SEE SHEET 2 FOR INDEX OF SHEETS AND LIST OF STANDARDS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RECORD PLANS	
CONTRACTOR:	BLOW & COTE INC. MORRISVILLE, VT
RESIDENT ENGINEER:	GREG WILCOX / SCOTT WHEATLEY
CONSTRUCTION BEGAN:	JULY 21, 2008
CONSTRUCTION COMPLETE:	JULY 2, 2009
RECORD PLANS BY:	GREG WILCOX & CRAIG PIERCE

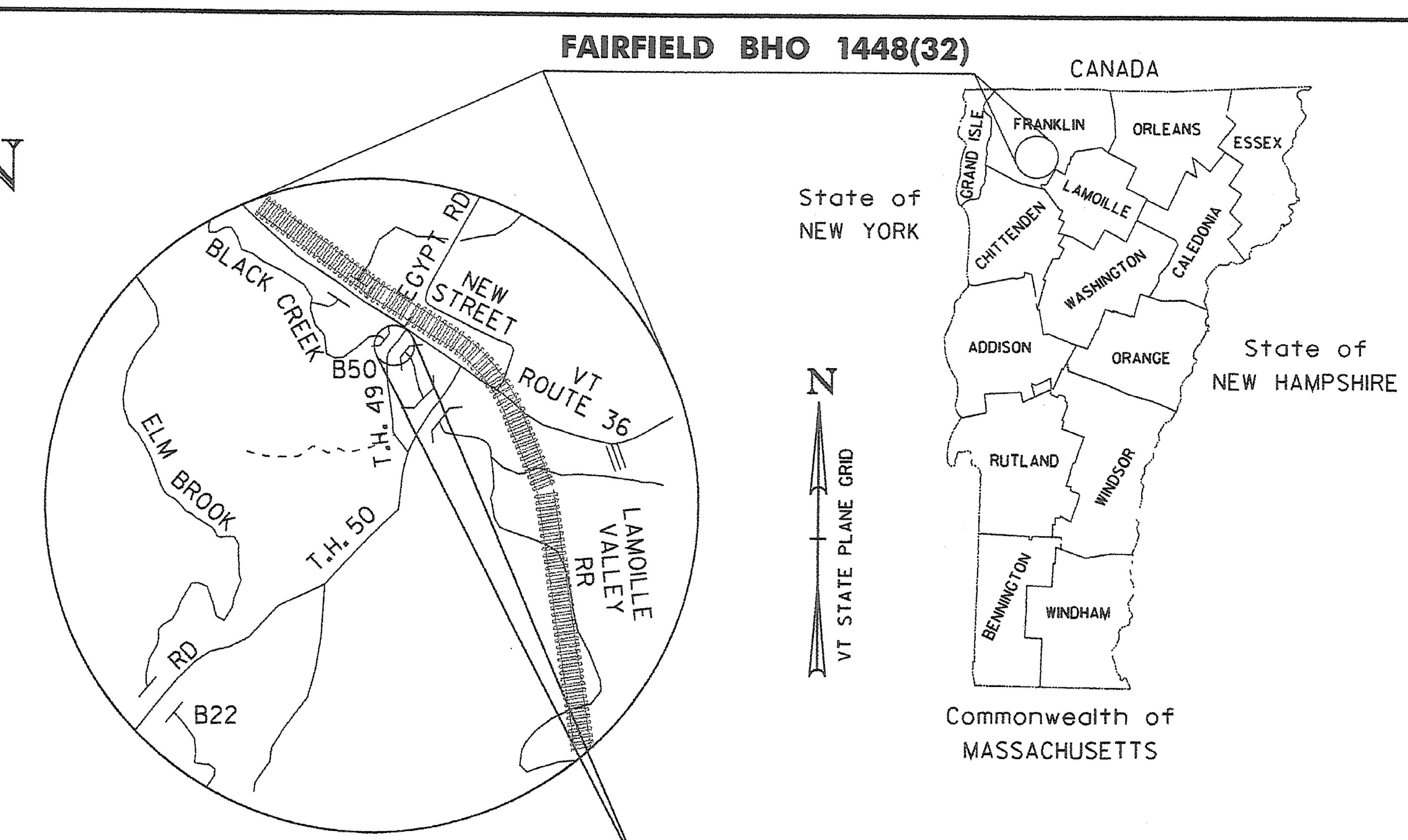
I HEREBY CERTIFY THAT ALL THE CONSTUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY [signature] RESIDENT ENGINEER

DATE 3/25/2010

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.

PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF FAIRFIELD
COUNTY OF FRANKLIN
EAST FAIRFIELD COVERED BRIDGE
T.H. 49 (CLASS 3) BRIDGE NO. 50

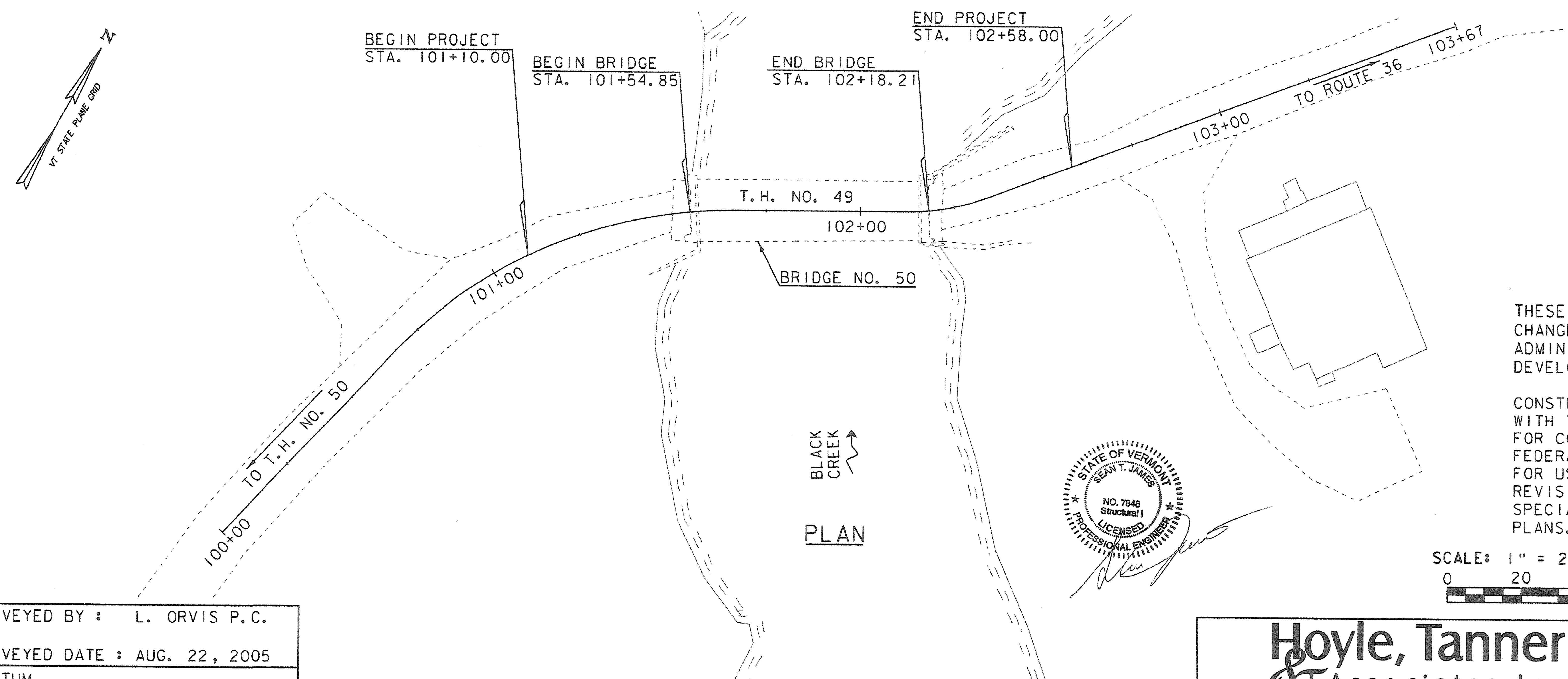


PROJECT LOCATION

PROJECT LOCATION: ON T.H. 49 BEGINNING APPROXIMATELY 350 FEET SOUTH OF ITS INTERSECTION WITH VT ROUTE 36 AND EXTENDING NORTHERLY FOR 148 FEET.

PROJECT DESCRIPTION: REHABILITATION OF THE EXISTING EAST FAIRFIELD COVERED BRIDGE WHICH CONSISTS OF REPLACING THE DETERIORATED BRIDGE MEMBERS, INSTALLATION OF NEW STANDING SEAM METAL ROOF, NEW SIDING, NEW UPPER LATERAL BRACING, SUBSTRUCTURE REPAIRS AND RECONSTRUCTION, INSTALLATION OF APPROACH RAILING AND PAVING OF THE ROADWAY APPROACHES.

LENGTH OF STRUCTURE: 63.36 FEET (END OF DECK TO END OF DECK)
LENGTH OF ROADWAY: 84.64 FEET
LENGTH OF PROJECT: 148.00 FEET



PLAN

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.

SCALE: 1" = 20'-0"
0 20 40

STATE OF VERMONT
SEAN T. JAMES
NO. 7848
Structural I
LICENSED
PROFESSIONAL ENGINEER

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.
SURVEYED DATE : AUG. 22, 2005

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

HTA PROJECT NO.
904213

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

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED [signature] RICH TETREAULT FOR DIRECTOR DATE 5/16/08

PROJECT MANAGER : J. H. WEAVER

PROJECT NAME : FAIRFIELD
PROJECT NUMBER : BHO 1448 (32)

SHEET 1 OF 36 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

INDEX OF SHEETS

LIST OF STANDARDS

B-5	SLOPE GRADING, EMBANKMENTS, MUCK	06-01-94
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	01-02-04
E-102	CONSTRUCTION SIGN DETAILS	06-30-03
E-102A	CONSTRUCTION SIGN DETAILS	05-01-04
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	06-30-03
E-107A	BREAKAWAY BARRICADE DETAILS	08-08-95
E-120	STANDARD SIGN PLACEMENT - EXPRESSWAY & FREEWAY	08-08-95
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-95
E-141	REGULATORY SIGN DETAILS	09-20-95
E-143	REGULATORY SIGN DETAILS	06-15-04
E-146	REGULATORY SIGN DETAILS	09-20-95
E-155	WARNING SIGN DETAILS	05-01-04
E-160	FLANGED CHANNEL STEEL SIGN POST	05-20-99
G-1	STEEL BEAM GUARDRAIL WITH WOOD POSTS	01-03-00
G-1D	STEEL BEAM GUARDRAIL (40 MPH & LESS)	01-03-00
J-3	MAILBOX SUPPORT DETAILS	08-07-95

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: September 2006

DRAINAGE AREA : 36.4 sq mi
CHARACTER OF TERRAIN : Hilly, mostly forested.
STREAM CHARACTERISTICS : Meandering.
NATURE OF STREAMBED : Sand and gravel.

PEAK FLOW DATA

Q 2.33 =	1,000 cfs	Q 50 =	3,200
Q 10 =	2,100	Q 100 =	3,700
Q 25 =	2,700	Q 500 =	5,900

DATE OF FLOOD OF RECORD : Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q25 = 4.6 ft/s
ICE CONDITIONS : Moderate
DEBRIS: Moderate
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: There is an abandoned dam 300' downstream.

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Covered Bridge
YEAR BUILT: 1865
CLEAR SPAN(NORMAL TO STREAM): 60'
VERTICAL CLEARANCE ABOVE STREAMBED: 13.3'
WATERWAY OF FULL OPENING: 715 sq. ft
DISPOSITION OF STRUCTURE: Rehabilitate
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 =	379.1'	VELOCITY =	2.7 fps
Q10 =	380.7'	"	4.1 fps
Q25 =	381.4'	"	4.6 fps
Q50 =	381.9'	"	4.9 fps
Q100 =	382.4'	"	5.2 fps

LONG TERM STREAMBED CHANGES: None

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: n/a
RELIEF ELEVATION: 385.0'
DISCHARGE OVER ROAD @Q100: none

UPSTREAM STRUCTURE

TOWN: Fairfield
HIGHWAY # : TH50
CLEAR SPAN: 38'
YEAR BUILT: 1951
STRUCTURE TYPE: Concrete T Beam
DISTANCE: 950'
STRUCTURE #: Br45
CLEAR HEIGHT: 13'
FULL WATERWAY: 490 sq. ft.

DOWNSTREAM STRUCTURE

TOWN: Fairfield
HIGHWAY # : TH47
CLEAR SPAN: 31'
YEAR BUILT: 1919
STRUCTURE TYPE: Rolled Beam
DISTANCE: 5,400'
STRUCTURE #: B46
CLEAR HEIGHT: 12'
FULL WATERWAY: 370 sq. ft.

WORKING STRESS LOAD RATING (TONS)

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

COMMENTS: BOTTOM & UPPER CHORD AND STRINGERS CONTROL THE LOAD RATING

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2007	130	<15	64	4	5
2027	170	<20	64	6	10

20 year ESAL for flexible pavement from 2007 to 2027 : <25,000
40 year ESAL for flexible pavement from 2007 to 2047 : <50,000
Design Speed : 15 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Rehabilitated Covered Bridge

CLEAR SPAN(NORMAL TO STREAM): 60'
VERTICAL CLEARANCE ABOVE STREAMBED: 13.3'
WATERWAY OF FULL OPENING: 715 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	379.1'	VELOCITY=	2.7 fps
Q10 =	380.7'	"	4.1 fps
Q25 =	381.4'	"	4.6 fps
Q50 =	381.9'	"	4.9 fps
Q100 =	382.4'	"	5.2 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: n/a
RELIEF ELEVATION: 385'
DISCHARGE OVER ROAD @Q100: none

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 383.0'
VERTICAL CLEARANCE: @ Q25 = 1.6'

SCOUR: 3.1' at Q500

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	75 cfs	
ORDINARY LOW WATER:	35	DEPTH OR ELEVATION: El = 376.6'
ORDINARY HIGH WATER:	430	El = 377.9'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Road closed, no temporary structure needed.
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO H6
2. DESIGN SPAN 62 FEET
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 4.0 KSF
   ON LEDGE 30 KSF
4. ALLOWABLE LOAD FOR PILING -
   TYPE -
   ESTIMATED LENGTH -
5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE 50W
6. REINFORCING STEEL GRADE 60
7. CONCRETE, HIGH PERFORMANCE CLASS A f'c: 4000 PSI
   CONCRETE, HIGH PERFORMANCE CLASS B f'c: 3500 PSI
8. DESIGN SOIL UNIT WEIGHT 140 PCF
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL 2.4 KSF

TRAFFIC MAINTENANCE

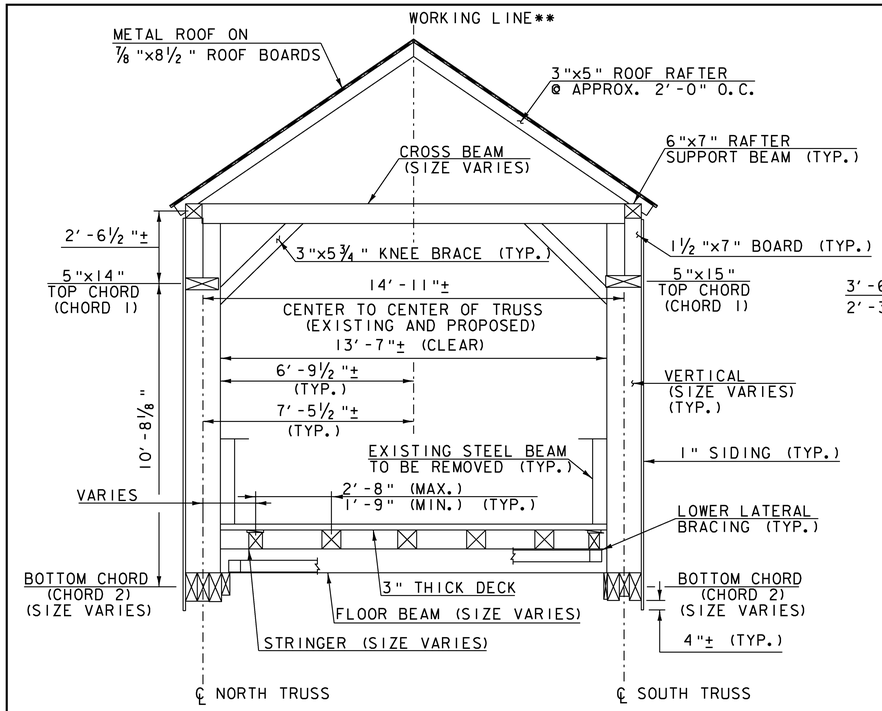
1. IS TRAFFIC TO BE MAINTAINED? NO - ROAD CLOSED
   IF YES, ON EXISTING STRUCTURE? -
   OR ON TEMPORARY BRIDGE? -
   ONE OR TWO-WAY TRAVEL? -
2. TRAFFIC CONTROL SIGNALS REQUIRED? NO
3. ARE SIDEWALKS REQUIRED? NO
   IF SO, ON WHAT SIDE? -

PROJECT NAME: **FAIRFIELD**
PROJECT NUMBER: **BHO 1448(32)**

FILE NAME: **Z04J144PI.xls**
PROJECT MANAGER: **J.H.WEAVER**
DESIGNED BY: **J.BICJA**
PRELIMINARY INFORMATION SHEET

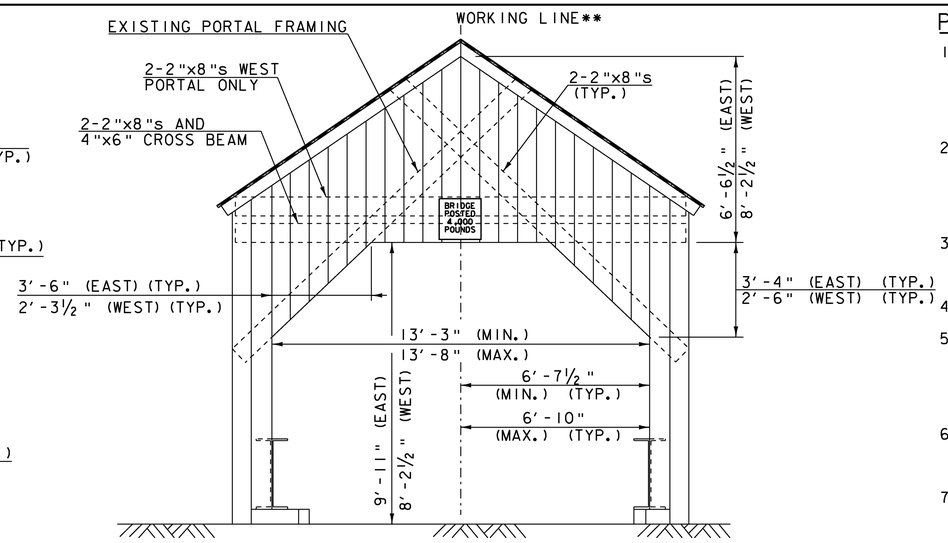
PLOT DATE: **4/15/2008**
DRAWN BY: **J.BICJA**
CHECKED BY: **S.T.JAMES**
SHEET **2** OF **36**

Hoyle, Tanner & Associates, Inc.



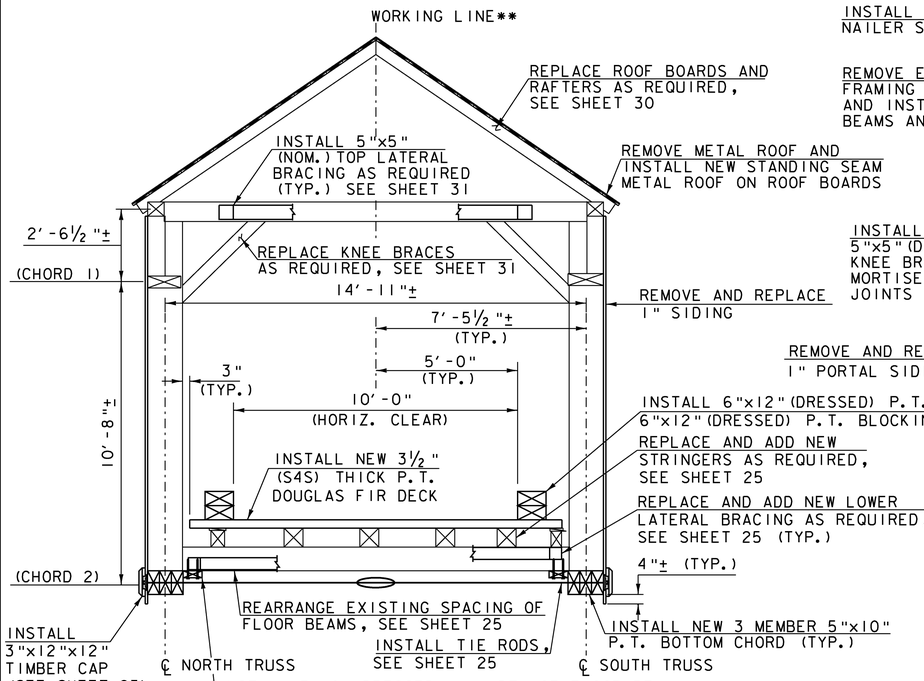
EXISTING TYPICAL SECTION

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



EXISTING PORTAL SECTION

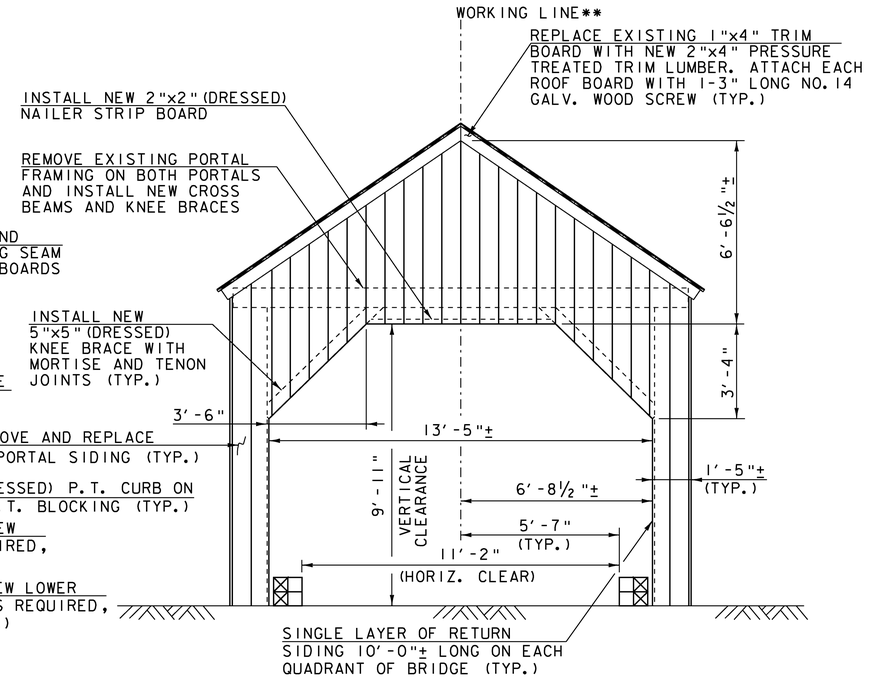
(EAST PORTAL SHOWN)
SCALE: 3/8" = 1'-0"



PROPOSED TYPICAL SECTION

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

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



PROPOSED PORTAL SECTION

(EAST PORTAL SHOWN, WEST PORTAL SIMILAR)
SCALE: 3/8" = 1'-0"

PLAN NOTES:

1. APPLY CLEAR FIRE RETARDANT AND INSECTICIDE/FUNGICIDE TO WOODEN BRIDGE MEMBERS AS OUTLINED IN THE SPECIAL PROVISIONS OF ITEM 900.645, SPECIAL PROVISION (TIMBER PAINTING, FIRE RETARDANT) AND ITEM 900.645, SPECIAL PROVISION (TIMBER PAINTING, INSECTICIDE/FUNGICIDE).
2. REMOVE ALL EXISTING SIGNS FROM THE BRIDGE PORTALS AND DELIVER TO THE TOWN OF FAIRFIELD GARAGE (PAID UNDER ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE). CONTACT ROAD FOREMAN RODNEY JUDD AT (802) 827-3290 AND PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE PRIOR TO DELIVERY.
3. EXISTING STEEL MEMBERS REQUIRING REMOVAL SHALL BE REMOVED CAREFULLY FROM THE BRIDGE FOR FUTURE USE BY THE TOWN. SEE GENERAL NOTE G8, SHEET 21.
4. EXISTING PORTAL SIDING OPENING DIMENSIONS VARY BY UP TO 4"±.
5. NEW SIDING SHALL BE INSTALLED ON THE ENTIRE LENGTH OF THE UPSTREAM AND DOWNSTREAM FASCIAS OF THE BRIDGE, PORTAL SECTIONS AND END RETURNS AT EACH QUADRANT OF THE BRIDGE UTILIZING EXISTING AND NEW SIDING SUPPORTS AS INDICATED ON THE PLANS.
6. SIDING BOARDS SHALL CONSIST OF SINGLE VERTICAL PIECES IN ALL LOCATIONS. HORIZONTAL JOINTS IN THE SIDING WILL NOT BE ALLOWED.
7. THE FOLLOWING MEMBERS ARE INCLUDED IN THE ESTIMATED LUMBER AND TIMBER QUANTITIES OF:

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

-RAFTERS AND RAFTER SUPPORT BEAMS (0.560 MFBM)
-TOP LATERAL BRACING, KNEE BRACES AND CROSS BEAMS (0.860 MFBM)
-NAILERS AND VERTICAL SUPPORT POSTS (0.455 MFBM)
-TIE ROD CAPS, BED TIMBERS AND LOWER LATERAL BRACING (0.280 MFBM)
-STRINGERS (0.495 MFBM)
-HARDWOOD BLOCKS (0.030 MFBM)

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

-SAWN DECK (3.340 MFBM)
-CURB AND CURB BLOCKING (1.030 MFBM)
-PORTAL TRIM LUMBER (0.030 MFBM)
-STRINGER SUPPORT CROSS BEAMS (0.220 MFBM)
-TRUSS BOTTOM CHORDS AND DIAGONALS (2.220 MFBM)
-WEDGE BLOCKS, VERTICAL RODS AND TRUSS BLOCKS (0.100 MFBM)

C. ITEM 522.30, NONSTRUCTURAL LUMBER, UNTREATED:

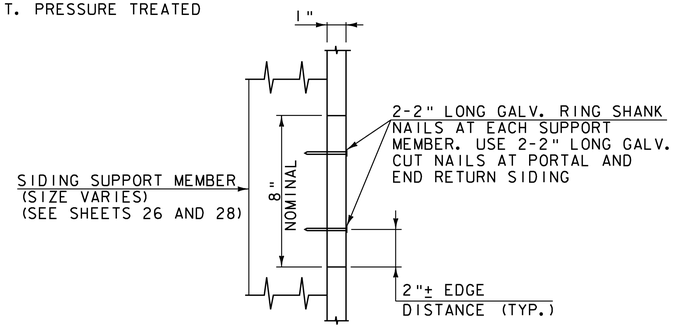
-ROOF BOARDS (0.405 MFBM)
-SIDING (2.360 MFBM)

SEE WOOD NOTES ON SHEET 21 AND NOTES 1 & 2 ON SHEET 30 FOR MORE INFORMATION.

LEGEND:

** WORKING LINE IS AN EXTENSION OF THE ROADWAY TANGENT THAT RUNS FROM STA. 101+66.01 TO STA. 102+12.84

P.T. PRESSURE TREATED



SIDING DETAIL

(PLAN VIEW)
NOT TO SCALE

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

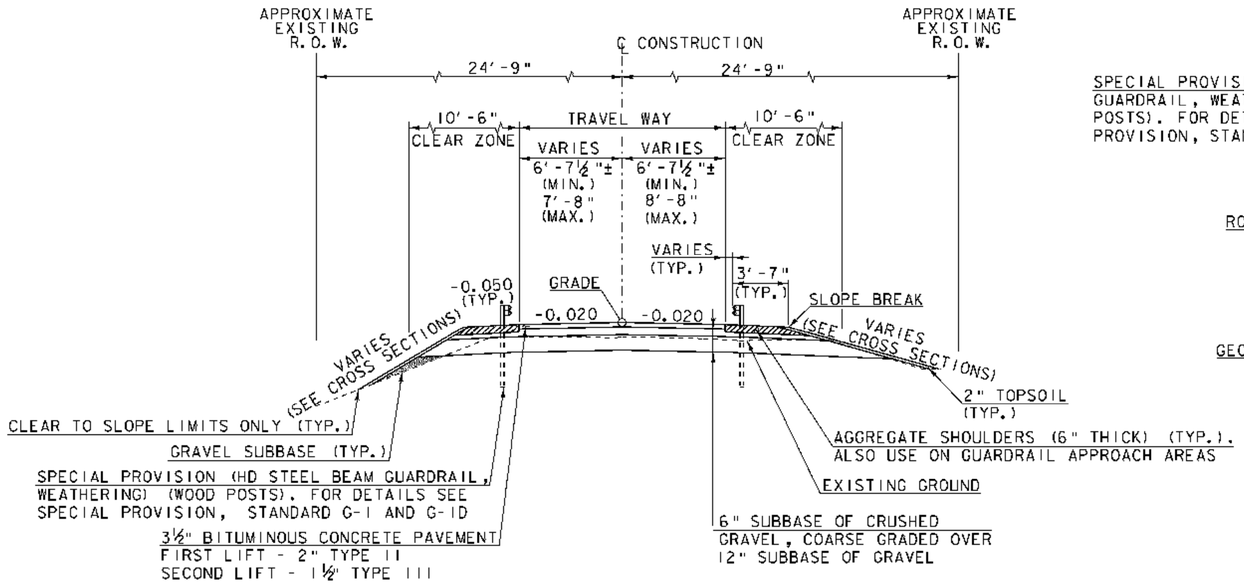
MODEL	Untitled Sheet
HTA PROJECT NO.	9042I3

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: z041144typl.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
BRIDGE TYPICAL SECTIONS

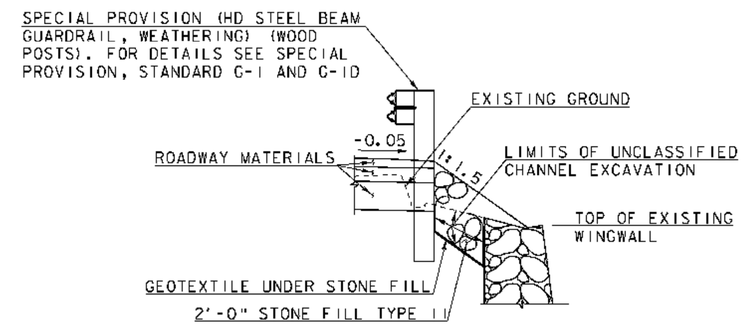
PLOT DATE: 5/16/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 3 OF 36



TYPICAL ROADWAY SECTION

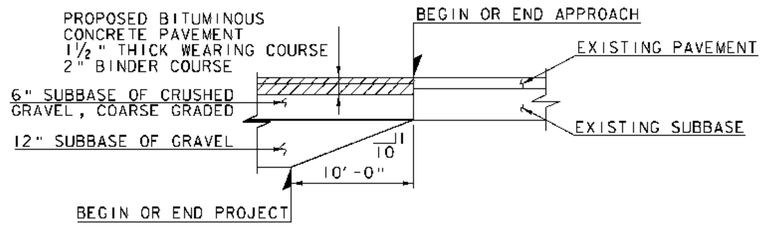
NOT TO SCALE

MATERIAL ITEM	TOLERANCE
SURFACE:	
-PAVEMENT	+/-1/4"
-AGGREGATE SURFACE COURSE	+/-1/2"
BASE COURSE	+/-1/2"
SUBBASE	+/- 1"



TYPICAL SECTION OF STONE FILL AT WINGWALL NO. 2

SCALE: ⅜" = 1'-0"

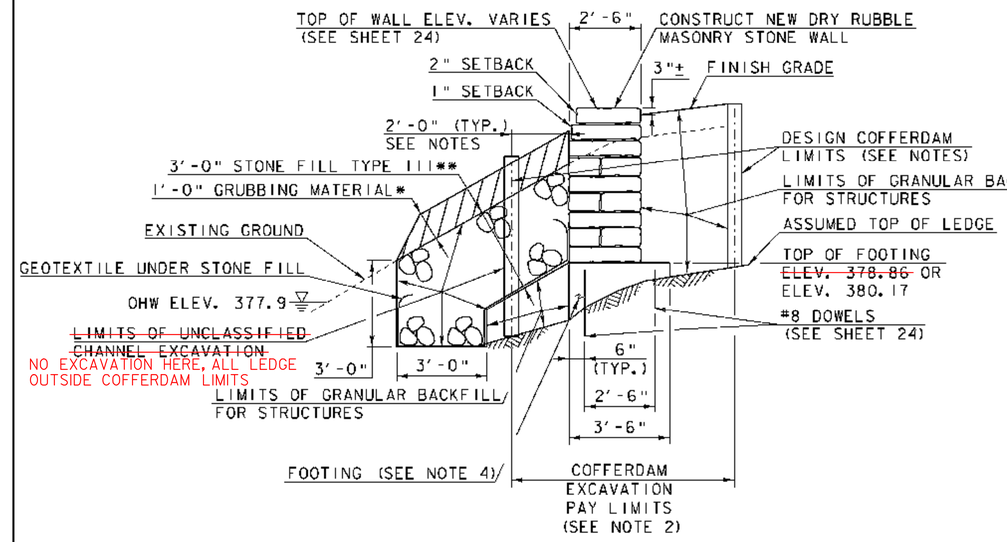


SUBBASE TRANSITION DETAIL

NOT TO SCALE

SHEET NOTES:

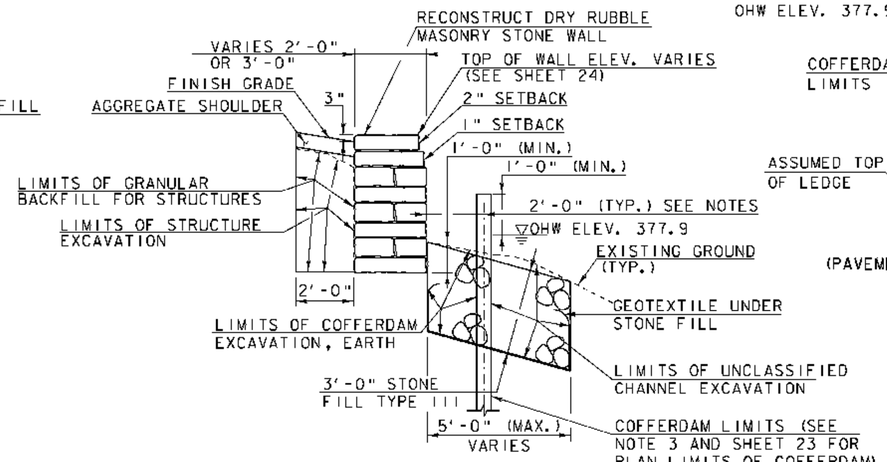
1. ACTUAL COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING, UP TO EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. IF THE COFFERDAM IS CONSTRUCTED LARGER THAN INDICATED IN THESE PLANS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.
4. CONCRETE FOR FOOTING SHALL MEET THE REQUIREMENTS OF ITEM 501.34, CONCRETE, HIGH PERFORMANCE CLASS B.
5. REMOVAL OF EXISTING PAVEMENT WITHIN THE LIMITS OF WORK SHALL BE PAID UNDER ITEM 203.28, EXCAVATION OF SURFACES AND PAVEMENTS.
6. IF AN IMPENETRABLE HOLE IS ENCOUNTERED WHILE PLACING GUARDRAIL POSTS, ENLARGE THE HOLE TO PROVIDE NOT LESS THAN 6 INCHES CLEARING ON ALL SIDES, AND TO A MINIMUM DEPTH OF 2'-6". CONCRETE REMOVAL OF EXISTING WALLS MAY BE REQUIRED AND SHALL BE PAID UNDER ITEM 529.25, REMOVAL OF CONCRETE OR MASONRY. REMOVE AS DIRECTED BY THE RESIDENT ENGINEER. SET THE POST IN CONCRETE TO WITHIN 6 INCHES OF THE TOP OF THE HOLE (PAID UNDER ITEM 501.34, CONCRETE, HIGH PERFORMANCE CLASS B). BACKFILL AND COMPACT THE REMAINING 6 INCHES WITH A CRUSHED GRAVEL MATERIAL APPROVED BY THE RESIDENT ENGINEER (PAID UNDER ITEM 301.25, SUBBASE OF CRUSHED GRAVEL, COARSE GRADED).



TYPICAL WINGWALL NO. 3 SECTION

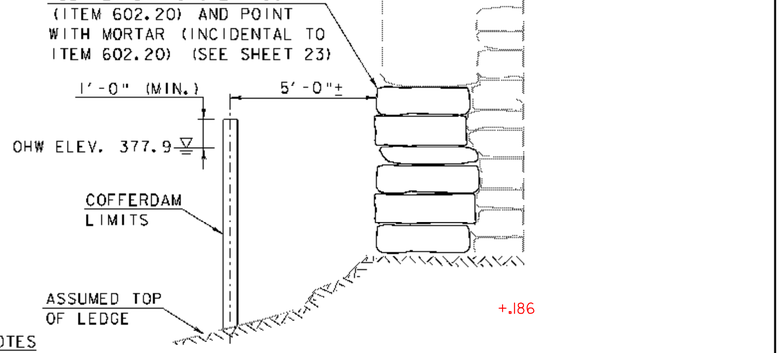
SCALE: ⅜" = 1'-0"

* GRUBBING MATERIAL SHALL NOT BE PLACED BELOW OHW.
** SEE T.H. 49 ROADWAY PLAN AND CROSS SECTIONS FOR LOCATIONS AND LIMITS OF STONE FILL.



TYPICAL WINGWALL NO. 4 SECTION

SCALE: ⅜" = 1'-0"



TYPICAL ABUTMENT NO. 2 SECTION

(PAVEMENT/SUBBASE DETAIL AT BACKWALL OF ABUT. NO. 1 SIMILAR)

SCALE: ⅜" = 1'-0"

SCALE: ⅜" = 1'-0"
1 0 1 2 3 4

MODEL	Z04JI44ET
HTA PROJECT NO.	904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME:	FAIRFIELD
PROJECT NUMBER:	BHO 1448(32)
FILE NAME:	Z04JI44typ2.dgn
PROJECT LEADER:	J.H.WEAVER
DESIGNED BY:	J.BICJA
EARTHWORK TYPICALS	
PLOT DATE:	4/25/2008
DRAWN BY:	J.B.McQUAID
CHECKED BY:	S.T.JAMES
SHEET	4 OF 36

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES

FULL C.E. ITEMS		ROADWAY		EROSION CONTROL		CHANNEL	ABUTMENT NO. 1	ABUTMENT NO. 2	WINGWALL NO. 1	WINGWALL NO. 2	WINGWALL NO. 3	WINGWALL NO. 4	SUPER-STRUCTURE	ALTERNATE A	ALTERNATE B	BRIDGE QUANTITY
		1														
		130														
						38.4				1.6						40
		10														
												15				15
											33.5	11.5				45
						90										90
											6					6
								1								1
											1					1
												1				1
		90														
		50														
		35														
		0.3														
		30														
							2.4	6.1				0.5				9
											11					11
													1			1
											190					190
							34	14	8		57	17				130
							210	151	86		157	156				760
													2.700			2.70
													7.000			7.00
													2.800			2.80
							13.5	13.5								27
							1.6	3.4								5
								1.3	6.7			8.0				16
								6.5			26					32
							12			10						22
				5												
						10										10
						50										50
		1														
		4														
		40														
1																
1																
1																
													1			1

TOTALS

ROUND	GRAND TOTAL	FINAL
	1	
3	130	
2	40	
3	10	
3	15	
2	45	
5	90	
	6	
	1	
	1	
	1	
1	90	
10	50	
1	35	
0.1	0.3	
1	30	
0.7	9	
0.9	11	
	1	
3	190	
1	130	
2	760	
0.020	2.70	
0.060	7.00	
0.035	2.80	
0.6	27	
	5	
0.1	16	
0.8	32	
	22	
	5	
2	10	
3	50	
	1	
	4	
	40	
	1	
	1	
	1	
	1	
	1	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10
CY	COMMON EXCAVATION	203.15
CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27
CY	EXCAVATION OF SURFACES AND PAVEMENTS	203.28
CY	STRUCTURE EXCAVATION	204.25
CY	GRANULAR BACKFILL FOR STRUCTURES	204.30
CY	COFFERDAM EXCAVATION, EARTH	208.30
CY	COFFERDAM EXCAVATION, ROCK	208.35
LS	COFFERDAM (ABUTMENT NO.2)	208.40
LS	COFFERDAM (WINGWALL NO.3)	208.40
LS	COFFERDAM (WINGWALL NO.4)	208.40
CY	SUBBASE OF GRAVEL	301.15
CY	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	301.25
TON	AGGREGATE SHOULDERS	402.12
CWT	EMULSIFIED ASPHALT	404.65
TON	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	406.25
CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33
CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
LS	STRUCTURAL STEEL	506.75
LB	REINFORCING STEEL	507.15
LF	DRILLING AND GROUTING DOWELS	507.16
LB	EPOXY COATED REINFORCING STEEL	507.17
MFBM	STRUCTURAL LUMBER AND TIMBER, UNTREATED	522.20
MFBM	STRUCTURAL LUMBER AND TIMBER, TREATED	522.25
MFBM	NONSTRUCTURAL LUMBER, UNTREATED	522.30
LF	JOINT SEALER, POLYURETHANE	524.21
CY	REMOVAL OF CONCRETE OR MASONRY	529.25
SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14
CY	DRY MASONRY	602.20
SY	REPOINTING MASONRY	602.30
HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25
CY	STONE FILL, TYPE II	613.11
CY	STONE FILL, TYPE III	613.12
EACH	RELOCATE MAILBOX, SINGLE SUPPORT	617.10
EACH	ANCHOR FOR STEEL BEAM RAIL	621.60
LF	TEMPORARY TRAFFIC BARRIER	621.90
LS	FIELD OFFICE, ENGINEERS	631.10
LS	TESTING EQUIPMENT, CONCRETE	631.16
LU	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.25
LS	MOBILIZATION/DEMOBILIZATION	635.11

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		TEMPORARY EROSION CONTROL ITEMS (INCLUDED IN EROSION CONTROL ITEMS)
5	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I
120	SY	GEOTEXTILE FOR SILT FENCE
100	SY	GEOTEXTILE FOR FILTER CURTAIN
10	LB	SEED
20	LB	FERTILIZER
1	TON	AGRICULTURAL LIMESTONE
1	TON	HAY MULCH
10	CY	TOPSOIL
20	SY	GRUBBING MATERIAL
1	LS	EPSC PLAN
80	HR	MONITORING EPSC PLAN
1	LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)
130	SY	TEMPORARY EROSION MATTING
10	CY	TEMPORARY STONE CHECK DAM, TYPE I
		EARTHWORK SUMMARY
		FILL AVAILABLE:
130	CY	COMMON EXCAVATION: 130 X 1.0
12	CY	UNCLASSIFIED CHANNEL EXCAVATION: 40 X 0.3
4.5	CY	STRUCTURE EXCAVATION: 15 X 0.3
27	CY	COFFERDAM EXCAVATION: 90 X 0.3
173.5	CY	SUBTOTAL
6.5	CY	ROUNDING
180	CY	TOTAL
		FILL REQUIRED:
0	CY	TOTAL
180	CY	FILL AVAILABLE
0	CY	FILL REQUIRED
180	CY	WASTE

PROJECT NAME: **FAIRFIELD**
PROJECT NUMBER: **BHO 1448(32)**

FILE NAME: **Z04J144quant.xls**
PROJECT MANAGER: **J.H.WEAVER**
DESIGNED BY: **J.BICJA**
QUANTITY SHEET (1 OF 2)

PLOT DATE: **5/13/2008**
DRAWN BY: **J.BICJA**
CHECKED BY: **S.T.JAMES**
SHEET **5** OF **36**

Hoyle, Tanner & Associates, Inc.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES																TOTALS				DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
FULL C.E. ITEMS		ROADWAY		EROSION CONTROL		CHANNEL	ABUTMENT NO. 1	ABUTMENT NO. 2	WINGWALL NO. 1	WINGWALL NO. 2	WINGWALL NO. 3	WINGWALL NO. 4	SUPER-STRUCTURE	ALTERNATE A	ALTERNATE B	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
		1																1		LS	TRAFFIC CONTROL	641.10			
						79				21						100	5	100		SY	GEOTEXTILE UNDER STONE FILL	649.31			
				120													2	120		SY	GEOTEXTILE FOR SILT FENCE	649.51			
				100													7	100		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61			
				10													8	10		LB	SEED	651.15			
				20													7	20		LB	FERTILIZER	651.18			
				1.00													0.9	1		TON	AGRICULTURAL LIMESTONE	651.20			
				1.00													0.9	1		TON	HAY MULCH	651.25			
				10													3	10		CY	TOPSOIL	651.35			
				20													6	20		SY	GRUBBING MATERIAL	651.40			
				1														1		LS	EPSC PLAN	652.10			
				80														80		HR	MONITORING EPSC PLAN	652.20			
				1														1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30			
				130													3	130		SY	TEMPORARY EROSION MATTING	653.20			
				10														10		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25			
		360																360		LF	PROJECT DEMARCATION FENCE	653.55			
		50.25																50.25		SF	TRAFFIC SIGNS, TYPE A	675.20			
		97.0															0.5	97		LF	FLANGED CHANNEL SIGN POST	675.301			
												18				18	3	18		CY	SPECIAL PROVISION (REBUILT STONE MASONRY)	900.608			
													10			10		10		EACH	SPECIAL PROVISION (BEARING DEVICE ASSEMBLY, COVERED BRIDGE)	900.620			
													13			13		13		EA	SPECIAL PROVISION (WOOD EPOXY REPAIRS)	900.620			
						1.7	2.4	1.6		0.5	0.8					7	0.5	7		GAL	SPECIAL PROVISION (CONCRETE STAINING AND SEALING)	900.625			
		284.75																284.75		LF	SPECIAL PROVISION (HD STEEL BEAM GUARDRAIL, WEATHERING) (WOOD POSTS)	900.640			
													1			1		1		LS	SPECIAL PROVISION (TIMBER PAINTING, ENVIRONMENTAL PROTECTION)	900.645			
													1			1		1		LS	SPECIAL PROVISION (TIMBER PAINTING, FIRE RETARDANT)	900.645			
													1			1		1		LS	SPECIAL PROVISION (TIMBER PAINTING, INSECTICIDE/FUNGICIDE)	900.645			
													1450			1450		1450		SF	SPECIAL PROVISION (METAL ROOFING)	900.670			
						12				10						22		22		SY	SPECIAL PROVISION (REPAIRING STONE MASONRY)	900.675			
																					BEGIN ALTERNATE ITEMS				
																					ALTERNATE A (IN-PLACE REHABILITATION)				
														1		1		1		LS	SHORING SUPERSTRUCTURE	502.10			
														1		1		1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20			
														1		1		1		LS	SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE)	900.645			
																					ALTERNATE B (RELOCATED REHABILITATION)				
															1	1		1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20			
															1	1		1		LS	SPECIAL PROVISION (HANDLING, TRANSPORT, AND RE-ERECTION OF COVERED BRIDGE SUPERSTRUCTURE)	900.645			
															1	1		1		LS	SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE)	900.645			
																					END ALTERNATE ITEMS				

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: **FAIRFIELD**
PROJECT NUMBER: **BHO 1448(32)**

FILE NAME: **Z04J144quant.xls**
PROJECT MANAGER: **J.H.WEAVER**
DESIGNED BY: **J.BICJA**
QUANTITY SHEET (2 OF 2)

PLOT DATE: **5/13/2008**
DRAWN BY: **J.BICJA**
CHECKED BY: **S.T.JAMES**
SHEET **6** OF **36**

GEODETIC CONTROL INFORMATION

HVCTRL #1

STANDARD DISK STAMPED
ELM BROOK

N = 835145.87
E = 1543642.07
ELEV. = 402.61

GENERAL LOCATION, FAIRFIELD, VT., IN EAST FAIRFIELD. TO REACH FROM THE INTERSECTION VT ROUTE 36 AND VT ROUTE 108 IN BAKERSFIELD, GO WEST ALONG VT ROUTE 36 FOR 3.0 MI TO THE INTERSECTION OF MILL STREET LEFT. CONTINUE STRAIGHT AHEAD AND GO NORTHWEST ALONG VT ROUTE 36 FOR 0.7 MI TO THE INTERSECTION OF ELM BROOK ROAD LEFT. TURN LEFT AND GO NORTHWEST AND THEN SOUTHWEST ALONG ELM BROOK ROAD FOR 0.2 MI TO THE SITE OF THE MARK ON THE LEFT. THE MARK IS SET 2 CM BELOW GROUND SURFACE IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT POURED 1.2 M DEEP. IT IS 3.4 M EAST OF AND ABOUT 0.2 M LOWER THAN THE CENTERLINE OF ELM BROOK ROAD, 38.7 M SOUTH SOUTHWEST OF POLE NO 201/1, AND 31.0 M NORTH NORTHWEST OF POLE NO 2 AND A FIBERGLASS WITNESS POST.

* DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT

HVCTRL #2

STANDARD DISK STAMPED
ELM BROOK AZ

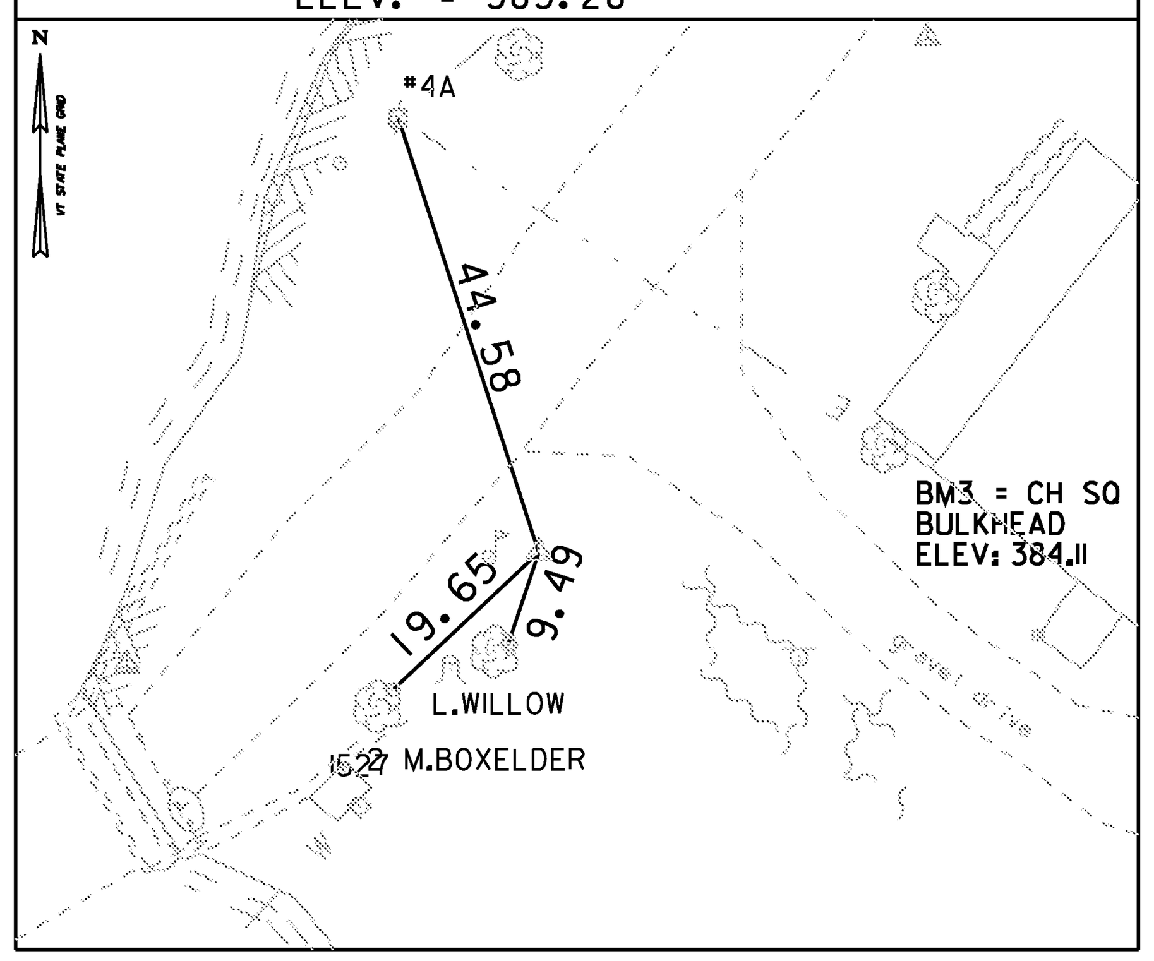
N = 833823.02
E = 1546286.57
ELEV. = 398.72

GENERAL LOCATION, FAIRFIELD, VT., IN EAST FAIRFIELD. OWNERSHIP, SHANNON MITCHELL, 9240 VT ROUTE 36, EAST FAIRFIELD, VT 05448. TO REACH FROM THE INTERSECTION VT ROUTE 36 AND VT ROUTE 108 IN BAKERSFIELD, GO WEST ALONG VT ROUTE 36 FOR 3.0 MI TO THE INTERSECTION OF MILL STREET LEFT. CONTINUE STRAIGHT AHEAD AND GO NORTHWEST ALONG VT ROUTE 36 FOR 0.15 MI TO THE SITE OF THE MARK ON THE LEFT. THE MARK IS SET IN THE TOP OF A MASSIVE ROCK OUTCROP JUST NORTHWEST OF HOUSE NO 9240. IT IS 14.7 M SOUTHWEST OF AND ABOUT 4 M HIGHER THAN THE CENTERLINE OF VT ROUTE 36, 10.9 M NORTHWEST OF THE NORTH CORNER OF HOUSE NO 9240, 12.0 M NORTH OF THE WEST CORNER OF THE HOUSE, 2.1 M NORTH NORTHEAST OF A 14 MM DIAMETER STEEL BOLT WITH SQUARE NUT SET IN THE TOP OF THE OUTCROP, AND 3.6 M WEST SOUTHWEST OF THE WEST CORNER OF A GARDEN SHED.

TRAVERSE TIE INFORMATION

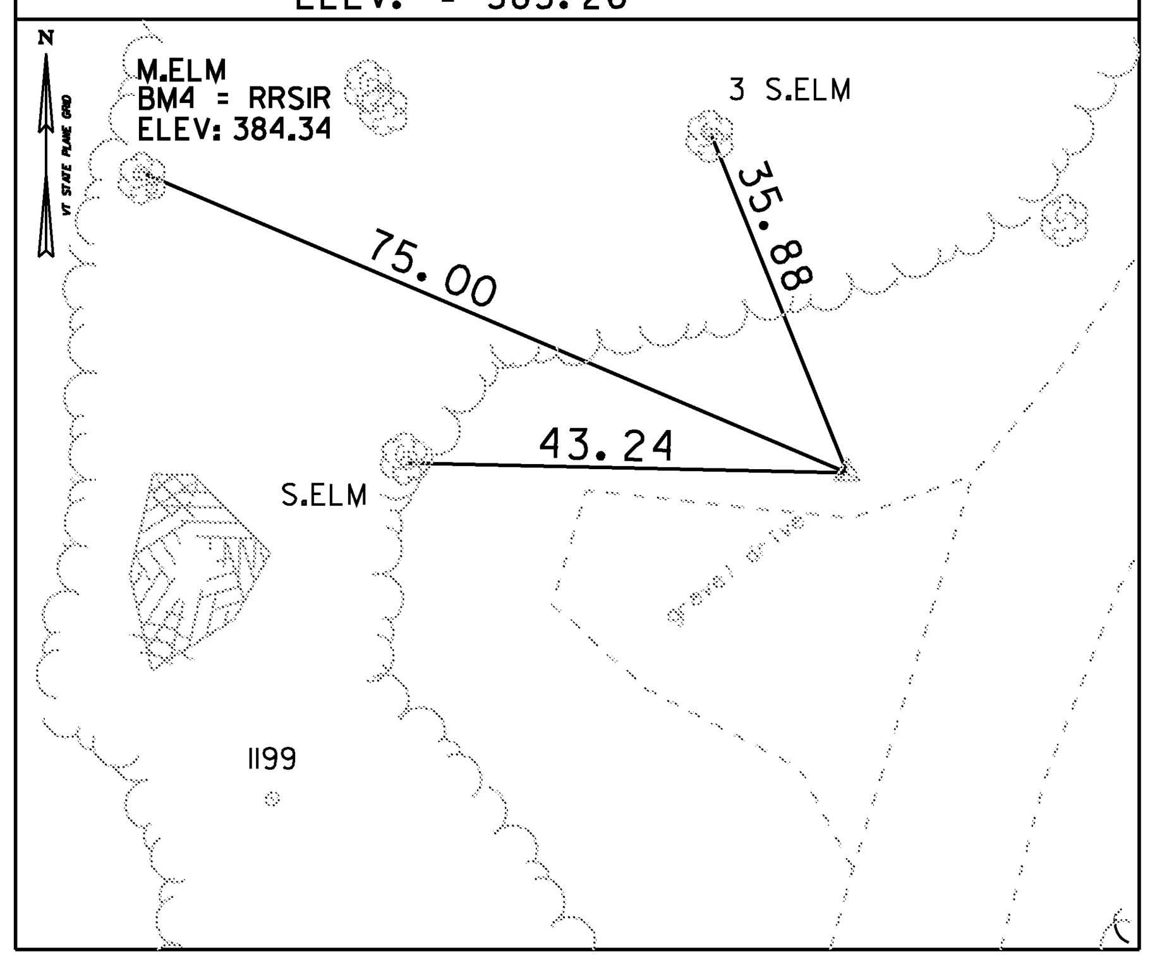
HVCTRL #3

NORTH = 833532.49
EAST = 1546399.59
ELEV. = 383.28



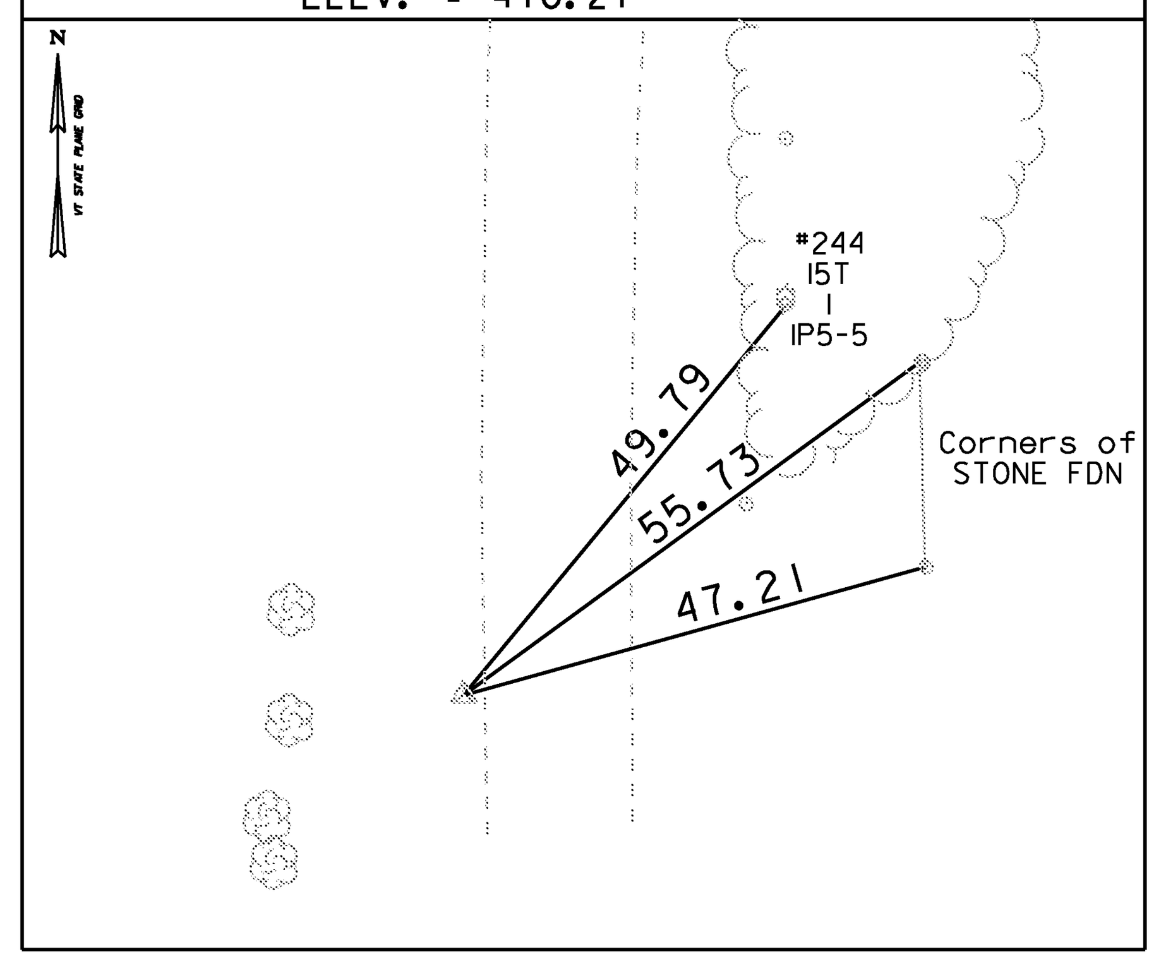
HVCTRL #4

NORTH = 833435.60
EAST = 1546243.08
ELEV. = 385.26



HVCTRL #5

NORTH = 833148.59
EAST = 1546220.68
ELEV. = 410.27

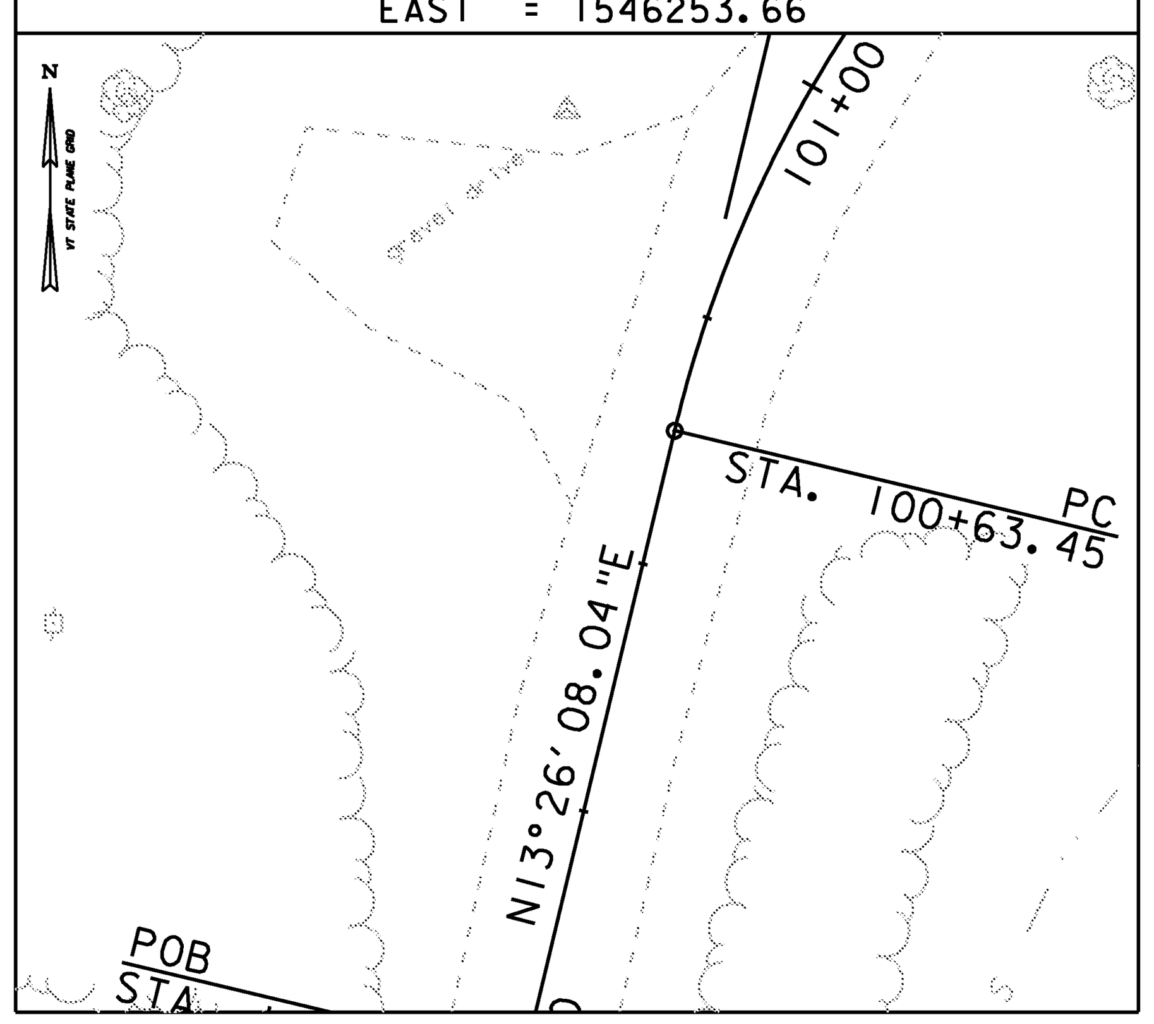


* MAIN TRAVERSE COMPLETED 08/22/05 by L.Orvis P.C. & R.Bullock & C.Jolly
* ALL TIES NOT TO SCALE

NEW ALIGNMENT TIE INFORMATION

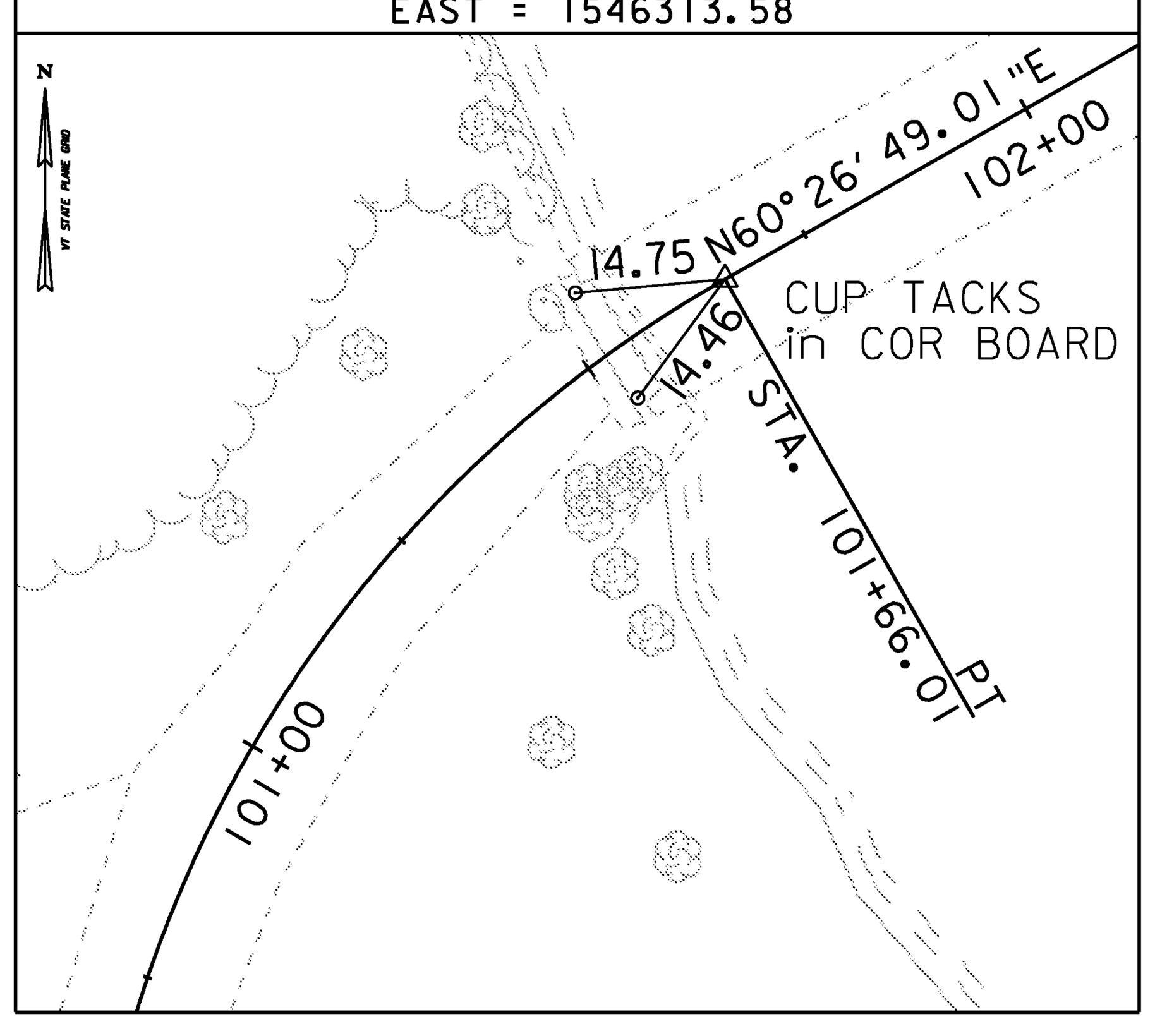
PC STA 100+63.45

NORTH = 833404.09
EAST = 1546253.66



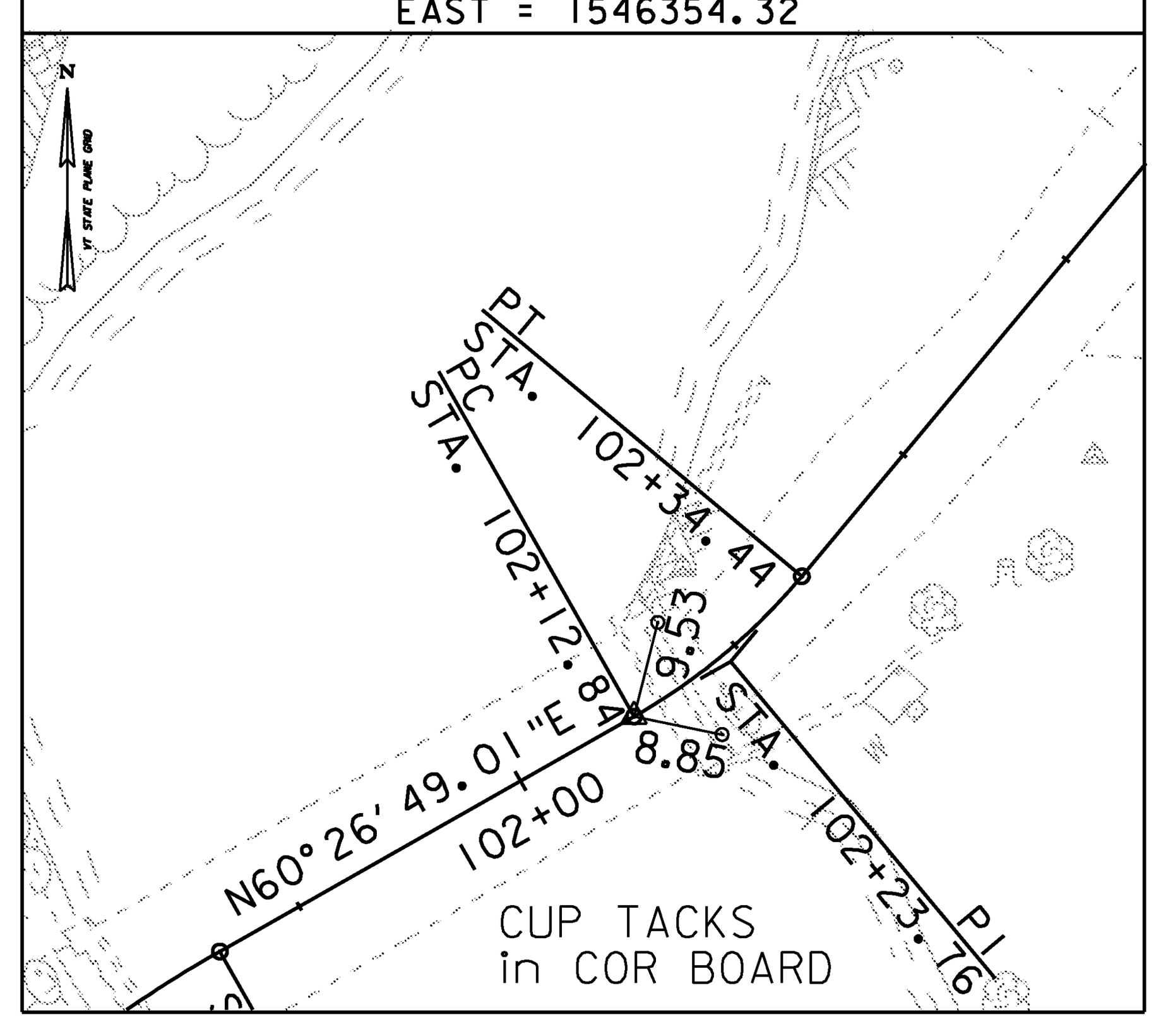
PT STA 101+66.01

NORTH = 833483.78
EAST = 1546313.58



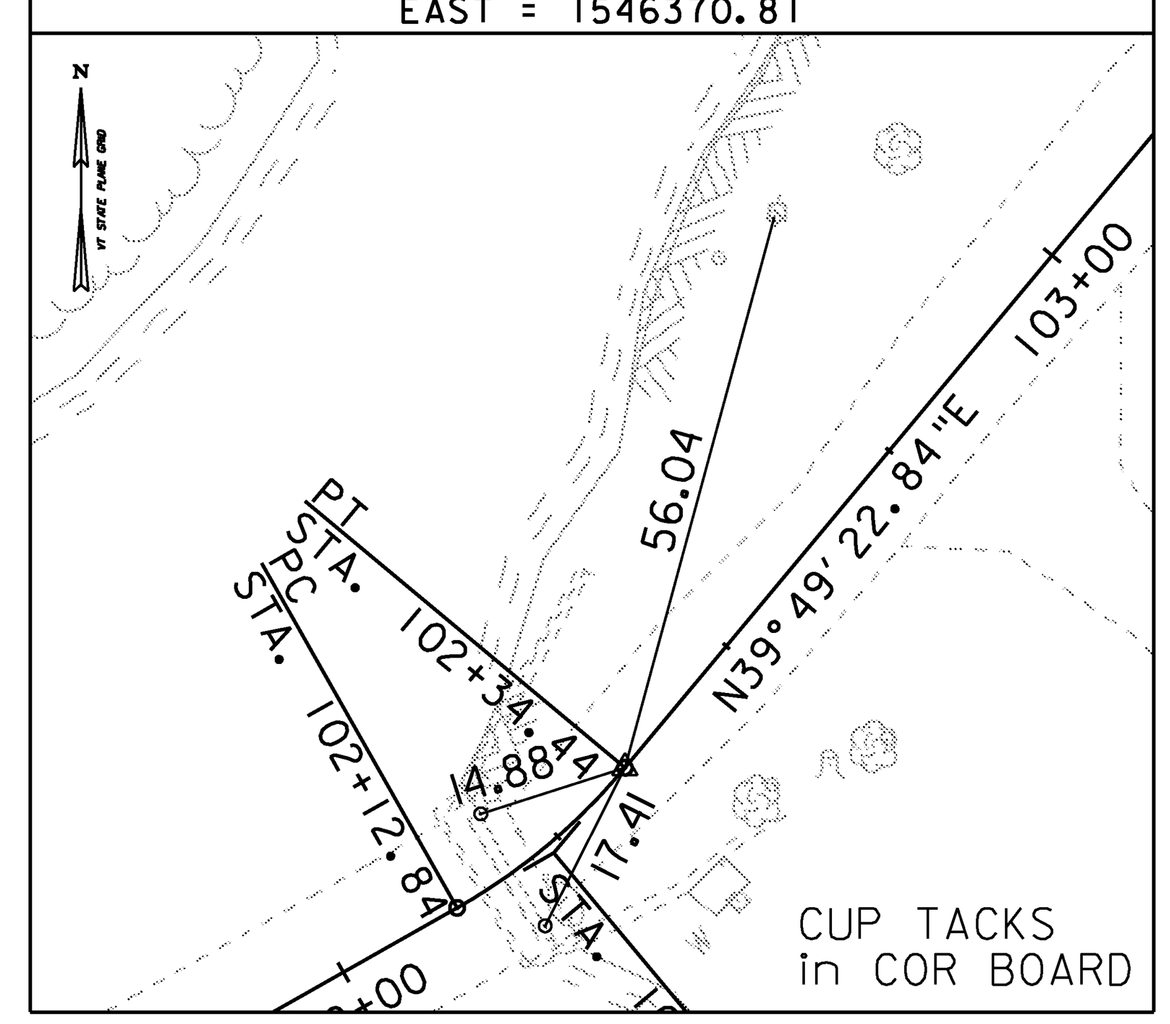
PC STA 102+12.84

NORTH = 833506.88
EAST = 1546354.32



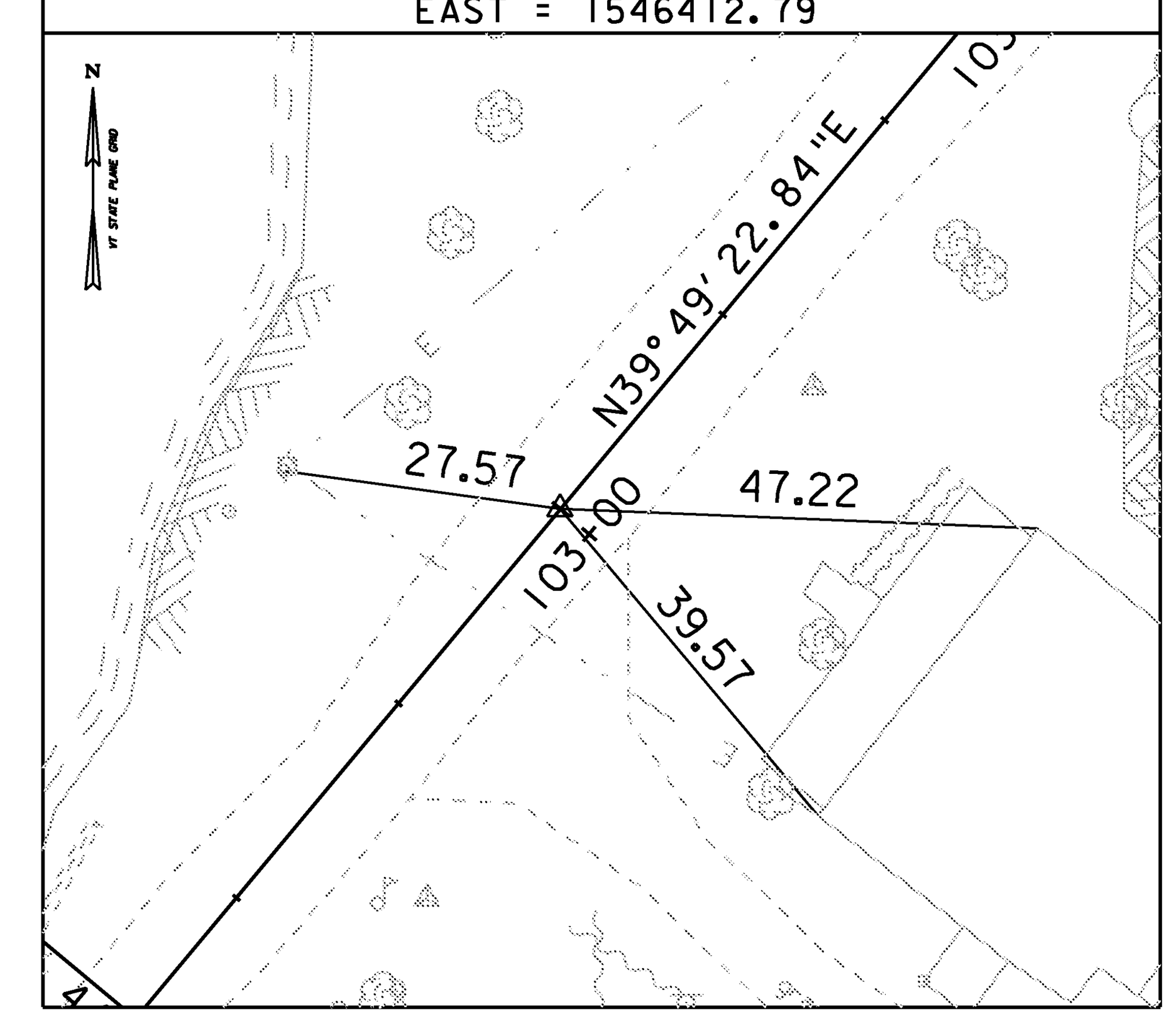
PT STA 102+34.44

NORTH = 833520.65
EAST = 1546370.81



POT 103+00.00

NORTH = 833571.00
EAST = 1546412.79



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

* ALIGNMENT STAKED 02/14/07 BY L.Orvis P.C. & G.Hitchcock
* ALL TIES NOT TO SCALE

MODEL
Default
HTA PROJECT NO.
904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: z04j144tie.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
TIE SHEET

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES

CURVE 1 DATA
Δ=47°00'40.98" RT
D=45°50'11.84"
R=125.00
T=54.37'
L=102.56'
E=11.31'
BANKING=NORMAL

VT STATE PLANE GRID

ROBERT C. CHASE
49 ACRES

REMOVE MEDIUM
MAPLE TREE

BOLLARD TO BE
REMOVED (TYP.)
(SEE NOTE 4)

REMOVE 2 MEDIUM
BOXELDER TREES

PI#1
STA. 101+17.82 BK=
STA. 101+11.64 AHD
Δ=47°00'40.98" RT

BENCHMARK #4
ELEV. = 384.34

PROPOSED EDGE OF
PAVEMENT (TYP.)

BEGIN PROJECT
END APPROACH
STA. 101+10.00

HVCTRL #4
NORTH = 833435.60
EAST = 1546243.08
ELEV. = 385.26

gravel drive

CURVE 1

BEGIN APPROACH
LIMITS OF PAVEMENT
STA. 101+00.00

101+00

℄ T.H. NO. 49
(BRIDGE STREET)

TO T.H. NO. 50
N13°26'08.04"E

STA. 100+63.45 PT

R1-1 STOP N N
STA. 101+15.00
RT. 12.0'

SHOULDER BREAK
(TYP.)

CLEAR TO SLOPE
LIMITS ONLY (TYP.)

VR-017 LEGAL LOAD LIMIT 12,000 POUNDS N
8'-0" N
W12-2 N
STA. 100+55.00
RT. 12.0'

W5-3 ONE LANE BRIDGE N N
STA. 100+25.00
RT. 12.0'

MARSHALL & CHARON TRUE
3 ACRES

BLACK CREEK

INSTALL 3'-0" THICK
TYPE III STONE FILL

WINGWALL NO. 3

TYPE III STONE FILL ELIMINATED
DUE TO LEDGE ELEVATION

WINGWALL NO. 1

PT STA. 102+34.44

PC STA. 102+12.84

APPROXIMATE EXISTING R.O.W.

BEGIN BRIDGE
STA. 101+54.85
F.G. = 385.88

ABUTMENT NO. 1

N60°26'49.01"E

102+00

CURVE 2

ABUTMENT NO. 2

BRIDGE NO. 50

APPROXIMATE EXISTING R.O.W.

STA. 101+69.01 PT

END BRIDGE
STA. 102+18.21
F.G. = 385.88

WINGWALL NO. 2

INSTALL 2'-0" THICK
TYPE II STONE FILL

REMOVE SAND
BARRIER (TYP.)
(SEE NOTE 4)

WINGWALL NO. 4

INSTALL 3'-0" THICK
TYPE III STONE FILL

REMOVE 4 BOXELDER
TREES, 2 MEDIUM
AND 2 SMALL

REMOVE 3 MEDIUM
BOXELDER TREES

PI#2
STA. 102+23.76 BK=
STA. 102+23.52 AHD
Δ=20°37'26.17" LT

BLACK CREEK

R1-2 YIELD N N
STA. 102+85.00
LT. 12.0'

VR-017 LEGAL LOAD LIMIT 12,000 POUNDS N
8'-0" N
W12-2 N
STA. 103+15.00
LT. 12.0'

W5-3 ONE LANE BRIDGE N N
STA. 103+45.00
LT. 12.0'

RUSSELL & PATRICIA ESDEN
0.13 ACRES

POE STA. 103+66.63

103+67

N39°49'22.84"E
TO VT RT. 36

SAVE TREE

103+00

INSTALL SPECIAL PROVISION
(HD STEEL BEAM GUARDRAIL,
WEATHERING) (WOOD POSTS)
(TYP. 4 LOCATIONS)

END APPROACH
LIMITS OF PAVEMENT
STA. 102+68.00

END PROJECT
BEGIN APPROACH
STA. 102+58.00

RELOCATED MAILBOX

HVCTRL #3
NORTH = 833532.49
EAST = 1546399.59
ELEV. = 383.28

RELOCATE
MAILBOX

REMOVE MEDIUM
CHERRY TREE

REMOVE LARGE
WILLOW TREE STUMP

REMOVE MEDIUM
BOXELDER TREE

DRY HYDRANT
(TO REMAIN)

~~REMOVED BY OTHERS~~
~~BENCHMARK #3~~
~~CHISELED SQUARE~~
~~NORTH. = 833524.38~~
~~EAST. = 1546448.71~~
~~ELEV. = 384.11~~

DEBORAH MAYNARD
2 ACRES

CURVE 2 DATA
Δ=20°37'26.17" LT
D=95°29'34.68"
R=60.00'
T=10.92'
L=21.60'
E=0.99'
BANKING=NORMAL

ROADWAY PLAN

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

EXISTING COVERED BRIDGE

QUEEN POST COVERED BRIDGE
66'-10" OVERALL SPAN
60' CLEAR SPAN
CONSTRUCTED 1865
13'-7" ROADWAY
WOODEN DECK
8'-2½" (MIN.) CLEAR HEIGHT
LAID UP STONE ABUTMENT NO. 1
LAID UP STONE AND PARTIALLY
CONCRETE ENCASED ABUTMENT NO. 2

SPECIAL PROVISION (HD STEEL BEAM GUARDRAIL, WEATHERING) (WOOD POSTS)

STA. 100+68.0 RT. 17.8' - STA. 101+48.3 RT. 6.9'
STA. 102+21.6 RT. 6.9' - STA. 102+68.0 RT. 16.8'
STA. 101+02.5 LT. 19.6' - STA. 101+50.0 LT. 6.9'
STA. 102+25.6 LT. 6.9' - STA. 103+12.3 LT. 17.8'

RELOCATE MAILBOX, SINGLE SUPPORT

STA. 102+58.0 RT. 11.0' - STA. 103+~~03~~.0 RT. 11.0'

ANCHOR FOR STEEL BEAM GUARDRAIL

STA. 100+79.3 RT.
STA. 101+08.3 LT.
STA. 102+57.3 RT.
STA. 103+01.5 LT.

PLAN NOTES:

1. SIGN LOCATIONS SHOWN ARE APPROXIMATE. FINAL LOCATIONS WILL BE DETERMINED BY THE RESIDENT ENGINEER IN THE FIELD.
2. ALL WORK SHALL BE COMPLETED WITHIN THE EXISTING R.O.W. AS SHOWN.
3. ALL COSTS OF 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. ALL COSTS FOR REMOVAL OF SAND BARRIERS ON EACH END OF BRIDGE AND SIX (6) EXISTING WOOD BOLLARDS (2 AT ABUTMENT NO. 1 AND 4 AT ABUTMENT NO. 2) ARE PAID UNDER ITEM 203.15, COMMON EXCAVATION.

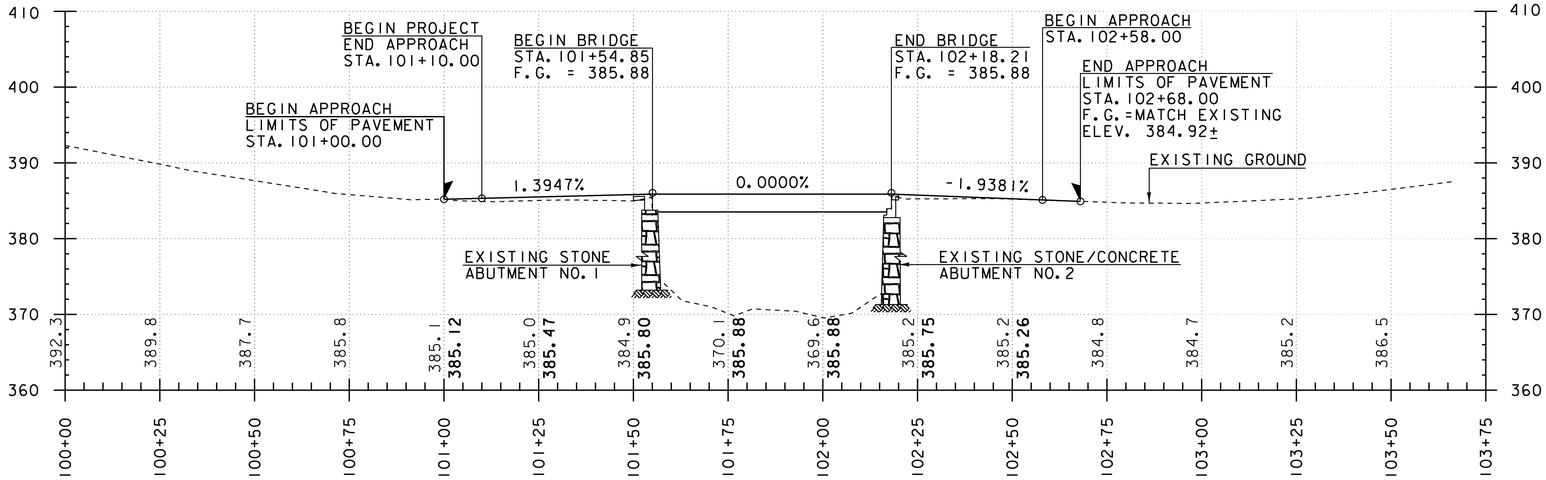
SIGN LEGEND:

N NEW SIGN OR POST

PROJECT NAME:	FAIRFIELD
PROJECT NUMBER:	BHO 1448(32)
MODEL	Default
HTA PROJECT NO.	904213
FILE NAME:	z04j144brdl.dgn
PROJECT LEADER:	J.H.WEAVER
DESIGNED BY:	J.BICJA
T.H. 49 ROADWAY PLAN	
PLOT DATE:	4/25/2008
DRAWN BY:	J.B.McQUAID
CHECKED BY:	S.T.JAMES
SHEET	8 OF 36

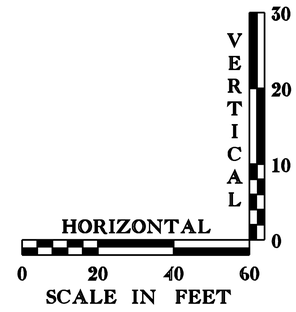
Hoyle, Tanner & Associates, Inc.

