

# Unitized Foundation System - Light Poles

**Install in the day...**



**...have light by night!**



## Features and Benefits

### Design Features:

- High strength pipe
- Rugged helix for difficult soils
- Lead point “stinger” to facilitate initial penetration and “setting the plumb”
- Structural steel top base plate with slots for variable bolt hole circles to meet pole base dimensions
- Supplied with high strength bolts to secure pole
- Available in 6”, 8”, and 10” diameters
- Lengths from 5 – 10 feet
- Two-sided entrance wiring slots
- Torque ratings up to 15,000 ft-lbs
- Hot dip galvanized for corrosion protection

### Key Benefits:

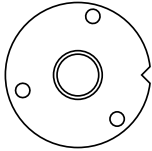
- Installs in minutes – not days or weeks
- Reduced total installation costs – time savings with smaller crew
- Poles can be installed immediately – no return trip
- No building forms, setting rebar and anchor bolts
- Installs into soil classes 2 through 7 and even into tar pavement
- Installation in all weather conditions – no need to reschedule
- Minimal site cleanup of disturbed soil - no spoils to haul away



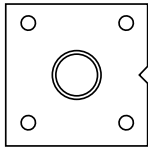
**MacLean Power Systems**



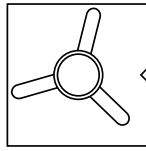
# Cost Effective Foundation Systems for Small to Large Light Standards



3-bolt circle



4-bolt circle



3-bolt variable bolt circle



## Small Foundations

For decorative walkway lighting, residential lamp posts, etc. (generally suitable for pole standards less than 20' high). Foundation top plates available with 3 or 4 fixed holes or with slotted top plates.

These foundations are typically 3 1/2" in diameter x 4' to 5' in length. Hardware included to bolt to light post base.

## Medium Foundations

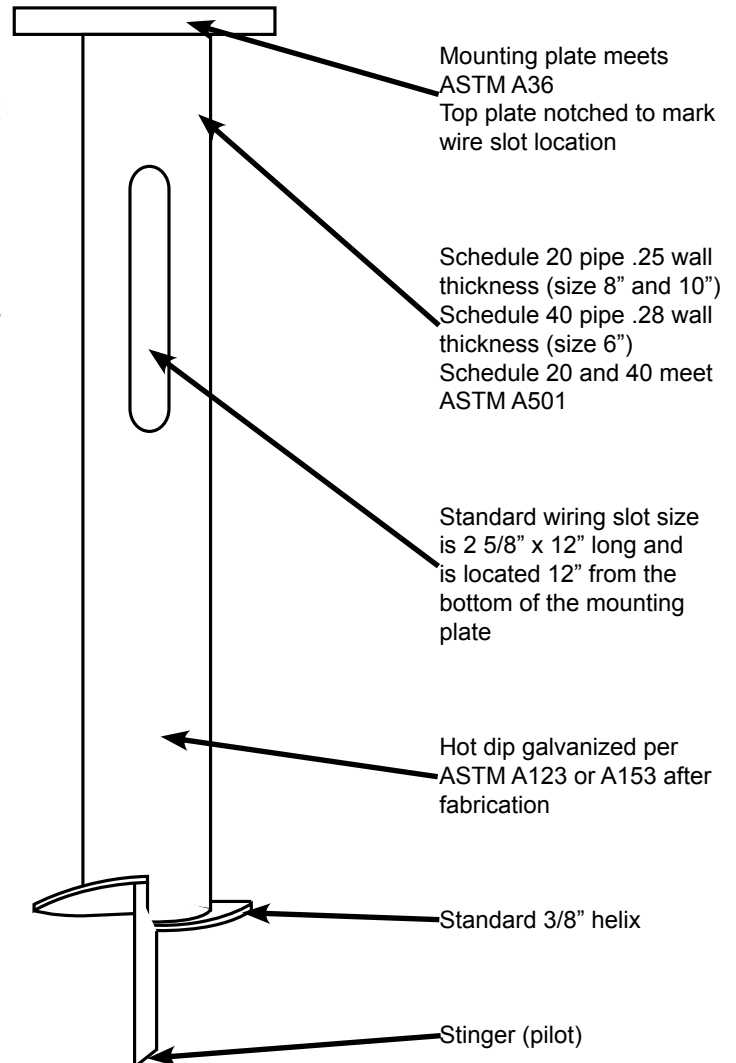
For residential lights, parking lots, etc. Typically for light standards ranging from 20' to 30' high. Foundations can be supplied with variable (slotted) or fixed bolt hole bases.

