPPORT DURING RECONSTRUCTION. (FOR ADDITIONAL DETAILS REFER TO SHEET 1 & DWG 03).
   - B. IN ORDER TO REDUCE BRIDGE TOTAL WEIGHT PRIOR TO BRIDGE RECONSTRUCTION, CONTRACTOR MAY (AT CONTRACTOR'S OPTION) REMOVE THE FOLLOWING EXISTING BRIDGE MATERIALS IN A SEQUENCE THAT WILL 'UNIFORMLY & SYMMETRICALLY' UNLOAD THE EXISTING BRIDGE WEIGHT.
     - FLOOR CURBS, RUNNER BOARDS, PLANK DECKING & FLOOR STRINGERS (FLOOR BEAMS & LOWER LATERAL BRACING TO REMAIN)
     - SIDING [PRIOR TO SIDING REMOVAL AT PORTALS, MEASURE SIDING PORTAL GEOMETRY FOR FUTURE REFERENCE]
   - C. INSTALL PROTECTIVE COVER ON EXISTING BRIDGE TO REMAIN, AS THE WORK PROGRESSES.



SECTION LOOKING WEST

SCALE 0 5 10 FEET

STEP 2 – REHAB BRIDGE: PHASE 1 WORK AREA

WORK SCOPE / SEQUENCE

1. LOCALLY REMOVE EXISTING BRIDGE FLOORING / STRINGERS AS REQ'D AND INSTALL TEMPORARY SHORING ABOVE NEEDLE BEAMS IN ACCORDANCE WITH SHTS. 1 & 2.
2. REHABILITATE EXISTING BRIDGE AND ABUTMENTS IN ACCORDANCE WITH CONTRACT DOCUMENTS BY OTHERS. TYPICAL BRIDGE REHAB SEQUENCE:
   - A. SUPPORT ARCHES ON SHORING TOWER BEAMS & DISCONNECT ARCHES FROM KINGPOSTS.
   - B. REMOVE FLOORING / FLOOR STRINGERS / FLOOR BEAMS AND REBUILD LOWER CHORD & KINGPOSTS. INSTALL LOWER CHORD TO THE 'CAMBER' ELEVATION INDICATED ON SHT. 2.
   - C. REBUILD REMAINDER OF TRUSS (DIAGONALS, UPPER CHORDS), LOWER LATERAL BRACING, FLOOR BEAMS, CROSS BEAMS & UPPER LATERAL BRACING.
   - D. RE-CONNECT ARCHES TO KINGPOSTS.

STEP 3 – REHAB BRIDGE: PHASE 2 WORK AREAS

WORK SCOPE / SEQUENCE: REPEAT STEP 2 IN PHASE 2 WORK AREAS

NOTE

1. USE THIS DRAWING IN CONJUNCTION WITH THE DRAWINGS LISTED AND INFORMATION PROVIDED ON THE FOLLOWING DRAWING:

   MIDDLEBURY-WEYBRIDGE BRIDGE BHO 1445(33)
   TEMPORARY SHORING FOR REHAB
   DRAWING LIST & STE LOCATION PLAN
   KFS DWG. NO. ALP-MW-01, SHEET 1

LEGEND

T.O.	TOP OF
T.O.S.	TOP OF STEEL
B.O.	BOTTOM OF

STATE OF VERMONT
KYLE F. SWIERSKI
NO. 9059
Structural I
LICENSED
PROFESSIONAL ENGINEER

01-06-2012

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ALPINE CONSTRUCTION, LLC
VERMONT AGENCY OF TRANSPORTATION

MIDDLEBURY-WEYBRIDGE BRIDGE BHO 1445(33)
TEMPORARY SHORING FOR REHAB
GENERAL ARRANGEMENT
WORK SEQUENCE

DATE	REV.	DESCRIPTION OF REVISIONS	DRAWN BY	CHECKED BY
01-06-2012	0	ISSUED FOR CONSTRUCTION	LSS	KFS

KYLE F. SWIERSKI, P.E., LLC
41 Boll Drive
Elma, New York 14059
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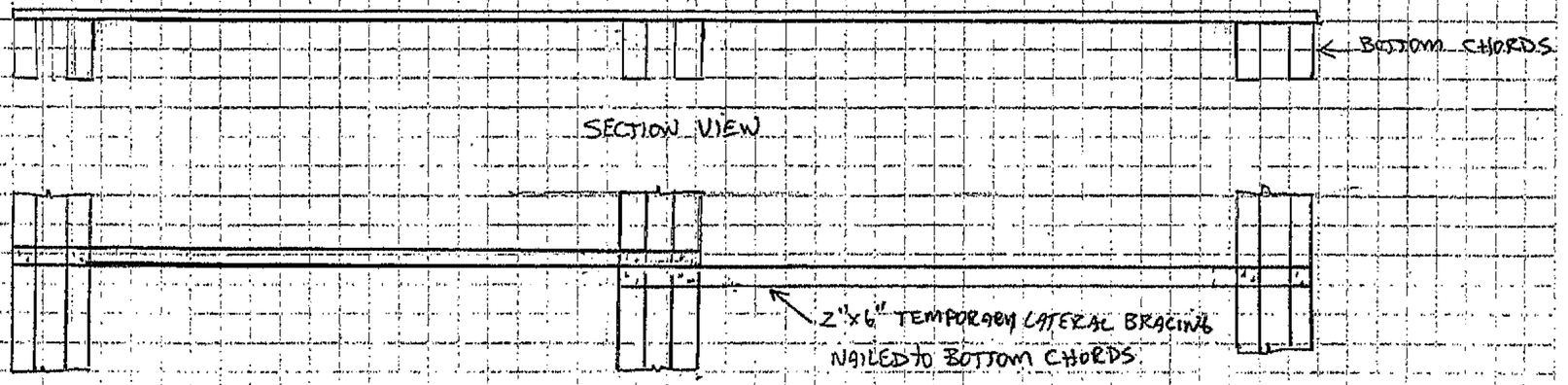
PROJECT ID: ALP-MW
DRAWING NUMBER: ALP-MW-02
SHEET 3 OF 4
REV. 0

ALPINE SKETCH #4

TEMPORARY LATERAL BRACING

BETWEEN BOTTOM CHORDS

WHEN FLOOR BEAMS ARE REMOVED



SECTION VIEW

PLAN VIEW

ALPINE CONSTRUCTION, LLC

PROPOSED SEQUENCE OF WORK FOR THE MIDDLEBURY-WEYBRIDGE BHO 1445 (33)

ORIGINAL: FEBRUARY 2, 2012

REVISED: FEBRUARY 14, 2012

Once the primary shoring system is installed and ready to be loaded:

Re-Camber Bridge Sections

1. Block bottom chords to needle beams over entire length of bridge in five foot increments in the upstream downstream plane making sure to block all three bottom chords as shown on Drawing ALP-MW-02 sheet 3 of 4.
2. Remove siding in the Middlebury Span and locally across the bridge to facilitate installation of the upper shoring needle beams.
3. Remove localized floor beams and bottom timber x-braces to facilitate installation of secondary shoring towers. Then install secondary shoring.
4. When shoring towers are installed block to the arches as shown on Drawing ALP-MW-02 sheet 2 of 4 and Alpine sketches 2.
5. Install temporary vertical x-bracing as shown on Drawing ALP-MW-02 sheet 3 of 4 in a loose position to allow for bridge realignment (The vertical x-bracing is in a loose position while we are jacking the bridge to the desired camber when we get the desired camber we will tighten the vertical x-bracing).
6. Remove horizontal bolts and vertical rods securing the arch to the floor beams and king posts in the Middlebury Span and half of the center span.
7. Re-camber Middlebury Span starting at abutment 2 and proceeding incremental towards pier 2. Re-block chords at needle beams to desired camber position and tighten vertical x-bracing sequentially.

Rehabilitate Bridge - Starting from the Middlebury side of the bridge re-build from Abutment 2 to west side of Pier 2 (Middlebury Span 1).

1. Once the Middlebury span is in the desired camber; block king post to lower shoring system and block upper chord to secondary shoring and install clip angles.
2. Remove the rest of the floor beams and bottom chord x-bracing in Middlebury Span to a point just beyond pier 2 to allow for the installation of bottom chord members and lower lateral bracing at pier (Save designated floor beams and bottom X-bracing for later re-use). During the rehabilitation, temporary lateral bracing between bottom chords will be installed as shown in sketch 4.
3. Remove bottom chord (maximum 2 lengths removal before replacement with new chord) and king posts designated for removal (maximum 2 king posts removed at any time in a truss). For example on drawing 32 of 66 bottom chord plan we will remove 33.5' of the existing outside chord and 24.5' of the inside chord when they are attached we will then remove the next section and so on.
4. Install replacement king posts and new bottom chords, locally notch upper chords that are being replaced to facilitate the installation of the new king posts.
5. Install king post diagonal bracing designated for replacement and reinstall diagonal bracing removed to facilitate new king post installation.

ALPINE CONSTRUCTION, LLC

PROPOSED SEQUENCE OF WORK FOR THE MIDDLEBURY-WEYBRIDGE BHO 1445 (33)

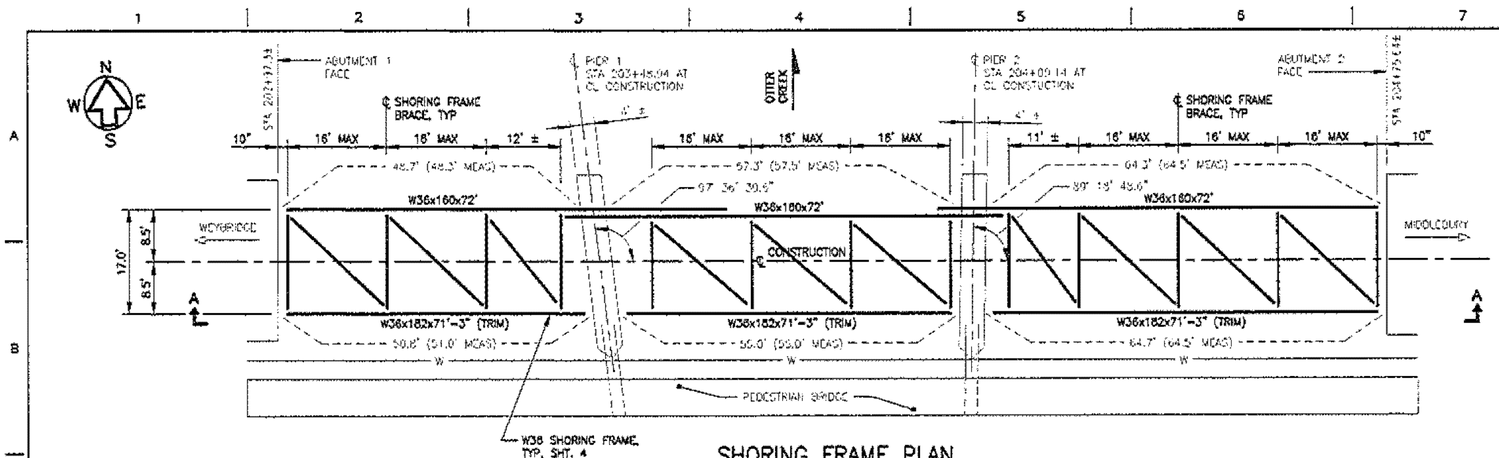
ORIGINAL: FEBRUARY 2, 2012

REVISED: FEBRUARY 14, 2012

6. Remove roof system in the Middlebury Span and save rafters, sheathing and tie beams for reinstallation.
7. Replace top chord members (one length at a time), as top chords are replaced, install tie beams and upper lateral bracing. As top chord is removed temporarily support king post to maintain position with wood bracing. See Alpine Sketch 3
8. Remove sections of the north and south arches, install false-work for temporary arch support, then replace with new laminated timber arches.
9. Once the Middlebury Span is complete, install all floor beams in the Middlebury Span and lower lateral bracing at the pier area, including tie rods.
10. Install sections of the first layer of deck.
11. Reinstall roof rafters and sheathing, cover with poly.
12. Repeat the same process from Pier 2 to Pier 1 – Center Span (no arch repairs in this span).
13. Repeat the same process from Pier 1 to Abutment 1 – Weybridge Span including the south arch repair at Abutment 1.

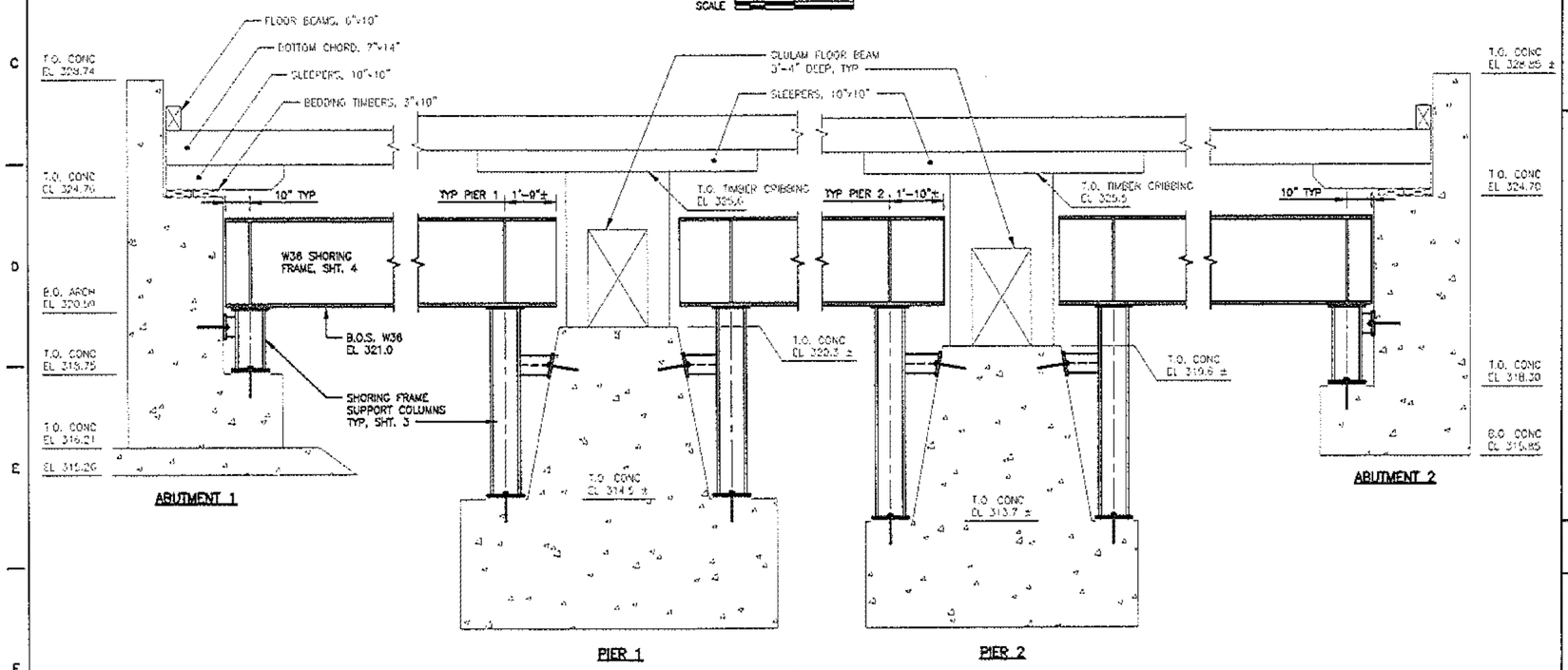
Loading the Bridge and Arch

1. Connect arch to king post along the length of the bridge as shown on the plan.
2. Remove secondary shoring.
3. Install siding
4. Install remaining decking.
5. Complete metal roof.
6. Complete timber fire retardant and insecticide.
7. Release primary shoring and remove.
8. Rebuild the timber cribs at the downstream end of the piers 1 and 2 as shown on Alpine Sketch 1.



SHORING FRAME PLAN

SCALE 0 10 20 FEET



SECTION A-A

SCALE 0 2 4 FEET

NOTE

1. USE THIS DRAWING IN CONJUNCTION WITH THE DRAWINGS LISTED AND INFORMATION PROVIDED ON THE FOLLOWING DRAWING:

   MIDDLEBURY-WEYBRIDGE BRIDGE BHO 1445(33)
   TEMPORARY SHORING FOR REHAB
   DRAWING LIST & SITE LOCATION PLAN
   KFS DWG. NO. ALP-MW-01, SHEET 1

TECHNICAL SPECIFICATIONS

MATERIALS:

STRUCTURAL STEEL SHAPES AND PLATES:
ASTM A36 (OR 36 OR 50) OR A992

CONNECTIONS:
HIGH STRENGTH BOLTS: ASTM A325
HEAVY HEX NUTS: ASTM A563
WIDE WASHERS: ANSI B18.22.1, TYPE B
WELD FILLER: E70XX, SMAW PROCEDURE

INSTALLATION:

FABRICATE & INSTALL STRUCT STEEL IN ACCORDANCE WITH AISC MANUAL OF STEEL CONSTRUCTION CURRENT EDITION. PERFORM WELDING IN ACCORDANCE WITH ANSI/AWS D1.1.

LEGEND

T.O.	TOP OF
T.O.S.	TOP OF STEEL
B.O.	BOTTOM OF

STATE OF VERMONT
KYLE F. SWIERSKI
NO. 9059
Structural II
LICENSED
PROFESSIONAL ENGINEER

Kyle F. Swierski
01-06-2012

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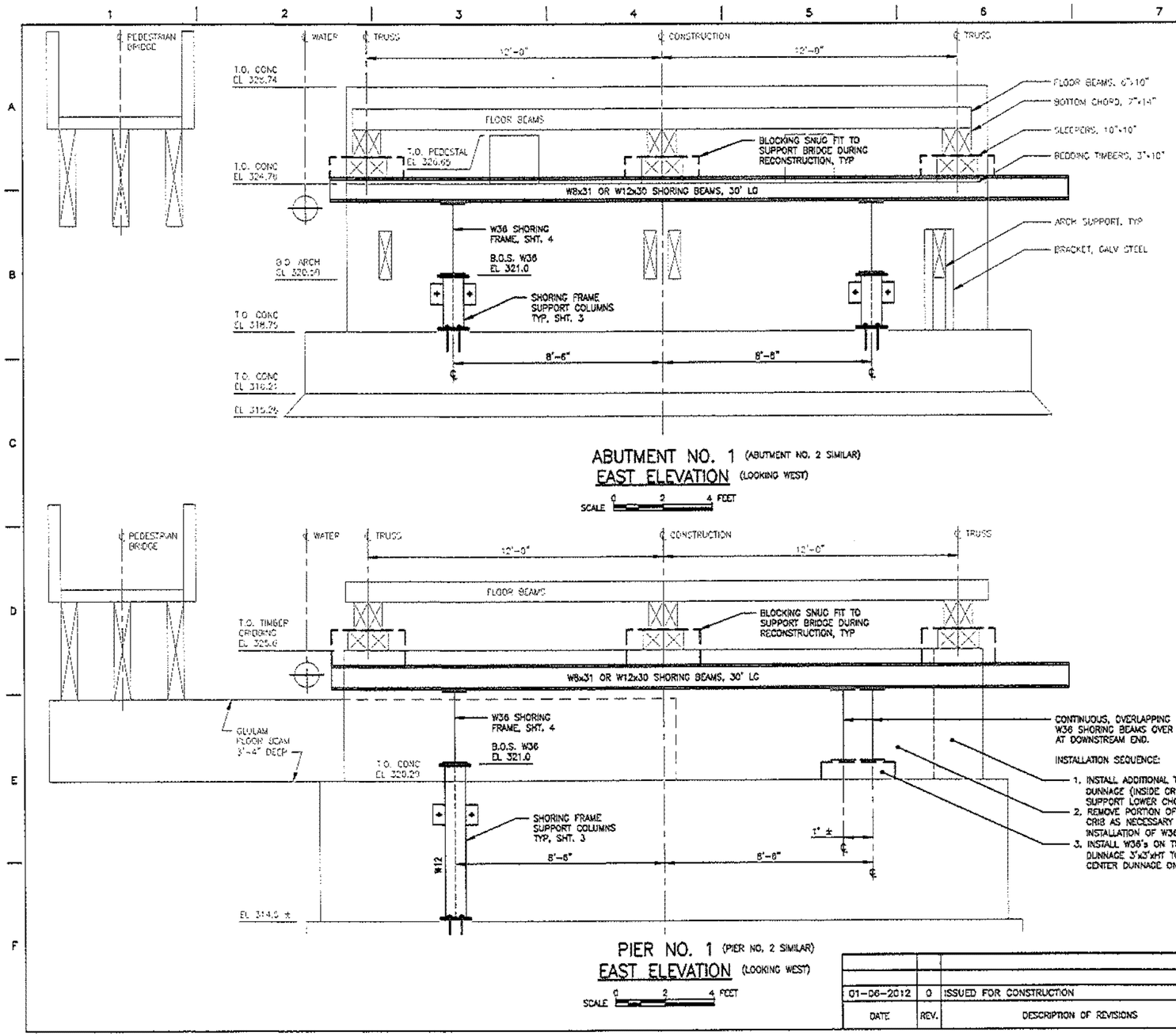
ALPINE CONSTRUCTION, LLC
VERMONT AGENCY OF TRANSPORTATION

MIDDLEBURY-WEYBRIDGE BRIDGE BHO 1445(33)
TEMPORARY SHORING FOR REHAB
SHORING FRAME
SUPPORT PLAN & SECTION

DATE	REV.	DESCRIPTION OF REVISIONS	DRAWN BY	CHECKED BY
01-05-2012	0	ISSUED FOR CONSTRUCTION	LSS	KFS

KYLE F. SWIERSKI, P.E., LLC
41 Bolt Drive
Elma, New York 14059
(716) 655-6722
kfswierski@roadrunner.com

PROJECT ID: ALP-MW
DRAWING NUMBER: ALP-MW-03
SHEET 1 OF 4
REV. 0



NOTE

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   MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33)
   TEMPORARY SHORING FOR REHAB
   DRAWING LIST & SITE LOCATION PLAN
   KFS DWG. NO. ALP–MW–01, SHEET 1

TECHNICAL SPECIFICATIONS

REFER TO SHEET 1.

