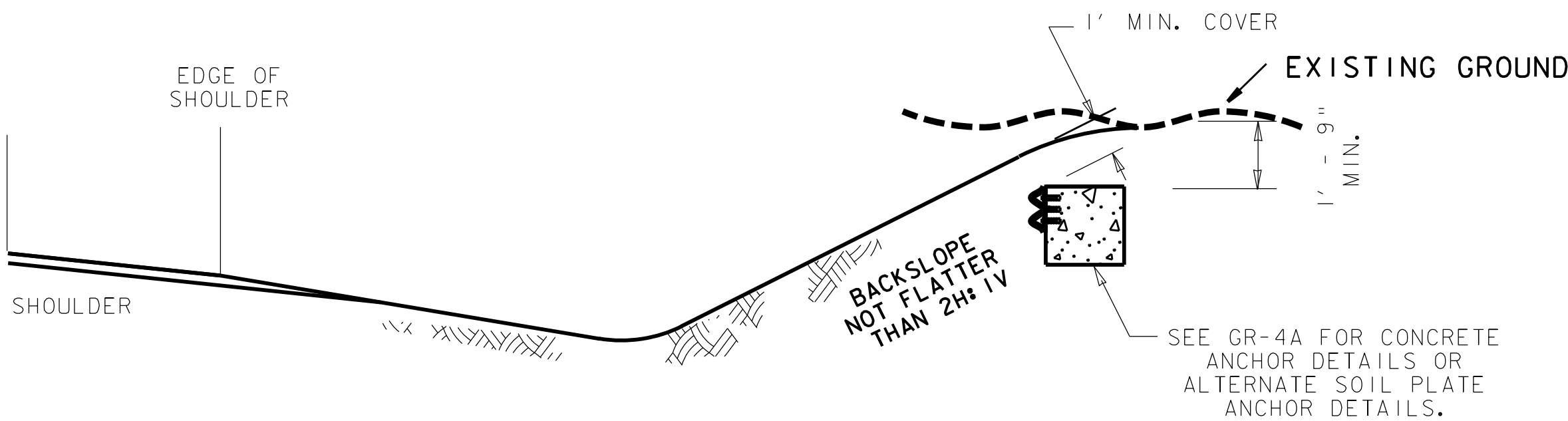
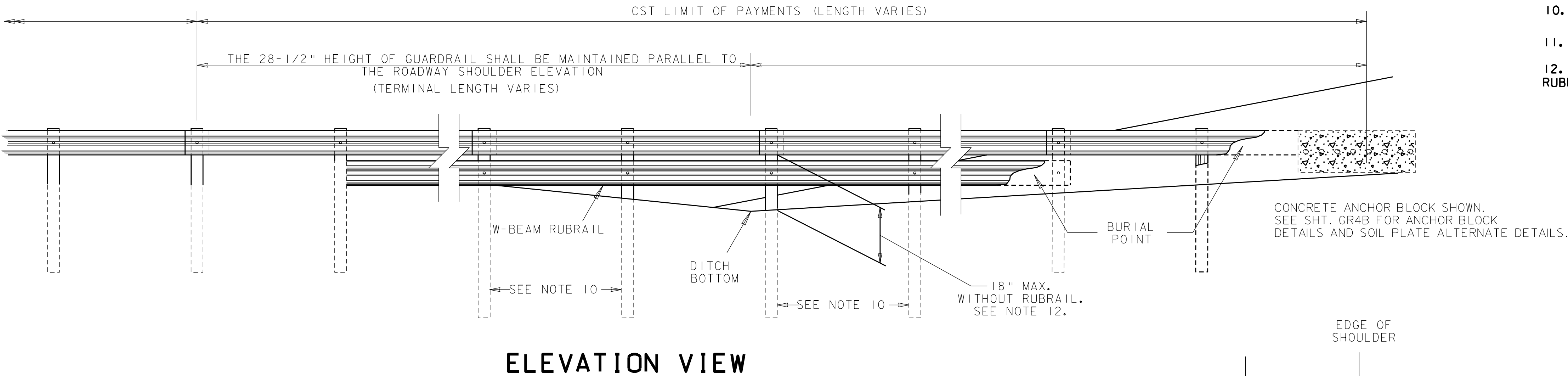
