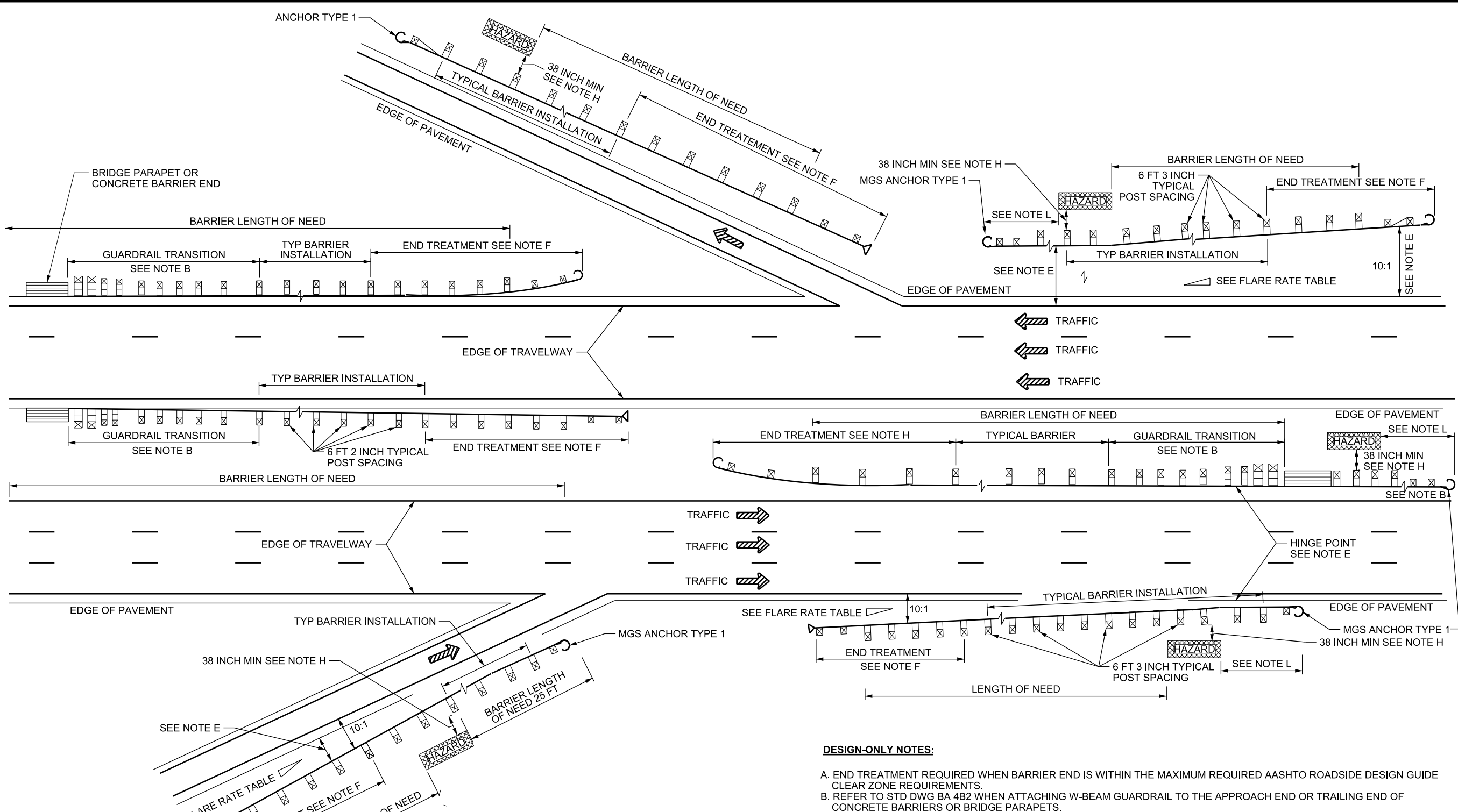


12-SEP-2018 DGN File: D:\StandardSpec\Section\207\Section\All\_Supp\_Issues\Issue \* 6 98-38-2018\Drawings\B04-1.dgn



