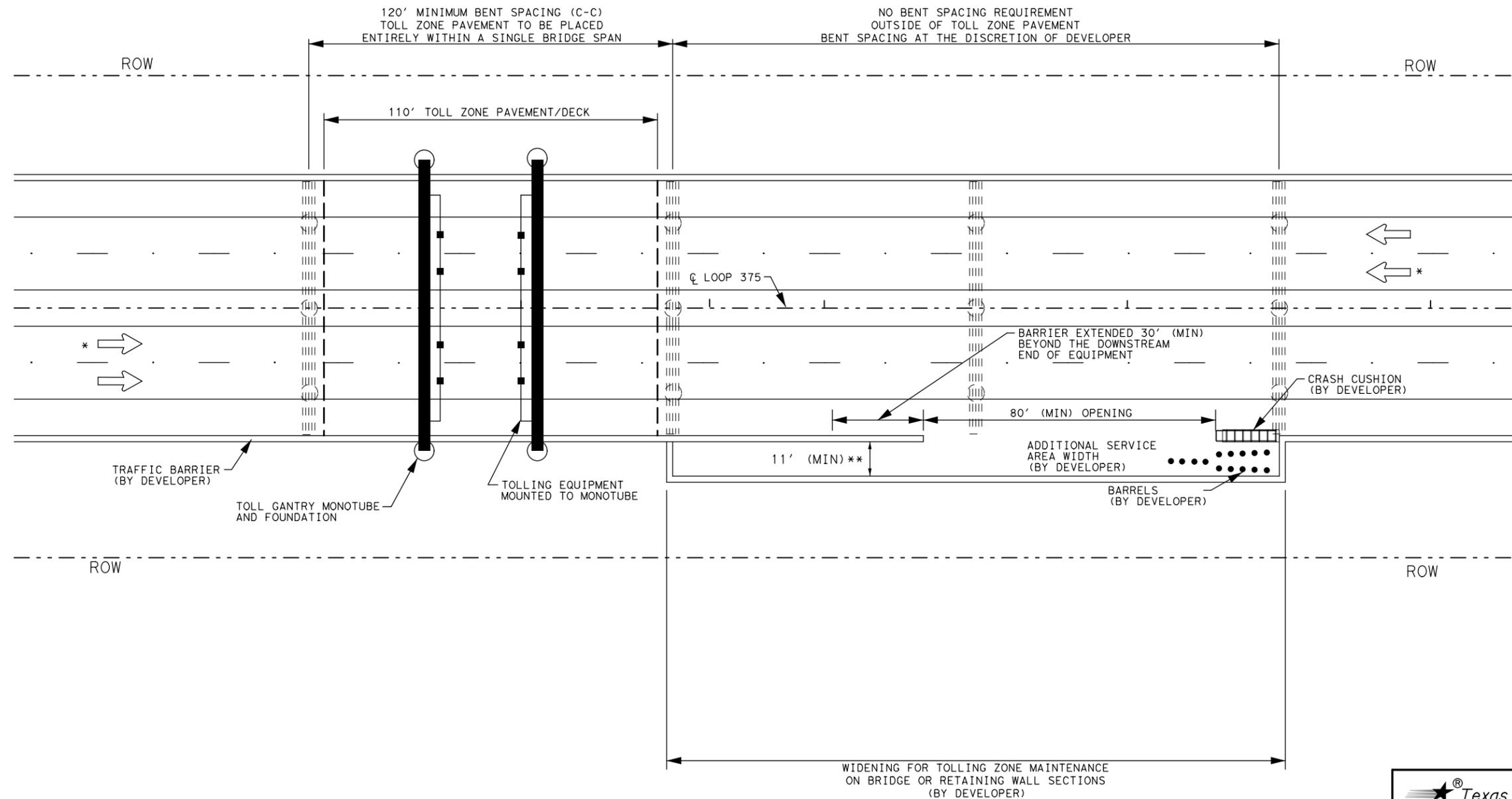


**Texas Department of Transportation**  
**BOOK 2 – TECHNICAL PROVISIONS**  
**FOR**  
**LOOP 375 - BORDER HIGHWAY WEST EXTENSION**  
**PROJECT**  
**Design-Build Project**  
**ATTACHMENT 21-3**  
**TYPICAL TOLL ZONE LAYOUT**

