

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 - Narrow Side Path Configuration			
15	Non-Motorized Monitoring Site - Large Shared Use Path Configurations			
16	Non-Motorized Monitoring Site - Extra Large Shared Use Path Configurations			
17	Non-Motorized Monitoring Site - Paved Sidewalk Configuration			
18	Details 'A' thru 'F'			
19	Non-Intrusive Vehicle Sensor			
20	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 11/01/23

DESCRIPTION:

FDOT

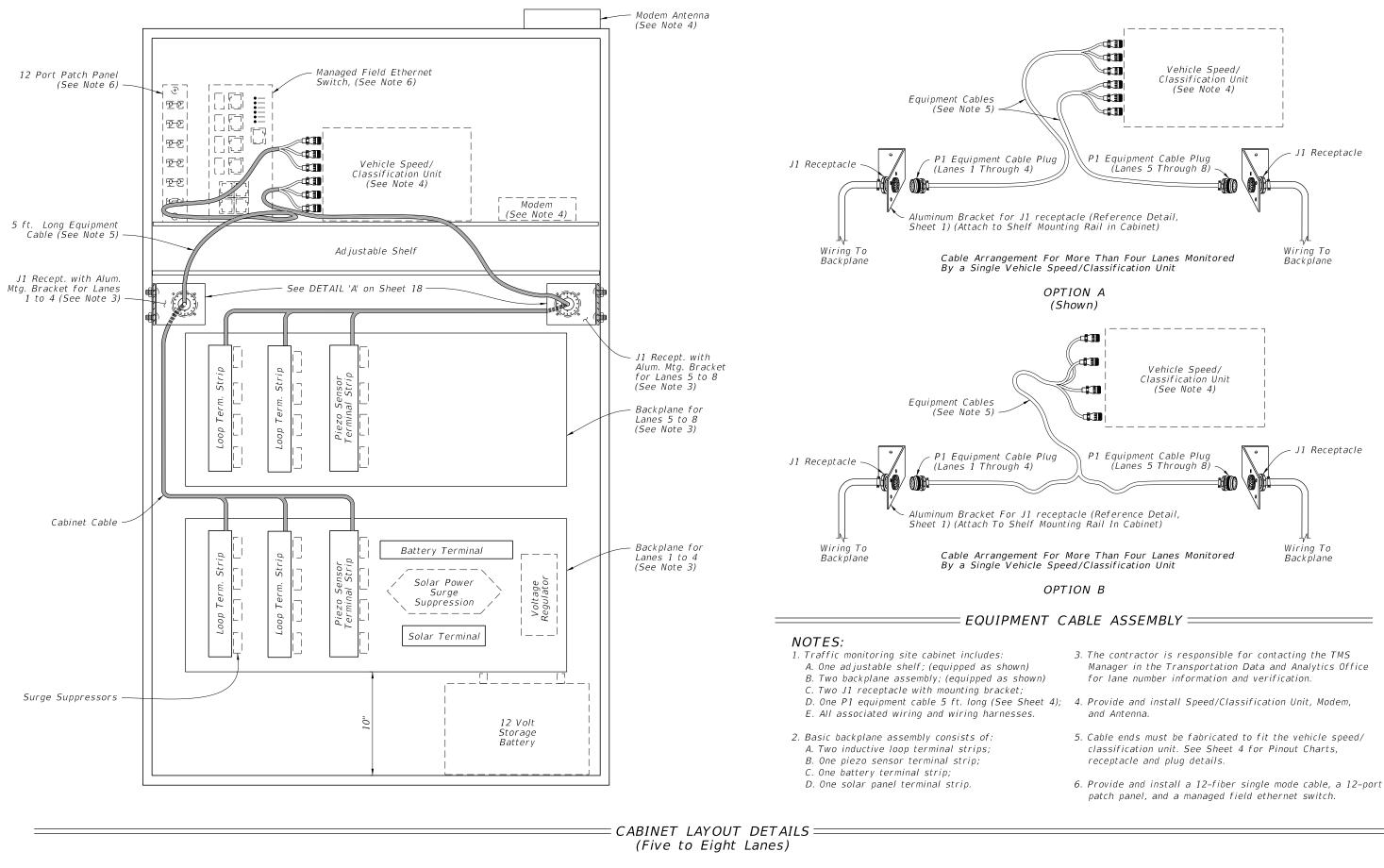
FY 2025-26 STANDARD PLANS

TRAFFIC MONITORING SITE

INDEX

SHEET

695-001 1 of 20



DESCRIPTION: REVISION 11/01/23

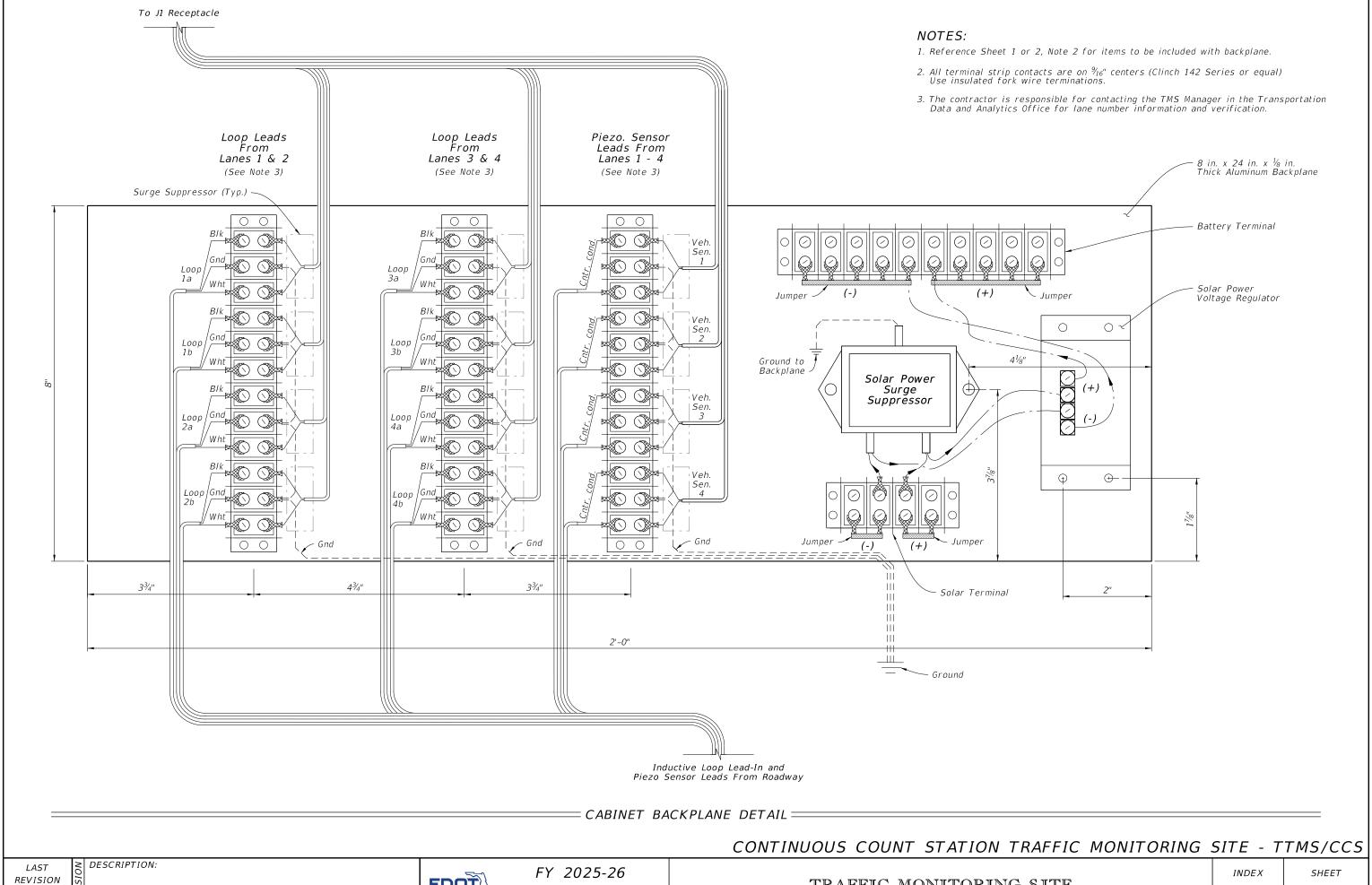
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FY 2025-26 STANDARD PLANS CONTINUOUS COUNT STATION TRAFFIC MONITORING SITE - TTMS/CCS

