METERED SERVICE PEDESTAL (120/240/208)

1. EXTERIOR 14 GAUGE #304D STAINLESS STEEL, INTERIOR DEAD FRONT PANEL & BACK PAN SHALL BE 14 GAUGE STEEL PAINTED WHITE ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.

2. CONSTRUCTION IS NEMA 3R AND 12, RAIN TIGHT AND DUST TIGHT.

3. ALL NUTS, BOLTS, SCREWS AND HINGES SHALL BE STAINLESS STEEL.

4. NUTS, BOLTS & SCREWS ARE NOT USED ON THE OUTSIDE PEDESTAL.

5. PHENOLIC NAMEPLATES TO IDENTIFY ALL OPERATOR CONTROLS.

6. CONTROL WIRING WILL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.

7. A PLASTIC COVERED WIRING DIAGRAM WILL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.

8. PEDESTAL WILL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA STANDARDS.

9. PEDESTAL(S) WILL BE U.L. LISTED AS INDUSTRIAL CONTROL PANELS, U.L. 508 FILE NO. E62062

10. WIRING BETWEEN CIRCUIT BREAKER AND CONTACTOR SHALL BE A #6 THWN OR THHN MINIMUM.

11. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.

12. SERVICE MUST CARRY A NEUTRAL TO STREETLIGHTS FOR 120 V OPERATION.

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

METERED SERVICE PEDESTAL

APPROVED BY: [Signature]
DATE: APRIL 2020
DWG. NO. E - 10
METER SOCKET WIRED FOR 120/240 OR 120/208, 1 PHASE, 3 WIRE

1 PHASE, 3 WIRE SERVICE

BASE PLATE DETAIL

METERED TRAFFIC SIGNAL SERVICE PEDESTAL

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

MET. TRAFFIC SIGNAL
SERVICE PEDESTAL

APPROVED BY: Nadel
date: April 2020
DWG. NO. E-20

SECTION A-A

SECTION B-B

REV. DATE DESCRIPTION

△ △ △
INSTALL 1 1/2" DIA. BI-CELLULAR BACKER ROD
FOUNDATION SEALANT

CONCRETE SURFACE TO BE STRAIGHT WITH SMOOTH FINISH
GALVANIZED ANCHOR BOLT (SEE FOUNDATION AND SEALANT DETAIL THIS SHEET)

INSTALL DRAIN TUBE. SEE 'SIDE VIEW' DETAIL

INSTALL 1 1/2" DIA. BI-CELLULAR BACKER ROD
FOUNDATION SEALANT
INSTALL 5/8" O.D. X 1/2" I.D. X 2-1/4" DRAIN TUBE FLUSH WITH STREETLIGHT FOUNDATION
HANDHOLE COVER CENTERLINE

STREETLIGHT BASE
ANCOR BOLTS ON 45°

1/2"X3/4" GRD SCREW IN BASE

INSTALL 1-1/2" DIA. BI-CELLULAR BACKER ROD
FOUNDATION SEALANT
INSTALL 5/8" O.D. X 1/2" I.D. X 2-1/4" DRAIN TUBE FLUSH WITH STREETLIGHT FOUNDATION

STREETLIGHT

FOUNDATION SEALANT
INSTALL 1-1/2" DIA. BI-CELLULAR BACKER ROD
INSTALL 5/8" O.D. X 1/2" I.D. X 2-1/4" DRAIN TUBE FLUSH WITH STREETLIGHT FOUNDATION

STREETLIGHT
FOUNDATION SEALANT
INSTALL 1-1/2" DIA. BI-CELLULAR BACKER ROD
INSTALL DRAIN TUBE. SEE 'SIDE VIEW' DETAIL
2% SLOPE TO MATCH EXISTING SIDEWALK

FOUNDATION AND SEALANT DETAIL

4 EA. 3/4" X 30" GALVANIZED ANCHOR BOLTS
CONCRETE FOUNDATION PER LATEST CALTRANS CAST-IN-PLACE CONCRETE PILING

2% SLOPE TO MATCH EXISTING SIDEWALK
LED LUMINAIRE PER SPECIAL PROVISIONS

10 GAUGE STEEL IF MIN. YIELD STRENGTH IS 33,000 PSI. (GALV.)
11 GAUGE STEEL IF MIN. YIELD STRENGTH IS 48,000 PSI. (GALV.)

