

Illinois Tollway Base Sheet Revisions

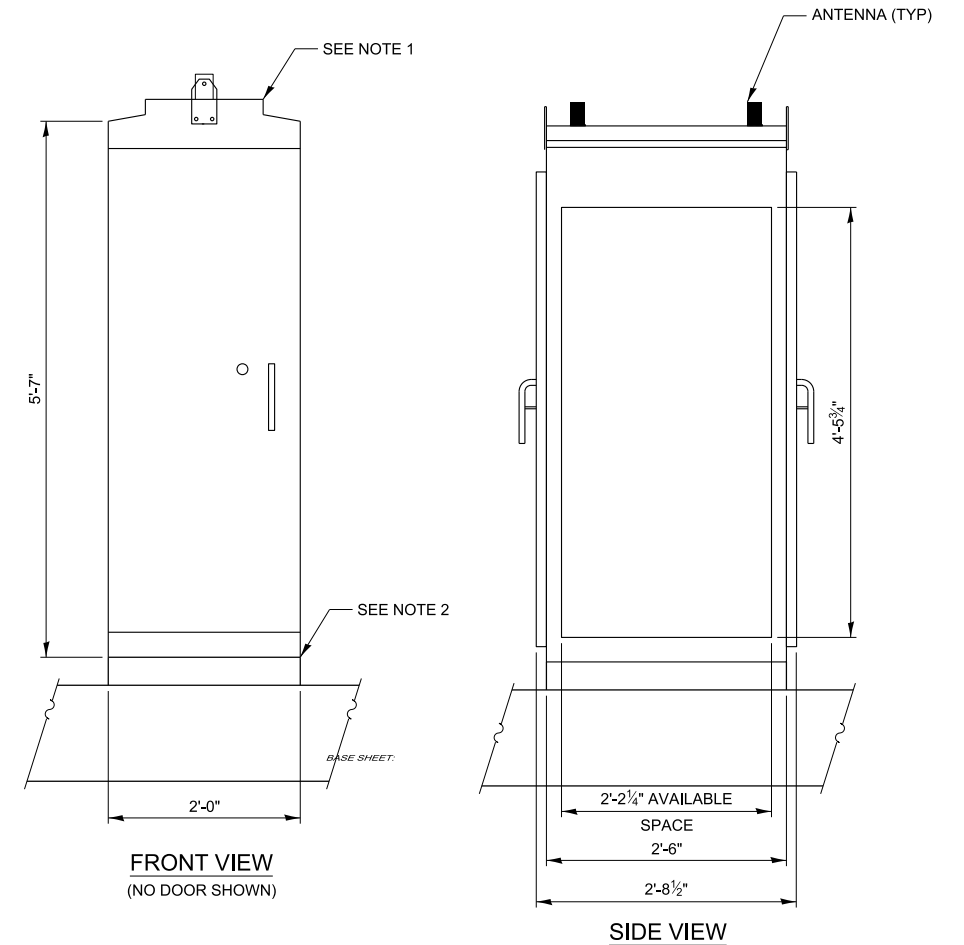
Section M	Base Sheet Drawings		
	Drawing	Modification Summary	Effective: 03-01-2025
	Weigh-in-Motion (ITS)-Series 1600		
	M-ITS-1600	Weigh-In-Motion Cabinet and Foundation Details	
		Revised the front layout of Cisco switch IE-3300-16T2S-E	

New Sheet

Retired Standard



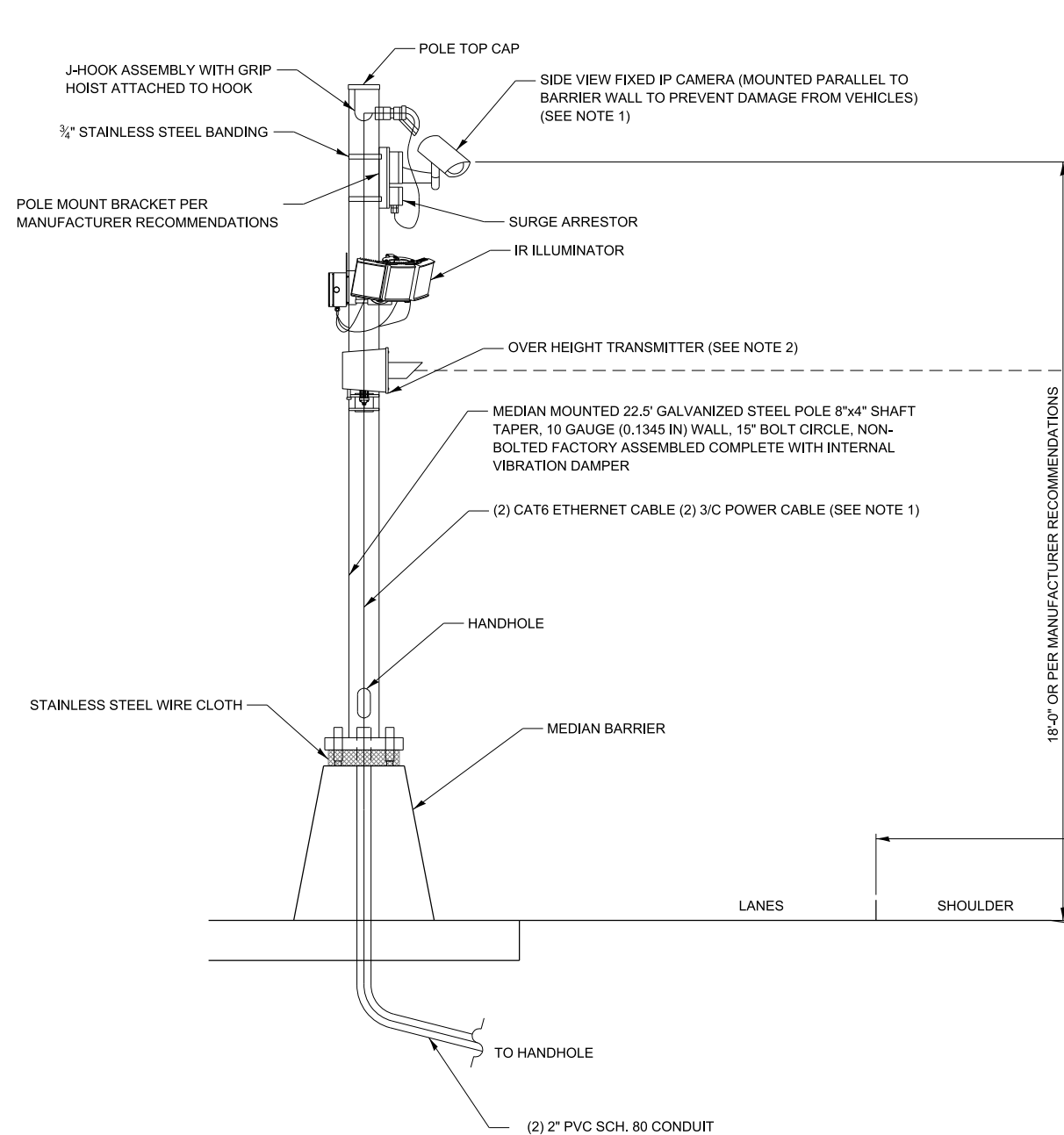
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- Diagram illustrating the front view of the cabinet interior (no door shown). The diagram shows the internal layout of components and their dimensions.
- Dimensions:**
- Overall height: 4'-7"
 - Internal height (excluding top section): 4'-11 1/4"
 - Overall width: 2'-0"
 - Bottom section height: 17/8"
- Components and Labels:**
- DIN4 IP RELAY
 - ETHERNET SWITCH POWER SUPPLY
 - SEE NOTE 3
 - LIGHT UNIT ASSEMBLY
 - LIGHT AND DOOR DETECTION UNIT
 - ETHERNET SWITCH IE-3300-16T2S-E
 - WIM DATA LOGGER
 - SEE NOTE 4
 - TERMINAL BLOCKS
 - SM FIBER OPTIC PATCH PANEL CJT1603671
 - LOOP DETECTORS
 - PULL-OUT DRAWER (FOR LAPTOP USE)
 - UPS PANEL (ON SLIDING SHELF)
 - OUTLET STRIP
 - UTILITY OUTLETS
 - GFI OUTLETS
 - UTILITY PANEL BOARD (UPS PANELBOARD AND PRIMARY/SECONDARY SURGE SUPPRESSION ON BACKSIDE OF CABINET)
- FRONT VIEW**
(NO DOOR SHOWN)



- NOTES:**
1. THE WIM INTERNAL CABINET LAYOUT SHALL BE AS PER WIM MANUFACTURER'S RECOMMENDATION AND APPROVED BY THE ILLINOIS TOLLWAY.
 2. SEAL CABINET TO FOUNDATION JOINT WITH SILICONE SEALANT TO PREVENT WATER INTRUSION. LOCATE CABINET ABOVE HIGH WATER LEVEL.
 3. INSTALL 2" PVC SPARE CONDUIT FOR FUTURE USE. EXTEND 12" OUTSIDE OF CONCRETE FOUNDATION. PROVIDE CONDUIT MARKING FOR EASE OF FUTURE LOCATING.

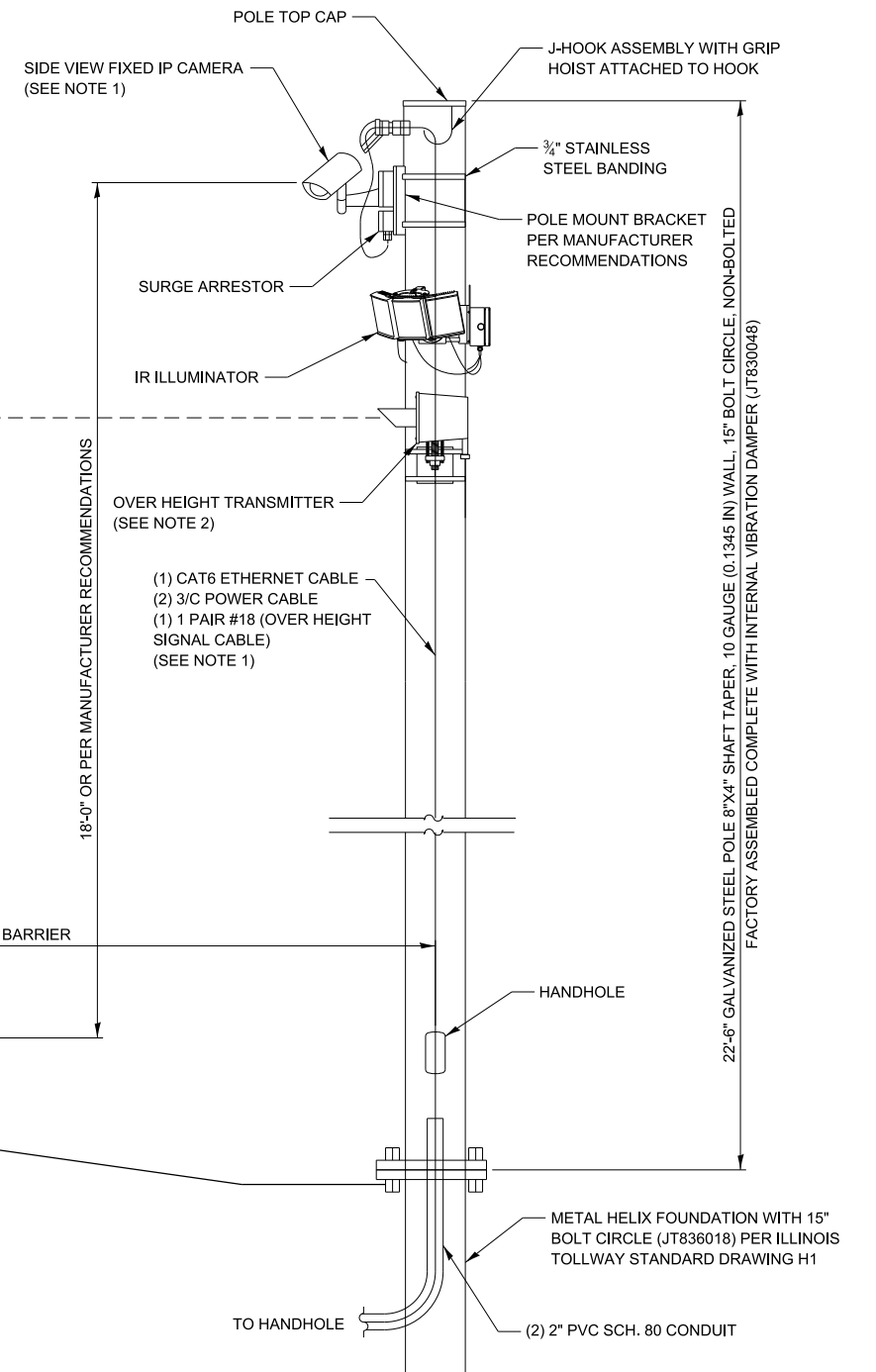
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NOTES:

1. THE NUMBER OF CAMERAS AND ASSOCIATED CABLING SHALL BE IN ACCORDANCE WITH THE WEIGH-IN-MOTION MANUFACTURER REQUIREMENTS TO PROVIDE FULL ENFORCEMENT COVERAGE OF ALL LANES INDICATED ON THE PLANS.
2. SEE WEIGH-IN-MOTION HEIGHT DETECTOR SHEET FOR ADDITIONAL DETAILS OF OVER HEIGHT DETECTOR INSTALLATION.



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WEIGH-IN-MOTION IP CAMERA DETAILS

LOOP DETECTOR SPLICE DETAIL

- ① WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH. THE WESTERN UNION SPLICES SHALL BE STAGGERED.

