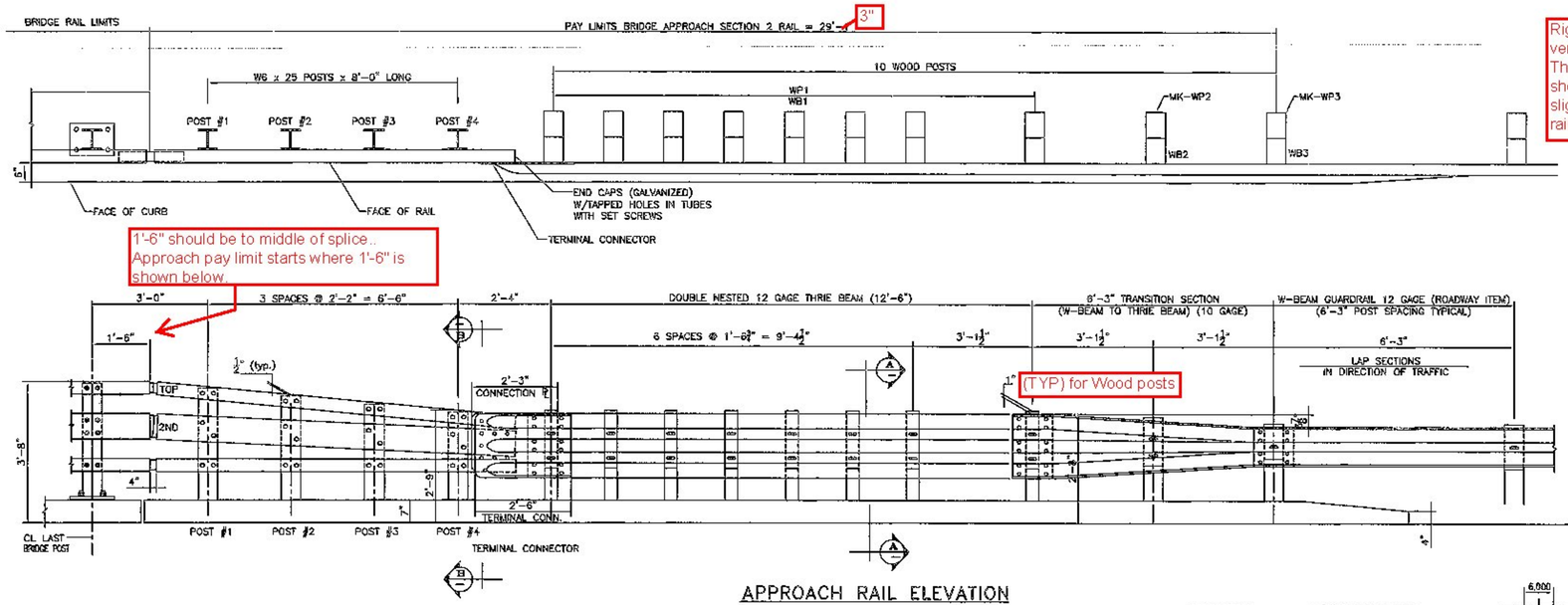
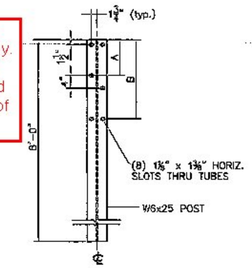



## APPROACH RAIL ELEVATION

4 TOTAL APPROACHES

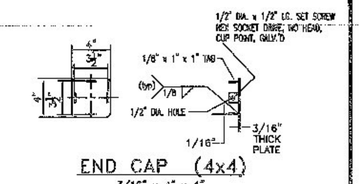
Right hole should be vertically offset slightly. The top of the posts should also be sloped slightly same as top of rail.




## STEEL POST

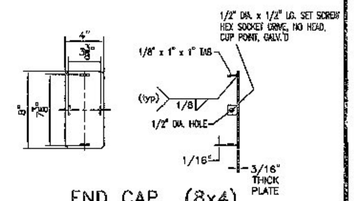
STEEL POST CHART

| No. | A | B |
|---|---|---|
| #1 | 10.938" | 2'-0.438" |
| #2 | 9.625" | 1'-10.250" |
| #3 | 8.313" | 1'-8.000" |
| #4 | 6.938" | 1'-5.688" |




END CAP (4x4)

3/16" x 4" x 4"