05



PROFILE ALONG T.H. 49

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



MODEL	Default
HTA PROJECT NO.	904213

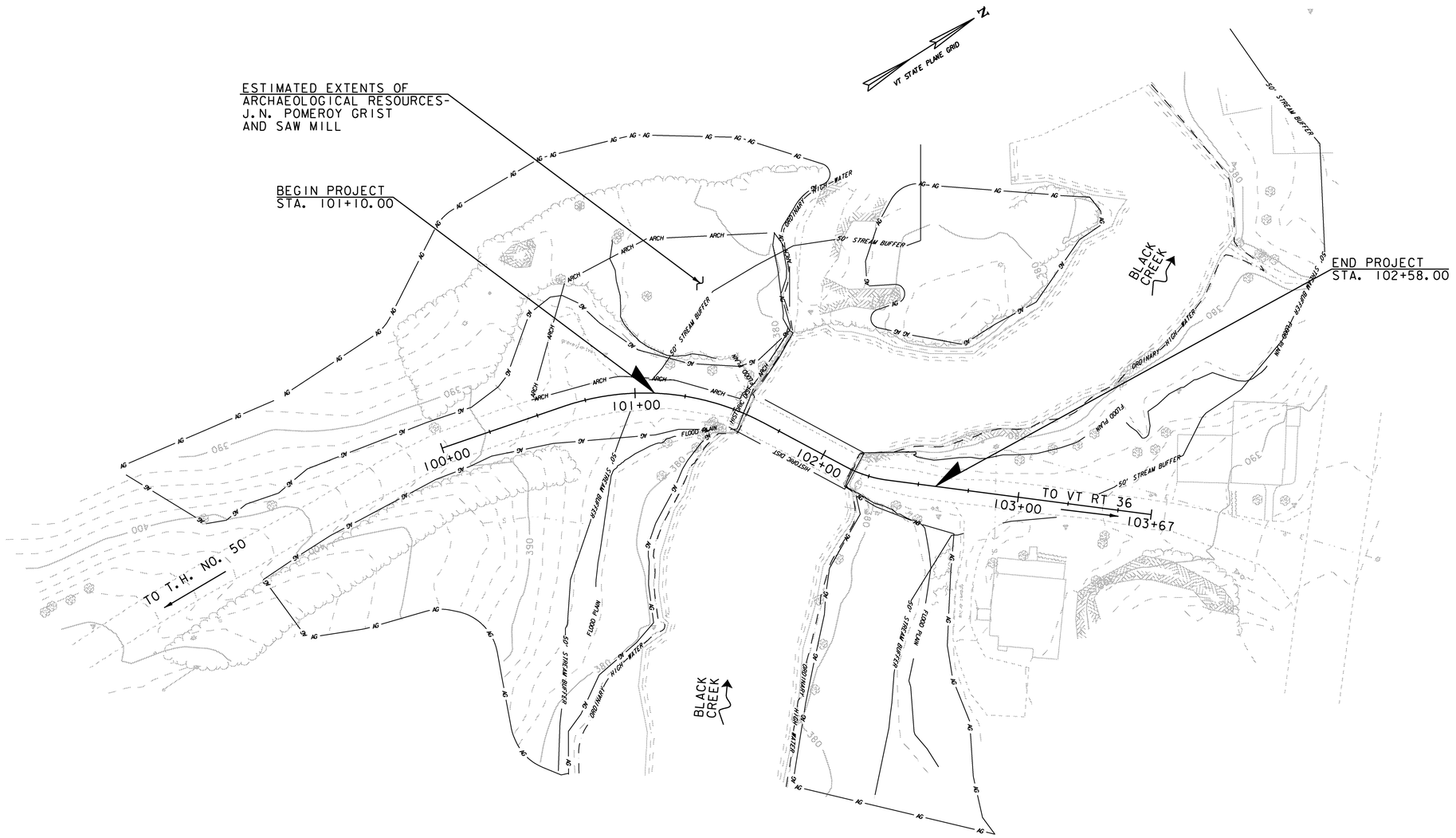
Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: Z04JI44PR01.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
T.H. 49 ROADWAY PROFILE

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 9 OF 36

ENVIRONMENTAL RESOURCE	LEVEL	LINESTYLE NAME	CHECKED BY	DATE
WETLANDS	N/A	N/A	GLENN GINGRAS, VTRANS	04-19-07
HISTORIC/HISTORIC DISTRICT	LAHD	HISTORIC DIST. HISTORIC HIST ———	HTA, INC.	03-27-06
ARCHAEOLOGICAL SITE	LAAS	ARCH. AREA ARCH ——— ARCH —	HA. ASSOC., INC.	03-27-06
4F PROPERTY	N/A	N/A	HTA, INC.	09-16-06
6F PROPERTY	N/A	N/A	HTA, INC.	09-16-06
AGRICULTURAL LAND	LAAG	AGRICULT. LAND AG ——— AG —	HTA, INC.	09-16-06
FISH & WILDLIFE HABITAT	N/A	N/A	HTA, INC.	09-16-06
FLOOD PLAINS	LAFP	FLD. PLAINS FLOOD PLAIN ———	HTA, INC.	03-05-07
ENDANGERED SPECIES	N/A	N/A	HTA, INC.	09-16-06
HAZARDOUS WASTE	N/A	N/A	HTA, INC.	11-30-06
STORMWATER	N/A	N/A	HTA, INC.	09-16-06
GREEN MOUNTAIN NATIONAL FOREST LAND	N/A	N/A	HTA, INC.	10-16-06



RESOURCE PLAN
SCALE: 1" = 30'-0"
30 0 30

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

MODEL
Default
HTA PROJECT NO.
904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: z04j144erol.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
RESOURCE LAYOUT SHEET

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 10 OF 36

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REHABILITATION OF THE EAST FAIRFIELD COVERED BRIDGE (BRIDGE NO. 50) OVER THE BLACK CREEK. THE PROJECT IS ON T.H. NO. 49, A PAVED, CLASS III TOWN HIGHWAY, IN THE TOWN OF FAIRFIELD. THE EXISTING COVERED BRIDGE IS CURRENTLY CLOSED AND WILL REMAIN THAT WAY DURING CONSTRUCTION. TRAFFIC WILL CONTINUE TO BE DETOURED DURING CONSTRUCTION AND THE APPROXIMATE 2,600 FT LONG, EXISTING DETOUR ALONG TOWN HIGHWAY NO. 50 WILL REMAIN IN EFFECT. THE PROJECT CONSISTS OF REPLACING THE DETERIORATED BRIDGE MEMBERS, INSTALLATION OF A NEW STANDING SEAM METAL ROOF, NEW SIDING, INSTALLATION OF LATERAL BRACING, SUBSTRUCTURE REPAIRS AND REPLACEMENT, INSTALLATION OF BRIDGE APPROACH RAILING AND PAVING OF THE BRIDGE APPROACHES. TOTAL ROADWAY APPROACH WORK, INCLUDING BOTH APPROACHES IS APPROXIMATELY 105 FT. THE LIMITS OF CONSTRUCTION ON THE EAST SIDE APPROACH A RESIDENTIAL HOUSE BUT DO NOT ENCROACH ON ITS PROPERTY. NO THREATENED AND ENDANGERED SPECIES, WETLANDS, STORMWATER, FLOOD PLAINS HAZARDOUS WASTE SITE, GREEN MOUNTAIN NATIONAL FOREST LAND, 4F PROPERTY, 6F PROPERTY HAVE BEEN IDENTIFIED IN THE PROJECT AREA. A HISTORIC RESOURCE (FAIRFIELD COVERED BRIDGE) HAS BEEN INDENTIFIED IN THE PROJECT AREA AND IS BEING REHABILITATED AS PART OF THIS PROJECT. AN ARCHAEOLOGICAL RESOURCE (FORMER GRIST MILL) HAS BEEN IDENTIFIED IN THE PROJECT AREA AND WILL BE PROTECTED AND AVOIDED. THE SITE IS LOCATED, BASED UPON NAD 83/(CON) AT 835145.87 N, 1543642.07 E (HVCTRL #1 - SEE TIE SHEET).

IN ADDITION THE EXISTING NORTHEAST WINGWALL NO.3 WILL BE REPLACED WITH A NEW STONE MASONRY WINGWALL AND A PORTION OF THE SOUTHEAST WINGWALL NO.4 WILL BE RECONSTRUCTED. THE NEW NORTHEAST WINGWALL NO.3 WILL BE 47 FT LONG AND SERVE TO REDUCE THE LIMITS OF IMPACT AND TO PREVENT FURTHER EMBANKMENT EROSION.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE (1) CONSTRUCTION SEASON.

TOTAL AREA OF DISTURBANCE INCLUDING LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, INCLUDING ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS IS APPROXIMATELY 0.30 ACRES.

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)

THE PROPERTY SURROUNDING THE PROJECT SITE CONSISTS OF WELL ESTABLISHED VEGETATION, MODERATE TO STEEPLY SLOPING, MIXED SOFTWOOD AND HARDWOOD TREES WITH WELL DEFINED DRAINAGE WAYS. DUE TO THE NATURE OF THE SURROUNDING TERRAIN, RUNOFF WATER ENTERING THE PROJECT SITE WILL BE PRIMARILY LIMITED TO THAT WHICH IS CONVEYED ALONG ROADWAY DITCHES, AND THAT WHICH FOLLOWS T.H. NO. 49 ALONG THE 5% EAST APPROACH GRADE AND THE 7.5% GRADE AT THE WEST APPROACH OF THE PROJECT LIMITS. THE CURRENT ROADWAY DITCHES ARE FAIRLY WELL DEFINED AND CONSIST OF GRAVEL AND GRASS BUT ARE NOT LINED WITH STONE.

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

BLACK CREEK IS LOCATED ON THE PROJECT AREA. THERE ARE NO OTHER WATER BODIES WITHIN THE PROJECT AREA. THE STREAMBED OF THE BLACK CREEK IS MAINLY COMPOSED OF SAND, GRAVEL AND LEDGE. THE BLACK CREEK IS CLASSIFIED AS HILLY AND MEANDERING, FORESTED SURROUNDINGS. THE CONTRIBUTING DRAINAGE AREA AT THE BRIDGE CROSSING IS 36.4 SQUARE MILES.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE PROJECT SITE IS HILLY WITH WOODED AREAS ALONG WITH RESIDENTIAL LAWNS. VERMONT ROUTE 36 RUNS PARALLEL ALONG THE EAST SIDE OF BLACK CREEK WHILE T.H. NO. 49 RUNS PARALLEL ALONG THE WEST SIDE. THE WEST AND EAST BANKS OF BLACK CREEK ARE RELATIVELY STEEP WITHIN THE PROJECT VICINITY. DEVELOPMENT ALONG T.H. NO. 49 CONSISTS OF PERMANENT RESIDENCES, TWO OF WHICH EXIST NEAR THE PROJECT LIMITS. OVERHEAD UTILITY SERVICE FOLLOWS ALONG T.H. NO. 49 AND TO ONE OF THE RESIDENCES AT STA. 102+90. ANOTHER OVERHEAD UTILITY LINE CROSSES BLACK CREEK DOWNSTREAM AND NORTHERLY OF THE BRIDGE. THE LINES ARE LOCATED A SUFFICIENT DISTANCE FROM THE BRIDGE THAT IT IS NOT ANTICIPATED THAT THERE WILL BE ANY IMPACTS TO THEM FROM THE PROJECT. THERE ARE NO UNDERGROUND UTILITIES WITHIN THE PROJECT AREA.

1.2.4 VEGETATION

THE LAND ON AND ADJACENT TO THE PROJECT SITE IS RURAL AND CONSISTS OF A MIX OF HARDWOOD AND SOFTWOOD TREES OF ALL SIZES ALONG T.H. 49 AND RESIDENTIAL PROPERTY. THE TWO RESIDENCES NEAR THE BRIDGE SITE HAVE SMALL AREAS OF LAWN AND LANDSCAPE PLANTINGS. NO FIELDS OR OTHER AGRICULTURAL CROPS EXIST NEAR THE PROJECT. IMPACTS TO VEGETATION WILL BE LIMITED TO THAT WHICH ARE EFFECTED BY THE CONSTRUCTION OF THE NEW NORTHEAST WINGWALL INSIDE THE EXISTING TOWN'S RIGHT-OF-WAY (R.O.W). SOME MEDIUM 12" - 20" TREES, BOTH SOFTWOOD AND HARDWOOD, WILL BE REMOVED, HOWEVER A NEW 47 FT WINGWALL ALONG THE EASTERN APPROACH TO THE BRIDGE WILL REDUCE THE SLOPE IMPACTS ALONG THE ERODED STREAM BANK. THERE IS LEDGE ALONG THE NORTHEASTERN RIVER BANK. FOLLOWING CONSTRUCTION OF THE REHABILITATED COVERED BRIDGE, THE EXISTING ROADWAY APPROACHES WILL BE RECONSTRUCTED AND PAVED. DISTURBED SLOPES WILL BE STABILIZED WITH STONE FILL AS SPECIFIED ON THE PLANS AND VEGETATION REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.5 SOILS

ACCORDING TO THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) THERE ARE THREE SOIL TYPES PRESENT ON THIS PROJECT SITE. BUXTON SILT LOAM (K=0.32) IS LOCATED BETWEEN STA. 102+25 AND VT ROUTE 36. DUE TO RELATIVE STEEPNESS OF THE LAND, THIS REGION HAS THE POTENTIAL FOR BEING MODERATE TO HIGHLY ERODABLE. DEERFIELD LOAMY FINE SAND (K=0.17) IS FOUND FROM STA. 102+25 AND 102+75 RT. THIS AREA HAS A POTENTIAL FOR BEING LOW ERODABLE DUE TO RELATIVE FLAT LAND IN THIS REGION. PODUNK VARIANT SILT LOAM (K=0.32) IS FOUND ON THE WEST SIDE OF THE RIVER AND IS CONSIDERED MODERATE TO HIGHLY ERODABLE. SLOPES WITH THE VICINITY OF THE PROJECT RANGE FROM 0-50%.

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.

1.2.6 SENSITIVE RESOURCE AREAS

NO THREATENED & ENDANGERED SPECIES HAVE BEEN IDENTIFIED WITHIN THE PROJECT LIMITS AND THERE WILL BE NO ADVERSE EFFECT TO HISTORIC FEATURES. ARCHEOLOGICAL FEATURES HAVE BEEN IDENTIFIED WITHIN THE PROJECT LIMITS AND WILL BE PROTECTED AND AVOIDED. BLACK CREEK IS THE ONLY WATER RESOURCE WITHIN THE PROJECT SITE. PRIME AND STATEWIDE AGRICULTURAL LAND IS IDENTIFIED WITHIN THE VICINITY OF THE PROJECT. THERE WILL BE MINIMAL IMPACTS TO THESE TYPES OF LAND IN THE AREA OF THE SOUTHEAST WINGWALL RECONSTRUCTION.

DISTURBANCE OF SOILS NEAR NATURAL OR MAN-MADE WATERWAYS CONSISTS OF THAT WHICH IS NECESSARY TO CONSTRUCT THE NEW NORTHEAST WINGWALL AND RECONSTRUCT THE SOUTHEAST WINGWALL AS WELL AS APPLICABLE ROADWAY APPROACHES. STABILIZATION OF DISTURBANCES TO STREAM BANKS WILL BE ACCOMPLISHED WITH STONE FILL, TYPE III.

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF CONSTRUCTION GENERAL PERMIT 3-9020 BASED ON THE PROJECT IMPACT AREA. SHOULD CHANGES PRIOR TO, OR DURING CONSTRUCTION, RESULT IN ONE (1) OR MORE ACRES OF EARTH DISTURBANCE, OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THEN THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH THE VERMONT AGENCY OF NATURAL RESOURCES VIA FILING OF THE APPROPRIATE "NOTICE OF INTENT" UNDER THE GENERAL CONSTRUCTION PERMIT PROCESS.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

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

1.4.1 MARK SITE BOUNDARIES

PROJECT DEMARCATION FENCING, DENOTED -PDF- ON THE PLANS, IS USED TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION.

1.4.2 LIMIT DISTURBANCE AREA

EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AND AS DIRECTED BY THE ENGINEER.

1.4.3 STABILIZE CONSTRUCTION EXIT

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

1.4.4 INSTALL SILT FENCE

SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK AS SHOWN ON THE PLANS OR AS NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK DAMS SHALL BE UTILIZED AS SHOWN ON THE PLANS OR AS NECESSARY.

1.4.7 CONSTRUCT PERMANENT CONTROLS

THERE WILL BE A NEW STONE FILL TYPE III SLOPE SURROUNDING THE NORTHEAST WINGWALL NO. 3 AS SHOWN ON THE PLANS. ROADWAY SLOPE ABOVE THE SOUTHWEST WINGWALL NO.2 WILL HAVE STONE FILL TYPE II AND WILL BE APPROXIMATELY 1:1.5 SLOPE.

1.4.8 STABILIZE EXPOSED SOILS

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING, OR AN EQUIVALENT PRODUCT, WILL BE UTILIZED ON ALL SLOPES STEEPER THAN 3:1 THAT ARE NOT LINED WITH STONE FILL. SEE ROADWAY SECTIONS FOR SIDESLOPE GRADES. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE OR DURING INTERMITTENT PHASES OF CONSTRUCTION ACTIVITY. TRACKING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL ALSO BE UTILIZED ON A REGULAR BASIS. ANY SLOPES TO BE EXPOSED FOR SEVERAL DAYS PRIOR TO FINAL GRADING SHALL BE TRACKED AND MULCHED. THE FORECAST OF RAINFALL EVENTS SHALL ALSO TRIGGER PROTECTION OF EXPOSED SLOPES.

1.4.9 WINTER STABILIZATION

IF CONSTRUCTION ACTIVITIES INVOLVING EARTH DISTURBANCE CONTINUE PAST OCTOBER 15 OR BEGIN BEFORE APRIL 15, 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

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

1.4.11 DE-WATERING ACTIVITIES

SEDIMENT BASINS FOR SUBSTRUCTURE WORK SHALL BE USED AS NECESSARY.

<u>SEDIMENT SETTLING BASIN SIZING CRITERIA TABLE:</u>

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

1.4.12 INSPECT YOUR SITE

INSPECT SITE BASED ON PERMIT AUTHORIZATION OR SPECIAL PROVISION REQUIREMENTS.

1.4.13 SECTION 106 STIPULATIONS

ALL IDENTIFIED RESOURCES WITHIN THE PROJECT LIMITS ARE TO BE PROTECTED AND AVOIDED AS IT HAS BEEN DETERMINED THAT THIS PROJECT WILL <u>NOT</u>:

REQUIRE A TEMPORARY DETOUR OUTSIDE EXISTING RIGHT-OF-WAY, OR A TEMPORARY WETLAND OR STREAM CROSSING WHICH WILL REQUIRE NON-ROUTINE MITIGATION, OR A RAMP CLOSURE, UNLESS THE FOLLOWING CONDITIONS ARE MET

(1) PROVISIONS ARE MADE FOR ACCESS BY LOCAL TRAFFIC AND THE FACILITY IS POSTED ACCORDINGLY,

(2) BUSINESSES DEPENDENT UPON THROUGH TRAFFIC WILL NOT BE UNDULY AFFECTED,

(3) THE TEMPORARY DETOUR OR RAMP CLOSURE WILL NOT INTERFERE WITH LOCAL SPECIAL EVENTS,

(4) THE TEMPORARY DETOUR, RAMP CLOSURE, WETLAND OR STREAM CROSSING WILL NOT SUBSTANTIALLY INCREASE THE ENVIRONMENTAL CONSEQUENCES OF THE ACTION (PROJECT).

INVOLVE CONSTRUCTION IN WETLANDS AND/OR STREAMS (BELOW ORDINARY HIGH WATER) TOTALING MORE THAN 5,000 SQUARE FEET, REQUIRING THE ARMY CORP OF ENGINEERS TO COORDINATE WITH RESOURCE AGENCIES PER GENERAL PERMIT #NAE-2007-24.

REQUIRE A RISK ANALYSIS FOR AN INCREASE IN 100-YEAR FLOOD WATER SURFACE ELEVATIONS, PER EO 11988.

SOIL INFORMATION
PODUNK VARIANT SILT LOAM (K=0.32) HYDROLOGIC SOIL GROUP: B DEPTH TO BED ROCK: UNKNOWN DEPTH TO WATER TABLE: 27" MODERATE TO HIGHLY ERODABLE LAND

SOIL INFORMATION
BUXTON SILT LOAM 15-25% SLOPES (K=0.32) HYDROLOGIC SOIL GROUP: C DEPTH TO BED ROCK: UNKNOWN DEPTH TO WATER TABLE: 27" MODERATE TO HIGHLY ERODABLE LAND

SOIL INFORMATION
PODUNK VARIANT SILT LOAM (K=0.32) HYDROLOGIC SOIL GROUP: B DEPTH TO BED ROCK: UNKNOWN DEPTH TO WATER TABLE: 27" MODERATE TO HIGHLY ERODABLE LAND

SOIL INFORMATION
DEERFIELD LOAMY FINE SAND 0-8% SLOPES (K=0.17) HYDROLOGIC SOIL GROUP: B DEPTH TO BED ROCK: UNKNOWN DEPTH TO WATER TABLE: 27" LOW ERODABLE LAND

VT STATE PLANE GRID

SHRUBS, HARDWOOD AND SOFTWOOD TREES

GRASS AND SHRUBS WITH SMALL TREES

ESTABLISHED LAWN

BRUSH WOOD

gravel drive

BLACK CREEK

APPROXIMATE EXISTING R.O.W.

HISTORIC DIST

OVERHEAD UTILITY LINE

EXISTING DRAINAGE

FLOOD PLAIN

50' STREAM BUFFER

ARCH

AG

380

EXISTING CONDITIONS PLAN

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

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

LEGEND:
— · · · — SOIL BOUNDARY

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

MODEL
Default
HTA PROJECT NO.
904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: z04j144ero2.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
EPSC EXISTING CONDITIONS PLAN

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 12 OF 36

SOIL INFORMATION
PODUNK VARIANT SILT LOAM (K=0.32)
HYDROLOGIC SOIL GROUP: B
DEPTH TO BED ROCK: UNKNOWN
DEPTH TO WATER TABLE: 27"
MODERATE TO HIGHLY ERODABLE LAND

SOIL INFORMATION
BUXTON SILT LOAM 15-25%
SLOPES (K=0.32)
HYDROLOGIC SOIL GROUP: C
DEPTH TO BED ROCK: UNKNOWN
DEPTH TO WATER TABLE: 27"
MODERATE TO HIGHLY ERODABLE LAND

SOIL INFORMATION
PODUNK VARIANT SILT LOAM (K=0.32)
HYDROLOGIC SOIL GROUP: B
DEPTH TO BED ROCK: UNKNOWN
DEPTH TO WATER TABLE: 27"
MODERATE TO HIGHLY ERODABLE LAND

SOIL INFORMATION
DEERFIELD LOAMY FINE SAND
0-8% SLOPES (K=0.17)
HYDROLOGIC SOIL GROUP: B
DEPTH TO BED ROCK: UNKNOWN
DEPTH TO WATER TABLE: 27"
LOW ERODABLE LAND

LEGEND:

- (1) END OF SILT FENCE TURNED UPHILL TO CREATE PONDING
- ▶ STONE CHECK DAMS
- SOIL BOUNDARY
- PDF———PDF— PROJECT DEMARCATION FENCE
- SILT FENCE
- EROSION CONTROL MATTING AND SEED

CONSTRUCTION CONDITIONS PLAN

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

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

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

MODEL
Default
HTA PROJECT NO.
904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: z04j144ero3.dgn	PLOT DATE: 4/25/2008
PROJECT LEADER: J.H.WEAVER	DRAWN BY: J.B.McQUAID
DESIGNED BY: J.BICJA	CHECKED BY: S.T.JAMES
EPSC CONSTRUCTION CONDITIONS PLAN	SHEET 13 OF 36


N
VT STATE PLANE GRID
SHOULDER BREAK (TYP.)
APPROXIMATE EXISTING R.O.W.
BEGIN BRIDGE
STA. 101+54.85
F.G. = 385.88
END BRIDGE
STA. 102+18.21
F.G. = 385.88
BEGIN PROJECT
END APPROACH
STA. 101+10.00
BEGIN APPROACH
LIMITS OF PAVEMENT
STA. 101+00.00
℄ T.H. NO. 49
102+00
101+00
103+00
BRIDGE NO. 50
3'-0" THICK STONE
FILL TYPE III
2'-0" THICK STONE
FILL TYPE II
SLOPE LIMITS (TYP.)
EXISTING EDGE
OF TRAVEL WAY (TYP.)
50' STREAM BUFFER
TO T.H. NO. 50
TO VT RT 36
BLACK CREEK
PROPOSED EDGE
OF TRAVEL WAY (TYP.)
END APPROACH
LIMITS OF PAVEMENT
STA. 102+68.00
BEGIN APPROACH
END PROJECT
STA. 102+58.00
OVERHEAD UTILITY
LINE
gravel drive
380

FINAL CONDITIONS PLAN

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

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

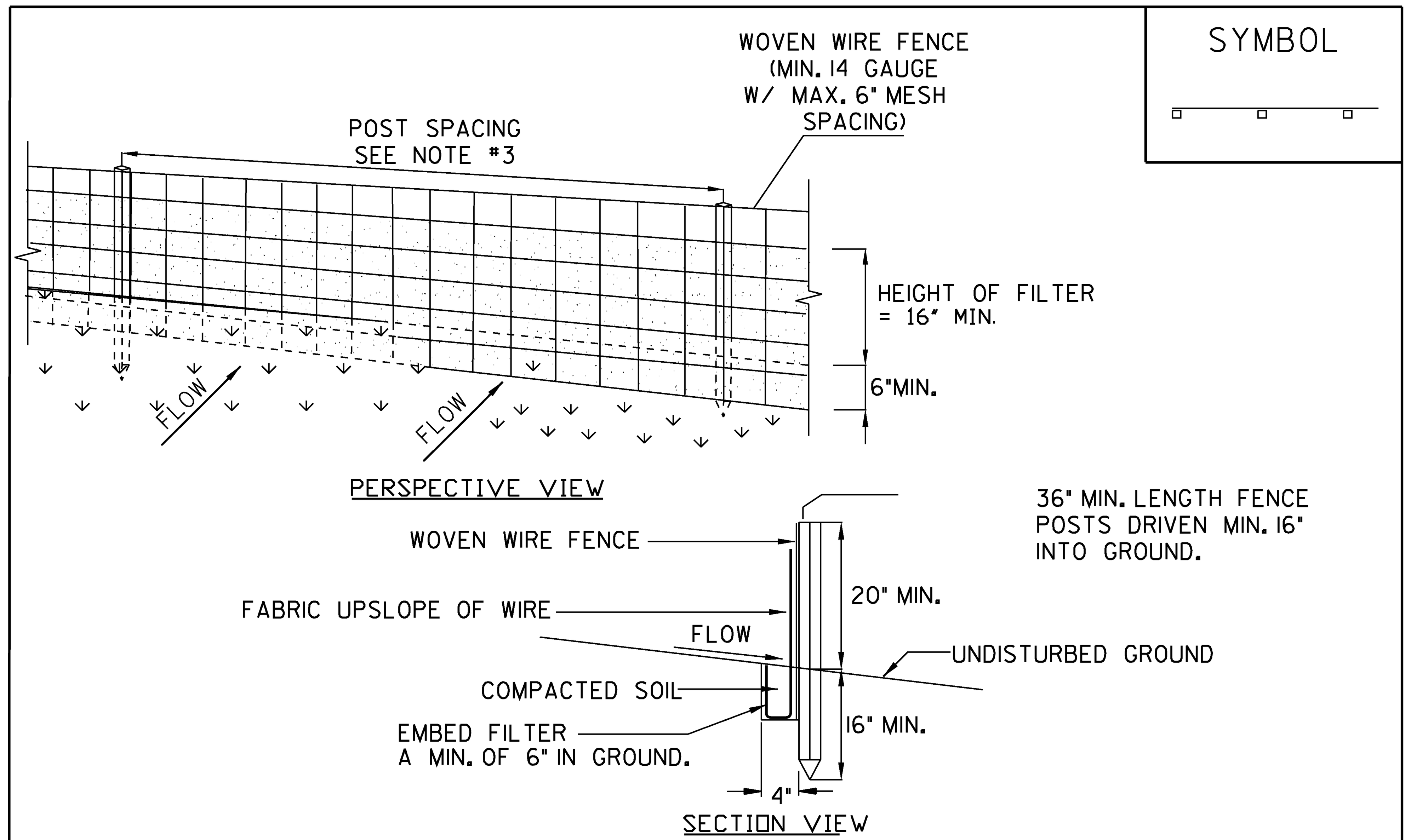
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (Con)
ADJUSTMENT	COMPASS

MODEL	Default
HTA PROJECT NO.	904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: z04j144ero4.dgn		PLOT DATE:	4/25/2008
PROJECT LEADER: J.H.WEAVER		DRAWN BY:	J.B.McQUAID
DESIGNED BY:	J.BICJA	CHECKED BY:	S.T.JAMES
EPSC FINAL CONDITIONS PLAN		SHEET 14	OF 36



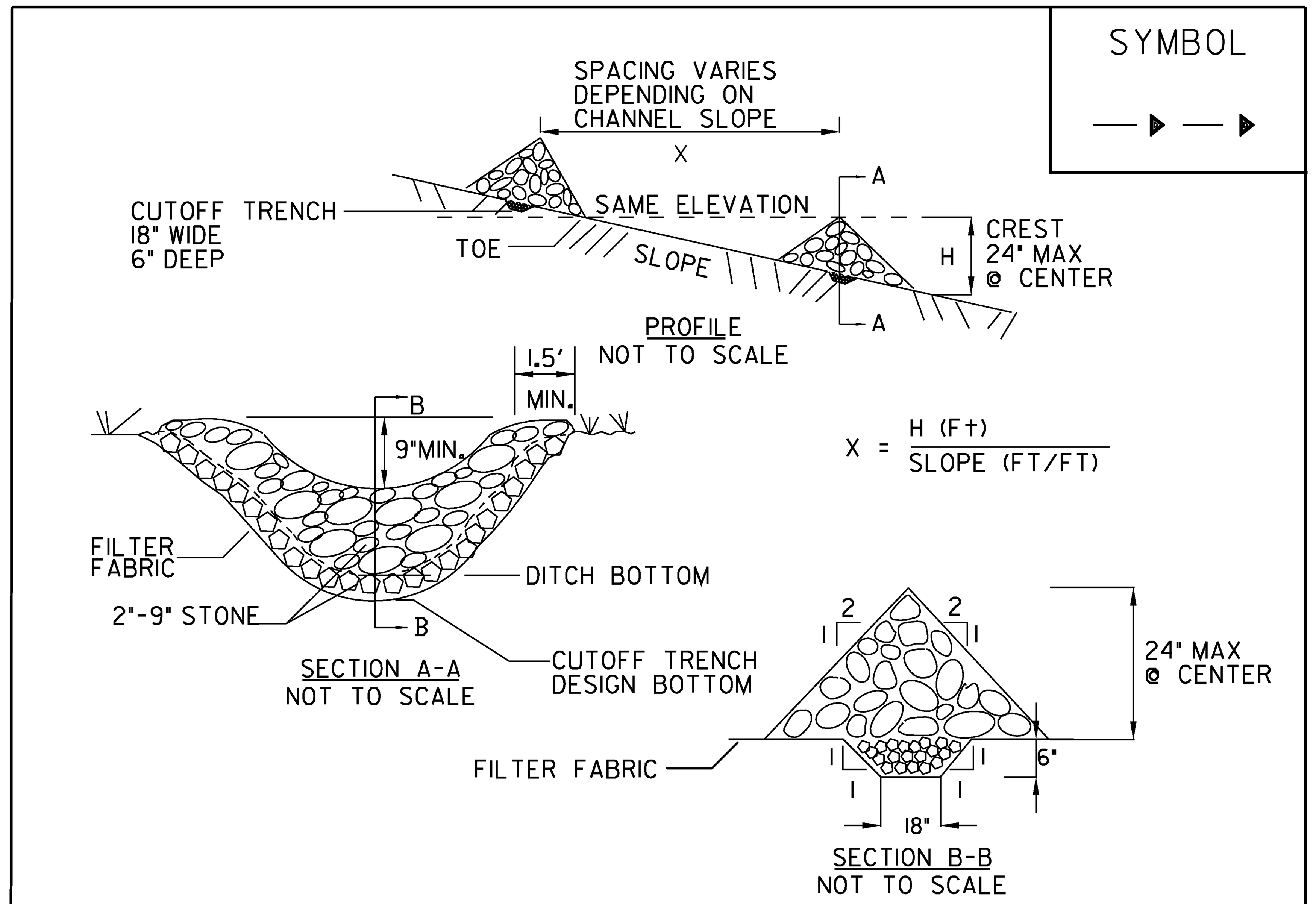
CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE REINFORCEMENT IS ONLY REQUIRED WITHIN 100 FT UPSLOPE OF RECEIVING WATERS.
2. WHERE REQUIRED FENCE SHALL BE WOVEN WIRE, MIN. 14 GAUGE WITH A 6" MAXIMUM MESH OPENING. 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'. FOR FILTER-CLOTH FENCE, 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 SIX INCHES 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 ITEM SHALL BE PAID FOR UNDER ITEM
STANDARD SPECIFICATION 649.51 GEOTEXTILE FOR SILT FENCE ~~OR~~
~~900.675 SPECIAL PROVISION (GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED)~~



CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. SET SPACING OF CHECK DAMS SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

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.

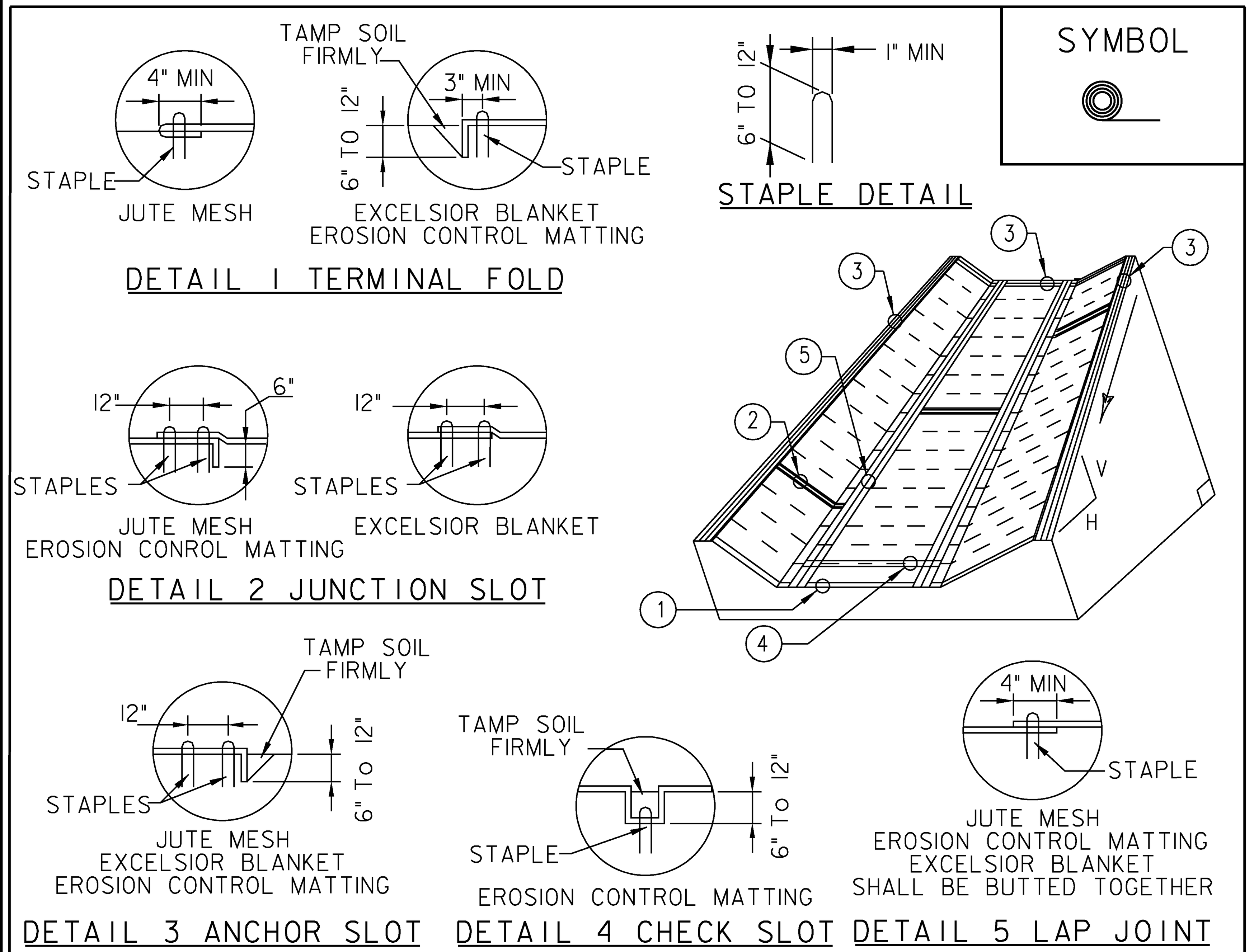
THIS ITEM SHALL BE PAID FOR UNDER ITEM
653.25 TEMPORARY STONE CHECK DAM, TYPE I

REVISIONS	
MARCH 8, 2007	JMF

MODEL: det2
HTA PROJECT NO.: 904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD	
PROJECT NUMBER: BHO 1448(32)	
FILE NAME: z04j144ecnotes2.dgn	PLOT DATE: 4/25/2008
PROJECT LEADER: J.H.WEAVER	DRAWN BY: J.B.McQUAID
DESIGNED BY: J.BICJA	CHECKED BY: S.T.JAMES
EPSC DETAIL SHEET (1 OF 2)	SHEET 15 OF 36



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.

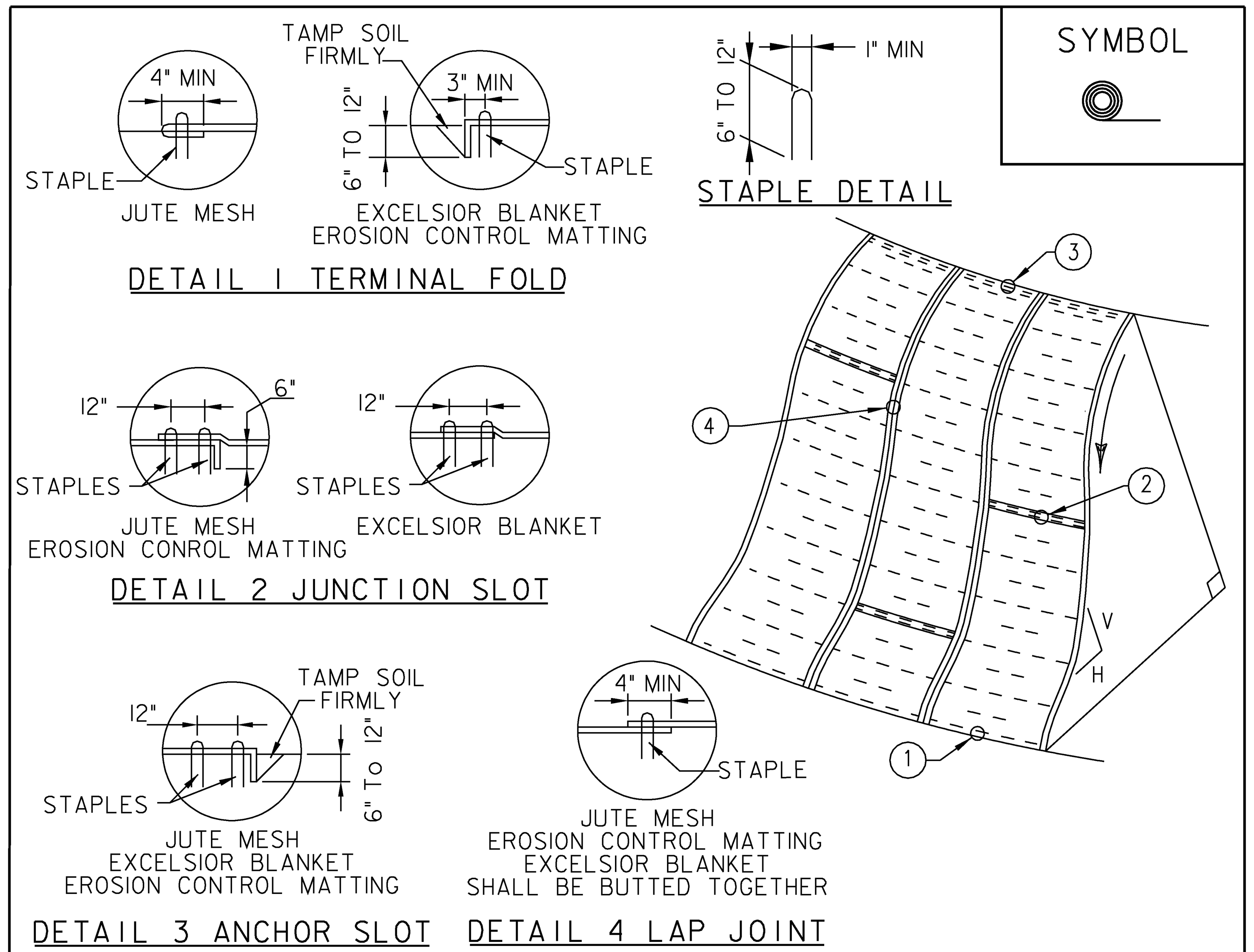
ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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 ITEM SHALL BE PAID FOR UNDER ITEM
653.20 TEMPORARY EROSION MATTING ~~OR~~
~~653.21 PERMANENT EROSION MATTING~~

REVISIONS	
MARCH 8, 2007	JMF
APRIL 16, 2007	WHF



CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.

