Origination Form

Proposed Revisions to a Standard Plans Index

| Originator: | Johnson, Victor | Index Number: | 695-001 |
|-------------|--------------------------------|------------------|-------------------------|
| Date: | 06/18/2025 | Sheet Number(s): | ALL |
| E-mail: | Victor.Johnson@dot.state.fl.us | Index Title: | Traffic Monitoring Site |

Summary of the changes:

All Sheets - Renumbered.

Sheet 1: Updated TABLE OF CONTENTS; Changed titles on Sheets 14-16; Added New Sheet 17.

Sheet 5: Added "and start wire twist at the beginning of the home run slot." to Note 2; Added "Install a home run slot with a minimum width of 5/8"."

Sheet 8: Added "and start wire twist at the beginning of the home run slot." to Note 2; Added "Install a home run slot with a minimum width of 5/8"."

Sheet 11: Added "1.5 meter" to the Strain Gauge or Quartz Axle Sensor callout; Changed interior Sensor and Loop Leads dimension to 1-6".

Sheet 14: Changed the Loop dimension to 15.7"; Changed Lane Width to 6'-0" Max.; Separated the Loops and added dimension in the DUAL LOOP ASSEMBLY; Added TABLE-1; Changed title to "Regular Side Path Configurations".

Sheet 15: Changed the Loop dimension to 15.7"; Changed Lane Width to 6'-1" to 11-8"; Separated the Loops and added dimension in the DUAL LOOP ASSEMBLY; Updated TABLE-1 and renamed TABLE-2; Updated the Inductive Loop callout to reference Table-2; Changed title to "Medium Shared Use Path Configurations".

Sheet 16: Changed the Loop dimension to 15.7"; Changed Lane Width to 11-9" to 15'-0"; Separated the Loops and added dimension in the DUAL LOOP ASSEMBLY; Updated TABLE-1 and renamed TABLE-3; Updated the Inductive Loop callout to reference Table-3; Deleted gap between Inductive Loops and Deleted "See TABLE-1 on Sheet 15" reference; Updated See Changed title to "Medium Shared Use Path Configurations".

Sheet 17: New Sheet - Extra Large Shared Use Path Configurations.

Sheet 17: New Sheet 18 - Added IR Lens and Dimension to the ELEVATION view.

Sheet 18: New Sheet 19- Added "Concrete" to the Foundation callout in DETAIL 'D'.

Sheet 19: New Sheet 20.

Sheet 20: New Sheet 21 - Updated NOTES - Pulled Note 6 out as its own note; Changed the Varies (See Note 6) callout in the SOLAR POWER POLE WITH POLE MOUNTE CABINET to "See CONCRETE BASE DIMENSIONS".

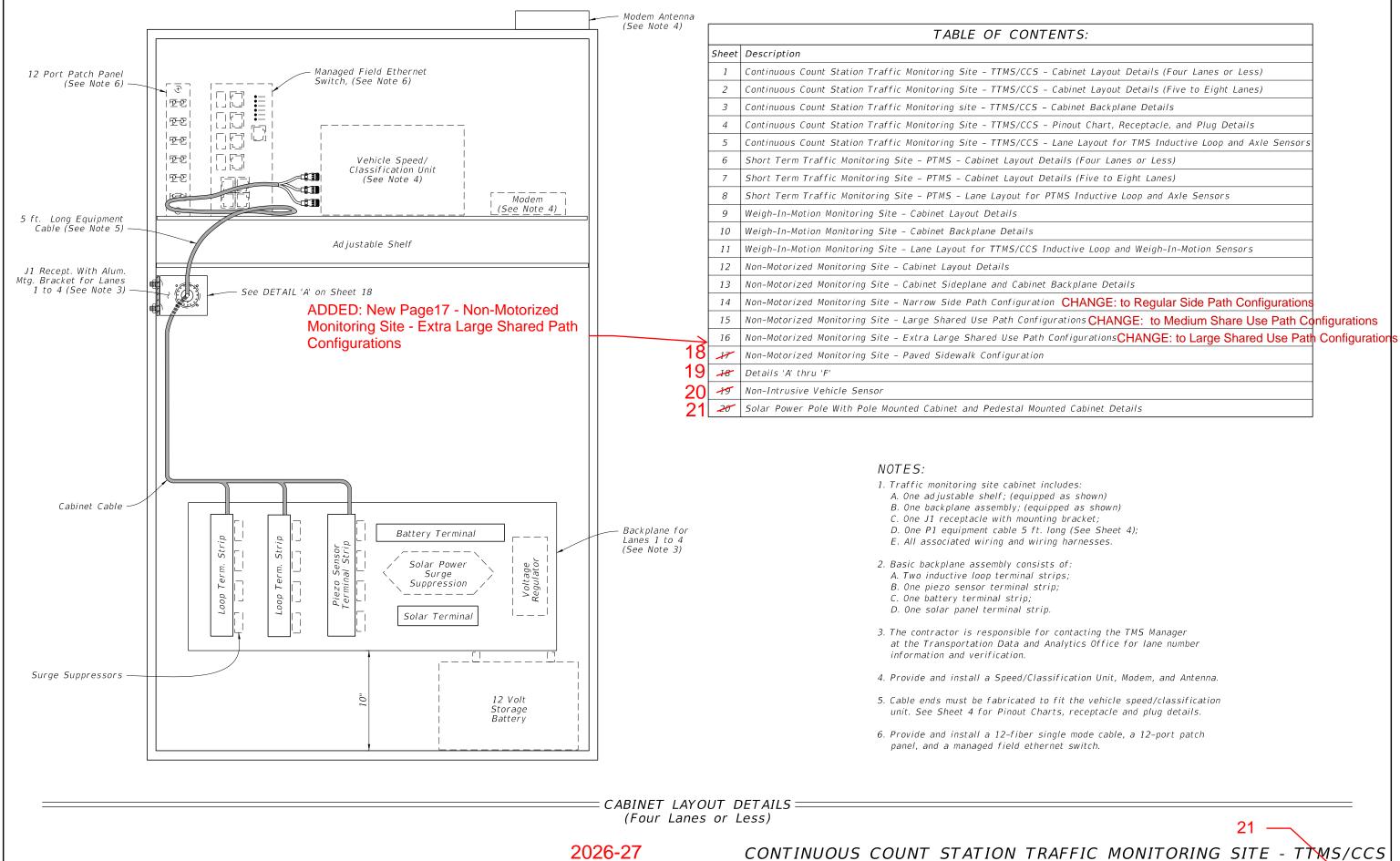
Commentary/Background:

FDOT Transportation Data and Analytics office is updating the pages of the 2026-2027 Standard Plan Index 695-001 to assist with issues that are being experienced in the field during construction. The updated document is bringing in a new page of non-motorized layout to be cohesive with changes in the manufacture's device and updated criteria. It is also meant to detail the processes and equipment to be used in the installation of sensors, both the general instruction for count sites, WIM, and non-motorized.

| Other Affected Documents/Offices | Person Contacted | Affected (Yes/No) |
|----------------------------------|------------------|-------------------|
| Other Standard Plans | | |
| FDOT Design Manual | | |
| Standard Specifications | | |

| Basis of Estimates Manual | |
|---------------------------|--|
| Approved Product List | |
| Construction Office | |
| Maintenance Office | |

| Implementation | |
|----------------|--|
| | |



REVISION 11/01/23

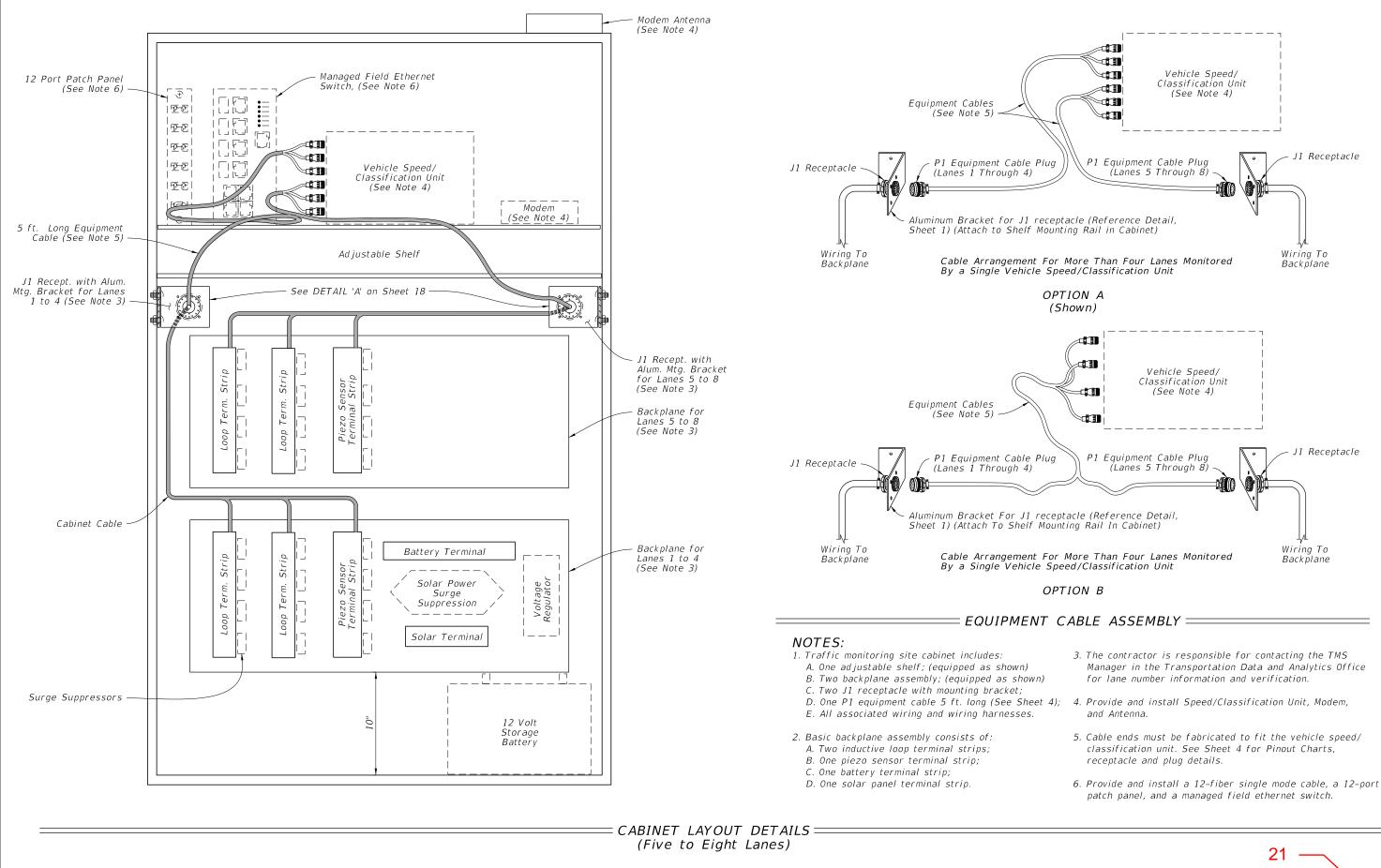
DESCRIPTION: · 11/01/25

FDOT

FY 2025-26 STANDARD PLANS

INDEX

SHEET 1 of 20 695-001



DESCRIPTION: REVISION 11/01/25 11/01/23

FDOT

2026-27 FY 2025-26

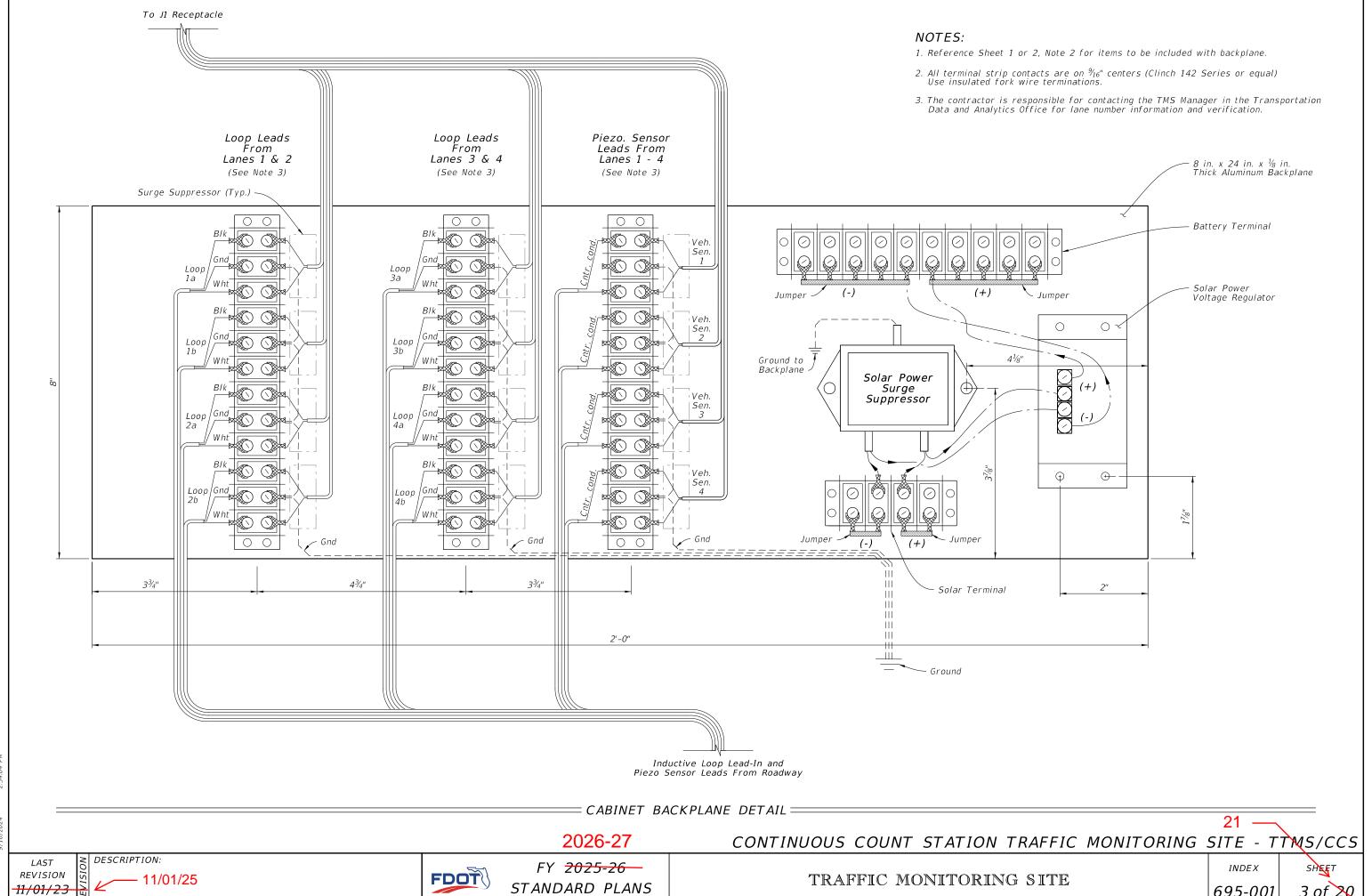
STANDARD PLANS

CONTINUOUS COUNT STATION TRAFFIC MONITORING SITE - TIMS/CCS

TRAFFIC MONITORING SITE

INDEX

SHEET 2 of 20 695-001



FDOT

STANDARD PLANS

TRAFFIC MONITORING SITE

3 of 20

Loop 1a (5a) white Loop 1a (5a) black

Loop 1b (5b) red

Loop 1b (5b) black Loop 2a (6a) green Loop 2a (6a) blue Loop 2b (6b) orange Loop 2b (6b) tan Loop 3a (7a) white

Loop 3a (7a) green

Loop 3b (7b) red

Loop 3b (7b) black

Loop 4a (8a) w/white

Loop 4a (8a) w/black

Loop 4b (8b) w/red

Loop 4b (8b) w/green

Piezo 1 (5) (+) w/blue

Piezo 1 (5) sh w/orange

Piezo 2 (6) (+) w/green

Piezo 2 (6) sh w/red

Piezo 3 (7) (+) w/black

Piezo 3 (7) sh w/red/blk

Piezo 4 (8) (+) red/ green

Piezo 4 (8) sh red/white

Gnd green

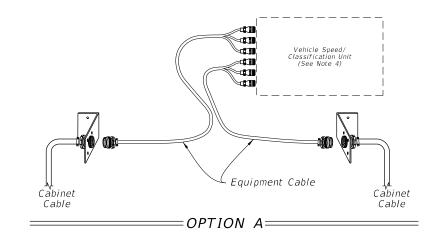
D

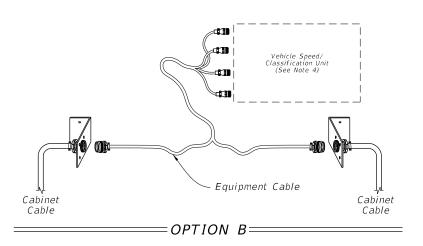
Aluminum Bracket for J1 Receptacle (Attach to Shelf Mounting Rail in Cabinet, See DETAIL 'A' on Sheet 18)

P1 Equipment Cable Plug (Amphenol 28-12 Plug with Female Pin Slots and MS Type Clamp, or Equal.)

Equipment Cables

| P1 | P1 EQUIPMENT CABLE PLUG | | |
|----|-------------------------|-----------------------------|--|
| | 26 Female Pin Slots | | |
| Α | Loop 1a (5a) | | |
| В | Loop 1a (5a) | | |
| С | Loop 1b (5b) | | |
| D | Loop 1b (5b) | To Uni | |
| Ε | Loop 2a (6a) | ect inics | |
| F | Loop 2a (6a) | Connect To ectronics Ur | |
| G | Loop 2b (6b) | E/e | |
| Н | Loop 2b (6b) | | |
| Ν | Gnd | | |
| J | Loop 3a (7a) | | |
| К | Loop 3b (7b) | | |
| L | Loop 3b (7b) | | |
| М | Loop 3b (7b) | To Unit | |
| Р | Loop 4a (8a) | Connect To ectronics Uni | |
| R | Loop 4a (8a) | Conn | |
| S | Loop 4b (8b) | EIE | |
| Т | Loop 4b (8b) | | |
| d | Gnd | | |
| U | Piezo 1 (5) (+) | | |
| V | Piezo 1 sh | | |
| W | Piezo 2 (6) (+) | nit | |
| Χ | Piezo 2 sh | Connect To ectronics Ur | |
| Υ | Piezo 3 (7) (+) | nnec | |
| Ζ | Piezo 3 sh | Co | |
| а | Piezo 4 (8) (+) | | |
| b | Piezo 4 sh | | |





NOTES:

- 1. The contractor is responsible for contacting the TMS Manager in the Transportation Data and Analytics Office for lane number information and verification.
- 2. The equipment cable can accommodate up to four lanes of inductive loop and piezo sensor inputs. (See Sheet 1 for cabinet layout)
- 3. For more than four lanes and up to eight lanes of inputs, the following options are available:
- A. Second Vehicle Speed/Classification Unit and separate equipment cable connecting to a second J1 receptacle; or
- B. 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. (See Sheet 2 detail)
- 4. Numbers in parenthesis in the pinout chart identify lane numbers when a second backplane for lanes 5 through 8 is required.
- 5. Cable Ends must be fabricated to fit the vehicle Speed/Classification Unit.

