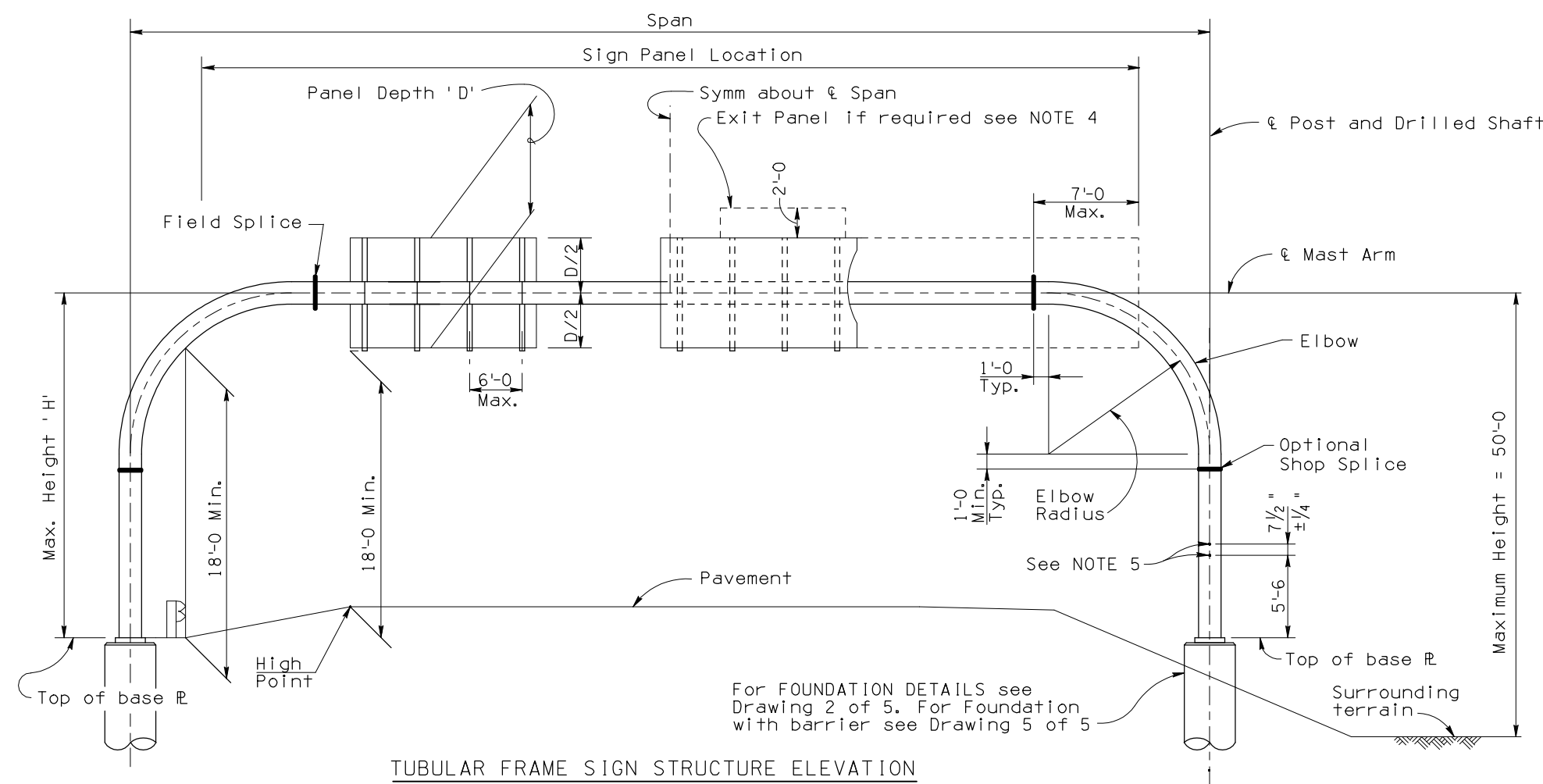


F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.				



TUBULAR FRAME SIGN STRUCTURE ELEVATION

GENERAL NOTES:

Construction Specification - Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, latest Edition.

Design Specifications - AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Edition of 1994.

All concrete shall be Class "S".

Reinforcing steel shall conform to ASTM Specification A615 (Grade 60).

All tubular structural frame pipe shall be welded or seamless steel pipe and shall conform to ASTM Specification (Fy = 35,000 psi):
 A-53 Grade B, Type E or S
 A252 Grade 2, Type E or S
 A106 Grade B, Type S only
 API 5L Grade B, Type E or S
 API 5LX Grade X42, Type E or S

All other Structural Steel shall conform to ASTM Specification A36 unless noted otherwise.

