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 Dixie HFS
Building Solid Foundations
Cost Effective Foundation Systems for Small to Large Light Standards

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 - Dixie HFS 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.
Installation Cost Study

Concrete Foundation Pad

Materials
- Anchor bolts
- Wood frame for positioning anchor bolts

Concrete Yards
Material Cost (estimated) = $175

Labor
(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

Overhead
(Line truck, $250/hour rate)
Overhead Cost (estimated based on 2 hour installation time) = $500

TOTAL INSTALLATION COST = $1035

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

M-D Unitized Foundation System

Materials
- Anchor bolts
- 6" diameter x 60" long street light foundation pile

Material Cost (estimated) = $375

Labor
(2 man crew, $120/hour rate)
- Screw street light foundation pile into ground

Labor Cost (estimated based on 15 minute installation time) = $30

Overhead
(Line truck, $250/hour rate)
Overhead Cost (estimated based on 15 minute installation time) = $62.50

TOTAL INSTALLATION COST = $467.50

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

MacLean - Dixie HFS Unitized Foundation System Saved over $500 per Assembly!
# Street Light Foundation Selection

## Soil Classification Guide

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

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

<table>
<thead>
<tr>
<th>Pole Mounting Height</th>
<th>in</th>
<th>Pole Material</th>
<th>Pole Diameter: Bottom in</th>
<th>Top in</th>
<th>Breakaway Base Required: Yes or No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pole Shape (see list below)</td>
<td></td>
<td>Breakaway Base Required: Yes or No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pole Diameter:</td>
<td></td>
<td>Breakaway Base Required: Yes or No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom:</td>
<td></td>
<td>Breakaway Base Required: Yes or No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top:</td>
<td></td>
<td>Breakaway Base Required: Yes or No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundation Bolt Circle: in</td>
<td></td>
<td>Pole Base Bolt Circle: in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bolt: Diameter:</td>
<td></td>
<td>Pole Base Bolt Circle: in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length:</td>
<td></td>
<td>Pole Base Bolt Circle: in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil: Class Number</td>
<td></td>
<td>Pole Base Bolt Circle: in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blow Count:</td>
<td></td>
<td>Pole Base Bolt Circle: in</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Pole and Arm Shape Options:

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

**MacLean - Dixie HFS**
11411 Addison Avenue
Franklin Park, IL 60131
T: 847.455.0014  F: 847.455.0029 • www.macleandixie.com