2. APPLY FERTILIZER, LIME AND 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.

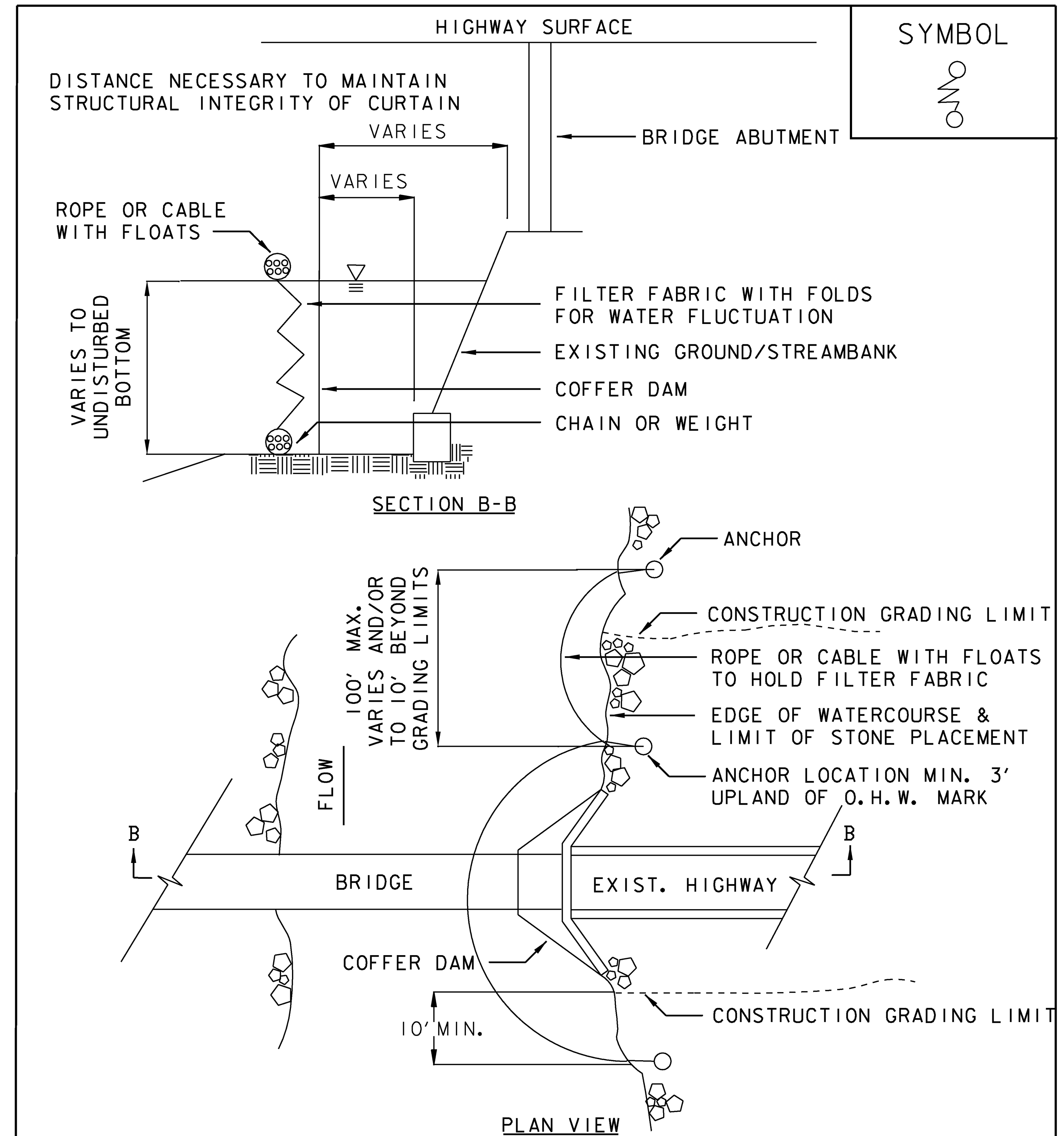
ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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 ITEM SHALL BE PAID FOR UNDER ITEM
653.20 TEMPORARY EROSION MATTING ~~OR~~
~~653.21 PERMANENT EROSION MATTING~~

NEW	
APRIL 16, 2007	WHF
REVISIONS	



ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT AGENCY OF TRANSPORTATION

TURBIDITY CURTAIN

NOTES:
THIS ITEM SHALL BE PAID FOR UNDER ITEM
649.61 GEOTEXTILE FOR FILTER CURTAIN

MODEL	det2
HTA PROJECT NO.	904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: z04j144ecnotes3.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
EPSC DETAIL SHEET (2 OF 2)

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 16 OF 36

SOIL CLASSIFICATION

AASHTO

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)

N	DESCRIPTIVE TERM
<5	Very Loose
5-10	Loose
11-24	Med. Dense
25-50	Dense
>50	Very Dense

CONSISTENCY (COHESIVE SOILS)

N	DESCRIPTIVE TERM
<2	Very Soft
2-4	Soft
5-8	Med. Stiff
9-15	Stiff
16-30	Very Stiff
31-60	Hard
>60	Very Hard

COMMONLY USED SYMBOLS

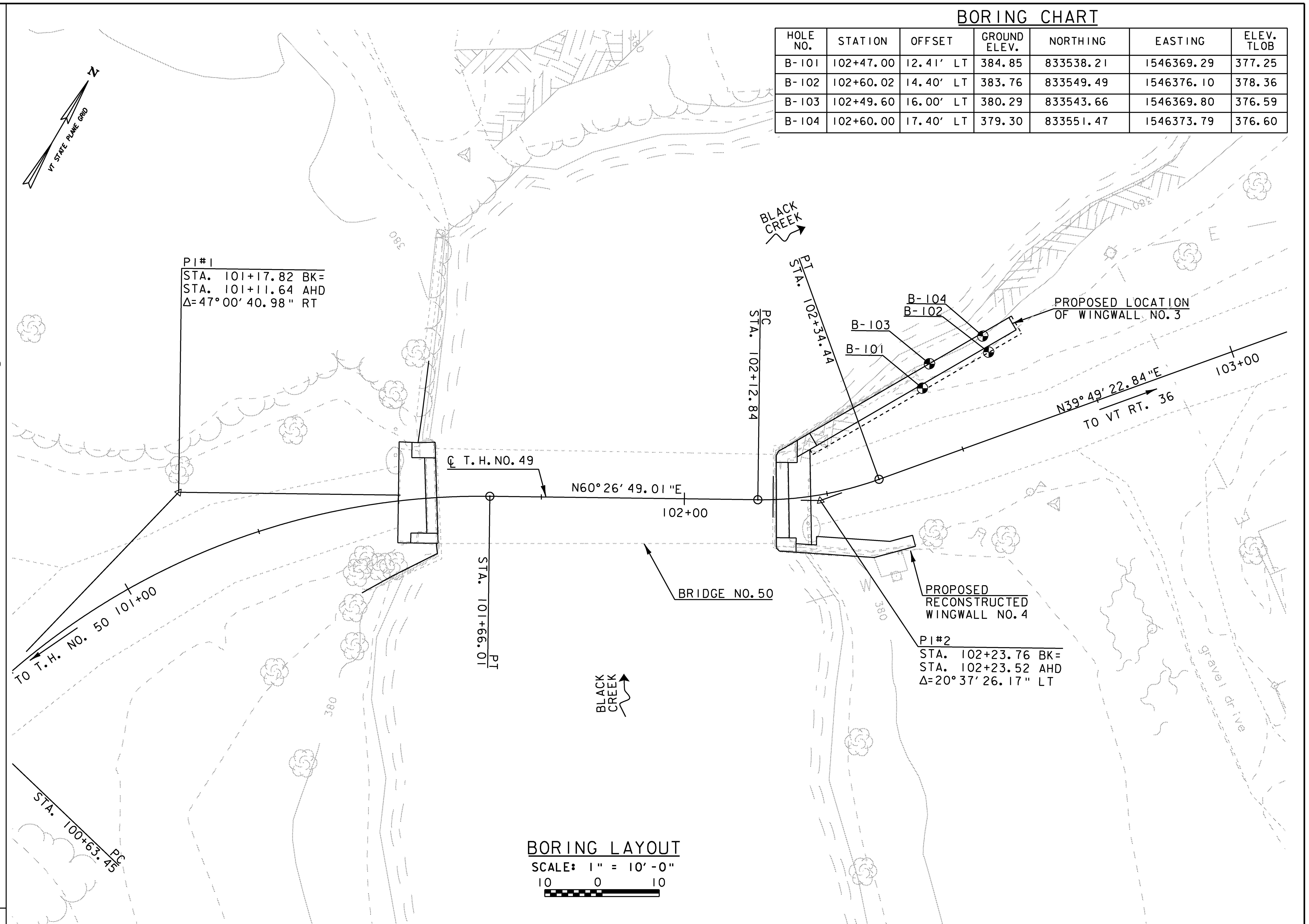
▼	Water Elevation
⊗	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 5/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
ROD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)

COLOR

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

BORING CHART

HOLE NO.	STATION	OFFSET	GROUND ELEV.	NORTHING	EASTING	ELEV. TLOB
B-101	102+47.00	12.41' LT	384.85	833538.21	1546369.29	377.25
B-102	102+60.02	14.40' LT	383.76	833549.49	1546376.10	378.36
B-103	102+49.60	16.00' LT	380.29	833543.66	1546369.80	376.59
B-104	102+60.00	17.40' LT	379.30	833551.47	1546373.79	376.60



BORING LAYOUT

SCALE: 1" = 10'-0"

10 0 10

DEFINITIONS (AASHTO)

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

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

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

GRAVEL - Rounded particles of rock < 3" and > 0.0787" (#10 sieve).

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

SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

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

VARVED - Alternate layers of silt and clay.

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

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

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

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

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

DIP - Inclination of bed with a horizontal plane.

GENERAL NOTES

1. The subsurface explorations shown herein were made between 2-26-07 and 3-01-07 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

MODEL	Default
HTA PROJECT NO.	904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD

PROJECT NUMBER: BHO 1448(32)

FILE NAME:	Z04J144bor.dgn	PLOT DATE:	4/25/2008
PROJECT LEADER:	J.H.WEAVER	DRAWN BY:	J.B.McQUAID
DESIGNED BY:	J.BICJA	CHECKED BY:	S.T.JAMES
BORING LAYOUT SHEET		SHEET 17	OF 36

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

VTrans Working to Get You There

BORING NUMBER: B-101
SHEET 1 of 1
DATE STARTED: 2/26/07
DATE COMPLETED: 2/27/07

PROJECT NAME: FAIRFIELD
SITE NAME: TH-49
STATION: 102+47.00
OFFSET: -12.41
VTSPG: N 833538.21 ft E 1546369.29 ft

PROJECT NUMBER: BHO 1448(32)
SITE NUMBER: BR-50
GROUND ELEVATION: 384.85 ft
GROUNDWATER DEPTH: Hole caved in at 5.6 ft
PROJECT PIN NUMBER: 04J144

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: CARRIERE

BORING RIG: SMALL SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

TOP OF WINGWALL NO. 3 FOOTING ELEV. 378.86

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		Field Note:, BXDC, Cleaned out casing					
2.5		A-1-b, SiGrSa, brn, Moist, Rec. = 1.7 ft, BXDC, Cleaned out casing.	39	20.3	28.4	49.3	22.3
5.0		A-2-4, GrSiSa, brn, Moist, Rec. = 1.3 ft	2	22.6	25.4	43.0	31.6
		Classification:, A-2-4, Si Sa with Broken Rock, brn, Moist, Rec. = 0.2 ft, Insufficient sample for testing.	3				
7.5		Top of Bedrock @ 7.6 ft					
		Chlorite-epidote, Greenstone, Competent, Moderately hard, Unweathered, BXMDC, 7.6 ft - 12.6 ft, Rec. = 4.9 ft	1	98	98	85	6
							11
10.0							13
							10
							8
12.5		Chlorite-epidote, Greenstone, Competent, Moderately hard, Unweathered, BXMDC, 12.6 ft - 17.6 ft, Rec. = 4.9 ft	2	98	98	85	8
							8
15.0							8
							8
							8
17.5		Hole stopped @ 17.6 ft					

LOG OF BORING FAIRFIELD BHO 1448(32).GPJ VT AOT.GDT 3/26/07

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

VTrans Working to Get You There

BORING NUMBER: B-102
SHEET 1 of 1
DATE STARTED: 2/28/07
DATE COMPLETED: 2/28/07

PROJECT NAME: FAIRFIELD
SITE NAME: TH-49
STATION: 102+60.02
OFFSET: -14.40
VTSPG: N 833549.49 ft E 1546376.10 ft

PROJECT NUMBER: BHO 1448(32)
SITE NUMBER: BR-50
GROUND ELEVATION: 383.76 ft
GROUNDWATER DEPTH: 4.2 ft 2/28/07
PROJECT PIN NUMBER: 04J144

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: CARRIERE

BORING RIG: SMALL SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

TOP OF WINGWALL NO. 3 FOOTING ELEV. 378.86

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
2.5							
		Field Note:, BXDC, Cleaned out casing.					
5.0		Classification:, A-4, Sa Si with Wood, brn, Moist, Rec. = 0.4 ft	R				
		Top of Bedrock @ 5.4 ft					
		Chlorite-epidote, Greenstone, Competent, Moderately hard, Unweathered, BXMDC, 5.4 ft - 10.4 ft, Rec. = 4.9 ft	1	98	98	85	12
							8
7.5							8
							7
							7
10.0		Hole stopped @ 10.4 ft					
12.5							
15.0							
17.5							

LOG OF BORING FAIRFIELD BHO 1448(32).GPJ VT AOT.GDT 3/26/07

MODEL	det2
HTA PROJECT NO.	904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: Z04J144bol.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
BORING LOG SHEET (1 OF 2)

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 18 OF 36

TOP OF WINGWALL NO. 3 FOOTING
ELEV. 378.86

VTrans Working to Get You There

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

BORING NUMBER: **B-103**
SHEET 1 of 1
DATE STARTED: **3/1/07**
DATE COMPLETED: **3/1/07**

PROJECT NAME: FAIRFIELD
SITE NAME: TH-49
STATION: **102+49.60**
OFFSET: **-16.00**
VTSPG: N **833543.66** ft E **1546369.80** ft

PROJECT NUMBER: BHO 1448(32)
SITE NUMBER: BR-50
GROUND ELEVATION: **380.29**
GROUNDWATER DEPTH: **N/A 3/1/07**
PROJECT PIN NUMBER: 04J144

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: CARRIERE

BORING RIG: **N/A**
BORING TYPE: **PROBE**
SAMPLE TYPE: **N/A**
CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
2.5							
		REFUSAL AT 3.7'	**(HAND STEEL SOUNDING)**				
		TOP OF LEDGE OR BOULDER					
5.0							
7.5							
10.0							
12.5							
15.0							
17.5							

TOP OF WINGWALL NO. 3 FOOTING
ELEV. 378.86

VTrans Working to Get You There

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

BORING NUMBER: **B-104**
SHEET 1 of 1
DATE STARTED: **3/1/07**
DATE COMPLETED: **3/1/07**

PROJECT NAME: FAIRFIELD
SITE NAME: TH-49
STATION: **102+60.0**
OFFSET: **-17.40**
VTSPG: N **833551.47** ft E **1546373.79** ft

PROJECT NUMBER: BHO 1448(32)
SITE NUMBER: BR-50
GROUND ELEVATION: **379.30**
GROUNDWATER DEPTH: **N/A 3/1/07**
PROJECT PIN NUMBER: 04J144

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: CARRIERE

BORING RIG: **N/A**
BORING TYPE: **PROBE**
SAMPLE TYPE: **N/A**
CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		REFUSAL AT 2.7'	**(HAND STEEL SOUNDING)**				
2.5							
		TOP OF LEDGE OR BOULDER					
5.0							
7.5							
10.0							
12.5							
15.0							
17.5							

MODEL	det2
HTA PROJECT NO.	904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: Z04J144bo2.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
BORING LOG SHEET (2 OF 2)

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 19 OF 36

VT STATE PLANE GRID

PI #1
STA. 101+17.82 BK=
STA. 101+11.64 AHD
Δ=47°00'40.98" RT

WINGWALL NO. 1

SLOPE LIMITS

18'-9" BEAM RAIL SECTION
SHOP FORMED TO R=16'-0"

BEGIN BRIDGE
STA. 101+54.85
F.G. = 385.88

3'-3"

6 SP @ 6'-3" = 37'-6"
R=154'-0"

3'-3"

3 SP @ 6'-3"
=18'-9"

BEGIN APPROACH
LIMITS OF PAVEMENT
STA. ~~101+00.00~~
100+75

10 SP @ 6'-3"
=62'-6"
R=118'-0"

101+00

℄ T.H. NO. 49

2 SP @ 6'-3"
=12'-6"

N13°26'08.84"E

BEGIN PROJECT
END APPROACH
STA. 101+10.00

SLOPE LIMITS

12'-6" BEAM RAIL SECTION
SHOP FORMED TO R=16'-0"

STA. 100+63.45 PC

N60°26'49.01"E
102+00

STA. 101+66.01 PT

WINGWALL NO. 2

EDGE OF CHANNEL (TYP.)

2'-0" THICK
STONE FILL
TYPE II

BRIDGE NO. 50

BLACK CREEK

TYPE III STONE ELIMINATED
DUE TO LEDGE ELEVATIONS

2 SP @ 6'-3" = 12'-6"
R=51'-0"

WINGWALL NO. 3

PC
STA. 102+12.84

PT
STA. 102+34.44

SLOPE LIMITS

3'-0" THICK
STONE FILL
TYPE III

12'-6" BEAM RAIL SECTION
SHOP FORMED TO R=16'-0"

BEGIN APPROACH
END PROJECT
STA. 102+58.00

2 SP @ 6'-3"
=12'-6"

10 SP @ 6'-3" = 62'-6"

N39°49'22.84"E
103+00

END APPROACH
LIMITS OF PAVEMENT
STA. ~~102+68.00~~
102+80

2 SP @ 6'-3" = 12'-6"

5'-0"

6 SP @ 6'-3" = 37'-6"

2'-8"

END BRIDGE
STA. 102+18.21
F.G. = 385.88

WINGWALL NO. 4

3'-0" THICK
STONE FILL
TYPE III

SHOULDER BREAK
(TYP.)

SLOPE LIMITS

12'-6" BEAM RAIL SECTION
SHOP FORMED TO R=16'-0"

PI #2
STA. 102+23.76 BK=
STA. 102+23.52 AHD
Δ=20°37'26.17" LT

gravel drive

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

69'-0" OVERALL LENGTH

REPLACE EXISTING METAL ROOF WITH
NEW STANDING SEAM METAL ROOF

1'-0"± OVERHANG
(TYP.)

REMOVE AND REPLACE
EXISTING SIDING WITH NEW
SIDING, SEE SHEET 3

Q_{100} ELEV. 382.4

ADDITIONAL SIDING TO COVER
BOLTS AND TIE-ROD ENDS

390
380
370
360
350

ABUTMENT NO. 1

ABUTMENT NO. 2

APPROXIMATE
EXISTING
CHANNEL BOTTOM

UPSTREAM ELEVATION AT UPSTREAM FASCIA
SCALE: 1/8" = 1'-0"

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

MODEL	Default
HTA PROJECT NO.	904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: Z04J144PE.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
COVERED BRIDGE PLAN AND ELEVATION

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 20 OF 36

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 H6 LIVE LOAD.

G-3. THE CONTRACTOR SHALL TAKE SPECIAL CARE AND PRECAUTION TO INSURE THAT NO DEBRIS FALLS INTO THE BLACK 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.

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.

G-6. BRIDGE NO.50 SHALL REMAIN CLOSED TO VEHICULAR AND PEDESTRIAN 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 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. 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-8. THE STEEL I-BEAMS THAT SUPPORT THE EXISTING COVERED BRIDGE SHALL BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE TOWN OF FAIRFIELD GARAGE, 12 GILBERT RD, FAIRFIELD VT. THE CONTRACTOR SHALL UNLOAD THE I-BEAMS FROM THE TRUCK AND PLACE THEM AT A LOCATION AS DIRECTED BY THE TOWN. CONTACT ROAD FOREMAN RODNEY JUDD AT (802) 827-3290 AND PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE PRIOR TO DELIVERY. THESE STEEL BEAMS ARE COATED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S MOVING OF THESE STEEL BEAMS. ALL COSTS ASSOCIATED WITH THE REMOVAL, HAULING AND DELIVERY OF STEEL BEAMS ARE PAID UNDER ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE.

G-9. THE COST OF INSTALLING, MAINTAINING AND REMOVING ALL TEMPORARY CONSTRUCTION SIGNS WILL BE PAID FOR UNDER ITEM 641.10, TRAFFIC CONTROL.

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 MEMBERS TO BE REPLACED SHALL MATCH THE EXISTING JOINT, INCLUDING ALL NAILS, BOLTS OR SCREWS REQUIRED UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL NOTES:

S-1. EXCEPT AS NOTED OTHERWISE IN THE CONTRACT PLANS, ITEM 506.75, STRUCTURAL STEEL SHALL INCLUDE THE NEW UPPER AND LOWER LATERAL BRACING TIE RODS (INCLUDING NUTS, PLATES, WASHERS AND TURNBUCKLES), REPLACED VERTICAL STEEL RODS AT EACH TRUSS, STRAIGHTENING OF VERTICAL ROD AT NODE 3N, ALL NEW STEEL STRAP ANCHORS, STEEL CONNECTION PLATES USED AT BOTTOM CHORDS AND RAFTER SUPPORT BEAMS TO TRUSS VERTICAL CONNECTIONS (INCLUDING THROUGH BOLTS, NUTS AND LAG SCREWS), NEW OGEE WASHERS AS SHOWN ON THE PLANS AND NEW LAG SCREWS TO CONNECT EXISTING WOOD MEMBERS. FABRICATION DRAWINGS AND ERECTION PLAN SUBMITTALS ARE NOT REQUIRED FOR STRUCTURAL STEEL.

S-2 ALL NEW STRUCTURAL STEEL 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 232M/M 232 EXCEPT FOR PLATES WHICH SHALL BE GALVANIZED PER AASHTO M 111M/ M 111. ALL STEEL PLATES AND RODS SHALL BE ASTM A36.

RECOMMENDED SEQUENCE OF WORK:

RS-1. REMOVE EXISTING METAL ROOF.

RS-2. REMOVE EXISTING FLOOR DECKING, STRINGERS AND SIDING. PROVIDE TEMPORARY SUPPORT OF THE BOTTOM CHORDS AS REQUIRED.

RS-3. DEPENDING ON WHICH ALTERNATE WAS CHOSEN, INSTALL TEMPORARY SHORING TO SUPPORT EXISTING BRIDGE OR MOVE THE EXISTING BRIDGE TO A STAGING AREA TO COMPLETE REPAIRS. THE CONTRACTOR SHALL SUBMIT PLANS AND DESIGN CALCULATIONS FOR THE PROPOSED WORK, TO THE STRUCTURES ENGINEER IN ACCORDANCE WITH SECTION 105 OF STANDARD SPECIFICATIONS, 2 WEEKS PRIOR TO THE INSTALLATION OF THE SUPPORT STRUCTURE OR RELOCATION.

RS-4. THE EXISTING BRIDGE SHALL BE JACKED AND BRACED AS REQUIRED TO STRAIGHTEN, RELEASE STRESSES, PLUMB AND RE-ALIGN THE TRUSSES. SHIMMING OF THE EXISTING TRUSSES WITH HARDWOOD SHIMS MAY BE REQUIRED. THE CONTRACTOR SHALL SUBMIT THE PROPOSED METHOD OF WORK TO THE RESIDENT ENGINEER PRIOR TO THE START OF REALIGNMENT OPERATIONS. (SEE ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE)).

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

RS-6. DEPENDING ON WHICH ALTERNATE WAS CHOSEN, REMOVE TEMPORARY SHORING TO SUPPORT STRUCTURE, OR RE-INSTALL THE BRIDGE SUPERSTRUCTURE, COMPLETE REMAINING WORK ITEMS AS DETAILED ON DRAWINGS AND REOPEN BRIDGE TO TRAFFIC.

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%
ALL HARDWOOD THICKER THAN 2.5" MAY BE GREEN

W-3. THE REPAIR OF TWO (2) SPLITS IN EXISTING NORTH TRUSS 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 30) ARE INCLUDED FOR BIDDING PURPOSES. SEE THE RECOMMENDED REPAIR SEQUENCE NOTES ON SHEET 30 FOR MORE INFORMATION.

W-4. 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-5. 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 232M/M 232. THE USE OF ELECTRO GALVANIZED NAILS WILL NOT BE ALLOWED.

W-6. ALL STRUCTURAL LUMBER AND TIMBER NOT SHOWN ON THE WOOD MATERIAL LIST TABLE SHALL BE DOUGLAS FIR NO.1 OR BETTER UNLESS NOTED OTHERWISE. LIKEWISE, ALL HARDWOOD SHALL BE WHITE OAK NO.1 OR BLACK LOCUST NO.1 OR BETTER. SEE NOTE 8 ON SHEET 26 FOR ADDITIONAL INFORMATION.

W-7. ALL FIELD CUTS AND BORINGS OF TREATED WOOD SHALL BE TREATED WITH TWO COATS OF COPPER NAPHTHENATE LIBERALLY APPLIED PER SPECIFICATION SECTION 522.

W-8. EXISTING TRUSS, ROOF RAFTER, KNEE BRACING, CROSSBEAM AND UPPER LATERAL BRACING JOINTS SHALL BE REPLICATED ON ALL STRUCTURE MEMBERS TO BE REPLACED UNLESS NOTED OTHERWISE IN THE CONTRACT DRAWINGS.

W-9. THE WOOD CURB BLOCKING, CURB, DECKING, STRINGER SUPPORT CROSS BEAMS, PORTAL TRIM LUMBER TREATMENT, WEDGE BLOCKS, BLOCKS AT VERTICAL STEEL RODS, TRUSS BOTTOM CHORDS AND NEW DIAGONALS SHALL COMPLY WITH STANDARD SPECIFICATION 726.01 TYPE III PENTACHLOROPHENOL TYPE C.

W-10. 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-11. DECKING SHALL BE SURFACED FOUR SIDES (S4S). NEW BOTTOM CHORD MEMBERS SHALL BE SURFACED ONE SIDE (S1S) (WIDE FACE). ALL OTHER NEW LUMBER AND TIMBER SHALL BE ROUGH SURFACED.

W-12. 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 FACES OF NEW BOTTOM CHORD MEMBERS SHALL BE THE ACTUAL DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. FOR ALL NEW BOTTOM CHORD MEMBERS' WIDE FACES AND ALL OTHER MEMBERS THAT ARE NOT SURFACED S4S, CROSS-SECTIONAL DIMENSION VARIATIONS OF UP TO 1/8" WILL BE ALLOWED.

CONCRETE AND REINFORCING STEEL NOTES:

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

C-2. REINFORCING PLACEMENT TOLERANCES SHALL BE +/- 1" FOR SPACING AND +/- ¼" FOR CLEARANCES.

C-3. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE 2 ½" UNLESS NOTED OTHERWISE.

C-4. THE CONCRETE IN APPROACH BACKWALLS AND BEARING SEATS SHALL BE PAID FOR UNDER ITEM 501.33, CONCRETE, HIGH PERFORMANCE CLASS A. ALL OTHER CONCRETE SHALL BE PAID FOR UNDER ITEM 501.34, CONCRETE, HIGH PERFORMANCE CLASS B.

C-5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1" UNLESS NOTED OTHERWISE.

C-6. 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).

LEDGE NOTES:

L-1. BORINGS WERE TAKEN ON THIS PROJECT, SUBSURFACE CONDITIONS MAY VARY FROM THE CONDITIONS ASSUMED FOR DESIGN.

L-2. IF LEDGE IS ENCOUNTERED HIGHER THAN BOTTOM OF FOOTING OR MORE THAN (2) FEET BELOW THE INDICATED BOTTOM OF FOOTING ELEVATIONS AS SHOWN ON THE PLANS, THE STRUCTURES SECTION SHALL BE CONTACTED. PROFILES OF THE LEDGE MAY BE REQUIRED TO ADJUST THE FOOTING ELEVATIONS AND SIZE. NO FURTHER WORK SHALL BE DONE ON THE FOOTINGS UNTIL A REPLY IS RECEIVED FROM THE STRUCTURES SECTION.

L-3. FOOTINGS SHALL BE PLACED ON SOUND AND COMPETENT LEDGE. LEDGE SHALL NOT BE EXCAVATED FOR STONE FILL PLACEMENT. LEDGE IN THE AREA OF THE PROPOSED FOOTING OF WINGWALL NO.3 IS NOT EXPECTED TO BE REMOVED, HOWEVER IT SHALL BE CLEANED OF ALL LOOSE ROCK AND DEBRIS.

L-4. A MAXIMUM OF 6" OVERBREAKAGE WILL BE REPLACED WITH ITEM 501.34, CONCRETE, HIGH PERFORMANCE CLASS B. OVERBREAKAGE BEYOND 6" SHALL BE REPLACED WITH HIGH PERFORMANCE CLASS B CONCRETE AT THE EXPENSE OF THE CONTRACTOR.

L-5. #8 DOWELS SHALL BE DRILLED AND GROUTED INTO THE LEDGE AS SHOWN ON THE PLANS. THE DOWELS SHALL HAVE A MINIMUM 2'-0" EMBEDMENT INTO THE LEDGE AND SHALL EXTEND INTO THE FOOTING A MINIMUM OF 1'-6". THE DRILLING AND GROUTING SHALL BE PAID FOR UNDER ITEM 507.16, DRILLING AND GROUTING DOWELS, WHILE THE DOWELS SHALL BE PAID FOR UNDER ITEM 507.15, REINFORCING STEEL.

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. IN STREAM EXCAVATION AND OTHER EARTHWORK SHALL BE RESTRICTED FROM JUNE 1 TO OCTOBER 1, UNLESS THE CONTRACTOR OBTAINS PERMISSION FROM AGENCY OF NATURAL RESOURCES TO DO WORK OUTSIDE OF THAT TIME FRAME.

WOOD MATERIALS LIST

COMPONENT	EXISTING (AVERAGE SIZE IN INCHES)	PROPOSED (ACTUAL SIZE IN INCHES)	PROPOSED SPECIES & GRADE
BEARING BLOCK	---	4" THICK	WHITE OAK NO. 1
CROSS BEAMS	8x8 & 5x6	8x8 & 5x6	DOUGLAS FIR NO. 1
FLOOR DECKING	3" THICK	3½" THICK	P.T. DOUGLAS FIR NO. 1
KNEE BRACING	3x5¾	3x5¾ & 4½x4½	DOUGLAS FIR NO. 1
LOWER LATERAL BRACING	3¼x6	4½x4½	DOUGLAS FIR NO. 1
ROOF BOARDS	⅞x8½	1 x8½	SPRUCE FIR NO. 1 COMMON
RAFTERS	3x5	3x5	SPRUCE FIR NO. 1
RAFTER SUPPORT BEAMS	6x7	6x7	DOUGLAS FIR NO. 1
SIDING	1" THICK	1" THICK	EASTERN WHITE PINE COMMON PREMIUM
STRINGERS	7½x7½	8x8	DOUGLAS FIR SEL. STR.
STRINGER SUPPORT CROSS BEAMS	---	10x10	P.T. DOUGLAS FIR NO. 1
TRUSS BOTTOM CHORDS	VARIES	3-5x10	P.T. DOUGLAS FIR DENSE SEL.STR.
TRUSS DIAGONALS	VARIES	5X12 & 5x15	P.T. DOUGLAS FIR SEL.STR.
UPPER LATERAL BRACING	---	4½x4½	DOUGLAS FIR NO. 1
WOOD CURB	---	5½x11½	P.T. DOUGLAS FIR NO. 1
WOOD CURB BLOCKING	---	5½x11½	P.T. DOUGLAS FIR NO. 1

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. 1	1200	800	180	1550	625	1.8
DOUGLAS FIR	BEAMS & STRINGERS*	NO. 1	1350	675	170	925	625	1.6
DOUGLAS FIR	BEAMS & STRINGERS*	SEL. STR.	1600	950	170	1100	625	1.6
DOUGLAS FIR	BEAMS & STRINGERS*	DENSE SEL. STR.	1900	1100	170	1300	730	1.7
DOUGLAS FIR	POST & TIMBERS**	NO. 1	1200	825	170	1000	625	1.6
SPRUCE FIR	2"-4" THICK	NO. 1	875	450	135	1150	425	1.4
WHITE OAK	2"-4" THICK	NO. 1	875	500	220	900	800	1.0

* 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)

LEGEND:

P.T. PRESSURE TREATED

MODEL
Default
HTA PROJECT NO.
904213

Hoyle, Tanner & Associates, Inc.

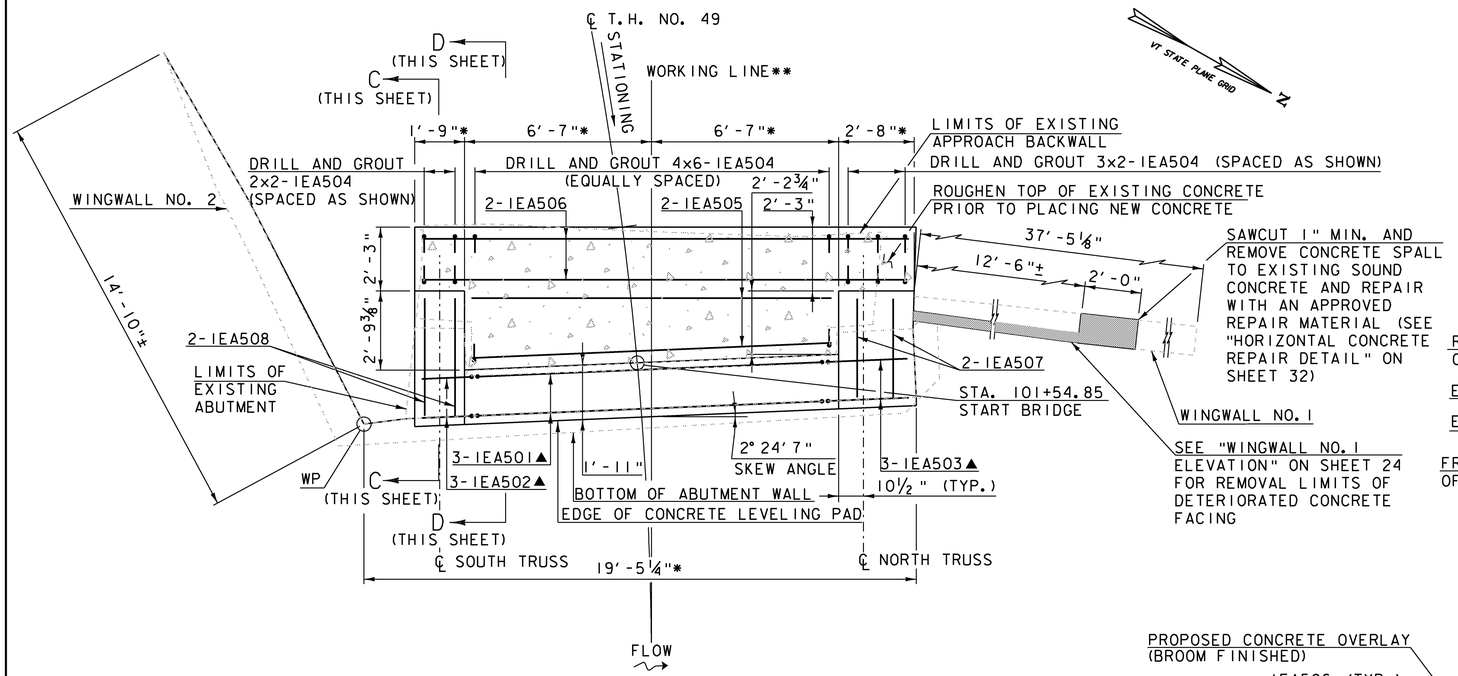
PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: Z04J144notes.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
GENERAL NOTES

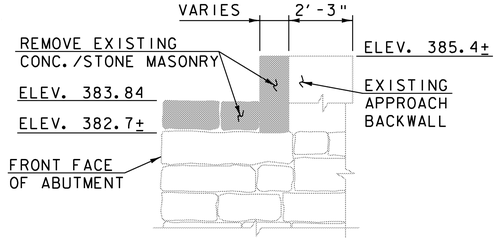
PLOT DATE: 5/16/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 21 OF 36

SHEET NOTES:

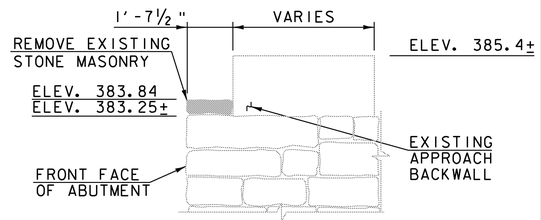
1. APPROACH WORK DETAILS (GUARDRAIL, EDGE OF PAVEMENT, ETC.) AND BRIDGE SUPERSTRUCTURE NOT SHOWN FOR CLARITY.
2. EXISTING CONCRETE SURFACES SHALL BE CLEAN AND CUT TO A FIRM LEVEL ROUGHENED SURFACE PRIOR TO PLACING NEW CONCRETE OVER THEM.
3. EXCEPT FOR AREAS WHERE CONCRETE IS TO BE REFACED UNDER ITEM 580.14, REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II, ALL COSTS FOR REMOVAL OF EXISTING CONCRETE AND MASONRY TO THE LIMITS SHOWN, ROUGHENING AND CLEANING OF EXISTING CONCRETE ARE PAID UNDER ITEM 529.25, REMOVAL OF CONCRETE OR MASONRY.
4. SEE SHEET 32 FOR DETAILS THAT APPLY TO THIS SHEET.



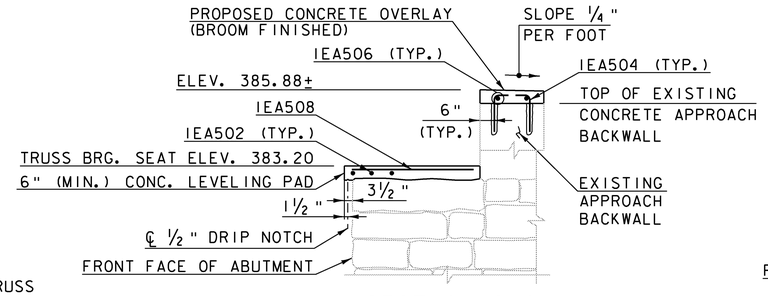
ABUTMENT NO. 1 PLAN
SCALE: ⅜" = 1'-0"



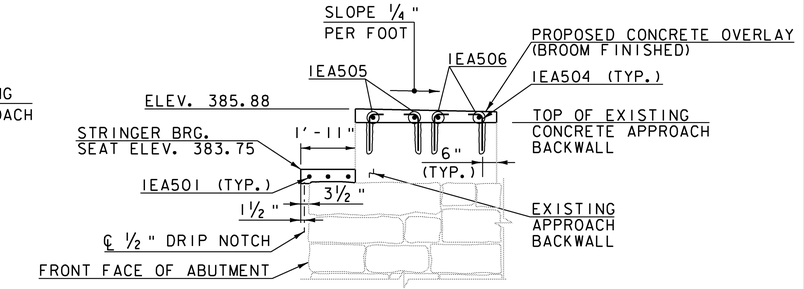
SECTION A-A
SCALE: ⅜" = 1'-0"



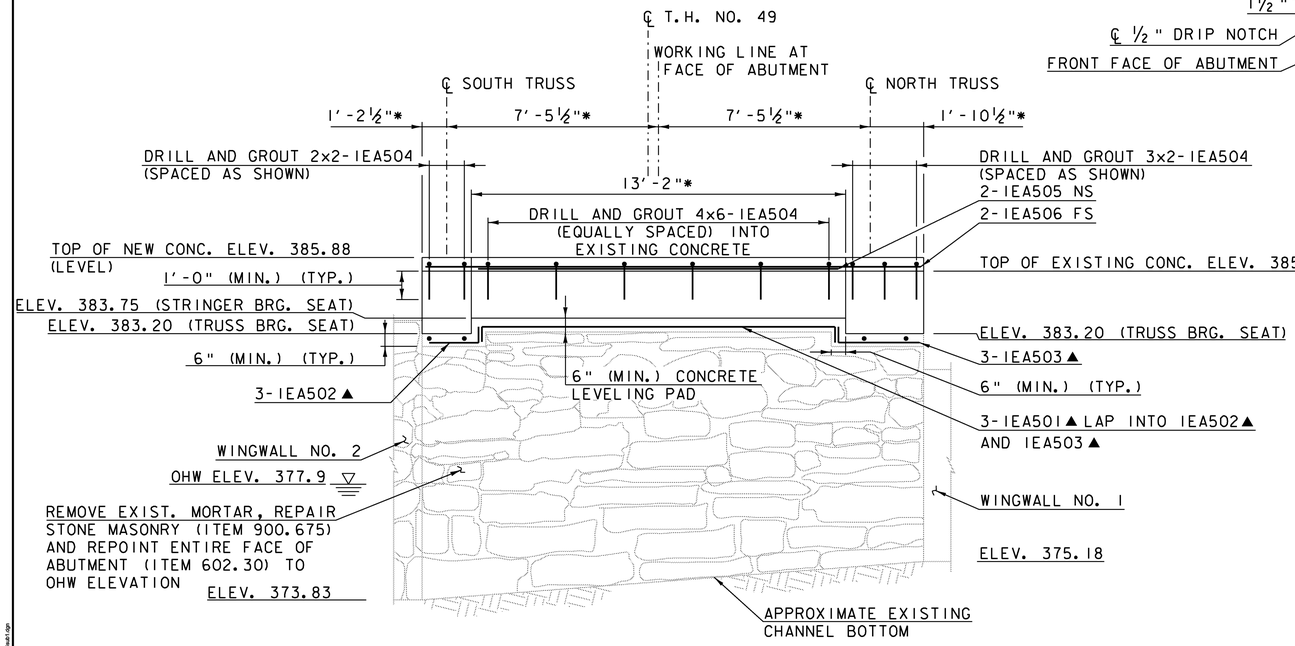
SECTION B-B
SCALE: ⅜" = 1'-0"



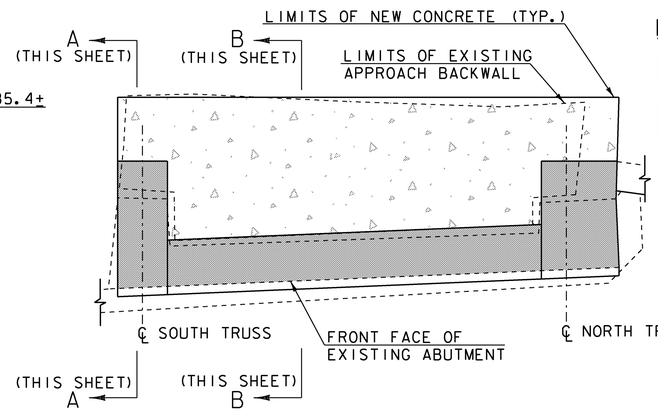
SECTION C-C
SCALE: ⅜" = 1'-0"



SECTION D-D
SCALE: ⅜" = 1'-0"



ABUTMENT NO. 1 ELEVATION
SCALE: ⅜" = 1'-0"



ABUTMENT NO. 1 REMOVAL PLAN
SCALE: ⅜" = 1'-0"

LEGEND:

	LIMITS OF NEW CONCRETE APPROACH BACKWALL
	LIMITS OF EXISTING CONCRETE/MASONRY REMOVAL
WP	WORKING POINT
NS	NEAR SIDE
FS	FAR SIDE
*	DIMENSIONS ARE GIVEN PERPENDICULAR TO WORKING LINE
**	WORKING LINE IS AN EXTENSION OF THE ROADWAY TANGENT THAT RUNS FROM STA. 101+66.01 TO STA. 102+12.84
▲	REINFORCING TO BE CUT IN THE FIELD

SCALE: ⅜" = 1'-0"
1 0 1 2 3 4

MODEL	Z04JI44AA
HTA PROJECT NO.	904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: Z04JI44subl.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
ABUTMENT NO.1 PLAN AND ELEVATION

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 22 OF 36

REMOVE AND RESET PLATFORM AS REQUIRED FOR WINGWALL RECONSTRUCTION. COST FOR REMOVAL AND RESETTING SHALL BE INCIDENTAL TO ITEM 900.608, SPECIAL PROVISION (REBUILT STONE MASONRY) (SEE NOTE ON "WINGWALL NO.4 ELEVATION" ON SHEET 24)

EXISTING STEEL CHANNEL

2'-0"

19°00'00"

7'-6"

DRY HYDRANT

RECONSTRUCT 17'-7" OF DRY RUBBLE MASONRY STONE WINGWALL

WINGWALL NO. 4

℄ T.H. NO. 49

STATIONING

WORKING LINE**

LIMITS OF EXISTING APPROACH BACKWALL

ROUGHEN TOP OF EXISTING CONCRETE PRIOR TO PLACING NEW CONCRETE

LIMITS OF NEW CONCRETE FOOTING

WINGWALL NO. 3

3'-6"

2'-6"

6"

D (THIS SHEET)

C (THIS SHEET)

47'-0" TO WP

CONSTRUCT NEW DRY RUBBLE MASONRY STONE WALL ON NEW CONCRETE FOOTING

60°00'00"

2'-3⅝"*

6'-7"*

6'-7"*

10½" (TYP.)

3-2EA501

3'-10"±

3'-0"

2'-0"

1'-0"

7'-0"

17'-1"

REPAIR EXISTING CONCRETE FACING

0°52'24" SKEW ANGLE

86°00'00"

WP

COFFERDAM LIMITS (SEE NOTE 3 ON SHEET 4)

6" CHAMFER

SEE DETAIL "A" (THIS SHEET)

WP

2'-0¾"±

TOP OF ABUTMENT WALL

BOTTOM OF ABUTMENT WALL

END BRIDGE STA. 102+18.21

2'-3"±

10½"*

℄ NORTH TRUSS

1'-6¾"*

℄ SOUTH TRUSS

17'-2⅜"* FLOW

C (THIS SHEET)

D (THIS SHEET)

ABUTMENT NO. 2 PLAN

SCALE: ⅜" = 1'-0"

FRONT FACE OF WINGWALL

6"

6"

WP

FRONT FACE OF ABUTMENT

DETAIL "A"

SCALE: ½" = 1'-0"

VARIES VARIES

ELEV. 385.6±

REMOVE EXISTING STONE MASONRY ELEV. 383.20

EXISTING APPROACH BACKWALL

SAWCUT CONCRETE TO PROVIDE A STRAIGHT VERTICAL REMOVAL LINE

FRONT FACE OF ABUT.

ELEV. 380.0±

SECTION A-A

SCALE: ⅜" = 1'-0"

SLOPE ¼" PER FOOT

VARIES VARIES

ELEV. 385.88

EXISTING APPROACH BACKWALL

ELEV. 383.20

FRONT FACE OF ABUTMENT ELEV. 380.0±

2EA502 (TYP.)

2EA504

SECTION C-C

SCALE: ⅜" = 1'-0"

VARIES 3'-10"±

ELEV. 385.6±

REMOVE EXISTING STONE MASONRY ELEV. 383.20

EXISTING APPROACH BACKWALL

FRONT FACE OF ABUT.

ELEV. 380.0±

SECTION B-B

SCALE: ⅜" = 1'-0"

SLOPE ¼" PER FOOT

PROPOSED CONCRETE OVERLAY (BROOM FINISHED) TOP OF EXISTING CONCRETE APPROACH BACKWALL

ELEV. 385.88

2EA501 (TYP.)

STRINGER BRG. SEAT ELEV. 383.75

FRONT FACE OF ABUTMENT ELEV. 380.0±

2EA502 (TYP.)

2EA503

SECTION D-D

SCALE: ⅜" = 1'-0"

TOP OF NEW CONCRETE ELEV. 385.88

℄ T.H. NO. 49

WORKING LINE AT FACE OF ABUT.