PINOUT, RECEPTACLE, AND PLUG DETAILS =

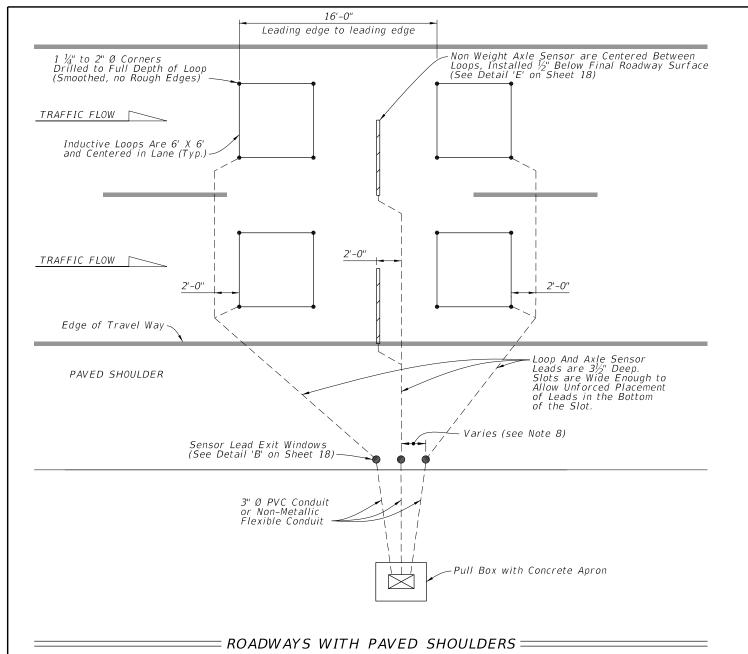
CONTINUOUS COUNT STATION TRAFFIC MONITORING SITE - TIMS/CCS

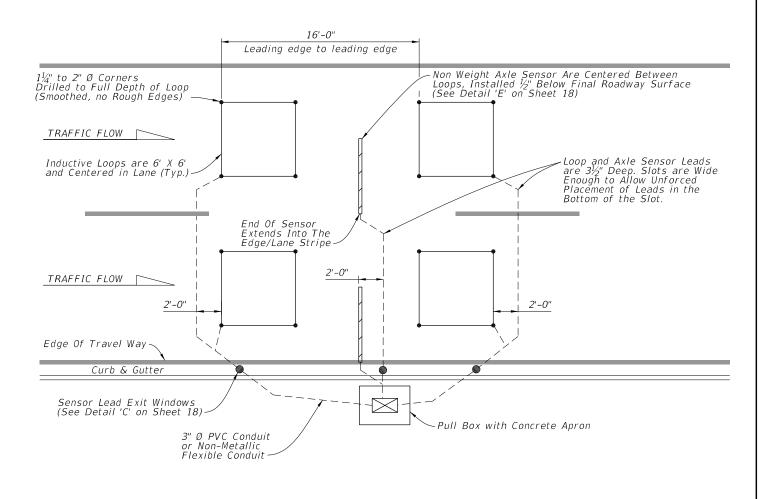
REVISION 11/01/23

DESCRIPTION: - 11/01/25



FY 2025-26 STANDARD PLANS





1. Install axle sensors and loops associated with axle sensors after placement of the friction course.

ADDED TO NOTE 2: and start wire twist at the beginning of the home run slot.

= CURB & GUTTER ROADWAYS:

- 2. Cut a $3\frac{1}{2}$ " deep slot for the Inductive loops. Loop slots will be cut wide enough to allow unforced placement of the wire into the bottom of the slot. Four turns of #14 AWG, place the IMSA 51-7 copper wire in the slot. Place short pieces of backer rod (2" to 3" in length) every 18" to 24" to hold the loop wire in the bottom of the slot.
- ADDED TO NOTE 3: 3. Twist loop leads at the rate of 8 to 16 twist per foot. Extend the twisted pair loop wire directly to the cabinet. No splicing of the loop leads will be permitted. Install a home run slot with a minimum width of 5/8".
- 4. Marking will consist of two rounds of contrasting colored tape, one color for the lane number and the second color for the lead loop location in the lane. The first band closest to the cabinet will represent the lane number, one round of tape will be for lane 1 and two rounds will be lane 2, etc. The lead loop in lane one would have one round of tape and a second round of a contrasting colored tape for the lead loop in the lane. The trailing loop would not have a second contrasting colored band of tape.
- 5. See Index 635-001 for pull box and concrete apron details.
- 6. Use a chalk line or string and paint to layout the position of the sensor and lead-in cable slots. Ensure saw cuts do not deviate more than 1/2" from the chalk line. Use a single blade or ganged blade saw wide enough to cut the axle sensor slot at full width in a single pass. Cutting two slots and chipping out roadway material between them is not allowed.
- 7. All sensor slots and any cuts in the roadway will be thoroughly blown out to ensure there is no dust or debris prior to installation of sensors or leads.
- 8. Install Exit Windows at least 2' apart.

LANE LAYOUT FOR TTMS/CCS INDUCTIVE LOOP AND AXLE SENSORS: (Typical for up to 4 Lanes of Sensor Leads Pulled to one Side of the Roadway)

2026-27

CONTINUOUS COUNT STATION TRAFFIC MONITORING SITE - TIMS/CCS

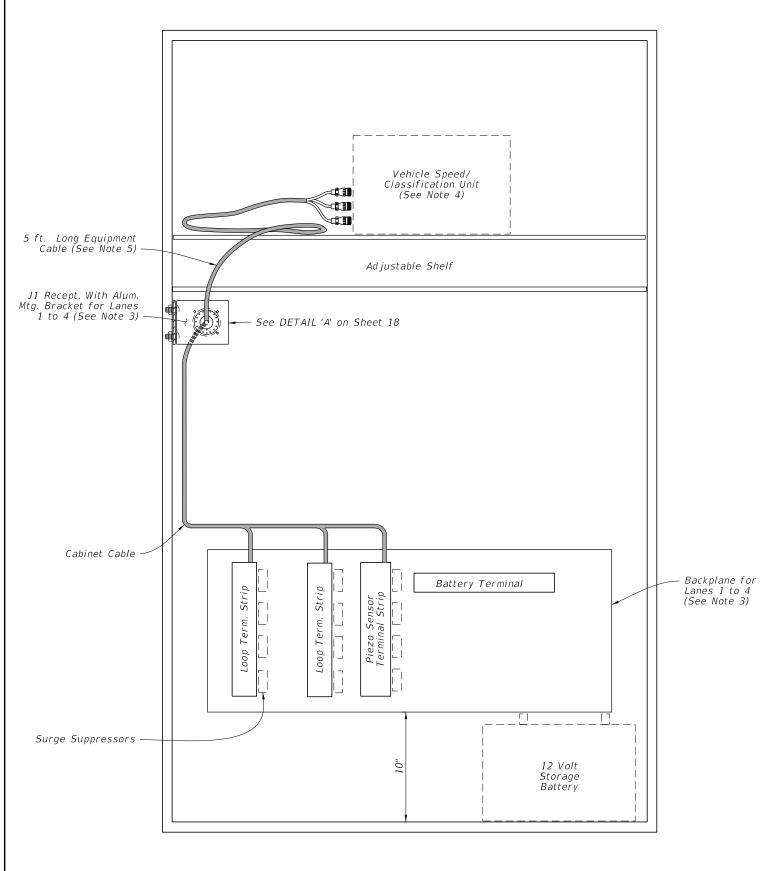
DESCRIPTION: REVISION - 11/01/25 11/01/23

FDOT

FY 2025-26 STANDARD PLANS

INDEX

SHEET 5 of 20 695-001



- 1. Traffic monitoring site cabinet includes:
- A. One adjustable shelf; (equipped as shown)
- B. One backplane assembly; (equipped as shown)
- C. One J1 receptacle with mounting bracket;
- D. One P1 equipment cable 5 ft. long (See Sheet 4);
- E. All associated wiring and wiring harnesses.
- 2. Basic backplane assembly consists of: A. Two inductive loop terminal strips;
- B. One piezo sensor terminal strip;
- C. One battery terminal strip.
- 3. The contractor is responsible for contacting the District Data Collection Coordinator for lane numbering.
- 4. Proved and install a Speed/Classification Unit.
- 5. Cable ends must be fabricated to fit the vehicle speed/ classification unit. See Sheet 4 for Pinout Charts, receptacle and plug details.

CABINET LAYOUT DETAILS = (Four Lanes or Less)

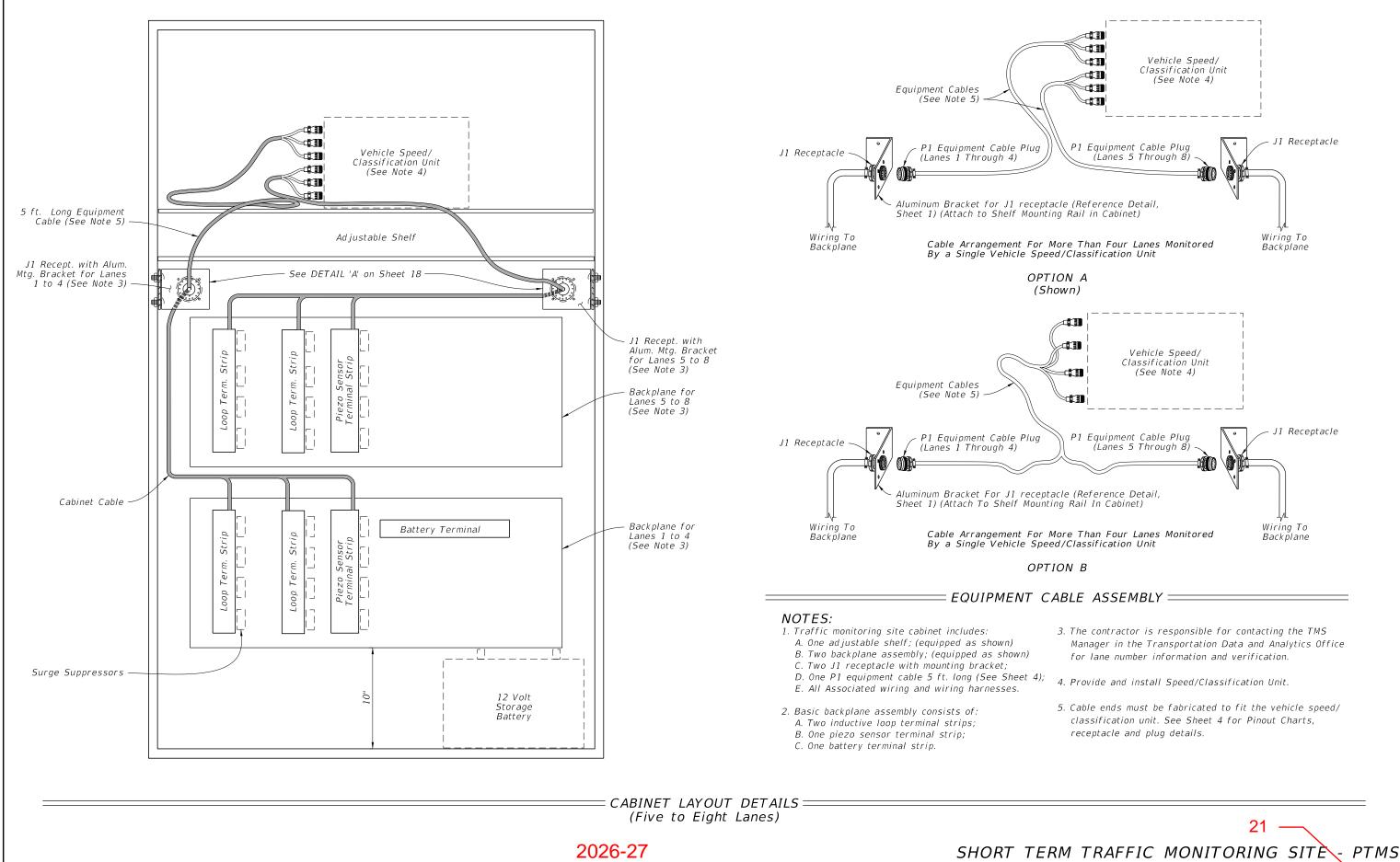
2026-27

SHORT TERM TRAFFIC MONITORING SITE - PTMS

DESCRIPTION: REVISION - 11/01/25 11/01/23

FDOT

FY 2025-26 STANDARD PLANS



TRAFFIC MONITORING SITE

SHEET

695-001

7 of 20

FY 2025-26

STANDARD PLANS

FDOT

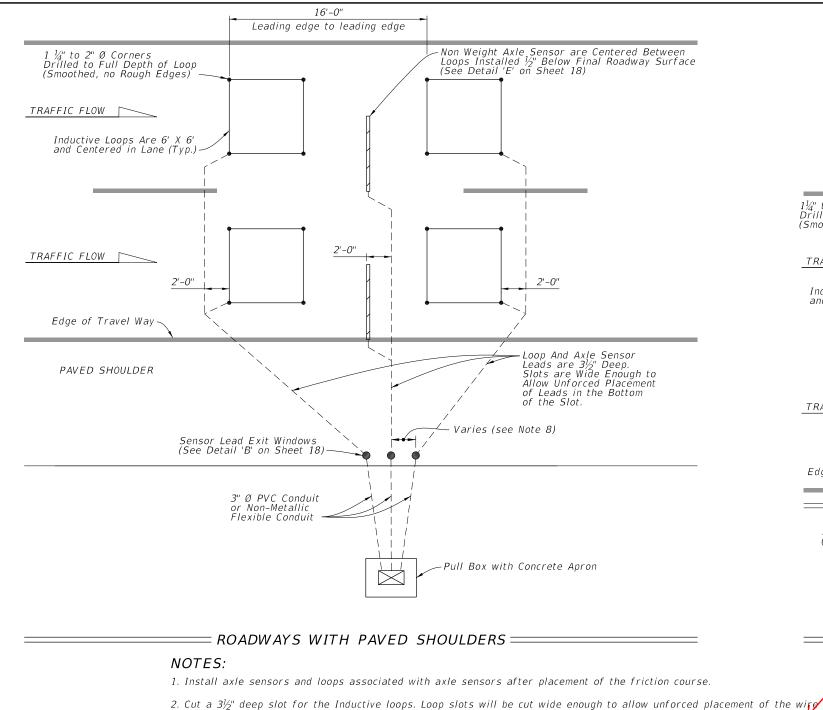
9/10/2024

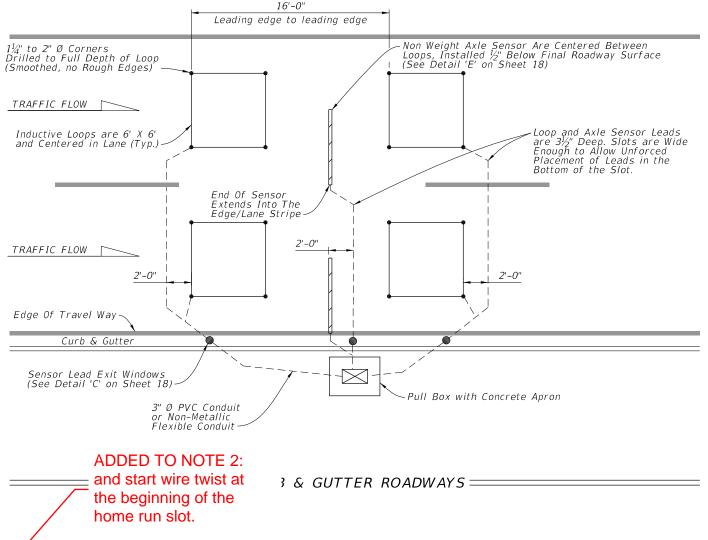
REVISION

11/01/23

DESCRIPTION:

11/01/25





- 2. Cut a 3½" deep slot for the Inductive loops. Loop slots will be cut wide enough to allow unforced placement of the wire into the bottom of the slot. Place four turns of #14 AWG IMSA 51-7 copper wire in the slot. Place short pieces of backer rod (2" to 3" in length) every 18" to 24" to hold the loop wire in the bottom of the slot.
- 3. Twist loop leads at the rate of 8 to 16 twists per foot. Extend the twisted pair loop wire directly to the cabinet. No splicing of the loop leads will be permitted. <

ADDED TO NOTE 3:

- 4. Marking will consist of two rounds of contrasting colored tape, one color for the lane number and the second color for the lead loop location in the lane. The first band closest land a home run slot with a minimum width of 5/8". number, one round of tape will be for lane 1 and two rounds will be lane 2, etc. The lead loop in lane one would have one round of tape and a second round of a contrasting column table. lane. The trailing loop would not have a second contrasting colored band of tape.
- 5. See Index 635-001 for pull box and concrete apron details.
- 6. Use a chalk line or string and paint to layout the position of the sensor and lead-in cable slots. Ensure saw cuts do not deviate more than 1/2" from the chalk line. Use a single blade or ganged blade saw wide enough to cut the axle sensor slot at full width in a single pass. Cutting two slots and chipping out roadway material between them is not allowed.
- 7. All sensor slots and any cuts in the roadway will be thoroughly blown out to ensure there is no dust or debris prior to installation of sensors or leads.
- 8. Install Exit Windows at least 2' apart.

= LANE LAYOUT FOR PTMS INDUCTIVE LOOP AND AXLE SENSORS = (Typical for up to 4 Lanes of Sensor Leads Pulled to one Side of the Roadway)

2026-27

SHORT TERM TRAFFIC MONITORING SITE

PTMS

SHEET

REVISION 11/01/23

DESCRIPTION: - 11/01/25

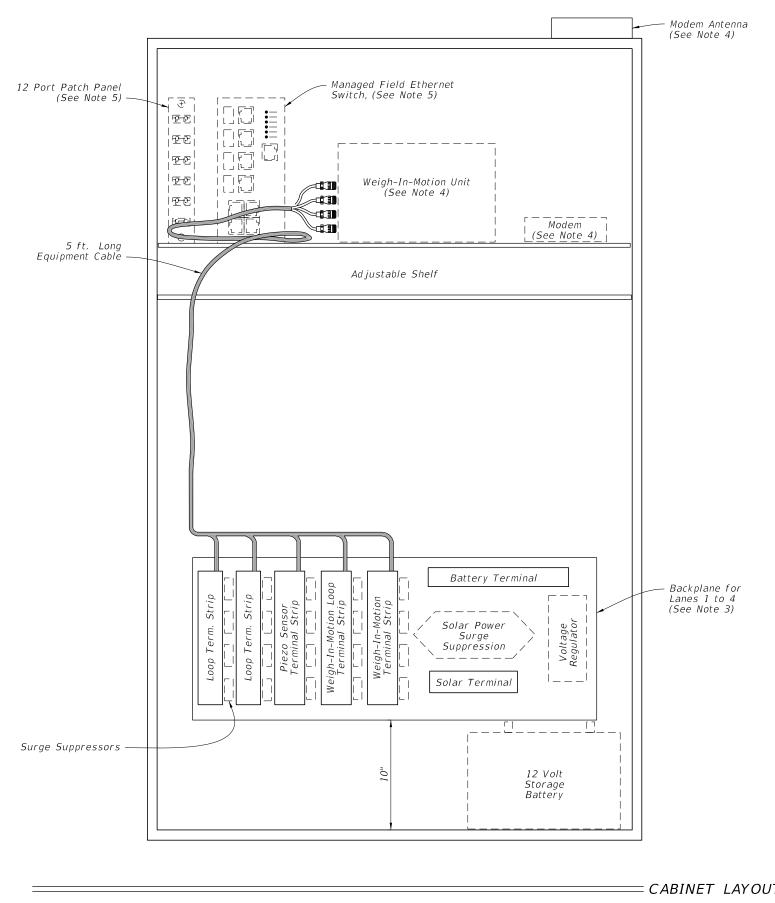
FDOT

FY 2025-26 STANDARD PLANS

TRAFFIC MONITORING SITE

695-001

8 of 20



Weigh-In-Motion Unit (See Note 4) Equipment Cables Wiring to Backplane ≠ ⇒ Wiring to Backplane

= EQUIPMENT CABLE ASSEMBLY ===

NOTES:

- 1. Traffic monitoring site cabinet includes:
 - A. One adjustable shelf; (equipped as shown)
 - B. One backplane assembly; (equipped as shown)
 - C. All associated wiring and wiring harnesses.
- 2. Basic backplane assembly consists of:
- A. Two inductive loop terminal strips;
- B. One piezo sensor terminal strip; C. Two weigh-in-motion terminal strips;
- D. One battery terminal strip;
- E. One solar panel terminal strip.
- 3. The contractor is responsible for contacting the TMS Manager at the Transportation Data and Analytics Office for lane number information and verification.
- 4. Provide and install a Weigh-In-Motion Unit, Modem, and Antenna.
- 5. Provide and install a 12-fiber single mode cable, a 12-port patch panel, and a managed field ethernet switch.