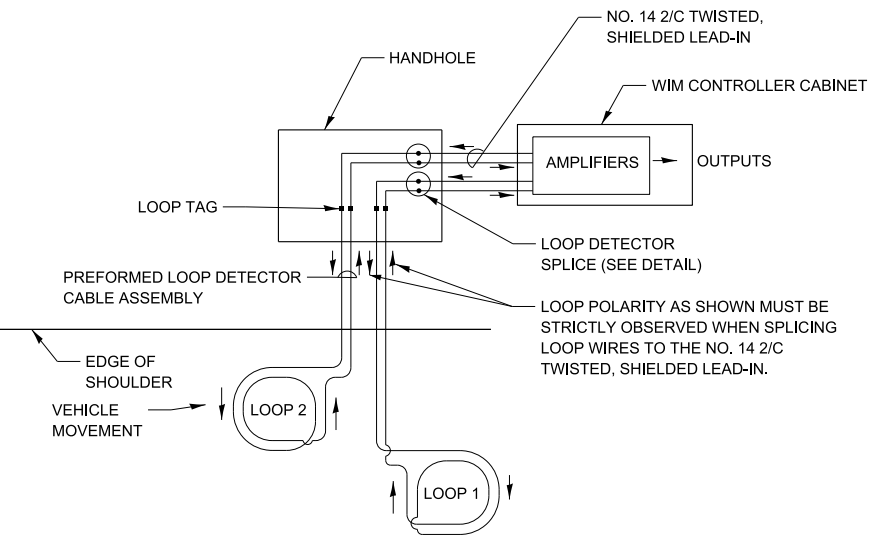
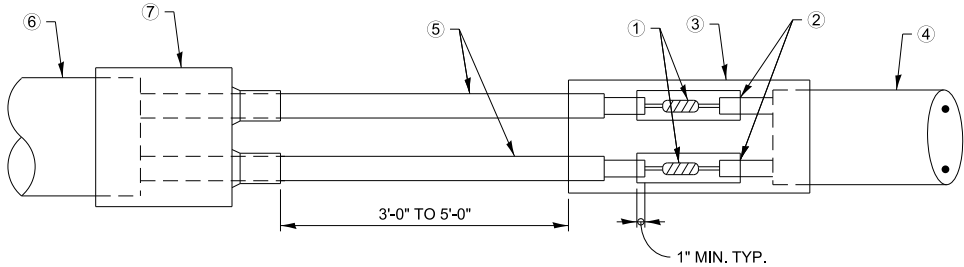
② WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.

③ WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.

④ NO. 14 2/C TWISTED, SHIELDED CABLE.
- ⑤ LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

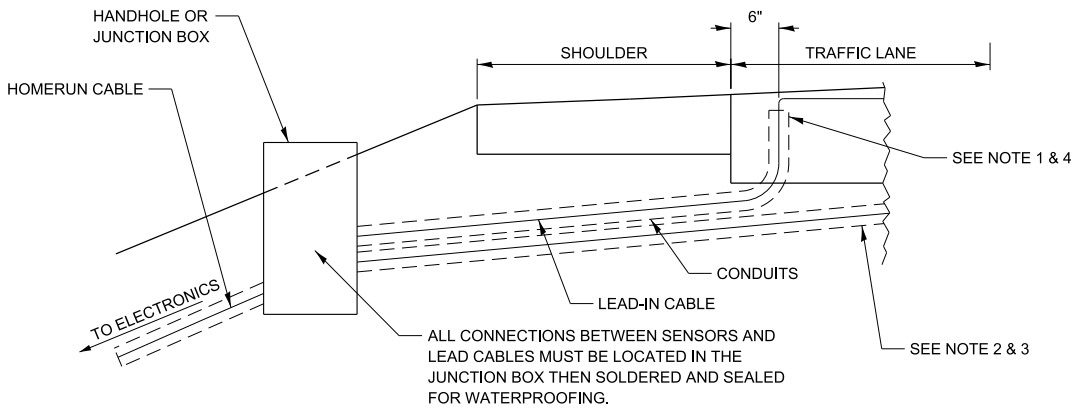
⑥ PRE-FORMED LOOP.

⑦ XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL.



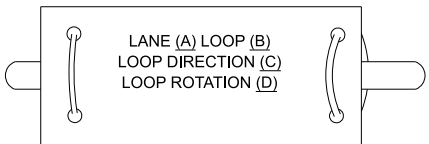
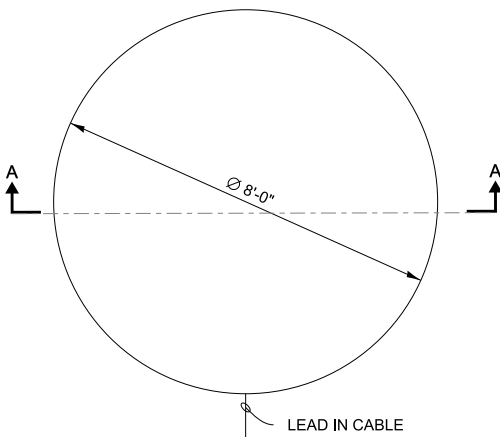
DETECTOR LOOP WIRING SCHEMATIC

LOOP CABLE ROUTING DETAILS



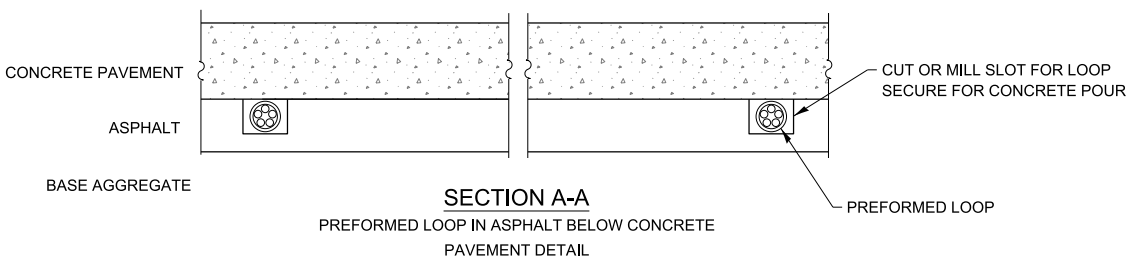
1. SPARE/FUTURE STUB-UP CONDUIT TO 2" BELOW CONCRETE SURFACE. BEFORE POURING CONCRETE, CAP OPENINGS AND PROTECT WITH TAPE AND SOFT MATERIAL TO PREVENT DAMAGE IN FUTURE DISCOVERY. TO BE CUT TO PROPER HEIGHT WHEN SENSORS ARE INSTALLED. USE METALLIC CAP TO ALLOW EASIER DETECTION FOR RE-ENTRY.
2. PLUG AND SEAL CONDUIT OPENING AFTER INSTALLING LOOP LEAD-IN CABLE.
3. INITIAL INSTALL - ROUTE PREFORMED LOOP PROTECTED LEAD TO HANDHOLE OR JUNCTION BOX.
4. FOR FUTURE REPLACEMENT - PLACE STUB UP FOR LOOP TO ALLOW FUTURE SAWCUT LOOP.

TOP VIEW OF PERFORMED LOOP
8' DIA. PERFORMED LOOP INSTALL CENTERED IN THE LANE
INTO ASPHALT BASE BEFORE CONCRETE POUR



- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY.
- B. LOOP #1 IS THE LOOP IN THE LANE DOWN STREAM OF THE QUARTZ SENSORS.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

LOOP LEAD-IN CABLE TAG



NOTE TO DESIGNER

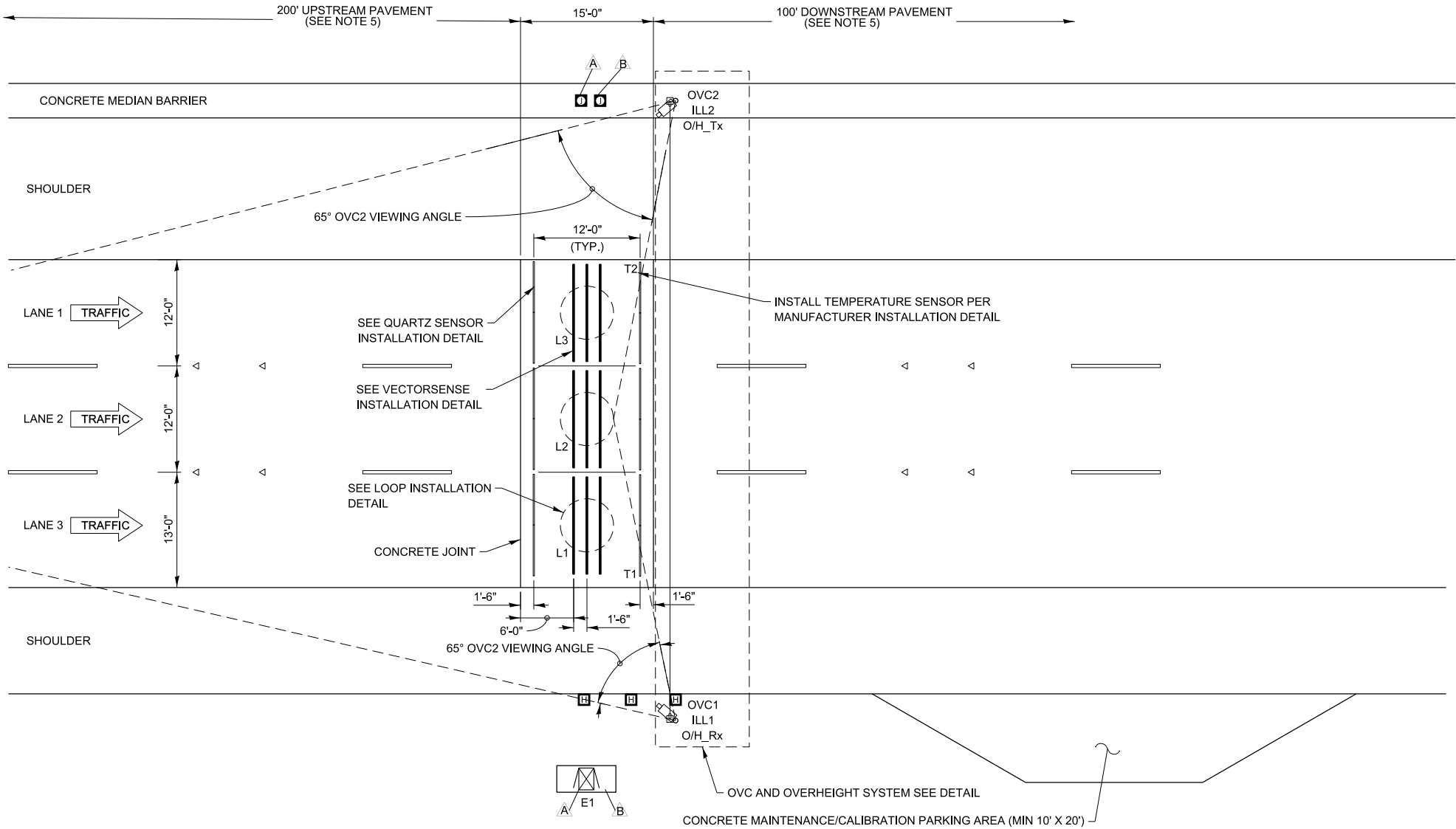
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NOTES:

1. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, SINCE NEW CONCRETE PAVEMENT IS PROPOSED. INSTALLATION SHALL BE ACCORDING TO THE STANDARD SPECIFICATIONS AND MANUFACTURER RECOMMENDATIONS.
2. FOLLOW LOOP DETECTOR MANUFACTURER RECOMMENDATIONS FOR MINIMUM SEPARATION DISTANCE FROM REBAR MATS (APPLICABLE FOR 3 OR 4 LANE PRECAST CONCRETE INSTALLATIONS). USE STAND OFFS AS REQUIRED.
3. LOOP SIZE AND NUMBER OF TURNS AS SPECIFIED ON SITE LAYOUT AND IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.



WEIGH-IN-MOTION LOOP
DETECTOR DETAILS



SITE OVERVIEW
NOT TO SCALE

LEGEND

- E - ELECTRONICS ENCLOSURE
- ILL - ILLUMINATOR
- L - INDUCTIVE LOOP
- O/H - OVERHEIGHT SENSOR
- OVC - OVERVIEW CAMERA
- Q - QUARTZ WIM SENSOR
- T - TEMPERATURE SENSOR
- V - VECTORSENSE SENSOR
- Tx - TRANSMITTER
- Rx - RECEIVER
- ⓧ - CABINET
- ① - SIGNAL CONDUIT
- Ⓜ - POWER CONDUIT
- ⓐ - NOTE
- ⓐ - JUNCTION BOX
- ⓐ - HANDHOLE
- ⓐ - WIM HEIGHT DETECTOR
- ⓐ - WIM CAMERA

NOTES: (THIS SHEET ONLY)

- ⓐ JUNCTION BOX WITH WIM ELECTRONICS
- ⓐ CABINET FOUNDATION.

GENERAL NOTES:

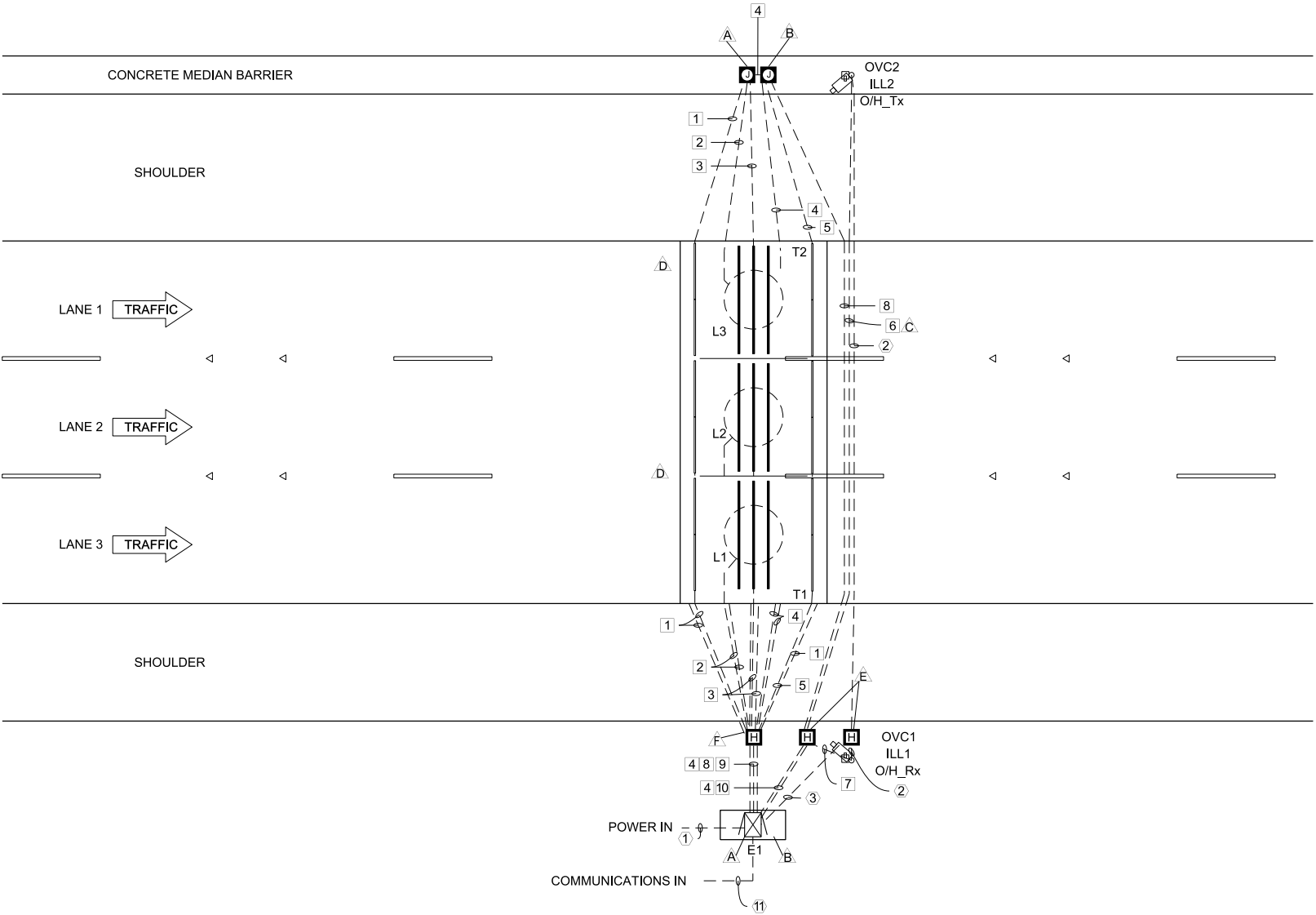
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- AC POWER CABLES MUST BE RUN IN SEPARATE CONDUITS/PULLBOXES FROM SIGNAL CABLES OR SEPARATED INSIDE PULLBOXES WITH A DIVIDER.
- SENSOR SPACING SHOWN IS TYPICAL SPACING REQUIREMENT, ACTUAL SENSOR SPACING MAY BE ALTERED TO SUIT SITE CONDITIONS IF APPROVED BY THE ENGINEER AND MANUFACTURER REPRESENTATIVE.
- SITE CONDITIONS MUST MEET ASTM E1318-09 TYPE 1 REQUIREMENTS TO ACHIEVE OPTIMAL WIM SYSTEM PERFORMANCE.
- A CONCRETE PAVEMENT SECTION ON STRAIGHT GRADE OBTAINED BY DIAMOND GRINDING WITH NO VERTICAL CURVES AND NO SUPERELEVATION TRANSITIONS IS REQUIRED FOR WIM LANES, FROM 200' BEFORE THE SENSORS UP TO 100' AFTER THE SENSORS, TO IMPROVE LONG TERM PERFORMANCE AND REDUCE MAINTENANCE. DIAMOND GRINDING OF THE 315' LENGTH OF CONCRETE PAVEMENT SHALL OCCUR AFTER PRECAST PANELS ARE INSTALLED.
- CABLES MUST BE PROTECTED BY PVC SLEEVES WHERE THEY CROSS PAVEMENT JOINTS/CRACKS.
- ADDITIONAL DRAINAGE MAY BE REQUIRED DEPENDING ON SLOPE OF ROADWAY.
- EXACT ROUTING OF CONDUIT TO BE DETERMINED ON SITE.
- PROVIDE 6" MINIMUM SPACING BETWEEN ADJACENT MEDIAN BARRIER JUNCTION BOXES.
- OVC AND OVERHEIGHT SYSTEM POLES SHALL BE INSTALLED 20' (PREFERRED) TO 100' (MAX) DOWNSTREAM OF WIM SENSORS. POLES SHALL BE APPROXIMATELY IN-LINE WITH EACH OTHER AS SHOWN ON THIS SHEET.

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**WEIGH-IN-
MOTION 3 LANES**



SITE WIRING LAYOUT
NOT TO SCALE

CONDUIT DETAIL
SIGNAL CONDUITS:

- 1 2" [50mm] CONDUIT
2 - QUARTZ SENSOR LEAD
1 - GROUND WIRE (QUARTZ)
- 2 2" [50mm] CONDUIT
2 - LOOP WIRE
- 3 2" [50mm] CONDUIT
3 - VECTORSENSE SENSOR LEAD
- 4 2" [50mm] CONDUIT SPARE
- 5 2" [50mm] CONDUIT
2 - QUARTZ SENSOR LEAD
1 - GROUND WIRE (QUARTZ)
1 - TEMPERATURE SENSOR LEAD
- 6 2" [50mm] CONDUIT
1 - OVC SIGNAL CABLE
- 7 2" [50mm] CONDUIT
1 - OVC SIGNAL CABLE
1 - O/H_Rx SIGNAL CABLE
- 8 2" [50mm] CONDUIT
4 - QUARTZ SENSOR LEAD
2 - GROUND WIRE (QUARTZ)
1 - TEMPERATURE SENSOR LEAD
2 - VECTORSENSE SIGNAL CABLE
1 - GROUND WIRE (VECTORSENSE)
1 - LOOP LEAD
- 9 2" [50mm] CONDUIT
4 - QUARTZ SENSOR LEAD
2 - GROUND WIRE (QUARTZ)
2 - VECTORSENSE SIGNAL CABLE
1 - GROUND WIRE (VECTORSENSE)
1 - LOOP LEAD
- 10 2" [50mm] CONDUIT
4 - QUARTZ SENSOR LEAD
2 - GROUND WIRE (QUARTZ)
2 - VECTORSENSE SIGNAL CABLE
1 - GROUND WIRE (VECTORSENSE)
1 - LOOP LEAD
2 - OVC SIGNAL CABLE
1 - O/H_Rx SIGNAL CABLE
- 11 2" CONDUIT WIM CABINET FIBER

POWER CONDUITS

- 1 2" CONDUIT
WIM CABINET POWER
- 2 2" CONDUIT
1 - O/H POWER
1 - ILLUMINATOR POWER
- 3 2" CONDUIT
2 - O/H POWER
2 - ILLUMINATOR POWER

NOTES: (THIS SHEET ONLY)

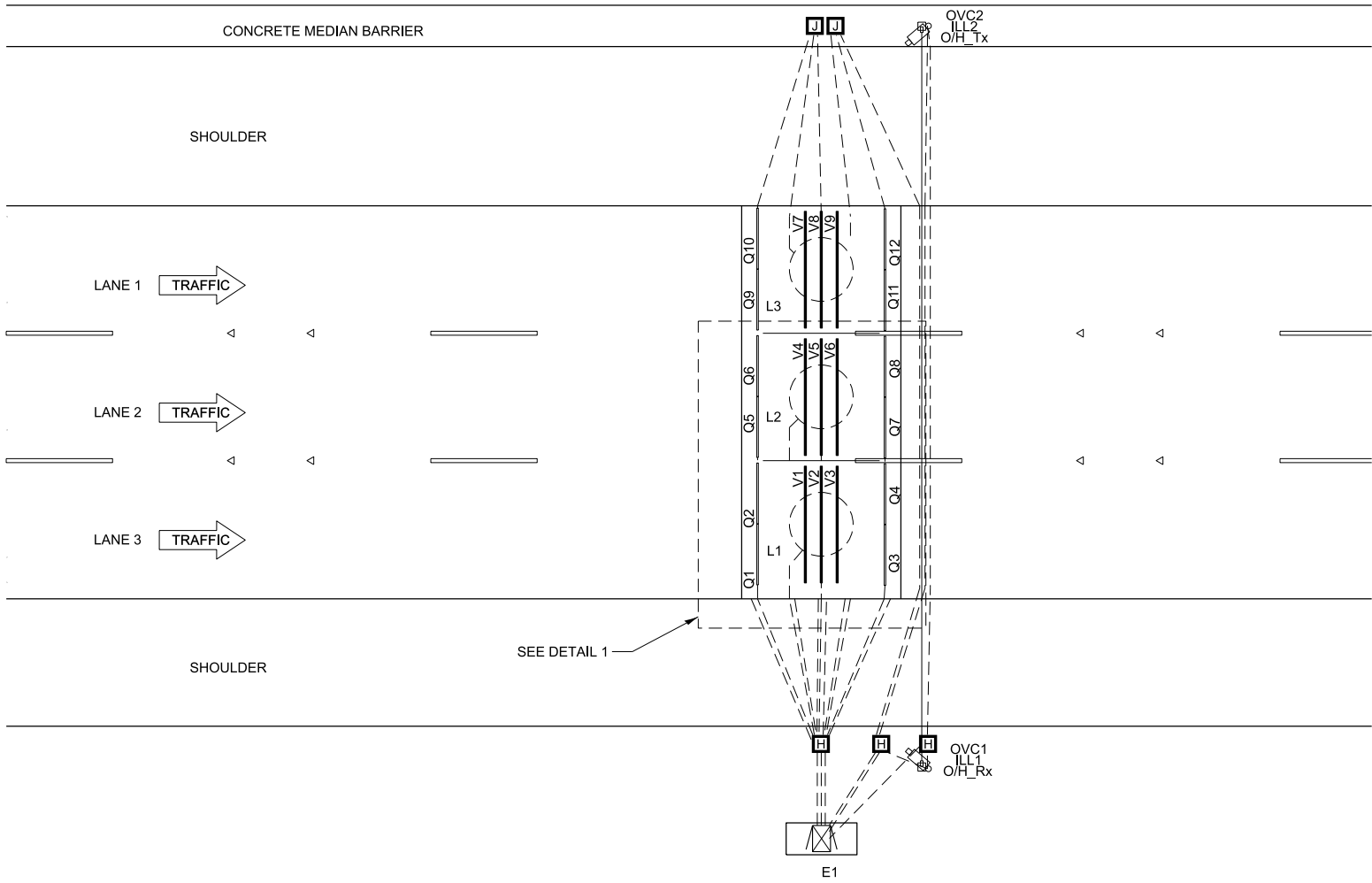
- A JUNCTION BOX WITH VECTORSENSE™ ELECTRONICS
(40" X 14" X 12" IN TOP OF BARRIER WALL)
- B JUNCTION BOX
(40" X 14" X 12" IN TOP OF BARRIER WALL)
- C BURIED CONDUIT.
- D CABLES FOR INTERIOR LANES EQUIPMENT RUN UNDER ADJACENT
LANE PANELS. NOT ALL CONDUITS SHOWN, FOR CLARITY
- E HANDHOLE
(30" X 30" X 39" IN GROUND)
- F HANDHOLE WITH VECTORSENSE ELECTRONICS
(30" x 30" x 39" IN GROUND)

ALL CONDUITS SHALL BE PVC SCH 80 UNLESS NOTED OTHERWISE

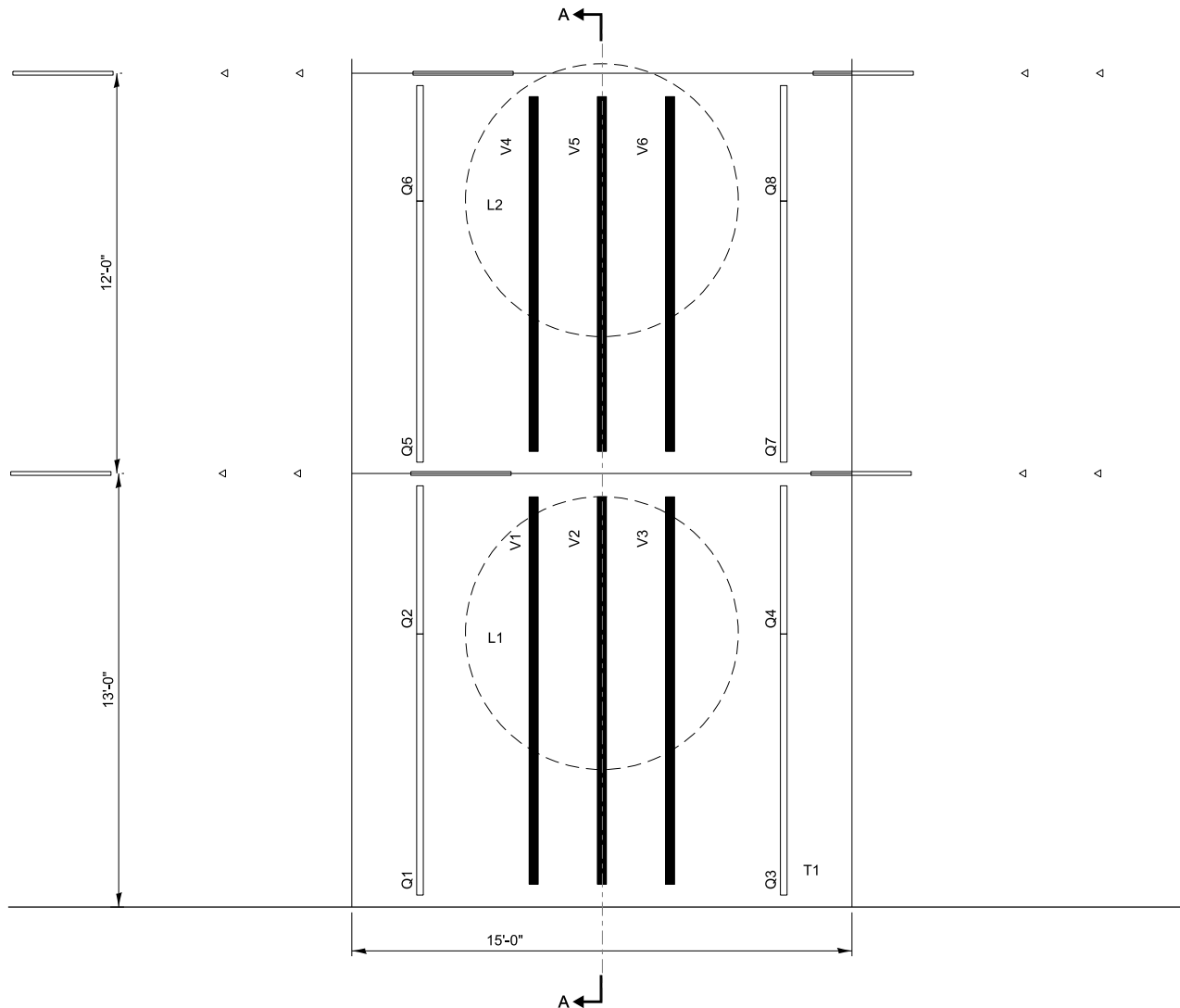
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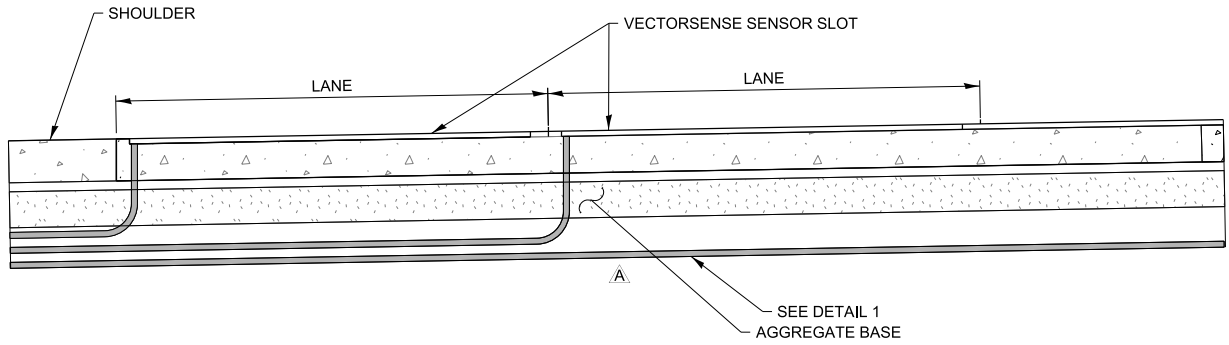
WEIGH-IN-
MOTION 3 LANES



