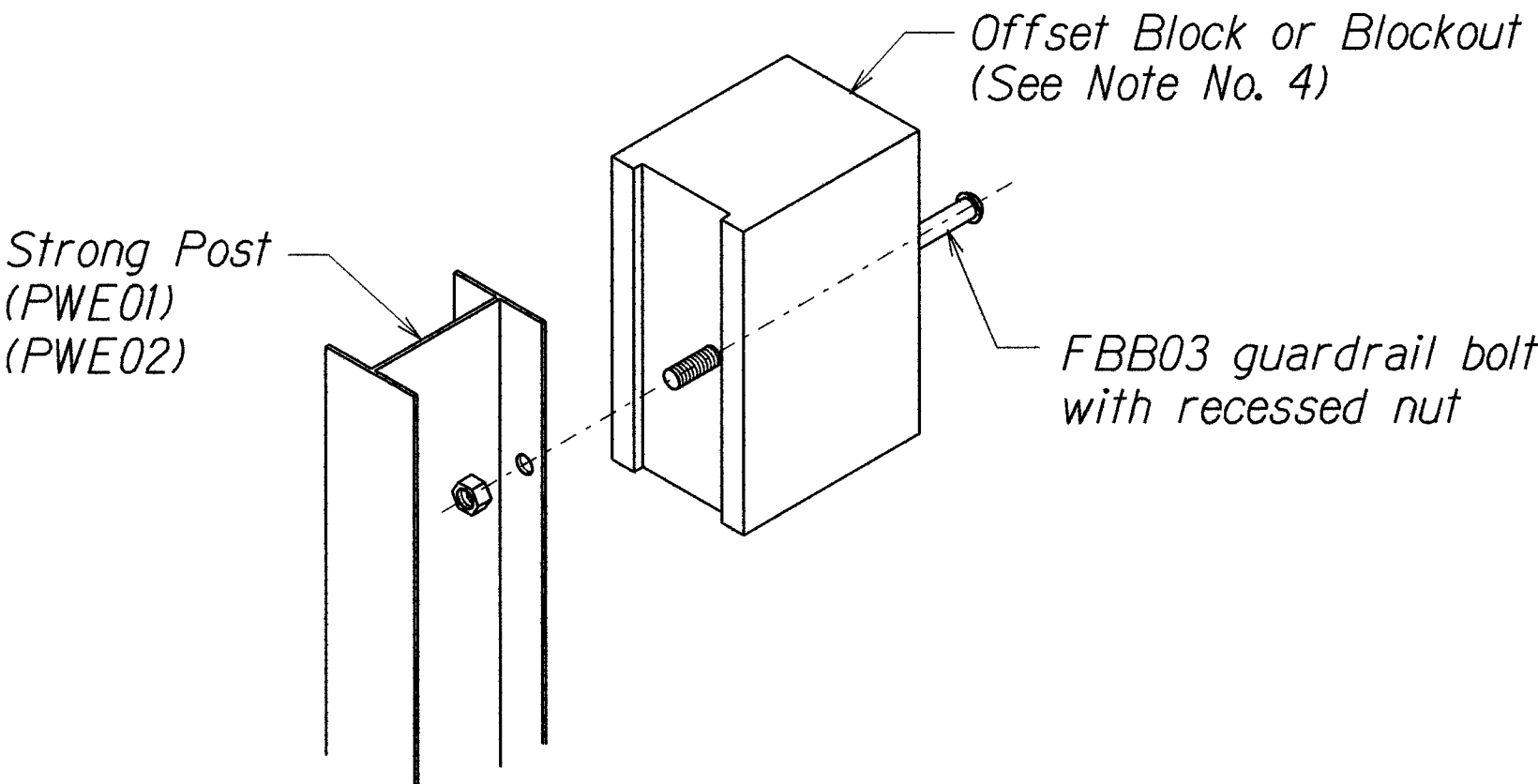


GENERAL NOTES

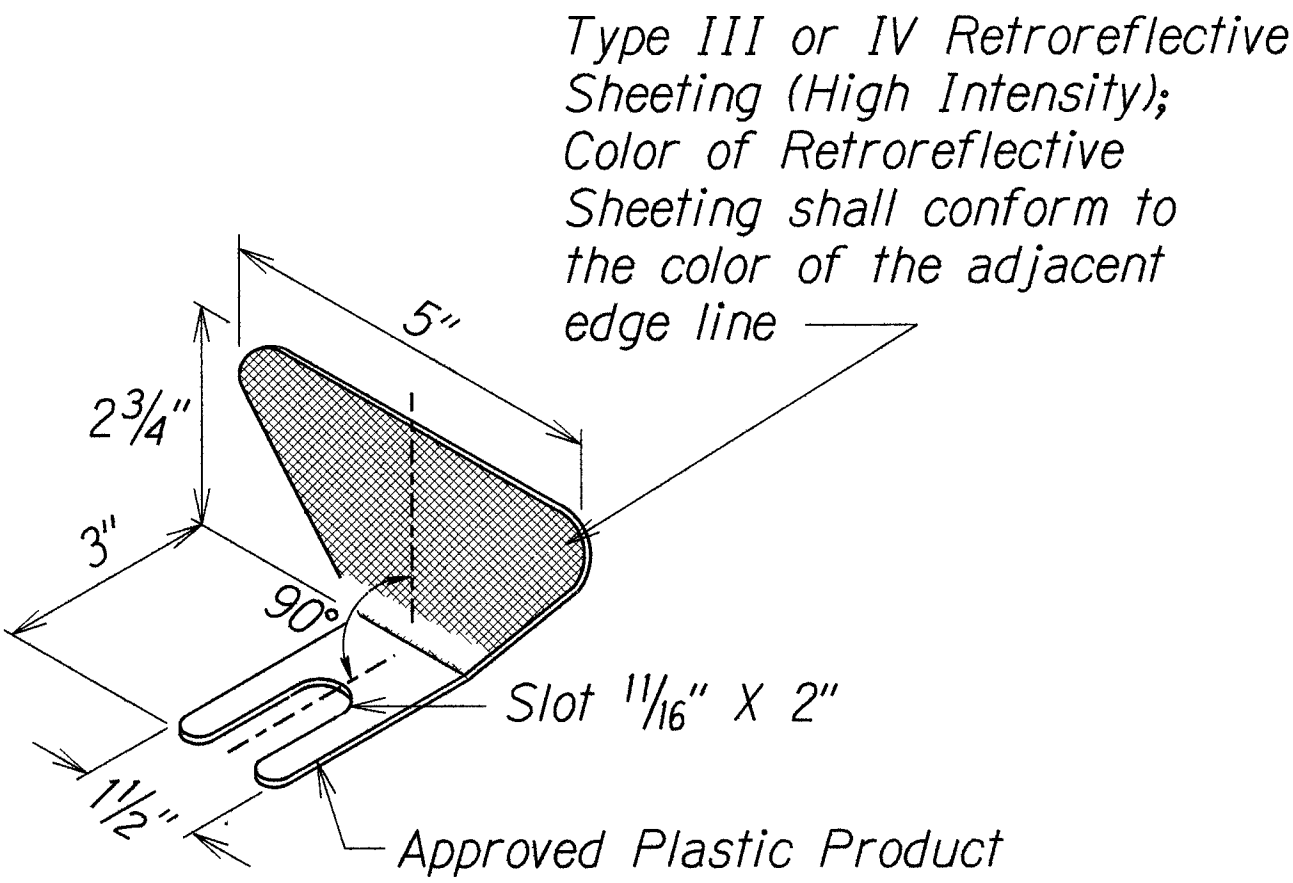
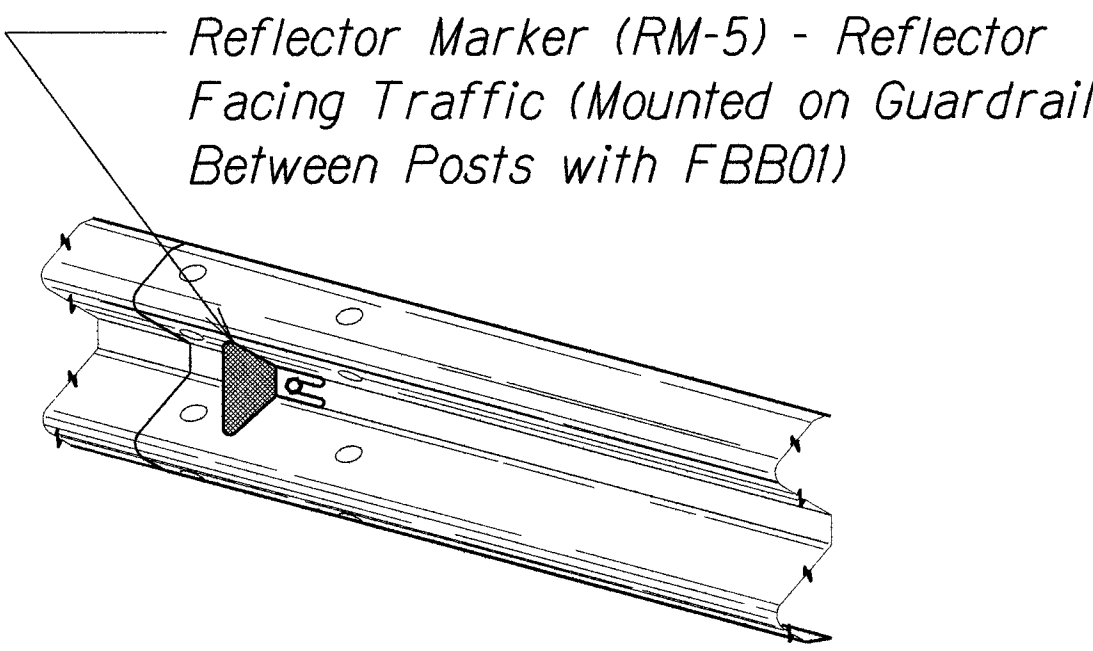
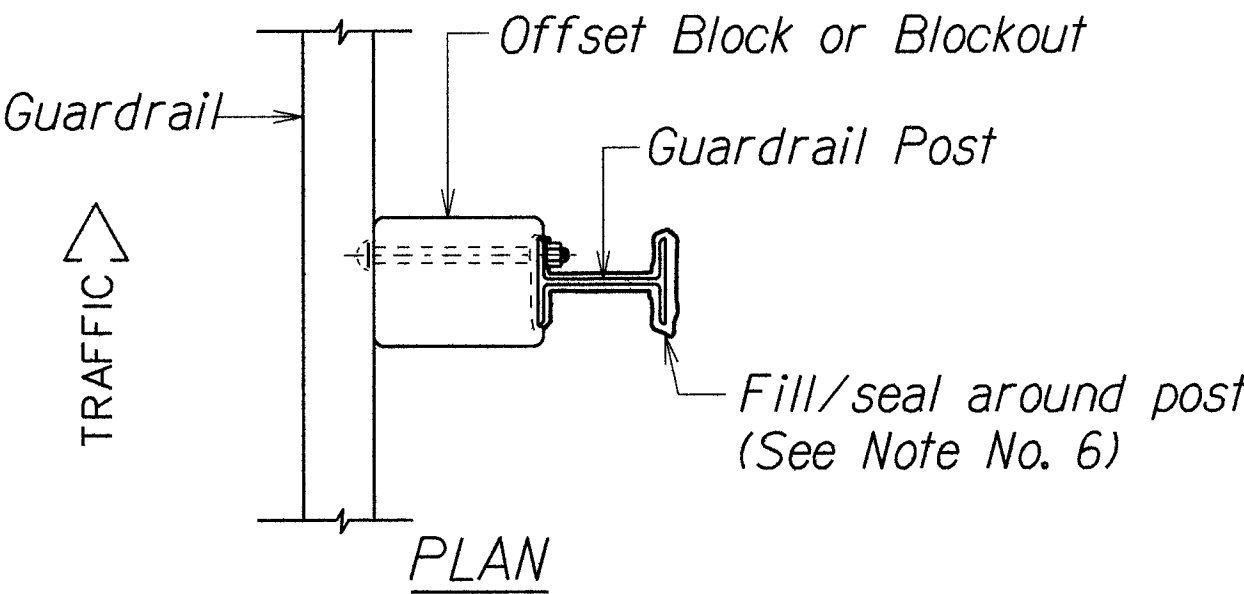
1. All hardware, posts and fasteners shall be hot-dip zinc coated galvanized after fabrication. No punching, drilling or cutting will be permitted after galvanizing.
2. Where conditions require, special post lengths in increments of 6 inches may be specified by the Engineer.
3. All fasteners, posts, and rail elements (i.e. FBB03, PWE01, RWM04b, etc.) shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware", a report prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Subcommittee On New Highway Materials, Task Force 13 Report. Dimensions of fasteners, posts and rail elements have been converted from metric units into their present form.
4. The Blockout or Offset Block shall be approved by the State.
5. All new guardrail systems (system consists of total length of guardrail including both end treatments) shall include the Additional Paved Area.
6. After the guardrail posts are installed in the paved area, the Contractor shall fill/seal around each guardrail post and all cracks in the paved area caused during the guardrail post installation. If required by the inspector/engineer, the Contractor shall tamper the paved area around the guardrail post prior to filling/sealing. All costs associated with this work shall not be paid for separately, but shall be considered incidental to the various guardrail items.
7. When standards for the fill slope area cannot be met, a site specific, engineer approved design may be used.
8. Minimum working width (clear distance) between back of MGS post to any fixed object is 4'-1" (49").
9. New Hot Mix Asphalt (HMA) pavement at guardrails shall extend 6 feet longitudinally beyond terminal ends.
10. Reflector Markers (RM-5) mounted on guardrails shall be spaced every 25 feet. RM-5's shall not be installed on Terminal Sections. Furnishing and installing of each RM-5 shall be considered incidental to the guardrail system.



