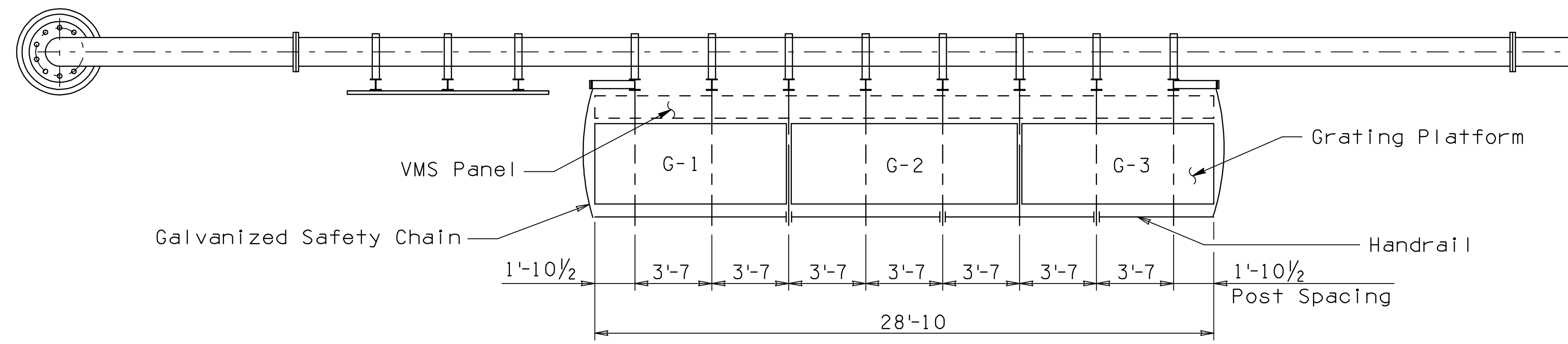
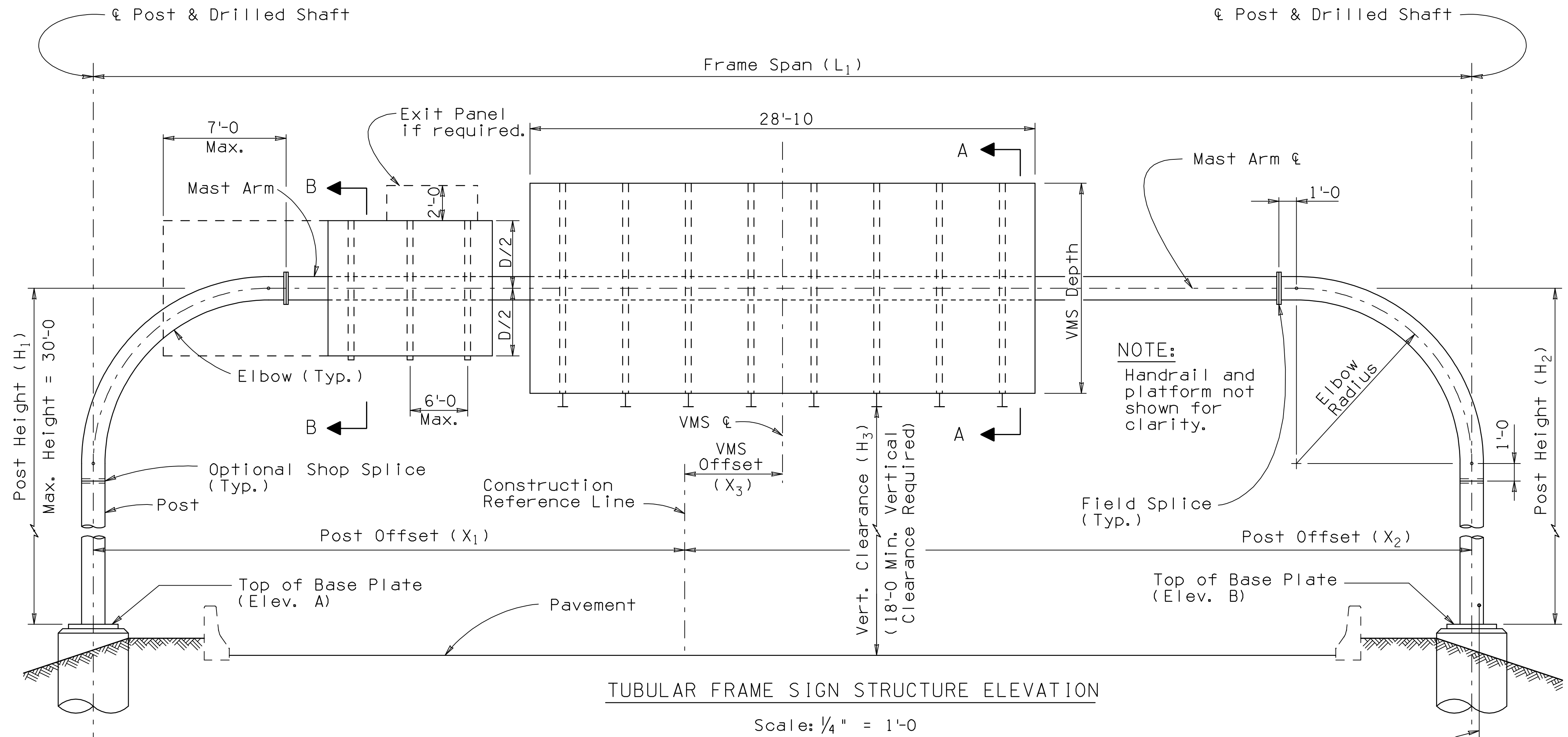
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.				