SITE LAYOUT
NOT TO SCALE



DETAIL 1



SECTION A-A

NOTES: (THIS SHEET ONLY)

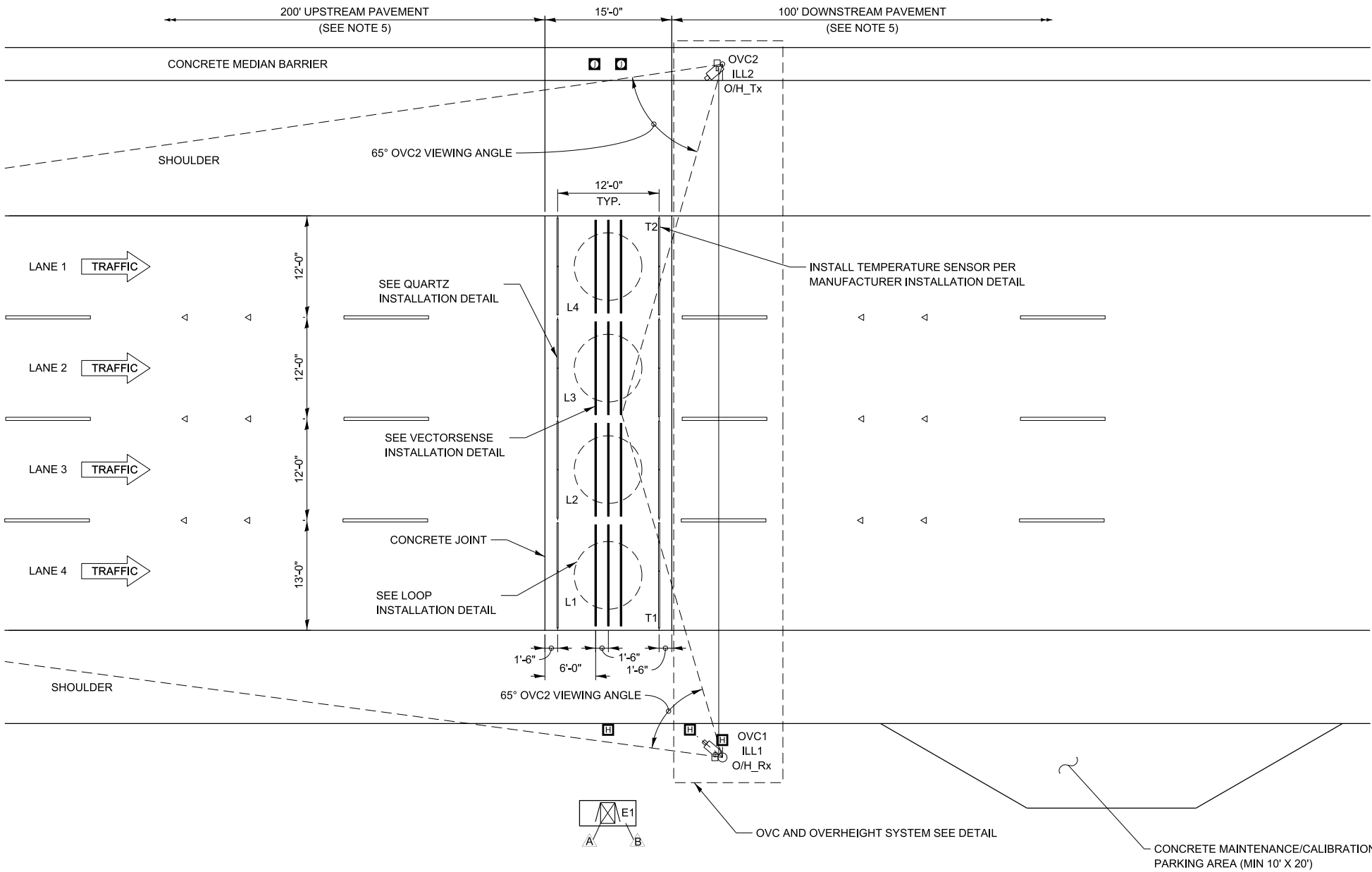
- A. GENTLY CURVE CONDUIT AS NECESSARY TO FOLLOW ROAD SLOPE AND TO PASS OVER INTERSECTING CONDUIT. NO 90° PIPE FITTINGS PERMITTED, ONLY SWEEPS.
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- C. CONDUIT DEPTH SHALL BE 33"MIN TO 45"MAX BELOW TOP OF PAVEMENT.

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WEIGH-IN-
MOTION 3 LANES



SITE OVERVIEW
NOT TO SCALE

LEGEND

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- ILL - ILLUMINATOR
- L - INDUCTIVE LOOP
- O/H - OVERHEIGHT SENSOR
- OVC - OVERVIEW CAMERA
- Q - QUARTZ WIM SENSOR
- T - TEMPERATURE SENSOR
- V - VECTORSENSE SENSOR
- Tx - TRANSMITTER
- Rx - RECEIVER
- [Symbol] - CABINET
- [Symbol] - SIGNAL CONDUIT
- [Symbol] - POWER CONDUIT
- [Symbol] - NOTE
- [Symbol] - JUNCTION BOX
- [Symbol] - HANDHOLE
- [Symbol] - WIM HEIGHT DETECTOR
- [Symbol] - WIM CAMERA

NOTES: (THIS SHEET ONLY)

- [Symbol] JUNCTION BOX WITH WIM ELECTRONICS
- [Symbol] CABINET FOUNDATION

GENERAL NOTES:

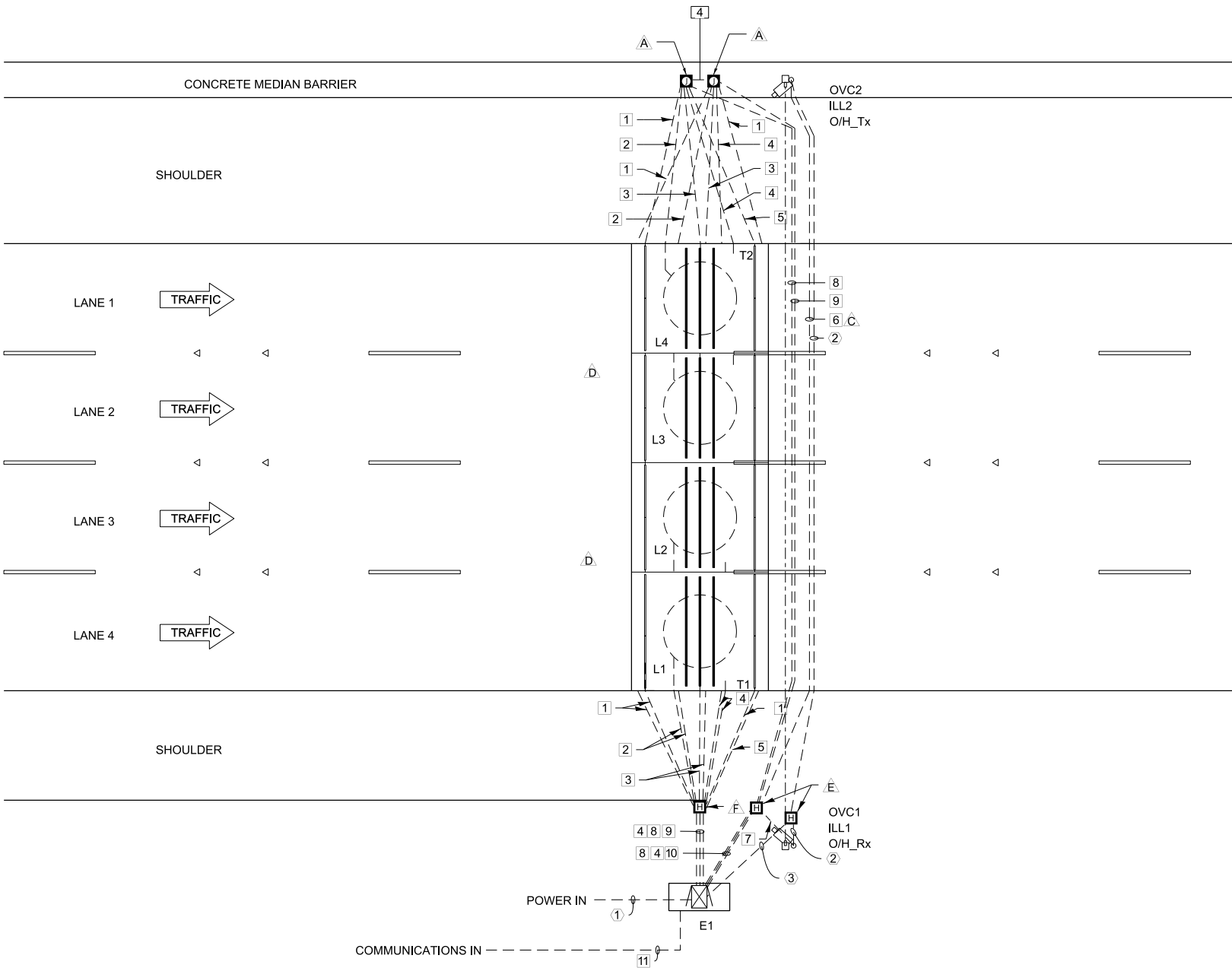
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WEIGH-IN-MOTION 4 LANES



WIRING LAYOUT

CONDUIT DETAIL
SIGNAL CONDUITS:

- 1 2" [50mm] CONDUIT
2 - QUARTZ SENSOR LEAD
1 - GROUND WIRE (QUARTZ)
- 2 2" [50mm] CONDUIT
2 - LOOP WIRE
- 3 2" [50mm] CONDUIT
3 - VECTORSENSE SENSOR LEAD
- 4 2" [50mm] CONDUIT SPARE
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POWER CONDUITS

