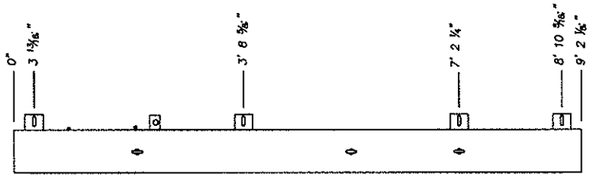
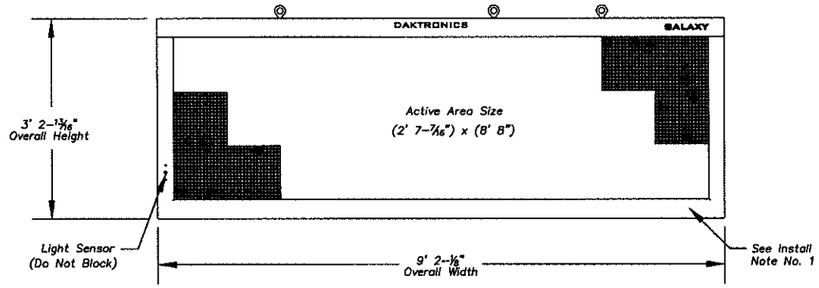
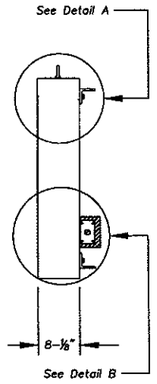


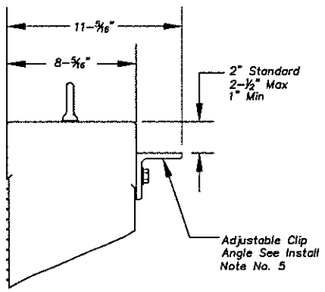
Top View



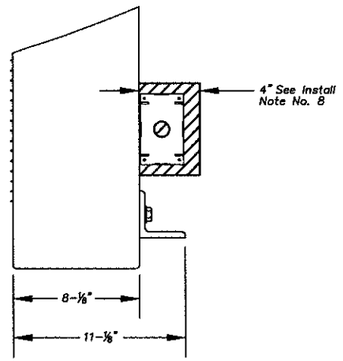
Front View



Right View



Detail A



Detail B

2	LED Color	RGB
3	Active Area	2' 7-7/16" X 8' 8"
4	Overall Size	3' 2-13/16" X 9' 2-1/8"
5	Cabinet	Aluminum, Pointed Semi-Gloss Black
6	Ventilation	Intake & Exhaust at Bottom-Front
7	Access	Service from Front Only
8	Weight	250 lbs (Approx)

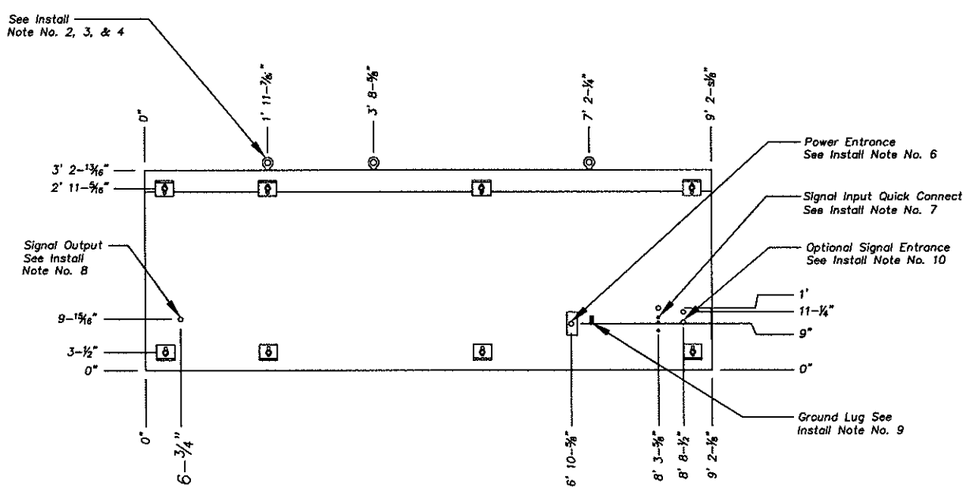
Structural Rating		
1	Design Wind Pressure "P"	P<=110 PSF
2	Standard/Code	IBC 2006