PLAN



TUBULAR FRAME SIGN STRUCTURE ELEVATION

Scale: ¼" = 1'-0

TUBULAR FRAME DATA FOR VMS PANEL SUPPORT								
	TUBULAR FRAME			PIPE WALL THICKNESS (INCHES)				
TYPE	Frame Span L_1	Nominal Pipe Dia.	90° ELBOW RADIUS	Post	Elbow	Mast Arm	Max. Sign Depth D*	Max. Sign Area Sq. Ft. **
1F	20'-40'	12"	10'-0	1.312	1.312	1.000		VMS
2F	41'-70'	16"	10'-0	1.219	1.219	0.500	12'	VMS+400
3F	71'-110'	20"	12'-0	1.280	1.280	0.625	12'	VMS+560
4F	111'-142'	22"	12'-0	1.125	1.125	0.875	12'	VMS+560

* For additional traffic sign panels.
** Includes 2'-0 Exit Panel.

VMS DESCRIPTION

Depth = 9'-2
Length = 28'-10
Weight = 3000 lbs.

NOTE:

See SD 9.50 Sheet (2 of 5) for SECTION A-A.
See SD 9.50 Sheet (3 of 5) for SECTION B-B.
For General Notes see SD 9.20(1 of 5)
For Camber Diagram see SD 9.20(3 of 5)
For Foundation Details see SD 9.20(2 of 5).
(Provide 8½ inch diameter hole in center of column base plate to accommodate conduits)
For Frame and Handhole Details see SD 9.20(3 of 5).
For Sign Support Details see SD 9.20(4 of 5).
For Overhead Light Details see SD 9.20(5 of 5).

OVERHEAD SIGN NOTES:

Wind loading: 80 MPH Velocity.

Maximum Height: 50'-0 from original ground to center of sign panel (Regardless of post height).

The maximum sign panel overlap onto elbow shall not exceed 7'-0 from field splice.

Drill and tap for 1½" 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.

Maximum difference between post heights for an individual frame = 5'-0.

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.

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 (±½ inch) the field measured span length between foundations.

If the tubular frame is erected as a unit, the frame shall be adequately suspended during installation to avoid distortions or changes in span length between base plates.

Provide electrical grounding at pole foundation per ADOT Standard Specification Sect. 732-3.03.

Drilled shaft locations and top of drilled shaft elevations shall be field verified by the Contractor prior to fabrication of posts.

NOTE:
Project drawings shall provide the following site specific VMS frame information on VMS location sheets:

VMS FRAME SUMMARY TABLE	
VMS NO.:	VERTICAL CLEARANCE, H_3:
ROUTE:	TOP OF BASE PLATE, ELEV. A:
MILE POST:	TOP OF BASE PLATE, ELEV. B:
STATION:	POST OFFSET, X_1:
FRAME SPAN, L_1:	POST OFFSET, X_2:
HEIGHT, H_1:	VMS OFFSET, X_3:
HEIGHT, H_2:	

DESIGN APPROVED: Shafi U. Hasan
APPROVED FOR DISTRIBUTION: T. Daniel Davis

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
BRIDGE GROUP STRUCTURE DETAIL

VARIABLE MESSAGE SIGN
TUBULAR FRAME
PLAN & ELEVATION

ROUTE | LOCATION | DRAWING NO. SD 9.50(1 OF 5)

TRACS NO. ____ OF ____

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.

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	Original Issue	SUH	7-99
2	Add Catwalk, Vert. Clearance	SUH	1-00
3	Remove harness, dclp pan, widen grating, enlarge base PL. hole	SUH	7-00
4	Type and SD 9.20 Reference	SUH	8-02

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