STATE OF VERMONT
AGENCY OF TRANSPORTATION

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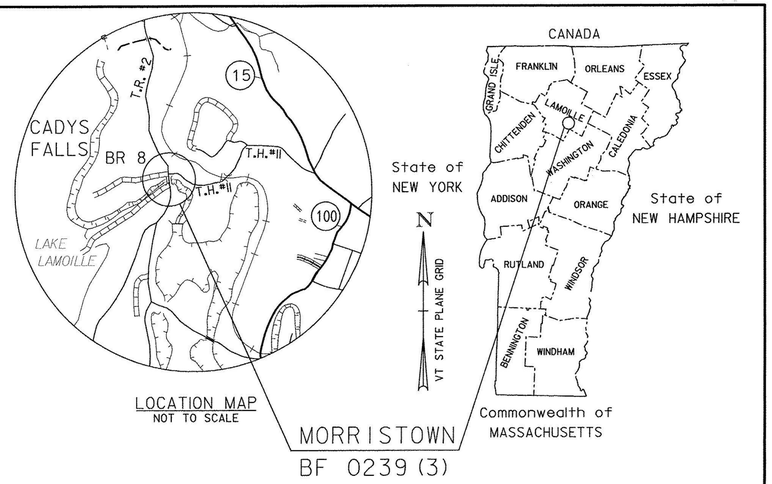


PROPOSED IMPROVEMENT

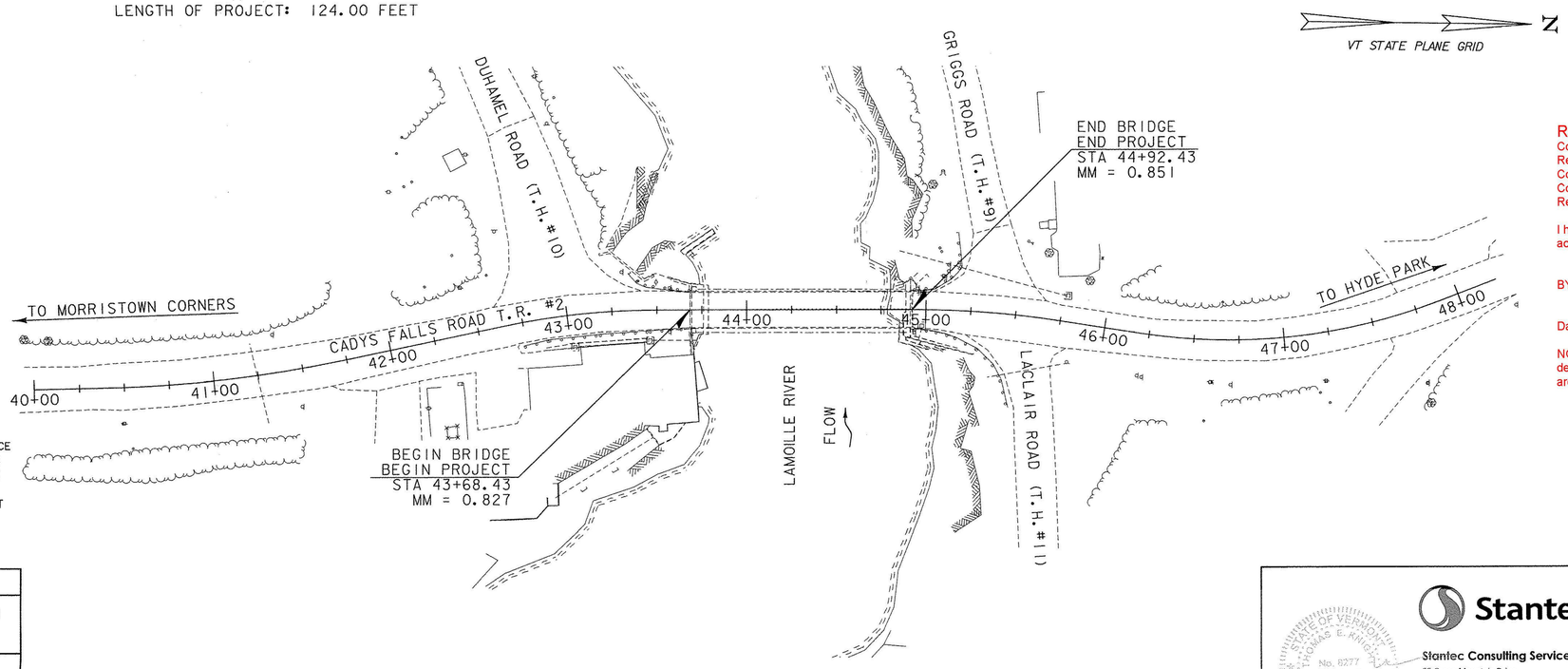
BRIDGE PROJECT

TOWN OF MORRISTOWN
COUNTY OF LAMOILLE
CADYS FALLS ROAD (T.R. 2) MAJOR COLLECTOR
BRIDGE NO. 8

PROJECT LOCATION: BEGINNING AT A POINT ON CADYS FALLS ROAD (T.R. #2) APPROXIMATELY 68 FEET NORTH OF THE INTERSECTION WITH DUHAMEL ROAD (T.H. #10) AND EXTENDING NORTHERLY ALONG CADYS FALLS ROAD FOR APPROXIMATELY 124 FEET.

PROJECT DESCRIPTION: INCLUDES CLEANING AND PAINTING THE EXISTING STRUCTURAL STEEL SUPERSTRUCTURE, MINOR REPAIRS AND ASSOCIATED WORK.

LENGTH OF STRUCTURE: 124.00 FEET
LENGTH OF ROADWAY: 000.00 FEET
LENGTH OF PROJECT: 124.00 FEET



0 40 80
SCALE IN FEET

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 3

SURVEYED BY : VTRANS - CYR/GILMAN
SURVEYED DATE : 01/27/2014

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (92)

Record Plans
Contractor: MODERN PROTECTIVE COATINGS, INC.
Resident Engineer: SCOTT WHEATLEY
Construction Began: JUNE 20, 2016
Construction Complete: NOVEMBER 17, 2016
Record Plans By: SCOTT WHEATLEY & JESSE IVES

I hereby certify that all construction required by this set of drawings has been accomplished as indicated herein.

BY: e-Signed by Scott Wheatley on 2018-09-05 11:23:04 GMT Resident Engineer

Date: September 05, 2018

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.

BUILT AS DESIGNED

STATE OF VERMONT
THOMAS E. KNIGHT
No. 8277
Structural
LICENSED
PROFESSIONAL ENGINEER
3/4/2016

Stantec
Stantec Consulting Services Inc.
55 Green Mountain Drive
South Burlington VT U.S.A. 05403
Phone: (802) 864-0223
Fax: (802) 864-0165
www.stantec.com

DIRECTOR OF PROJECT DELIVERY
APPROVED _____ DATE 3/4/2016

PROJECT MANAGER : MARK SARGENT

PROJECT NAME : MORRISTOWN
PROJECT NUMBER : BF 0239 (3)

SHEET 1 OF 9 SHEETS

PROJECT NOTES

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND ITS LATEST REVISIONS AND THE 7TH EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND ITS LATEST REVISIONS.

2. ALL WORK AND ANY ASSOCIATED ACTIVITY ON THIS PROJECT SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY.

3. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID DAMAGE TO THE EXISTING BRIDGE DECK AND APPROACH PAVEMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF ANY PROPERTY WHICH HAS BEEN DAMAGED DURING THE PROSECUTION OF WORK.

4. DIMENSIONS SHOWN ON EXISTING DETAILS ARE TAKEN FROM THE EXISTING PLANS AND LIMITED FIELD MEASUREMENTS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING DETAILS NECESSARY FOR THE COMPLETION OF ALL WORK BY FIELD MEASUREMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY AND ACCURACY THEREOF, AND SHALL NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION UNTIL THE REQUIRED MEASUREMENTS ON THE EXISTING STRUCTURE HAVE BEEN OBTAINED. FOR EMPHASIS ONLY, SOME PROPOSED DIMENSIONS ARE NOTED AS "VERIFY IN FIELD" OR :"VIF", THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS.

PROTECTIVE COATINGS

5. ALL EXISTING STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH ITEM 900.645 SPECIAL PROVISION (QC/QA CLEAN AND PAINT EXISTING STEEL STRUCTURES, BARE STEEL). THE SURFACE PREPARATION OF THE EXISTING STEEL SHALL INCLUDE 100% REMOVAL OF THE EXISTING PAINT SYSTEM. NEW STEEL AND RAILING MEMBERS EXCEPT W-BEAM SHALL BE SHOP PRIMED AND FIELD PAINTED WITH THE SAME TOPCOAT AS THE EXISTING STEEL.

6. THE COLOR OF THE FINAL COAT OF PAINT SHALL BE GREEN (FEDERAL CHIP NO. 14062) IN ACCORDANCE WITH THE FEDERAL STANDARD NO. 595.

7. THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, IT'S OFFICERS AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE STRUCTURAL STEEL. TEN DAYS PRIOR TO COMMENCING WORK WHICH INVOLVES THE HANDLING OR DISTURBANCE OF PAINTED COMPONENTS, THE CONTRACTOR SHALL PROVIDE DOCUMENTS TO THE ENGINEER, AS REFERENCED IN THE SPECIAL PROVISIONS.

8. A COAT OF GREASE RUSTPROOFING COMPOUND SHALL BE APPLIED TO THE LOWER PORTION OF THE ENDS OF THE TRUSS AND FLOOR FRAMING (BELOW THE TOP OF THE BRIDGE DECK WITHIN SIX FEET OF THE ENDS OF THE BRIDGE). PAYMENT WILL BE INCLUDED IN ITEM 900.645 SPECIAL PROVISION (QA/QC CLEAN AND PAINT EXISTING STEEL STRUCTURES, BARE STEEL).

UTILITIES

9. EXISTING UTILITIES WILL BE RELOCATED BY OTHERS IN ADVANCE OF THE PROJECT AS DEPICTED ON THE LAYOUT SHEET. REFER TO UTILITY SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION. UTILITY RELOCATION IS ANTICIPATED TO BE COMPLETE BY JUNE 1ST, 2016.

BRIDGE REPAIRS AND MODIFICATIONS

10. EXISTING BRIDGE RAILING SHALL BE REMOVED IN ACCORDANCE WITH ITEM 525.10 REMOVAL OF EXISTING BRIDGE RAILING AND REPLACED WITH NEW BRIDGE RAIL AND WILL BE PAID UNDER ITEM 900.640 SPECIAL PROVISION (BRIDGE RAILING, TRUSS). REFER TO SHEET 6 FOR DETAILS.

11. PARTIAL REMOVAL AND DISASSEMBLY ASSOCIATED WITH THE REPAIR OR REPLACEMENT OF STRUCTURAL STEEL WILL BE CONSIDERED INCIDENTAL TO ITEM 506.60 STRUCTURAL STEEL.

STRUCTURAL STEEL

15. ALL STRUCTURAL COMPONENTS OF THE BRIDGE SHALL BE INSPECTED BY THE CONTRACTOR AND THE ENGINEER TO IDENTIFY ADDITIONAL AREAS IN NEED OF REPAIR NOT SHOWN ON THE CONTRACT DOCUMENTS. ANY ADDITIONAL REPAIRS SHALL BE MADE AT THE DISCRETION OF THE ENGINEER AND SHALL BE APPROVED BY THE ENGINEER. ADDITIONAL REPAIRS WILL BE PAID UNDER CONTRACT ITEM 506.60 STRUCTURAL STEEL. 1,000 POUNDS OF ADDITIONAL STEEL HAS BEEN INCLUDED IN THE ESTIMATED QUANTITY FOR ITEM 506.60 STRUCTURAL STEEL ANTICIPATING ADDITIONAL REPAIRS.

16. FOR REPAIRS AS DETAILED ON THE PLANS OR AS DIRECTED BY THE ENGINEER, ALL NEW CONNECTIONS SHALL BE MADE WITH ⅞" DIAMETER HIGH STRENGTH BOLTS MEETING AASHTO M-164 TYPE 1 GALVANIZED. CONNECTIONS NOT DETAILED IN THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.

17. ANY EXISTING RIVETS THAT ARE MISSING OR REMOVED FOR REPAIRS AS DETAILED ON THE PLANS OR AS DIRECTED BY THE ENGINEER SHALL BE REPLACED WITH ⅞" DIAMETER HIGH STRENGTH BOLTS. WHERE RIVET HEADS ARE IN DIRECT CONTACT WITH MEMBERS TO BE RETAINED, TORCHES AND/OR THE USE OF FLAME CUTTING WILL NOT BE PERMITTED FOR ANY PORTION OF THE RIVET REMOVAL. THE CONTRACTOR SHALL VERIFY THAT THE EXISTING HOLE DIAMETER IS ⅝" AND BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ENGINEER. COST OF BOLTS WILL NOT BE PAID DIRECTLY, BUT WILL BE CONSIDERED INCIDENTAL TO ITEM 506.60 "STRUCTURAL STEEL".

18. ALL STRUCTURAL STEEL PAID UNDER THE ITEM 506.60, STRUCTURAL STEEL SHALL CONFORM TO AASHTO M 270M/M 270 GRADE 36 EXCEPT ALL STRUCTURAL TUBING SHALL CONFORM TO SUBSECTIONS 714.11 UNLESS NOTED OTHERWISE.

19. ALL FAYING SURFACES BETWEEN THE EXISTING STEEL AND THE NEW FILLER PLATES SHALL BE BLAST CLEANED AND PRIMED WITH A ZINC PRIMER. MEETING THE CLASS B SLIP COEFFICIENT VALUE OF NOT LESS THAN 0.50 AS SPECIFIED BY AASHTO THE PRIMER COATING WILL REMAIN IN THE ASSEMBLED CONNECTION.

20. THE BOTTOM CHORD OF THE TRUSS IS A FRACTURE CRITICAL TENSION MEMBER. ALL STRUCTURAL STEEL ASSOCIATED WITH REPAIRS AND/OR REINFORCEMENT OF THE BOTTOM CHORD SHALL BE CHARPY V-NOTCH (CVN) TESTED UNLESS NOTED OTHERWISE.

TRAFFIC CONTROL/STAGING

21. THE TOWN OF MORRISTOWN WILL BE RESPONSIBLE FOR SELECTING, SIGNING AND MAINTAINING A DETOUR ROUTE. THE TOWN SHALL SIGN THE DETOUR ROUTE IN CONFORMANCE WITH 23 VSA SECTION 1025 AND THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

22. THE CONTRACTOR WILL BE RESPONSIBLE FOR WARNING SIGNS INDICATING THE BRIDGE CLOSURE AND CONSTRUCTION ZONE ON T.R. #2 AND THE ADJACENT SIDE ROADS IN ACCORDANCE WITH TRAFFIC CONTROL STANDARDS AND THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL COORDINATE WITH TOWN HIGHWAY OFFICIALS AT LEAST FOUR WEEKS PRIOR TO ROAD CLOSURE.

23. A CONCEPTUAL TRAFFIC CONTROL PLAN FOR CLOSING T.R. #2 IN THE VICINITY OF CONSTRUCTION IS SHOWN ON SHEET 8. THE CONTRACTOR SHALL DEVELOP A SITE SPECIFIC TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE CURRENT MUTCD AND SUBMIT THE PLAN FOR REVIEW BY THE ENGINEER. THE CONTRACTOR SHALL ALLOW THE ENGINEER 14 DAYS TO REVIEW AND ACCEPT THE PLAN BEFORE IT IS IMPLEMENTED. CONSTRUCTION SHALL NOT BE PERMITTED TO COMMENCE UNTIL THE TRAFFIC CONTROL PLAN HAS BEEN APPROVED BY THE ENGINEER IN WRITING. DEVELOPMENT AND IMPLEMENTATION OF THE PLAN INCLUDING SIGNS, CHANNELIZING DEVICES, OTHER INCIDENTALS WILL BE PAID FOR UNDER ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

24. THE EXISTING BRIDGE IS RATED FOR A MAXIMUM LOAD OF TEN TONS. CONSTRUCTION EQUIPMENT SHALL NOT EXCEED THIS LOAD LIMIT. HEAVY EQUIPMENT FOR CLEANING AND PAINTING SHALL NOT BE POSITIONED ON THE BRIDGE.

25. THE CONTRACTOR MAY USE THE EXISTING ROADWAY (T.R. #2),NORTH OF THE EXISTING BRIDGE FOR STAGING OF EQUIPMENT; HOWEVER, ACCESS TO EXISTING DRIVES AND SIDE STREETS MUST BE MAINTAINED AT ALL TIMES THROUGHOUT CONSTRUCTION.

26. INSTALLING, MAINTAINING, AND REMOVING THE SIGNS, TEMPORARY TRAFFIC BARRIERS AND BARRICADES IN THE SITE SPECIFIC TRAFFIC CONTROL PLAN AS NECESSARY TO MEET PROJECT CONDITIONS WILL BE INCLUDED FOR PAYMENT UNDER CONTRACT ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE). PCMS WILL BE PAID SEPARATELY UNDER PAY ITEM 641.15.

27. "ROAD CLOSED" SIGNS SHALL BE MOUNTED AND MAINTAINED ON LIGHTED TYPE III BARRICADES.

28. TYPE III CONSTRUCTION BARRICADES SHALL BE PLACED SO AS TO PHYSICALLY EXCLUDE TRAFFIC FROM THE ENTIRE ROADWAY WIDTH OR AT THE DISCRETION OF THE ENGINEER.

SUMMARY OF ANTICIPATED STEEL REPAIRS

1. STATIONING FOR REPAIR LOCATION 0+00 AT CL BRG. ABUTMENT 1
2. ALL REPAIRS EXCEPT DRILLING AND GROUTING RAIL POST ANCHORS AND BRIDGE PLAQUE REPLACEMENT ARE TO BE PAID FOR UNDER ITEM 506.60 "STRUCTURAL STEEL"
3. REFER TO DETAILS ON SHEETS 6 & 7.

REPLACE RAIL POST				DRILL AND GROUT RAIL POST DECK ANCHORS, REFER TO TYPICAL RAIL SECTION DETAIL			
ANTICIPATED LOCATION:							
STA.	0+10	LT.		12 LOCATIONS, 2 ANCHORS PER LOCATION			
STA.	0+31	LT.					
STA.	0+10	RT.		REMOVE AND REPLACE STAY PLATE			
STA.	0+31	RT.		ANTICIPATED LOCATION:			
STA.	0+50	RT.		STA.	0+26	LT.	
STA.	0+71	RT.		STA.	0+36	LT.	
				STA.	0+38	LT.	
REPLACE MISSING STAY PLATE				STA.	0+63	LT.	
ANTICIPATED LOCATION:				STA.	0+84	LT.	
STA.	0+42	LT.		STA.	0+92	LT.	
STA.	0+59	LT.		STA.	0+96	LT.	
STA.	0+79	LT.		STA.	1+07	LT.	
STA.	0+84	LT.		STA.	1+20	LT.	
STA.	0+15	RT.		STA.	0+88	RT.	
STA.	0+19	RT.		STA.	1+14	RT.	
STA.	0+22	RT.		STA.	1+17	RT.	
STA.	0+26	RT.					
STA.	0+30	RT.		NEW SPLICE PLATE, REFER TO DETAIL E			
STA.	0+42	RT.		ANTICIPATED LOCATION:			
STA.	0+59	RT.		STA.	0+38	LT.	
STA.	0+59	RT.		STA.	0+38	RT.	
STA.	0+63	RT.					
STA.	0+63	RT.		REPLACE END COVER PLATE, REFER TO DETAIL A			
STA.	0+66	RT.		STA.	0+00	LT.	(REPLACE BOLTS ONLY)
STA.	0+66	RT.		STA.	1+19	LT.	
STA.	0+69	RT.		STA.	0+00	RT.	
STA.	0+69	RT.		STA.	1+19	RT.	
STA.	0+70	RT.					
				REPACE EXISTING BRIDGE PLAQUE, REFER TO DETAIL F			
				ITEM 900.620 SPECIAL PROVISION (BRIDGE PLAQUE, CAST BRONZE)			
				NEW BOTTOM CHORD REPAIR, REFER TO DETAIL C			
				STA.	0+03	LT.	(INSIDE CHORD).
				EXTEND BRIDGE SCUPPER, REFER TO DETAIL D			
				6 LOCATIONS			
				INSTALL NEW LACING BARS, REFER TO DETAIL G			
				STA.	0+00	RT.	2 BARS.