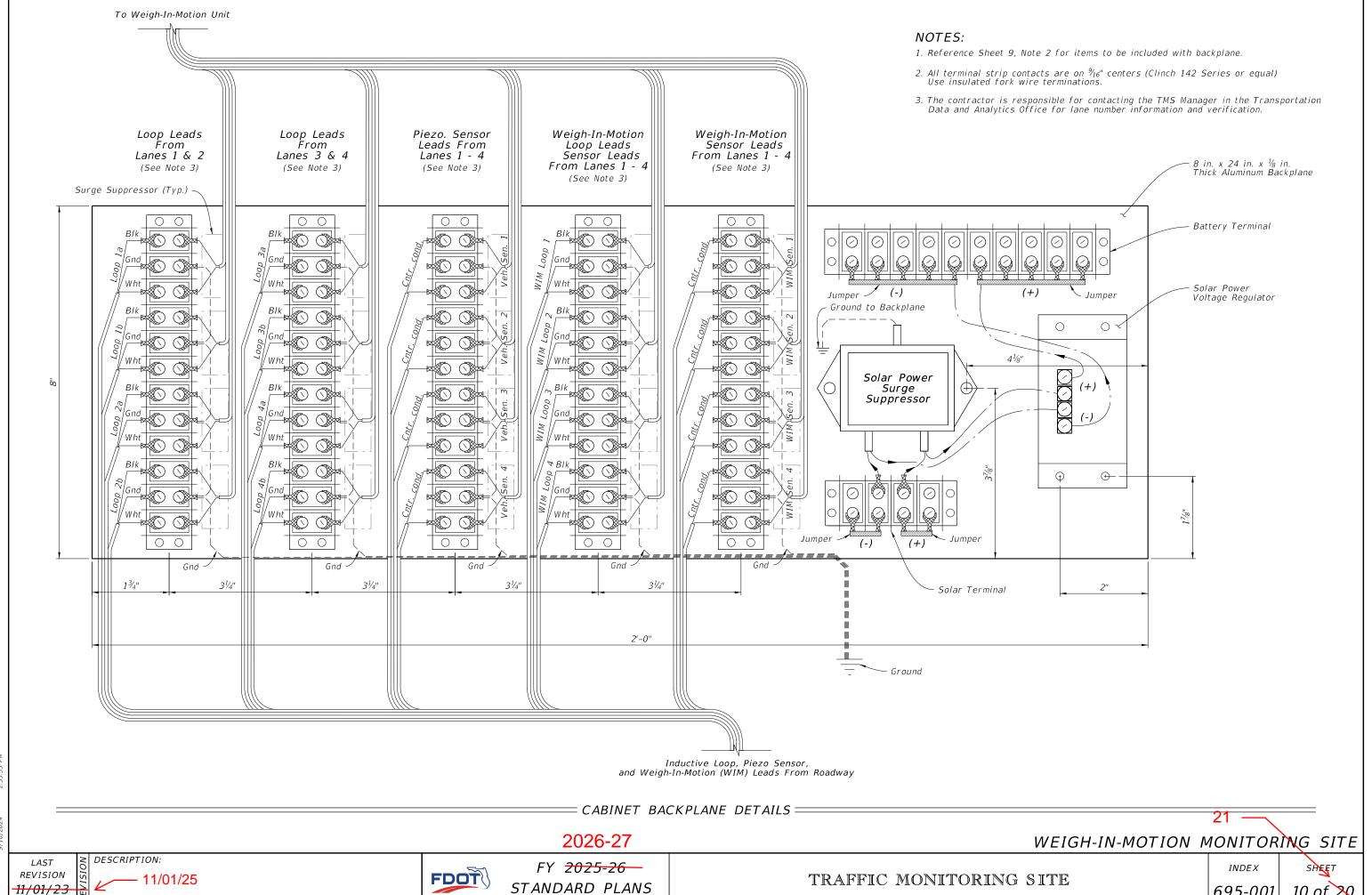
CABINET LAYOUT DETAILS =

WEIGH-IN-MOTION MONITORING SITE

DESCRIPTION: REVISION - 11/01/25 11/01/23

FDOT

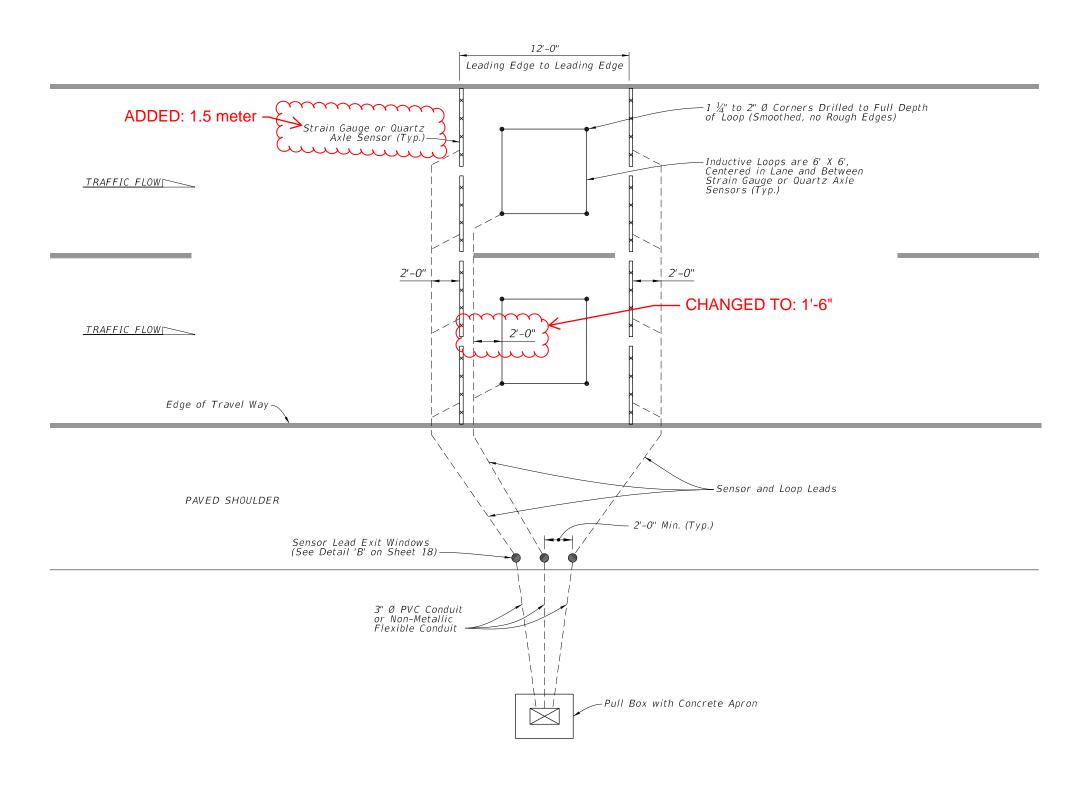
FY 2025-26 STANDARD PLANS



FDOT

10 of 20

- 1. Install axle sensors and loops associated with axle sensors after placement of the friction course.
- 2. Cut a $3\frac{1}{2}$ " deep slot for the Inductive loops. Loop slots will be cut wide enough to allow unforced placement of the wire into the bottom of the slot. Place four turns of #14 AWG IMSA 51-7 copper wire in the slot. Place short pieces of backer rod (2" to 3" in length) every 18" to 24" to hold the loop wire in the bottom of the slot.
- 3. Twist loop leads at the rate of 8 to 16 twists per foot. Extend the twisted pair loop wire directly to the cabinet. No splicing of the loop leads will be permitted.
- 4. Marking will consist of two rounds of contrasting colored tape, one color for the lane number and the second color for the lead loop location in the lane. The first band closest to the cabinet will represent the lane number, one round of tape will be for lane 1 and two rounds will be lane 2, etc. The lead loop in lane one would have one round of tape and a second round of a contrasting colored tape for the lead loop in the lane. The trailing loop would not have a second contrasting colored band of tape.
- 5. See Index 635-001 for pull box and concrete apron details.
- 6. Use a chalk line or string and paint to layout the position of the sensor and lead-in cable slots. Ensure saw cuts do not deviate more than $\frac{1}{2}$ " from the chalk line. Install the sensor according to manufacturer's recommendations.
- 7. All sensor slots and any cuts in the roadway will be thoroughly blown out to ensure there is no dust or debris prior to installation of sensors or leads.
- 8. Install Exit Windows at least 2' apart.



= LANE LAYOUT FOR TTMS/CCS INDUCTIVE LOOP AND WEIGH-IN-MOTION SENSORS :

2026-27

WEIGH-IN-MOTION MONITORING SITE

REVISION 11/01/24

DESCRIPTION: - 11/01/25

FDOT

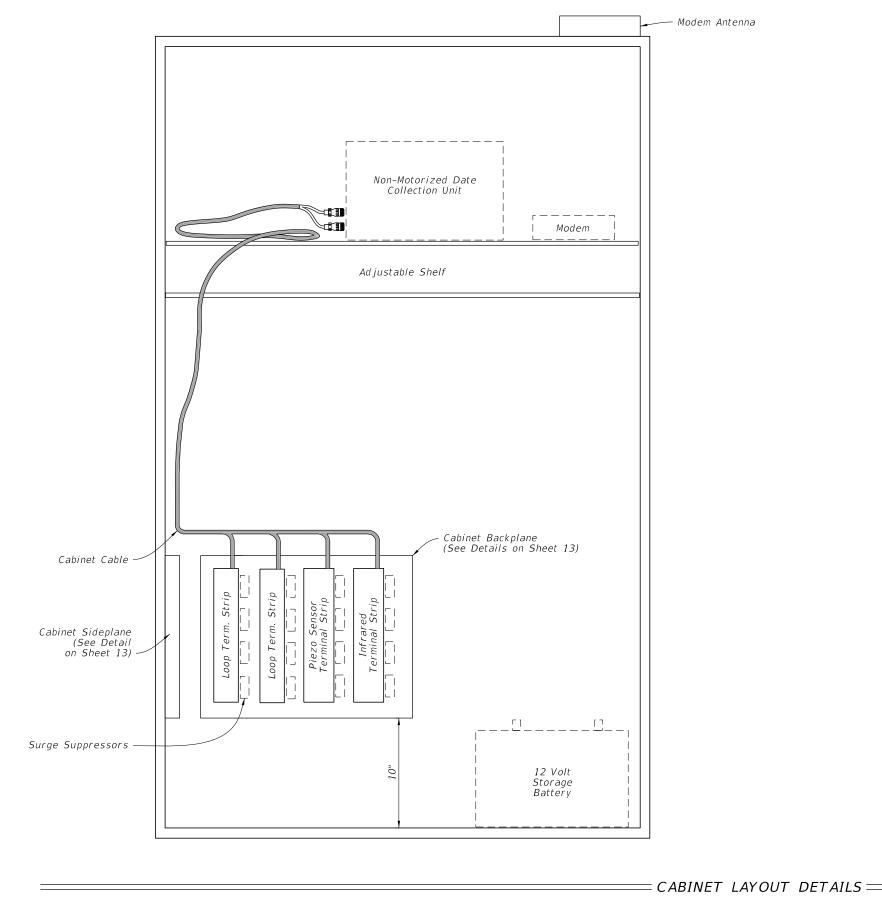
FY 2025-26 STANDARD PLANS

TRAFFIC MONITORING SITE

INDEX 695-001

21 -

SHEET 11 of 20



- 1. Traffic monitoring site cabinet includes:
- A. One adjustable shelf; (equipped as shown)
- B. One backplane assembly; (equipped as shown)
- C. One sideplane assembly; (equipped as shown);
- D. Infrared sensor and piezo sensor cables.
- 2. Basic backplane assembly consists of:
- A. Two inductive loop terminal strips; B. One piezo sensor terminal strip:
- C. One infrared sensor terminal strip;.
- 3. Basic sideplane assembly consists of:
- A. One battery terminal strip;

B. One solar panel terminal strip.

2026-27

NON-MOTORIZED MONITORING SITE

DESCRIPTION: REVISION - 11/01/25 11/01/23

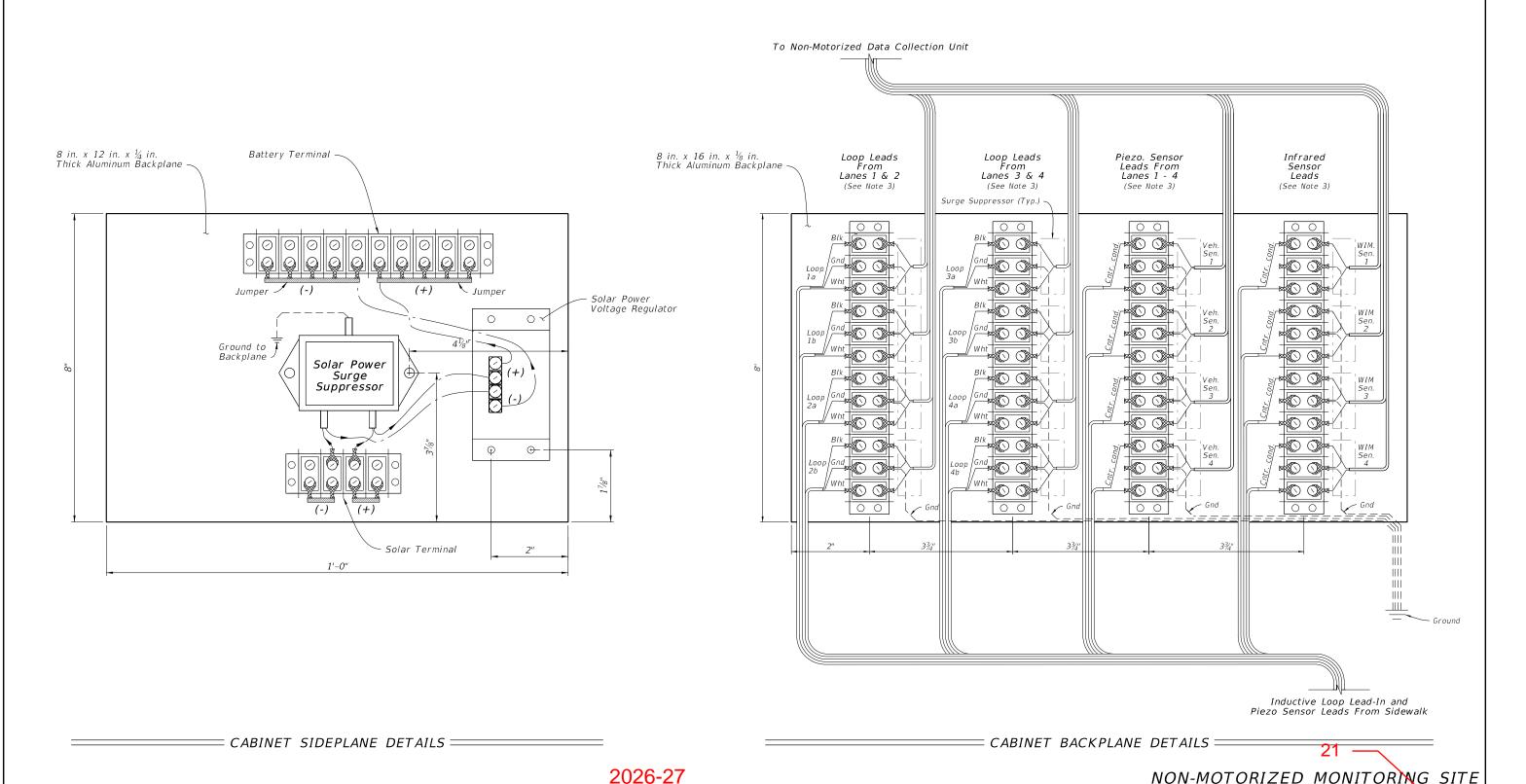
FDOT

FY 2025-26 STANDARD PLANS

INDEX 695-001

SHEET 12 of 20

- 1. Reference Sheet 12, Note 2 for items to be included with backplane.
- 2. All terminal strip contacts are on $\frac{9}{16}$ " centers (Clinch 142 Series or equal) Use insulated fork wire terminations.
- 3. The contractor is responsible for contacting the TMS Manager in the Transportation Data and Analytics Office for lane number information and verification.