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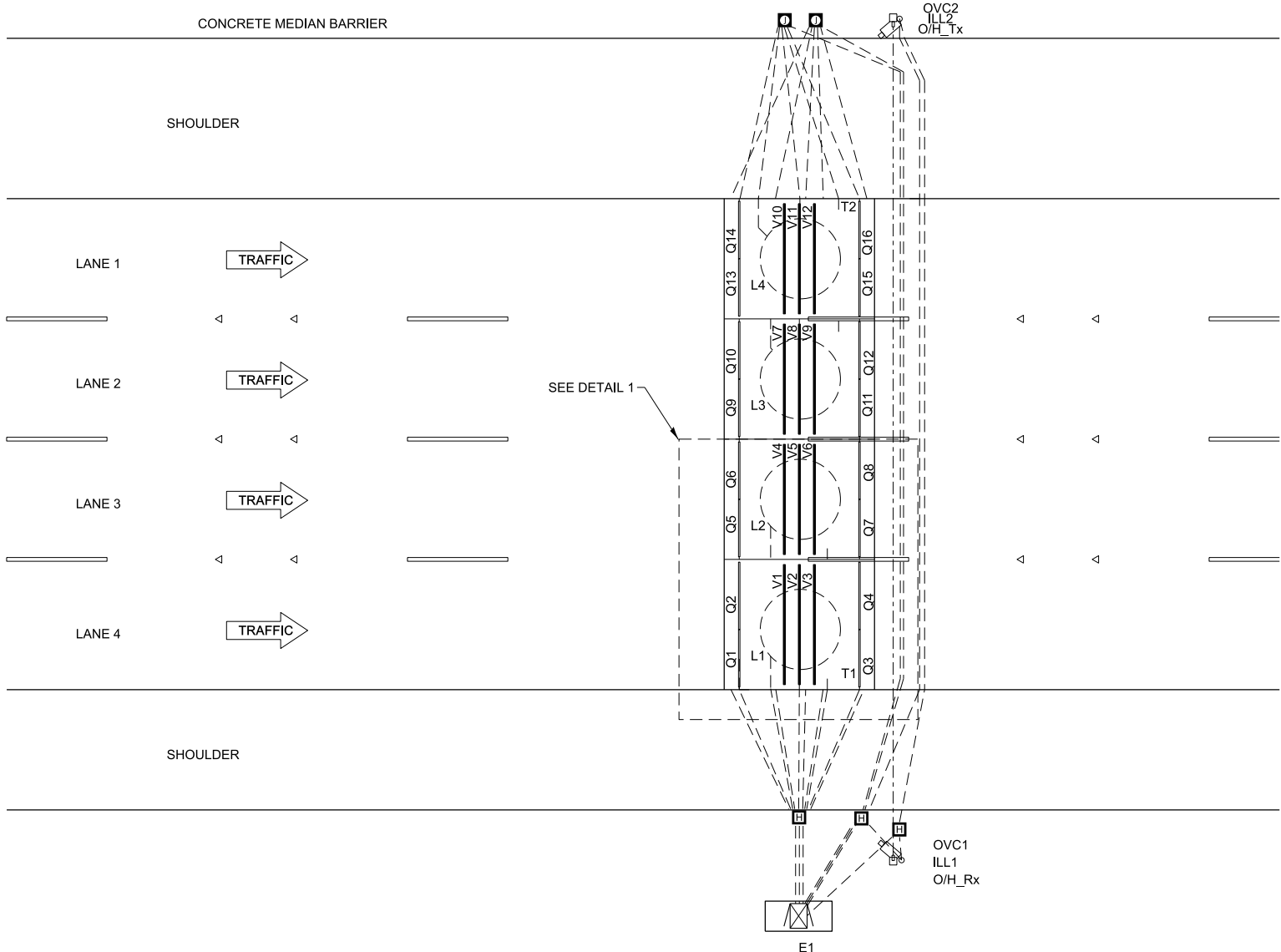
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- A JUNCTION BOX WITH VECTORSENSE™ ELECTRONICS (40" X 14" X 12" IN TOP OF BARRIER WALL)
- C BURIED CONDUIT.
- D CABLES FOR INTERIOR LANES EQUIPMENT RUN UNDER ADJACENT LANE PANELS. NOT ALL CONDUITS SHOWN, FOR CLARITY
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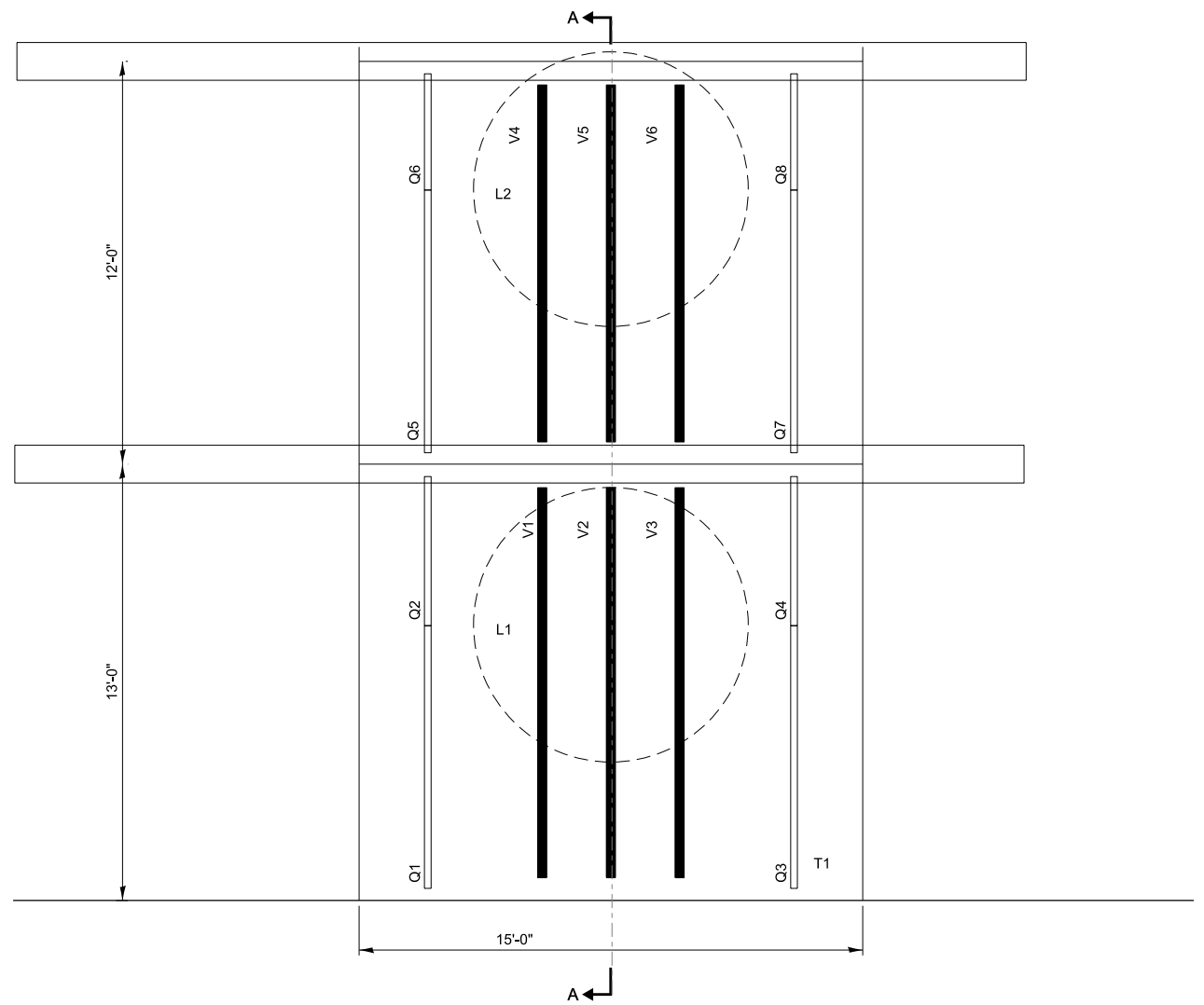
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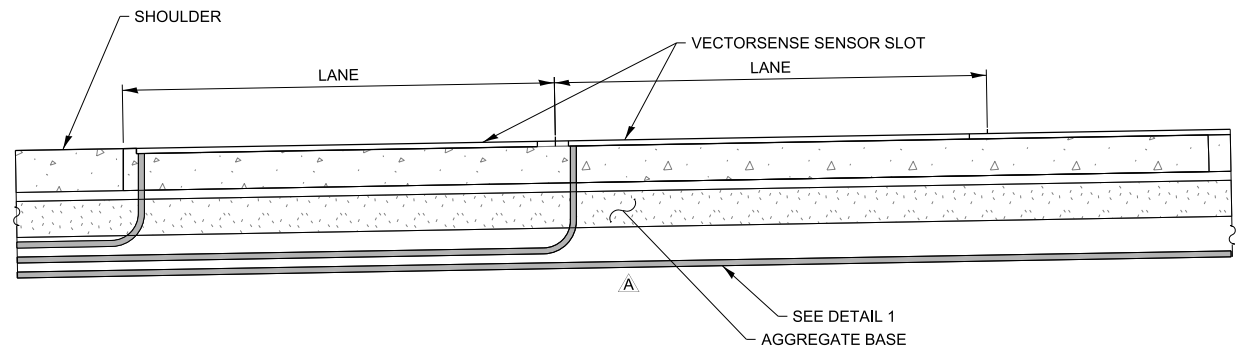
WEIGH-IN-MOTION 4 LANES



SITE LAYOUT
NOT TO SCALE



DETAIL 1



SECTION A-A

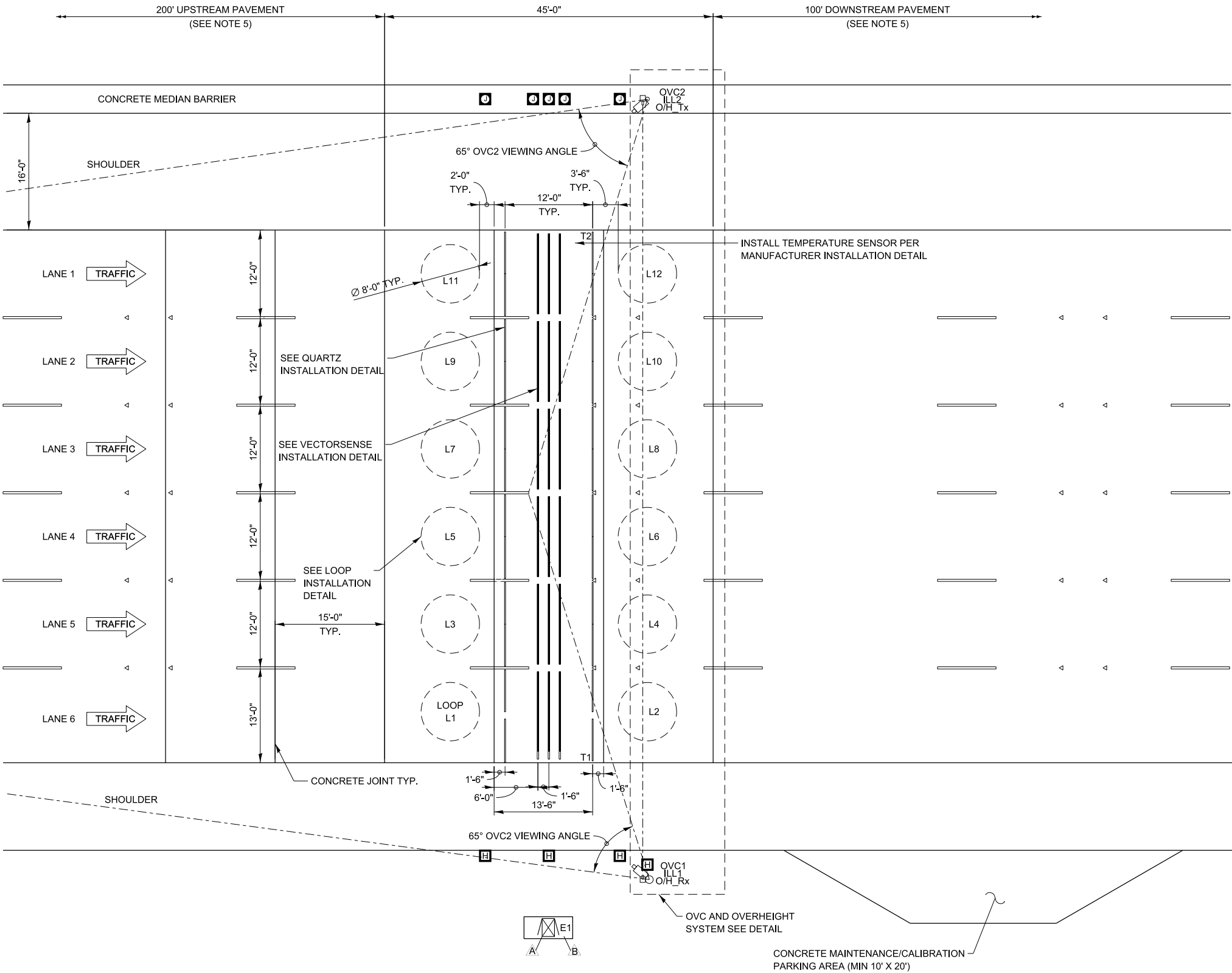
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 - C CONDUIT DEPTH SHALL BE 33" MIN TO 45" MAX BELOW TOP OF PAVEMENT.

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WEIGH-IN-MOTION 4 LANES



SITE OVERVIEW
NOT TO SCALE

NOTE TO DESIGNER

DIAMOND GRINDING OF THE 345' LENGTH OF CONCRETE PAVEMENT SHALL OCCUR AFTER PRECAST PANELS ARE INSTALLED. DSE SHALL COORDINATE CONSTRUCTION SCHEDULE AND MAINTENANCE OF TRAFFIC ACCORDINGLY.

LEGEND

- E - ELECTRONICS ENCLOSURE
- ILL - ILLUMINATOR
- L - INDUCTIVE LOOP
- O/H - OVERHEIGHT SENSOR
- OVC - OVERVIEW CAMERA
- Q - QUARTZ WIM SENSOR
- T - TEMPERATURE SENSOR
- V - VECTORSense SENSOR
- Tx - TRANSMITTER
- Rx - RECEIVER
- [Symbol] - CABINET
- [Symbol] - SIGNAL CONDUIT
- [Symbol] - POWER CONDUIT
- [Symbol] - NOTE
- [Symbol] - JUNCTION BOX
- [Symbol] - HANDHOLE
- [Symbol] - WIM HEIGHT DETECTOR
- [Symbol] - WIM CAMERA

NOTES: (THIS SHEET ONLY)

- [Symbol] JUNCTION BOX WITH WIM ELECTRONICS
- [Symbol] CABINET FOUNDATION

GENERAL NOTES:

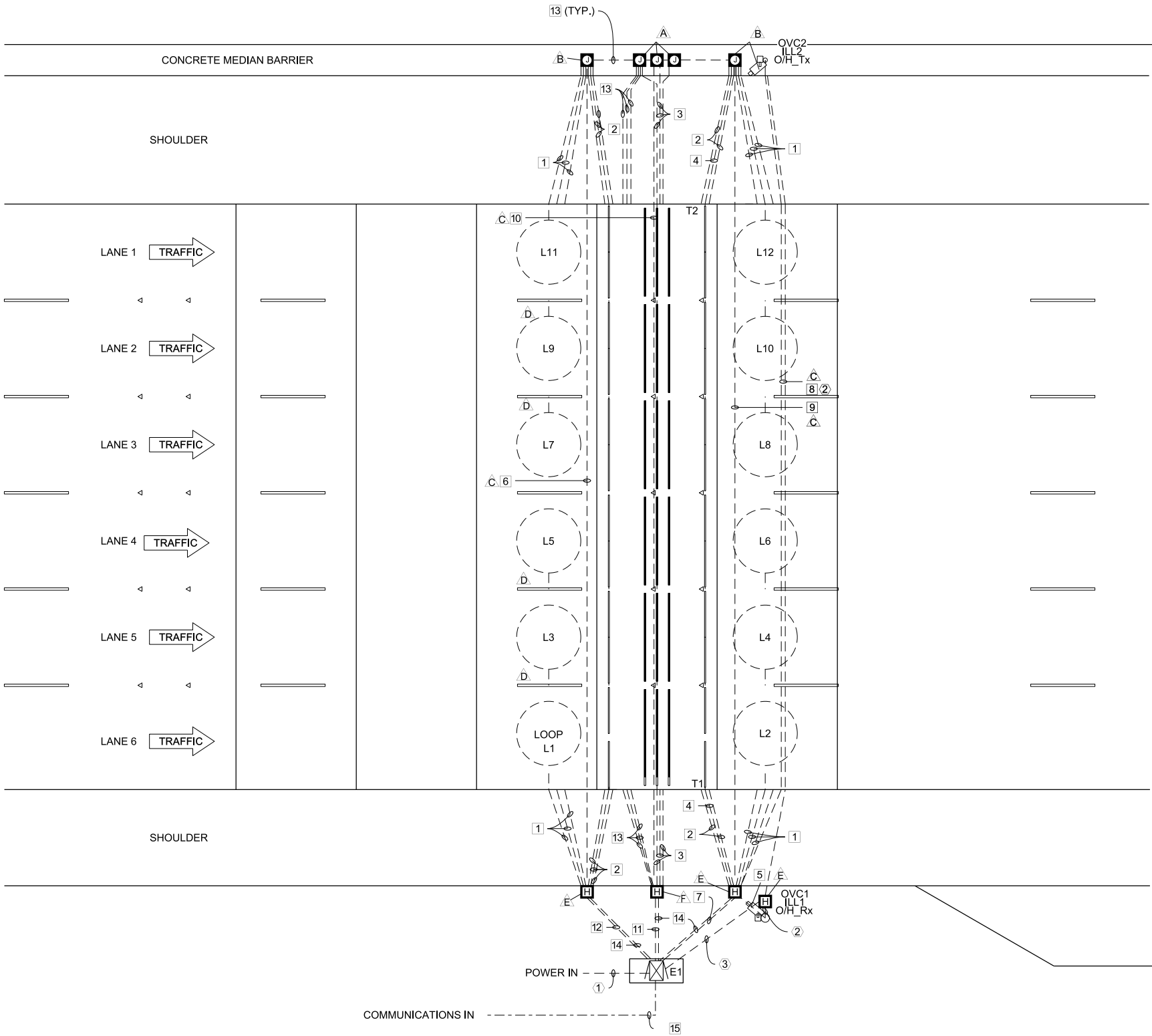
- ALL CONNECTIONS BETWEEN SENSORS AND LEAD CABLES SHALL BE DONE WITHIN A PULL BOX BY SOLDERING THEN SEALING FOR WATERPROOFING. PLACEMENT OF PULL BOXES MAY BE DIFFERENT FROM THAT SHOWN TO MEET SITE REQUIREMENTS.
- AC POWER CABLES MUST BE RUN IN SEPARATE CONDUITS/PULLBOXES FROM SIGNAL CABLES OR SEPARATED INSIDE PULLBOXES WITH A DIVIDER.
- SENSOR SPACING SHOWN IS TYPICAL SPACING REQUIREMENT, ACTUAL SENSOR SPACING MAY BE ALTERED TO SUIT SITE CONDITIONS APPROVED BY THE ENGINEER AND MANUFACTURER REPRESENTATIVE.
- SITE CONDITIONS MUST MEET ASTM E1318-09 TYPE 1 REQUIREMENTS TO ACHIEVE OPTIMAL WIM SYSTEM PERFORMANCE.
- A CONCRETE PAVEMENT SECTION ON STRAIGHT GRADE OBTAINED WITH DIAMOND GRINDING WITH NO VERTICAL CURVES AND NO SUPERELEVATION TRANSITIONS IS REQUIRED FOR WIM LANES, FROM 200' BEFORE THE SENSORS UP TO 100' AFTER THE SENSORS, TO IMPROVE LONG TERM PERFORMANCE AND REDUCE MAINTENANCE. DIAMOND GRINDING OF THE 345' LENGTH OF CONCRETE PAVEMENT SHALL OCCUR BEFORE SAW CUT SLOTS ARE MADE FOR SENSOR INSTALLATION.
- CABLES MUST BE PROTECTED BY PVC SLEEVES WHERE THEY CROSS PAVEMENT JOINTS/CRACKS.
- ADDITIONAL DRAINAGE MAY BE REQUIRED DEPENDING ON SLOPE OF ROADWAY.
- EXACT ROUTING OF CONDUIT TO BE DETERMINED ON SITE.
- PROVIDE 6" MINIMUM SPACING BETWEEN ADJACENT MEDIAN BARRIER JUNCTION BOXES.
- OVC AND OVERHEIGHT SYSTEM POLES SHALL BE INSTALLED 20' (PREFERRED) TO 100' (MAX) DOWNSTREAM OF WIM SENSORS. POLES SHALL BE APPROXIMATELY IN-LINE WITH EACH OTHER AS SHOWN ON THIS SHEET.