TRAFFIC MONITORING SITE

INDEX

SHEET



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 3 (7) (+) w/black

Piezo 3 (7) sh w/red/blk

Piezo 4 (8) (+) red/ green

Piezo 4 (8) sh red/white

Gnd green

Piezo 2 (6) sh w/red

D

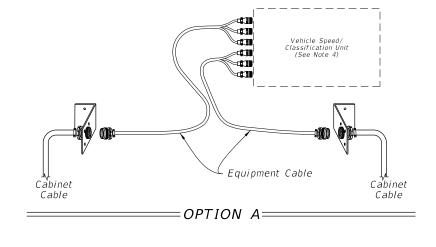
– Aluminum Bracket for J1 Receptacle (Attach to Shelf Mounting Rail in Cabinet, See DETAIL 'A' on Sheet 18)

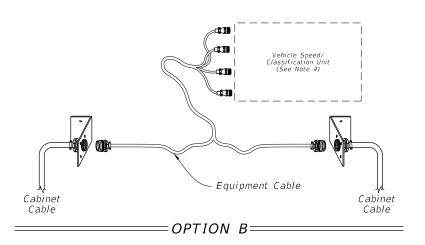
> P1 Equipment Cable Plug (Amphenol 28-12 Plug with Female Pin Slots and MS Type Clamp, or Equal.)

Equipment Cables

P1 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 lectronics Uni
G	Loop 2b (6b)	ΕΙθ
Н	Loop 2b (6b)	
Ν	Gnd	
J	Loop 3a (7a)	
Κ	Loop 3b (7b)	
L	Loop 3b (7b)]
М	Loop 3b (7b)	Connect To Tectronics Unit
Р	Loop 4a (8a)	ect '
R	Loop 4a (8a)	Conn
S	Loop 4b (8b)	E/e
T	Loop 4b (8b)	
d	Gnd	
U	Piezo 1 (5) (+)	
V	Piezo 1 sh	
W	Piezo 2 (6) (+)	nit
Х	Piezo 2 sh	T0





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

LAST REVISION 11/01/23

DESCRIPTION:

FDOT

FY 2025-26 STANDARD PLANS

Piezo 3 (7) (+)

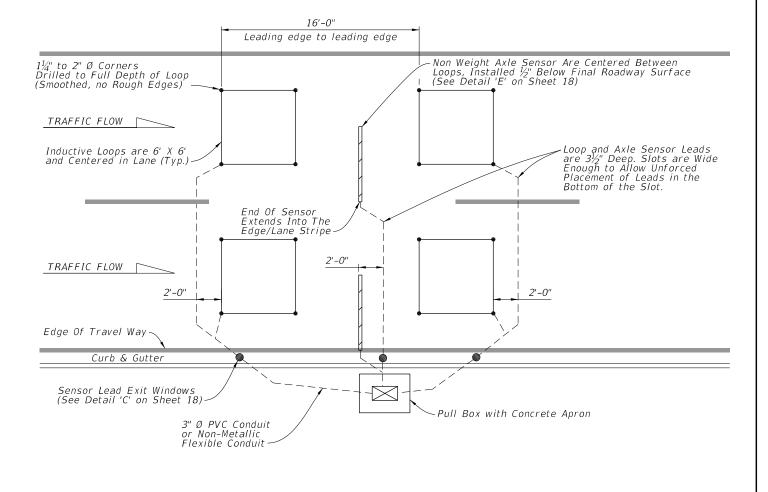
Piezo 4 (8) (+)

Piezo 3 sh

Piezo 4 sh

9/10/2024

01 4 of 20



CURB & GUTTER ROADWAYS

= ROADWAYS WITH PAVED SHOULDERS:

NOTES:

- 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. 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.
- 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.
- 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 11/01/23

DESCRIPTION:

FDOT

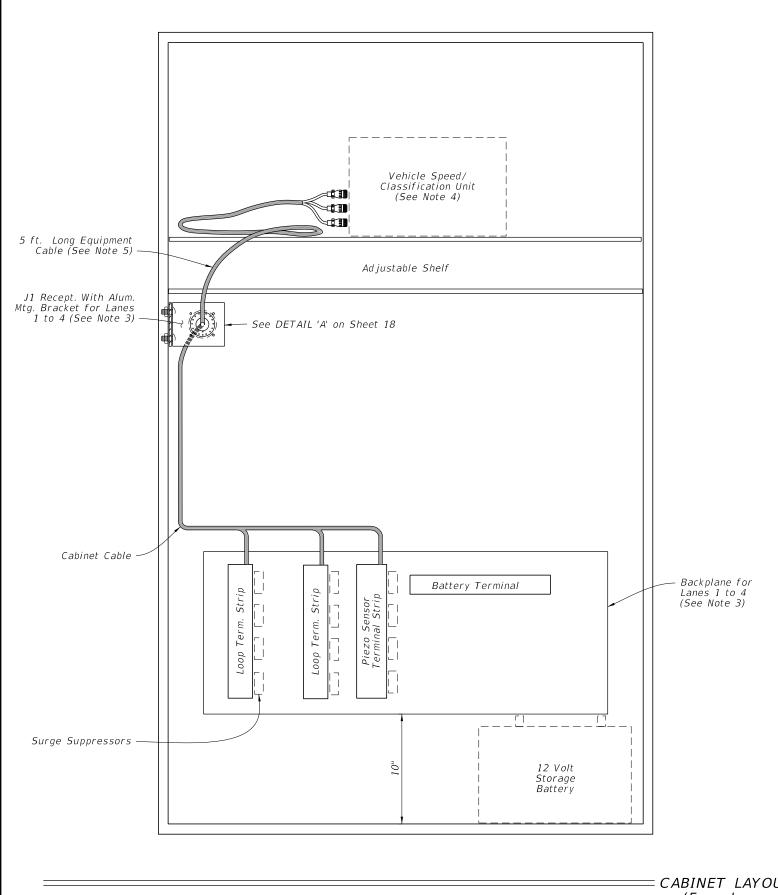
FY 2025-26 STANDARD PLANS

TRAFFIC MONITORING SITE

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.
- 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

LAST
REVISION
11/01/23

DESCRIPTION:

FDOT

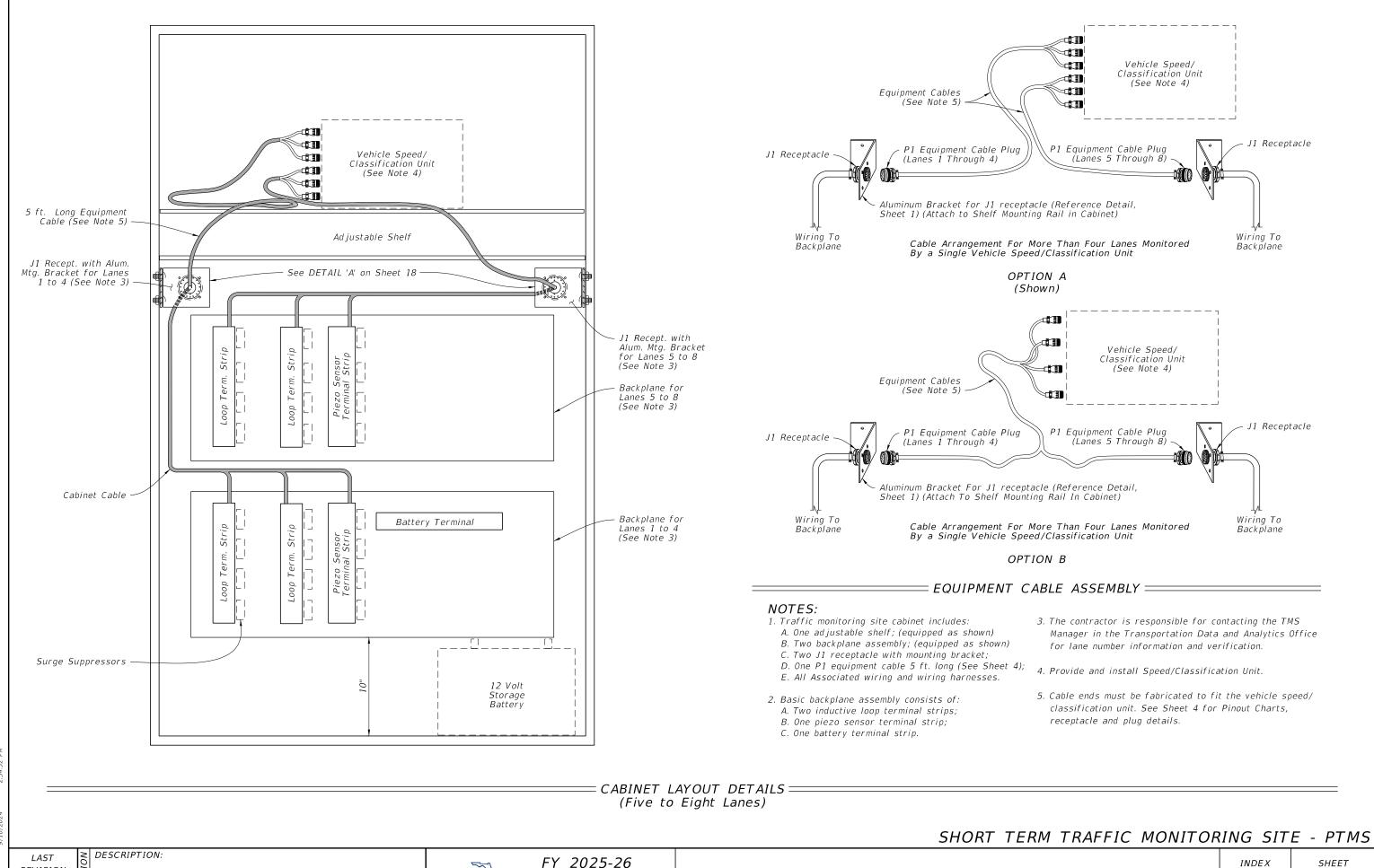
FY 2025-26 STANDARD PLANS

TRAFFIC MONITORING SITE

INDEX

SHEET

695-001 6 of 20



4

REVISION 15/11/01/23

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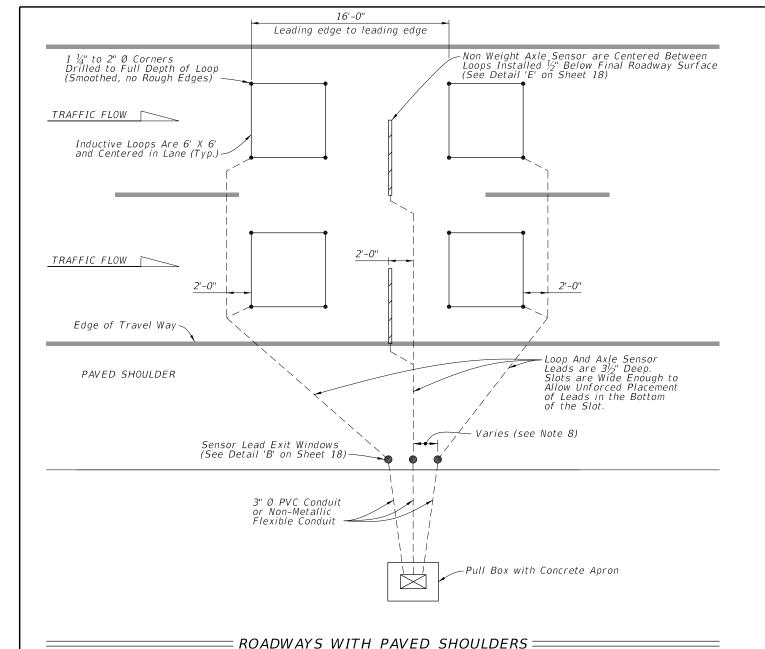
FY 2025-26 STANDARD PLANS

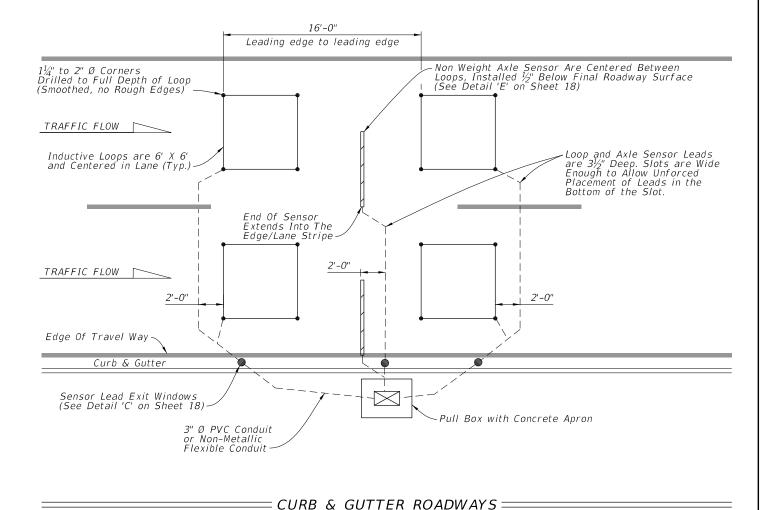
INDEX

TRAFFIC MONITORING SITE

7 of 20

695-001





- 1. Install axle sensors and loops associated with axle sensors after placement of the friction course.
- 2. Cut a 31/3" 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 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)

