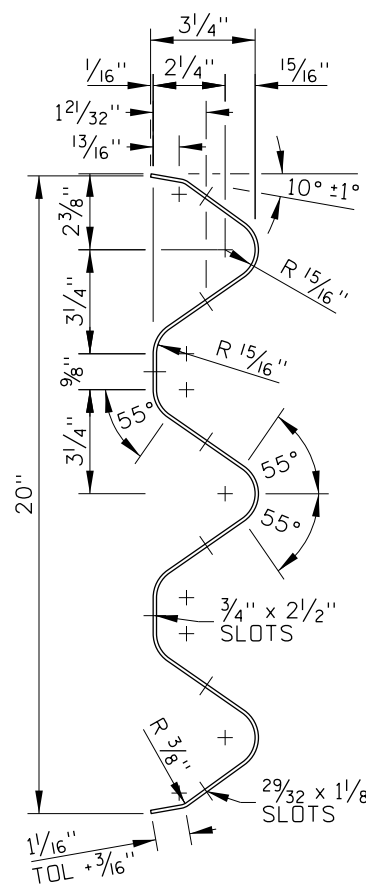
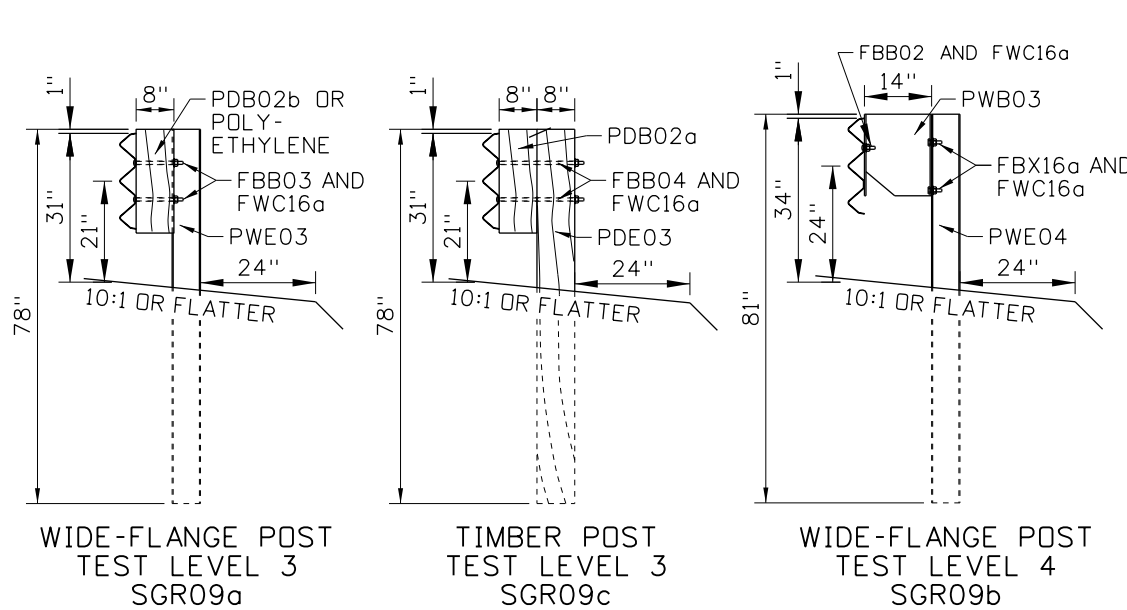