DESCRIPTION: REVISION - 11/01/25 11/01/23

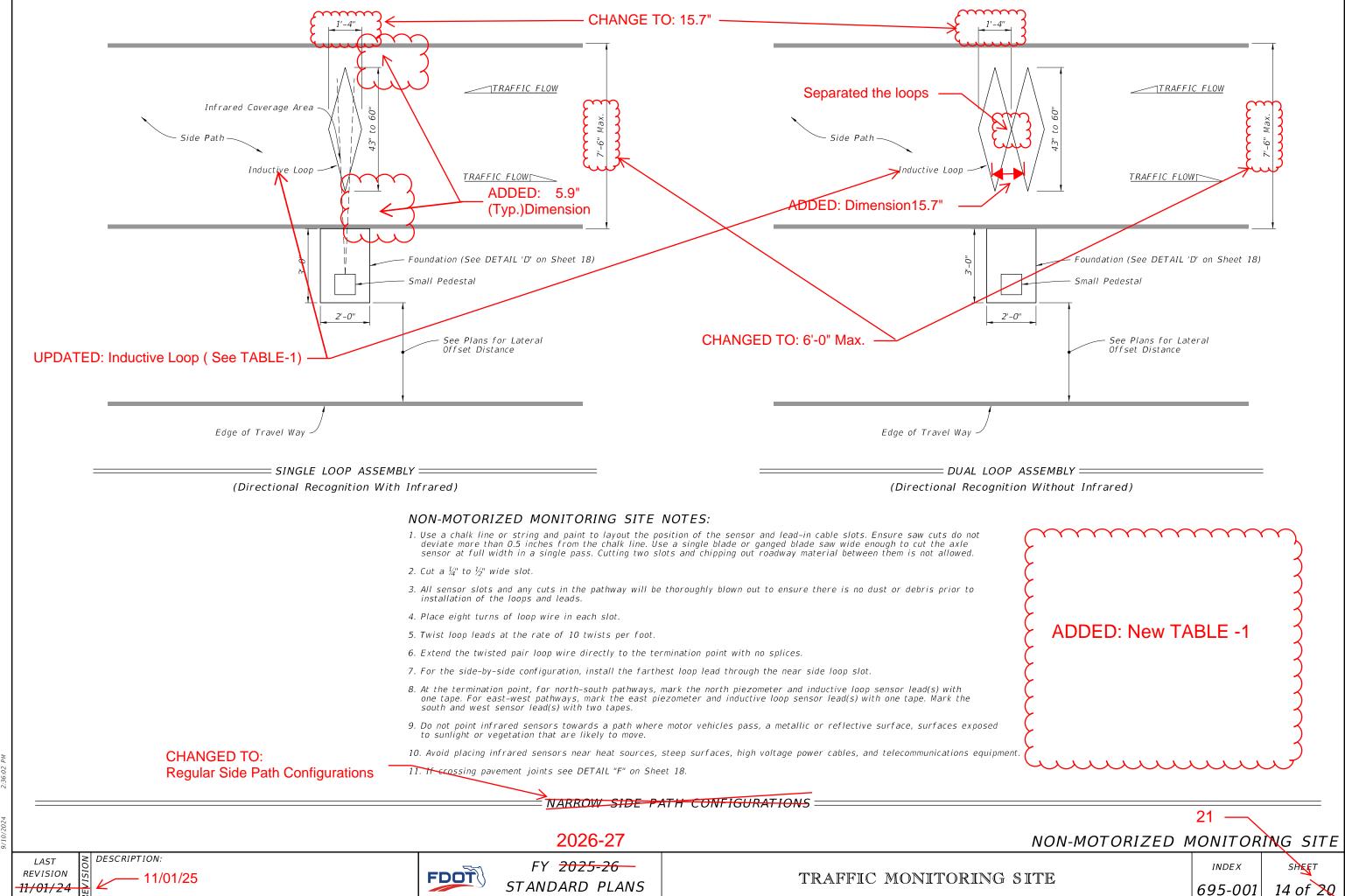
FDOT

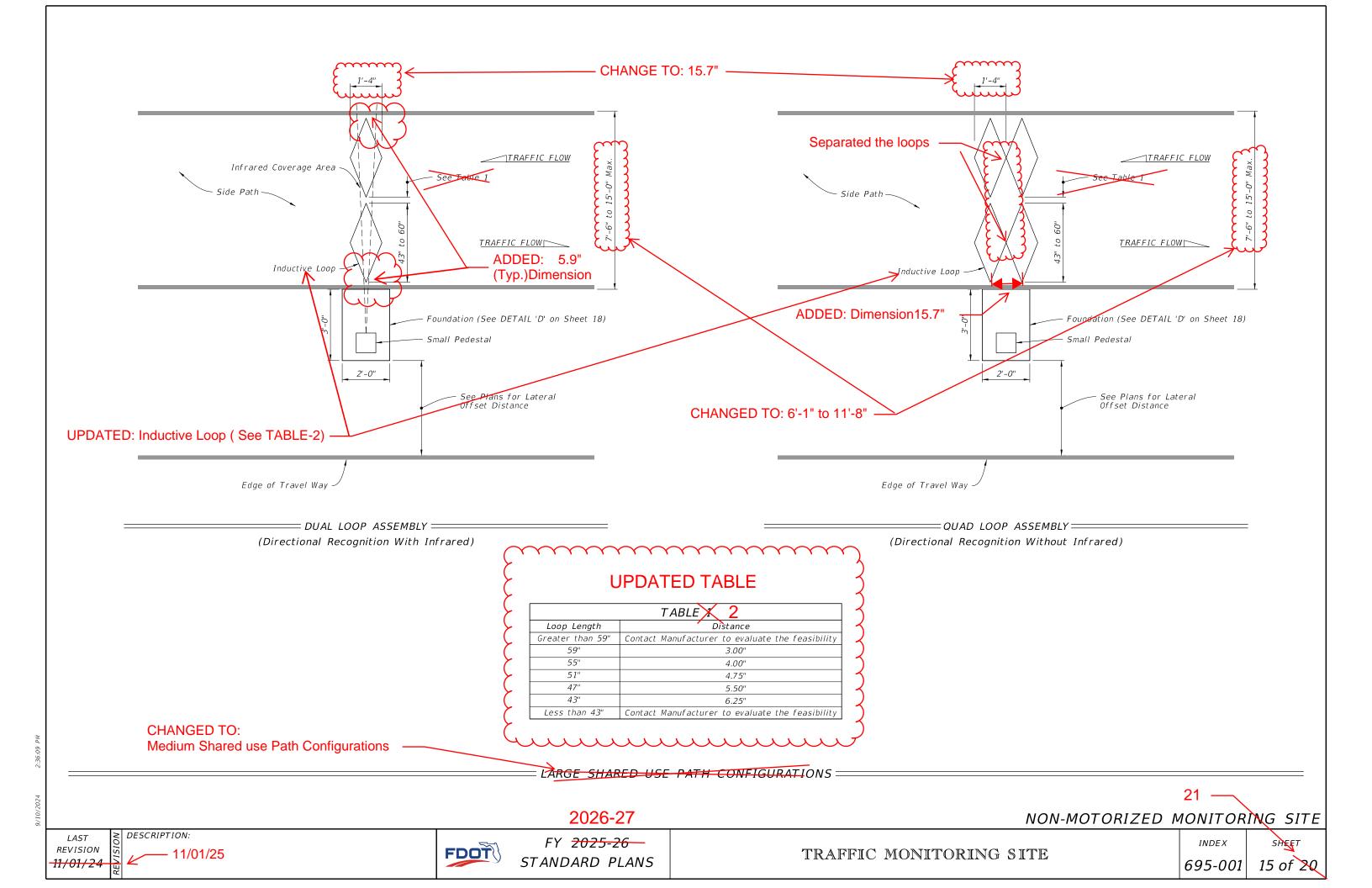
FY 2025-26 STANDARD PLANS

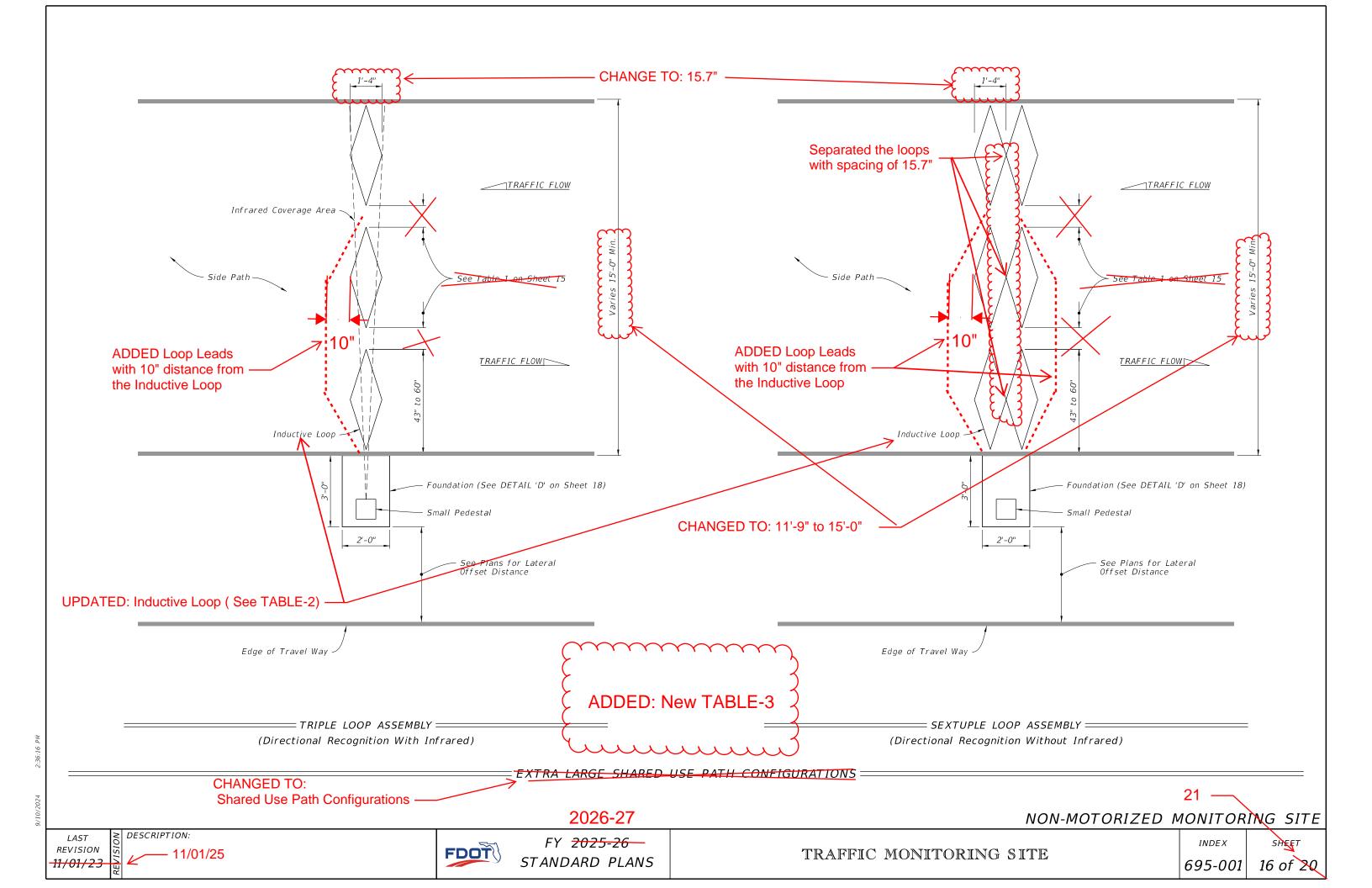
INDEX

NON-MOTORIZED MONITORING SITE

SHEET 13 of 20 695-001



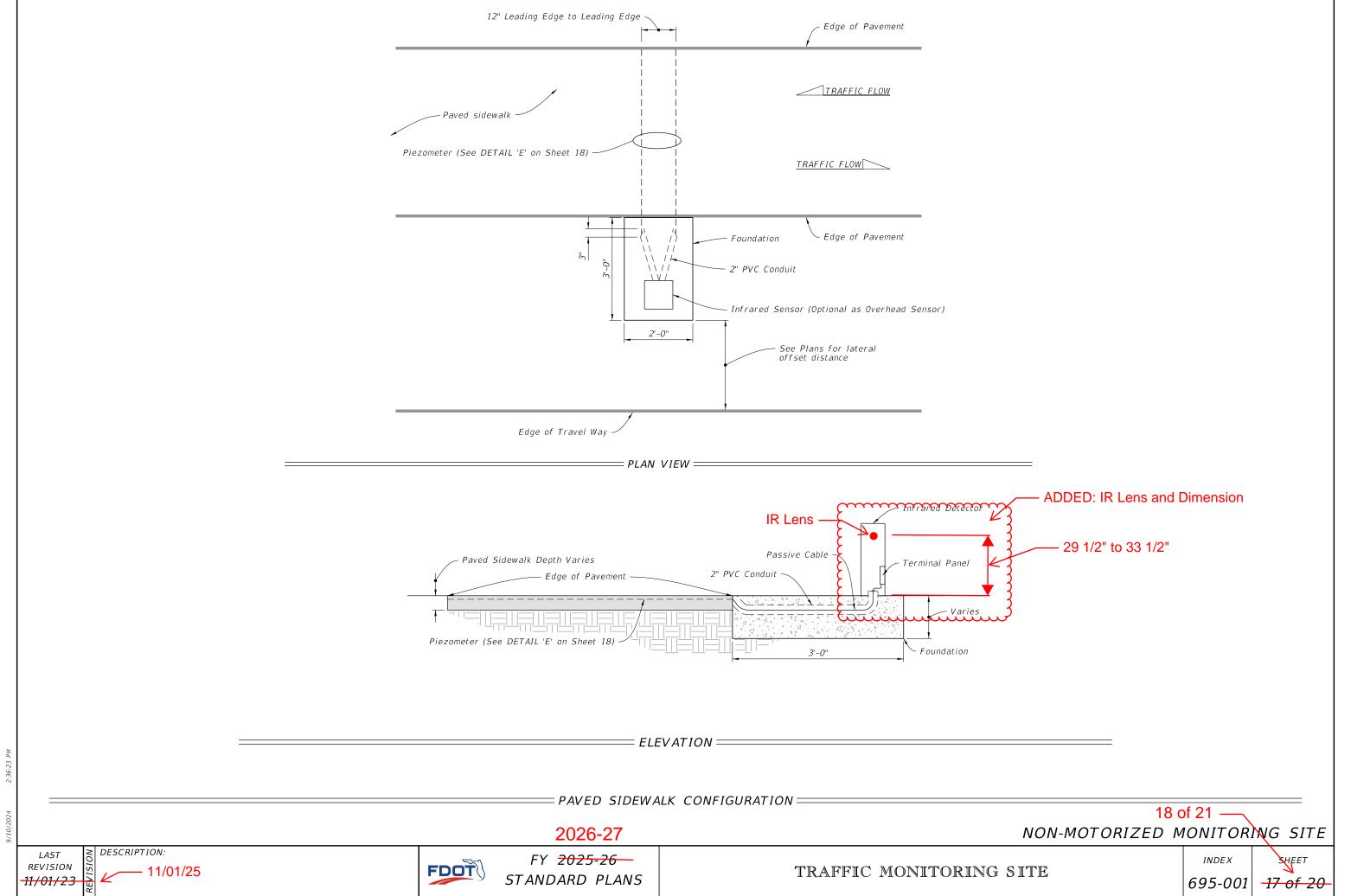


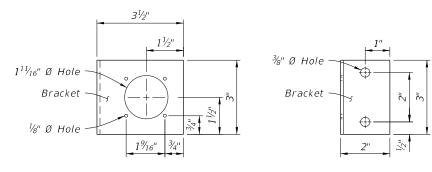


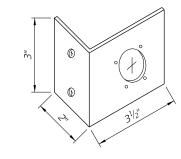
ADDED: New page 17



Extra Large Shared Use Path Configurations four loop & quadruple assemblies







FRONT VIEW

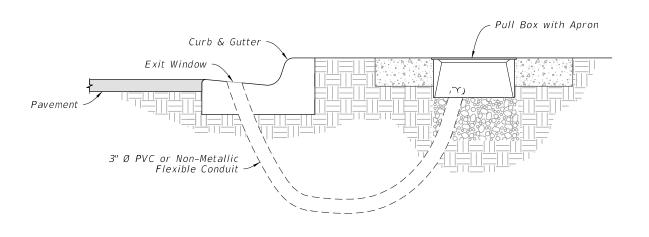
SIDE VIEW

ISOMETRIC VIEW

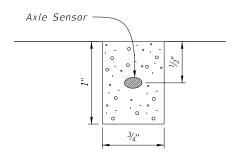
Fabricate bracket out of $\frac{3}{32}$ " - $\frac{1}{8}$ " inch thick aluminum. Dimensions may vary depending on the manufacturer of the J1 receptacle being furnished. The cabinet manufacturer will construct the mounting bracket to fit the receptacle.

J1 MOUNTING BRACKET

= DETAIL 'A" =



DETAIL 'C'=

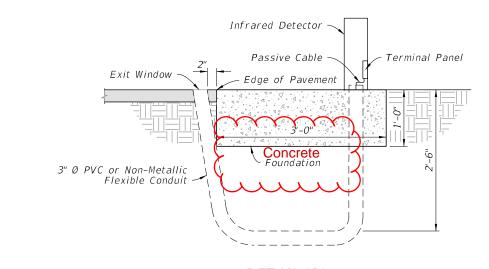


END VIEW (Axle Sensor Slot)

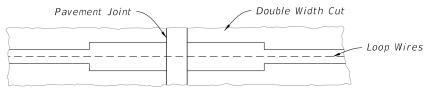
= DETAIL 'E' =

Pull Box with Apron Exit Window Paved Shoulder 3" Ø PVC or Non-Metallic Flexible Conduit

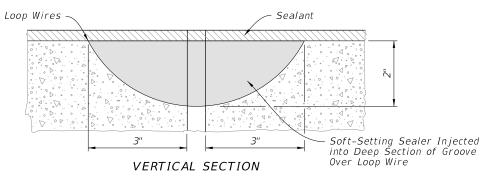
DETAIL 'B'



=DETAIL 'D'=



PLAN VIEW



= DETAIL 'F'

19 of 21 -

DETAILS 'A' THRU 'F'

DESCRIPTION: 11/01/25

FDOT

FY 2025-26 STANDARD PLANS

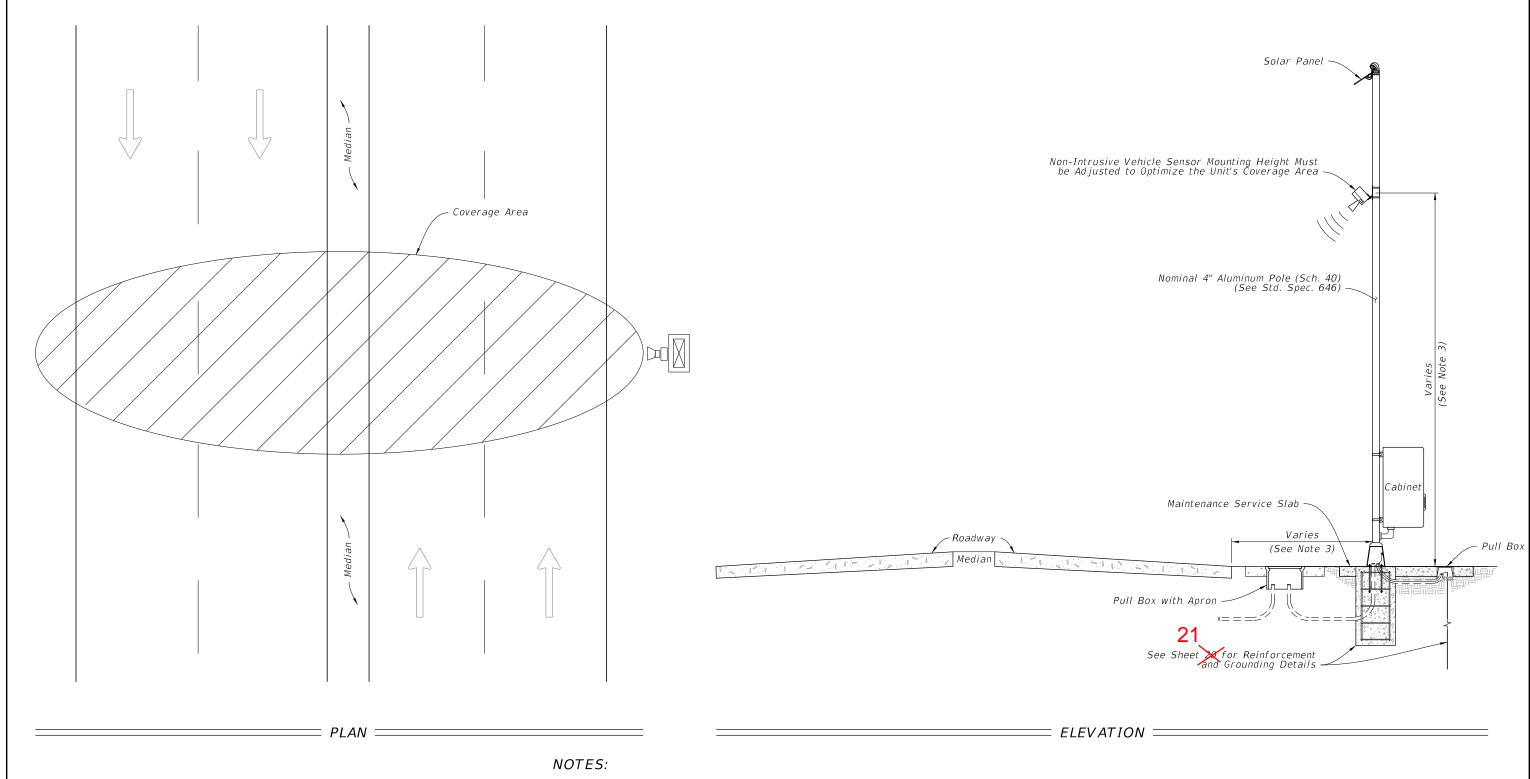
2026-27

INDEX

695-001 18 of 20

LAST

11/01/23



- 1. The unit must be capable of detecting up to eight lanes of traffic (in either or both directions) when mounted perpendicular to the roadway.
- 2. Coverage area of the unit is affected by the roadway geometry: distance from the travel lanes, median type and width, barrier walls, etc.
- 3. 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.
- 4. Cabinet, ground rod pull box, and maintenance service slab installed per Index 676-010, except cabinet center will be 4 feet above grade.

