

SURVEYED BY _____
SUPERVISED BY AAA
DESIGNED BY BBB

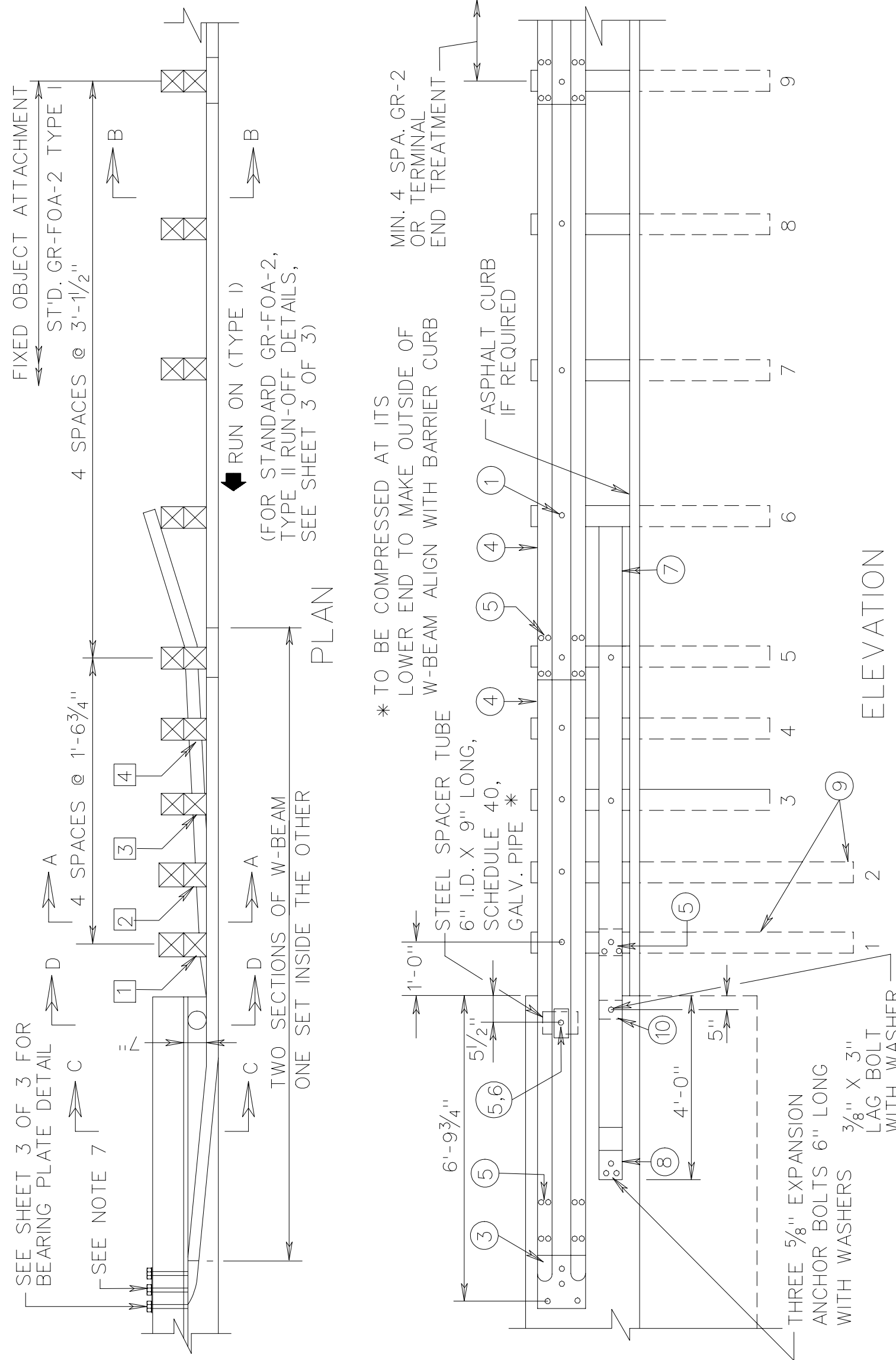
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

REVISED	STATE	FEDERAL AID		STATE		SHEET NO.
		PROJECT	ROUTE	PROJECT	PROJECT	
	VA.					

