

TOLL FACILITIES PLANS COMPONENTS

TOLL FACILITY PLANS - SITE + NON-ACCESSIBLE TOLL GANTRY PLANS
TOLL FACILITY PLANS - TOLL BUILDING PLANS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

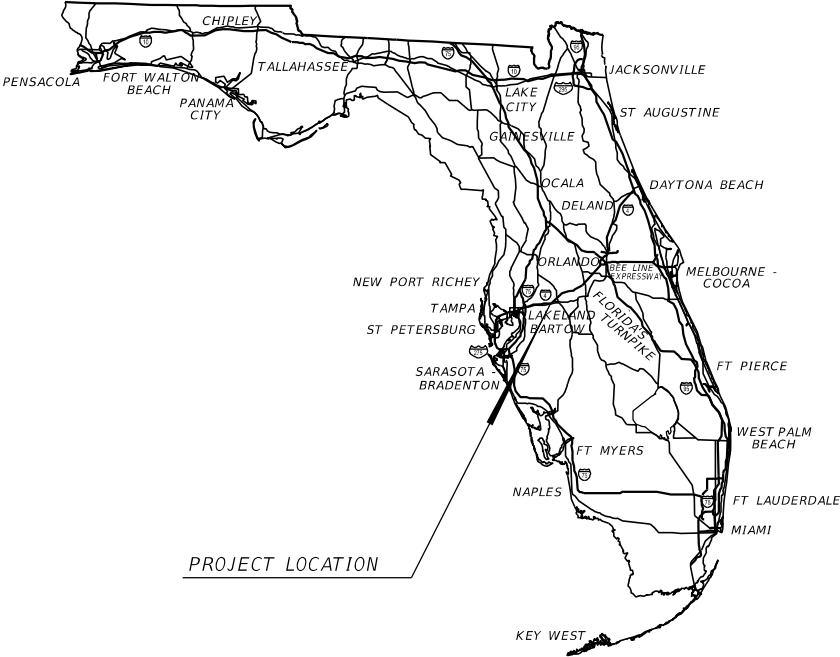
FINANCIAL PROJECT ID 437300-1-52-01
FINANCIAL PROJECT ID 437300-2-52-01

INDEX OF TOLL FACILITIES MASTER PLANS

GG-001 MASTER KEY SHEET
GG-002 SIGNATURE SHEET 1 OF 2
GG-003 SIGNATURE SHEET 2 OF 2

POLK COUNTY (16470)

SUNTRAX TEST FACILITY
TOLL FACILITY PLANS



SITE PLANS
ENGINEER OF RECORD:

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WWW.BAEONLINE.COM
CONTRACT NO. C-9L54
VENDOR NO. 59-3045321
BPE CA NO. 5898
BPA & ID CA NO. AAC002023

GOVERNING DESIGN STANDARDS

Florida Department of Transportation, FY 2016 - 2017 Design
StandardseBook (DSeB) and applicable Design Standards
Revisions (DSRs) at the following website
http://www.dot.state.fl.us/rddesign/DesignStandards/Standards.shtm.

APPLICABLE DSRs:

GOVERNING TOLLING CRITERIA

General Tolling Requirements (GTR) dated July 2016,
as amended by contract documents.
For GTR Design Standards and Tolling Criteria follow the link
on the website:
http://www.floridasturnpike.com/design/gtr.html

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, January 2017 Standard
Specifications for Road and Bridge Construction at the
following website:
http://www.dot.state.fl.us/programmanagement/Implemented/SpecBooks

REVISIONS:

KEY SHEET REVISIONS	
DATE	DESCRIPTION

THIS PROJECT IS DESIGNED TO NAVD, 1988 DATUM.

FTE PROJECT MANAGER:

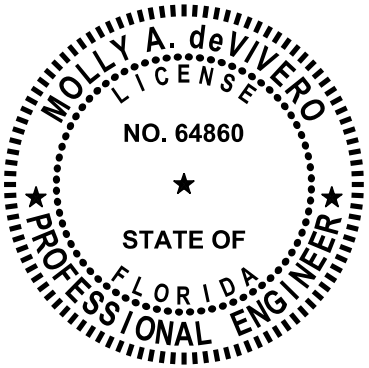
PATRICK M. MUENCH, P.E.

GEC PROJECT MANAGER:

JOSH PEDERSEN, P.E.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
E8Q39	17	GG-001

THE OFFICAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



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Molly A DeVivero

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MOLLY A. deVIVERO, P.E. 64860

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE
FOLLOWING SHEETS IN ACCORDANCE WITH THE RULE 61G15-23.004, F.A.C.

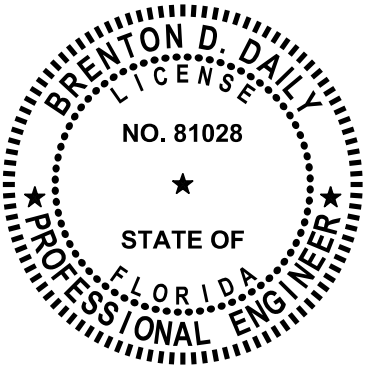
SHEET SHEET TITLE
NO.
GENERAL SHEETS

GG-001 MASTER KEY SHEET
GG-002 SIGNATURE SHEET (1 OF 2)
GG-003 SIGNATURE SHEET (2 OF 2)
GG-004 SITE & NON-ACCESSIBLE TOLL GANTRY KEY SHEET
GG-005 SHEET INDEX, LEGEND & NOTES
GG-006 SUMMARY OF PAY ITEMS
GG-007 SUMMARY OF PAY ITEMS

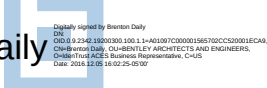
SITE SHEETS

GC-002 GENERAL SITE NOTES
GC-006 TYPICAL SITE DETAILS (1 OF 3)
GC-007 TYPICAL SITE DETAILS (2 OF 3)
GC-008 TYPICAL SITE DETAILS (3 OF 3)
GC-009 SITE SMOKING SIGNAGE LOCATION PLAN
GC-010 SITE DRAINAGE STRUCTURE TABLE (1 OF 2)
GC-011 SITE DRAINAGE STRUCTURE TABLE (2 OF 2)
GC-100 SITE MASTER PLAN
GC-110 OPERATIONS SITE PLAN
GC-120 OPERATIONS DIMENSION PLAN
GC-121 COORDINATE POINT LISTINGS
GC-210 OPERATIONS GRADING PLAN (1 OF 2)
GC-211 OPERATIONS GRADING PLAN (2 OF 2)
GC-212 GRADING DETAILS
GC-213 SITE DRAINAGE STRUCTURES
GC-214 SITE DRAINAGE STRUCTURES
GC-300 UTILITY PLAN SPECIFICATIONS (1 OF 4)
GC-301 UTILITY PLAN SPECIFICATIONS (2 OF 4)
GC-302 UTILITY PLAN SPECIFICATIONS (3 OF 4)
GC-303 UTILITY PLAN SPECIFICATIONS (4 OF 4)
GC-304 LIFT STATION NOTES
GC-305 LIFT STATION DETAILS
GC-306 UTILITY DETAILS
GC-310 OPERATIONS UTILITY PLAN
GC-320 UTILITY PLAN AND PROFILE
GC-321 UTILITY PLAN AND PROFILE
GC-322 UTILITY PLAN AND PROFILE
GC-323 UTILITY PLAN AND PROFILE
GC-324 UTILITY PLAN AND PROFILE
GC-325 UTILITY PLAN AND PROFILE
GC-330 UTILITY SUMMARY VERIFIED UTILITIES

GCT-001 LOOP PULL BOX DETAILS (1 OF 2)
GCT-002 LOOP PULL BOX DETAILS (2 OF 2)
GCT-003 TYPICAL TOLL SITE DETAILS
GCT-100 TYPICAL TOLL SITE GEOMETRY PLAN
GCT-110 TOLL SITE #1 & #2 SITE PLAN
GCT-111 TOLL SITE #3 & #4 SITE PLAN
GCT-120 TOLL SITE #1 GRADING PLAN
GCT-121 TOLL SITE #2 GRADING PLAN
GCT-122 TOLL SITE #3 GRADING PLAN
GCT-123 TOLL SITE #4 GRADING PLAN



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THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE
FOLLOWING SHEETS IN ACCORDANCE WITH THE RULE 61G15-23.004, F.A.C.

SHEET SHEET TITLE
NO.
GENERAL SHEETS

GG-002 SIGNATURE SHEET (1 OF 2)

SITE SHEETS

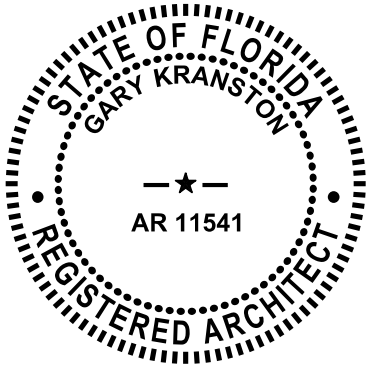
GC-004 SITE DETAILS DUMPSTER ENCLOSURE (2 OF 3)
GC-005 SITE DETAILS DUMPSTER ENCLOSURE (3 OF 3) AND LIGHT
POLE FOUNDATION

NON-ACCESSIBLE GANTRY SHEETS

GX-003 GENERAL NOTES (1 OF 2)
GX-004 GENERAL NOTES (2 OF 2)
GX-100 FOUNDATION LAYOUT
GX-110 PLAN
GX-200 ELEVATION
GX-500 TYPICAL SECTION
GX-501 EQUIPMENT FRAMING SECTION
GX-510 UPRIGHT HANDHOLE DETAILS
GX-520 EQUIP. FRAMING (1 OF 4)
GX-521 EQUIP. FRAMING (2 OF 4)
GX-522 EQUIP. FRAMING (3 OF 4)
GX-523 EQUIP. FRAMING (4 OF 4)
GX-524 FLASHING BEACON MOUNTING
GX-530 J-ARM DETAILS (1 OF 2)
GX-531 J-ARM DETAILS (2 OF 2)
GX-540 SADDLE DETAILS
GX-550 U-BOLT DETAILS
GX-590 WIREWAY MOUNTING DETAILS
GX-595 E6 MOUNTING DETAILS
GX-600 STRUCTURE DATA TABLES

TOLL BUILDING - STRUCTURAL SHEETS

AS-001 STRUCTURAL GENERAL NOTES
AS-100 PLANS
AS-200 EXTERIOR ELEVATIONS
AS-300 SECTIONS AND DETAILS
AS-301 SECTIONS AND DETAILS



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NO.
GENERAL SHEETS

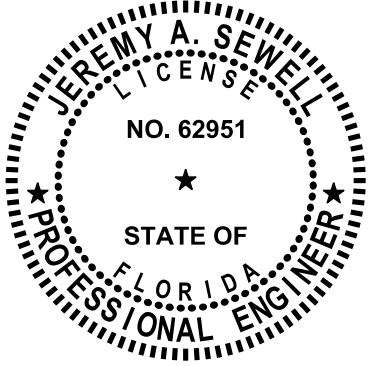
GG-002 SIGNATURE SHEET (1 OF 2)

SITE SHEETS

GC-003 SITE DETAILS DUMPSTER ENCLOSURE (1 OF 3)

TOLL BUILDING - ARCHITECTURAL SHEETS

AA-001 TOLL EQUIPMENT BUILDING KEY SHEET
AA-002 ABBREVIATIONS, SYMBOL AND LEGEND, NOTES, AND BUILDING CODE DATA
AA-010 FLOOR PLAN
AA-011 REFLECTED CEILING PLAN
AA-012 ROOF PLAN
AA-013 EXTERIOR ELEVATIONS
AA-014 BUILDING SECTION
AA-015 WALL SECTIONS
AA-016 TOLL EQUIPMENT BUILDING STEEL LOCK DETAILS
AA-017 TOLL EQUIPMENT BUILDING DOOR AND FINISH SCHEDULES



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TIERRA, INC.
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CERTIFICATE OF AUTHORIZATION. 6486
JEREMY A. SEWELL, P.E. 62951

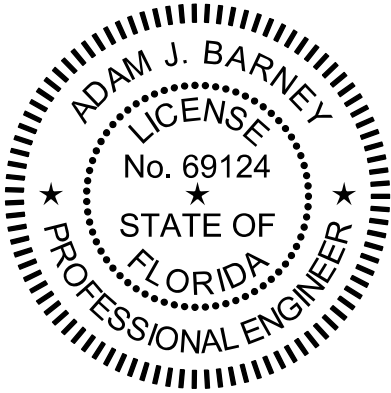
SHEET SHEET TITLE
NO.
GENERAL SHEETS

GG-002 SIGNATURE SHEET (1 OF 2)

SITE SHEETS

GX-101 REPORT OF CORE BORINGS
GX-102 REPORT OF CORE BORINGS
GX-103 REPORT OF CORE BORINGS
GX-104 REPORT OF CORE BORINGS

REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SIGNATURE SHEET (1 OF 2)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	4373001-52-01		
									GG-002



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ADAM J. BARNEY, P.E. 69124

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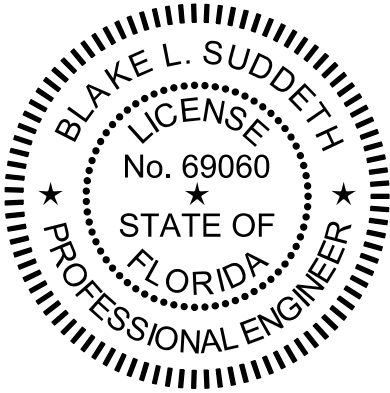
SHEET NO. SHEET TITLE

GENERAL SHEETS

GG-003 SIGNATURE SHEET (2 OF 2)

TOLL BUILDING - MECHANICAL SHEETS

AM-001 HVAC DETAILS, NOTES, LEGEND AND SEQUENCE OF OPERATION
AM-101 HVAC FLOOR PLAN
AM-601 HVAC EQUIPMENT DETAILS



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BLAKE LAWRENCE SUDDETH, P.E. 69060

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SHEET NO. SHEET TITLE

GENERAL SHEETS

GG-003 SIGNATURE SHEET (2 OF 2)

SITE SHEETS

GE-110 SITE PLAN - ELECTRICAL LEGEND
GE-111 SITE PLAN - ELECTRICAL
GE-112 SITE PLAN - PHOTOMETRICS
GE-113 FUEL ISLAND PLAN - ELECTRICAL
GE-114 SITE PLAN - SITE CCTV RISER
GE-115 SITE PLAN - SITE CCTV MATRIX
GE-116 SITE PLAN - SITE GATE RISER

NON-ACCESSIBLE GANTRY SHEETS

GE-300 GANTRY ELECTRICAL SYMBOL, LEGEND & ABBREVIATIONS
GE-302 GANTRY ELECTRICAL GENERAL NOTES
GE-311 GANTRY ELECTRICAL PLAN (1 OF 2)
GE-312 GANTRY ELECTRICAL PLAN (2 OF 2)
GE-321 GANTRY E6 & CABLE TRAY INSTALLATION DETAILS (1 OF 3)
GE-322 GANTRY E6 & CABLE TRAY INSTALLATION DETAILS (2 OF 3)
GE-323 GANTRY E6 & CABLE TRAY INSTALLATION DETAILS (3 OF 3)
GE-324 GANTRY - LIGHTING PROTECTION DETIALS
GCE-101 TOLL EQUIPMENT BUILDINGS ELECTRICAL SYMBOL LEGEND & ABBREVIATIONS
GCE-102 TOLL EQUIPMENT BUILDINGS ELECTRICAL GENERAL NOTES
GCE-111 TOLL EQUIPMENT BUILDINGS SITE PLAN - WEST
GCE-112 TOLL EQUIPMENT BUILDINGS SITE PLAN - WEST
GCE-113 TOLL EQUIPMENT BUILDINGS SITE PLAN - EAST
GCE-114 TOLL EQUIPMENT BUILDINGS SITE PLAN - EAST
GCE-115 TOLL EQUIPMENT BUILDINGS ENLARGED SITE PLAN - TYPICAL TOLLING BUILDINGS
GCE-116 TOLL EQUIPMENT BUILDINGS LIGHTNING PROTECTION PLAN WEST - (EAST SIMILAR)
GCE-117 TOLL EQUIPMENT BUILDINGS LIGHTNING PROTECTION PLAN WEST - (EAST SIMILAR)
GCE-118 TOLL EQUIPMENT BUILDINGS TOLLING LOOP CONDUIT & PULL BOX DETAILS (1 OF 2)
GCE-119 TOLL EQUIPMENT BUILDINGS TOLLING LOOP CONDUIT & PULL BOX DETAILS (2 OF 2)

TOLL BUILDING - ELECTRICAL SHEETS

AE-010 ELECTRICAL SYMBOL LEGEND & ABBREVIATIONS
AE-011 ELECTRICAL GENERAL NOTES
AE-101 BUILDING - POWER PLAN
AE-102 BUILDING - LIGHTING PLAN
AE-103 BUILDING - LIGHTING PROTECTION PLAN
AE-104 BUILDING - SCADA & SECURITY SYSTEM PLAN
AE-105 BUILDING - TOLLING SYSTEM PLAN
AE-111 TOLLING COMMUNICATIONS CABINET DETAIL
AE-112 BUILDING - INTERIOR ELEVATIONS (1 OF 3)
AE-113 BUILDING - INTERIOR ELEVATIONS (2 OF 3)
AE-114 BUILDING - INTERIOR ELEVATIONS (3 OF 3)
AE-121 BUILDING - GROUNDING DETAILS (1 OF 2)
AE-122 BUILDING - GROUNDING DETAILS (2 OF 2)
AE-123 BUILDING - LIGHTING PROTECTION DETAILS
AE-124 BUILDING - SECURITY & ACCESS CONTROL SYSTEM DETAILS
AE-125 BUILDING - RACEWAY INSTALLATION DETAILS
AE-126 BUILDING - CONDUIT STUB-UP DETAILS
AE-130 BUILDING - POWER RISER DIAGRAM
AE-131 BUILDING - PANEL SCHEDULES AND LOAD SUMMARY
AE-132 SCADA SYSTEM BLOCK DIAGRAM NOTES
AE-133 SCADA SYSTEM BLOCK DIAGRAM

REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SIGNATURE SHEET (2 OF 2)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		GG-003

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

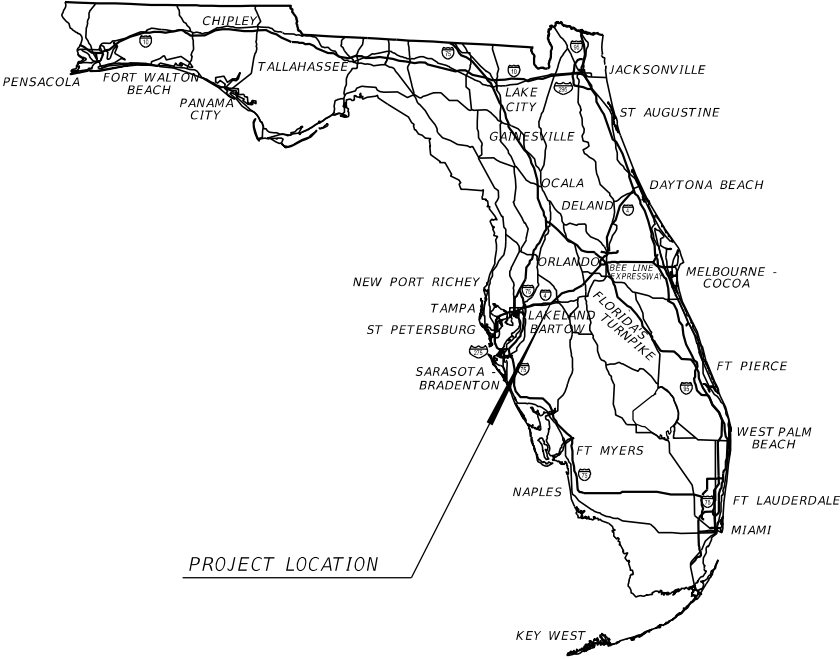
CONTRACT PLANS

FINANCIAL PROJECT ID 437300-1-52-01
FINANCIAL PROJECT ID 437300-2-52-01

POLK COUNTY (16470)

SUNTRAX TEST FACILITY
TOLL FACILITY PLANS - SITE +NON ACCESSIBLE
TOLL GANTRY PLANS

INDEX OF SITE & NON-ACCESSIBLE TOLL GANTRY PLANS
REFER TO GG-005



SITE PLANS
ENGINEER OF RECORD:
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WWW.BAEONLINE.COM
CONTRACT NO. C-9L54
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REVISIONS:

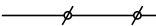
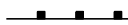
KEY SHEET REVISIONS	
DATE	DESCRIPTION

FTE PROJECT MANAGER:
PATRICK M. MUENCH, P.E.

GEC PROJECT MANAGER:
JOSH PEDERSEN, P.E.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
E8Q39	17	GG-004

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SHEET INDEX				SHEET INDEX				SHEET INDEX			
SHEET NO.		SHEET DESCRIPTION		SHEET NO.		SHEET DESCRIPTION		SHEET NO.		SHEET DESCRIPTION	
GG-004	SITE & NON-ACCESSIBLE TOLL GANTRY KEY SHEET			GX-522	EQUIP. FRAMING (3 OF 4)			NIC	NOT IN CONTRACT		
GG-005	SHEET INDEX, LEGEND & NOTES			GX-523	EQUIP. FRAMING (4 OF 4)			NPW	NON-POTABLE WATER		
GG-006	SUMMARY OF PAY ITEMS			GX-524	FLASHING BEACON MOUNTING			TOS	TOP OF SLAB		
GG-007	SUMMARY OF PAY ITEMS			GX-530	J-ARM DETAILS (1 OF 2)			TS	TOP OF SIDEWALK OR SLAB		
GC-002	GENERAL SITE NOTES			GX-531	J-ARM DETAILS (2 OF 2)			ABV	ABOVE		
GC-003	SITE DETAILS DUMPSTER ENCLOSURE (1 OF 3)			GX-540	SADDLE DETAILS			GS	GUTTER SLOPE		
GC-004	SITE DETAILS DUMPSTER ENCLOSURE (2 OF 3)			GX-550	U- BOLT DETAILS			HP	HIGH POINT		
GC-005	SITE DETAILS DUMPSTER ENCLOSURE (3 OF 3) AND LIGHT POLE FOUNDATION			GX-590	WIRE WAY MOUNTING DETAILS			LP	LOW POINT		
GC-006	TYPICAL SITE DETAILS (1 OF 3)			GX-595	E6 MOUNTING DETAILS			G###	OPERATION COORDINATE POINT NUMBER		
GC-007	TYPICAL SITE DETAILS (2 OF 3)			GX-600	STRUCTURE DATA TABLES			###.##	ELEVATION		
GC-008	TYPICAL SITE DETAILS (3 OF 3)							XX	POINT DESCRIPTION		
GC-009	SITE SMOKING SIGNAGE LOCATION PLAN			GE-300	GANTRY ELECTRICAL SYMBOL, LEGEND & ABBREVIATIONS			CLENTRD	CENTER LINE OF ENTRANCE ROAD, ALIGNMENT		
GC-010	SITE DRAINAGE STRUCTURE TABLE (1 OF 2)			GE-302	GANTRY ELECTRICAL GENERAL NOTES			RD	ROOF DRAIN		
GC-011	SITE DRAINAGE STRUCTURE TABLE (2 OF 2)			GE-311	GANTRY ELECTRICAL PLAN (1 OF 2)			CONN.	CONNECTION		
GC-100	SITE MASTER PLAN			GE-312	GANTRY ELECTRICAL PLAN (2 OF 2)			SP-###	SPECIAL SIGN PANEL		
GC-110	OPERATIONS SITE PLAN			GE-321	GANTRY E6 & CABLE TRAY INSTALLATION DETAILS (1 OF 3)			TOWW	TOP OF WET WELL		
GC-120	OPERATIONS DIMENSION PLAN			GE-322	GANTRY E6 & CABLE TRAY INSTALLATION DETAILS (2 OF 3)			CP	CONTROL PANEL		
GC-121	COORDINATE POINT LISTINGS			GE-323	GANTRY E6 & CABLE TRAY INSTALLATION DETAILS (3 OF 3)			EL.	TOP OF PAVEMENT ELEVATION		
GC-210	OPERATIONS GRADING PLAN (1 OF 2)			GE-324	GANTRY - GANTRY LIGHTING PROTECTION DETAILS			FG. EL.	FINISHED GRADE ELEVATION		
GC-211	OPERATIONS GRADING PLAN (2 OF 2)							TS EL.	TOP OF SIDEWALK PR SLAB ELEVATION		
GC-212	GRADING DETAILS			GCE-101	TOLL EQUIPMENT BUILDINGS ELECTRICAL SYMBOL LEGEND & ABBREVIATIONS			EP EL.	EDGE OF PAVEMENT ELEVATION AT SIDEWALK OR SLAB TRANSITIONS		
GC-213	SITE DRAINAGE STRUCTURES			GCE-102	TOLL EQUIPMENT BUILDINGS GENERAL NOTES			TB EL.	TOP OF PULL BOX ELEVATION		
GC-214	SITE DRAINAGE STRUCTURES			GCE-111	TOLL EQUIPMENT BUILDINGS SITE PLAN - WEST			CJ	CONTROL JOINT		
GC-300	UTILITY PLAN SPECIFICATIONS (1 OF 4)			GCE-112	TOLL EQUIPMENT BUILDINGS SITE PLAN - WEST			EJ	EXPANSION JOINT		
GC-301	UTILITY PLAN SPECIFICATIONS (2 OF 4)			GCE-113	TOLL EQUIPMENT BUILDINGS SITE PLAN - EAST				SITE LIGHTING FIXTURE		
GC-302	UTILITY PLAN SPECIFICATIONS (3 OF 4)			GCE-114	TOLL EQUIPMENT BUILDINGS SITE PLAN - EAST				TH, TEST HOLE		
GC-303	UTILITY PLAN SPECIFICATIONS (4 OF 4)			GCE-115	TOLL EQUIPMENT BUILDINGS ENLARGED SITE PLAN - TYPICAL TOLLING BUILDINGS				ARV, AIR RELEASE VALVE		
GC-304	LIFT STATION NOTES			GCE-116	TOLL EQUIPMENT BUILDINGS LIGHTNING PROTECTION PLAN WEST - (EAST SIMILAR)				CONCRETE SIDEWALK, CURB RAMPS DO NOT HAVE HATCHING		
GC-305	LIFT STATION DETAILS			GCE-117	TOLL EQUIPMENT BUILDINGS LIGHTNING PROTECTION PLAN WEST - (EAST SIMILAR)				RECYCLED BRICK PAVER, REFER TO LANDSCAPE PLANS		
GC-306	UTILITY DETAILS			GCE-118	TOLL EQUIPMENT BUILDINGS TOLLING LOOP CONDUIT & PULL BOX DETAILS (1 OF 2)				CONCRETE PAD		
GC-310	OPERATIONS SITE UTILITY PLAN			GCE-119	TOLL EQUIPMENT BUILDINGS TOLLING LOOP CONDUIT & PULL BOX DETAILS (2 OF 2)				SYNTHETIC BALES		
GC-320	UTILITY PLAN AND PROFILE								STAKED TURBIDITY BARRIER		
GC-321	UTILITY PLAN AND PROFILE								INLET PROTECTION SYSTEM		
GC-322	UTILITY PLAN AND PROFILE								LIMITS OF CONSTRUCTION		
GC-323	UTILITY PLAN AND PROFILE								STAKED SILT FENCE		
GC-324	UTILITY PLAN AND PROFILE										
GC-325	UTILITY PLAN AND PROFILE										
GC-330	SUMMARY OF VERIFIED UTILITIES										
GE-110	SITE PLAN - ELECTRICAL LEGEND										
GE-111	SITE PLAN - ELECTRICAL										
GE-112	SITE PLAN - PHOTOMETRICS										
GE-113	FUEL ISLAND PLAN - ELECTRICAL										
GE-114	SITE PLAN - SITE CCTV RISER										
GE-115	SITE PLAN - SITE CCTV MATRIX										
GE-116	SITE PLAN - GATE RISER										
GCT-001	LOOP PULL BOX DETAILS (1 OF 2)										
GCT-002	LOOP PULL BOX DETAILS (2 OF 2)										
GCT-003	TYPICAL TOLL SITE DETAILS										
GCT-100	TYPICAL TOLL SITE GEOMETRY PLAN										
GCT-110	TOLL SITE #1 & #2 SITE PLAN										
GCT-111	TOLL SITE #3 & #4 SITE PLAN										
GCT-120	TOLL SITE #1 GRADING PLAN										
GCT-121	TOLL SITE #2 GRADING PLAN										
GCT-122	TOLL SITE #3 GRADING PLAN										
GCT-123	TOLL SITE #4 GRADING PLAN										
GX-003	GENERAL NOTES (1 OF 2)										
GX-004	GENERAL NOTES (2 OF 2)										
GX-100	FOUNDATION LAYOUT										
GX-101	REPORT OF CORE BORINGS										
GX-102	REPORT OF CORE BORINGS										
GX-103	REPORT OF CORE BORINGS										
GX-104	REPORT OF CORE BORINGS										
GX-110	PLAN										
GX-200	ELEVATION										
GX-500	TYPICAL SECTION										
GX-501	EQUIPMENT FRAMING SECTION										
GX-510	UPRIGHT HANDHOLE DETAILS										
GX-520	EQUIP. FRAMING (1 OF 4)										
GX-521	EQUIP. FRAMING (2 OF 4)										

SUMMARY OF GENERAL LUMP SUM ITEMS						
PAY ITEM NO	PAY ITEM DESCRIPTION	UNIT	QUANTITY		DESIGN NOTES	CONSTRUCTION REMARKS
			P	F		
735-74-01	TOLL PLAZA - SITE 1	LS	1		SEE NOTES	
735-74-02	TOLL PLAZA - SITE 2	LS	1		THIS SHEET	
735-74-03	TOLL PLAZA - SITE 3	LS	1			
735-74-04	TOLL PLAZA - SITE 4	LS	1			
750- 1-15	OPERATIONS BUILDING	LS	1			
750- 1-17	STORAGE BUILDING	LS	1			

LUMP SUM PAY ITEM NOTES

735-74-01: TOLL PLAZA - SITE 1

LUMP SUM PAY ITEM INCLUDES THE FOLLOWING WORK:

- A. TOLL EQUIPMENT BUILDING
- B. NON -ACCESSIBLE GANTRY
- C. 16 PULL BOXES AND 1 ITS PULL BOX
- D. SECONDARY POWER (BUILDING SIDE OF TRANSFORMER) INCLUDING BUT NOT LIMITED TO THE FOLLOWING: 3-TRANSFORMER PADS (1-FOR TOLL SITE 1, TOLL SITE 2, FUTURE TRAILERS AND FUTURE TOWER, 1-FOR TRACK LIGHTING AND 1-FOR ITS), UNISTRUT FRAMES FOR POWER METERS, 1-PORTABLE GENERATOR SLAB, LOAD CENTERS FOR TOLL SITE 1 & 2, ALL ELECTRICAL, COMMUNICATION CONDUITS AND PULL BOXES ASSOCIATED WITH TOLL SITE 1, TOLL SITE 2, FUTURE TRAILERS AND FUTURE TOWER. REFER TO AND COORDINATE WITH THE LIGHTING COMPONENT PLAN SET FOR PRIMARY POWER PAY ITEM FOR THE PROJECT'S PRIMARY POWER SERVICES AND ADDITIONAL INFORMATION.
- E. 4 WHEEL STOPS
- F. 100' TOLLING PAVEMENT, REFER TO ROADWAY PLANS FOR PAVEMENT DESIGN & TYPICAL SECTION
- G. CONC. SIDEWALK, 166.7 SY
- H. BOLLARDS, 45 EA
- I, 2-UNISTRUT FRAMES FOR TRAILER INFRASTRUCTURE DROPS

735-74-02: TOLL PLAZA - SITE 2

LUMP SUM PAY ITEM INCLUDES THE FOLLOWING WORK:

- A. TOLL EQUIPMENT BUILDING
- B. NON-ACCESSIBLE GANTRY
- C. 16 PULL BOXES AND 1 ITS PULL BOX
- D. 4 WHEEL STOPS
- E. 100' TOLLING PAVEMENT, REFER TO ROADWAY PLANS FOR PAVEMENT DESIGN & TYPICAL SECTION
- F. CONC. SIDEWALK, 145.3 SY
- G. BOLLARDS, 21 EA
- H. 2-UNISTRUT FRAMES FOR TRAILER INFRASTRUCTURE DROPS

735-74-03: TOLL PLAZA - SITE 3

LUMP SUM PAY ITEM INCLUDES THE FOLLOWING WORK:

- A. TOLL EQUIPMENT BUILDING
- B. NON-ACCESSIBLE GANTRY
- C. 16 PULL BOXES AND 1 ITS PULL BOX
- D. 4 WHEEL STOPS
- E. 100' TOLLING PAVEMENT, REFER TO ROADWAY PLANS FOR PAVEMENT DESIGN & TYPICAL SECTION
- F. CONC. SIDEWALK, 146.1 SY
- G. BOLLARDS, 21 EA
- H. 2-UNISTRUT FRAMES FOR TRAILER INFRASTRUCTURE DROPS

735-74-04: TOLL PLAZA - SITE 4

LUMP SUM PAY ITEM INCLUDES THE FOLLOWING WORK:

- A. TOLL EQUIPMENT BUILDING
- B. NON-ACCESSIBLE GANTRY
- C. 16 PULL BOXES AND 1 ITS PULL BOX
- D. SECONDARY POWER (BUILDING SIDE OF TRANSFORMER) INCLUDING BUT NOT LIMITED TO THE FOLLOWING: 3-TRANSFORMER PADS (1-FOR TOLL SITE 3, TOLL SITE 4, FUTURE TRAILERS AND FUTURE TOWER, 1-FOR TRACK LIGHTING AND 1-FOR ITS), UNISTRUT FRAMES FOR POWER METERS, 1-PORTABLE GENERATOR SLAB, LOAD CENTERS FOR TOLL SITE 3 & 4, ALL ELECTRICAL, COMMUNICATION CONDUITS AND PULL BOXES ASSOCIATED WITH TOLL SITE 3, TOLL SITE 4, FUTURE TRAILERS AND FUTURE TOWER. REFER TO AND COORDINATE WITH THE LIGHTING COMPONENT PLAN SET FOR PRIMARY POWER PAY ITEM FOR THE PROJECT'S PRIMARY POWER SERVICES AND ADDITIONAL INFORMATION.
- E. 4 WHEEL STOPS
- F. 100' TOLLING PAVEMENT AND 2 CONCRETE BARRIER WALLS, REFER TO ROADWAY PLANS FOR PAVEMENT DESIGN & TYPICAL SECTION
- G. CONC. SIDEWALK, 146.1 SY
- H. BOLLARDS, 45 EA
- I. 2-UNISTRUT FRAMES FOR TRAILER INFRASTRUCTURE DROPS

750-1-15: OPERATIONS OFFICE BUILDING AND SITE INFRASTRUCTURE FOR OPERATIONS AND STORAGE USES. LUMP SUM PAY ITEM WHICH INCLUDES THE FOLLOWING WORK:

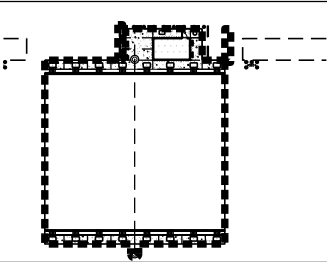
- A. OPERATIONS OFFICE BUILDING COMPLETE, REFER TO ARCHITECTURAL COMPONENT PLAN SET.
- B. DUMPSTER ENCLOSURE AND CONCRETE PAD
- C. VEHICLE CHARGING STATIONS
- D. SITE LIGHTING, SITE ELECTRICAL & SITE SECURITY
- E. BUILDING MECHANICAL / ELECTRICAL / PLUMBING WORK
- F. FLAG POLE AND FOUNDATION
- G. REFUELING STATION SLAB AND ELECTRICAL INFRASTRUCTURE
- H. SECONDARY POWER SERVICE (BUILDING SIDE OF TRANSFORMER), TRANSFORMER PAD, METERS AND ALL ELECTRICAL CONDUIT AND INFRASTRUCTURE. REFER TO AND COORDINATE WITH THE LIGHTING COMPONENT PLAN SET FOR PRIMARY POWER PAY ITEM FOR THE PROJECT'S PRIMARY POWER SERVICES AND ADDITIONAL INFORMATION.
- I. LANDSCAPE OPERATIONS & STORAGE SITE FEATURES INCLUDING FURNISHING AND INSTALLING PICNIC TABLE, RUBBERIZED PAVEMENT & BASE MATERIAL, MAINTENANCE GRAVEL ALONG FENCE LINE, FINAL GRADING FOR SITE FEATURES AND PINE STRAW MULCH (3-INCHES). REFER TO LANDSCAPE COMPONENT PLANS.

750-1-17: STORAGE BUILDING COMPLETE. REFER TO ARCHITECTURAL COMPONENT PLAN SET.

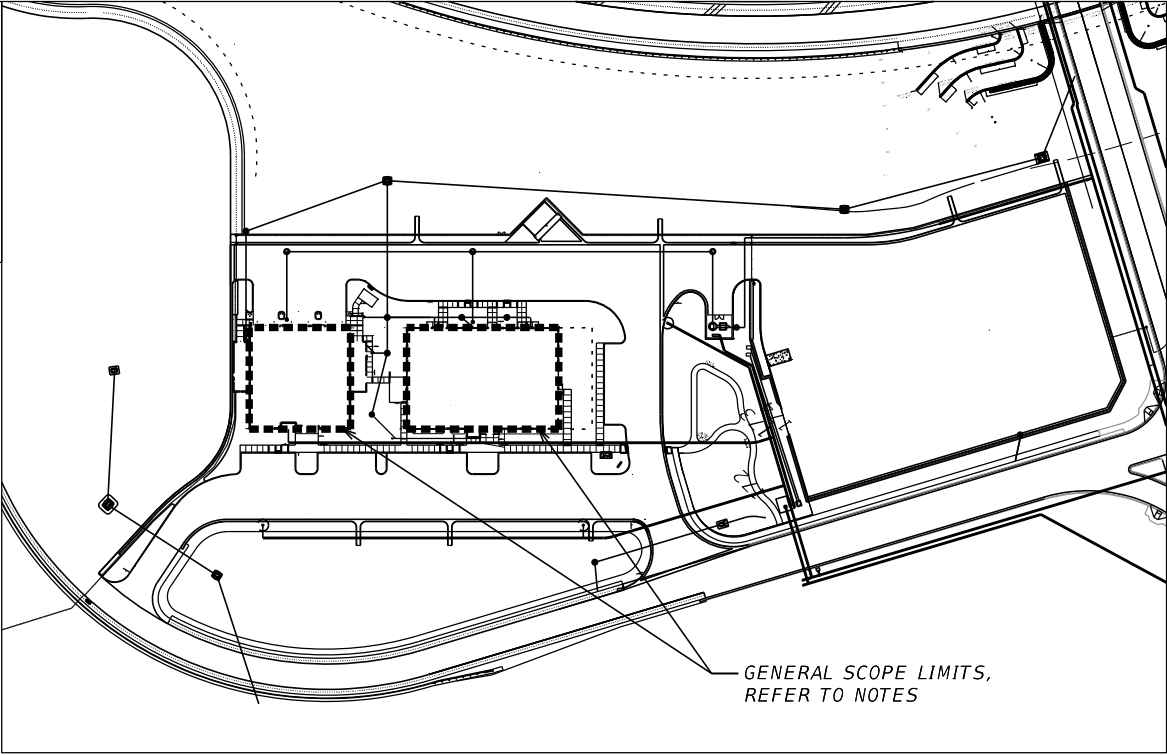
LUMP SUM PAY ITEM INCLUDES THE FOLLOWING WORK:

- A. STORAGE BUILDING COMPLETE. REFER TO ARCHITECTURAL COMPONENT PLAN SET.
- B. BUILDING MECHANICAL / ELECTRICAL / PLUMBING WORK
- C. CANOPY COLUMN PROTECTION
- D. SECONDARY POWER SERVICE (BUILDING SIDE OF TRANSFORMER).

1
GG-006
LIMITS OF TOLLING POINT LS PAY
ITEM SCOPE, TYP. (735-74-AA)



2
GG-006
LIMITS OF OPERATIONS & STORAGE LS PAY
ITEM SCOPE, TYP. (750-1-15 & 750-1-17)



REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SUMMARY OF PAY ITEMS		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			GG-006

1. UTILITY PAY ITEM SIZES UP TO 7.9" INCLUDES THE COST OF ALL FITTINGS.
2. PAY ITEM 1644-116-09: FIRE HYDRANT IS A JPA UTILITY PAY ITEM BEING UTILIZED FOR UTILITY WORK BY CONTRACTOR. THE SCOPE IS NOT A JPA UTILIZATION. REFER TO UTILITY DETAILS AND UTILITY PLAN SPECIFICATIONS FOR MATERIAL AND CONSTRUCTION REQUIREMENTS.
3. PAY ITEMS 1050-31-202, 1050-31-203, 1050-31-204 & 1050-31-206: UTILITY PIPE - PVC, POLY VINYL CHLORIDE INCLUDES ALL FITTINGS, INCLUDING BUT NOT LIMITED TO ELLS, VALVES, TEES AND CAPS.
4. PAY ITEM 1080-24-108: 8" VALVE ASSEMBLY: INCLUDING ALL GATE, CHECK & AIR RELEASE VALVES.
5. PAY ITEM 1501-1 INCLUDES THE COST OF THE SLAB, ALL COMPONENTS OF THE LIFT STATION INCLUDING BUT NOT LIMITED TO, ELECTRICAL, VALVE BOX, PIPING, HOSE BIB, WET WELL, CONTROL CABINET PUMPS, PIPE & FITTINGS.
6. PAY ITEM 520-1-10 INCLUDES THE COST OF FLUMES.
7. PAY ITEM 430-175-118, 430-174-124 & 430-175-130 SHALL BE RCP.
8. PAY ITEM 430-175-112 INCLUDES THE QUANTITY FOR 8" HDPE ROOF DRAIN PIPE.
9. PAY ITEMS 550-60-215, 550-60-221, 550-60-222, 550-60-233, 550-60-235, & 550-60-236 INCLUDE THE COST FOR CONTROLLER, UPS, LOOPS AND OTHER MISC. COMPONENTS ASSOCIATED WITH THE GATES.

SUMMARY OF PAY ITEMS						
PAY ITEM NO	PAY ITEM DESCRIPTION	UNITS	QUANTITY		DESIGN NOTES	CONSTRUCTION REMARKS
			P	F		
104-18	INLET PROTECTION SYSTEM	EA	7			
120-1	REGULAR EXCAVATION	CY	1994.02			
120-6	EMBANKMENT	CY	16655.87			
160-4	TYPE B STABILIZATION	SY	13770.1			
285-706	OPTIONAL BASE, BASE GROUP 06	SY	12323.20			
334-1-12	SUPERPAVE ASPHALTIC CONC, TRAFFIC B	TN	2029.69			
425-1-211	INLETS, CURB, TYPE 10, <10'	EA	1.00			
425-1-521	INLETS, DT BOT, TYPE C, <10'	EA	2.00			
425-1-523	INLETS, DT BOT, TYPE C, JBOT, <10'	EA	1.00			
425-1-541	INLETS, DT BOT, TYPE D, <10'	EA	1.00			
425-1-563	INLETS, DITCH BOTTOM, TYPE F, J BOT, <10'	EA	2.00			
425-2-61	MANHOLES, P-8, <10'	EA	7.00			
430-175-118	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18" S/CD	LF	490.00			
430-175-124	PIPE CULVERT, OPTIONAL MATERIAL, ROUND 24" S/CD	LF	395.00			
430-175-130	PIPE CULVERT, OPTIONAL MATERIAL, ROUND 30" S/CD	LF	584.00			
519-78	BOLLARDS	EA	42.00			
520-1-10	CONCRETE CURB & GUTTER, TYPE F	LF	2588.20			
520-2-04	CONCRETE CURB, TYPE D	LF	1429.00			
520-3	VALLEY GUTTER - CONCRETE	LF	210.00			
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	SY	795.90			
522-2	CONCRETE SIDEWALK AND DRIVEWAYS. 6" THICK	SY	147.80			
526-1-2	PAVERS, ARCHITECTURAL, SIDEWALK	SY	128.10			
527-2	DETECTABLE WARNINGS	SF	63.90			
530-3-4	RIPRAP, RUBBLE, F&I, DITCH LINING	TN	9.3366			
542-70	BUMPER GUARDS, CONCRETE	EA	30.00			
550-10-221	FENCING, TYPE B, 5.1-6.0' HEIGHT, W/ VINYL COATING	LF	1950.00			
550-60-215	FENCE GATE, TYPE B, SINGLE, 20.1-24.0' OPENING	EA	2.00			
550-60-221	FENCE GATE, TYPE B, DOUBLE, 0-6.0' OPENING	EA	1.00			
550-60-222	FENCE GATE, TYPE B, DOUBLE, 6.1-12.0' OPENING	EA	1.00			
550-60-233	FENCE GATE, TYPE B, SLIDING/CANTILEVER, 12.1-18.0' OPENING	EA	1.00			
550-60-235	FENCE/GATE, TYPE B, SLIDING/CANTILEVER, 20.1-24.0' OPENING	EA	1.00			
550-60-236	FENCE GATE, TYPE B, SLIDING/CANTILEVER, 24.1-30.0' OPENING	EA	1.00			
700-1-11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	AS	23.00			
700-3-101	SIGN PANEL, FURNISH & INSTALL, UP TO 12 SF	EA	9.00			
710-11-101	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	0.21			
710-11-123	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR CROSSWALK AND ROUNDABOUT, 12"	LF	61.00			
710-11-124	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR DIAGONAL OR CHEVRON, 18"	LF	326.20			
710-11-125	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	69.80			
710-11-160	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE ARROWS	EA	12.00			

SUMMARY OF PAY ITEMS						
PAY ITEM NO	PAY ITEM DESCRIPTION	UNITS	QUANTITY		DESIGN NOTES	CONSTRUCTION REMARKS
			P	F		
710-11-421	PAINTED PAVEMENT MARKINGS, STANDARD BLUE, SOLID FOR PARING LOT - ACCESSIBLE MARKINGS, 6"	LF	74.00			
711-16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID 6"	GM	0.21			
711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF	61.00			
711-11-124	THERMOPLASTIC, STANDARD, WHITE, SOLID, 18" FOR DIAGONALS AND CHEVRONS	LF	326.20			
711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	69.80			
711-11-160	THERMOPLASTIC, STANDARD, WHITE, MESSAGE OR SYMBOL	EA	12.00			
711-11-421	THERMOPLASTIC, STANDARD, BLUE, SOLID, 6"	LF	74.00			
1050-11-514	UTILITY PIPE, F&I, STEEL, CASING/CONDUIT, 8.0-19.9"	LF	212			
1050-31-201	UTILITY PIPE-POLY VINYL CHLORIDE, FURNISH & INSTALL, 1.5"	LF	139			
1050-31-202	UTILITY PIPE-POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 2"	LF	450			
1050-31-203	UTILITY PIPE-POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER 3"	LF	12			
1050-31-204	UTILITY PIPE-POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 4"	LF	1400			
1050-31-206	UTILITY PIPE-POLY VINYL, CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 6"	LF	120			
1050-31-208	UTILITY PIPE-POLY VINYL, CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 8"	LF	3466			
1050-31-210	UTILITY PIPE-POLY VINYL, CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 10"	LF	76			
1050-31-212	UTILITY PIPE-POLY VINYL, CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 12"	LF	2772			
1050-42-208	UTILITY PIPE-HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 8"	LF	86			
1050-42-212	UTILITY PIPE-HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 12"	LF	239			
1055-51-108	UTILITY FITTINGS, DUCTILE IRON/CASE IRON, FURNISH & INSTALL ELBOW, 8"	EA	14			
1055-51-112	UTILITY FITTINGS, DUCTILE IRON/CASE IRON, FURNISH & INSTALL ELBOW, 12"	EA	12			
1055-51-208	UTILITY FITTINGS, DUCTILE IRON/CASE IRON, FURNISH & INSTALL TEE, 8"	EA	4			
1055-51-210	UTILITY FITTINGS, DUCTILE IRON/CASE IRON, FURNISH & INSTALL TEE, 10"	EA	1			
1055-51-212	UTILITY FITTINGS, DUCTILE IRON/CASE IRON, FURNISH & INSTALL TEE, 12"	EA	8			
1055-31-508	UTILITY FITTINGS, DUCTILE IRON/CASE IRON, FURNISH & INSTALL CAP, 8"	EA	2			
1055-31-512	UTILITY FITTINGS, DUCTILE IRON/CASE IRON, FURNISH & INSTALL CAP, 12"	EA	3			
1060-11-211	UTILITY STRUCTURE, BELOW GROUND, F&I, WATER/SEWER, 0-80 FT3, 0-6'	EA	3			
1080-22-110	UTILITY FIXTURE-BACKFLOW ASSEMBLY	EA	1			
1080-23-112	UTILITY FIXTURE-TAPPING SADDLE/SLEEVE, FURNISH & INSTALL, 12" PWM	EA	2			
1080-23-116	UTILITY FIXTURE-TAPPING SADDLE/SLEEVE, FURNISH & INSTALL, 16" NPW	EA	1			
1080-23-118	UTILITY FIXTURE-TAPPING SADDLE/SLEEVE, FURNISH & INSTALL, 18" FM	EA	1			
1080-24-108	UTILITY FIXTURE, VALVE ASSEMBLY, FURNISH AND INSTALL, 8"	EA	5			
1080-24-110	UTILITY FIXTURE, VALVE ASSEMBLY, FURNISH AND INSTALL, 10"	EA	1			
1080-24-112	UTILITY FIXTURE, VALVE ASSEMBLY, FURNISH AND INSTALL, 12"	EA	7			
1501-1	LIFT STATION, SANITARY SEWER	EA	1			
1644-116-09	FIRE HYDRANT, STANDARD, F&I, 3 WAY, 2 HOSE, 1 PUMPER, 8"	EA	7			

REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<i>SUNTRAX TEST FACILITY</i> <i>SUMMARY OF PAY ITEMS</i>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		GG-007
					NA	POLK	437300-1-52-01		

<u>GENERAL NOTES:</u>				<u>GATE AND ACCESS CONTROL GENERAL NOTES:</u>			
1. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THESE PLANS, REFERENCED GEOTECHNICAL REPORT, REFERENCED LOCAL AND STATE STANDARDS AND SPECIFICATIONS, THE SPECIFICATIONS CONTAINED IN THESE PLANS AND THE ARCHITECTURAL AND STRUCTURAL SPECIFICATIONS UNDER SEPARATE COVER AND SEPARATE PERMIT AND PLAN APPROVAL.				1. CANTILEVER SLIDE GATES, SWING GATES AND FENCE TO BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS AND DESIGN STANDARDS. THE FENCE COMPONENT OPTIONS NOTED IN STANDARD INDEX 802 AND AS SELECTED FOR THIS PROJECT ARE AS FOLLOWS: A. LINE POST (1): GALVANIZED STEEL PIPE (REFER TO STD INDEX FOR ADDITIONAL INFORMATION) B. CORNER, END AND PULL POSTS (1): GALVANIZED STEEL PIPE (REFER TO STD INDEX FOR ADDITIONAL INFORMATION) C. RAIL OPTION (1): GALVANIZED STEEL PIPE (REFER TO STD INDEX FOR ADDITIONAL INFORMATION) D. CHAIN LINK FABRIC OPTION (3): TYPE IV - POLYVINYL CHLORIDE (PVC) COATED STEEL (REFER TO STD INDEX FOR ADDITIONAL INFORMATION) E. TENSION WIRE OPTION (1): STEEL WIRE NO.7 GAGE SINCE GALVANIZED (REFER TO STD INDEX FOR ADDITIONAL INFORMATION) F. TIE WIRE AND HOG RINGS OPTION (1): STEEL WIRE NO. 9 GAGE ZINC GALVANIZED (REFER TO STD INDEX FOR ADDITIONAL INFORMATION) G. INCLUDE BARBED WIRE ATTACHMENT PER STANDARD INDEX 802 PAGE 3 OF 3.			
2. THE DUPLICATION OF NOTES HEREIN IS INTENTIONAL AND IS FOR USE BY VARIOUS DISCIPLINES. HOWEVER, NOT ALL APPLICABLE NOTES MAY BE LISTED UNDER ANY ONE AREA OF WORK OR DISCIPLINE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL SUB -CONTRACTORS ARE PROVIDED WITH ALL THE NECESSARY PLAN SHEETS AND INFORMATION APPLICABLE TO THEIR AREA OF WORK.				2. REFER TO GE SHEETS FOR ADDITIONAL INFORMATION.			
3. SURVEY DATUM FOR THIS PROJECT IS NORTH AMERICAN VERTICAL DATUM 1988. REFER TO ROADWAY PLANS. THE SURVEY CONTROL POINT DATA OF THIS PROJECT IS INCLUDED IN THE ROADWAY PLANS.				3. INSTALL A NEW GATE ACCESS CONTROL SYSTEM AS DESCRIBED IN THE CONSTRUCTION DOCUMENTS INCLUDING ALL CONDUITS, CABLING, CONTROLS, SYSTEM DEVICES, TERMINATIONS AND ANY AND ALL OTHER ITEMS REQUIRED TO MAKE THE SYSTEM FULLY FUNCTIONAL.			
4. CONTINUOUS ACCESS SHALL BE MAINTAINED TO THE SITE FOR AUTHORIZED PERSONNEL, TESTING, AND INSPECTION DURING ALL CONSTRUCTION ACTIVITIES OF THE PROPOSED WORK.				CONTRACTOR TO DETERMINE THE PROPER INDUCTIVE TRAFFIC DETECTOR LOOP NUMBER OF TURNS PER LOOP, SIZES, LOCATIONS AND CONFIGURATIONS. INSTALL INDUCTIVE TRAFFIC DETECTION LOOPS IN ACCORDANCE WITH THE GATE OPERATOR MANUFACTURER'S REQUIREMENTS. THE LOOP CONDUCTORS SHALL BE EMBEDDED IN 0.25 INCH WIDE BY 1.5 INCH DEEP SAW CUTS IN THE PAVEMENT. THE LOOP DETECTOR CABLES SHALL BE SHIELDED AND CONTAIN COPPER CONDUCTORS. APPLY 3M BRAND DETECTOR LOOP SEALANT 5000 OVER THE INSTALLED LOOP CONDUCTORS TO FILL ALL AIR GAPS AND SEAL THE PAVEMENT.			
5. ALL PRIVATE AND PUBLIC PROPERTY DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING AT THE CONTRACTOR'S EXPENSE.				5. ACCESS CONTROL: REFER TO DETAIL 1/GC-007 FOR PAD DETAIL AND PLAN SHEET GC-110 FOR ACCESS CONTROL KEY PAD LOCATIONS KEY NOTE J. INSTALL A CARD READER AND COMBINATION KEY PAD/INTERCOM STATION ON A METAL GOOSENECK WITH A WEATHER PROTECTIVE HOOD. THE GOOSENECK SHALL BE BOLTED TO A NEW CONCRETE PAD.			
6. THE CONTRACT DOCUMENTS, SPECIFICATIONS, AND PLANS CALL ATTENTION TO CERTAIN REQUIRED FEATURES OF THE CONSTRUCTION BUT DO NOT PURPORT TO COVER ALL DETAILS OF DESIGN AND CONSTRUCTION. ENSURE THAT THE WORKS ARE FURNISHED AND INSTALLED IN ALL DETAILS AND READY FOR OPERATION.				6. INDUSTRIAL SLIDE GATE OPERATOR. INSTALL WIRING, CONDUIT, SLIDING GATE, AND CONCRETE PAD AS SHOWN IN THE MANUFACTURER'S INSTALLATION MANUAL. INSTALL REMOVABLE BOLLARDS TO PROTECT THE EQUIPMENT FROM TRAFFIC. REFER TO DETAIL 2/GC-007 AND PLAN SHEET GC-110, KEY NOTE K-##.			
7. ALL EQUIPMENT SHALL BE HANDLED, STORED, INSTALLED, TESTED, AND OPERATED IN STRICT ACCORDANCE WITH THE APPLICABLE MANUFACTURER'S WRITTEN INSTRUCTIONS.				7. INSTALL UPS/ BATTERY CABINET, POST MOUNTED, SUCH THAT THE BOTTOM OF THE CABINET IS 12 INCHES ABOVE GRADE LEVEL. THE POSTS SHALL BE 4 INCH DIAMETER, SCHEDULE 40, HOT DIPPED GALVANIZED STEEL. THE BASE OF THE POSTS SHALL BE SET IN CONCRETE. INSTALL METAL CAPS TO CLOSE ALL OPEN PIPE ENDS. PAINT THE STEEL SUPPORT POSTS TO MATCH THE FENCE POSTS. REFER TO DETAIL 2/GC-007.			
8. ALL WORK SHALL BE ACCOMPLISHED TO THE HIGHEST QUALITY CRAFTSMANSHIP STANDARDS.				8. PRIOR TO WORK, SHOP DRAWINGS, INCLUDING CALCULATIONS, MANUFACTURES' CATALOG CUT SHEETS, PRODUCT DATA, SCHEMATICS, WIRING DIAGRAMS,, EQUIPMENT AND MATERIALS LISTS AND SCHEDULES, COORDINATION DRAWINGS AND SAMPLES SHALL BE SUBMITTED ON ALL EQUIPMENT, MATERIALS, AND DEVICES TO BE PROVIDED AS NECESSARY TO SATISFY SPECIFIED REQUIREMENTS.			
9. APPARENT ERRORS, DISCREPANCIES OR OMISSIONS ON THE DRAWING SHALL BE BROUGHT TO THE ENGINEER OF RECORD'S ATTENTION IMMEDIATELY.				9. PROVIDE AND INSTALL GALVANIZED DROP ROD ASSEMBLIES WITH ALL SWING GATES. DROP RODS ARE TO BE INSTALLED WITH RECEIVING GALVANIZED CONDUIT INSTALLED FOR BOTH THE FULLY OPEN AND CLOSED POSITIONS.			
10. IF DESIGN SPECIFICATION DISCREPANCIES ARE FOUND BETWEEN THESE PLANS AND ANY OTHER CONTRACT DOCUMENT, THE MOST STRINGENT REQUIREMENT SHALL GOVERN.							
11. FIRE HYDRANTS AND STABILIZED SURFACES MUST BE IN SERVICE PRIOR TO ACCUMULATION OF COMBUSTIBLE ON SITE.							
12. ALL ADA ACCESSIBLE PATHS, ROUTES OR RAMPS SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH FLORIDA BUILDING CODE 5TH EDITION (2014) ACCESSIBILITY.							
13. LOCATE AND VERIFY (HORIZONTALLY AND VERTICALLY) ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.							
14. NOTIFY THE CORRESPONDING UTILITY COMPANIES TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATION, TEMPORARY DISRUPTION OF SERVICE, OR CLARIFICATION OF ACTIVITY REGARDING SAID UTILITY. MOREOVER, NOTIFY THE ENGINEER OF ANY EXISTING UTILITY THAT IMPACTS THE PROPOSED WORK.							
15. EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THESE PLANS OR FIELD LOCATED. ANY DELAY OR INCONVENIENCE OF THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED.							
16. THE LOCATION OF ALL EXISTING UTILITIES, STORM DRAINAGE SYSTEMS, AND TOPOGRAPHIC FEATURES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST AVAILABLE INFORMATION AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR INACCURACY. SHOULD A DISCREPANCY ARISE BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS, WHICH COULD APPRECIABLY AFFECT THE EXECUTION OF THESE PLANS, NOTIFY THE ENGINEER IMMEDIATELY.							
17. CHAPTER 553.851 OF THE FLORIDA STATUTES REQUIRES THAT AN EXCAVATOR NOTIFY ALL GAS UTILITIES A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO EXCAVATING.							
18. THE MAINTENANCE ACCESS PAVEMENT DESIGN FOR THE GANTRY TOLLING SITE SHALL MATCH THE SHOULDER PAVEMENT SECTION. REFER TO ROADWAY PLANS.							
19. REFER TO ROADWAY PLANS FOR GRADING OUTSIDE THE OPERATIONS AND TOLL SITE AREA LIMITS SHOWN HEREIN, FOR THE POINT OF CONNECTION TO EXISTING GRADE, AND LIMITS OF CLEARING, GRUBBING & CONSTRUCTION.							
20. REFER TO ROADWAY PLANS FOR ALL DRAINAGE STRUCTURES AND STORMWATER MANAGEMENT FEATURES OUTSIDE THE OPERATIONS SITE AREA.							
21. REFER TO GCT-120 AND GCT-123 FOR TRANSFORMER PAD AND BOLLARD PLACEMENT DETAILS.							
22. STATIONS AND OFFSETS SHOWN IN THE TOLL SITES BASED ON CLCONST.							
23. REFER TO GC PLANS FOR CONCRETE EQUIPMENT SLAB. REFER TO GX SHEETS FOR GANTRY COLUMN PROTECTION DETAILS.							
24. COORDINATE WITH DEPARTMENT'S TOLL EQUIPMENT CONTRACTOR FOR INSTALLATION OF TOLL EQUIPMENT. REFER TO THE GTR FOR ADDITIONAL INFORMATION AND ACCEPTANCE CHECKLIST.							
25. THE FINISHED FLOOR ELEVATIONS OF THE STORAGE BUILDING, THE OPERATIONS BUILDING AND THE TOLL EQUIPMENT BUILDINGS (EB) ARE ABOVE THE PROJECT'S 100 YEAR FLOOD ELEVATIONS AS FOLLOWS:							

DESIGN CODES

1. 2014 FLORIDA BUILDING CODE (FBC)

2. ASCE 7-10: MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES

3. ACI 318-14: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY

4. ACI 530-08: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES

5. AISC STEEL CONSTRUCTION MANUAL, 14TH EDITION

FOUNDATIONS

1. FOUNDATION DESIGN IS BASED ON A SOIL BEARING CAPACITY OF 2,000 PSF. ALL SITE PREPARATION AND COMPACTION SHALL BE PERFORMED AS STATED HEREIN.