These foundations are generally 6" in diameter and 4' to 6' in length. Hardware included (usually 1" bolts for this pole size).

## Heavy Duty Foundations

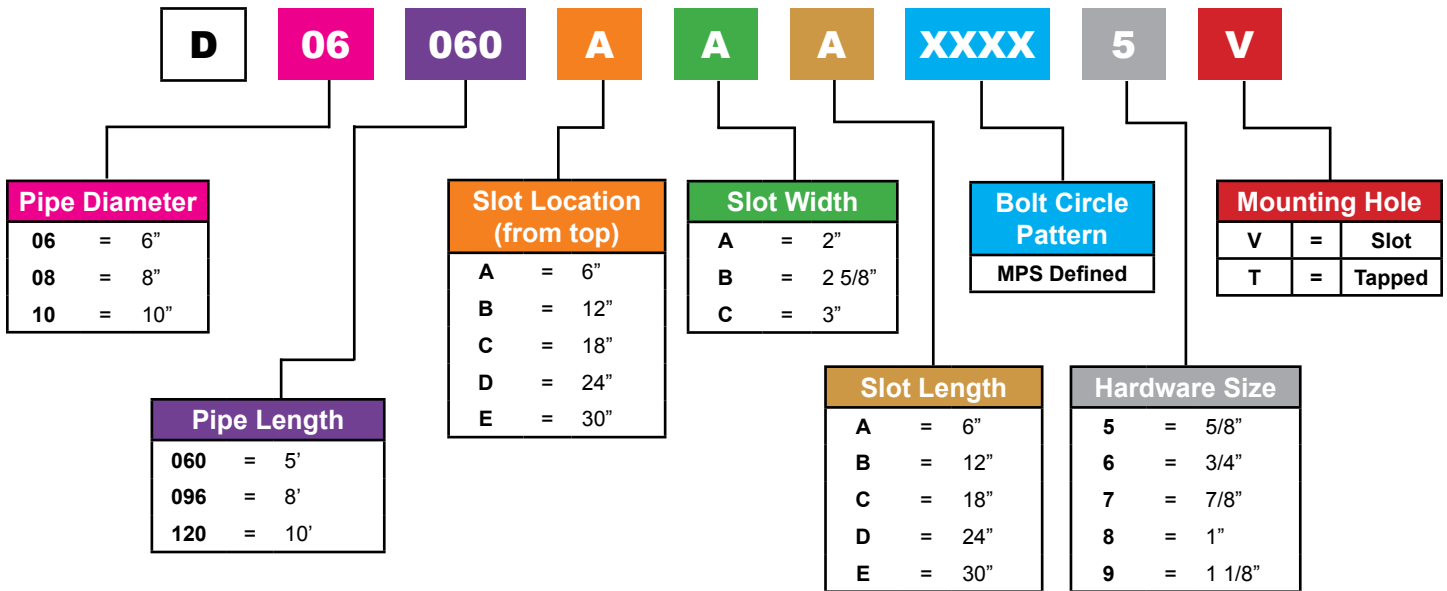
For street and highway lighting, generally suitable for poles ranging from 30' to 50' high with one or two mast arms. Available with slotted or fixed bolt hole patterns, typically 8" or 10" in diameter and 5' to 10' in length. These foundations are approved by the Department of Transportation agencies in many states...contact MacLean Power Systems for details.

- Foundations are supplied with SAE J429, Grade 5 (or equivalent) bolts.
- Nuts and washers are supplied, if required.
- Foundations and hardware are hot dip galvanized per ASTM A153.