Power Ratings Per Single Face

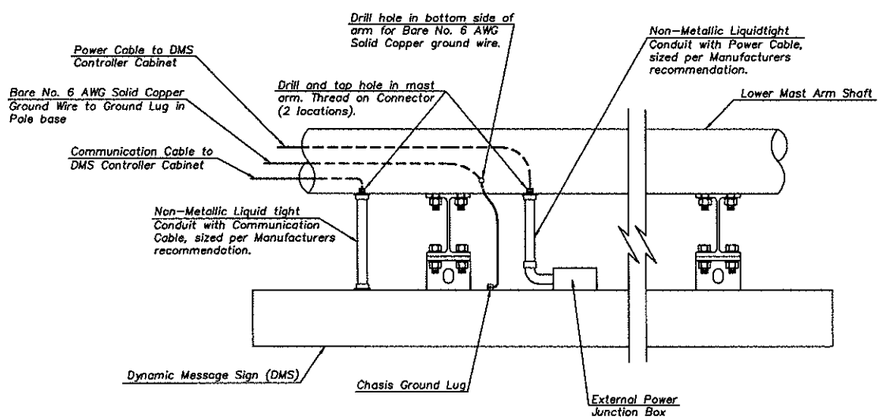
#	Color	Effective Date	WATTS	Domestic			International
				120VAC,60Hz 2 Wire + GND	120/240VAC, 60Hz, 3 Wire + GND		240VAC,1PH 50Hz 2 Wire + GND
				Line 1 (AMPS)	Line 1 (AMPS)	Line 2 (AMPS)	Line 1 (AMPS)
1	RGB	After 4/26/12	1200	N/A	4.77	5.23	5.00
2	RGB	Prior to 4/25/12	1541	N/A	6.26	6.59	6.42

Install Notes

1. Display is front ventilated so no portion of the front face can be covered. Air intakes are filtered. Filters are located in drawers on face.
2. In order to maintain the structural integrity of the display cabinet, use spreader beam and maintain a 90° angle between the cabinet and the lifting method. All eyebolts must be used for lifting the cabinet.
3. ½" eyebolts to assist with display installation. Eyebolts may be removed after installation.
4. Eyebolts may not be used for permanent installation.
5. L3 x 3 x 3/8" x 3 Wide" ASTM A36 steel angle for mounting attached to the display with ½" bolt and nut insert. Clip angle can be adjusted vertically as needed during installation.
6. External junction box is provided for power termination. See power ratings above.
7. Signal input at quick connect. Primary/Single face display shown. See clearance dimension on detail View B.
8. Signal output quick connect for mirror face.
9. Ground lug for ground lug connection. Display needs to be grounded.
10. Two ½" conduit knockout locations for optional signal entrance.



Rear View



Top View

CITY OF OVERLAND PARK
DEPARTMENT OF PUBLIC WORKS

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1	01/01/18	2018 Standard Details	V.G.
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3			

TRAFFIC ENGINEERING
STANDARD DETAILS

DYNAMIC MESSAGE SIGN
STRUCTURE LAYOUT

SHEET NO. 47 | TOTAL SHEETS 50

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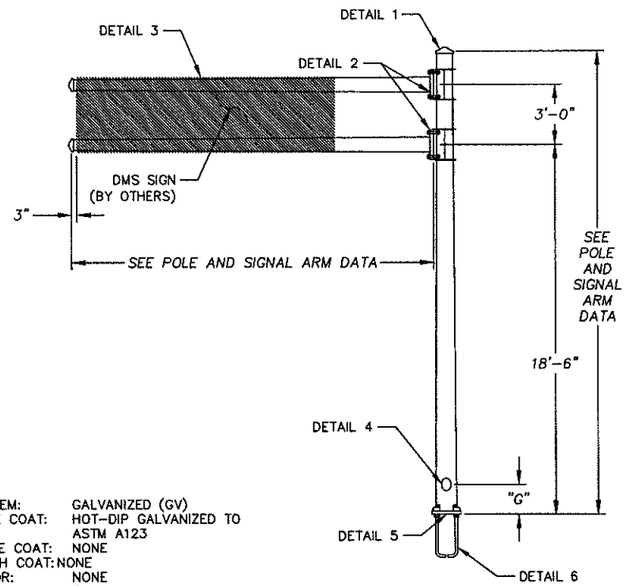
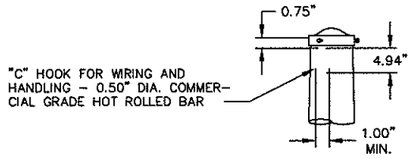
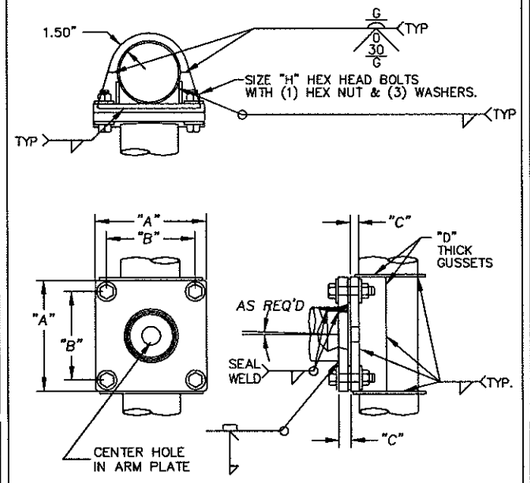