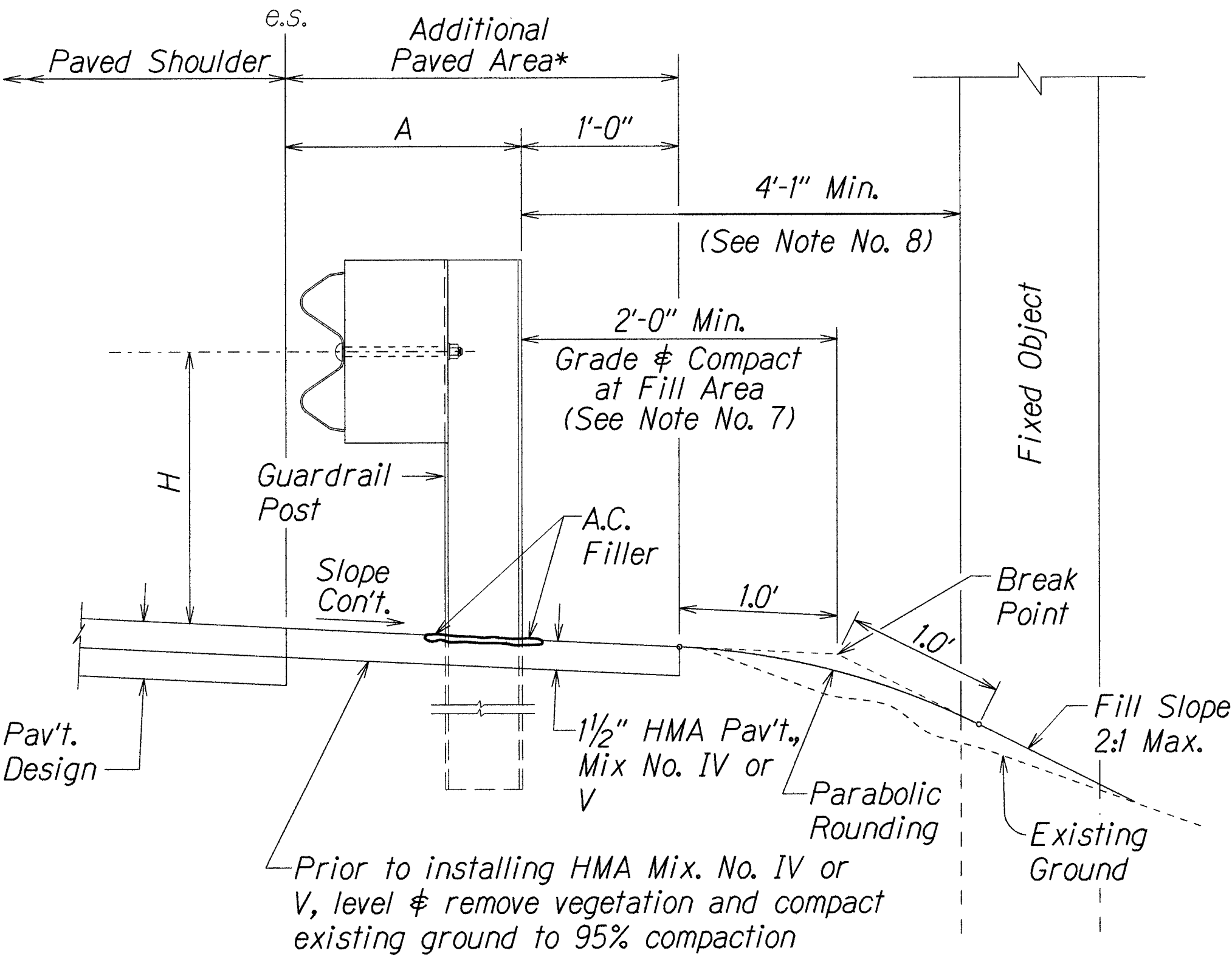
Exploded View  
(Rail and washer not shown)