℄ NORTH TRUSS

℄ SOUTH TRUSS

7'-5½"* 7'-5½"*

WINGWALL NO. 3

E (SHEET 24)

TOP OF EXISTING CONCRETE ELEV. 385.6±

TOP OF NEW CONCRETE ELEV. 383.75 (STRINGER BRG. SEAT)

2x4-2EA502 @ 1'-0"

TOP OF EXISTING CONCRETE ELEV. 383.20 (TRUSS BRG. SEAT)

SAWCUT CONCRETE TO PROVIDE STRAIGHT VERTICAL REMOVAL LINE

3-2EA501

WINGWALL NO. 4

TOP OF LEDGE ELEV. 380.00±

1'-0" (MIN.) EMBEDMENT (TYP.)

6-2CF402 @ 1'-0" O.C.

OHW ELEV. 377.9

REMOVE 4" OF CONCRETE AND REFACE (ITEM 580.14) (SEE SHEET 32 FOR DETAILS)

DRILL AND GROUT 2-2EA504 (SPACED AS SHOWN) INTO LEDGE

DRILL AND GROUT 3-2EA503 (SPACED AS SHOWN) INTO LEDGE

2'-0"

DRILL AND GROUT 4-2ECF501▲ BARS SPACED AS SHOWN TO HOLD REINFORCING STEEL GRID IN PLACE (1'-0" MIN. EMBEDMENT)

5'-11"±

2-2ECF401 @ 1'-0"

ELEV. 373.04

LIMITS OF LEDGE ELEV. 372.44

APPROXIMATE EXISTING CHANNEL BOTTOM

E (SHEET 24)

ADD NEW STONE MASONRY (ITEM 602.20) AND POINT WITH MORTAR (INCIDENTAL TO ITEM 602.20) IN EXISTING SCOUR HOLE

ABUTMENT NO. 2 ELEVATION

SCALE: ⅜" = 1'-0"

SEE "WINGWALL NO.4 ELEVATION" ON SHEET 24 FOR REMOVAL LIMITS OF DETERIORATED CONCRETE FACING AND CONCRETE CAP

A (THIS SHEET)

B (THIS SHEET)

LIMITS OF NEW CONCRETE (TYP.)

LIMITS OF EXISTING APPROACH BACKWALL

REMOVE EXISTING WINGWALL NO.3 (SEE NOTE 3 ABOVE)

A (THIS SHEET)

℄ NORTH TRUSS

FRONT FACE OF EXISTING ABUTMENT

℄ SOUTH TRUSS **

B (THIS SHEET)

ABUTMENT NO. 2 REMOVAL PLAN

SCALE: ⅜" = 1'-0"

SCALE: ½" = 1'-0"

1 0 1 2

SCALE: ⅜" = 1'-0"

1 0 1 2 3 4

SHEET NOTES:

1. SEE SHEET 22 FOR NOTES THAT APPLY TO THIS SHEET AND SHEET 32 FOR DETAILS THAT APPLY TO THIS SHEET.
2. ITEM 900.608, SPECIAL PROVISION (REBUILT STONE MASONRY) SHALL INCLUDE REMOVAL OF LOOSE EXISTING WALL STONES, RESETTING OF STONES AND ADDITION OF SIMILAR NEW STONES AS REQUIRED TO RETURN WINGWALL NO. 4 TO ITS ORIGINAL PLUMB AND TRUE CONDITION. ITEM 602.20, DRY MASONRY SHALL INCLUDE ADDITION OF NEW STONES PLACED IN ABUTMENT NO.2 SCOUR HOLE AND AS REQUIRED TO CONSTRUCT THE NEW WINGWALL NO.3. NEW STONES SHALL CLOSELY MATCH THE COLOR, TEXTURE, PATTERN AND SIZE OF EXISTING STONES.
3. ALL COSTS FOR REMOVAL OF EXISTING WINGWALL NO.3 IS PAID UNDER ITEM 208.35, COFFERDAM EXCAVATION, ROCK.
4. IF LEDGE IS ENCOUNTERED AT THE BOTTOM OF SCOUR HOLE IN ABUTMENT NO.2, CONSTRUCT 1'-0" THICK (MINIMUM) CONCRETE PAD WITH HIGH PERFORMANCE CLASS B CONCRETE AND 3-#8 BARS DOWELED INTO LEDGE.

LEGEND:

- LIMITS OF NEW CONCRETE APPROACH BACKWALL
- LIMITS OF EXISTING CONCRETE/MASONRY REMOVAL
- WP — WORKING POINT
- * — DIMENSIONS ARE GIVEN PERPENDICULAR TO WORKING LINE
- ** — WORKING LINE IS AN EXTENSION OF THE ROADWAY TANGENT THAT RUNS FROM STA. 101+66.01 TO STA. 102+12.84
- ▲ — REINFORCING TO BE CUT IN THE FIELD

SEE REVISED SHEET 23R

MODEL	Z04JI44AB2
HTA PROJECT NO.	904213

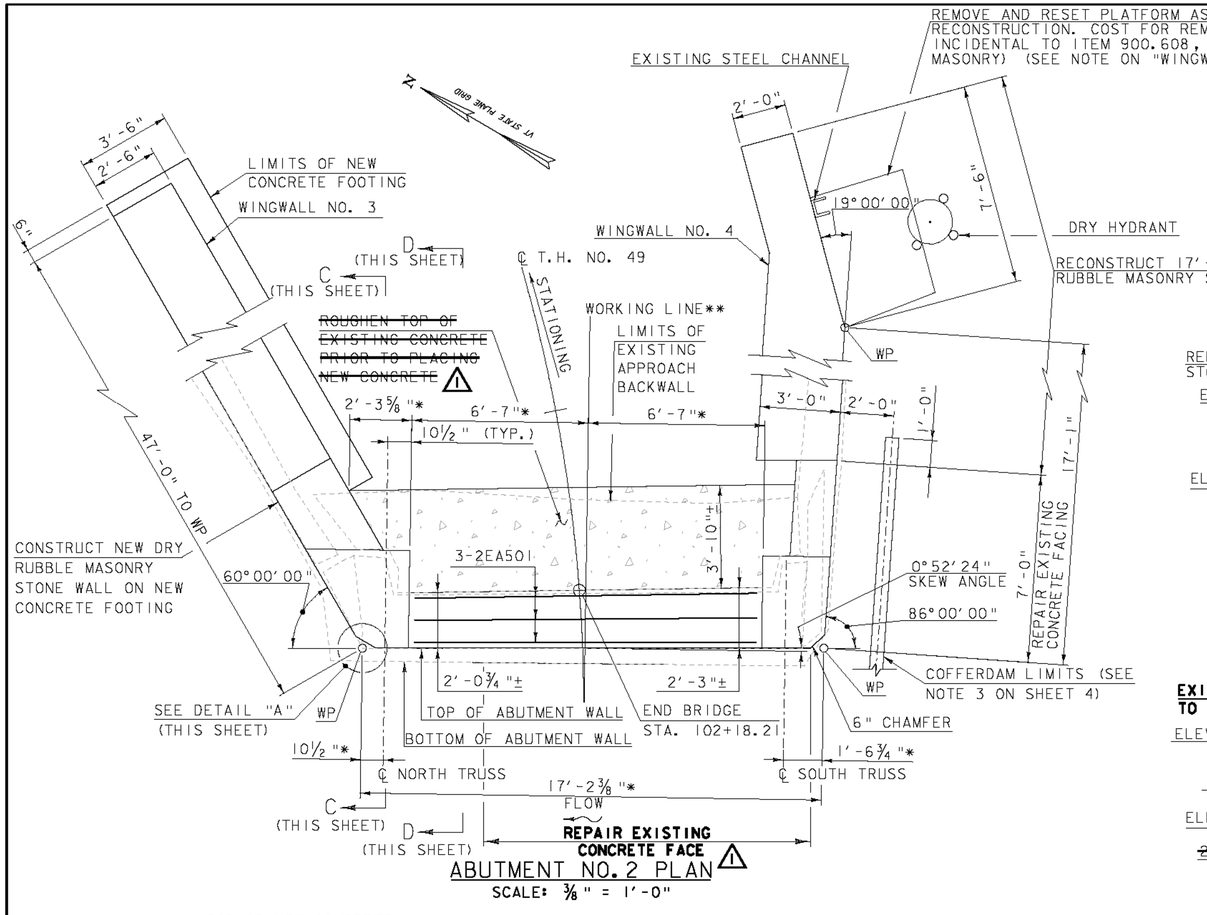
Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: Z04JI44sub2.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
PLOT DATE: 4/25/2008

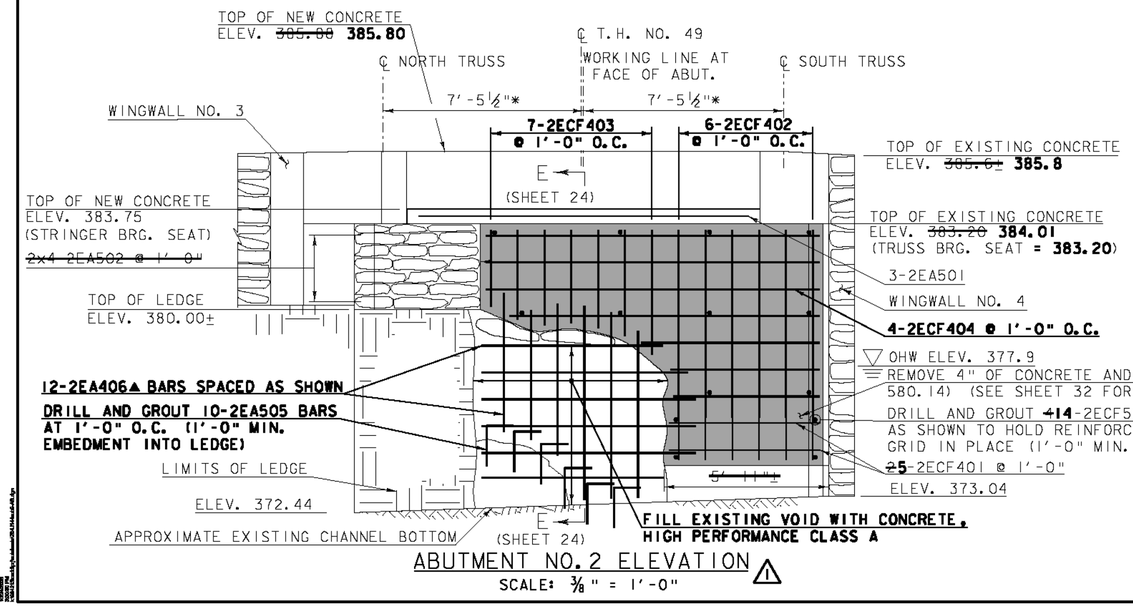
ABUTMENT NO.2 PLAN AND ELEVATION

SHEET 23 OF 36



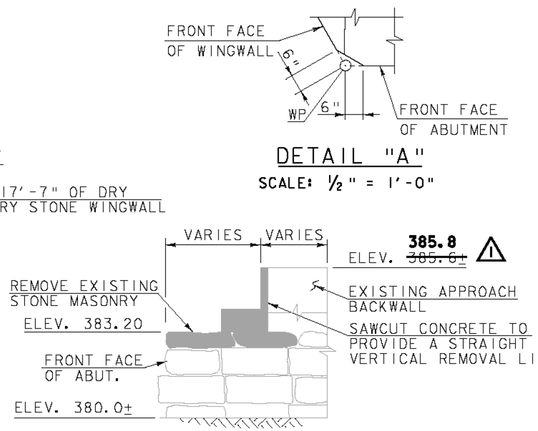
ABUTMENT NO. 2 PLAN ⚠

SCALE: ⅜" = 1'-0"



ABUTMENT NO. 2 ELEVATION ⚠

SCALE: ⅜" = 1'-0"

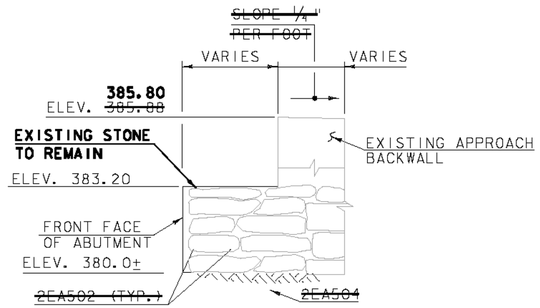


DETAIL "A"

SCALE: ½" = 1'-0"

SECTION A-A

SCALE: ⅜" = 1'-0"

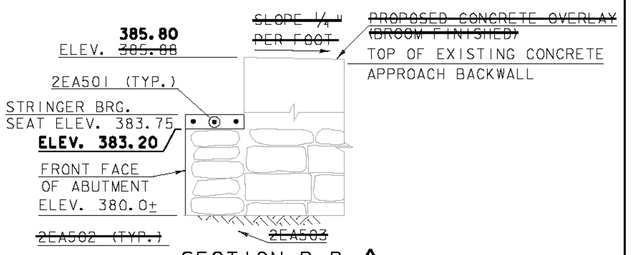


SECTION C-C ⚠

SCALE: ⅜" = 1'-0"

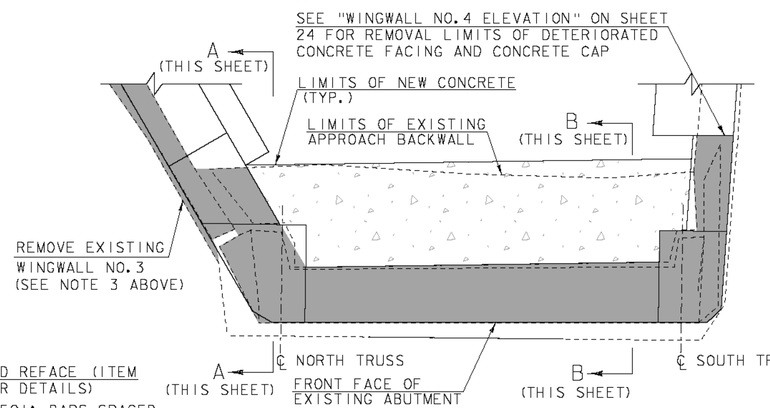
SECTION B-B ⚠

SCALE: ⅜" = 1'-0"



SECTION D-D ⚠

SCALE: ⅜" = 1'-0"



ABUTMENT NO. 2 REMOVAL PLAN ⚠

SCALE: ⅜" = 1'-0"

SHEET NOTES:

1. SEE SHEET 22 FOR NOTES THAT APPLY TO THIS SHEET AND SHEET 32 FOR DETAILS THAT APPLY TO THIS SHEET.
2. ITEM 900.608, SPECIAL PROVISION (REBUILT STONE MASONRY) SHALL INCLUDE REMOVAL OF LOOSE EXISTING WALL STONES, RESETTING OF STONES AND ADDITION OF SIMILAR NEW STONES AS REQUIRED TO RETURN WINGWALL NO. 4 TO ITS ORIGINAL PLUMB AND TRUE CONDITION. ~~ITEM 602.20, DRY MASONRY SHALL INCLUDE ADDITION OF NEW STONES PLACED IN ABUTMENT NO.2 SCOUR HOLE AND AS REQUIRED TO CONSTRUCT THE NEW WINGWALL NO.3. NEW STONES SHALL CLOSELY MATCH THE COLOR, TEXTURE, PATTERN AND SIZE OF EXISTING STONES.~~ ⚠1
3. ALL COSTS FOR REMOVAL OF EXISTING WINGWALL NO.3 IS PAID UNDER ITEM 208.35, COFFERDAM EXCAVATION, ROCK.
4. ~~IF LEDGE IS ENCOUNTERED AT THE BOTTOM OF SCOUR HOLE IN ABUTMENT NO.2, CONSTRUCT 1'-0" THICK (MINIMUM) CONCRETE PAD WITH HIGH PERFORMANCE CLASS B CONCRETE AND 3 #8 BARS DOWELED INTO LEDGE.~~ ⚠1

LEGEND:

- LIMITS OF NEW CONCRETE APPROACH BACKWALL
- LIMITS OF EXISTING CONCRETE/MASONRY REMOVAL
- WP — WORKING POINT
- * — DIMENSIONS ARE GIVEN PERPENDICULAR TO WORKING LINE
- ** — WORKING LINE IS AN EXTENSION OF THE ROADWAY TANGENT THAT RUNS FROM STA. 101+66.01 TO STA. 102+12.84
- ▲ — REINFORCING TO BE CUT IN THE FIELD

SCALE: ½" = 1'-0"

0 1 2

SCALE: ⅜" = 1'-0"

0 1 2 3 4

⚠1 REVISED DUE TO CHANGED FIELD CONDITIONS (10/24/2008)

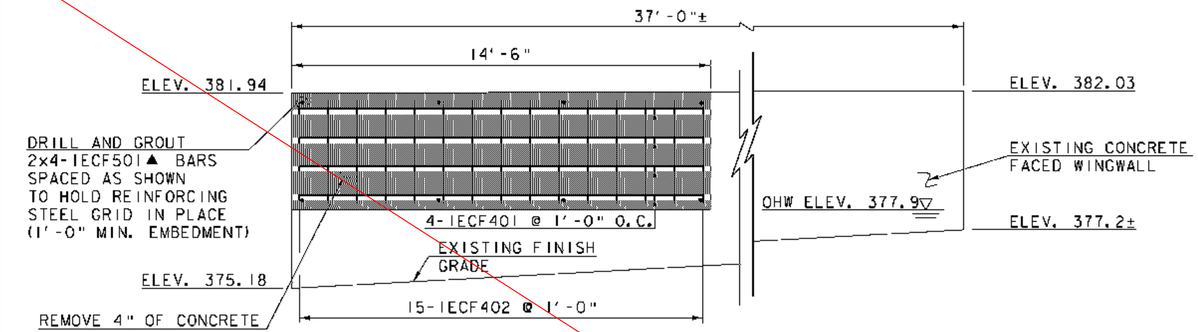
MODEL
Z04JI44AB2
HTA PROJECT NO.
904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

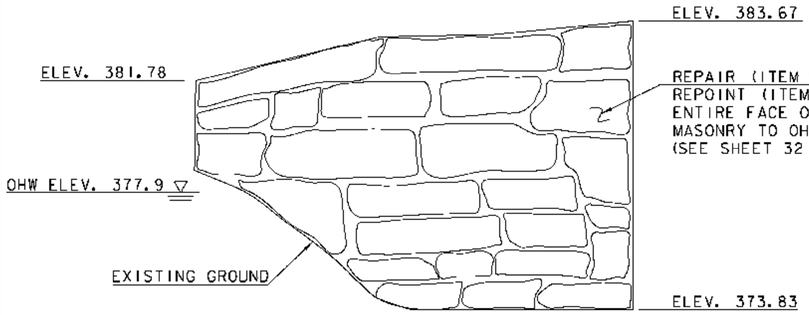
FILE NAME: Z04JI44sub2-AB.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
ABUTMENT NO.2 PLAN AND ELEVATION

PLOT DATE: 10/24/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 23 OF 36



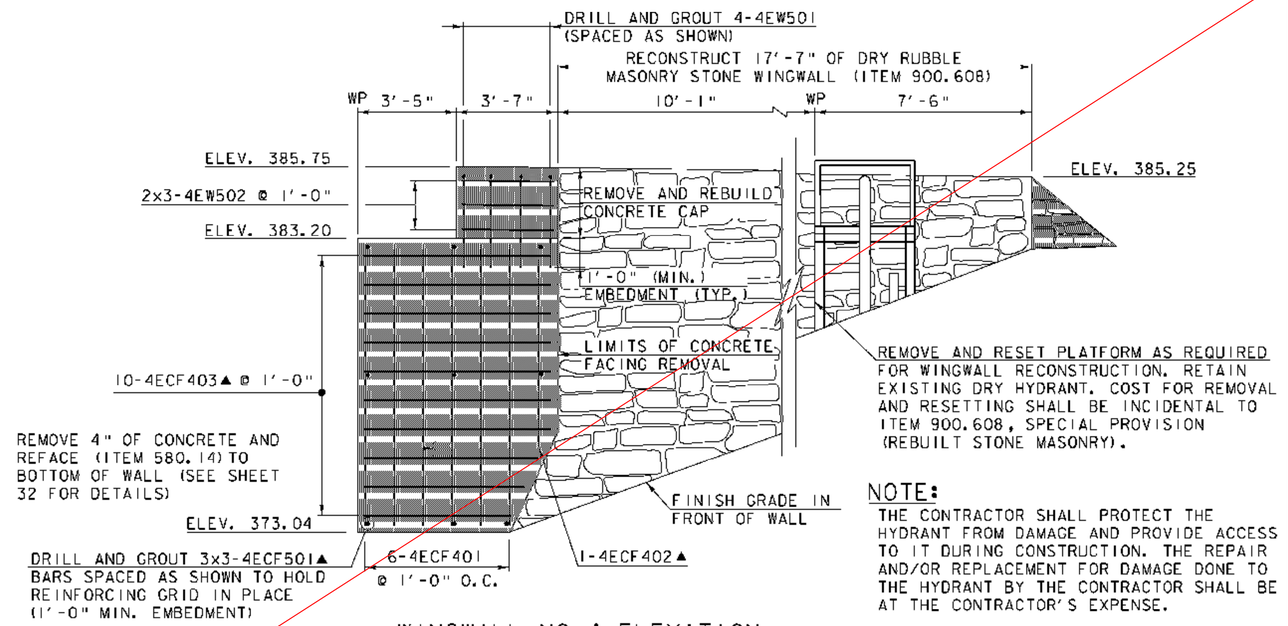
WINGWALL NO. 1 ELEVATION

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



WINGWALL NO. 2 ELEVATION

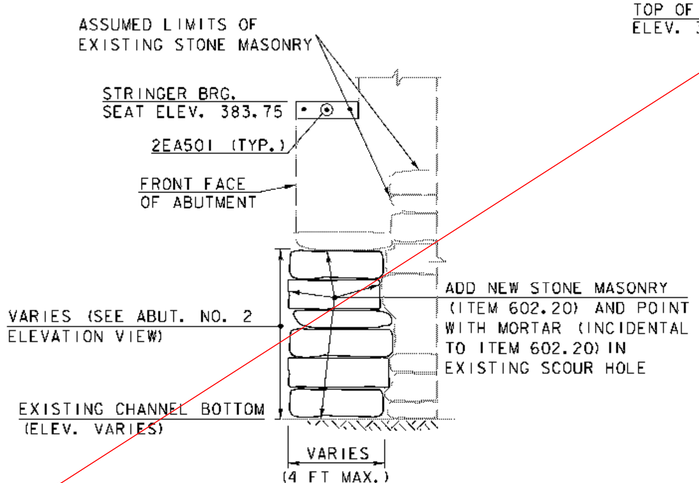
SCALE: 3/8" = 1'-0"



WINGWALL NO. 4 ELEVATION

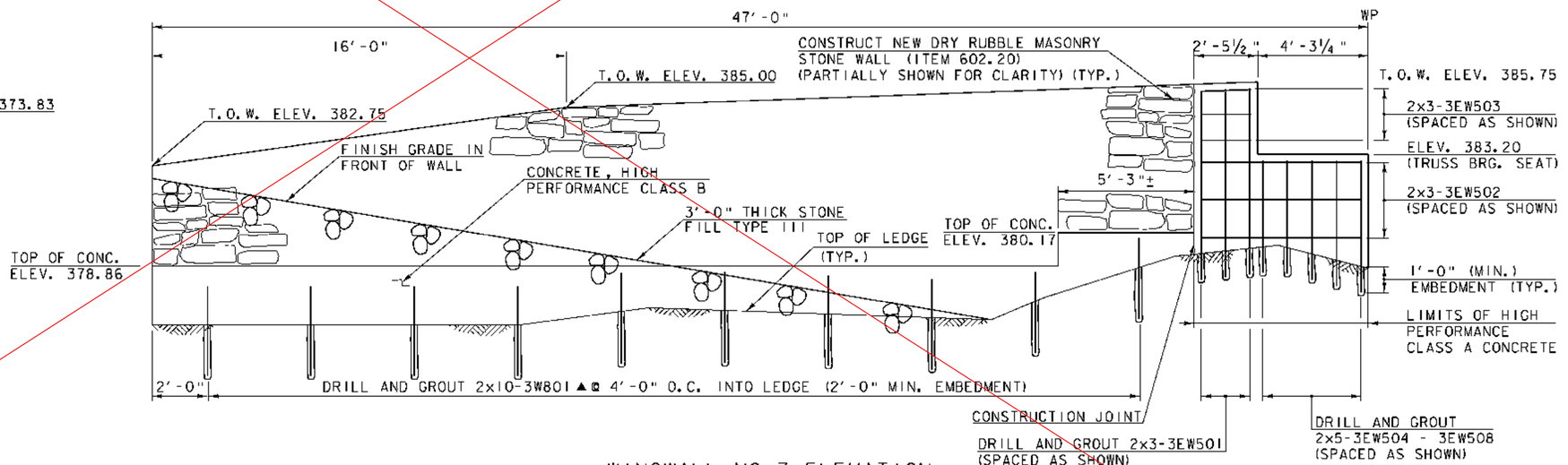
SCALE: 3/8" = 1'-0"

NOTE:
THE CONTRACTOR SHALL PROTECT THE HYDRANT FROM DAMAGE AND PROVIDE ACCESS TO IT DURING CONSTRUCTION. THE REPAIR AND/OR REPLACEMENT FOR DAMAGE DONE TO THE HYDRANT BY THE CONTRACTOR SHALL BE AT THE CONTRACTOR'S EXPENSE.



SECTION E-E

(SEE SHEET 23)
SCALE: 3/8" = 1'-0"



WINGWALL NO. 3 ELEVATION

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

NOTE: TOP OF WALL ELEVATIONS ARE SHOWN TO DEFINE THE QUANTITY OF ITEM 602.20, DRY MASONRY THAT WILL BE MEASURED FOR PAYMENT (SEE "TYPICAL WINGWALL NO.3 SECTION" ON SHEET 4). NO POINTING OF DRY STONE MASONRY IS REQUIRED AT WINGWALL NO.3.

LEGEND:

- LIMITS OF REMOVAL
- T.O.W. TOP OF WALL
- ▲ REINFORCING TO BE CUT IN THE FIELD

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

MODEL
Z04JI44WED
HTA PROJECT NO.
904213

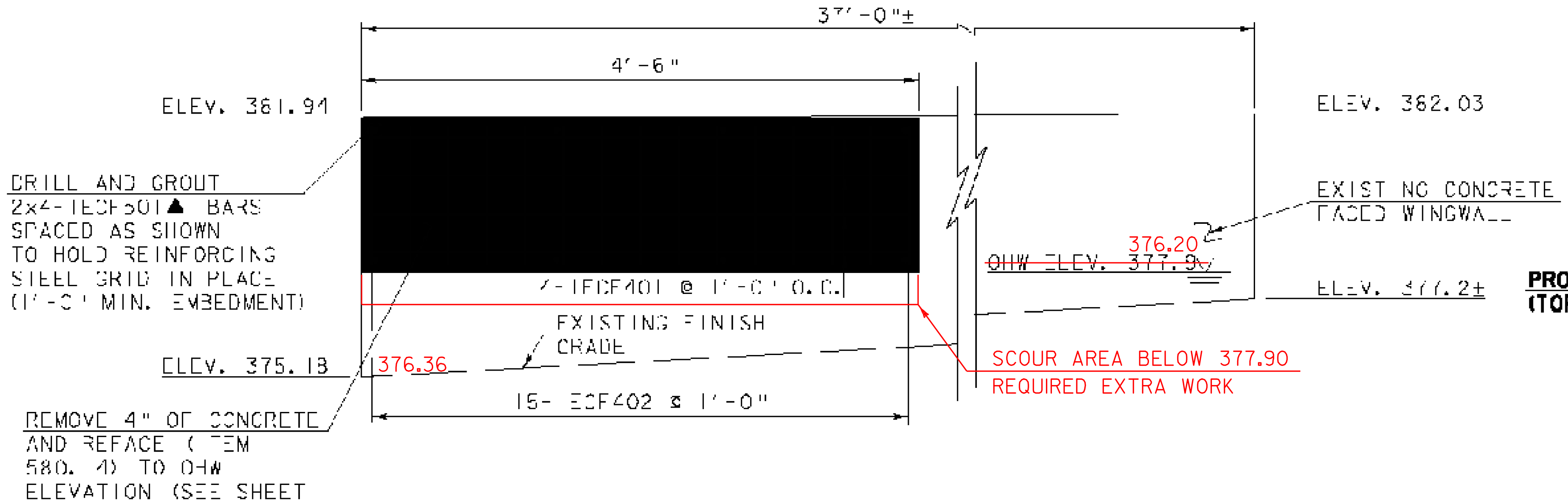
Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

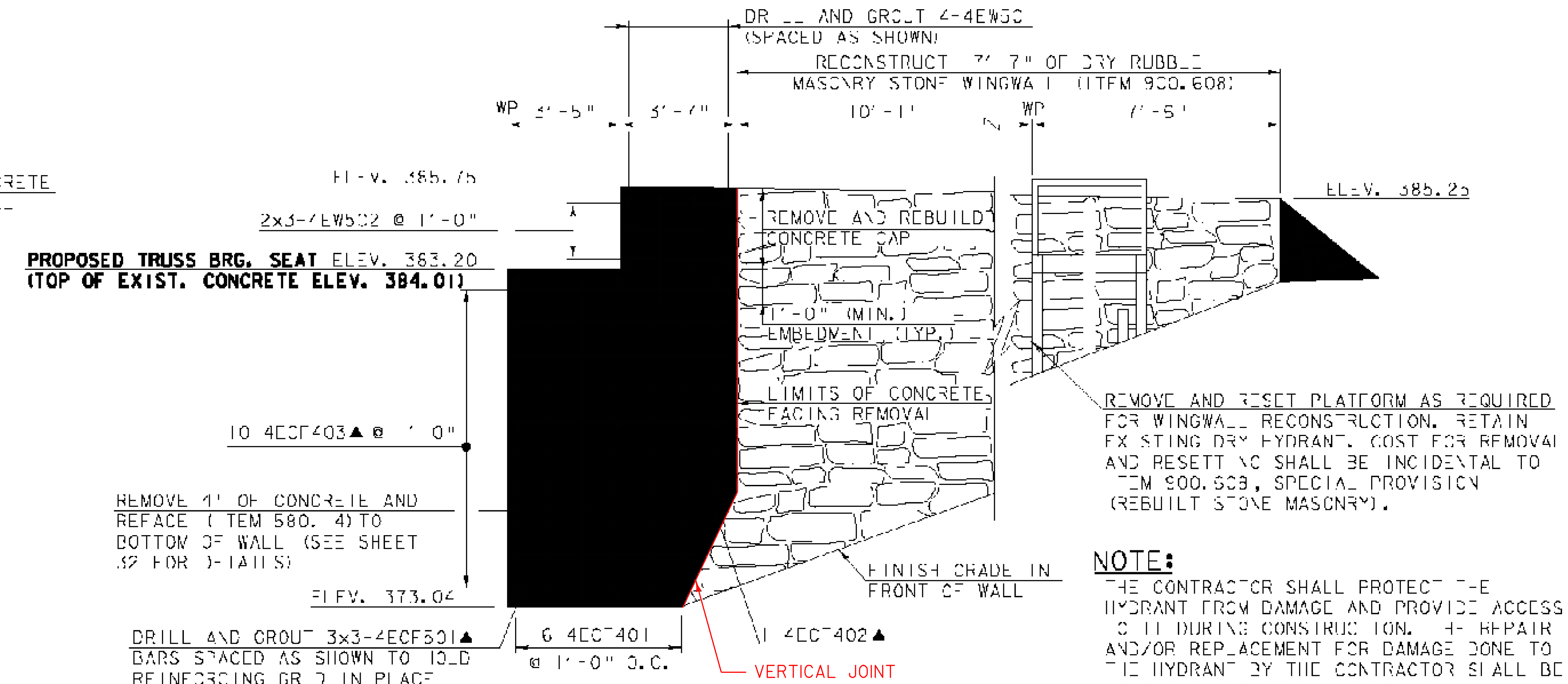
FILE NAME: Z04JI44sub3.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
WINGWALL DETAILS

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 24 OF 36

SEE REVISED SHEET 24R

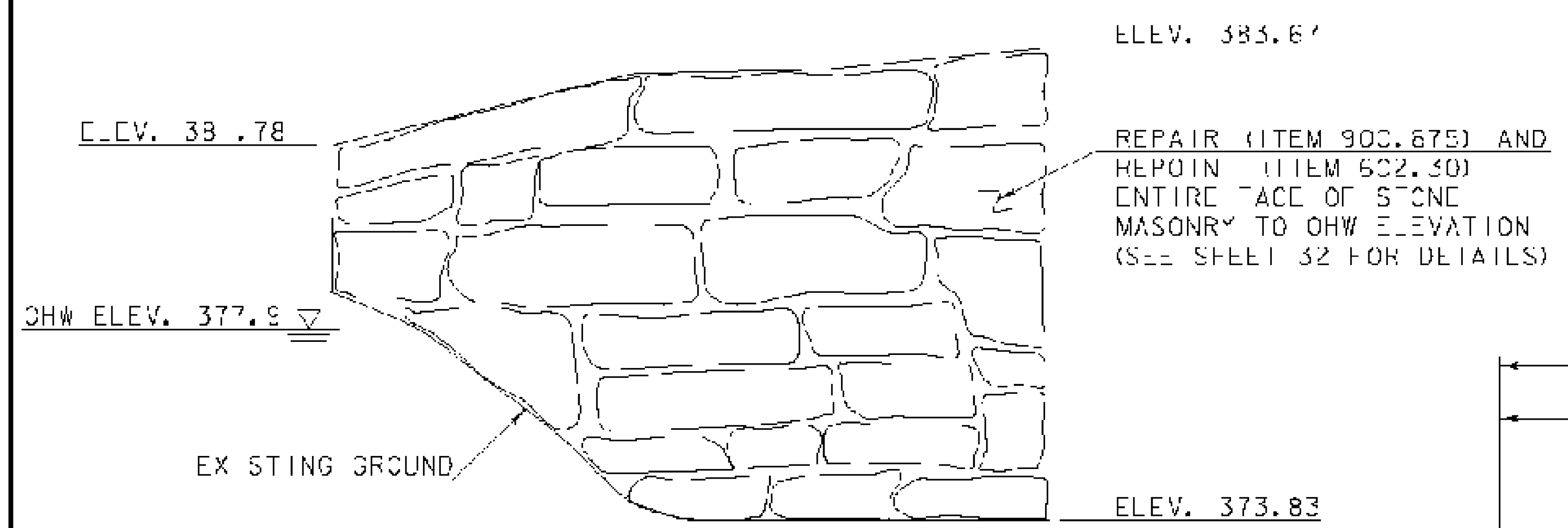


WINGWALL NO. 1 ELEVATION
SCALE: 3/8" = 1'-0"

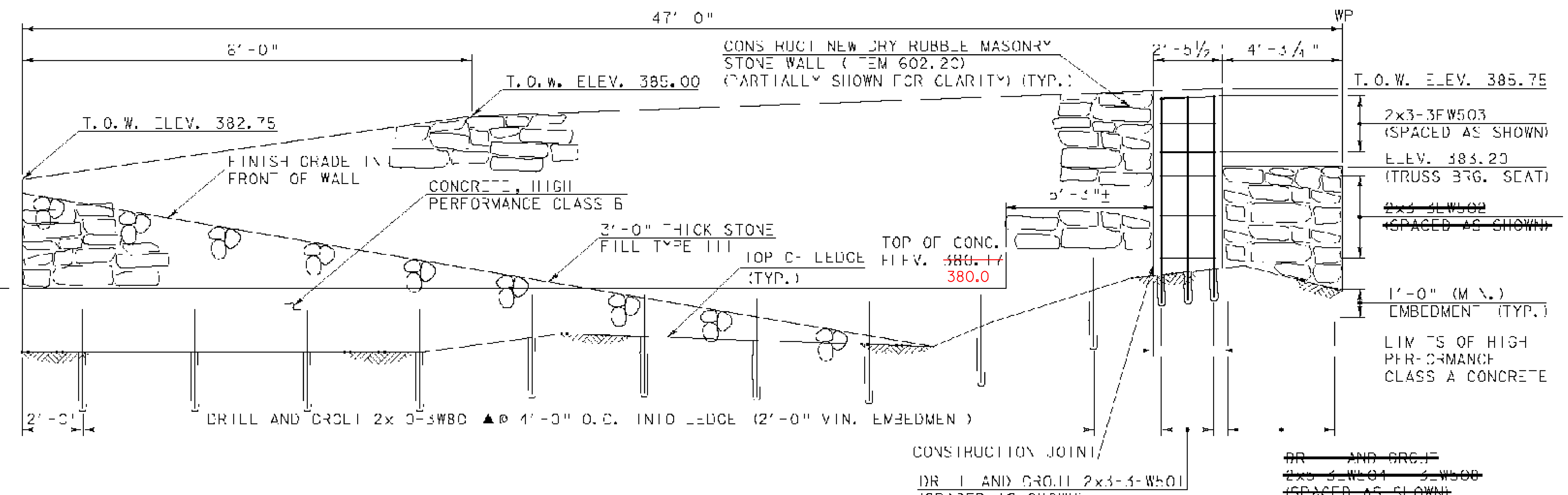


WINGWALL NO. 4 ELEVATION ⚠
SCALE: 3/8" = 1'-0"

NOTE:
THE CONTRACTOR SHALL PROTECT THE HYDRANT FROM DAMAGE AND PROVIDE ACCESS TO IT DURING CONSTRUCTION. THE REPAIR AND/OR REPLACEMENT FOR DAMAGE DONE TO THE HYDRANT BY THE CONTRACTOR SHALL BE AT THE CONTRACTOR'S EXPENSE.

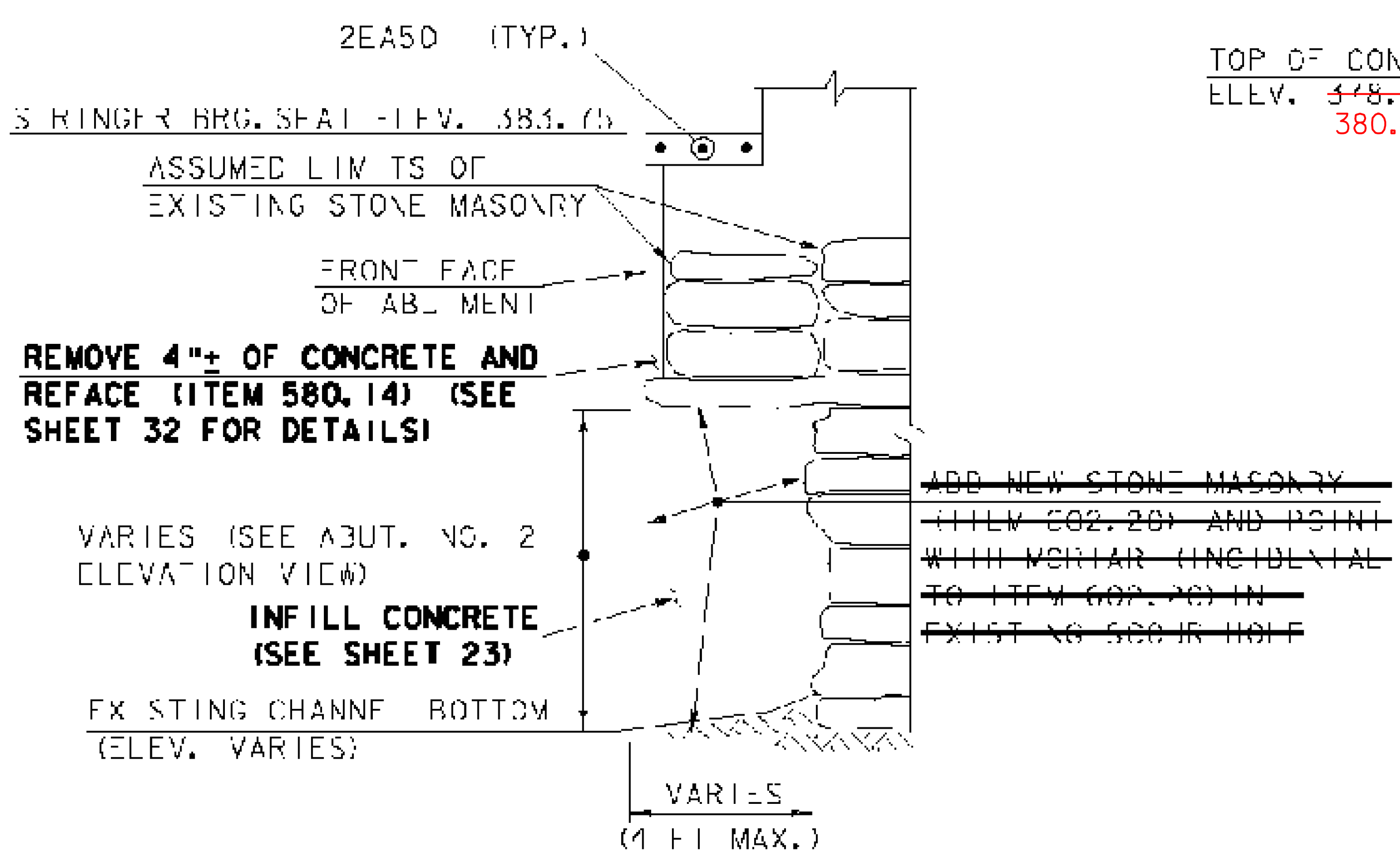


WINGWALL NO. 2 ELEVATION
SCALE: 3/8" = 1'-0"



WINGWALL NO. 3 ELEVATION ⚠
SCALE: 3/8" = 1'-0"

NOTE: TOP OF WALL ELEVATIONS ARE SHOWN TO DEFINE THE QUANTITY OF ITEM 602.20, DRY MASONRY THAT WILL BE MEASURED FOR PAYMENT (SEE "TYPICAL WINGWALL NO.3 SECTION" ON SHEET 4). NO POINTING OF DRY STONE MASONRY IS REQUIRED AT WINGWALL NO.3.



NOTE: FACING AND INFILL CONCRETE REINFORCING OMITTED FOR CLARITY.