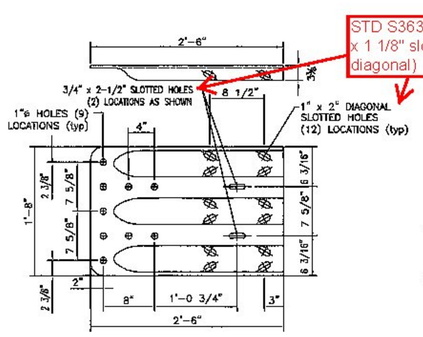



END CAP (8x4)

3/16" x 8" x 4"

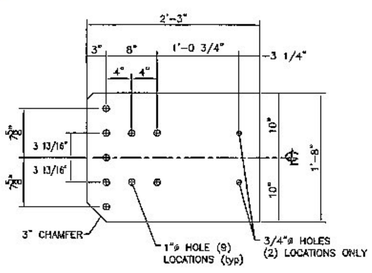
## BILL OF MATERIAL FOR ALL 3 RAIL APPROACHES

| Qty | mk | Description | Spec. |
|---|---|---|---|
| 4 | 01 | W6x25 APPROACH POST - #1 x 8'-0" OAL (GALV) | A709 gr 50 |
| 4 | 02 | W6x25 APPROACH POST - #2 x 8'-0" OAL (GALV) | A709 gr 50 |
| 4 | 03 | W6x25 APPROACH POST - #3 x 8'-0" OAL (GALV) | A709 gr 50 |
| 4 | 04 | W6x25 APPROACH POST - #4 x 8'-0" OAL (GALV) | A709 gr 50 |
| 4 | | UPPER RAIL APPROACH TUBE HSS 8 x 4 x 5/16 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV) | A500 gr B |
| 8 | | LOWER RAIL APPROACH TUBE HSS 4 x 4 x 5/16 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV) | A500 gr B |
| 4 | | CONNECTION PLATE PL 0.375" x 20.000" x 27.000" (GALV) | A709 gr 36 |
| 4 | | END CAP FOR 6x4 TUBE 0.187 THICK PLATE 6.000 x 4.000 w/ WELDED TABS (GALV) | A709 gr 36 |
| 8 | | END CAP FOR 4x4 TUBE 0.187 THICK PLATE 4.000 x 4.000 w/ WELDED TABS (GALV) | A709 gr 36 |
| 4 | | (ANGLED) SPLICE TUBE (EXPANSION) FOR 8x4 UPPER RAIL HSS 7 x 3 x 3/8 x 1'-11.750" OAL (GALV) | A500 gr B |
| 4 | | ANGLED SPLICE TUBE (EXPANSION) FOR 4x4 LOWER RAIL HSS 3 x 3 x 5/16 x 1'-11.750" OAL (GALV) | A500 gr B |
| 4 | | SPLICE TUBE (EXPANSION) FOR 4x4 LOWER RAIL HSS 3 x 3 x 5/16 x 1'-11.750" OAL (GALV) | A500 gr B |
| 32 | | WOOD POST (WP1) 6 x 8 x 7'-0" | TIMBER |
| 32 | | WOOD BLOCKOUT (WB1) 6 x 8 x 1'-6" | TIMBER |
| 4 | | WOOD POST (WP2) 6 x 8 x 7'-0" | TIMBER |
| 4 | | WOOD BLOCKOUT (WB2) 6 x 8 x 1'-8" | TIMBER |
| 4 | | WOOD POST (WP3) 6 x 8 x 7'-0" | TIMBER |
| 4 | | WOOD BLOCKOUT (WB3) 6 x 8 x 1'-2" | TIMBER |
| 4 | | THRIE FLAT LIP BRIDGE SHOE (MODIFIED) 10 GA. GALV | aashto M180 B2 |
| 4 | | THRIE TRANSITION PANEL 6'-3" / 3'-1 1/2" 10 GA. GALV. | aashto M180 B2 |
| 8 | | THRIE PANEL 12'-6" / 1'-6 3/4" 12 GA. GALV. | aashto M180 A2 |
| 124 | | ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 8" LG. (GALV) w/ LOCK NUT & FLAT WASHER | A449 |
| 12 | | ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 2" LG. (GALV) w/ HEX NUT | A449 |
| 8 | | ROUND HEAD POST BOLT - oval shoulder 5/8" DIA x 1'-8" LG. (GALV) w/ DBL RECESS NUT, FLAT WASHER | A307 |
| 68 | | ROUND HEAD POST BOLT - oval shoulder 5/8" DIA x 1'-8" LG. (GALV) w/ DBL RECESS NUT, FLAT WASHER | A307 |
| 32 | | HEXHEAD BOLT 5/8 x 1-3/4" (GALV) w/ FLAT WASHER | A325 |
| 128 | | PANEL SPLICE BOLT 5/8 x 1-1/4" (GALV) w/ DOUBLE RECESSED NUT | A307 |
| 76 | | RECTANGULAR PLATE WASHER 0.187 x 1.750 x 3.000 (GALV) | A709 gr 36 |
| 32 | | SPACER PIPE - GALVANIZED 3/4" SCH. 40 x 1/2" LONG (GLV) | A53 gr B |



