CABINET LAYOUT DETAIL (For Up To Four Lanes)

1. Traffic monitoring site cabinet includes:
   A. One adjustable shelf (equipped as shown)
   B. One backplane ass'y
   C. One J1 receptacle with mounting bracket
   D. All associated wiring and wiring harnesses

2. Basic backplane assembly consists of:
   A. Two inductive loop terminal strips
   B. One vehicle sensor terminal strip
   C. One inductive loop terminal strip
   D. One solar panel terminal strip

* The contractor shall be responsible for contacting the FDOT planning office for lane number information and verification.

Note:
Bracket shall be fabricated of 0.090 - 0.125 inch thick aluminum.
Dimensions may vary depending on the manufacturer of the J1 receptacle being furnished. The cabinet manufacturer will construct the mtg. bracket to fit the receptacle.
CABINET LAYOUT DETAIL (For More Than Four Lanes And Up To Eight Lanes)

1. Traffic monitoring site cabinet includes:
   A. One adjustable shelf;
   B. Two backplane assemblies (equipped as shown);
   C. Two J1 receptacles with mounting brackets;
   D. All associated wiring and wiring harnesses.

2. Basic backplane assembly consists of:
   A. Two inductive loop terminal strips;
   B. One vehicle sensor terminal strip;
   C. One battery terminal strip;
   D. One solar panel terminal strip.

Equipment Cable, 5 ft. long, furnished separately (Ref. Sheet No. 6)

- J1 Receptacle With Alum. Mounting Bracket For Lanes 3 To 8 *
- Backplane For Lanes 3 To 8 * (Does Not Require Battery Terminal, Solar Terminal, Voltage Regulator, Or Solar Power Surge Suppressor)
- Adjustable Shelf
- J1 Receptacle
- Equipment Cable
- J1 Receptacle For Lanes 1 Through 4 (Ref. Detail Sheet 1) (Attach to Sheet Mounting Rail in Cabinet)
- P1 Equipment Cable Plug (Lanes 1 Through 4)
- P1 Equipment Cable Plug (Lanes 5 Through 8)
- Ref. Sheet 4 For Pinout Charts, Receptacle And Plug Details.

Cable Arrangement For More Than Four Lanes Monitored By a Single Vehicle Speed/Classification Unit

- J1 Receptacle
- Wiring To Backplane
- Wiring To Backplane
- Equipment Cable
- J1 Receptacle

Traffic monitoring site cabinet includes:
- One adjustable shelf;
- Two backplane assemblies (equipped as shown);
- Two J1 receptacles with mounting brackets;
- All associated wiring and wiring harnesses.

Basic backplane assembly consists of:
- Two inductive loop terminal strips;
- One vehicle sensor terminal strip;
- One battery terminal strip;
- One solar panel terminal strip.

* The contractor shall be responsible for contacting the FDOT planning office for lane number information and verification.
TRAFFIC MONITORING SITE

**CABINET BACKPLANE DETAIL**

- **Jumpers**: The contractor shall be responsible for contacting the FDOT planning office for lane number identification and verification.
- **Cabinet Backplane**: Ref. sheet no. 1 or 2, note 2 for items to be included with backplane.
- **Suppressor**
- **Surge**
- **Solar Power**
- **Power Output**
- **8 in. x 24 in. x 0.125 in. Thick Aluminum Backplane**
- **Solar Power Voltage Reg.**

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**Design Standards**

- **Voltage Reg.**
- **Solar Power**
- **Power Output**
- **Suppressor**
- **Surge**

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**Notes**:

- All terminal strip contacts are on 1/4 inch centers (Cinch 142 Series or equal).
- Use insulated fork wire terminations.
- Earth Ground

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**TRAFFIC MONITORING SITE**

**07/01/07**

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**LAST REVISION**

**DESCRIPTION**: Use insulated fork wire terminations (Cinch 142 Series or equal).

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**Traffic Monitoring Site**

**CABINET BACKPLANE DETAIL**

- **8 in. x 24 in. x 0.125 in. Thick Aluminum Backplane**
- **Solar Power Voltage Reg.**
- **Power Output**
- **Suppressor**
- **Surge**

---

**Notes**:

- All terminal strip contacts are on 1/4 inch centers (Cinch 142 Series or equal).
- Use insulated fork wire terminations.
- Earth Ground

---

**Traffic Monitoring Site**

**CABINET BACKPLANE DETAIL**

- **8 in. x 24 in. x 0.125 in. Thick Aluminum Backplane**
- **Solar Power Voltage Reg.**
- **Power Output**
- **Suppressor**
- **Surge**

---

**Notes**:

- All terminal strip contacts are on 1/4 inch centers (Cinch 142 Series or equal).
- Use insulated fork wire terminations.
- Earth Ground
**DESCRIPTION:**

The equipment cable can accommodate up to four lanes of inductive loop and vehicle sensor inputs. (Ref. Sheet No. 1 for cabinet layout)

For more than four lanes and up to eight lanes of inputs, the following options are available:

1. A second Vehicle Speed/Classification Unit and separate equipment cable connecting to a second J1 receptacle; or

2. A single Vehicle Speed/Classification Unit capable of up to eight lanes of inputs and a single equipment cable with split ends to fit two J1 receptacles. (Ref. Sheet No. 2 detail)

Numbers in parenthesis in the pinout chart identify lane numbers when a second backplane for lanes 5 through 8 is required.