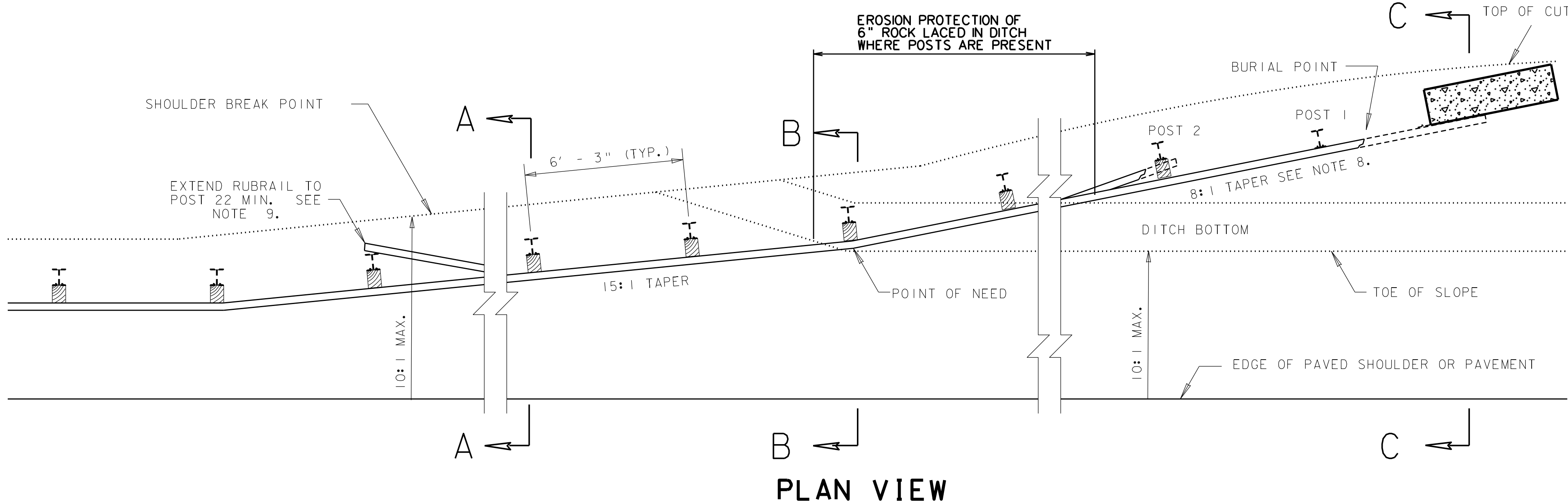
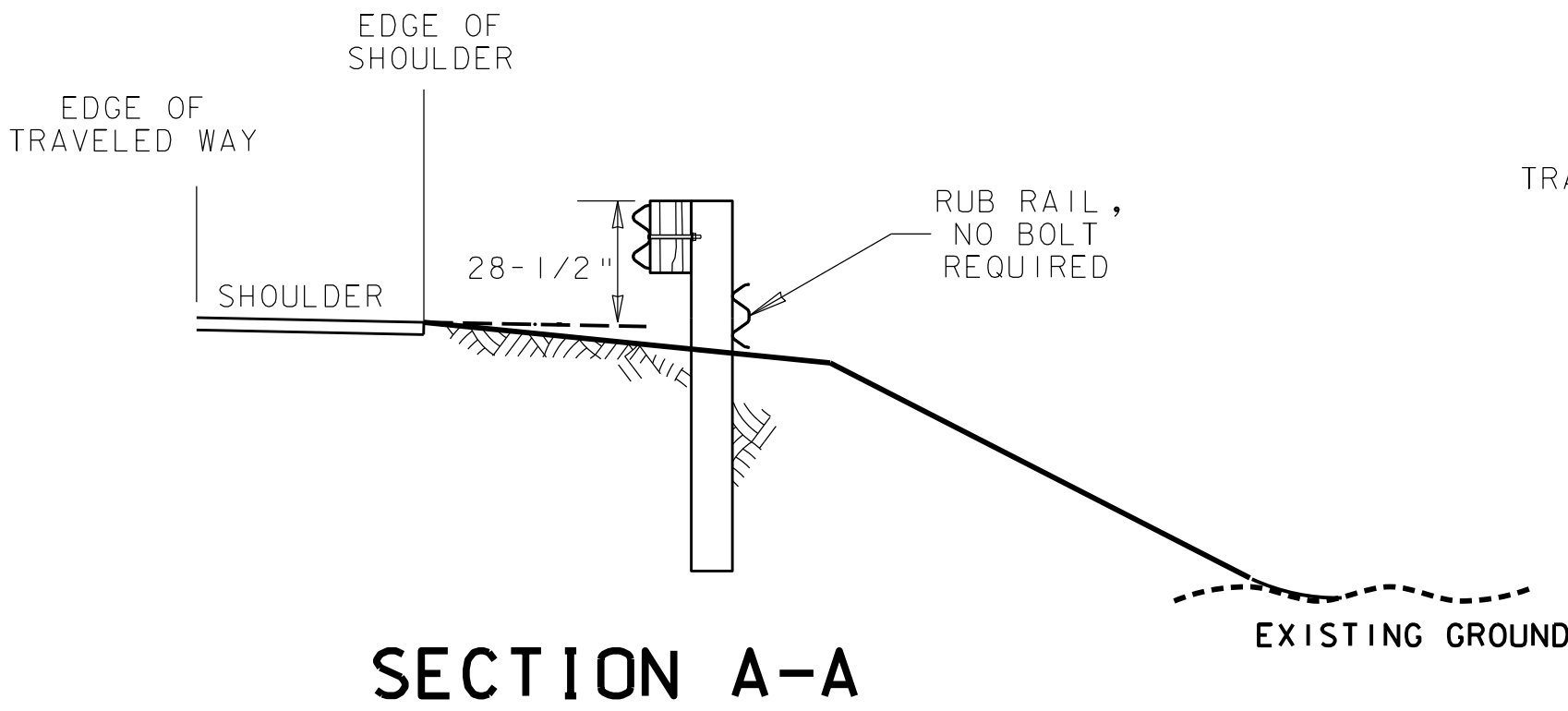