Stantec

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: BF 0239(3)

FILE NAME: z13j274frm.dgn
PROJECT LEADER: T. KNIGHT
DESIGNED BY: T. KNIGHT
PROJECT NOTES

PLOT DATE: 3/9/2016
DRAWN BY: J. SOTER
CHECKED BY: G. BOGUE

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES		TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
1		1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				
2800		2800		LB	STRUCTURAL STEEL	506.60				
24		24		LF	DRILLING AND GROUTING DOWELS	507.16				
250		250		LF	REMOVAL OF EXISTING BRIDGE RAILING	525.10				
50		50		LF	REMOVE AND RESET GUARDRAIL	621.75				
80		80		HR	FLAGGERS	630.15				
	1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
	1	1		LS	TESTING EQUIPMENT, PROTECTIVE COATINGS	631.18				
	3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
1		1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
2		2		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
1		1		EACH	SPECIAL PROVISION (BRIDGE PLAQUE, CAST BRONZE)	900.620				
250		250		LF	SPECIAL PROVISION (BRIDGE RAILING, TRUSS)	900.640				
1		1		LS	SPECIAL PROVISION (CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES)	900.645				
1		1		LS	SPECIAL PROVISION (QC/QA CLEAN AND PAINT EXISTING STEEL STRUCTURES, BARE STEEL)	900.645				
1		1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE)	900.645				

Stantec

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: BF 0239(3)

FILE NAME: z13j274frm.dgn
PROJECT LEADER: T. KNIGHT
DESIGNED BY: D. YOULEN
QUANTITY SHEET

PLOT DATE: 3/9/2016
DRAWN BY: J. SOTER
CHECKED BY: N. TIRK
SHEET 3 OF 9

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

THE SYMBOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOGY. THE SYMBOLOGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLOGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT	CODE	DESCRIPTION
	CH	CHANNEL EASEMENT
	CONST	CONSTRUCTION EASEMENT
	CUL	CULVERT EASEMENT
	D&C	DISCONNECT & CONNECT
	DIT	DITCH EASEMENT
	DR	DRAINAGE EASEMENT
	DRIVE	DRIVEWAY EASEMENT
	EC	EROSION CONTROL
	HWY	HIGHWAY EASEMENT
	I&M	INSTALL & MAINTAIN EASEMENT
	LAND	LANDSCAPE EASEMENT
	R&RES	REMOVE & RESET
	R&REP	REMOVE & REPLACE
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BNDNS	BOUND SET
⧈	BNDNS	BOUND TO BE SET
●	IPNS	IRON PIN SET
◎	IPNS	IRON PIN TO BE SET
⊠	CALC	EXISTING ROW POINT
○	PROW	PROPOSED ROW POINT
[LENGTH]		LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT	CODE	DESCRIPTION
	APL	BOUND APPARENT LOCATION
	BM	BENCHMARK
	BND	BOUND
	CB	CATCH BASIN
	COMB	COMBINATION POLE
	DITHR	DROP INLET THROATED DNC
	EL	ELECTRIC POWER POLE
	FPOLE	FLAGPOLE
	GASFIL	GAS FILLER
	GP	GUIDE POST
	GSO	GAS SHUT OFF
	GUY	GUY POLE
	GUYW	GUY WIRE
	GV	GATE VALUE
	H	TREE HARDWOOD
	HCTRL	CONTROL HORIZONTAL
	HVCTRL	CONTROL HORIZ. & VERTICAL
	HYD	HYDRANT
	IP	IRON PIN
	IPIPE	IRON PIPE
	LI	LIGHT - STREET OR YARD
	MB	MAILBOX
	MH	MANHOLE (MH)
	MM	MILE MARKER
	PM	PARKING METER
	PMK	PROJECT MARKER
	POST	POST STONE/WOOD
	RRSIG	RAILROAD SIGNAL
	RRSL	RAILROAD SWITCH LEVER
	S	TREE SOFTWOOD
	SAT	SATELLITE DISH
	SHRUB	SHRUB
	SIGN	SIGN
	STUMP	STUMP
	TEL	TELEPHONE POLE
	TIE	TIE
	TSIGN	SIGN W/DOUBLE POST
	VCTRL	CONTROL VERTICAL
	WELL	WELL
	WSO	WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLOGY

UNDERGROUND UTILITIES

- UGU — UTILITY (GENERIC-UNKNOWN)
- UT — TELEPHONE
- UE — ELECTRIC
- UC — CABLE (TV)
- UEC — ELECTRIC+CABLE
- UET — ELECTRIC+TELEPHONE
- UCT — CABLE+TELEPHONE
- UECT — ELECTRIC+CABLE+TELEP.
- G — GAS LINE
- W — WATER LINE
- S — SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

- AGU — UTILITY (GENERIC-UNKNOWN)
- T — TELEPHONE
- E — ELECTRIC
- C — CABLE (TV)
- EC — ELECTRIC+CABLE
- ET — ELECTRIC+TELEPHONE
- AER E&T — ELECTRIC+TELEPHONE
- CT — CABLE+TELEPHONE
- ECT — ELECTRIC+CABLE+TELEP.
- UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

- CZ — CLEAR ZONE
- PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

- TOP OF CUT SLOPE
- TOE OF FILL SLOPE
- STONE FILL
- BOTTOM OF DITCH ℄
- CULVERT PROPOSED
- STRUCTURE SUBSURFACE
- PROJECT DEMARCATION FENCE
- BARRIER FENCE
- TREE PROTECTION ZONE (TPZ)
- STRIPING LINE REMOVAL
- SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

- TOWN BOUNDARY LINE
- COUNTY BOUNDARY LINE
- STATE BOUNDARY LINE
- PROPOSED STATE R.O.W. (LIMITED ACCESS)
- PROPOSED STATE R.O.W.
- STATE ROW (LIMITED ACCESS)
- STATE ROW
- TOWN ROW
- PERMANENT EASEMENT LINE (P)
- TEMPORARY EASEMENT LINE (T)
- SURVEY LINE
- PROPERTY LINE (P/L)
- SLOPE RIGHTS
- 6F PROPERTY BOUNDARY
- 4F PROPERTY BOUNDARY
- HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

- FILTER CURTAIN
- SILT FENCE
- SILT FENCE WOVEN WIRE
- CHECK DAM
- DISTURBED AREAS REQUIRING RE-VEGETATION
- EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

ENVIRONMENTAL RESOURCES

- WETLAND BOUNDARY
- RIPARIAN BUFFER ZONE
- WETLAND BUFFER ZONE
- SOIL TYPE BOUNDARY
- T&E — THREATENED & ENDANGERED SPECIES
- HAZ — HAZARDOUS WASTE AREA
- AG — AGRICULTURAL LAND
- HABITAT — FISH & WILDLIFE HABITAT
- FLOOD PLAIN — FLOOD PLAIN
- OHW — ORDINARY HIGH WATER (OHW)
- STORM WATER
- USDA FOREST SERVICE LANDS
- WILDLIFE HABITAT SUIT/CONN

ARCHEOLOGICAL & HISTORIC

- ARCH — ARCHEOLOGICAL BOUNDARY
- HISTORIC DIST — HISTORIC DISTRICT BOUNDARY
- HISTORIC — HISTORIC AREA
- Ⓗ HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

EXISTING FEATURES

- ROAD EDGE PAVEMENT
- ROAD EDGE GRAVEL
- DRIVEWAY EDGE
- DITCH
- FOUNDATION
- FENCE (EXISTING)
- FENCE WOOD POST
- FENCE STEEL POST
- GARDEN
- ROAD GUARDRAIL
- RAILROAD TRACKS
- CULVERT (EXISTING)
- STONE WALL
- WALL
- WOOD LINE
- BRUSH LINE
- HEDGE
- BODY OF WATER EDGE
- LEDGE EXPOSED

Stantec

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: BF 0239(3)

FILE NAME: zl3j274legend.dgn
PROJECT LEADER: T. KNIGHT
DESIGNED BY: VTRANS
CONVENTIONAL SYMBOLOGY LEGEND

PLOT DATE: 3/3/2016
DRAWN BY: VTRANS
CHECKED BY: T. KNIGHT
SHEET 4 OF 9

UTILITY RELOCATION IS ANTICIPATED TO BE COMPLETE BY JUNE 1ST, 2016.

N

VT STATE PLANE GRID

REMOVAL OF EXISTING BRIDGE RAIL

STA. 43+68.43 TO STA. 44+92.43 LT. & RT.

SPECIAL PROVISION (BRIDGE RAILING, TRUSS)

STA. 43+68.43 TO STA. 44+92.43 LT. & RT.

STRUCTURAL STEEL/DOWEL DRILL & GROUT/BRIDGE PLAQUE

REFER TO SUMMARY OF ANTICIPATED STEEL REPAIRS ON THE PROJECT NOTES SHEET.

ITEM 621.75 - REMOVE AND RESET GUARDRAIL

STA. 43+55.93 TO STA. 43+68.43 LT. & RT.
STA. 44+92.43 TO STA. 45+04.93 LT. & RT.

DUHAMEL ROAD (T.H. #10)

GRIGGS ROAD (T.H. #9)

CADY'S FALLS ROAD (T.R. #2)

TO MORRISTOWN CORNERS

TO HYDE PARK

LACLAIR ROAD (T.H. #11)

LAMOILLE RIVER

POWER PLANT

SURGE TANK

TELEPHONE LINE TO BE REMOVED

RELOCATED AERIAL UTILITIES

NEW POLE WITH DEAD END AND BI-SECT ANCHOR

NEW STUB POLE WITH DEAD END ANCHOR

GUY WIRE

NEW GUY

REMOVE POLE AND ANCHOR

BEGIN BRIDGE
BEGIN PROJECT
STA. 43+68.43

RELOCATED AERIAL UTILITIES

EXIST. AERIAL UTILITIES TO BE RELOCATED (TYP.)

NEW TELEPHONE SERVICE LINE

END BRIDGE
END PROJECT
STA. 44+92.43

NEW POLE WITH DEAD END AND BI-SECT ANCHOR

REMOVE POLE, ANCHOR AND PUSH BRACE

NEW BI-SECT ANCHOR (IF NECESSARY)

PT STA 41+73.45

PI #2 STA 43+07.48

PT STA 43+49.62

PC STA 42+65.03

PC STA 44+93.06

PT STA 45+73.93

PI #3 STA 45+33.58

PC STA 46+20.30

PI #4 STA 47+06.75

9' STEEL PENSTOCK (APPX)

7' STEEL PENSTOCK

15" CGMP

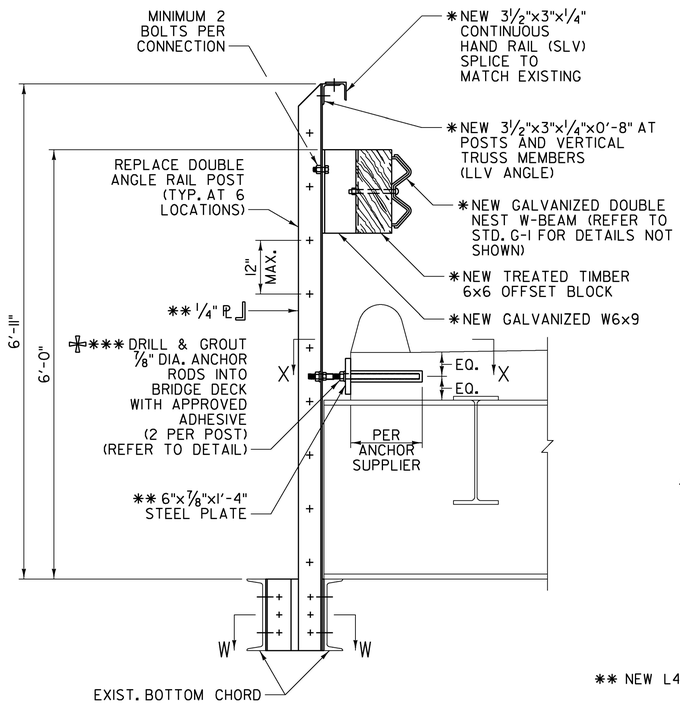
8" PVC

NOTE: UTILITY RELOCATIONS SHOWN TO BE COMPLETED BY OTHERS PRIOR TO CONSTRUCTION.

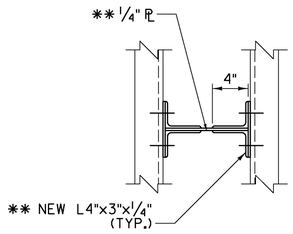
0 20 40
SCALE: 1" = 20'-0"

Stantec

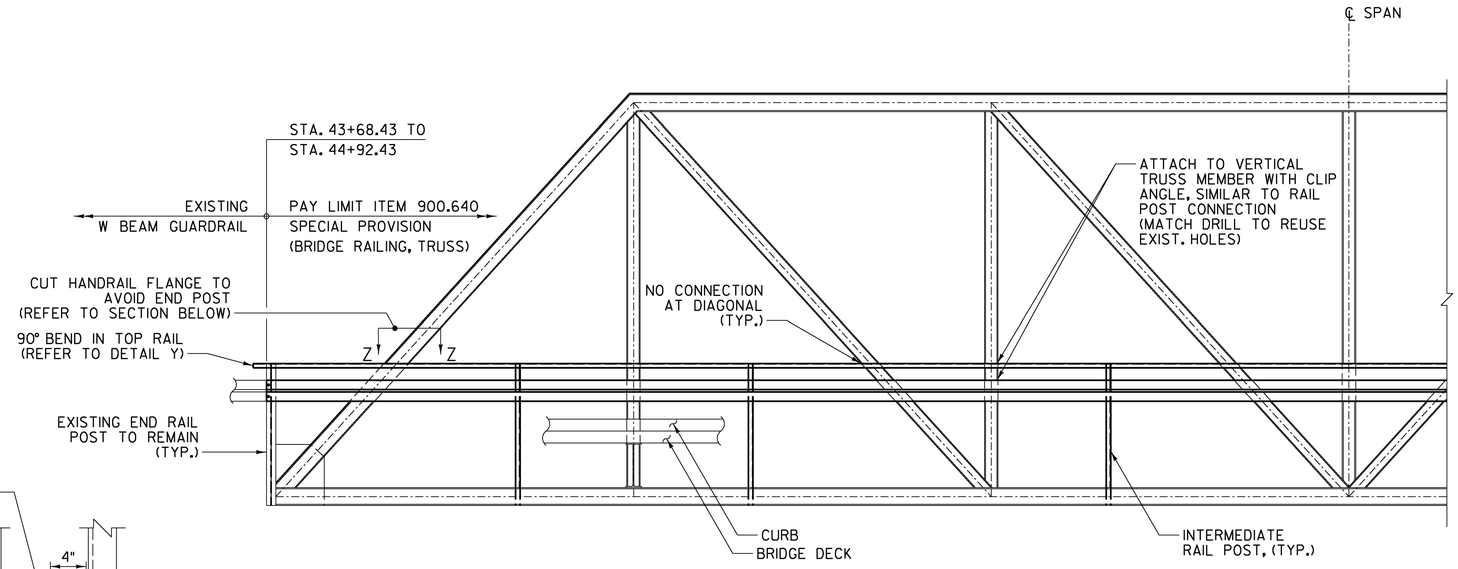
PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	BF 0239(3)
FILE NAME: z13j274bdr.dgn	PLOT DATE: 3/4/2016
PROJECT LEADER: T. KNIGHT	DRAWN BY: J. SOTER
DESIGNED BY: T. KNIGHT	CHECKED BY: D. YOULEN
LAYOUT PLAN	SHEET 5 OF 9



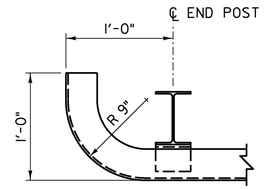
TYPICAL RAIL SECTION
SCALE: 1" = 1'-0"



SECTION W-W
SCALE: 1½" = 1'-0"



ELEVATION
SCALE: ¼" = 1'-0"



DETAIL Y
*90° BEND IN TOP RAIL AT END POST
SCALE: 1½" = 1'-0"

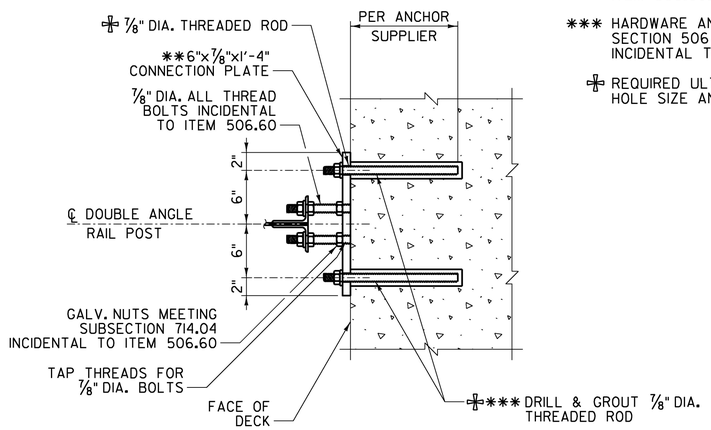
NOTES:

* HAND RAIL, OFFSET BLOCKS, CLIP ANGLE, SPLICES AND ASSOCIATED HARDWARE SHALL BE FURNISHED AND INSTALLED. PAYMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 900.640 SPECIAL PROVISION (BRIDGE RAILING, TRUSS).

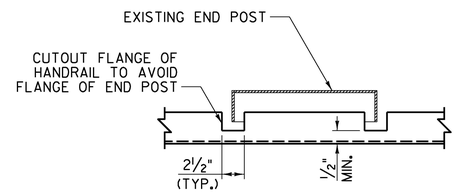
** REPLACEMENT OF BRIDGE RAIL POSTS WILL BE PAID UNDER ITEM 506.60.

*** HARDWARE AND ANCHOR SHALL BE IN ACCORDANCE WITH SECTION 506 AND SUBSECTION 714.07, PAYMENT WILL BE INCIDENTAL TO ITEM 507.16.

⌖ REQUIRED ULTIMATE BOND STRENGTH OF 54 KIPS PER ANCHOR; HOLE SIZE AND EMBEDMENT PER ANCHOR SUPPLIER.



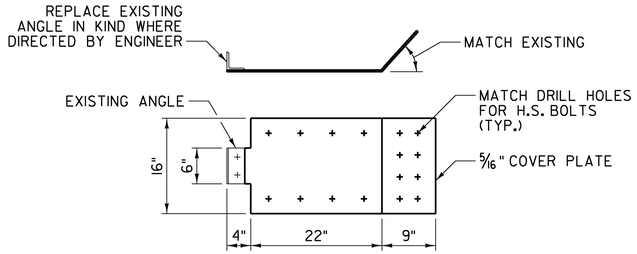
SECTION X-X
SCALE: 1½" = 1'-0"



SECTION Z-Z
HANDRAIL FLANGE CUTOUT
SCALE: 1½" = 1'-0"

Stantec

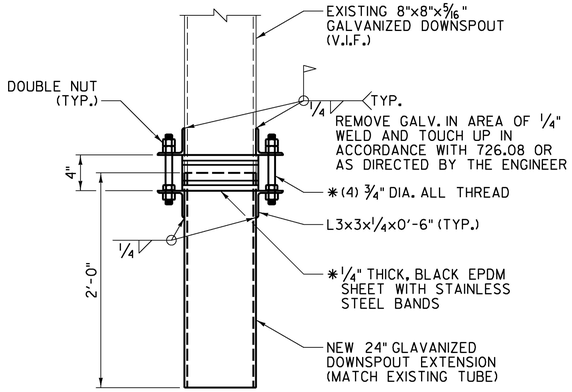
PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	BF 0239(3)
FILE NAME: z13j274typ.dgn	PLOT DATE: 3/9/2016
PROJECT LEADER: T. KNIGHT	DRAWN BY: J. SOTER
DESIGNED BY: T. KNIGHT	CHECKED BY: G. BOGUE
BRIDGE RAIL DETAILS	SHEET 6 OF 9



DETAIL A

REPLACE END COVER PLATE

SCALE: 1" = 1'-0"

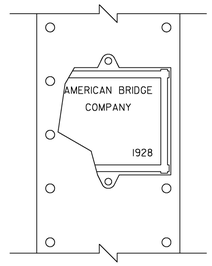


*INCIDENTAL TO ITEM 506.60

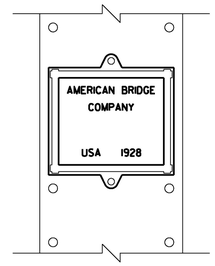
DETAIL D

SCUPPER EXTENSION DETAIL

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



EXISTING BRIDGE PLAQUE

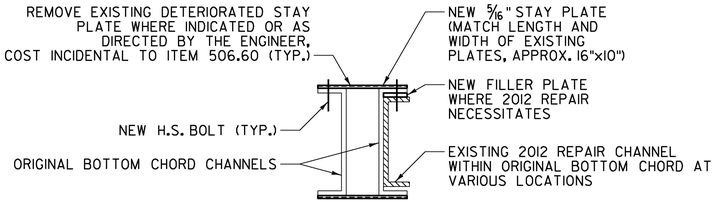


PROPOSED BRIDGE PLAQUE

NOTE: REPLACE EXISTING BRIDGE PLAQUE WITH NEW BRONZE PLAQUE. REFER TO SPECIAL PROVISION (BRIDGE PLAQUE, CAST BRONZE)