**MARCH 14, 2014**

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FILE: Z:\Projects\EC0206 WA 08\Border Highway\dw\375tollzone.dgn  
 DATE: 3/16/2014



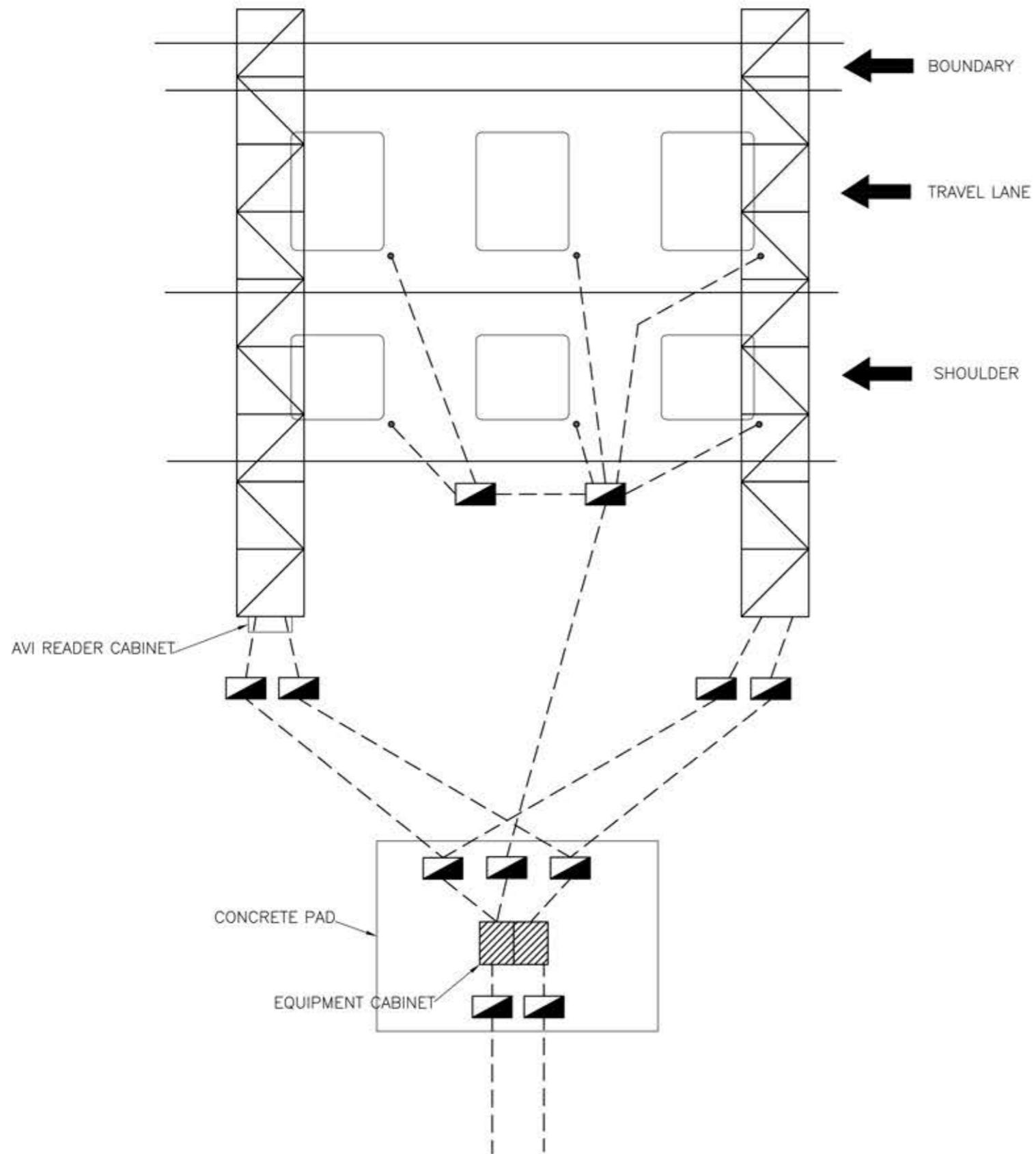
\* THE MAINLINE TOLL ZONE IS THE ONLY TOLL ZONE WITH MULTIPLE LANES. THE RAMP TOLL ZONES ARE ONE-LANE CONFIGURATIONS. REFER TO THE TECHNICAL PROVISIONS FOR ROADWAY GEOMETRY AND LANE CONFIGURATION.

