<table>
<thead>
<tr>
<th>TYPE</th>
<th>DESCRIPTION</th>
<th>PAGE</th>
</tr>
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<tbody>
<tr>
<td>Construction Type Guide</td>
<td>Service Cable</td>
<td>1-3-2-1</td>
</tr>
<tr>
<td>Construction Type Guide</td>
<td>Rate 3 Public Lighting</td>
<td>1-3-2-2</td>
</tr>
<tr>
<td>Construction Type Guide</td>
<td>Service Cable</td>
<td>1-3-2-3</td>
</tr>
<tr>
<td>Luminaire Glare Shield</td>
<td>Minor Road Decorative</td>
<td>1-3-3-1</td>
</tr>
<tr>
<td>Luminaire Glare Shield</td>
<td>Major &amp; Minor Road</td>
<td>1-3-4-1</td>
</tr>
<tr>
<td>Luminaire Stone Guard</td>
<td>Minor Road</td>
<td>1-3-5-1</td>
</tr>
<tr>
<td>Attach Site ID Label to Steel or Concrete Pole</td>
<td>(Maj/Min Rd)</td>
<td>1-3-6-1</td>
</tr>
<tr>
<td>Attach Site ID Label to Estate Pole</td>
<td>(Minor Rd)</td>
<td>1-3-6-2</td>
</tr>
<tr>
<td>Attach Rate 3 Site ID Label to Pole</td>
<td></td>
<td>1-3-6-3</td>
</tr>
<tr>
<td>Stabilised Backfill</td>
<td></td>
<td>1-3-7-1</td>
</tr>
<tr>
<td>BIG Pole - typical installation details</td>
<td></td>
<td>1-3-7-2</td>
</tr>
<tr>
<td>BIG Pole - Major Rd footing / erection details</td>
<td></td>
<td>1-3-7-3</td>
</tr>
<tr>
<td>BIG Pole - Minor Rd footing / erection details</td>
<td></td>
<td>1-3-7-4</td>
</tr>
<tr>
<td>Termination of 16mm² &amp; 4mm² N/S cable Install Instructions</td>
<td></td>
<td>1-3-8-1</td>
</tr>
<tr>
<td>Pedestrian Crossing Floodlight Aiming Details</td>
<td></td>
<td>1-3-9-1</td>
</tr>
<tr>
<td>Pedestrian Crossing Floodlight Aiming Details</td>
<td></td>
<td>1-3-9-2</td>
</tr>
<tr>
<td>Typical Physical Arrangement of Supply Pit to Pole</td>
<td></td>
<td>1-3-10-1</td>
</tr>
<tr>
<td>Access for Const &amp; Maint Vehicles on Roundabout</td>
<td></td>
<td>1-3-11-1</td>
</tr>
<tr>
<td>Access for Const &amp; Maint Vehicles on Roundabout</td>
<td></td>
<td>1-3-11-2</td>
</tr>
<tr>
<td>Energex Pole Labelling</td>
<td></td>
<td>1-3-12-1</td>
</tr>
<tr>
<td>Energex Pole Labelling</td>
<td></td>
<td>1-3-12-2</td>
</tr>
<tr>
<td>Energex Pole Labelling</td>
<td></td>
<td>1-3-12-3</td>
</tr>
<tr>
<td>High Mast Pole Headframe Details</td>
<td>1 &amp; 2 Way Outreach</td>
<td>1-3-13-1</td>
</tr>
<tr>
<td>High Mast Pole Headframe Details</td>
<td>3 &amp; 4 Way Outreach</td>
<td>1-3-13-2</td>
</tr>
<tr>
<td>Clearance between Lighting Structure &amp; Overhead Line</td>
<td></td>
<td>1-3-14-1</td>
</tr>
<tr>
<td>Dynamic Clearance of SBM Pole From and Overhead Line</td>
<td></td>
<td>1-3-14-2</td>
</tr>
<tr>
<td>Dynamic Clearance of SBM Pole From and Overhead Line</td>
<td></td>
<td>1-3-14-3</td>
</tr>
<tr>
<td>Major Road Mid Hinged BPM Pole Installation Details</td>
<td></td>
<td>1-3-15-1</td>
</tr>
<tr>
<td>Major Road Mid Hinged BPM Pole Operation Details</td>
<td></td>
<td>1-3-15-2</td>
</tr>
<tr>
<td>Major &amp; Minor Roads Typical Cross Section Conduits</td>
<td></td>
<td>1-3-16-1</td>
</tr>
<tr>
<td>Pit installation - general arrangement</td>
<td></td>
<td>1-3-17-1</td>
</tr>
<tr>
<td>Pit installation - sloping ground</td>
<td></td>
<td>1-3-17-2</td>
</tr>
<tr>
<td>Conduit entry to pits - general arrangement</td>
<td></td>
<td>1-3-17-3</td>
</tr>
<tr>
<td>Pit installation - concrete surround</td>
<td></td>
<td>1-3-17-4</td>
</tr>
<tr>
<td>Steel Pole Attachments</td>
<td></td>
<td>1-3-18-1</td>
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</tbody>
</table>
### SERVICE CABLE OVERHEAD - CONSTRUCTION CODE