2. ALL FILL MATERIALS SHOULD BE FREE OF ORGANIC MATERIALS, SUCH AS ROOTS AND VEGETATION. AS A GENERAL GUIDE TO AID THE CONTRACTOR, WE RECOMMEND USING FILL WITH 3 TO 10 PERCENT BY DRY WEIGHT OF MATERIAL PASSING THE U.S. STANDARD NO. 200 SIEVE SIZE. THE FINE SAND AND FINE SAND WITH SILT (STRATA NO. 1 AND 2 WITHOUT ROOTS) ARE SUITABLE AS FILL MATERIALS, AND WITH PROPER MOISTURE CONTROL, SHOULD DENSIFY USING CONVENTIONAL COMPACTION METHODS.

3. ALL STRUCTURAL FILL SHOULD BE PLACED IN LEVEL LIFTS NOT TO EXCEED 6 INCHES IN UNCOMPACTED THICKNESS. EACH LIFT SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THE MODIFIED PROCTOR (ASTM D 1557) MAXIMUM DRY DENSITY VALUE. THE FILLING AND COMPACTION OPERATIONS SHOULD CONTINUE IN LIFTS UNTIL THE DESIRED ELEVATION(S) IS ACHIEVED.

4. EXCAVATE THE FOUNDATION TO THE PROPOSED BOTTOM OF FOOTING ELEVATIONS, AND THEREAFTER, VERIFY THE IN-PLACE COMPACTION FOR A DEPTH OF 2 FEET BELOW THE BOTTOM OF FOOTINGS. IF NECESSARY, COMPACT THE BOTTOM OF THE EXCAVATIONS TO ACHIEVE A MINIMUM DRY DENSITY EQUIVALENT TO 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D 1557) FOR A DEPTH OF 2 FEET BELOW THE BOTTOM OF FOOTINGS.

5. COMPACTION BENEATH ALL SLABS SHOULD BE VERIFIED FOR A DEPTH OF 2 FEET AND MEET THE 95 PERCENT CRITERIA (MODIFIED PROCTOR, ASTM D 1557).

6. PROVIDE 10 MIL. VAPOR BARRIER OVER COMPACTED SUBGRADE FOR SLAB ON GRADE. VAPOR BARRIER SHALL BE LAPPED A MINIMUM OF 6 INCHES IN DIRECTION OF CONCRETE POUR AND TAPED. USE MAXIMUM SHEET SIZE WITH MINIMUM JOINTS. CARE SHALL BE EXERCISED TO PREVENT DAMAGE OR RUPTURE OF BARRIER. WHERE COLUMNS, PIPES, CONDUITS, ETC. PENETRATE MEMBRANE, CUT AROUND PROJECTION AND SEAL WITH JOINT TAPE.

CONCRETE MASONRY GROUT PLACEMENT

1. VERTICAL CELLS TO BE FILLED WITH GROUT SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR, UNOBSTRUCTED, CONTINUOUS VERTICAL CELL, AS SHOWN IN THE "GROUT SPACE REQUIREMENTS" TABLE BELOW. EXCESSIVE MORTAR FINS AND ANY OTHER OBSTRUCTIONS SHALL BE REMOVED FROM THE CELLS TO BE GROUTED. PROVIDE CLEANOUTS AT THE BOTTOM COURSE OF ALL GROUT POURS.

2. ALL CELLS CONTAINING REINFORCEMENT SHALL BE FILLED SOLID WITH GROUT. FOR GROUT POURS 12" OR LESS IN HEIGHT, GROUT SHALL BE CONSOLIDATED BY MECHANICAL VIBRATION OR PUDDLING. FOR GROUT POURS EXCEEDING 12" IN HEIGHT, GROUT SHALL BE CONSOLIDATED BY MECHANICAL VIBRATION AT THE TIME OF PLACEMENT, AND RECONSOLIDATED BY MECHANICAL VIBRATION AFTER INITIAL WATER LOSS AND SETTLEMENT HAS OCCURED, BUT BEFORE WORKABILITY IS LOST.

3. DO NOT PLACE CONDUIT IN CELLS CONTAINING REINFORCEMENT WITHOUT PRIOR APPROVAL FROM STRUCTURAL ENGINEER OF RECORD.

4. DO NOT EXCEED THE MAXIMUM GROUT POUR HEIGHT GIVEN IN THE "GROUT SPACE REQUIREMENTS" TABLE BELOW. IN ADDITION, WHERE THE FOLLOWING CONDITIONS ARE MET, PLACE GROUT IN LIFTS NOT EXCEEDING 12'-0":

4.A THE MASONRY HAS CURED FOR AT LEAST 4 HOURS.

4.B THE GROUT SLUMP IS MAINTAINED BETWEEN 10 AND 11 INCHES.

4.C NO INTERMEDIATE REINFORCED BOND BEAMS ARE PLACED BETWEEN THE TOP AND THE BOTTOM OF THE POUR HEIGHT.

4.D OTHERWISE, PLACE GROUT IN LIFTS NOT EXCEEDING 5'-0".

GROUT SPACE REQUIREMENTS			
SPECIFIED GROUT TYPE	MAX GROUT POUR HEIGHT (FT)	MIN. WIDTH OF GROUT SPACE *	MIN. GROUT SPACE DIMENSIONS FOR GROUTING CELLS OF HOLLOW UNITS *, **
COARSE	1	1 1/2"	1 1/2" X 3"
COARSE	5	2"	2 1/2" X 3"
COARSE	12	2 1/2"	3" X 3"
* - GROUT SPACE DIMENSION IS THE CLEAR DIMENSION BETWEEN ANY MASONRY PROTRUSION AND SHALL BE INCREASED BY THE DIAMETERS OF THE HORIZONTAL BARS WITHIN THE CROSS SECTION OF THE GROUT SPACE.			
** - FOR GROUTING BETWEEN MASONRY WYTHES.			

5. BETWEEN GROUT POURS, A HORIZONTAL CONSTRUCTION JOINT SHALL BE FORMED BY STOPPING ALL WYTHES AT THE SAME ELEVATION AND WITH THE GROUT STOPPING A MINIMUM OF 1-1/2 INCHES BELOW A MORTAR JOINT, EXCEPT AT THE TOP OF THE WALL. NEVER STOP A GROUT POUR AT A BED JOINT.

6. ALL CELLS IN UNITS BELOW GRADE SHALL BE FULLY GROUTED, UNLESS NOTED OTHERWISE.

CONCRETE MASONRY REINFORCING BARS

1. VERTICAL REINFORCEMENT TO BE CENTERED IN SOLID GROUTED MASONRY CELLS AS REQUIRED ON PLANS AND AT ALL CORNERS, JAMBS, WALL INTERSECTIONS, EACH SIDE OF OPENINGS, AND EACH SIDE OF MASONRY CONTROL JOINTS.

2. BARS MAY BE LAP SPLICED ACCORDING TO PLAN CONSISTING OF BARS HELD IN DIRECT CONTACT BY WIRE TIES, ALL VERTICAL BARS TERMINATING INTO CONCRETE SHALL TERMINATE WITH A STANDARD ACI 90° HOOK.

3. NO WET SETTING OF BARS IN FOOTING IS PERMITTED. ALL DOWEL REINFORCING BARS SHALL BE TIED TO THE FOUNDATION REINFORCEMENT AND HELD IN PLACE USING FABRICATED FORM WORK PRIOR TO POURING. PLACEMENT OF BARS SHALL BE VERIFIED PRIOR TO FOUNDATION POUR.

4. DEVELOPMENT AND LAP SPLICE LENGTHS OF REINFORCING BARS IN MASONRY SHALL COMPLY WITH THE REQUIREMENTS OF ACI 530-08 AS MODIFIED BY THE 2010 FBC. FOR 8" NOMINAL CONCRETE MASONRY UNITS WITH A MASONRY ASSEMBLAGE COMPRESSIVE STRENGTH (f'm) OF 1,500 PSI AND VERTICAL REINFORCEMENT CENTERED IN THE UNITS, THE FOLLOWING DEVELOPMENT AND LAP SPLICE LENGTHS ARE REQUIRED:

LAP SPLICE REQUIREMENTS	
REINFORCING BAR SIZE	MINIMUM LAP LENGTH
#4	24"
#5	30"
#6	36"
#7	42"
#8	48"

CONCRETE MASONRY WORKMANSHIP

1. ALL CONCRETE MASONRY WORK SHALL BE IN ACCORDANCE WITH ACI 530-08, AND MEET THE SPECIFICATIONS AS LISTED IN ACI 530.1-08, AS WELL AS THE SPECIFICATIONS LISTED BELOW.

2. AT THE TIME OF LAYING, ALL CONCRETE MASONRY UNITS SHALL BE DRY AND FREE OF EXCESSIVE DUST AND DIRT.

3. UNLESS NOTED OTHERWISE, HEAD AND BED JOINTS SHALL BE 3/8 INCH THICK, EXCEPT THAT THE THICKNESS OF THE BED JOINT STARTING COURSE PLACED OVER FOUNDATIONS SHALL NOT BE LESS THAN 1/4 INCH AND NOT MORE THAN 3/4 INCH.

4. HOLLOW UNITS SHALL BE PLACED SUCH THAT FACE SHELLS OF BED JOINTS ARE FULLY MORTARED, WEBS SHALL BE FULLY MORTARED IN ALL COURSES OF PIERS, COLUMNS, PILASTERS, IN THE STARTING COURSE ON FOUNDATIONS WHERE ADJACENT CELLS OR CAVITIES ARE TO BE GROUTED, AND WHERE OTHERWISE REQUIRED. HEAD JOINTS SHALL BE MORTARED A MINIMUM DISTANCE FROM EACH FACE EQUAL TO THE FACE SHELL THICKNESS OF THE UNIT.

CONCRETE

1. ALL CAST IN PLACE CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:

CAST IN-PLACE CONCRETE PROPERTIES				
LOCATION	28 DAY COMPRESSIVE STRENGTH, f'c	SLUMP	MAX W/C RATIO	MAX AGGREGATE
FOUNDATIONS	4,000 PSI	4" +/- 1"	0.45%	3/4"

CONCRETE REINFORCING BARS

1. COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS:

CAST-IN-PLACE CONCRETE REINFORCING BAR COVER	
CONCRETE CAST AGAINST & PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER	
#5 BARS AND SMALLER	2"
#6 BARS AND LARGER	1 1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER	
SLABS, WALLS, & JOISTS	
#11 BARS AND SMALLER	3/4"
#14 AND #18 BARS	1 1/2"
BEAMS AND COLUMNS	1 1/2"

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

BRENTON D. DAILY, P.E.
FLORIDA P.E. NO. 81028
BENTLEY ARCHITECTS + ENGINEERS, INC.
651 WEST WARREN AVENUE SUITE 200
LONGWOOD, FLORIDA 32750
BPE CA NO. 5898
BPA & ID CA NO. AAC002023

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
NA	POLK	437300-1-52-01

SUNTRAX TEST FACILITY
SITE DETAILS
DUMPSTER ENCLOSURE (2 OF 3)

SHEET NO.
GC-004

L:\Projects\2015\2015.017.A FTE Test Track\43730015201\struct\Dumpster Enclosure\CAD\GC-004_DUMPSTER ENCLOSURE_2015.017.A_GENERAL NOTES.dwg, 12/2/2016 3:27:25 PM

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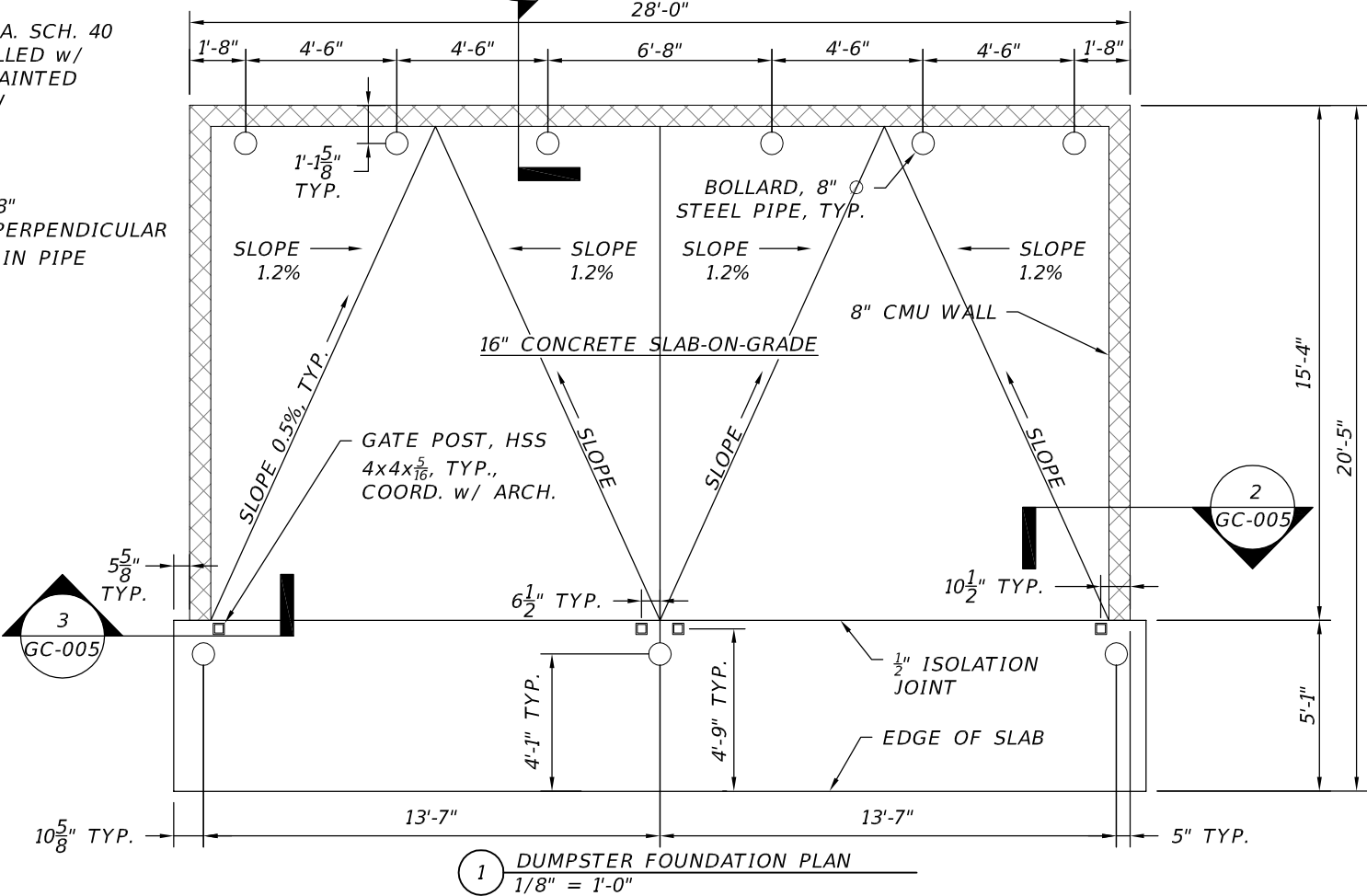
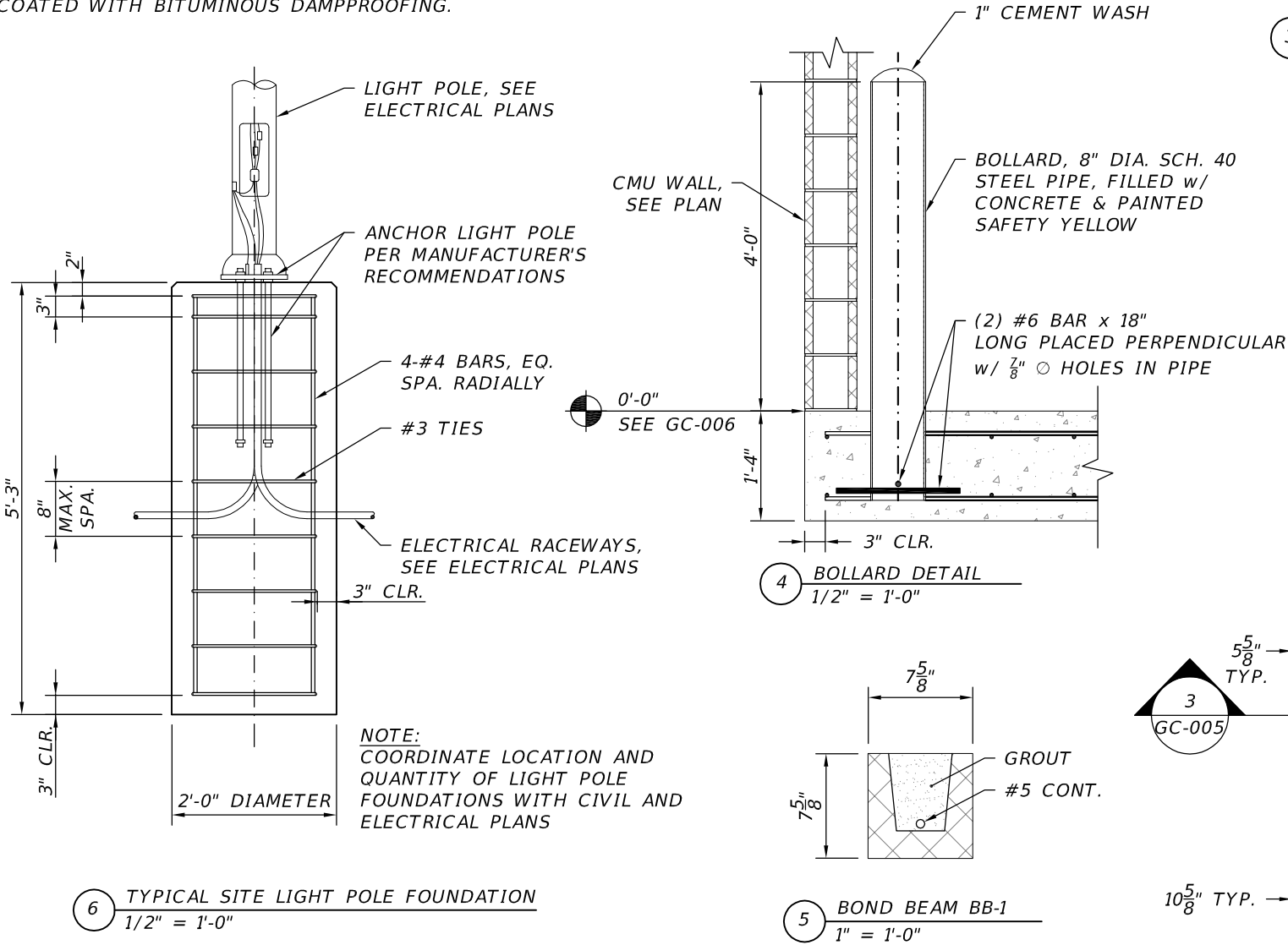
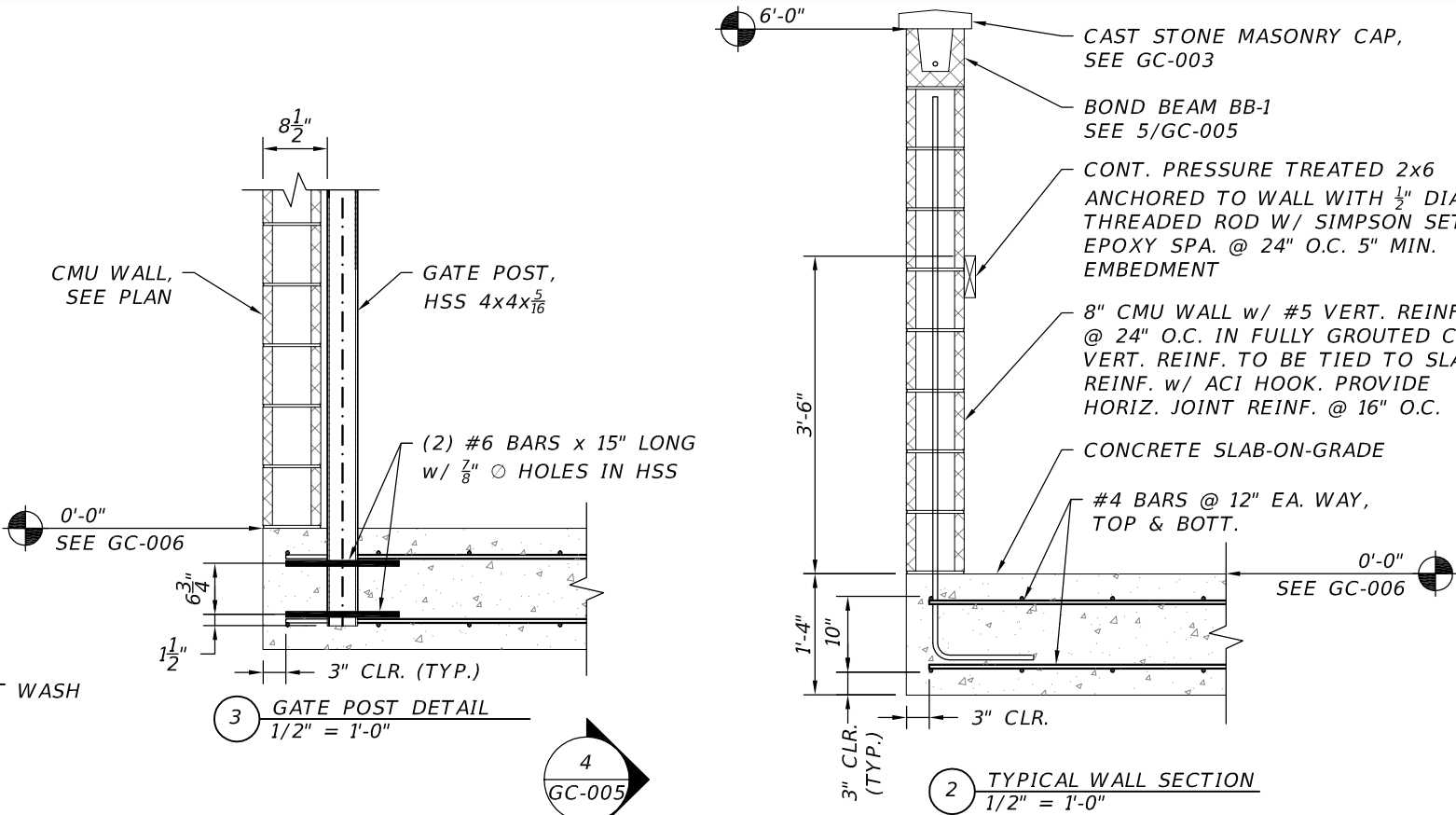
GENERAL NOTES (CONT.)

2. ALL REINFORCING BARS AT SPLICES IN CONCRETE SHALL BE LAPPED ACCORDING TO ACI 318-14, UNLESS NOTED OTHERWISE. FOR REINFORCING BARS WITH A DIAMETER = Db, IF A MINIMUM COVER OF Db IS PROVIDED ALONG WITH A MINIMUM CLEAR SPACING OF 2Db, OR A MINIMUM CLEAR COVER OF Db AND A MINIMUM CLEAR SPACING OF Db ARE PROVIDED ALONG WITH MINIMUM TIES OR STIRRUPS, THE FOLLOWING APPLIES:

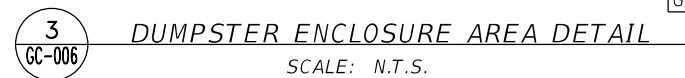
CAST-IN-PLACE CONCRETE REINFORCING BAR MINIMUM LAP SPLICE (CLASS B) LENGTH		
REINFORCING BAR SIZE	f'c = 3,000 PSI	f'c = 4,000 PSI
#6 BARS AND SMALLER	57Db	50Db
#7 BARS AND LARGER	72Db	62Db

STRUCTURAL STEEL

- ALL STEEL SECTIONS SHALL BE PRODUCED DOMESTICALLY AND CONFORM TO THE FOLLOWING ASTM STANDARDS:
 - W-SECTION: ASTM A 992 (Fy = 50 KSI)
 - ANGLE, CHANNEL, & PLATE: ASTM A 36 (Fy = 36 KSI)
 - HSS-RECTANGULAR: ASTM A 500, GR. B (Fy = 46 KSI)
 - HSS-ROUND: ASTM A 500, GR. B (Fy = 42 KSI)
- THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS FOR ENGINEER'S REVIEW AND APPROVAL BEFORE FABRICATION.
- ALL STRUCTURAL STEEL MEMBERS AND SHAPES EXPOSED TO THE EXTERIOR SHALL BE HOT-DIPPED GALVANIZED AS FOLLOWS:
 - ALL NUTS, BOLTS AND WASHERS: ASTM A 153, CLASS C OR D (DEPENDING ON SIZE)
 - ALL OTHER STEEL ITEMS: ASTM A 123
- ALL STRUCTURAL STEEL BELOW GRADE OR IN CONTACT WITH CONCRETE SHALL BE COATED WITH BITUMINOUS DAMPPROOFING.

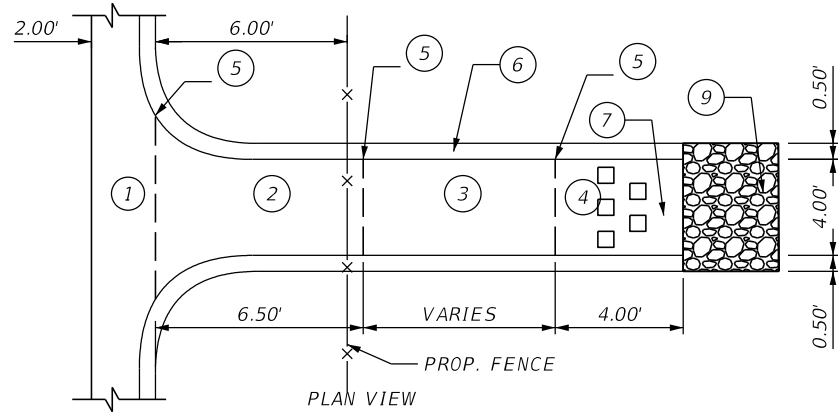


REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SITE DETAILS DUMPSTER ENCLOSURE (3 OF 3) AND LIGHT POLE FOUNDATION	SHEET NO. GC-005
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

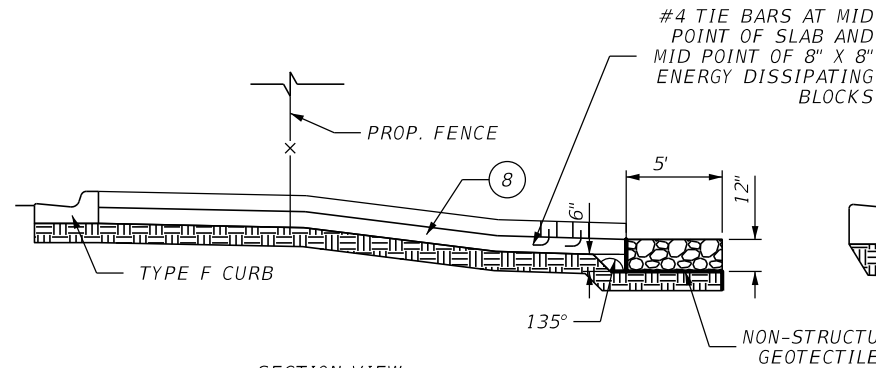


4
GC-006

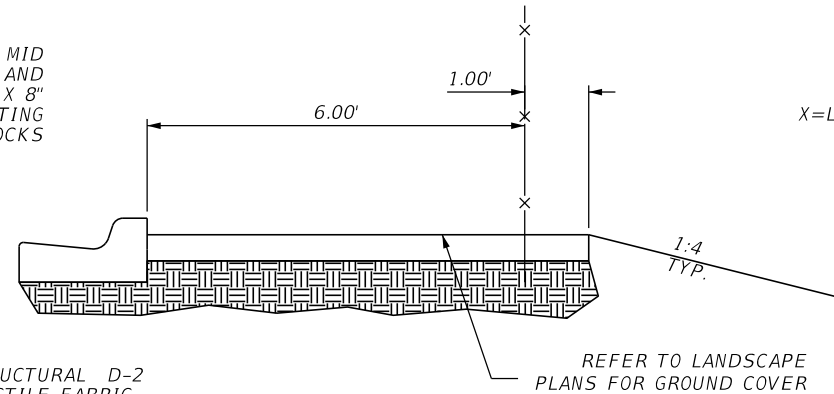
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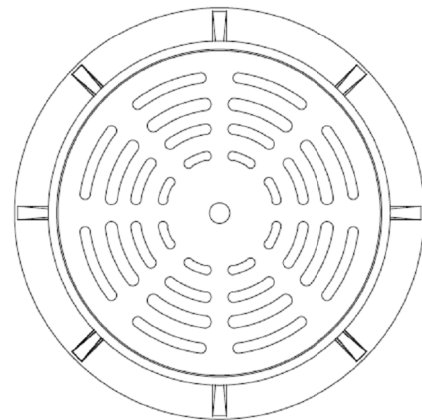
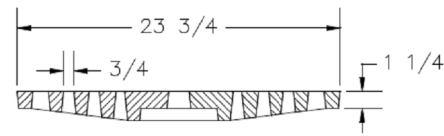
- FLUME DETAIL NOTES:
1. MATCH PAVEMENT CROSS SLOPE TO BACK OF CURB LINE.
 2. SLOPE AT 2% FOR 6.5' TO BEHIND FENCE LINE.
 3. MATCH SWALE SLOPE. REFER TO GRADING PLANS.
 4. SLOPE AT .5%.
 5. GRADE BREAKS.
 6. 6" CURB, TYP.
 7. 4" SLAB WITH W2.5XW2.5 MIN WWF IN MIDDLE OF SLAB.
 8. FIBER REINFORCED CONCRETE.
 9. RUBBLE RIPRAP



1
GC-008
FLUME DETAIL
SCALE: N.T.S.



2
GC-008
TYPICAL FENCE LOCATION DETAIL
SCALE: N.T.S.



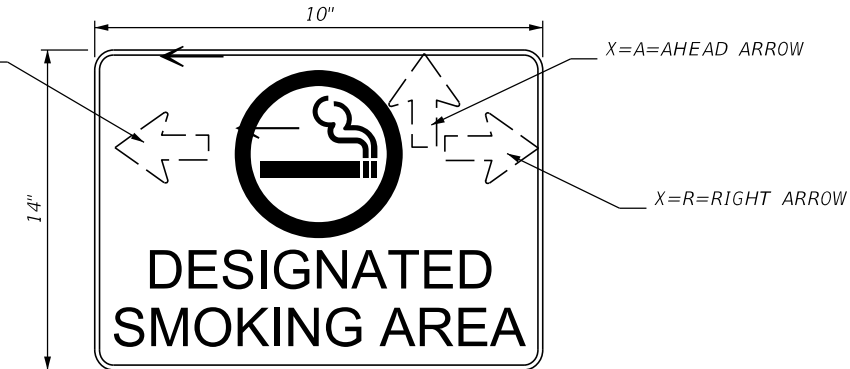
NOTES

- 1) MH RIM SHALL BE IN ACCORDANCE WITH FDOT STANDARD INDEX 201.
- 2) GRATE MATERIAL: ASTM-A48 CLASS 35B GRAY IRON.
- 3) ROUND GRATE LID FOR MANHOLE S-522 AND S-553.
- 4) DESIGN BASED ON USF 170 RING AND USF 3200 GRATE.
- 5) GRATE APPROX. WT. 125 LBS.