SECTION E-E ⚠
(SEE SHEET 23)
SCALE: 3/8" = 1'-0"

LEGEND:

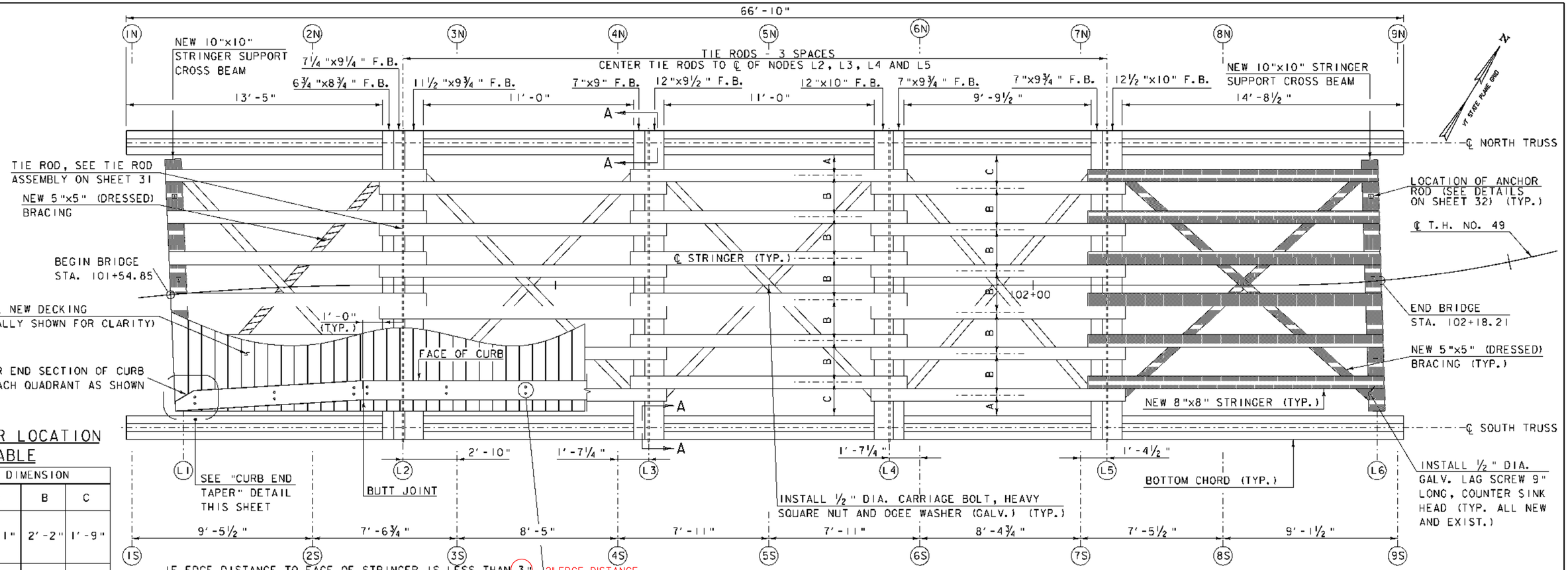
(solid black)	LIMITS OF REMOVAL
T.O.W.	TOP OF WALL
▲	REINFORCING TO BE CUT IN THE FIELD
⚠	REVISED DUE TO CHANGED FIELD CONDITIONS (10/24/2008)

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

MODEL 2041144WED
HTA PROJECT NO. 704203

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)
FILE NAME: 2041448b3-AB.dgn
PROJECT LEADER: J.F.WEAVER
DESIGNED BY: J.BEDUA
WINGWALL DETAILS
PLOT DATE: 3/24/2006
DRAWN BY: J.R.McQUAID
CHECKED BY: S.T. AMES
SHEET 24 OF 36



STRINGER LOCATION TABLE

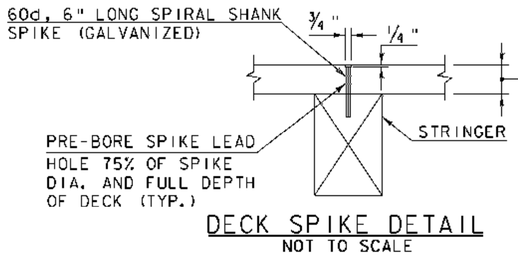
STRINGER SPAN	DIMENSION A	B	C
L1 - L2 L3 - L4 L5 - L6	1'-1"	2'-2"	1'-9"
L2 - L3 L4 - L5	1'-1"	2'-2"	1'-9"

IF EDGE DISTANCE TO FACE OF STRINGER IS LESS THAN 3", LOCATE ONE BOLT TO PROVIDE A MIN. OF 3" EDGE DISTANCE TO STRINGER AND WOOD CURB. THE OTHER BOLT SHALL BE ATTACHED TO DECK TO PROVIDE A MIN. OF 3" EDGE DISTANCE

2" EDGE DISTANCE AUTHORIZED

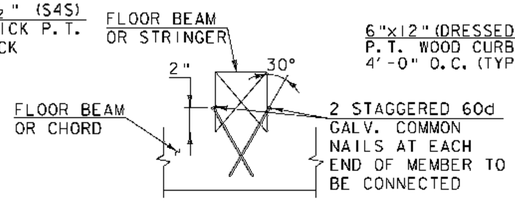
FLOOR FRAMING PLAN

SCALE: ⅜" = 1'-0"



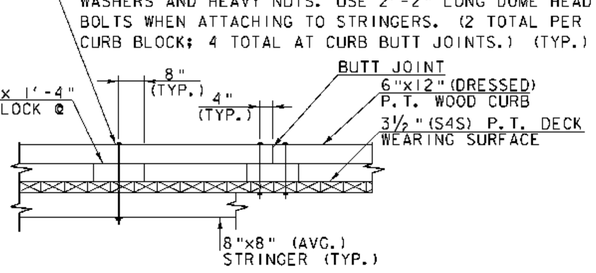
DECK SPIKE DETAIL

NOT TO SCALE



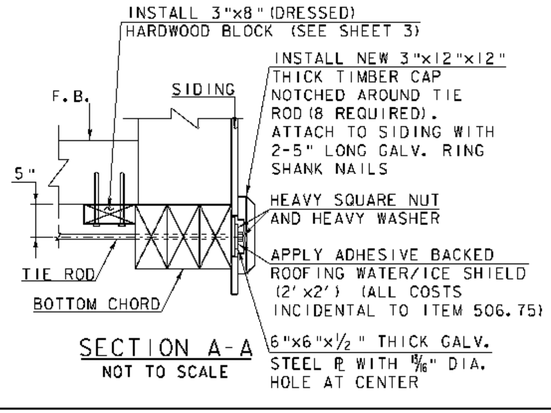
FLOOR BEAM/STRINGER TOE NAIL CONNECTION SECTION DETAIL

NOT TO SCALE



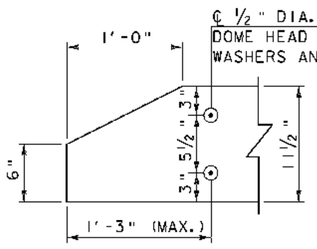
CURB ATTACHMENT DETAIL

SCALE: ½" = 1'-0"



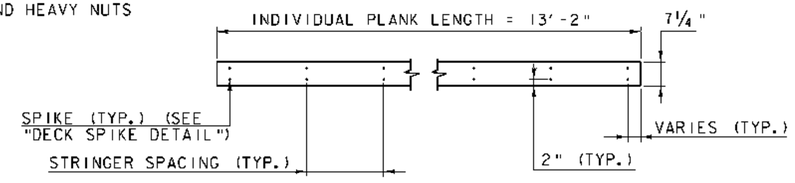
SECTION A-A

NOT TO SCALE



CURB END TAPER

SCALE: 1½" = 1'-0"



DECK WEARING SURFACE ATTACHMENT

NOT TO SCALE

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

PLAN NOTES:

1. WORK FOR ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE) SHALL INCLUDE REARRANGEMENT AND MODIFICATIONS OF EXISTING FLOOR BEAMS, STRINGERS AND X-BRACING AS SHOWN IN THE PLANS. EXISTING SPAN L1-L2 HAS 5 STRINGERS WHILE THE PROPOSED SPAN HAS A TOTAL OF 6 STRINGERS. THE ADDITIONAL STRINGER SHALL BE TAKEN FROM THOSE WHICH ARE TO BE REMOVED FROM SPAN L5-L6. EXISTING STRINGERS FROM SPAN L2-L3 SHALL BE RELOCATED TO SPAN L3-L4. EXISTING STRINGERS FROM SPAN L3-L4 SHALL BE RELOCATED TO SPAN L4-L5. EXISTING STRINGERS FROM SPAN L4-L5 SHALL BE RELOCATED TO SPAN L2-L3. THE CONTRACTOR AND RESIDENT ENGINEER SHALL JOINTLY INSPECT ALL STRINGERS TO IDENTIFY ANY ROT AND/OR TIMBER DEFICIENCIES. SUCH STRINGERS SHALL BE REPLACED WITH STRINGERS THAT ARE TO BE REMOVED FROM SPAN L5-L6. FIELD CUTTING OF ALL EXISTING STRINGERS AND FLOOR BEAMS TO MATCH DIMENSIONS SHOWN ON THE PLANS AND THE TOENAILING OF THEM WITH 60d GALV. COMMON NAILS IS ALSO PAID FOR UNDER ITEM 900.645.
2. THE END DECK PLANK AT THE BEGINNING OF BRIDGE SHALL HAVE A VARIABLE WIDTH OF 4" (MIN.) NEAR THE SOUTH TRUSS AND 10½" (MAX.) NEAR THE NORTH TRUSS. AT END OF BRIDGE THE VARIABLE WIDTH SHALL BE 7¼" (MIN.) NEAR THE NORTH TRUSS AND 9½" (MAX.) NEAR THE SOUTH TRUSS.

SCALE: ½" = 1'-0"
0 1 2

SCALE: ⅜" = 1'-0"
0 1 2 3 4

SCALE: 1½" = 1'-0"
1 9 6 3 0

LEGEND:

- (7S) TRUSS NODE
- (L5) FLOORING NODE
- NEW MEMBER
- MEMBER TO BE REPLACED
- F.B. FLOOR BEAM

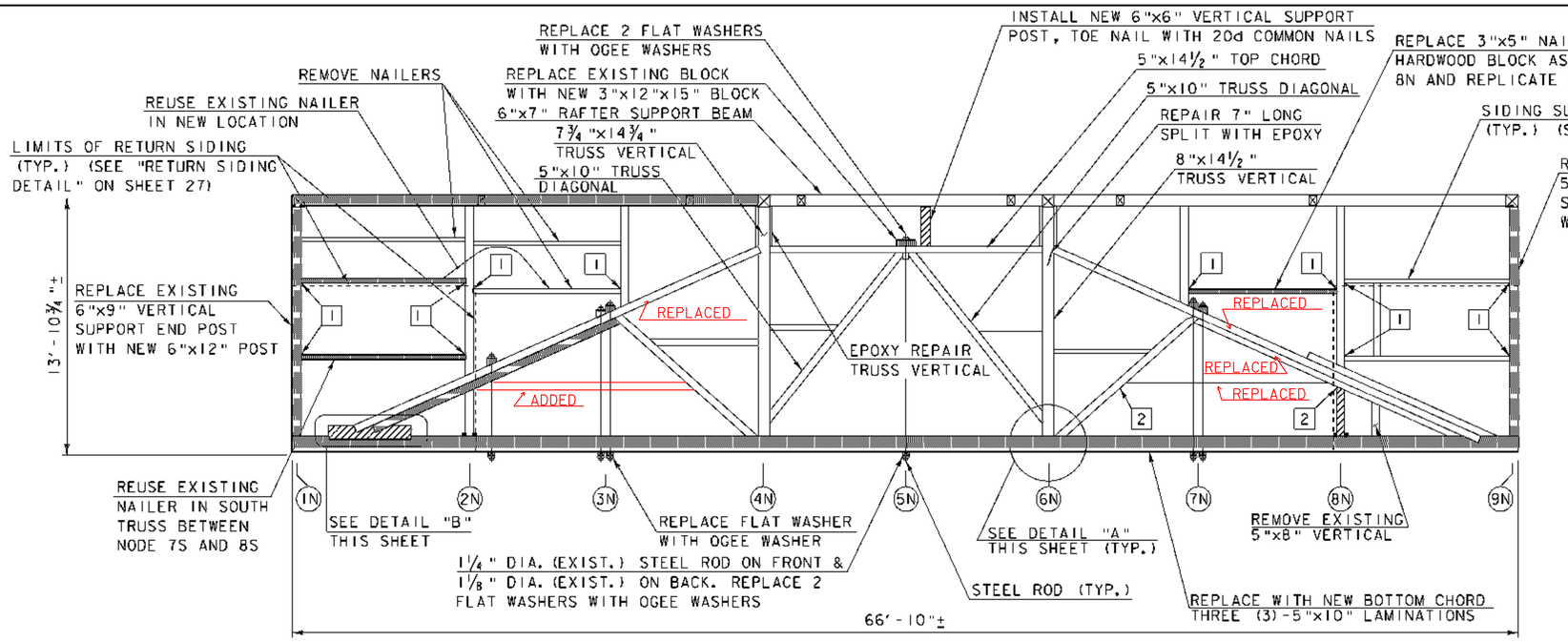
MODEL
FLOOR FRAMING PLAN
HTA PROJECT NO.
904213

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: z04J144supl.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
FLOOR FRAMING PLAN

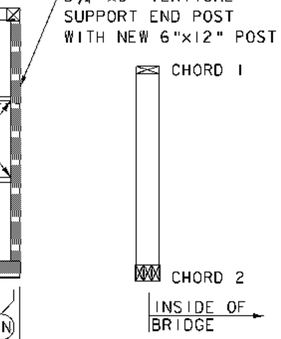
PLOT DATE: 5/13/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 25 OF 36

Hoyle, Tanner & Associates, Inc.



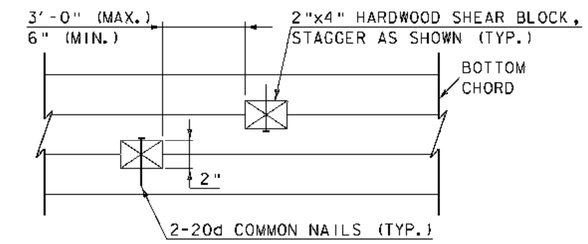
NORTH TRUSS ELEVATION (LOOKING NORTH)

SCALE: ¼" = 1'-0"



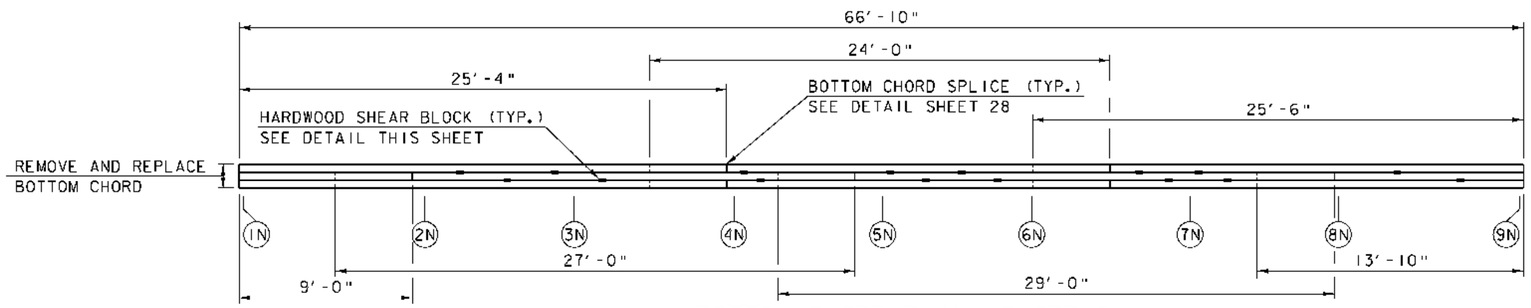
TYPICAL TRUSS SECTION

SCALE: ¼" = 1'-0"



SHEAR BLOCK DETAIL

NOT TO SCALE



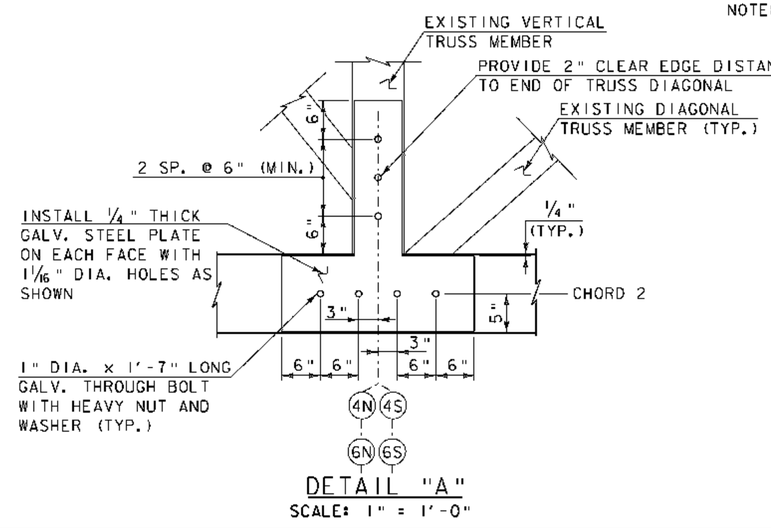
BOTTOM CHORD PLAN (CHORD 2)

NOTE: BOTTOM CHORD NOT SHOWN AS SHADED FOR CLARITY.

SCALE: ¼" = 1'-0"

PLAN NOTES:

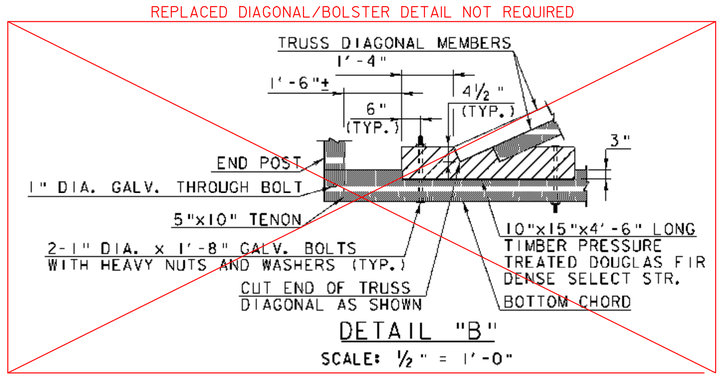
1. DIMENSIONS SHOWN ARE FOR BIDDING PURPOSE ONLY. ALL DIMENSIONS AND MEMBER SIZES SHOULD BE VERIFIED.
2. TRUSS NODES ARE LOCATED AT THE CENTERLINE OF TRUSS VERTICAL MEMBERS.
3. SIDING SUPPORT MEMBERS TO BE REALIGNED HORIZONTAL BEFORE INSTALLING NEW SIDING.
4. A TOTAL OF EIGHT (8) GALVANIZED PLATES SHALL BE INSTALLED AS SHOWN ON DETAIL "A", ON BOTH TRUSSES. THE CONTRACTOR SHALL REMOVE THE BRIDGE SIDING AND JACK THE BRIDGE TO THE PROPOSED CAMBER PRIOR TO RELEASE. EACH PLATE IS UNIQUE, THEREFORE A TEMPLATE SHALL BE MADE FOR EACH AND THE FINISHED PLATE INSTALLED. THE PLATE SHALL BE FABRICATED AND ALL HOLES DRILLED PRIOR TO GALVANIZING.
5. A TOTAL OF FOUR (4) GALVANIZED PLATES (2 PER TRUSS) SHALL BE INSTALLED AS SHOWN IN "RAFTER SUPPORT BEAM TO TRUSS VERTICAL CONNECTION DETAIL" ON SHEET 27.
6. REMOVE STEEL STRAPS & BOLTS AND PLUG END OF BOLT HOLES WITH WOOD DOWELS & EPOXY (NODES 4N, 4S, 6N AND 6S) (PAID UNDER ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)).
7. SEE SHEET 27 FOR TRUSS DETAILS.
8. ALL WEDGE BLOCKS, 3"x4"x15" AND 3"x12"x15" LONG BLOCKS AT STEEL VERTICAL RODS SHALL BE PRESSURE TREATED DOUGLAS FIR NO.1 OR BETTER.



DETAIL "A"

SCALE: 1" = 1'-0"

REPLACED DIAGONAL/BOLSTER DETAIL NOT REQUIRED



DETAIL "B"

SCALE: ½" = 1'-0"

LEGEND:

- (1N) TRUSS NODE
- TRUSS MEMBER TO BE REPLACED
- NEW MEMBER
- [1] RECONNECT JOINT WITH ONE ⅝" DIA. x 5" LONG GALV. LAG SCREW THROUGH TENON ON OUTSIDE FACE. COUNTER SINK HEAD
- [2] TOE NAIL WITH 2-20d COMMON NAILS

SCALE: ¼" = 1'-0"
0 2 4 6

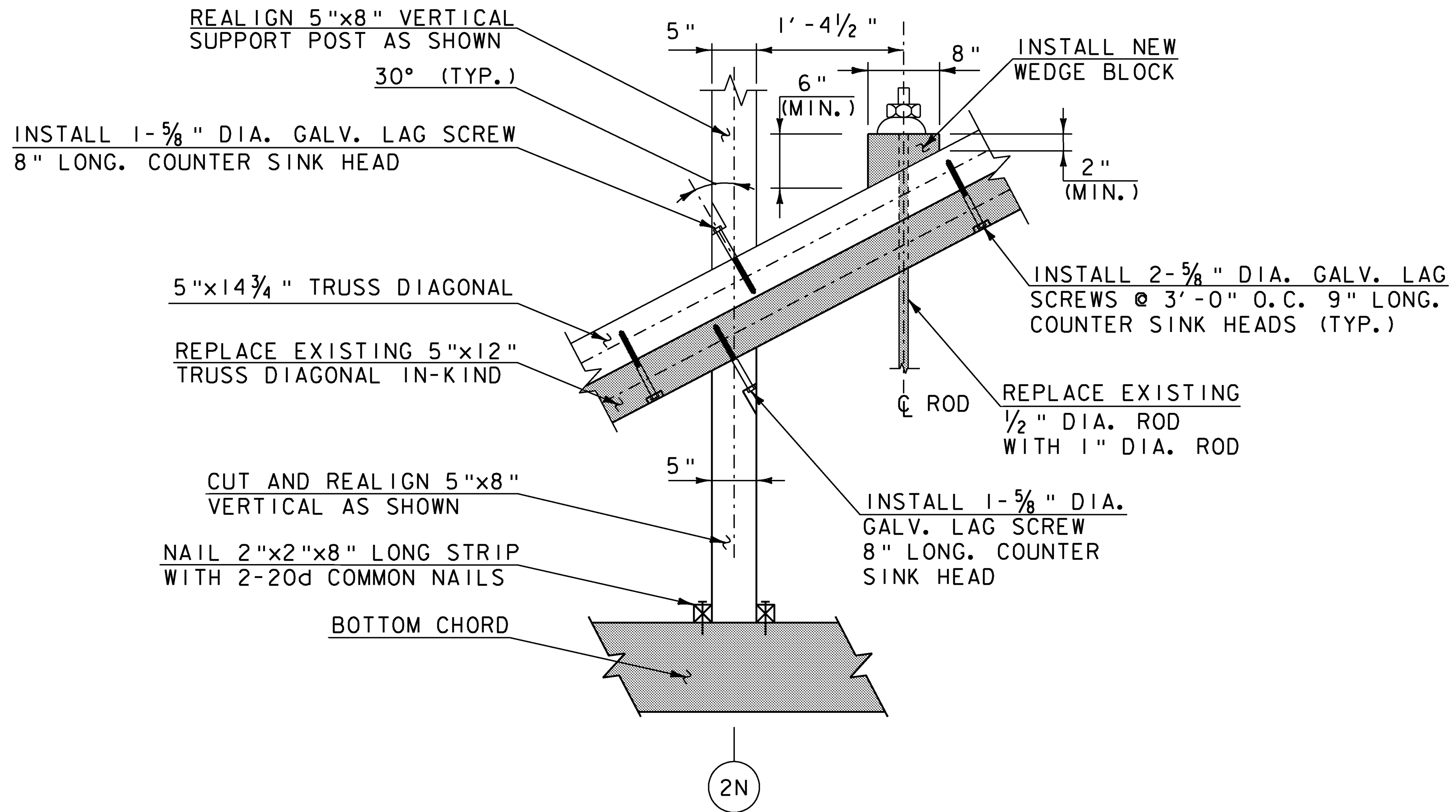
SCALE: ½" = 1'-0"
0 1 2 3

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

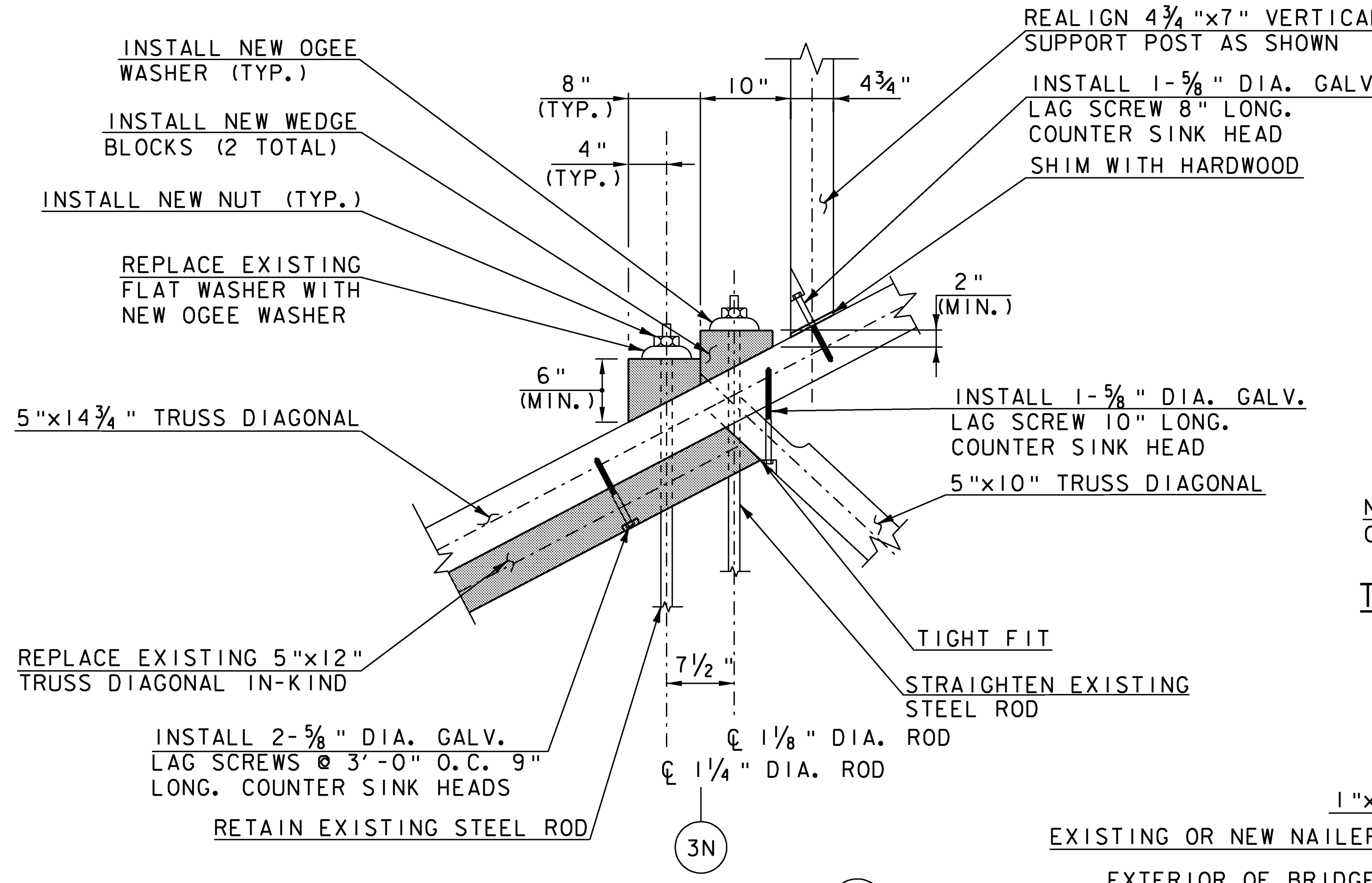
MODEL	Default
HTA PROJECT NO.	904213

Hoyle, Tanner & Associates, Inc.

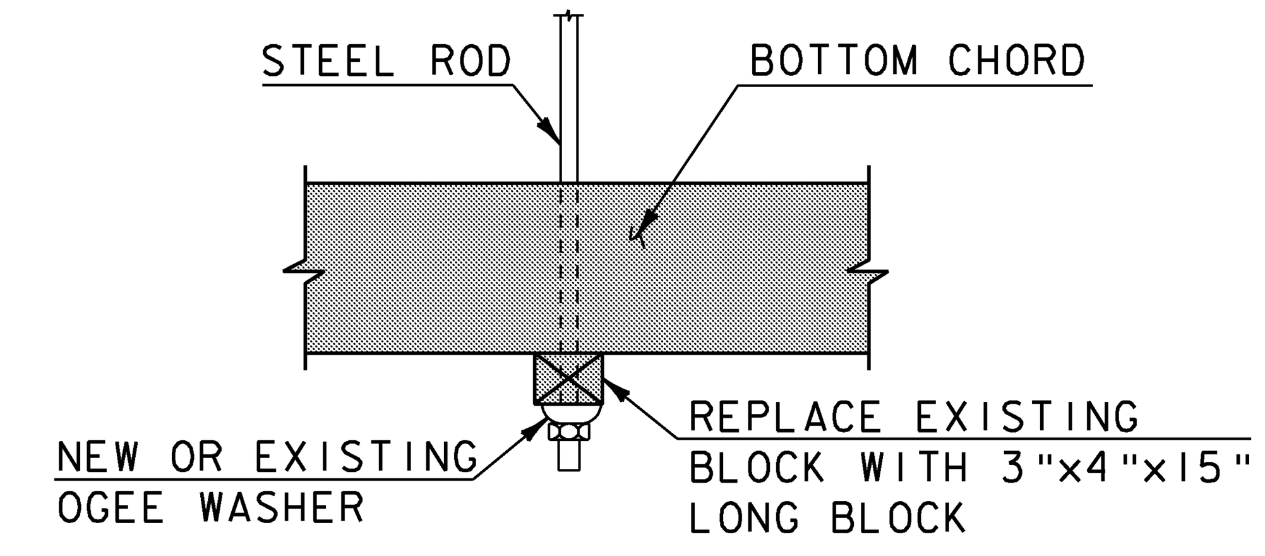
PROJECT NAME:	FAIRFIELD
PROJECT NUMBER:	BHO 1448(32)
FILE NAME:	Z04J144sup3.dgn
PROJECT LEADER:	J.H.WEAVER
DESIGNED BY:	J.BICJA
PLOT DATE:	4/25/2008
DRAWN BY:	J.B.McQUAID
CHECKED BY:	S.T.JAMES
NORTH TRUSS ELEV. AND CHORD PLAN	SHEET 26 OF 36



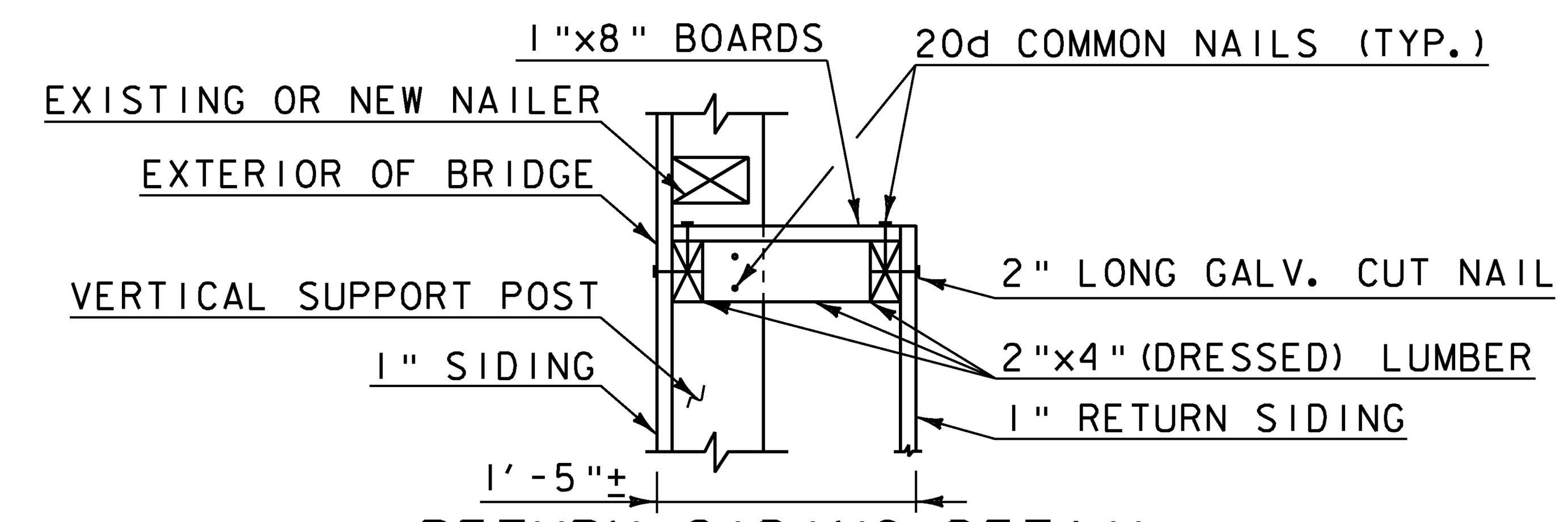
DETAIL AT NODE 2N
SCALE: 1" = 1'-0"



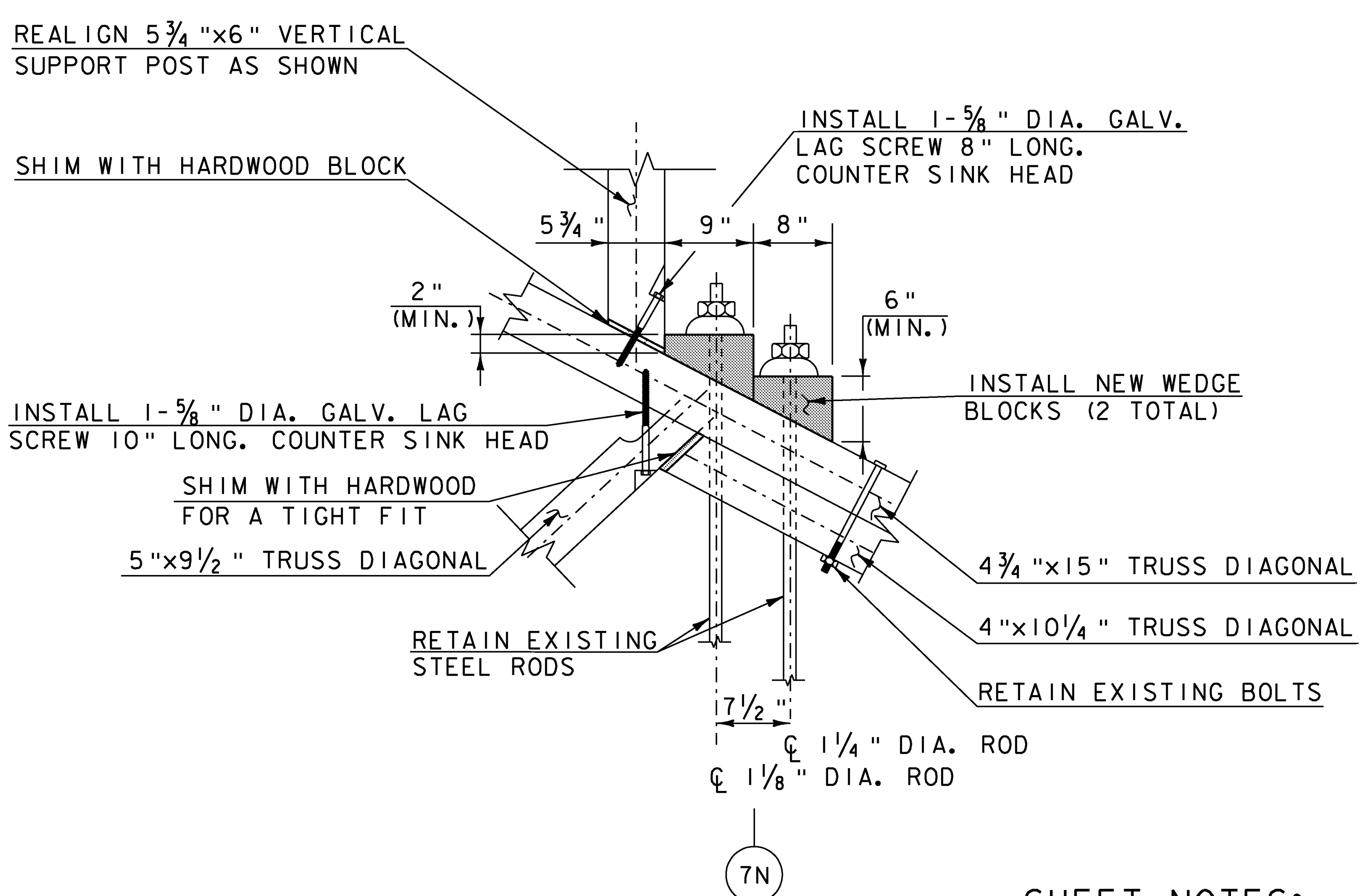
DETAIL AT NODE 3N
SCALE: 1" = 1'-0"



TYPICAL STEEL ROD TO BOTTOM CHORD CONNECTION DETAIL
SCALE: 1" = 1'-0"



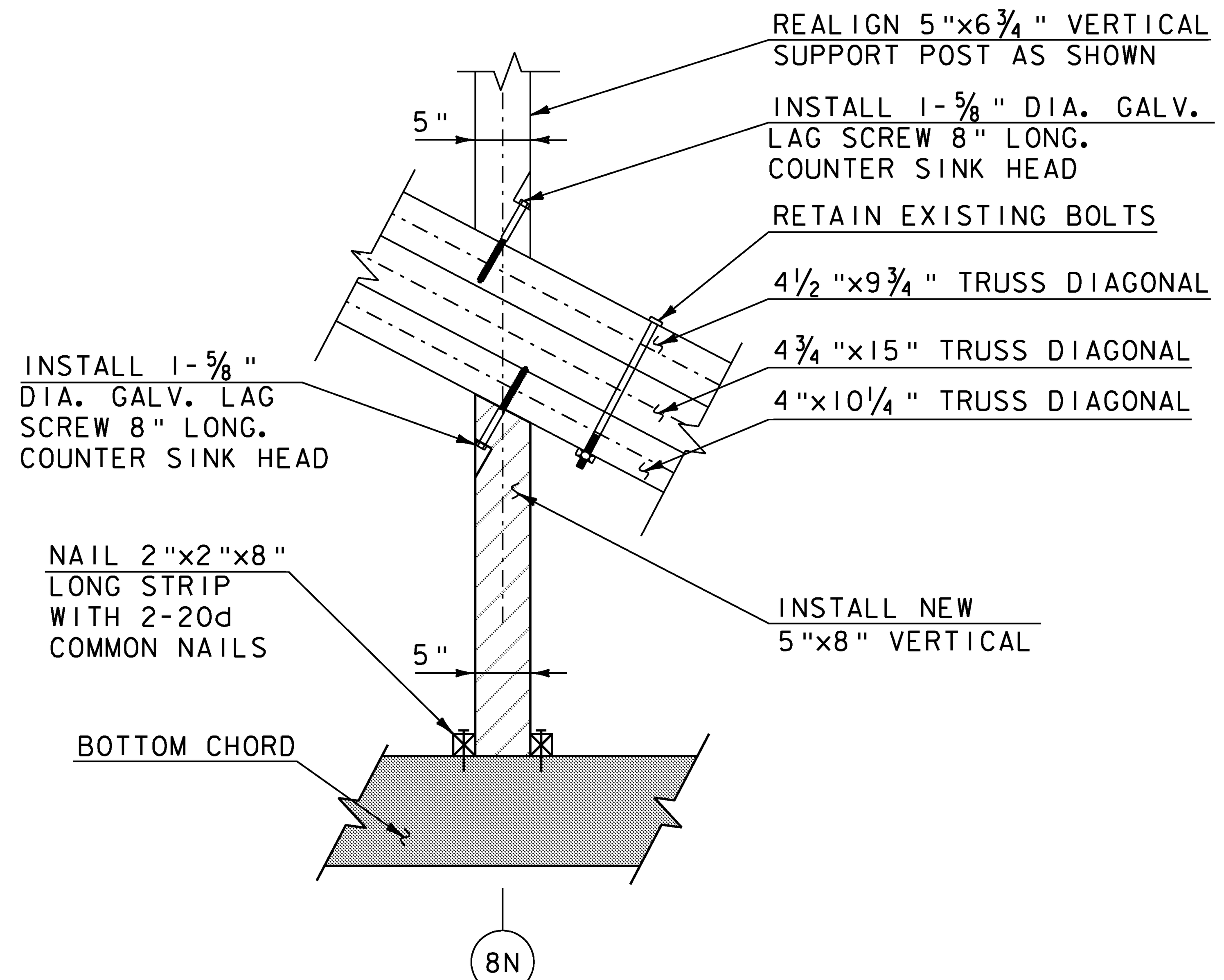
RETURN SIDING DETAIL
SCALE: 1" = 1'-0"



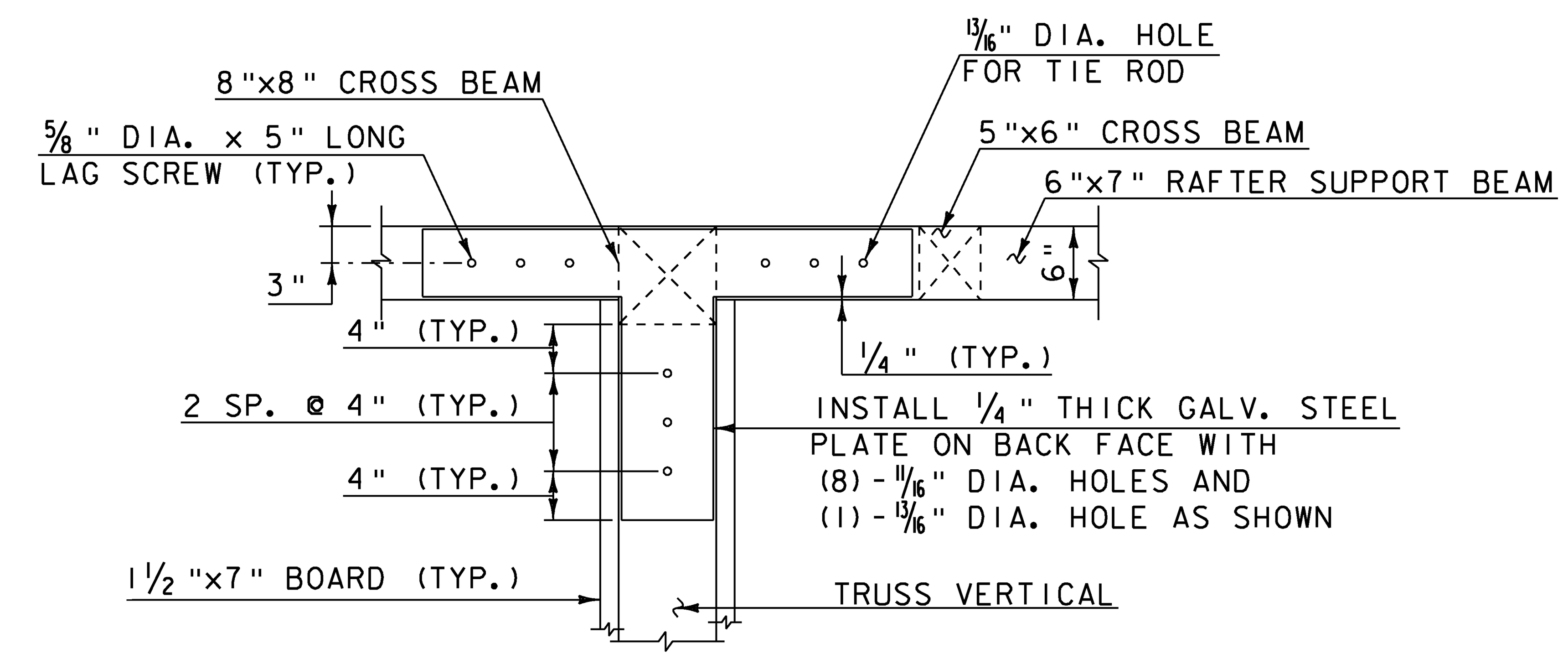
DETAIL AT NODE 7N
SCALE: 1" = 1'-0"

SHEET NOTES:

1. INSTALL/INJECT APPROVED EPOXY REPAIR MATERIAL INTO ABANDONED EXISTING HOLES PER MANUFACTURER'S RECOMMENDED PROCEDURES (PAID UNDER ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)) (2 LOCATIONS ON THE INSIDE FACE OF THE TRUSS DIAGONAL (1N) TO (4N)).
2. ALL WEDGE BLOCKS SHALL BE 8" WIDE TRANSVERSE TO THE TRUSS MEMBERS.



DETAIL AT NODE 8N
SCALE: 1" = 1'-0"



RAFTER SUPPORT BEAM TO TRUSS VERTICAL CONNECTION DETAIL
SCALE: 1" = 1'-0"

LEGEND:

- TRUSS MEMBER TO BE REPLACED
- NEW TRUSS MEMBER

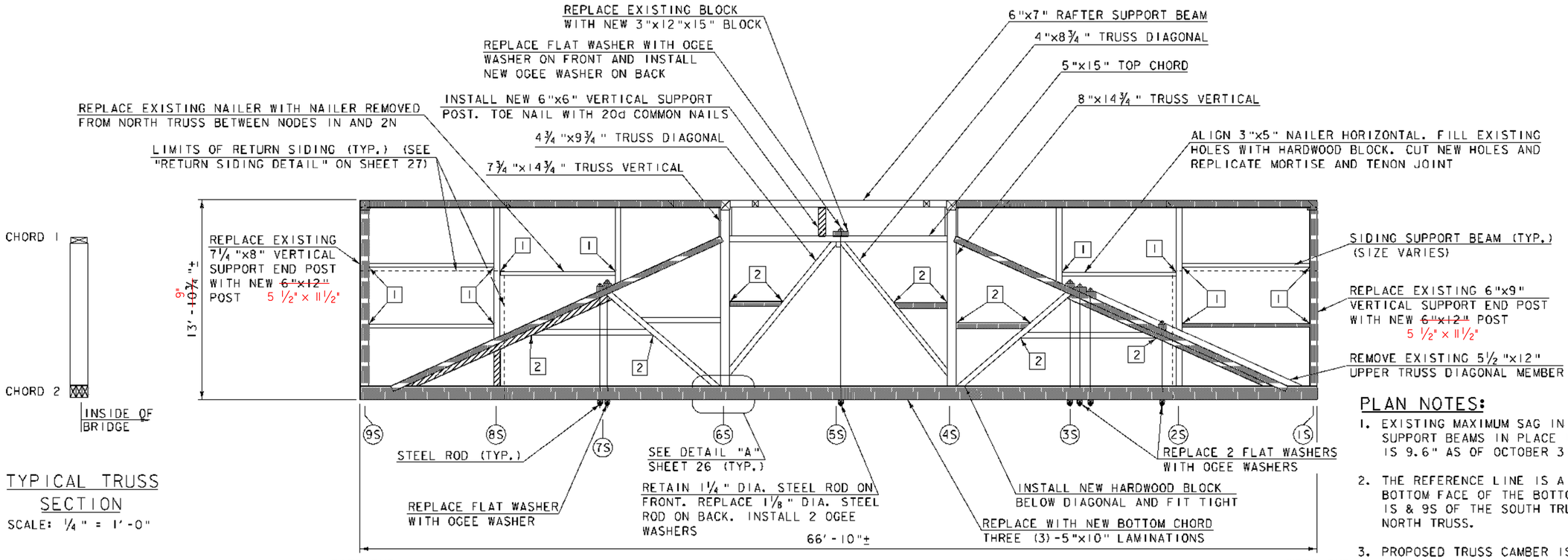
SCALE: 1" = 1'-0"

MODEL	Default
HTA PROJECT NO.	904213

PROJECT NAME:	FAIRFIELD
PROJECT NUMBER:	BHO 1448(32)
FILE NAME:	Z04J144detail2.dgn
PROJECT LEADER:	J.H.WEAVER
DESIGNED BY:	J.BICJA
PLOT DATE:	4/25/2008
DRAWN BY:	J.B.McQUAID
CHECKED BY:	S.T.JAMES
SHEET	27 OF 36

NORTH TRUSS DETAILS

Hoyle, Tanner & Associates, Inc.