NOTE TO DESIGNER

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WEIGH-IN-MOTION 6 LANES



WIRING LAYOUT
NOT TO SCALE

CONDUIT DETAIL
SIGNAL CONDUITS:

- 1 2" [50mm] CONDUIT
2 - LOOP WIRE
- 2 2" [50mm] CONDUIT
2 - QUARTZ SENSOR LEAD
1 - GROUND WIRE (QUARTZ)
- 3 2" [50mm] CONDUIT
3 - VECTORSENSE SENSOR LEAD
- 4 2" [50mm] CONDUIT SPARE
2 - QUARTZ SENSOR LEAD
1 - TEMPERATURE SENSOR LEAD
1 - GROUND WIRE (QUARTZ)
- 5 2" [50mm] CONDUIT
1 - OVC SIGNAL CABLE
1 - O/H_Rx SIGNAL CABLE
- 6 2" [50mm] CONDUIT
3 - LOOP LEAD
6 - QUARTZ SENSOR LEAD
3 - GROUND WIRE (QUARTZ)
- 7 3" [75mm] CONDUIT
6 - LOOP LEAD
12 - QUARTZ SENSOR LEAD
6 - GROUND WIRE (QUARTZ)
2 - TEMPERATURE SENSOR LEAD
2 - OVC SIGNAL CABLE
1 - O/H Tx SIGNAL CABLE
- 8 2" [50mm] CONDUIT
1 - OVC SIGNAL CABLE
- 9 2" [50mm] CONDUIT
3 - LOOP LEAD
6 - QUARTZ SENSOR LEAD
3 - GROUND WIRE (QUARTZ)
1 - TEMPERATURE SENSOR LEAD
- 10 2" [50mm] CONDUIT
6 - VECTORSENSE SIGNAL CABLE
3 - GROUND WIRE (QUARTZ)
- 11 3" [75mm] CONDUIT
12 - VECTORSENSE SIGNAL CABLE
6 - GROUND WIRE (VECTORSENSE)
- 12 3" [75mm] CONDUIT
6 - LOOP LEAD
12 - QUARTZ SENSOR LEAD
6 - GROUND WIRE (QUARTZ)
- 13 2" [50mm] CONDUIT
SPARE
- 14 3" [75mm] CONDUIT
SPARE
- 15 2" [50mm] CONDUIT WIM CABINET FIBER

POWER CONDUITS

- 1 2" CONDUIT
WIM CABINET POWER
- 2 2" CONDUIT
1 - O/H POWER
1 - ILLUMINATOR POWER
- 3 2" CONDUIT
2 - O/H POWER
2 - ILLUMINATOR POWER

NOTES: (THIS SHEET ONLY)

- A JUNCTION BOX WITH VECTORSENSE™ ELECTRONICS
(40" X 14" X 12" IN TOP OF BARRIER WALL)
- B JUNCTION BOX
(40" X 14" X 12" IN TOP OF BARRIER WALL)
- C BURIED CONDUIT.
- D CABLES FOR INTERIOR LANES EQUIPMENT RUN
UNDER ADJACENT LANE PANELS. NOT ALL CONDUITS
SHOWN, FOR CLARITY
- E HANDHOLE
(30" X 30" X 39" IN GROUND)
- F HANDHOLE WITH VECTORSENSE ELECTRONICS
(30" x 30" x 39" IN GROUND)

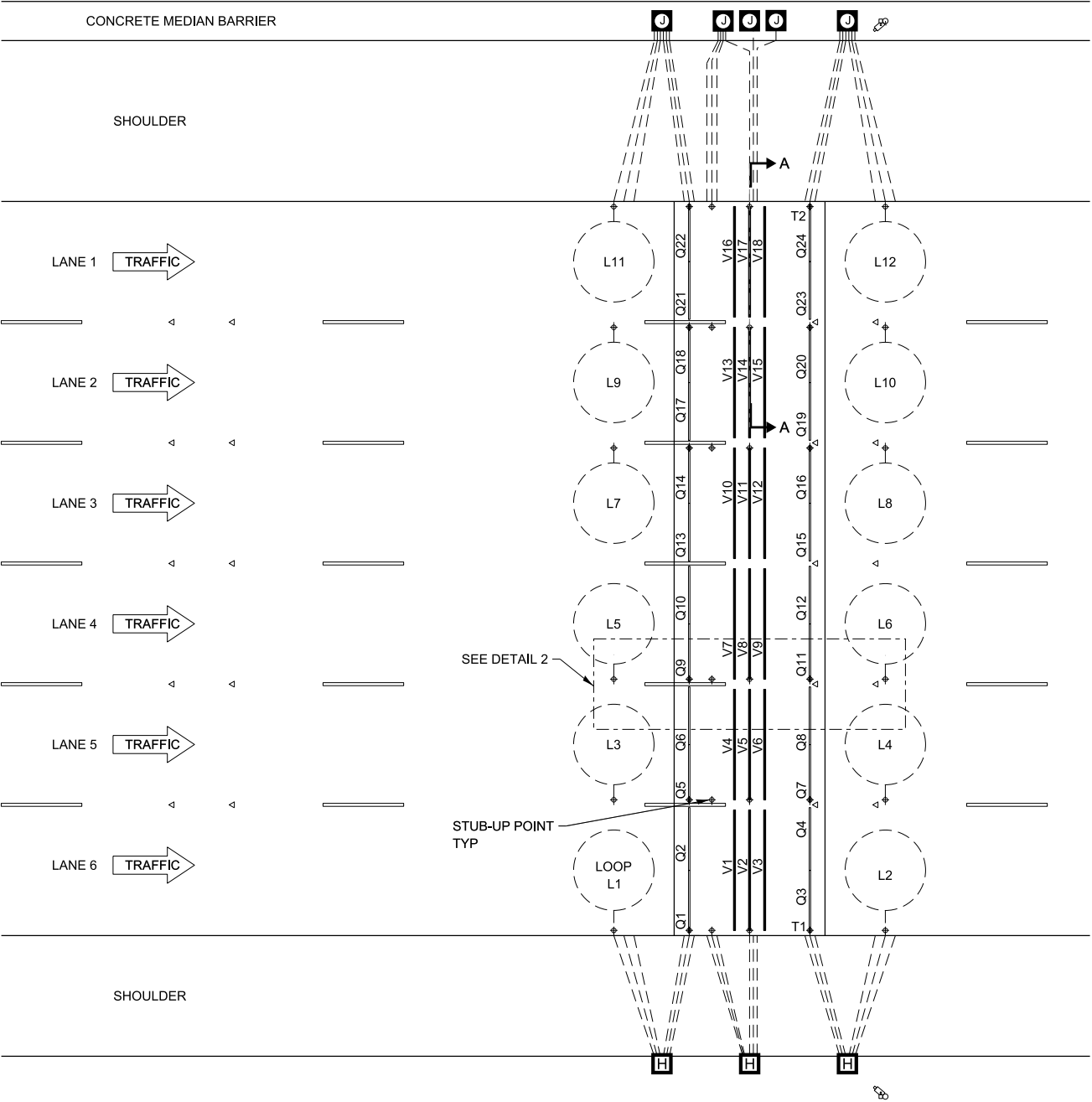
ALL CONDUITS SHALL BE PVC SCH 80 UNLESS
NOTED OTHERWISE

NOTE TO DESIGNER

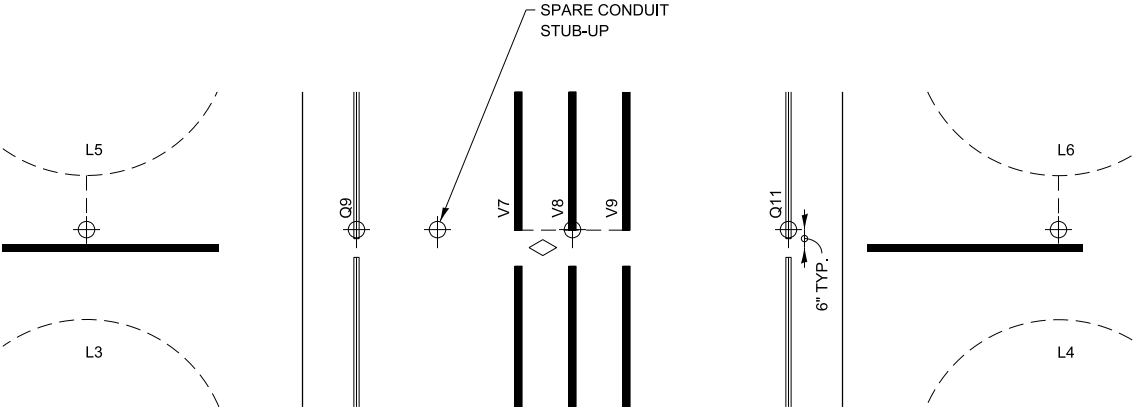
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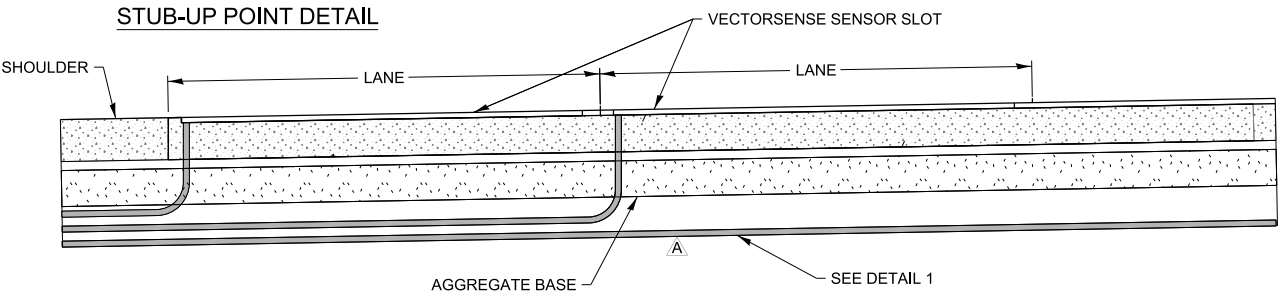
WEIGH-IN-MOTION 6 LANES