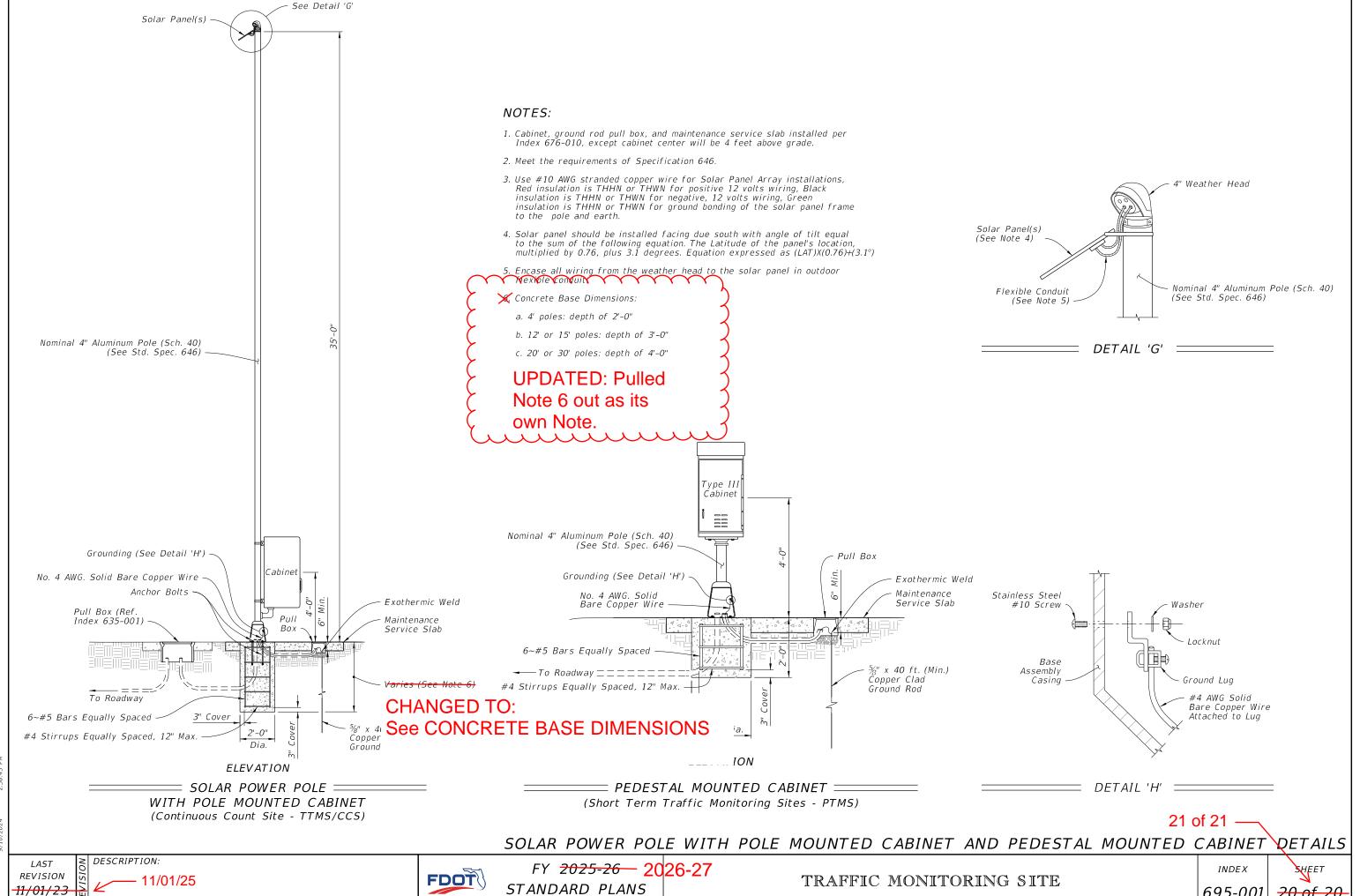
20 of 21 —

NON-INTRUSIVE VEHICLE SENSOR

LAST REVISION 11/01/23 4 11/01/25

FDOT

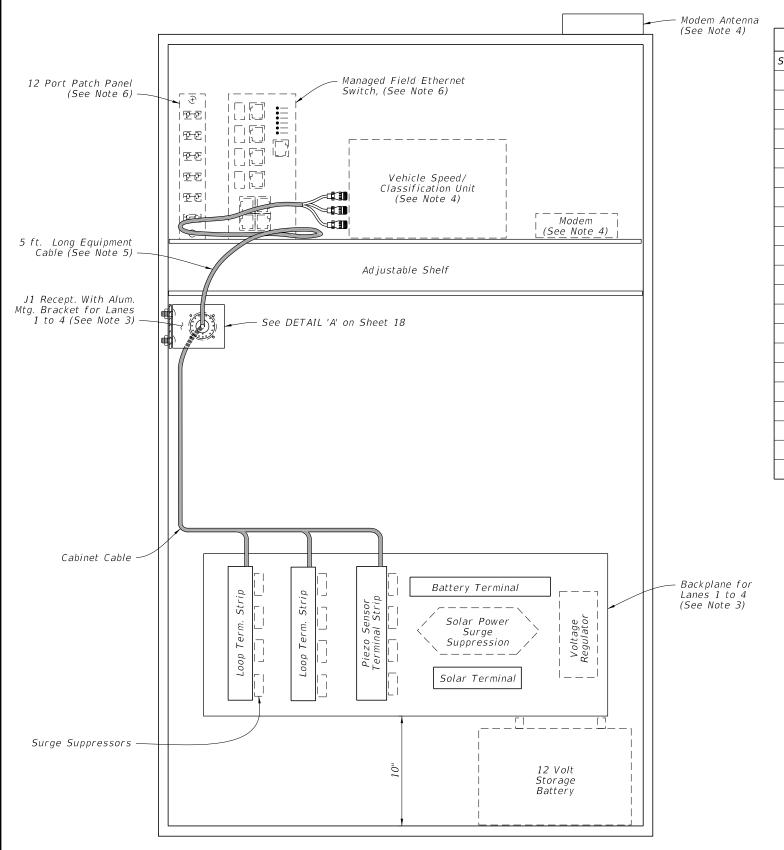
FY 2025-26 STANDARD PLANS



FDOT

STANDARD PLANS

695-001 20 of 20



| | TABLE OF CONTENTS: | | |
|-------|---|--|--|
| Sheet | Description | | |
| 1 | Continuous Count Station Traffic Monitoring Site - TTMS/CCS - Cabinet Layout Details (Four Lanes or Less) | | |
| 2 | Continuous Count Station Traffic Monitoring Site - TTMS/CCS - Cabinet Layout Details (Five to Eight Lanes) | | |
| 3 | Continuous Count Station Traffic Monitoring site - TTMS/CCS - Cabinet Backplane Details | | |
| 4 | Continuous Count Station Traffic Monitoring Site - TTMS/CCS - Pinout Chart, Receptacle, and Plug Details | | |
| 5 | Continuous Count Station Traffic Monitoring Site - TTMS/CCS - Lane Layout for TMS Inductive Loop and Axle Sensors | | |
| 6 | Short Term Traffic Monitoring Site - PTMS - Cabinet Layout Details (Four Lanes or Less) | | |
| 7 | Short Term Traffic Monitoring Site - PTMS - Cabinet Layout Details (Five to Eight Lanes) | | |
| 8 | Short Term Traffic Monitoring Site - PTMS - Lane Layout for PTMS Inductive Loop and Axle Sensors | | |
| 9 | Weigh-In-Motion Monitoring Site - Cabinet Layout Details | | |
| 10 | Weigh-In-Motion Monitoring Site - Cabinet Backplane Details | | |
| 11 | Weigh-In-Motion Monitoring Site - Lane Layout for TTMS/CCS Inductive Loop and Weigh-In-Motion Sensors | | |
| 12 | Non-Motorized Monitoring Site - Cabinet Layout Details | | |
| 13 | Non-Motorized Monitoring Site - Cabinet Sideplane and Cabinet Backplane Details | | |
| 14 | Non-Motorized Monitoring Site - Regular Side Path Configurations | | |
| 15 | Non-Motorized Monitoring Site - Medium Shared Use Path Configurations | | |
| 16 | Non-Motorized Monitoring Site - Large Shared Use Path Configurations | | |
| 17 | Non-Motorized Monitoring Site - Extra Large Shared Use Path Configurations | | |
| 18 | Non-Motorized Monitoring Site - Paved Sidewalk Configuration | | |
| 19 | Details 'A' thru 'F' | | |
| 20 | Non-Intrusive Vehicle Sensor | | |
| 21 | Solar Power Pole With Pole Mounted Cabinet and Pedestal Mounted Cabinet Details | | |

- 1. Traffic monitoring site cabinet includes:
 - A. One adjustable shelf; (equipped as shown)
- B. One backplane assembly; (equipped as shown)
- C. One J1 receptacle with mounting bracket;
- D. One P1 equipment cable 5 ft. long (See Sheet 4);
- E. All associated wiring and wiring harnesses.
- 2. Basic backplane assembly consists of:
- A. Two inductive loop terminal strips; B. One piezo sensor terminal strip;
- C. One battery terminal strip;
- D. One solar panel terminal strip.
- 3. The contractor is responsible for contacting the TMS Manager at the Transportation Data and Analytics Office for lane number information and verification.
- 4. Provide and install a Speed/Classification Unit, Modem, and Antenna.
- 5. Cable ends must be fabricated to fit the vehicle speed/classification unit. See Sheet 4 for Pinout Charts, receptacle and plug details.
- 6. Provide and install a 12-fiber single mode cable, a 12-port patch panel, and a managed field ethernet switch.

CABINET LAYOUT DETAILS = (Four Lanes or Less)

CONTINUOUS COUNT STATION TRAFFIC MONITORING SITE - TTMS/CCS

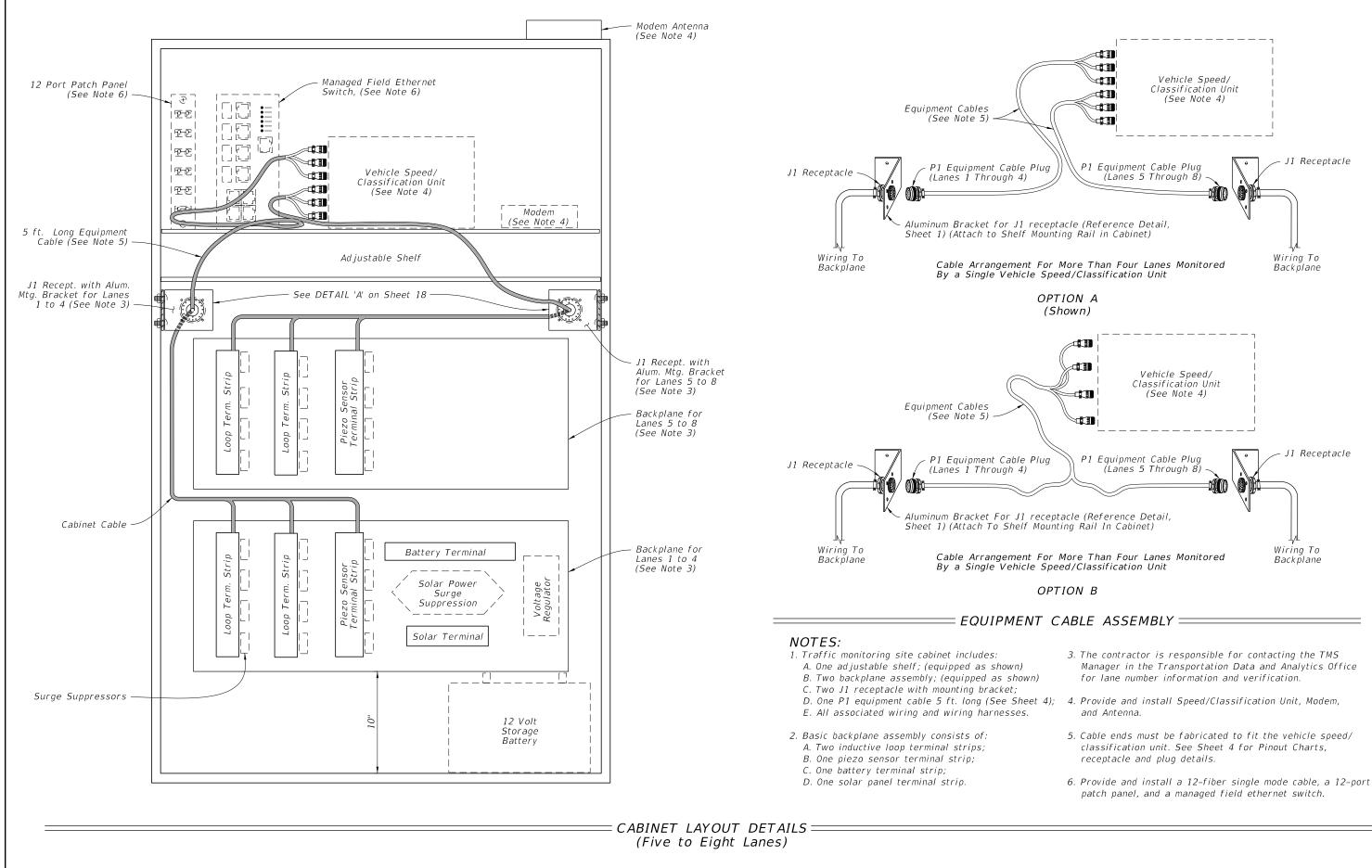
REVISION 11/01/25

DESCRIPTION:

FDOT

FY 2026-27 STANDARD PLANS

INDEX 695-001 SHEET



REVISION

11/01/25

DESCRIPTION:

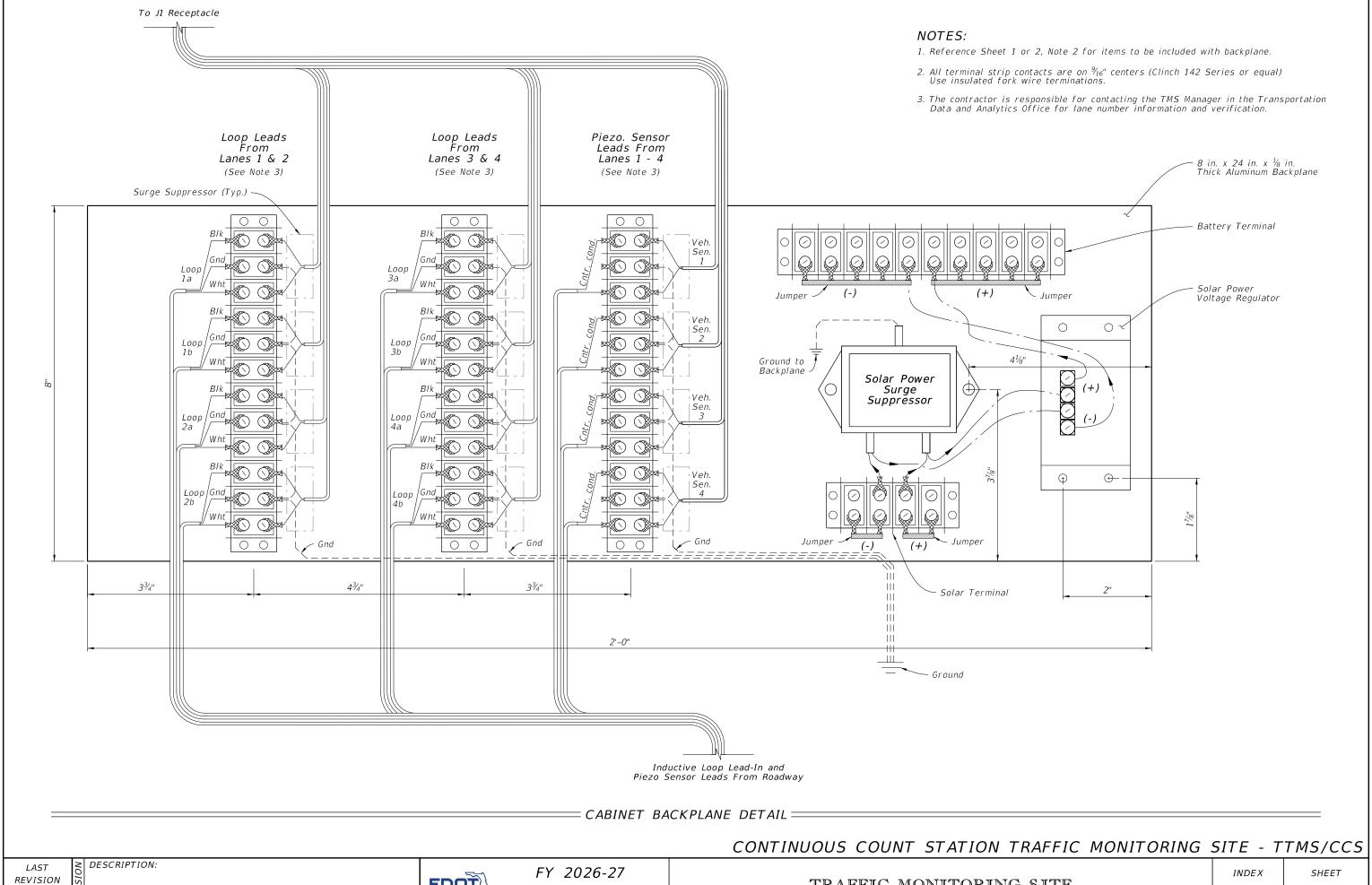
FY 2026-27 FDOT STANDARD PLANS CONTINUOUS COUNT STATION TRAFFIC MONITORING SITE - TTMS/CCS

TRAFFIC MONITORING SITE

INDEX

695-001

SHEET 2 of 21



11/01/25

FDOT

26 Recessed Male Pins Loop 1a (5a) white Loop 1a (5a) black

Loop 1b (5b) red

Loop 1b (5b) black Loop 2a (6a) green Loop 2a (6a) blue Loop 2b (6b) orange Loop 2b (6b) tan Loop 3a (7a) white

Loop 3a (7a) green

Loop 3b (7b) red

Loop 3b (7b) black

Loop 4a (8a) w/white

Loop 4a (8a) w/black

Loop 4b (8b) w/red

Loop 4b (8b) w/green

Piezo 1 (5) (+) w/blue

Piezo 1 (5) sh w/orange

Piezo 2 (6) (+) w/green

Piezo 2 (6) sh w/red

Piezo 3 (7) (+) w/black

Piezo 3 (7) sh w/red/blk

Piezo 4 (8) (+) red/ green

Piezo 4 (8) sh red/white

Gnd green

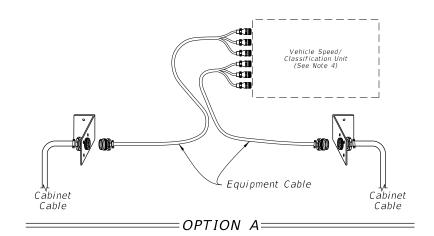
D

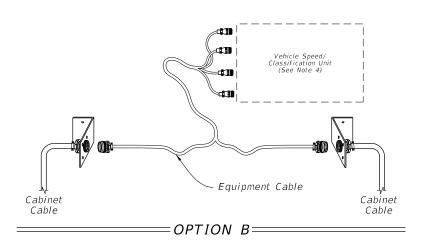
Aluminum Bracket for J1 Receptacle (Attach to Shelf Mounting Rail in Cabinet, See DETAIL 'A' on Sheet 18)

P1 Equipment Cable Plug (Amphenol 28-12 Plug with Female Pin Slots and MS Type Clamp, or Equal.)

Equipment Cables

| P1 | P1 EQUIPMENT CABLE PLUG | | |
|----|-------------------------|---------------------------|--|
| | 26 Female Pin Slots | | |
| А | Loop 1a (5a) | | |
| В | Loop 1a (5a) | | |
| С | Loop 1b (5b) |] | |
| D | Loop 1b (5b) | To Unit | |
| Ε | Loop 2a (6a) | ect ' | |
| F | Loop 2a (6a) | Connect To ectronics U | |
| G | Loop 2b (6b) | E/ϵ | |
| Н | Loop 2b (6b) | | |
| N | Gnd | | |
| J | Loop 3a (7a) | | |
| К | Loop 3b (7b) | | |
| L | Loop 3b (7b) |] | |
| М | Loop 3b (7b) | To Unit | |
| Р | Loop 4a (8a) | Connect To ctronics Un | |
| R | Loop 4a (8a) | Conn | |
| 5 | Loop 4b (8b) | Εle | |
| Τ | Loop 4b (8b) | | |
| d | Gnd | | |
| U | Piezo 1 (5) (+) | | |
| V | Piezo 1 sh | | |
| W | Piezo 2 (6) (+) | nit | |
| Χ | Piezo 2 sh | t To | |
| Υ | Piezo 3 (7) (+) | onnect T | |
| Z | Piezo 3 sh | Co E/ect | |
| а | Piezo 4 (8) (+) | | |
| b | Piezo 4 sh | | |





NOTES:

- 1. The contractor is responsible for contacting the TMS Manager in the Transportation Data and Analytics Office for lane number information and verification.
- 2. The equipment cable can accommodate up to four lanes of inductive loop and piezo sensor inputs. (See Sheet 1 for cabinet layout)
- 3. For more than four lanes and up to eight lanes of inputs, the following options are available:
- A. Second Vehicle Speed/Classification Unit and separate equipment cable connecting to a second J1 receptacle; or
- B. 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. (See Sheet 2 detail)
- 4. Numbers in parenthesis in the pinout chart identify lane numbers when a second backplane for lanes 5 through 8 is required.
- 5. Cable Ends must be fabricated to fit the vehicle Speed/Classification Unit.