DETAIL F

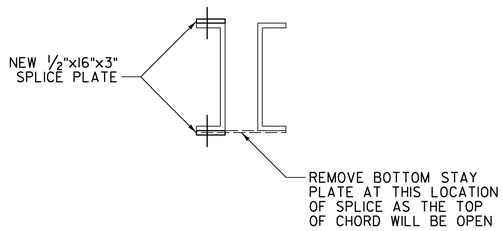
NOT TO SCALE



DETAIL B

BOTTOM CHORD REPAIRS (VARIOUS LOCATIONS)

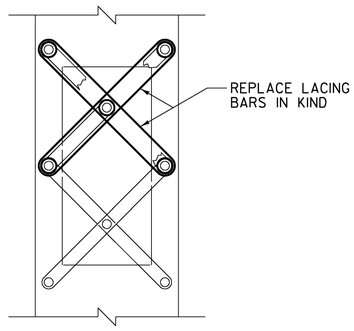
SCALE: 1 1/2" = 1'-0"



DETAIL E

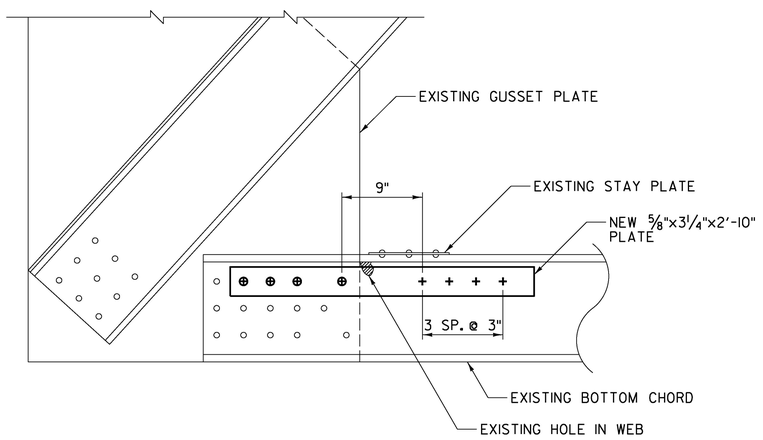
BOTTOM CHORD REPAIRS (VARIOUS LOCATIONS)

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



DETAIL G

NOT TO SCALE



DETAIL C

BOTTOM CHORD REPAIR

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

⊕ REPLACE EXISTING RIVET WITH H.S. BOLT (MATCH DRILL IN FIELD)

\+ NEW 7/8" DIA. H.S. BOLT

○ EXISTING RIVET TO REMAIN

Stantec

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	BF 0239(3)
FILE NAME: zl3j274typ.dgn	PLOT DATE: 3/3/2016
PROJECT LEADER: T. KNIGHT	DRAWN BY: J. SOTER
DESIGNED BY: T. KNIGHT	CHECKED BY: G. BOGUE
REPAIR DETAILS	SHEET 7 OF 9

N

VT STATE PLANE GRID

DIRECTION OF TRAVEL

PCMS — 1000′ — ROAD WORK AHEAD (W20-1) — 500′ — ROAD CLOSED 1000 FT (W20-3) — 500′ — ROAD CLOSED 500 FT (W20-3)

T.R. #2 TRAFFIC CONTROL APPROACH SIGN PACKAGE

APPROACH SIGN NOTES:

1. ALL SIGNS ARE TO BE LOCATED ON THE RIGHT SIDE OF THE ROAD APPROACHING THE CONSTRUCTION AREA UNLESS OTHERWISE NOTED.
2. SIGN SPACING MAY BE ADJUSTED AS NECESSARY AT THE DISCRETION OF THE ENGINEER.

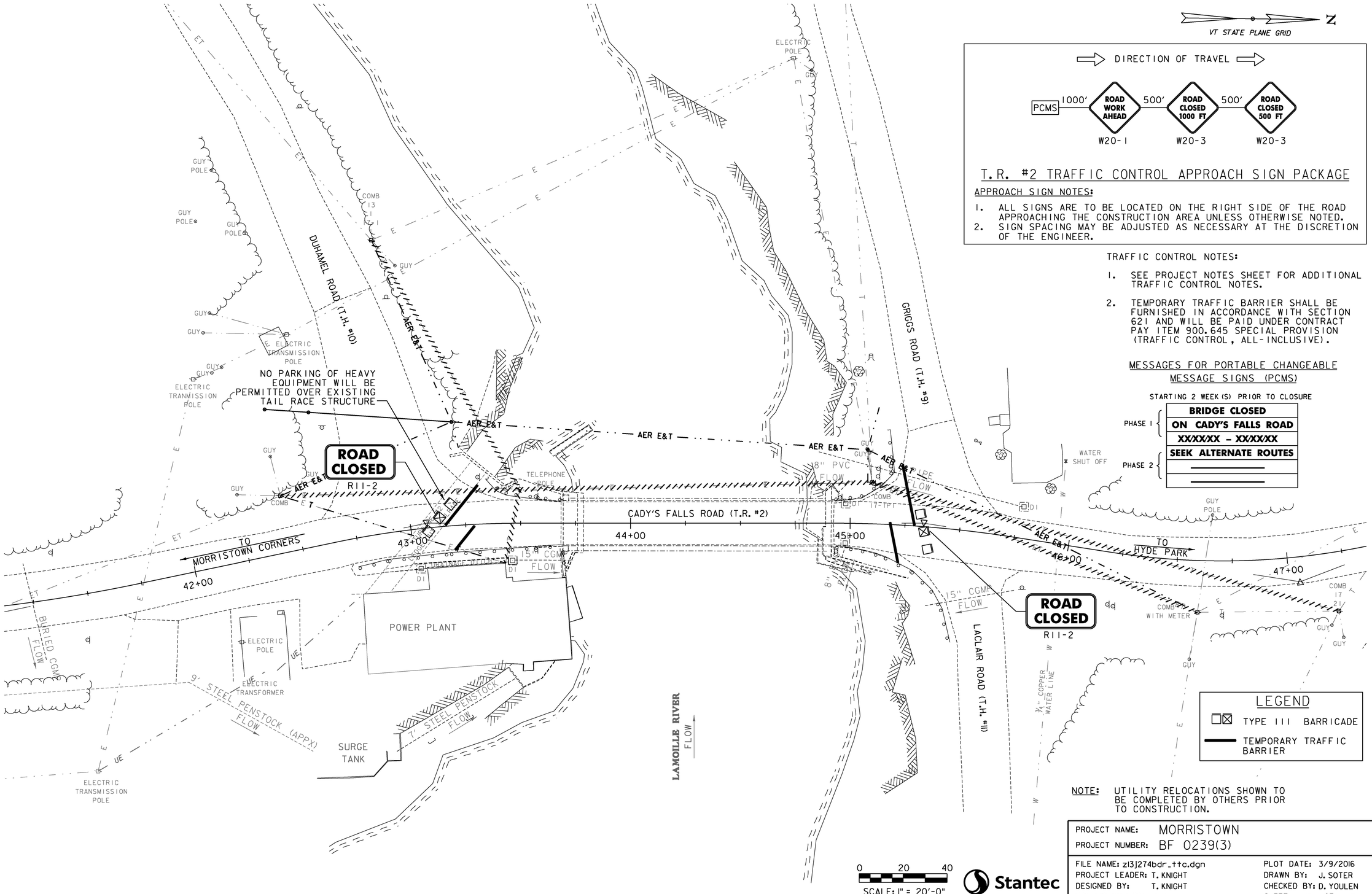
TRAFFIC CONTROL NOTES:

1. SEE PROJECT NOTES SHEET FOR ADDITIONAL TRAFFIC CONTROL NOTES.
2. TEMPORARY TRAFFIC BARRIER SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 621 AND WILL BE PAID UNDER CONTRACT PAY ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

MESSAGES FOR PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)

STARTING 2 WEEK(S) PRIOR TO CLOSURE

PHASE 1	BRIDGE CLOSED
	ON CADY'S FALLS ROAD
	XX/XX/XX - XX/XX/XX
	SEEK ALTERNATE ROUTES
PHASE 2	



LEGEND

- TYPE III BARRICADE
- TEMPORARY TRAFFIC BARRIER

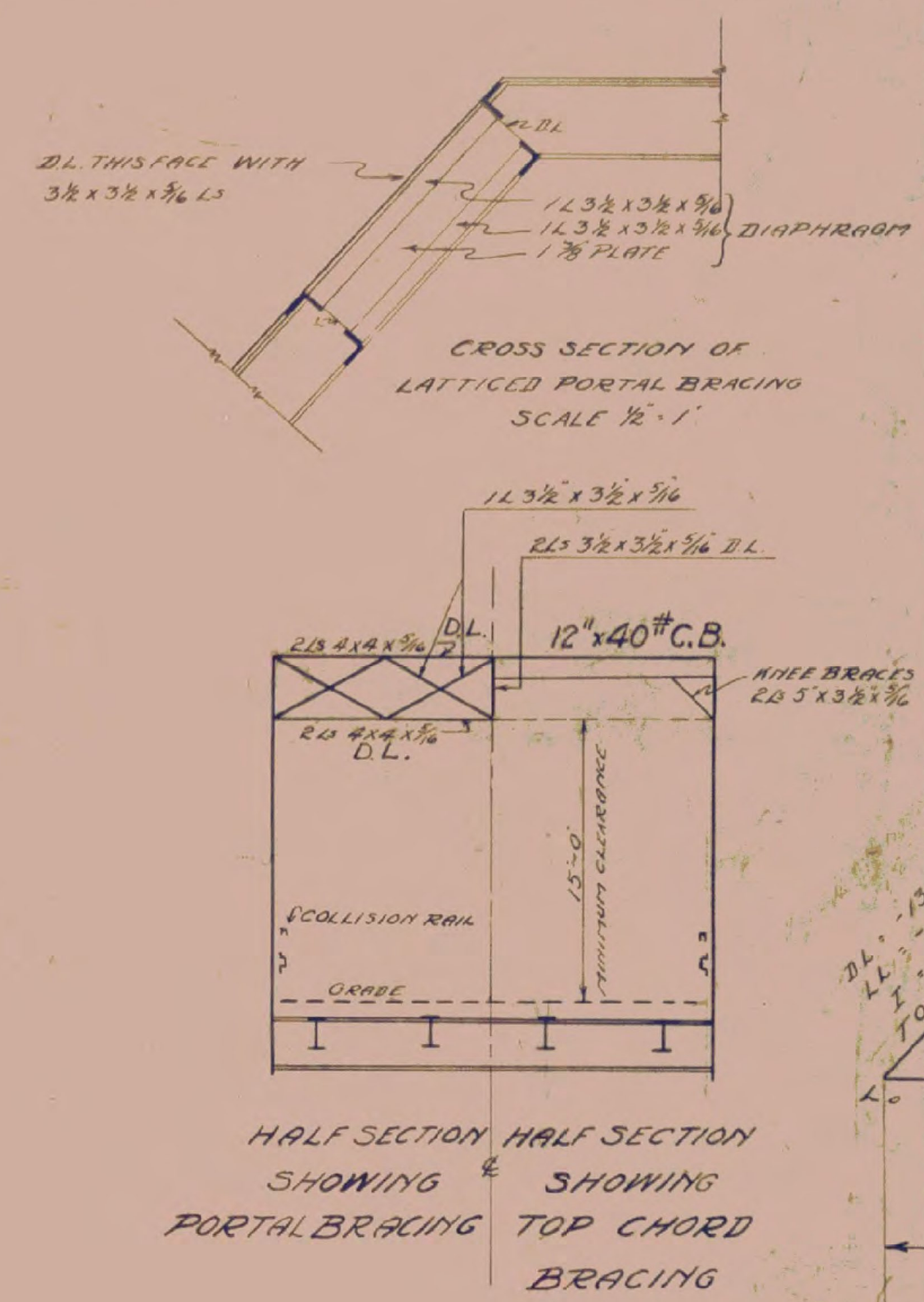
NOTE: UTILITY RELOCATIONS SHOWN TO BE COMPLETED BY OTHERS PRIOR TO CONSTRUCTION.

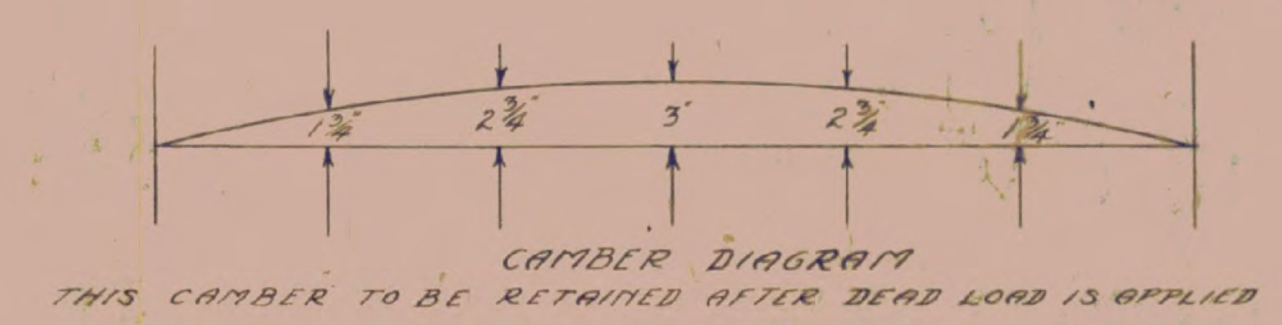
0 20 40

SCALE: 1" = 20′-0"

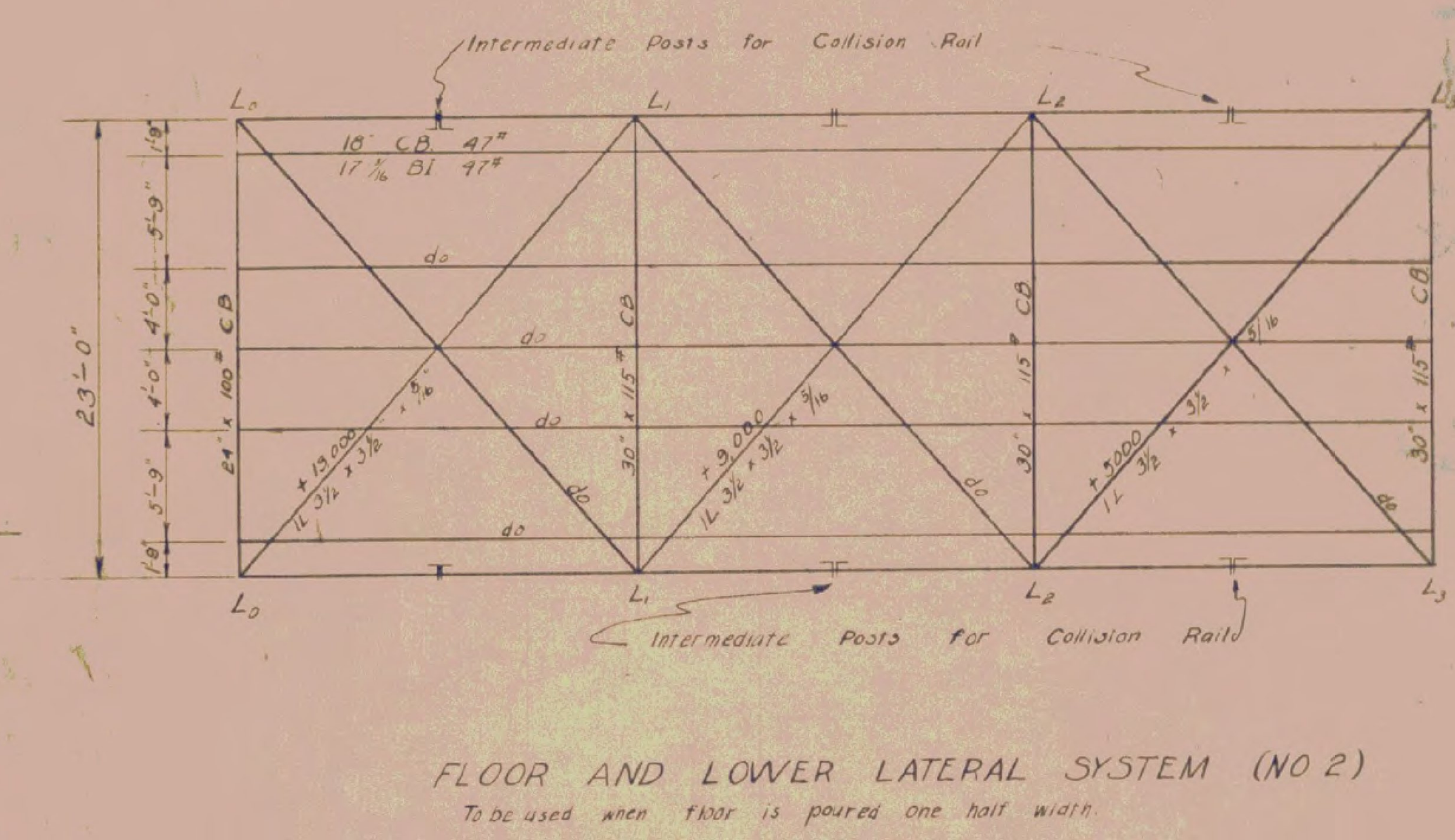
Stantec

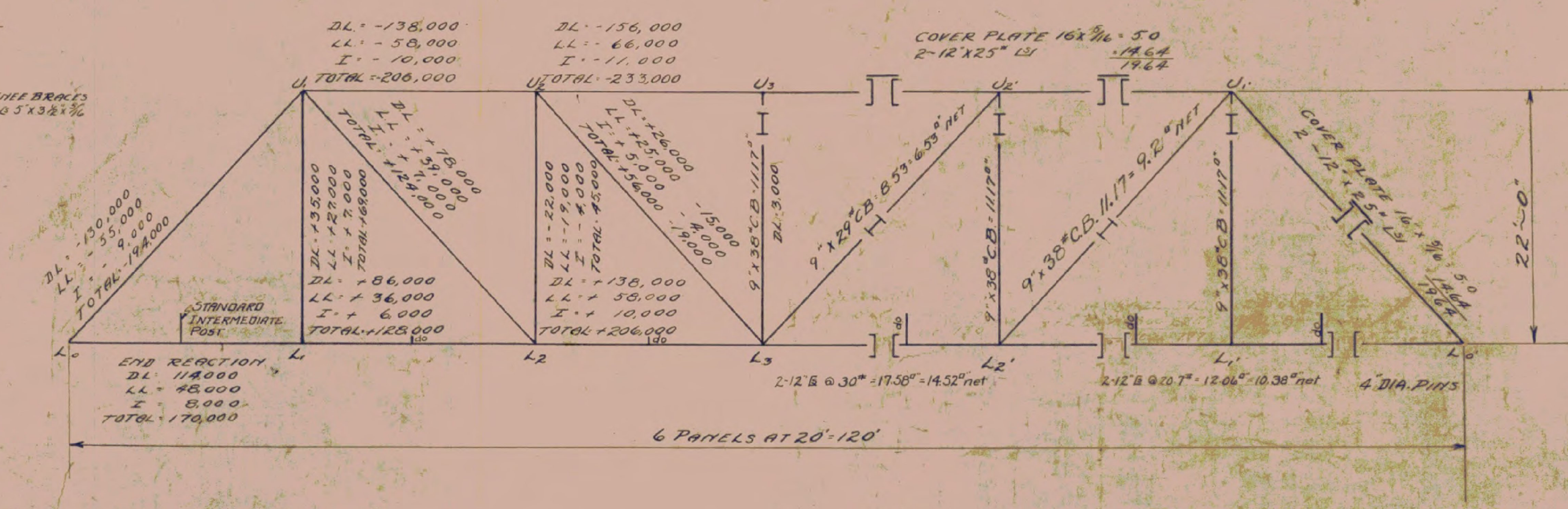
PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	BF 0239(3)
FILE NAME: zl3j274bdr_ttc.dgn	PLOT DATE: 3/9/2016
PROJECT LEADER: T. KNIGHT	DRAWN BY: J. SOTER
DESIGNED BY: T. KNIGHT	CHECKED BY: D. YOULEN
TRAFFIC CONTROL PLAN	SHEET 8 OF 9