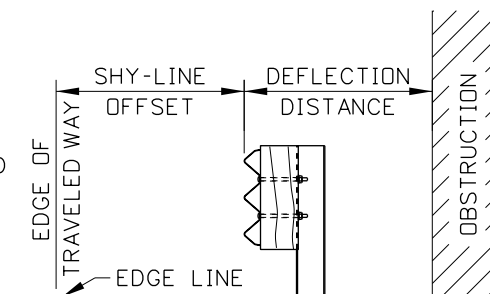
THRIE-BEAM GUARDRAIL



THRIE-BEAM GUARDRAIL SECTION A-A



THRIE-BEAM GUARDRAIL SECTIONS



PLACEMENT DETAIL
SEE NOTE NOS. 3 THROUGH 5

SHY-LINE OFFSET TABLE	
DESIGN SPEED (MPH)	SHY-LINE OFFSET (FT)
80	12
70	9
60	8
55	7
50	6.5
45	6
40	5
30	4

THRIE-BEAM GUARDRAIL HARDWARE COMPONENTS TABLE			
COMPONENT DESCRIPTION	WIDE-FLANGE TL-3 SGR09a	TIMBER TL-3 SGR09c	WIDE-FLANGE TL-4 SGR09b
2-SPACE THRIE-BEAM GUARDRAIL	RTM02a	RTM02a	RTM02a
THRIE-BEAM BACK-UP PLATE	-	-	RTB01a
WIDE-FLANGE GUARDRAIL POSTS	PWE03	-	PWE04
TIMBER GUARDRAIL POSTS	-	PDE03	-
THRIE-BEAM BLOCKOUT	PDB02b OR POLYETHYLENE	PDB02a	-
MODIFIED THRIE-BEAM BLOCKOUT	-	-	PWB03
5/8" GUARDRAIL SPLICE BOLT AND RECESSED NUT	FBB01	FBB01	FBB01
5/8" GUARDRAIL BOLT AND RECESSED NUT	FBB03	FBB04	FBB02
5/8" X 1 1/2" HEX BOLT AND NUT	-	-	FBX16a
5/8" PLAIN ROUND WASHER	FWC16a	FWC16a	FWC16a

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

ORIGINAL SIGNED BY: RYAN D. LANCASTER DATE ORIGINAL SIGNED: JULY 25, 2017

REVISIONS							
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE
1	05-07	MSM					
2	10-10	PLR					
3	06-17	RDL					

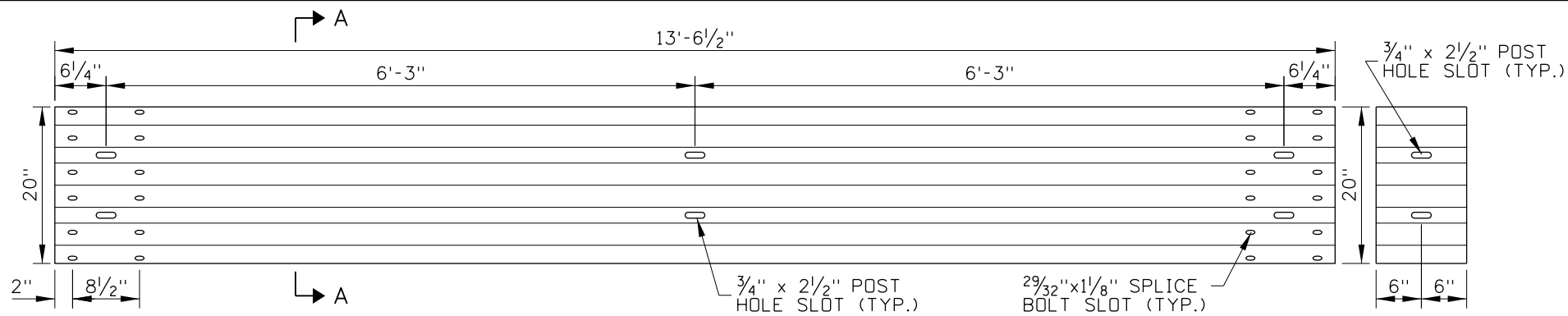
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DRAWING DATE: MAY, 2006

IDAHO TRANSPORTATION DEPARTMENT
BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