PINOUT, RECEPTACLE, AND PLUG DETAILS =

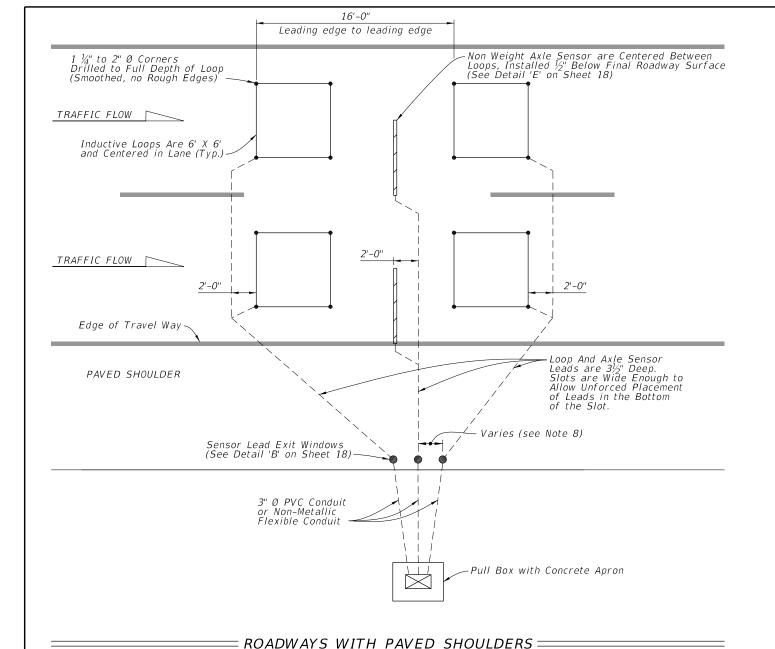
CONTINUOUS COUNT STATION TRAFFIC MONITORING SITE - TTMS/CCS

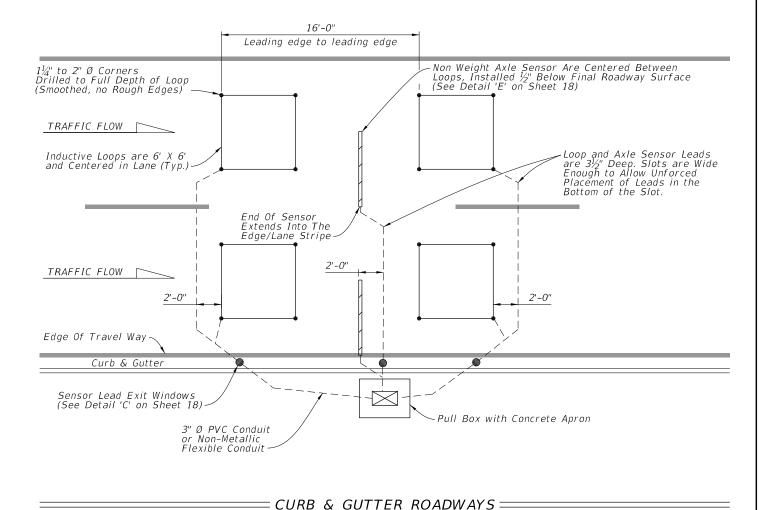
REVISION 11/01/25

FDOT

DESCRIPTION:

695-001 4 of 21





- 1. Install axle sensors and loops associated with axle sensors after placement of the friction course.
- 2. Cut a $3\frac{1}{2}$ " deep slot for the Inductive loops. Loop slots will be cut wide enough to allow unforced placement of the wire into the bottom of the slot. Place four turns of #14 AWG, place the IMSA 51-7 copper wire in the slot. Place short pieces of backer rod (2" to 3" in length) every 18" to 24" to hold the loop wire in the bottom of the slot and start wire twist at the beginning of the home run slot.
- 3. Twist loop leads at the rate of 8 to 16 twist per foot. Extend the twisted pair loop wire directly to the cabinet. No splicing of the loop leads will be permitted. Install a home run slot with a minimum width of %".
- 4. Marking will consist of two rounds of contrasting colored tape, one color for the lane number and the second color for the lead loop location in the lane. The first band closest to the cabinet will represent the lane number, one round of tape will be for lane 1 and two rounds will be lane 2, etc. The lead loop in lane one would have one round of tape and a second round of a contrasting colored tape for the lead loop in the lane. The trailing loop would not have a second contrasting colored band of tape.
- 5. See Index 635-001 for pull box and concrete apron details.
- 6. Use a chalk line or string and paint to layout the position of the sensor and lead-in cable slots. Ensure saw cuts do not deviate more than ½" from the chalk line. Use a single blade or ganged blade saw wide enough to cut the axle sensor slot at full width in a single pass. Cutting two slots and chipping out roadway material between them is not allowed.
- 7. All sensor slots and any cuts in the roadway will be thoroughly blown out to ensure there is no dust or debris prior to installation of sensors or leads.
- 8. Install Exit Windows at least 2' apart.

= LANE LAYOUT FOR TTMS/CCS INDUCTIVE LOOP AND AXLE SENSORS = (Typical for up to 4 Lanes of Sensor Leads Pulled to one Side of the Roadway)

CONTINUOUS COUNT STATION TRAFFIC MONITORING SITE - TTMS/CCS

REVISION 11/01/25

DESCRIPTION:

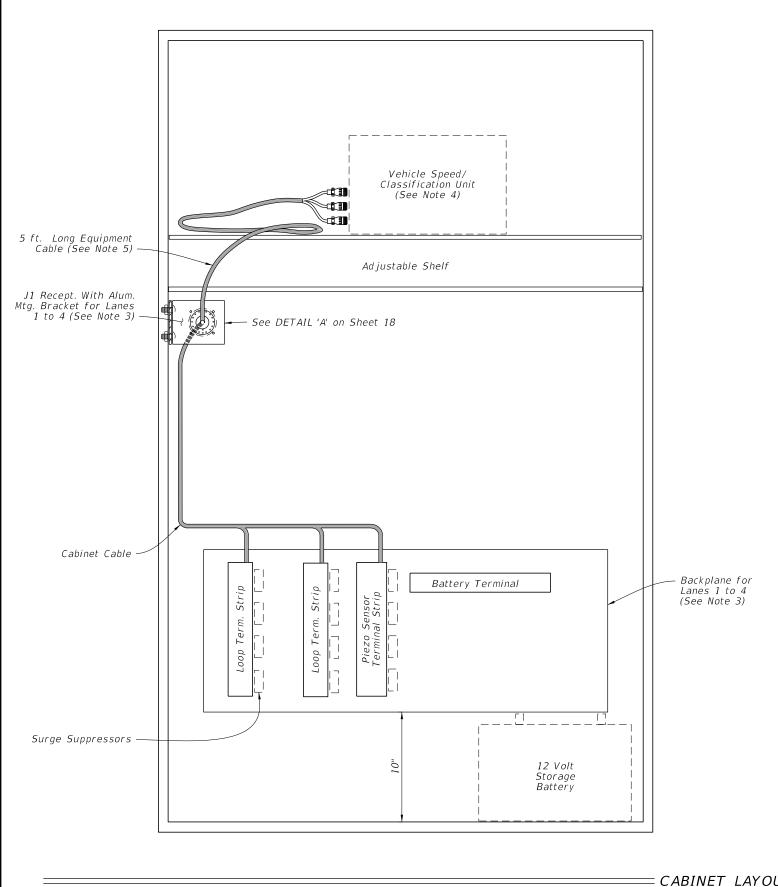
FDOT

FY 2026-27 STANDARD PLANS

TRAFFIC MONITORING SITE

INDEX

SHEET 5 of 21



- 1. Traffic monitoring site cabinet includes:
- A. One adjustable shelf; (equipped as shown)
- B. One backplane assembly; (equipped as shown)
- C. One J1 receptacle with mounting bracket;
- D. One P1 equipment cable 5 ft. long (See Sheet 4);
- E. All associated wiring and wiring harnesses.
- 2. Basic backplane assembly consists of: A. Two inductive loop terminal strips;
- B. One piezo sensor terminal strip;
- C. One battery terminal strip.
- 3. The contractor is responsible for contacting the District Data Collection Coordinator for lane numbering.
- 4. Proved and install a Speed/Classification Unit.
- 5. Cable ends must be fabricated to fit the vehicle speed/ classification unit. See Sheet 4 for Pinout Charts, receptacle and plug details.

CABINET LAYOUT DETAILS = (Four Lanes or Less)

SHORT TERM TRAFFIC MONITORING SITE - PTMS

REVISION 11/01/25

DESCRIPTION:

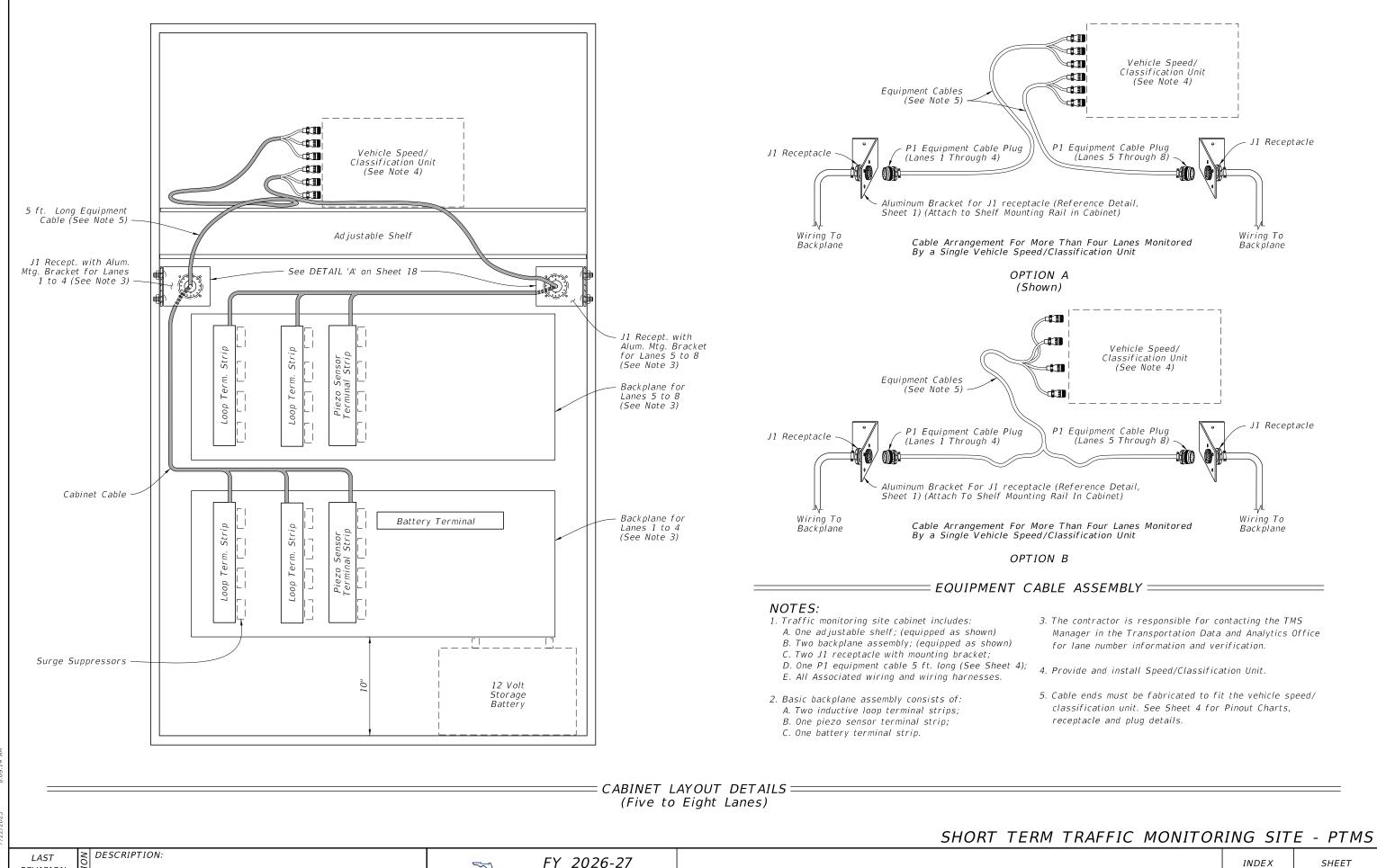
FDOT

FY 2026-27 STANDARD PLANS

INDEX

SHEET

TRAFFIC MONITORING SITE



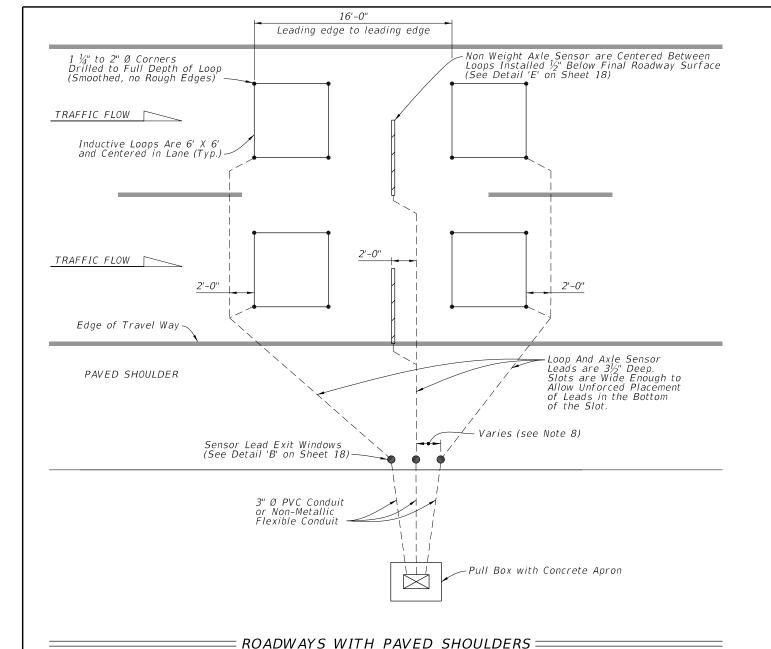
7/22/2025

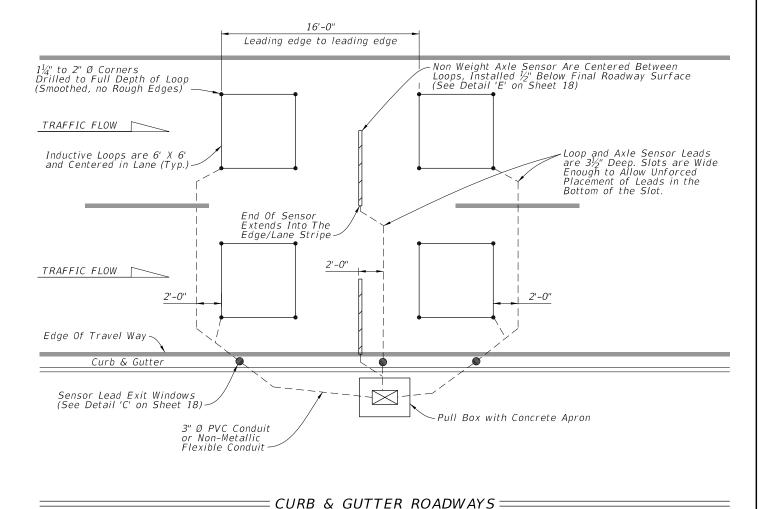
LAST REVISION 11/01/25

FDOT

INDEX

7 of 21





- 1. Install axle sensors and loops associated with axle sensors after placement of the friction course.
- 2. Cut a $3\frac{1}{2}$ " deep slot for the Inductive loops. Loop slots will be cut wide enough to allow unforced placement of the wire into the bottom of the slot. Place short pieces of backer rod (2" to 3" in length) every 18" to 24" to hold the loop wire in the bottom of the slot and start wire twist at the beginning of the home run slot.
- 3. Twist loop leads at the rate of 8 to 16 twists per foot. Extend the twisted pair loop wire directly to the cabinet. No splicing of the loop leads will be permitted. Install a home run slot with a minimum width of %".
- 4. Marking will consist of two rounds of contrasting colored tape, one color for the lane number and the second color for the lead loop location in the lane. The first band closest to the cabinet will represent the lane number, one round of tape will be for lane 1 and two rounds will be lane 2, etc. The lead loop in lane one would have one round of tape and a second round of a contrasting colored tape for the lead loop in the lane. The trailing loop would not have a second contrasting colored band of tape.
- 5. See Index 635-001 for pull box and concrete apron details.
- 6. Use a chalk line or string and paint to layout the position of the sensor and lead-in cable slots. Ensure saw cuts do not deviate more than ½" from the chalk line. Use a single blade or ganged blade saw wide enough to cut the axle sensor slot at full width in a single pass. Cutting two slots and chipping out roadway material between them is not allowed.
- 7. All sensor slots and any cuts in the roadway will be thoroughly blown out to ensure there is no dust or debris prior to installation of sensors or leads.
- 8. Install Exit Windows at least 2' apart.

______ LANE LAYOUT FOR PTMS INDUCTIVE LOOP AND AXLE SENSORS _____ (Typical for up to 4 Lanes of Sensor Leads Pulled to one Side of the Roadway)

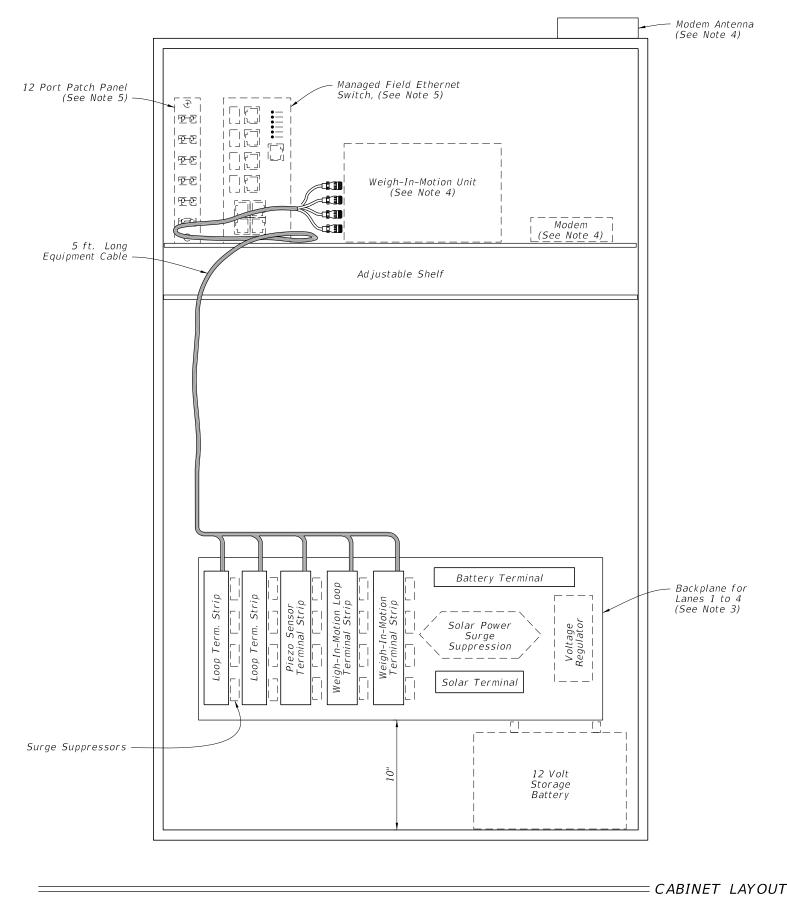
SHORT TERM TRAFFIC MONITORING SITE - PTMS

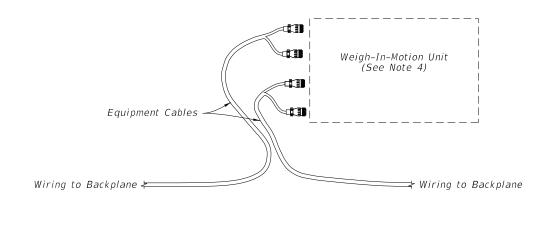
LAST REVISION 11/01/25

DESCRIPTION:

FDOT

FY 2026-27 STANDARD PLANS





= EQUIPMENT CABLE ASSEMBLY ===

NOTES:

- 1. Traffic monitoring site cabinet includes:
 - A. One adjustable shelf; (equipped as shown)
 - B. One backplane assembly; (equipped as shown)
 - C. All associated wiring and wiring harnesses.
- 2. Basic backplane assembly consists of:
- A. Two inductive loop terminal strips;
- B. One piezo sensor terminal strip; C. Two weigh-in-motion terminal strips;
- D. One battery terminal strip;
- E. One solar panel terminal strip.
- 3. The contractor is responsible for contacting the TMS Manager at the Transportation Data and Analytics Office for lane number information and verification.
- 4. Provide and install a Weigh-In-Motion Unit, Modem, and Antenna.
- 5. Provide and install a 12-fiber single mode cable, a 12-port patch panel, and a managed field ethernet switch.