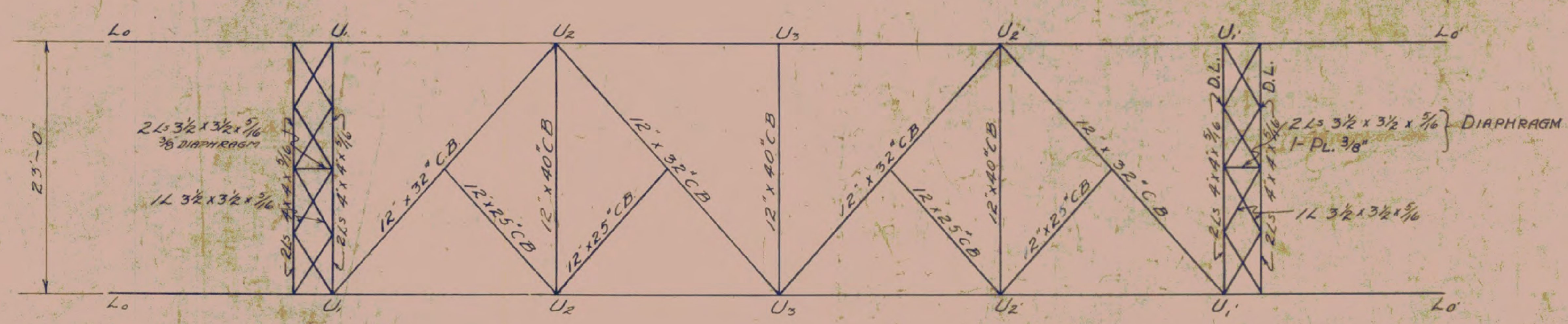




STRINGERS			
MOMENT		SHEAR	
DLM = 338,000 IN. LBS		8,800	
LLM = 617,000 IN. LBS		10,700	
I = 181,000 IN. LBS		4,200	
TOTAL 1136,000 IN. LBS		23,600	



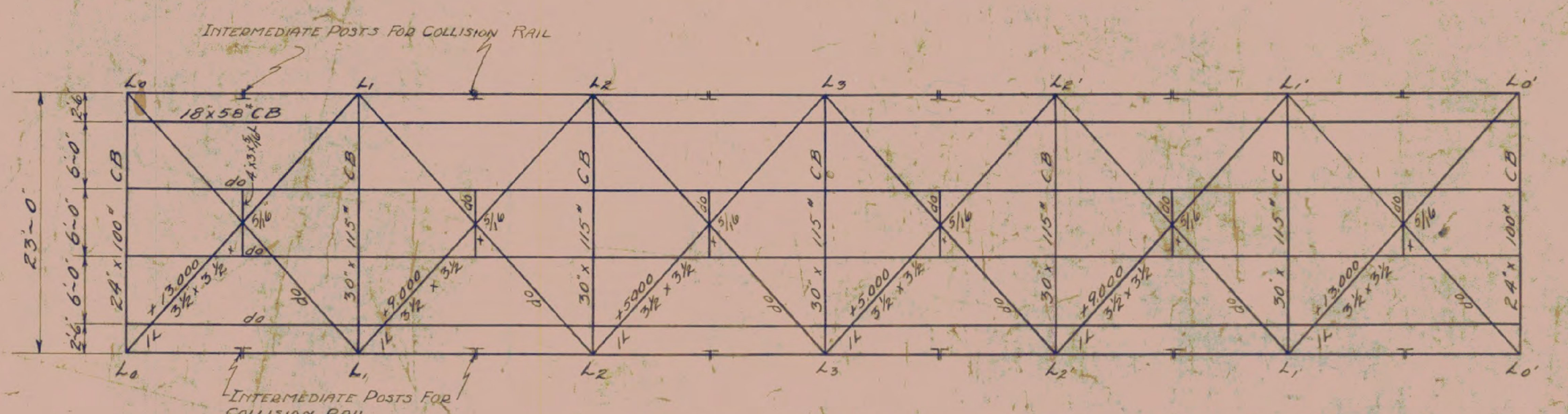




STRINGERS	
MOMENT	SHEAR
DL = 480,000 IN. LBS	8,000
LL = 918,000 IN. LBS	16,000
I = 276,000 IN. LBS	5,000
TOTAL - 1674,000 IN. LBS	29,000

FLOOR BEAMS	
MOMENT	SHEAR
DL = 2148,000 IN. LBS	32,000
LL = 2114,000 IN. LBS	27,000
I = 613,000 IN. LBS	8,000
TOTAL = 4875,000 IN. LBS	67,000

END FLOOR BEAM
MOMENT
DL = 1074,000 IN. LBS
LL = 2114,000 IN. LBS
I = 740,000 IN. LBS
TOTAL - 3928,000 IN. LBS.



FLOOR AND LOWER LATERAL SYSTEM (NO. 1)

To be used when floor is poured full width

NOTE - SUPPORT LATERAL DIAGONALS FROM 4x3x5/16 CONNECTED TO STRINGER WEBS.
DO NOT CONNECT LATERAL DIAGONALS TO BOTTOM FLANGE OF STRINGERS.

NOTES

FLOOR DESIGNED FOR

DEAD LOAD ~ 8" CONCRETE SLAB + 25# PAVING ALLOWANCE + WEIGHT OF STEEL
LIVE LOAD ~ ROADWAY ~ 2-15 TON TRUCKS 14'-0" C/C AXLES ~ 6'-0" C/C WHEELS ~ 85% OF LOAD ON REAR AXLE
IMPACT ~ STRINGERS - 30% ~ FLOOR BEAMS - 29% END FLOOR BEAMS - 35%

TRUSS DESIGNED FOR

DEAD LOAD ~ CONCRETE FLOOR AND PAVING 1350# + STEEL 550# - 1900# PER LIN FT
LIVE LOAD ~ TWO LANES ~ H15 A.A.S.H.O. SPEC. 1927
IMPACT = $\frac{L+250}{10L+500}$ WHERE L = AGGREGATE LOADED LENGTH
GUSSET PLATE 7/16 AT L_0 ~ 3/8 ELSEWHERE
RIVETS = 7/8" DIA

SPECIFICATIONS

STANDARD SPECIFICATIONS FOR STEEL HIGHWAY BRIDGES - U.S.D.A. - BULLETIN No. 1259 - SHALL APPLY TO ALL WORKMANSHIP AND MATERIALS, AS REFERRED TO IN VT STANDARD ROAD AND BRIDGE SPECIFICATIONS 1926

REFERENCES

FOR THIS BRIDGE USE THE FOLLOWING STANDARD DETAILS AND TYPES SHOWN ON SHEET SB1.
STANDARD DETAILS NOS. S-2, S-5, S-6, S-10 S-12, S-13, S-15, S-21.
WHEN BRIDGE CONSISTS OF MORE THAN ONE SPAN USE STANDARD DETAIL S11 AT PIERS.

The original of this sheet is in Bridge Div. File Drawer #51 Sheet #47

MORRISTOWN
BF 0239(3)
SHEET 9 OF 9
FOR REFERENCE ONLY

STEEL SUPERSTRUCTURE
120' C/C BEARING
20' ROADWAY
2 ~ H15

Correct
A. D. Bishop
Bridge Engineer

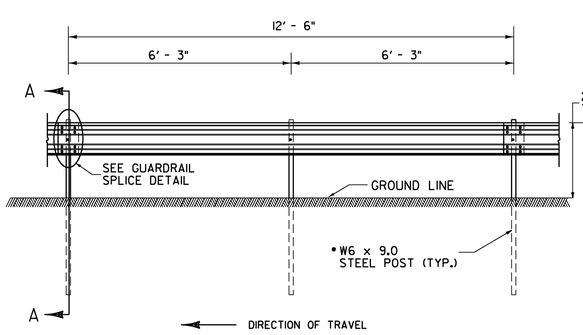
NO. 2 THIS SHEET USED FOR-	NO. 1 THIS SHEET USED FOR-
COBB BR. 5-36	MIDDLESEX-MORETOWN BR. 88-197
	MORETOWN BR. 89-197
	CROYS MILLS BR. 63-180

ESTIMATED QUANTITIES FOR ONE SPAN

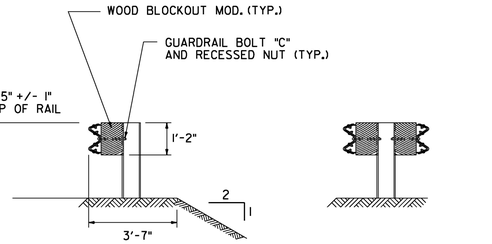
STRUCTURAL STEEL	(NO. 1)	133500	LBS.
CLASS A - 1:2:4 CONCRETE IN ROADWAY SLAB		73	CU. YDS.
REINFORCING STEEL IN ROADWAY SLAB	No. 1	12100	LBS.
STRUCTURAL STEEL	(NO. 2)	140460	LBS.
Reinforcing Steel	(No. 2)	13,120	LBS.

Surveyed by
Designed by SHOEMAKER
Drawn by K.B.W.
Traced by K.B.W.
Checked by M. L. Woodruff 3/1/27
Series SB 20 No. 120
Sheet of Sheets

"W" BEAM GUARDRAIL WITH STEEL POSTS



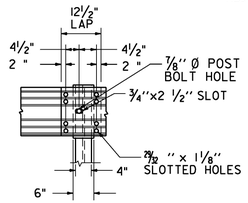
ELEVATION FROM ℄ OF ROAD



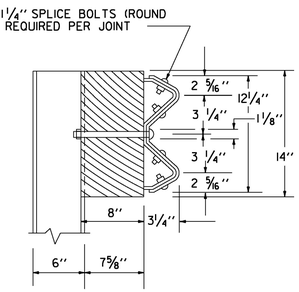
SINGLE - FACED BARRIER

DOUBLE - FACED BARRIER

SECTION A -A

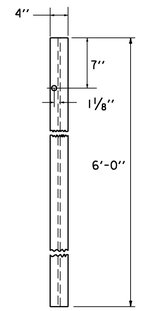


ELEVATION

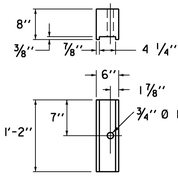


SECTION

GUARDRAIL SPLICE DETAIL



FRONT FACE STEEL POST

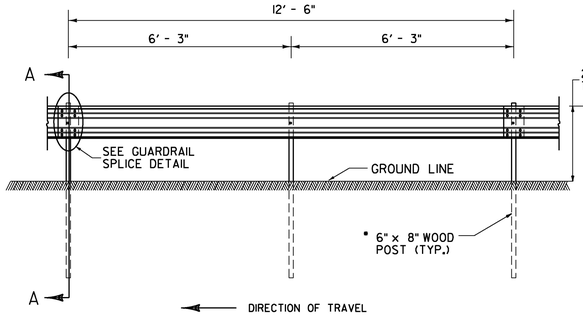


POST FACE
MODIFIED WOOD BLOCKOUT- ROUTED
6" X 8" X 1'-2" (FOR USE W/ STEEL POSTS ONLY)

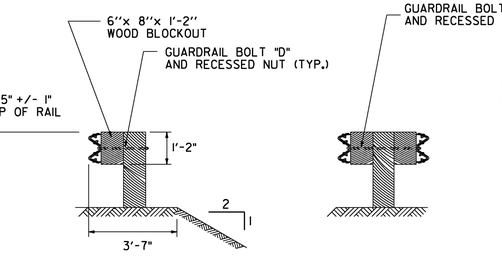
NOTES:

1. BLOCKS SHALL BE MADE OF TIMBER WITH A STRESS GRADE OF 1200 PSI OR MORE. TESTING SHALL BE IN ACCORDANCE WITH WEST COAST LUMBER INSPECTION BUREAU, SOUTHERN PINE INSPECTION BUREAU OR OTHER APPROPRIATE ASSOCIATION. TIMBER FOR BLOCKS SHALL BE ROUGH SAWN (UNPLANED) WITH DIMENSIONS INDICATED. THE SIZE TOLERANCE OF ROUGH SAWN BLOCKS IN THE DIRECTION OF THE BOLT HOLES SHALL BE NOT MORE THAN +/- ¼".
2. SUPPLY WOOD BLOCKS PER AASHTO M 168.
3. TREAT WITH PRESERVATIVE PER AASHTO M 133.
4. BLOCKOUTS MAY ALSO BE MADE OF APPROVED ALTERNATIVE MATERIAL.

"W" BEAM GUARDRAIL WITH WOOD POSTS



ELEVATION FROM ℄ OF ROAD



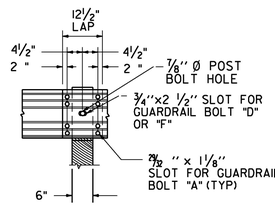
SINGLE - FACED BARRIER

DOUBLE - FACED BARRIER

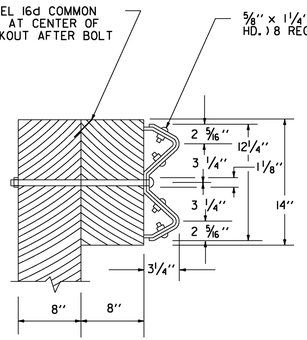
GUARDRAIL BOLT "F" AND RECESSED NUT (TYP.)

• NOTE : UNLESS OTHERWISE SPECIFIED ON PLANS

SECTION A -A

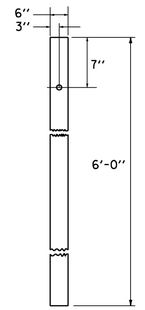


ELEVATION

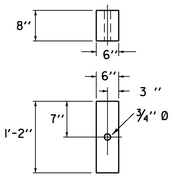


SECTION

GUARDRAIL SPLICE DETAIL



FRONT FACE WOOD POST

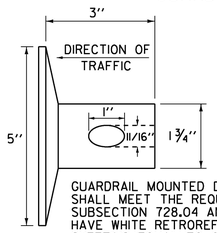


POST FACE
WOOD BLOCKOUT
6" X 8" X 1'-2"

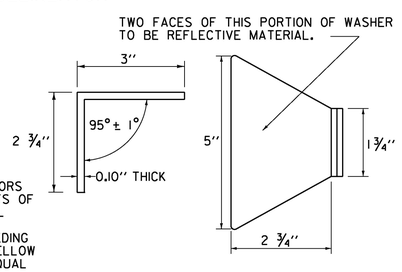
NOTES:

1. BLOCKS SHALL BE MADE OF TIMBER WITH A STRESS GRADE OF 1200 PSI OR MORE. TESTING SHALL BE IN ACCORDANCE WITH WEST COAST LUMBER INSPECTION BUREAU, SOUTHERN PINE INSPECTION BUREAU OR OTHER APPROPRIATE ASSOCIATION. TIMBER FOR BLOCKS SHALL BE ROUGH SAWN (UNPLANED) WITH DIMENSIONS INDICATED. THE SIZE TOLERANCE OF ROUGH SAWN BLOCKS IN THE DIRECTION OF THE BOLT HOLES SHALL BE NOT MORE THAN +/- ¼".
2. SUPPLY WOOD BLOCKS PER AASHTO M 168.
3. TREAT WITH PRESERVATIVE PER AASHTO M 133.
4. BLOCKOUTS MAY ALSO BE MADE OF APPROVED ALTERNATIVE MATERIAL.

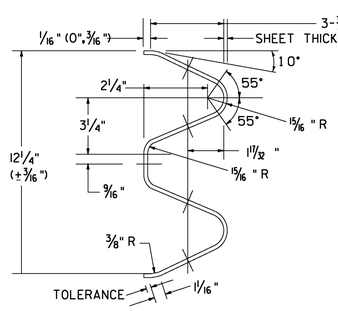
GUARDRAIL DELINEATOR



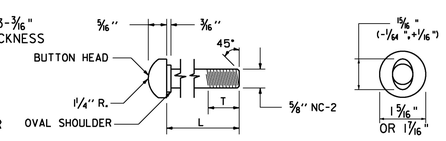
GUARDRAIL MOUNTED DELINEATORS SHALL MEET THE REQUIREMENTS OF SUBSECTION 728.04 AND SHALL HAVE WHITE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING SUBSECTION 750.08(B)(3) OR YELLOW RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING SUBSECTION 750.08(B)(7).



THIS REFLECTORIZED ALUMINUM WASHER IS TO BE PLACED IN VALLEY OF BEAM WHEN MOUNTING BEAM ONTO EACH FIFTH POST. WASHER SHALL MEET SPECIFICATION REQUIREMENTS FOR A.S.T.M. B-209 ALLOY 5052-H32.

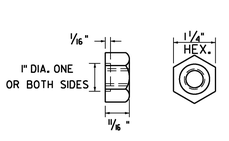


ARTBA RE-3(206'-3"=12'-6" CLASS A, TYPE 13-73
TYPICAL GUARDRAIL SECTION

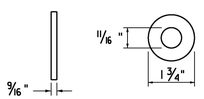


GUARDRAIL BOLT

GUARDRAIL BOLTS				FASTENER USED IN	
BOLT DES.	ARTBA REF. NO.	L	T (MIN.)	STEEL POSTS	WOOD POSTS
"A"	F-3[1¼]-76	1¼"	1"	X	X
"C"	F-3[9½]-76	9½"	1¾"	X	
"D"	F-3[18]-76	18"	2½"		X
"F"	F-3[25]-76	25"	2"		X



RECESSED NUT FOR GUARDRAIL BOLT



WASHER FOR ⅝" BOLTS
ARTBA F-13-73
NOTE: WASHER IS USED UNDER RECESSED NUT WHERE GUARDRAIL BOLT IS USED WITH WOOD POSTS.

GENERAL NOTES:

1. GUARDRAIL SHALL MEET THE REQUIREMENTS OF AASHTO M 180, CLASS A, TYPE I, UNLESS OTHERWISE DESIGNATED.
2. GUARDRAIL SHALL BE SINGLE FACED UNLESS OTHERWISE DESIGNATED.
3. GUARDRAIL SECTIONS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW FOR THE LANE NEAREST THE GUARDRAIL.
4. FOR DESCRIPTION AND SPECIFICATION OF PARTS IDENTIFIED BY (ARTBA ...) AND OTHER DETAILS OF POSTS, POST ACCESSORIES, FASTENERS & RAIL ELEMENTS, SEE AASHTO-AGC-ARTBA JOINT TASK FORCE NO. 13, TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE", LATEST EDITION.
5. STANDARD STEEL BEAM TO BE ⅛" AND THE HEAVY DUTY TO BE 5/64" THICK.

REV.	DATE	DESCRIPTION
--	JAN. 3, 2000	UPDATED TO REFLECT METRIC STD. CHANGES
--	FEB. 10, 2014	UPDATED TO REFLECT GUARDRAIL HEIGHT
		OF 29"; FHWA LETTER (MAY 17, 2010)
--	NOV. 10, 2015	UPDATED DELINEATOR RETROREFLECTIVE
		SHEETING NOTES

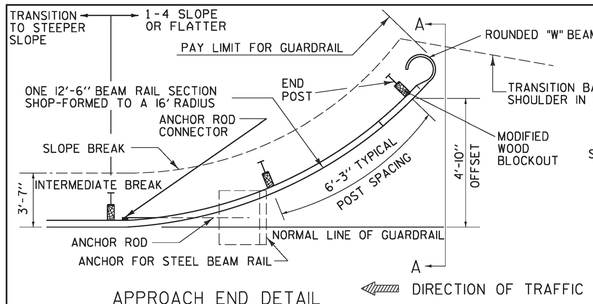
OTHER STANDARDS REQUIRED: G-1D

VTRANS AND FHWA APPROVAL ON FILE WITH CONTRACT ADMINISTRATION

STEEL BEAM GUARDRAIL WITH STEEL POSTS
STEEL BEAM GUARDRAIL WITH WOOD POSTS

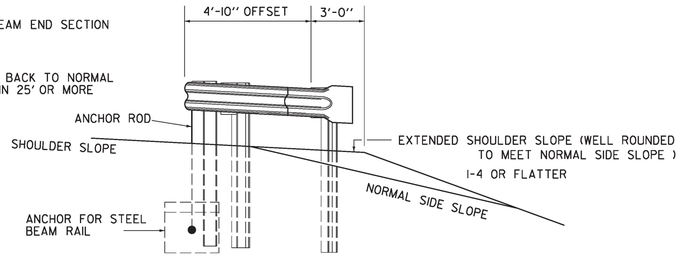
VTrans Working to Get You There
VERMONT AGENCY OF TRANSPORTATION