SYSTEM: GALVANIZED (GV)
BASE COAT: HOT-DIP GALVANIZED TO ASTM A123
PRIME COAT: NONE
FINISH COAT: NONE
COLOR: NONE
SPEC: F-1



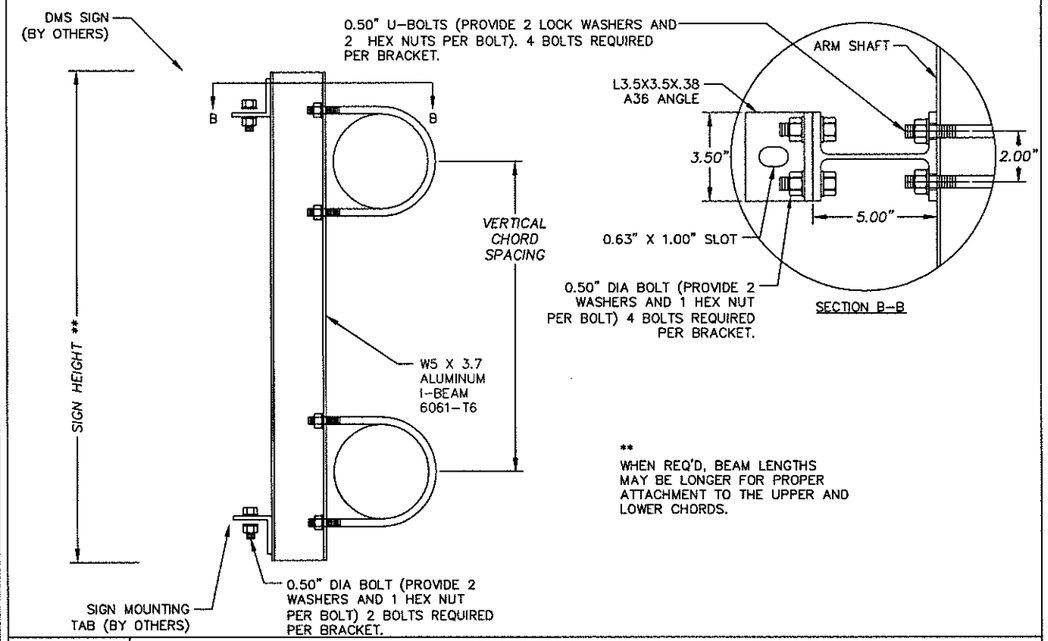
DETAIL 1 | POLE TOP



SIGNAL ARM ATTACHMENT DATA

POLE BASE DIA. (IN)	"A" (IN)	"B" (IN)	"C" (IN)	"D" (IN)	CENTER HOLE DIA. (IN)	"H" (IN)
12.50	17.75	14.50	2.00	0.375	7.00	1.25 X 6.00

DETAIL 2 | SIGNAL ARM ATTACHMENT



** WHEN REQ'D, BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO THE UPPER AND LOWER CHORDS.

DETAIL 3 | DMS SIGN ATTACHMENT

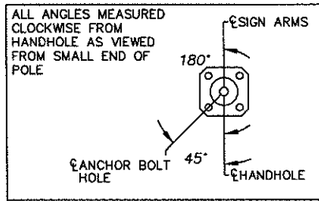
MATERIAL DATA

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)	COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
TAPPERED TUBE	A595 GR.A OR A572	55	ANCHOR BOLTS	F1554 GR.55	55
POLE BASE	A572	50	GALVANIZING-HARDWARE	HOT DIP ZINC	---
ARM ATTACHMENT	A572	50			
ARM CONN. BOLTS	A325	---			