STEEL POST AND BLOCK DETAIL

GUARDRAIL TYPE	DIMENSION	
	H	A
MGS w/ Standard 8" Offset Block	2'-1"	1'-6"
MGS w/ No Blockout	2'-7/8"	9 1/4"



REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION



TYPICAL GUARDRAIL INSTALLATION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**GUARDRAIL DETAILS & NOTES**

HONOAPIILANI HIGHWAY SAFETY IMPROVEMENTS

Kapoli Street to Papalaua Beach Park

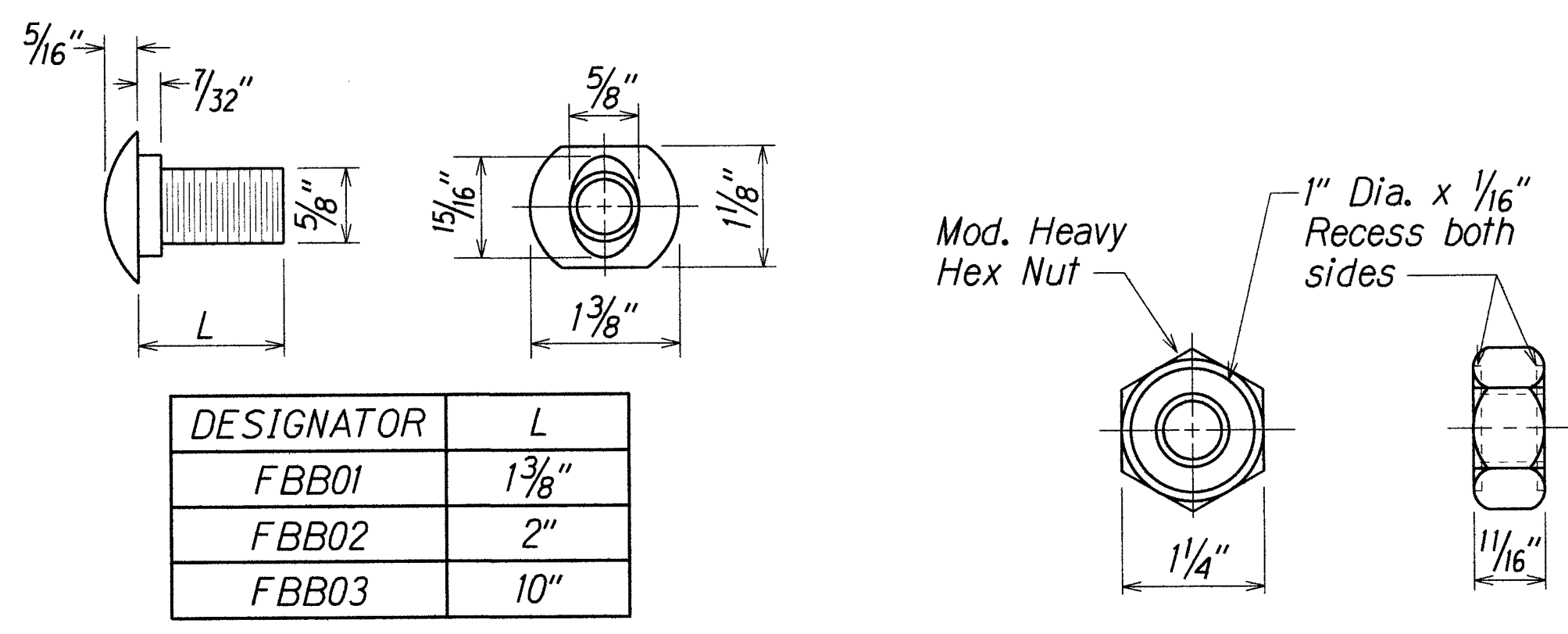
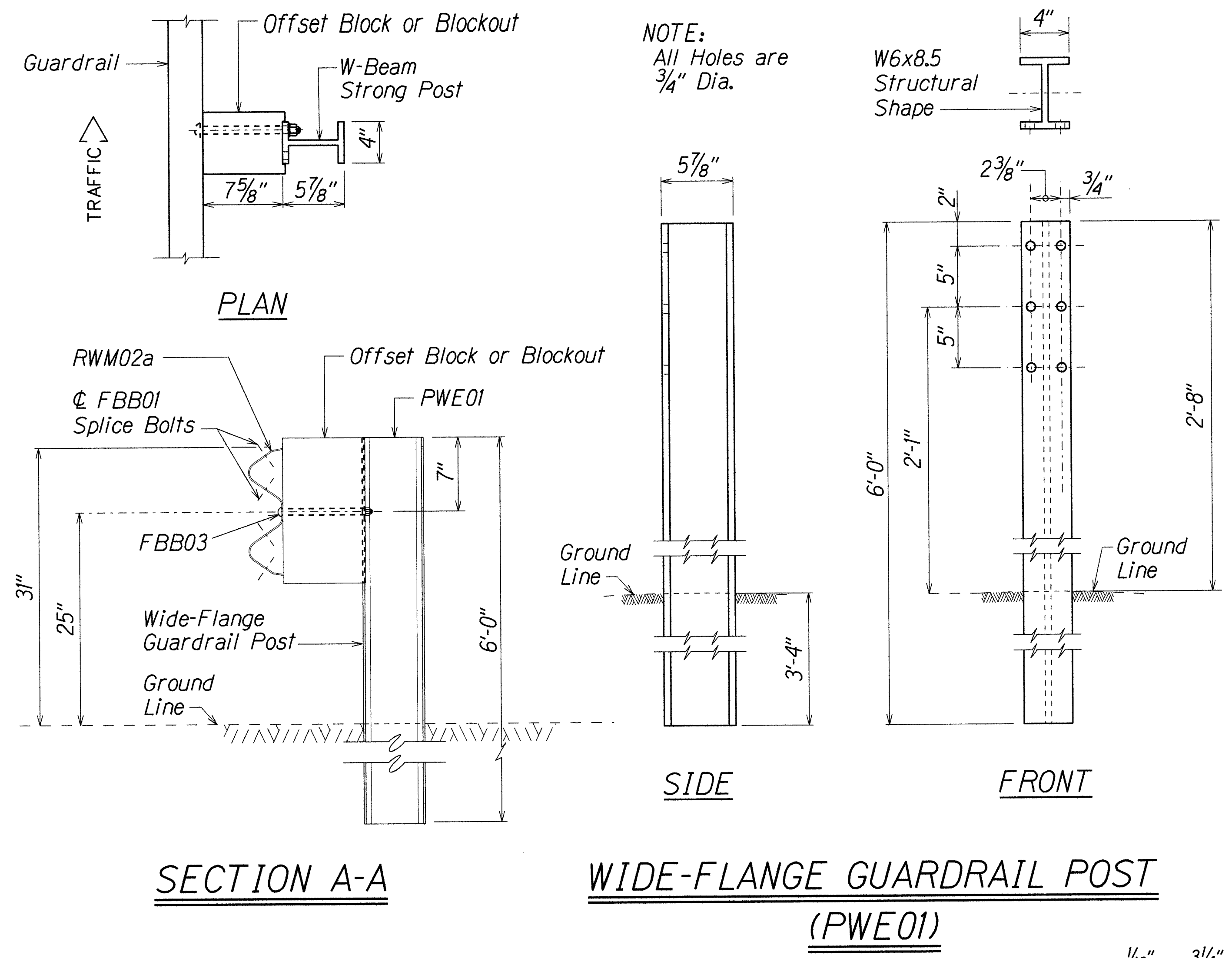
Federal Aid Project No.HSIP-030-II(45)