STANDARD
G-1

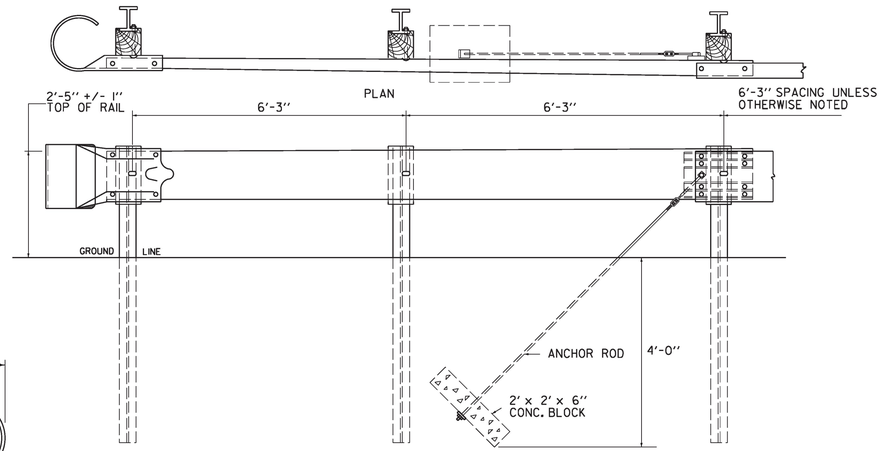


APPROACH END DETAIL

NHS APPROVED FOR USE WHERE DESIGN SPEED IS 40 OR LESS MPH
NON-NHS APPROVED FOR USE WHERE DESIGN SPEED IS 50 OR LESS MPH



SECTION A-A

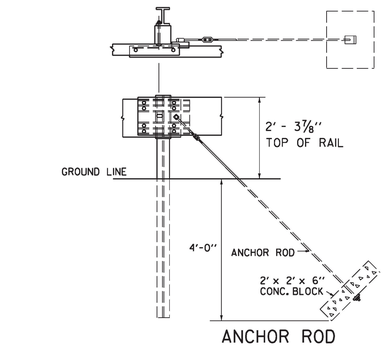


ASSEMBLY ELEVATION

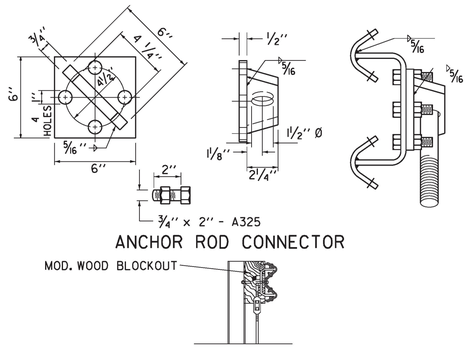
TRAILING END TERMINAL FOR USE ON ONE-WAY HIGHWAYS

GENERAL NOTES:

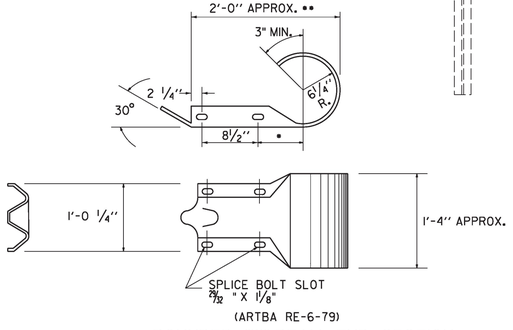
1. ALL METAL PARTS SHALL BE GALVANIZED
2. ALL WOOD POSTS SHALL BE GIVEN A PRESERVATIVE TREATMENT
3. DETAILS PERTINENT TO THE STANDARD INSTALLATION OF "W" BEAM SECTIONS WILL BE FOUND ON STANDARD DRAWING G-1.
4. FOR DESCRIPTION AND SPECIFICATIONS OF PARTS IDENTIFIED BY "(ARTBA...)" AND OTHER DETAILS OF POSTS, POST ACCESSORIES, FASTENERS AND RAIL ELEMENTS, SEE AASHTO-AGC-ARTBA JOINT TASK FORCE NO. 13, TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE", LATEST EDITION.
5. THE TRANSITION FROM THE APPROACH END TO THE STANDARD STEEL BEAM GUARDRAIL SHALL BE 25'-0" UNLESS OTHERWISE SPECIFIED.
6. WHEN STANDARD STEEL BEAM CONNECTS TO BRIDGE APPROACH RAIL OF A DIFFERENT HEIGHT THE LENGTH NEEDED TO TRANSITION THE HEIGHT OF STANDARD STEEL BEAM TO MATCH THE BRIDGE APPROACH RAIL SHALL BE 25'-0" UNLESS OTHERWISE SPECIFIED.
7. WHEN STANDARD STEEL BEAM CONNECTS TO A MANUFACTURED TERMNAL SECTION OF A DIFFERENT HEIGHT THE LENGTH NEEDED TO TRANSITION THE HEIGHT OF STANDARD STEEL BEAM TO MATCH THE MANUFACTURED TERMINAL SECTION SHALL BE 25'-0" UNLESS OTHERWISE SPECIFIED.



ANCHOR ROD

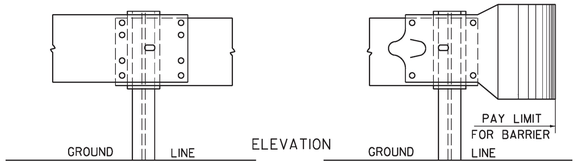


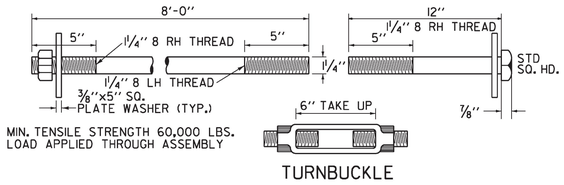
ANCHOR ROD CONNECTOR



ROUNDED "W" BEAM END SECTION

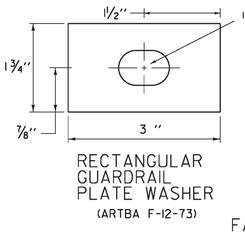
• THIS DIMENSION IS 7½" INRE-7-79. IF THE DIMENSION IS USED IN THIS PART, IT WILL GIVE AN ACCEPTABLE OVERALL LENGTH (••) OF APPROXIMATELY 2'- 11/2."



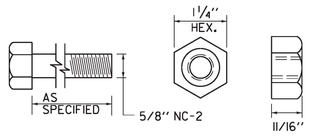


MIN. TENSILE STRENGTH 60,000 LBS. LOAD APPLIED THROUGH ASSEMBLY

TURNBUCKLE

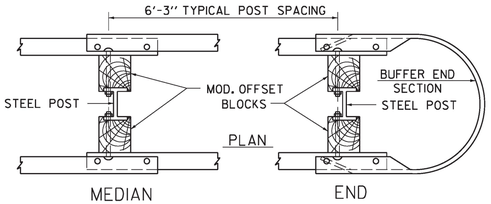


RECTANGULAR GUARDRAIL PLATE WASHER
(ARTBA F-12-73)



⅝" HEX NUT AND BOLT "F"
(ARTBA F-8-76)

FASTENER DETAILS



STEEL BEAM MEDIAN BARRIER

NOTE: TO BE USED OUTSIDE CLEAR ZONE ONLY.

OTHER STANDARD REQUIRED: G-1

REVISIONS AND CORRECTIONS

JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

JAN. 3, 2000 - UPDATED TO REFLECT METRIC STD. CHANGES

FEB. 10, 2014 - UPDATED TO REFLECT GUARDRAIL HEIGHT OF 29"; AS NOTED IN FHWA LETTER DATED MAY 17, 2010

APPROVED

HIGHWAY SAFETY & DESIGN ENGINEER

DIRECTOR OF PROGRAM DEVELOPMENT

Mark B. Richter

FEDERAL HIGHWAY ADMINISTRATION

STEEL BEAM GUARDRAIL APPROACH END TERMINAL
STEEL BEAM GUARDRAIL TRAILING END TERMINAL
ANCHOR FOR STEEL BEAM GUARDRAIL
STEEL BEAM MEDIAN BARRIER

VERMONT AGENCY OF TRANSPORTATION

STANDARD

G-1d

1. TRAFFIC CONTROL DEVICES NOT DETAILED IN THE VERMONT AGENCY OF TRANSPORTATION (VAOT) ''STANDARD DRAWINGS'' OR THE PROJECT PLANS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON TRAFFIC CONTROL DEVICES" (MUTCD) AND THE ''STANDARD HIGHWAY SIGNS AND MARKINGS'' BOOK (SHSM) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).

2. CONSTRUCTION SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES, DURING PERIODS OF INACTIVITY OR UPON COMPLETION OF THE WORK. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER.

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

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

5. NO CROSS-BRACING OR BACK-BRACING TO KEEP POSTS PLUMB WILL BE ALLOWED. CONCRETE FOUNDATIONS, COLLARS OR SOIL BEARING PLATES ARE NOT PERMITTED. CONSTRUCTION SIGNS SHALL BE PLACED ON TWO POSTS.

6. CONSTRUCTION SIGNS INSTALLED ON POSTS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST FIVE FEET ABOVE THE EDGE OF PAVEMENT AND THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST SIX FEET OUTSIDE THE SHOULDER POINT, FOUR FEET OUTSIDE GUARDRAIL, OR TWO FEET OUTSIDE CURBING OR SIDEWALK. THE INSTALLATION OF SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER. IN URBAN AREAS, THE BOTTOM OF THE SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE SIDEWALK OR EDGE OF PAVEMENT, WHICHEVER IS HIGHER.

7. PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY AND A MINIMUM OF ONE FOOT ABOVE THE TRAVELED WAY. ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARDRAIL.

8. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.

9. ROLL UP CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING THE "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE VI AND TYPE VII UNLESS OTHERWISE NOTED.

10. SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING THE "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE VIII OR IX REQUIREMENTS UNLESS OTHERWISE NOTED.

11. WHERE CONSTRUCTION SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL MEET "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 OR THE AASHTO "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH). THE APPROPRIATE RESOURCE SHALL BE DETERMINED AS DESCRIBED IN THE MASH PUBLICATION. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POSTS. WHEN ANCHORS ARE INSTALLED, STUBS SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.

12. ROADWAY AND SHOULDER WIDTHS DEPICTED ON THE STANDARD DRAWINGS MAY VARY.

13. THESE STANDARD DRAWINGS ARE INTENDED TO SERVE AS VTRANS STANDARD OPERATING PROCEDURE. IT IS NOTED THAT COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL WORK ZONE MAY BE MODIFIED DUE TO FIELD CONDITIONS, AT THE DISCRETION OF THE ENGINEER.

OTHER STDS. REQUIRED: **NONE**

REVISIONS AND CORRECTIONS

AUG. 6, 2012 - ORIGINAL APPROVAL DATE

APPROVED

HIGHWAY SAFETY & DESIGN ENGINEER

DIRECTOR OF PROGRAM DEVELOPMENT

Mark D. Richter

FEDERAL HIGHWAY ADMINISTRATION

TRAFFIC CONTROL GENERAL NOTES

VERMONT AGENCY OF TRANSPORTATION

STANDARD

T-1

LEGEND

(A) ROAD WORK AHEAD — W20-1

(B) ROAD WORK 500 FT — W20-1

(C) SIDE ROAD WORK AHEAD — VC-869

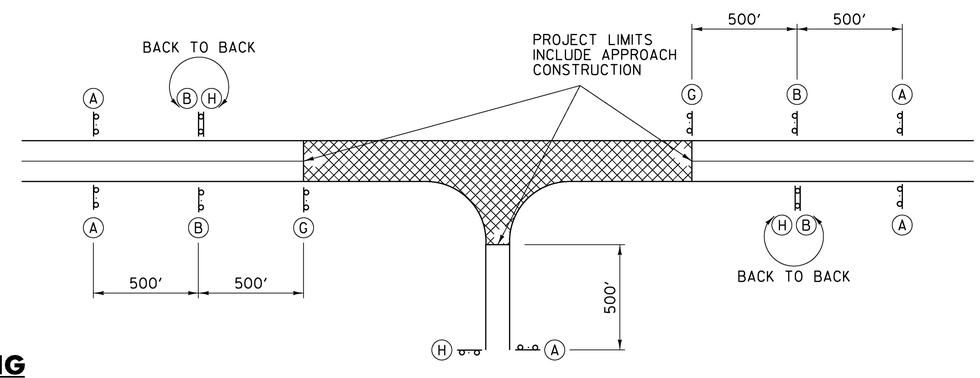
(D) SIDE ROAD WORK 500 FT — VC-869

(E) SIDE ROAD WORK LEFT — VC-869

(F) SIDE ROAD WORK RIGHT — VC-869

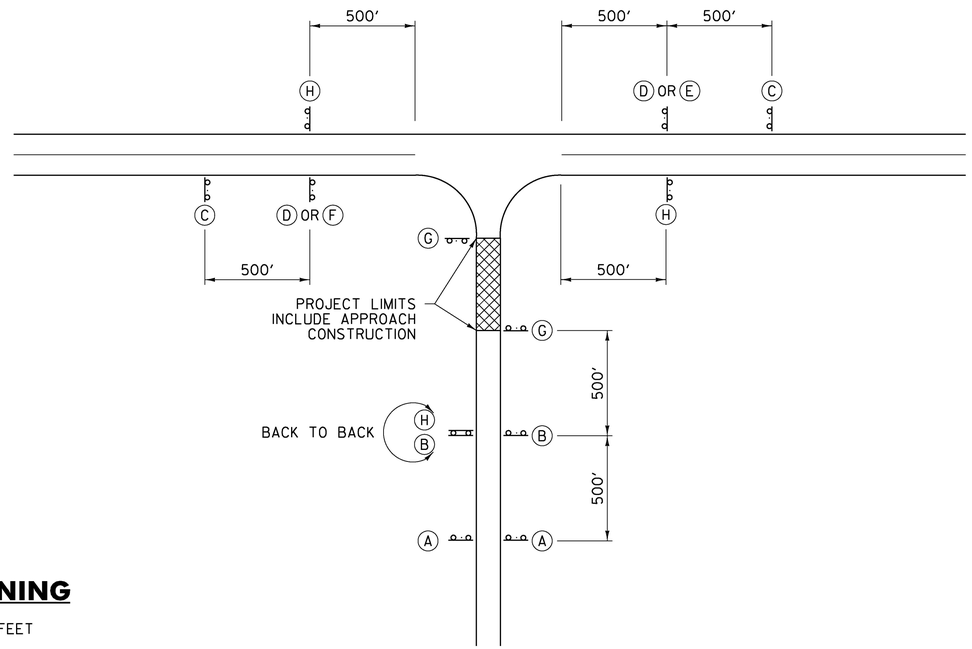
(G) ROAD WORK NEXT XX MILES — G20-1

(H) END ROAD WORK — G20-2



TYPICAL APPROACH SIGNING

FIELD CONDITIONS MAY DICTATE THE ACTUAL PLACEMENT.



SIDE ROAD APPROACH SIGNING

TO BE USED WHEN CONSTRUCTION IS UP TO 1000 FEET FROM THE INTERSECTION. FIELD CONDITIONS MAY DICTATE THE ACTUAL PLACEMENT.

GENERAL NOTES:

1. SIGNS SHOWN ON THIS SHEET ARE INTENDED FOR USE IN PROVIDING ADVANCE WARNING AND INFORMATION ON CONSTRUCTION PROJECTS OVER WHICH TRAFFIC WILL BE MAINTAINED. WHEN ADDITIONAL APPROACH SIGNS OR OTHER TYPES OF ADVANCE SIGNING OR CONTROL ARE NECESSARY, THE PLANS AND/OR THE SPECIFICATIONS FOR THAT PROJECT WILL GIVE THE DETAILS OF THE SIGNS AND DEVICES REQUIRED. FOR ON-PROJECT CONSTRUCTION SIGNS, REFER TO APPROPRIATE STANDARD SHEETS.
2. THE "ROAD WORK NEXT XX MILES" SIGN (G20-1) SHALL BE INSTALLED IN ADVANCE OF TEMPORARY TRAFFIC CONTROL ZONES THAT ARE MORE THAN TWO MILES IN LENGTH OR AS DIRECTED BY THE ENGINEER. DISTANCES SHALL BE STATED TO THE NEAREST WHOLE MILE.
3. SIGNS SHALL BE LOCATED AS DETAILED ON THIS SHEET OR AS OTHERWISE SHOWN ON THE PLANS. THEY SHALL APPEAR AT EACH END OF THE HIGHWAY UNDER CONSTRUCTION AND ON ALL INTERSECTING PUBLIC HIGHWAYS. THE ENGINEER SHALL DETERMINE THE EXACT LOCATIONS.

OTHER STDS. REQUIRED: T-1, T-28

REVISIONS AND CORRECTIONS

AUG. 6, 2012 - ORIGINAL APPROVAL DATE

APPROVED

HIGHWAY SAFETY & DESIGN ENGINEER

DIRECTOR OF PROGRAM DEVELOPMENT

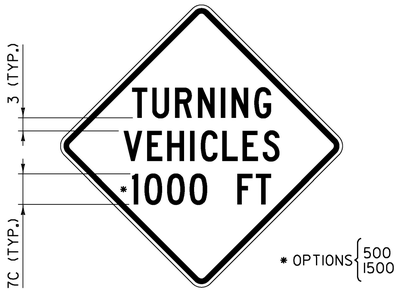
Mark D. Richter

FEDERAL HIGHWAY ADMINISTRATION

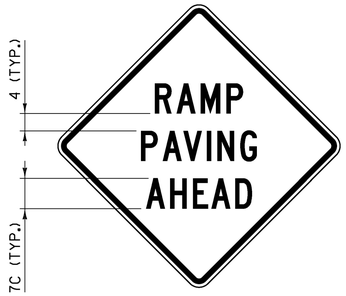
CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING

VERMONT AGENCY OF TRANSPORTATION

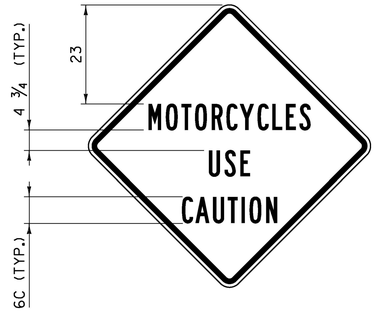
STANDARD T-10



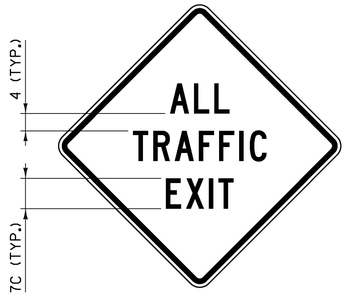
VC-001



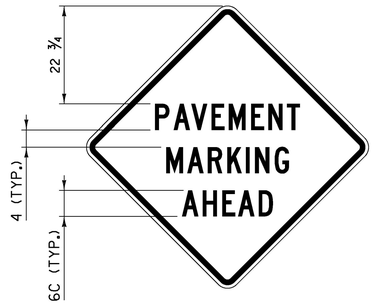
VC-003



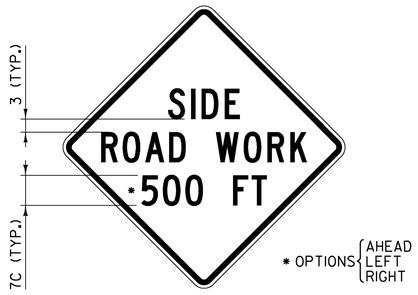
VC-004



VC-008



VC-813



VC-869

VC-874

GENERAL NOTES:

1. COLORS FOR SIGNS SHALL BE BLACK LEGEND AND BORDER ON FLUORESCENT ORANGE BACKGROUND.
2. CONSTRUCTION SIGNS SHALL BE 48 INCH BY 48 INCH. IF SOLID SUBSTRATE SIGNS ARE USED, SIGNS SHALL HAVE CORNERS ROUNDED TO A THREE INCH RADIUS.
3. SIGNS SHALL HAVE 1 1/4 INCH WIDE BORDERS THAT ARE INDENTED 3/4 INCH FROM THE EDGE OF THE SIGN.
4. SIGNS SHALL HAVE THE LEGEND CENTERED HORIZONTALLY AND VERTICALLY ON THE SIGN UNLESS OTHERWISE INDICATED.
5. ALL DIMENSIONS SHOWN IN INCHES.

OTHER STDS. REQUIRED: T-1

REVISIONS AND CORRECTIONS

AUG. 6, 2012 - ORIGINAL APPROVAL DATE

APPROVED

HIGHWAY SAFETY & DESIGN ENGINEER

DIRECTOR OF PROGRAM DEVELOPMENT

Mark D. Richter

FEDERAL HIGHWAY ADMINISTRATION

CONSTRUCTION SIGN DETAILS

VERMONT AGENCY OF TRANSPORTATION

STANDARD

T-28

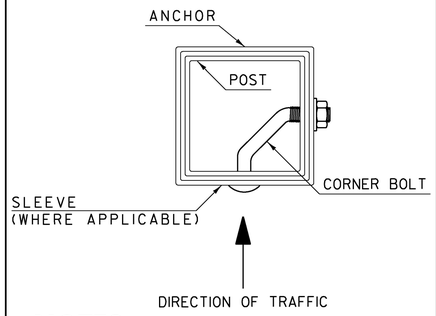
POST AND ANCHOR SELECTION CHART

POST SIZE (IN.)	POST THICKNESS (IN.)	POST WEIGHT (LBS/FT.)	POST GAGE	SECTION MODULUS (IN.³)	ONE POST SV	TWO POST SV	THREE POST SV	POSTS PERMITTED IN 8' PATH	ANCHOR SIZE (IN.)	ANCHOR GAGE	MINIMUM ANCHOR LENGTH
1.75	.083	1.88	14	0.222	45	90	135	TWO	2.00	12	30
2.00	.109	2.42	12	0.393	80	160	240	TWO	2.25	12	48
2.50	.109	3.35	12	0.673	137	274	411	ONE	3.00	7	48

NOTES:

1. ALL SIGN POSTS SHALL HAVE 7/16 INCH HOLES EVERY ONE INCH ON CENTER (ALL FOUR SIDES).
2. THE NUMBER OF SIGN POSTS PERMITTED WITHIN AN EIGHT FOOT PATH ASSUMES THAT THE SIGN ASSEMBLY IS NOT PROTECTED BY GUARDRAIL OR IS LOCATED WITHIN A GUARDRAIL'S DEFLECTION DISTANCE DETERMINED PER THE CURRENT "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) ROADSIDE DESIGN GUIDE. ADDITIONAL POSTS MAY BE INSTALLED USING SLIP BASES THAT MEET "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 OR THE AASHTO "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH). THE APPROPRIATE RESOURCE SHALL BE DETERMINED AS DESCRIBED IN THE MASH PUBLICATION.
3. TO USE THE SELECTION VALUE (SV) COLUMNS IN THE TABLE ABOVE, MULTIPLY A SIGN'S SURFACE AREA IN SQUARE FEET (H x L) BY THE SIGN'S HEIGHT IN FEET MEASURED FROM THE GROUND TO THE CENTROID OF THE SIGN ASSEMBLY (h). THIS RESULT MUST BE LESS THAN OR EQUAL TO THE CORRESPONDING SELECTION VALUE. NOTE THAT FOR SIGNS WITH MULTIPLE POSTS, THE LARGEST HEIGHT DIMENSION SHALL BE USED TO CALCULATE THE POST SELECTION VALUE.
4. THE DESIGN CRITERIA UTILIZED IN SIGN POST AND ANCHOR SELECTION IS AS FOLLOWS: WIND SPEED OF 70 MPH (10 YEAR MEAN RECURRENCE INTERVAL), WIND PRESSURE OF 19 PSF, STEEL MINIMUM YIELD OF 55,000 PSI, AND AN ALLOWABLE STRESS OF 1.4 (0.60 FY).