SHORT TERM TRAFFIC MONITORING SITE - PTMS

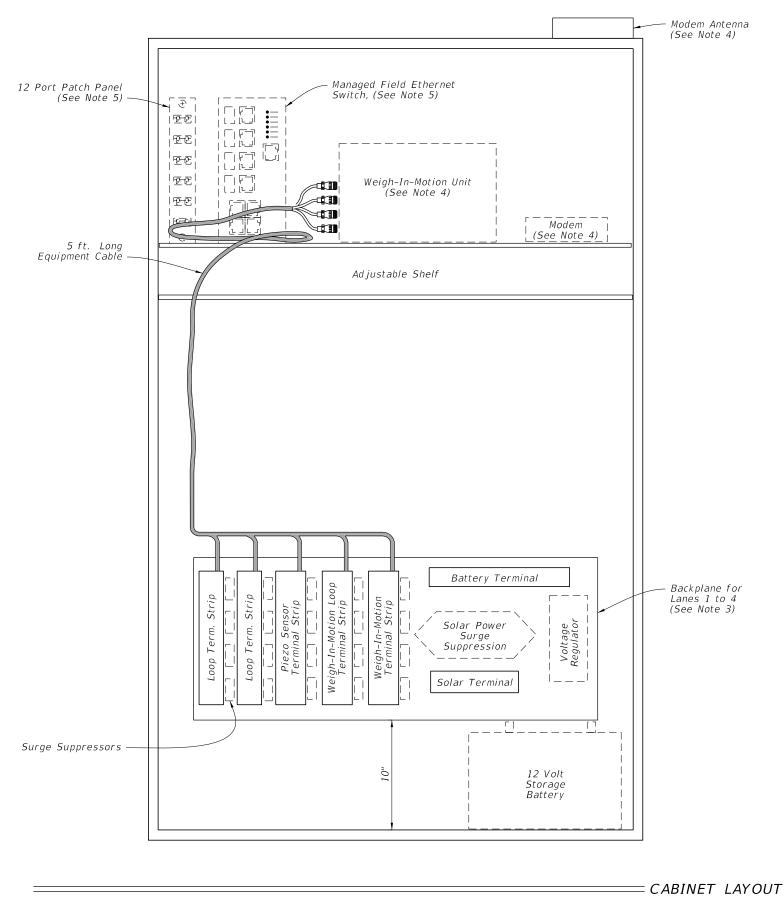
REVISION 11/01/23

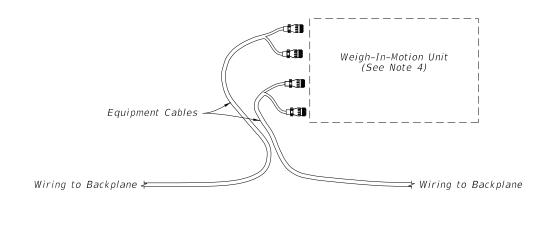
DESCRIPTION:

FY 2025-26 STANDARD PLANS

INDEX

SHEET





= 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.

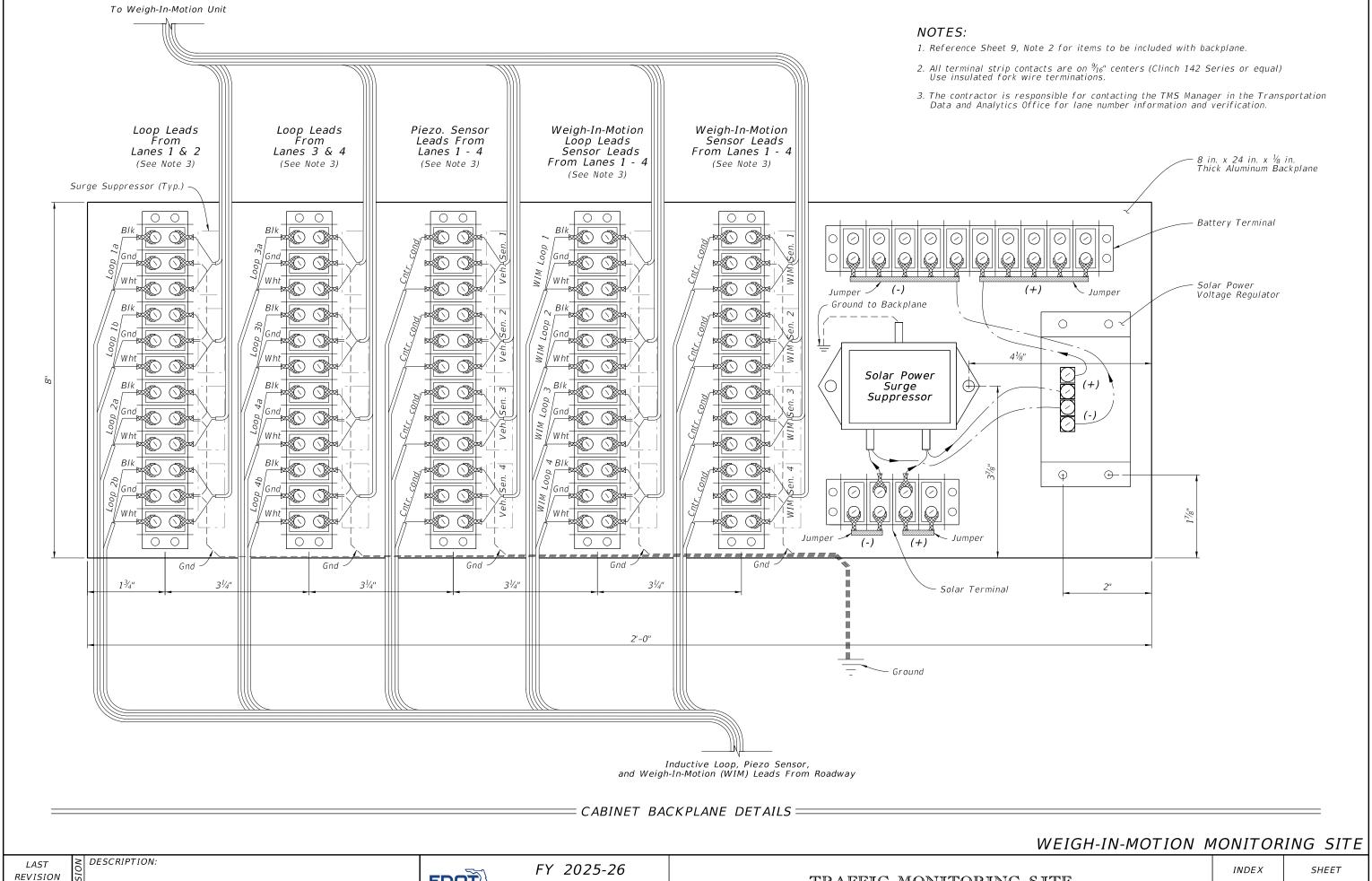
CABINET LAYOUT DETAILS =

WEIGH-IN-MOTION MONITORING SITE

REVISION 11/01/23 DESCRIPTION:

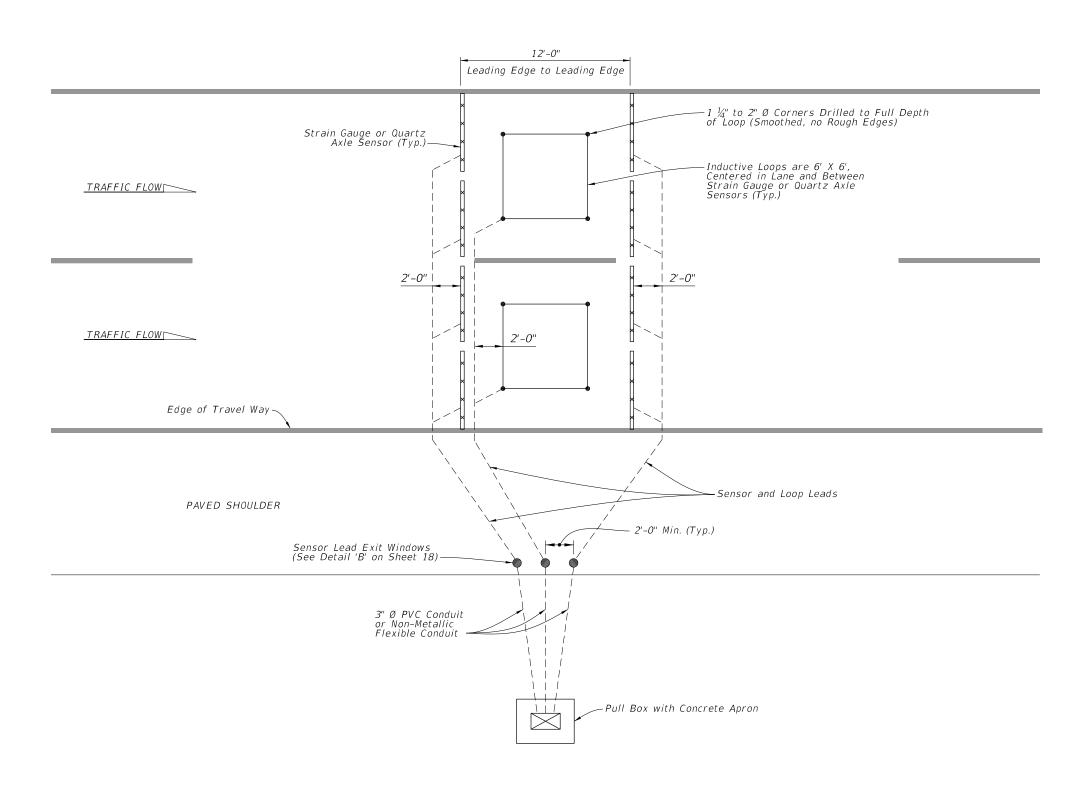
FDOT

FY 2025-26 STANDARD PLANS



- 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 ½" 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.

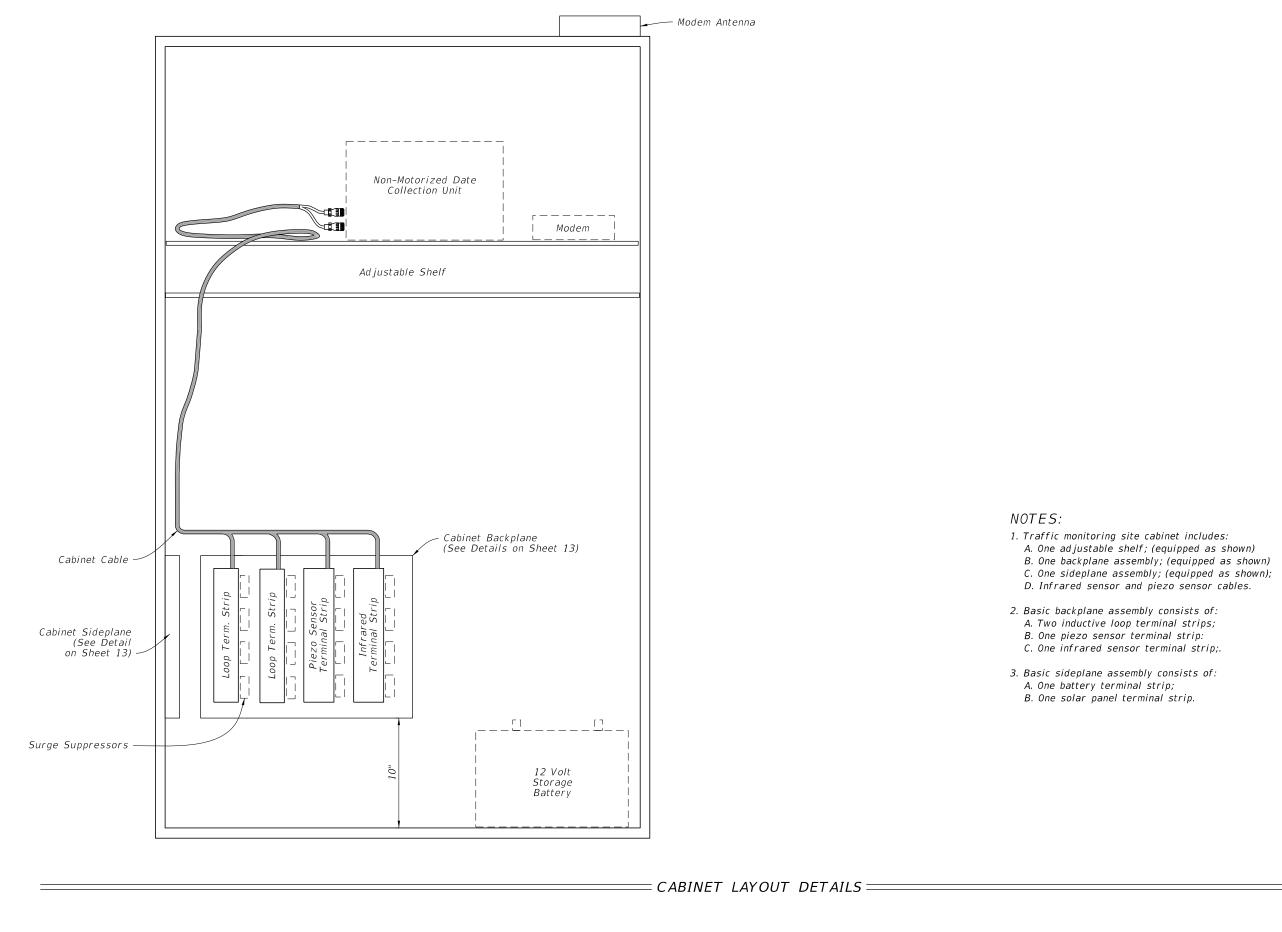
DESCRIPTION:



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

WEIGH-IN-MOTION MONITORING SITE

LAST REVISION 11/01/24



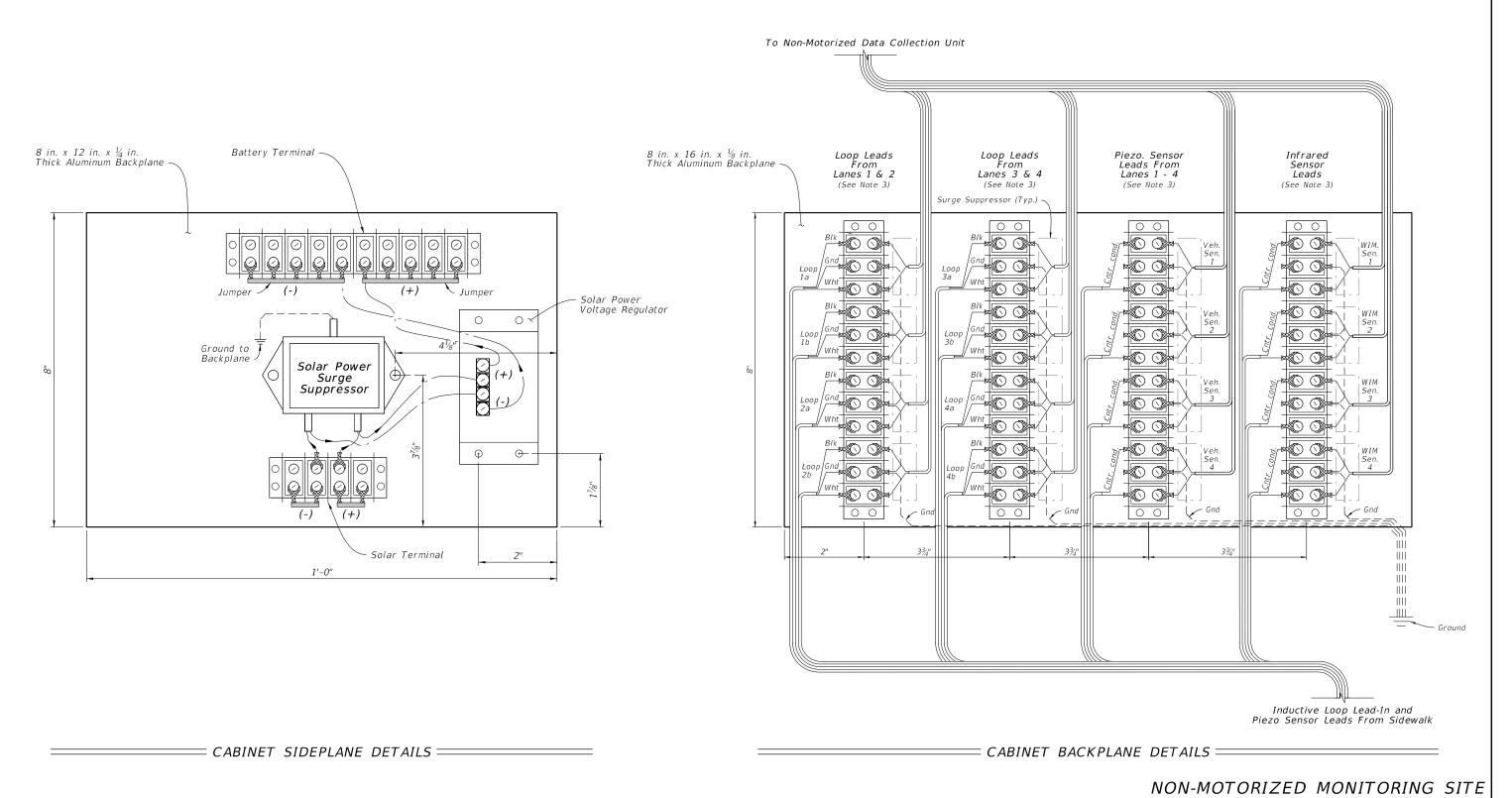
NON-MOTORIZED MONITORING SITE

REVISION 11/01/23 DESCRIPTION:

FDOT

FY 2025-26 STANDARD PLANS

- 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.



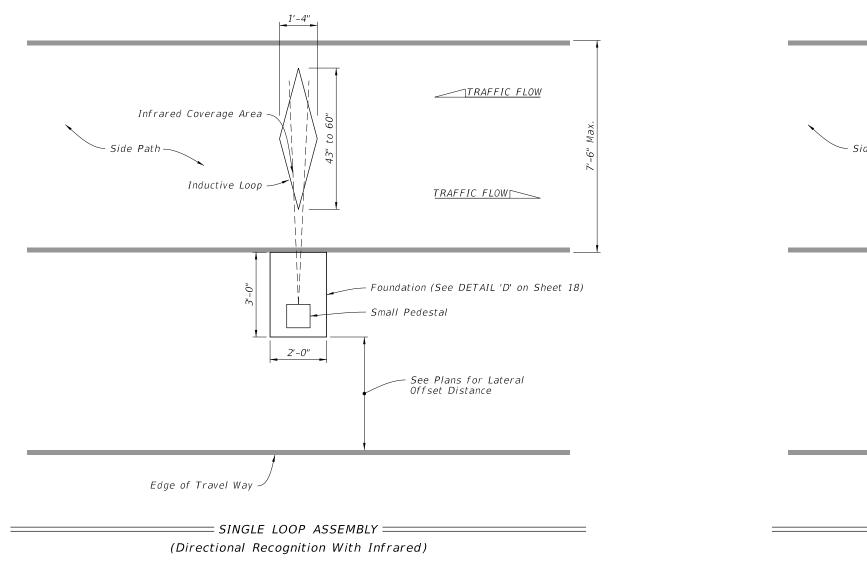
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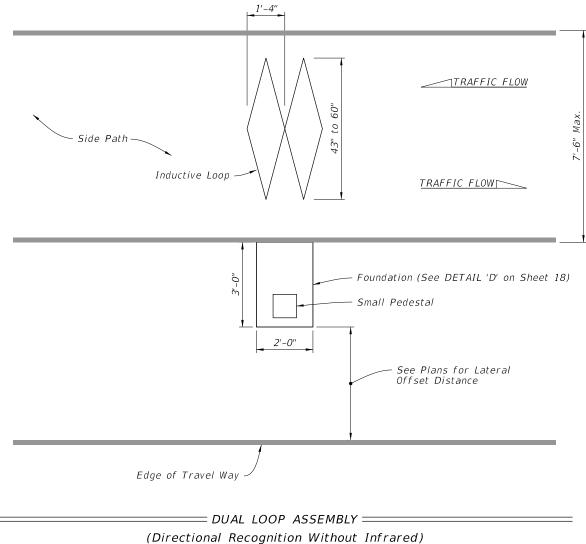
FDOT

FY 2025-26 STANDARD PLANS

INDEX 695-001

SHEET 13 of 20





NON-MOTORIZED MONITORING SITE NOTES:

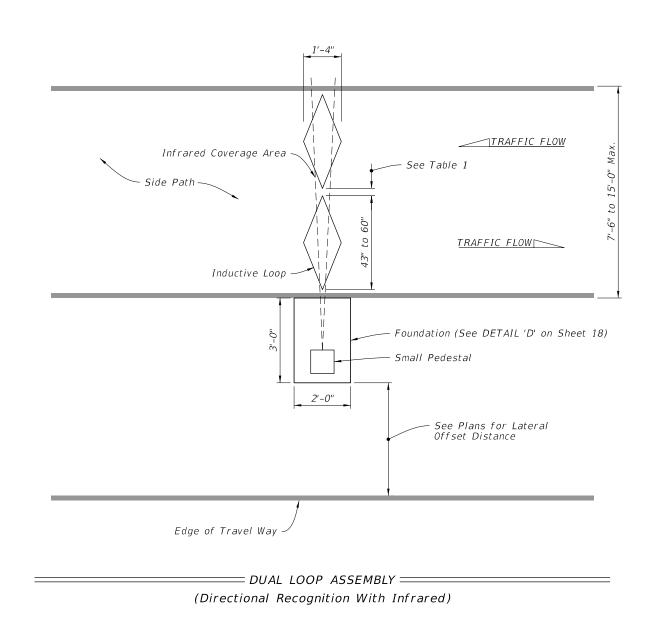
- 1. Use a chalk line or string and paint to layout the position of the sensor and lead-in cable slots. Ensure saw cuts do not deviate more than 0.5 inches from the chalk line. Use a single blade or ganged blade saw wide enough to cut the axle sensor at full width in a single pass. Cutting two slots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

NARROW SIDE PATH CONFIGURATIONS =

NON-MOTORIZED MONITORING SITE

REVISION 11/01/24

DESCRIPTION:



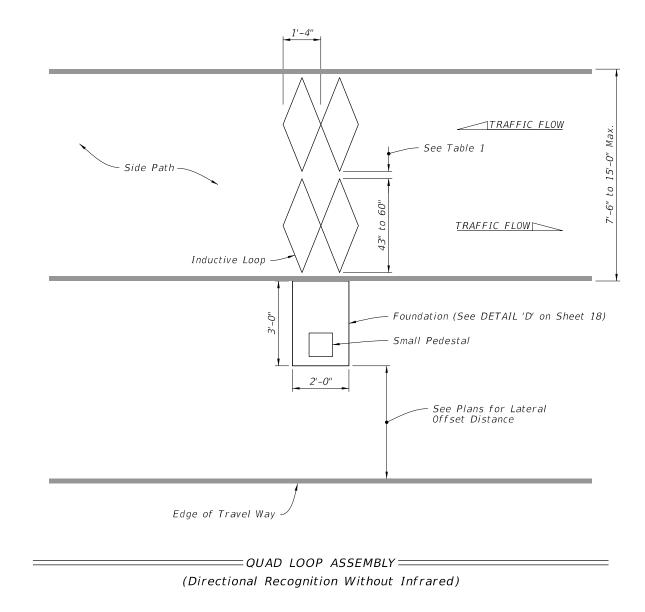


TABLE 1			
Loop Length	Distance		
Greater than 59"	Contact Manufacturer to evaluate the feasibility		
59"	3.00"		
55"	4.00"		
51"	4.75"		
47"	5.50"		
43"	6.25"		
Less than 43"	Contact Manufacturer to evaluate the feasibility		