NOTES

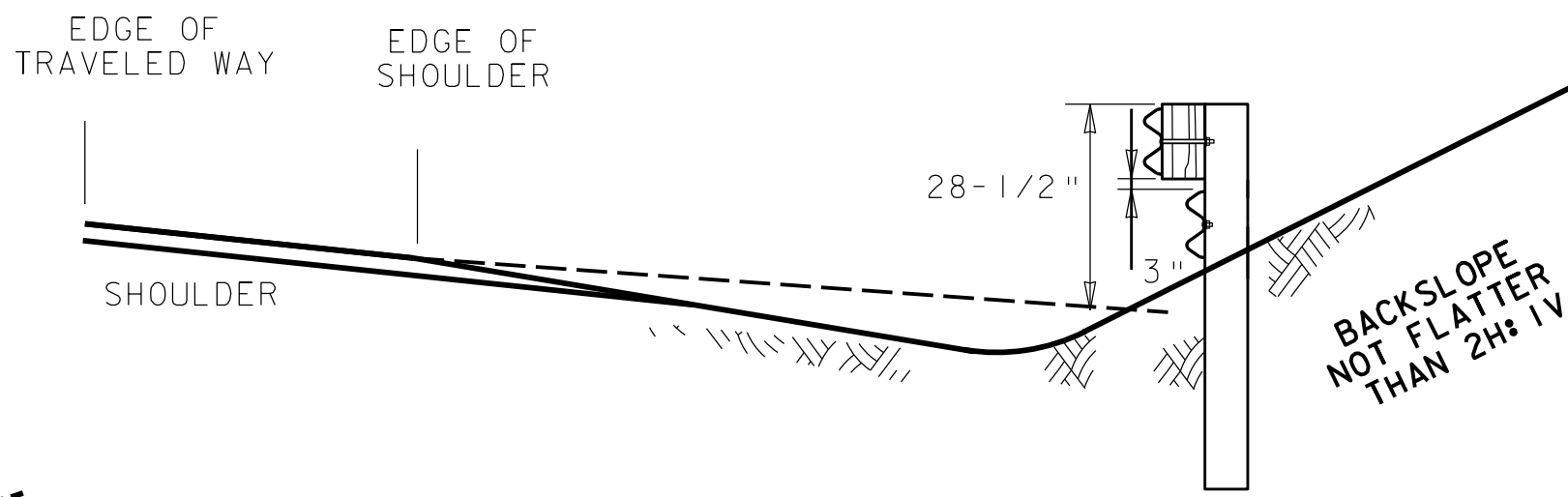
1. FOR FILL TO CUT GUARDRAIL TERMINALS (TRAILING END, TWO LANE HIGHWAYS, AND ALL APPROACH END) WHERE ANCHORED ENDS ARE SPECIFIED, THE DETAILS AND REQUIREMENT HEREIN SHALL BE APPLICABLE.
2. PRIOR TO PLACING GUARDRAIL, A FINAL CHECK OF EXISTING CONDITIONS WILL BE MADE BY THE ENGINEER AND ANY ADJUSTMENT NECESSARY TO INSURE THE PROPER LOCATION AND FUNCTIONING OF THE GUARDRAIL FOR THE PURPOSE FOR WHICH IT IS INTENDED WILL BE MADE ACCORDINGLY.
3. POSTS, BLOCKS AND RAIL ELEMENTS SHALL BE THE SAME TYPES USED IN THE NORMAL GUARDRAIL INSTALLATION, UNLESS OTHERWISE NOTED. GUARDRAIL BLOCKS SHALL NOT BE USED ON ANY POSTS COMPLETELY UNDERGROUND.
4. THE FINAL DECISION AS TO THE TYPE OF CUT SLOPE TERMINAL INSTALLATION (TYPE A OR B) AT EACH LOCATION WILL ABE BASED ONTHE ACTUAL MATERIALS ENCOUNTERED DURING CONSTRUCTION.
5. CUT SLOPE TERMINAL INSTALLATION CAN INTERFERE WITH NORMAL DRAINAGE THROUGH A CUT SECTION. WHEN THIS OCCURS, DETAILS FOR MAINTAINING POSITIVE DRAINAGE WILL BE SHOWN ON THE PROJECT PLANS.
6. WHEN INSTALING CST TYING INTO 31" TOP OF RAIL HEIGHT GUARDRAIL. THE CST SHALL BE INSTALLED AT 28-1/2" HEIGHT. TAPER 31" GUARDRAIL DOWN VERTICALLY PRIOR TO CST INSTALLATION.
7. THE CST GUARDRAIL TERMINAL SHOULD BE USED ONLY WITH 2:1 OR STEEPER BACK SLOPE.
8. THE FLARE RATE OF THE GUARDRAIL MAY BE STEEPENED TO 8:1 AFTER CROSSING THE DITCH BOTTOM TO SHORTEN THE LENGTH OF THE TERMINAL.
9. RUBRAIL TO EXTEND FROM POST 2, THROUGH ENTIRETY OF DITCH, TO POST 22 AT A MINIMUM.
10. FOR THE RUB RAIL SECTION USE 8' LONG POSTS.
11. SEE GR-4A AND GR-4B FOR DETAILS OF TYPE A AND TYPE B TERMINALS.
12. MAXIMUM CLEARANCE FROM BOTTOM OF W-BEAM TO GROUND LINE WITHOUT W-BEAM RUBRAIL IS 18".