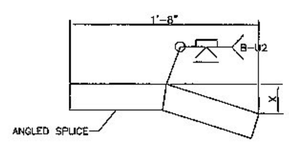

## TERMINAL CONNECTOR

10 GAUGE (AASHTO M180 B2)




## CONNECTION PLATE

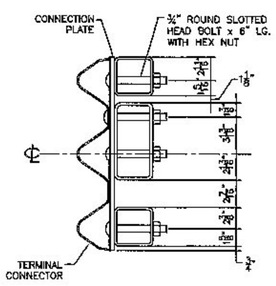
3/8" x 1'-8" x 2'-3"



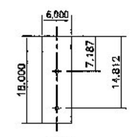

## ELEVATION

ANGLED SPLICE DIMENSION

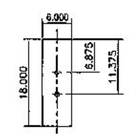
| X | |
|---|---|
| TOP SPLICE | SECOND SPLICE |
| 1.5" | 0.625" |



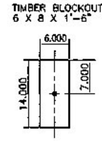

## SECTION B-B




WB1
TIMBER BLOCKOUT
6 X 8 X 1'-6"

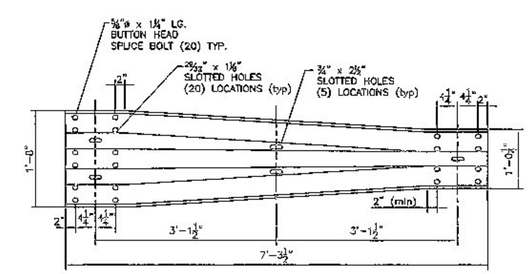



WB2
TIMBER BLOCKOUT
6 X 8 X 1'-8"



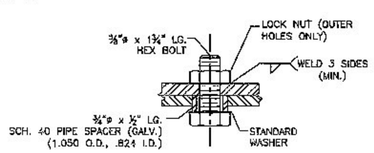

WB3
TIMBER BLOCKOUT
6 X 8 X 1'-2"

## WOOD BLOCK DETAILS

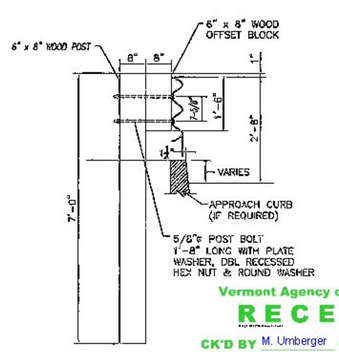



## THRIE TRANSITION PANEL

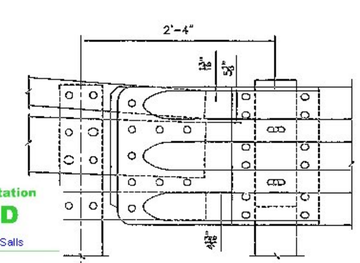
10 GAUGE (AASHTO M180 B2)




## SPLICE BOLT DETAIL




## SECTION A-A




## DETAIL A

NOTES:

1. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
2. TUBES AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS NOTED OTHERWISE.
3. APPROACH RAIL BOLTS SHALL BE ASTM A307 GRADE A AND NUTS SHALL BE AASHTO M291 (ASTM A563 GRADE A OR BETTER)(GALVANIZED). WASHERS SHALL BE ASTM F844.
4. WELD SPLICE BARS TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).

Vermont Agency of Transportation
RECEIVED
CK'D BY M. Umberger OK'D BY H. Sells
July 15, 2014
RESUBMIT No Approved As Noted
BY C. Carlson DATE 07/21/2014

ITEM 621.725 3 RAIL BOX BEAM = 4 TOTAL

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 621.725 3 RAIL APPR. TUBES
TOWN OF STOWE, VERMONT
US RT VT 100 (MINOR ARTERIAL) BRG#206
LAMOILLE COUNTY BRF 029-1 (17)

CERTIFIED FABRICATOR

GENERAL CONTRACTOR
SUB CONTRACTOR LAFAYETTE
DRAWN RWL | CHECKED | DATE 6-30-14 | SCALE NONE | SIZE D
ISSUE YEAR NO. 1999
SHEET NO. 3 of 3