#### OVERHEAD MANUAL CODE

<table>
<thead>
<tr>
<th>CABLE CODE</th>
<th>CABLE DESCRIPTION</th>
<th>I.I. NUMBER</th>
<th>USE</th>
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<tbody>
<tr>
<td>B225</td>
<td>2 x 25mm² ABC/XLPE</td>
<td>1420045</td>
<td>O/H Service Major &amp; Minor</td>
</tr>
<tr>
<td>B425</td>
<td>4 x 25mm² ABC/XLPE</td>
<td>1420051</td>
<td>O/H Service Major &amp; Minor</td>
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</tbody>
</table>

These cable codes are included in the Overhead Construction Manual.

**EXAMPLE:** B225 = Cable 2 x 25mm² ABC/XLPE

### SERVICE CABLE UNDERGROUND - CONSTRUCTION CODE

#### UNDERGROUND MANUAL CODE

<table>
<thead>
<tr>
<th>CABLE CODE</th>
<th>CABLE DESCRIPTION</th>
<th>CABLE CODE</th>
<th>I.I. NUMBER</th>
<th>USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LVI-16CUNS/1672</td>
<td>16mm² Cu NS</td>
<td>LVI-16CUNS/1672</td>
<td>1672</td>
<td>2406943</td>
</tr>
<tr>
<td>LVI-4CUNS/1671</td>
<td>4mm² Cu NS</td>
<td>LVI-4CUNS/1671</td>
<td>1671</td>
<td>2400260</td>
</tr>
<tr>
<td>LV-6CUIC/1673</td>
<td>6mm² Cu 1 Core PVC (Green/Yellow)</td>
<td>LV-6CUIC/1673</td>
<td>1673</td>
<td>1542919</td>
</tr>
</tbody>
</table>

These cable codes are included in the Underground Construction Manual.

**EXAMPLE:** LVI-16CUNS/1672 = LVI 16mm² Cu Neutral Screen Cable, Code reference No. 1672

---

**LIGHTING CONSTRUCTION PRACTICES - ERGON ENERGY ONLY CONSTRUCTION CODE GUIDE SERVICE CABLE**

**EE DRWG NO: 1-3-2-1**

**EGX DRWG NO: NIL**

<table>
<thead>
<tr>
<th>VOLUME</th>
<th>FOLDER</th>
<th>PAGE</th>
<th>ISSUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>2-1</td>
<td>0B</td>
</tr>
</tbody>
</table>
STREETLIGHT LUMINAIRE RATE 3 - CONSTRUCTION CODE

PUBLIC LIGHTING MANUAL CODE

SL  LED  0027

STREETLIGHT  LAMP TYPE  PRODUCT CODE

SL = Streetlight  LED = Light-Emitting Diode

EXAMPLE:-  SL LED 0027 = Streetlight, Light-Emitting Diode, Sylvania Lighting Street LED 25W

0009 = ADV Lighting Tech Ledway 20 2D350
0010 = ADV Lighting Tech Ledway 20 D700
0011 = ADV Lighting Tech Ledway 40 D350
0012 = ADV Lighting Tech Ledway 80 D525
0013 = ADV Lighting Tech Ledway 120 D700
0014 = ADV Lighting Tech Ledway 20 D350R
0015 = ADV Lighting Tech Ledway 40 D350R
0016 = ADV Lighting Tech Ledway 80 D525R
0017 = ADV Lighting Tech Ledway 120 D525R
0018 = ADV Lighting Tech Ledway 120 D700R
0019 = ADV Lighting Tech Ledway 30 C350
0020 = ADV Lighting Tech Ledway 60 C350
0021 = ADV Lighting Tech Canopy 60 C350
0022 = Pecan Lighting 96M 86W
0023 = Pecan Lighting 96M 200W
0024 = Pecan Lighting 48S 44W
0025 = Pecan Lighting 48S 55W
0026 = Orange Tek Terraled 48
0027 = Sylvania Lighting Street LED 25W
0028 = GE Lighting R250 158W
0029 = GE Lighting R250 237W
0030 = GE Lighting R250 30W
0031 = Toshiba Inter Corp. Urban Light 32W
0039 = Aldridge ALS 216/298 298W

EXAMPLE:-  SL LED 0027 = Streetlight, Light-Emitting Diode, Sylvania Lighting Street LED 25W
**SERVICE CABLE OVERHEAD - CONSTRUCTION CODE**

**OVERHEAD MANUAL CODE**

<table>
<thead>
<tr>
<th>CABLE CODE</th>
<th>CABLE DESCRIPTION</th>
<th>I.I. NUMBER</th>
<th>USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4B25</td>
<td>4 x 25mm² ABC / XLPE</td>
<td>16578</td>
<td>O/H Service Major &amp; Minor</td>
</tr>
</tbody>
</table>