GR-FOA-2

NOTES:

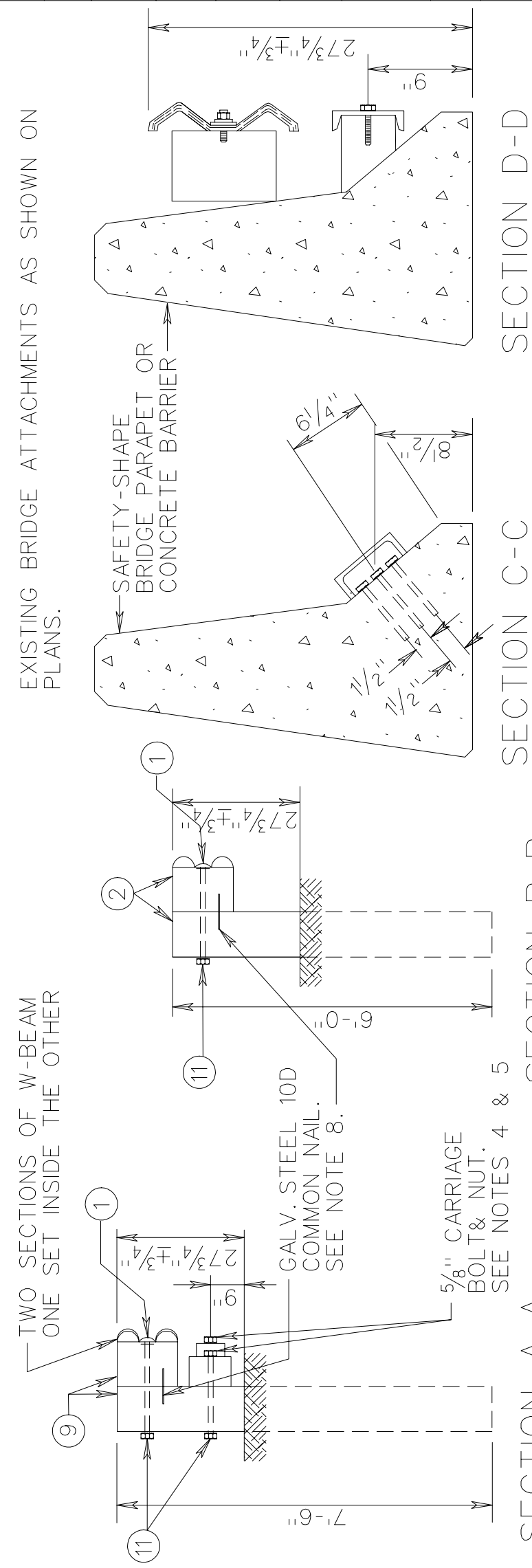
- FIXED OBJECTS MAY CONSIST OF SAFETY SHAPED BRIDGE PARAPETS OR CONCRETE BARRIERS.
- BRIDGE RAIL ENDS AND BRIDGE PARAPETS MUST BE OF ADEQUATE STRENGTH TO ACCEPT FULL IMPACT LOADING.
- GUARDRAIL COMPONENTS SHALL BE IN ACCORDANCE WITH VDOT ROAD AND BRIDGE STANDARDS.
- POSTS 1, 2, 3, 4, AND 5 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKS AND/OR RUBRAIL. RUBRAIL IS NOT BOLTED TO POSTS 2 AND 4.
- BOTTOM WOOD BLOCKS LOCATED ON BOTTOM OF W-BEAM SHALL BE CENTER DRILLED AND SECURED WITH 5/8" CARRIAGE BOLTS (LENGTH AS REQUIRED).
- RUBRAIL MUST BE TWISTED 35° BETWEEN SECTION C-C AND D-D. SHOP FABRICATION MAY BE REQUIRED. RIGHT HAND AND LEFT HAND TWISTS WILL BE NECESSARY.
- APPROPRIATE LENGTH 7/8" ASTM A325 HEX BOLTS WITH WASHERS MUST BE USED WITH THRU DRILLED HOLES WITH A 5/8" BEARING PLATE ON THE BACK SIDE OF THE BRIDGE PARAPET OR CONCRETE BARRIER.
- DRIVE NAIL WITHIN 2" OF THE TOP OR BOTTOM OF BLOCKOUT AFTER 5/8" X 18 BOLT IS INSTALLED.
- SEE SHEET 3 OF 3 FOR RUBRAIL BLOCKOUT DETAILS.