**NOTE:**

The contractor shall be responsible for contacting the FDOT planning office for lane number information and verification.

**NOTE:**

For more than four lanes and up to eight lanes of inputs, the following options are available:

1. A second Vehicle Speed/Classification Unit and separate equipment cable connecting to a second J1 receptacle; or

2. A single Vehicle Speed/Classification Unit capable of up to eight lanes of inputs and a single equipment cable with split ends to fit two J1 receptacles. (Ref. Sheet No. 2 detail)

Numbers in parenthesis in the pinout chart identify lane numbers when a second backplane for lanes 5 through 8 is required.

**NOTE:**

The contractor shall be responsible for contacting the FDOT planning office for lane number information and verification.
NOTES:
1. Type I axle sensors shall be installed after placement of the friction course. Loops associated with axle sensors shall also be installed after placement of the friction course.
2. Inductive loops shall be cut 30" deep. Loop slots shall be cut wide enough to allow unforced placement of the loop wire into the bottom of the slot. Four turns of #12 AWG, type XHHW stranded copper wire, or #14 AWG, type XHHW stranded copper wire shall be placed in the slot. Short pieces of backer rod (2" to 3" in length) shall be placed every 18" to 24" to hold the loop wire in the bottom of the slot.
3. Loop leads shall be twisted at the rate of 6 to 8 twists per foot. For loops that are within 150' of the cabinet, the twisted pair loop wire shall be extended directly to the cabinet and no shielded lead-in cable is required. For distances over 150', #14 IMSA 50-2 shielded lead-in cable must be spliced to the loop wire twisted pair at the first pull box to which the loop wire is pulled.
4. The Contractor shall be responsible for contacting the FDOT office that maintains the traffic monitoring site in order to obtain lane numbering identification. All leads shall be labeled with permanent markers to indicate their lane number and position. For example: The leading loop (the first loop a vehicle encounters) in the lane designated as number 1, shall be marked as "1A". The trailing loop, if present, shall be marked "1B". If an axle sensor is present, the sensor will be marked as "P1" for lane #1, P2 for lane #2, and so on for all lanes.
5. See Index 17700 for pull box and apron details.
6. All splices will be performed using splice kits designed for direct burial. Splice kits will include screw on wire connectors and a housing with sufficient sealant to fully encapsulate the spliced connections. Taped splices are not permitted.

LANE LAYOUT FOR TMS INDUCTIVE LOOP AND TYPE I AXLE SENSOR

TRAFFIC FLOW pull box to which the loop wire is pulled. Distances over 150', #14 IMSA 50-2 shielded lead-in cable must be spliced to the loop wire twisted pair at the first pull box to which the loop wire is pulled.

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TRAFFIC FLOW pull box to which the loop wire is pulled. Distances over 150', #14 IMSA 50-2 shielded lead-in cable must be spliced to the loop wire twisted pair at the first pull box to which the loop wire is pulled.
The Unit Must Be Capable Of Detecting Up To Eight Lanes Of Traffic (In Either Or Both Directions) When Mounted Perpendicular To The Roadway.

Coverage Area Of The Unit Is Affected By The Roadway Geometry, Distance From The Travel Lanes, Median Type And Width, Barrier Walls, Etc.

* Mounting height of the unit and offset from the roadway must be determined on a site-by-site basis, in accordance with the manufacturer's recommended guidelines. Offset of pole must be greater than or equal to minimum clear zone requirements.
Solar Panel(s) (0.5 in. x 36 in.)
Lightning Rod (0.5 in. x 36 in.)
2.5 in. Weatherhead Mounted On The Tenon (2.5 in. Id Threaded Galvanized Steel Pipe Cast Into Pole)
12 in. (min.)

No. 4 AWG Stranded Bare Copper Wire (Cast In Pole) Bonded To Lightning Rod And Ground Rod

4 in. x 6 in. Handhole W/Cover

3 in. x 5 in. Conduit Entry Hole

3 ft.
2.5 ft.
8 ft.
2.5 ft.

Cabinet And Pole Will Be 10 ft. Apart Unless Otherwise Specified In The Plans

SOLAR POWER POLE WITH POLE MTD. CABINET

SOLAR POWER POLE WITH BASE MTD. CABINET

Wire for Solar Panel Array installations shall be #10 AWG stranded copper. Red insulation is THHN or THWN for positive 12 volts wiring, Black insulation is THHN or THWN for negative, 12 volts wiring.

Green insulation is THHN or THWN for ground bonding of the solar panel frame to the pole and earth.

Pole placement shall be in accordance with section 125.4 and 125.8.2 of the Standard Specifications.

Note: Cabinet installed per Index 17841 except cabinet center will be 4 feet above grade.

Pole placement shall be in accordance with section 125.4 and 125.8.2 of the Standard Specifications.