These cable codes are included in the Overhead Construction Manual

**EXAMPLE:** - 4B25 = Cable 4 x 25mm² ABC / XLPE

---

**SERVICE CABLE UNDERGROUND - CONSTRUCTION CODE**

**UNDERGROUND MANUAL CODE**

<table>
<thead>
<tr>
<th>CABLE CODE</th>
<th>CABLE DESCRIPTION</th>
<th>I.I. NUMBER</th>
<th>USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LVC24</td>
<td>LV 4mm² Cu 2 core PVC / PVC</td>
<td>07127</td>
<td>U/G Service Major &amp; Minor</td>
</tr>
<tr>
<td>LVC216 PVPV</td>
<td>LV 16mm² Cu 2 core PVC / PVC</td>
<td>08727</td>
<td>O/H Service Major &amp; Minor</td>
</tr>
<tr>
<td>LVC416 PVPV</td>
<td>LV 16mm² Cu 4 core XLPE / PVC</td>
<td>07231</td>
<td>Loop In Between Pits</td>
</tr>
</tbody>
</table>

These cable codes are included in the Underground Construction Manual

**EXAMPLE:** - LVC216 PVPV = LV 16mm² Cu 2 core PVC / PVC

---

**LIGHTING CONSTRUCTION PRACTICES - ENERGEX ONLY CONSTRUCTION CODE GUIDE**

**SERVICE CABLE**

**EE DRWG NO:** 1-3-2-3

**EGX DRWG NO:** NIL

**Drawn:** L. Burton / T. Borg 22/11/16

**Approved Ergon:** C. Noel 19/04/17

**Approved Energex:** F. Zaini 19/04/17

**Checked:** P. Ref / A. Bletchly 01/04/17

---

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GLARE SHIELD FOR DECORATIVE LUMINAIRES

ALUMINIUM GLARE SHIELD: SC - 11609 / 2407078
Suits Luminaires:

Nostalgia type 1:  
- M50 Normal
- M80 Normal
- S70 Normal

Nostalgia type 2:  
- M50 Normal
- M80 Normal
- S70 Normal

Refer to Instruction Sheet supplied with shield for installation details.

NOTE: Also suitable for Sylvania Minor Road B2224 series luminaires (Flower Pot type).
**GLARE SHIELD FOR MAJOR ROAD LUMINAIRES**

REPLACEMENT DIFFUSER: SC - 18051 / 0104389

Suits Luminaires:
- S100 Normal SC - 21578 / 2403262
- S150 Normal SC - 21577 / 1150251
- S250 Normal SC - 21578 / 1150283

(Suits Sylvania Roadster Luminaires up to 250W)

**GLARE SHIELD FOR MINOR ROAD LUMINAIRES**

REPLACEMENT DIFFUSER: SC - 18051 / 0104390

Suits Luminaires:
- $S400$ Normal SC - 21579 / 1150285

(Suits Sylvania Roadster Luminaires 400W only)

**NOTE:** Not suitable for M125D as maximum allowable power is 80 watts.

(Suits Sylvania B2222, Maxi or Urban luminaires)

---

Remove existing diffuser and fit replacement containing glare shield.

Remove existing diffuser and fit replacement containing glare shields.

**LIGHTING CONSTRUCTION PRACTICES**

**LUMINAIRE GLARE SHIELD**

**MAJOR & MINOR ROAD**

---

**HARD COPY UNCONTROLLED**

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ABN 40 078 849 055

ABN 50 087 646 062

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STONE GUARD FOR MINOR ROAD LUMINAIRES

SC - 19462 / 2407079
Suits Sylvania B2222 Maxi or Urban Luminaires

SC - 23171 / 2443539
Suits Sylvania Suburban Luminaires

Suits Luminaires:
- M50 Normal SC - 21520 / 1150075
- M80 Normal SC - 21521 / 1150078
- S70 Normal SC - 21540 / 2438257
- CF32 Normal SC - 21224 / 2438174
- H35 Normal SC - 22789 / 2438232
- H70 Normal SC - 22765 / 2438257

Suits Sylvania Suburban Luminaires SC - 23171 / 2443539

LUMINAIRE STONE GUARD
MINOR ROAD

LIGHTING CONSTRUCTION PRACTICES

LUMINAIRE STONE GUARD
MINOR ROAD

EE DRWG NO: 1-3-5-1
EGX DRWG NO: 10500-A4-1-3-5-1

Approved Ergon C. Noel 01/05/18
Approved Energex F. Zaini 01/05/18
Checked P. Reif / A. Bletchly 01/05/18

Drawn L. Burton / T. Borg 14/10/10
ATTACHING SITE IDENTIFICATION LABEL TO STEEL OR CONCRETE POLE (MAJOR / MINOR)

**Asset Type:** Galvanised steel / concrete light poles

**Identifier Type:**
- 8-10 digit / letter vertical bare aluminium tray with black embossed numbers / letters on yellow background. Use on all galvanised steel and concrete major / minor road light poles.
- 7 digit, vertical, bare aluminium number plate with embossed numbers. Use on all undiscovered steel and concrete major / minor road light poles.

**Identifier Application:**
- Surface should be wiped clean to ensure no dust or grease is left which could impair the effectiveness of the adhesive.
- Glue: SilKaflex 11FC, Refer assy 874-6, or Dow Corning 1080 RTV Black Silicone Adhesive with caulking gun.
- Apply using manufacturers' instructions.