# Catalog Numbering System



## Installation Cost Study

Concrete Foundation Pad	
<b>Materials</b>	
Anchor bolts	
Wood frame for positioning anchor bolts	
Concrete Yards	
Material Cost (estimated)	= \$175
<b>Labor</b>	
(3 man crew, \$180/hour rate)	
Dig hole	
Frame pad	
Pour concrete and position anchor bolts	
Remove wood frame	
Remove spoil	
Labor Cost (estimated based on 2 hour installation time)	= \$360
<b>Overhead</b>	
(Line truck, \$250/hour rate)	
Overhead Cost (estimated based on 2 hour installation time)	= \$500
<b>TOTAL INSTALLATION COST</b>	<b>= \$1035</b>

MPS Unitized Foundation System	
<b>Materials</b>	
Anchor bolts	
6" diameter x 60" long street light foundation pile	
Material Cost (estimated)	= \$375
<b>Labor</b>	
(2 man crew, \$120/hour rate)	
Screw street light foundation pile into ground	
Labor Cost (estimated based on 15 minute installation time)	= \$30
<b>Overhead</b>	
(Line truck, \$250/hour rate)	
Overhead Cost (estimated based on 15 minute installation time)	= \$62.50
<b>TOTAL INSTALLATION COST</b>	<b>= \$467.50</b>

- Notes:
1. Weather and site conditions have minimal impact on installation time
  2. No returned or secondary trip required due to concrete curing time
  3. Crew size reduced from three to two based on simpler installation requirements

- Notes:
1. Second trip is required to install street light pole due to concrete cure time - cost of second trip not included
  2. Analysis does not include spoil disposal costs
  3. Weather and site conditions may impact total installation time (can range from 1.5 to 3 hours)
  4. Assumes concrete truck has easy accessibility to installation location

**MacLean Power Systems Unitized Foundation System Saved over \$500 per Assembly!**



# Street Light Foundation Selection

## Soil Classification Guide

Class	Common Soil Type Description	Geological Soil Classification	Typical Blow Count "N" per ASTM-D1586
0	Sound hard rock, unweathered	Granite, Basalt, Massive Limestone	N.A. ROD = 50-1/2
1	Very dense and/or cemented sands; coarse gravel and cobble stones	Caliche, (Nitrate-bearing gravel/rock)	60 - 100+
2	Dense fine sand; very hard silts and clays (may be pre-loaded)	Basal till; boulder clay; caliche; weathered laminated rock	45 - 60
3	Dense clays, sands and gravel; hard silts and clays	Glacial till; weathered shales, schist, gneiss and siltstone	35 - 50
4	Medium dense sandy gravel; very stiff to hard silts and clays	Glacial till; hardpan; marls	24 - 40
5	Medium dense coarse sand and sandy gravels; stiff to very stiff silts and clays	Saprolites, residual soils	14 - 25
6	Loose to medium dense fine to coarse sand; firm to stiff clays and silts	Dense hydraulic fill; compacted fill; residual soils	7 - 14
**7	Loose fine sand; Alluvium; loess; soft-firm clays; varied clays; fill	Flood plain soils; lake clays; adobe; gumbo, fill	4 - 8
**8	Peat, organic silts; inundated silts, fly ash	Miscellaneous fill, swamp marsh	0 - 5

Class 1 soils are difficult to probe consistently and the ASTM blow count may be of questionable value

\*\* It is advisable to install anchors deep enough, by the use of extensions, to penetrate a Class 5 or 6, underlying the Class 7 or 8 soils.

## Pole Load Determination Form

Pole Mounting Height.....	_____ in	Arm Shape (see list below)...	_____
Pole Material.....	_____	Arm Length.....	_____ ft
Pole Shape (see list below)...	_____	Arm Diameter:	_____
Pole Diameter:		Bottom.....	_____ in
Bottom.....	_____ in	Tip.....	_____ in
Top.....	_____ in	Number of Arms.....	_____
Breakaway Base Required....	Yes or No	Number of Luminaires.....	_____
Pole Base Bolt Circle.....	_____ in	Luminaire EPA.....	_____ sq ft
Foundation Bolt Circle.....	_____ in	Wind Load Requirement.....	_____ MPH
Bolt:		Wiring Slot:	
Diameter.....	_____ in	Length.....	_____ in
Length.....	_____ in	Width.....	_____ in
Soil:		Location from Top Plate....	_____ in
Class Number.....	_____	Other.....	_____
Blow Count.....	_____		

### Pole and Arm Shape Options:

Cylinder	Hexdecagonal (16 sides)	Octagonal (8 sides)	
Flat	Dodecagonal (12 sides)	Square (4 sides)	Diamond

### MacLean Power Systems

11411 Addison Avenue  
Franklin Park, IL 60131

T: 847.455.0014 F: 847.455.0029 • www.maclepower.com