4" X 6-1/2" REINFORCED HAND HOLE
MAX. OD 5.85" MIN. OD 5.61"

SQUARE OR ROUND FOUNDATION
FOUR 1" X 36" ANCHOR BOLTS
CONCRETE FOUNDATION PER LATEST CALTRANS CAST IN PLACE CONCRETE PILING

MOLDED TENON 3" x 3-1/2" (NO TAPER) WITH 16 GAUGE STEEL SLEEVE CAST ALUMINUM TENON OR APPROVED DESIGN IS ALSO AVAILABLE.

TENON DETAIL

CONDUIT COUPLING TO BE FLUSH WITH TOP OF CONCRETE

BASE DETAIL

GALVANIZED HOLD DOWN
GALVANIZED LEVEL NUT AND WASHER
GROUND BUSHING
BOND WIRE (No.8 COPPER)

REV. DATE DESCRIPTION
△ △ △

CITY OF SACRAMENTO DEPARTMENT OF PUBLIC WORKS POST TOP LUMINAIRES AND DETAILS APPROVED BY: Nadel Group DATE: APRIL 2020 DWG. NO. E-70
EXISTING GRADE

TOP OF CONDUIT

CONDUIT

DIRECTIONAL DRILL

6" MAX.

12" MIN.

6"

6" MAX.

6"

2" OVERLAY

LIP OF GUTTER

PAVEMENT: 24" MIN. COVER TO TOP OF NEW AC FROM TOP OF CONDUIT

SEE SECTION 34 - ELECTRICAL FOR SLURRY CEMENT BACKFILL

SEE CONSTRUCTION NOTES FOR QUANTITY AND SIZE OF CONDUITS. SEE ELECTRICAL SPECIFICATIONS

EXISTING ROADWAY CONSTRUCTION

LIP OF GUTTER

12" MIN.

6"

6" MAX.

6"

2" OVERLAY

SEE SECTION 34 - ELECTRICAL FOR SLURRY CEMENT BACKFILL

SEE CONSTRUCTION NOTES FOR QUANTITY AND SIZE OF CONDUITS. SEE ELECTRICAL SPECIFICATIONS

EXISTING ROADWAY CONSTRUCTION

LIP OF GUTTER

12" MIN.

6"

6" MAX.

6"

2" OVERLAY

SEE SECTION 34 - ELECTRICAL FOR SLURRY CEMENT BACKFILL

SEE CONSTRUCTION NOTES FOR QUANTITY AND SIZE OF CONDUITS. SEE ELECTRICAL SPECIFICATIONS

EXISTING ROADWAY CONSTRUCTION

LIP OF GUTTER

12" MIN.

6"

6" MAX.

6"

2" OVERLAY

SEE SECTION 34 - ELECTRICAL FOR SLURRY CEMENT BACKFILL

SEE CONSTRUCTION NOTES FOR QUANTITY AND SIZE OF CONDUITS. SEE ELECTRICAL SPECIFICATIONS

EXISTING ROADWAY CONSTRUCTION

LIP OF GUTTER

12" MIN.

6"

6" MAX.