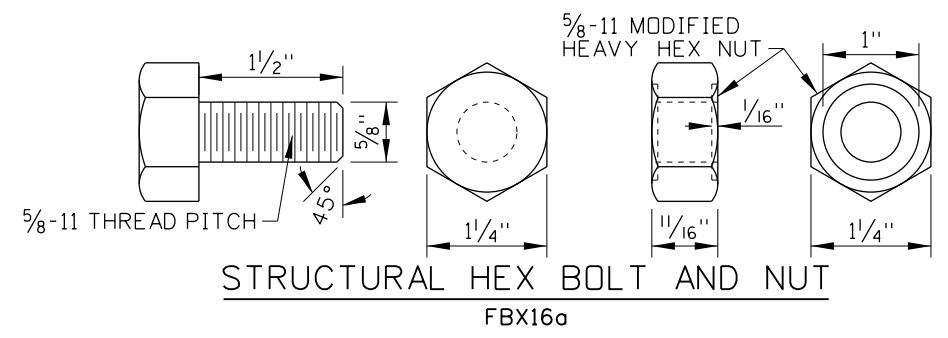
STANDARD DRAWING
THRIE-BEAM GUARDRAIL
REQUIRES SHEET 2 OF 2

English
STANDARD DRAWING NO. 612-2
SHEET 1 OF 2



2-SPACE THRIE-BEAM GUARDRAIL
RTM02a

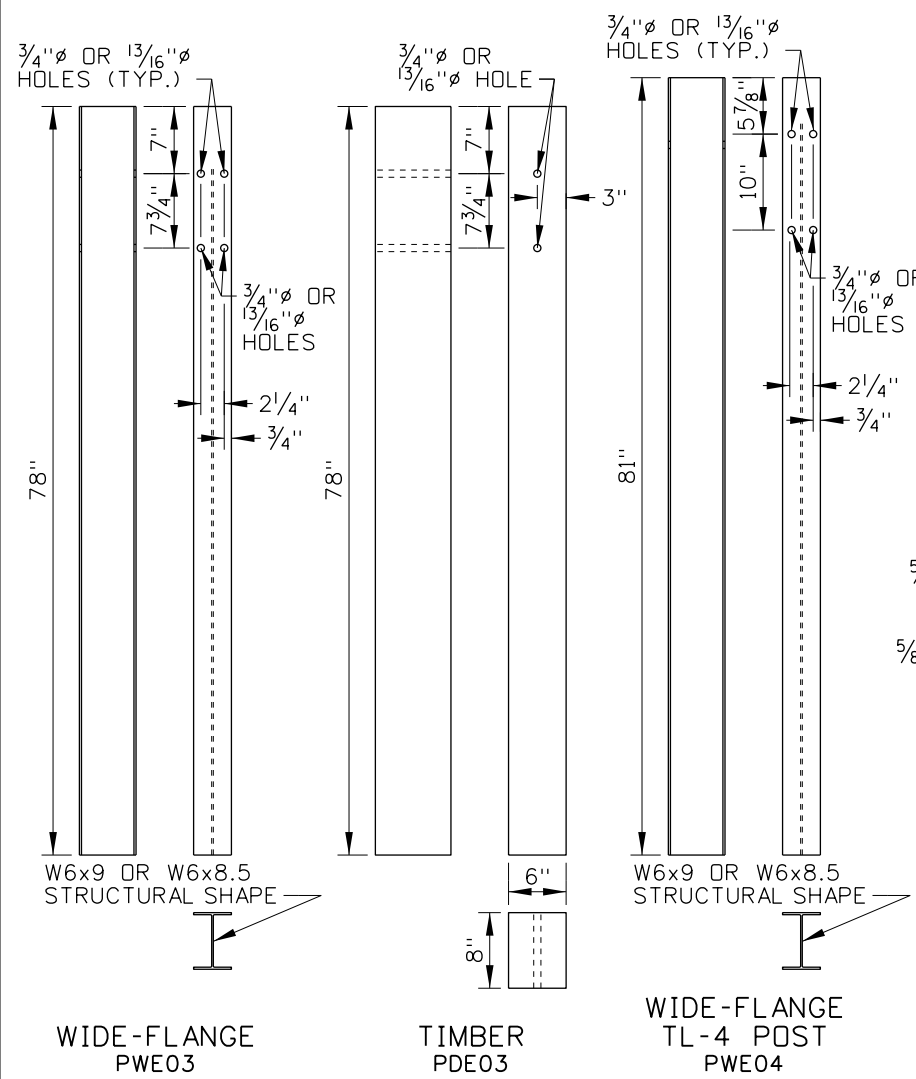
THRIE-BEAM BACK-UP PLATE
RTB01a



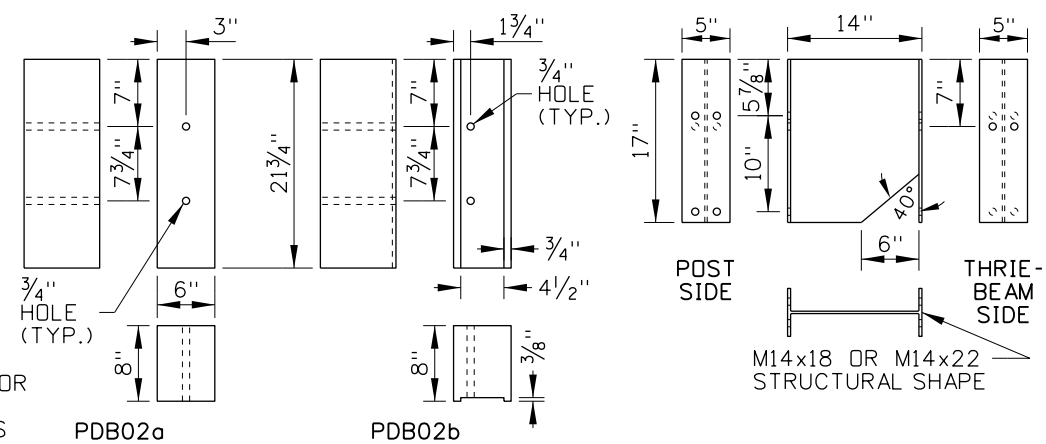
STRUCTURAL HEX BOLT AND NUT
FBX16a

NOTES

1. THE THRIE-BEAM GUARDRAIL SYSTEMS SHOWN ARE TEST LEVEL 3 (SGR09a AND SGR09c) AND TEST LEVEL 4 (SGR09b) BARRIER SYSTEMS.
2. PROVIDE BARRIER HARDWARE AS SHOWN AND AS SPECIFIED IN THE PUBLICATION "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE." WHERE THE GUIDE AND PLANS CONFLICT, PROVIDE HARDWARE COMPONENTS AS SHOWN ON THE PLANS.
3. PLACE THRIE-BEAM GUARDRAIL AS FAR FROM THE TRAVELED WAY AS PRACTICAL. WHERE PRACTICAL PROVIDE THE SHY-LINE OFFSET DISTANCE SHOWN IN THE SHY-LINE OFFSET TABLE.
4. WHERE PRACTICAL, FLARE THE THRIE-BEAM GUARDRAIL AWAY FROM THE TRAVELED WAY WHEN THE GUARDRAIL IS TO BE PLACED CLOSER THAN THE SHY-LINE OFFSET.
5. PROVIDE AT LEAST 24" OF DEFLECTION DISTANCE BETWEEN THE BACK OF POSTS AND OBSTRUCTIONS BEHIND THE GUARDRAIL.
6. NORMAL POST SPACING IS 6'-3". POST SPACING MAY BE DECREASED TO REDUCE GUARDRAIL DEFLECTION DISTANCES. GUARDRAIL DEFLECTION CAN ALSO BE REDUCED BY NESTING THE THRIE-BEAM ELEMENT.
7. WIDE-FLANGE OR TIMBER POSTS MAY BE USED IN TEST LEVEL 3 CONFIGURATIONS (SGR09a AND SGR09c) UNLESS OTHERWISE INDICATED. USE WIDE-FLANGE POSTS IN THE TEST LEVEL 4 CONFIGURATION (SGR09b). USE THE SAME POST MATERIAL FOR THE PROJECT LENGTH.
8. REMOVE ROCK AND PAVEMENT AROUND GUARDRAIL POSTS. SEE THE 31" W-BEAM GUARDRAIL STANDARD DRAWING FOR DETAILS.
9. IF WIDE-FLANGE POSTS ARE USED IN THE TEST LEVEL 3 CONFIGURATION (SGR09a), USE TIMBER OR POLYETHYLENE BLOCKOUTS. IF TIMBER POSTS ARE USED IN THE TEST LEVEL 3 CONFIGURATION (SGR09c), USE TIMBER BLOCKOUTS. USE THE MODIFIED THRIE-BEAM BLOCKOUT WITH WIDE-FLANGE POSTS IN THE TEST LEVEL 4 CONFIGURATION (SGR09b).