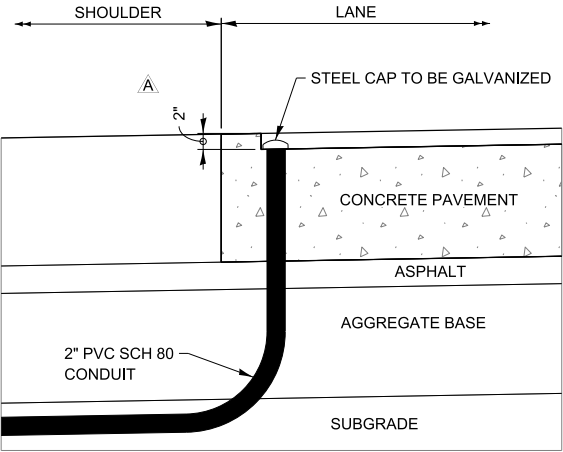
SITE LAYOUT
NOT TO SCALE



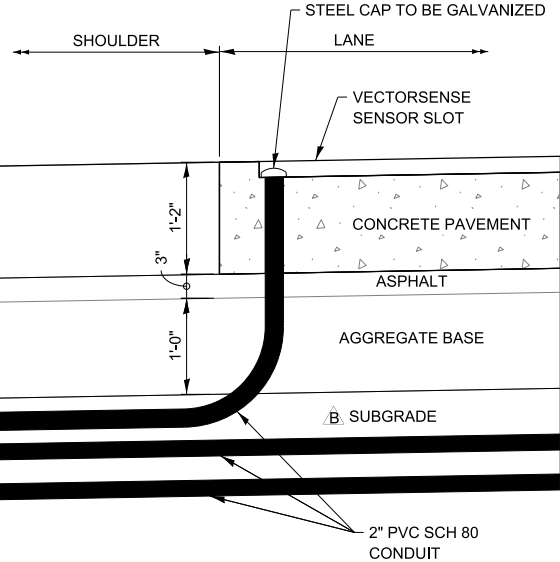
DETAIL 2
NOT TO SCALE



SECTION A-A



STAGE 1 - CONCRETE POUR
DETAIL 1
NOT TO SCALE



STAGE 1 - COMPLETED
DETAIL 1
NOT TO SCALE

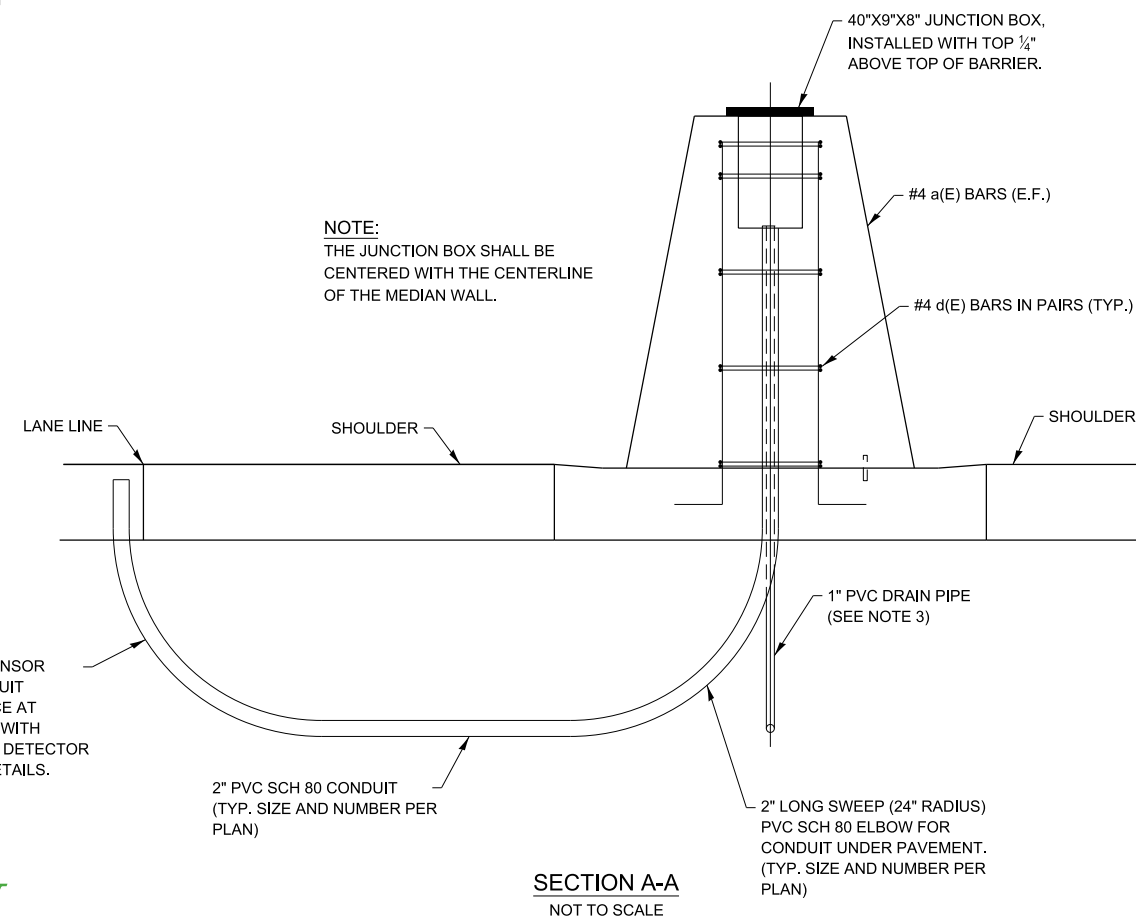
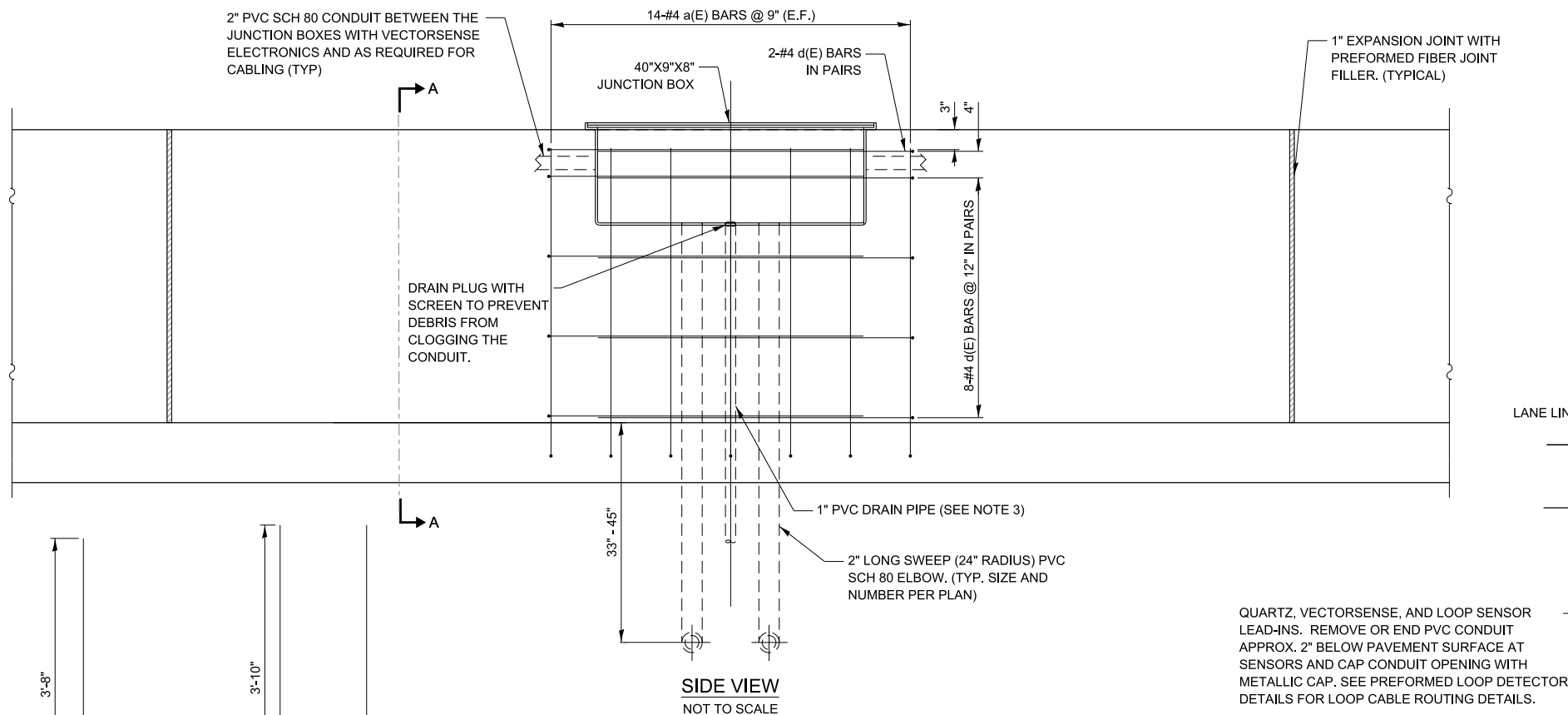
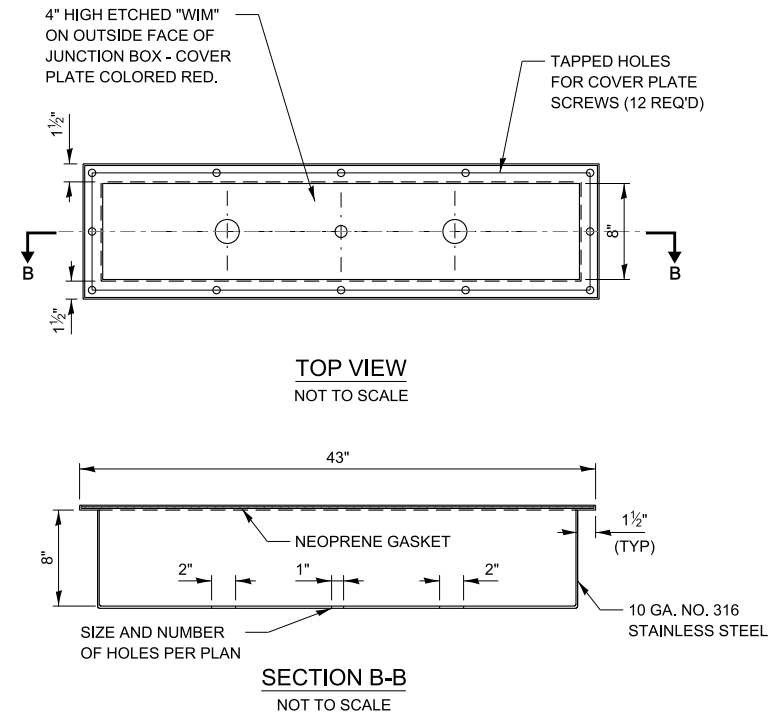
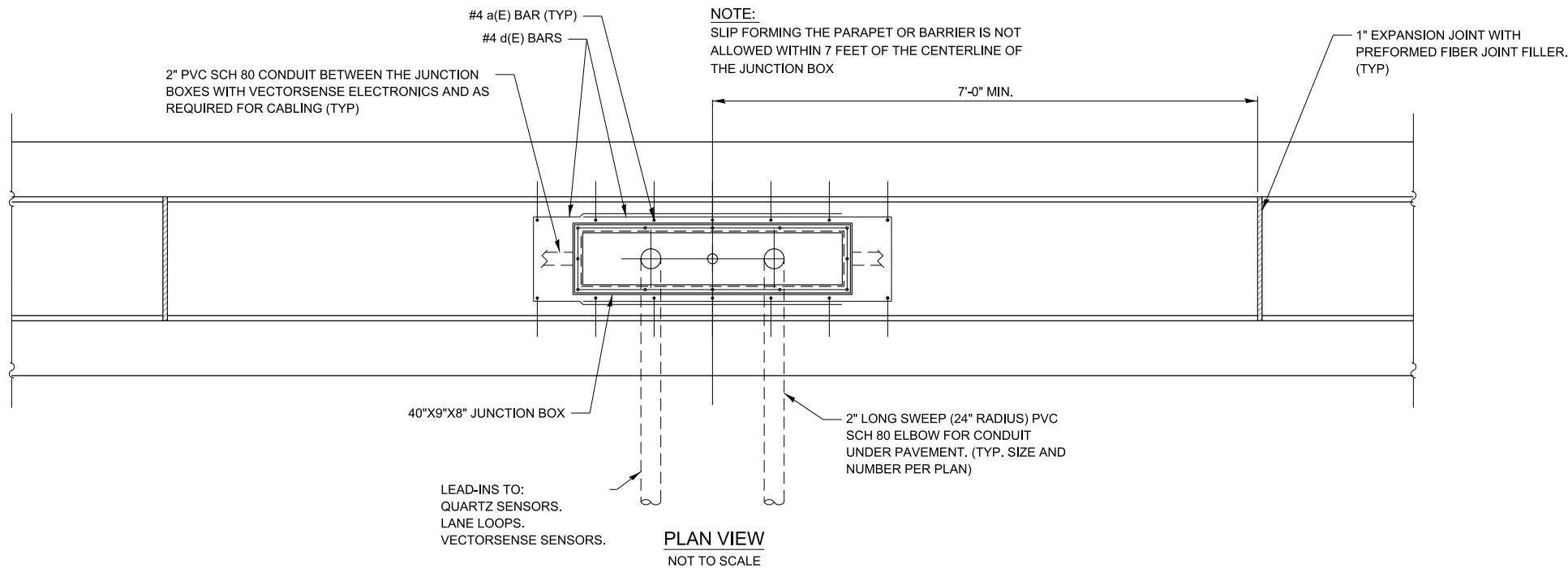
- NOTES: (THIS SHEET ONLY)
- A. STUB-UP CONDUIT TO 2" BELOW CONCRETE SURFACE. BEFORE POURING CONCRETE, CAP OPENINGS AND PROTECT WITH TAPE AND SOFT MATERIAL TO PREVENT DAMAGE IN FUTURE DISCOVERY. TO BE CUT TO PROPER HEIGHT WHEN SENSORS ARE INSTALLED. METAL CAP WILL ALLOW EASIER DETECTION FOR RE-ENTRY.
 - B. GENTLY CURVE CONDUIT AS NECESSARY TO FOLLOW ROAD SLOPE AND TO PASS OVER INTERSECTING CONDUIT. NO 90° PIPE FITTINGS PERMITTED, ONLY SWEEPS.
 - C. ALL CONDUIT DIMENSIONS HAVE A TOLERANCE OF +/- 2".
 - D. CONDUIT AND FITTINGS, OTHER THAN AT STUB-UP LOCATION, ARE PLACED BELOW THE AGGREGATE LAYER, BACKFILLED WITH BEDDING SAND. ENSURE SAND SURROUNDS CONDUITS AND FITTINGS AND COMPACT THE MATERIAL. AT CONDUIT STUB-UP LOCATIONS RAPCAP THE TOP 3" TO MATCH 3" ASPHALT LAYER.
 - E. CONDUIT DEPTH SHALL BE 33" MIN TO 45" MAX BELOW TOP OF PAVEMENT.
 - F. SPACING OF REBAR DOWELS AT PAVEMENT JOINTS TO METAL CONDUIT CAPS SHALL BE COORDINATED TO MAINTAIN 12" MINIMUM HORIZONTAL SEPARATION.

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WEIGH-IN-MOTION 6 LANES



NOTES:

1. THE JUNCTION BOX SHALL BE ACCESSED FROM THE TOP OF MEDIAN BARRIER.
2. DUCT SHALL BE CUT AND REMOVED AT JUNCTION BOX CONDUIT OPENINGS AND INSIDE BOX. ELECTRICAL CONDUITS SHALL PROTRUDE 1#4" INTO BOX.
3. CONTRACTOR SHALL INSTALL 1" PVC PIPE TO DRAIN JUNCTION BOX TO AGGREGATE SUBGRADE. INSTALL S.S. SCREEN OVER DRAIN INSIDE JUNCTION BOX.
4. SLIPFORMING OF BARRIER WALL PROHIBITED AT JUNCTION BOXES.