NOTE:
RUBRAIL MUST BE TWISTED 35° BETWEEN SECTION C-C AND D-D. SHOP FABRICATION MAY BE REQUIRED. RIGHT HAND AND LEFT HAND TWISTS WILL BE NECESSARY.

NEW BRIDGE - ATTACHMENTS
ONE-WAY TRAFFIC-RUN-ON, 2-GR-FOA-2, TYPE I
-RUN-OFF, 2-GR-FOA-2, TYPE II
TWO-WAY TRAFFIC-RUN-ON, 4-GR-FOA-2, TYPE I
EXISTING BRIDGE ATTACHMENTS AS SHOWN ON PLANS.

ITEM	MATERIAL/SPECIFICATIONS/NOTES
1	5/8" X 18" LG. GUARDRAIL BOLT AND RECESSED NUT.
2	STANDARD 6" X 8" WOOD POST AND BLOCK.
3	STANDARD W-BEAM TERMINAL CONNECTOR
4	STANDARD W-BEAM RAIL
5	5/8" X 2" LONG GUARDRAIL BOLT AND RECESSED NUT (SEE STANDARD GR-HDW)
6	RECTANGULAR PLATE WASHER (SEE STANDARD GR-HDW)
7	BENT PLATE RUBRAIL (SEE SHEET 3 OF 3)
8	C6 X 8.2 RUBRAIL (SEE SHEET 3 OF 3)
9	8" X 8" X 7'-6" LONG WOOD POST AND 8" X 8" X 14" LONG TREATED PINE BLOCK OR RECYCLED MATERIAL
10	WOOD BLOCKOUT FOR RUBRAIL (SEE SHEET 3 OF 3)
11	WASHER FOR 5/8" BOLT



SPECIFICATION REFERENCE: 506
501:28

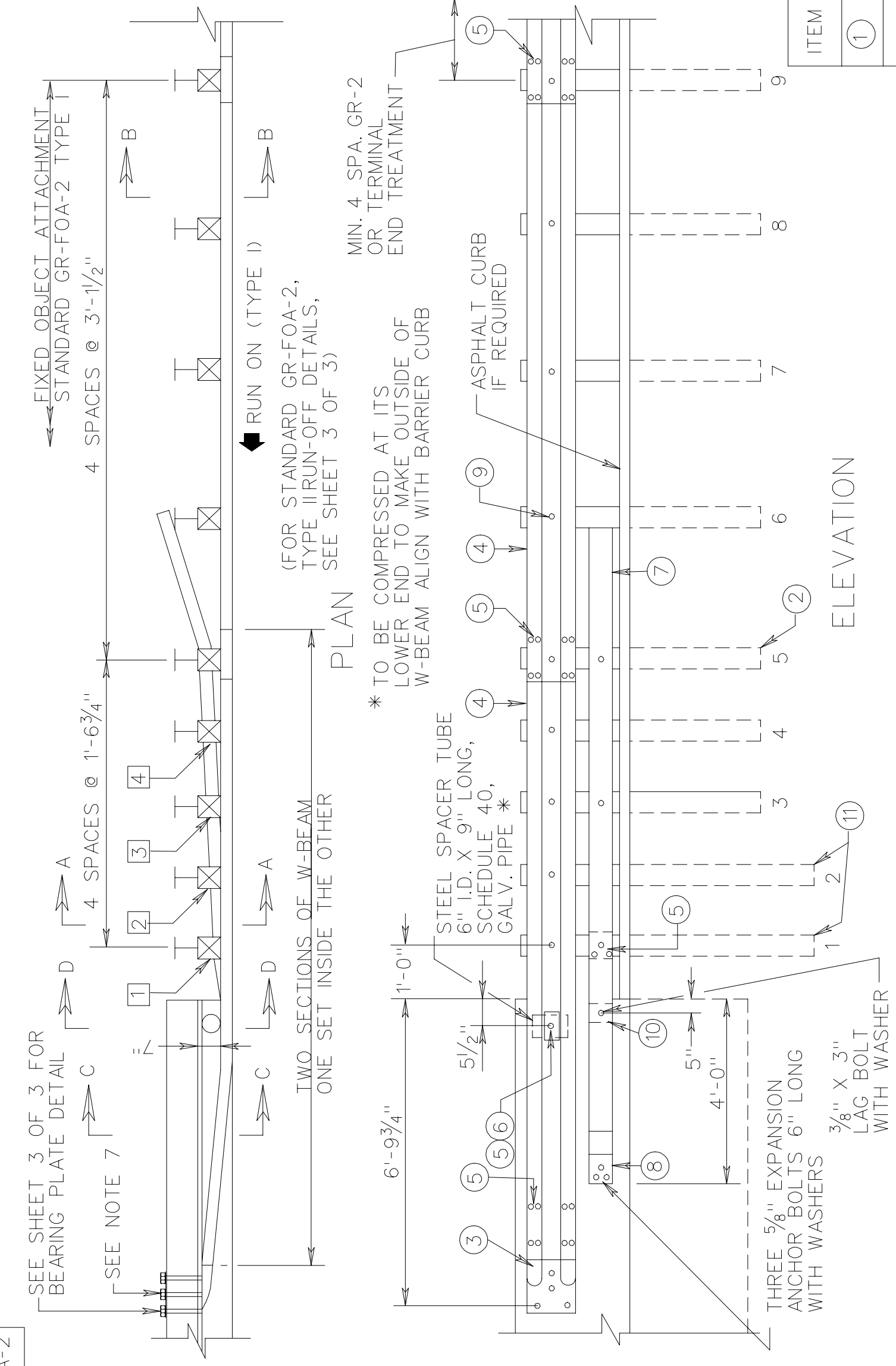
W-BEAM GUARDRAIL - FIXED OBJECT ATTACHMENT (WOOD POSTS)