10. WHEN WIDE-FLANGE POSTS ARE USED IN THE TEST LEVEL 3 CONFIGURATION (SGR09a) AND WHEN PRACTICAL, INSTALL THE BOLT ON THE UPSTREAM SIDE OF THE POST IN RELATION TO THE ADJACENT TRAFFIC. WHEN INSTALLED IN THE TEST LEVEL 4 CONFIGURATION (SGR09b), ATTACH THE MODIFIED THRIE-BEAM BLOCKOUT TO THE WIDE-FLANGE POST WITH AT LEAST TWO FBX16a BOLTS. ENSURE THAT FIRST BOLT IS INSTALLED IN THE TOP HOLE AND THE SECOND BOLT IS INSTALLED IN THE BOTTOM HOLE ON THE OTHER SIDE OF THE FLANGE.
11. SPLICE THRIE-BEAM GUARDRAIL AT THE POSTS. OVERLAP SPLICES SO THAT THE EXPOSED THRIE-BEAM EDGE IS DOWNSTREAM OF THE ADJACENT TRAFFIC.
12. USE THE THRIE-BEAM BACK-UP PLATE (RTB01a) BEHIND THE THRIE-BEAM GUARDRAIL AT NON-SPLICE POSTS IN THE TEST LEVEL 4 (SGR09b) CONFIGURATION.
13. BEGIN AND END THRIE-BEAM GUARDRAIL BY TRANSITIONING TO 31" W-BEAM GUARDRAIL, OR WITH A TERMINAL, ANCHOR, OR TRANSITION.
 - A. TRANSITION TO 31" W-BEAM GUARDRAIL WITH THE W-THRIE BEAM TRANSITION SECTION (RWT01b) AND NORMAL POST SPACING. USE THE ASYMMETRICAL TRANSITION SECTION FOR THE TEST LEVEL 3 CONFIGURATIONS (SGR09a AND SGR09c). USE THE SYMMETRICAL TRANSITION SECTION FOR THE TEST LEVEL 4 CONFIGURATION (SGR09b). TRANSITION POST SPACING IN THE W-BEAM SECTION.
 - B. TRANSITION TO RIGID BARRIERS, SUCH AS BRIDGE RAIL OR CONCRETE BARRIER, BY REDUCING POST SPACING AS SHOWN ON THE HIGH SPEED GUARDRAIL TRANSITION STANDARD DRAWING. OMIT THE W-THRIE BEAM TRANSITION SECTION.
 - C. CONSTRUCT TERMINALS OR TRANSITIONS USING THE SAME POST MATERIAL AS THE GUARDRAIL WHEN PRACTICAL. SOME ANCHORS AND TERMINALS ARE ONLY AVAILABLE WITH TIMBER OR WIDE-FLANGE POSTS.
14. DELINEATE GUARDRAILS AT 50' SPACING OR LESS. SEE THE DELINEATOR STANDARD DRAWING.
15. DRAWING NOT TO SCALE.