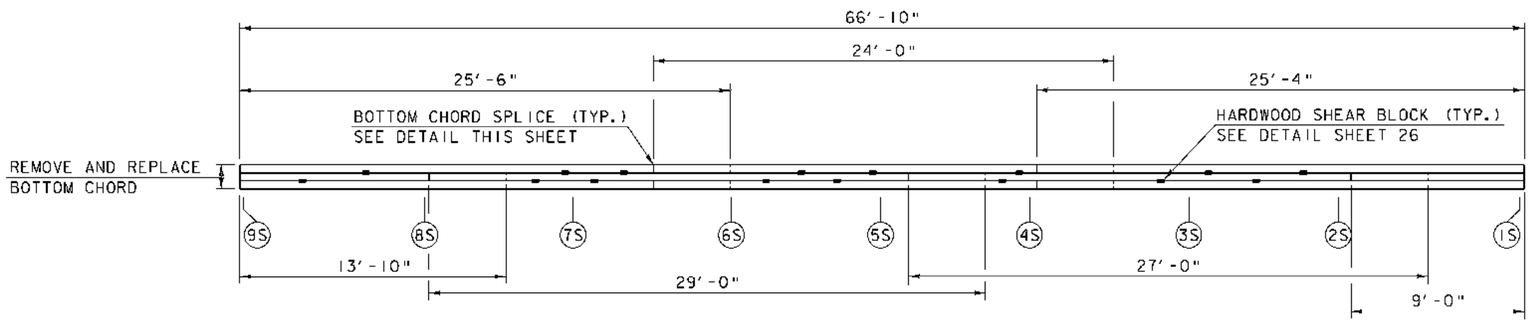
TYPICAL TRUSS SECTION

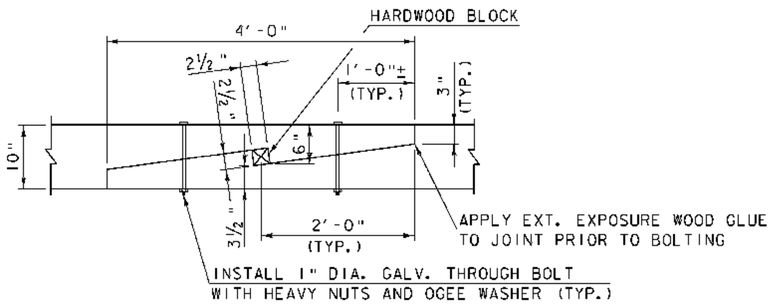
SCALE: ¼" = 1'-0"

STATIONING

SOUTH TRUSS ELEVATION (LOOKING SOUTH)

SCALE: ¼" = 1'-0"





BOTTOM CHORD SPLICE ELEVATION DETAIL

SCALE: 1" = 1'-0"

BOTTOM CHORD PLAN (CHORD 2)

NOTE: BOTTOM CHORD NOT SHOWN AS SHADED FOR CLARITY.

SCALE: ¼" = 1'-0"

PROPOSED AND AS-BUILT TRUSS CAMBER (INCHES)			SHOT 6-15-09
NODES	(1)	(2A)	(2B)
1	0.00"	0.00"	0.00"
2	1.95	2.64	1.92
3	3.97	3.84	3.12
4	5.50	4.80	4.32
5	6.00	4.80	4.92
6	5.50	4.56	4.32
7	3.97	2.64	2.64
8	1.95	0.84	0.72
9	0.00	0.00	0.00

(1) PROPOSED CAMBER PRIOR TO RELEASE
(2A) AS-BUILT CAMBER NORTH TRUSS
(2B) AS-BUILT CAMBER SOUTH TRUSS

PLAN NOTES:

1. EXISTING MAXIMUM SAG IN SOUTH TRUSS WITH STEEL SUPPORT BEAMS IN PLACE IS 12", WHILE IN NORTH TRUSS IS 9.6" AS OF OCTOBER 31, 2007.
2. THE REFERENCE LINE IS A STRAIGHT LEVEL LINE AT THE BOTTOM FACE OF THE BOTTOM CHORD THAT CONNECTS NODES 1S & 9S OF THE SOUTH TRUSS AND NODES 1N & 9N OF THE NORTH TRUSS.
3. PROPOSED TRUSS CAMBER IS GIVEN AT NODE POINTS AT THE TOP OF CHORD 2. ALL VALUES ARE MEASURED FROM THE REFERENCE LINE. NEGATIVE VALUE INDICATES DOWN DIRECTIONS (SAG).
4. THE TEMPORARY BRIDGE SHORING SHALL BE IN PLACE PRIOR TO THE START OF REALIGNMENT OPERATIONS.
5. EXISTING DIAGONAL MEMBERS SHALL BE SECURED DURING REALIGNMENT AS THEY MAY BECOME LOOSE AT THE JOINT. UPON COMPLETION OF REALIGNMENT, HARDWOOD SHIMS SHALL BE INSERTED AS REQUIRED INTO THE TRUSS DIAGONAL CONNECTIONS. ALL SHIMS SHALL BE DRIED TO A MAXIMUM MOISTURE CONTENT OF 16%. THE USE OF GREEN SHIMS WILL NOT BE ALLOWED.
6. THE CONTRACTOR SHALL PROVIDE THE RESIDENT ENGINEER WITH THE MEASUREMENTS OF THE AS BUILT CAMBER.
7. SEE SHEET 26 FOR NOTES THAT APPLY TO THIS SHEET.
8. SEE SHEET 29 FOR TRUSS DETAILS.

LEGEND:

- (1N) TRUSS NODE
- TRUSS MEMBER TO BE REPLACED
- NEW MEMBER
- [1] RECONNECT JOINT WITH ONE ⅝" DIA. x 5" LONG GALV. LAG SCREW THROUGH TENON ON OUTSIDE FACE. COUNTER SINK HEAD
- [2] TOE NAIL WITH 2-20d COMMON NAILS

SCALE: ¼" = 1'-0"
1 0 2 4 6

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

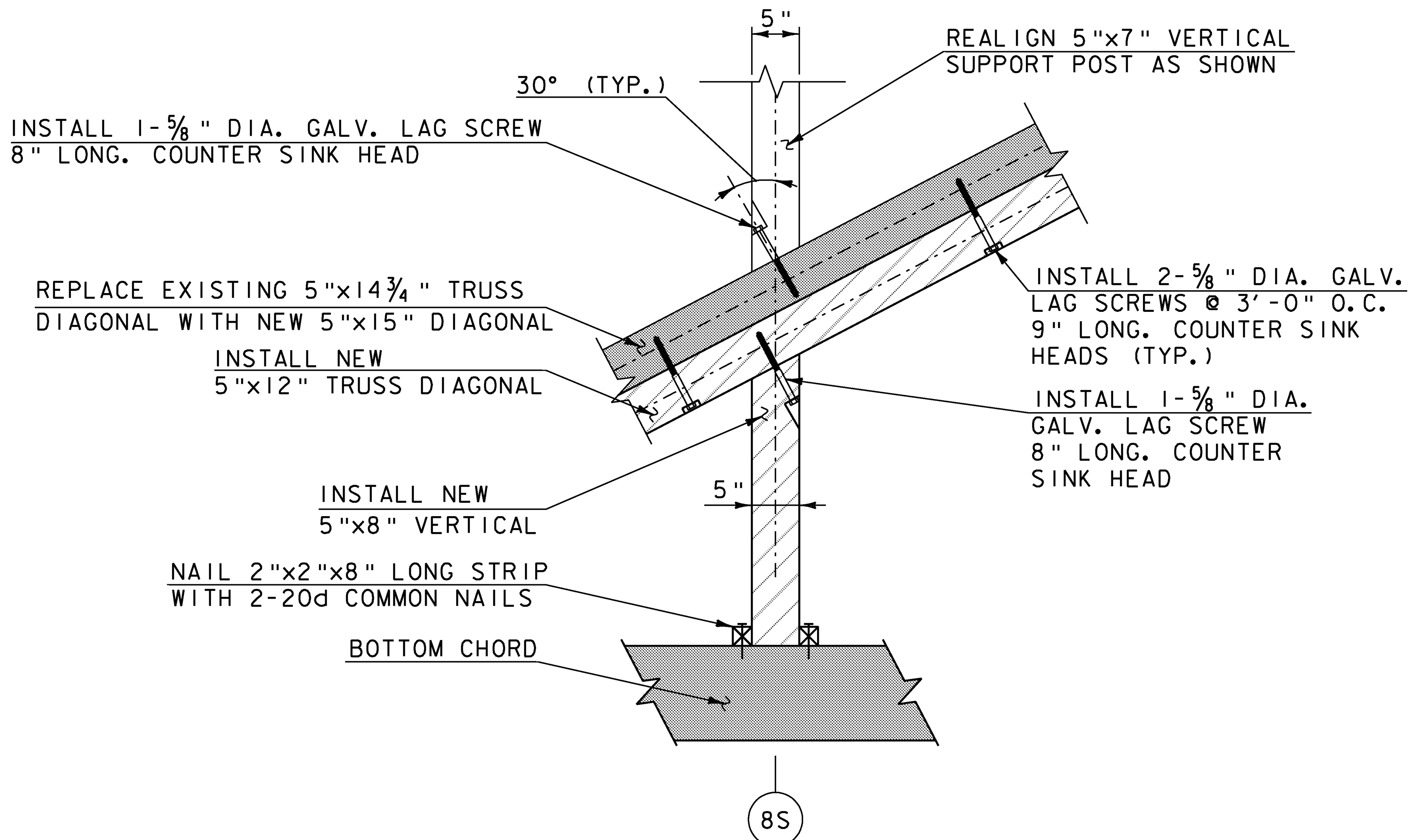
MODEL
Default
HTA PROJECT NO.
904213

Hoyle, Tanner & Associates, Inc.

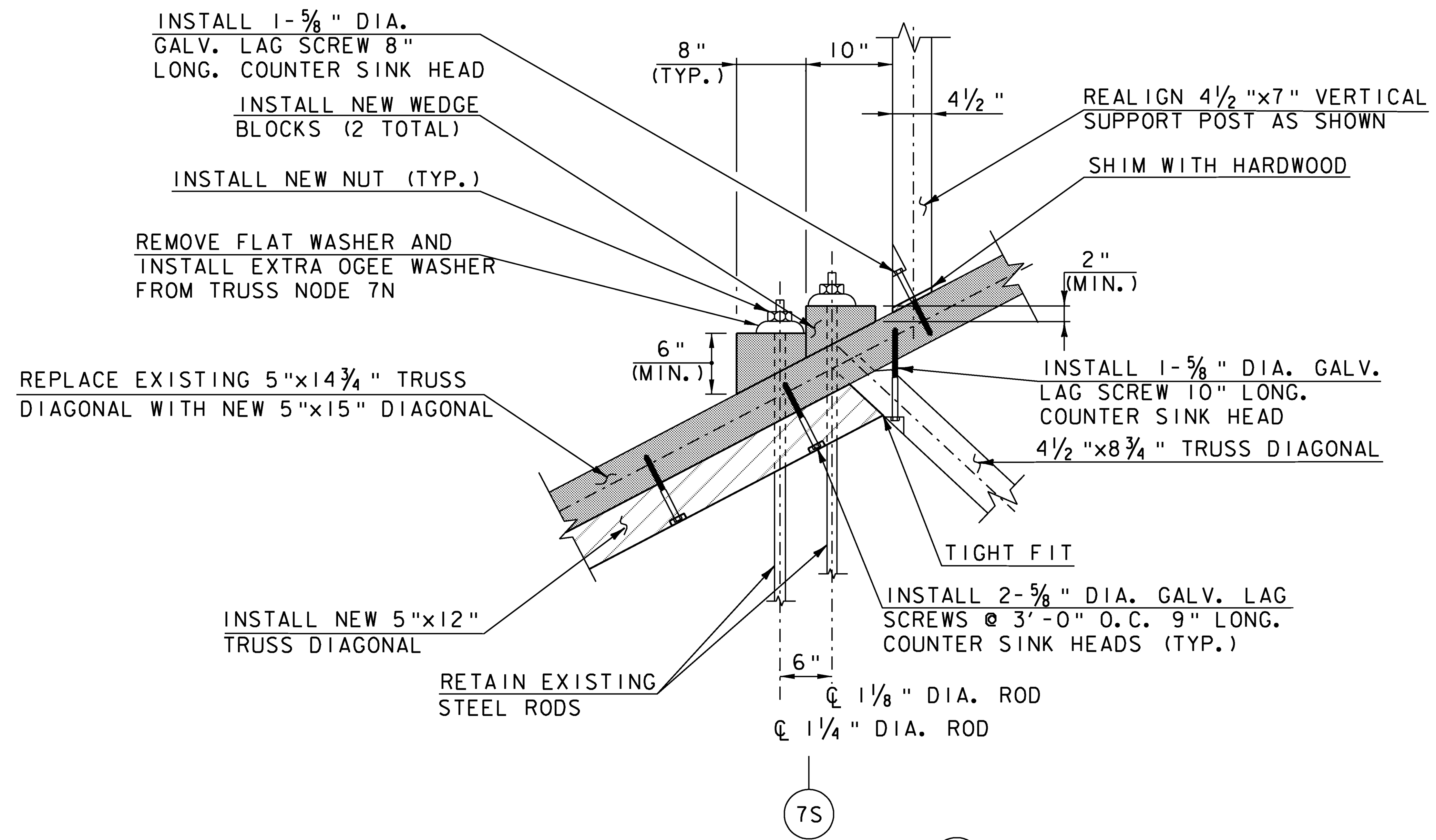
PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: Z04J144sup4.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
SOUTH TRUSS ELEV. AND CHORD PLAN

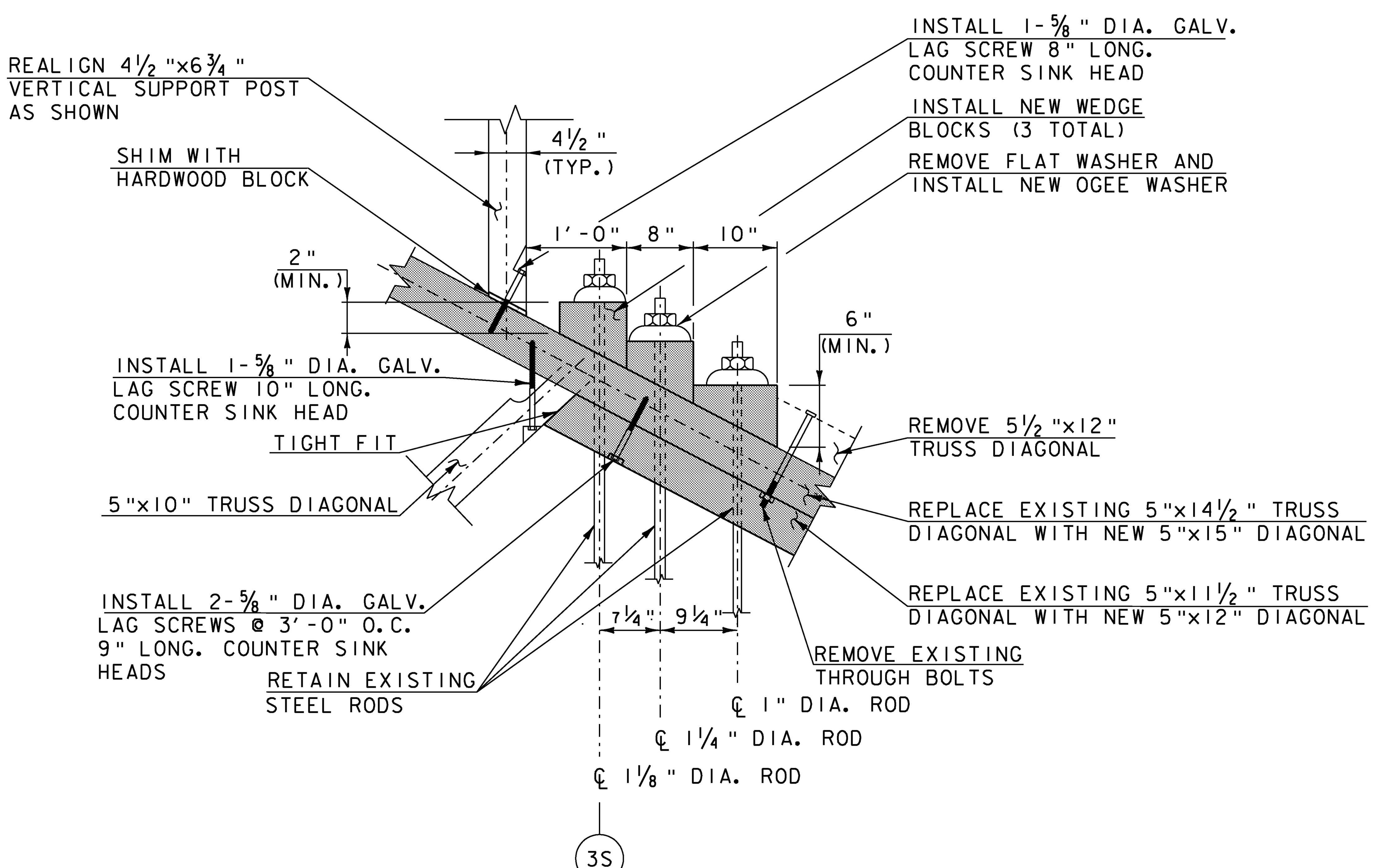
PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 28 OF 36



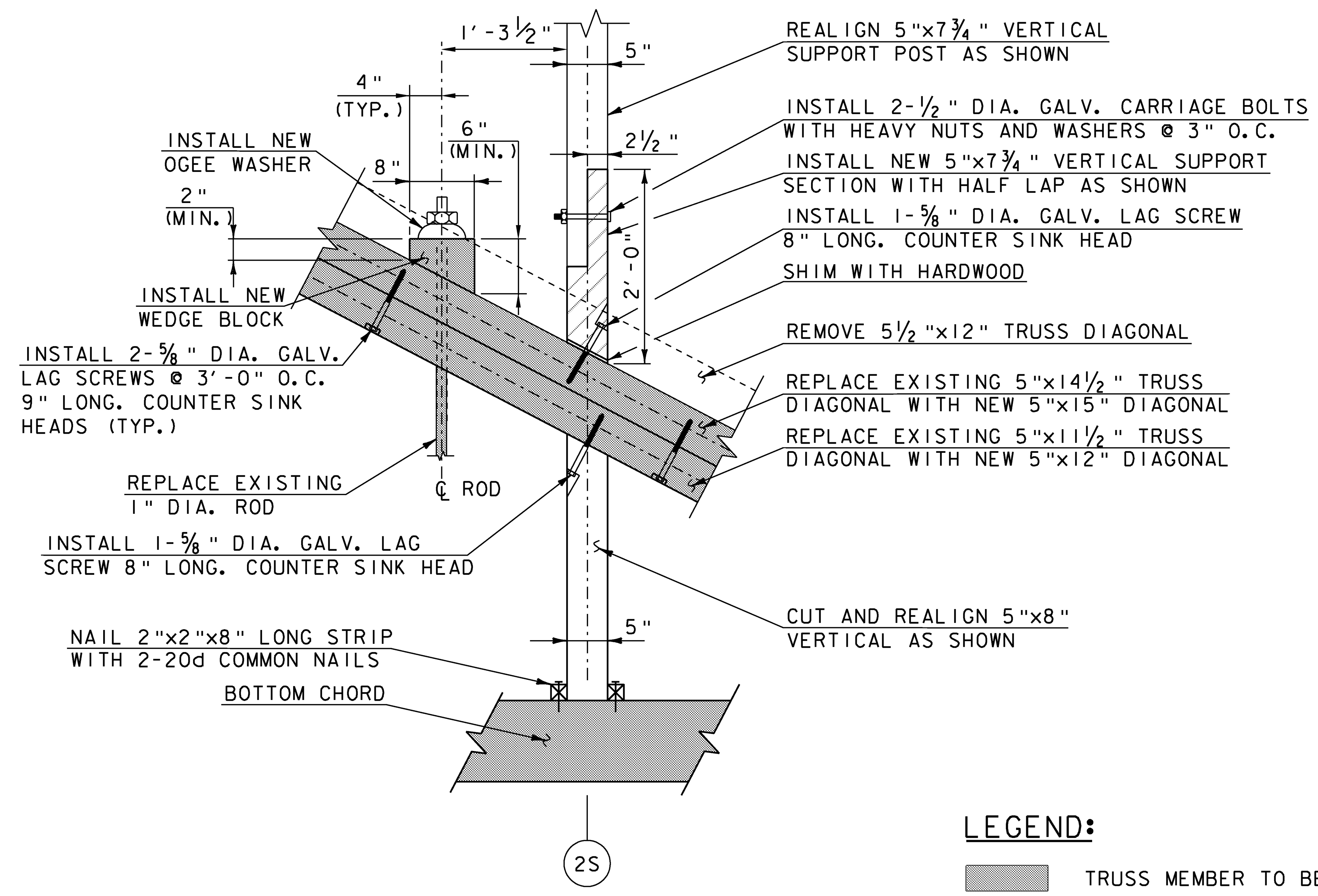
DETAIL AT NODE (8S)
SCALE: 1" = 1'-0"



DETAIL AT NODE (7S)
SCALE: 1" = 1'-0"



DETAIL AT NODE (3S)
SCALE: 1" = 1'-0"



DETAIL AT NODE (2S)
SCALE: 1" = 1'-0"

LEGEND:

- TRUSS MEMBER TO BE REPLACED (shaded)
- NEW TRUSS MEMBER (hatched)

NOTE: ALL WEDGE BLOCKS SHALL BE 8" WIDE TRANSVERSE TO THE TRUSS MEMBERS.

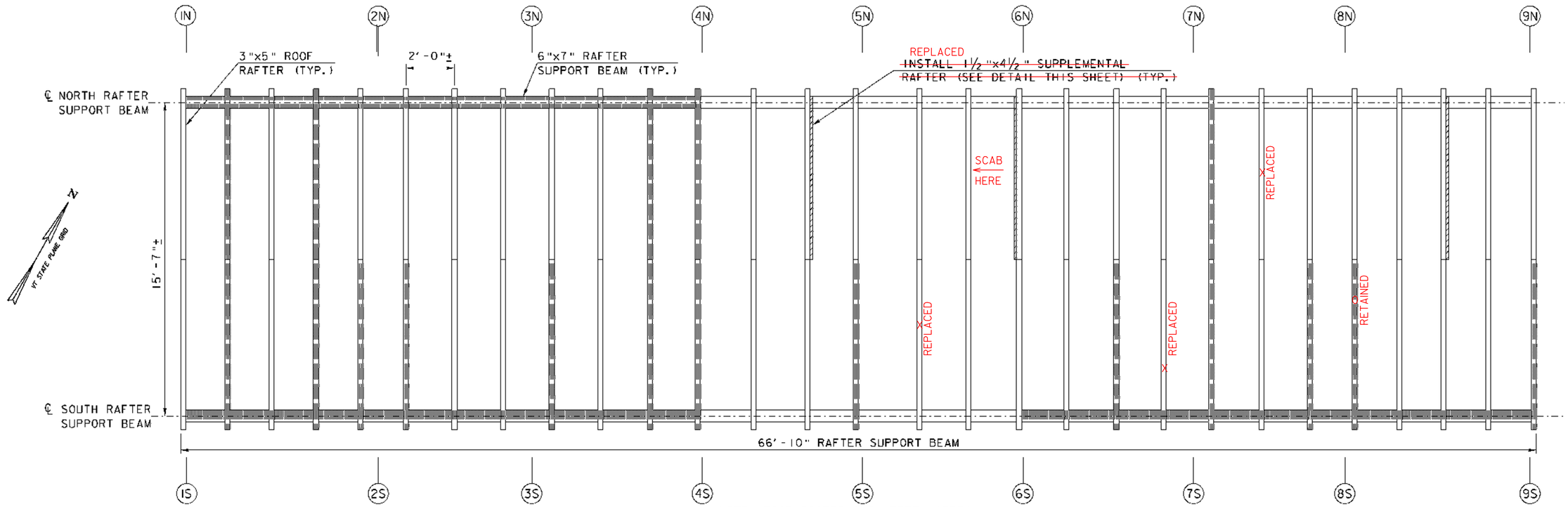
SCALE: 1" = 1'-0"
0 1 2

MODEL	Default
HTA PROJECT NO.	904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME:	z04j144detail3.dgn	PLOT DATE:	4/25/2008
PROJECT LEADER:	J.H.WEAVER	DRAWN BY:	J.B.McQUAID
DESIGNED BY:	J.BICJA	CHECKED BY:	S.T.JAMES
SOUTH TRUSS DETAILS		SHEET 29	OF 36

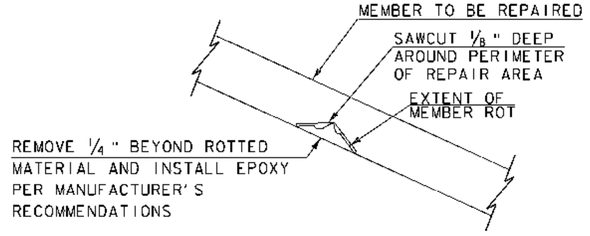


NOTE: ROOF BOARDS AND UPPER LATERAL BRACING NOT SHOWN FOR CLARITY.

ROOF FRAMING PLAN

SCALE: ⅜" = 1'-0"

1 0 1 2 3 4



RAFTER OR OTHER MEMBER (VARIOUS ITEM NUMBERS)

EPOXY REPAIR DETAIL

NOT TO SCALE

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 ABOVE IN THE "EPOXY REPAIR DETAIL". IF ROT IS GREATER THAN 1 INCH IN DEPTH, THE ENTIRE MEMBER SHALL BE REPLACED AS ORDERED BY THE RESIDENT ENGINEER.

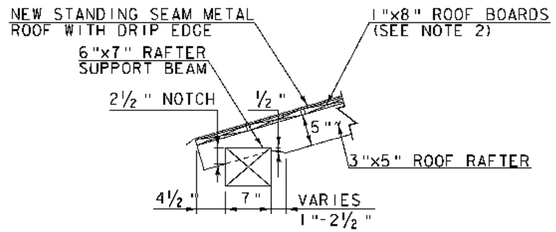
R-2. REMOVE ALL ROTTED MATERIAL TO A MINIMUM OF ¼" BEYOND EXTENT OF ROT. SAWCUT ⅛" DEEP AROUND PERIMETER OF REPAIR AREA.

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.

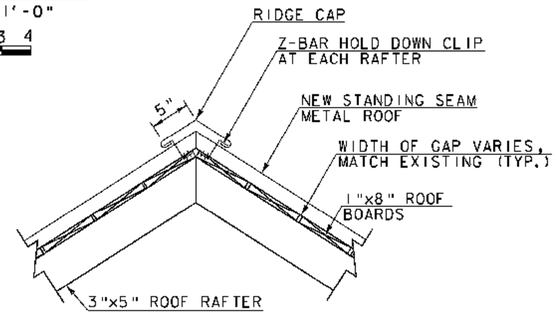
R-5. INSTALL TWO GALVANIZED LAG SCREWS INTO EXISTING SPLIT THROUGH REPAIR MATERIAL (IF REQUIRED). SIZE OF LAG SCREWS TO BE DETERMINED BY THE RESIDENT ENGINEER.

R-6. SEE NOTE W-3 ON SHEET 21, NOTE 6 ON SHEET 26 AND NOTE 1 ON SHEET 27 FOR ALL WORK TO BE PAID FOR UNDER ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS).



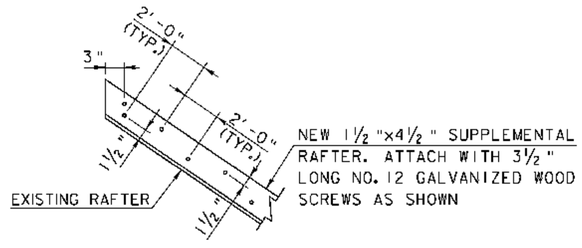
ROOF RAFTER BEARING DETAIL

NOT TO SCALE



ROOF RIDGE CAP DETAIL

NOT TO SCALE



SUPPLEMENTAL RAFTER DETAIL

NOT TO SCALE

PLAN NOTES:

1. ITEM 522.20 STRUCTURAL LUMBER AND TIMBER, UNTREATED - ASSUMES REPLACEMENT OF 3 ADDITIONAL RAFTERS FOR BIDDING PURPOSES THAT HAVE NOT BEEN IDENTIFIED IN THE PLANS. THE CONTRACTOR AND RESIDENT ENGINEER SHALL JOINTLY INSPECT ALL ROOF RAFTERS AFTER REMOVAL OF THE EXISTING METAL ROOF TO IDENTIFY ADDITIONAL RAFTERS AND RAFTER SUPPORT BEAMS TO BE REPLACED.

2. ITEM 522.30 NONSTRUCTURAL LUMBER AND TIMBER, UNTREATED - INCLUDES INSTALLATION OF NEW SIDING AND REPLACEMENT OF 30 PERCENT OF THE EXISTING ROOF BOARDS. FOR BIDDING PURPOSES REPLACEMENT OF 30 PERCENT OF EXISTING ROOF BOARDS INCLUDES REPLACEMENT OF DETERIORATED ROOF BOARDS AND INSTALLATION OF NEW ROOF BOARDS WHERE MISSING. SPECIFIC ROOF BOARDS HAVE NOT BEEN IDENTIFIED IN THE ROOF RAFTER PLAN. THE CONTRACTOR AND RESIDENT ENGINEER SHALL JOINTLY INSPECT ALL ROOF BOARDS AFTER REMOVAL OF THE EXISTING METAL ROOF. ATTACH ROOF BOARDS TO EACH RAFTER WITH 2-3" LONG NO. 14 GALVANIZED WOOD SCREWS.

3. THE CONTRACTOR SHALL REALIGN ALL RAFTERS TO BE PERPENDICULAR TO THE RAFTER SUPPORT BEAM. ALL COST OF SUCH WORK IS PAID UNDER ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).

LEGEND:

(7N) TRUSS NODE

MEMBER TO BE REPLACED

NEW SUPPLEMENTAL MEMBER

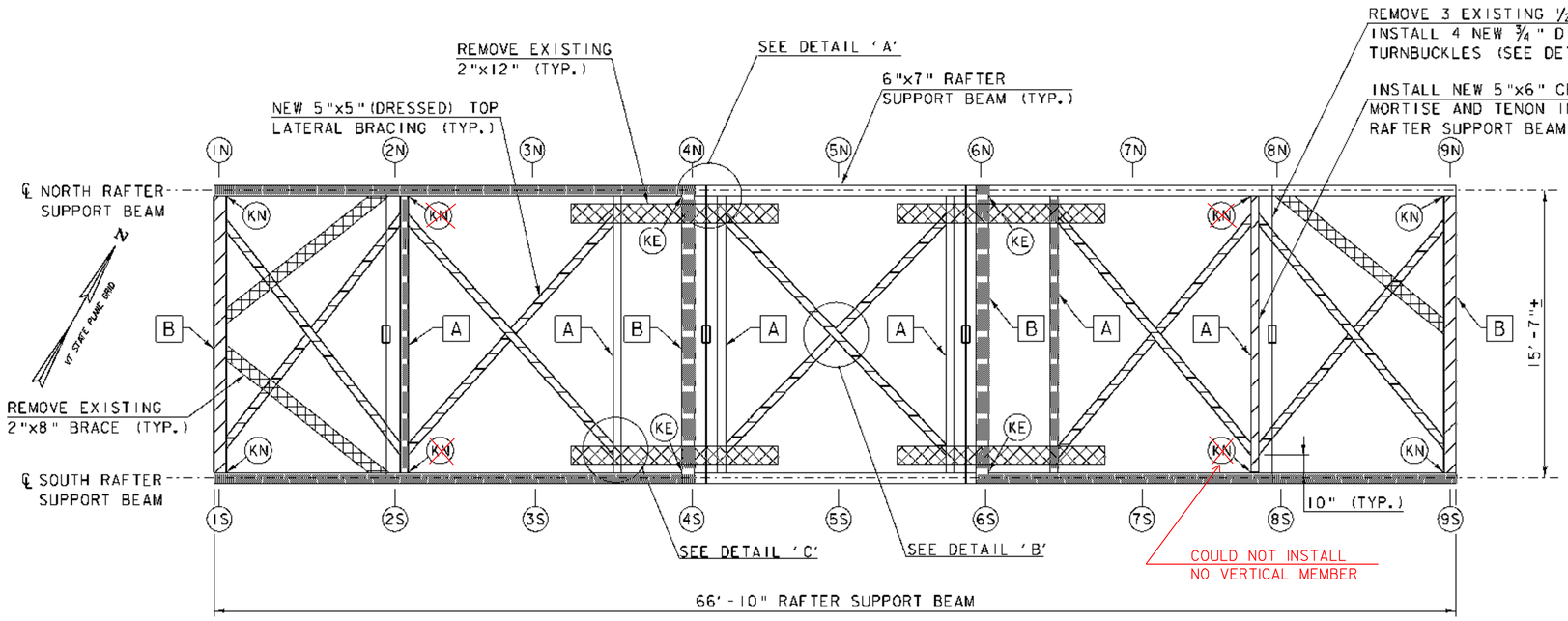
MODEL	Default
HTA PROJECT NO.	90413

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

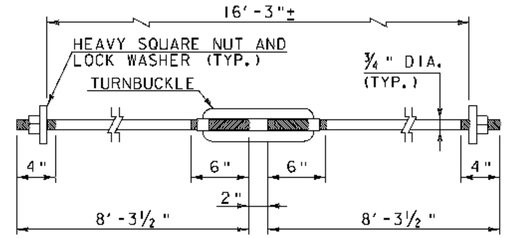
FILE NAME: Z04J144sup2.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
ROOF FRAMING PLAN

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 30 OF 36



UPPER LATERAL BRACING PLAN

NOTE: RAFTERS AND ROOF BOARDS NOT SHOWN FOR CLARITY
SCALE: ¼" = 1'-0"

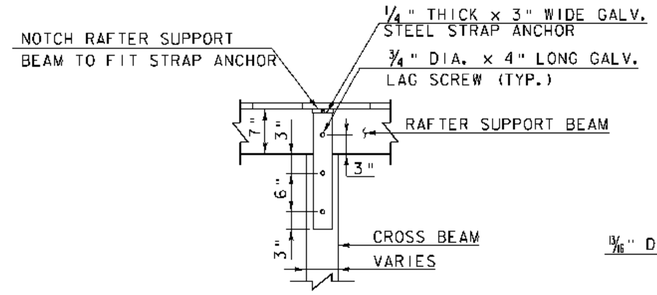


GALVANIZED TIE ROD ASSEMBLY

(8 TOTAL - 4 UPPER LATERAL BRACING & 4 LOWER LATERAL BRACING)
NOTE: TIGHTEN NUTS AND TURNBUCKLES SNUG BUT NOT SO TIGHT AS TO CAUSE CRUSHING OF WOOD BEHIND THE STEEL PLATES.
SCALE: 1½" = 1'-0"

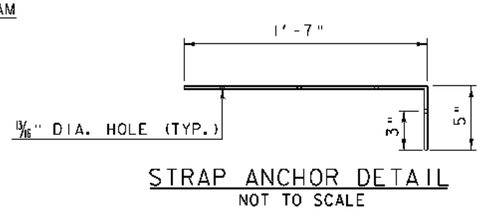
PLAN NOTES:

1. THE TOP LATERAL BRACING TENONS SHALL BE 2½" IN DEPTH AND CENTERED VERTICALLY ON THE CROSS BEAM.
2. TOP LATERAL BRACING JOINTS NEAR THE CROSS BEAMS SHALL HAVE SIMILAR MORTISE 2½" DEEP CENTERED VERTICALLY ON THE CROSS BEAM.



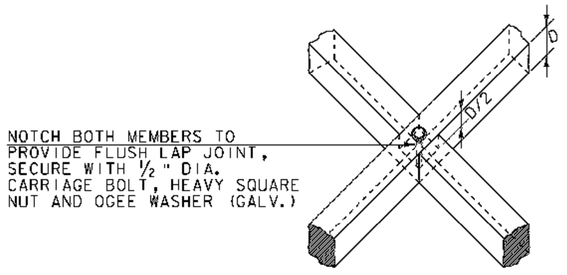
CROSSBEAM ANCHOR DETAIL

NOTE: TYPICAL OF ALL LOCATIONS EXCEPT NODES 4S, 4N, 6S AND 6N
SCALE: 1" = 1'-0"



STRAP ANCHOR DETAIL

NOT TO SCALE

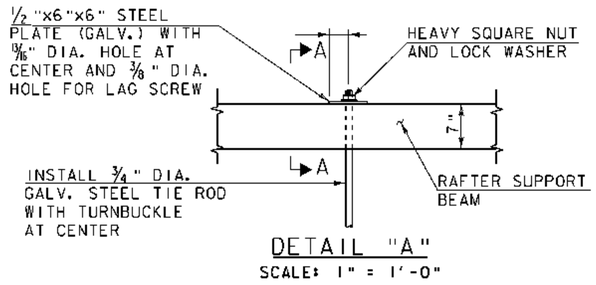


DETAIL "B"

SCALE: ¾" = 1'-0"

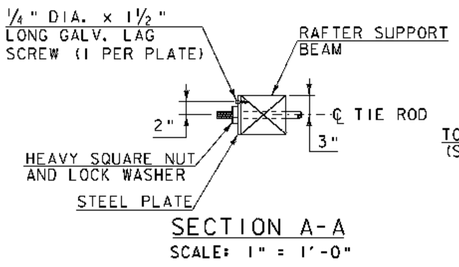
LEGEND:

- NEW MEMBER
- MEMBER TO BE REMOVED (PAID UNDER ITEM 529.20)
- MEMBER TO BE REPLACED
- (KE) LOCATION OF EXISTING BRACE TO REMAIN
- (KN) LOCATION OF NEW OR REPLACED KNEE BRACING
- (7N) TRUSS NODE
- [A] 5"x6" CROSS BEAM
- [B] 8"x8" CROSS BEAM



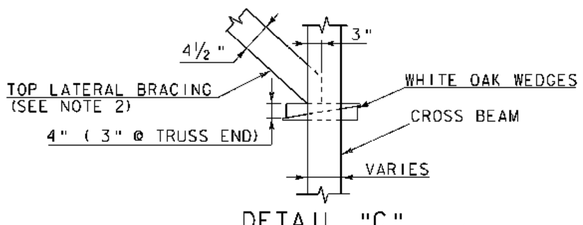
DETAIL "A"

SCALE: 1" = 1'-0"



SECTION A-A

SCALE: 1" = 1'-0"



DETAIL "C"

SCALE: ¾" = 1'-0"

SCALE: 1½" = 1'-0"
1 9 6 3 0 1

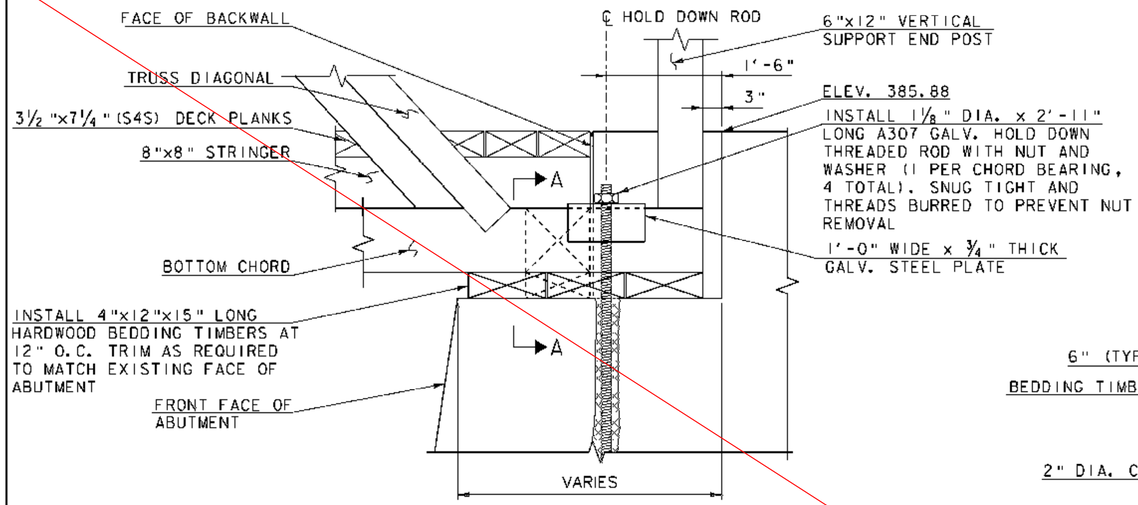
SCALE: ¾" = 1'-0"
1 0 1 2

SCALE: ¼" = 1'-0"
1 0 2 4 6

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

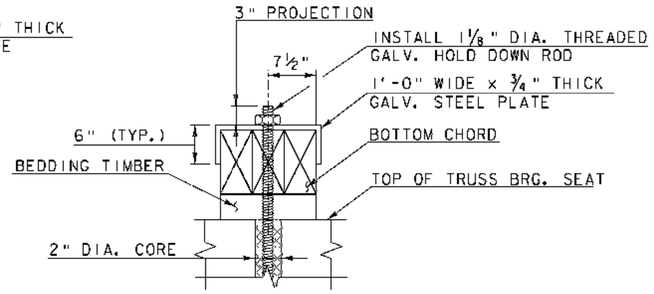
PROJECT NAME:	FAIRFIELD
PROJECT NUMBER:	BHO 1448(32)
MODEL	Default
HTA PROJECT NO.	904213
FILE NAME:	Z04J144sup5.dgn
PROJECT LEADER:	J.H.WEAVER
DESIGNED BY:	J.BICJA
UPPER LATERAL BRACING	
PLOT DATE:	4/25/2008
DRAWN BY:	J.B.McQUAID
CHECKED BY:	S.T.JAMES
SHEET	31 OF 36

Hoyle, Tanner & Associates, Inc.



