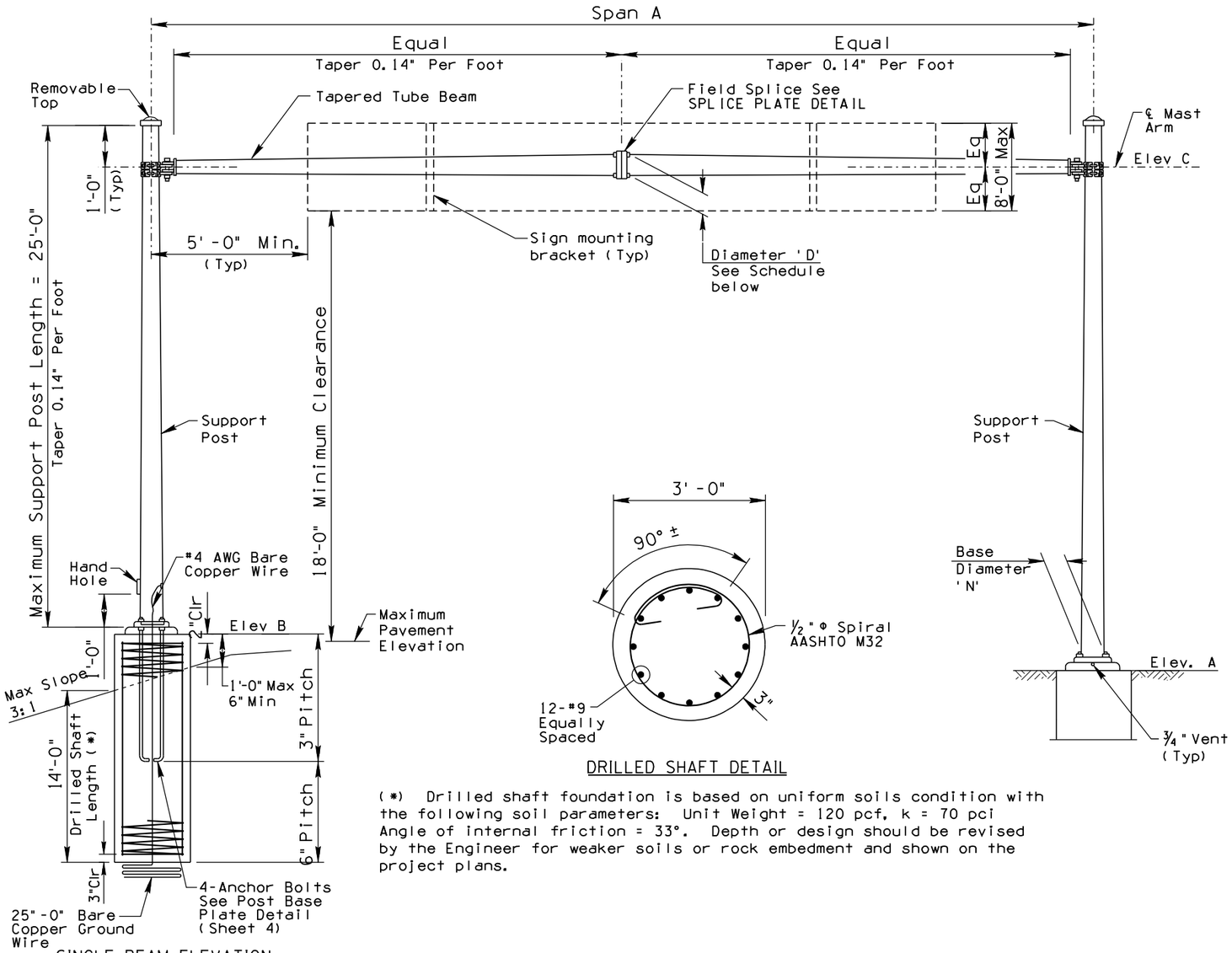

SINGLE BEAM ELEVATION

DRILLED SHAFT DETAIL

(*) Drilled shaft foundation is based on uniform soils condition with the following soil parameters: Unit Weight = 120 pcf, k = 70 pci Angle of internal friction = 33°. Depth or design should be revised by the Engineer for weaker soils or rock embedment and shown on the project plans.