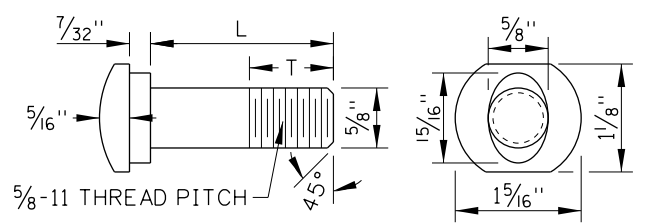


THRIE-BEAM GUARDRAIL POSTS



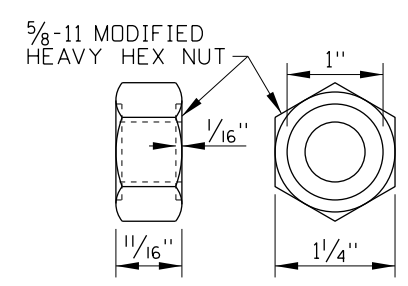
THRIE-BEAM TIMBER BLOCKOUTS

MODIFIED THRIE-BEAM BLOCKOUT
PWB03

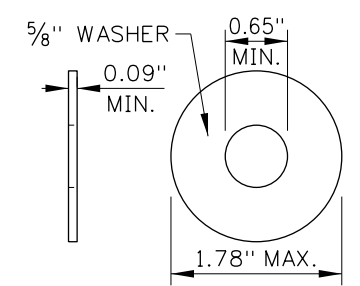


GUARDRAIL BOLT (BUTTON-HEADED)
FBB01, FBB03, FBB04

DESIGNATOR	L	T
FBB01	1 1/4"	1 1/8"
FBB02	2"	1 3/4"
FBB03	10"	4"
FBB04	18"	4"



RECESSED NUT



PLAIN ROUND WASHER
FWC16a

REVISIONS							
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE
1	05-07	MSM					
2	10-10	PLR					
3	06-17	RDL					

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STANDARD DRAWING
THRIE-BEAM GUARDRAIL
REQUIRES SHEET 1 OF 2

English
STANDARD DRAWING NO.
612-2
SHEET 2 OF 2

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ORIGINAL SIGNED BY: RYAN D. LANCASTER
DATE ORIGINAL SIGNED: JULY 25, 2017