\*\* 11' MINIMUM CLEAR, DRIVEABLE WIDTH BETWEEN THE INTERIOR AND EXTERIOR RAIL FACES.



LOOP 375 BORDER HIGHWAY WEST  
 TYPICAL  
 TOLL ZONE LAYOUT  
 FOR MAINLINE / RAMP  
 ON BRIDGE OR RETAINING WALLS

NOT TO SCALE				
FILE:	DN: TxDOT	CK:	DW:	CK:
© TxDOT	March 2014	CONT	SECT	JOB
REVISIONS				HIGHWAY
				BHW
DIST	COUNTY			SHEET NO.
ELP	EL PASO			



**NOTES:**

1. ALL LOOP RISER CONDUIT IS 1.25" SCH. 40 PVC.
2. COMM RUNS MUST NOT EXCEED 300 CABLE FEET.
3. COAX CABLE RUNS MUST NOT EXCEED 115 CABLE FEET.
4. COAX CABLE BEND RADIUS IS 3 INCHES EVERY 90 DEGREES.
5. CABLES MUST NOT EXCEED 270 DEGREES OF BENDS BETWEEN PULL POINTS.
6. RISER CONDUIT CANNOT BE LOCATED INSIDE OF A LOOP.
7. RISER CONDUIT MUST BE LOCATED A MINIMUM OF 0.3" AWAY FROM ANY LONGITUDINAL OR TRANSVERSE JOINT.
8. CONDUIT RISER RUN LENGTH WILL BE SITE SPECIFIC.
9. SEE SHEET 9 FOR CONDUIT RISER DETAILS.