**Location Requirement:**
- If the pole is serviceable, position the site label on the side of the pole nearest the road, with the bottom edge of the label a minimum of 2.4 metres above ground level.
- If the pole is unserviceable, position the site label on the side of the pole nearest the road, at whatever height may be reached without exerting a force on the pole, e.g. without leaning a ladder against the pole.
- Ensure that existing information is not covered.

**Identifier Application:**
- Surface should be wiped clean to ensure no dust or grease is left which could impair the effectiveness of the adhesive.
- Glue: SilKaflex 11FC, Refer assy 874-6, or Dow Corning 1080 RTV Black Silicone Adhesive with caulking gun.
- Apply using manufacturers' instructions.

**Note:** Number automatically generated in Small World.
Location Requirement:

If the pole is serviceable, position the site label on the side of the pole nearest the road, with the bottom edge of the label a minimum of 2.4 metres above ground level.

If the pole is unserviceable, position the site label on the side of the pole nearest the road, at whatever height may be reached without exerting a force on the pole, e.g. without leaning a ladder against the pole.

Ensure that existing information is not covered.

Identifier Type: Powder coated nostalgia poles

Identifier Application: Surface should be wiped clean to ensure no dust or grease is left which could impair the effectiveness of the adhesive.


Identifier Type: 8-10 digit / letter vertical bare aluminium tray with black embossed numbers / letters on yellow background. Use on all nostalgia poles.

6 digit, vertical, yellow and black numbers. Use on all undiscovered nostalgia poles.

Identifier Application: Surface should be wiped clean to ensure no dust or grease is left which could impair the effectiveness of the adhesive.


Location Requirement:

If the pole is serviceable, position the site label on the side of the pole nearest the road, with the bottom edge of the label a minimum of 2.4 metres above ground level.

If the pole is unserviceable, position the site label on the side of the pole nearest the road, at whatever height may be reached without exerting a force on the pole, e.g. without leaning a ladder against the pole.

Ensure that existing information is not covered.

Identifier Application: Surface should be wiped clean to ensure no dust or grease is left which could impair the effectiveness of the adhesive.


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Ensure that existing information is not covered.

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Location Requirement:

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If the pole is unserviceable, position the site label on the side of the pole nearest the road, at whatever height may be reached without exerting a force on the pole, e.g. without leaning a ladder against the pole.

Ensure that existing information is not covered.
<table>
<thead>
<tr>
<th>Pole Type</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood/Concrete/Metal Poles</td>
<td>Position the site label on the side of the pole nearest the road, with the bottom edge of the label a minimum of 2.4 metres above ground level. Ensure that any existing information on the pole is not covered.</td>
</tr>
</tbody>
</table>

**APPLICATION:**

- **Wood Pole**
  - Curve aluminium backing plate to suit pole if necessary.
  - Apply self adhesive label to clean, dry aluminium backing plate.
  - Screw backing plate to pole.

- **Concrete Pole**
  - Curve backing plate to suit pole if necessary.
  - Clean and dry front and rear of aluminium backing plate.
  - Apply self adhesive label to clean, dry aluminium backing plate.
  - Clean surface of pole to ensure no dust or grease is left which could impair the effectiveness of the adhesive.
  - Glue plate to pole with Sikaflex 11FC or Dow Corning 1080 RTV Black Silicone Adhesive with chalking gun. Apply using manufacturers' instructions.

- **Metal Pole**
  - Clean surface of pole to ensure no dust or grease is left which could impair the effectiveness of the adhesive.
  - Apply self adhesive label direct to clean, dry pole. Avoid longitudinal seam weld.
NOTES:
1. After excavation:-
   Remove all loose material from bottom of hole.
   Mechanically compact bottom of foundation.
2. Precast Foundation Positioning:-
   Centrally position the precast foundation within the excavated hole, with a minimum
   clearance of 100mm between the precast foundation and the edge of the hole.
3. Backfill:-
   (a) Excavated material may be used as backfill provided:-
       • The material consists of gravel sand or loam
         suitable for compacting.
       • Gravels and sand have a maximum particle size of 25mm.
       • Silts and clays have all clods broken down to be
         smaller than 25mm in size.
   (b) If the excavated material does not conform to the above
       requirements then imported material shall be used.
   (c) Backfill shall be stabilised with cement in the ratio of
       1 part cement to 8 parts fill (by volume) and shall be
       thoroughly mixed in a rotary mixer.
   (d) Place backfill in 200mm thick layers and mechanically
       compact thoroughly.
   (e) For one off or a small number of foundations the use of
       premix concrete supplied in bags is accepted. The premix
       concrete should be added dry. The use of a fine water spray
       to reduce dust problems is acceptable.

Stabilised backfill

100 min.

Refer note 2

Stabilised backfill

100 min.
NOTES:

1) Before erecting pole check that protective sleeve is undamaged and positioned as shown. Protective sleeve is to provide mechanical and corrosion protection.