6
GC-008
ROUND MANHOLE GRATE DETAIL
SCALE: N.T.S.

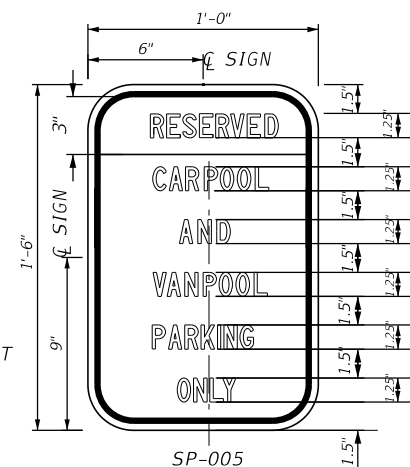


3
GC-008
NO SMOKING SIGN DETAIL
SCALE: N.T.S.
REFER TO SPECIAL SIGN GENERAL NOTES THIS SHEET



- NOTES:
1. DIRECTIONAL ARROWS TO BE PLACED ON BOTH SIDES OF SMOKING SYMBOL AS NEEDED. DIRECTIONAL ARROW WILL DEPEND ON SIGN LOCATION. REFER TO SITE PLAN.
- REFER TO SPECIAL SIGN GENERAL NOTES THIS SHEET

4
GC-008
DESIGNATED SMOKING AREA SIGN DETAIL
SCALE: N.T.S.

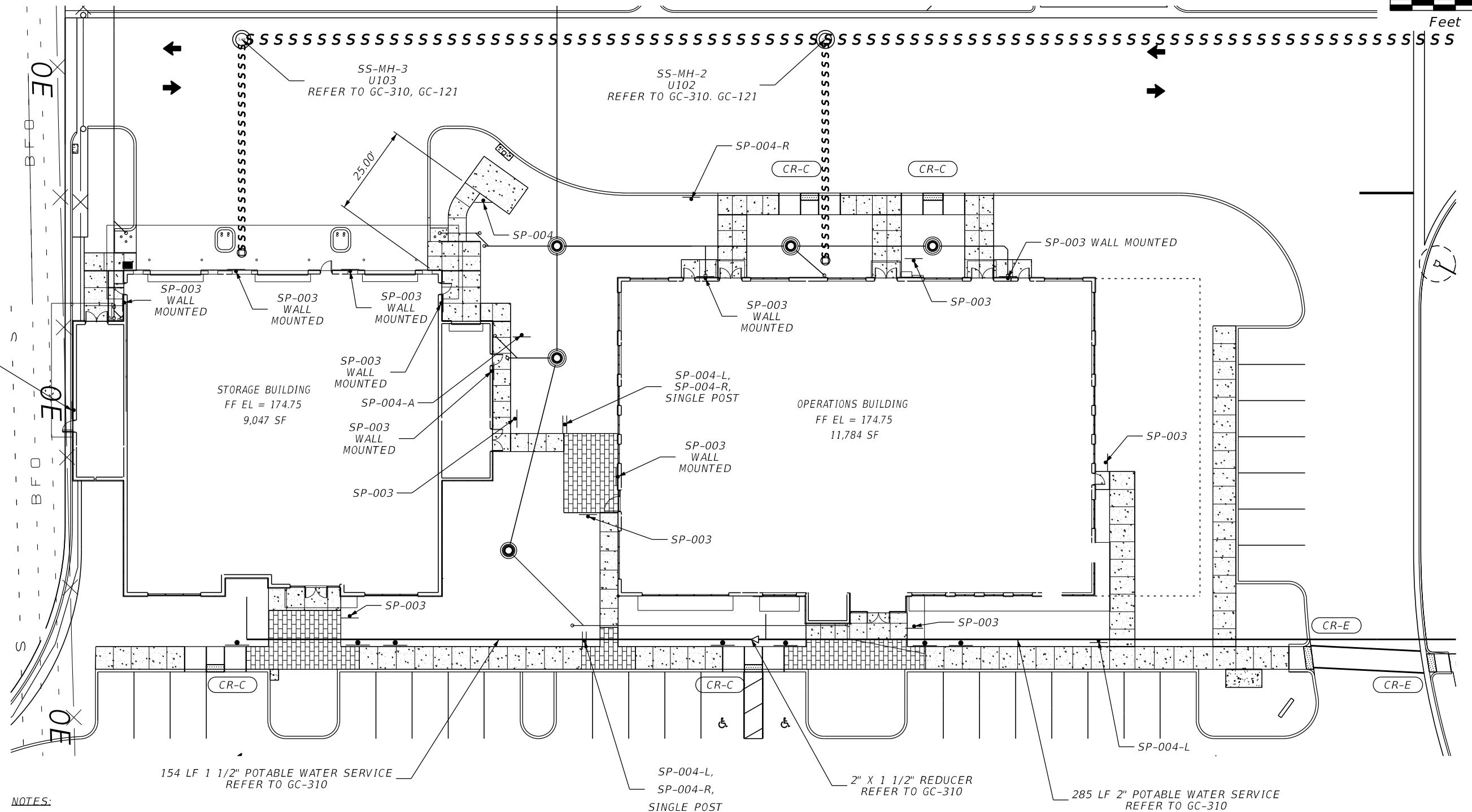


GREEN BACKGROUND
WHITE COLOR
1 1/2" SERIES C
1 1/2" SPACING
BETWEEN LINES OF TEXT

- SPECIAL SIGN GENERAL NOTES:
1. REFER TO STD. INDEX 11860 FOR MATERIALS, COLUMNS AND FOOTING DETAILS.
 2. CENTERLINE OF POST TO BE LOCATED 1' BEHIND BACK OF SIDEWALK UTILIZING SLIP BASE.
 3. FURNISH AND INSTALL WITH SINGLE POST SIGN ASSY. UNLESS NOTED OTHERWISE IN PLAN OR DETAIL.

5
GC-008
CARPOOL PARKING SIGN DETAIL
SCALE: N.T.S.
REFER TO SPECIAL SIGN GENERAL NOTES THIS SHEET

REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TYPICAL SITE DETAILS (3 OF 3)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		GC-008



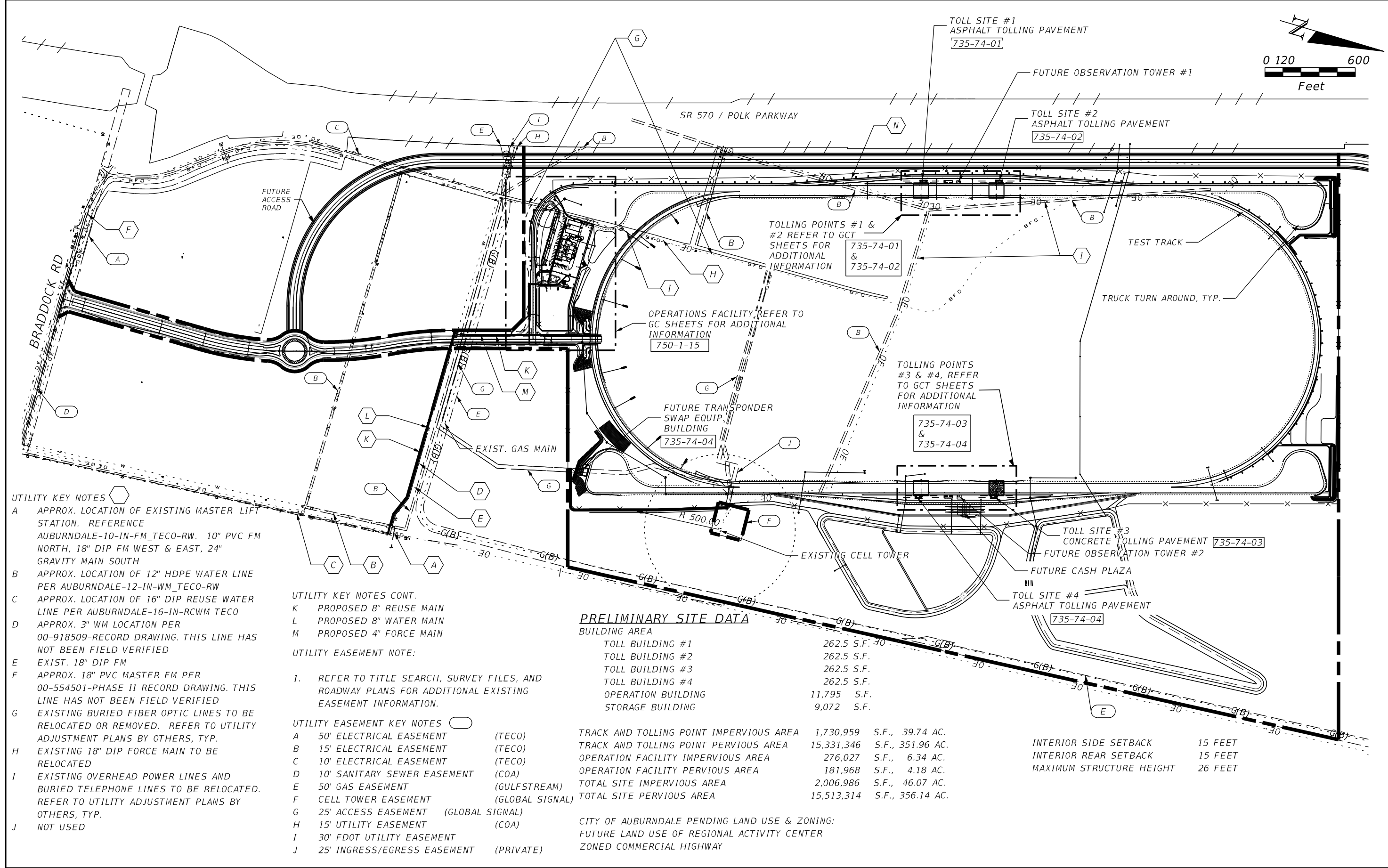
NOTES:
1. REFER TO OPERATIONS SITE PLAN FOR SITE SIGNAGE NOT IDENTIFIED HERE ON.

REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SITE SMOKING SIGNAGE LOCATION PLAN		SHEET NO. GC-009
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			

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QUANTITY	STR. NO.	STATION & OFFSET OR COORDINATE PNT. NO.	SIDE	DESCRIPTION	BARRELS	ROOF DRAIN (HDPE) & STORM DRAIN (RCP)					INLET / STRUCTURE						RUBBLE RIPRAP	REMARKS				
						ROUND SHAPE					TYPE	FL. EL.	FL. EL.	FL. EL.	FL. EL.	TOP / GRATE EL.						
						8"	12"	18"	24"	30"												
P	S-500	711+89.01, 266.92	LT	INLET, PIPE (RCP)						75	TYPE D, DUAL SLOTS, TYPE J BOTTOM (7" DIA.) <10'		-	-	161.17	167.80		0.49% SLOPE (ST. BASED ON ON CL OF SIDE RD)				
F																						
P	S-501			FLUME							CONC. W/ENERGY DISS.				167.83		0.93	REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
F																		REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
P	S-502			FLUME							CONC. W/ENERGY DISS.				168.20		0.93	REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
F																		REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
P	S-503			FLUME							CONC. W/ENERGY DISS.				169.56		0.93	REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
F																		REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
P	S-504			FLUME							CONC. W/ENERGY DISS.				170.22		0.93	REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
F																		REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
P	S-510			FLUME							CONC. W/ENERGY DISS.				170.06		0.93	REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
F																		REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
P	S-511			FLUME							CONC. W/ENERGY DISS.				170.42		0.93	REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
F																		REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
P	S-512			FLUME							CONC. W/ENERGY DISS.				171.06		0.93	REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
F																		REFER TO DETAIL ON SHEET GC-008. CENTER FLUME ON LOW POINT SHOWN ON THE GRADING PLANS.				
P	S-520	710+90.53 41.70	LT	CURB INLET, PIPE (RCP)				22			TYPE 10 WITH P BOTTOM, <10'				164.79	170.90		0.50% SLOPE, (STA. AND OFFSET BASED ON CL OF SIDE RD.)				
F																						
P	S-521	708+19.71 41.19	LT	INLET, PIPE (RCP)				115			TYPE C WITH SINGLE SLOT, <10'				167.50	171.65		0.50% SLOPE, (BASED ON CL OF SIDE RD.)				
F																						
P	S-522	707+04.91 41.19	LT	MH, PIPE (RCP)				24			TYPE P BOTTOM, <10'			166.92,E	166.92,S	171.25		0.50% SLOPE (STA. AND OFFSET BASED ON CL OF SIDE RD.)				
F																						
P	S-530	703+25.42 67.70	LT	INLET, PIPE (RCP)						115	TYPE C, WITH J BOTTOM (5' DIA.) <10'			164.34,S	164.34,W	169.38		0.5% SLOPE (STA. AND OFFSET BASED ON CL OF SIDE RD.)				
F																						
P	S-531	701+81.98 58.08	LT	INLET, PIPE (RCP)						106	TYPE F, WITH J BOTTOM (5.83' DIA.) <10'			164.86,E	164.86,N	172.20		0.50% SLOPE (STA. AND OFFSET BASED ON CL OF SIDE RD.)				
F																						
P	S-532	700+47.68 113.65	LT	INLET, PIPE (RCP)						111	TYPE F, <10'				165.42,S	171.88		0.50% SLOPE (STA. AND OFFSET BASED ON CL OF SIDE RD.)				
F																						
P	S-540	COORD. PNT. G422		INLET, PIPE (RCP)						177	TYPE C, TYPE J BOTTOM (6' DIA.) <10'			162.61,W	162.61 E	168.70		0.81% SLOPE				
F																						
P	S-541	COORD. PNT. G421		MH, PIPE (RCP)				127			TYPE P BOTTOM, <10'			169.91,S	166.53,E	173.50		0.55% SLOPE				
F																						
P	S-CO-541.1			CLEAN OUT, PIPE			92								170.96	174.67		0.60% SLOPE, 30" COVER MIN.				
F																						
P	RD-541A			RD CONN., PIPE		3									171.01	NA		1.50% SLOPE, 30" COVER MIN.				
F																						
P	RD-541B			FD CONN., PIPE, WYE		3									171.01	NA		1.50% SLOPE, 30" COVER MIN.				
F																						
P	RD-541C			FD CONN., PIPE, WYE		5									170.76	NA		1.50% SLOPE, 30" COVER MIN.				
F																						
P	S-550	COORD. PNT. G420		INLET, PIPE (RCP)					395		TYPE C, WITH J BOTTOM (6' DIA.), <10'		165.83,W	165.83,S	165.83,E	169.20		0.81% SLOPE				
F																						
P	S-551	COORD. PNT. G423		MH, PIPE (RCP)				116			TYPE P, <10'	170.02,W	167.25,E	168.76,S	166.79,N	174.37		0.81% SLOPE (STORM FL. AT CROSSING = 166.33; SS INV = 169.50)				
F																						
P	S-CO-551.1			CLEAN OUT, PIPE (HDPE), WYE			20								170.14	174.59		0.60% SLOPE, 30" COVER MIN.				
F																						
P	S-CO-551.2			CLEAN OUT, PIPE (HDPE), WYE		5									170.24	174.59		2.0% SLOPE, 30" COVER MIN.				
F																						
P	RD-551A			RD CONN., PIPE (HDPE)		11									170.46	NA		2.00% SLOPE, 30" COVER MIN.				
F																						
P	S-552	COORD. PNT. G300		MH, PIPE (RCP)				31			TYPE P, <10', WITH ROUND GRATE		170.91,W	168.95,S	168.95,N	173.84		0.60% SLOPE, 30" COVER MIN.				
F																						
P	RD-552A			RD CONN., PIPE (HDPE), WYE		9									171.03			0.60% SLOPE, 30" COVER MIN.				
F																						
P	S-CO-552.1			CLEAN OUT, PIPE (HDPE), WYE			14								170.99	174.63		0.60% SLOPE, 30" COVER MIN.				
F																						
P	S-553	COORD. PNT. G293		MH, PIPE (RCP)				55			TYPE P, <10', WITH ROUND GRATE			169.78,S	169.28,N	173.48		0.60% SLOPE, 30" COVER MIN.				
F																						
P	S-CO-553.1			CLEAN OUT, PIPE (HDPE), WYE			29								169.95	173.80		0.60% SLOPE, 30" COVER MIN.				
F																						
P	RD-553A			RD CONN., PIPE (HDPE)			76								170.41	NA		0.60% SLOPE, 30" COVER MIN.				
F																						
P	RD-551B			RD CONN., PIPE (HDPE), TEE			8								167.57	NA		0.90% SLOPE, 30" COVER MIN.				
F																						
P																						
F																						
SHEET TOTALS -						PLAN QUANTITY																
						FINAL QUANTITY																
REVISIONS											MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898						STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SITE DRAINAGE STRUCTURE TABLE (1 OF 2)		SHEET NO.
DATE	DESCRIPTION			DATE	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID												
								NA	POLK	437300-1-52-01												

THE OFFICAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



- UTILITY KEY NOTES
- A APPROX. LOCATION OF EXISTING MASTER LIFT STATION. REFERENCE AUBURNDALE-10-IN-FM_TECO-RW. 10" PVC FM NORTH, 18" DIP FM WEST & EAST, 24" GRAVITY MAIN SOUTH
 - B APPROX. LOCATION OF 12" HDPE WATER LINE PER AUBURNDALE-12-IN-WM_TECO-RW
 - C APPROX. LOCATION OF 16" DIP REUSE WATER LINE PER AUBURNDALE-16-IN-RCWM TECO
 - D APPROX. 3" WM LOCATION PER 00-918509-RECORD DRAWING. THIS LINE HAS NOT BEEN FIELD VERIFIED
 - E EXIST. 18" DIP FM
 - F APPROX. 18" PVC MASTER FM PER 00-554501-PHASE II RECORD DRAWING. THIS LINE HAS NOT BEEN FIELD VERIFIED
 - G EXISTING BURIED FIBER OPTIC LINES TO BE RELOCATED OR REMOVED. REFER TO UTILITY ADJUSTMENT PLANS BY OTHERS, TYP.
 - H EXISTING 18" DIP FORCE MAIN TO BE RELOCATED
 - I EXISTING OVERHEAD POWER LINES AND BURIED TELEPHONE LINES TO BE RELOCATED. REFER TO UTILITY ADJUSTMENT PLANS BY OTHERS, TYP.
 - J NOT USED

- UTILITY KEY NOTES CONT.
- K PROPOSED 8" REUSE MAIN
 - L PROPOSED 8" WATER MAIN
 - M PROPOSED 4" FORCE MAIN
- UTILITY EASEMENT NOTE:
- REFER TO TITLE SEARCH, SURVEY FILES, AND ROADWAY PLANS FOR ADDITIONAL EXISTING EASEMENT INFORMATION.
- UTILITY EASEMENT KEY NOTES
- | | | |
|---|-----------------------------|-----------------|
| A | 50' ELECTRICAL EASEMENT | (TECO) |
| B | 15' ELECTRICAL EASEMENT | (TECO) |
| C | 10' ELECTRICAL EASEMENT | (TECO) |
| D | 10' SANITARY SEWER EASEMENT | (COA) |
| E | 50' GAS EASEMENT | (GULFSTREAM) |
| F | CELL TOWER EASEMENT | (GLOBAL SIGNAL) |
| G | 25' ACCESS EASEMENT | (GLOBAL SIGNAL) |
| H | 15' UTILITY EASEMENT | (COA) |
| I | 30' FDOT UTILITY EASEMENT | |
| J | 25' INGRESS/EGRESS EASEMENT | (PRIVATE) |

PRELIMINARY SITE DATA

BUILDING AREA			
TOLL BUILDING #1	262.5	S.F.	
TOLL BUILDING #2	262.5	S.F.	
TOLL BUILDING #3	262.5	S.F.	
TOLL BUILDING #4	262.5	S.F.	
OPERATION BUILDING	11,795	S.F.	
STORAGE BUILDING	9,072	S.F.	
TRACK AND TOLLING POINT IMPERVIOUS AREA	1,730,959	S.F.,	39.74 AC.
TRACK AND TOLLING POINT PERVIOUS AREA	15,331,346	S.F.,	351.96 AC.
OPERATION FACILITY IMPERVIOUS AREA	276,027	S.F.,	6.34 AC.
OPERATION FACILITY PERVIOUS AREA	181,968	S.F.,	4.18 AC.
TOTAL SITE IMPERVIOUS AREA	2,006,986	S.F.,	46.07 AC.
TOTAL SITE PERVIOUS AREA	15,513,314	S.F.,	356.14 AC.
CITY OF AUBURNDALE PENDING LAND USE & ZONING:			
FUTURE LAND USE OF REGIONAL ACTIVITY CENTER			
ZONED COMMERCIAL HIGHWAY			

INTERIOR SIDE SETBACK	15 FEET
INTERIOR REAR SETBACK	15 FEET
MAXIMUM STRUCTURE HEIGHT	26 FEET

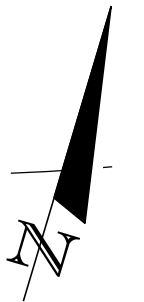
REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SITE MASTER PLAN	SHEET NO. GC-100
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

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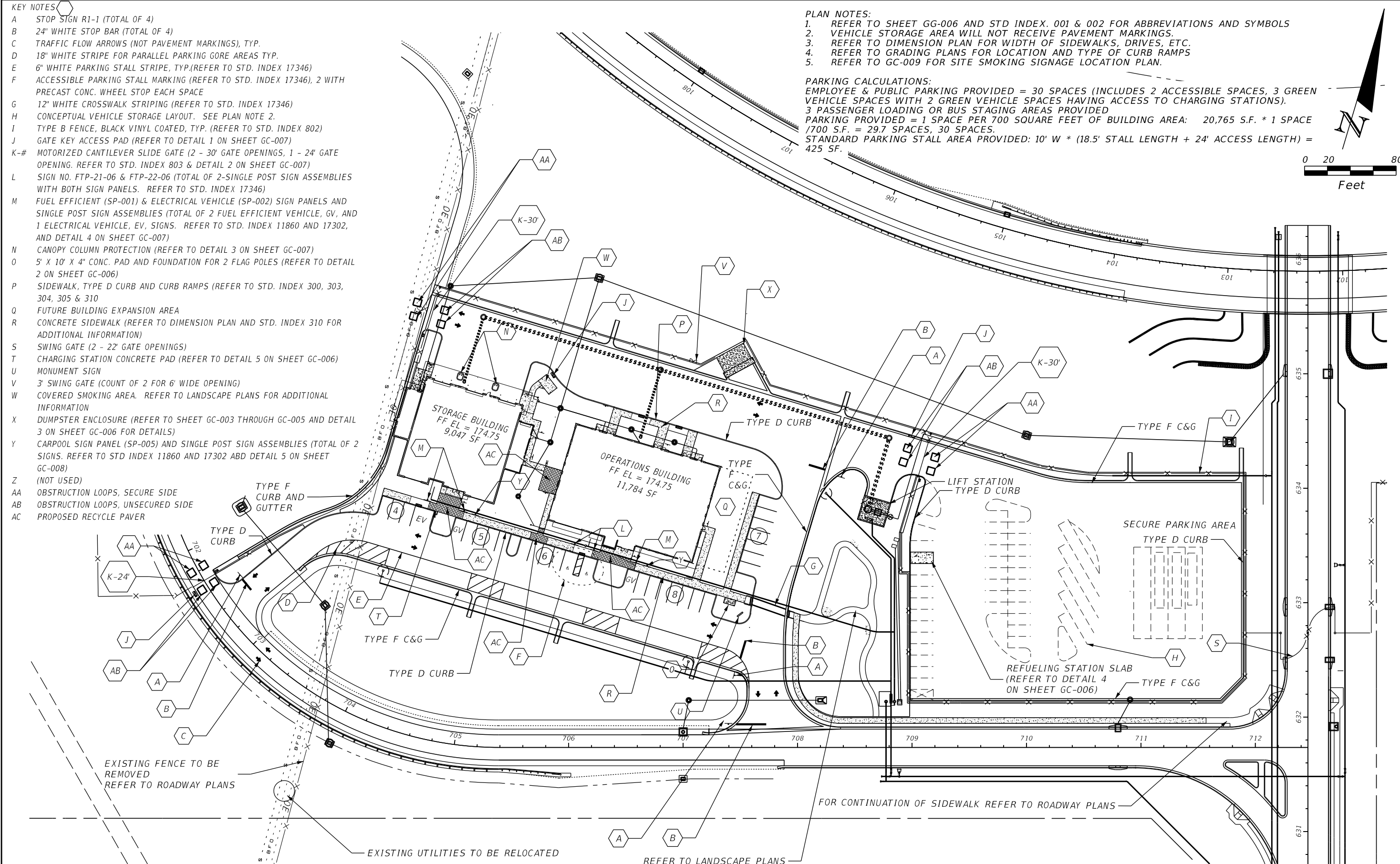
- KEY NOTES:
- A STOP SIGN R1-1 (TOTAL OF 4)
 - B 24" WHITE STOP BAR (TOTAL OF 4)
 - C TRAFFIC FLOW ARROWS (NOT PAVEMENT MARKINGS), TYP.
 - D 18" WHITE STRIPE FOR PARALLEL PARKING GORE AREAS TYP.
 - E 6" WHITE PARKING STALL STRIPE, TYP.(REFER TO STD. INDEX 17346)
 - F ACCESSIBLE PARKING STALL MARKING (REFER TO STD. INDEX 17346), 2 WITH PRECAST CONC. WHEEL STOP EACH SPACE
 - G 12" WHITE CROSSWALK STRIPING (REFER TO STD. INDEX 17346)
 - H CONCEPTUAL VEHICLE STORAGE LAYOUT. SEE PLAN NOTE 2.
 - I TYPE B FENCE, BLACK VINYL COATED, TYP. (REFER TO STD. INDEX 802)
 - J GATE KEY ACCESS PAD (REFER TO DETAIL 1 ON SHEET GC-007)
 - K-# MOTORIZED CANTILEVER SLIDE GATE (2 - 30' GATE OPENINGS, 1 - 24' GATE OPENING. REFER TO STD. INDEX 803 & DETAIL 2 ON SHEET GC-007)
 - L SIGN NO. FTP-21-06 & FTP-22-06 (TOTAL OF 2-SINGLE POST SIGN ASSEMBLIES WITH BOTH SIGN PANELS. REFER TO STD. INDEX 17346)
 - M FUEL EFFICIENT (SP-001) & ELECTRICAL VEHICLE (SP-002) SIGN PANELS AND SINGLE POST SIGN ASSEMBLIES (TOTAL OF 2 FUEL EFFICIENT VEHICLE, GV, AND 1 ELECTRICAL VEHICLE, EV, SIGNS. REFER TO STD. INDEX 11860 AND 17302, AND DETAIL 4 ON SHEET GC-007)
 - N CANOPY COLUMN PROTECTION (REFER TO DETAIL 3 ON SHEET GC-007)
 - O 5' X 10' X 4" CONC. PAD AND FOUNDATION FOR 2 FLAG POLES (REFER TO DETAIL 2 ON SHEET GC-006)
 - P SIDEWALK, TYPE D CURB AND CURB RAMPS (REFER TO STD. INDEX 300, 303, 304, 305 & 310)
 - Q FUTURE BUILDING EXPANSION AREA
 - R CONCRETE SIDEWALK (REFER TO DIMENSION PLAN AND STD. INDEX 310 FOR ADDITIONAL INFORMATION)
 - S SWING GATE (2 - 22' GATE OPENINGS)
 - T CHARGING STATION CONCRETE PAD (REFER TO DETAIL 5 ON SHEET GC-006)
 - U MONUMENT SIGN
 - V 3' SWING GATE (COUNT OF 2 FOR 6' WIDE OPENING)
 - W COVERED SMOKING AREA. REFER TO LANDSCAPE PLANS FOR ADDITIONAL INFORMATION
 - X DUMPSTER ENCLOSURE (REFER TO SHEET GC-003 THROUGH GC-005 AND DETAIL 3 ON SHEET GC-006 FOR DETAILS)
 - Y CARPOOL SIGN PANEL (SP-005) AND SINGLE POST SIGN ASSEMBLIES (TOTAL OF 2 SIGNS. REFER TO STD INDEX 11860 AND 17302 ABD DETAIL 5 ON SHEET GC-008)
 - Z (NOT USED)
 - AA OBSTRUCTION LOOPS, SECURE SIDE
 - AB OBSTRUCTION LOOPS, UNSECURED SIDE
 - AC PROPOSED RECYCLE PAVER

- PLAN NOTES:
1. REFER TO SHEET GG-006 AND STD INDEX. 001 & 002 FOR ABBREVIATIONS AND SYMBOLS
 2. VEHICLE STORAGE AREA WILL NOT RECEIVE PAVEMENT MARKINGS.
 3. REFER TO DIMENSION PLAN FOR WIDTH OF SIDEWALKS, DRIVES, ETC.
 4. REFER TO GRADING PLANS FOR LOCATION AND TYPE OF CURB RAMPS
 5. REFER TO GC-009 FOR SITE SMOKING SIGNAGE LOCATION PLAN.