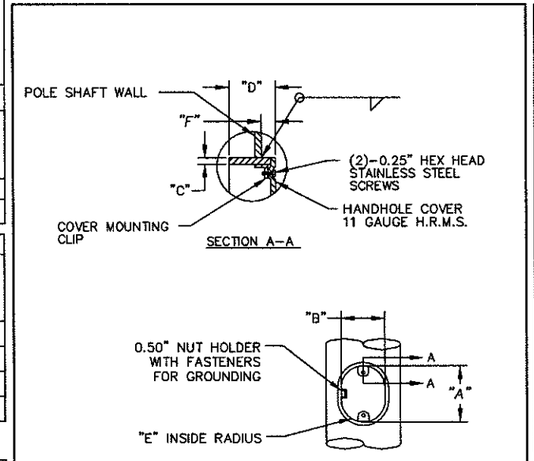
POLE SERIES	POLE TUBE BASE DIA. (IN)	POLE TUBE TOP DIA. (IN)	POLE TUBE LENGTH (FT)	POLE TUBE GAUGE OR THICK (IN)	POLE BASE SQUARE "S" (IN)	POLE BASE BOLT CIRCLE "Y" (IN)	POLE BASE THK. "M" (IN)	POLE BASE HOLE "Z" (IN)	POLE BASE CENTER HOLE "P"	ANCHOR BOLT DIA. "K" (IN)	ANCHOR BOLT LENGTH "J" (IN)	ANCHOR BOLT HOOK "H" (IN)	ANCHOR BOLT THREAD LENGTH "U" (IN)	SIGNAL ARM TUBE FIXED END DIA. (IN)	SIGNAL ARM TUBE FREE END DIA. (IN)	SIGNAL ARM TUBE GAUGE OR THICK (IN)	SIGNAL ARM TUBE SPAN (FT)
OP	12.50	9.28	23.00	5	17.50	16.50	2.00	1.75	11.00	1.50	54.00	6.00	8.00	9.00	6.48	7	18.00
														9.00	6.48	7	18.00

ALTHOUGH RARE, VIBRATIONS SEVERE ENOUGH TO CAUSE DAMAGE CAN OCCASIONALLY OCCUR IN STRUCTURES OF ALL TYPES. BECAUSE THEY ARE INFLUENCED BY MANY INTERACTING VARIABLES, VIBRATIONS ARE GENERALLY UNPREDICTABLE. THE USER'S MAINTENANCE PROGRAM SHOULD INCLUDE OBSERVATION FOR EXCESSIVE VIBRATION AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING. THE VALMONT WARRANTY SPECIFICALLY EXCLUDES FATIGUE FAILURE OR SIMILAR PHENOMENA RESULTING FROM INDUCED VIBRATION, HARMONIC OSCILLATION OR RESONANCE ASSOCIATED WITH MOVEMENT OF AIR CURRENTS AROUND THE PRODUCT.

VIBRATION DISCLAIMER

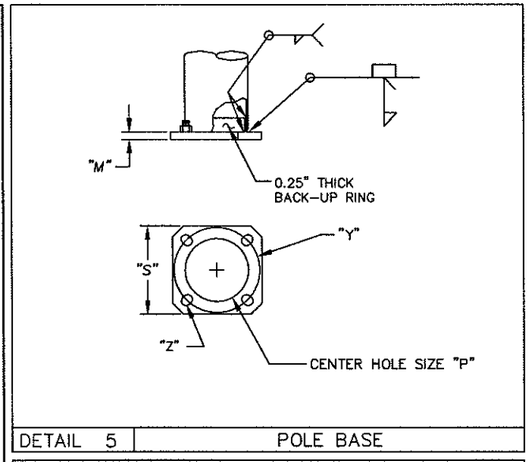


RADIAL INDEX



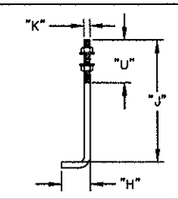
BASE DIA.	"A" I.D. (IN)	"B" I.D. (IN)	"C" THK (IN)	"D" DEPTH (IN)	"E" RADIUS (IN)	"F" PROJ (IN)	"G" MTG. HEIGHT (FT)
12.50"	4.50	6.56	0.50	2.50	2.25	0.50	1.50

DETAIL 4 | HANDHOLE



DETAIL 5 | POLE BASE

(4)-ANCHOR BOLTS WITH (2) HEX NUTS AND (2) WASHERS PER BOLT WITH THREADED END GALVANIZED AT LEAST 12".