2) Refer to 1-3-7-3 & 1-3-7-4 for Footing Details and dimensions.

3) Depth of hole to suit size of pole, actual depth to be 75mm/140mm greater than the planting depth.
NOTES:

1. Footings and dimensions shown are applicable to all types of fabricated steel poles.
2. Align pole during erection so that outreach where fitted will be at right angles to kerb line.
3. Terminal chamber normally faces building line when pole is erected.
4. Steel poles coated with a corrosion resistant coating (min. 200mm above G.L) by supplier.
5. Standard 460mm auger size or greater to ensure 100mm ramming space around base of pole.
6. Concrete drymix to be wet at time of installation, all backfill to be rammed down hard.
7. Actual depth shall be 140mm greater than planting depth 'B'.

LIGHTING
CONSTRUCTION PRACTICES - ENERGEX ONLY
BURIED IN GROUND POLE - MAJOR ROAD
FOOTING / ERECTION DETAILS

---

<table>
<thead>
<tr>
<th>NOMINAL LUMINAIRE HEIGHT (M)</th>
<th>LENGTH 'A' (M)</th>
<th>MINIMUM PLANTING DEPTH 'B' (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.0</td>
<td>7.0</td>
<td>1.5</td>
</tr>
<tr>
<td>10.5</td>
<td>8.5</td>
<td>1.75</td>
</tr>
<tr>
<td>12.0</td>
<td>10.0</td>
<td>1.9</td>
</tr>
<tr>
<td>15.0</td>
<td>13.0</td>
<td>2.2</td>
</tr>
</tbody>
</table>
### NOTES:

1. Footings and dimensions shown are applicable to all types of fabricated poles.
2. Align pole during erection so that outreach where fitted will be at right angles to kerb line.
3. Terminal chamber normally faces building line when pole is erected.
4. Steel poles coated with a corrosion resistant sleeve (Min. 200mm above G.L.) by supplier.
5. Standard 460mm auger size or greater to ensure 100mm ramming space around base of pole.
6. Concrete drymix to be wet at time of installation, all backfill to be rammed down hard.
7. Actual depth shall be 75mm greater than planting depth 'B'.

### LIGHTING CONSTRUCTION PRACTICES - ENERGEX ONLY

- **B**URIED IN GROUND POLE - **M**INOR **R**OAD
- **F**OOTING **E**RECTION DETAILS

#### VOLUME: 1   FOLDER: 3   PAGE: 7-4   ISSUE: 0A

<table>
<thead>
<tr>
<th>NOMINAL LUMINAIRE HEIGHT (METRES)</th>
<th>LENGTH 'A' (METRES)</th>
<th>MINIMUM PLANTING DEPTH 'B' (METRES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLE WITH OUTREACH</td>
<td>6.5</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>SINGLE PIECE POLE</td>
<td>6.5</td>
<td>6.5</td>
</tr>
<tr>
<td></td>
<td>1.2</td>
<td></td>
</tr>
</tbody>
</table>
**INSTALLATION INSTRUCTIONS**

**Termination 16mm² & 4mm² N/S cable**

**STEP 1:** Strip cable to required length leaving 20mm of nylon jacket exposed (Black) & 10mm of the inner PVC jacket exposed. Abrade 20mm of the outer sheath.

**STEP 2:** Apply red mastic to crutch area starting at the outer sheath cut off. Finishing 10mm up each core.

**STEP 3:** Install & shrink glove into position.

**STEP 4:** Install a red mastic block on the screen core 10mm short of where the tubing will end when installed.

**STEP 5:** Position the tubing over each core slipping over the glove finger. Shrink in position.
**AIMING DEVICE**

- Place Aiming Device on floodlight as shown.
- Hold flat plate against glass front of floodlight.
- Sight through tube to Aim Point on carriageway.

**INSTALLATION REQUIREMENTS:**

To provide the required vertical illuminance and at the same time control glare to oncoming motorists on the opposite side of the road, accurate location and aiming of the floodlights is essential.
To Aiming Point 'Normal to the Glass'

Aiming Device

Dimensions shown in millimetres

Notes:

1. Aiming points nominated in Mains Project Department recommendations are for 'Normal to Glass' aiming.
2. Aiming device to be held at centre of floodlight when aiming.
3. Sight along top end of aiming device and adjust floodlight position until the nominated roadway aiming point is targeted.
1. Pit to be located no further than 3.0m from pole, or no closer than 0.5m to road lighting poles.

2. Pit to be located along longitudinal alignment of supply cable conduit for preferred location see plan view.

3. Access to pit for preferred location is indicated in plan view. Plan view preferred location only applies if pit is located within these boundaries as indicated is closer than 0.5m to road lighting poles. The pit may be the last streetlight in a circuit may be supplied from the previous pit if a junction box is not required.

4. When kerb is present, pit to be clear of obstructions, however pit may butt against rear face of kerb.

5. Footing ducting is used to connect footings, foundations or other civil engineering constructs to the underground electrical duct system. The footing ducting allows one or more cables to be drawn from the footing ducting to the underground electrical duct system.