6"

2" OVERLAY

SEE SECTION 34 - ELECTRICAL FOR SLURRY CEMENT BACKFILL

SEE CONSTRUCTION NOTES FOR QUANTITY AND SIZE OF CONDUITS. SEE ELECTRICAL SPECIFICATIONS

EXISTING ROADWAY CONSTRUCTION
NEW ROADWAY
CONSTRUCTION AND
EXISTING ROADWAY
RECONSTRUCTION
GENERAL NOTES:
1. SEE FIBER OPTIC CONDUIT LAYOUT STANDARD PLAN E–250 FOR DISTRIBUTION AND BACKBONE CONDUIT ROUTING.
2. THIS LAYOUT IS TO BE USED AS A GUIDE. ACTUAL CONDUIT ROUTING WILL BE DEPENDANT ON CONTROLLER LOCATION, AND EXISTING FIELD CONDITIONS.
3. MAXIMUM DISTANCE BETWEEN TRAFFIC SIGNAL PULL BOXES SHALL NOT EXCEED 250’
4. MAXIMUM DISTANCE BETWEEN FIBER OPTIC PULL BOXES SHALL NOT EXCEED 400’
5. CONDUITS CONTAINING FIBER OPTIC ONLY SHALL HAVE #10 GROUND
6. USE 1–2”C FOR FIBER OPTIC INTERCONNECT (UNLESS NOTED OTHERWISE ON PLANS)
7. USE 3”C FOR ALL STREET CROSSINGS (UNLESS NOTED OTHERWISE ON PLANS)
CONCRETE PULL BOX

INSTALL PULL BOX ON TOP OF CRUSHED ROCK FOUNDATION. ADJUST PULL BOX TO GRADE. THE CRUSHED ROCK FOUNDATION SHALL HAVE A MINIMUM OF 12" IN DEPTH AND CONTINUE TO EXTEND A MINIMUM OF 6" BEYOND THE OUTSIDE EDGE OF THE PULL BOX. COMPACT CRUSHED ROCK WHILE MAINTAINING INTEGRITY OF CONDUIT. CONDUIT AND PULL BOX SHALL NOT BE DAMAGED NOR CRACKED.

PULL BOX, ADDITIONAL DESIGNATIONS OR DESCRIPTIONS:

<table>
<thead>
<tr>
<th>PULL BOX DIMENSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PULL BOX</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

(C) – COMMUNICATIONS PULL BOX
(E) – PULL BOX WITH EXTENSION
(T) – TRAFFIC RATED PULL BOX
(TR) – TAMPER-RESISTANT PULL BOX
**GENERAL NOTES:**

1. SEE STANDARD PLAN E-170 FOR LOOP SIZES. LOOPS SHALL BE PLACED IN THE CENTER OF THE LANE.

2. EACH REAR AND MID LOOP SHALL HAVE ONE DLC PER LANE.

---

**LOOP DISTANCE**

<table>
<thead>
<tr>
<th>DESIGN OR 85TH PERCENTILE SPEED</th>
<th>REAR D1</th>
<th>MID M1</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELOW 30 MPH</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>30 MPH</td>
<td>175'</td>
<td></td>
</tr>
<tr>
<td>35 MPH</td>
<td>200'</td>
<td></td>
</tr>
<tr>
<td>40 MPH</td>
<td>250'</td>
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</tr>
<tr>
<td>45 MPH</td>
<td>300'</td>
<td>200'</td>
</tr>
<tr>
<td>50 MPH</td>
<td>350'</td>
<td>225'</td>
</tr>
<tr>
<td>55 MPH</td>
<td>405'</td>
<td>250'</td>
</tr>
</tbody>
</table>
LOOP WINDING PATTERNS:

1. LOOP DETECTOR INSTALLATION SHALL CONFORM TO CALTRANS STANDARD PLAN ES-5A.

2. THE CONDUCTOR FOR EACH INDUCTIVE DETECTOR LOOP SHALL BE CONTINUOUS, UNSPLICED, TYPE RHW—USE NEOPRENE JACKETED OR TYPE USE CROSS-LINKED POLYETHYLENE INSULATED NO. 12, STRANDED COPPER WIRE WITH A MINIMUM INSULATION THICKNESS OF 45 MILS.