Scale: NTS

Date: Aug, 2018

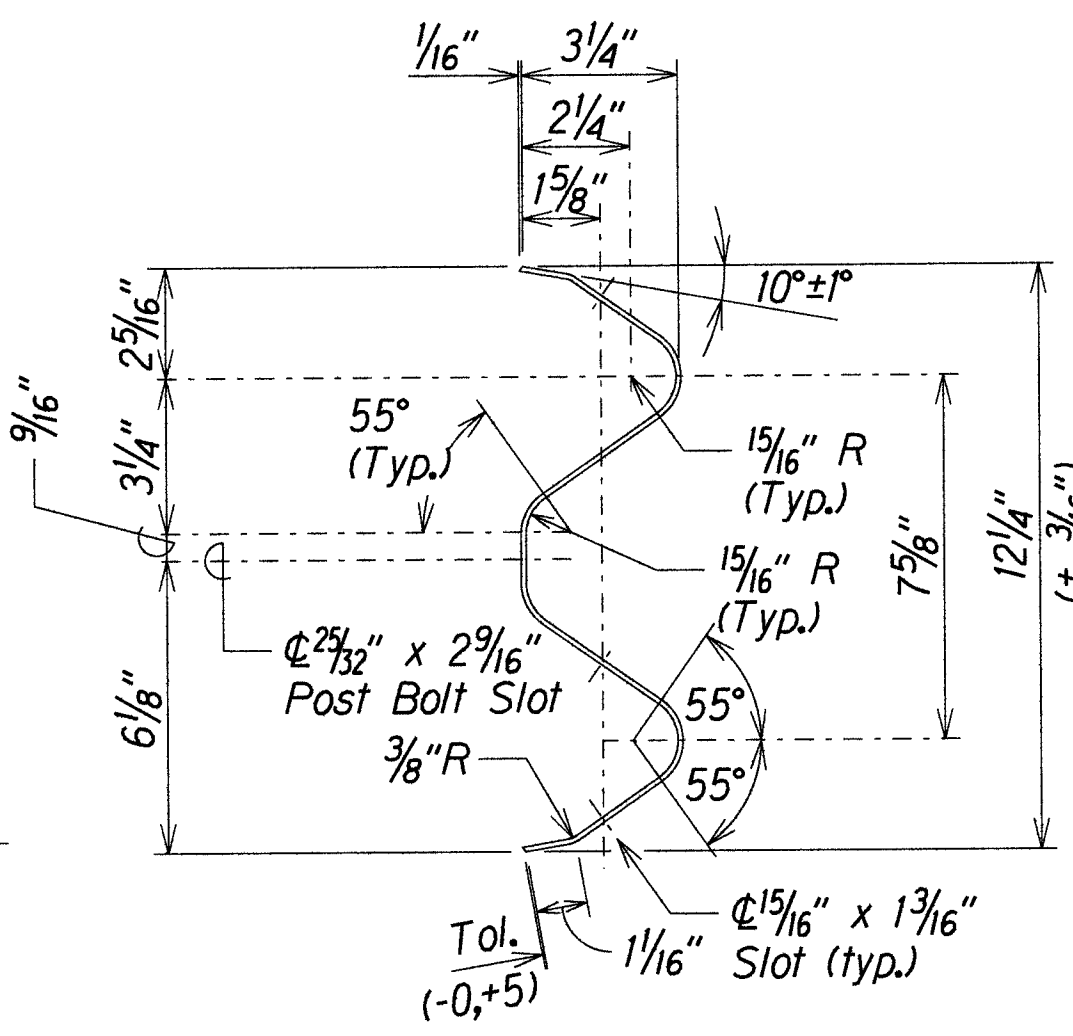
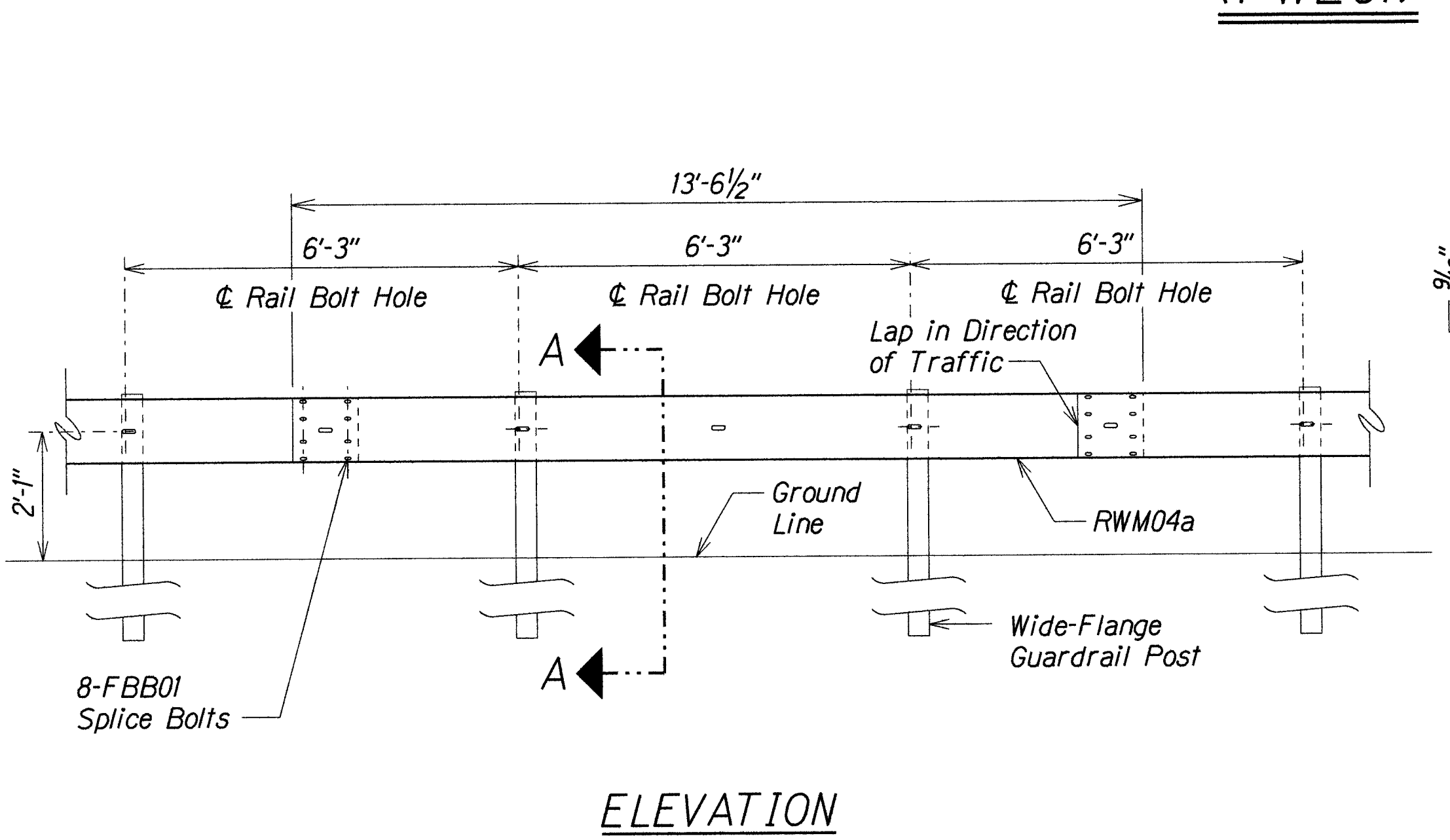