DETAIL 6 | ANCHOR BOLT

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TRAFFIC ENGINEERING
STANDARD DETAILS

DYNAMIC MESSAGE SIGN
CANTILEVER STRUCTURE DETAILS

SHEET NO. 48 | TOTAL SHEETS 50

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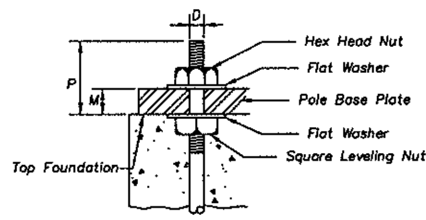
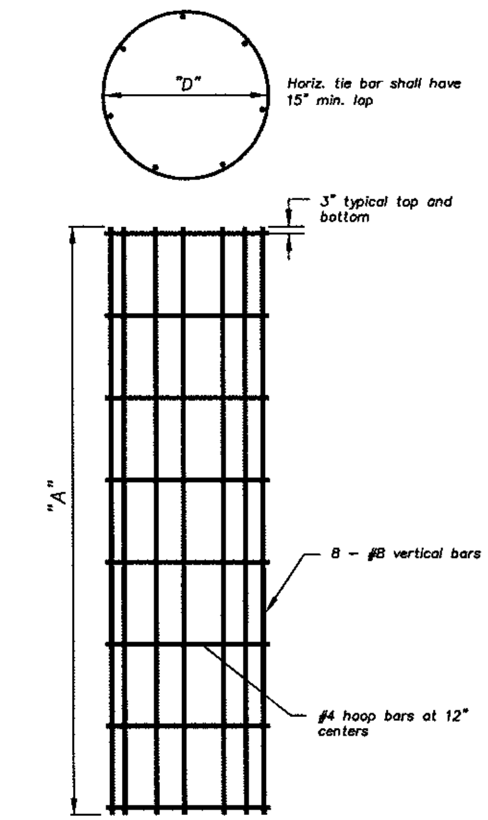


Anchor Bolt Detail

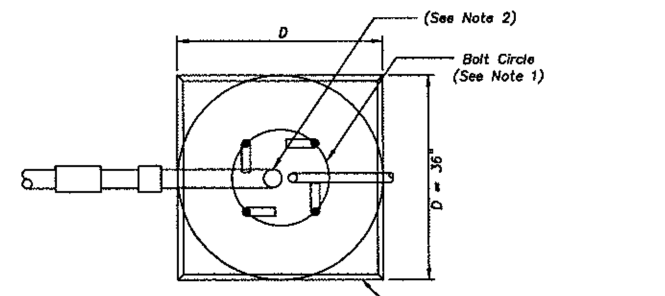
Table 1 – Anchor Bolt Projection Dimensions		
Bolt Diameter	Plate Thickness "M"	Bolt Projection "P"
1.50"	2.00"	6 ¼" ± ¼"