3. THE LOOP DETECTOR LEAD IN CABLE FROM THE PULL BOX ADJACENT TO THE DETECTOR LOOPS TO THE CONTROLLER SHALL BE CONTINUOUS WITH NO SPLICES. DETECTOR CABLE SHALL BE SHIELDED, TWO TWISTED PAIR NO. 18 CANOGA TYPE 30005 OR APPROVED EQUAL.

4. ALL DETECTOR LOOP SPLICES SHALL BE MADE IN THE ASSOCIATED PULL BOX AND ALL LEADS SHALL BE TAGGED.

5. INSULATION RESISTANCE TO GROUND SHALL BE GREATER THAN 200 MEGAOHMS.

6. HOLE HOLES SHALL BE INSTALLED AT LOCATIONS AS DESIGNATED BY THE ENGINEER.

7. ROUND CORNERS OF ACUTE ANGLE SAW CUTS TO PREVENT DAMAGE TO CONDUCTORS.

8. USE TYPE D LOOPS FOR LIMIT LINE DETECTOR INSTALLATION IN LEFT TURN AND BICYCLE LANES.

REV. DATE DESCRIPTION

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△

△

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

LOOP SAW CUTTING

APPROVED BY:

DATE: APRIL 2020  DWG. NO. E - 170
TYPE ‘B’ DETECTOR HANDHOLE INSTALLATION REQUIREMENTS:

1. OUTLINE OF TRENCH SHALL BE SAW CUT TO A MINIMUM DEPTH OF 3” EXCEPT WHERE AC OVERLAY IS TO BE PLACED.

2. THE PRECAST VALVE BOX WITH CAST IRON LID SHALL BE FABRICATED OF CALCIUM CARBONATE AND POLYESTER RESINS WITH FIBERGLASS REINFORCING AND DESIGNED FOR HEAVY TRAFFIC LOADS.

3. CAST IRON LID SHALL BE MARKED “DETECTOR” AND SHALL BE SECURED IN PLACE BY APPLYING WATERPROOF SILICONE SEALANT. VALVE BOX SHALL BE CENTERED ON LANE LINE, UNLESS OTHERWISE SHOWN ON THE PLANS.

4. THE EXCAVATION AROUND THE HANDHOLE SHALL BE BACKFILLED WITH P.C.C. EXCEPT THE TOP 2” IN AC SURFACED ROADWAYS SHALL BE BACKFILLED WITH AC.

5. THE HANDHOLE SHALL BE PROTECTED WITH COLD PATCH OR OTHER SUITABLE PROTECTION UNTIL PERMANENT AC BACKFILL IS PLACED.
VIDEO DETECTION FIELD OF VIEW
AND MOUNTING DETAIL

Typical Video Detection Aiming
And Field of View

Typical 6 Lane Camera View

See Standard Plan E-210
For General Aiming and
Programming Notes.

<table>
<thead>
<tr>
<th>VIDEO DETECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER OF APPROACH LANES</td>
</tr>
<tr>
<td>--------------------------</td>
</tr>
<tr>
<td>6 LANES + BIKE LANE OR LESS</td>
</tr>
<tr>
<td>GREATER THAN 6 LANES + BIKE LANE</td>
</tr>
<tr>
<td>SPLIT PHASE</td>
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</tbody>
</table>

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

VIDEO DETECTION DETAILS

APPROVED BY: [Signature]
DATE: APRIL 2020 DWG. NO. E-200
GENERAL AIMING AND PROGRAMMING NOTES (ALL CAMERA INSTALLATIONS):

1. AIMING AND FIELD OF VIEW (FOV) DETAIL DEMONSTRATES FOV AND AIMING ONLY. DOES NOT DENOTE THE AMOUNT OF DETECTED LANES.

2. CAMERAS FIELD OF VIEW SHALL BE CHECKED TO VERIFY THAT THE CAMERA CAN DETECT ALL LANES. THE CAMERA SHALL HAVE A MAXIMUM HORIZONTAL FOV OF 45°. IF ALL LANES DO NOT FIT IN THE FOV THEN ADDITIONAL CAMERAS WILL BE REQUIRED.