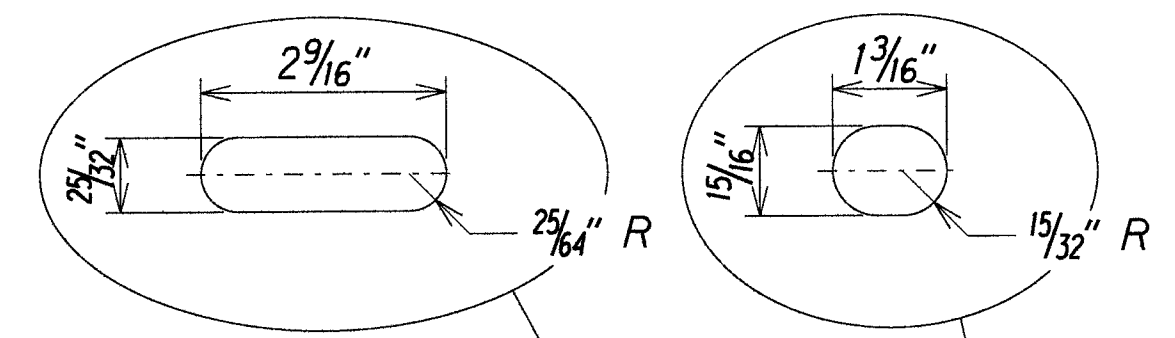
SHEET No. 1 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-030-1(45)	2019	9	48