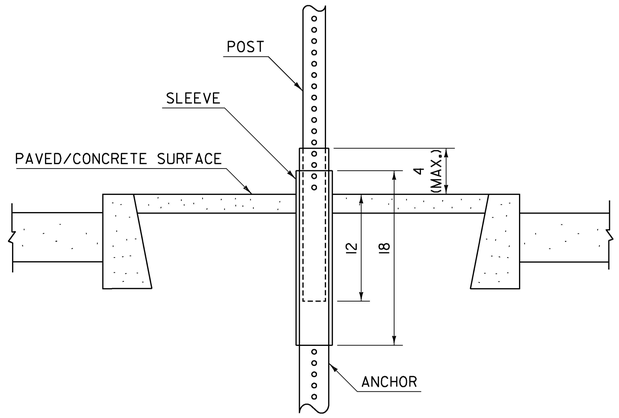
CORNER BOLT INSTALLATION DETAIL



NOTES:

1. CORNER BOLTS SHALL BE 5/16 INCH DIAMETER WITH 18 THREADS PER INCH AND DIMENSIONS SHALL BE DETERMINED BASED ON THE OUTERMOST DIMENSION OF THE SLEEVE, ANCHOR OR POST. THREAD EXPOSURE MUST EXCEED THE CORRESPONDING NUT WIDTH. THE CORNER BOLT AND CORRESPONDING HARDWARE SHALL BE ZINC PLATED, MEETING OR EXCEEDING THE REQUIREMENTS OF THE "AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) A307.

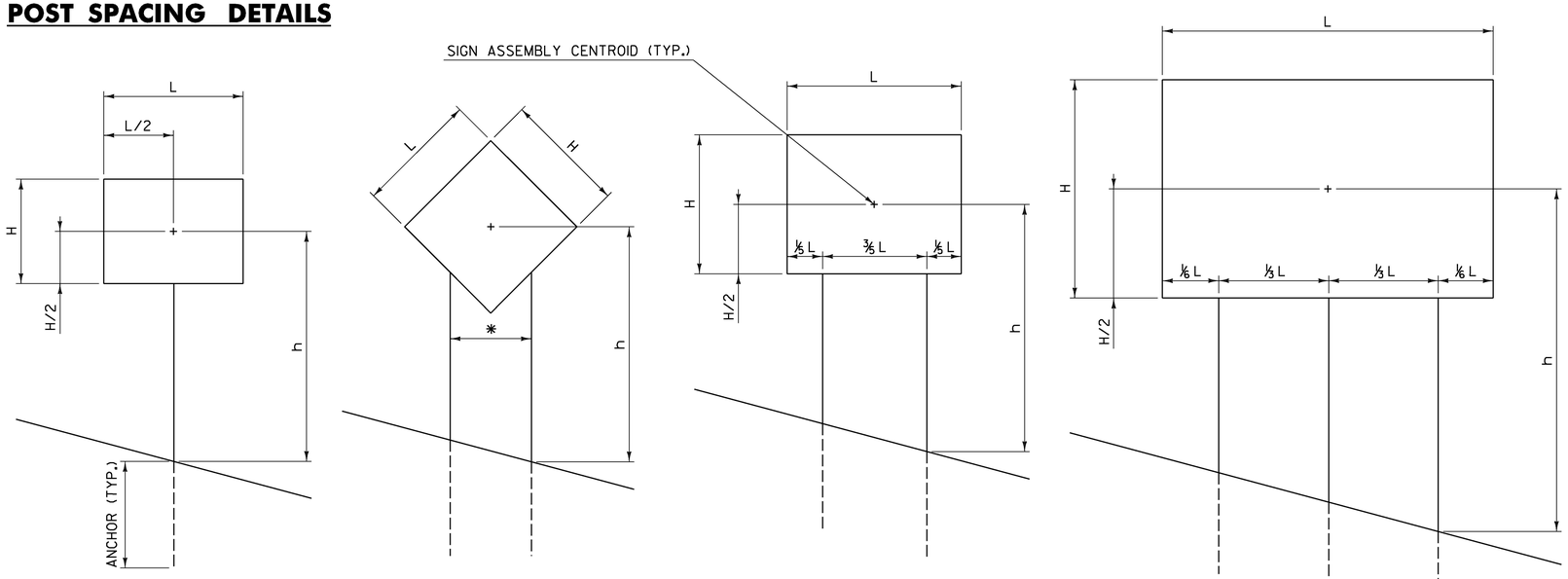
SLEEVE /ANCHOR INSTALLATION DETAIL



NOTES:

1. A SLEEVE SHALL BE INSTALLED FOR SIGN INSTALLATIONS IN CONCRETE OR PAVEMENT.
2. THE SLEEVE SHALL BE 18 INCHES MINIMUM IN LENGTH.
3. THREE INCH SLEEVES THAT DO NOT HAVE HOLES WILL REQUIRE THAT 7/16 INCH HOLES ARE DRILLED TO FACILITATE CONNECTIONS.
4. REFER TO CURRENT EDITION OF THE "VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION" FOR MATERIAL REQUIREMENTS.

POST SPACING DETAILS



* POST SPACING FOR DIAMOND SHAPED SIGNS SHALL BE AS FOLLOWS: 30" SIGN - 15"~20" SPACING, 36" SIGN - 18"~24" SPACING, 48" SIGN - 24"~32" SPACING.

GENERAL NOTES:

1. ALL SQUARE TUBE STEEL POSTS AND ANCHORS SHALL BE FORMED INTO A SIZE AND SHAPE IN SUCH A MANNER THAT NEITHER FLASH NOR WELD SHALL INTERFERE WITH THE TELESCOPING PROPERTIES, NOR DAMAGE THE GALVANIZING.
2. ANCHORS MAY BE DRIVEN OR SET INTO A DUG HOLE AND BACKFILLED. IF DRIVEN, A DRIVING CAP SHALL BE USED. THE DUG HOLE INSTALLATION METHOD SHALL BE UTILIZED IN AREAS WITH POOR SOIL CONDITIONS OR AS DIRECTED BY THE ENGINEER. BACKFILL SHALL BE COMPACTED AS DIRECTED BY THE ENGINEER.
3. THE TOPS OF SIGN POSTS SHALL BE AT OR NEAR THE TOP OF SIGN. THE POST SHALL NOT EXTEND ABOVE THE TOP OF SIGN.
4. SIGN POSTS SHALL BE INSTALLED A MINIMUM OF ONE FOOT BELOW GROUND, INSIDE THE ANCHOR. THE LENGTH OF ANCHOR EXPOSED ABOVE GROUND SHALL NOT EXCEED FOUR INCHES.
5. ALL DIMENSIONS SHOWN IN INCHES.

OTHER STDS. REQUIRED: **NONE**

REVISIONS AND CORRECTIONS

JAN. 2, 2013 - ORIGINAL APPROVAL DATE

APPROVED

HIGHWAY SAFETY & DESIGN ENGINEER

DIRECTOR OF PROGRAM DEVELOPMENT

Mark B. Richter

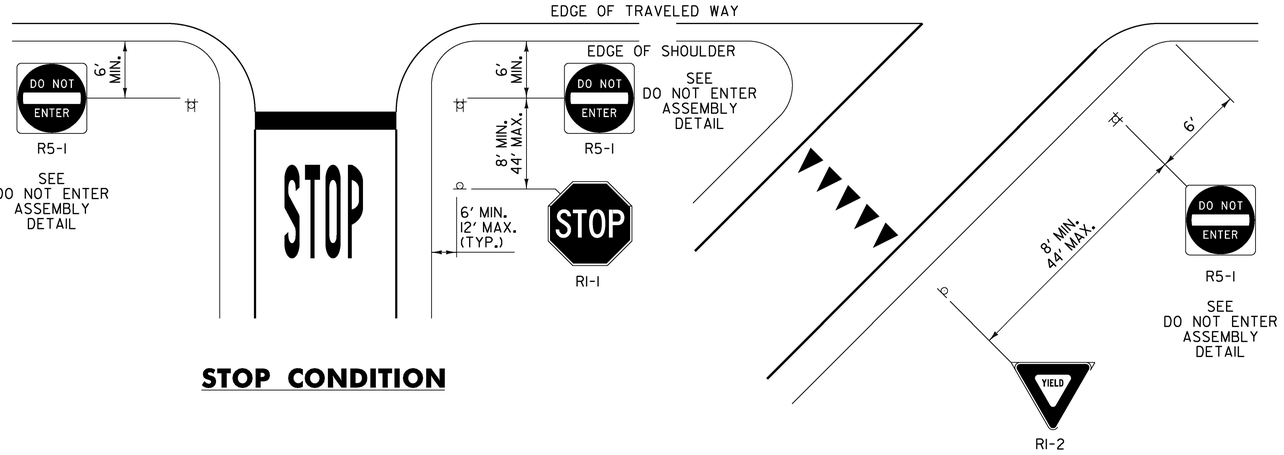
FEDERAL HIGHWAY ADMINISTRATION

SQUARE TUBE SIGN POST AND ANCHOR

VERMONT AGENCY OF TRANSPORTATION

STANDARD

T-45



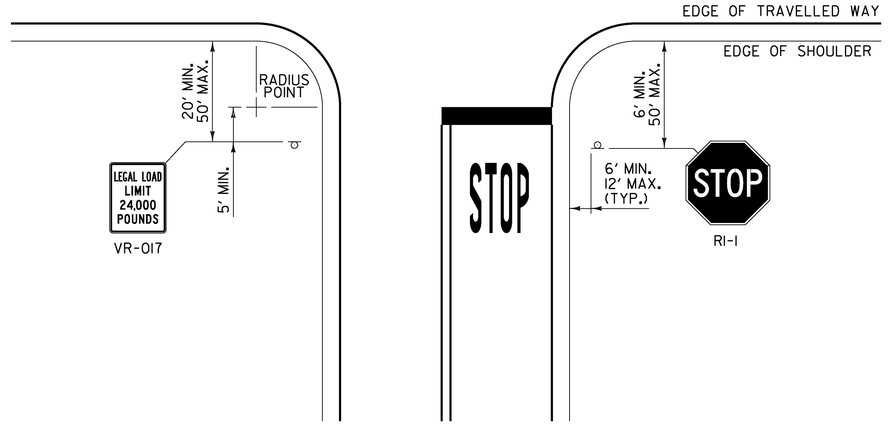
STOP CONDITION

YIELD CONDITION

EXIT RAMP SIGN LOCATION DETAILS

NOTES:

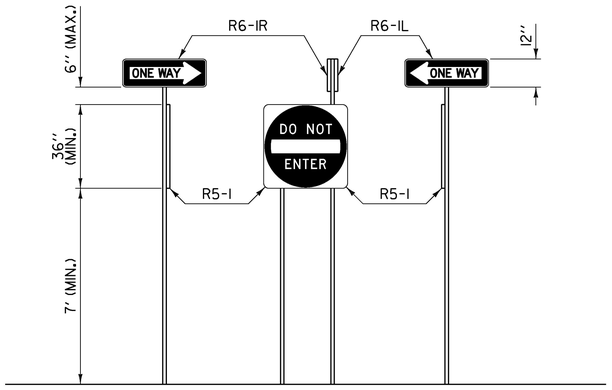
1. THE ''STOP'' (RI-I) SIGN SHOULD BE PLACED AS NEAR TO THE STOP BAR AS PRACTICAL. THE SIGN SHOULD BE PLACED TO MAXIMIZE VISIBILITY WITHIN THE RANGE OF OFFSETS SHOWN.
2. THE ''YIELD'' (RI-2) SIGN SHOULD BE PLACED AS NEAR TO THE YIELD MARKINGS AS PRACTICAL. THE SIGN SHOULD BE PLACED TO MAXIMIZE VISIBILITY WITHIN THE RANGE OF OFFSETS SHOWN.



LEGAL LOAD LIMIT AND STOP SIGNS AT INTERSECTIONS WITH TOWN HIGHWAYS

NOTES:

1. THE ''STOP'' (RI-I) SIGN SHOULD BE PLACED AS NEAR TO THE STOP BAR AS PRACTICAL. THE SIGN SHOULD BE PLACED TO MAXIMIZE VISIBILITY WITHIN THE RANGE OF OFFSETS SHOWN.



DO NOT ENTER ASSEMBLY

GENERAL NOTES:

1. WHEN INSTALLED, STREET NAME SIGNS SHOULD BE INSTALLED PERPENDICULAR TO APPROACHING MAINLINE TRAFFIC AND SHALL BE POSITIONED IN SUCH A WAY AS TO ENSURE THE BEST POSSIBLE VISIBILITY TO APPROACHING MAINLINE TRAFFIC FROM EACH DIRECTION. STREET NAME SIGNS MAY BE INSTALLED ABOVE SIDE ROAD STOP SIGN. IN CASES WHERE THE SIDE ROAD STOP SIGN POSITION WOULD NOT BE SUITABLE FOR A TOP-MOUNTED STREET NAME SIGN, OR OTHER SITE-SPECIFIC CONSTRAINTS, THE STREET NAME SIGN MAY BE INSTALLED INDEPENDENTLY ON EITHER CORNER OF THE INTERSECTION. THE STREET NAME SIGNS SHALL BE INSTALLED A MINIMUM OF SIX FEET FROM EDGE OF PAVEMENT ON THE MAINLINE ROUTE TO THE NEAREST EDGE OF SIGN.
2. STREET NAME SIGNS WITH A LENGTH EXCEEDING 42 INCHES SHALL BE INSTALLED ON TWO POSTS. NO MORE THAN TWO POSTS SHALL OCCUPY AN EIGHT FOOT TRAVEL PATH, UNLESS PROTECTED BY BARRIER.
3. THE ''STOP'' (RI-I) SIGN SHALL NOT BE MOUNTED LESS THAN FIVE FEET IN HEIGHT TO THE BOTTOM OF THE SIGN.

REV.	DATE	DESCRIPTION
0	OCT. 26, 2015	ORIGINAL APPROVAL

OTHER STANDARDS REQUIRED: NONE

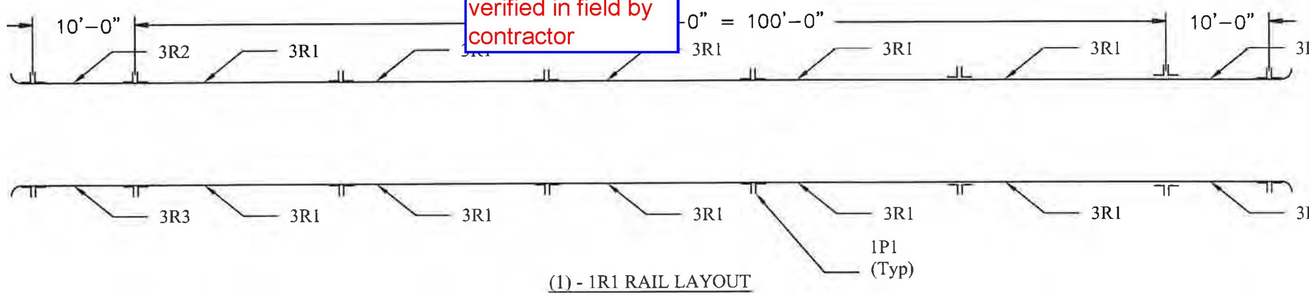
VTRANS AND FHWA APPROVAL ON FILE WITH CONTRACT ADMINISTRATION

STANDARD SIGN PLACEMENT

VTrans Working to Get You There — VERMONT AGENCY OF TRANSPORTATION

STANDARD T-56

Spacing to be verified in field by contractor



(1) - 1R1 RAIL LAYOUT

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements		Stantec
APPROVED AS NOTED	X	
REVISE AND RESUBMIT		
NOT REVIEWED		

Date: 8/23/16

By: George Bogue

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Vermont Agency of Transportation

RECEIVED

ON: September 13, 2016

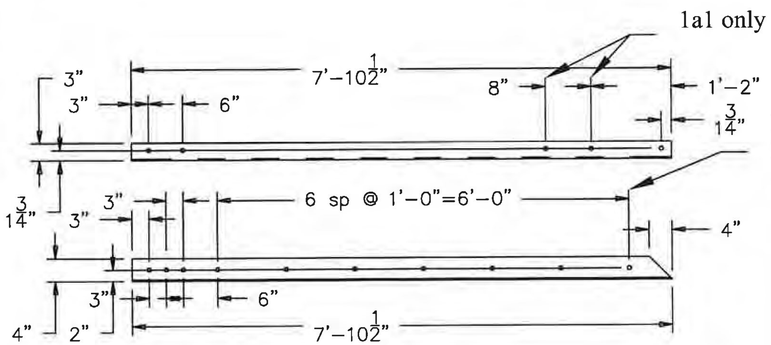
and Checked for

CONFORMANCE

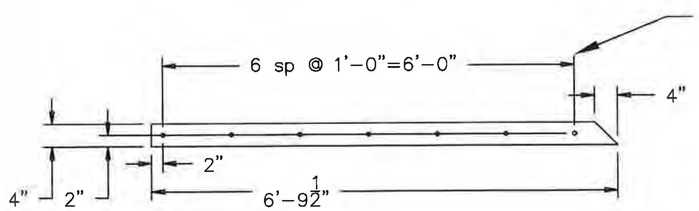
BY: Mark Sargent DATE: 09/13/2016

BILL OF MATERIALS

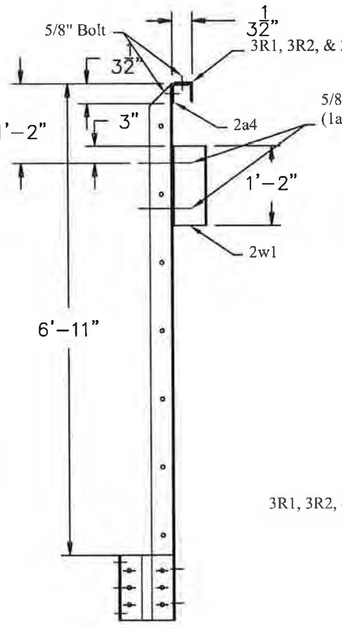
QTY	MARK	SHAPE	LENGTH	REMARKS
1	1R1	BRIDGE RAIL ASSEMBLY		
16	1a1	L 4 x 3 x 1/4	7'-10 1/2"	
16	1a2	L 4 x 3 x 1/4	7'-10 1/2"	
16	1b1	Bar 1/4 x 4	6'-9 1/2"	
16	2w1	W6 x 9	1'-2"	
16	2a4	L 3 1/2 x 3 x 1/4	0'-8"	
16	2A1	ANCHOR ASSEMBLY		
14	2B1	BASE ASSEMBLY		
2	2B2	BASE ASSEMBLY		
10	3R1	BRIDGE RAIL		
2	3R2	BRIDGE RAIL		
2	3R3	BRIDGE RAIL		
96		5/8" Hex Head Bolt x 1 1/2" lg with Nut and Washer		
240		5/8" Hex Head Bolt x 1 1/2" lg with Nut and Washer		



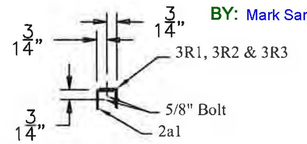
(16) - Detail 1a1
(16) - Detail 1a2
opposite hand



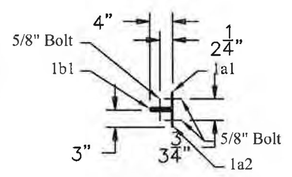
(16) - Detail 1b1
match drill with 1a1



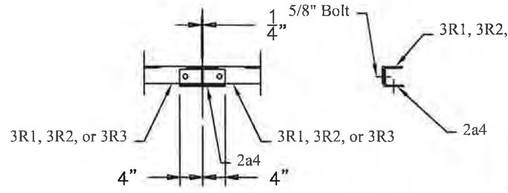
(16) - POST ASSEMBLY



DETAIL A



SECTION A-A



BRIDGE RAIL SPLICE DETAIL

BRIDGE RAIL NOTES

1 ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M 270M/M 270 GRADE 36, PRIMED, SHERMAN WILLIAMS - ZINC CLAD III. BLAST CLEAN PER SSPC-SP10.
2. REPLACEMENT OF BRIDGE RAIL POSTS WILL BE PAID UNDER ITEM 506.60.
3. ALL HIGH STRENGTH 7/8" HEX HEAD BOLTS, NUTS AND WASHERS SHALL BE IN ACCORDANCE WITH AASHTO M-164 TYPE 1 GALVANIZED

		DATE SUBMITTED
0	8–10–2016	SUBMITTED FOR APPROVAL
REV NO.	DATE	DESCRIPTION
HOLES AS NOTED		
MATERIAL: AASHTO M 270 GRADE 36 PAINTED		

DRAWING COVERS

BRIDGE RAIL ASSEMBLY

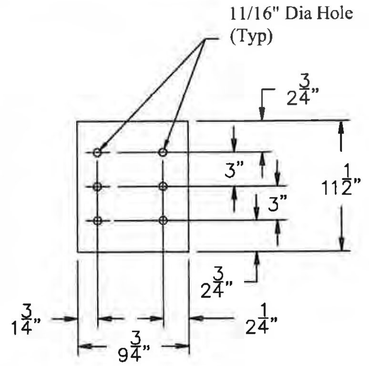
PROJECT	MORRISTOWN BF 0239(3)
LOCATION	CADYS FALLS ROAD over LAMOILLE RIVER
ENGINEER	VERMONT AGENCY OF TRANSPORTATION
CUSTOMER	BLOW & COTE, INC.