FLARE RATE TABLE		
SPEED (MPH)	RATE OUTSIDE SHY LINE	* RATE INSIDE SHY LINE
≤ 35	7:1	13:1
40	8:1	16:1
45	10:1	18:1
50	11:1	21:1
55	12:1	24:1
60	14:1	26:1
65	15:1	30:1
≤ 70	15:1	30:1

\* DESIGN EXCEPTION REQUIRED

**DESIGN-ONLY NOTES:**

- A. END TREATMENT REQUIRED WHEN BARRIER END IS WITHIN THE MAXIMUM REQUIRED AASHTO ROADSIDE DESIGN GUIDE CLEAR ZONE REQUIREMENTS.
- B. REFER TO STD DWG BA 4B2 WHEN ATTACHING W-BEAM GUARDRAIL TO THE APPROACH END OR TRAILING END OF CONCRETE BARRIERS OR BRIDGE PARAPETS.
- C. CONSIDER USING BURIED TERMINAL END, BA 4F SERIES STD DWG WHEN CONDITIONS PERMIT.
- D. USE FLARED GUARDRAIL INSTALLATIONS WHEN POSSIBLE.
- E. USES OF MGS W-BEAM GUARDRAIL INSTALLATION PERMITTED ON A SLOPE NO STEEPER THAN 10:1. MATCH ROADWAY CROSS-SLOPE IF SUPER ELEVATED MORE THAN 2 PERCENT. REFER TO BA 4D SERIES STD DWG.
- F. END TREATMENTS SHOWN ARE FOR ILLUSTRATION. TYPES G AND H CAN BE USED ON TANGENT OR FLARED GUARDRAIL INSTALLATIONS.
- G. CONSULT GUIDELINES FOR CRASH CUSHIONS AND BARRIER END TREATMENTS CC SERIES STD DWGS FOR PROPER END TREATMENT SELECTION AND INSTALLATION REQUIREMENTS.
- H. REFER TO STD DWG BA 4H3 FOR REDUCED DEFLECTION REQUIREMENTS WHEN 38 INCHES CANNOT BE MAINTAINED BEHIND W-BEAM GUARDRAIL POST TO FACE OF HAZARD. USE 42 INCHES DEFLECTION FOR INITIAL LONG POST 2:1 FILL SLOPE INSTALLATION WITH STANDARD POST SPACING.
- I. RECOVERY AREA IS THAT AREA EXTENDING Laterally FROM THE APPROACH END OF THE GUARDRAIL TERMINAL TO THE BEGINNING OF THE LENGTH OF NEED AND OUT TO THE DESIGNED CLEAR ZONE. SLOPES IN THE RECOVERY AREA TO BE DETAILED AT THE SAME SLOPE RATE AS REQUIRED BY THE UDOT ROADWAY DESIGN MANUAL FOR THE ROADWAY TYPE.
- J. PLACE NO NON-YIELDING DEVICES INSIDE RECOVERY AREA.
- K. PLACE YIELDING DEVICES, SUCH AS SIGN POST, A MINIMUM OF 75 FT BACK FROM HEAD OF END TREATMENT AND OFFSET MINIMUM OF 10 FT FROM BACK OF TYPICAL W-BEAM BARRIER. REFER TO CC SERIES STD DWG FOR PLACEMENT IN FRONT OF END TREATMENT OR CRASH CUSHION.
- L. USE 25 FT BARRIER LENGTH OF NEED MEASURED FROM THE END OF ANCHOR BACK TO HAZARD FOR THE MIDWEST 31 INCH GUARDRAIL (MGS) ANCHOR TYPE 1.

**SUPPLEMENTAL DRAWING**  
**DESIGN-ONLY DRAWING**

NO.	DATE	APPR.	REMARKS
1	10/26/2017	SDD	ADDED MGS ANCHOR TYPE 1 REQUIREMENTS. ADDED NOTE L.

**UTAH DEPARTMENT OF TRANSPORTATION**  
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION  
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL  
  
 R. Andrew Park  
 CHAIRMAN STANDARD SPEC COMMITTEE  
 APPROVED

DATE: AUG 30, 2018  
 DEPUTY DIRECTOR:   
 DATE: AUG 30, 2018

**MIDWEST 31 INCH W-BEAM GUARDRAIL TYPICALS DIVIDED ROADWAYS**

STANDARD DRAWING TITLE

STD. DWG. NO. **BA 4J1**