6. Underground electrical duct system is the ducting or conduit which creates a closed underground passage between footings or foundations or other engineering constructs and which is designed to receive one or more cables which may be drawn in. This is generally system clear through the footing of foundation.

7. Where supply conduit alignment is >3m radius from the pole, an additional pit is to be supplied at the base of the pole within the 3m radius from the pole.

8. For BPM or BIG installation the last pole and outreach arm of the pole may be located no further than 3.0m from and no closer than 0.5m to road lighting poles. The pit may not be located along longitudinal alignment of supply cable conduit for preferred location see plan view. The pit may be the last streetlight in a circuit may be supplied from the previous pit if a junction box is not required.

Notes:
- Footing Conduit
- Road lighting luminaire
- Traffic Flow
- Edge of carriageway
- Pit
- Preferred Location
- Pits should not be located in drainage paths.

References:
- Detail A
- Refer plan view

Legend:
- Footing Conduit
- Road lighting luminaire
- Traffic Flow
- Edge of carriageway
- Pit
- Preferred Location
- Pits should not be located in drainage paths.
**Note:**
No plants within a 1 meter radius of streetlight.

Alternate access to suit approach road.

Concrete access strips for vehical.

Concrete base 150mm depth & FB2 mesh.

**SECTION A-A**

**ROUNDABOUTS 9 METERS OR LARGER**

**LITHTING CONSTRUCTION PRACTICES**

**ACCESS REQUIREMENTS FOR CONSTRUCTION & MAINTENANCE - VEHICLES ON ROUNDABOUTS**
EPV access to roundabout
drive on - drive off
(Reversing into traffic from
the roundabout is prohibited)

Notes:
1. No other service to pass under vehical tracks.
2. No taps, drains ect. or other obstructions
   within 1m of vehical tracks
3. Vehical tracks to be angled to align with
   traffic flow (as in intersection diagram)
4. Central street lighting in large roundabouts not to
   be used - perimeter lighting should be used.
5. Where vehical access at roundabout is difficult
   or unsuitable, an alternative mid hinged pole
   may be suitable.
   Refer to Lighting Design for options / costs.
6. If vehical access to the roundabout can not be
   gained - Road / lane closure may be required
   resulting in additional charges by Energex.

Alternate location

LIGHTING
CONSTRUCTION PRACTICES
ACCESS REQUIREMENTS FOR CONSTRUCTION &
MAINTENANCE - VEHICLES ON ROUNDABOUTS

EE DRWGS NO: 1-3-11-2
EGX DRWGS NO: 10500-A4-1-3-11-2

HARD COPY UNCONTROLLED
NOTES:

1. This practice used for the attachment of:
   - Pole numbers.
   - Transformer numbers.
   - A.B.S. numbers.
   - Streetlight numbers.

2. Do not overlap numbers.

3. Pole numbers to be mounted a minimum of 2.7m above ground or above pole test/identification point (wood pole).

4. Pole numbers to be mounted facing road, towards oncoming traffic.

TYPICAL POLE INSTALLATION

- Pole steps fitted from 7m above ground
- Pole Numbers (wood/concrete poles)
- Pole Test Point (wood only)
- Terminal Chamber (concrete only)

Pole Length

See Note 3

Sinking Depth

2.7m

600
NOTES:

1. All pole numbers on steel/decorative poles or structures to be vinyl 40mm square with 25mm high black letters/numbers on white retro reflecting self adhesive back.

2. Pole numbers shall not be overlapped.

3. Pole numbers shall be located off centre towards the traffic flow and not affixed across the central weld of the pole.
LIGHTING
CONSTRUCTION PRACTICES - ENERGEX ONLY
HIGH MAST POLE HEADFRAME DETAILS
1 & 2 WAY OUTREACH

1 Way Construction

2 Way Construction

Refer drawings 1-5-10-1, 1-5-13-1 or 1-5-14-1 for high mast constructions.
Refer drawings 1-5-10-1, 1-5-13-1 or 1-5-14-1 for high mast constructions.
Clearance is the distance between the lighting structure and the overhead line.

<table>
<thead>
<tr>
<th>CLEARANCE FROM:</th>
<th>MINIMUM DISTANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARE ≤ 33kV OR CCT</td>
<td>VERTICAL &quot;VC&quot;</td>
</tr>
<tr>
<td></td>
<td>1.5m</td>
</tr>
<tr>
<td>INSULATED CABLE (NOT CCT)</td>
<td>0.6m</td>
</tr>
<tr>
<td>ADSS, PILOT OR OTHER COMMS CABLE</td>
<td>0.05m</td>
</tr>
</tbody>
</table>

**NOTE:**
Clearances shall be maintained under:
- a) maximum conductor design temperature in still air (maximum sag condition)
- b) conductor temperature of 35° with 500pa wind pressure on the conductor (maximum horizontal swing condition)
- c) conductor temperature of 0° in still air (minimum sag condition)
In this situation only, the horizontal clearance may be reduced to an absolute minimum of 0.6H, only if conflicts with existing infrastructure (eg driveways) prevents the pole being mounted at 1.2H.

