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## Index 695-001 Traffic Monitoring Site

### ORIGINATION

**Date:** 6-6-21

**Name:** Derwood Sheppard

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### COMMENTARY

The foundations within Indexes 646-001, 654-001, 695-001, and 700-120 are being updated to be more consistent between applications. A structural analysis was completed to determine if the foundations could be revised to provide a more consistent design between the various applications. The aluminum posts callouts will be changed to be consistent with other Indexes.

### COMMENTS AND RESPONSES

**BLACK** = Industry Review Comments    **RED** = Standard Plans Response    **GREEN** = Change Made to Index

**Name:** C-Team Comment

**Date:** 9/8/2021

**COMMENT:** Has the revision of pole diameter callouts from 4" nominal to 4.5" OD been properly coordinated? This change could incur cost updates and other design considerations and affect APL. Were structural parameters considered? Specification 646 references 4" nominal which needs to be updated.

**RESPONSE:** The pole/posts are not changing with this update so there are no issues with the APL or additional costs incurred. This change was requested by the Structures Office to make callouts consistent with other Indexes that specify pole/post dimensions. The 4" nominal and 4.5" OD are the same callout in this scenario based on ASTM B429 which is a requirement of Spec 646. Although there is no conflict, Spec 646 will be updated to be consistent with the new callout in Indexes 646-001, 654-001, 695-001, and 700-120. The callout in the indexes will be updated to clarify that the poles/posts are not changing.

**Change Made:** **Revise callouts in the Indexes and Spec to read "Nominal 4" Aluminum Pole (Sch. 40) (4.5" OD)"**

**Date:** 9/10/2021

**Name:** Eric Griffin

**Date:** 9/10/2021

**COMMENT:** The note on Sheet 7 should be placed on Sheet 6, which illustrates the telemetered traffic monitoring sites (TTMS). Since class I type piezo sensors was removed from weight sensor section then the note should read: the TTMS lane layout should be quartz-quartz-loop-quartz-quartz or strain gauge-strain gauge-loop-strain gauge-strain gauge to capture the wheel weights.

**RESPONSE:** Agree. The Index will be updated to show the two new TTMS lane layouts as Configuration-A and Configuration-B. The new layouts will provide weights for the left wheel base and the right wheel base. Each configuration is specific to the vehicle classification unit make and model. The type of sensor used in either configuration can either be strain gauge or quartz.