LEGEND

T.O.	TOP OF
T.O.S.	TOP OF STEEL
B.O.	BOTTOM OF

STATE OF VERMONT
KYLE F. SWIERSKI
NO. 9059
Structural I
LICENSED
PROFESSIONAL ENGINEER

Kyle F. Swierski
01-06-2012

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ALPINE CONSTRUCTION, LLC
VERMONT AGENCY OF TRANSPORTATION

MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33)
TEMPORARY SHORING FOR REHAB
SHORING FRAME
SUPPORT ELEVATIONS

DATE	REV.	DESCRIPTION OF REVISIONS	DRAWN BY	CHECKED BY
01–06–2012	0	ISSUED FOR CONSTRUCTION	LSS	KFS

KYLE F. SWIERSKI, P.E., LLC
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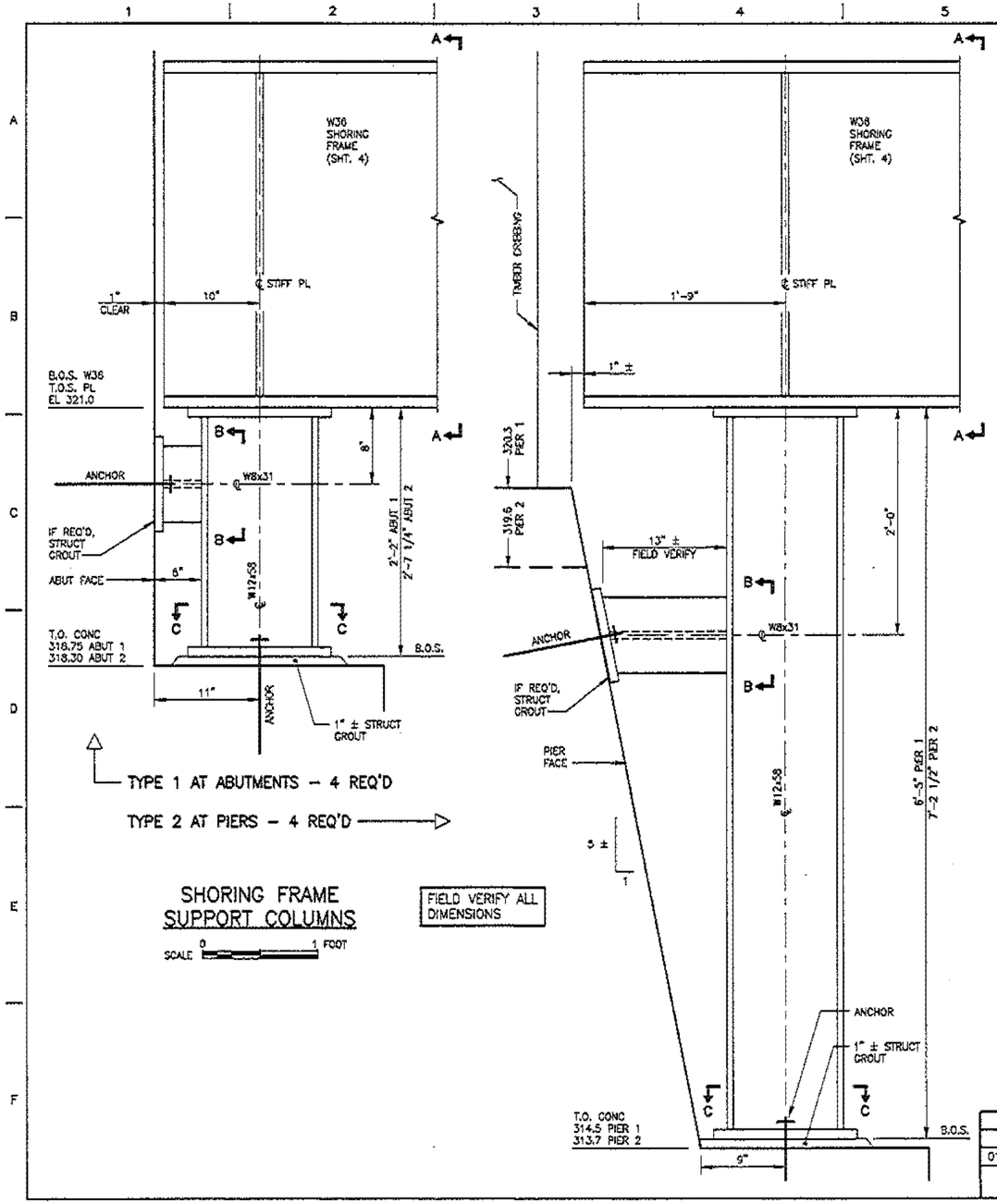
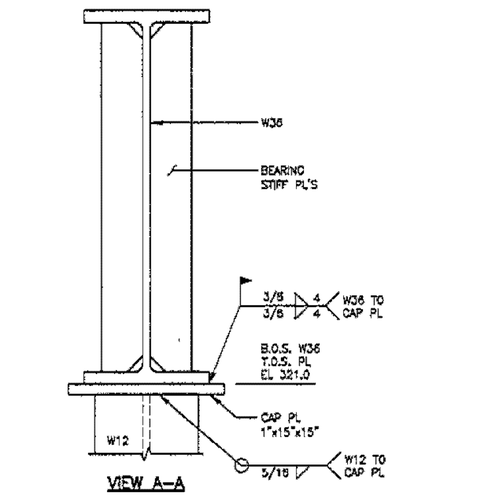
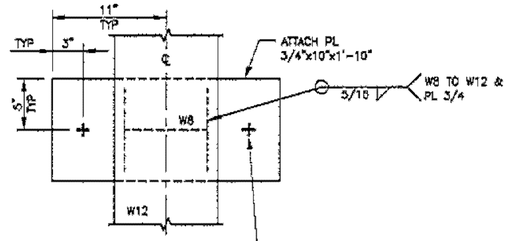
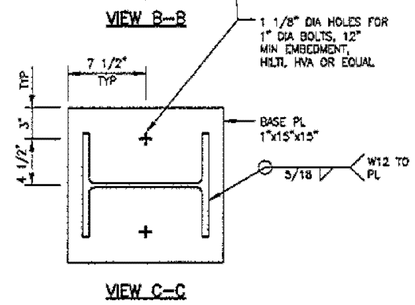
Elma, New York 14059
(716) 655–6722
kfswierski@roadrunner.com

PROJECT ID: ALP–MW
DRAWING NUMBER: ALP–MW–03
SHEET 2 OF 4
REV. 0









NOTE

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   MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33)
   TEMPORARY SHORING FOR REHAB
   DRAWING LIST & SITE LOCATION PLAN
   KFS DWG. NO. ALP–MW–01, SHEET 1

TECHNICAL SPECIFICATIONS

REFER TO SHEET 1.

LEGEND

T.O.	TOP OF
T.O.S.	TOP OF STEEL
B.O.	BOTTOM OF

STATE OF VERMONT
KYLE F. SWIERSKI
NO. 9059
Structural I
LICENSED
PROFESSIONAL ENGINEER

Kyle F. Swierski
01-06-2012

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ALPINE CONSTRUCTION, LLC
VERMONT AGENCY OF TRANSPORTATION

MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33)
TEMPORARY SHORING FOR REHAB
SHORING FRAME
SUPPORT DETAILS

DATE	REV.	DESCRIPTION OF REVISIONS	DRAWN BY	CHECKED BY
01–06–2012	0	ISSUED FOR CONSTRUCTION	LSS	KFS

KYLE F. SWIERSKI, P.E., LLC
41 Boll Drive
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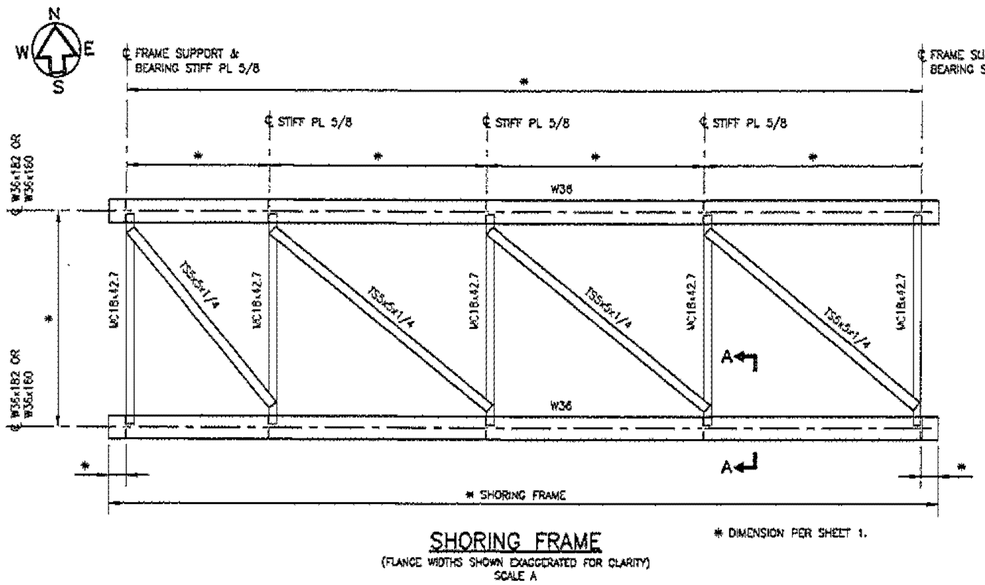
(716) 655–6722
kfswierski@roadrunner.com

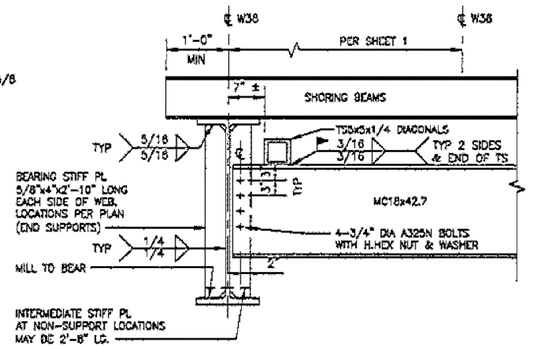
PROJECT ID: ALP–MW
DRAWING NUMBER: ALP–MW–03
SHEET 3 OF 4
REV. 0



SHORING FRAME

(FLANGE WIDTHS SHOWN EXAGGERATED FOR CLARITY)
SCALE A

* DIMENSION PER SHEET 1.



SECTION A-A

TYPICAL
SCALE B

NOTE

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   TEMPORARY SHORING FOR REHAB
   DRAWING LIST & SITE LOCATION PLAN
   KFS DWG. NO. ALP-MW-01, SHEET 1

TECHNICAL SPECIFICATIONS

REFER TO SHEET 1.

LEGEND

T.O.	TOP OF
T.O.S.	TOP OF STEEL
B.O.	BOTTOM OF

SCALE A 0 8 16 FEET
SCALE B 0 1 2 FEET

DATE	REV.	DESCRIPTION OF REVISIONS	DRAWN BY	CHECKED BY
01-06-2012	0	ISSUED FOR CONSTRUCTION	LSS	KFS

STATE OF VERMONT
KYLE F. SWIERSKI
NO. 9059
Structural I
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Kyle F. Swierski
01-06-2012

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ALPINE CONSTRUCTION, LLC
VERMONT AGENCY OF TRANSPORTATION

MIDDLEBURY-WEYBRIDGE BRIDGE BHO 1445(33)
TEMPORARY SHORING FOR REHAB
SHORING FRAME
STRUCTURAL STEEL DETAILS

KYLE F. SWIERSKI, P.E., LLC
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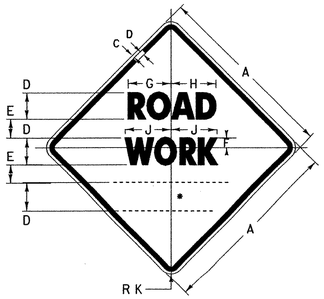
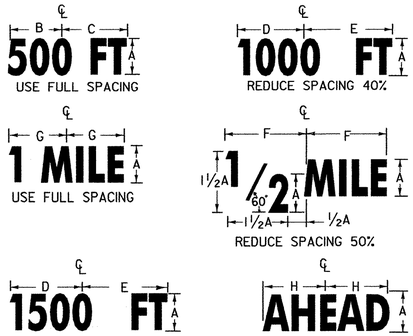
kfswierski@roadrunner.com

PROJECT ID: ALP-MW
DRAWING NUMBER: ALP-MW-03
SHEET 4 OF 4
REV: 0



W20-1

• SEE DISTANCE DETAILS

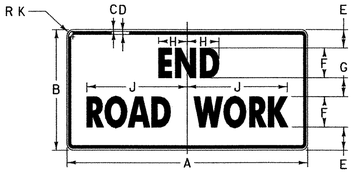


DISTANCE DETAILS

SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	K
MIN.	36	5/8	7/8	5D	3 1/2	3 1/4	8 3/8	8 7/8	9	2 1/4
STD.	48	3/4	1 1/4	7D	4 3/4	4 1/2	11 11/16	12 7/16	12 5/8	3

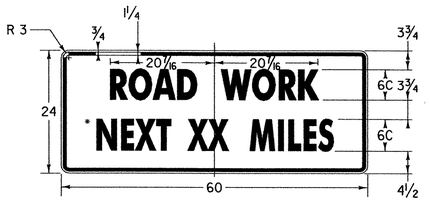
DIMENSIONS (INCHES)							
A	B	C	D	E	F	G	H
5D	10 3/16	10 3/16	11 5/8	11 1/4	11 1/4	9 1/2	10 7/8
7D	14 1/4	15 1/8	14 7/8	15 3/4	15 3/4	13 1/16	15 1/2

(ALL DIMENSIONS SHOWN IN INCHES)



G20-2A

SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	K
MIN.	36	18	5/8	7/8	3 3/4	4C	2 1/2	4	12 5/8	2 1/4
STD.	48	24	3/4	1 1/4	4 1/8	6C	3 3/4	5 7/8	22	3



G20-1

• OPTICALLY CENTER

THIS SIGN TO BE USED WHEN PROJECT LENGTH EXCEEDS 2 MILES OR AS REQUESTED BY THE RESIDENT ENGINEER. SHOW MILEAGE TO NEAREST 1/4 MILE USING FRACTIONS, NOT DECIMALS. HAND LETTERING OF MILEAGE WILL NOT BE ALLOWED.

NOTES

THE SIGNS SHOWN ON THIS SHEET ARE INTENDED FOR USE IN PROVIDING ADVANCE WARNING AND INFORMATION ON CONSTRUCTION PROJECTS OVER WHICH TRAFFIC WILL BE MAINTAINED. WHEN ADDITIONAL APPROACH SIGNS OR OTHER TYPES OF ADVANCE SIGNING OR CONTROL ARE NECESSARY, THE PLANS AND\OR THE SPECIFICATIONS FOR THAT PROJECT WILL GIVE THE DETAILS OF THE SIGNS AND DEVICES REQUIRED. FOR ON-PROJECT CONSTRUCTION SIGNS, REFER TO APPROPRIATE STANDARD SHEETS.

APPLICATION OF STANDARDS

SINCE IT IS NOT POSSIBLE TO PRESCRIBE DETAILED STANDARDS OF APPLICATION FOR ALL OF THE SITUATIONS THAT MAY CONCEIVABLY ARISE ON A CONSTRUCTION PROJECT, REFERENCE SHALL BE MADE TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", FOR THE PRINCIPLES, PROCEDURES, AND STANDARDS THAT WILL BE REQUIRED IN CONNECTION WITH ADVANCED WARNING AND ON-PROJECT CONSTRUCTION SIGNS AND BARRICADES. THE SIGNS SHOWN IN E-101 AND E-102 REPRESENT A SAMPLE OF THOSE MORE COMMONLY USED.

LOCATION

THE SIGNS SHALL BE LOCATED AS DETAILED ON THIS SHEET OR AS OTHERWISE SHOWN ON THE PLANS. THEY SHALL APPEAR AT EACH END OF THE HIGHWAY UNDER CONSTRUCTION AND ON ALL INTERSECTING PUBLIC HIGHWAYS. THE ENGINEER SHALL DETERMINE THE EXACT LOCATIONS.

DESIGN

LETTERS, DIGITS, ARROWS, SPACING AND TEXT DIMENSIONS SHALL CONFORM WITH THE "STANDARD HIGHWAY SIGNS BOOK" AND DESIGNS PRESCRIBED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) ADOPTED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION (FHWA).

MATERIALS

THE SIGN BASE MATERIAL USED FOR THE SIGNS ON THIS SHEET MAY BE ANY OF THE FOLLOWING, WITH MINIMUM THICKNESS AS NOTED.

FLAT SHEET ALUMINUM	0.125 INCHES
HIGH DENSITY OVERLAYED PLYWOOD	5/8 INCHES

REFLECTORIZATION

ALL LEAD SIGNS (W20-1) ON THIS SHEET SHALL BE ASTM TYPE VIII FLUORESCENT ORANGE SHEETING. ALL OTHER SIGNS ON THIS SHEET SHALL BE ASTM TYPE III RETROREFLECTORIZED SHEETING.

COLORS

THE COLORS SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY AASHTO AND APPROVED BY THE FHWA. COLORS SHOWN ON THIS SHEET CONSIST OF BLACK TEXT AND BORDER ON A RETROREFLECTORIZED ASTM TYPE III OR TYPE VIII ORANGE BACKGROUND.

INSTALLATION

THE SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES, DURING PERIODS OF INACTIVITY, OR UPON COMPLETION OF THE WORK. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER ON POSTS SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST 7 FEET ABOVE THE EDGE OF PAVEMENT, AND THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST 6 FEET OUTSIDE THE SHOULDER POINT, 4 FEET OUTSIDE GUARD RAIL, OR 2 FEET OUTSIDE CURBING, OR SIDEWALK. THE INSTALLATION OF SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER, IN URBAN AREAS, THE BOTTOM OF THE SIGN SHALL BE AT LEAST 7 FEET ABOVE THE SIDEWALK. SIGNS MAY BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.

NOTES CONT.

MAINTENANCE

SIGNS SHALL BE MAINTAINED IN A CLEAN AND LEGIBLE CONDITION SATISFACTORY TO THE ENGINEER. THEY SHALL BE COMPLETELY VISIBLE TO APPROACHING TRAFFIC AT ALL TIMES. THEY SHALL BE KEPT PLUMB AND LEVEL, AND ALWAYS PRESENT A NEAT APPEARANCE. DAMAGED, DEFACED, OR DIRTY SIGNS SHALL BE REPAIRED, CLEANED OR REPLACED AS ORDERED BY THE ENGINEER.

GENERAL

THE COST OF FURNISHING, INSTALLING, MAINTAINING AND REMOVING ALL CONSTRUCTION APPROACH SIGNS WILL BE CONSIDERED INCIDENTAL WORK PERTAINING TO THE PROJECT AS A WHOLE AND SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR VARIOUS ITEMS INVOLVED IN THE CONTRACT. DURING ALL PHASES OF CONSTRUCTION THE REQUIREMENTS SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL BE MET.

SIGN COVERS

SIGN COVERS SHALL CONSIST OF A PANEL PAINTED FLAT BLACK, THE SAME SIZE AS THE SIGN IT COVERS. THE PANEL SHALL BE OF WOOD, PLYWOOD, HARDBOARD OR ANY MATERIAL SATISFACTORY TO THE ENGINEER. NO MATERIAL WILL BE APPROVED THAT WILL DETERIORATE BY EXPOSURE TO THE WEATHER DURING THE PROJECT. MOUNTING OF THE PANEL SHALL BE DONE IN SUCH A WAY AS NOT TO DAMAGE THE SIGN FACE MATERIAL.

CONTRACTORS SHALL COORDINATE THEIR SIGNING ACTIVITIES WITH OTHER CONTRACTORS WITHIN THE PROJECT LIMITS, AS DIRECTED BY THE REGIONAL CONSTRUCTION ENGINEER.