SECTION C-C



SECTION A-A



SECTION B-B

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STANDARD DETAIL

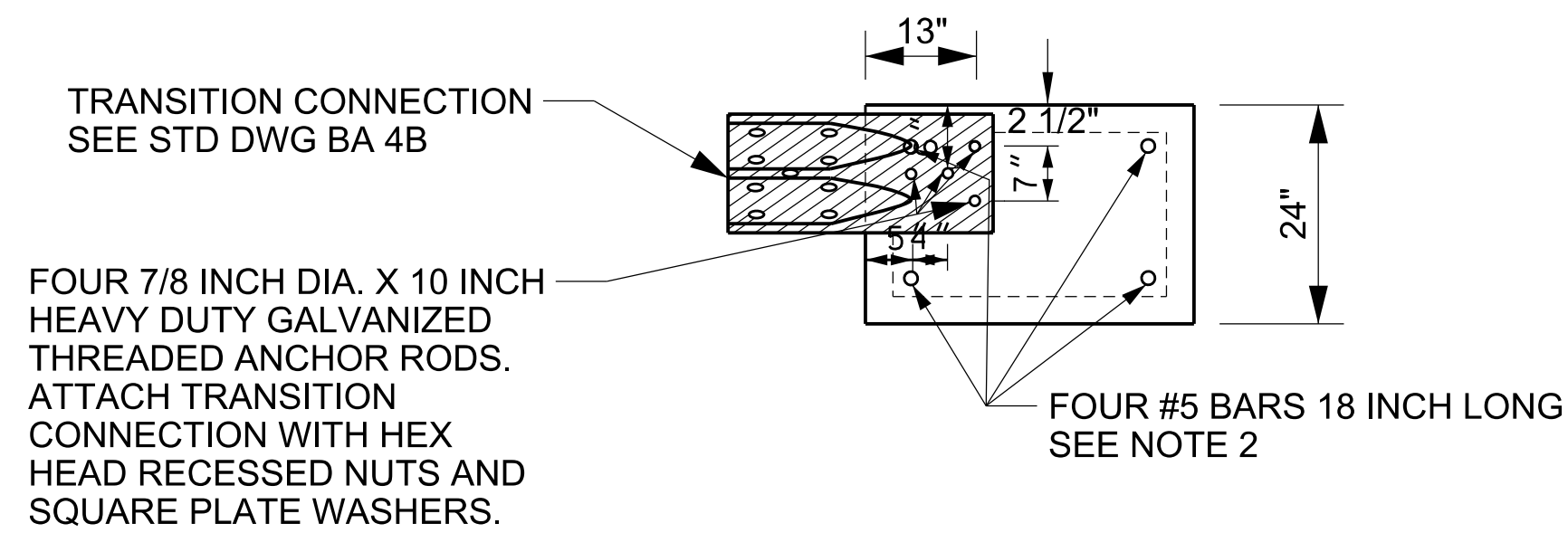
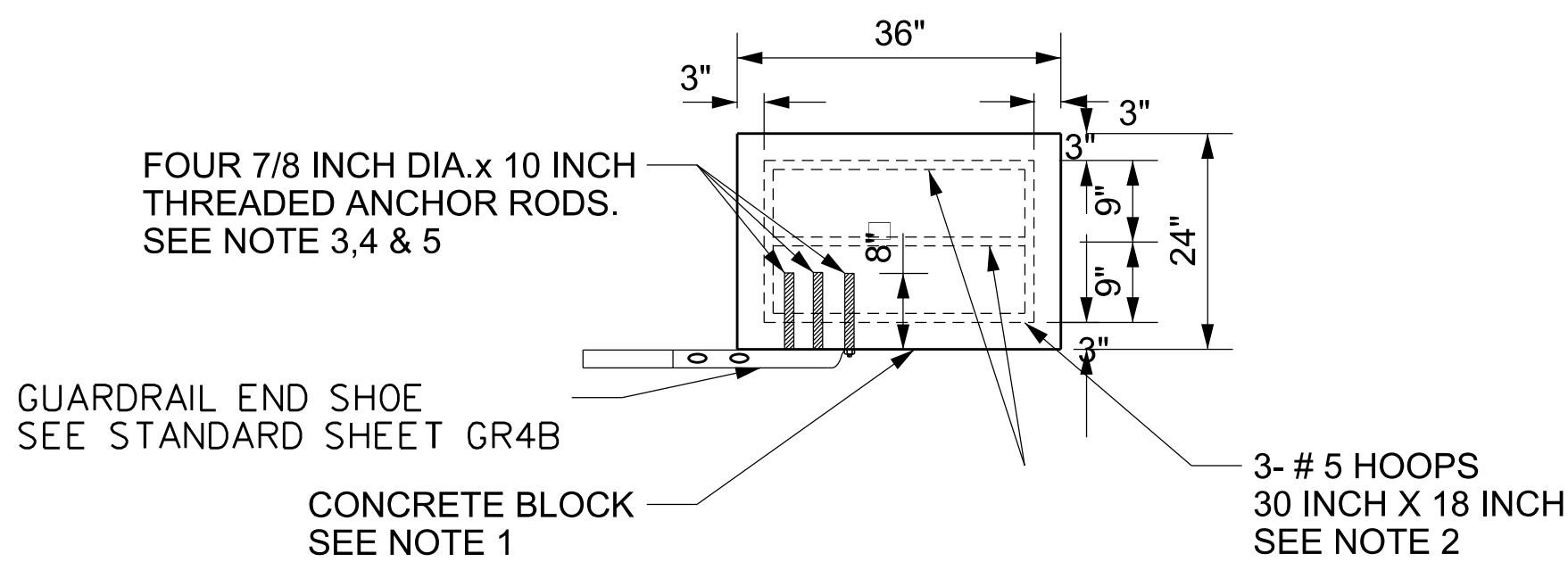
REVISED STANDARD DETAIL