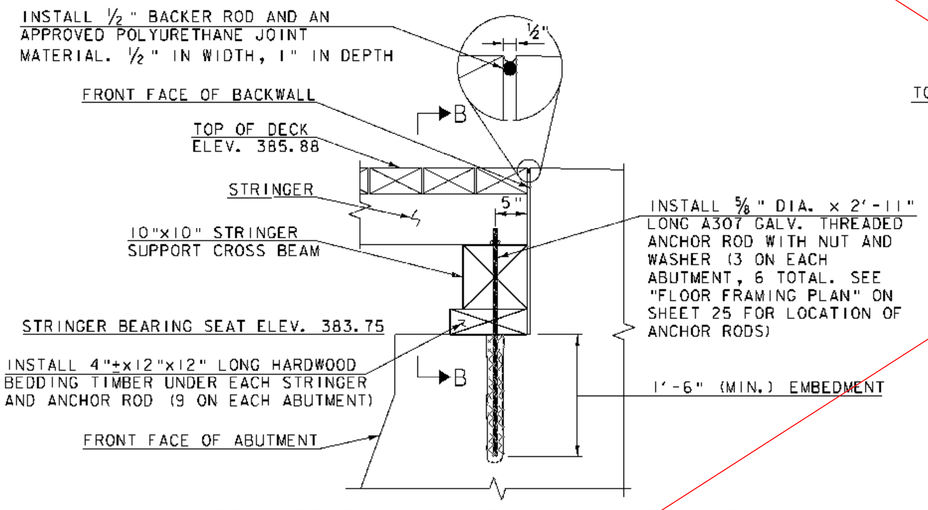
TRUSS TYPICAL BEARING SEAT SECTION

SCALE: 1" = 1'-0"



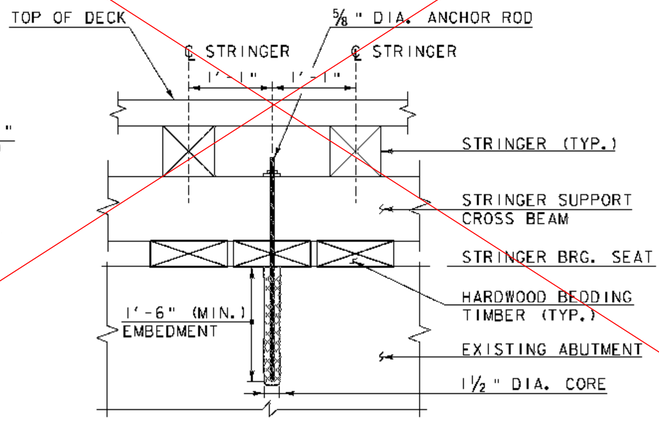
SECTION A-A

SCALE: 1" = 1'-0"



STRINGER TYPICAL BEARING SEAT SECTION

SCALE: 1" = 1'-0"

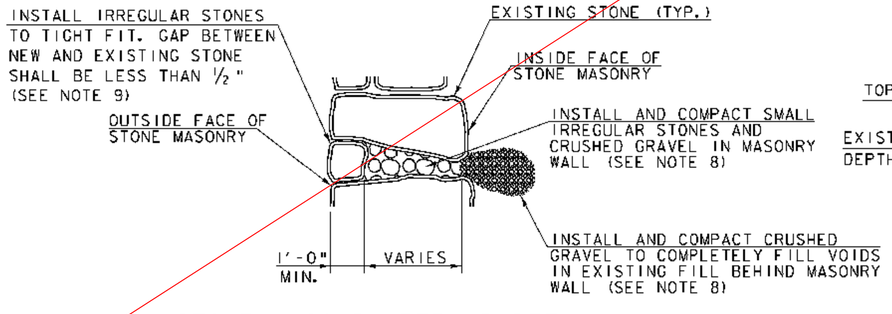


SECTION B-B

SCALE: 1" = 1'-0"

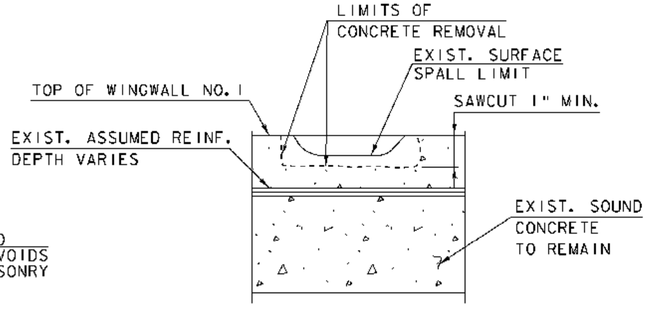
SHEET NOTES:

1. PREPARE SPALLED AREAS BY REMOVAL OF ALL UNSOUND CONCRETE TO THE DEPTH SHOWN BY SQUARE CUTTING REPAIR AREAS (PAID UNDER ITEM 580.14). FEATHERED REMOVAL EDGES WILL NOT BE PERMITTED. MINIMUM REPAIR AREA SHALL BE 1'x1'.
2. AFTER CONCRETE REMOVAL, THE REPAIR SURFACE SHALL BE THOROUGHLY CLEANED OF INJURIOUS RUST, CONCRETE, DIRT, GREASE, OR ANY OTHER BOND INHIBITING MATERIALS.
3. REPAIR SURFACE WITH CONCRETE CLASS AA (PAID UNDER ITEM 580.14). A HIGH RANGE WATER REDUCING ADMIXTURE CONFORMING TO THE REQUIREMENTS OF STANDARD SPECIFICATIONS 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.
4. JACKHAMMERS HEAVIER THAN THE NOMINAL 15 POUND CLASS SHALL NOT BE USED.
5. CHIPPING HAMMERS HEAVER THAN NOMINAL 15 POUND CLASS SHALL NOT BE USED TO REMOVE CONCRETE FROM BENEATH REINFORCING BARS.
6. CORING AND INSTALLATION OF GROUTED REINFORCING STEEL SHALL BE PAID UNDER ITEM 507.16, DRILLING AND GROUTING DOWELS.
7. PAYMENT UNDER ITEM 900.675, SPECIAL PROVISION (REPAIRING STONE MASONRY) SHALL INCLUDE COMPACTION OF LOOSE FILL BEHIND WALL STONES, RESETTING OF STONES AND THE ADDITION OF SIMILAR STONES AS REQUIRED.
8. COMPACT MATERIAL BEHIND AND INTO MASONRY WALL BY USING TAMPING RODS OR OTHER METHODS ACCEPTABLE TO THE RESIDENT ENGINEER (PAID UNDER ITEM 900.675, SPECIAL PROVISION (REPAIRING STONE MASONRY)).
9. NEW STONES SHALL CLOSELY MATCH THE COLOR, TEXTURE AND PATTERN OF EXISTING STONES. STONES SHALL BE APPROVED BY THE ENGINEER PRIOR TO USE.
10. THE HOLD DOWN RODS AND ANCHOR RODS SHALL BE GROUTED INTO ABUTMENTS USING SPEC BOND 200 BY CONSPEC, RESCON 304 BY SYMONS CORPORATION OR DURALCRETE BY TAMMS INDUSTRIES OR OTHER EQUIVALENT APPROVED EPOXY MORTAR IN LIEU OF MORTAR TYPE IV.
11. THE DRILLING AND GROUTING, HOLD DOWN RODS, ANCHOR RODS, NUTS, WASHERS AND STEEL PLATES SHALL BE PAID UNDER ITEM 900.620, SPECIAL PROVISION (BEARING DEVICE ASSEMBLY, COVERED BRIDGE) COMPLETE IN PLACE.



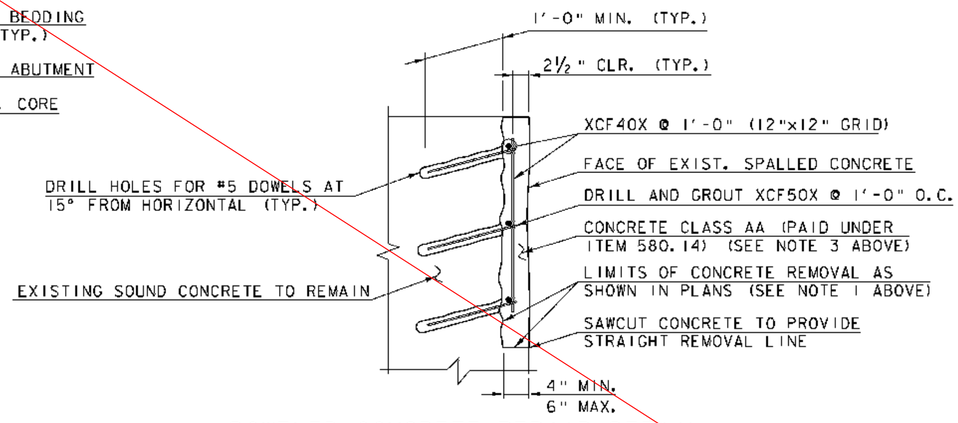
STONE MASONRY REPAIR DETAIL

NOT TO SCALE



HORIZONTAL CONCRETE REPAIR DETAIL

(SEE NOTES 1 - 5)
NOT TO SCALE



DOWELED CONCRETE REPAIR DETAIL

NOT TO SCALE

SEE REVISED SHEET 32R

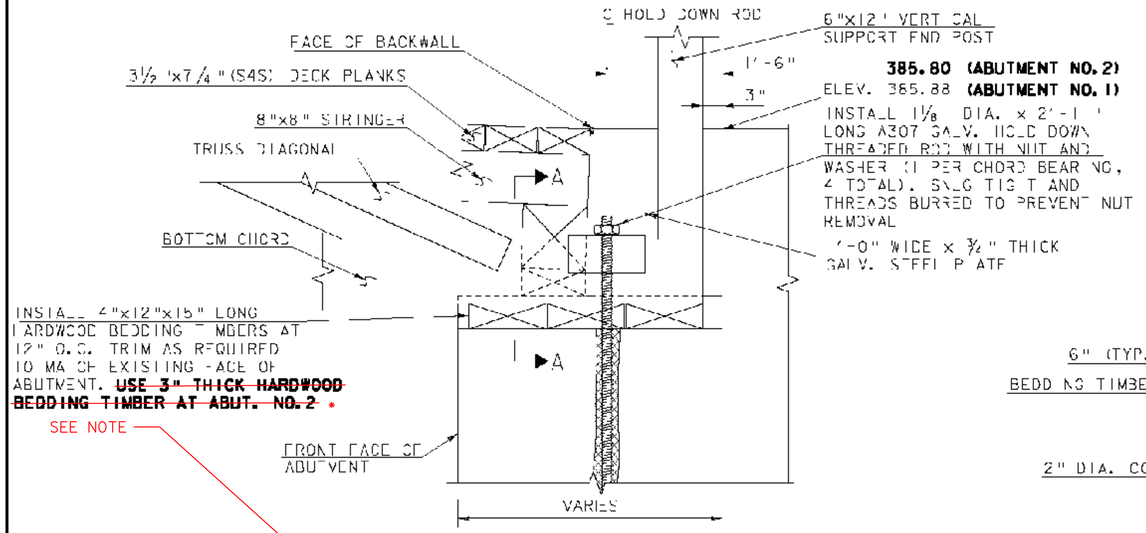
SCALE: 1" = 1'-0"

1 9 6 3 0 1 2

MODEL	Default
HTA PROJECT NO.	904213

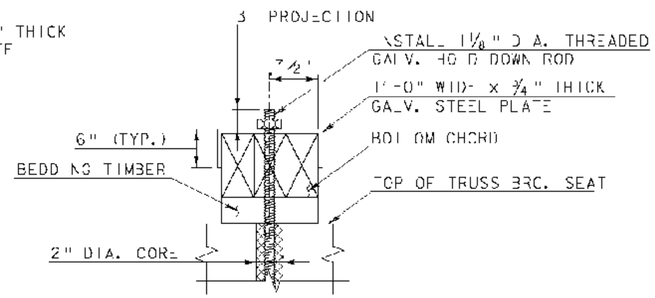
Hoyle, Tanner & Associates, Inc.

PROJECT NAME:	FAIRFIELD
PROJECT NUMBER:	BHO 1448(32)
FILE NAME:	z04jl44detail4.dgn
PROJECT LEADER:	J.H.WEAVER
DESIGNED BY:	J.BICJA
BRIDGE DETAILS	
PLOT DATE:	4/25/2008
DRAWN BY:	J.B.McQUAID
CHECKED BY:	S.T.JAMES
SHEET	32 OF 36



TRUSS TYPICAL BEARING SEAT SECTION ⚠

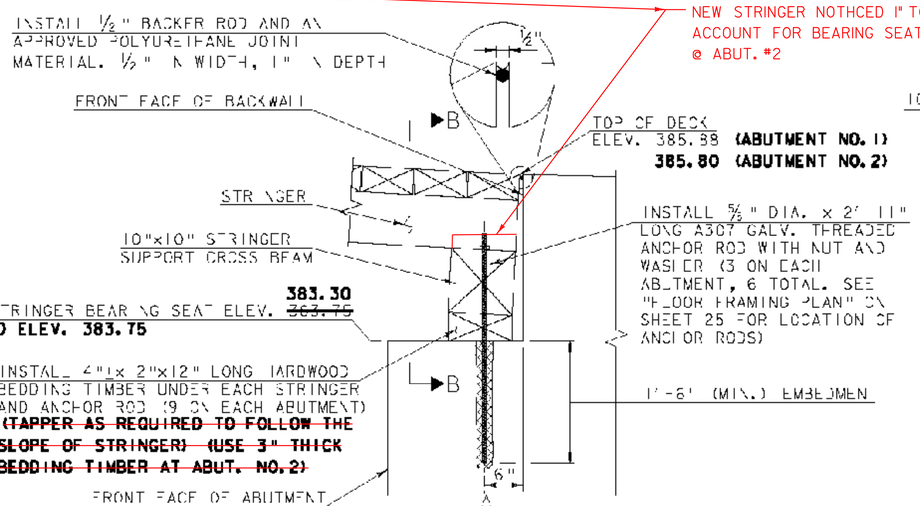
SCALE: 1" = 1'-0"



SECTION A-A

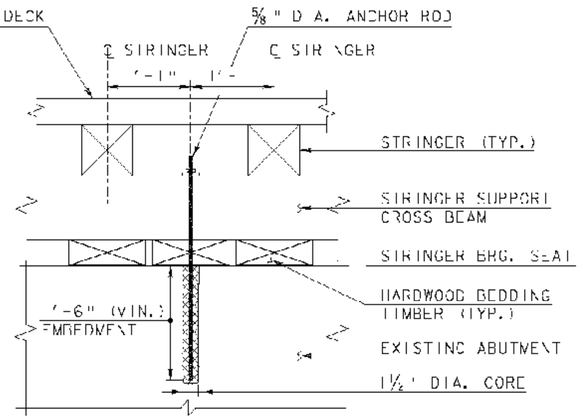
SCALE: 1" = 1'-0"

NEW STRINGER NOTHCED 1" TO ACCOUNT FOR BEARING SEAT CHANGE @ ABUT. #2



STRINGER TYPICAL BEARING SEAT SECTION ⚠

SCALE: 1" = 1'-0"



SECTION B-B

SCALE: 1" = 1'-0"

SHEET NOTES:

1. PREPARE SPALLED AREAS BY REMOVAL OF ALL UNSOUND CONCRETE TO THE DEPTH SHOWN BY SQUARE CUTTING REPAIR AREAS (PAID UNDER ITEM 580.4). FEATHERED REMOVAL EDGES WILL NOT BE PERMITTED. MINIMUM REPAIR AREA SHALL BE 1'x1'.

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4. JACKHAMMERS HEAVIER THAN THE NOMINAL 15 POUND CLASS SHALL NOT BE USED.

5. CHIPPING HAMMERS HEAVIER THAN NOMINAL 15 POUND CLASS SHALL NOT BE USED TO REMOVE CONCRETE FROM BENEATH REINFORCING BARS.

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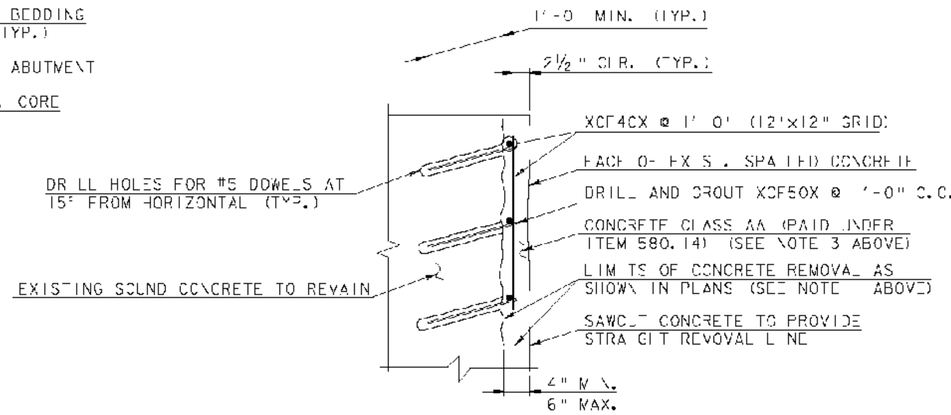
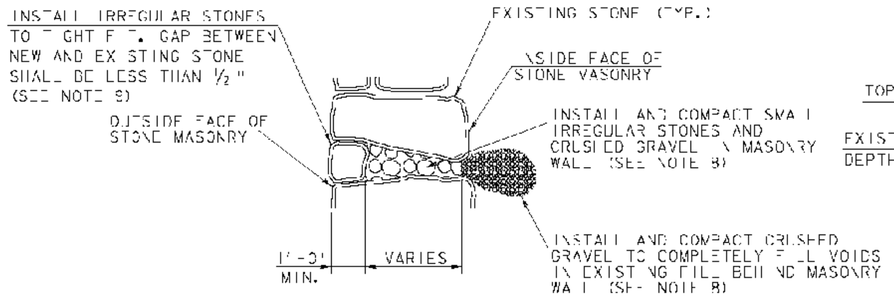
11. THE DRILLING AND GROUTING, HOLD DOWN RODS, ANCHOR RODS, NUTS, WASHERS AND STEEL PLATES SHALL BE PAID UNDER ITEM 900.620, SPECIAL PROVISION (BEARING DEVICE ASSEMBLY, COVERED BRIDGE) COMPLETE IN PLACE.



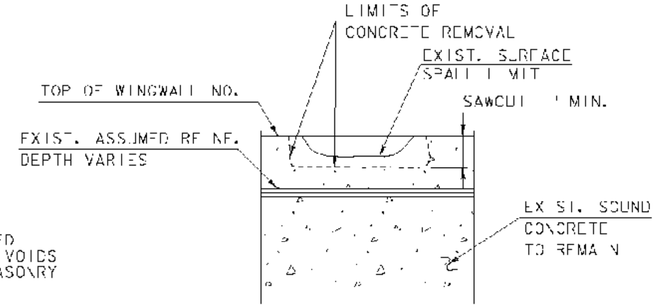
DOWELED CONCRETE REPAIR DETAIL

NOT TO SCALE



STONE MASONRY REPAIR DETAIL

NOT TO SCALE



HORIZONTAL CONCRETE REPAIR DETAIL

(SEE NOTES 1 - 5)
NOT TO SCALE

⚠ **REVISED DUE TO CHANGED FIELD CONDITIONS (10/24/2008)**

SCALE: 1" = 1'-0"

0 1 2 3 4

MODEL: Default
HTA PROJECT NO. 804213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: z04j1448detail4-AB.dgn
PROJECT LEADER: J.F.WEAVER
DESIGNED BY: J.B.OJA
BRIDGE DETAILS

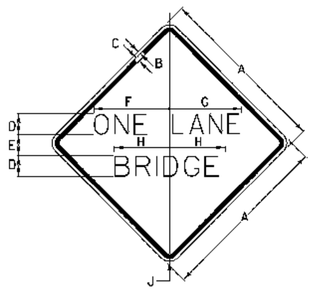
PLOT DATE: 9/24/2008
DRAWN BY: J.R.McCLAIN
CHECKED BY: S.T. JAMES
SHEET 32 OF 36

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	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) 1.75	2.0	2.5 lb/ft 1.88	2.16	3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) 3.0	4.0	4.0 MOD lb/ft 1.3	1.7	1.7	FOUNDATION	TUBULAR STEEL Ø (in) 3.0	3.5	4.0	5.0 lb/ft 7.6	9.0	10.8	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																															
W12-2	8'-0"	2	30"	30"	12.50						2			X																									STA. 100+55.00, RT. 12.0 STA. 103+15.00, LT. 12.0		E-155
W5-3	ONE LANE BRIDGE	2	30"	30"	12.50						2			X																									STA. 100+25.00, RT. 12.0 STA. 103+45.00, LT. 12.0	33	SEE BELOW
VR-017	LEGAL LOAD LIMIT 12,000 POUNDS	2	24"	30"	10.00																																	STA. 100+55.00, RT. 12.0 STA. 103+15.00, LT. 12.0		E-141
R1-1	STOP	1	30"	30"	6.25						1			X																									STA. ~~101+15.00~~, RT. 12.0 101+09		E-143
R1-2	YIELD	1	36"	36"	9.00						1			X																									STA. 102+85.00, LT. 12.0		E-146
												FT	FT	FT 96.5	FT	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB												
TOTALS					SF 50.25	SF	EA.	SF				FT 96.5			FT					LB			EA.	LB				EA.	EA.	LB									

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



COLORS
LEGEND - BLACK (NON - REFL.)
BACKGROUND - YELLOW (REFL.)

SIGN	DIMENSIONS (INCHES) A	B	C	D	E	F	G	H	J
MIN.	30	1/2		5C	3 1/4	13 5/16	12 1/16	9 1/8	1 7/8
STD.	36	5/8		6C	4	16	15 1/4	11 1/2	2 1/4
SPECIAL	48		1 1/4	8C	5	21 1/4	20 1/4	15 3/8	3

MODEL	Untitled Sheet
HTA PROJECT NO.	904213

Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: Z04J144TS.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
TRAFFIC SIGN SUMMARY

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 33 OF 36

STATE OF VERMONT
AGENCY OF TRANSPORTATION

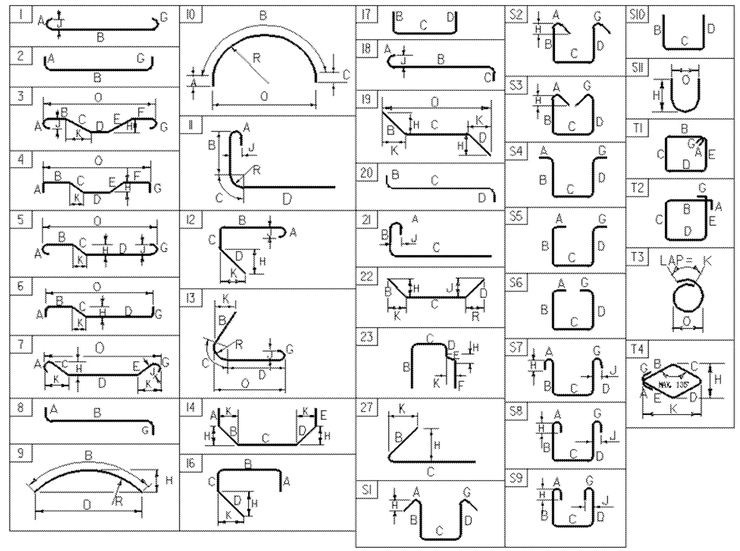
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
ABUTMENT NO.1																	
▲	3	5	14'- 9"	1EA501	17		1'- 0"	12'- 9"	1'- 0"								
▲	3	5	2'- 10"	1EA502	17			1'- 10"	1'- 0"								
▲	3	5	3'- 9"	1EA503	17			2'- 9"	1'- 0"								
	34	5	1'- 9"	1EA504	17			1'- 3"	0'- 6"								
	2	5	12'- 9"	1EA505	STR												
	2	5	17'- 2"	1EA506	STR												
	2	5	3'- 6"	1EA507	STR												
	2	5	4'- 3"	1EA508	STR												
ABUTMENT NO.2																	
	3	5	12'- 9"	2EA501	STR												
	8	5	4'- 1"	2EA502	STR												
	3	5	9'- 7"	2EA503	S10		4'- 0"	1'- 7"	4'- 0"								
	2	5	11'- 0"	2EA504	S10		4'- 0"	3'- 0"	4'- 0"								
WINGWALL NO.3																	
▲	20	8	3'- 6"	3W801	STR												
	6	5	7'- 3"	3EW501	STR												
✳	7	5	6'- 3"	3EW502	STR												
	6	5	2'- 0"	3EW503	STR												
	2	5	4'- 3"	3EW504	STR												
	2	5	4'- 5"	3EW505	STR												
	2	5	4'- 7"	3EW506	STR												
	2	5	4'- 10"	3EW507	STR												
✳	3	5	5'- 1"	3EW508	STR												
WINGWALL NO.4																	
	4	5	7'- 7"	4EW501	S10		3'- 3"	1'- 1"	3'- 3"								
	6	5	3'- 1"	4EW502	STR												
CONCRETE FACING ABUTMENT NO.2																	
▲	4	5	1'- 6"	2ECF501	STR												
✳	3	4	5'- 6"	2ECF401	STR												
	6	4	1'- 7"	2ECF402	STR												
CONCRETE FACING WINGWALL NO.1																	
	8	5	1'- 6"	1ECF501	STR												
	4	4	14'- 1"	1ECF401	STR												
	15	4	3'- 7"	1ECF402	STR												
CONCRETE FACING WINGWALL NO.4																	
▲	9	5	1'- 6"	4ECF501	STR												
	6	4	9'- 8"	4ECF401	STR												
	1	4	6'- 11"	4ECF402	STR												
✳	11	4	6'- 6"	4ECF403	STR												

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.

PROJECT NAME: **FAIRFIELD**
PROJECT NUMBER: **BHO 1448(32)**

FILE NAME: **Z04J144reinf.xls**
PROJECT MANAGER: **J.H.WEAVER**
DESIGNED BY: **J.BICJA**
REINFORCING STEEL SCHEDULE SHEET

PLOT DATE: **4/15/2008**
DRAWN BY: **J.BICJA**
CHECKED BY: **S.T.JAMES**
SHEET **34** OF **36**

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																
▲	3	5	14'- 9"	1EA501	17		1'- 0"	12'- 9"	1'- 0"								
▲	3	5	2'- 10"	1EA502	17			1'- 10"	1'- 0"								
▲	3	5	3'- 9"	1EA503	17			2'- 9"	1'- 0"								
	34	5	1'- 9"	1EA504	17			1'- 3"	0'- 6"								
	2	5	12'- 9"	1EA505	STR												
	2	5	17'- 2"	1EA506	STR												
	2	5	3'- 6"	1EA507	STR												
	2	5	4'- 3"	1EA508	STR												
	ABUTMENT NO.2																
	3	5	12'- 9"	2EA501	STR												
	10	5	2'- 6"	2EA505	S10		1'- 6"	1'- 0"									
▲	12	4	8'- 0"	2EA406	STR												
	WINGWALL NO.3																
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	2	5	4'- 7"	3EW506	STR												
	2	5	4'- 10"	3EW507	STR												
✳	3	5	5'- 1"	3EW508	STR												
	WINGWALL NO.4																
	4	5	7'- 7"	4EW501	S10		3'- 3"	1'- 1"	3'- 3"								
	6	5	3'- 1"	4EW502	STR												
	CONCRETE FACING ABUTMENT NO.2																
▲	14	5	1'- 6"	2ECF501	STR												
✳	6	4	5'- 6"	2ECF401	STR												
▲	6	4	9'- 0"	2ECF402	STR												
▲	7	4	5'- 0"	2ECF403	STR												
▲	4	4	11'- 6"	2ECF404	STR												
	CONCRETE FACING WINGWALL NO.1																
	8	5	1'- 6"	1ECF501	STR												
	4	4	14'- 1"	1ECF401	STR												
	15	4	3'- 7"	1ECF402	STR												
	CONCRETE FACING WINGWALL NO.4																
▲	9	5	1'- 6"	4ECF501	STR												
	6	4	9'- 8"	4ECF401	STR												
	1	4	6'- 11"	4ECF402	STR												
✳	11	4	6'- 6"	4ECF403	STR												

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

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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.
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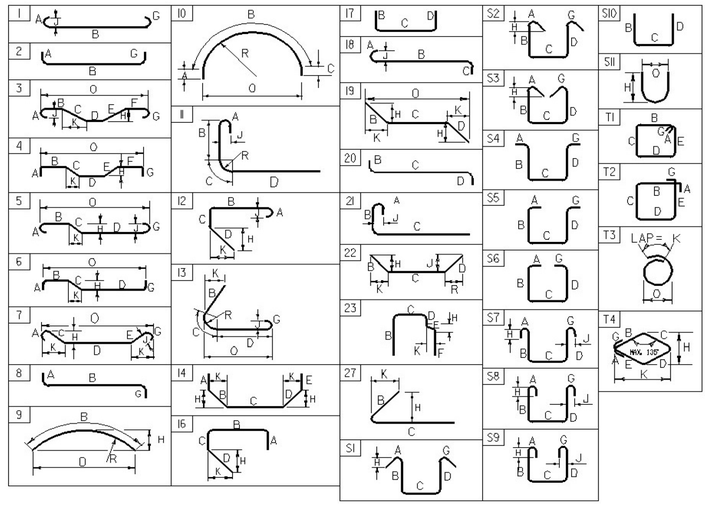
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



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

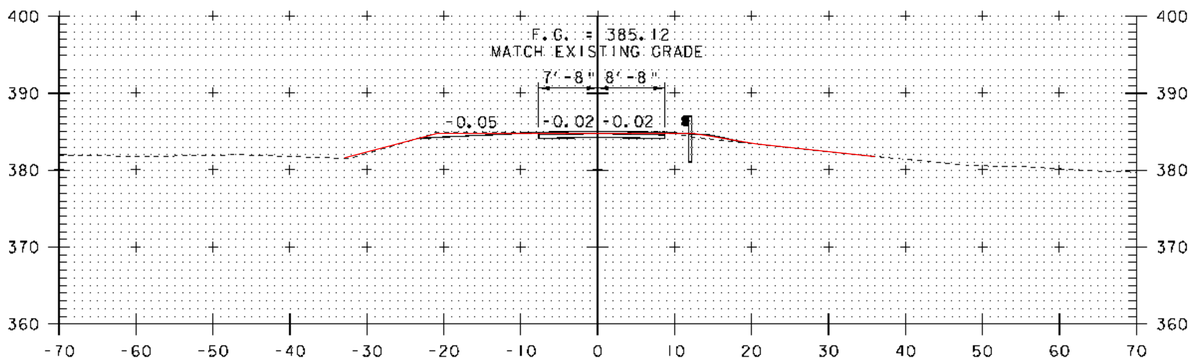
Hoyle, Tanner & Associates, Inc.

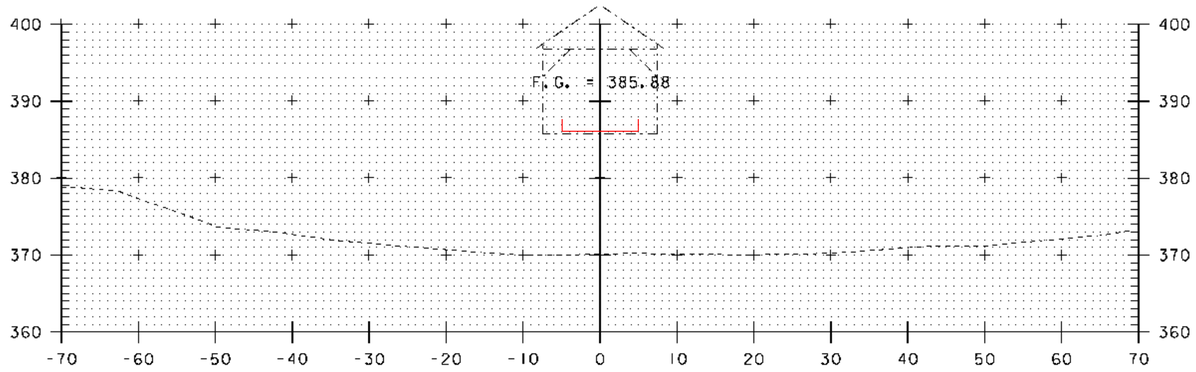
PROJECT NAME: **FAIRFIELD**
PROJECT NUMBER: **BHO 1448(32)**

FILE NAME: **Z04J144reinf.xls**
PROJECT MANAGER: **J.H.WEAVER**
DESIGNED BY: **J.BICJA**
REINFORCING STEEL SCHEDULE SHEET

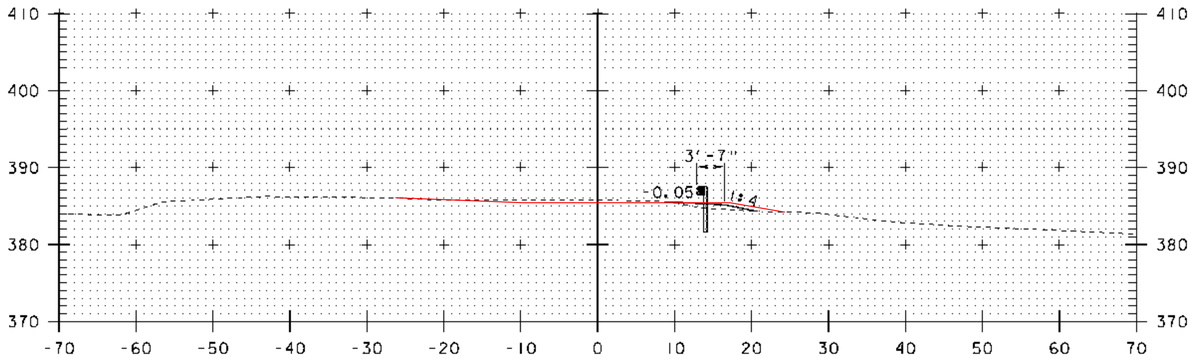
PLOT DATE: **10/24/2008**
DRAWN BY: **J.BICJA**
CHECKED BY: **S.T.JAMES**
SHEET **34** OF **36**

BEGIN PROJECT
END APPROACH
STA. 101+10.00



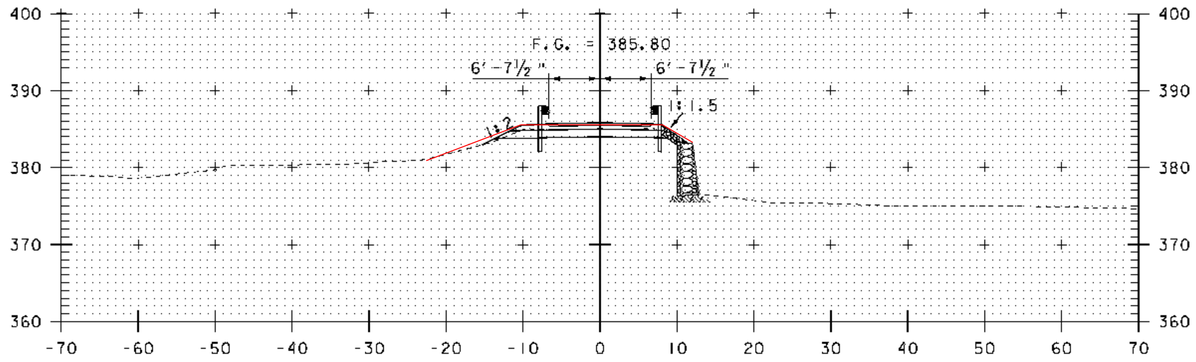


101+00
BEGIN APPROACH

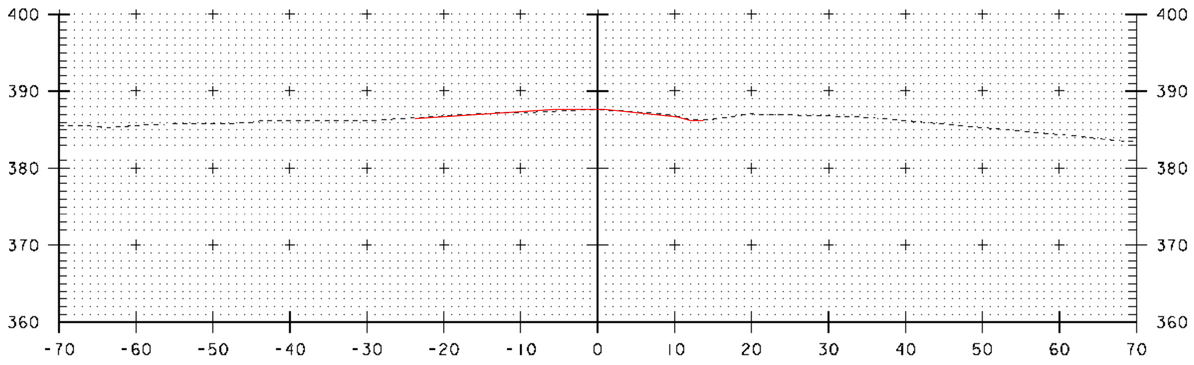


BEGIN BRIDGE
STA. 101+54.85

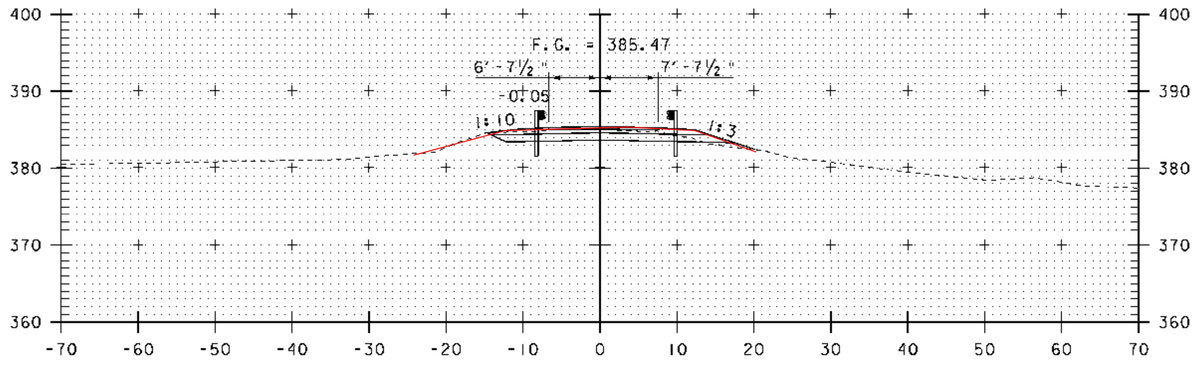
101+75



100+75



101+50



100+50

101+25

FINAL SECTIONS

STA. 100+50 - STA. 101+75

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

MODEL	XS_1
HTA PROJECT NO.	904213

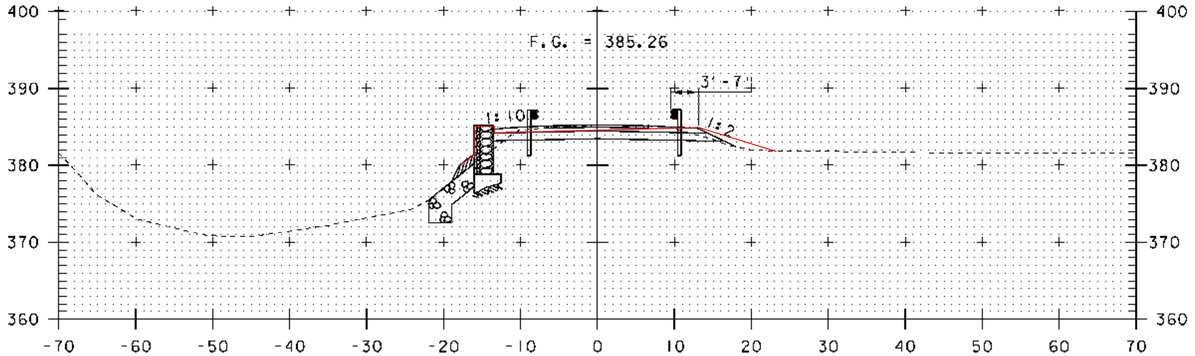
Hoyle, Tanner & Associates, Inc.

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

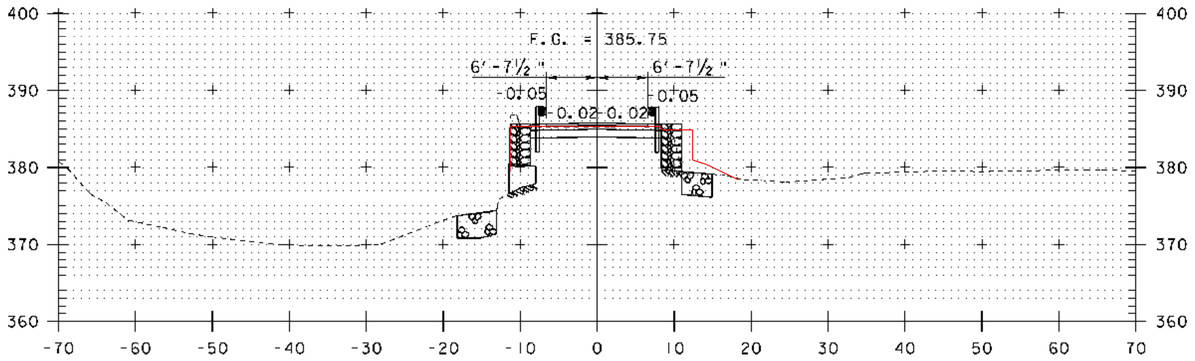
FILE NAME: Z04J144XS.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
T.H. 49 CROSS SECTIONS (1 OF 2)

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 35 OF 36

END PROJECT
BEGIN APPROACH
STA. 102+58.00

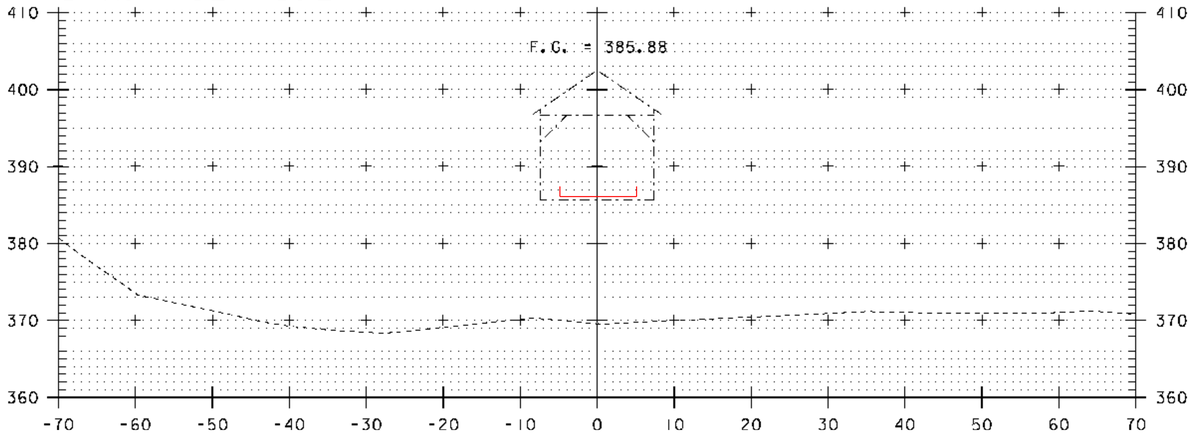


102+50

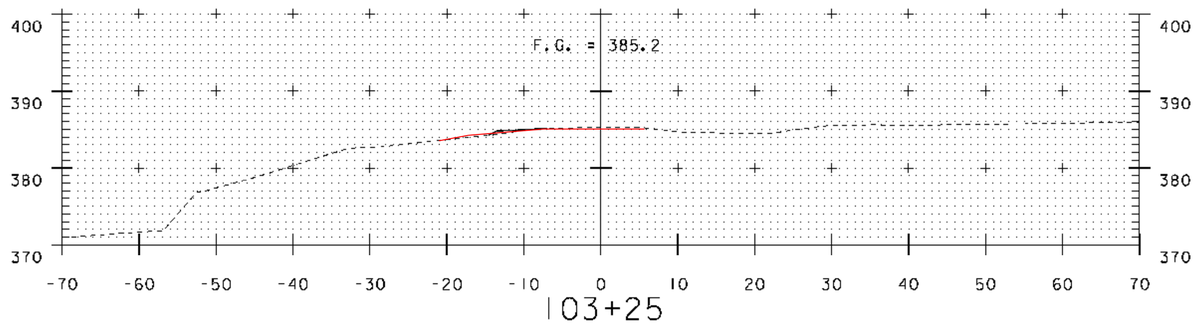


102+25

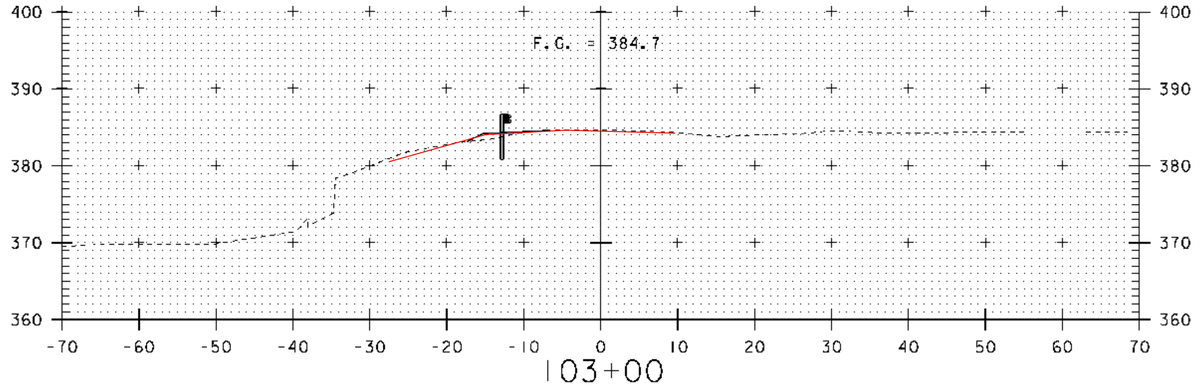
END BRIDGE
STA. 102+18.21



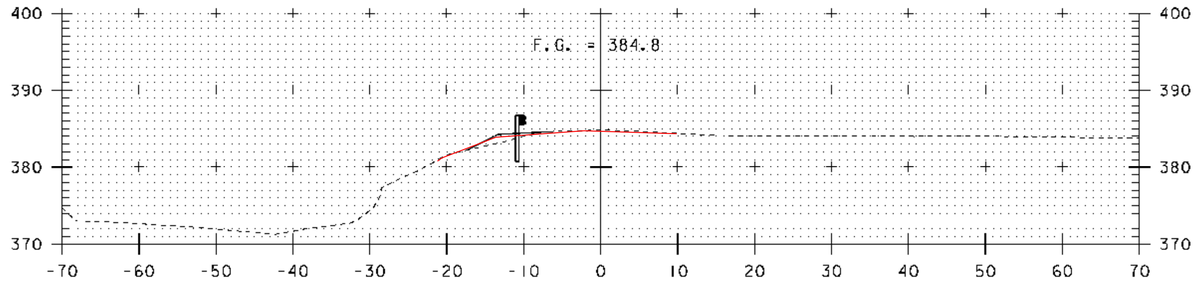
102+00



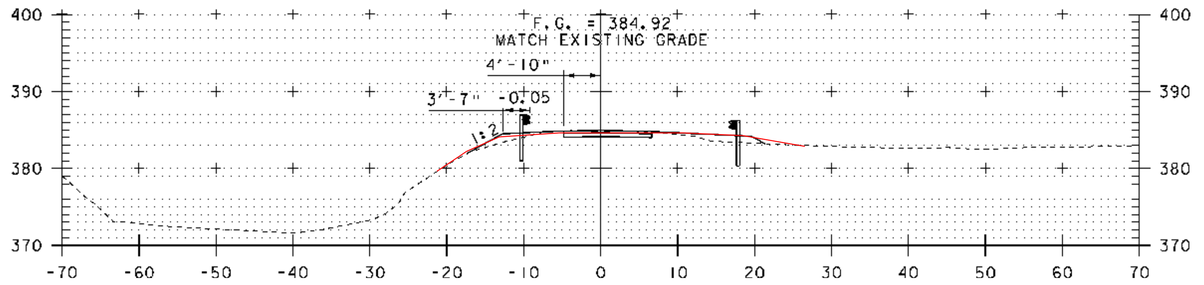
103+25



103+00



102+75



102+68
END APPROACH

FINAL SECTION

STA. 102+00 - STA. 103+25

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

MODEL	XS_2
HTA PROJECT NO.	904213

PROJECT NAME: FAIRFIELD
PROJECT NUMBER: BHO 1448(32)

FILE NAME: Z04J144XS.dgn
PROJECT LEADER: J.H.WEAVER
DESIGNED BY: J.BICJA
T.H. 49 CROSS SECTIONS (2 OF 2)

PLOT DATE: 4/25/2008
DRAWN BY: J.B.McQUAID
CHECKED BY: S.T.JAMES
SHEET 36 OF 36

Hoyle, Tanner & Associates, Inc.