SIGN POSTS

WHERE CONSTRUCTION SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARD RAIL OR OTHER APPROVED TRAFFIC BARRIERS, THE POSTS ON WHICH THE SIGNS ARE MOUNTED SHALL BE YIELDING METAL POSTS AS DESIGNATED IN THE E SERIES OF STANDARD DRAWINGS OR YIELDING WOODEN POSTS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

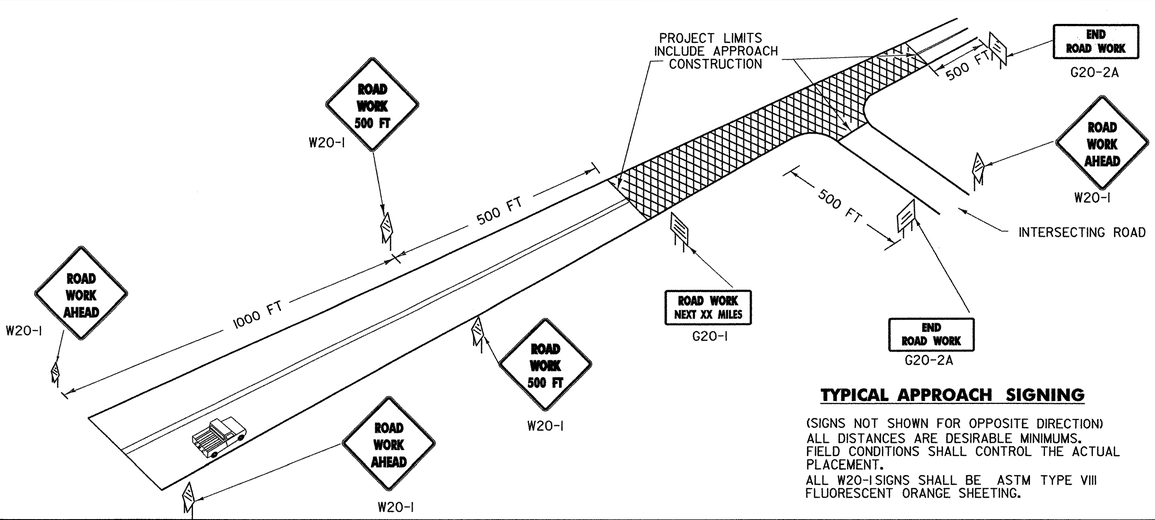
WOODEN POSTS ARE ACCEPTABLE FOR USE WITH CONSTRUCTION SIGNS. THESE POSTS SHALL HAVE A UNIFORM CROSS-SECTION AND SHALL BE MADE FROM GRADE 2, AIR-DRIED SOUTHERN YELLOW PINE OR ANOTHER EQUIVALENT SOFTWOOD. AN ACCEPTABLE EQUIVALENT SOFTWOOD SHALL HAVE AN EXTREME FIBER IN BENDING "Fb" DESIGN VALUE NOT TO EXCEED 1400 psi AND HORIZONTAL SHEAR "Fv" DESIGN VALUE NOT TO EXCEED 90 psi SPECIFICATION; "DESIGN VALUES FOR WOOD CONSTRUCTION" AND RELATED SUPPLEMENT, LATEST EDITION.

AS ESTABLISHED BY THE NATIONAL FOREST PRODUCTS ASSOCIATION IN THEIR NATIONAL DESIGN. THE FOLLOWING ARE CONSIDERED TO BE ACCEPTABLE WOODEN POSTS:

1. 4" X 4" (ACTUAL DIMENSIONS ARE S4S 3.5" X 3.5")
   A) ACCEPTABLE FOR SINGLE OR DUAL POSTS INSTALLATION WITH NO MODIFICATIONS.

ALL WOODEN POSTS SHALL HAVE AN EMBEDMENT DEPTH OF 4 FEET.
NO CROSS-BRACING OR BACK-BRACING TO KEEP THE POSTS PLUMB WILL BE ALLOWED.
CONCRETE FOUNDATIONS, COLLARS, OR SOIL BEARING PLATES ARE NOT PERMITTED.
CONSTRUCTION SIGNS SHALL BE PLACED ON TWO OR MORE POSTS WHEN ANY OF THE FOLLOWING CONDITIONS GOVERN:

A) THE SIGN WIDTH (HORIZONTAL DIMENSIONS FOR DIAMOND SHAPED SIGNS) EXCEEDS 3 1/2 FEET.
B) THE EXPOSED SIGN AREA OF ANY SINGLE SIGN OR ASSEMBLY EXCEEDS 7 SQ. FEET.
C) THE Sv OF A SINGLE POST IS 64.



TYPICAL APPROACH SIGNING

(SIGNS NOT SHOWN FOR OPPOSITE DIRECTION)
ALL DISTANCES ARE DESIRABLE MINIMUMS. FIELD CONDITIONS SHALL CONTROL THE ACTUAL PLACEMENT.
ALL W20-1 SIGNS SHALL BE ASTM TYPE VIII FLUORESCENT ORANGE SHEETING.

OTHER STDS. REQUIRED: E-100A, E-101, E-102

REVISIONS AND CORRECTIONS

MAY 26, 1989 - DATE OF ORIGINAL ISSUE
OCT 21, 1992 - REVISED WOOD POST REQUIREMENTS, ADDED SIGN DETAILS, & REVISED TITLE BLOCK
AUG. 08, 1995 - MINOR NOTE REVISIONS
JAN. 06, 1997 - MINOR NOTE AND DIMENSION REVISIONS
JAN. 2, 2004 - CHANGED REFLECTIVE SHEETING TO ASTM TYPE III OR TYPE VIII

APPROVED

DIRECTOR OF PROGRAM DEVELOPMENT

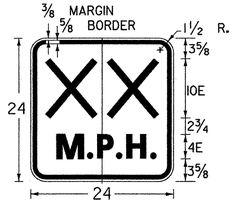
TRAFFIC OPERATIONS ENGINEER

FEDERAL HIGHWAY ADMINISTRATION

CONSTRUCTION APPROACH SIGNS

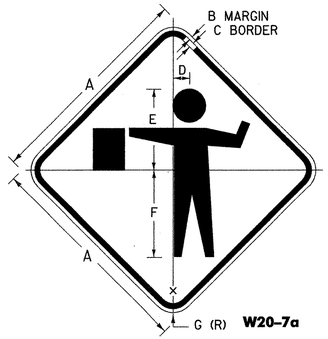
VERMONT AGENCY OF TRANSPORTATION

STANDARD
E-100



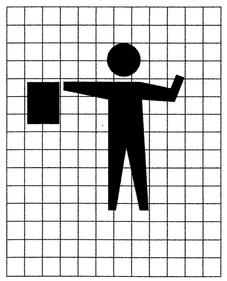
"XX" DENOTES ADVISORY SPEED AS SHOWN ON THE PLANS

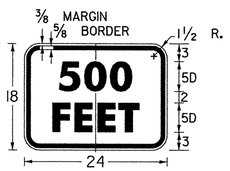
W13-1



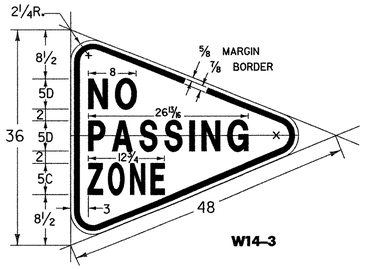
W20-7a

SIGN	DIMENSIONS(INCHES)						
	A	B	C	D	E	F	G
STD.	36	5/8	7/8	2 3/4	13 1/2	14 5/8	2 1/4
FWY.	48	3/4	1 1/4	3 3/4	18	19 1/2	3

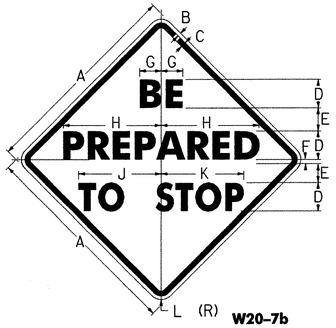




W16-2a



W14-3



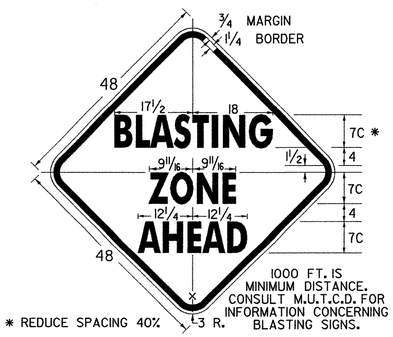
W20-7b

COLORS:
BLACK BORDER AND TEXT (NON RETRORFL.)
ORANGE BACKROUND (RETRORFL.)

W3-4

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

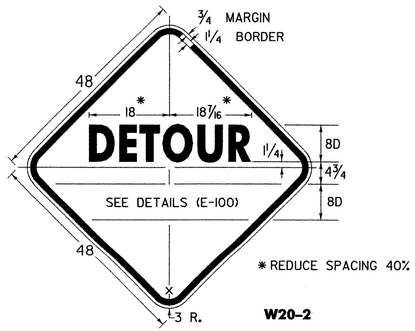
SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	K	L
MIN.	36	5/8	7/8	6C	3 5/8	7/8	3 3/4	16 3/8	13	13 7/8	2 1/4
STD.	48	3/4	1 1/4	8C	4 7/8	1 1/4	5	21 7/8	17 3/8	18 1/2	3
EXPWY.	60	3/4	1 1/4	9C	5 3/8	1 3/8	5 5/8	24 5/8	19 3/8	20 1/4	3



* REDUCE SPACING 40%

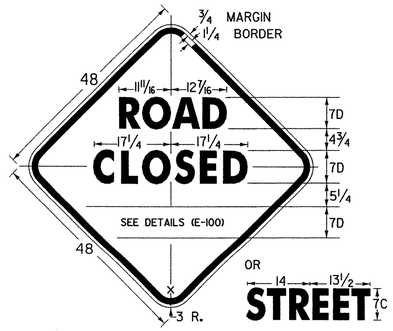
1000 FT. IS MINIMUM DISTANCE. CONSULT M.U.T.C.D. FOR INFORMATION CONCERNING BLASTING SIGNS.

W22-1

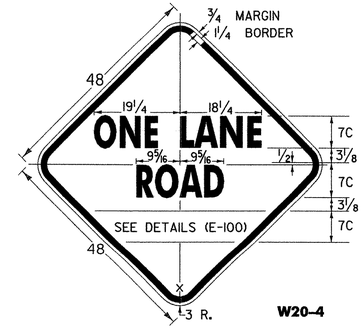


* REDUCE SPACING 40%

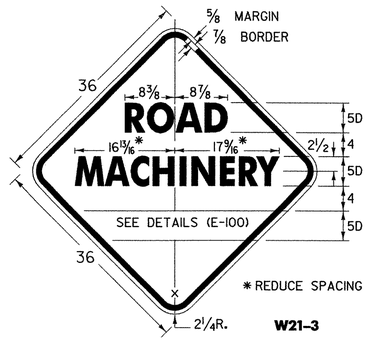
W20-2



W20-3

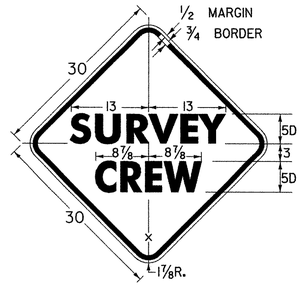


W20-4

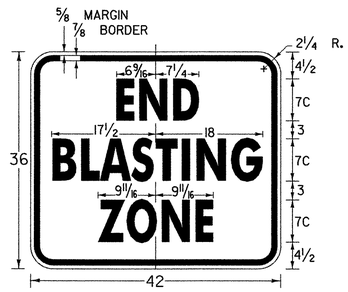


* REDUCE SPACING 40%

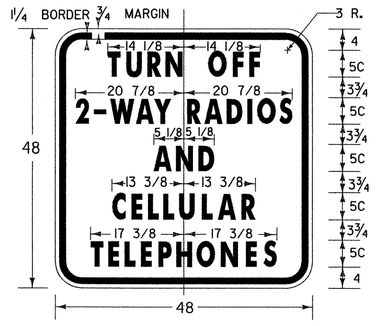
W21-3



W21-6



W22-3

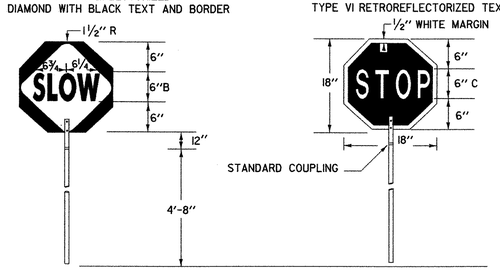


VW22-1

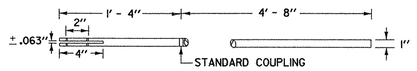
SIGN PADDLE FOR FLAGPERSON

ORANGE ASTM TYPE III OR TYPE VI RETROREFLECTORIZED DIAMOND WITH BLACK TEXT AND BORDER

RED ASTM TYPE III OR TYPE VI RETROREFLECTORIZED OCTAGON WITH WHITE ASTM TYPE III OR TYPE VI RETROREFLECTORIZED TEXT



SIGN DETAIL



STAFF DETAIL

MATERIALS
THE SIGN MATERIALS SHALL BE 0.063" ALUMINUM WITH COLORS AS INDICATED ON DETAILS.
THE STAFF SHALL BE 3/4" TO 1 1/4" DIAMETER RIGID ALUMINUM CONDUIT/TUBING WITH A WALL THICKNESS OF 0.125", OR 1" TO 1 1/2" DIAMETER RIGID PVC CONDUIT/TUBING WITH 0.125" WALL THICKNESS

MOUNTING
THE STAFF SHALL BE MOUNTED WITH EITHER TWO 1/4" DIAMETER ALUMINUM BOLTS OR TWO 1/4" DIAMETER ALUMINUM RIVETS.

NOTES

SEE STANDARD SHEET E-100 FOR NOTES AND TEXT DETAILS
COLORS FOR SIGNS SHOWN ON THIS SHEET SHALL BE BLACK TEXT, BORDER AND SYMBOLS ON ASTM TYPE III OR TYPE VI RETROREFLECTORIZED ORANGE BACKGROUND, UNLESS OTHERWISE NOTED
SIGN DETAILS INDICATE THE APPROPRIATE COLOR.

OTHER STDS. REQUIRED: E-100

NOTE: ALL DIMENSIONS SHOWN IN INCHES EXCEPT WHERE NOTED

REVISIONS AND CORRECTIONS

OCT. 30, 1987 - DATE OF ORIGINAL ISSUE
JAN. 23, 1989 - DELETE MOTORCYCLE SYMBOL SIGN AND SPEED SIGN, ADDED TWO SIGNS
OCT. 21, 1992 - ADDED A SIGN, REVISED A SIGN DIMENSION & TYPE ERROR & REVISED TITLE BLOCK
AUG. 08, 1995 - ADDED FLAGGER GRID
JUNE 30, 2003 - CHANGED REFLECTIVE SHEETING TO ASTM TYPE III OR TYPE VI CHANGED TEXT ON W20-7b SIGN

APPROVED

DIRECTOR OF PROGRAM DEVELOPMENT

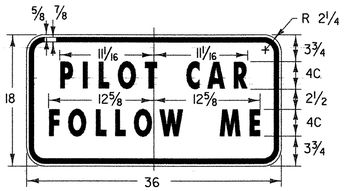
TRAFFIC OPERATIONS ENGINEER

FEDERAL HIGHWAY ADMINISTRATION

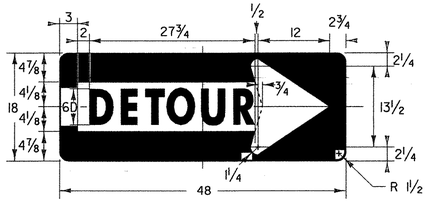
CONSTRUCTION SIGN DETAILS

VERMONT AGENCY OF TRANSPORTATION

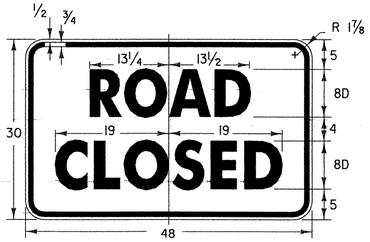
STANDARD
E-102



G20-4

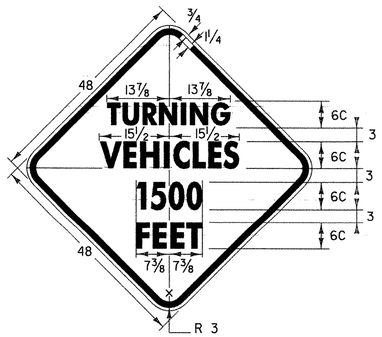


M4-10(R)

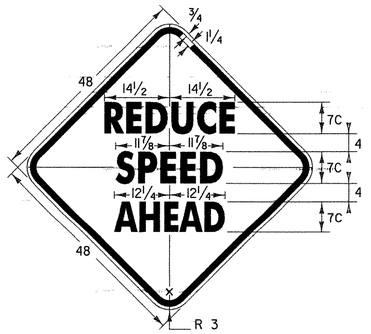


R11-2

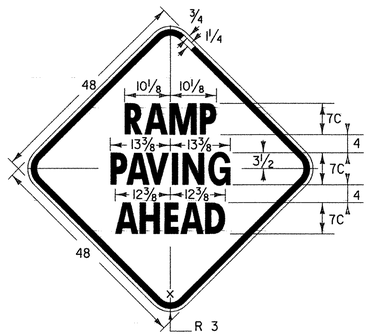
COLORS:
BLACK TEXT AND BORDER
WHITE RETROREFLECTORIZED BACKGROUND



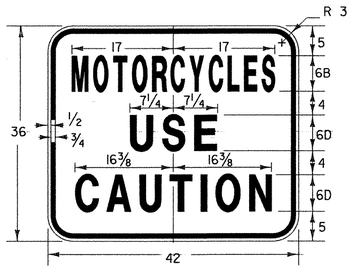
VC-001



VC-002



VC-003



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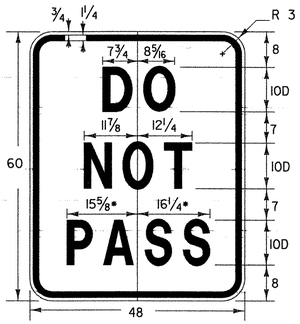
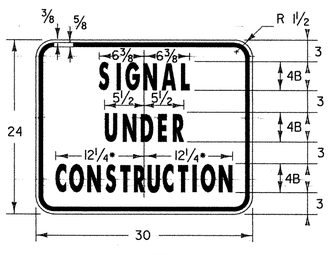


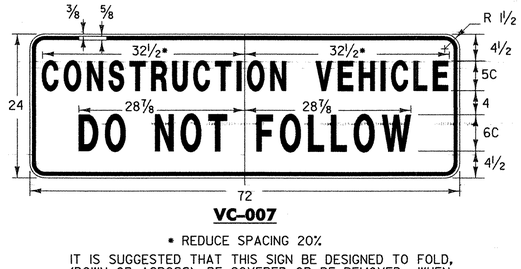
VC-005

• REDUCE SPACING BY 40%



VC-820

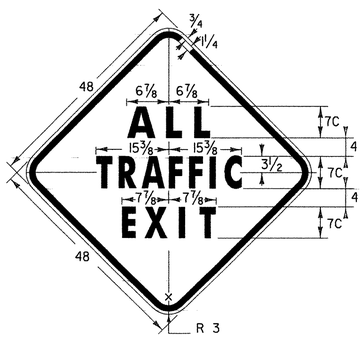
• REDUCE SPACING 25%



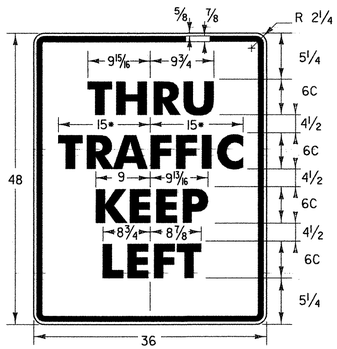
VC-007

• REDUCE SPACING 20%

IT IS SUGGESTED THAT THIS SIGN BE DESIGNED TO FOLD, (DOWN OR ACROSS), BE COVERED, OR BE REMOVED WHEN NOT IN USE. THE SIGN SHOULD ALSO BE MOUNTED AS TO NOT INTERFERE WITH THE VISIBILITY OF DIRECTIONAL OR TAIL LIGHTS AS REQUIRED BY LAW.



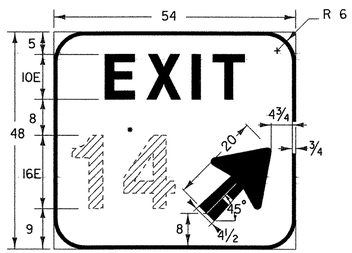
VC-008



VR-118L

• REDUCE SPACING 25 %

COLORS:
BLACK TEXT AND BORDER
WHITE (RETROREFLECTORIZED) BACKGROUND



E5-1a

• EXIT NUMBER AS PER PLANS OPTICALLY SPACED

COLORS:
WHITE RETROREFLECTORIZED BORDER, ARROW AND LEGEND
GREEN RETROREFLECTORIZED BACKGROUND

(ALL DIMENSIONS SHOWN IN INCHES EXCEPT WHERE NOTED)

NOTES

SEE STANDARD SHEET E-100 FOR NOTES AND TEXT DETAILS

COLORS FOR SIGNS SHOWN ON THIS SHEET SHALL BE BLACK TEXT, BORDER AND SYMBOLS ON ASTM TYPE III OR TYPE VIII RETROREFLECTIVE ORANGE BACKGROUND, UNLESS OTHERWISE NOTED.