**Change Made:** The Index will be updated with the new sensor layouts.

**Date:** 9/13/2021

**Name:** Craig Toth

**Date:** 9/10/2021

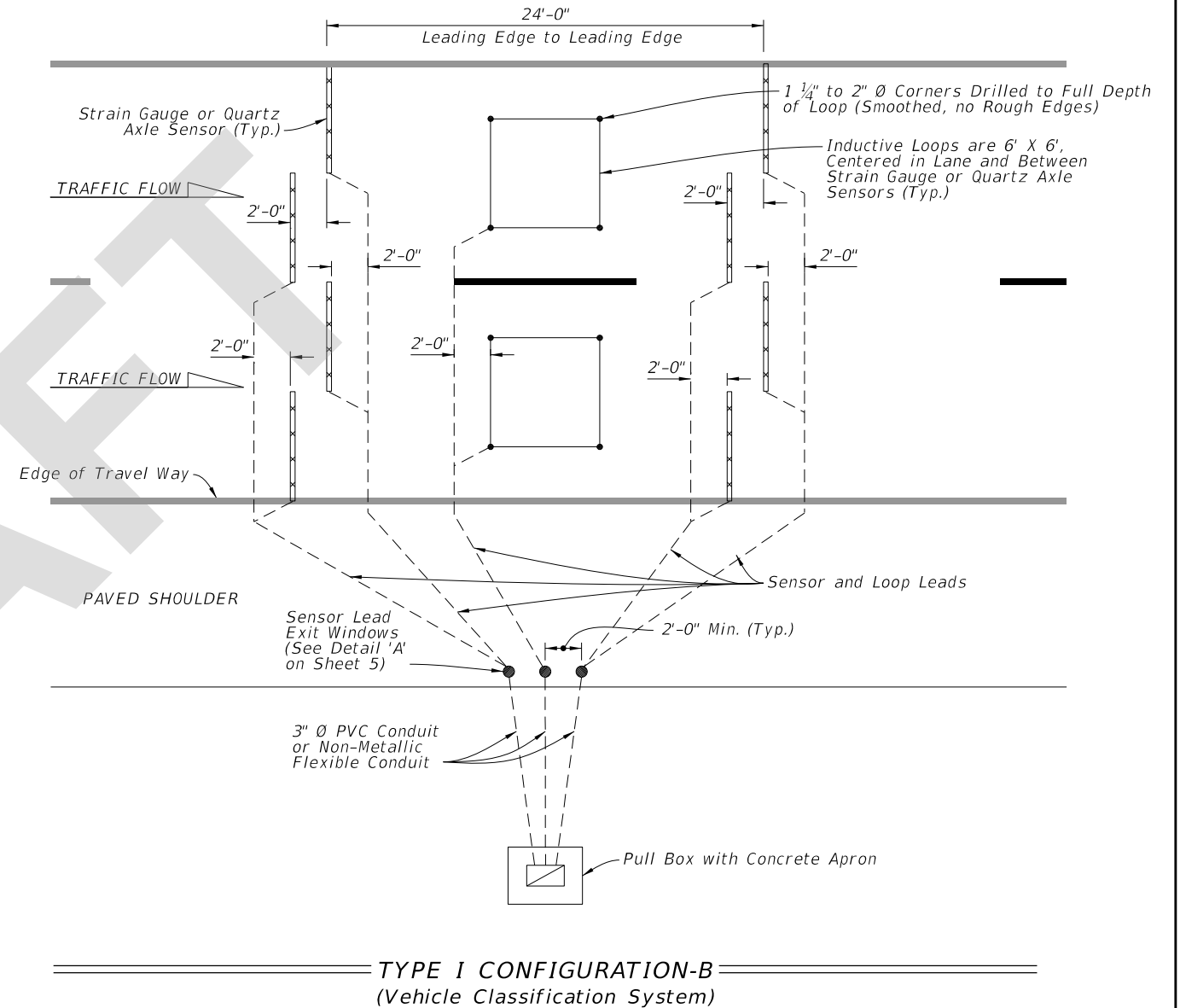
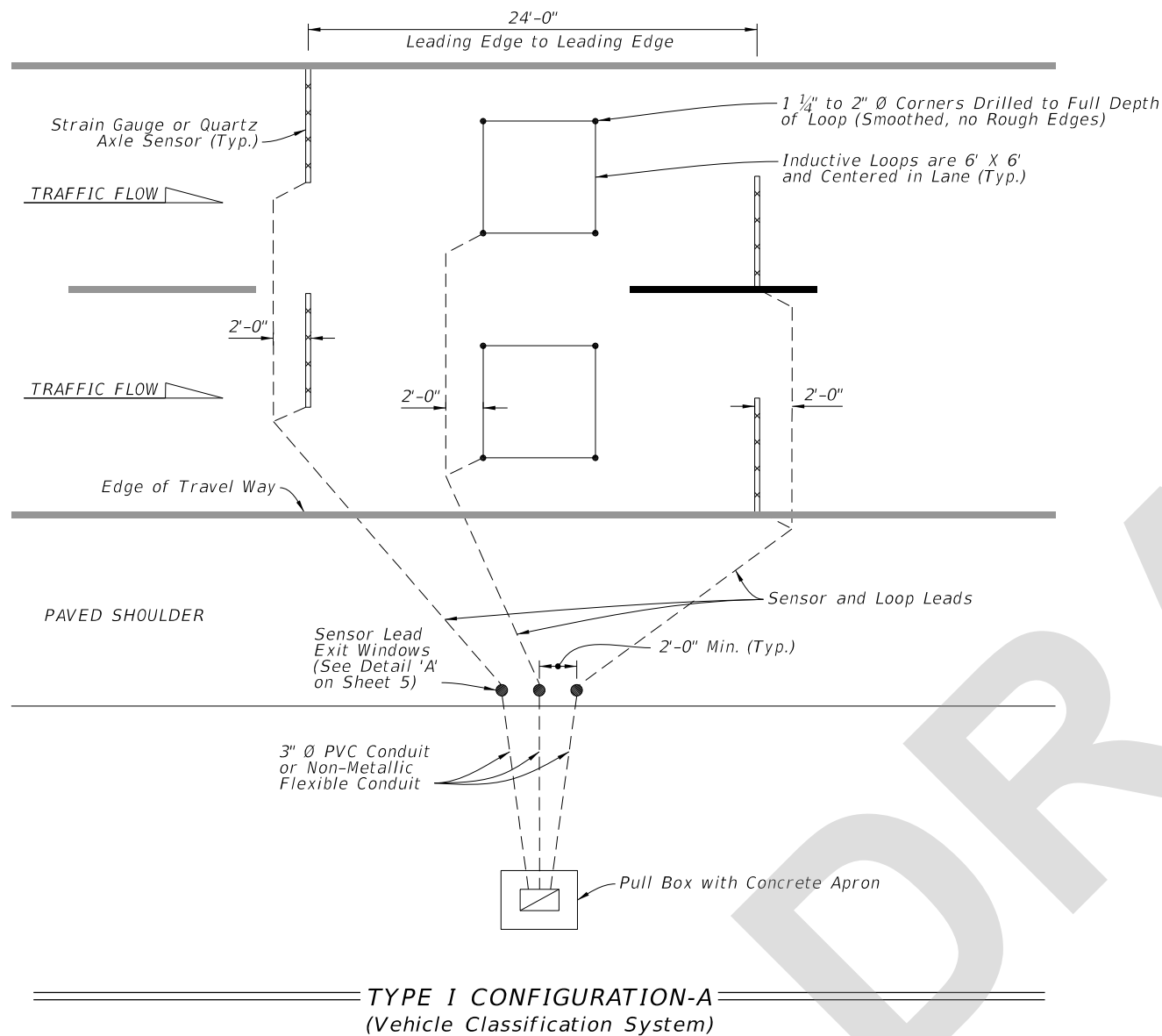
**COMMENT:** Comment: Sheet 7 should reflect an enforcement system. The FDOT Motor Carrier Size and Weight is currently installing a mainline virtual weigh-in-motion screening station at the White Springs facility. The lane layout should be loop-quartz-quartz.