CABINET LAYOUT DETAILS =

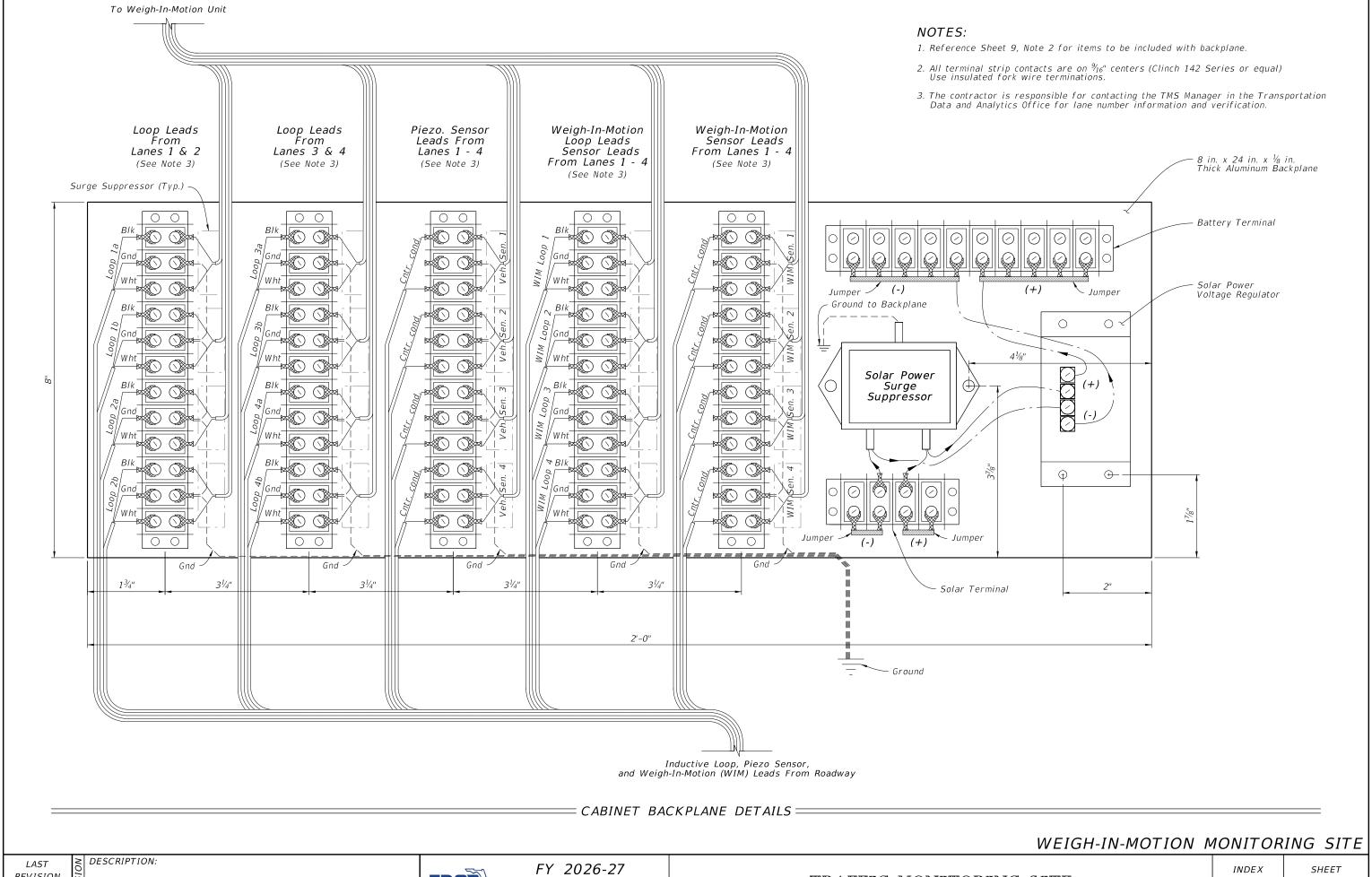
WEIGH-IN-MOTION MONITORING SITE

REVISION 11/01/25 DESCRIPTION:

FDOT

FY 2026-27 STANDARD PLANS

SHEET

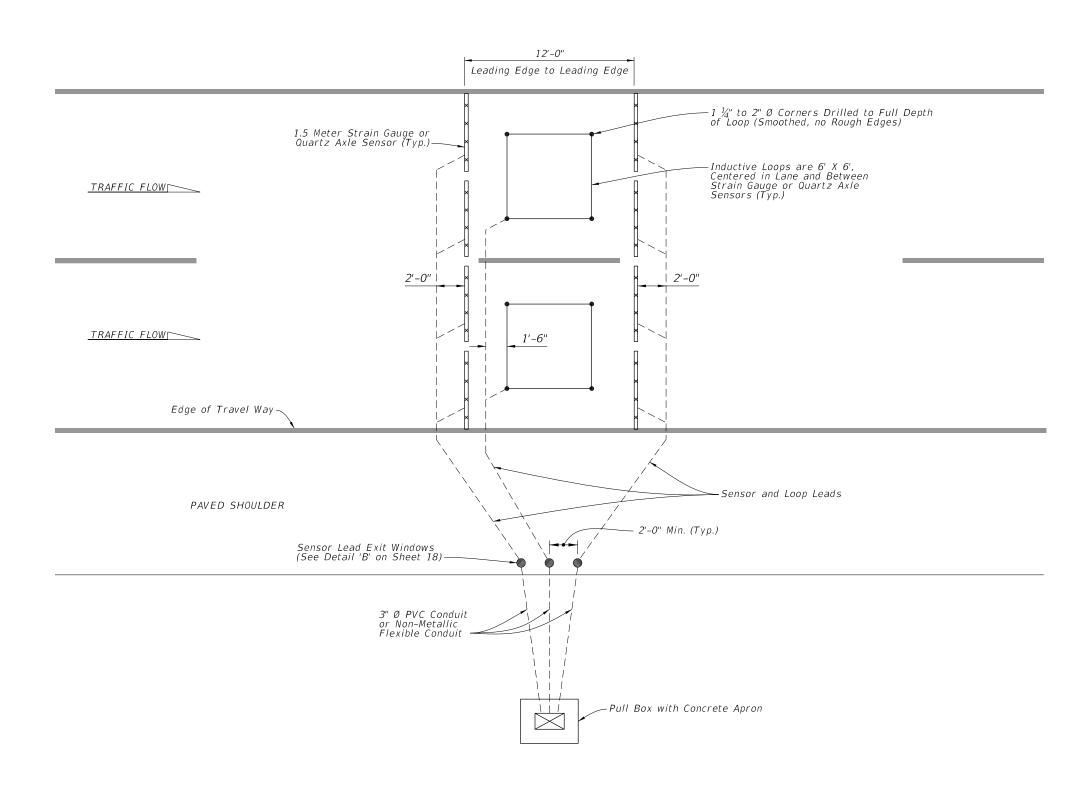


REVISION 11/01/25

FDOT

- 1. Install axle sensors and loops associated with axle sensors after placement of the friction course.
- 2. Cut a $3\frac{1}{2}$ " deep slot for the Inductive loops. Loop slots will be cut wide enough to allow unforced placement of the wire into the bottom of the slot. Place four turns of #14 AWG IMSA 51-7 copper wire in the slot. Place short pieces of backer rod (2" to 3" in length) every 18" to 24" to hold the loop wire in the bottom of the slot.
- 3. Twist loop leads at the rate of 8 to 16 twists per foot. Extend the twisted pair loop wire directly to the cabinet. No splicing of the loop leads will be permitted.
- 4. Marking will consist of two rounds of contrasting colored tape, one color for the lane number and the second color for the lead loop location in the lane. The first band closest to the cabinet will represent the lane number, one round of tape will be for lane 1 and two rounds will be lane 2, etc. The lead loop in lane one would have one round of tape and a second round of a contrasting colored tape for the lead loop in the lane. The trailing loop would not have a second contrasting colored band of tape.
- 5. See Index 635-001 for pull box and concrete apron details.
- 6. Use a chalk line or string and paint to layout the position of the sensor and lead-in cable slots. Ensure saw cuts do not deviate more than $\frac{1}{2}$ " from the chalk line. Install the sensor according to manufacturer's recommendations.
- 7. All sensor slots and any cuts in the roadway will be thoroughly blown out to ensure there is no dust or debris prior to installation of sensors or leads.
- 8. Install Exit Windows at least 2' apart.

DESCRIPTION:

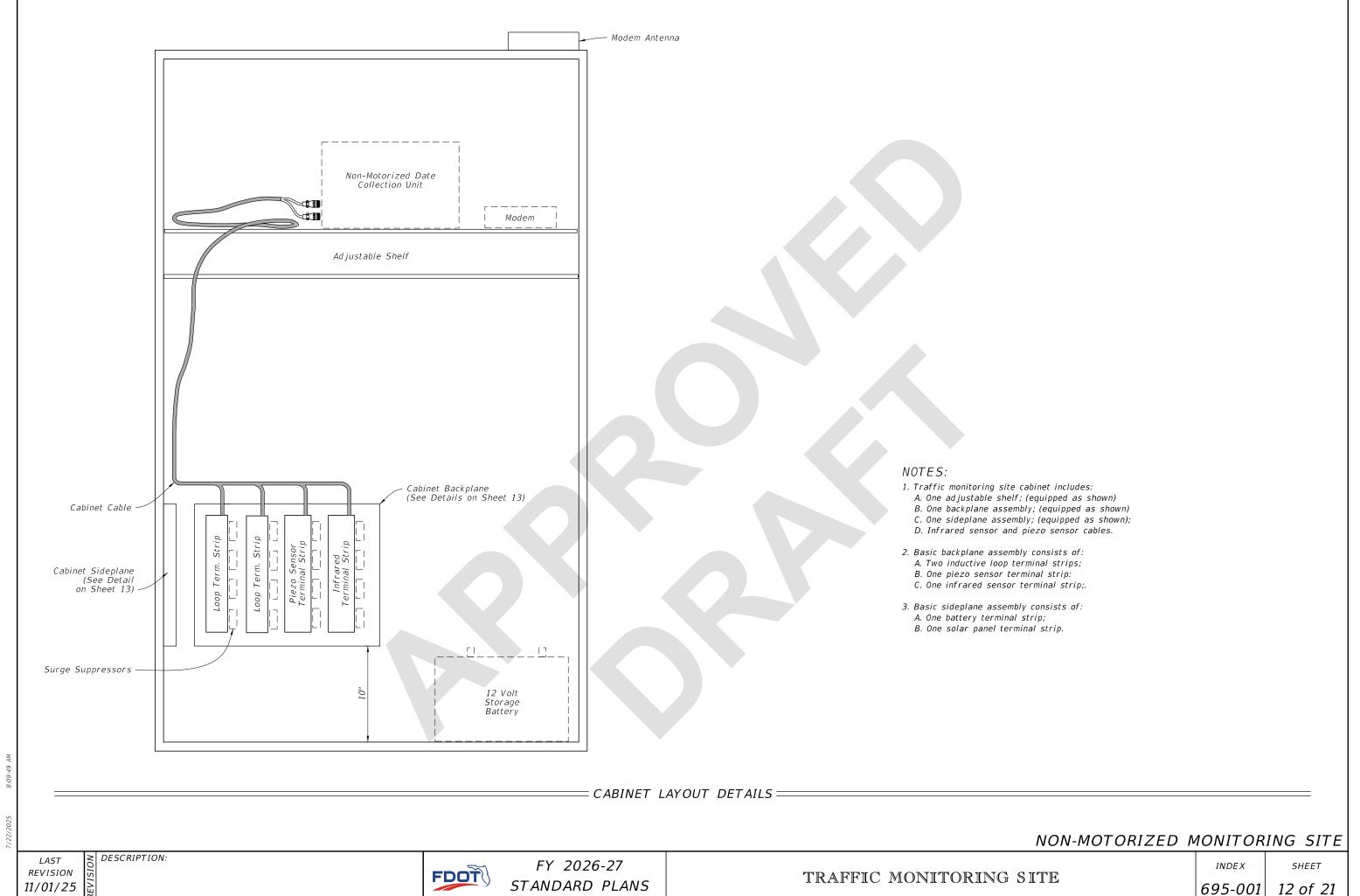


= LANE LAYOUT FOR TTMS/CCS INDUCTIVE LOOP AND WEIGH-IN-MOTION SENSORS =

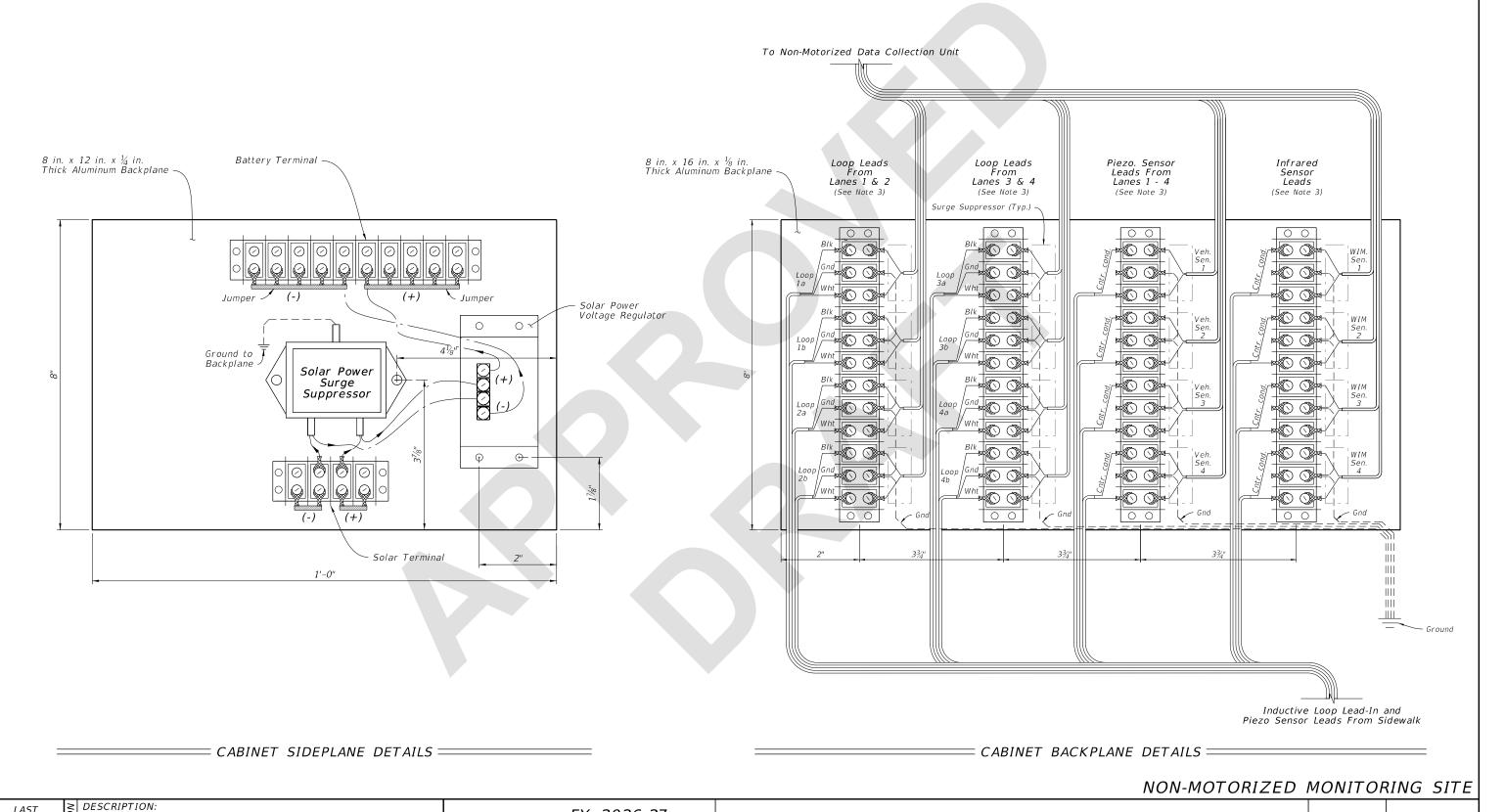
WEIGH-IN-MOTION MONITORING SITE

REVISION 11/01/25

FDOT



- 1. Reference Sheet 12, Note 2 for items to be included with backplane.
- 2. All terminal strip contacts are on $\frac{9}{16}$ " centers (Clinch 142 Series or equal) Use insulated fork wire terminations.
- 3. The contractor is responsible for contacting the TMS Manager in the Transportation Data and Analytics Office for lane number information and verification.



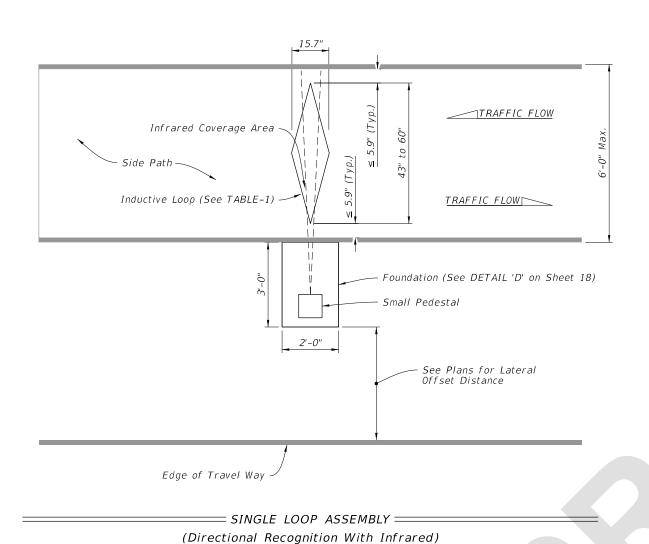
REVISION 11/01/25

FDOT

FY 2026-27 STANDARD PLANS

INDEX

SHEET





1. Use a chalk line or string and paint to layout the position of the sensor and lead-in cable slots. Ensure saw cuts do not deviate more than 0.5 inches from the chalk line. Use a single blade or ganged blade saw wide enough to cut the axle sensor at full width in a single pass. Cutting two slots and chipping out roadway material between them is not allowed.

- 2. Cut a $\frac{1}{4}$ " to $\frac{1}{2}$ " wide slot.
- 3. All sensor slots and any cuts in the pathway will be thoroughly blown out to ensure there is no dust or debris prior to installation of the loops and leads.
- 4. Place eight turns of loop wire in each slot.
- 5. Twist loop leads at the rate of 10 twists per foot.
- 6. Extend the twisted pair loop wire directly to the termination point with no splices.
- 7. For the side-by-side configuration, install the farthest loop lead through the near side loop slot.
- 8. At the termination point, for north-south pathways, mark the north piezometer and inductive loop sensor lead(s) with one tape. For east-west pathways, mark the east piezometer and inductive loop sensor lead(s) with one tape. Mark the south and west sensor lead(s) with two tapes.
- 9. Do not point infrared sensors towards a path where motor vehicles pass, a metallic or reflective surface, surfaces exposed to sunlight or vegetation that are likely to move.
- 10. Avoid placing infrared sensors near heat sources, steep surfaces, high voltage power cables, and telecommunications equipment.
- 11. If crossing pavement joints see DETAIL "F" on Sheet 18.

| 15.7" 15.7" 15.7" | |
|---|---|
| | TRAFFIC FLOW O'. Max. |
| Side Path Inductive Loop (See TABLE-1) | TRAFFIC FLOW |
| 2'-0" | — Foundation (See DETAIL 'D' on Sheet 18) — Small Pedestal |
| | See Plans for Lateral Offset Distance |
| Edge of Travel Way DUAL LOOP ASSEMBL | |

(Directional Recognition Without Infrared)

| TABLE - 1 | | |
|----------------|---------------------|--|
| Lane Width | Loop Length | |
| 43.3" | 39.4" to 43.3" | |
| 47.2" | 43.3" to 47.2" | |
| 51.2" | 47.2" to 51.2" | |
| 55.1" | 51.2" to 55.1" | |
| 59" | 55.1" to 59.1" | |
| 63" to 70.9" | 59.1" | |
| 72.8" to 76.8" | Contact Manufacture | |

REGULAR SIDE PATH CONFIGURATIONS:

NON-MOTORIZED MONITORING SITE

LAST REVISION 11/01/25

DESCRIPTION:

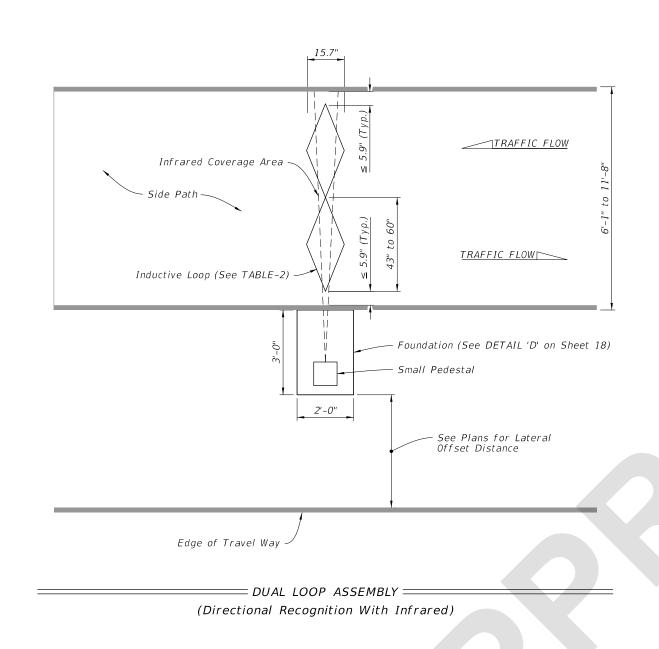
FDOT

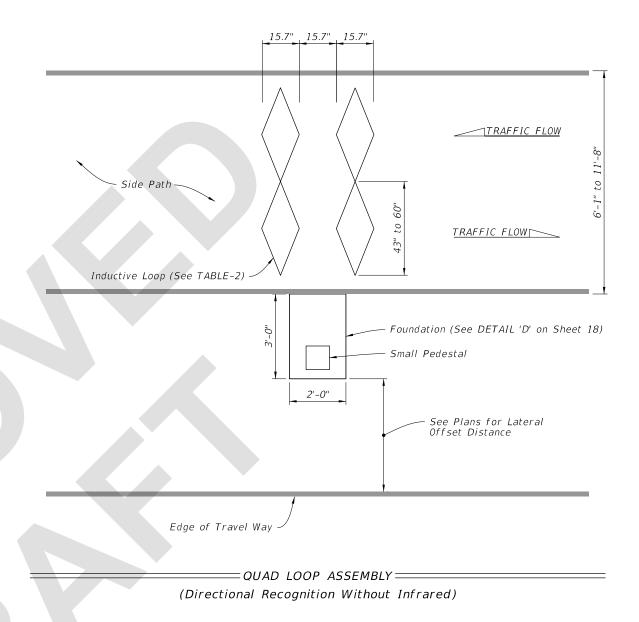
FY 2026-27 STANDARD PLANS

TRAFFIC MONITORING SITE

INDEX

SHEET





| TABLE - 2 | | |
|------------------|----------------------|--|
| Lane Width | Loop Length | |
| 78.7" to 82.7" | 39.4" | |
| 86.6" to 98.4" | 43.3" | |
| 102.7" to 106.3" | 47.2" | |
| 110.2" to 114.2" | 51.2" | |
| 118.1" to 122" | 55.1" | |
| 126" to 133.9" | 59.1" | |
| ≥133.9" | Contact Manufacturer | |