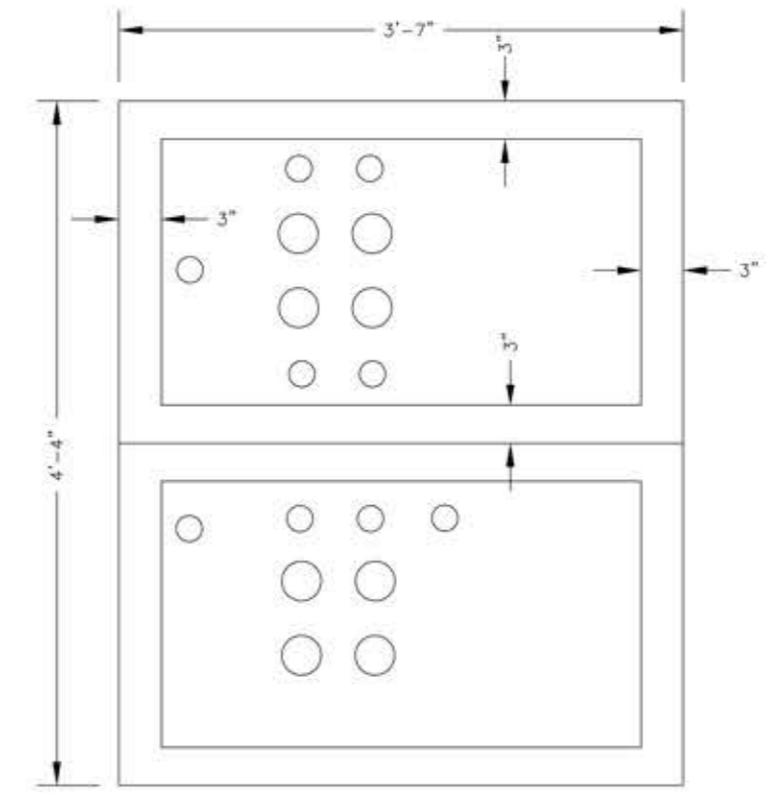
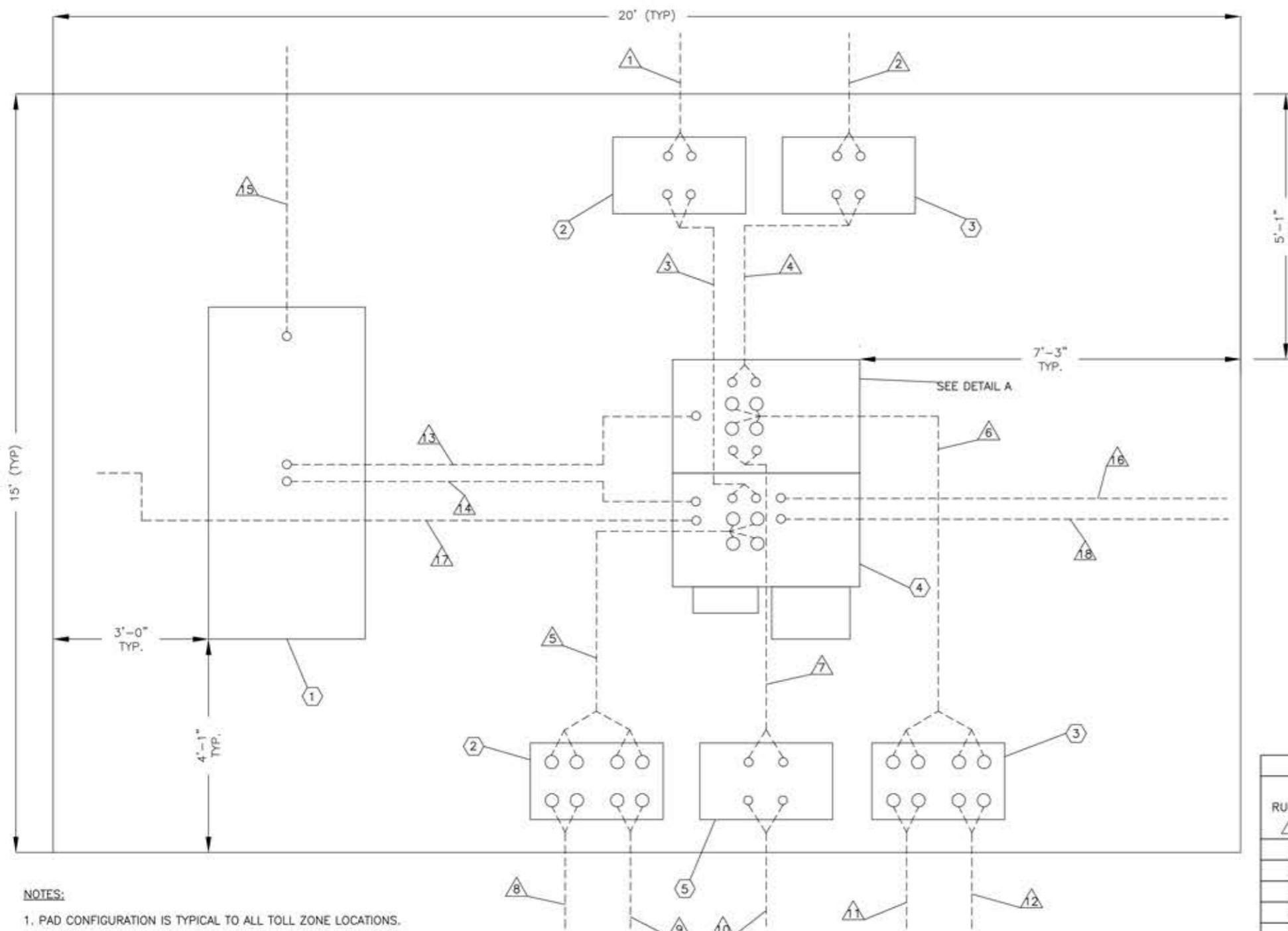
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 REPRESENTATIVE