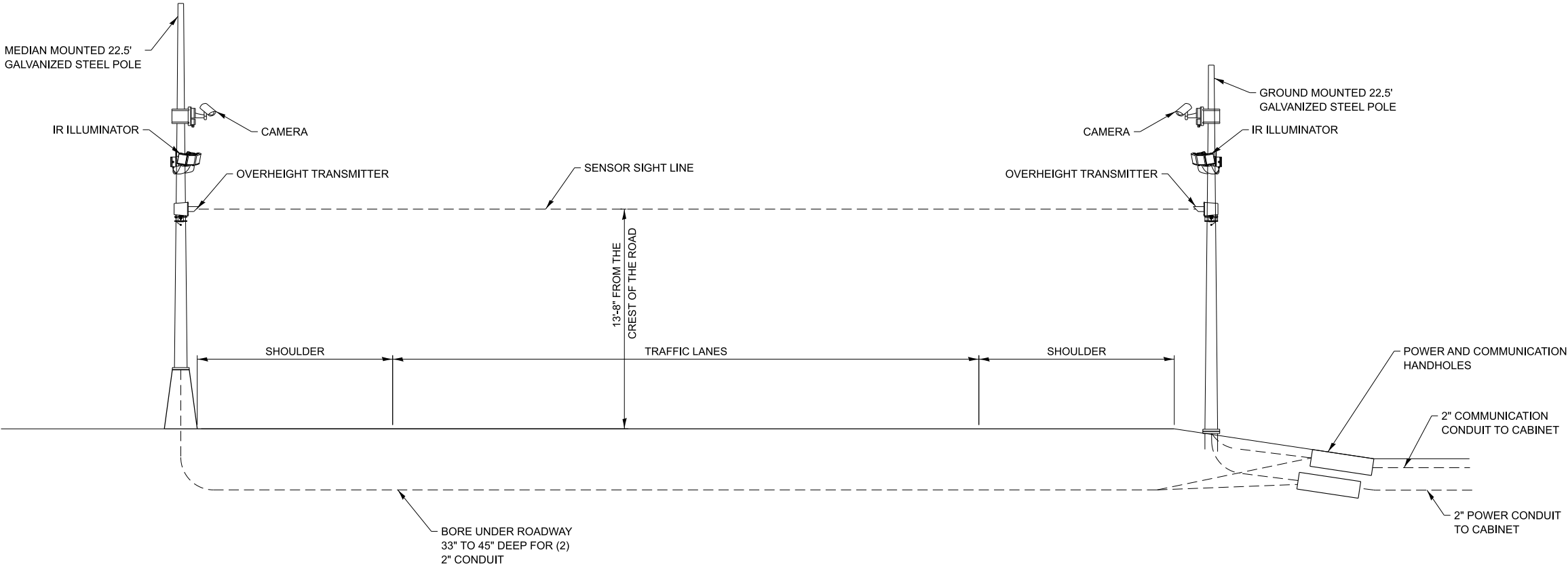
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REINFORCEMENT BAR SCHEDULE					
BAR	NO	SIZE	LENGTH	WT. LB.	SHAPE
a(E)	14	#4	4'-4"	41	
d(E)	10	#4	8'-9"	41	



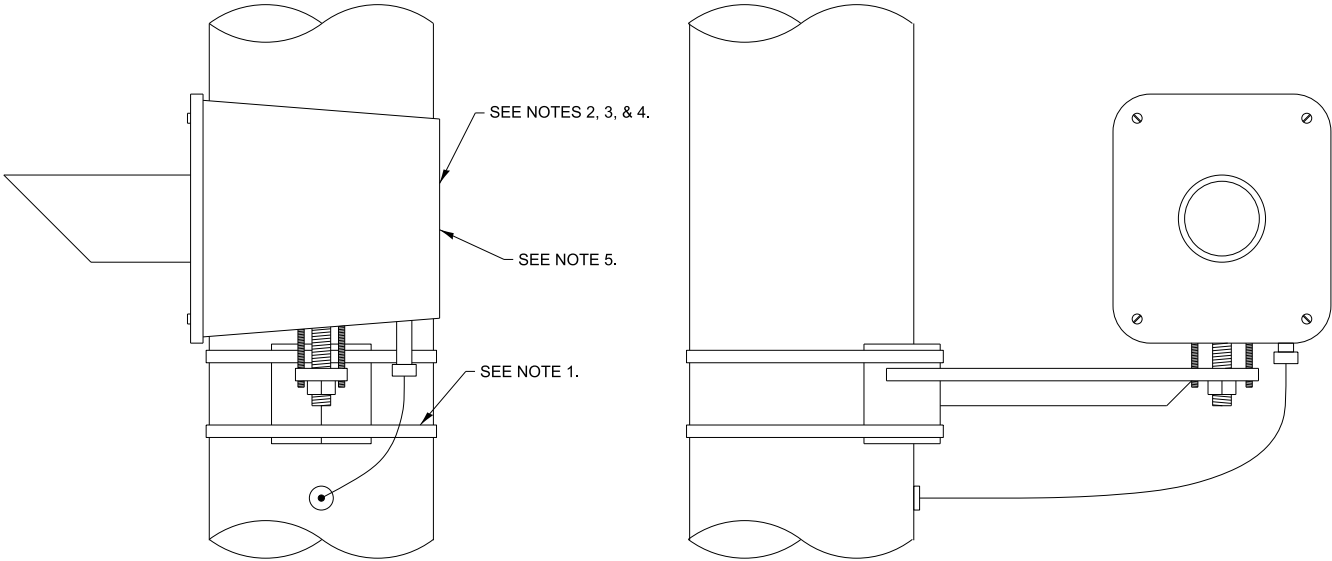
WEIGH-IN-MOTION JUNCTION BOX DETAIL



SENSOR CONFIGURATION
NOT TO SCALE

NOTE TO THE CONTRACTOR:
SUBMIT SITE SURVEY TO THE ENGINEER FOR EACH OVER HEIGHT SENSOR MOUNTING HEIGHT TO CONFIRM THE MOUNTING HEIGHT IS 13'-8" FROM THE CREST OF THE ROAD AT THE OVER HEIGHT SENSORS LOCATION.

- NOTES:**
- 1. BAND MOUNTING BRACKET TO POLE AT APPROPRIATE HEIGHT.
 - 2. MOUNT, WIRE AND AIM THE OVERHEIGHT TRANSMITTER AND RECEIVER IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 - 3. DETECTOR AND BRACKET WEIGHT: 40 lbs
 - 4. DETECTOR HOUSING SIZE: 15-½" X 10" X 8-¾"
 - 5. DETECTOR POWER: 115 VAC, 0.3 AMP.



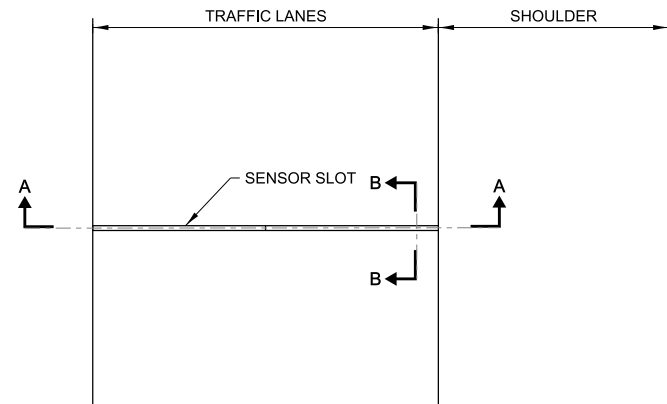
SENSOR DETAIL
NOT TO SCALE

NOTE TO DESIGNER
USE A 50 FOOT ITS POLE IF INSTALLED ON A SLOPE

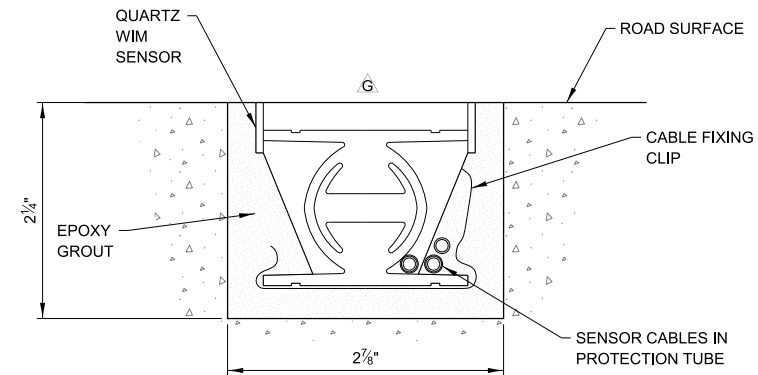
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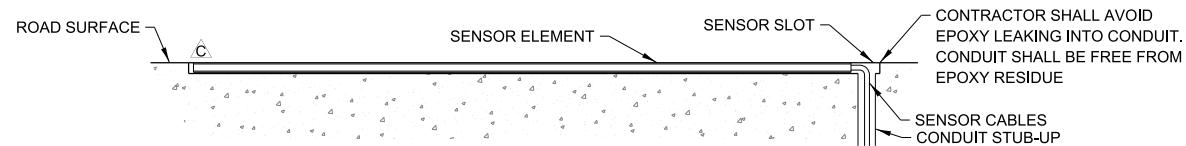
WEIGH-IN-MOTION HEIGHT DETECTOR



PLAN VIEW - SENSOR INSTALLATION
NOT TO SCALE



SECTION B-B
NOT TO SCALE



SECTION A-A
NOT TO SCALE

NOTES:

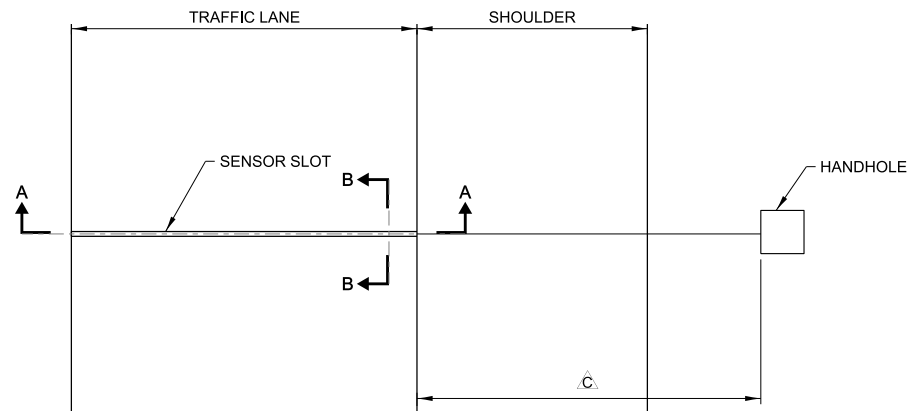
- A. FOR INSTALLATION PROCESS REFER TO MANUFACTURERS INSTALLATION MANUAL.
- B. SLOT LENGTH IS 6" LONGER THAN SENSOR THE EXTRA 6 IN. IS ON THE CONDUIT STUB-UP SIDE.
- C. SET SENSOR FLUSH WITH OR SLIGHTLY HIGHER THAN ROAD SURFACE USING INCLUDED LEVELING BEAMS.
- D. CHECK THE RESISTANCE OF THE SENSOR BY PLACING A DIGITAL MULTIMETER ACROSS THE CENTER CONDUCTOR OF THE BNC CONNECTOR AND THE OUTER BODY. THE READING SHOULD BE INFINITY.
- E. CHECK THE VOLTAGE OUTPUT OF THE SENSOR BY MONITORING THE METER WHEN A TRUCK PASSES OVER THE SENSOR INSTALLED IN THE ROADWAY. AS THE TRUCK PASSES OVER THE SENSOR, VOLTAGE DEFLECTION SHOULD BE OBSERVED.
- F. CRACKS OR SAW CUTS IN THE ROADWAY MUST NOT BE LOCATED CLOSER THAN 18" UPSTREAM AND 18" DOWNSTREAM OF THE CENTERLINE OF THE SENSOR.
- G. SENSOR MUST BE GROUND FLUSH WITH ROAD SURFACE AFTER GROUT HAS CURED.
- H. CONNECT INSULATED GROUND WIRE PER MANUFACTURER RECOMMENDATIONS. OTHER END OF GROUND WIRE CONNECTS CABINET GROUND BUSBAR.

NOTE TO DESIGNER

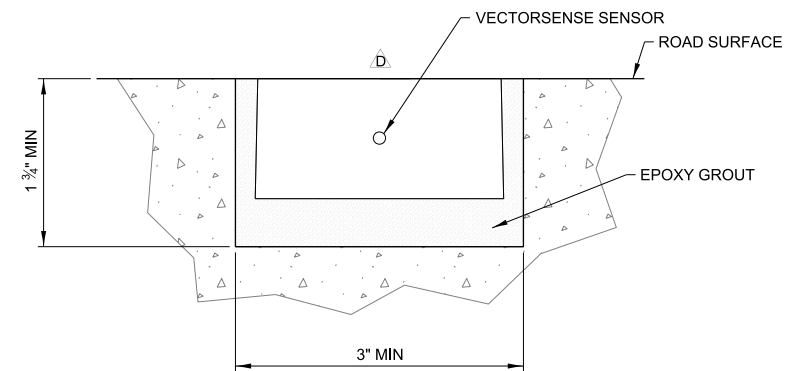
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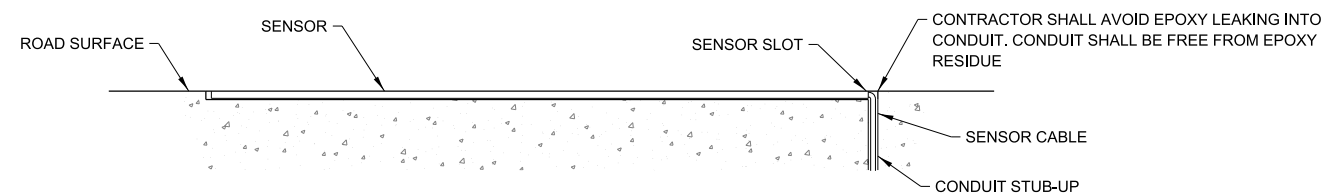
WEIGH-IN-MOTION QUARTZ
SENSOR DETAILS



PLAN VIEW - SENSOR INSTALLATION
NOT TO SCALE



SECTION B-B
NOT TO SCALE



SECTION A-A
NOT TO SCALE

NOTES:

- △ A. CRACKS IN THE ROADWAY MUST NOT BE LOCATED CLOSER THAN 18" UPSTREAM AND 18" DOWNSTREAM OF THE CENTERLINE OF THE SENSOR.
- △ B. SLOT LENGTH IS 2" LONGER THAN SENSOR. THE EXTRA 2" SHALL BE ON THE CONDUIT STUB-UP SIDE.
- △ C. 50' MAXIMUM DISTANCE BETWEEN SENSOR AND ELECTRONICS INSIDE HANDHOLE OR JUNCTION BOX.
- △ D. SENSOR GROUT MUST BE GROUND FLUSH WITH ROAD SURFACE AFTER GROUT HAS CURED.

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VECTORSENSE SENSOR INSTALLATION



**WEIGH-IN-MOTION
VECTORSENSE SENSOR
DETAILS**