The distances shown are to the nearest conductor. 
H is the mounting height of the Luminaire.

**NOTE:**

The recommended minimum horizontal clearance of a slip base pole from an overhead line is 0.6H, where H is the mounting height of the luminaire. If the overhead line transverses the direction of traffic flow the clearance for slip base pole should be increased to 1.2H. This situation occurs at an intersection or when an overhead line crosses the carriageway.
Statutory electrical clearances to be maintained. Refer to drawing 1-3-14-1.

Overhead Electrical Clearance Zone

1.2H

H
NOTES:

1. For foundation details refer to construction drawing

2. Terminal chamber normally faces building line when pole is erected with baseplate square

3. Refer sheet 2 for operating notes

4. Only to be used on roundabouts where access is difficult. (Rate 2 only)

WARNING

1. Do not raise or lower pole in windy conditions.

2. Do not raise or lower pole without full complement of designed and specified headframe loads and apron counter balances - balance weights varies to suit headframe configuration.

3. Do not alter the mass fitted to the headframe of this pole - adjustments will be necessary if the number of luminaires are amended.
OPERATING NOTES - Lowering Headframe

1. Remove access door panel at base of apron located on the opposite side to the apron.
2. Remove padlock from internal lug which protrudes through the pole from the apron and secure the apron to the base of the pole.
3. Provide two lengths of rope - minimum length 15m (Not Supplied)
4. Securely attach the end of one of the ropes (rope 'A') to the handle which is located at the base of the apron section. This rope is the 'raise and lowering' rope.
5. Securely attach the end of the second rope (rope 'B') to the same handle and thread the rope through the lifting lug located at the base of the pole. This rope is the 'safety back-up' rope.

RAISE AND LOWER METHOD

6. Before removing apron fixing screw, ensure that personnel are not standing either directly behind the apron or in the area in front of the pole where the headframe will be lowered.

7. Before removing apron fixing screw, ensure that a second person pulls the safety backup rope 'B' tight. Pull apron away from pole using the handle and lowering rope 'A' until top of pole starts to descend under its own weight.

8. One person should slowly lower the pole using the raise and lower rope 'A', avoiding jerky movements. A second person should maintain a slight tension in the backup rope 'B' in case of failure of the first rope.

9. During maintenance of the headframe equipment, while the pole is in the folded down position, the top of the pole must be securely tied to the base of the pole. The headframe should NOT be released at any stage when the mass or luminaires have been removed from the headframe.

RAISING HEADFRAME

10. To return headframe to its upright position, rope 'A' is drawn downwards until rope 'B' assumes the transfer of the weight and encourages the lowering of the apron to continue. Rope 'A' now controls the rate of descent and slowly allows the apron to close snuggly against the pole.

11. Once the pole is returned to its upright position, the second person on rope 'B' should maintain a slight tension on the safety backup rope while the other person immediately replaces the apron fixing screw and locks the internal security padlock.

12. It is suggested that the ropes be stored in the pole base before securely refitting the access door panel.
At the initial installation of the road crossing conduits prior to the formation of the road pavement terminate ENERGEX and Telstra conduits 1000mm from the real property survey peg and plug the conduits.

**NOTES:**

1. As per local government requirements
2. Check existing services in road prior to installing pole or streetlight services.
3. Refer to section 1.3.17 for underground pit installation details.
4. Refer to Underground Construction Manual for conduit footpath and roadway.

**PART** | **DESCRIPTION** | **S.C.** | **QTY** | **PART** | **DESCRIPTION** | **S.C.** | **QTY**
--- | --- | --- | --- | --- | --- | --- | ---
216 | Tape, U/G Marking, Orange, 150mm W | 14318 | AR | 279 | Conduit, 40mm RIGID, ORANGE | 06640 | AR
226 | Conduit, 40mm Rigid UPVC, HD, Orange | 12471 | AR | 287 | Adaptor, 40mm RIGID/40mm Flexible | 17122 | AR
276 | Bend, Conduit UPVC, 40mm x 600mm R | 17030 | AR | 288 | Conduit 40mm Flexible, ORANGE | 17121 | AR
242 | Conduit, 50mm ID Flexible, ORANGE | 13538 | AR
272 | Conduit, 80mm Rigid UPVC, Orange | 06643 | AR
274 | Bend, Conduit UPVC, 80mm x 450mm R | 15271 | AR
275 | Bend, Conduit UPVC, 40mm x 300mm R | 06514 | AR
311 | Underground Pit JC4 | 15528 | AR
312 | Underground Pit JC4 Cover | 06837 | AR

**PART** | **DESCRIPTION** | **S.C.** | **QTY**
--- | --- | --- | ---
311 | Underground Pit JC4 Cover | 06837 | AR

**VOLUME FOLDER PAGE ISSUE**

1 3 16-1 0B

**LIGHTING CONSTRUCTION PRACTICES - ENERGEX ONLY**

**MAJOR & MINOR ROADS - TYPICAL CROSS SECTION ACROSS ROAD & STREET LIGHT SERVICES**

**CONTRIBUTIONS TO THE draw:**

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- **P. Reilly:** 04/04/13

**APPROVED BY:**

- **C. Noel:** 24/04/13
- **P. Reilly:** 04/04/13

**CHECKED BY:**

- **C. Noel:** 24/04/13
- **P. Reilly:** 04/04/13

**DRAWN:**

- **L. Burton / T. Borg:** 01/10/10
- **C. Noel:** 24/04/13
- **P. Reilly:** 04/04/13