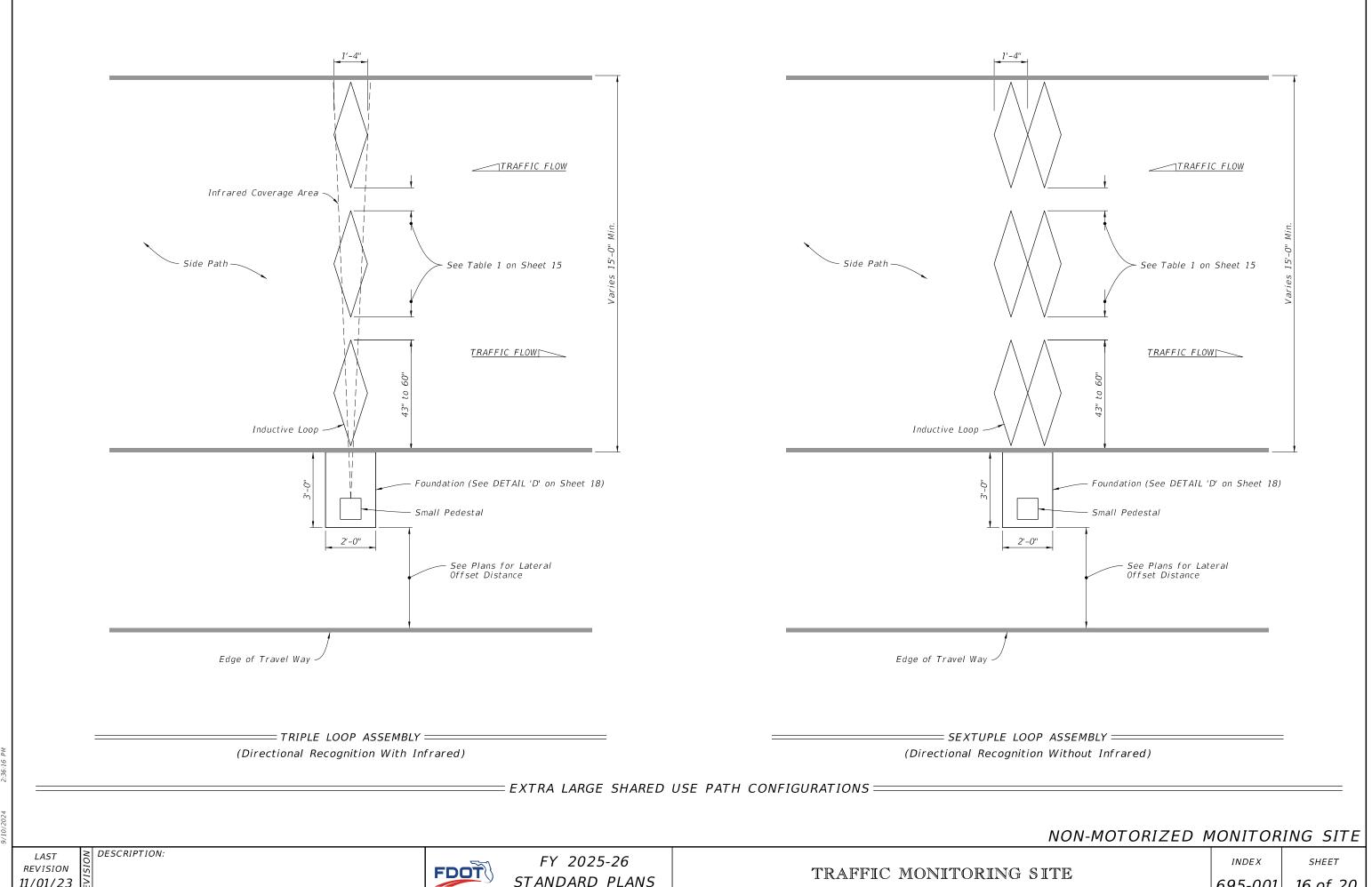
= LARGE SHARED USE PATH CONFIGURATIONS =

NON-MOTORIZED MONITORING SITE

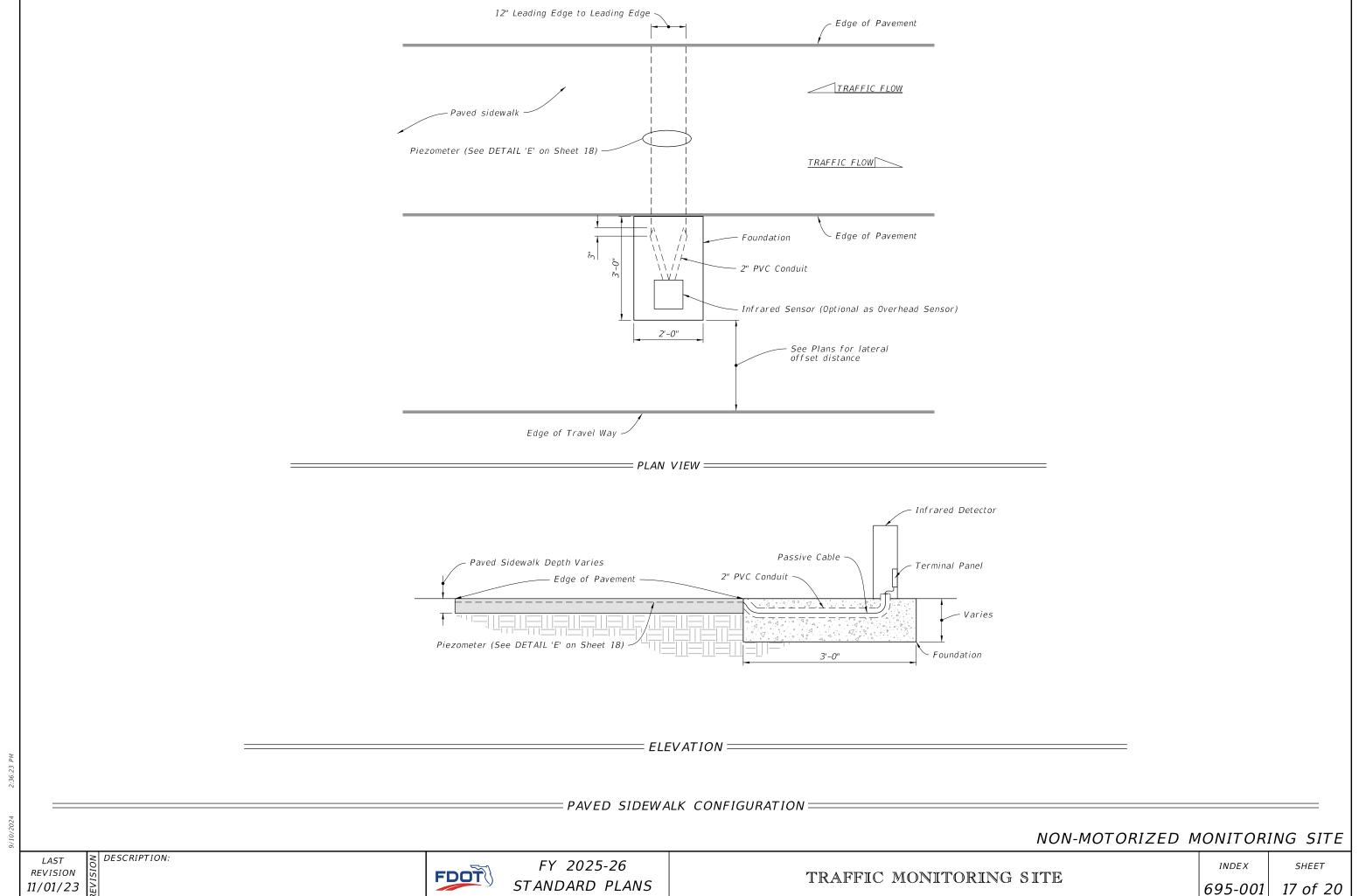
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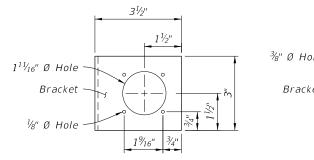
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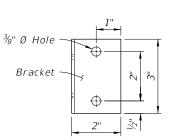
SHEET