MERRIMACK SHEET METAL

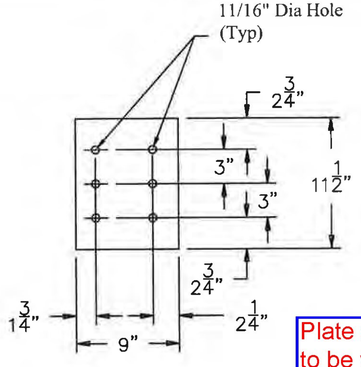
119 HALL STREET
CONCORD NH 03301

Tel. 603.224.7766
Fax 603.224.7925

DRAWN BY:	CHECKED BY	JOB NO:	DWG
RL	JD	#6669	F1R



(12) - DETAIL 2p2



(2) - DETAIL 2p3

Plate dimensions to be verified in field by contractor

Vermont Agency of Transportation
RECEIVED
ON: September 13, 2016
and Checked for
CONFORMANCE
BY: Mark Sargent DATE: 09/13/2016

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APPROVED AS NOTED	X	
REVISE AND RESUBMIT		
NOT REVIEWED		
Date: 8/23/16		
By: George Bogue		

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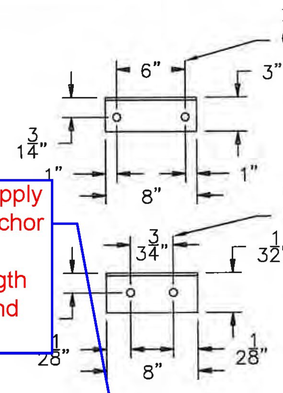
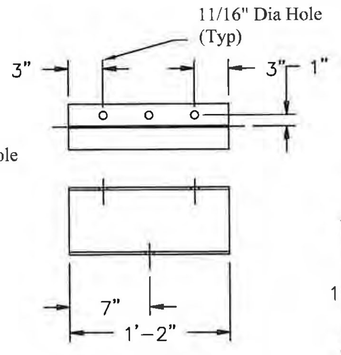
BILL OF MATERIALS

QTY	MARK	SHAPE	LENGTH	REMARKS
12	2A1	ANCHOR ASSEMBLY		
12	2p1	Plate 7/8 x 6	1'-4"	
24		7/8" Threaded Anchor Rod x 12" lg with Nut and Washer		
24		7/8" Threaded Rod x 8" lg with 3 Nuts and 2 Washers		
14	2B1	BASE ASSEMBLY		
28	2a2	L 4 x 3 x 1/4	0'-11 1/2"	
14	2p2	Plate 1/4 x 9 3/4	0'-11 1/2"	
140		5/8" Bolt x 2" Lg with Washer & Nut		
2	2B2	BASE ASSEMBLY		
4	2a2	L 4 x 3 x 1/4	0'-11 1/2"	
2	2p3	Plate 1/4 x 9	0'-11 1/2"	
20		5/8" Bolt x 2" Lg with Washer & Nut		

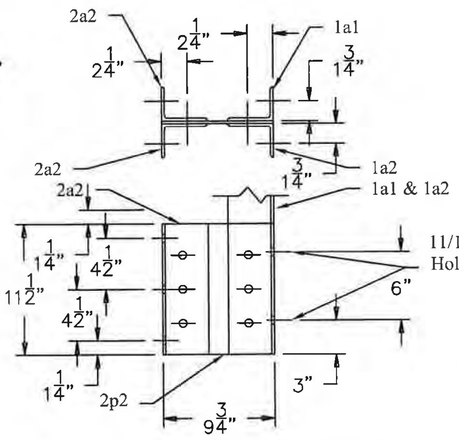


(16) - DETAIL 2a4

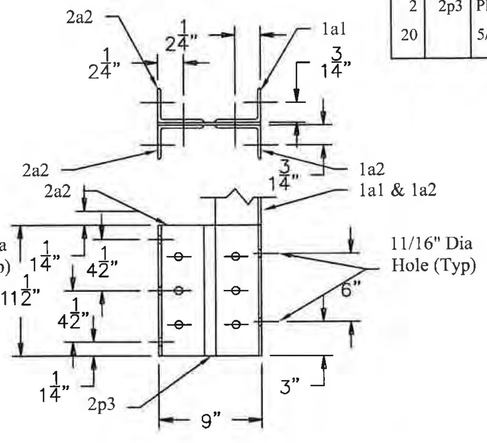
Contractor to supply threaded rod anchor details with embedment length and ultimate bond strength



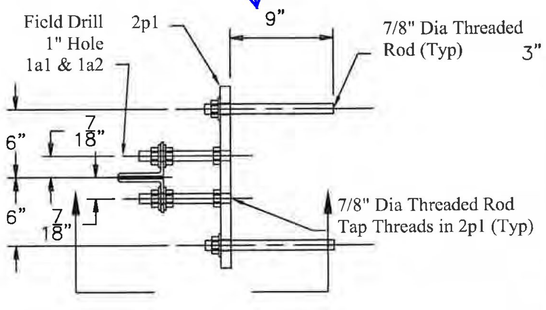
(16) - DETAIL 2w1



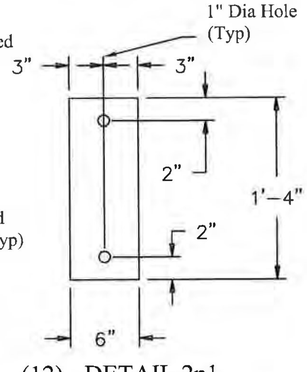
(14) - BASE ASSEMBLY 2B1



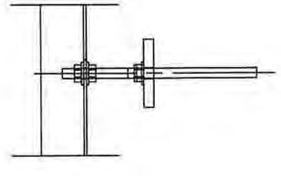
(2) - BASE ASSEMBLY 2B2



(12) - 2A1 - BRIDGE POST ANCHOR ASSY



(12) - DETAIL 2p1 (Anchor Plate)



SECTION A-A

		DATE SUBMITTED
0	8-10-2016	SUBMITTED FOR APPROVAL
REV NO.	DATE	DESCRIPTION
HOLES AS NOTED		
MATERIAL: AASHTO M 270 GRADE 36 PAINTED		

DRAWING COVERS
BRIDGE RAIL ASSEMBLY

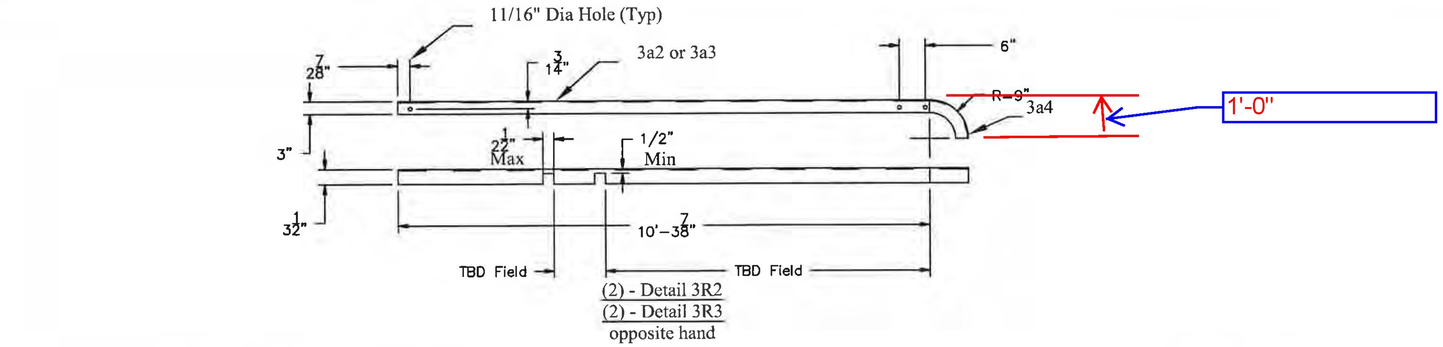
PROJECT	MORRISTOWN BF 0239(3)
LOCATION	CADYS FALLS ROAD over LAMOILLE RIVER
ENGINEER	VERMONT AGENCY OF TRANSPORTATION
CUSTOMER	BLOW & COTE, INC.

MERRIMACK SHEET METAL

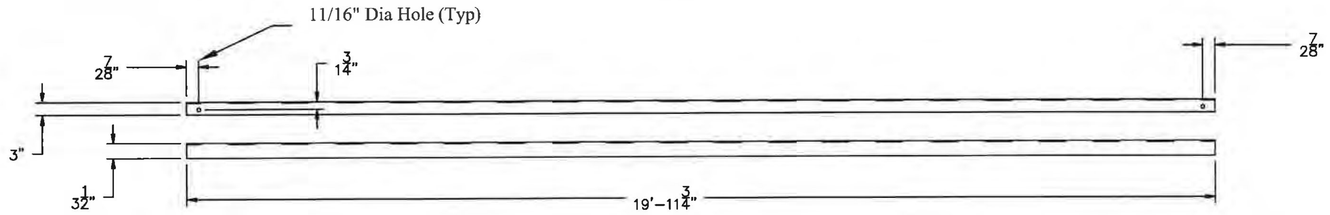
119 HALL STREET
CONCORD NH 03301

Tel. 603.224.7766
Fax 603.224.7925

DRAWN BY:	RL
CHECKED BY	JD
JOB NO:	#6669
DWG	F2R



(2) - Detail 3R2
(2) - Detail 3R3
opposite hand



(10) - Detail 3a1

BILL OF MATERIALS

QTY	MARK	SHAPE	LENGTH	REMARKS
10	3R1	BRIDGE RAIL		
10	3a1	L 3 1/2 x 3 x 1/4	19'-11 3/4"	
2	3R2	BRIDGE RAIL, END		
2	3a2	L 3 1/2 x 3 x 1/4	10'-3 7/8"	
2	3a4	L 3 1/2 x 3 x 1/4	1'-2 1/4"	
2	3R3	BRIDGE RAIL, END		
2	3a3	L 3 1/2 x 3 x 1/4	10'-3 7/8"	
2	3a4	L 3 1/2 x 3 x 1/4	1'-2 1/4"	

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	
APPROVED AS NOTED	X
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 8/23/16

By: George Bogue

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ON: September 13, 2016
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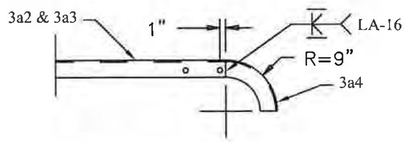
BY: Mark Sargent DATE: 09/13/2016



SPLICE DETAIL

REV NO.	DATE	DESCRIPTION
		DATE SUBMITTED
0	8-10-2016	SUBMITTED FOR APPROVAL

HOLES AS NOTED

MATERIAL: AASHTO M 270 GRADE 36 PAINTED

DRAWING COVERS
BRIDGE RAIL LAYOUT

PROJECT	MORRISTOWN BF 0239(3)
LOCATION	CADYS FALLS ROAD over LAMOILLE RIVER
ENGINEER	VERMONT AGENCY OF TRANSPORTATION
CUSTOMER	BLOW & COTE, INC.

MERRIMACK SHEET METAL

119 HALL STREET
CONCORD NH 03301

Tel. 603.224.7766
Fax 603.224.7925

DRAWN BY: RL
CHECKED BY: JD
JOB NO: #6669
DWG: F3R

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	
APPROVED AS NOTED	X
REVISE AND RESUBMIT	
NOT REVIEWED	
Date: 8/23/16	
By: George Bogue	

Stantec

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Vermont Agency of Transportation

RECEIVED

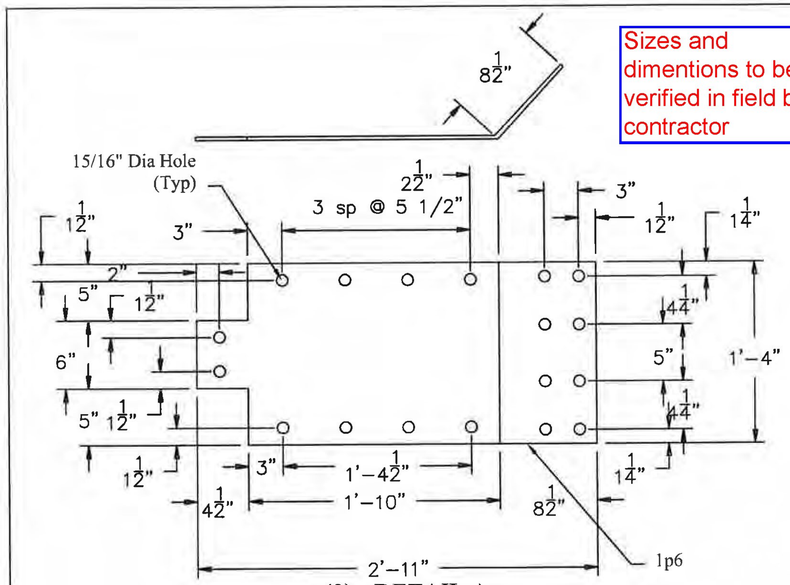
ON: September 13, 2016

and Checked for

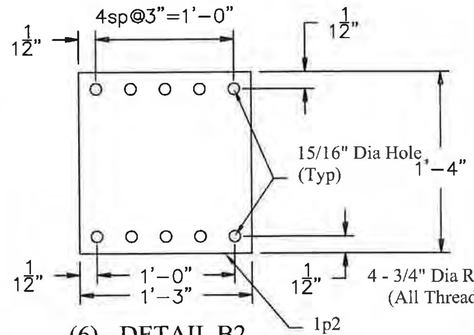
CONFORMANCE

BY: Mark Sargent DATE: 09/13/2016

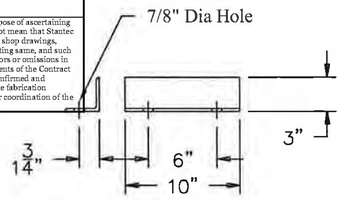
Sizes and dimentions to be verified in field by contractor



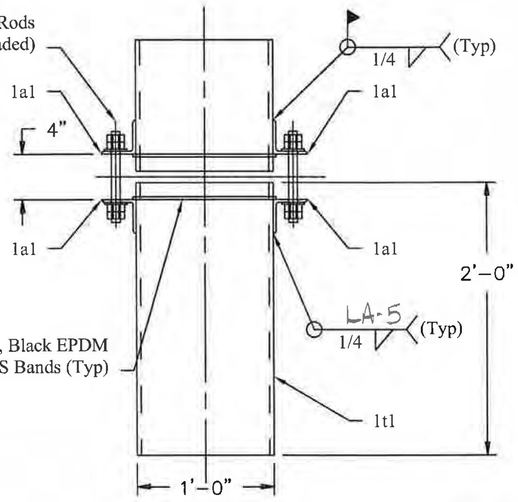
(3) - DETAIL A
(End Cover Plate)



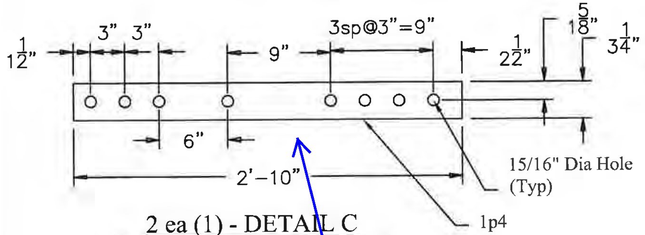
(6) - DETAIL B2
(Stay Plate)



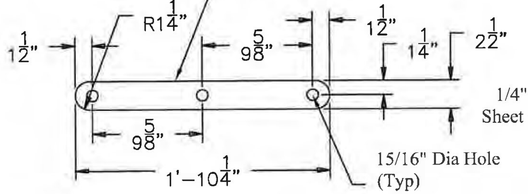
(12) - DETAIL 1a1



(6) - DETAIL D
(Scupper Extension)

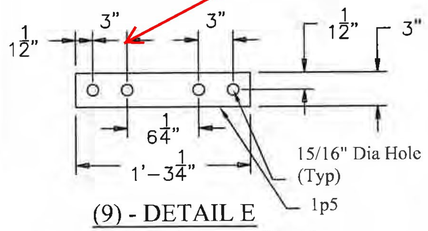


2 ea (1) - DETAIL C
(Bottom Chord Repair Plate)

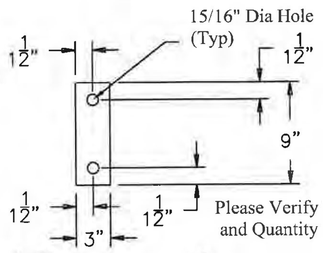


(25) - DETAIL 1p7
(Lattace Replacement)

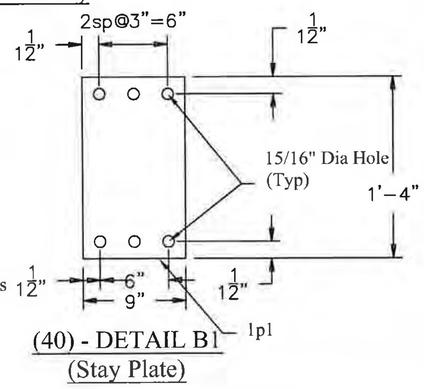
Plate size to be confirmed by others



(9) - DETAIL E
(Bottom Chord Repair Plate)



(10) - DETAIL 1p3
(Filler Plate)



(40) - DETAIL B1
(Stay Plate)

BILL OF MATERIALS

QTY	MARK	SHAPE	LENGTH	REMARKS
3	1A1	REPAIR A ASSEMBLY		
3	1p6	Plate 5/16 x 16	2'-11"	
	1B1	REPAIR B ASSEMBLY		
40	1p1	Plate 5/16 x 9	1'-4"	
6	1p2	Plate 5/16 x 15	1'-4"	
10	1p3	Plate 3/8 x 3	0'-9"	
		7/8" Hex Head Bolt x 2" lg with Nut and Washer		
2	1C1	REPAIR C ASSEMBLY		
2	1p4	Plate 5/8 x 3 1/4	2'-10"	Charpy
16		7/8" Hex Head Bolt x 2" lg with Nut and Washer		
6	1D1	SCUPPER EXTENSION		
12	1a4	L 3 x 3 x 1/4	0'-10"	
6	1t1	Tube 12 x 12 x 3/8	2'-0"	
12		1/4" Black EPDM		
24		7/8" Rod x 8" lg, 4 Nuts and 2 Washers		
9	1E1	REPAIR E ASSEMBLY		
9	1p5	Plate 1/2 x 3	1'-3 1/4"	Charpy
36		7/8" Hex Head Bolt x 2" lg with Nut and Washer		
25	1G1	LATTICE REPLACEMENT		
50	1p7	Plate 1/2 x 2 1/2	1'-10 1/4"	
125		7/8" Hex Head Bolt x 2" lg with Nut and Washer		

REPAIR NOTES

1. ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M 270M/M 270 GRADE 36, PAINTED.
2. ALL HIGH STRENGTH 7/8" HEX HEAD BOLTS, NUTS AND WASHERS SHALL BE IN ACCORDANCE WITH AASHTO M-164 TYPE 1 GALVANIZED.
3. DTE's SUPPLIES W/ TRUSS BOLTS

		DATE SUBMITTED
1	8-3-2016	REVISED PER CONTRACTOR NOTES
0	7-22-2016	SUBMITTED FOR APPROVAL
REV NO.	DATE	DESCRIPTION

HOLES AS NOTED

MATERIAL: AASHTO M 270 GRADE 36 PAINTED

DRAWING COVERS

TRUSS REPAIR DETAILS

PROJECT	MORRISTOWN BF 0239(3)
LOCATION	CADYS FALLS ROAD over LAMOILLE RIVER
ENGINEER	VERMONT AGENCY OF TRANSPORTATION
CUSTOMER	BLOW & COTE, INC.