DATE	DESCRIPTION	REV.
10/9/13	ADDED AVI READER CABINET	3
10/1/13	REMOVED AXLE RISERS	2
9/24/13	REDUCED LOOP GBOXES TO 2	1
9/24/13	ADDED AXLE RISERS	1

TOLL ZONE LAYOUT  
 (TYPICAL)

DATE: 08/05/2013



DETAIL A  
TEC RISER DETAIL

NOT TO SCALE

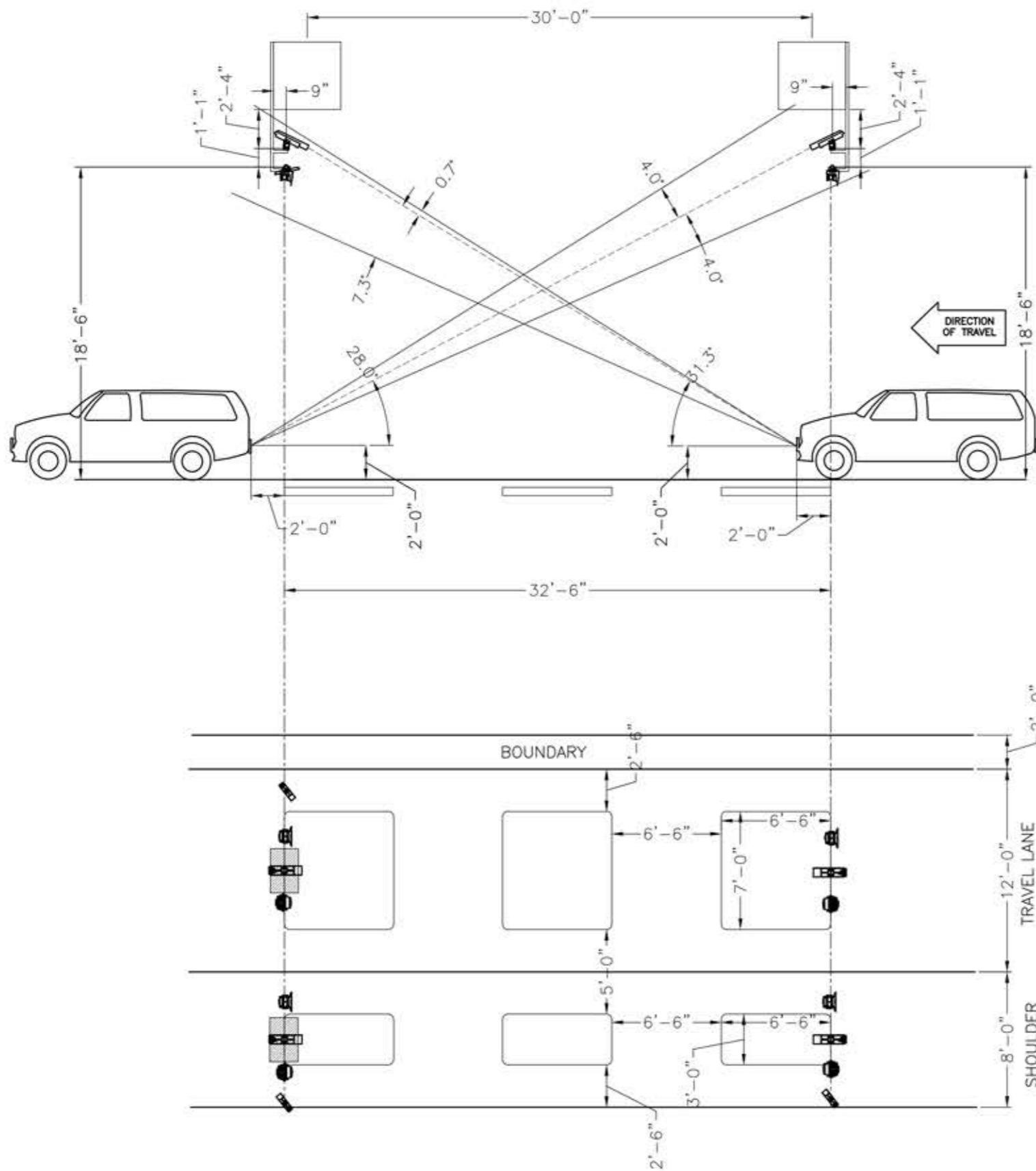
- NOTES:**
- PAD CONFIGURATION IS TYPICAL TO ALL TOLL ZONE LOCATIONS.
  - GROUND BOXES ARE TYPE D WITH NO APRON.
  - ATS, MANUAL DISCONNECT AND BREAKER BOX SHALL BE NEMA 4 OR BETTER AND MOUNTED ON OUTSIDE OF TEC.
  - ATS, MANUAL DISCONNECT AND BREAKER BOX SUPPLIED BY SYSTEM INTEGRATOR.
  - GENERATOR WILL HAVE A DEDICATED LNG LINE FOR FUEL (BY OTHERS).
  - LIGHTNING PROTECTION SUPPLIED BY OTHERS.
  - CONCRETE PAD SHALL EXTEND 8-12 INCHES ABOVE FINISHED GRADE.
  - CONDUIT STUBOUTS SHALL EXTEND 10-12 INCHES ABOVE FINISHED PAD.
  - CONDUIT STUBOUTS IN THE TEC SHALL FALL WITHIN THE RISER OPENING SHOWN IN DETAIL A.
  - CONDUIT QUANTITIES AND SIZES MAY CHANGE BASED UPON SITE SURVEYS AND GANTRY LAYOUTS.
  - SEE ADDITIONAL CONDUIT NOTES ON ZONE LAYOUT DRAWING.
  - GENERATOR AND TOLL CABINET DOORS MUST HAVE 3 FEET OF CLEARANCE FOR SERVICE PERSONNEL.