PREPARED 7-1-99

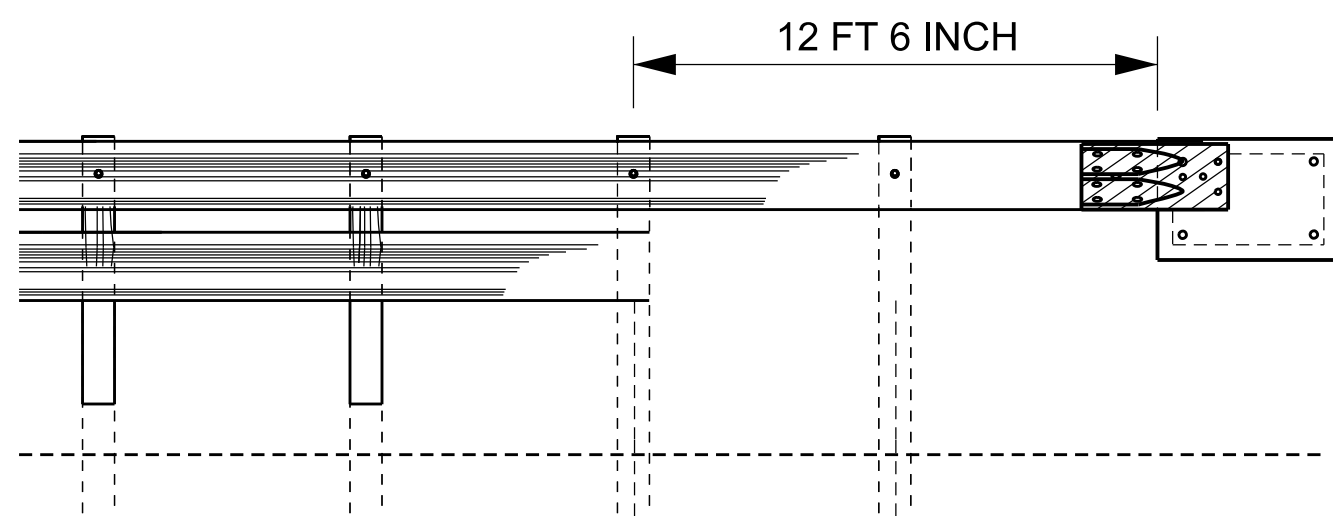
REVISION	DATE
4/22/15	

CUT SLOPE TERMINAL

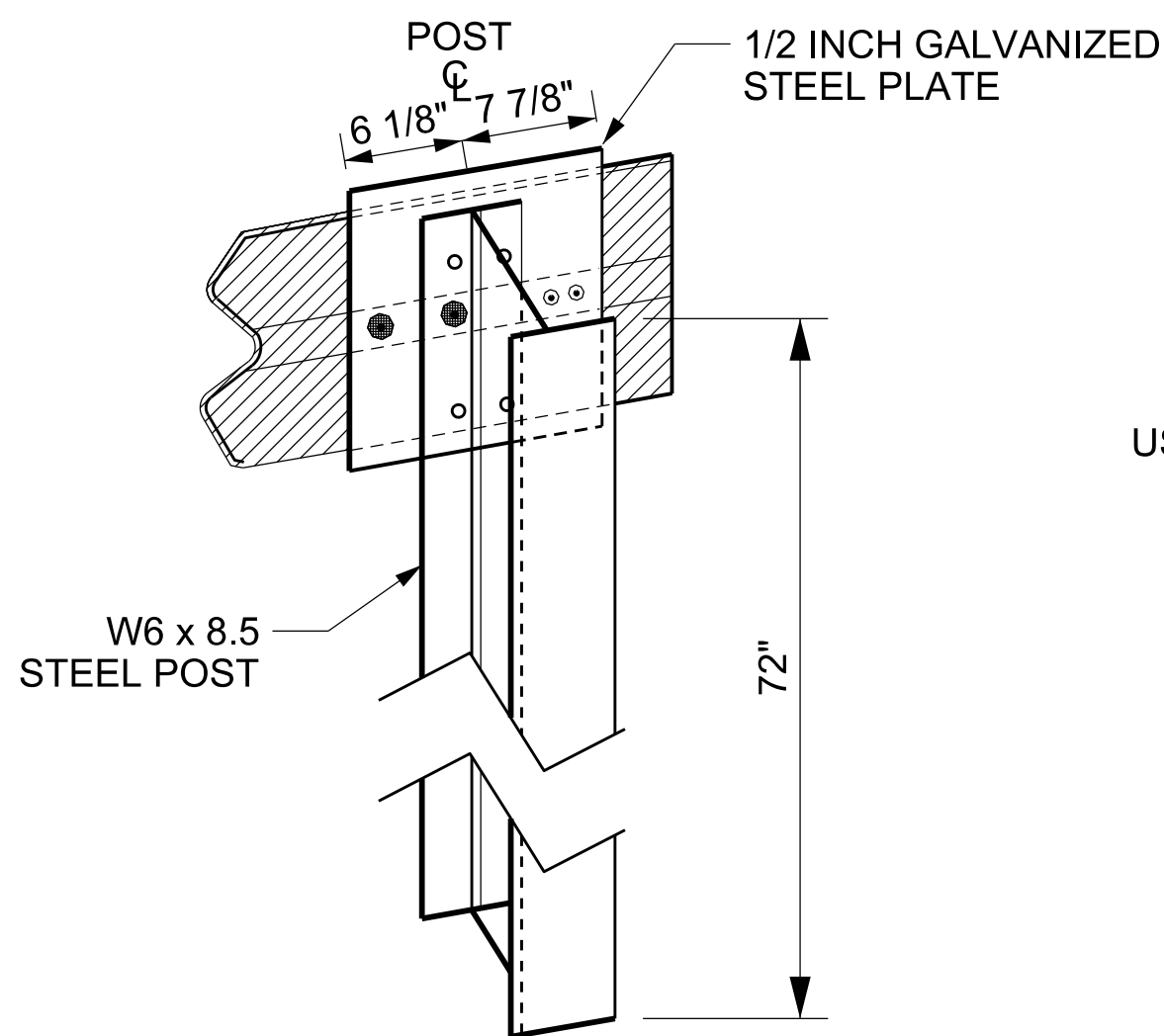
STANDARD SHEET GR4



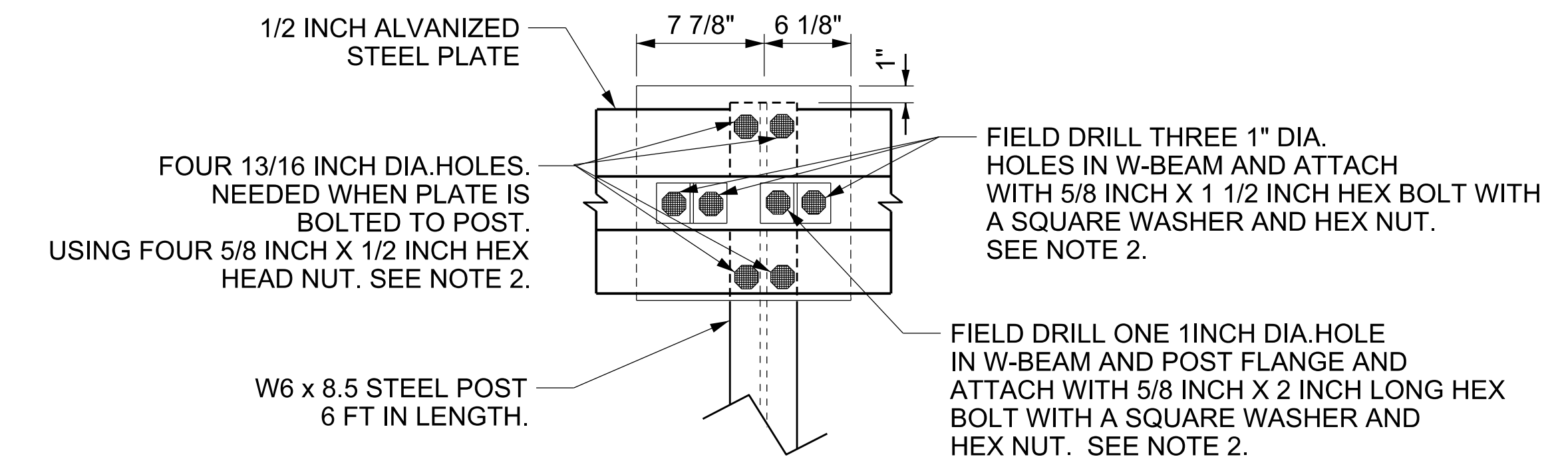
- NOTES:
1. USE CLASS B CONCRETE.
 2. USE EPOXY COATED REINFORCING STEEL, PER SECTION 602 OF THE SPECIFICATIONS.
 3. USE GALVANIZED THREADED ROD.
 4. THREADED RODS CAN BE CAST INTO CONCRETE BLOCK OR HOLES CAN BE DRILLED INTO BLOCK AND RODS ANCHORED WITH EPOXY.
 5. DRILL HOLES A MINIMUM 9 INCH DEEP. CLEAN DRILLED HOLES PRIOR TO INSERTING THREADED ROD.