SIGN DETAILS INDICATE THE PROPER COLOR.

OTHER STDS. E-100, E-151 REQUIRED:

REVISIONS AND CORRECTIONS

AUG 08, 1995 - DATE OF ORIGINAL ISSUE
MAY 01, 2004 - CHANGED REFLECTIVE SHEETING TO TYPE III

APPROVED

DIRECTOR OF PROGRAM DEVELOPMENT

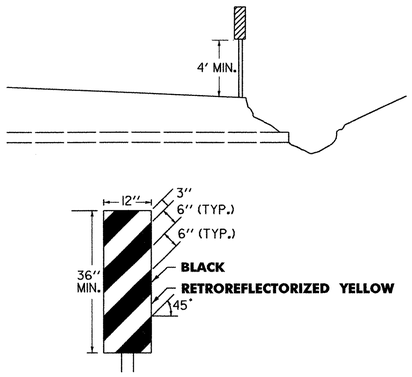
TRAFFIC OPERATIONS ENGINEER

FEDERAL HIGHWAY ADMINISTRATION

CONSTRUCTION SIGN DETAILS

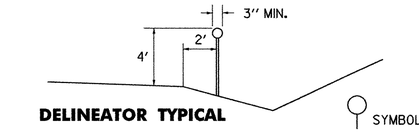
VERMONT AGENCY OF TRANSPORTATION

STANDARD
E-102A



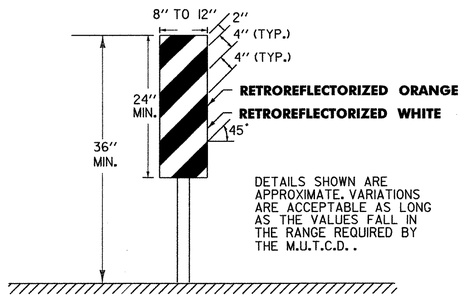
OBJECT MARKER TYPICAL

OBJECTS MARKERS ARE USED TO MARK OBSTRUCTIONS WITHIN OR ADJACENT TO THE ROADWAY. IN SOME CASES THERE MAY NOT BE A PHYSICAL OBJECT INVOLVED, BUT OTHER ROADSIDE CONDITIONS SUCH AS NARROW SHOULDER DROP-OFFS, GORES, D.I. EXCAVATIONS, AND ABRUPT CHANGES IN THE ROADWAY ALIGNMENT MAY MAKE IT UNDESIRABLE FOR A DRIVER TO LEAVE THE ROADWAY. THE INSIDE EDGE OF THE OBJECT MARKER SHALL BE IN LINE WITH THE INNER EDGE OF THE OBSTRUCTION, WHENEVER POSSIBLE.
OBJECT MARKERS SHALL HAVE ALTERNATING BLACK AND RETROREFLECTORIZED YELLOW STRIPES. (SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS).



DELINEATOR TYPICAL

THE STANDARD COLOR FOR DELINEATORS USED ALONG BOTH SIDES OF TWO-WAY STREETS AND HIGHWAYS AND THE RIGHT SIDE OF ONE-WAY STREETS SHALL BE WHITE. DELINEATORS USED ALONG THE LEFT SIDE OF ONE-WAY ROADWAYS SHALL BE YELLOW THEY SHALL HAVE A MINIMUM AREA OF 7 SQUARE INCHES. THEY MAY BE ROUND, SQUARE OR OBLONG, FOR ALTERNATES SEE STD. E-198

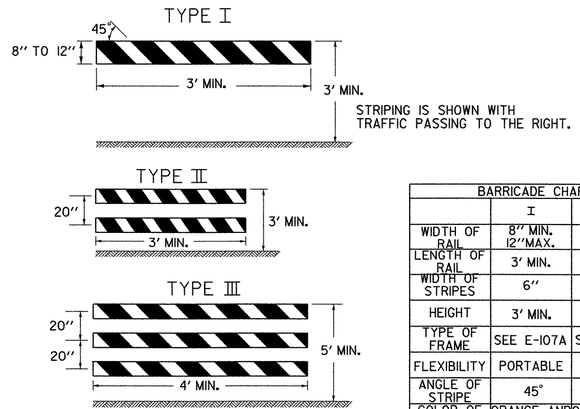


DETAILS SHOWN ARE APPROXIMATE. VARIATIONS ARE ACCEPTABLE AS LONG AS THE VALUES FALL IN THE RANGE REQUIRED BY THE M.U.T.C.D. .

VERTICAL PANEL

VERTICAL PANELS SHALL HAVE ALTERNATING ORANGE AND WHITE RETROREFLECTORIZED STRIPES (SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS). THESE DEVICES MAY BE USED FOR TRAFFIC SEPARATION, CHANNELIZING OR BARRICADING WHERE SPACE IS AT A MINIMUM.

DELINEATOR, VERTICAL PANEL AND OBJECT MARKER DETAILS FOR CONSTRUCTION AREAS WHERE TRAFFIC IS MAINTAINED



A TYPE III(MODIFIED) BARRICADE SHALL CONSIST OF TYPE II RAILS MOUNTED ON A BREAKAWAY BARRICADE AS SHOWN ON STANDARD SHEET E-107A.

BARRICADE CHARACTERISTICS			
	I	II	III
WIDTH OF RAIL	8" MIN. 12" MAX.	8" MIN. 12" MAX.	8" MIN. 12" MAX.
LENGTH OF RAIL	3' MIN.	3' MIN.	4' MIN.
WIDTH OF STRIPES	6"	6"	6"
HEIGHT	3' MIN.	3' MIN.	5' MIN.
TYPE OF FRAME	SEE E-107A	SEE E-107A	SEE E-107A
FLEXIBILITY	PORTABLE	PORTABLE	PORTABLE
ANGLE OF STRIPE	45°	45°	45°
COLOR OF STRIPES	ORANGE AND WHITE	ORANGE AND WHITE	ORANGE AND WHITE

BARRICADE CHARACTERISTICS

BARRICADES

APPLICATION NOTES

TYPE I BARRICADES SHALL BE USED ON CONVENTIONAL ROADS OR URBAN STREETS AND ARTERIALS TO MARK A SPECIFIC HAZARD.

TYPE II BARRICADES SHALL BE USED ON EXPRESSWAYS AND FREEWAYS, SERVING THE SAME FUNCTIONS AS TYPE I BARRICADES.

TYPE III BARRICADES (SEE STD. E-107A) SHALL ONLY BE USED WHEN A ROAD SECTION OR LANE IS CLOSED TO TRAFFIC AND ARE TO BE ERECTED AT THE POINT OF CLOSURE.

MATERIALS

THE BARRICADES SHOWN ON THIS SHEET SHOULD BE OF LIGHTWEIGHT MATERIAL. IF WOOD IS USED THE FOLLOWING CONDITIONS SHALL APPLY:

1. WOODEN BARRICADES (TYPE I AND II)
   A) SHALL NOT BE USED TO CHANNELIZE OR DELINEATE WORK AREAS WITHIN THE CLEAR ZONE OF ANY HIGHWAY WHERE OPERATING SPEEDS IN EXCESS OF 20 M.P.H. ARE EXPECTED UNLESS INSTALLED FOR PEDESTRIAN CONTROL BEHIND APPROVED POSITIVE BARRIERS.
   B) MAY BE USED WHERE OPERATING SPEEDS OF 20 M.P.H. OR LESS ARE EXPECTED.
2. TYPE III WOODEN BARRICADES SHALL NOT BE USED.

COLORS

THE BARRICADE PANELS SHOWN ON THIS SHEET SHALL HAVE ALTERNATING RETRO-REFLECTORIZED WHITE AND ORANGE STRIPES. THE ORANGE SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICALS AND APPROVED BY THE US DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION. THE BARRICADE COMPONENTS SHALL BE WHITE UNLESS UNPAINTED METAL OR ALUMINUM IS USED.

REFLECTORIZATION

THE RETROREFLECTIVE SHEETING ON BARRICADE PANELS SHALL BE ASTM TYPE III.

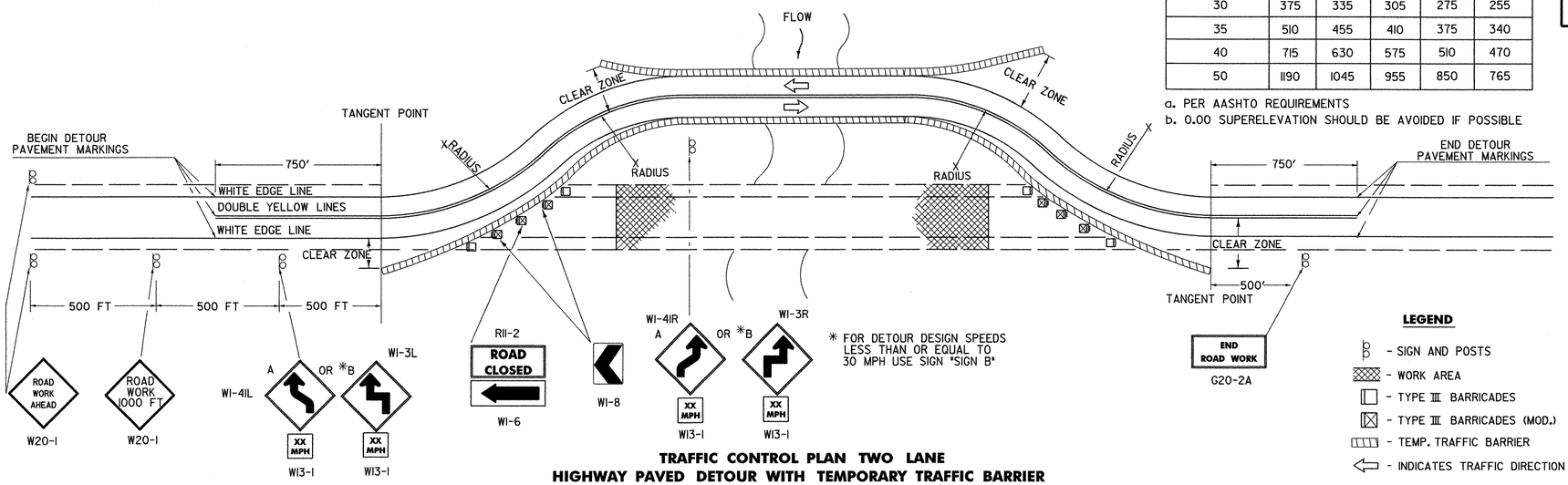
LOCATION

THE BARRICADES SHOWN ON THIS SHEET WILL BE LOCATED BY THE RESIDENT ENGINEER IN THE FIELD OR AS SHOWN ON THE PLANS. THE LOCATION OF THE BARRICADES SHALL FOLLOW THE PROCEDURES SET FORTH IN THE ''MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES'', OR AS OTHERWISE NOTED.

MAINTENANCE

BARRICADES SHALL BE MAINTAINED IN CLEAN CONDITION, SATISFACTORY TO THE RESIDENT ENGINEER. THEY SHALL BE COMPLETELY VISIBLE TO THE APPROACHING TRAFFIC AT ALL TIMES. DAMAGED, DEFACED, OR DIRTY BARRICADES SHALL BE REPAIRED, CLEANED, OR REPLACED AS ORDERED BY THE RESIDENT ENGINEER.

ALL SIGN PLACEMENT DISTANCES ARE DESIRABLE SPECIFICATIONS. FIELD CONDITIONS SHALL CONTROL THE ACTUAL PLACEMENT. PROJECT CONSTRUCTION APPROACH SIGNING PLACEMENT SHALL TAKE INTO CONSIDERATION SPACING REQUIREMENTS FOR THE DETOUR SIGN LAYOUT REQUIREMENTS.



* FOR DETOUR DESIGN SPEEDS LESS THAN OR EQUAL TO 30 MPH USE SIGN "SIGN B"

LEGEND

- SIGN AND POSTS
- WORK AREA
- TYPE III BARRICADES
- TYPE III BARRICADES (MOD.)
- TEMP. TRAFFIC BARRIER
- INDICATES TRAFFIC DIRECTION

TRAFFIC CONTROL PLAN TWO LANE HIGHWAY PAVED DETOUR WITH TEMPORARY TRAFFIC BARRIER

DETOUR DESIGN SPEED	MINIMUM RADIUS (FT.)[a] SUPERELEVATION (FT./FT.)				
(M.P.H.)	0.00[b]	0.02	0.04	0.06	0.08
20	160	140	130	120	110
25	245	220	200	185	170
30	375	335	305	275	255
35	510	455	410	375	340
40	715	630	575	510	470
50	1190	1045	955	850	765

a. PER AASHTO REQUIREMENTS
b. 0.00 SUPERELEVATION SHOULD BE AVOIDED IF POSSIBLE

DETOUR NOTES

1.) SIGNS AND DELINEATION SHOWN FOR ONE DIRECTION OF TRAFFIC ONLY.

2.) THE CONTRACTOR IS RESPONSIBLE FOR PAVEMENT MARKING AND SHALL REMOVE ANY CONFLICTING OR CONFUSING EXISTING MARKINGS.

3.) ADDITIONAL SIGNING MAY BE REQUIRED AT THE DISCRETION OF THE RESIDENT ENGINEER.

4.) UNPAVED DETOURS REQUIRE PAVEMENT MARKINGS FOR TRANSITIONS FROM EXISTING PAVEMENT.

5.) THE NUMBER OF CHANNELIZING DEVICES, BARRICADES AND OTHER TRAFFIC CONTROL DEVICES SHOWN ON THIS SHEET ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED SHALL BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR CURVE, ETC.).

6.) AASHTO CLEAR ZONE REQUIREMENTS SHOULD BE MET. IF NOT THEN AN APPROVED ENERGY ABSORPTION ATTENUATOR (SUITABLE FOR THE TEMPORARY TRAFFIC BARRIER USED AND FOR THE DESIGN SPEED) SHALL BE INSTALLED PER THE CURRENT AASHTO ROADSIDE DESIGN GUIDE.

7.) THE DETOUR DESIGN SPEED SHOULD BE NO LESS THAN 10 M.P.H. BELOW THE POSTED SPEED LIMIT, UNLESS PHYSICAL RESTRICTIONS PREVENT THIS.

8.) SEE STANDARD SHEETS E-100, E-101 AND E-102 FOR SIGN DETAIL AND MATERIAL REQUIREMENTS.

9.) IF THE USE OF TEMPORARY TRAFFIC BARRIER IS NOT REQUIRED, THEN REFLECTORIZED PLASTIC DRUMS SHALL BE USED.

OTHER STDS. REQUIRED: E-100, E-101, E-102, E-102a, E-107a, E-198

REVISIONS AND CORRECTIONS

SEPT. 10, 1987 - DATE OF ORIGINAL ISSUE
APRIL 29, 1988 - FHWA REVIEW COMMENTS
SEPT. 20, 1993 - NEW RADIUS CHART. BARRICADE ALIGNMENT AND USE OF TEMPORARY TRAFFIC BARRIER
AUG. 08, 1995 - REVISED SIGNING PER MUTCD
JUNE 30, 2003 - CHANGED REFLECTIVE SHEETING TO TYPE III

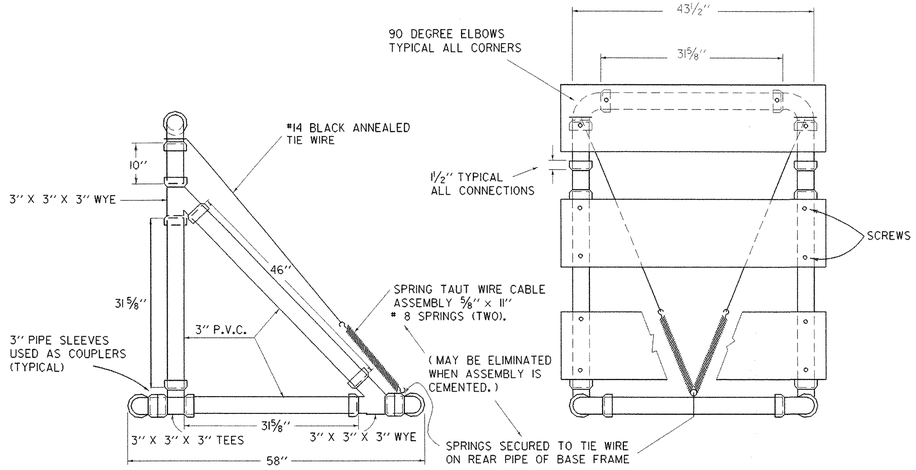
APPROVED

DIRECTOR OF PROGRAM DEVELOPMENT
TRAFFIC OPERATIONS ENGINEER
FEDERAL HIGHWAY ADMINISTRATION

DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS

VERMONT AGENCY OF TRANSPORTATION

STANDARD E-107



SIDE VIEW
TYPE III BARRICADE

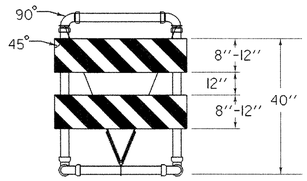
FRONT VIEW
TYPE III BARRICADE

MATERIALS FOR TYPE I AND II BARRICADES

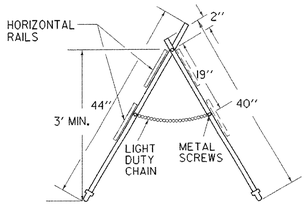
20' - 1" PVC
4 - 1" PVC 90° ELBOWS
30" - ½" ID THINWALL PVC CONDUIT
36" - ¼" STEEL ROD
4 - 1" WASHERS
24" - LIGHT DUTY CHAIN
½" - #14 PAN HEAD METAL SCREWS (AS REQUIRED)
2 - ¾" COTTER PINS
2 OR 4 - 8" OR 12" X 36" X 0.025 " BARRICADE RAILS (AS REQUIRED)

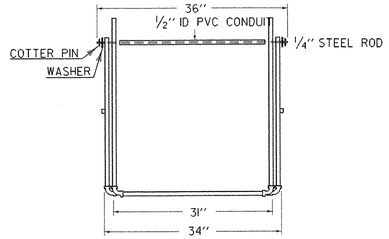
MATERIALS FOR TYPE III BARRICADES

30 LF - 3" I.D. PVC PIPE
6 - 3" 90 ELBOWS
2 - 3" TEES
4 - 3" WYES
3 - 8" OR 12" X 48" X 0.025" BARRICADE RAILS
2 - 5/8" X 11" #8 SPRING (IF ASSEMBLY IS NOT CEMENTED)
12 - 1" #14 PAN HEAD METAL SCREWS
15 LF - #14 BALCK ANNEALED TIE WIRE (IF ASSEMBLY IS NOT CEMENTED)



TYPE III (MODIFIED) BARRICADE
(STRIPING IS SHOWN WITH TRAFFIC PASSING TO THE RIGHT).





TYPE I AND TYPE II BARRICADE

MATERIALS

THE PIPE, WYES, TEES AND ELBOWS USED TO CONSTRUCT BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 2241 FOR P.V.C. 1120 OR 1220 SDR-21, PRESSURE RATING 200 PSI. THE WYES, TEES AND ELBOWS SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 2466, TYPE II, GRADE 1. ALL JOINTS SHALL BE SLIP-FIT AND MAY BE LIGHTLY CEMENTED. THE BARRICADE RAILS SHALL BE FABRICATED FROM 0.025" ANODIZED, ALUMINUM AND SHALL HAVE REFLECTORIZED ALTERNATING ORANGE AND WHITE STRIPES (SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS).

MAINTENANCE

BARRICADES SHALL BE MAINTAINED IN CLEAN AND LEGIBLE CONDITIONS SATISFACTORY TO THE ENGINEER. THEY SHALL BE COMPLETELY VISIBLE TO APPROACHING TRAFFIC AT ALL TIMES. DAMAGED, DEFACED, OR DIRTY BARRICADES SHALL BE REPAIRED, CLEANED OR REPLACED AS ORDERED BY THE ENGINEER. THE P.V.C. PIPE AND FITTINGS SHALL BE WHITE IN COLOR. AT LEAST TWO (2) HOLES SHALL BE DRILLED (3/16" DIAM.) IN EACH SECTION OF PIPE AND FITTINGS IF THE ASSEMBLY IS NOT CEMENTED.

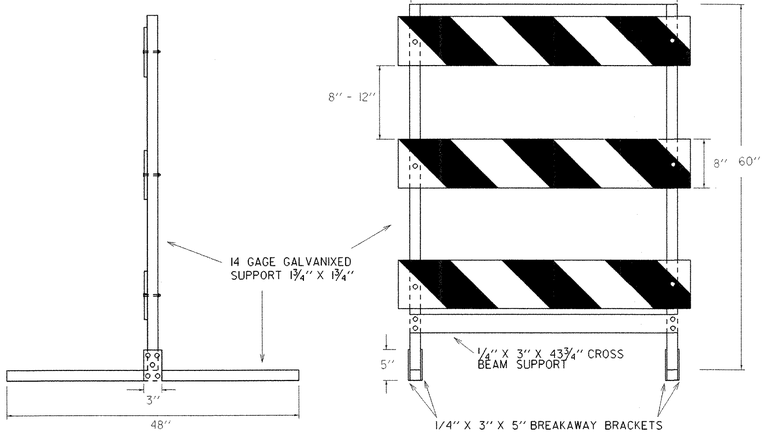
BARRICADES SHALL BE STABILIZED WITH SAND BAGS OF MINIMUM WEIGHT WHICH WILL NOT CONSTITUTE A HAZARD IF THE BARRICADE IS HIT. THESE SHALL BE PLACED ONLY ON THE FRONT AND REAR PIPES OF THE BASE FRAME OF THE BARRICADE. SAND BAG STABILIZERS SHALL BE SO PLACED AS NOT TO BE A HAZARD TO VEHICLES PASSING ON EITHER SIDE. IF BARRICADE REPLACEMENT COSTS CAN BE CONSIDERED NEGLIGIBLE, GLUED JOINTS MAY PROVIDE ADDITIONAL STABILITY TO THE INSTALLATION.