PARKING CALCULATIONS:
EMPLOYEE & PUBLIC PARKING PROVIDED = 30 SPACES (INCLUDES 2 ACCESSIBLE SPACES, 3 GREEN VEHICLE SPACES WITH 2 GREEN VEHICLE SPACES HAVING ACCESS TO CHARGING STATIONS).
3 PASSENGER LOADING OR BUS STAGING AREAS PROVIDED
PARKING PROVIDED = 1 SPACE PER 700 SQUARE FEET OF BUILDING AREA: 20,765 S.F. * 1 SPACE /700 S.F. = 29.7 SPACES, 30 SPACES.
STANDARD PARKING STALL AREA PROVIDED: 10' W * (18.5' STALL LENGTH + 24' ACCESS LENGTH) = 425 SF.



0 20 80
Feet



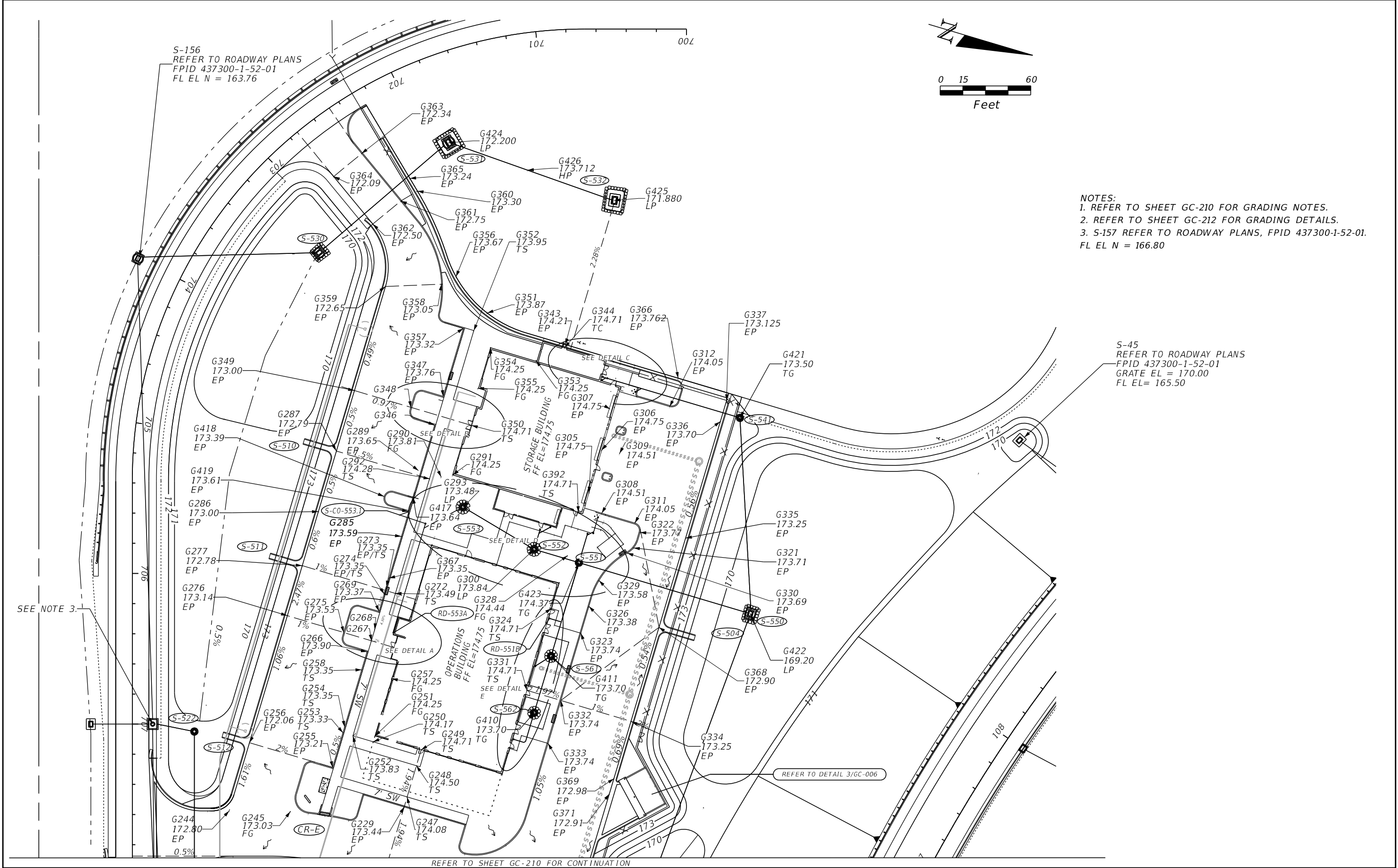
REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY OPERATIONS SITE PLAN	SHEET NO. GC-110
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

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Point#	North(Y)	East(X)	Elev(Z)	Description
Pt G200	N 1373611.7600	E 711514.3004	Z 170.9000	EP
Pt G201	N 1373585.1659	E 711420.7016	Z 172.0000	EP
Pt G202	N 1373575.1155	E 711385.3290	Z 172.1800	EP
Pt G203	N 1373569.4166	E 711342.4153	Z 172.4000	EP
Pt G204	N 1373570.7287	E 711239.7603	Z 172.9000	EP
Pt G205	N 1373540.6715	E 711244.0465	Z 173.2587	EP
Pt G206	N 1373500.6253	E 711248.5351	Z 173.5900	EP
Pt G207	N 1373474.3737	E 711252.7468	Z 173.8458	EP
Pt G208	N 1373464.7545	E 711255.4799	Z 173.9380	EP
Pt G209	N 1373441.3508	E 711262.1296	Z 174.1688	EP
Pt G210	N 1373479.8399	E 711271.9853	Z 173.7106	EP
Pt G211	N 1373470.2207	E 711274.7184	Z 173.8056	EP
Pt G212	N 1373351.2472	E 711287.7306	Z 172.0000	EP
Pt G213	N 1373403.6794	E 711472.2671	Z 170.9000	EP
Pt G214	N 1373425.1763	E 711547.9262	Z 171.5100	EP
Pt G215	N 1373448.4354	E 711560.7056	Z 171.7310	EP
Pt G216	N 1373520.3771	E 711540.2649	Z 172.3000	EP
Pt G217	N 1373493.7829	E 711446.6661	Z 173.0000	HP
Pt G218	N 1373540.7294	E 711239.3769	Z 173.2590	EP
Pt G219	N 1373525.9254	E 711224.0817	Z 173.1600	EP
Pt G220	N 1373510.9267	E 711223.8900	Z 173.1000	EP
Pt G221	N 1373488.9195	E 711224.2790	Z 173.8200	EP
Pt G222	N 1373489.2266	E 711200.2808	Z 173.8200	TOS
Pt G223	N 1373511.1993	E 711202.5619	Z 173.1000	EP
Pt G224	N 1373531.0084	E 711181.8910	Z 172.7300	EP
Pt G225	N 1373485.8075	E 711160.9262	Z 172.7100	EP
Pt G226	N 1373443.7641	E 711160.3888	Z 172.9200	EP
Pt G227	N 1373417.4724	E 711160.1693	Z 172.7800	EP
Pt G228	N 1373416.4331	E 711111.5355	Z 173.4400	EP
Pt G229	N 1373444.3840	E 711111.8927	Z 173.4400	EP
Pt G230	N 1373486.4248	E 711112.4301	Z 173.4400	EP
Pt G231	N 1373491.6219	E 711130.8685	Z 173.2200	EP
Pt G232	N 1373516.4013	E 711117.8130	Z 172.9600	EP
Pt G233	N 1373571.6840	E 711165.0241	Z 172.2500	EP
Pt G234	N 1373571.7223	E 711162.0243	Z 172.2500	EP
Pt G235	N 1373411.4792	E 711130.3529	Z 173.2200	EP
Pt G236	N 1373398.2042	E 711125.3007	Z 173.6400	TS
Pt G237	N 1373395.4327	E 711131.6920	Z 173.1400	EP
Pt G238	N 1373384.3540	E 711133.1834	Z 173.0800	EP
Pt G239	N 1373393.2605	E 711162.1625	Z 172.6600	EP
Pt G240	N 1373344.2561	E 711174.2243	Z 172.4100	EP
Pt G241	N 1373306.9832	E 711221.0623	Z 171.6800	EP
Pt G242	N 1373295.9953	E 711187.9366	Z 171.9715	EP
Pt G243	N 1373280.4361	E 711141.0301	Z 172.0812	EP
Pt G244	N 1373333.4441	E 711145.2591	Z 172.8050	EP
Pt G245	N 1373372.5725	E 711135.4416	Z 173.0146	FG
Pt G246	N 1373319.7476	E 711150.0005	Z 172.7500	EP
Pt G247	N 1373444.4734	E 711104.8933	Z 174.0757	TS
Pt G248	N 1373444.7496	E 711083.2880	Z 174.4949	TS
Pt G249	N 1373444.8902	E 711072.2889	Z 174.7083	TS
Pt G250	N 1373412.8105	E 711075.8792	Z 174.1700	TS
Pt G251	N 1373412.8616	E 711071.8795	Z 174.2500	FG
Pt G252	N 1373398.8381	E 711075.7006	Z 173.8281	TS
Pt G253	N 1373391.8387	E 711075.6111	Z 173.3280	EP
Pt G254	N 1373391.8898	E 711071.6114	Z 173.3481	EP
Pt G255	N 1373391.5321	E 711099.6014	Z 173.2082	EP
Pt G256	N 1373334.0358	E 711098.8665	Z 172.0582	EP
Pt G257	N 1373413.1593	E 711032.2903	Z 174.2500	FG

NOTE:
1. IT IS NOT THE INTENT OF THIS PLAN TO PROVIDE COORDINATES FOR ALL LOCATIONS OF ALL SITE INFRASTRUCTURE. THIS PLAN SHOULD BE USED IN CONJUNCTION WITH OTHER PLAN SHEETS AND COMPONENT SETS FOR THIS PROJECT.

REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY COORDINATE POINT LISTINGS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		GC-121
					NA	POLK	437300-1-52-01		



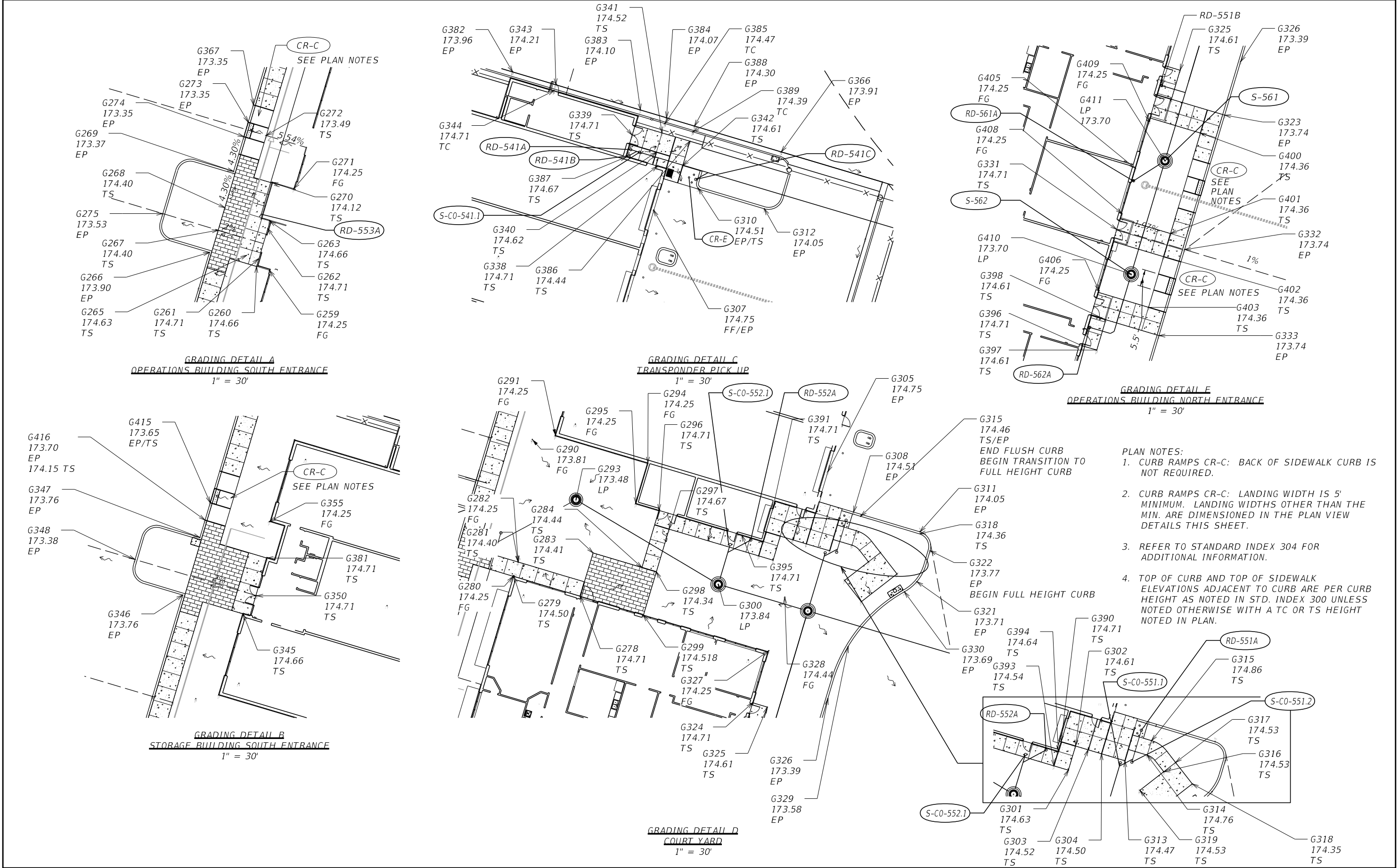
NOTES:
1. REFER TO SHEET GC-210 FOR GRADING NOTES.
2. REFER TO SHEET GC-212 FOR GRADING DETAILS.
3. S-157 REFER TO ROADWAY PLANS, FPID 437300-1-52-01.
FL EL N = 166.80

S-45
REFER TO ROADWAY PLANS
FPID 437300-1-52-01
GRATE EL = 170.00
FL EL = 165.50

REFER TO SHEET GC-210 FOR CONTINUATION

REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY OPERATIONS GRADING PLAN (2 OF 2)	SHEET NO. GC-211
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

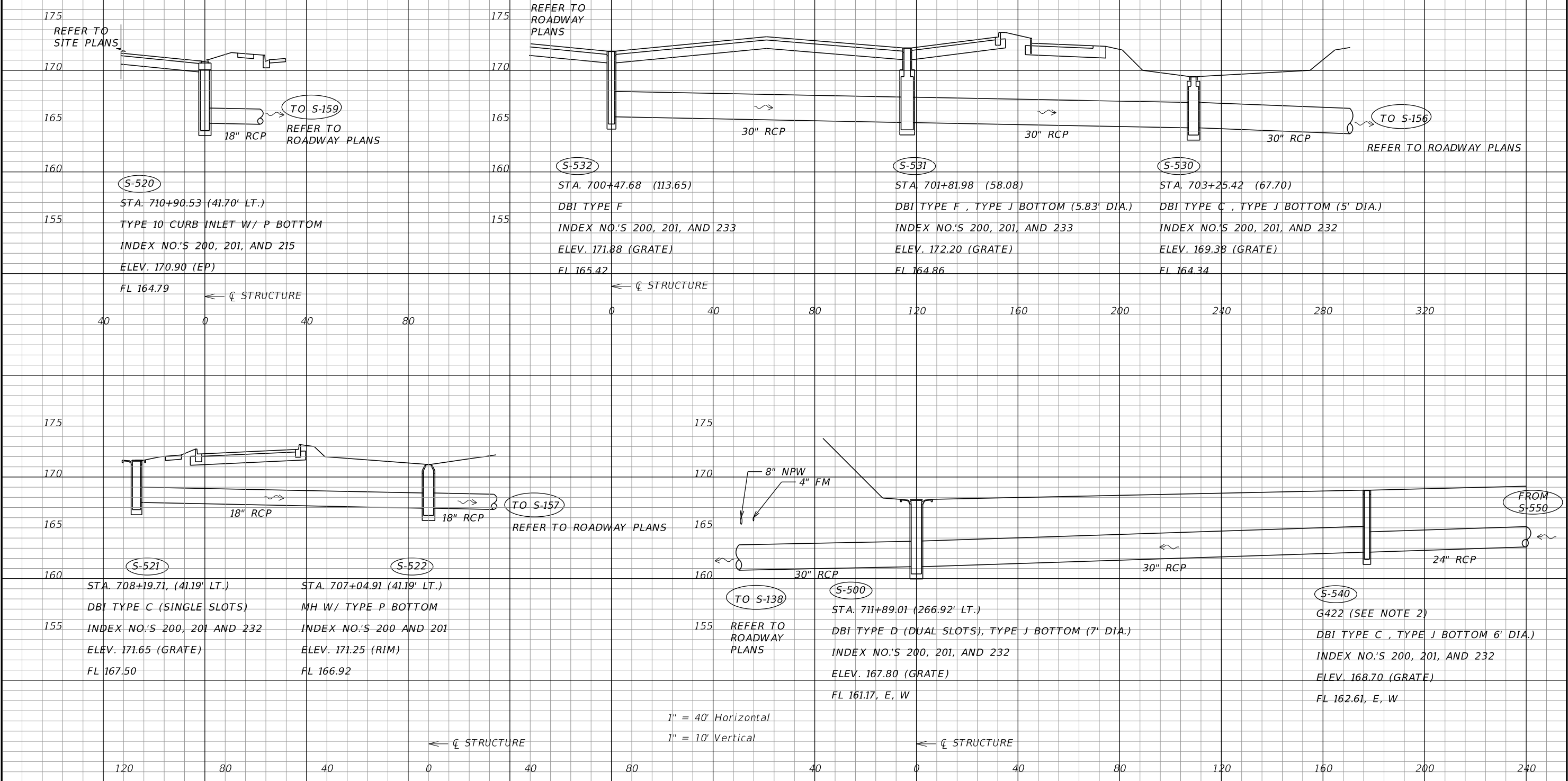
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REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GRADING DETAILS	SHEET NO. GC-212
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

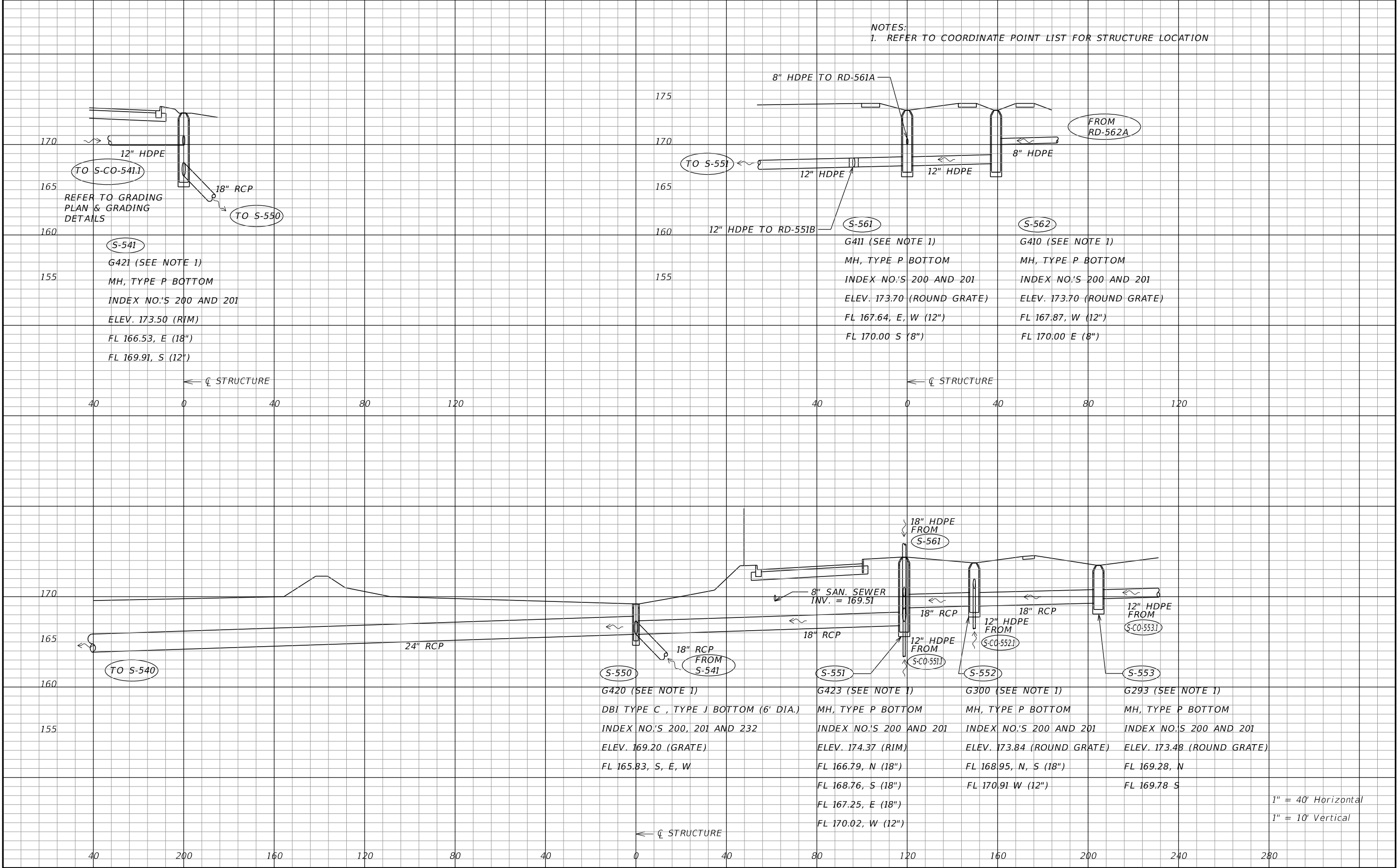
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- NOTES:
1. REFERENCE TO ROADWAY PLANS ARE TO THE ROADWAY COMPONENT SET FOR FPID 437300-1-52-01.
2. REFER TO COORDINATE POINT LIST FOR STRUCTURE LOCATION



REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SITE DRAINAGE STRUCTURES		SHEET NO. GC-213
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			

THE OFFICAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SITE DRAINAGE STRUCTURES		SHEET NO. GC-214
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			