**RESPONSE:** Agree. The mainline virtual weigh-in-motion (VWIM) screening station will provide more efficient enforcement operations by allowing compliant commercial vehicles to continue travels on the freeway. The VWIM layout provide weights for the left wheel base and the right wheel base. Non-compliant commercial vehicles will be notified to exit into the weigh station. The enforcement system uses the quartz sensor.

**Change Made:** The Index will be updated with the new sensor layout.

**Date:** 9/13/2021

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**NOTE:**

Configuration-A and Configuration-B are based on the vehicle Speed/classification unit. Contact the TMS Manager in the Transportation Data and Analytics Office for the correct configuration.

**LANE CONFIGURATION FOR TMS INDUCTIVE LOOP AND STRAIN GAUGE/QUARTZ AXLE SENSOR**

LAST REVISION 11/01/21	DESCRIPTION:
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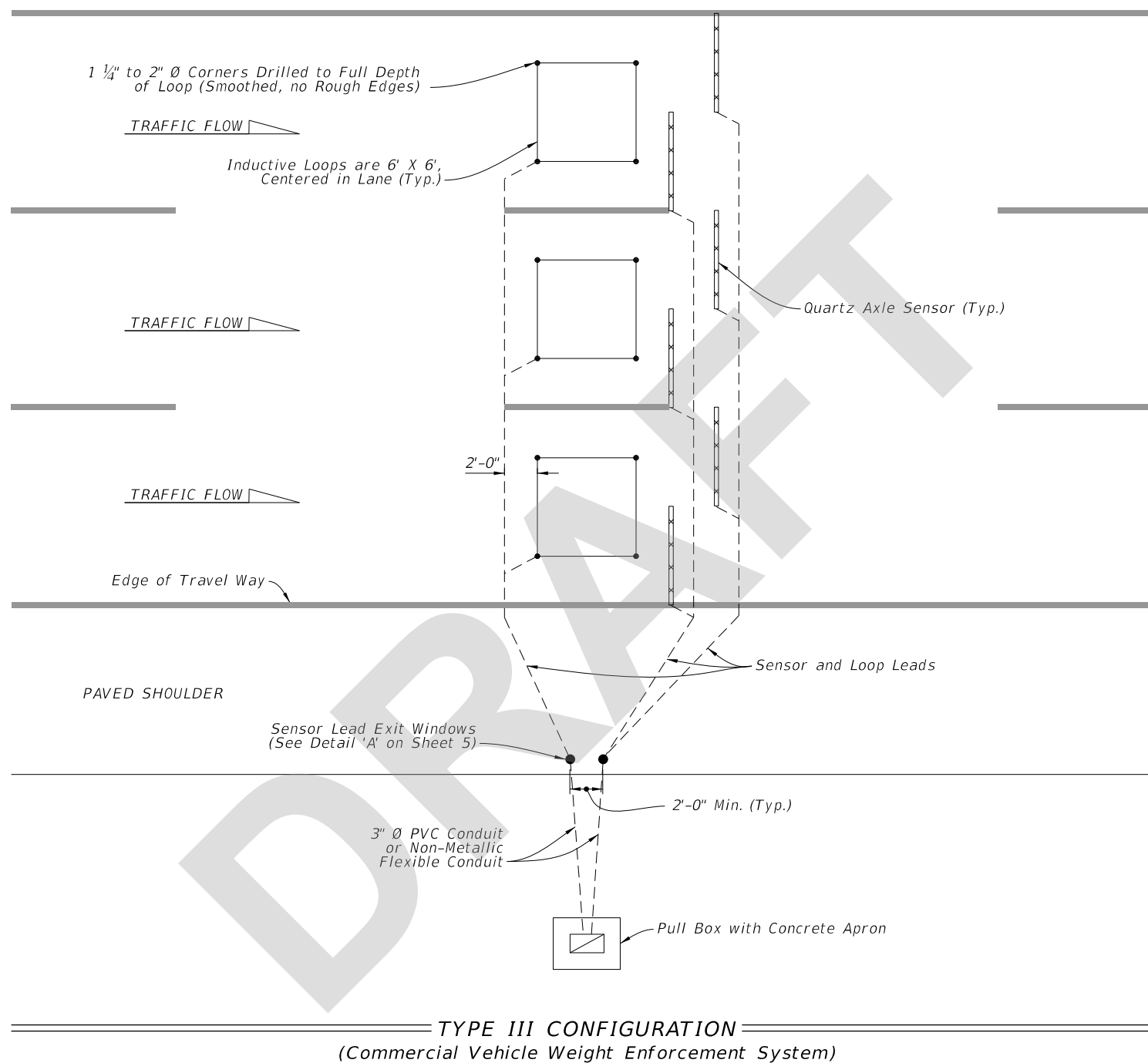