Stresses:
 Class "S" concrete f'c = 3500 psi
 Grade 60 reinforcing steel fs = 24000 psi
 Structural steel (A36) fs = 20000 psi
 Tubular Structural Pipe fb = 23100 psi

All bolts shall conform to ASTM Specification A325. All bolts, nuts and washers shall be galvanized in accordance with the requirements of ASTM A153. All other steel shall be galvanized after fabrication in accordance with ASTM A123.

Welding of structural tubing shall conform to the requirements of the American Welding Society, Structural Welding Code, D1.1-80, as modified by the AASHTO Standard Specifications for Welding of Structural Steel Highway Bridges, 1981. All other welding shall conform to the requirements of the American Welding Society, ANSI/AASHTO/AWS D1.5-96 Bridge Welding Code. All welding shall be continuous unless noted otherwise. All butt welds shall be full penetration using prequalified welding procedures and shall be tested by ultrasonic testing. All butt welds shall be ground flush, full width. Grinding striations shall be parallel to length of member.

The Column to base plate weld (WELD DETAIL A) shall be tested by ultrasonic testing.

Dimensions shall not be scaled from drawings.

Note to Designer: The information presented in this Standard Detail has been prepared in accordance with recognized engineering principles and is for general use. It should not be used for specific application without competent professional examination and verification of its suitability and applicability by a licensed professional engineer. Contents within the inner border line shall not be altered.

TYPE	TUBULAR FRAME			PIPE WALL THICKNESS INCHES			90° ELBOW RADIUS	Max. Depth 'D'	Max. Height 'H'	PAYMENT ITEM			
	Span	Nominal Pipe Dia.	Max. Area Sq. Ft.	Post	Elbow	Mast Arm				BRIDGE SIGN STRUCTURE		FOUNDATION	
										Item Number	Measurement	Item Number	Measurement
1F	20' - 40'	12"	250	1.312	1.312	1.000	10'-0"	8'	28'-0"	6060045	Ea	6060075	Ea
2F	41' - 70'	16"	690	1.219	1.219	.500	10'-0"	12'	30'-0"	6060046	Ea	6060076	Ea
3F	71' - 110'	20"	920	1.280	1.280	.625	12'-0"	12'	30'-0"	6060047	Ea	6060078	Ea
4F	111' - 142'	22"	920	1.125	1.125	.875	12'-0"	12'	30'-0"	6060048	Ea	6060079	Ea

OVERHEAD SIGN NOTES

1. Wind Loading: 80 MPH Velocity
2. Maximum Height: 50'-0" from average surrounding terrain to the center of the sign panel (Regardless of post height). The Tubular Overhead has been designed for site conditions which are level and neither elevated above the average surrounding terrain by more than the 50'-0" height shown nor supported on a bridge.
3. The maximum sign panel overlap onto elbow shall not exceed 7'-0" from field splice.
4. The sum of the sign panel area plus the exit panel area shall not exceed the maximum area shown in table. All signs shall be placed within Sign Panel Location.
5. Drill and tap for 1 1/2" chase nipples and plug with recessed pipe plugs. Place perpendicular to sign panel axis and away from approaching traffic. Install nipples on shoulder posts only.
6. Maximum difference between post heights for an individual frame = 5'-0".
7. For Standard pipe mast arms with lengths greater than 60'-0" an optional field splice will be permitted at the third points of mast arm length to facilitate hauling operations.
8. Before any portion of the tubular frame is assembled in its final position, the Contractor shall demonstrate to the Engineer by preassembly or other approved methods that the span length of the frame in the no load condition is equal to (± 1/2 inch) the field measured span length between foundations.
9. If the tubular frame is erected as one unit the frame shall be adequately suspended to avoid distortions or changes in span length between base plates.
10. The Optional Shop Splice may not be used when the splice location is less than 7'-0" above the top of base plate.
11. The Field Splice surfaces shall be in full contact without gaps prior to the bolts being snug tightened and fully tensioned. The contact surface is the area defined by a 1 3/8" radius around each bolt.

NO.	DATE	DESCRIPTION OF REVISIONS
1	6-01	Original Issue
2	8-02	Correction of Type IP Span
3		
4		

DESIGN APPROVED <i>James R. Dyne</i>	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP STRUCTURE DETAIL
APPROVED FOR DISTRIBUTION <i>J. Daniel Davis</i>	TUBULAR SIGN STRUCTURES TUBULAR FRAME GENERAL PLAN
ROUTE	LOCATION
TRACS NO.	DRAWING NO. SD 9.20 (1of5) OF