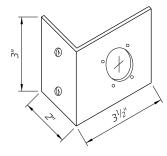


STANDARD PLANS









FRONT VIEW

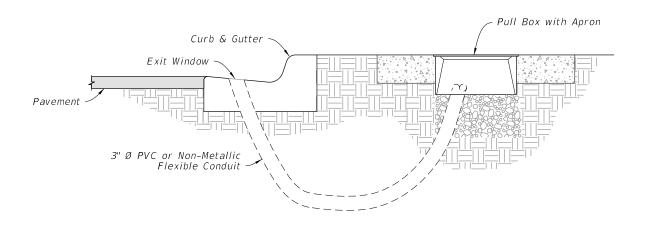
SIDE VIEW

ISOMETRIC VIEW

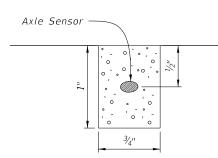
Fabricate bracket out of $\frac{3}{32}$ " - $\frac{1}{8}$ " inch thick aluminum. Dimensions may vary depending on the manufacturer of the J1 receptacle being furnished. The cabinet manufacturer will construct the mounting bracket to fit the receptacle.

J1 MOUNTING BRACKET

= DETAIL 'A" =

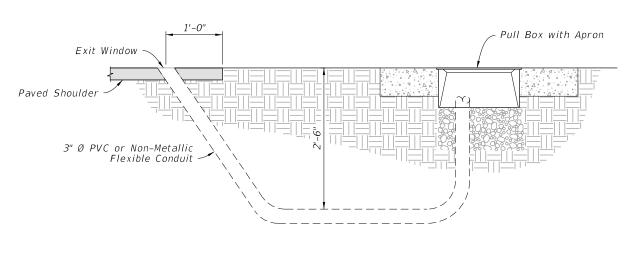


DETAIL 'C'=

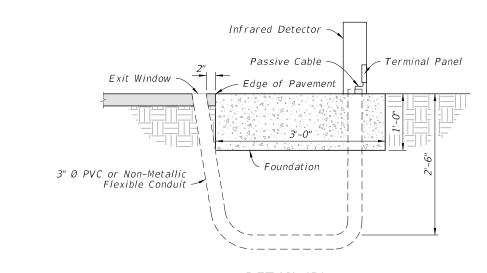


END VIEW (Axle Sensor Slot)

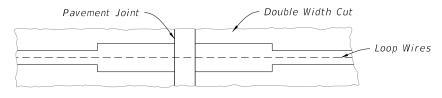
= *DETAIL 'E'* =



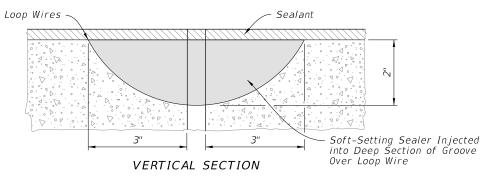
DETAIL 'B'



=DETAIL 'D'=

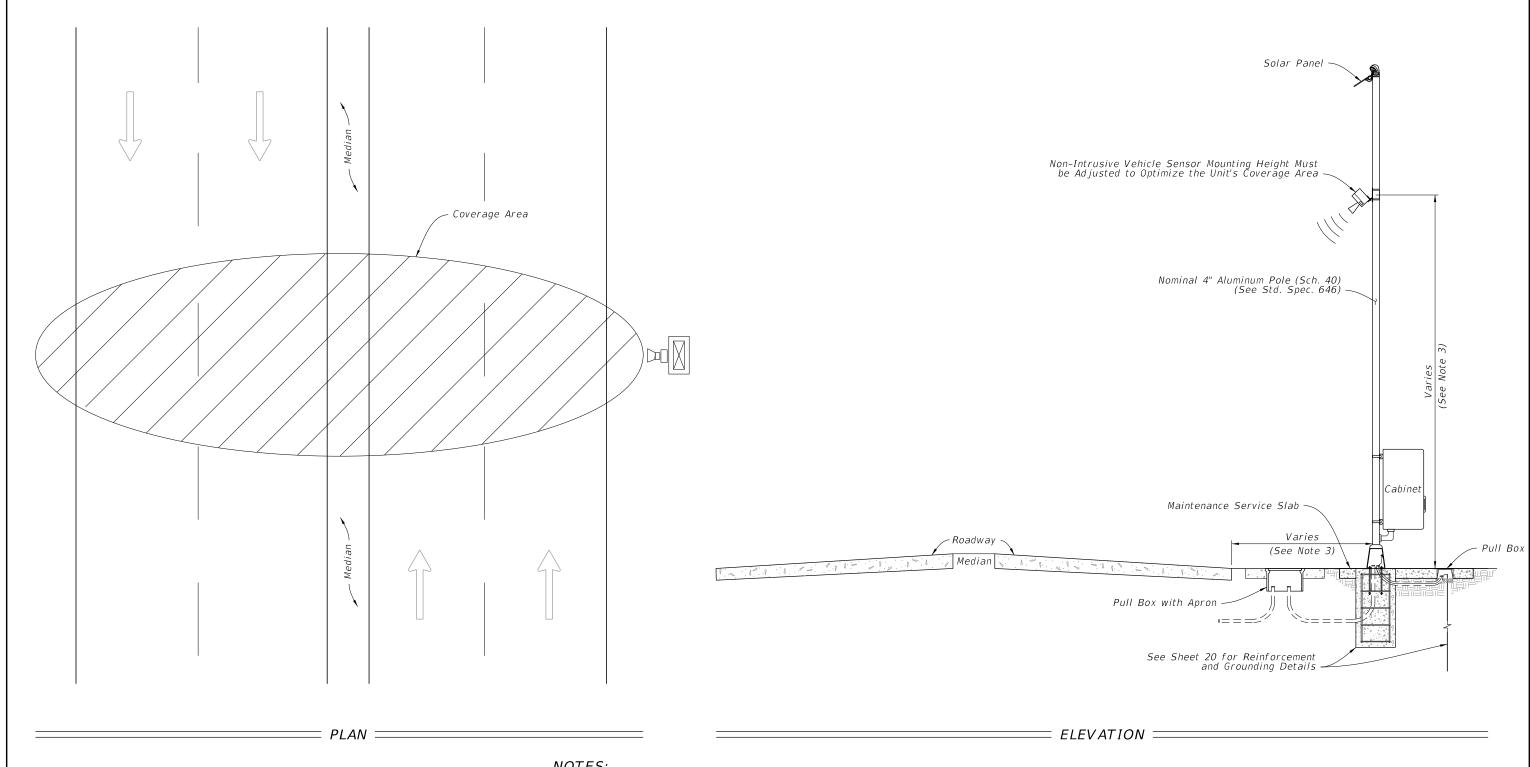


PLAN VIEW



= DETAIL 'F' :

DETAILS 'A' THRU 'F'



- 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 11/01/23

FDOT

FY 2025-26 STANDARD PLANS

TRAFFIC MONITORING SITE

INDEX 695-001

SHEET 19 of 20