FY 2022-23  
STANDARD PLANS

TRAFFIC MONITORING SITE


INDEX  
695-001

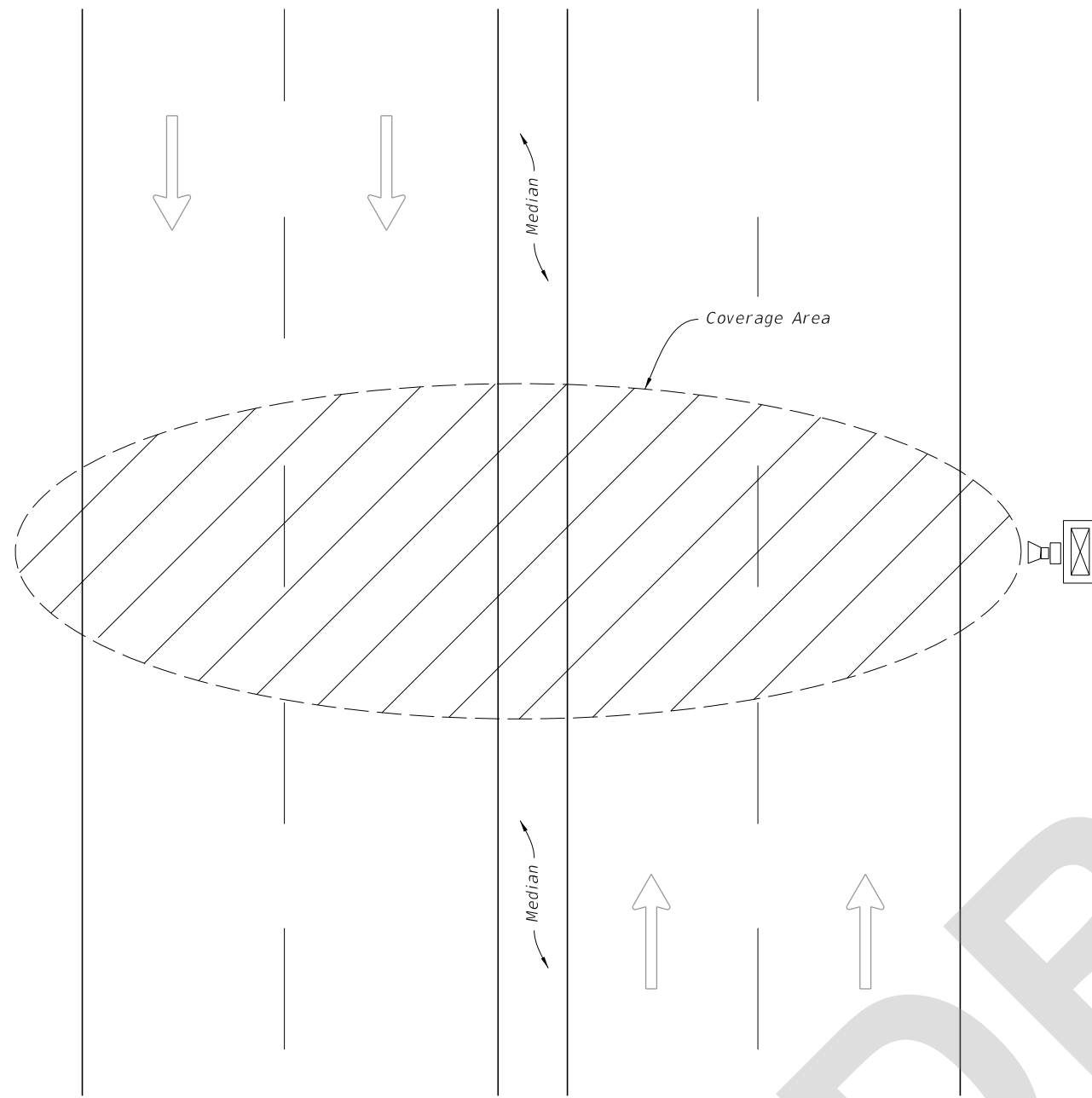
SHEET  
6 of 9



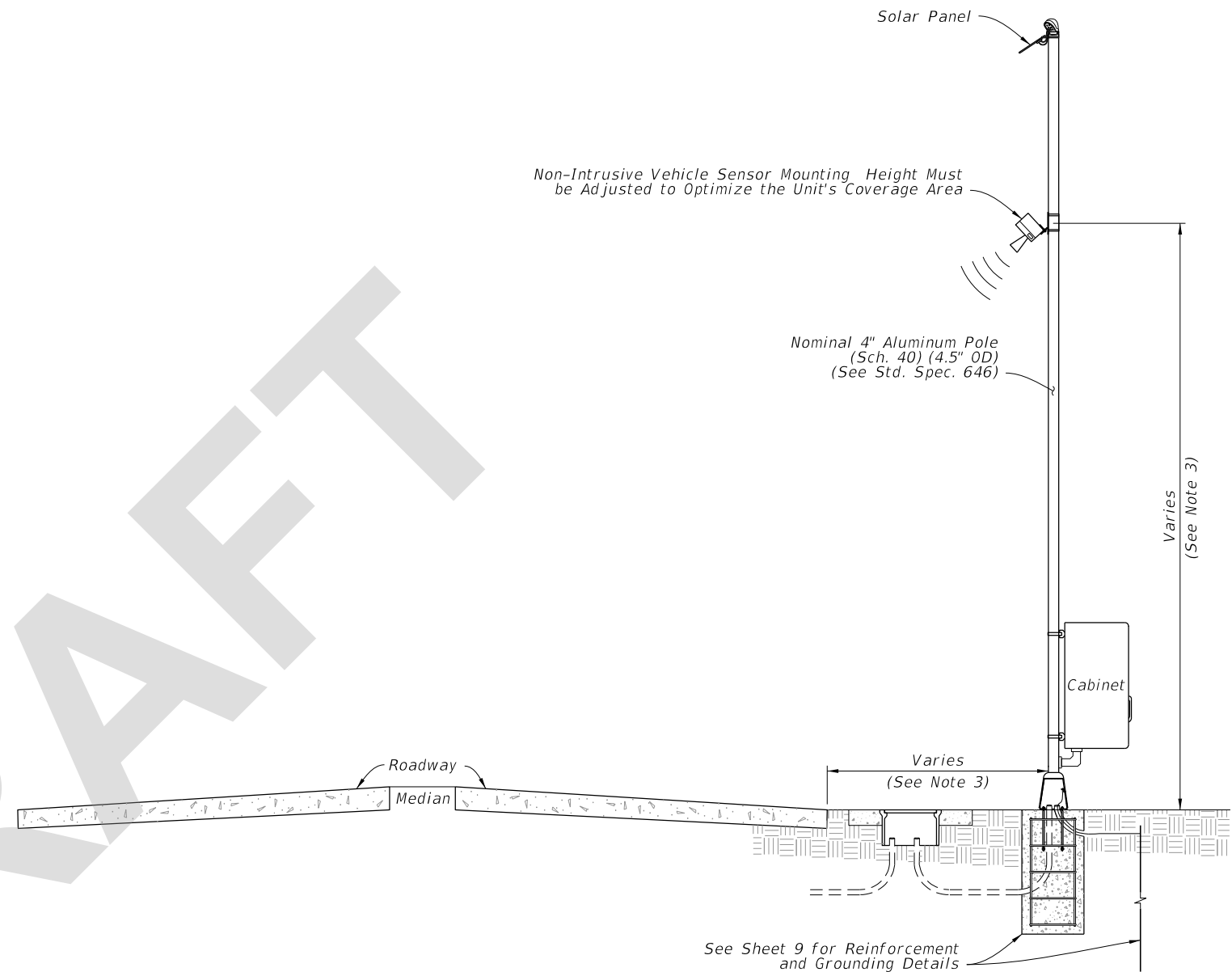
LANE CONFIGURATION FOR MAINLINE INDUCTIVE LOOP AND QUARTZ AXLE SENSOR

9/14/2021 8:42:54 AM

LAST REVISION 11/01/21	REVISION DESCRIPTION:	 FY 2022-23 STANDARD PLANS	TRAFFIC MONITORING SITE	INDEX 695-001	SHEET 7 of 9
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PLAN




ELEVATION

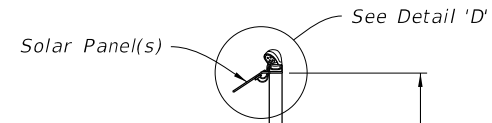
**NOTES:**

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.