GUARDRAIL BOLTS AND RECESSED NUT

DESIGNATOR	BASE METAL THICKNESS
RWM04a	12 Gauge



4 SPACE W-BEAM GUARDRAIL (RWM04a)

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

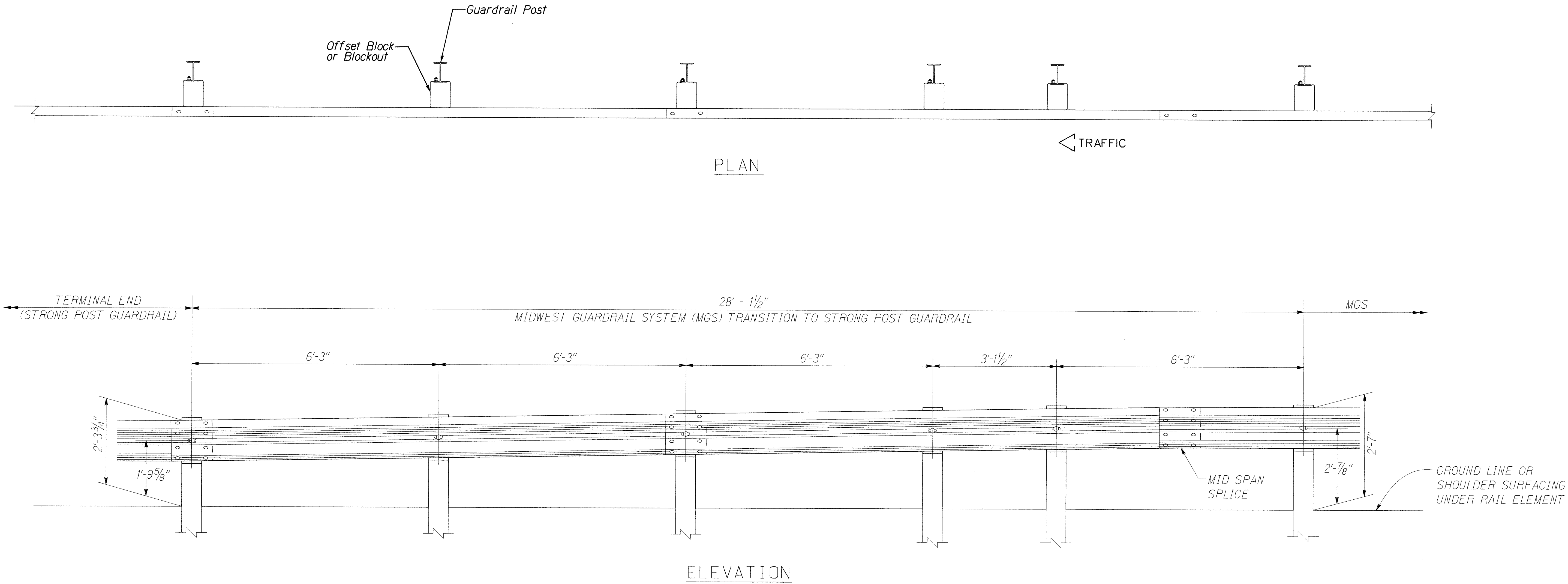
3" W-BEAM GUARDRAIL WITH  
STANDARD 8" OFFSET BLOCK

HONOAPIILANI HIGHWAY SAFETY IMPROVEMENTS  
Kapoli Street to Papalaua Beach Park  
Federal Aid Project No. HSIP-030-1(45)  
Scale: NTS  
Date: Aug, 2018

SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

108-008/18 Drawn/Checked/Plotted/Traffic Guardrail Standards/Archive/102-when/when/when

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-030-1(45)	2019	10	48



DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

09/06/16 D:\er\standards\Traffic\Guardrail Standards\mfg\_midwest.dgn

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**MGS TRANSITION TO  
STRONG POST GUARDRAIL**  
HONOAPIILANI HIGHWAY SAFETY IMPROVEMENTS  
Kapoli Street to Papalaua Beach Park  
Federal Aid Project No. HSIP-030-1(45)  
Scale: NTS Date: Aug, 2018