TYPE I BARRICADES SHALL UTILIZE ONE HORIZONTAL RAIL IN EACH DIRECTION.

TYPE II BARRICADES SHALL BE A TYPE I BARRICADE WITH AN ADDITIONAL HORIZONTAL RAIL MOUNTED BELOW THE OTHER IN EACH DIRECTION.

TYPE III BARRICADES (MODIFIED) SHALL CONSIST OF THE BREAKAWAY 3" PVC DESIGN SHOWN ON THIS SHEET WITH THE TWO RAIL LAYOUT DETAILED ABOVE LEFT.

SEE STD E-107 FOR ADDITIONAL INFORMATION.



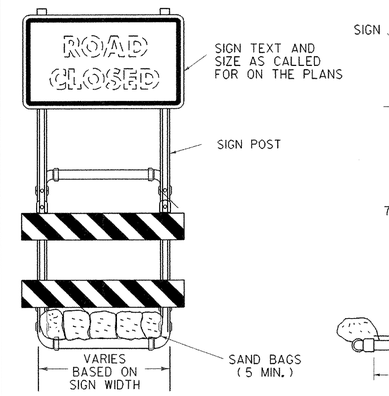
SIDE AND FRONT VIEW OF TYPE III METAL BARRICADE

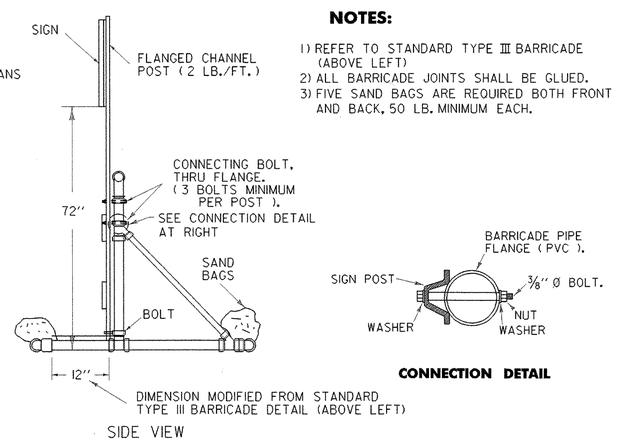
MATERIALS FOR METAL TYPE III BARRICADES

PANELS (3):
8" X 48" GALVANIZED STEEL...COVERED 1 OR 2 SIDES WITH WHITE/ORANGE, DIAGONALLY STRIPED REFLECTIVE SHEETING

VERTICAL SUPPORTS (2): 14 GAGE GALVANIZED TUBING 1 3/4" X 1 3/4" X 60"
HORIZONTAL SUPPORTS (2): 14 GAGE GALVANIZED TUBING 1 3/4" X 1 3/4" X 48"
CROSS BEAM SUPPORT (1): COLD GALVANIZED STEEL 1/4" X 3" X 43 3/4"
BREAKAWAY BRACKETS (4): COLD GALVANIZED STEEL 1/4" X 3" X 5"

FASTENERS:
6 - SHEAR BOLTS WITH LOCK NUTS 1/4" D X 2 3/4"
4 - FULCRUM BOLTS WITH LOCK NUTS 3/8" D X 2 3/4"
4 - FASTENER BOLTS WITH LOCK NUTS 3/8" D X 2 3/4"
6 - PANEL BOLTS WITH LOCK NUTS AND WASHERS 1/4" D X 2"
ALL FASTENERS GALVANIZED STEEL.
ALL BOLTS HEX HEAD.





SIGN MOUNTING ON TYPE III BARRICADE (MODIFIED)

NOTES:

1) REFER TO STANDARD TYPE III BARRICADE (ABOVE LEFT)
2) ALL BARRICADE JOINTS SHALL BE GLUED.
3) FIVE SAND BAGS ARE REQUIRED BOTH FRONT AND BACK, 50 LB. MINIMUM EACH.

CONNECTION DETAIL

OTHER STDS. REQUIRED: E-107

REVISIONS AND CORRECTIONS

SEPT. 10, 1987 - ORIGINAL APPROVAL DATE
SEPT. 20, 1993 - REVISED NOTES AND TYPE III (MOD.) BARRICADE DETAIL
AUG. 08, 1995 - ADDED METAL TYPE III BARRICADE
JUN. 08, 2009 - MINOR CORRECTIONS

APPROVED

Kevin A. Marshia
HIGHWAY, SAFETY & DESIGN ENGINEER

Richard Fitzgerald
DIRECTOR OF PROGRAM DEVELOPMENT

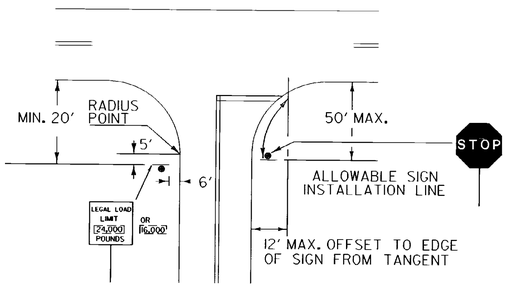
Mark D. Richter
FEDERAL HIGHWAY ADMINISTRATION

BREAKAWAY BARRICADE DETAILS

/traf/std/stdel07a.dgn : stdel07a.i

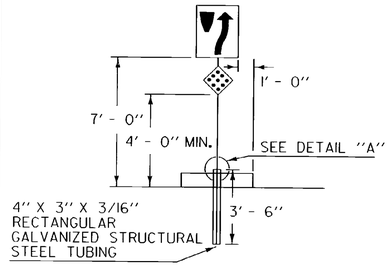
VERMONT AGENCY OF TRANSPORTATION

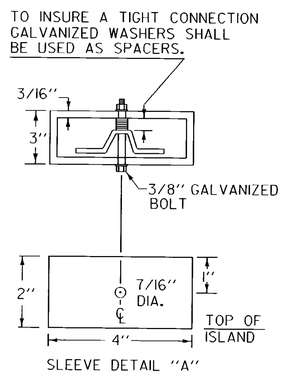
STANDARD E-107 A



STOP SIGN SHALL BE PLACED ON DRIVERS RIGHT, MAINTAINING MAXIMUM VISIBLITY. CLEARANCE SHALL BE A MINIMUM OF 6' AND A MAXIMUM OF 50' FROM EDGE LINE OF INTERSECTING ROADWAY AND DOES NOT HAVE TO BE ADJACENT TO THE STOP BAR.

LEGAL LOAD LIMIT AND STOP SIGNS AT INTERSECTIONS WITH TOWN HIGHWAYS

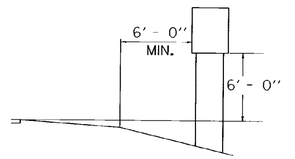


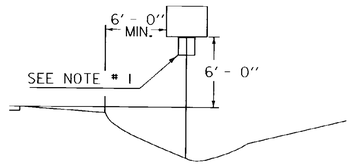


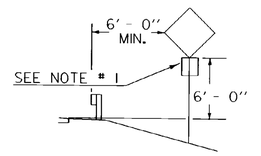
SLEEVE DETAIL "A"

SIGNS ON MEDIAN ISLANDS IN THE LINE OF TRAFFIC

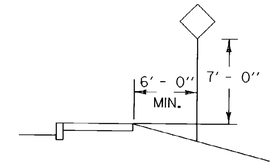
INCREASE VERTICAL CLEARANCE TO 7' IN AREAS OF FREQUENT ROADSIDE PARKING OR PEDESTRIAN ACTIVITY

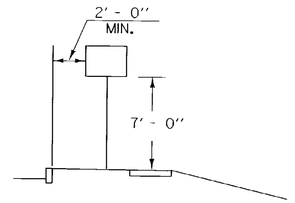




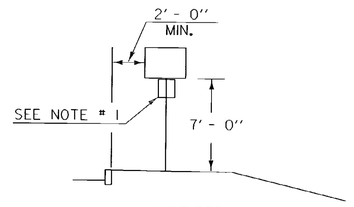


RURAL





IF SUFFICIENT CLEARANCE IS NOT AVAILABLE BETWEEN CURB AND SIDEWALK MOUNT SIGN BEHIND SIDEWALK AS SHOWN AT TOP. CHECK FOR ADEQUATE R.O.W..



URBAN

NOTES:

1. IN BOTH RURAL AND URBAN LOCATIONS. IF A SECONDARY SIGN IS MOUNTED BELOW ANOTHER SIGN. THE MINIMUM CLEARANCE MAY BE REDUCED BY ONE FOOT.
2. IN RURAL AREAS WITH NO OR MINIMAL SHOULDER. THE LATERAL CLEARANCE TO THE EDGE OF A SIGN SHOULD BE A MINIMUM OF 12' FROM THE EDGE OF THE TRAVELED WAY.
3. ALSO SEE OTHER STANDARD SHEETS FOR MOUNTING CLEARANCE AND SPACING OF DESTINATION AND ROUTE MARKER ASSEMBLIES AND TOWN LINE SIGNS.

POST REFERENCE:

REFER TO THE DETAILS ON THE APPROPRIATE STANDARD DRAWING FOR INFORMATION CONCERNING THE PROPER MOUNTING OF SIGNS ON APPROPRIATE POSTS.

OTHER STDS. REQUIRED: **E-160** **E-161** **E-162** **E-163** **E-164**

REVISIONS AND CORRECTIONS

JAN. 23, 1995 - DATE OF ORIGINAL ISSUE

AUG. 08, 1995 - VARIOUS MINOR NOTE REVISIONS

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

APPROVED

Gordon S. MacArthur
DIRECTOR OF ENGINFERING

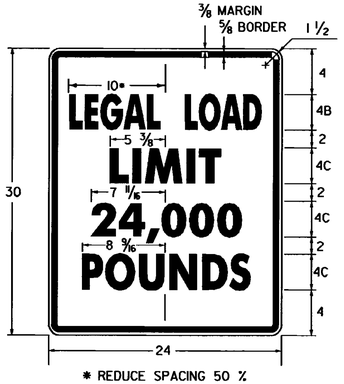
David A. Ross
TRAFFIC AND SAFETY ENGINEER

STANDARD SIGN PLACEMENT CONVENTIONAL ROAD

/traf/std/stdel21.dgn : stdel21.i

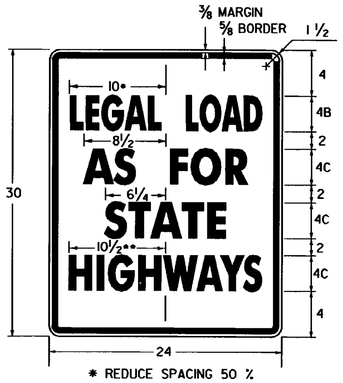
VERMONT AGENCY OF TRANSPORTATION

STANDARD
E-121



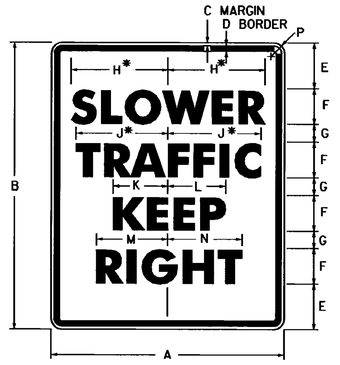
* REDUCE SPACING 50 %
LINE 3 ALTERNATE - 16,000

VR-017



* REDUCE SPACING 50 %
** REDUCE SPACING 38 %

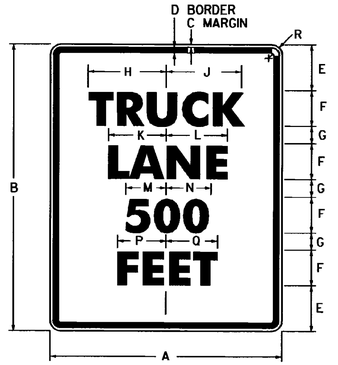
VR-079



* REDUCE SPACING 25 %

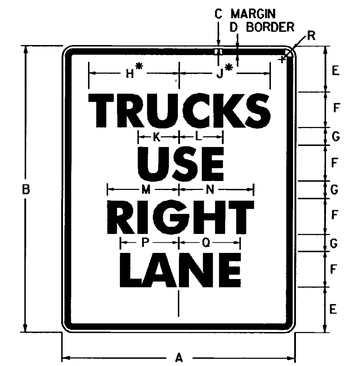
R4-3

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
STD.	24	30	3/8	5/8	3 5/8	4D	2 1/4	9 3/4	10	6	6 9/16	7 1/8	7 5/8	1 1/2
EXPWY.	36	48	5/8	7/8	6	6D	4	14 5/8	15	9	9 13/16	10 11/16	11 3/8	2 1/4
FWY.	48	60	3/4	1 1/4	7 1/4	8D	4 1/2	19 1/2	20	12	13 1/8	14 1/4	15 1/4	3



R4-6

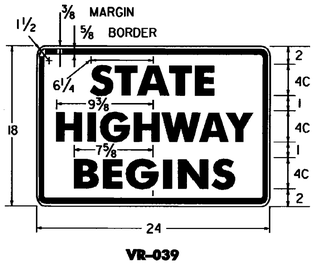
SIGN	DIMENSIONS (INCHES)															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
STD.	24	30	3/8	5/8	3 5/8	4E	2 1/4	9 13/16	9 11/16	7 9/16	7 11/16	5 11/16	5 13/16	6 7/8	7 1/16	1 1/2
EXPWY.	36	48	5/8	7/8	6	6E	4	14 3/4	14 1/2	11 5/16	11 1/2	8 1/2	8 3/4	10 5/16	10 5/8	2 1/4
FWY.	48	60	3/4	1 1/4	7 1/4	8E	4 1/2	19 5/8	19 3/8	15 1/8	15 3/8	11 3/8	11 5/8	13 3/4	14 1/8	3



* REDUCE SPACING 32 %

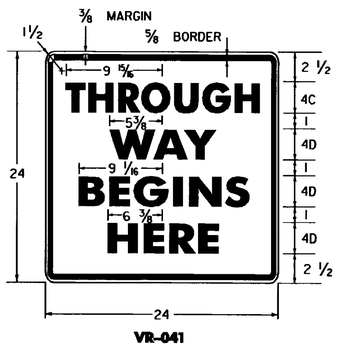
R4-5

SIGN	DIMENSIONS (INCHES)															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
STD.	24	30	3/8	5/8	3 5/8	4D	2 1/4	9 9/16	9 3/16	4 3/4	5	7 1/8	7 5/8	6 1/4	6 5/8	1 1/2
EXPWY.	36	48	5/8	7/8	6	6D	4	14 5/16	13 13/16	7 1/8	7 1/2	10 11/16	11 3/8	9 3/8	9 15/16	2 1/4
FWY.	48	60	3/4	1 1/4	7 1/4	8D	4 1/2	19 1/8	18 3/8	9 1/2	10	14 1/4	15 1/4	12 1/2	13 1/4	3

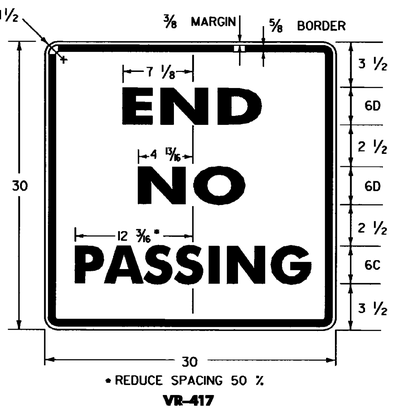


VR-039

VR-038

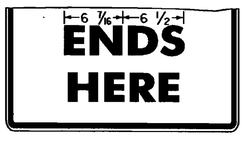


VR-041

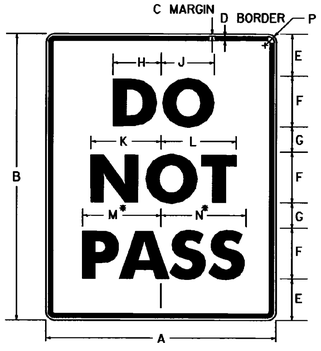


* REDUCE SPACING 50 %

VR-417



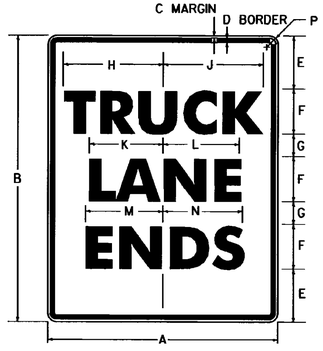
VR-040



* REDUCE SPACING 40 %

R4-1

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
STD.	24	30	3/8	5/8	3 1/2	6D	2 1/2	4 11/16	5	7 1/8	7 3/8	9 3/8	9 3/4	1 1/2
EXPWY.	36	48	5/8	7/8	7	8D	5	6 1/4	6 5/8	9 1/2	9 3/4	12 1/2	13	2 1/4
FWY.	48	60	3/4	1 1/4	8	10D	7	7 3/4	8 5/16	11 7/8	12 1/4	15 5/8	16 1/4	3



VR-186

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
STD.	24	30	3/8	5/8	3 1/2	6C	2 1/2	10 1/4	10 3/16	7 3/4	7 3/4	7 15/16	8	1 1/2
EXPWY.	36	48	5/8	7/8	7	8C	5	13 11/16	13 5/8	10 3/8	10 5/16	10 11/16	10 11/16	2 1/4
FWY.	48	60	3/4	1 1/4	8	10D	7	20 5/8	20 5/8	15 7/8	15 5/8	16 1/16	16 1/16	3

GENERAL:

1. ALL DIMENSIONS IN INCHES.

COLORS:

THE REGULATORY SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT ON REFLECTORIZED WHITE BACKGROUND, UNLESS OTHERWISE NOTED. THE COLORS SHALL CONFORM WITH THE COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND APPROVED BY THE DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

MATERIALS:

THE SIGN BASE MATERIALS USED FOR REGULATORY SIGNS SHOWN ON THIS SHEET MAY BE ANY OF THE FOLLOWING OF THE MINIMUM THICKNESS NOTED.

	24'' X 18'', 24'' X 24'', 24'' X 30'', 30'' X 30''	36'' X 48'', 48'' X 60''
FLAT SHEET ALUMINUM	0.080''	0.100''
HIGH DENSITY OVERLAID PLYWOOD	1/2''	5/8''
GALVANIZED FLAT SHEET STEEL	16 GAGE	14 GAGE

THE REFLECTIVE MATERIAL FOR GROUND MOUNTED SIGNS SHALL BE AASHTO TYPE II OR III WHITE REFLECTIVE SHEETING APPLIED TO THE ENTIRE BACKGROUND OF THE SIGN. THE THE TEXT OF THE SIGNS MAY BE LETTERING FILM, SILK SCREENED OR HAND PAINTED. HAND PAINTING MUST BE COMPARABLE IN QUALITY TO THE RESULTS OBTAINED BY SILK SCREENING.

SPECIFICATIONS:

REGULATORY SIGNS SHALL MEET THE VERMONT STANDARD SPECIFICATIONS FOR TRAFFIC SIGNS.

TEXT DESIGN:

LETTERS, DIGITS, ARROWS, SPACING AND TEXT DIMENSIONS SHALL CONFORM WITH THE ''STANDARD ALPHABET FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS'' AND DESIGNS PRESCRIBED IN THE STANDARD HIGHWAY SIGNS AS SPECIFIED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

OTHER STDS. : NONE REQUIRED

REVISIONS AND CORRECTIONS

OCT. 30, 1987 - DATE OF ORIGINAL ISSUE
SEPT. 20, 1995 - ADDED AND DELETED SIGN DETAIL, ADDED SIGN ID NUMBERS, MINOR NOTE REVISIONS.