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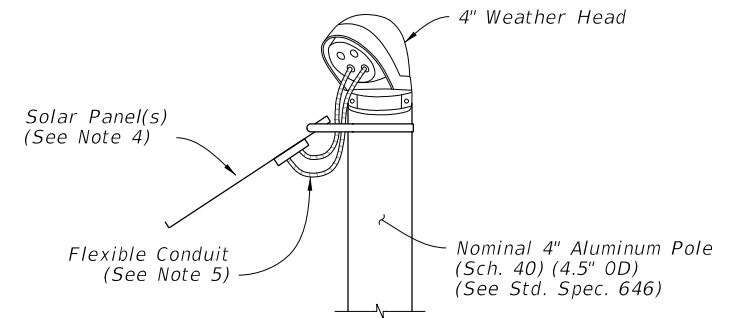
**NON-INTRUSIVE VEHICLE SENSOR**

LAST REVISION 11/01/21	REVISION	DESCRIPTION:	 <b>FY 2022-23</b> <b>STANDARD PLANS</b>	<b>TRAFFIC MONITORING SITE</b>	INDEX <b>695-001</b>	SHEET <b>8 of 9</b>
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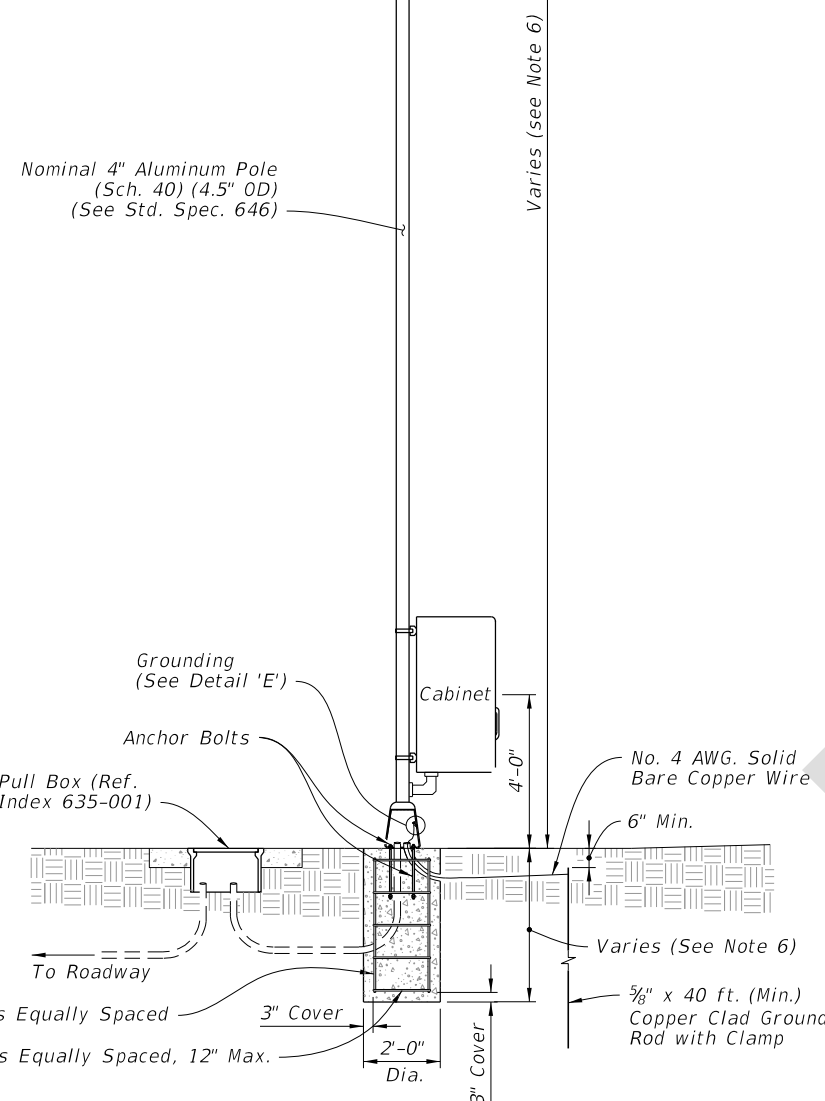