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, with 1998 Interims.

All concrete shall be Class "S".

Reinforcing steel shall conform to ASTM Specification A 615, (Grade 60).

Structural Steel shall conform to ASTM Specification A 36 unless noted otherwise.

Stresses:
- Class "S" concrete ..... f'c = 3500 psi
- Grade 60 reinforcing steel ..... fs = 24000 psi

Materials:
- Anchor Bolts..... F 1554, Grade 55
- Connecting Bolts..... A 325
- Mast Arm Vangs & End Plates..... A 36
- Base Plates and Splice Plate..... A 36

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.

Wind Loading: 80 MPH Velocity.

The single beam has been designed for site conditions which are neither elevated above the average surrounding terrain by more than 30'-0" nor supported on a bridge.

Post heights and span lengths may be altered by holding the base diameter 'N' or diameter at the splice plate 'D' constant.

Maximum Sign Area: 180 $Ft.^2$ @ 5 lbs/ft^2.

Tapered Tubes shall conform to one of following: ASTM A 36 MOD, ASTM A 283, ASTM A 570, ASTM A 607, ASTM A 1011, ASTM A 595 Grade A, A 572, Grade 65, or equivalent; and have a minimum yield of 48 ksi, 55 ksi, or 65 ksi after fabrication

Support poles and mast arms are not required to be of the same yield strength.

All high strength bolts shall be tightened in accordance with AISC Specifications (turn of nut method or calibrated wrench method) for Structural Joints issued by the Research Council on Riveted and Bolted Structural Joints unless noted otherwise.

Project Plans should provide an elevation view of each sign structure with location (station or milepost), and sign panel layout and dimensions.

Horizontal members shall be pre-cambered for dead load deflection by manufacturer

Bolt hole diameters shall be equal to the bolt diameter + ⅛" unless noted otherwise

All signs shall be centered vertically on mast arm.

Dimensions shall not be scaled from drawings.

Structure			Support Post		Baseplate		Beam		Beam Splice Plate		
Span A	Item No.	Tapered Tube Yield Strength	Base Diameter 'N'	Wall Thickness	Square 'G'	Bolt Circle 'K'	Diameter @ Splice Plate 'D'	Wall Thickness	Plate Diameter 'E'	Bolt Circle 'J'	Thickness 'T'
50'-0" - 70'-0"	6060057	48 ksi	13.5"	0.3125"	20"	19.5"	13.5"	0.3125"	22.5"	18"	1.25"
		55 ksi	13"	0.2391"	19.5"	19"	13"	0.2391"	23"	18.5"	1.25"
		65 ksi	12.5"	0.25"	19.5"	18.5"	12.5"	0.25"	23"	18.5"	1.25"
70'-1" - 85'-0"	6060058	48 ksi	13.5"	0.3125"	20"	19.5"	14.875"	0.3125"	24.5"	20"	1.50"
		55 ksi	14"	0.2391"	20.5"	20"	14"	0.2391"	23"	18.5"	1.50"
		65 ksi	13"	0.25"	20"	19"	14"	0.25"	23"	18.5"	1.50"
85'-1" - 100'-0"	6060059	48 ksi	13.5"	0.3125"	20"	19.5"	14.875"	0.3125"	24.5"	20"	1.50"
		55 ksi	14.5"	0.2391"	20.5"	20.5"	16"	0.2391"	26.5"	22"	1.50"
		65 ksi	14"	0.25"	21"	20"	16"	0.25"	26.5"	22"	1.50"

NOT TO SCALE

DESIGN APPROVED SIGNATURES	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
APPROVED FOR DISTRIBUTION ON FILE	TAPERED TUBE SIGN STRUCTURE SINGLE BEAM	DRAWING NO. S-11 SHEET NO. 3 of 4

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	ORIGINAL ISSUE	BAKER E&E	7/04
2	REVISED DRAWING. UPDATE BORDER.	D. SHREEVE	6/14

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