COMPONENT WEIGHTS		
ITEM #	COMPONENT	COMP. WEIGHT (lbs.)
1	GENERATOR	1340.0
2	POWER GROUND BOX	N/A
3	COMMS GROUND BOX	N/A
4	DUAL BAY CABINET	750.0
5	LOOP GROUND BOX	N/A
6	ELECTRONICS	1000.0
TOTAL		3090.0

CONDUIT SCHEDULE			
RUN #	CONDUIT FUNCTION	CONDUIT QUANTITY	CONDUIT SIZE
1	INCOMING POWER	2	2"
2	INCOMING COMMS	2	2"
3	INCOMING POWER	2	2"
4	INCOMING COMMS	2	2"
5	POWER	4	3"
6	COMMS	4	3"
7	LOOPS	2	2"
8	EXIT GANTRY POWER	2	3"
9	ENTRY GANTRY POWER	2	3"
10	LOOPS	2	2"
11	EXIT GANTRY COMMS	2	3"
12	ENTRY GANTRY COMMS	2	3"
13	GENERATOR COMMS	1	3"
14	GENERATOR POWER	1	3"
15	GENERATOR LNG	1	N/A
16	TO EARTH GROUND	1	2"
17	TO PAD ILLUMINATION	1	2"
18	TO PAD ILLUMINATION	1	2"

PRELIMINARY / DRAFT		
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DATE	DESCRIPTION	REV.
10/9/13	ADDED PAD ILLUMINATION	2
10/2/13	ADDED CABINET & GEN. POSITIONING	1
10/2/13	ADDED CABINET & GEN. POSITIONING	1
10/2/13	ADDED NOTES 11 & 12	1
10/2/13	RMVD RUN 16 DEST. STUBOUT	1

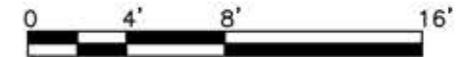
TOLL PAD LAYOUT  
(TYPICAL)  
DATE: 08/05/2013