3. VIDEO SHALL BE USED FOR STOP BAR DETECTION ONLY.

4. NO HORIZON SHALL BE ALLOWED IN VIDEO.

5. CAMERA SHALL BE AIMED SO THE STOP BAR ZONES ARE NOT IN THE UPPER 1/3 OF THE VIDEO FIELD OF VIEW.


7. THE CAMERA SHALL BE ROTATED SO THE THE STOP BAR IS HORIZONTAL IN THE VIDEO IMAGE.

8. DETECTION ZONE SHALL BE APPROXIMATELY 60' LONG.

9. MAXIMUM DETECTABLE WIDTH IS 6 LANES + BIKE LANE.

10. DETECTOR LABELS SHALL INCLUDE ASSIGNED PHASE # AND ASSIGNED CHANNEL #.

11. THE PHASE STATUS SHALL BE DISPLAYED
GENERAL NOTE:
1. USE CAMERA MOUNTING LOCATION A UNLESS OTHERWISE NOTED ON PLANS.
See detail below

GSP EVP Control Cable, 250' Max Length

Terminate cable to auxiliary panel in cabinet

Terminated cable per manufacture

Install rubber grommet. Grommet shall match cable size

GSP Radio/Receiver

Galvanized 90° Sweep

Astro Mini Bracket

<table>
<thead>
<tr>
<th>TS-1 Cabinet Channels</th>
<th>TS-2 Cabinet Channels</th>
<th>EVP</th>
<th>Phase</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>A</td>
<td>1, 6</td>
<td>Eastbound</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>B</td>
<td>2, 5</td>
<td>Westbound</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>C</td>
<td>3, 8</td>
<td>Northbound</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>D</td>
<td>4, 7</td>
<td>Southbound</td>
</tr>
</tbody>
</table>

Revision | Date | Description
Δ         |      |
Δ         |      |
Δ         |      |

City of Sacramento Department of Public Works

Emergency Vehicle Preemption Mounting

Approved by: [Signature]

Date: April 2020  DWG. NO. E - 240
TYPICAL CONDUIT DETAIL FOR
BACKBONE FIBER OVER 48 STRANDS

TYPICAL CONDUIT DETAIL FOR
DISTRIBUTION FIBER CABLE UP TO 48 STRANDS

TRACER TAPE:
1. TRACE WIRE SHALL BE INSTALLED IN
RACEWAY WITH FIBER OPTIC CABLE OR IN
ONE CONDUIT OF MULTIPLE CONDUIT BANK.

2. TRACE WIRE IN TAPE SHALL BE SPLICED
AT EVERY BREAK.
FIBER OPTIC CABLE INSTALLATION DETAILS

N48 VAULT WITH SPLICE

NO SCALE

FIBER OPTIC IDENTIFICATION

TRACER TAPE

TRACER TAPE SPLICE

100' OF SMFO CABLE SLACK, UNLESS OTHERWISE NOTED ON PLANS

QUANTITY OF CONDUIT AS NOTED ON PLANS 2-2°C TYPICAL

SMFO CABLE OR AS NOTED ON PLANS

CABLE MAXIMUM BEND RADIUS SHALL NOT EXCEED 20X THE DIAMETER OF THE CABLE

25' OF SMFO CABLE SLACK, UNLESS OTHERWISE NOTED ON PLANS

FIGURE 8 COIL OF CABLE NOT SHOWN FOR CLARITY

N48 VAULT WITH NO SPLICE

NO SCALE

SMFO CABLE OR AS NOTED ON PLANS

SPLICE ENCLOSURE

FIBER OPTIC IDENTIFICATION TAG

1 - 3” C OR AS NOTED ON PLANS

QUANTITY OF CONDUIT AS NOTED ON PLANS 2-2°C TYPICAL

SMFO CABLE OR AS NOTED ON PLANS

CABLE MAXIMUM BEND RADIUS SHALL NOT EXCEED 20X THE DIAMETER OF THE CABLE
Each half of the splice vault cover shall be a 10k rated, 30"wx48"l polymer concrete cover or engineer approved equal. Approval shall be by the city's traffic signal operations staff.