MERRIMACK SHEET METAL

119 HALL STREET
CONCORD NH 03301

Tel. 603.224.7766
Fax 603.224.7925

DRAWN BY: RL

CHECKED BY: JD

JOB NO: #6669

DWG: F1T

WELDING PROCEDURE SPECIFICATION (WPS)
PREQUALIFIED ☐ QUALIFIED BY TESTING ■
or PROCEDURE QUALIFICATION RECORDS (PQR) Yes ☐
AASHTO/AWS D1.5 Qualification Type 5.12.1 ☐ – 5.12.2 ☐ – 5.13 ☐

Contractor/
Organization MERRIMACK SHEET METAL
Welding Process(es) GMAW
Type: Manual ☐ Semiautomatic ■
Machine ☐ Automatic ☐
Tandem ☐ Parallel ☐

JOINT DESIGN USED
Single ■ Double Weld ■
Backing: Yes ☐ No ■ Material
Root Opening NA Root Face Dimension NA
Groove Angle NA Radius (J–U)
Backgouging: Yes ☐ No ■ Method
Root Treatment CLEAN TO BRIGHT METAL

BASE METALS
Material Spec. A36 ; A588 ; A709 ;
Type or Grade G50
Thickness: Groove NA Fillet UNLIMITED
Diameter (Pipe) NA

FILLER METALS
AWS Specification A5.28
AWS Classification ER80S-Ni1
Manufacturer Trade Name LINCOLN SUPERARC LA-75

SHIELDING
Flux NA Mfg. Trade Name NA
Electrode-Flux (Class) NA
Gas Composition 90% ARGON / 10% CO2
Flow Rate 45 CFH Gas Cup Size 3/4

Identification LA-5
Revision 0 Date 6/1/2010 By KK
Authorized by KK Date 6/1/2010
Supporting PQR No.(s) PQLA1

POSITION
Position of Groove NA Fillet 1F or 2F
Vertical Progression: Up ■ Down ☐

ELECTRICAL CHARACTERISTICS
Transfer Mode (GMAW): Globular ☐ Spray ■
Current: AC ☐ DCEP ■ DCEN ☐ Pulsed ☐
Electrical Stick Out 3/4
Other

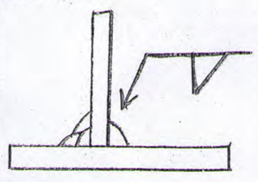
TECHNIQUE
Stringer or Weave Bead BOTH
Multi-pass or Single Pass (per side) BOTH
Number of Electrodes 1
Electrode Spacing: Longitudinal NA
Lateral NA Angle NA
Interpass Cleaning CLEAN WITH WIRE BRUSH

PREHEAT
Preheat Temp., Min. 70 F
Interpass Temp., Min. 70 F
Interpass Temp., Max. 400 F

POSTWELD HEAT TREATMENT
Temp. NA Hold Time NA
Heating/Cooling Rate NA

HEAT INPUT
Calculated Heat Input Value: kJ/in ■ kJ/mm ☐
Max. Heat Input 42.7 Min. Heat Input 22.5

WELDING PROCEDURE

Pass or Weld Layer(s)	Process	Filler Metals Diam.	Current Type & Polarity	Current Amps or Wire Feed Speed	Volts	Travel Speed	Joint Details
ROOT 3/16	GMAW	.045	DCEP	220- 260	26-29	15-18 IPM	LA-5-1F 
ROOT 1/4	GMAW	.045	DCEP	220- 260	26-29	14-17 IPM	
ROOT 5/16	GMAW	.045	DCEP	220-270	26-29	13-16 IPM	
ROOT 3/8	GMAW	.045	DCEP	220-270	26-29	12-15 IPM	
2ND 3/8	GMAW	.045	DCEP	220-270	26-29	11-14 IPM	
3RD 3/8	GMAW	.045	DCEP	220-270	26-29	11-14 IPM	
ROOT 7/16	GMAW	.045	DCEP	220-270	26-29	12-15 IPM	
2ND 7/16	GMAW	.045	DCEP	220-270	26-29	12-14 IPM	
3RD 7/16	GMAW	.045	DCEP	220-270	26-29	12-15 IPM	

Form L-2

Form L-2—Sample Welding Procedure Specification

WELDING PROCEDURE SPECIFICATION (WPS)
PREQUALIFIED ■ QUALIFIED BY TESTING ☐
or PROCEDURE QUALIFICATION RECORDS (PQR) Yes ☐
AASHTO/AWS D1.5 Qualification Type 5.12.1 ☐ – 5.12.2 ☐ – 5.13 ☐

Contractor/
Organization MERRIMACK SHEET METAL
Welding Process(es) GMAW
Type: Manual ☐ Semiautomatic ■
Machine ☐ Automatic ☐
Tandem ☐ Parallel ☐

JOINT DESIGN USED
Single ■ Double Weld ☐
Backing: Yes ☐ No ■ Material
Root Opening 0- 1/8 Root Face Dimension 1/8 MIN
Groove Angle 45 DEGREE Radius (J–U)
Backgouging: Yes ☐ No ■ Method
Root Treatment CLEAN TO BRIGHT METAL

BASE METALS
Material Spec. A36 ; A588 ; A709 ;
Type or Grade G50
Thickness: Groove 1/4 TO UNLIMITED Fillet
Diameter (Pipe) NA

FILLER METALS
AWS Specification A5.28
AWS Classification ER80S-Ni1
Manufacturer Trade Name LINCOLN SUPERARC LA-75

SHIELDING
Flux NA Mfg. Trade Name NA
Electrode-Flux (Class) NA
Gas Composition 90% ARGON / 10% CO2
Flow Rate 45 CFH Gas Cup Size 3/4

Identification LA-16
Revision 0 Date 6/1/2010 By KK
Authorized by KK Date 6/1/2010
Supporting PQR No.(s) PQLA1

POSITION
Position of Groove 1G Fillet 1F
Vertical Progression: Up ■ Down ☐

ELECTRICAL CHARACTERISTICS
Transfer Mode (GMAW): Globular ☐ Spray ■
Current: AC ☐ DCEP ■ DCEN ☐ Pulsed ☐
Electrical Stick Out 3/4
Other

TECHNIQUE
Stringer or Weave Bead STRINGER
Multi-pass or Single Pass (per side) SINGLE
Number of Electrodes 1
Electrode Spacing: Longitudinal NA
Lateral NA Angle NA
Interpass Cleaning CLEAN WITH WIRE BRUSH

PREHEAT
Preheat Temp., Min. 70 F
Interpass Temp., Min. 70 F
Interpass Temp., Max. 400 F

POSTWELD HEAT TREATMENT
Temp. NA Hold Time NA
Heating/Cooling Rate NA

HEAT INPUT
Calculated Heat Input Value: kJ/in ■ kJ/mm ☐
Max. Heat Input 35.0 Min. Heat Input 20.2

WELDING PROCEDURE

Pass or Weld Layer(s)	Process	Filler Metals Diam.	Current Type & Polarity	Current Amps or Wire Feed Speed	Volts	Travel Speed	Joint Details
3/16	GMAW	.045	DCEP	220-250	26-28	15-17 IPM	TC-P4-GF
1/4	GMAW	.045	DCEP	220-250	26-28	14-16 IPM	
5/16	GMAW	.045	DCEP	220-250	26-28	12-14 IPM	

Form L-2

Form L-2—Sample Welding Procedure Specification

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BY: Mark Sargent DATE: 09/13/2016

WELDING PROCEDURE SPECIFICATION (WPS)

PREQUALIFIED _____ QUALIFIED BY TEST YES

Company Name Merrimack Sheet Metal
Welding Process(es) GMAW
Supporting PQR # (s) LA-1/2016

Identification # LA-5
Revision NA Date N/A By N/A
Authorized Michael J. Smith Date 5/10/2016

Type- Manual [ ] Semi-Auto [YES]
Machine [ ] Automatic [ ]

JOINT DESIGN USED

Single [YES] Double Weld [NO]
Backing Yes / No [NO]
Backing Material NO
Root Opening and Face Dimension N/A
Groove Angle, U or J N/A
Back Gouge Y/N/Type NO

BASE METALS

Base Metal A36:A588;A709
Type or Grade B
Thickness: Groove N/A
Fillet Unlimited
Pipe Diameter N/A

FILLER METALS

A.W.S. Specification A5.28
A.W.S. Classification ER80S-NI1
Trade Name Lincoln Superarc LA-75

SHIELDING

Flux N/A
Gas Ar/Co2
Electrode-flux Class NA
Composition 90AR 10Co2
Flow Rate 35-40 CFH
Gas Cup Size 1/2 inch

POSITION

Position of Groove N/A
Vertical Progression, up N/A
Fillet Flat & Horizontal
Down _____

ELECTRICAL CHARACTERISTICS

Transfer Mode (GMAW):
Short-Circuting / Globular / Spray SPRAY
Current AC, DCEP, DCEN, Pulsed DCEP
Other none
Tungsten Electrode (GTAW):
Size N/A
Type N/A

TECHNIQUE

Stringer or Weave Bead Stringer
Multi or Single Pass (per side) Multi Pass
Number of Electrodes ONE
Electrode Spacing: Longitudinal N/A
Lateral N/A
Angle 15 degree push angle
Contact Tube to Work Distance 1/2" TO 3/4" ESO
Peening none
Interpass Cleaning none

PREHEAT

Preheat Temp., Min. 70 deg. F
Interpass Temp. Min. 100 deg. F
Interpass Temp. Max. 350 deg. F

POSTWELD HEAT TREATMENT

Temp. none
Time N/A

26 Min.

Heat Input Max KJ/in 37.8 Heat Input Min KJ/in ~~24.3~~

WELDING PROCEDURE

Pass or Weld Layer Layer(s)	Process	FILLER METALS Class	Diam.	CURRENT Type & Polarity	Amps or WFS	Volts	Travel Speed	JOINT DETAIL
ALL	GMAW	ER80S-NI1	.045 dia	DCEP	250-270	27-28	13-~~14~~ IPM	SINGLE SIDED FILLET

15 Max

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WELDING PROCEDURE SPECIFICATION (WPS)

PREQUALIFIED _____ QUALIFIED BY TEST YES

Company Name Merrimack Sheet Metal
Welding Process(es) GMAW
Supporting PQR # (s) LA-1/2016

Identification # LA-16
Revision NA Date N/A By N/A
Authorized Michael J. Smith Date 5/10/2016

Type- Manual [ ] Semi-Auto [YES]
Machine [ ] Automatic [ ]

JOINT DESIGN USED

Single [YES] Double Weld [NO]
Backing Yes / No [NO]
Backing Material NO
Root Opening and Face Dimension R=0 F=1/8 min
Groove Angle, U or J 45 Degree
Back Gouge Y/N/Type NO

BASE METALS

Base Metal A36:A588;A709
Type or Grade B
Thickness: Groove 1/4" min. Unlimited
Fillet N/A
Pipe Diameter N/A

FILLER METALS

A.W.S. Specification A5.28
A.W.S. Classification ER80S-NI1
Trade Name Lincoln Superarc LA-75

SHIELDING

Flux N/A Gas Ar/Co2
Electrode-flux Class NA Composition 90AR 10Co2
Flow Rate 35-40 CFH
Gas Cup Size 1/2 inch

POSITION

Position of Groove FLAT 1G Fillet NA
Vertical Progression, up N/A Down

ELECTRICAL CHARACTERISTICS

Transfer Mode (GMAW):
Short-Circuting / Globular / Spray SPRAY
Current AC, DCEP, DCEN, Pulsed DCEP
Other none
Tungsten Electrode (GTAW):
Size N/A
Type N/A

TECHNIQUE

Stringer or Weave Bead Stringer
Multi or Single Pass (per side) Multi Pass
Number of Electrodes ONE
Electrode Spacing: Longitudinal N/A
Lateral N/A
Angle 15 degree push angle
Contact Tube to Work Distance 1/2" TO 3/4" ESO
Peening none
Interpass Cleaning none

PREHEAT

Preheat Temp., Min. 70 deg. F
Interpass Temp. Min. 100 deg. F
Interpass Temp. Max. 350 deg. F

POSTWELD HEAT TREATMENT

Temp. none
Time N/A

26 Min.

Heat Input Max KJ/in 37.8 Heat Input Min KJ/in ~~24.3~~

WELDING PROCEDURE

Pass or Weld Layer Layer(s)	Process	FILLER METALS Class	FILLER METALS Diam.	CURRENT Type & Polarity	CURRENT Amps or WFS	Volts	Travel Speed	JOINT DETAIL
ALL	GMAW	ER80S-NI1	.045 dia	DCEP	250-270	27-28	13-~~19~~ IPM	TC-P4-GF

15 Max

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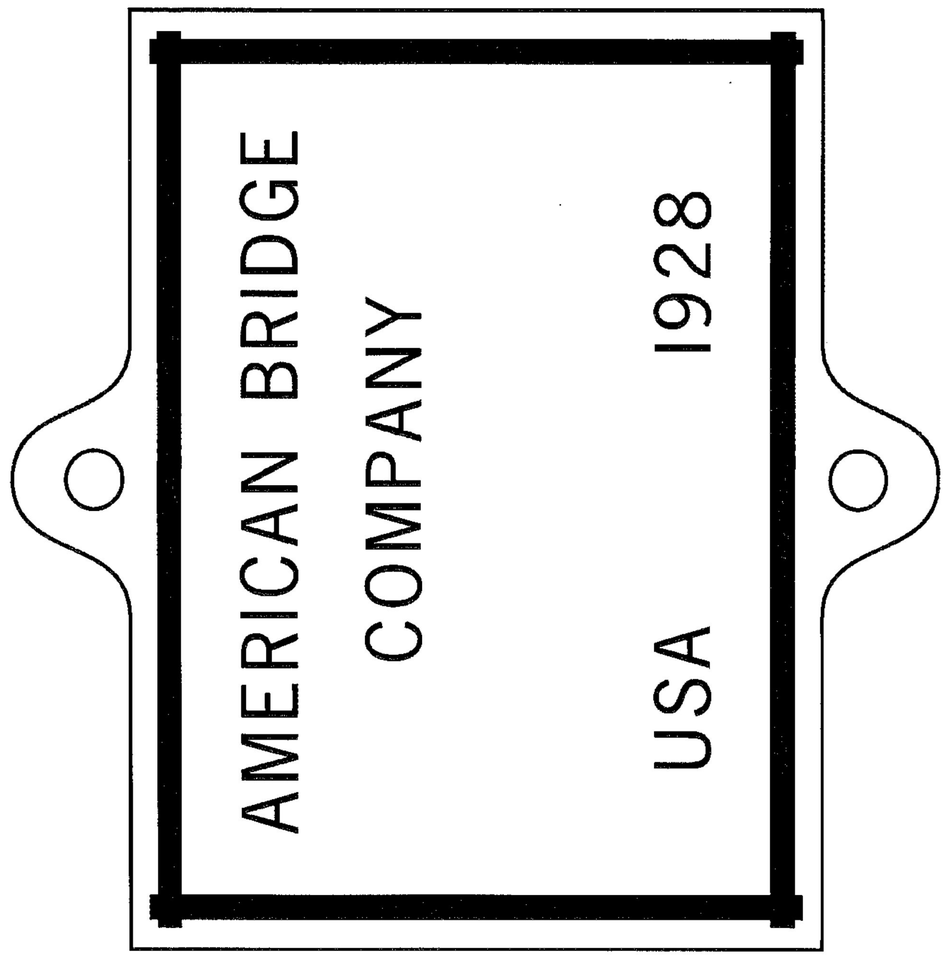

200% 4617844 lb 10/14/16 14x14.375 SE

Matthews INTERNATIONAL
BRONZE

ARCHITECTURAL SALES
1315 West Liberty Ave.
Pittsburgh, PA 15226
USA

Phone: 1-800-950-1317
Fax: 1-866-814-4028
Internet: www.matthewsbronze.net

4617844

Drawing Approval

Sold-To-Party
BRONZE CRAFT CORP.
PO Box 788
NASHUA NH 03061-0788

Ship-To-Party
BRONZE CRAFT CORP.
37 WILL ST
NASHUA NH 03060-3083

Information

Sales Order No.	4617844
Document Date	10/12/2016
Customer No.	10013486
Currency	USD
CSR	Eddie McAndrews
Phone Number	800-950-1317
E-mail	emcandrews@matthewsintl.com
Shipping Type	
Order Type	ZBRZ
Est Ship Date	TBD
Office	4000

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Header Information

Purchase Order No:	AMERICAN BRIDGE	**Purchase Order Date:**	
Estimated Ship Date	TBD	**Reference:**	
Terms of payment:	Net 30 days		
Terms of Delivery:	FEG FEDEX GROUND		

INSTRUCTIONS
PLAQUE-201" - 288"-CAST-BRONZE-CUSTOM

Item	Material	Quantity	Price	Price Unit	Amount
ITEMIZED ENTRIES					
10	71030369	1.00 EA		1 EA	
	PLQ,14X14.375,CAST,BRZ,CUSTOM			Plant: 4000	
	Surname:	AMERICAN BRIDGE COMPANY			
	Old Part#: B201A288				
	Production Order#: 32318690				
INSCRIPTION					
AMERICAN BRIDGE COMPANY USA 1928					
SETUP					
30	119074	1.00 EA			
	DWG-SUBMIT DRAWINGS FOR APPROVAL			Plant: 4000	
	Old Part#: 8581				
40	121045	1.00 EA			

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USA

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BRONZE

Drawing Approval

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BRONZE CRAFT CORP.
PO Box 788
NASHUA NH 03061-0788

Information
Sales Order No. 4617844
Customer No. 10013486

Item	Material	Quantity		Price	Price Unit	Amount
	PAT-STRAIGHT EDGE				Plant: 4000	
	Old Part#: 8201					
50	120860	1.00	EA			
	PAT-FLAT-BACKED PATTERN				Plant: 4000	
	Old Part#: 8002					
60	112776	1.00	EA			
	PAT-1/4IN THICK BACKGROUND (NORANDA)				Plant: 4000	
	Old Part#: 8360					
70	116395	1.00	EA			
	GRH-ALL CAPS				Plant: 4000	
	Old Part#: 8400					
80	120835	1.00	EA			
	GRH-MATCH COPY/PHOTO OF EXISTING PLAQUE				Plant: 4000	
	Old Part#: 8355					
90	123611	1.00	EA			
	GRH-CLOSE MATCH & NOTE STYLE				Plant: 4000	
	Old Part#: 8426					
100	118218	1.00	EA			
	GRH-LEATHERETTE				Plant: 4000	
	Old Part#: 8300					
CUSTOM INSIDE SINGLE LINE BORDER DIMENSIONS PER CUSTOMER LAYOUT						
COLOR AND FINISHING						
110	110610	1.00	EA			
	FIN-DARK OXIDE STAIN				Plant: 4000	
	Old Part#: 8801					
120	116099	1.00	EA			
	PRO-USE DIAMOND SHIELD				Plant: 4000	
	Old Part#: 8802					
130	125771	1.00	EA			
	FIN-SATIN (ON RAISED AREAS)				Plant: 4000	

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BRONZE

Drawing Approval

Sold-To-Party
BRONZE CRAFT CORP.
PO Box 788
NASHUA NH 03061-0788

Information
Sales Order No. 4617844
Customer No. 10013486

Item	Material	Quantity	Price	Price Unit	Amount
	Old Part#: 8820				
HARDWARE AND DRILLING					
20	124632	1.00 EA			
	HDW-D&T/PROVIDE 1/4-20 X 3IN BRASS STUD			Plant: 4000	
	Old Part#: 8768/30351				
	Final amount:				

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	✓	Stantec
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date: 10/18/16		
Signature: TEK		

This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

Vermont Agency of Transportation
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October 18, 2016
RESUBMIT No Approved
BY Mark Sargent DATE 10/18/2016

Approved As Is _____ *DATE*_____
Revise and Resubmit _____ *DATE*_____
Make Revisions and Proceed _____ *DATE*_____

MHOEFT 10/14/2016 15:20:42