RUBRAIL ELEMENT
OPTION I
CONCRETE BLOCK

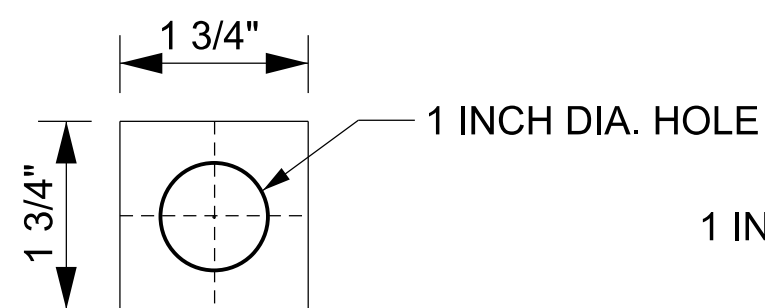


REAR VIEW

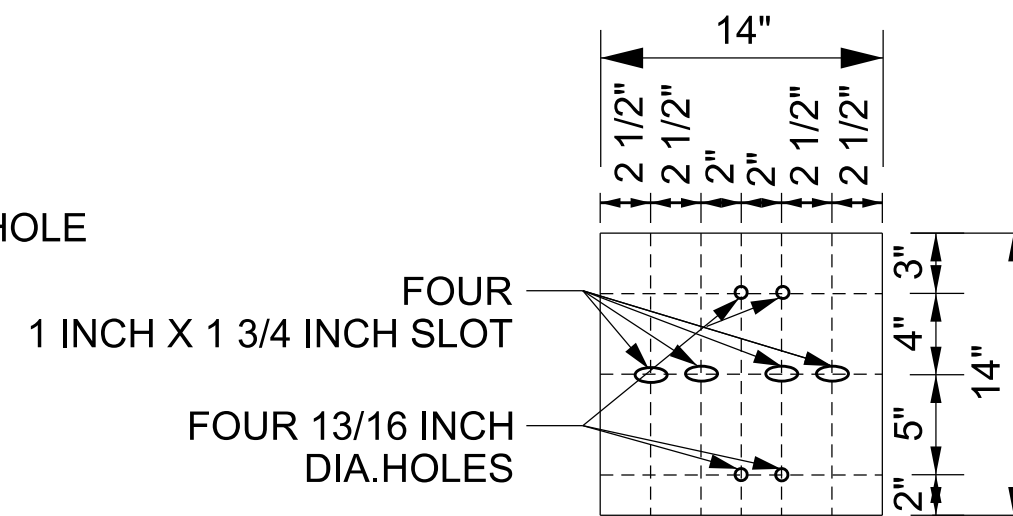


FRONT VIEW

ANCHOR POST/PLATE ATTACHMENT
FOR SINGLE RAIL ELEMENT

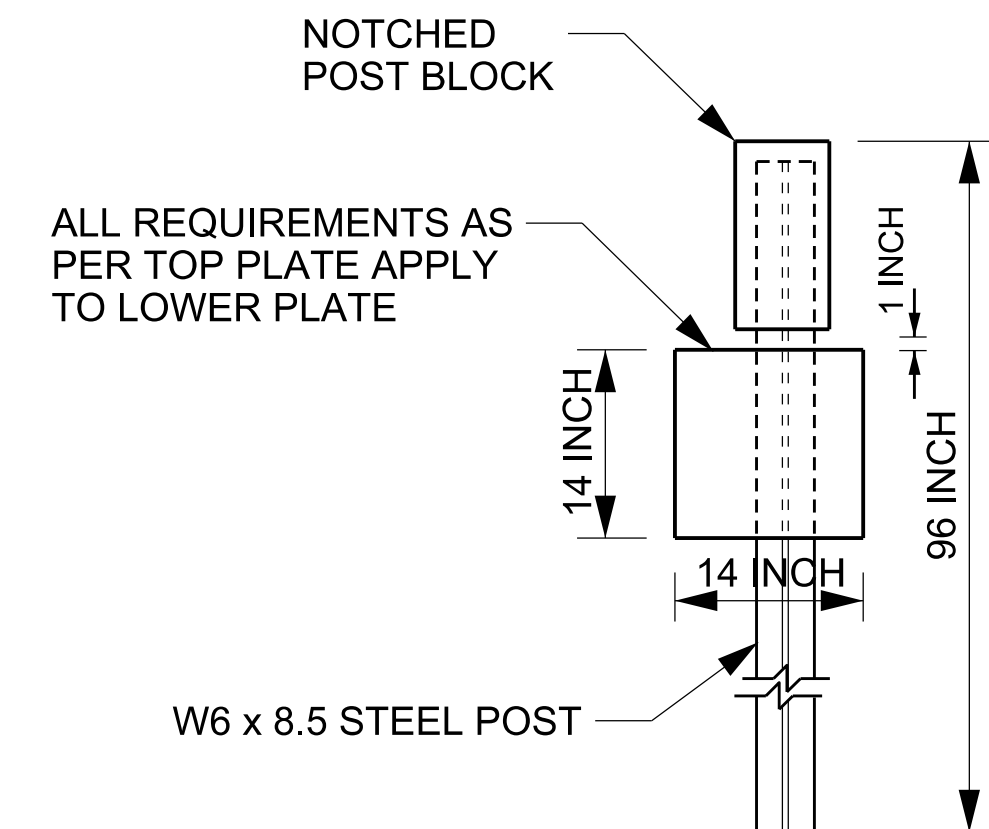


SQUARE WASHER
(3/16 INCH THICK,GALVANIZED)



1/2 INCH STEEL PLATE
(GALVANIZED)

- NOTES:
1. USE 1/2 INCH STEEL PLATE MEETING REQUIREMENTS OF ASTM A 36.
 2. GALVANIZING REQUIRED FOR PLATE AND HARDWARE.
 3. USE ZINC RICH PAINT TO COAT FIELD DRILLED HOLES.