**REFERENCE DRAWING:**

- **ENERGEX:** 4927-A4-10.9
- **ERGON:** 24774-A4-10.9

**COPYRIGHT:**

- **ENERGEX:** 2002 ENERGEX Corporation Limited ABN 50 087 646 062
- **ERGON:** 2002 Ergon Energy Corporation Limited ABN 40 078 849 955

**REFERENCES:**

- **Slip Base Adaptor**
- **Surface Finished**
- **Conduits as required**
- **Warning Marker Tape**
- **1 x 80mm dia minimum nominal size of road crossing conduit on a line between real property survey pegs**
NOTES:

1. Area around pit to be kept clear of soil to prevent soil falling back into the pit or obscuring the lid. In location where soil or other material is likely to cover pit a minimum 150mm wide x 150mm deep concrete surround shall be installed. Refer 1-3-17-4 for details.

2. If soil around pit is not compacted, area around lid must be rigidly supported by a minimum 150mm wide x 150mm deep concrete surround.

3. Only pits constructed of black HDPE are to be used. White plastic / fibre pits are not acceptable.

4. Bedding sand to be used around electrical conduits.
NOTES:

1. Area around pit to be kept clear of soil to prevent soil falling back into the pit or obscuring the lid.
   In location where soil or other material is likely to cover pit a minimum 150mm wide x 150mm deep concrete surround shall be installed. Refer 1-3-17-4 for details.

2. If soil around pit is not compacted, area around lid must be rigidly supported by a minimum 150mm wide x 150mm deep concrete surround.

3. Only pits constructed of black HDPE are to be used. White plastic / fibre pits are not acceptable.

4. Bedding sand to be used around electrical conduits.

Finished Surface Level flush with pit lid

Compacted sand / clean fill (refer note 4)

Compacted bedding sand

PLAN

3° Max. lift off vertical about the centre line in any direction.

ELEVATION

Finished Surface Level flush with pit lid

Compacted sand / clean fill (refer note 4)

Compacted bedding sand

END ELEVATION
NOTES:
1. Where cables have been installed in conduit, the conduit ends shall be adequately sealed to prevent the entrance of dirt, stones and moisture.
2. All conduit entries into a pit shall be capped to prevent the entry of foreign material.
3. Where more than one conduit enters the same end of the pit, the conduit must be separated at the pit by a minimum 25mm.
4. All conduit entries and exits must enter the pit at 90° preference is for conduits to enter / exit on the short side.
5. Ramp conduits at pit to enable entry 50±mm from bottom.
NOTES:
1. Install bar centrally in concrete surround.
2. If concrete surround is to be part of footpath or larger concrete surround an abelflex sealant joint is to be included between the concrete surround and footpath or larger concrete surround.
**STEP 1**

- Pilot hole approx. 6mm is optional
- Required holes to be center punched and drilled using step drill and cutting compound
- Set drill to high speed and drill till penetration of the pole. Stop and set drill to slow speed and proceed drilling using cutting compound until required hole dia. is achieved

**STEP 2**

- Clean excess drilling compound
- Paint exposed metal
NOTES:
1. Area around pit to be kept clear of soil to prevent soil falling back into the pit or obscuring the lid.
2. Only pits constructed of black HDPE are to be used.
   White plastic / fibre pits are not acceptable
3. Bedding sand to be used around electrical conduits.

ELEVATION

Finished Surface Level
flush with pit lid

Compacted sand / clean fill
(refer note 3)

Compacted bedding sand

PLAN

3° Max, tilt off vertical about the centre line in any direction.

F. Zaini
19/04/17

P. Relf / A. Bletchly
01/04/17

NIL
NIL

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LIGHTING
CONSTRUCTION PRACTICES
PIT INSTALLATION - TYPE B
LEVEL GROUND

EE DRWG NO: 1-3-19-1
EGX DRWG NO: 10500-A4-1-3-19-1

1
3
19-1
0A
NOTES:
1. Area around pit to be kept clear of soil to prevent soil falling back into the pit or obscuring the lid.
2. Only pits constructed of black HDPE are to be used. White plastic / fibre pits are not acceptable.
3. Bedding sand to be used around electrical conduits.
NOTES:

1. Where cables have been installed in conduit, the conduit ends shall be adequately sealed to prevent the entrance of dirt, stones and moisture.
2. All conduit entries into a pit shall be capped to prevent the entry of foreign material.
3. Where more than one conduit enters the same side of the pit, the conduit must be separated at the pit by a minimum 25mm.
4. All conduit entries and exits must enter the pit at 90°.
5. Ramp conduits at pit to enable entry 100\( \frac{3}{8} \) mm from bottom.
6. Conduits shall not enter from the base of the pit.