**NOTES:**

1. SEE GANTRY ELEVATION DETAILS SHEET FOR PROPOSED EQUIPMENT LOCATION ON HANGERS.
2. ANY VARIATION IN THE CRITICAL DIMENSIONS SHOWN ARE TO BE APPROVED BY THE TOLL INTEGRATOR.
3. HANGER DESIGN MUST ACCOUNT FOR LINE OF SIGHTS OF ALL TOLLING EQUIPMENT SHOWN.
4. HANGER DESIGN MUST PROVIDE FOR VES CAMERA ANGLES BETWEEN 24 AND 32 DEGREES.
5. LOWER LIMIT: DISTANCE FROM THE CENTER POINT OF THE LOWEST HANGERS' BOTTOM CROSS MEMBER SHALL BE 18'-6" ABOVE THE FINISHED GRADE OF THE ROADWAY.
6. UPPER LIMIT: DISTANCE FROM THE CENTER POINT OF THE HIGHEST HANGER'S BOTTOM CROSS MEMBER SHALL BE NO LESS THAN 2'-0" BELOW THE GANTRY LOWER TRUSS.

LANE EQUIPMENT CONFIGURATION			
LANE ID	LANE WIDTH	ENTRY GANTRY CONFIG	EXIT GANTRY CONFIG
BOUNDARY	2'	N/A	N/A
TRAVEL LANE	12'	A1	A2
SHOULDER	8'	A1	A2



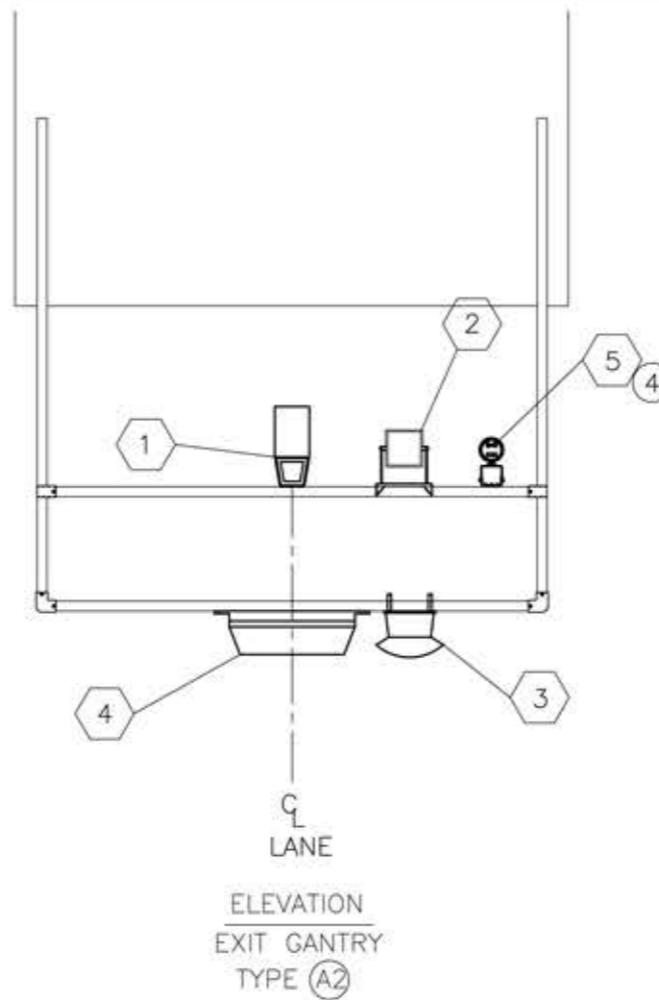
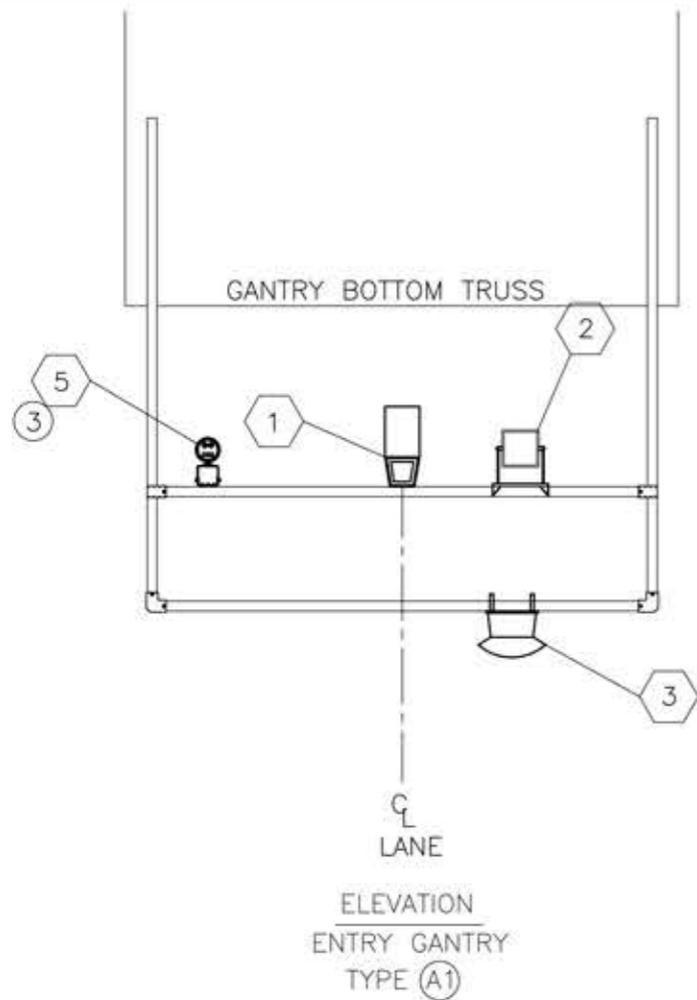
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DATE	DESCRIPTION	REV.
10/9/13	ADDED PROPOSED HANGER DESIGN	3
10/1/13	UPDATED NOTE 6	2
9/27/13	UPDATED CRITICAL DIMENSIONS	1
9/27/13	UPDATED LOOP LAYOUT	1