VIRGINIA DEPARTMENT OF TRANSPORTATION

GR-FOA-2

NOTES:

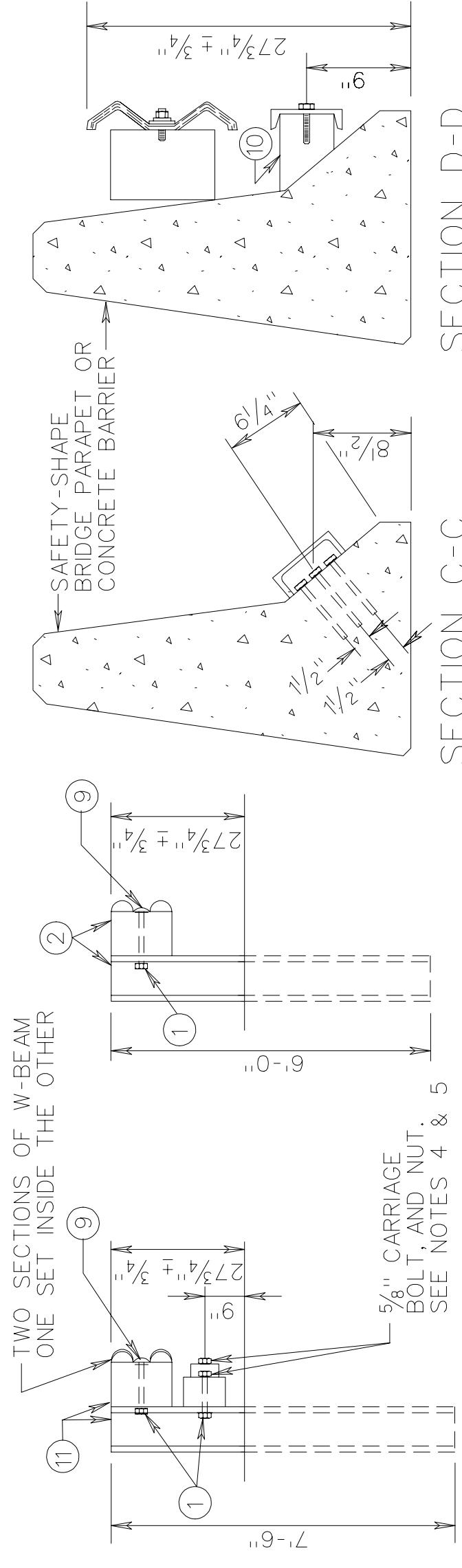
- FIXED OBJECTS MAY CONSIST OF SAFETY SHAPED BRIDGE PARAPETS OR CONCRETE BARRIERS.
- BRIDGE RAIL ENDS AND BRIDGE PARAPETS MUST BE OF ADEQUATE STRENGTH TO ACCEPT FULL IMPACT LOADING.
- GUARDRAIL COMPONENTS SHALL BE IN ACCORDANCE WITH VDOT ROAD AND BRIDGE STANDARDS.
- POSTS 1, 2, 3, 4, AND 5 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKS AND/OR RUBRAIL. RUBRAIL IS NOT BOLTED TO POSTS 2 AND 4.
- BOTTOM WOOD BLOCKS LOCATED ON BOTTOM OF W-BEAM SHALL BE CENTER DRILLED AND SECURED WITH 5/8" CARRIAGE BOLTS (LENGTH AS REQUIRED).
- RUBRAIL MUST BE TWISTED 35° BETWEEN SECTIONS C-C AND D-D. SHOP FABRICATION MAY BE REQUIRED. RIGHT HAND AND LEFT HAND TWISTS WILL BE NECESSARY.
- APPROPRIATE LENGTH 7/8" ASTM A325 HEX BOLTS WITH WASHERS MUST BE USED WITH THRU DRILLED HOLES WITH A 5/8" BEARING PLATE ON THE BACK SIDE OF THE BRIDGE PARAPET OR CONCRETE BARRIER.
- SEE SHEET 3 OF 3 FOR RUBRAIL BLOCKOUT DETAILS.