=MEDIUM SHARED USE PATH CONFIGURATIONS=

NON-MOTORIZED MONITORING SITE

≥ DESCRIPTION: REVISION 11/01/25

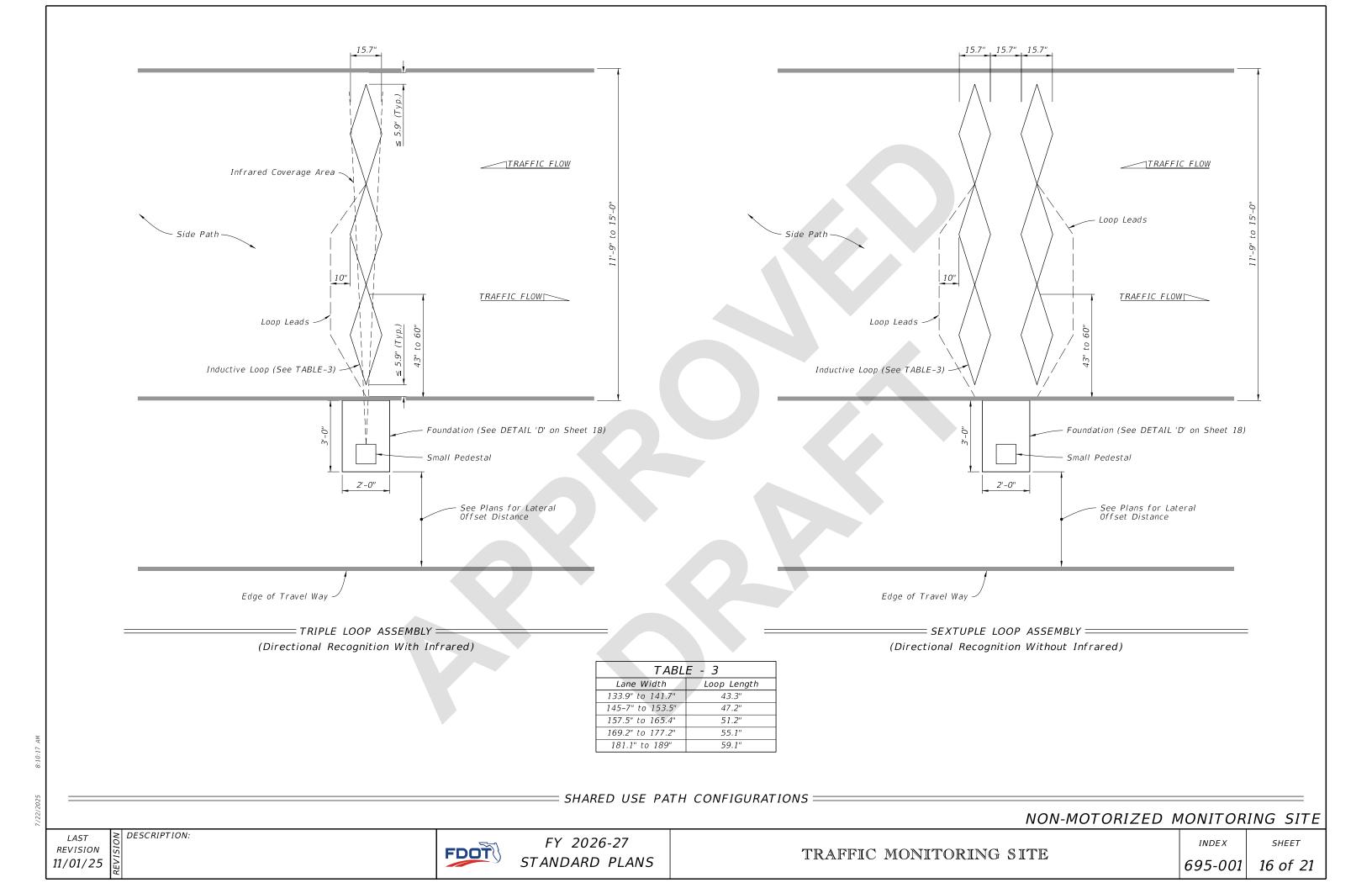
FDOT

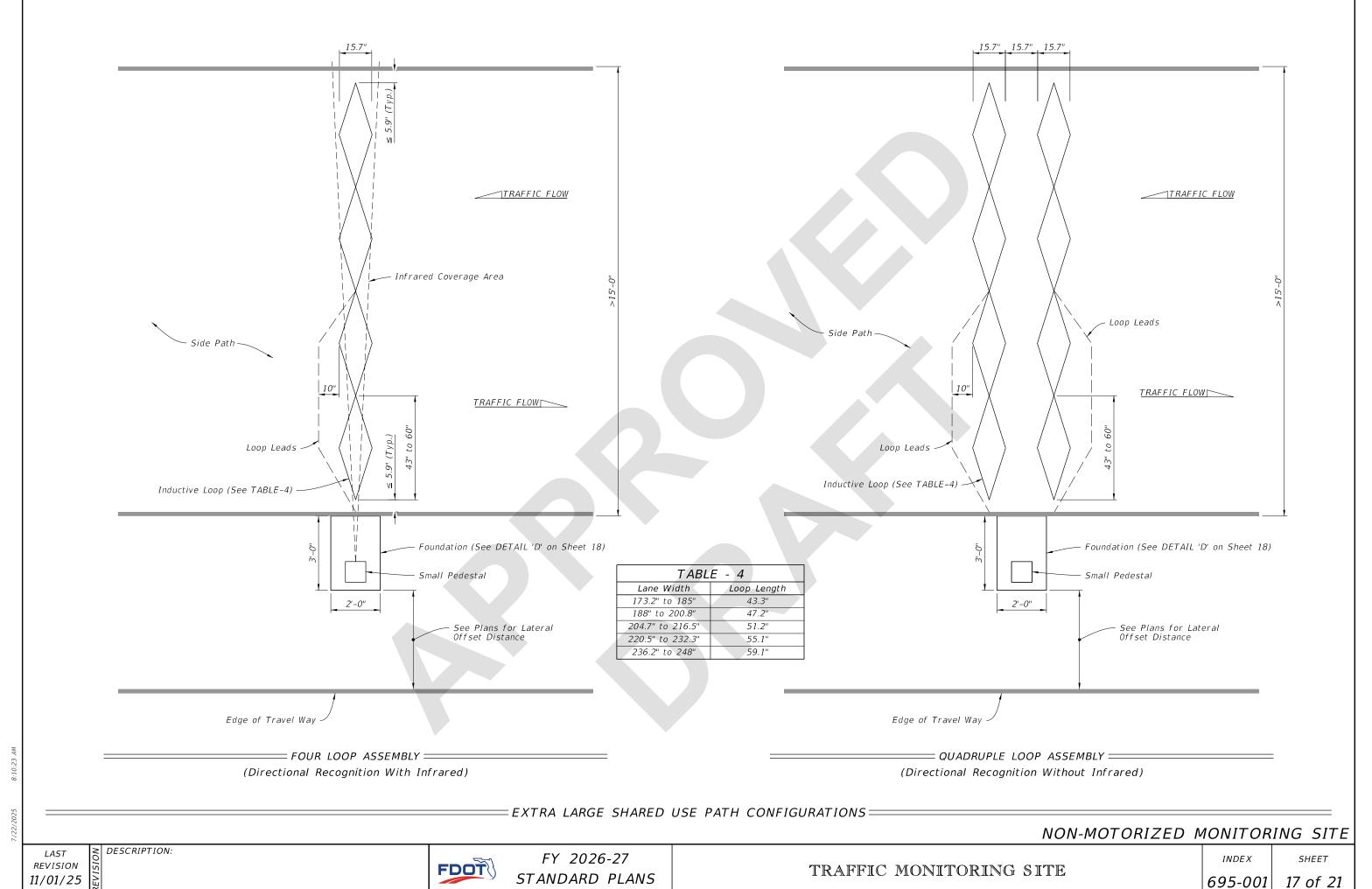
FY 2026-27 STANDARD PLANS

TRAFFIC MONITORING SITE

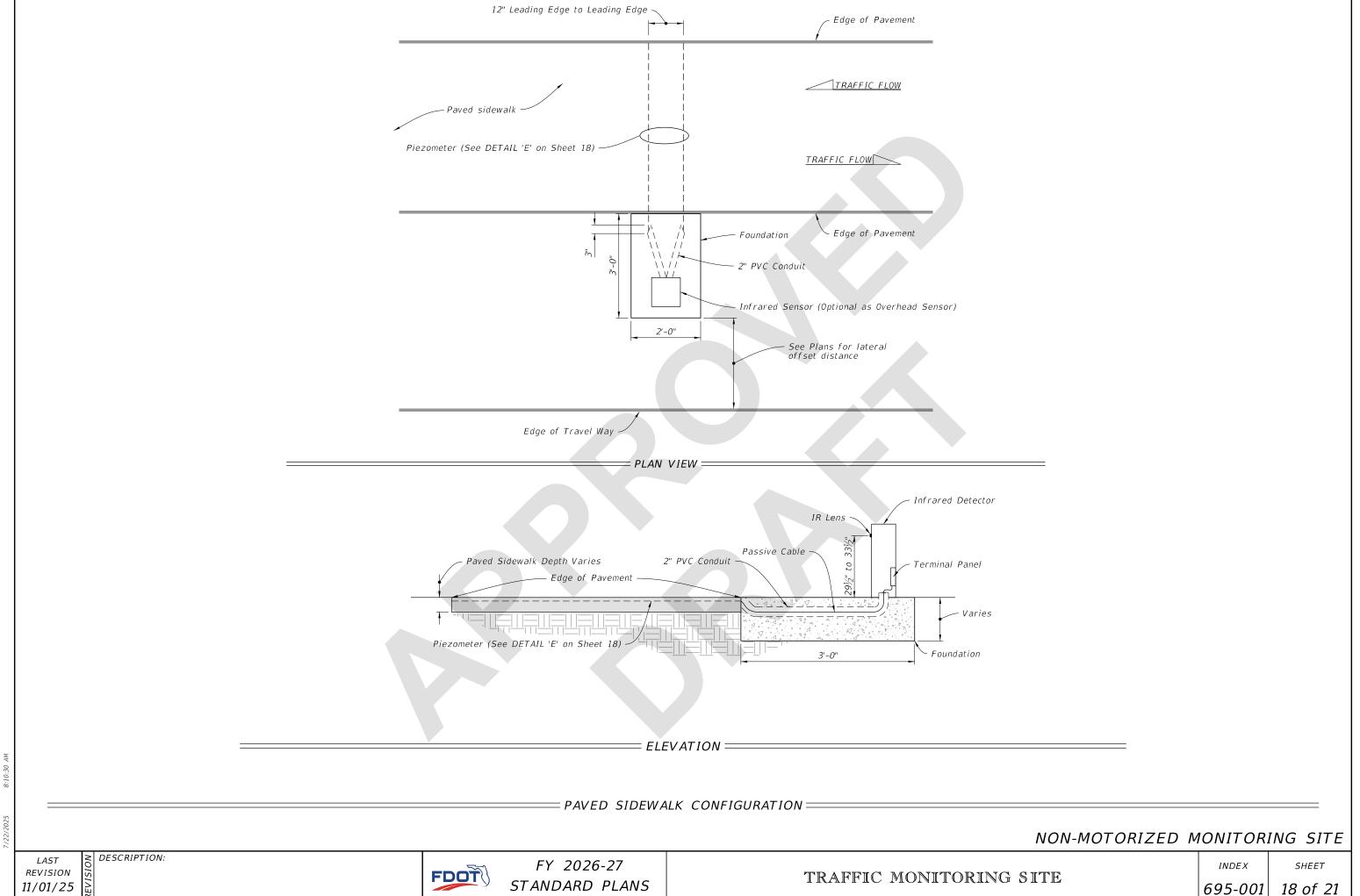
INDEX 695-001

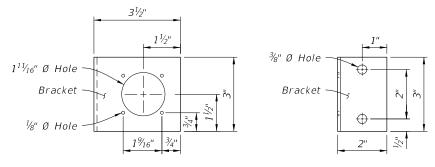
SHEET 15 of 21





STANDARD PLANS





FRONT VIEW

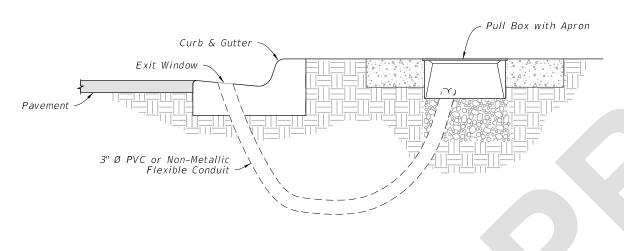
SIDE VIEW

ISOMETRIC VIEW

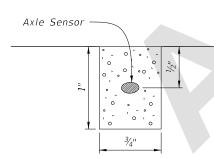
Fabricate bracket out of $\frac{3}{32}$ " - $\frac{1}{8}$ " inch thick aluminum. Dimensions may vary depending on the manufacturer of the J1 receptacle being furnished. The cabinet manufacturer will construct the mounting bracket to fit the receptacle.

J1 MOUNTING BRACKET

= DETAIL 'A" =

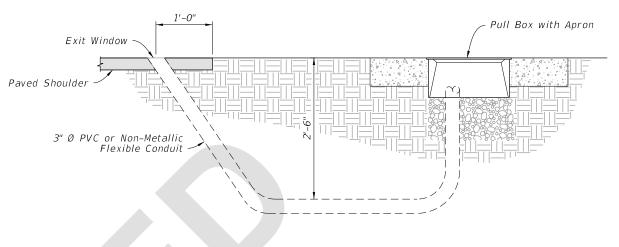


DETAIL 'C'=

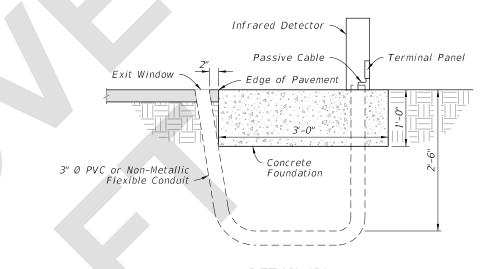


END VIEW (Axle Sensor Slot)

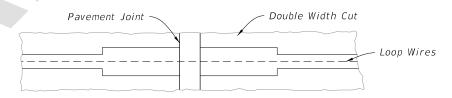
= *DETAIL 'E'* =



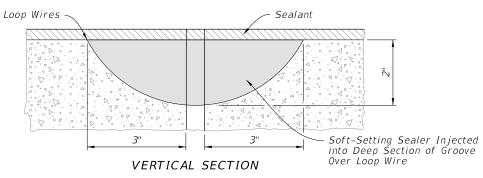
DETAIL 'B'



=DETAIL 'D'=



PLAN VIEW



= DETAIL 'F'

DETAILS 'A' THRU 'F'

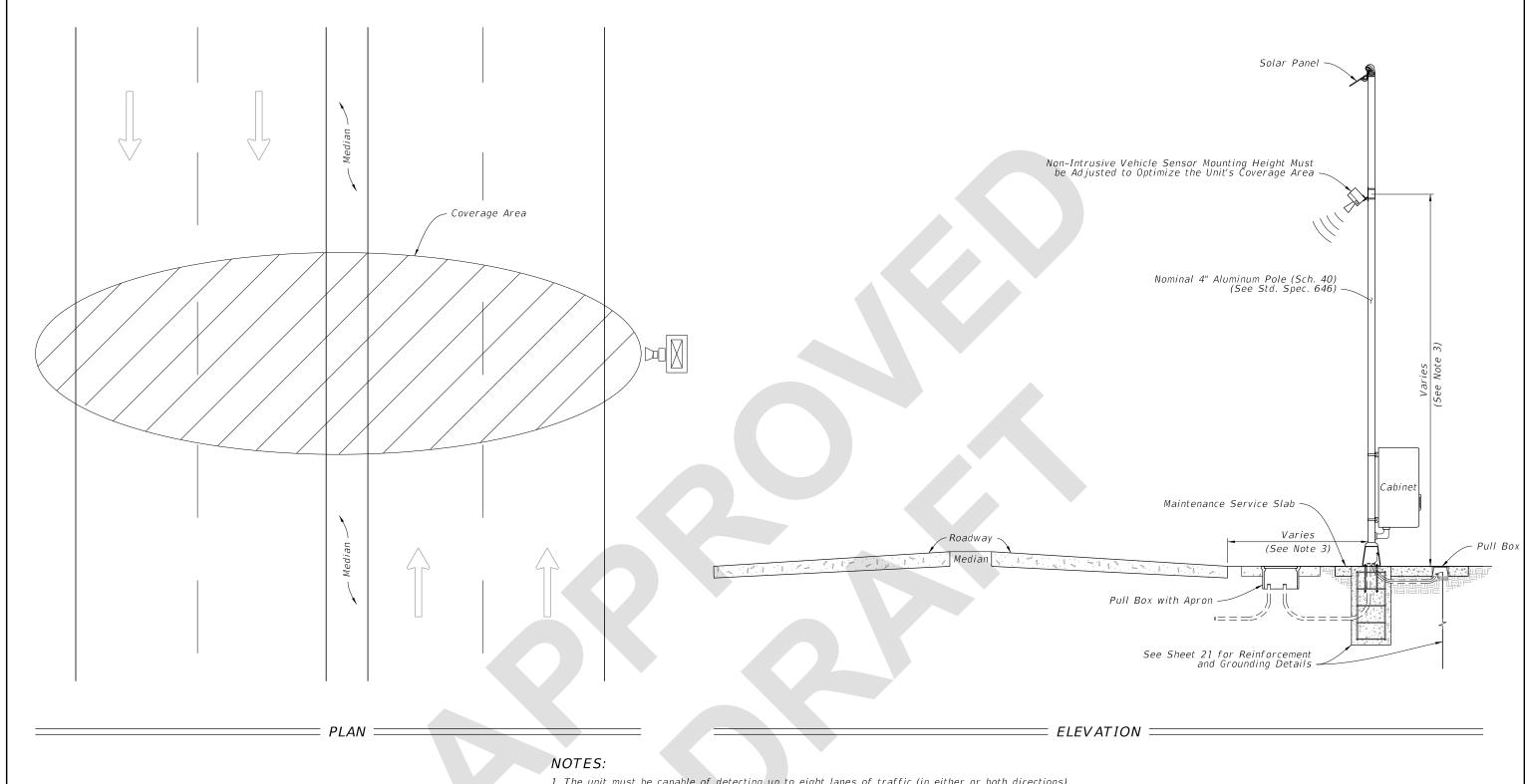
DESCRIPTION:

FDOT

FY 2026-27 STANDARD PLANS

SHEET

REVISION 11/01/25



- 1. The unit must be capable of detecting up to eight lanes of traffic (in either or both directions) when mounted perpendicular to the roadway.
- 2. Coverage area of the unit is affected by the roadway geometry: distance from the travel lanes, median type and width, barrier walls, etc.
- 3. 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.
- 4. Cabinet, ground rod pull box, and maintenance service slab installed per Index 676-010, except cabinet center will be 4 feet above grade.

NON-INTRUSIVE VEHICLE SENSOR

REVISION 11/01/25 DESCRIPTION:

FDOT

FY 2026-27 STANDARD PLANS

INDEX

SHEET