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

APPROVED

DIRECTOR OF ENGINEERING

TRAFFIC AND SAFETY ENGINEER

REGULATORY SIGN DETAILS

/traf/std/stdel41.dgn : stdel41.1

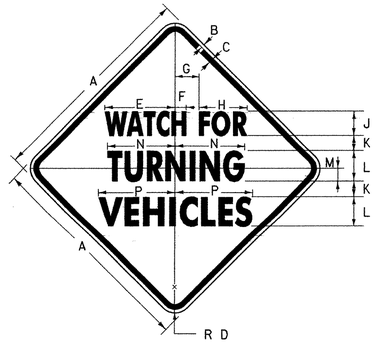
VERMONT AGENCY OF TRANSPORTATION

STANDARD E-141

W5-1

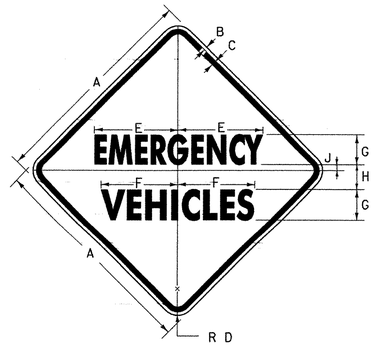
• REDUCE SPACING 25%

SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
MIN.	30	1/2	3/4	5D	3	1 3/4	7 7/8	8 5/8	14 3/4	15 1/8	1 7/8
STD.	36	5/8	7/8	6D	3 1/2	2	9 1/2	10 5/16	17 5/8	18 1/4	2 1/4
SPECIAL	48	3/4	1 1/4	8D	4	3	12 11/16	13 3/4	23 1/2	23 3/8	3



VW-205

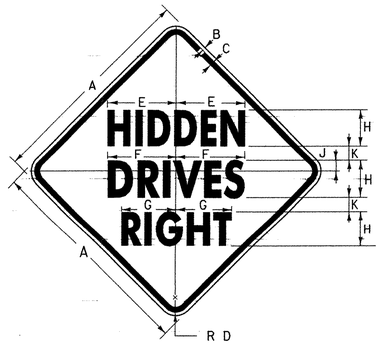
SIGN	DIMENSIONS (INCHES)														
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
MIN.	30	1/2	3/4	1 7/8	9 5/8	1 1/2	3 3/8	6 3/8	4B	2	5B	2	9 1/4	10 1/4
STD.	36	5/8	7/8	2 1/4	11 3/4	1 7/8	4	8	4C	2 1/2	5C	2	11 1/2	12 7/8
SPECIAL	48	3/4	1 1/4	3	14 3/4	2 3/8	5 3/8	10	5C	3 3/8	8B	2 5/8	14 13/16	16 7/16



VW-544

• REDUCE SPACING 50%

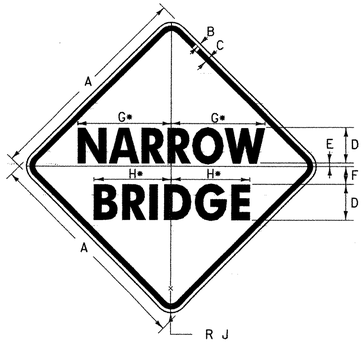
SIGN	DIMENSIONS (INCHES)								
	A	B	C	D	E	F	G	H	J
MIN.	30	1/2	3/4	1 7/8	12 3/4	9 1/16	4C•	3 3/8	7/8
STD.	36	5/8	7/8	2 1/4	14 3/16	11 5/16	5C•	4	1
SPECIAL	48	3/4	1 1/4	3	19 1/8	15 7/16	6C	5 3/8	1 3/8



VW-054

SIGN	DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	J	K	L	M
PATH	18	3/8	5/8	1 3/8	5 5/8	5 5/8	4 7/16	3C	7/8	1 13/16	4 9/16	3 5/16
MIN.	24	3/8	5/8	1 1/2	7 11/16	7 5/8	6 3/16	4C	1 3/16	2	6 3/16	4 7/8
STD.	30	1/2	3/4	1 7/8	9 9/16	9 1/2	7 11/16	5C	1 1/2	2	7 3/4	6 1/8
EXPWY.	36	5/8	7/8	2 1/4	11 7/16	11 7/16	9 3/16	6C	1 13/16	2 3/8	9 5/16	7 3/8
SPECIAL	48	3/4	1 1/4	3	15 3/8	15 1/4	12 5/16	8C	2 3/8	3 3/16	12 3/8	9 15/16

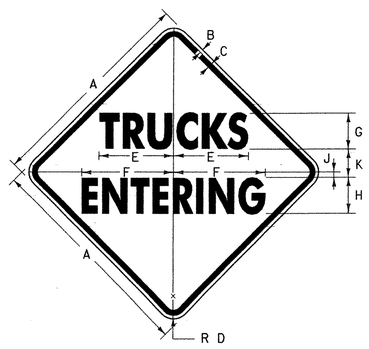
VW-133



W5-2

• REDUCE SPACING 20%

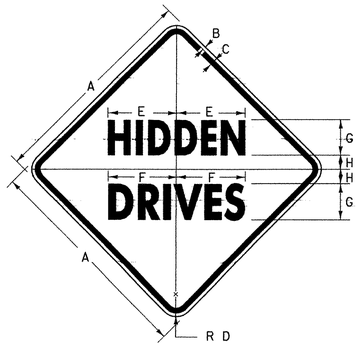
SIGN	DIMENSIONS (INCHES)								
	A	B	C	D	E	F	G	H	J
PATH	18	3/8	5/8	3D	1/4	1 3/8	7 5/8	6 1/4	1 3/8
MIN.	24	3/8	5/8	4D	1/4	2	10 7/16	8 3/4	1 1/2
STD.	30	1/2	3/4	5D	1/2	2 1/2	13 11/16	10 7/8	1 7/8
SPECIAL	36	5/8	7/8	6D	3/4	3	15 11/16	13 11/16	2 1/4



VW-202

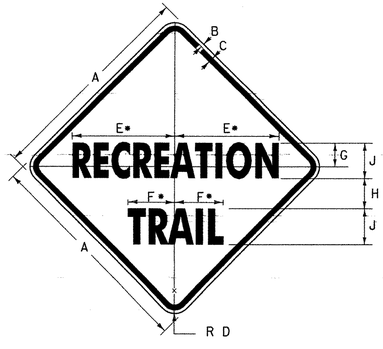
SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	K
MIN.	30	1/2	3/4	1 7/8	14 7/16	6 11/16	5C	5C	3/4	4
STD.	36	5/8	7/8	2 1/4	17 3/8	8	6C	6C	7/8	4 3/16
SPECIAL	48	3/4	1 1/4	3	23 1/8	10 11/16	8B	8C	1 3/16	6 3/8

(ALL DIMENSIONS SHOWNIN INCHES EXCEPT WHERE NOTED)



VW-060

SIGN	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	H
PATH	18	3/8	1/2	1 1/8	5 3/4	5 1/2	3C	1 1/8
MIN.	24	3/8	5/8	1 1/2	7 11/16	7 5/8	4C	2
STD.	30	1/2	3/4	1 7/8	9 9/16	9 1/2	5C	2
EXPWY.	36	5/8	7/8	2 1/4	11 1/2	11 7/16	6C	2 3/8
SPECIAL	48	3/4	1 1/4	3	15 3/8	15 1/4	8C	3 3/16



VW-622

• REDUCE SPACING 50%

SIGN	DIMENSIONS (INCHES)								
	A	B	C	D	E	F	G	H	J
MIN.	24	3/8	5/8	1 1/2	11 3/16	5 5/16	2 11/16	3 3/16	4C
STD.	30	1/2	3/4	1 7/8	14 7/16	6 11/16	3 3/16	4 3/16	5C
SPECIAL	36	5/8	7/8	2 1/4	17 3/8	8	4	5	6C

NOTES

DESIGN

LETTERS, DIGITS, ARROWS, SYMBOLS, SPACINGS AND TEXT SHALL CONFORM WITH THE "STANDARD HIGHWAY SIGNS BOOK" AND DESIGNS PRESCRIBED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) ADOPTED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION (FHWA).

MATERIALS

THE SIGN BASE MATERIALS USED FOR THE WARNING SIGNS SHOWN ON THIS SHEET MAY BE ANY OF THE FOLLOWING, OF THE MINIMUM THICKNESS NOTED:

	18" x 18"	24" x 24" 30" x 30"	36" x 36"	48" x 48"
FLAT SHEET ALUMINUM	0.060"	0.080"	0.100"	0.125"

REFLECTORIZATION

THE BACKGROUND RETROREFLECTIVE MATERIAL SHALL BE ASTM TYPE III, TYPE VIII, OR TYPE IX RETROREFLECTIVE SHEETING APPLIED TO THE ENTIRE SIGN.
THE TEXT, BORDER, AND SYMBOLS SHALL BE LETTERING FILM OR SILK SCREENED.

COLORS

ALL OF THE WARNING SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT AND SYMBOLS ON RETROREFLECTORIZED YELLOW BACKGROUND, UNLESS OTHERWISE NOTED. THE COLORS SHALL CONFORM WITH THE COLORS ADOPTED BY AASHTO AND APPROVED BY THE FHWA.

SPECIFICATIONS

WARNING SIGNS SHALL MEET THE VERMONT STANDARD SPECIFICATIONS FOR CONSTRUCTION "TRAFFIC SIGNS".

OTHER STDS. REQUIRED:

REVISIONS AND CORRECTIONS

AUG. 08, 1995 - DATE OF ORIGINAL ISSUE

MAY 01, 2004 - CHANGED REFLECTIVE SHEETING TO TYPE III
MINOR NOTE CHANGES ADDED PATH DIMENSIONS

APPROVED

DIRECTOR OF PROGRAM DEVELOPMENT

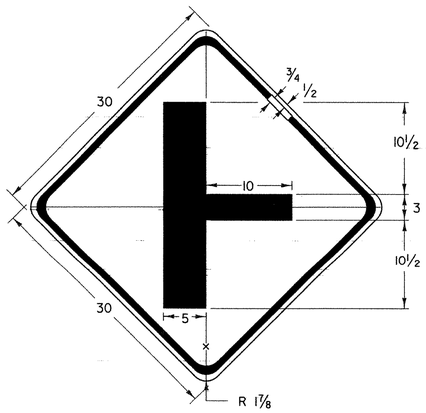
TRAFFIC OPERATIONS ENGINEER

FEDERAL HIGHWAY ADMINISTRATION

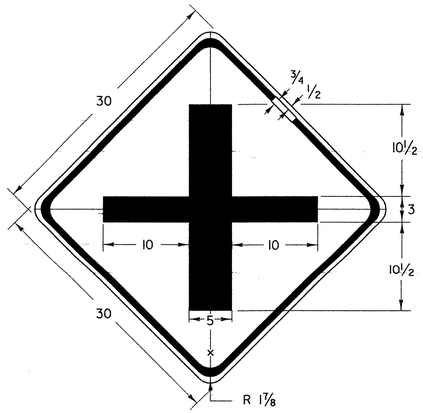
WARNING SIGN DETAILS

VERMONT AGENCY OF TRANSPORTATION

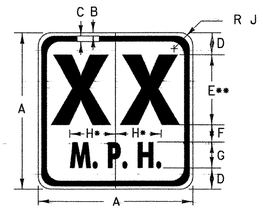
STANDARD
E-154



W2-2M



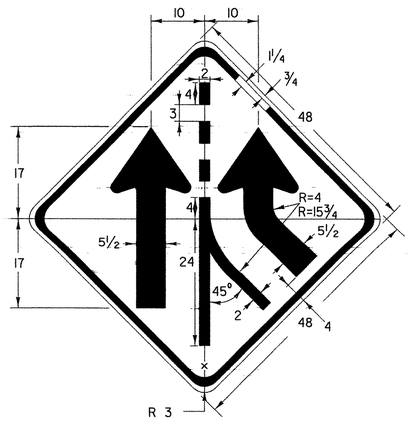
W2-1M



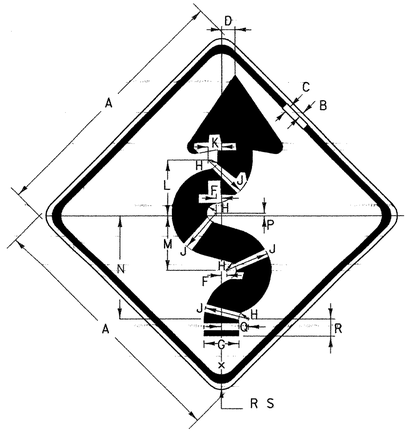
W13-1

* INCREASE SPACING 100%
** OPTICALLY SPACE NUMERALS ABOUT VERTICAL CENTERLINE

SIGN	DIMENSIONS (INCHES)								
	A	B	C	D	E	F	G	H	J
STD.	18	3/8	5/8	2 1/2	8E	2	3E	5 5/16	1 1/2
SPECIAL	24	3/8	5/8	3 5/8	10E	2 3/4	4E	7 1/16	1 1/2



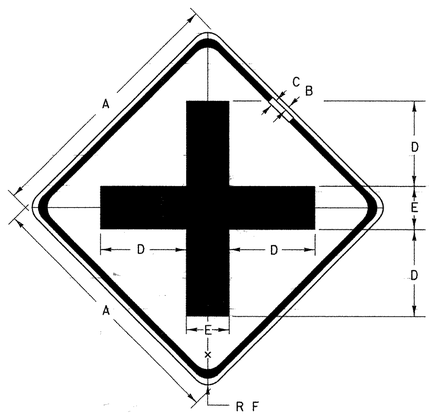
W4-3



W1-5

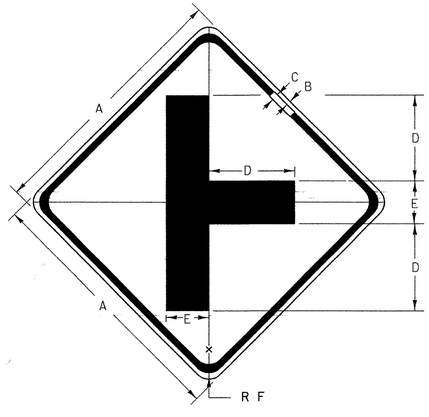
SIGN	DIMENSIONS (INCHES)															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S
PATH	18	3/8	5/8	1	9 5/8	3/8	2 1/2	5/8	3	1	4	4	8 5/8	1/4	2	1 1/4	1 1/2
MIN.	24	3/8	5/8	1 1/4	12 3/4	1/2	3 1/4	7/8	4 1/8	1 1/4	5 3/16	5 1/4	11 3/8	1/4	2 1/2	1 9/32	1 1/2
STD.	30	1/2	3/4	1 9/16	15 15/16	5/8	4 1/16	1 3/32	5 5/32	1 9/16	6 3/64	6 9/16	14 7/32	5/16	3 1/8	2	1 7/8
EXPWY.	36	5/8	7/8	1 7/8	19 1/8	3/4	4 7/8	1 5/16	6 3/16	1 7/8	7 5/32	7 7/8	17 1/16	3/8	3 3/4	2 13/32	2 1/4
SPECIAL	48	3/4	1 1/4	2 1/2	25 1/2	1	6 1/2	1 3/4	8 1/4	2 1/2	10 3/8	10 1/2	22 3/4	1/2	5	3 3/16	3

STATE ROUTE /MINOR TOWN HIGHWAY INTERSECTION SIGNS (TYP.)



W2-1

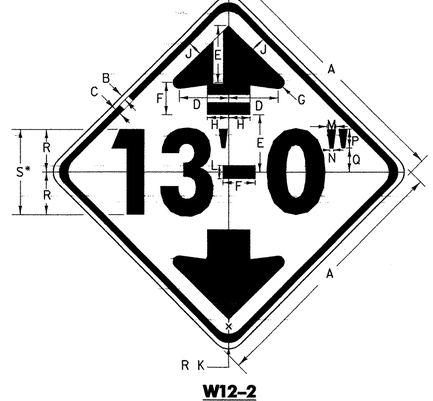
SIGN	DIMENSIONS (INCHES)					
	A	B	C	D	E	F
PATH	18	3/8	5/8	6	3	1 1/2
MIN.	24	3/8	5/8	8	4	1 1/2
STD.	30	1/2	3/4	10	5	1 7/8
EXPWY.	36	5/8	7/8	12	6	2 1/4
SPECIAL	48	3/4	1 1/4	16	8	3



W2-2

SIGN	DIMENSIONS (INCHES)					
	A	B	C	D	E	F
PATH	18	3/8	5/8	6	3	1 1/2
MIN.	24	3/8	5/8	8	4	1 1/2
STD.	30	1/2	3/4	10	5	1 7/8
EXPWY.	36	5/8	7/8	12	6	2 1/4
SPECIAL	48	3/4	1 1/4	16	8	3

STATE ROUTE /STATE ROUTE OR MAJOR TOWN HIGHWAY INTERSECTION SIGNS (TYP.)



W12-2

* OPTICALLY SPACE VERTICAL CLEARANCE ABOUT VERTICAL CENTERLINE (WHERE 10" IS USED IN VERT. CLEARANCE, USE SERIES C NUMERALS)

SIGN	DIMENSIONS (INCHES)																
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S
MIN.	30	1/2	3/4	5 3/4	6 5/8	3 3/4	3/4	2 1/2	1 11/16	1 7/8	1 9/16	1	7/16	2 1/4	3 5/16	5	10D
STD. & EXPWY.	36	5/8	7/8	6 7/8	8	4 1/2	1	3	2	2 1/4	1 7/8	1 1/4	1/2	2 3/4	4	6	12D
FWY.	48	3/4	1 1/4	9 3/16	10 5/8	5 7/8	1 5/16	4	2 5/8	3	2 7/16	1 5/8	5/8	3 5/8	5 1/2	8	16D

(ALL DIMENSIONS SHOWN IN INCHES EXCEPT WHERE NOTED)

NOTES

DESIGN

LETTERS, DIGITS, ARROWS, SYMBOLS, SPACINGS, AND TEXT DIMENSIONS SHALL CONFORM WITH THE "STANDARD HIGHWAY SIGNS BOOK" AND DESIGNS PRESCRIBED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) ADOPTED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION (FHWA). SEE STANDARD SHEET E-151 FOR ARROWHEAD DETAILS.

MATERIALS

THE SIGN BASE MATERIALS USED FOR THE WARNING SIGNS SHOWN ON THIS SHEET MAY BE ANY OF THE FOLLOWING, OF MINIMUM THICKNESS NOTED.

	18" X 18"	24"X24" 30"X30"	36"X36"	48"X48"
FLAT SHEET ALUMINUM	0.060"	0.080"	0.100"	0.125"

REFLECTORIZATION

THE BACKGROUND RETROREFLECTIVE MATERIAL SHALL BE ASTM TYPE III, TYPE VIII OR TYPE IX RETROREFLECTIVE SHEETING APPLIED TO THE ENTIRE SIGN.
THE TEXT, BORDER AND SYMBOLS SHALL BE LETTERING FILM OR SILK SCREENED.

COLORS

ALL THE WARNING SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT AND SYMBOLS ON RETROREFLECTORIZED YELLOW BACKGROUND UNLESS OTHERWISE NOTED.
THE COLORS SHALL CONFORM WITH THE COLORS ADOPTED BY AASHTO AND APPROVED BY THE FHWA.

SPECIFICATIONS

WARNING SIGNS SHALL MEET THE VERMONT STANDARD SPECIFICATIONS FOR CONSTRUCTION "TRAFFIC SIGNS".

OTHER STDS. REQUIRED: E-151

REVISIONS AND CORRECTIONS

AUG. 08, 1995 - DATE OF ORIGINAL ISSUE
MAY 01, 2004 - CHANGED REFLECTIVE SHEETING TO TYPE III MINOR NOTE CHANGES

APPROVED

DIRECTOR OF PROGRAM DEVELOPMENT

TRAFFIC OPERATIONS ENGINEER

FEDERAL HIGHWAY ADMINISTRATION

WARNING SIGN DETAILS

VERMONT AGENCY OF TRANSPORTATION

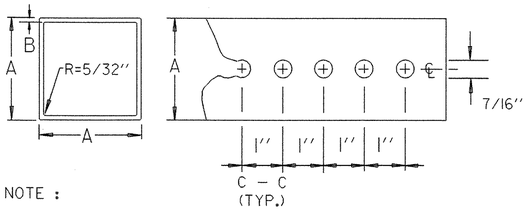
STANDARD
E-155

GUARDRAIL DEFLECTION CHART

(PER AASHTO - ROADSIDE DESIGN GUIDE - LATEST EDITION)

TYPE	GR POST SPACING	DEFLECTION
THREE CABLE W/STEEL POSTS	16' - 0"	11' - 6"
W/WOODEN POSTS	12' - 6"	11' - 6"
W-BEAM W/STRONG POST	6' - 3"	3'
BOX BEAM	6' - 0"	5'
THRIE BEAM W/STRONG POST	6' - 3"	2'

THIS CHART LISTS THE THEORETICAL MAXIMUM DEFLECTION DISTANCE, UPON IMPACT, OF DIFFERENT TYPES OF GUARDRAIL AND VARIOUS POST SPACINGS.



NOTE :

THE POSTS SHALL BE CAREFULLY FORMED OF STEEL WITH A MINIMUM YIELD OF 55,000 PSI, INTO A SIZE AND SHAPE WITH CORNERS INDUCTION WELDED IN SUCH A MANNER THAT NEITHER FLASH NOR WELD SHALL INTERFERE WITH THE TELESCOPING PROPERTIES, NOR DAMAGE THE GALVANIZING.

* THE WALL THICKNESS TOLERANCES SHALL BE +.005" AND -.010" FOR THE 12 GAUGE.