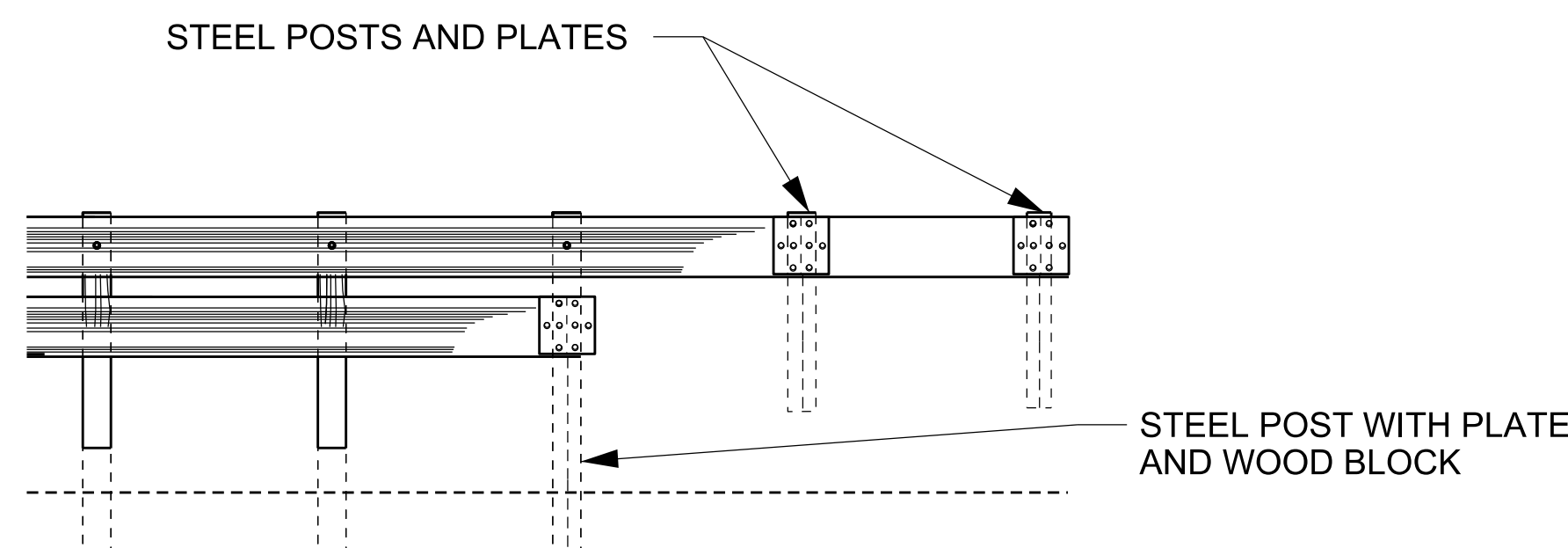


ANCHOR POST/PLATE ATTACHMENT
FOR RUB RAIL ELEMENT

GENERAL NOTES:

TYPE A (SOFT SHALE OR SOIL) CUT SLOPE TERMINAL GUARDRAIL SHALL BE THAT GUARDRAIL WHICH IS TO EXTEND A MINIMUM OF TWO 6'-3" SPANS INTO THE CUT SLOPE, FROM THE FIRST POST BEYOND THE TOE OF THE CUT SLOPE AND IS TO TERMINATE A MINIMUM OF 1'-0" BELOW THE GROUND ELEVATION OF THE BACK SLOPE, EXCEPT IN AREAS OF HEAVY ROCK OUTCROPPING WHERE THE MINIMUM DEPTH MAY BE 6 INCHES.

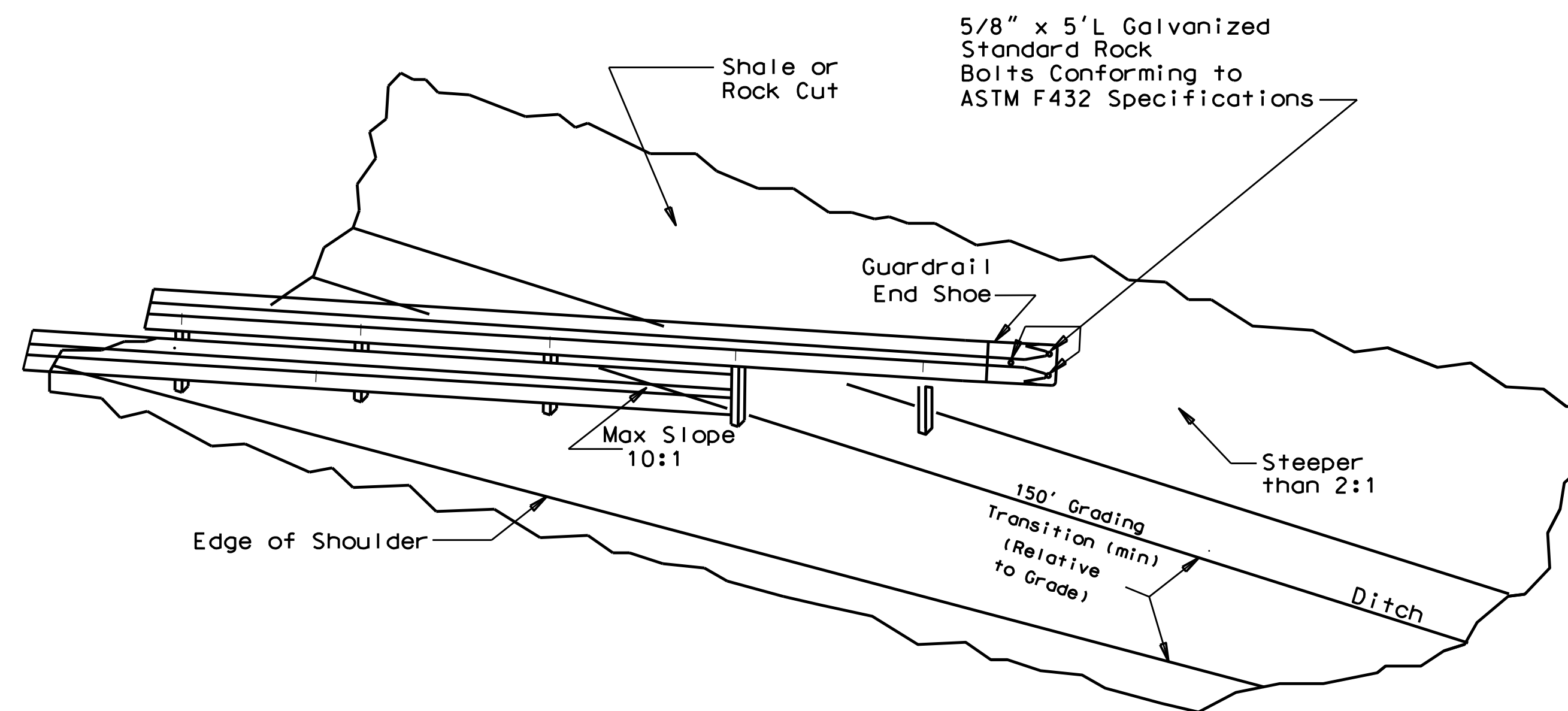
A TRENCH NO GREATER THAN 18" IN WIDTH SHALL BE EXCAVATED INTO THE CUT SLOPE TO ACCOMMODATE THE TYPE A TERMINAL INSTALLATION. THE CONTRACTOR SHALL ARRANGE HIS WORK/SEQUENCE SUCH THAT EACH TYPE A CUT SLOPE TERMINAL INSTALLATION BE EXCAVATED, POSTS DRIVEN, RAIL ELEMENTS AND GUARDRAIL COMPONENTS ASSEMBLED, TRENCH BACKFILLED, AND DISTURBED SLOPE SHAPED SEEDED AND MULCHED ALL IN A CONTINUOUS OPERATION.