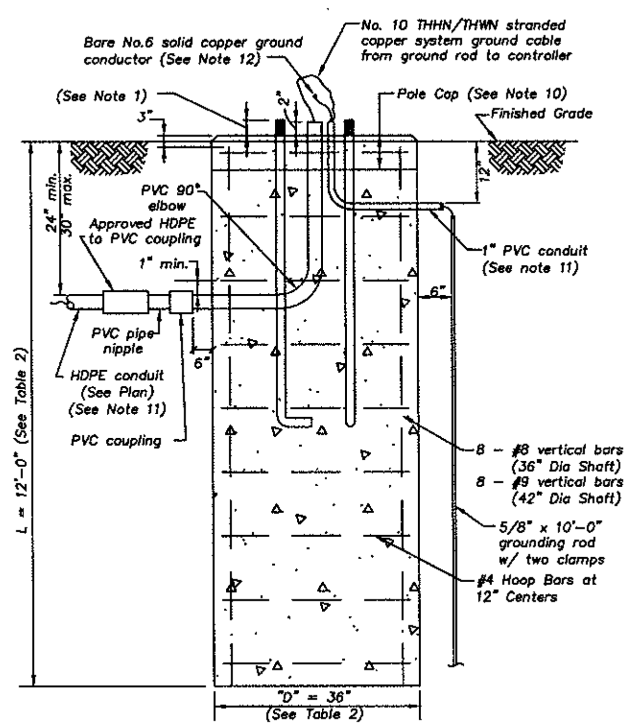
Rebar Cage Detail

Horizontal Rebar			
Pole Fnd. Dia.	Pole Fnd Depth	Rebar Cir. "D"	Spacing
36"	12'	30"	12" MAX.

Vertical Rebar	
Pole Fnd. Depth	Length "A"
12'-0"	11'-9"



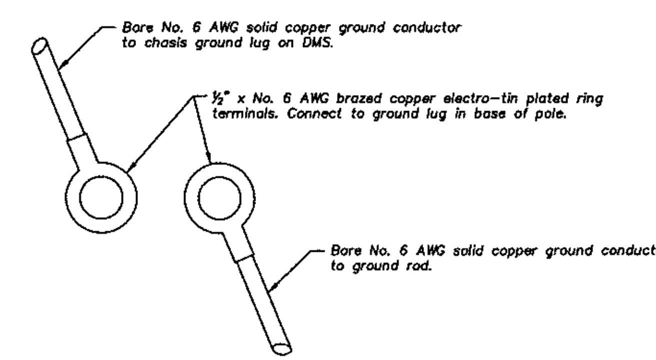
Plan



Section

Traffic Signal Pole Foundation

Table 2 Signal Pole Foundations Drilled Shaft Dimensions		
Length of Mast Arm	"D" Diameter	"L" Length
18'	36"	12'



DMS Grounding Detail

Pole Foundation Notes:

1. Final pole, anchor bolt size, anchor bolt projection, and bolt circle shall be as per manufacturer's recommended practices (See Table 1).
2. All conduits and anchor bolts for all the new pole bases shall be rigidly installed before concrete is placed. Anchor bolts shall be spaced by means of a factory certified template or drawing, the center of which shall coincide with the center of the base.
3. All concrete used in this work shall meet the requirements of the Overland Park Municipal Code and shall be KCMMB4K concrete (f'_c = 4,000 psi). Poles shall not be erected until concrete has reached 3,400 psi.
4. Reinforcing steel shall have 60 ksi yield strength: Maintain 1 ½" Minimum clearance from reinforcing steel to edge of hole or form.
5. The drilled shaft foundation details presented herein are intended for installation into soil foundations. A special foundation investigation and design shall be conducted for residual soils with an "N" value of 4 or less or characterized as very soft to soft clay.
6. These standard designs assume a minimum compactive effort of 90% of Standard or Modified Proctor for cohesive fill material.
7. In the event excavation for the drilled shaft encounters sound limestone short of the required length shown in the table of dimensions, the shaft may be shortened to a minimum length of 8 feet with a minimum inclusive rock socket of 3 feet.
8. Shale foundation material will be considered as a stiff clay. Drilled shafts in shale must satisfy the dimensions on Table 2.
9. All concrete pole bases shall be consolidated by an internal type vibrator.
10. Final 6" of concrete foundation (pole cap) shall be formed square. The cap shall be formed and poured after the mast arm is erected and the pole plumb. Final top elevation shall match finished grade.
11. PVC conduit elbows in concrete foundations shall be connected to HDPE conduit with PVC pipe nipple and approved PVC to HDPE couplings. all PVC pipe nipples, elbows, and couplings shall be considered subsidiary to the traffic signal pole base.
12. Bare No. 6 AWG solid copper ground conductor shall be connected from internal pole grounding nut to clamp on ground rod. Resistance to ground shall be 10 ohms or less, or additional ground rods shall be installed in an array. The contractor shall test ground resistance in the presence of the inspector.
13. All reinforcing steel shall be ASTM A615 GR60.
14. All concrete surfaces should be brushed and sealed with curing compound.

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TRAFFIC ENGINEERING
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DYNAMIC MESSAGE SIGN
FOUNDATION & ANCHOR BOLT DETAILS

SHEET NO.	TOTAL SHEETS
49	50

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