**NOTE:**

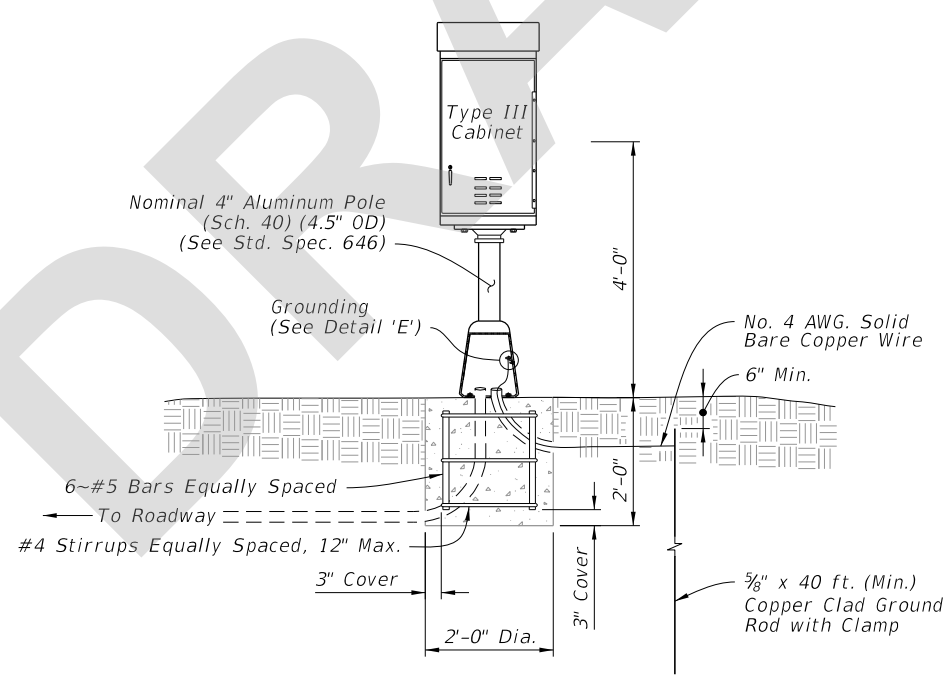
1. Cabinet installed per Index 676-010 except cabinet center will be 4 feet above grade.
2. Meet the material requirements of Specification 646.
3. Use #10 AWG stranded copper wire for Solar Panel Array installations, Red insulation is THHN or THWN for positive 12 volts wiring, Black insulation is THHN 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.
4. Solar panel should be installed facing due south with angle of tilt equal to the sum of the following equation. The Latitude of the panel's location, multiplied by 0.76, plus 3.1 degrees. Equation expressed as  $(LAT) \times (0.76) + (3.1^\circ)$
5. Encase all wiring from the weather head to the solar panel in outdoor flexible conduit.
6. Concrete Base Dimensions:
  - a. 4' poles: depth of 2'-0"
  - b. 12' or 15' poles: depth of 3'-0"
  - c. 20' or 30' poles: depth of 4'-0"



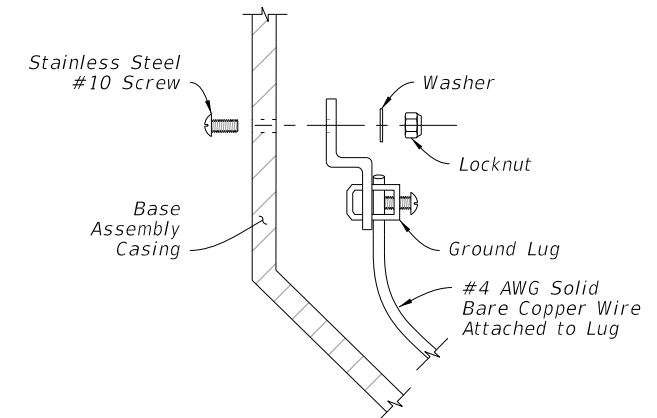
DETAIL 'D'



SOLAR POWER POLE WITH POLE MOUNTED CABINET (Telemeter Sites)



PEDESTAL MOUNTED CABINET (Portable Traffic Monitoring Sites)



DETAIL 'E'

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