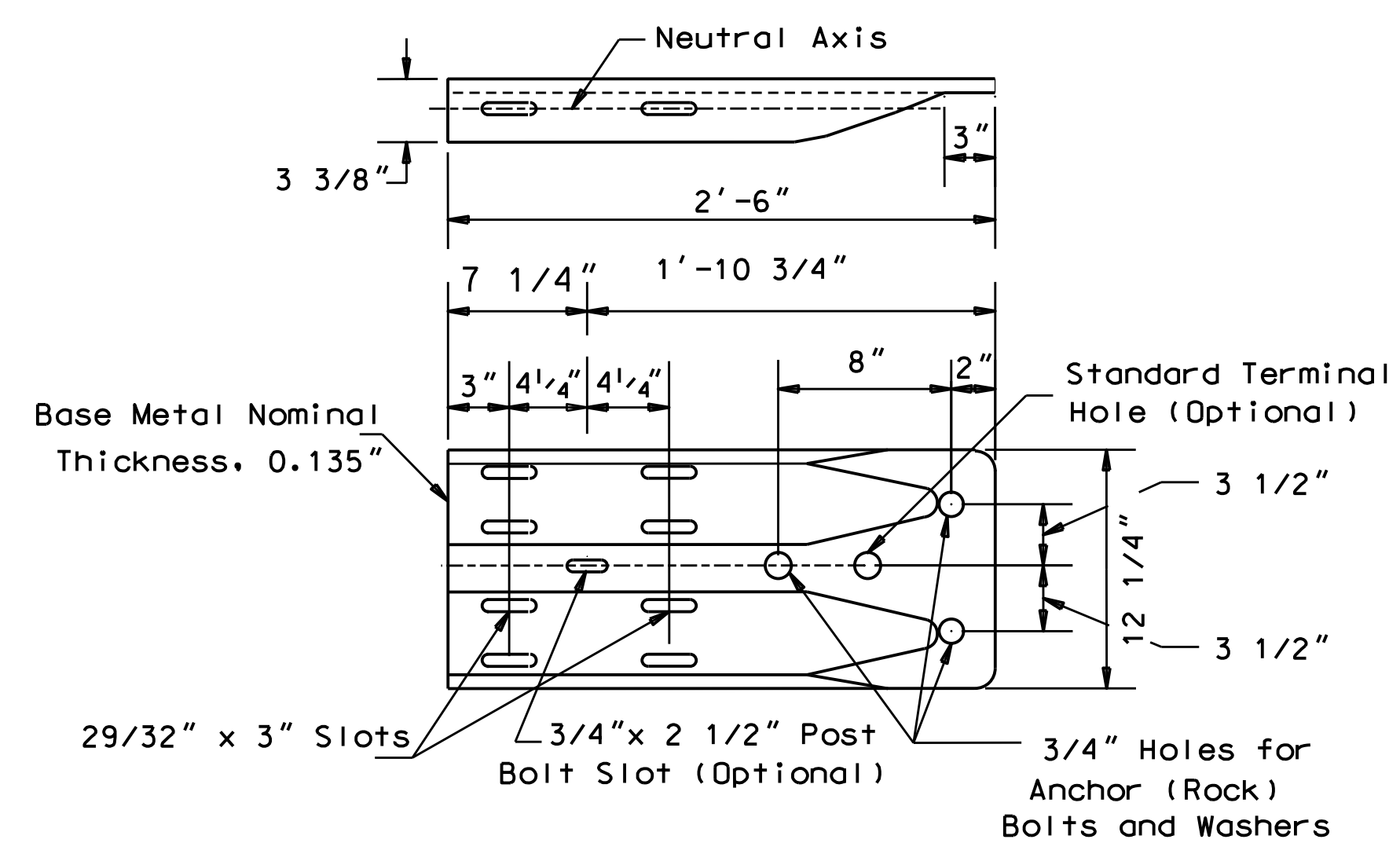
RUBRAIL ELEMENT
OPTION II
STEEL POSTS AND PLATES

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS STANDARD DETAIL	
REVISED STANDARD DETAIL	
PREPARED 4/22/15	
REVISION	DATE
CUT SLOPE TERMINAL TYPE A INSTALLATION SOFT SHALE OR SOIL	
STANDARD SHEET GR4A	

Type B (Shale or Rock) Cut Slope Terminal installation shall consist of anchoring the guardrail against the face of the cut slope utilizing guardrail end shoes and rock bolts, as detailed herein.



TYPE B (SHALE OR ROCK) CUT SLOPE TERMINAL INSTALLATION



GUARDRAIL END SHOE DETAIL

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STANDARD DETAIL

REVISED STANDARD DETAIL

PREPARED 4/22/15

CUT SLOPE TERMINAL TYPE B INSTALLATION SHALE OR ROCK

STANDARD SHEET GR4B