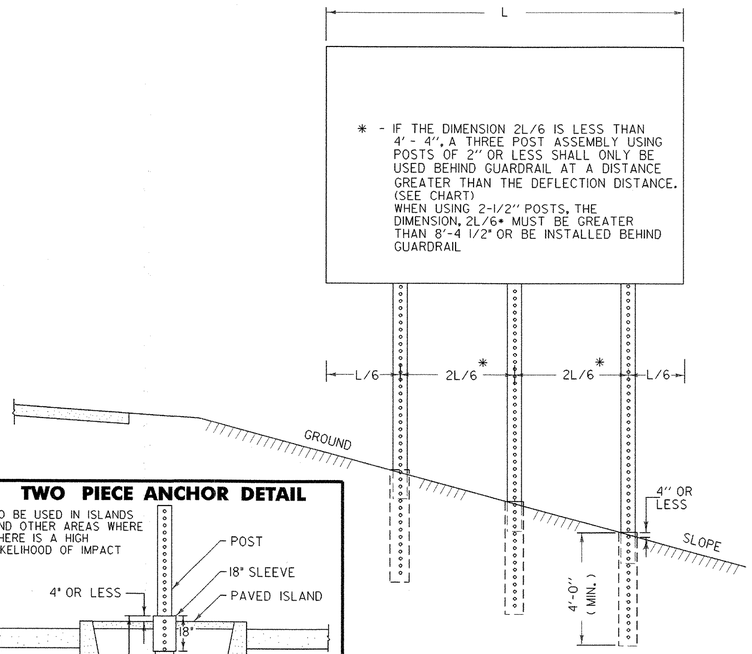
* THE WALL THICKNESS TOLERANCES SHALL BE +.002" AND -.008" FOR THE 14 GAUGE.

DIMENSION DETAILS AND POST SELECTION CHART

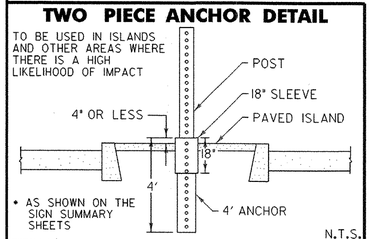
POST SELECTION CHART								
SIGN AREA (FT^2) X H (FT) ≤ SV (SELECTION VALUE)								
POST SIZE	DIMENSIONS			SECTION MODULUS IN^3	ONE POST Sv	TWO POST Sv	THREE POST Sv	NUMBER PERMITTED IN 8' PATH
LBS/FT.	A	*B	GAUGE					
1.88	1-3/4"	.083	14	0.230	46	92	138	TWO
2.42	2"	.083	12	0.380	77	154	231	TWO
3.35	2-1/2"	.105	12	0.642	130	260	390	ONE

DESIGN CRITERIA:

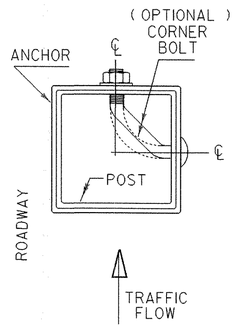
WIND SPEED = 70 MPH (10 -YEAR MEAN RECURRENCE INTERVAL)
WIND PRESSURE = 19 PSF
STEEL MINIMUM YIELD = 55,000 PSI
ALLOWABLE STRESS = (1.4) 0.60 FY



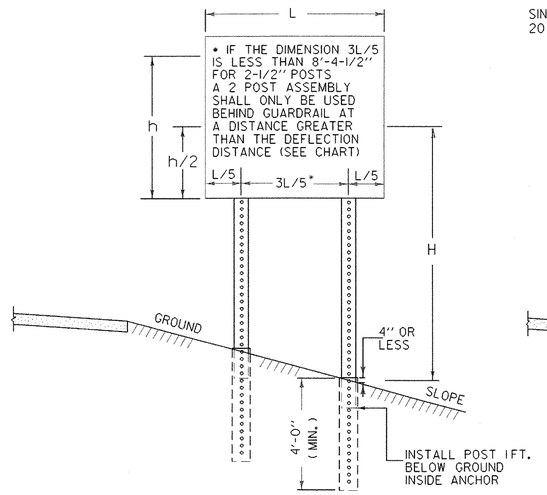
TWO PIECE ANCHOR DETAIL



TOP VIEW OF ANCHOR, POST AND BOLT



MULTI-POST INSTALLATIONS



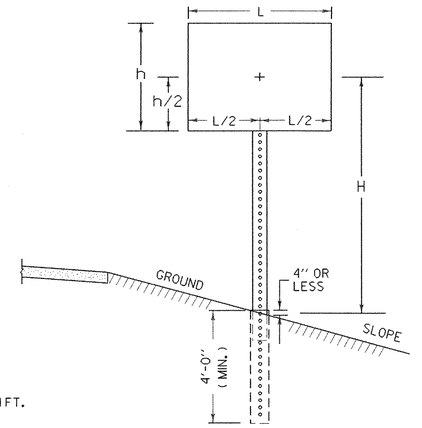
POST SPACING DETAILS

GENERAL NOTES

CONSTRUCTION METHODS - POSTS MAY BE DRIVEN OR SET IN A DUG HOLE AND BACKFILLED. IF DRIVEN, A DRIVING CAP SHALL BE USED. THE DUG HOLE INSTALLATION SHALL BE USED IN AREAS OF POOR SOIL CONDITIONS OR AS DIRECTED BY THE RESIDENT ENGINEER. BACKFILL SHALL BE COMPACTED AS DIRECTED BY THE RESIDENT ENGINEER.

SIGN CLEARANCES - HORIZONTAL AND VERTICAL SIGN CLEARANCES SHALL BE SHOWN ON THE PLANS OR THE APPROPRIATE STD. SHEETS.

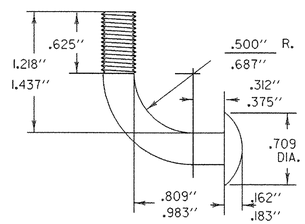
SINGLE POST INSTALLATIONS SHALL BE LIMITED TO A SIGN AREA OF 20 SQ. FT. OR LESS



NOTE

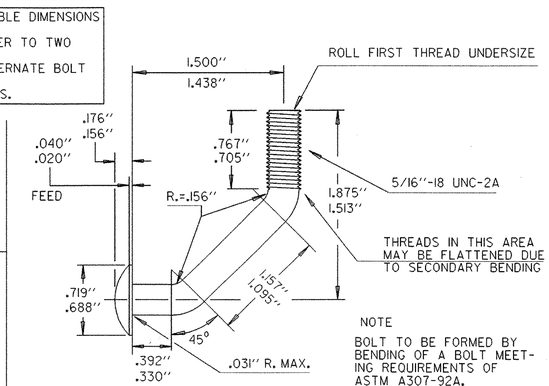
WHEN USING SQUARE STEEL POSTS ON STEEP SLOPES (1 ON 2 OR STEEPER) ADD ONE FOOT EMBEDMENT FOR GREATER STABILITY.

OPTIONAL CORNER BOLT DETAILS



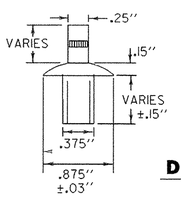
FOR 1-3/4" TO 2-1/2" SQ. TUBE BOLT SIZE VARIES WITH POST SIZE

DOUBLE DIMENSIONS REFER TO TWO ALTERNATE BOLT SIZES.



NOTE

BOLT TO BE FORMED BY BENDING OF A BOLT MEETING REQUIREMENTS OF ASTM A307-92A.

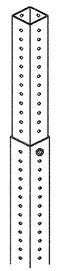


THIS DRIVE RIVET MAY BE SUBSTITUTED FOR EITHER OF THE CORNER BOLTS SHOWN ABOVE OR TO THE RIGHT.

DRIVE RIVET

* DIMENSIONS VARY AS NEEDED FOR POST SIZE USED

CONNECTION DETAIL



POST IS TO BE INSERTED INTO ANCHOR ONE FOOT BELOW GROUND LEVEL. ANCHOR IS TO BE 4'-0" MINIMUM LENGTH WITH NO MORE THAN 4" ABOVE GROUND. ANCHOR IS ONE SIZE (1/4") GREATER THAN THE POST AND ALL ANCHORS ARE TO BE 12 GAGE, EXCEPT ANCHORS FOR 2-1/2" POSTS ARE TO BE 3" AND 7 GAGE. CONNECTION IS TO BE MADE USING THE BOLT PROVIDED WITH THE SIGN SYSTEM (SEE DETAILS LEFT), AT THE TOP HOLE IN THE ANCHOR (APPROXIMATELY 3-1/2" ABOVE GROUND). THREE INCH ANCHORS WHICH DO NOT HAVE HOLES ON 1" CENTERS WILL REQUIRE DRILLING OF 7/16" HOLES FOR CONNECTIONS.

(SEE DETAIL LEFT FOR BOLT PLACEMENT)

OTHER STDS. REQUIRED E-120, E-160

REVISIONS AND CORRECTIONS

APR. 27, 1994 - ORIGINAL APPROVAL DATE
JUL. 21, 1994 - REVISED POST GAUGES
AUG. 18, 1995 - ADDED TWO PIECE ANCHOR DETAIL
MAR. 26, 1996 - REVISED POST SELECTION CHART
MAY 20, 1999 - REPLACE LOST ORIGINAL
JUN. 08, 2009 - POST SELECTION REVISIONS

APPROVED

Kevin S. Marshia
HIGHWAY, SAFETY & DESIGN ENGINEER

Richard Fitzgerald
DIRECTOR OF PROGRAM DEVELOPMENT

Mark D. Richter
FEDERAL HIGHWAY ADMINISTRATION

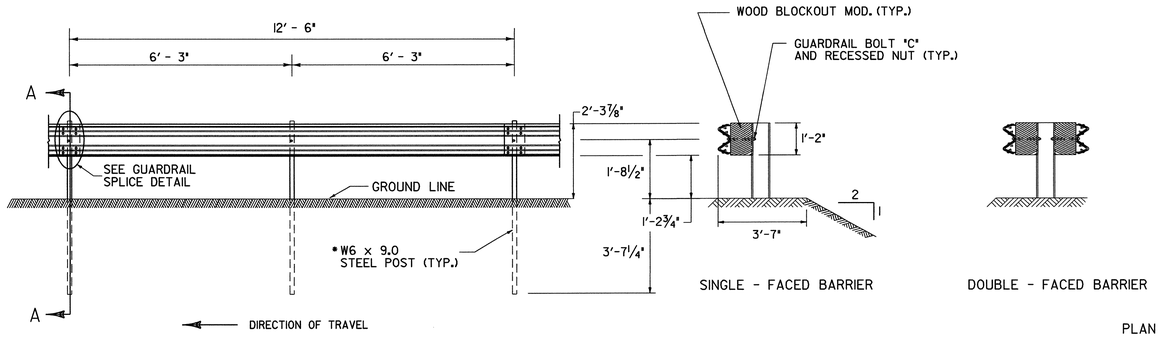
SQUARE STEEL SIGN POST

/traf/english/std/el64.dgn

VERMONT AGENCY OF TRANSPORTATION

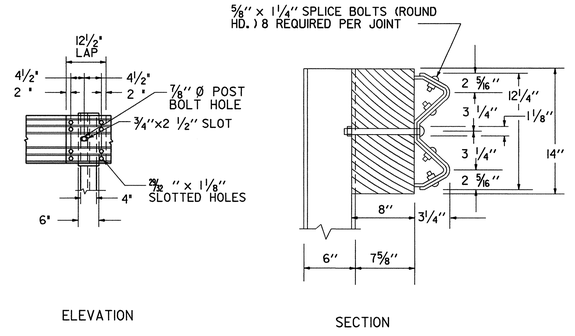
STANDARD
E-164

"W" BEAM GUARDRAIL WITH STEEL POSTS

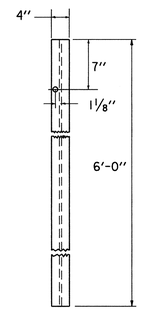


ELEVATION FROM ℄ OF ROAD

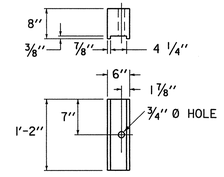
SECTION A -A



GUARDRAIL SPLICE DETAIL



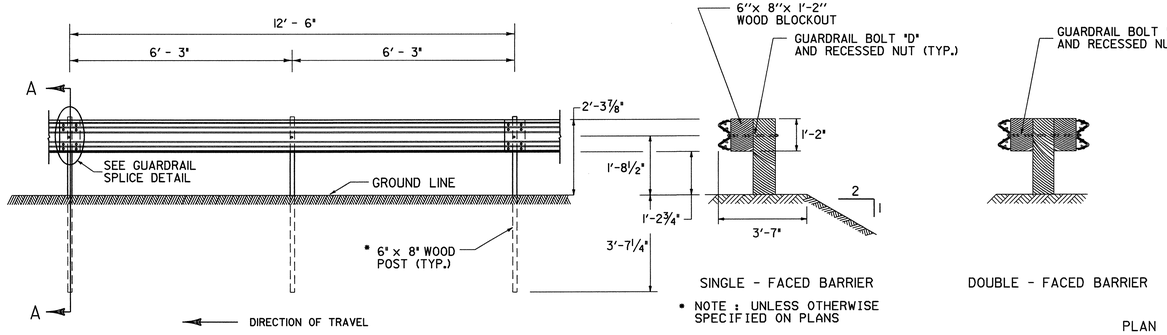
FRONT FACE STEEL POST



POST FACE
MODIFIED WOOD BLOCKOUT- ROUTED
6" X 8" X 1'-2"
FOR USE W/ STEEL POSTS ONLY

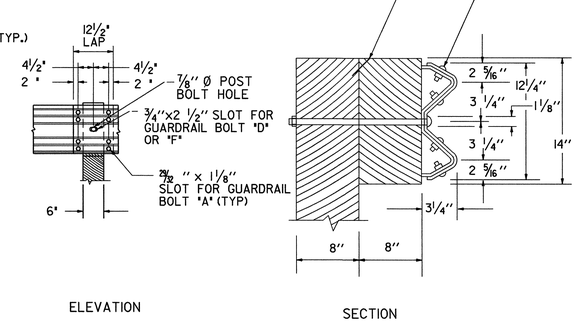
NOTES:
1. BLOCKS SHALL BE MADE OF TIMBER WITH A STRESS GRADE OF 1200 PSI OR MORE. TESTING SHALL BE IN ACCORDANCE WITH WEST COAST LUMBER INSPECTION BUREAU, SOUTHERN PINE INSPECTION BUREAU OR OTHER APPRPRIATE ASSOCIATION. TIMBER FOR BLOCKS SHALL BE ROUGH SAWN (UNPLANED) WITH DIMENSIONS INDICATED. THE SIZE TOLERANCE OF ROUGH SAWN BLOCKS IN THE DIRECTION OF THE BOLT HOLES SHALL BE NOT MORE THAN +/- 1/4".
2. SUPPLY WOOD BLOCKS PER AASHTO M 168.
3. TREAT WITH PRESERVATIVE PER AASHTO M 133.
4. BLOCKOUTS MAY ALSO BE MADE OF APPROVED ALTERNATIVE MATERIAL.

"W" BEAM GUARDRAIL WITH WOOD POSTS

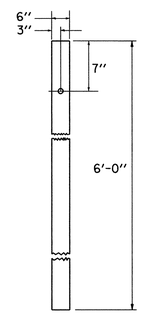


ELEVATION FROM ℄ OF ROAD

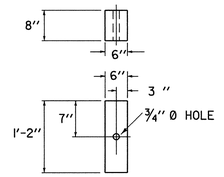
SECTION A -A



GUARDRAIL SPLICE DETAIL



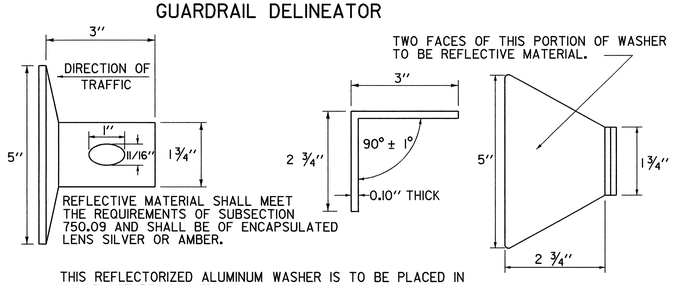
FRONT FACE WOOD POST



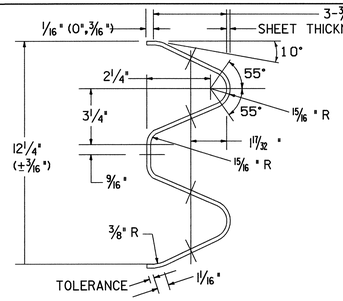
POST FACE
WOOD BLOCKOUT
6" X 8" X 1'-2"

NOTES:
1. BLOCKS SHALL BE MADE OF TIMBER WITH A STRESS GRADE OF 1200 PSI OR MORE. TESTING SHALL BE IN ACCORDANCE WITH WEST COAST LUMBER INSPECTION BUREAU, SOUTHERN PINE INSPECTION BUREAU OR OTHER APPRPRIATE ASSOCIATION. TIMBER FOR BLOCKS SHALL BE ROUGH SAWN (UNPLANED) WITH DIMENSIONS INDICATED. THE SIZE TOLERANCE OF ROUGH SAWN BLOCKS IN THE DIRECTION OF THE BOLT HOLES SHALL BE NOT MORE THAN +/- 1/4".
2. SUPPLY WOOD BLOCKS PER AASHTO M 168.
3. TREAT WITH PRESERVATIVE PER AASHTO M 133.
4. BLOCKOUTS MAY ALSO BE MADE OF APPROVED ALTERNATIVE MATERIAL.

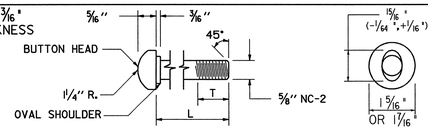
GUARDRAIL DELINEATOR



THIS REFLECTORIZED ALUMINUM WASHER IS TO BE PLACED IN VALLEY OF BEAM WHEN MOUNTING BEAM ONTO EACH FIFTH POST. WASHER SHALL MEET SPECIFICATION REQUIREMENTS FOR A.S.T.M. B-209 ALLOY 5052-H32

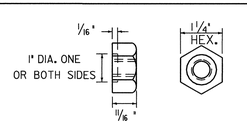


ARTBA RE-3[2@6'-3"=12'-6" CLASS A, TYPE 1]-73
TYPICAL GUARDRAIL SECTION

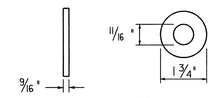


GUARDRAIL BOLT

GUARDRAIL BOLTS				FASTENER USED IN	
BOLT DES.	ARTBA REF. NO.	L	T (MIN.)	STEEL POSTS	WOOD POSTS
"A"	F-3[1 1/4]-76	1 1/4"	1"	X	X
"C"	F-3[9 1/2]-76	9 1/2"	1 3/4"	X	
"D"	F-3[18]-76	18"	2 1/2"		X
"F"	F-3[25]-76	25"	2"		X



RECESSED NUT FOR GUARDRAIL BOLT



WASHER FOR 5/8" BOLTS
ARTBA F-13-73
NOTE: WASHER IS USED UNDER RECESSED NUT WHERE GUARDRAIL BOLT IS USED WITH WOOD POSTS.

GENERAL NOTES:

1. GUARDRAIL SHALL MEET THE REQUIREMENTS OF AASHTO M 180, CLASS A, TYPE 1, UNLESS OTHERWISE DESIGNATED
2. GUARDRAIL SHALL BE SINGLE FACED UNLESS OTHERWISE DESIGNATED
3. GUARDRAIL SECTIONS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW FOR THE LANE NEAREST THE GUARDRAIL.
4. FOR DESCRIPTION AND SPECIFICATION OF PARTS IDENTIFIED BY (ARTBA ...) AND OTHER DETAILS OF POSTS, POST ACCESSORIES, FASTENERS & RAIL ELEMENTS, SEE AASHTO-AGC-ARTBA JOINT TASK FORCE NO. 13, TITLED 'A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE', LATEST EDITION.
5. STANDARD STEEL BEAM TO BE 1/8" AND THE HEAVY DUTY TO BE 9/64" THICK.

