Mast Arm Foundation Chart [A]

Mast Arm Type	Soil Type	Soil Condition		Diameter (in)	Foundation Length (ft) *	Casing Depth
		S_u *	N_{60} *			
Single Arm	Low Sand	-	$5 \leq N_{60} < 10$	42	19.5	As Shown on Plans
	Med Sand	-	$10 \leq N_{60} < 20$	42	13.0	
	High Sand	-	$N_{60} \geq 20$	42	12.5	
	Low Clay	$500 \leq S_u < 1000$	-	42	16.5	
	Med Clay	$1000 \leq S_u < 2000$	-	42	14.0	
	High Clay	$S_u \geq 2000$	-	42	11.5	
Double Arm	Low Sand	-	$5 \leq N_{60} < 10$	42	18.0	
	Med Sand	-	$10 \leq N_{60} < 20$	42	14.5	
	High Sand	-	$N_{60} \geq 20$	42	14.0	
	Low Clay	$500 \leq S_u < 1000$	-	42	19.5	
	Med Clay	$1000 \leq S_u < 2000$	-	42	15.5	
	High Clay	$S_u \geq 2000$	-	42	12.5	

*S_u = Undrained Shear Strength in Cohesive Soil (psf)

*N_{60} = Standard Penetration Resistance (Blows/Foot according to ASTM D-1586)
   corrected to 60% Hammer Efficiency utilizing the Hammer's Calibrated Energy

*Foundation length measured from the top of the shaft, and assumes maximum 0.25 feet (3 inches)
   of stickup

Note: A Detailed Site Specific Design is Required for the Following Conditions

1) If $N_{60} < 5$ bfp or $S_u < 500$ psf

2) If mast arm lengths are greater than 50 feet

3) If groundwater is less than 3 feet below the ground surface

4) If a rock socket is required for the drilled shaft, if N_{60} values greater than 50 blows per
   foot dominate the lower half of the drilled shaft length, or if drilling refusal or split-spoon refusal
   is encountered above design bottom of foundation elevation.

OTHER NOTES:

A. This chart is for use with Mast Arms. See SIG-030, SIG-031, SIG-032, and SIG-033 for details.

The upper 5 feet of soil modeled as disturbed soil assuming ground is disturbed to locate utilities.

Drilled shaft head deflection less than or equal to 1 inch.