THE OFFICAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

GENERAL UTILITY NOTES: 1. TRENCH EXCAVATION WORK SHALL CONFORM TO THE LATEST OSHA STANDARDS. 2. CALL 811 TO NOTIFY THE LOCAL UTILITY COMPANIES TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION FOR LINE LOCATION. 3. REFER TO ROADWAY COMPONENT SET FOR A LIST OF UTILITY CONTACTS. 4. ALL PIPE TO BE COLOR-CODED AS FOLLOWS: GREEN - WASTEWATER BLUE - WATER PURPLE - REUSE WATER 5. INSTALL VALVE BOXES WITH ALL VALVES. VALVE BOXES UNDER THE PAVEMENTS SHALL HAVE TRAFFIC BEARING COVERS AND CONCRETE COLLARS. 6. POTABLE WATER AND WASTEWATER MAINS SHALL MAINTAIN A MINIMUM OF 10 FEET HORIZONTAL AND 1.5 FEET VERTICAL SEPARATION. 7. POTABLE WATERMAINS WITH LESS THAN 1.5 FEET OF VERTICAL SEPARATION FROM SANITARY WASTEWATER MAINS SHALL REQUIRE ONE JOINT (20 LINEAR FEET) OF CLDIP WATERMAIN AND ONE JOINT (20 LINEAR FEET) OF WASTEWATER MAIN CENTERED AT THE POINT OF CROSSING. 8. PROVIDE AND MAINTAIN A MINIMUM VERTICAL SEPARATION OF 0.5 FEET FOR WATER MAINS CROSSING STORM, AND A MINIMUM OF 1.5 FEET FOR WATER MAINS CROSSINGS WASTEWATER MAINS. NOTE THE WATER SERVICE LATERALS SHALL BE INSTALLED WITHIN 3 INCH SLEEVES. 9. POTABLE OR RECLAIMED MAINS ROUTED WITHIN 10 FEET OF AN ELECTRIC TRANSFORMER SHALL REQUIRE 20 FEET LENGTH OF D.I.P. CENTERED ON THE TRANSFORMER WITH MECHANICAL RESTRAINT AT EACH END. 10. NO POTABLE OR RECLAIMED MAIN FITTINGS OR VALVES SHALL BE INSTALLED WITHIN 10 FEET OF THE NEAREST EDGE OF AN ELECTRIC TRANSFORMER. 11. ANCHORING TEES, COUPLINGS, AND BENDS SHALL BE USED ON ALL FIRE HYDRANT ASSEMBLIES. 12. WASTEWATER CLEANOUT COVERS LOCATED WITHIN PAVEMENT AND SIDEWALKS ADJACENT TO PAVED AREAS SHALL BE RATED FOR TRAFFIC LOAD BEARING. WASTEWATER CLEANOUT COVERS IN OTHER SIDEWALKS/WALKWAYS SHALL BE BRASS WITH A SQUARE RECESS. 13. MANHOLES WHICH ARE NOT INSTALLED UNDER PAVEMENT SHALL HAVE A RIM ELEVATION AT LEAST 6" ABOVE FINISHED GRADE, AND A 10:1 SLOPE TO FINISHED GRADE. CITY OF AUBURNDALE UTILITY NOTES: 1. REFER TO THE CITY OF AUBURNDALE'S ADMINISTRATION AND PROCEDURE MANUAL, 2005, FOR UTILITY SYSTEM REQUIREMENTS AND SPECIFICATIONS. 2. ALL CONNECTIONS TO THE EXISTING CITY SYSTEM SHALL BE MADE BY THE CITY AND SHALL BE PAID IN ADVANCE BY THE CONTRACTOR. IN THE EVENT THERE IS AN EXISTING STUB FROM PREVIOUS CONSTRUCTION, NO CHARGE WILL BE MADE. THE CITY WILL PROVIDE ALL WET TAPS THROUGH 2 INCHES IN SIZE. SIZES LARGER THAN 2 INCHES WILL BE MADE BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE TO CITY STANDARDS, AND UNDER THE CITY'S INSPECTION AND CONTROL. NO CHARGES WILL BE ASSESSED BY THE CITY FOR CONTRACTOR INSTALLED CONNECTIONS. 2. FORMAL APPLICATION FOR UTILITIES SERVICE (PETITION FOR UTILITY SERVICE) SHALL BE MADE BY THE OWNER. NO SEWER AND / OR WATER SYSTEM PERMIT APPLICATIONS SHALL BE SIGNED BY THE CITY UNTIL THE APPLICATION IS RECEIVED AND APPROVED. 3. UTILITY EASEMENTS FOR SYSTEM MAINTENANCE / OPERATION SHALL BE DEDICATED TO THE CITY BY THE OWNER. DEEDS FOR ALL EASEMENTS SHALL BE SUBMITTED PRIOR TO FINAL ACCEPTANCE BY THE CITY. 4. THE CONTRACTOR MUST EXHIBIT A GOOD WORKING KNOWLEDGE AND EXPERIENCE IN THE INSTALLATION OF UNDERGROUND UTILITY SYSTEMS. CONTRACTOR SHALL BE LICENSED BY STATE OF FLORIDA AS EITHER AN UNDERGROUND CONTRACTOR OR A GENERAL CONTRACTOR. 5. THE CONTRACTOR SHALL CONDUCT PRESSURE, INFILTRATION, AND LEAKAGE TESTS AS REQUIRED BY THE ENGINEER OF RECORD AND CONFORMING TO APPROVED STANDARDS. THE CONTRACTOR SHALL HAVE ALL GRAVITY SEWER LINES TELEVISED IN ACCORDANCE WITH CITY STANDARDS. CONTRACTOR SHALL PROVIDE AT LEAST 48 HOURS NOTIFICATION TO CITY PUBLIC UTILITIES DEPARTMENT PERSONNEL BEFORE ANY TEST. 6. THE CONTRACTOR SHALL CONDUCT DISINFECTION OPERATIONS ON WATER LINES AS REQUIRED BY THE ENGINEER AND SHALL SUBMIT BACTERIOLOGICAL SAMPLES TO THE POLK COUNTY HEALTH DEPARTMENT FOR ANALYSIS AND APPROVAL. TWO COPIES OF THE TEST RESULTS SHALL BE SUBMITTED TO THE CITY (CONSULTING) ENGINEER. 7. THE NAME OF THE CONTRACTOR TO PERFORM THE CONSTRUCTION, THE CONSTRUCTION PROJECT MANAGER, AND THE TELEPHONE NUMBER AT WHICH HE CAN BE REACHED MUST BE SUBMITTED TO THE CITY PRIOR TO COMMENCING CONSTRUCTION. 8. THE CONTRACTOR SHALL SUBMIT PROOF OF INSURANCE MEETING THE REQUIREMENTS OF THE CITY FOR ANY WORK DONE ON PORTIONS OF THE PROJECT WHERE THE CITY IS SIGNER OR CO-SIGNER TO A USE PERMIT. THIS INCLUDES COUNTY, DOT, OR CSX RAILROAD PERMIT APPLICATIONS. THE CITY SHALL BE LISTED AS ADDITIONAL INSUREDS ON THE CONTRACTOR'S POLICY. RECORD DRAWINGS SHALL BE A COMPLETE, ACCURATE VISUAL REPRESENTATION OF THE EXACT LOCATION OF ANY AND ALL FACILITIES INSTALLED FOR USE BY THE CITY PUBLIC UTILITIES DEPARTMENT. THE RECORD DRAWINGS SHALL INCLUDE, BUT NOT BE LIMITED TO: A. AN ACCURATE SCALE. B. ALL DIMENSIONS NECESSARY TO EASILY LOCATE A FACILITY. MEASUREMENTS SHALL BE FROM A PERMANENT, ABOVE-GROUND FACILITY TO THE CITY'S FACILITIES OR TO A POINT DIRECTLY ABOVE AN UNDERGROUND FACILITY. ALL VALVES, SERVICES, MANHOLES, AIR RELEASE VALVES, ETC, SHALL BE INDICATED BY ACCURATE DIMENSIONS. C. FOR UNDERGROUND FACILITIES, DEPTH FROM FINAL GRADE OR OTHER FIXED POINT OF REFERENCE SHALL BE SHOWN. THE LOCATION WHERE DEPTH FROM FINAL GRADE IS REQUIRED WILL BE DETERMINED BY THE UTILITY'S REPRESENTATIVE. AS AN ALTERNATIVE, DEPTHS MAY BE REFERENCED TO USGS STANDARD DATUM. D. LOCATION DIMENSIONS ON PIPE RUNS SHALL BE INDICATED AS NECESSARY TO ACCURATELY DEFINE THE PERMANENT LOCATION AT TERMINATIONS, AT SERVICE WYES, AND AT ANY DEFLECTION, VERTICALLY OR HORIZONTALLY. CITY OF AUBURNDALE WATER SYSTEM CONSTRUCTION NOTES: 1. ALL NEW WATERLINES SHALL BE PVC OR DUCTILE IRON PIPE. 2. ALL NEW WATER MAINS SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER. 3. ALL MATERIALS SHALL BE NEW, OF FIRST QUALITY, MANUFACTURED IN THE UNITED STATES, AND SHALL CONFORM TO THE APPROPRIATE AWWA STANDARD, LATEST REVISION. 4. ALL FITTINGS AND MATERIALS SHALL BE INSPECTED BY THE CITY UTILITIES DEPARTMENT AFTER DELIVERY AND PRIOR TO BEING INSTALLED. 5. ALL DUCTILE IRON PIPE SHALL COMPLY WITH THE REQUIREMENTS OF ANSI A21.50-81 (AWWA C 150-81). PIPE MANUFACTURING SHALL BE IN ACCORDANCE WITH ANSI A21.51-81 (AWWA C 151-81). PIPE SHALL BE CEMENT LINED / BITUMINOUS COATED IN ACCORDANCE WITH ANSI A2.1.4-7T (AWWA C 104-71). 6. ALL UNDERGROUND DUCTILE IRON PIPES SHALL BE A MINIMUM OF CLASS 50 WITH PUSH-ON OR MECHANICAL JOINTS, UNLESS OTHERWISE INDICATED. WHERE COVER EXCEEDS 4.5 FEET, THE PIPE MANUFACTURER SHALL DETERMINE THE ADDITIONAL WALL THICKNESS REQUIRED, IF ANY. 7. ALL ABOVEGROUND PIPE TO BE CLASS 53 WITH FLANGED JOINTS. 8. ALL PVC PIPE SHALL MEET THE REQUIREMENTS OR MINIMUM 150-PSI PRESSURE RATING, AWWA C- 900 OR C-905 PIPE, AS APPLICABLE, AND SHALL BE LAID WITH 14-GAUGE COPPER TRACE WIRE. INSTALLATION SHALL BE IN ACCORDANCE WITH CITY STANDARDS. 9. PVC PIPES THAT ARE BETWEEN 4 INCHES AND 12 INCHES DIAMETER SHALL BE CLASS 150 PIPE MEETING THE REQUIREMENTS OF AWWA C-900, WITH A DR OF 18. 10. PVC PIPES LARGER THAN 12 INCHES SHALL MEET THE REQUIREMENTS OF AWWA C-905, WITH A CAST IRON PIPE OUTSIDE DIAMETER. PIPE SHALL HAVE A PRESSURE RATING OF 165 PSI, AND SHALL HAVE A DR OF 25. 11. EACH PVC PIPE LENGTH SHALL BE CLEARLY LABELED SO AS TO ALLOW IDENTIFICATION AND SPECIFICATION CONFORMANCE. PIPE SHALL BEAR THE NATIONAL SANITATION FOUNDATION SEAL FOR POTABLE WATER PIPE. 12. ALL PVC PIPE SHALL BE BLUE IN COLOR OR BEAR AN ACCEPTABLE INDELIBLE BLUE MARKING IN 3 LOCATIONS FOR THE LENGTH OF THE PIPE. 13. CONNECTION FOR PVC WATER PIPE 2 INCHES AND LARGER SHALL BE RUBBER COMPRESSION RING TYPE. BELL SHALL CONSIST OF AN INTEGRAL WALL SECTION WITH A SOLID CROSS-SECTION ELASTOMERIC RING WHICH MEETS THE REQUIREMENTS OF ASTM-D 1869. 14. PVC WATER PIPE 2 INCHES DIAMETER AND SMALLER SHALL CONFORM TO ASTM-2241 WITH AN SDR OF 21. 15. TRACE WIRE SHALL BE 14-GAUGE UF WIRE WITH JOINT SEAL. 16. POLYETHYLENE WATER SERVICE TUBING SHALL BE USED FOR SERVICE PIPING ONLY. PIPING SHALL BE DRISCOPIPE, NO SUBSTITUTIONS. 17. ALL FITTINGS SHALL BE MECHANICAL JOINT, SHORT-BODY DUCTILE IRON. ALL VALVES SHALL BE GATE VALVES WITH ALL VALVES LARGER THAN 3 INCH BEING OF THE RESILIENT WEDGE TYPE. ALL VALVES SHALL MEET APPLICABLE AWWA STANDARDS. 18. GATE VALVES 4 INCHES AND OVER SHALL BE OF THE RESILIENT WEDGE TYPE AND SHALL BE IN ACCORDANCE WITH ANSI/AWWA C509 (LATEST EDITION) WITH O-RING TYPE STEM SEAL AND 2 INCH SQUARE OPERATING NUT FOR BURIED SERVICES. VALVES SHALL BE MECHANICAL JOINT UNLESS OTHERWISE NOTED AND OPEN LEFT (COUNTER CLOCKWISE). 19. GATE VALVES 2 INCHES AND UNDER SHALL CONFORM WITH FEDERAL SPECIFICATIONS WW-V54, TYPE II, SOLID WEDGE DISC, RISING STEM, SECURED JOINTS AND OF BRONZE CONSTRUCTION. VALVES SHALL HAVE MALLEABLE IRON HAND WHEELS. 20. ALL VALVES SHALL BE AMERICAN MADE, MINIMUM, 150 PSI COLD WATER RATED AND SHALL BE CAST WITH MANUFACTURER'S NAME AND PRESSURE RATINGS. 21. BOXES SHALL BE CAST IRON OF STANDARD DESIGN WITH ADJUSTABLE DROP SECTION TO FIT DISC OR COVER OVER VALVE. INTERIOR DIAMETER SHALL BE NOT LESS THAN 5 INCHES, WITH CAST IRON COVER MARKED "WATER". 22. ALL FIRE HYDRANTS SHALL BE SERVICED BY NOT LESS THAN 8-INCH WATER MAINS OR LINES. 23. FIRE HYDRANTS SHALL BE IN COMPLIANCE WITH ANSI/AWWA C 502- 80 AND THE FOLLOWING REQUIREMENTS: A. DRY BARREL COMPRESSION TYPE. B. O-RING SEAL AT OPERATING NUT STEM AND MEANS FOR LUBRICATION. C. TRAFFIC MODEL WITH FRANGIBLE SECTIONS AT GROUND LINE. D. OPEN LEFT (COUNTER CLOCKWISE). E. TWO 2 ½ INCH HOSE NOZZLES AND ONE 4 ½ INCH PUMP NOZZLE WITH NATIONAL STANDARD THREADS. F. MAIN VALVE OPENINGS SHALL BE NOT LESS THAN 5 1/4 INCHES. G. PAINT SHALL BE ONE COAT PRIMER AND 2 COATS FINISH TO MATCH CITY STANDARD. H. PIPE OUTLET SHALL BE 6 INCH MECHANICAL JOINT. I. OPERATING NUT SHALL BE PENTAGONAL MEASURING 1 ½ INCH POINT TO FLAT. J. ALL HYDRANT LEADS SHALL BE VALVED. K. ALL HYDRANTS SHALL BE INSTALLED PLUMB AND IN TRUE ALIGNMENT WITH THE CONNECTION PIPE TO THE WATER MAIN. A MINIMUM OF 18 INCH CLEARANCE SHALL BE PROVIDED BETWEEN HOSE NOZZLES AND FINISH GRADE. L. ACCEPTABLE ARE MUELLER CENTURION, WATEROUS "PACER", OR KENNEDY D-11.
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CITY OF AUBURNDALE WATER SYSTEM CONSTRUCTION NOTES (CONTINUED):

24. STEEL PIPE SLEEVES AND CARRIER PIPE - ALL CONSTRUCTION PROJECTS REQUIRING STEEL SLEEVES SHALL CONFORM TO THE MINIMUM D.O.T. REQUIREMENTS FOR ROADWAY CROSSING. THE FOLLOWING CASING SIZES SHALL BE USED FOR THE CORRESPONDING CARRIER PIPES:

CARRIER PIPE (NORMAL O.D.)	STEEL CASING (REQUIRED DIA.)
4"	10"
6"	12"
8"	16"
10"	18"
12"	24"
16"	30"
20"	36"

25. ALL CONNECTIONS TO THE EXISTING CITY SYSTEM WITHIN 2 INCHES IN SIZE SHALL BE MADE BY THE CITY AT THE CONTRACTOR'S EXPENSE. SIZES 2 INCHES AND ABOVE SHALL BE MADE BY THE CONTRACTOR, UTILIZING ONLY MATERIALS APPROVED BY THE CITY AND UNDER CITY DIRECTION.
26. METER BOXES 3/4 INCH THROUGH 2 INCHES SHALL BE SUPPLIED BY THE CITY. TYPE AND SIZE OF METER BOXES SHALL BE DETERMINED BY THE CITY OR ITS REPRESENTATIVE. METER BOXES 3 INCHES AND LARGER SHALL BE INSTALLED BY THE CONTRACTOR AND SHALL CONFORM TO APPROVED CITY STANDARDS. ALL SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE CITY (CONSULTING) ENGINEER.
27. VARIATION OF PRODUCT REQUIREMENTS BY BRAND NAME OR SPECIFICATION NUMBER MAY BE MADE BY THE ADMINISTRATIVE OFFICIAL WHEN IT CAN BE DETERMINED BY THE ADMINISTRATIVE OFFICIAL THAT THE SUBSTITUTE IS EQUAL TO OR BETTER THAN THE PRODUCT REQUIRED OR THAT THE SUBSTITUTE PRODUCT WILL BETTER MEET THE PUBLIC NEED AND THAT THE INTENT OF THESE REGULATIONS ARE BEING MET
28. TRENCHES SHALL BE MAINTAINED IN A DRY CONDITION AT ALL TIMES UNLESS OTHERWISE APPROVED BY THE CITY'S INSPECTOR.
29. MAINTAIN 10 FEET MINIMUM HORIZONTAL OR 18 INCHES MINIMUM VERTICAL SEPARATION OF WATER MAIN FROM SEWER PIPING IN ACCORDANCE WITH STATE REQUIREMENTS.
30. INSTALL PIPE TO INDICATED ELEVATION TO WITHIN TOLERANCE OF 5/8 INCHES. MINIMUM COVER SHALL BE 36 INCHES UNLESS OTHERWISE STIPULATED OR AUTHORIZED BY THE CITY.
31. ROUTE PIPE IN STRAIGHT LINE, EXCEPT AS NOTED.
32. INSTALL PIPE TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE OR JOINTS.
33. INSTALL ACCESS FITTINGS TO PERMIT DISINFECTION OF WATER SYSTEM.
34. ALL FITTINGS AND VALVES SHALL BE RESTRAINED WITH RETAINER GLANDS IN ACCORDANCE WITH THE CITY'S STANDARD DETAILS. ALL STUBS SHALL BE RESTRAINED WITH A MINIMUM OF 60 LINEAR FEET OF PIPE BEYOND THE VALVE. WHERE THIS IS NOT POSSIBLE, UTILIZE CITY-APPROVED RETAINING GLANDS.
35. A BLUE-COATED #14 GAUGE UF SOLID TRACER WIRE AND JOINT SEAL SHALL BE INSTALLED ALONG ALL PIPE AND SERVICE. TRACE WIRE SHALL BE TAPED TO THE PIPE AND STUBBED UP AT ALL HYDRANTS AND VALVES.
36. PIPE SHALL BE LAID IN A LEVEL TRENCH. HAND TRIM EXCAVATION FOR ACCURATE PLACEMENT OF PIPE TO ELEVATIONS INDICATED. THE WIDTH OF TRENCHES FOR INSTALLATION OF ALL LINES SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS, OSHA SAFETY REQUIREMENTS, AND ALL APPLICABLE CODES. TRENCH WIDTHS SHALL NOT BE LESS THAN NECESSARY FOR SAFE AND PROPER CONSTRUCTION. WHERE REQUIRED, EXCAVATION SUPPORT SYSTEMS SHALL BE PROVIDED.
37. CONTRACTOR SHALL PLACE BEDDING MATERIAL AT TRENCH BOTTOM, LEVEL FILL MATERIALS IN ONE CONTINUOUS LAYER NOT EXCEEDING 8 INCHES COMPACTED DEPTH, COMPACTED TO 95 PERCENT.

38. CONTRACTOR SHALL BACKFILL AROUND SIDES AND TO TOP OF PIPE WITH FILL, TAMPED IN PLACE AND COMPACTED TO 95 PERCENT. MAINTAIN OPTIMUM MOISTURE CONTENT OF BEDDING MATERIAL TO ATTAIN REQUIRED COMPACTION DENSITY.
39. INSTALLATION AND RESTORATION OPERATION UNDER ROADS, SHOULDERS OR OTHER LEVEL AREAS SHALL BE PERFORMED IN COMPLIANCE WITH ANY CITY, COUNTY OR STATE REQUIREMENT WHICH MAY APPLY.
40. EVERY EFFORT SHALL BE MADE TO COVER PIPE ENDS DURING INSTALLATION AND A WATERTIGHT PLUG OR OTHER APPROVED SEAL MUST BE USED WHEN INSTALLATION IS NOT IN PROGRESS.
41. LENGTH OF OPEN TRENCH ON EXISTING ROADS MAY BE LIMITED BY THE INSPECTOR TO MINIMIZE PUBLIC INCONVENIENCE OR DANGER TO LIFE OR PROPERTY.
42. SET VALVES ON SOLID BEARING.
43. CENTER AND PLUMB VALVE BOX OVER VALVE SHALL BE SET BOX COVER FLUSH WITH FINISHED GRADE. POUR CONCRETE PAD AROUND VALVE BOX IN ACCORDANCE WITH STANDARD DETAILS. SOD 10 FEET IN ALL DIRECTIONS.
44. SET HYDRANTS PLUMB AND LOCATE PUMPER NOZZLE PERPENDICULAR TO ROADWAY.
45. HYDRANTS SHALL BE SET AT THE BURY LINE WITH A MINIMUM OF 18-INCH CLEARANCE FROM THE HOSE CONNECTION TO FINISH GRADE.
46. THE CONTROL VALVE SHALL BE ATTACHED DIRECTLY TO THE WATER MAIN BY A GLAND, SWIVEL TEE, OR A TAPPING SADDLE AS APPROVED BY THE CITY. RESTRAINING RODS SHALL BE AT LEAST 3/4-INCH STOCK AND SHALL BE GALVANIZED OR STAINLESS STEEL.
47. HYDRANTS SHALL BE PAINTED IN ACCORDANCE WITH CITY REQUIREMENTS.
48. A GATE VALVE SHALL IMMEDIATELY ADJOIN THE MAIN CONNECTION AND A SECOND GATE VALVE, EQUIVALENT IN SIZE TO THE SERVICE CROSSING, SHALL BE PROVIDED AT TERMINATION ADJACENT TO THE PROPERTY LINE OR OTHER SPECIFIED POINT. THIS VALVE SHOULD BE APPROXIMATELY 12 INCHES DEEP, BURIED AND STAKED. NO VALVE BOX REQUIRED IN EITHER CASE UNLESS THE VALVE IS LOCATED IN A PAVED AREA.
49. ALL CONNECTIONS TO EXISTING CITY WATER MAINS UP TO 2 INCHES IN SIZE SHALL BE PERFORMED BY THE CITY AT THE CONTRACTOR'S EXPENSE. ALL CONNECTIONS OVER 2 INCHES SHALL BE MADE UNDER THE DIRECTION OF THE CITY AT THE CONTRACTOR'S EXPENSE.
50. WHERE CONNECTIONS ARE REQUIRED TO BE MADE BETWEEN NEW MAINS AND EXISTING WATER MAINS, THE CONNECTION SHALL BE MADE IN A THOROUGH AND WORKMANLIKE MANNER USING PROPER MATERIALS, FITTINGS, AND LABOR PRACTICES TO SUIT THE ACTUAL MATERIALS AND CONDITIONS.
51. WHERE CONNECTION IS MADE TO AN EXISTING FITTING, THE CONTRACTOR SHALL SCHEDULE HIS WORK SO THAT THE EXCAVATION AND LOCATION OF THIS EXISTING FITTING CAN BE COMPLETED PRIOR TO STARTING TRENCH WORK ON THE LINE.
52. CUT-INS TO EXISTING LINES SHALL BE DONE BY THE CONTRACTOR UNDER THE DIRECTION OF THE CITY UNLESS OTHERWISE APPROVED.
53. WHENEVER IT IS REQUIRED TO INTERRUPT EXISTING WATER SUPPLIES TO RESIDENCES OR BUSINESS, THE CONTRACTOR SHALL NOTIFY ALL CONCERNED PARTIES OR AGENCIES AT LEAST 24 HOURS IN ADVANCE OF SUCH CUT- OFF. CONTRACTOR MUST FIRST OBTAIN APPROVAL FROM THE CITY'S DIRECTOR OF PUBLIC UTILITIES.
54. NO DISTRIBUTION LINE SHALL BE TERMINATED WITHOUT A HYDRANT OR A BLOW-OFF. BLOW- OFFS SHALL BE ONE-HALF THE SIZE OF THE DISTRIBUTION MAIN AND SHALL BE CONSTRUCTED WITH GALVANIZED OR DUCTILE IRON PIPE AND FITTINGS AND ENCLOSED IN A METER BOX IN ACCORDANCE WITH THE CITY'S STANDARD DETAILS.

55. A 24-HOUR NOTICE MUST BE PROVIDED TO THE CITY PRIOR TO TESTING THE WATER SYSTEM. AFTER INSTALLATION IS COMPLETED, THE SYSTEM SHALL BE FILLED WITH WATER AND FLUSHED AT THE HIGHEST OBTAINABLE-VELOCITY AND AT THE FURTHEST POINTS. VELOCITY MUST BE AT LEAST 2.5 FEET PER SECOND. ALL AIR MUST BE EXPELLED. A PRESSURE AT LEAST EQUAL TO THE CITY'S EXISTING SYSTEM SHOULD BE MAINTAINED FOR A PERIOD OF ONE HOUR. FLUSHING OF THE SYSTEM AND CONTROL OF THE CONNECTING VALVE SHALL BE UNDER THE DIRECT CONTROL OF THE CITY'S INSPECTOR. ALL CONNECTIONS AND PIPE FOR FIRE SERVICE SHALL BE FLUSHED PRIOR TO ENTERING THE STRUCTURE. NO FLUSHING SHALL TAKE PLACE THROUGH BACKFLOW PREVENTERS. SHOULD THE SYSTEM APPEAR TIGHT, THE LEAKAGE TEST MAY BEGIN.
56. THE CONTRACTOR WILL PUMP HIS LINES TO A PRESSURE EQUAL TO OR GREATER THAN 150 PSI. SHOULD PRESSURE FALL BELOW 150 PSI DURING THE TEST PERIOD, IT SHALL BE VOIDED AND RESTARTED. TEST PERIOD SHALL BE ONE HOUR. ALLOWABLE LEAKAGE SHALL BE COMPUTED ON THE BASIS OF TABLE 6, SECTION 4, AWWA C600, LATEST REVISION, OR THE APPLICABLE FORMULA FOR INSTALLED PIPE LENGTHS OTHER THAN 18 FEET.
57. THE FOLLOWING TABLE APPROXIMATES THE ABOVE FOR A 1,000 FOOT SEGMENT AT 150 PSI AND MAY BE USED IN LIEU THEREOF:
- ALLOWABLE LEAKAGE PER 1,000 FEET OF PIPELINE
- | PIPE SIZE (INCHES) | ALLOWABLE LEAKAGE (GALLONS) |
|--------------------|-----------------------------|
| 2" | 0.19 |
| 4" | 0.37 |
| 6" | 0.55 |
| 8" | 0.74 |
| 10" | 0.92 |
| 12" | 1.10 |
58. BEFORE ANY PORTION OF THE NEWLY INSTALLED SYSTEM CAN BE PLACED IN SERVICE, ALL MAINS AND APPURTENANCES SHALL BE THOROUGHLY DISINFECTED AND TESTED.
59. PROCEDURES TO BE USED CONFORM TO AWWA STANDARD C601. PERTINENT REQUIREMENTS ARE AS FOLLOW:
- A. CHLORINE SOLUTION SHALL BE ADDED TO ENSURE A 50 PPM RESIDUAL IN ALL PORTIONS OF THE SYSTEM. INSPECTORS MAY DESIGNATE POINTS WHERE RESIDUAL IS MEASURED.
- B. RETENTION TIME SHALL BE NOT LESS THAN 24 HOURS.
- C. A MINIMUM 25 PPM CHLORINE RESIDUAL MUST REMAIN AT THE END OF THE 24 HOUR PERIOD.
- D. CHLORINE MAY BE USED IN THE FOLLOWING FORMS:
- I. LIQUID CHLORINE AS GAS/WATER MIXTURE THROUGH AN APPROVED SOLUTION FEEDING DEVICE.
- II. SODIUM HYPOCHLORITE IN A PACKAGE LIQUID FORM WITH 5% TO 15% AVAILABLE CHLORINE.
- III. CALCIUM HYPOCHLORITE IN A DRY FORM (POWDER OR TABLETS) WITH 80% AVAILABLE SOLUTION SUCH AS HTH OR PERCHLORON.
60. AFTER THE DISINFECTION PROCESS HAS BEEN COMPLETED, ALL LINES SHALL BE THOROUGHLY FLUSHED TO A CONDITION EQUAL TO THE NORMAL BASE RESIDUAL.
61. A MINIMUM OF 2 BACTERIOLOGICAL SAMPLES SHALL BE DRAWN FROM THE NEWLY INSTALLED SYSTEM AT REMOTE POINTS. SAMPLES SHALL BE TAKEN ON TWO ACCEPTABLE TECHNIQUES USING A SUITABLE STERILE CONTAINER.
62. PROOF OF SATISFACTORY RESULTS WILL BE REQUIRED FROM THE POLK COUNTY HEALTH DEPARTMENT BEFORE SERVICE WILL BE PROVIDED BY THE CITY.
63. ALL PORTIONS OF THE INSTALLED WATER SYSTEM AND SITE RESTORATION SHALL BE FULLY GUARANTEED AGAINST MATERIAL DEFECTS OF IMPROPER WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM ACCEPTANCE BY THE CITY. DURING THIS TIME, REPAIRS WILL BE MADE BY THE DEVELOPER AT NO COST TO THE CITY. ANY REPAIRS MADE ON THE NEWLY INSTALLED SYSTEM BY THE CITY DURING THIS PERIOD WILL BE CHARGED TO THE DEVELOPER.

ALLOWABLE LEAKAGE PER 1,000 FEET OF PIPELINE	
PIPE SIZE (INCHES)	ALLOWABLE LEAKAGE (GALLONS)
2"	0.19
4"	0.37
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REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY UTILITY PLAN SPECIFICATIONS (2 OF 4)		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			GC-301
						NA	POLK	437300-1-52-01		

CITY OF AUBURNDALE WASTEWATER SYSTEM CONSTRUCTION NOTES:

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|---|--|--|
| 1. ALL SEWER LINES, WITH THE EXCEPTION OF SERVICE LATERALS, SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER AND LAID AT A MINIMUM SLOPE OF 0.4%. SEWER LINES SHALL BE ORIENTED PARALLEL TO THE CENTERLINE OF THE ROAD RIGHT-OF-WAY. IN NO CASE SHALL A LATERAL LINE BE LONGER THAN 50 FEET TO THE RIGHT- OF-WAY. ALL SEWER LINES SHALL BE EXTRA STRENGTH VITRIFIED CLAY PIPE OR PVC. PVC SEWER PIPE SHALL HAVE A MINIMUM STANDARD DIMENSIONAL RATIO (SDR) OF 35. | 18. ALL DUCTILE IRON FORCE MAINS 6 INCH DIAMETER AND GREATER SHALL BE A MINIMUM OF THICKNESS CLASS 50 WITH MECHANICAL JOINT OR PUSH-ON JOINTS. WHERE INDICATED, FLANGED PIPE SHALL BE THICKNESS CLASS 53 WITH 150 POUND FLANGES. | 34. PROVIDE GEAR OPERATORS FOR PLUG VALVES 4 INCHES AND LARGER.---GEAR OPERATORS FOR PLUG VALVES 4 INCHES THROUGH 20 SHALL BE OF THE WORM AND GEAR TYPE. OPERATOR SHALL INCLUDE SPUR GEARS, AWWA INPUT STOPS, STAINLESS STEEL BOLTING, AND SHALL BE OUTFITTED FOR BURIED SERVICE, IF APPLICABLE. |
| 2. ALL NEW FORCE MAINS SHALL BE A MINIMUM OF 6 INCHES IN DIAMETER. | 19. ALL DUCTILE IRON PIPING 4 INCH DIAMETER AND SMALLER SHALL BE A MINIMUM OF THICKNESS CLASS 51. | 35. GEAR OPERATORS SHALL BE ENCLOSED, SUITABLE FOR RUNNING IN OIL, WITH SHAFT SEALS TO PREVENT ENTRY OF DIRT AND/OR WATER. THE ACTUATOR SHAFT AND SECTOR GEAR SHALL BE SUPPORTED ON PERMANENTLY LUBRICATED BRONZE BUSHINGS. ACTUATORS WITHOUT BRONZE BUSHINGS WILL NOT BE ALLOWED. |
| 3. ALL MATERIALS SHALL BE NEW, OF FIRST QUALITY, MANUFACTURED IN THE UNITED STATES. | 20. PIPE MANUFACTURING SHALL BE IN ACCORDANCE WITH-ANSI A21.51- 81 (AWWA C151-81). | 36. GEAR OPERATORS SHALL BE OF THE TOTALLY ENCLOSED DESIGN AND SHALL BE PROPORTIONED TO PERMIT OPERATION OF THE VALVE UNDER FULL RATED PRESSURE IN EITHER DIRECTION WITH A MAXIMUM FORCE OF 80 POUNDS ON THE HAND WHEEL OR CRANK. PROVIDE STOP LIMITING DEVICES IN THE OPERATOR AT THE OPEN AND CLOSED POSITIONS. OPERATORS SHALL BE OF THE SELF-LOCKING TYPE TO PREVENT CREEPING. DESIGN COMPONENTS BETWEEN INPUT AND STOP LIMITING DEVICES TO WITHSTAND WITHOUT DAMAGE A PULL OF 200 POUNDS FOR HAND WHEEL AND CRANK OPERATORS AND AN INPUT TORQUE OF 300 FOOT-POUNDS FOR OPERATING. |
| 4. ALL FITTINGS AND MATERIALS SHALL BE INSPECTED BY THE CITY UTILITIES DEPARTMENT AFTER DELIVERY AND PRIOR TO BEING INSTALLED. | 21. DUCTILE IRON FORCE MAIN SHALL BE BITUMINOUS COATED IN ACCORDANCE WITH ANSI A21.4-71 (AWWA C 104-71). INTERIOR LINING TO BE 40 RAIL POLYETHYLENE. | 37. WORM GEAR SHALL BE ONE-PIECE DESIGN OF GEAR BRONZE MATERIAL (ASTM B427), ACCURATELY MACHINE CUT. SECTOR GEAR SHALL BE HARDENED ALLOY STEEL. REDUCTION GEARING SHALL RUN IN PROPER LUBRICANT. OPERATORS SHALL BE LIMITORQUE OR ELM. |
| 5. PVC PIPE LINES SHALL BE PROVIDED WITH RING-TIGHT GRAVITY SEWER PIPE AND FITTINGS TO MEET OR EXCEED THE REQUIREMENTS OF ASTM D 3034 SDR 35. SPECIFIED LENGTH PER SECTION OF PIPE IS 12.5 FEET. PIPE SHALL BE DYED GREEN OR HAVE GREEN IDENTIFICATION MARKINGS AT 90-DEGREE INTERVALS AROUND THE PIPE CIRCUMFERENCE. | 22. ABOVE GROUND AND EXPOSED PIPE TO BE PAINTED BROWN WITH HIGH BUILD EPOXY PAINT SYSTEM. | 38. GEAR OPERATORS FOR ABOVE-GROUND SERVICE SHALL BE HAND WHEELS WITH A MINIMUM DIAMETER OF TWELVE (12) INCHES. OPERATOR SHALL CONTAIN A DIAL INDICATING POSITION OF THE VALVE PLUG. CHAIN OPERATORS SHALL BE PROVIDED AS REQUIRED. |
| 6. DUCTILE IRON PIPE LINES SHALL BE PROVIDED WITH PUSH-ON JOINT DUCTILE IRON PIPE TO MEET OR EXCEED THE REQUIREMENTS OF ANSI/AWWA C111/A21.1 CLASS 50, PIPE SHALL HAVE EXTERIOR BITUMINOUS COATING AND CEMENT LINING WITH BITUMINOUS SEAL COAT. | 23. ALL PVC FORCE MAINS 4 INCH DIAMETER AND GREATER SHALL BE CLASS 200 PIPE MEETING ASTM D1784 AND D2241 (DR) TO BE 21. | 39. GEAR OPERATORS FOR UNDERGROUND SERVICE SHALL HAVE TWO INCH AWWA OPERATING NUT. PROVIDE WATERTIGHT SHAFT SEALS AND ACTUATOR COVER GASKETS. PROVIDE OPERATORS DESIGNED FOR BURIED SERVICE. |
| 7. SEWER MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY'S STANDARD DETAILS. EXCAVATION SHALL BE MADE IN ACCORDANCE WITH APPLICABLE SECTIONS OF THESE SPECIFICATIONS. | 24. EACH LENGTH SHOULD BE CLEARLY LABELED SO AS TO ALLOW IDENTIFICATION AND SPECIFICATION CONFORMANCE. FORCE MAIN PIPE SHALL BE DYED BROWN OR SHALL HAVE BROWN IDENTIFICATION MARKINGS AT 120 DEGREE INTERVALS AROUND THE PIPE CIRCUMFERENCE. | 40. ALL OPERATORS TO OPEN BY TURNING COUNTER CLOCKWISE. |
| 8. CONCRETE MANHOLES SHALL BE CONSTRUCTED OF 4,000 POUND, TYPE 11 ACID RESISTANT CONCRETE, PRE-CAST MANHOLES SHALL BE IN ACCORDANCE WITH ASTM C478. | 25. FORCE MAIN PIPING 2 INCH DIAMETER AND SMALLER - ASTM-2241 WITH AN SDR OF 21. | 41. VALVE BOXES SHALL BE CAST IRON OF STANDARD DESIGN WITH ADJUSTABLE DROP SECTION TO FIT DISC OR COVER OVER VALVE. INTERIOR DIAMETER SHALL BE NOT LESS THAN 5 INCHES, WITH CAST IRON COVER MARKED "SEWER". |
| 9. PRECAST CONCRETE MANHOLES SHALL HAVE A MINIMUM WALL THICKNESS OF 5 INCHES. CAST-IN-PLACE MANHOLES SHALL HAVE A MINIMUM WALL THICKNESS OF 8 INCHES. | 26. ALL FITTINGS SHALL BE RATED FOR NOT LESS THAN 150 PSI WORKING PRESSURE. | 42. ALL CONSTRUCTION PROJECTS REQUIRING STEEL SLEEVES SHALL CONFORM TO THE MINIMUM D.O.T. REQUIREMENTS FOR ROADWAY CROSSINGS. RAILROAD CROSSINGS SHALL CONFORM TO RAILROAD REQUIREMENTS. REFER TO WATER SYSTEM CONSTRUCTION NOTES (SHEET GC-301 AND GC-302) FOR REQUIRED CASING SIZES THAT SHALL BE USED FOR THE CORRESPONDING CARRIER PIPES. |
| 10. MANHOLES SHALL HAVE INVERTS ACCURATELY AND SMOOTHLY FORMED AND MAY BE CONSTRUCTED OF HALF PIPE WITH FINISHED SURFACES SHAPED AS SHOWN ON THE DETAIL. USE OF BRICK OR CONCRETE BLOCK TO FORM THE INVERT IS NOT ACCEPTABLE. | 27. GRADE FOR DUCTILE-IRON FITTINGS SHALL CONFORM WITH ANSL/AWWA STANDARD C110-77 OR ANSI/AWWA C111/A21.11-80, AND SHALL BE POLYETHYLENE LINED INSIDE AND BITUMINOUS COATED OUTSIDE. MECHANICAL JOINT DUCTILE-IRON FITTINGS COMPLYING WITH AWWA C153 ARE ACCEPTABLE. | 43. MARKER WIRE SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND SHALL BE INSTALLED ON ALL PVC PIPE |
| 11. WHEN THE MANHOLE IS COMPLETE, THE FRAME AND COVER OF DIMENSIONS SHOWN SHALL BE SET IN PLACE IN MORTAR TO THE LINE AND GRADE WHICH MATCHES FINISH GRADE. | 28. MALLEABLE IRON FITTINGS SHALL BE GALVANIZED CONFORMING TO THE APPLICABLE PROVISION OF FEDERAL SPECIFICATION WVW-P-521D, TYPE II, AND MAY BE USED IN SIZE 2 INCHES AND UNDER ONLY. | 44. VARIATION OF PRODUCT REQUIREMENTS BY BRAND NAME OR SPECIFICATION NUMBER MAY BE MADE BY THE ADMINISTRATIVE OFFICIAL WHEN IT CAN BE DETERMINED BY THE ADMINISTRATIVE OFFICIAL THAT THE SUBSTITUTE IS EQUAL TO OR BETTER THAN THE PRODUCT REQUIRED OR THAT THE SUBSTITUTE PRODUCT WILL BETTER MEET THE PUBLIC NEED AND THAT THE INTENT OF THESE REGULATIONS ARE BEING MET. |
| 12. INTERIOR AND EXTERIOR OF ALL MANHOLES SHALL RECEIVE TWO (2) COATS OF DEVOE DEVTAR 5A, OR EQUAL, EPOXY. | 29. POLYVINYL CHLORIDE (PVC) FITTINGS SHALL BE MINIMUM SCHEDULE 40 AND MAY BE USED IN SIZE 2 INCHES AND UNDER ONLY. | 45. TRENCHES SHALL BE MAINTAINED IN A DRY CONDITION AT ALL TIMES UNLESS OTHERWISE APPROVED BY THE CITY (CONSULTING) ENGINEER. |
| 13. ALL CONNECTIONS OF PIPES TO MANHOLES SHALL BE MADE UTILIZING RESILIENT PIPE CONNECTORS. | 30. PLUG VALVES: PLUG VALVES SHALL BE OF THE ECCENTRIC PLUG TYPE, NONLUBRICATED, WITH PORT AREA EQUAL TO A MINIMUM OF 100% OF PIPE AREA. MINIMUM PRESSURE RATING SHALL BE 150 PSI. VALVE BODIES TO BE CAST IRON ASTM A126, CLASS B. PLUGS SHALL BE CAST IRON WITH NEOPRENE FACING AND SHALL BE OF THE SINGLE PIECE DESIGN. PLUG SHALL BE OF SAME CONFIGURATION FOR ALL VALVES AND SHALL REQUIRE NO STIFFENING MEMBER OPPOSITE THE PLUG FOR BALANCE OR SUPPORT. VALVE BODY SEATS SHALL HAVE A WELDED IN OVERLAY NOT LESS THAN 90°, 4 NICKEL. PACKING SHALL BE ADJUSTABLE AND SHALL BE REPLACEABLE WITHOUT REMOVING THE VALVE FROM SERVICE, DEPRESSURIZING THE LINE, OR REMOVING THE VALVE OPERATOR. BUSHINGS IN BOTH UPPER AND LOWER JOURNALS TO BE TYPE 316 STAINLESS STEEL. VALVE SHALL BE DRIP TIGHT IN BOTH DIRECTIONS TO THE FULL PRESSURE RATING. ALL EXPOSED NUTS, BOLTS, SPRINGS AND WASHERS TO BE STAINLESS STEEL. ALL PLUG VALVES TO BE DEZURIK FIGURE 118 OR EQUAL. COAT VALVE EXTERIOR WITH 2 COATS OF KOPPERS 300M, 12 MILS EACH COAT, IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS. | 46. THE TRENCH SHALL BE DUG SO THAT THE PIPE CAN BE LAID TO THE ALIGNMENT AND DEPTH REQUIRED, AND IT SHALL BE EXCAVATED ONLY SO FAR IN ADVANCE OF PIPE LAYING AS PERMITTED BY THE CITY (CONSULTING) ENGINEER. THE TRENCH SHALL BE SO BRACED AND DRAINED THAT THE WORKMEN MAY WORK THEREIN SAFELY AND EFFICIENTLY. |
| 14. DROP PIPE TO MANHOLES SHALL BE INSTALLED BY THE CONTRACTOR WHEN THE DIFFERENCE IN ELEVATION OF THE INCOMING SEWER INVERT AND THE MANHOLE INVERT EXCEEDS TWO (2) FEET, OR WHERE DIRECTED BY THE CITY (CONSULTING) ENGINEER. THE DIFFERENCE IN ELEVATION SHALL BE MEASURED FROM THE INVERT OF THE INCOMING PIPE TO THE INVERT AT THE CENTER OF THE MANHOLE. | 31. SEWAGE COMBINATION AIR VALVES SHALL BE APCO SERIES 440 SCAV AS MANUFACTURED BY VALVE & PRIMER CORPORATION, SCHAUMBURG, IL OR APPROVED EQUAL. THE COMBINATION AIR VALVES SHALL BE FITTED WITH INLET ISOLATION VALVES, BLOW OFF VALVES, FLUSH VALVES AND MINIMUM OF FIVE (5) FEET OF RUBBER HOSE WITH QUICK DISCONNECTS FOR BACK FLUSHINGS. ISOLATION VALVES SHALL BE BRONZE GATE VALVES. VALVES SHALL HAVE PHENOLIC RED OXIDE PRIMER AND SHALL BE COATED WITH 2 COATS KOPPERS TOREX 800, OR EQUAL, CHLORINATED RUBBER BASE COATING TO A MINIMUM DRY FILM THICKNESS OF 2.0 MILS. | 47. ALL EXCAVATIONS SHALL BE DEWATERED AS REQUIRED TO MAINTAIN THE WATER LEVEL AT A MINIMUM OF 2 FEET BELOW THE EXCAVATION THROUGHOUT EXCAVATION, BEDDING, AND BACKFILLING. DISCHARGES OF DEWATERING PUMPS SHALL BE CONVEYED TO NATURAL DRAINAGE CHANNELS, DRAIN, OR SEWERS. CONTRACTOR SHALL TREAT DISCHARGE AS REQUIRED TO PREVENT VIOLATIONS OF STATE WATER QUALITY STANDARDS. |
| 15. ALL CASTINGS FOR MANHOLE COVERS AND OTHER PURPOSES SHALL CONFORM TO SPECIFICATIONS OF THE ASTM, DESIGNATION A48-74 FOR CLASS 30 GRAY IRON. THE CASTINGS SHALL BE TRUE PATTERN IN FORM AND DIMENSIONS, FREE FROM POURING FAULTS, SPONGINESS, CRACKS, BLOW-HOLES, AND OTHER DEFECTS IN POSITION AFFECTING THEIR STRENGTH AND VALUE FOR THE SERVICE INTENDED. | 32. PROVIDE SUITABLE HAND WHEELS FOR GATE, GLOBE, ANGLE, AND DRAIN VALVES AND INSIDE HOSE BIBBS MOUNTED ABOVE-GROUND. PROVIDE WRENCH OPERATOR HAVING ADJUSTABLE, OPEN STOP MEMORY POSITIONS FOR EXPOSED PLUG VALVES SMALLER THAN 4 INCHES. | |
| 16. MANHOLE FRAMES AND COVERS SHALL HAVE THE WORDS "CITY OF AUBURNDALE" AND "SANITARY SEWER" CAST THEREON. CIRCULAR COVERS MUST FIT THE FRAMES IN ANY POSITION. CONTACT SURFACES OF BOTH FRAMES AND COVERS SHALL BE MACHINED AND ANY TENDENCY TO RATTLE, AS DETERMINED BY TEST BEFORE OR AFTER INSTALLATION, WILL BE SUFFICIENT CAUSE FOR REJECTION OF THE FRAMES AND COVER. | 33. PROVIDE 2 INCH AWWA OPERATING NUT FOR ALL BURIED VALVES. | |
| 17. DUCTILE IRON FORCE MAIN SHALL COMPLY WITH ANSI A21.50-81 (AWWA C 150-81) | | |

REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY UTILITY PLAN SPECIFICATIONS (3 OF 4)		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	GC-302		
					NA	POLK	437300-1-52-01			

LIFT STATION GENERAL NOTES: 1. LIFT STATION CONCRETE AT GRADE SLAB: 6" THICK, 3000 PSI NON-STRUCTURAL CONCRETE WITH W/6X6 W1.4XW1.4 WWF OVER SUBGRADE COMPACTED TO A MIN. 98% OF AASHTO T99 DENSITY. WWF TO BE LOCATED AT MID-DEPTH OF CONCRETE SLAB. 2. WETWELL CONCRETE BASE SLAB IS TO BE CONSTRUCTED IN TWO POURS. BOTTOM SLAB IS TO BE POURED WITH REBAR AS SHOWN, ALLOWED TO CURE TO ENSURE THE LIFTSTATION WETWELL WILL NOT SINK INTO THE CONCRETE. THE WETWELL WILL BE LOWERED ON TO THE SLAB WITHIN THE REBAR RING. THE SECOND POUR IS TO "LOCK" THE WETWELL IN PLACE AND ENSURE WETWELL IS WEIGHTED DOWN TO RESIST THE BUOYANCY FORCE. 3. PROVIDE AND INSTALL PUMP STATION AND TANK EQUAL TO OR BETTER (MORE EFFICIENT) THAN THAT SHOWN HEREIN. SUBMITTAL OF SHOP DRAWINGS IS REQUIRED. 4. FEED LIFT STATION POWER FROM OPERATIONS BUILDING ELECTRICAL PANEL. 5. PROVIDE AND INSTALL EMERGENCY SIGNANAGE IN ACCORDANCE WITH DETAIL ON THIS SHEET. 6. SUBMERSIBLE PUMPS: FLYGT PUMP MP 3085 HT Ø 249 WITH 147mm IMPELLER, OR APPROVED EQUAL, BASED ON AVAILABILITY(SINGLE PHASE 230 VOLT SERVICE), INSTALLED IN WETWELL UTILIZING A DUAL SLIDE RAIL SYSTEM AND CAPABLE OF HANDLING AND PUMPING 2.5" SOLID MATERIALS. WETWELL: 1. FIBERGLASS WETWELL: H-20 LOAD RATED WITH INTEGRAL LIFTING LUGS, FIBERGLASS SLOPE IN BOTTOM OF WETWELL. 2. CERTIFICATION OF THE H-20 LOAD RATING REQUIRED TO BE SUPPLIED AT THE TIME OF SUBMITTAL OF SHOP DRAWINGS. H-20 CERTIFICATION PROVIDED IN SUBMITTALS TO BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA. 3. WETWELL FABRICATION: FIBERGLASS REINFORCED POLYESTER (FRP) OF DEPTH AND DIAMETER AS SHOWN IN THE PLANS. THE WALL THICKNESS AS REQUIRED FOR THE DEPTH OF WETWELL NOTED HEREIN AND TO ENSURE THE H-20 LOAD RATING. 4. AFTER INSTALLATION OF THE WETWELL, THE ASTM CERTIFICATION NUMBER AND SERIAL TRACKING NUMBER MUST BE VISIBLE. PUMPS: 1. SUBMERSIBLE PUMPS: FLYGT PUMP MP 3085 HT Ø 249 WITH 147mm IMPELLER, BASED ON AVAILABILITY (SINGLE PHASE 230 VOLT SERVICE), INSTALLED IN WETWELL UTILIZING A DUAL SLIDE RAIL SYSTEM AND CAPABLE OF HANDLING AND PUMPING 2.5" SOLID MATERIALS. FASTENERS & APPURTENANCES: 1. ALL FASTENERS, LIFTING CABLES, FLOAT CABLE BRACKET, HINGES, AND APPURTENANCES TO BE AISI 304 STAINLESS STEEL (SS). 2. WETWELL ACCESS: 304SS SLIDE/LATCH ASSEMBLY CAPABLE OF HOLDING ACCESS DOORS IN THE OPEN POSSITION. 3. SLIDE RAILS: SCH.40 AISI 304SS PIPE. 4. PUMP LIFTING CABLES: AISI 304 SS. 5. PUMP LIFTING BALES: AISI 304 SS. INSPECTION & TESTING: 1. START-UP SITE VISIT: START-UP SITE VISITS AS REQUIRED, NO LESS THAN ONE, WITH A FACTORY REPRESENTATIVE AND OWNER REPRESENTATIVE PRESENT, TO ENSURE PROPER INSTALLATION, PROPER START UP, PROPER OPERATION AND MAINTENANCE OF COMPLETE SYSTEM. 2. MEGGER THE MOTORS THE PUMP MOTORS PRIOR TO THE START-UP TO ENSURE THAT THE INSULATION OF THE PUMP MOTOR/CABLE IS INTACT. 3. CHECK ALL COMPONENTS FOR MECHANICAL RELIABILITY AND PROPER OPERATION. 4. SANITARY FORCEMAIN: LEAKAGE TESTING COMPLETE AND FDEP CERTIFICATION OF COMPLETION. <td data-cs="4" data-kind="parent"> DUPLEX CONTROL PANEL: 1. CONTROL PANEL: TUV (UL508A CERTIFIED) MANUFACTURING FACILITY 2. CONTROL PANEL ENCLOSURE: NEMA 4X, MINIMUM 30" HIGH X 30" WIDE X 10" DEEP FIBERGLASS WITH PADLOCKABLE DRAW LATCHES AMD SIZED TO ACCOMMODATE ALL CONTROLS FOR THE LIFT STATION. 3. MOUNTING: EXTERNAL MOUNTING FEET TO ALLOW FOR WALL MOUNTING 4. HARDWARE: STAINLESS STEEL 5. MOUNT THE FOLLOWING COMPONENTS THROUGH THE ENCLOSURE: 1- EA. RED ALARM BEACON (LIGHT) 1- EA. ALARM HORN 1- EA. ALARM SILENCE PUSH-BUTTON 6. BACKPANEL FABRICATION: 0.125, 5052-H32 MARINE ALLOY ALUMINUM. MOUNTING SCREWS: MACHINED STAINLESS STEEL SCREWS 7. MOUNT THE FOLLOWING COMPONENTS TO THE BACKPANEL: 2- EA. MOTOR CONTACTORS 1- EA. PHASE MONITOR (SINGLE PHASE) 1- EA. SILENCE RELAY 1- EA. DUPLEX ALTERNATOR 1- EA. MODEL BOAC5AH BATTERY BACK-UP W/ SMART CHARGER 20- EA. TERMINALS FOR FIELD CONNECTIONS 3- EA. GROUNDING LUGS 8. INNERDOOR FABRICATION: 0.080, 5052-H32 MARINE ALLOY ALUMINUM WITH A CONTINUOUS ALUMINUM PIANO HINGE. 9. MOUNT THE FOLLOWING COMPONENTS THROUGH THE INNERDOOR: 1- EA. MAIN CIRCUIT BREAKER 1- EA. EMERGENCY CIRCUIT BREAKER 1- EA. MECHANICAL INTERLOCK FOR EMERGENCY AND MAIN BREAKERS 2- EA. SHORT CIRCUIT PROTECTORS 1- EA. CONTROL CIRCUIT BREAKER 2- EA. SEAL FAILURE INDICATOR LIGHTS (NOT REQUIRED) 1- EA. HAND-OFF-AUTO SELECTOR SWITCHES 2- EA. PUMP RUN PILOT LIGHTS 1- EA. POWER ON PILOT LIGHT 2- EA. ELAPSE TIME METERS (NON-RESETABLE) 1- EA. GFI DUPLEX CONVENIENCE OUTLET </td>	DUPLEX CONTROL PANEL: 1. CONTROL PANEL: TUV (UL508A CERTIFIED) MANUFACTURING FACILITY 2. CONTROL PANEL ENCLOSURE: NEMA 4X, MINIMUM 30" HIGH X 30" WIDE X 10" DEEP FIBERGLASS WITH PADLOCKABLE DRAW LATCHES AMD SIZED TO ACCOMMODATE ALL CONTROLS FOR THE LIFT STATION. 3. 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10. ELECTRICAL CODE REQUIREMENTS: FLOIRDA BUILDING CODE, 5TH EDITION, 2014 , 2011 NEC.

11. SEAL ALL CONDUIT RUNS

12. MOUNT LIGHTNING ARRESTOR AT SWITCH DISCONNECT

13. VERIFY POWER SOURCE PRIOR TO ORDERING EQUIPMENT

COMPONENTS:

1. CIRCUIT BREAKERS: MOLDED THERMAL MAGNETIC.

2. THE MECHANICAL INTERLOCK: PREVENT THE NORMAL AND EMERGENCY MAIN BREAKERS BEING ENERGIZED AT THE SAME TIME.

3. ALL MOTOR SHORT CIRCUIT PROTECTION DEVICES: PROVIDE FOR UNDERVOLTAGE RELEASE AND CLASS 10 OVERLOAD PROTECTION. VISIBLE TRIP INDICATION, TEST, AND RESET CAPABILITY PROVIDED WITHOUT OPENING INNER DOOR.

4. OPEN FRAME, ACROSS THE LINE, CONTACTORS RATED PER IEC STANDARDS AND PROPERLY SIZED PER THE MOTOR REQUIREMENTS. SAFE TOUCH POWER AND CONTROL TERMINALS ARE REQUIRED.

5. LIGHTNING ARRESTOR: MEET OR EXCEED THE REQUIREMENTS OF ANSI/IEEE STD. C62.21-1984 SECTION 8.6.1. AND 8.7.3. MOUNT ON THE BOTTOM SIDE OF THE SWITCH DISCONNECT AHEAD OF THE PUMP CONTROL PANEL.

6. GREEN PILOT LIGHT: REQUIRED FOR EACH MOTOR. THE PILOT LIGHT TO ILLUMINATE EACH TIME THE MOTOR IS CALLED TO RUN.

7. ELAPSE TIME METER (ETM), ONE PER PUMP, TO RECORD THE ACCUMULATED RUN TIME. ETM: 2" DIAMETER, NON-RESETTABLE, SIX DIGIT, TOTALLY ENCAPSULATED UNIT.

8. RED PILOT LIGHT FOR CONTROL POWER TO ILLUMINATE WHEN THE CONTROL POWER IS AVAILABLE INSIDE THE CONTROL PANEL.

9. RELAYS: ICE-CUBE PLUG IN TYPE. RELAY CONTACTS RATED 10 AMP MINIMUM, DPDT.

10. TWENTY (20) TERMINALS ARE REQUIRED FOR FIELD CONNECTIONS.

11. TERMINALS: RATED 25 AMPS MINIMUM

12. CONNECT EACH MOTORS' OVER-TEMPERATURE CONTACT TO THE TERMINAL STRIP TO OPEN A CONTACT TO DE-ENERGIZE THE APPROPRIATE MOTOR UPON A HIGH TEMPERATURE WITHIN THE MOTOR.

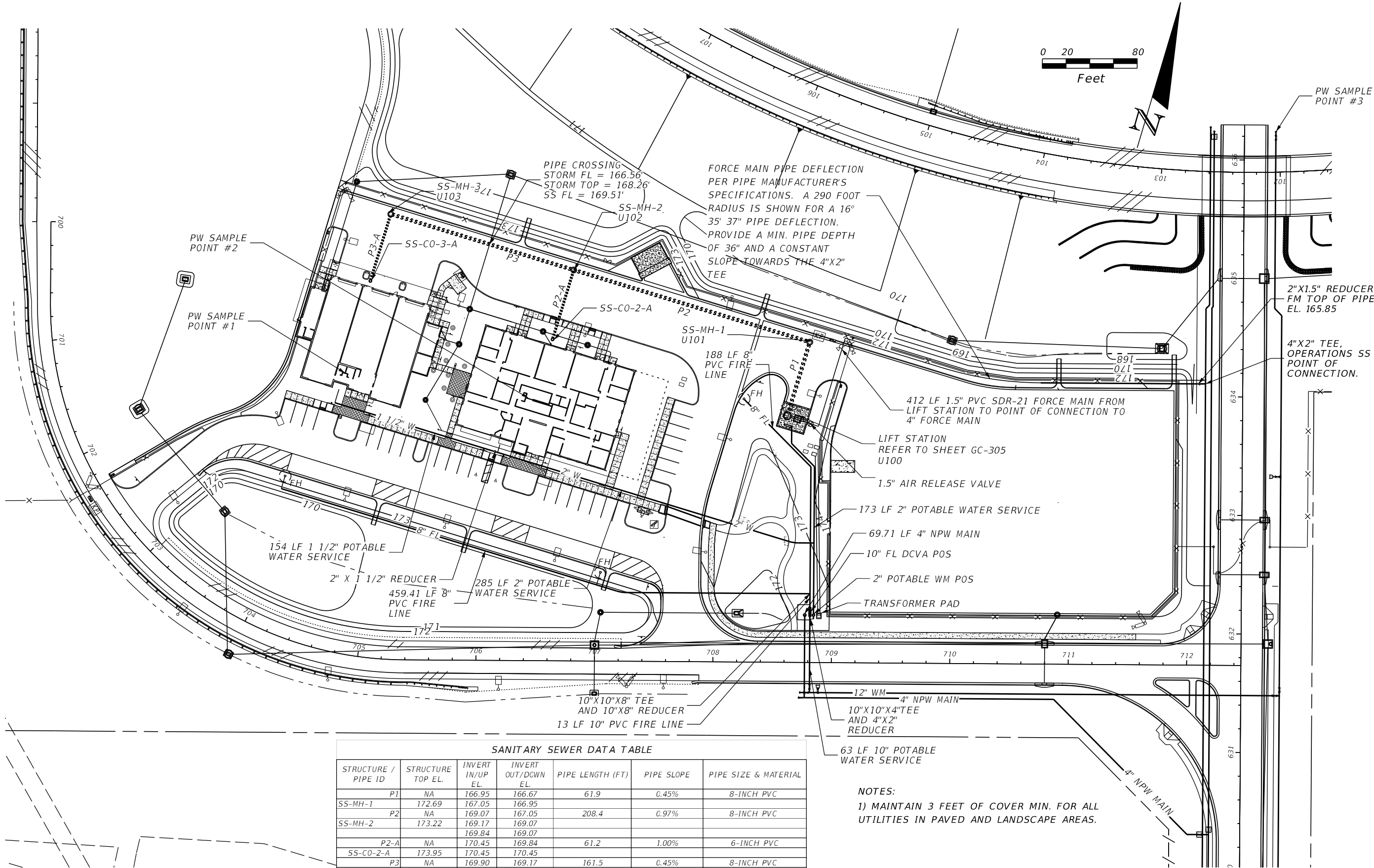
13. GROUND LUGS APPROPRIATELY SIZED FOR EACH MOTOR AND FOR SERVICE ENTRANCE.

14. NAMEPLATES FOR THE INNERDOOR AND BACK PANEL: A GRAPHIC DESIGN SPECIFICALLY DEPICTING THE INTENT FOR EACH DEVICE.

15. FULLY CONTAIN ALL WIRING ON THE BACKPANEL WITHIN THE WIRING DUCT.

16. CONTAIN ALL WIRING BETWEEN THE INNERDOOR AND THE BACKPANEL SHALL WITHIN A PLASTIC SPIRAL WRAP.

17. LABEL EACH WIRE WITH A WIRE NUMBER AT EACH END TO CORRESPOND TO THE CONTRACTOR'S RECORD DRAWING.



SANITARY SEWER DATA TABLE						
STRUCTURE / PIPE ID	STRUCTURE TOP EL.	INVERT IN/UP EL.	INVERT OUT/DOWN EL.	PIPE LENGTH (FT)	PIPE SLOPE	PIPE SIZE & MATERIAL
P1	NA	166.95	166.67	61.9	0.45%	8-INCH PVC
SS-MH-1	172.69	167.05	166.95			
P2	NA	169.07	167.05	208.4	0.97%	8-INCH PVC
SS-MH-2	173.22	169.17	169.07			
		169.84	169.07			
P2-A	NA	170.45	169.84	61.2	1.00%	6-INCH PVC
SS-CO-2-A	173.95	170.45	170.45			
P3	NA	169.90	169.17	161.5	0.45%	8-INCH PVC
SS-MH-3	173.67	170.00	169.90			
P3-A	NA	171.15	170.00	59.0	1.95%	6-INCH PVC
SS-CO-3-A	174.65	171.15	171.15			

NOTES:
1) MAINTAIN 3 FEET OF COVER MIN. FOR ALL UTILITIES IN PAVED AND LANDSCAPE AREAS.