OTHER STANDARD REQUIRED G-1d

REVISIONS AND CORRECTIONS

JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.
JAN.3,2000 - UPDATED TO REFLECT METRIC STD. CHANGES

APPROVED

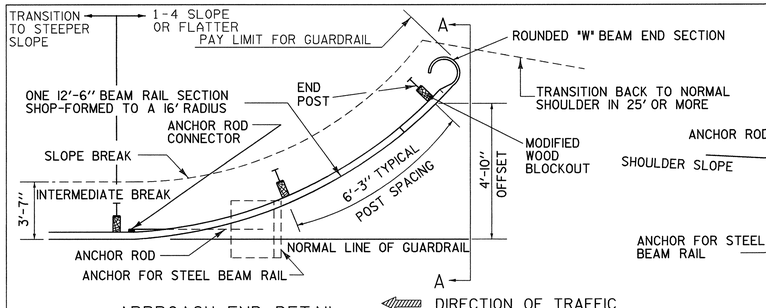
DIRECTOR OF PROJECT DEVELOPMENT

ROADWAY AND TRAFFIC DESIGN ENGINEER

STEEL BEAM GUARDRAIL WITH STEEL POSTS
STEEL BEAM GUARDRAIL WITH WOOD POSTS

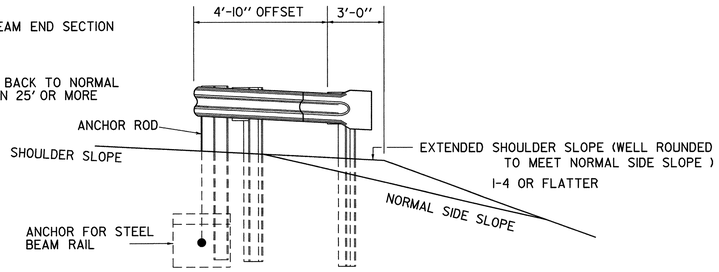
VERMONT AGENCY OF TRANSPORTATION

STANDARD
G-1

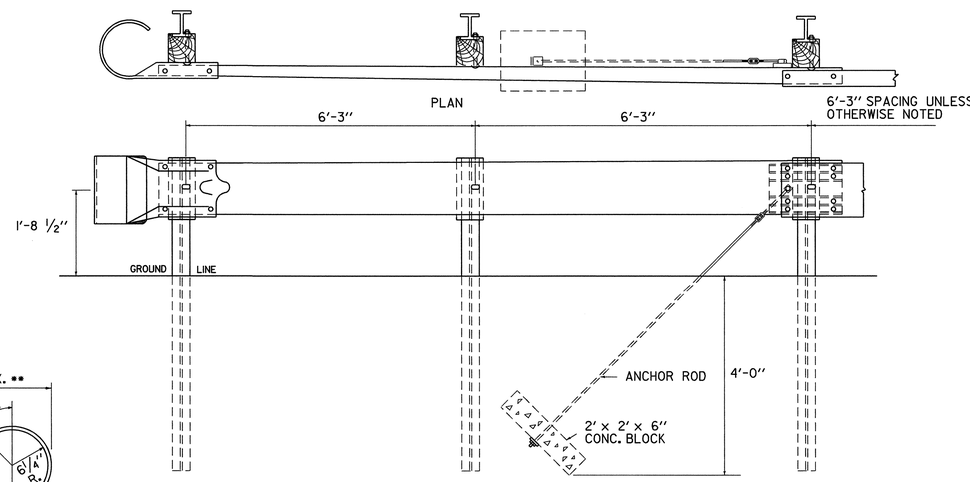


APPROACH END DETAIL

NHS APPROVED FOR USE WHERE DESIGN SPEED IS 40 OR LESS MPH
NON-NHS APPROVED FOR USE WHERE DESIGN SPEED IS 50 OR LESS MPH

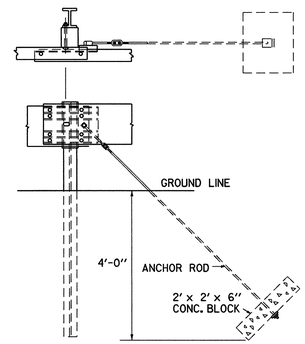


SECTION A-A

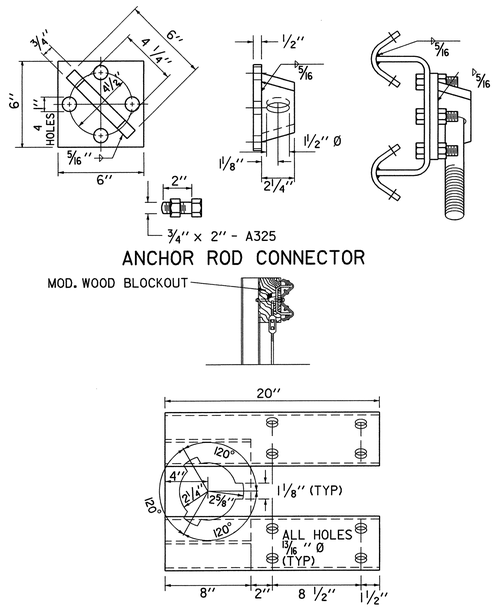


ASSEMBLY ELEVATION

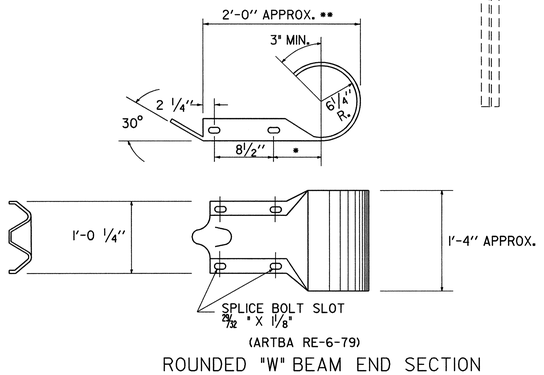
TRAILING END TERMINAL FOR USE ON ONE-WAY HIGHWAYS



ANCHOR ROD



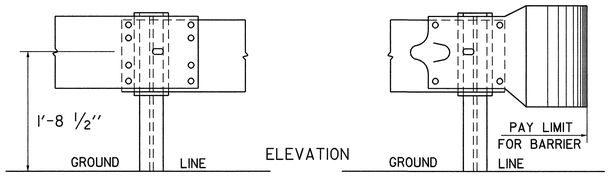
ANCHOR ROD CONNECTOR

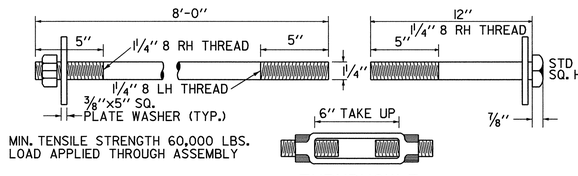


(ARTBA RE-6-79)

ROUNDED "W" BEAM END SECTION

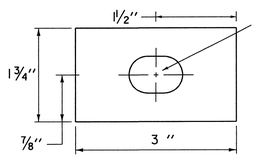
• THIS DIMENSION IS 7½" INRE-7-79. IF THE DIMENSION IS USED IN THIS PART, IT WILL GIVE AN ACCEPTABLE OVERALL LENGTH (••) OF APPROXIMATELY 2'- 11/2. "



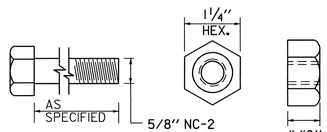


MIN. TENSILE STRENGTH 60,000 LBS.
LOAD APPLIED THROUGH ASSEMBLY

TURNBUCKLE

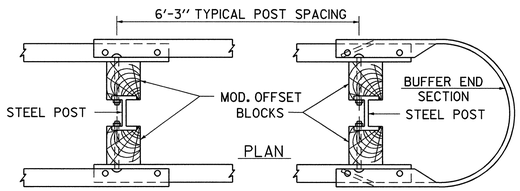


RECTANGULAR GUARDRAIL PLATE WASHER
(ARTBA F-12-73)



5/8" HEX NUT AND BOLT "F"
(ARTBA F-8-76)

FASTENER DETAILS



STEEL BEAM MEDIAN BARRIER

NOTE: TO BE USED OUTSIDE CLEAR ZONE ONLY.

GENERAL NOTES:

1. ALL METAL PARTS SHALL BE GALVANIZED.
2. ALL WOOD POSTS SHALL BE GIVEN A PRESERVATIVE TREATMENT.
3. DETAILS PERTINENT TO THE STANDARD INSTALLATION OF "W" BEAM SECTIONS WILL BE FOUND ON STANDARD DRAWING G-1.
4. FOR DESCRIPTION AND SPECIFICATIONS OF PARTS IDENTIFIED BY "(ARTBA...)" AND OTHER DETAILS OF POSTS, POST ACCESSORIES, FASTENERS AND RAIL ELEMENTS, SEE AASHTO-AGC-ARTBA JOINT TASK FORCE NO. 13, TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE", LATEST EDITION.

OTHER STANDARD REQUIRED G-1

REVISIONS AND CORRECTIONS
JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.
JAN.3,2000 - UPDATED TO REFLECT METRIC STD. CHANGES

APPROVED

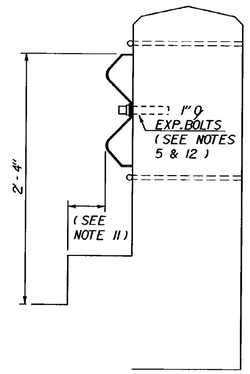
DIRECTOR OF PROJECT DEVELOPMENT

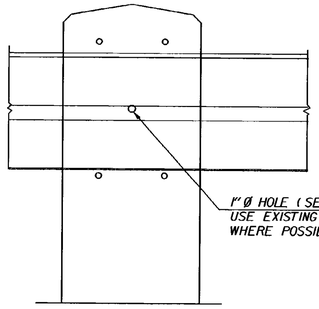
ROADWAY AND TRAFFIC DESIGN ENGINEER

STEEL BEAM GUARDRAIL APPROACH END TERMINAL
STEEL BEAM GUARDRAIL TRAILING END TERMINAL
ANCHOR FOR STEEL BEAM GUARDRAIL
STEEL BEAM MEDIAN BARRIER

VERMONT AGENCY OF TRANSPORTATION

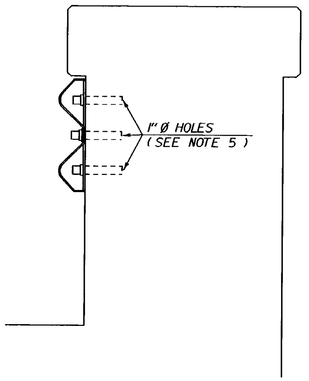
STANDARD
G-1d





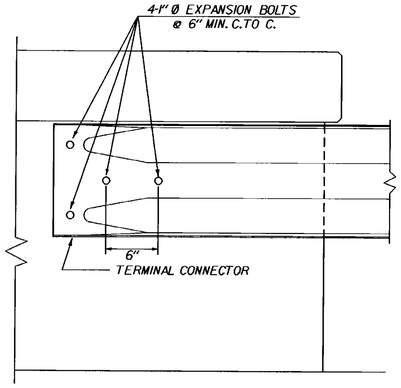
DETAIL "B"

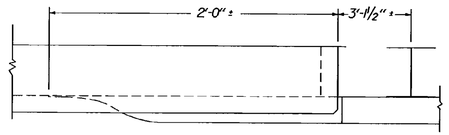
STEEL BEAM INSTALLATION
ON CONCRETE POST
SCALE: 1½" = 1'-0"

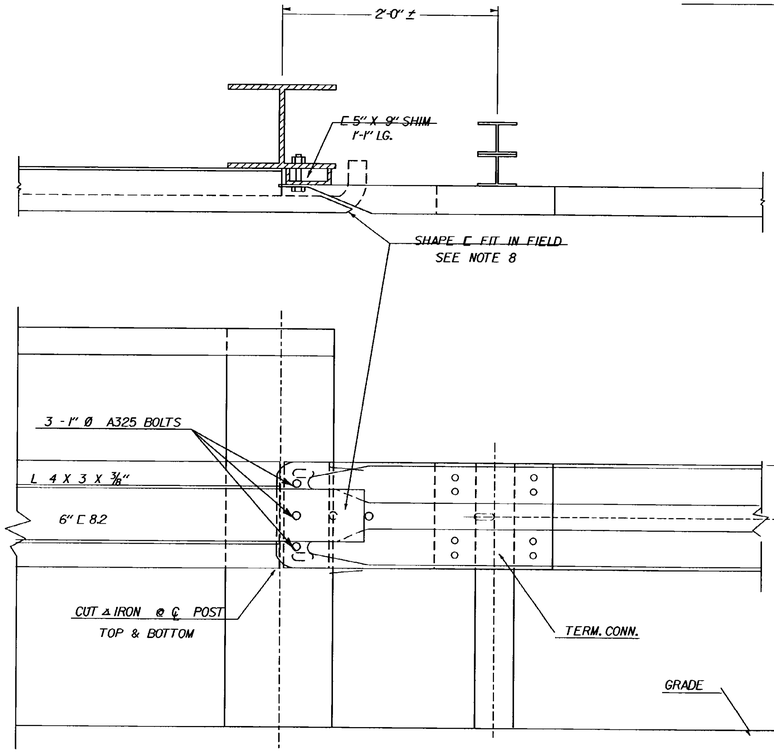


DETAIL "C"

TERMINAL CONNECTION
TO SOLID RAIL
SCALE: 1½" = 1'-0"

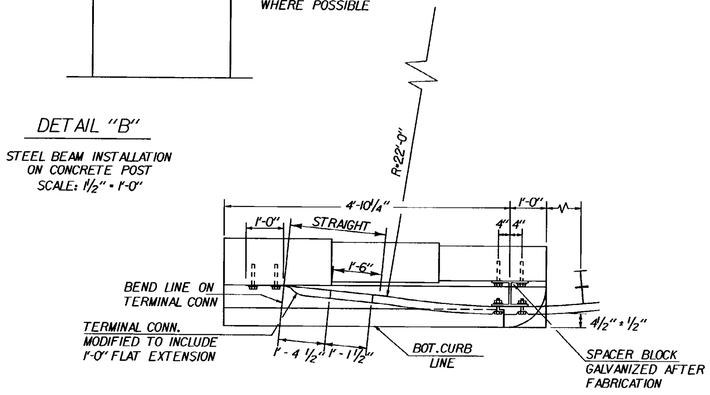


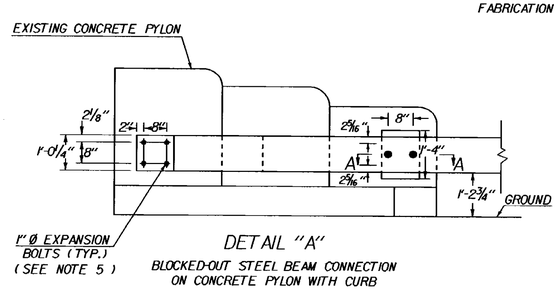




DETAIL "D"

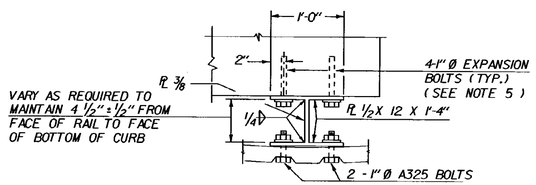
TERMINAL CONNECTION TO
STEEL TRUSS RAIL
SCALE: 1½"-1'-0"





DETAIL "A"

BLOCKED-OUT STEEL BEAM CONNECTION
ON CONCRETE PYLON WITH CURB
SCALE: ½" = 1'-0"



SECTION A-A

SPACER BLOCK DETAIL
SCALE: 1" = 1'-0"

GENERAL NOTES

1. AT LEAST 2 PANELS (25') OF RAIL AT APPROACH TO BRIDGE SHALL BE HEAVY DUTY STEEL BEAM. SEE STANDARD G-1 FOR ADDITIONAL DETAILS.
2. ALL METAL PARTS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-111. ALL FIELD ALTERATIONS TO GALVANIZED MEMBERS SHALL BE PAINTED WITH 2 COATS OF ZINC RICH PAINT (SECTION 708.07).
3. TERMINAL CONNECTORS SHALL BE STANDARD HM-TF-13/RE-8.
4. EXPANSION BOLTS SHALL BE STAINLESS STEEL , ASTM A582 TYPE 303, 1" Ø BY 9 INCHES IN LENGTH WITH A MINIMUM THREAD LENGTH OF 2 INCHES. EXPANSION WEDGES SHALL BE ASTM A276 TYPE 304. NUTS AND WASHERS SHALL BE TYPE 18-8 STAINLESS STEEL.
5. EXPANSION BOLTS SHALL HAVE 7" MIN. DEPTH OF EMBEDMENT INTO EXISTING CONCRETE AND SHALL BE CAPABLE OF ULTIMATE TENSILE STRENGTH = 18,000 LBS MIN. DETAILS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.
6. STEEL BEAM RAILING TO BE INSTALLED ON EXISTING CONCRETE POSTS SHALL BE DRILLED TO FIT IN THE FIELD.
7. POST SPACING TO BE 3' - 1½" AT EACH CORNER OF ALL BRIDGES FOR ONE PANAL (12.5'), UNLESS OTHERWISE NOTED. NORMAL LINE POST SPACING TO BE 6'-3".
8. WHEN CONNECTING NEW BEAM RAIL TO EXISTING STEEL RAIL ON TRUSS BRIDGES, ANY EXISTING BRIDGE RAIL CUT SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH SECTION 513.
9. EXISTING BRIDGE RAILING SHALL NOT BE REMOVED UNTIL THE NEW BRIDGE RAILING AND ALL NECESSARY ACCESSORIES ARE ON THE PROJECT.
10. ONLY ONE SIDE OF EACH BRIDGE SHALL BE WORKED ON AT A TIME.
11. WHEN THE CURB TO RAIL OFFSET EXCEEDS 8", USE A SPACER BLOCK AS SHOWN IN SECTION A-A. MAINTAIN 4 ½" ± ½" CURB TO RAIL OFFSET.
12. THE POST MAY BE DRILLED THROUGH AND THE RAIL FASTENED WITH ONE ⅝" Ø GALVANIZED BOLT. A 6" SQUARE GALVANIZED WASHER (¼" THICK) SHALL BE INSTALLED ON THE BACK SIDE OF THE POST.

REVISIONS AND CORRECTIONS

NOV. 29, 1977 - ORIGINAL APPROVAL DATE
FEB. 15, 1978 - CONSTRUCTION DETAILS REVISED
NOV. 25, 1980 - TITLE BLOCK REVISED
JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

APPROVED

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

Gordon R. MacArthur, P.E.
DIRECTOR OF ENGINEERING

John M. Murphy, P.E.
DESIGN ENGINEER

STEEL BEAM GUARD RAIL ATTACHMENTS TO EXISTING BRIDGE TERMINAL CONNECTOR FOR STEEL BEAM GUARD RAIL

VERMONT AGENCY OF TRANSPORTATION

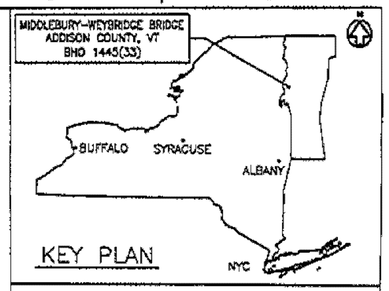
STANDARD
G-16

ENGINEERING DESIGN DRAWINGS – KYLE F. SWIERSKI P.E., LLC

DRAWING NO.		DATE	REVISION	DRAWING TITLE
ALP–MW–01	SHT 1 OF 1	01–06–2012	0	MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33) TEMPORARY SHORING FOR REHAB DRAWING LIST & SITE LOCATION PLAN
ALP–MW–02	SHT 1 OF 4	01–06–2012	0	MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33) TEMPORARY SHORING FOR REHAB GENERAL ARRANGEMENT PLAN & ELEVATION
	SHT 2 OF 4	01–06–2012	0	MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33) TEMPORARY SHORING FOR REHAB GENERAL ARRANGEMENT TYPICAL SHORING SECTION
	SHT 3 OF 4	01–06–2012	0	MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33) TEMPORARY SHORING FOR REHAB GENERAL ARRANGEMENT WORK SEQUENCE
	SHT 4 OF 4	01–06–2012	0	MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33) TEMPORARY SHORING FOR REHAB GENERAL ARRANGEMENT WORK SEQUENCE
ALP–MW–03	SHT 1 OF 4	01–06–2012	0	MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33) TEMPORARY SHORING FOR REHAB SHORING FRAME SUPPORT PLAN & SECTION
	SHT 2 OF 4	01–06–2012	0	MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33) TEMPORARY SHORING FOR REHAB SHORING FRAME SUPPORT ELEVATIONS
	SHT 3 OF 4	01–06–2012	0	MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33) TEMPORARY SHORING FOR REHAB SHORING FRAME SUPPORT DETAILS
	SHT 4 OF 4	01–06–2012	0	MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33) TEMPORARY SHORING FOR REHAB SHORING FRAME STRUCTURAL STEEL DETAILS

REFERENCE DOCUMENTS

DOCUMENT	DATE
MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33) PROPOSED IMPROVEMENT BRIDGE PROJECT DESIGN DRAWINGS (SHTS. 1–66), VAOT STANDARDS (16 SHTS.) PREPARED BY: HOYLE TANNER & ASSOCIATES, INC. FOR STATE OF VERMONT AGENCY OF TRANSPORTATION	SEPTEMBER 20, 2011
MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33) TEMPORARY SHORING FOR REHAB – DESIGN REPORT PREPARED BY: KYLE F. SWIERSKI, P.E., LLC	JANUARY 2012



STATE OF VERMONT
KYLE F. SWIERSKI
NO. 9059
Structural
LICENSED
PROFESSIONAL ENGINEER

Kyle F. Swierski
01-06-2012

THIS DOCUMENT HAS BEEN PREPARED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT. ANY ALTERATION TO THIS DOCUMENT SHALL BE IDENTIFIED AND SEALED/SIGNED BY THE ALTERING LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE STATE OF VERMONT LAWS AND RULES.

ALPINE CONSTRUCTION, LLC
VERMONT AGENCY OF TRANSPORTATION

MIDDLEBURY–WEYBRIDGE BRIDGE BHO 1445(33)
TEMPORARY SHORING FOR REHAB
DRAWING LIST &
SITE LOCATION PLAN

DATE	REV.	DESCRIPTION OF REVISIONS	DRAWN BY	CHECKED BY
01–06–2012	0	ISSUED FOR CONSTRUCTION	LSS	KFS

KYLE F. SWIERSKI, P.E., LLC
41 Boli Drive
Elma, New York 14059
(716) 655–6722
kfswierski@roadrunner.com

PROJECT ID: ALP–MW
DRAWING NUMBER: ALP–MW
SHEET 1 OF 1
REV. 0