**PLAN/PROFILE LAYOUT  
CRITICAL DIMENSIONS**

DATE: 08/05/2013



**NOTES:**

1. COMPONENT LOCATIONS ARE SUBJECT TO CHANGE DUE TO SITE SURVEYS, GANTRY LOCATIONS AND HANGER DESIGN.
2. ITEM 5, DVAS CAMERA & ILLUM.: EXIT GANTRY WILL HAVE TWO INSTALLED IF EQUIPMENT PAD IS WITHIN SIGHT OF THE ZONE.
- ③ INSTALLED ON THE SHOULDER A1 HANGER ONLY.
- ④ INSTALLED ON THE TRAVEL LANE A2 HANGER ONLY.
5. ITEM 6, VES LIGHT SENSOR: ONLY ONE PER ZONE WILL BE INSTALLED. IT WILL BE INSTALLED ON THE GANTRY'S TOP CROSS MEMBER.
6. WEIGHTS LISTED ABOVE DO NOT TAKE TOLL CABLE OR CONDUIT INTO ACCOUNT.

**EQUIPMENT WEIGHTS**

ITEM #	COMPONENT	COMP. WEIGHT (lbs.)	BRACKET WEIGHT (lbs.)	ENTRY GANTRY QTY.	ENTRY GANTRY WEIGHT (lbs.)	EXIT GANTRY QTY.	EXIT GANTRY WEIGHT (lbs.)
1	VES CAMERA	21.7	3.2	1	24.9	1	24.9
2	VES STROBE	9.1	5.4	1	13.5	1	13.5
3	AVC SCANNER	13.2	5.4	1	18.6	1	18.6
4	AVI ANTENNA	6.6	N/A	0	0.0	1	6.6
5	DVAS CAMERA & ILLUM.	12.3	3.2	1	15.5	2	31.0
6	VES LIGHT SENSOR	9.1	N/A	1	9.1	0	0.0
TOTAL COMPONENT WEIGHT PER LANE, ENTRY GANTRY					81.6		
TOTAL COMPONENT WEIGHT PER LANE, EXIT GANTRY						94.6	

NOT TO SCALE

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REPRESENTATIVE

DATE	DESCRIPTION	REV.
9/27/13	UPDATED COMPONENT LAYOUT	1

**GANTRY ELEVATION DETAILS  
(TYPICAL)**

DATE: 08/05/2013