NOTE:
RUBRAIL MUST BE TWISTED 35° BETWEEN SECTION C-C AND D-D. SHOP FABRICATION MAY BE REQUIRED. RIGHT HAND AND LEFT HAND TWISTS WILL BE NECESSARY.

NEW BRIDGE - ATTACHMENTS
ONE-WAY TRAFFIC-RUN-ON, 2-GR-FOA-2, TYPE I
-RUN-OFF, 2-GR-FOA-2, TYPE II
TWO-WAY TRAFFIC-RUN-ON, 4-GR-FOA-2, TYPE I
EXISTING BRIDGE ATTACHMENTS AS SHOWN ON PLANS.

ITEM	MATERIAL/SPECIFICATIONS/NOTES
1	WASHER FOR 5/8" BOLT
2	STD. W6 X 8.5 OR W6 X 9 STEEL POST W/ STD. 6" X 8" X 14" LG. TREATED PINE BLOCK OR RECYCLED MATERIAL
3	STANDARD W-BEAM TERMINAL CONNECTOR
4	STANDARD W-BEAM RAIL
5	5/8" X 2" LONG GUARDRAIL BOLT AND RECESSED NUT (SEE STANDARD GR-HDW)
6	RECTANGULAR PLATE WASHER (SEE STANDARD GR-HDW)
7	BENT PLATE RUBRAIL (SEE SHEET 3 OF 3)
8	C6 X 8.2 RUBRAIL (SEE SHEET 3 OF 3)
9	5/8" X 10" LG. HEX BOLT, NUT AND WASHER (WOOD BLOCKOUT FOR RUBRAIL (SEE SHEET 3 OF 3))
10	8" X 8" X 7'-6" LG. STEEL POST WITH STD. 6" X 8" X 14" LG. TREATED PINE BLOCK OR RECYCLED MATERIAL.
11	



SPECIFICATION REFERENCE: 506
501:29

W-BEAM GUARDRAIL - FIXED OBJECT ATTACHMENT (STEEL POSTS)

VIRGINIA DEPARTMENT OF TRANSPORTATION

REV. 9/06

SPECIAL DESIGN SECTION
DRAWING NO. A-66_1

PLAN NO.	PROJECT	FILE NO.	SHEET NO.
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