Splice vault cover to be marked "traffic" or "communication". Letters to be 1" to 3" high.

The splice vault shall be a 20k rated, 30"wx48"lx36"d polymer concrete vault or engineer approved equal. Approval shall be by the city's traffic signal operations staff.

Lifting bolts (4x)

N48 splice vault - 3-dimensional view

No scale

Top flush with surrounding grade

Number of conduits as noted on plans

Only use 45° long sweep bends

4" depth inside box

3/4" crush

Grounding rod

N48 splice vault installation

No scale

See E-290 for additional notes.

City of Sacramento
Department of Public Works
Fiber optic cable installation details (#6E pull box)

Approved by: Nader Kasali
Date: April 2020
Dwg. No. E-270
N48 SPLICE VAULT INSTALLATION

**IN CONCRETE SIDEWALK**

- **Concrete Sidewalk**
  - Vault Cover
  - Vault
  - 12" Varies

**IN COMPACTED EARTH**

- **Concrete Ring**
  - Vault Cover
  - Vault
  - 10" 6°

---

**Details**

- **Non-Skid Surface**
- **Lift Pin**
- **Open Base**

---

**N48 SPLICE VAULT - 3-DIMENSIONAL VIEW**

- **Top Flush with Surrounding Grade**
- **Number of Conduits as Noted on Plans**
- **Only Use 45° Long Sweep Bends**
- **4" Depth Inside Box**
- **3/4" Crush**
- **Grounding Rod**

---

**Each Half of the Splice Vault Cover Shall Be a 10K Rated, 30"WX48"L Polymer Concrete Cover or Engineer Approved Equal. Approval Shall Be by the City’s Traffic Signal Operations Staff.**

**Splice Vault Cover to Be Marked "Traffic" or "Communication". Letters to Be 1" to 3" High.**

**The Splice Vault Shall Be a 20K Rated, 30"WX48"Lx36"D Polymer Concrete Vault or Engineer Approved Equal. Approval Shall Be by the City’s Traffic Signal Operations Staff.**

**Lifting Bolts (4x)**

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**See E-290 for Additional Notes.**
N48 SPLICE VAULT GENERAL NOTES:

1. UPON ACCEPTANCE OF THE WORK, ALL CONDUITS SHALL BE SEALED WITH COMPATIBLE SEALANT MATERIAL.

2. ALL GROUND CONNECTIONS SHALL BE COATED WITH OXIDATION PROHIBITING COMPOUND.

3. ALL CONDUITS SHALL BE CAULKED OR GROUTED AFTER CONDUIT ARE INSTALLED.

4. VAULT SHALL BE INSTALLED ON A MINIMUM OF SIX (6) INCH OF ¾” CRUSHED ROCK. SEE DETAIL THIS SHEET. CONDUITS SHALL EXTEND ABOVE THE ROCK AND HAVE MINIMUM OF TWENTY FOUR (24”) INCHES OF CLEARANCE BELOW THE COVER.

5. VAULTS SHALL NOT BE WITHIN THE BOUNDARIES OF NEW OR EXISTING WHEELCHAIR RAMPS.


7. ALL COVERS AND VAULTS SHALL BE INTERCHANGEABLE WITH CALIFORNIA STANDARD MALE AND FEMALE GAGES. WHEN INTERCHANGED WITH A STANDARD MALE OR FEMALE GAGE, THE TOP SURFACES SHALL BE FLUSH WITHIN ⅛” OF AN INCH. TOP OUTSIDE EDGE OF ALL CONCRETE COVERS AND SPLICE VAULTS SHALL HAVE A ¼” MINIMUM RADIUS.