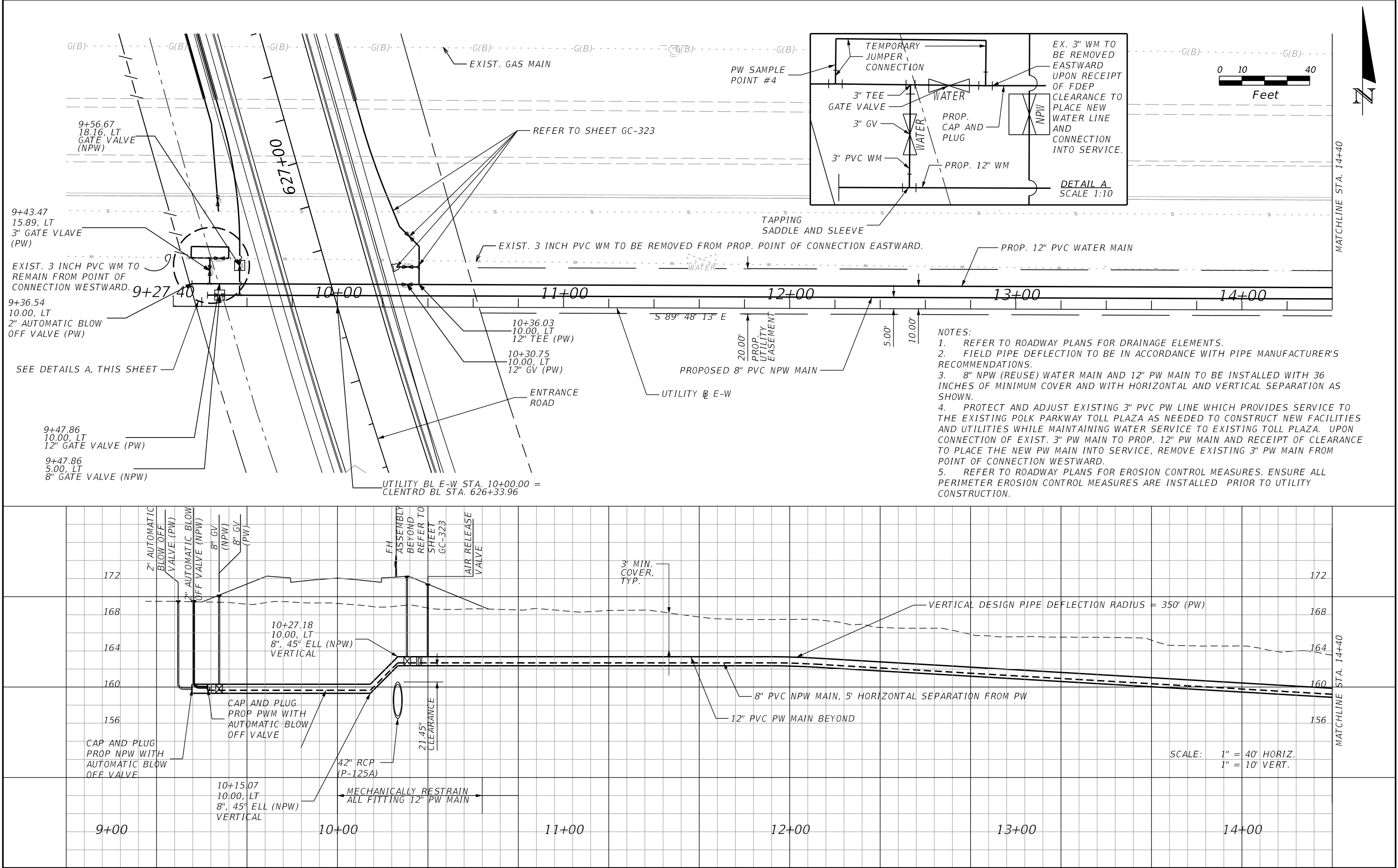
REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY OPERATIONS UTILITY PLAN	SHEET NO. GC-310
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

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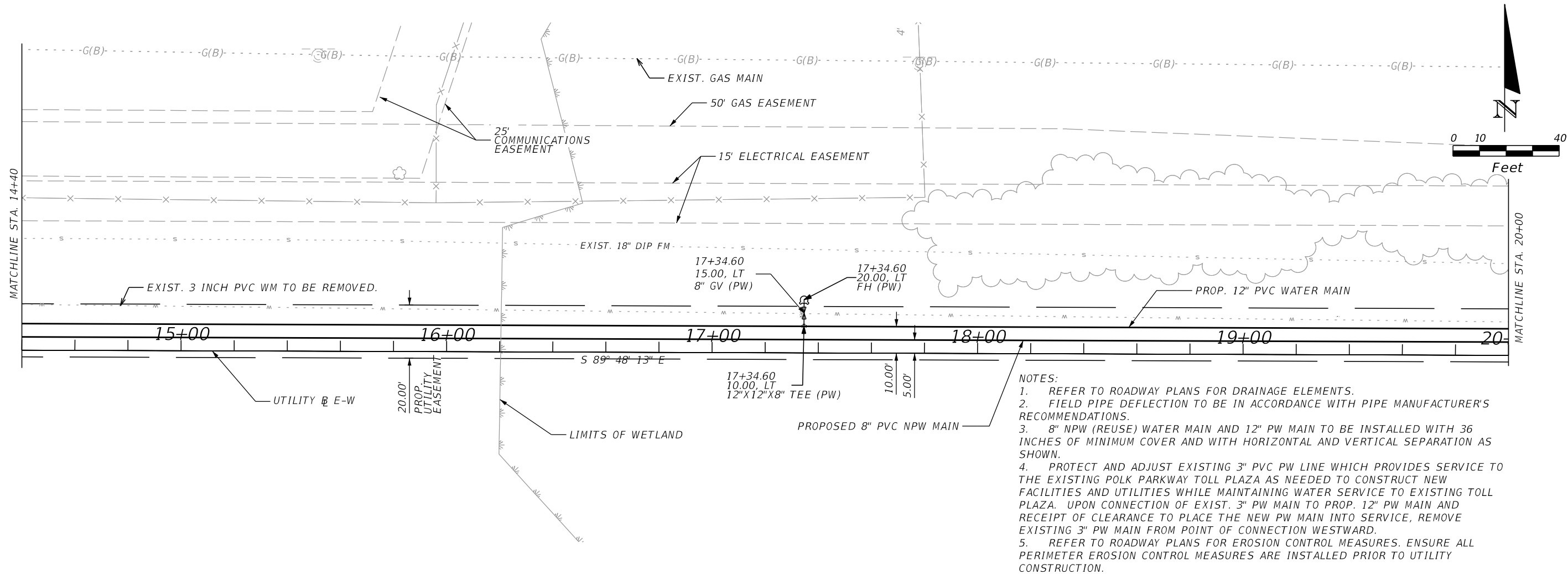
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THE OFFICAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

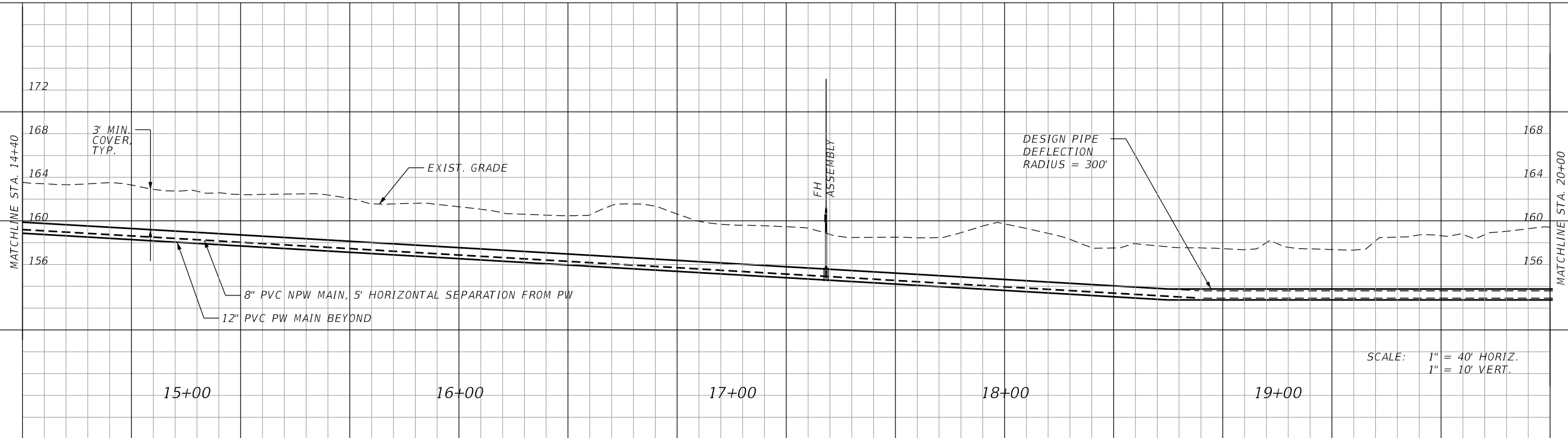


REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY UTILITY PLAN & PROFILE		SHEET NO. GC-320
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			

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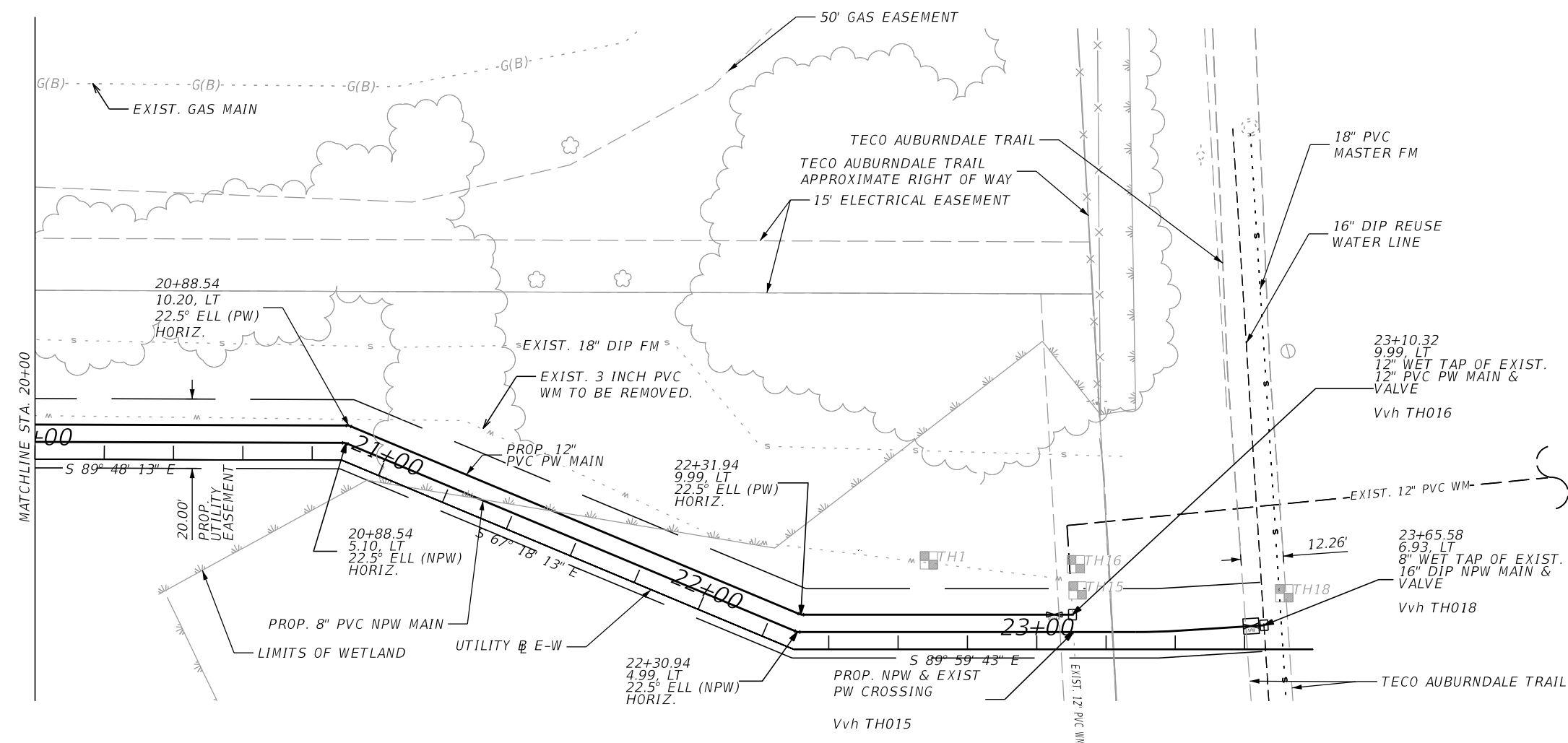


- NOTES:
1. REFER TO ROADWAY PLANS FOR DRAINAGE ELEMENTS.
 2. FIELD PIPE DEFLECTION TO BE IN ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATIONS.
 3. 8" NPW (REUSE) WATER MAIN AND 12" PW MAIN TO BE INSTALLED WITH 36 INCHES OF MINIMUM COVER AND WITH HORIZONTAL AND VERTICAL SEPARATION AS SHOWN.
 4. PROTECT AND ADJUST EXISTING 3" PVC PW LINE WHICH PROVIDES SERVICE TO THE EXISTING POLK PARKWAY TOLL PLAZA AS NEEDED TO CONSTRUCT NEW FACILITIES AND UTILITIES WHILE MAINTAINING WATER SERVICE TO EXISTING TOLL PLAZA. UPON CONNECTION OF EXIST. 3" PW MAIN TO PROP. 12" PW MAIN AND RECEIPT OF CLEARANCE TO PLACE THE NEW PW MAIN INTO SERVICE, REMOVE EXISTING 3" PW MAIN FROM POINT OF CONNECTION WESTWARD.
 5. REFER TO ROADWAY PLANS FOR EROSION CONTROL MEASURES. ENSURE ALL PERIMETER EROSION CONTROL MEASURES ARE INSTALLED PRIOR TO UTILITY CONSTRUCTION.

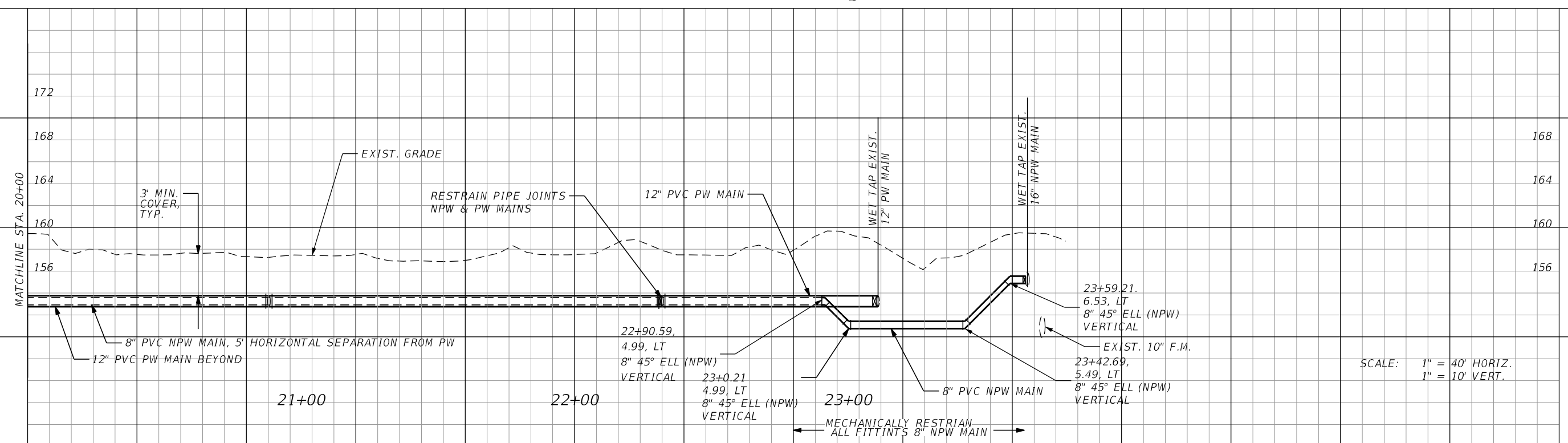
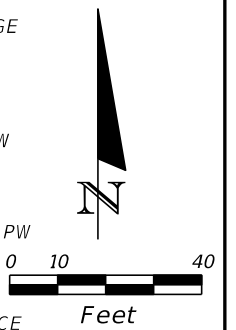


REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY UTILITY PLAN & PROFILE		SHEET NO. GC-321
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

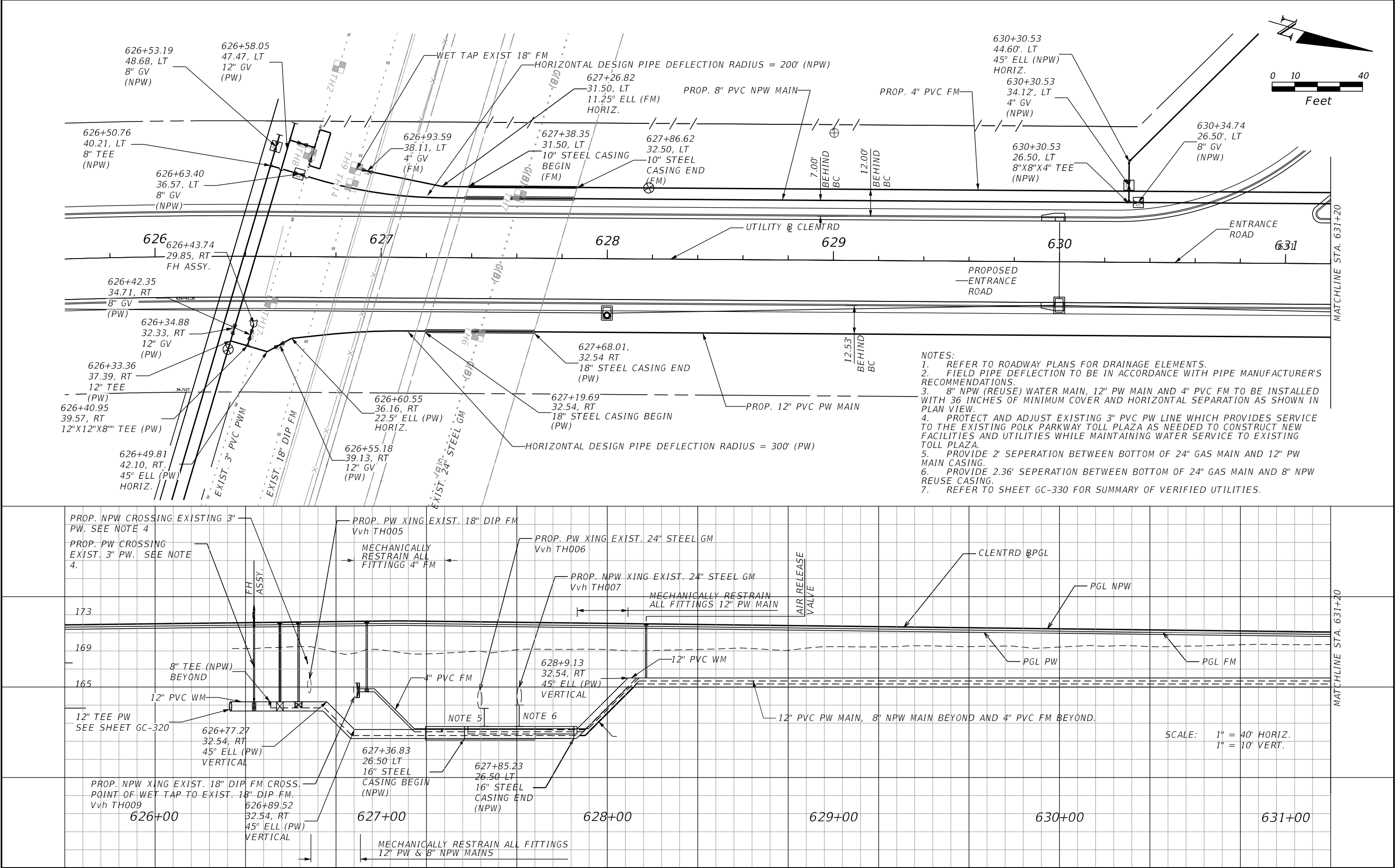


- NOTES:
1. REFER TO ROADWAY PLANS FOR DRAINAGE ELEMENTS.
 2. FIELD PIPE DEFLECTION TO BE IN ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATIONS.
 3. 8" NPW (REUSE) WATER MAIN AND 12" PW MAIN TO BE INSTALLED WITH 36 INCHES OF MINIMUM COVER AND WITH HORIZONTAL AND VERTICAL SEPARATION AS SHOWN.
 4. PROTECT AND ADJUST EXISTING 3" PVC PW LINE WHICH PROVIDES SERVICE TO THE EXISTING POLK PARKWAY TOLL PLAZA AS NEEDED TO CONSTRUCT NEW FACILITIES AND UTILITIES WHILE MAINTAINING WATER SERVICE TO EXISTING TOLL PLAZA. UPON CONNECTION OF EXIST. 3" PW MAIN TO PROP. 12" PW MAIN AND RECEIPT OF CLEARANCE TO PLACE THE NEW PW MAIN INTO SERVICE, REMOVE EXISTING 3" PW MAIN FROM POINT OF CONNECTION WESTWARD.
 5. REFER TO SHEET GC-330 FOR SUMMARY OF VERIFIED UTILITIES.
 6. PROVIDE PEDESTRIAN AND BICYCLIST MAINTENANCE OF TRAFFIC IN ACCORDANCE WITH STANDARD INDEX 600 AND 660 BY PROVIDING TEMPORARY SIGNAGE AND TRAFFIC DIVERSIONS AS NEEDED TO TIE TO AND PERFORM MAIN CONSTRUCTION ACTIVITIES. EXCAVATIONS WITHIN TRAIL RIGHT OF WAY ARE TO BE SECURED FROM PEDESTRIAN AND BICYCLIST TRAFFIC AT ALL TIMES. EXCAVATIONS SHALL BE BACKFILLED AT THE END OF EACH WORK DAY AND WHEN CONSTRUCTION PERSONNEL LEAVE THE SITE. AT NO TIME SHALL TRENCHES OR EXCAVATIONS REMAIN OPEN WHEN NOT UNDER THE OBSERVATION AND CONTROL OF THE CONTRACTOR.
 7. REFER TO ROADWAY PLANS FOR EROSION CONTROL MEASURES. ENSURE ALL PERIMETER EROSION CONTROL MEASURES ARE INSTALLED PRIOR TO UTILITY CONSTRUCTION.



REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<i>SUNTRAX TEST FACILITY UTILITY PLAN & PROFILE</i>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		GC-322

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			

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SUMMARY OF VERIFIED UTILITIES

[illegible]

REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<i>SUNTRAX TEST FACILITY</i> <i>SUMMARY OF</i> <i>VERIFIED UTILITIES</i>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		GC-330

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

ELECTRICAL LEGEND

WIRING AND POWER

- S*SWITCH
- (NONE) SINGLE POLE TOGGLE SWITCH
- 2 TWO POLE TOGGLE SWITCH
- 3 THREE WAY TOGGLE SWITCH
- WP SINGLE POLE WEATHERPROOF SWITCH
- K SINGLE POLE KEYED SWITCH
- M MANUAL MOTOR CONTROLLER W/O OVERLOADS

S_{abc} LOWER CASE LETTERS INDICATES SWITCHING DESIGNATIONS, QUANTITY OF LETTERS EQUAL QUANTITY OF GANGED SWITCHES

- Φ* SINGLE RECEPTACLE
- GFI GROUND FAULT CIRCUIT INTERRUPTER
- WP WEATHERPROOF
- IG ISOLATED GROUND
- C ABOVE COUNTER

- Ⓢ* DUPLEX RECEPTACLE
- GFI GROUND FAULT CIRCUIT INTERRUPTER
- WP WEATHERPROOF
- IG ISOLATED GROUND
- C ABOVE COUNTER
- EWC ELECTRIC WATER COOLER, COORDINATE LOCATION WITH PLUMBING CONTRACTOR
- VM VIDEO MONITOR - COORDINATE EXACT MTG. HEIGHT

- Ⓢ* QUADRAPLEX RECEPTACLE
- GFI GROUND FAULT CIRCUIT INTERRUPTER
- WP WEATHERPROOF
- IG ISOLATED GROUND
- C ABOVE COUNTER

- Ⓢ* SPECIAL RECEPTACLE
- X TYPE X (SEE RECEPTACLE SCHEDULE)
- C ABOVE COUNTER

- J JUNCTION BOX
- DISCONNECT SWITCH
- C EQUIPMENT ELECTRICAL CONNECTION POINT
- DISCONNECT SWITCH - WEATHERPROOF (NEMA 3R)
- F WP FUSED DISCONNECT SWITCH

- MAGNETIC MOTOR STARTER
- COMBINATION FUSED DISCONNECT/ MAGNETIC STARTER SWITCH
- HOA HAND/OFF/AUTO
- SS START/STOP

ⓈM MANUAL STARTER

ⓈEF-1 MOTOR WITH DESIGNATOR

ⓈA-1 BRANCH CIRCUIT HOME RUN WITH PANEL NAME AND CIRCUIT NUMBER, QUANTITY OF ARROWHEADS DENOTES QUANTITY OF BRANCH CIRCUITS

BRANCH CIRCUIT WIRING, PROVIDE QUANTITIES OF CONDUCTORS REQUIRED FOR CIRCUITING AND SWITCHING INDICATED

POWER LEG ONLY (NO SWITCH LEG BETWEEN ROOMS)

Ⓢ PUSHBUTTON

Ⓢ GROUND ROD

Ⓢ TRANSFORMER

TT GROUND BUS BAR - SEE DETAILS

PANELS

- XXX ELECTRICAL PANEL
- MDP MAIN DISTRIBUTION PANEL (SEE PANEL SCHEDULE)
- TVSS TRANSIENT VOLTAGE SURGE SUPPRESSION

- ⓈXXX ELECTRICAL SYSTEMS PANEL
- SACP SECURITY ALARM CONTROL PANEL
- FACP FIRE ALARM CONTROL PANEL
- MC MASTER CLOCK CONTROL PANEL
- PA PUBLIC ADDRESS CONTROL PANEL
- FAAP FIRE ALARM ANNUNCIATOR PANEL

LIGHTING

Ⓢ POLE MOUNTED LIGHTING FIXTURE (SEE LIGHTING FIXTURE SCHEDULE FOR LETTER DESIGNATION AND DESCRIPTION OF FIXTURES)

Ⓢ GRADE MOUNTED FLOOD LIGHT

GRADE MOUNTED SIGN LIGHT

Ⓢ BOLLARD LIGHTING FIXTURE

ⓈLC LIGHTING CONTACTOR

ⓈPC PHOTOCELL

SX SWITCH

SECURITY SYSTEMS

ⓈCR CARD READER

ⓈKP SECURITY SYSTEM KEYPAD

Ⓢ POLE MOUNTED CCTV CAMERA IN WEATHERPROOF ENCLOSURE

ABBREVIATIONS

- A - AMPERES
- A/C - AIR CONDITIONING
- AC - ALTERNATING CURRENT
- AFF - ABOVE FINISHED FLOOR
- AFG - ABOVE FINISHED GRADE
- AHU - AIR HANDLING UNIT
- AWG - AMERICAN WIRE GAUGE
- C - ABOVE COUNTER
- CFL - COMPACT FLUORESCENT LAMP
- CH - COUNTER HEIGHT
- CONC - CONCRETE
- COND - CONDUIT
- CU - COPPER
- DISC - DISCONNECT
- ECB - ENCLOSED CIRCUIT BREAKER
- ELEC - ELECTRICAL
- EM - EMERGENCY
- EMS - ENERGY MANAGEMENT SYSTEM
- EMT - ELECTRICAL METALLIC TUBING
- EF - EXHAUST FAN
- EWC - ELECTRIC WATER COOLER
- FA - FIRE ALARM
- FACP - FIRE ALARM CONTROL PANEL
- G - GROUND
- GFI - GROUND FAULT INTERRUPTER
- GND - GROUND
- GRC - GALVANIZED RIGID CONDUIT
- H.I.D. - HIGH INTENSITY DISCHARGE
- HVAC - HEATING, VENTILATING AND AIR CONDITIONING
- I.G. - ISOLATED GROUND
- J - JUNCTION
- KAIC - (THOUSAND) AMPERE INTERRUPTING CAPACITY
- KVA - KILOVOLT-AMPERES
- KW - KILOWATT
- LTG - LIGHTING
- MCM - THOUSANDS OF CIRCULAR MILS
- MCU - MASTER CONTROL UNIT
- MCP - MOTOR CIRCUIT PROTECTION
- MH - METAL HALIDE
- N - NEUTRAL
- NA - NOT APPLICABLE
- NF - NON-FUSED
- NL - NIGHT LIGHT
- NEC - NATIONAL ELECTRICAL CODE
- NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
- NFPA - NATIONAL FIRE PROTECTION ASSOCIATION
- NIC - NOT IN CONTRACT
- O.C. - ON CENTER
- O.F.C.I. - OWNER FURNISHED, CONTRACTOR INSTALLED
- P - POLE
- PNL - PANELBOARD
- PVC - POLYVINYL CHLORIDE
- RM - ROOM
- RGS - RIGID GALVANIZED STEEL
- SPEC - SPECIFICATION
- SS - STAINLESS STEEL
- TECO - TAMPA ELECTRIC COMPANY
- TVSS - TRANSIENT VOLTAGE SURGE SUPPRESSION
- TYP - TYPICAL
- UON - UNLESS OTHERWISE NOTED
- V - VOLTS
- W - WIRE
- WP - WEATHERPROOF

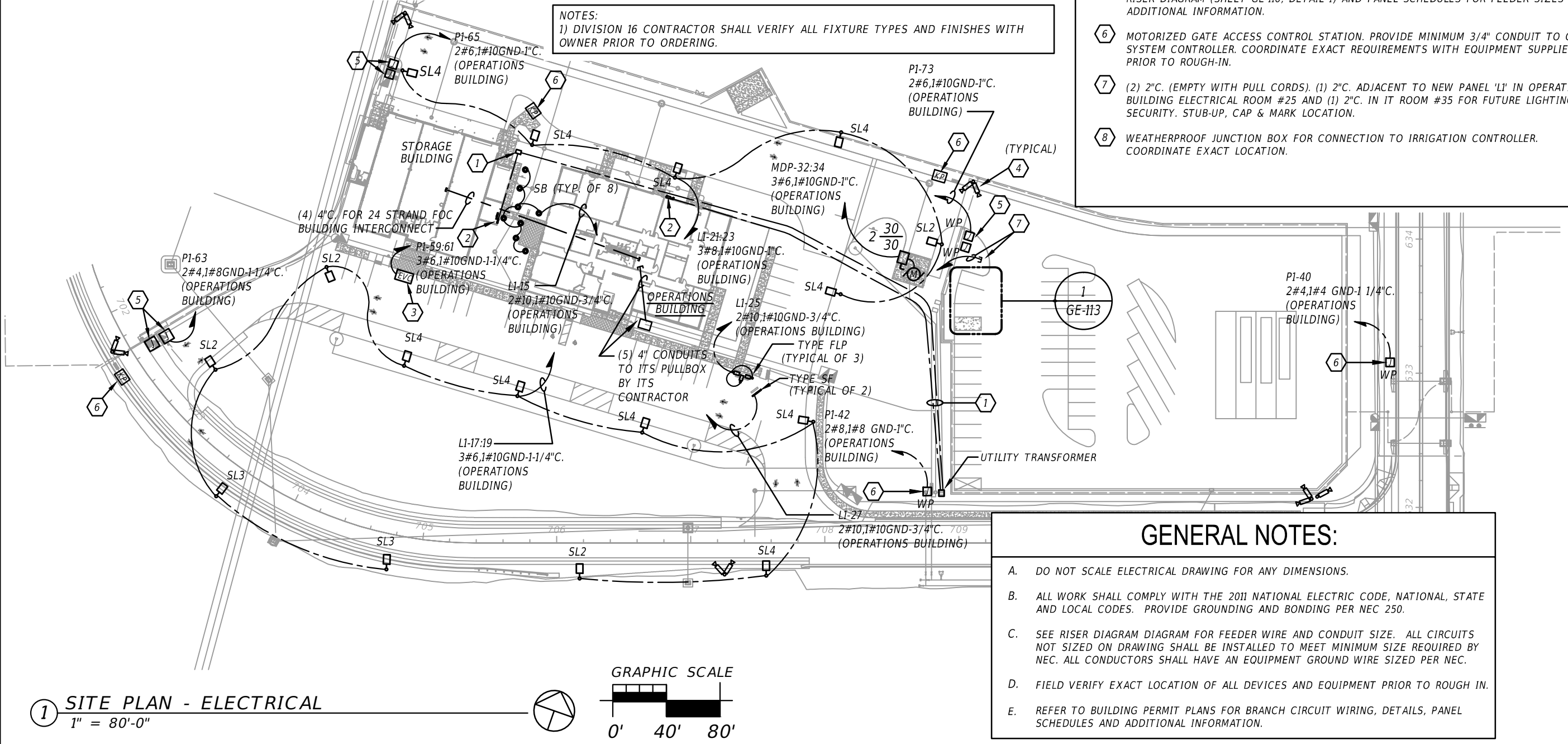
REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SITE PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		GE-110
					NA	POLK	437300-1-52-01	ELECTRICAL LEGEND	

SITE LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	MODEL	VOLTS	LAMP			FIXTURE WATTS
					QTY	WATTS	MODEL	
SL2	LED FULL CUTOFF SITE LUMINAIRE MOUNTED ON ROUND TAPERED ALUMINUM POLE W/25'-0" MOUNTING HEIGHT A.F.G. TYPE 2 DISTRIBUTION	PHILLIPS GARCO LIGHTING	ECF-1-2-160LA-481A-NW-208-BRP-IS	208	-	-	LED	158
SL3	LED FULL CUTOFF SITE LUMINAIRE MOUNTED ON ROUND TAPERED ALUMINUM POLE W/25'-0" MOUNTING HEIGHT A.F.G. TYPE 3 DISTRIBUTION	PHILLIPS GARCO LIGHTING	ECF-1-3-105LA-4870-NW-208-BRP-IS	208	-	-	LED	104
SL4	LED FULL CUTOFF SITE LUMINAIRE MOUNTED ON ROUND TAPERED ALUMINUM POLE W/25'-0" MOUNTING HEIGHT A.F.G. TYPE 4 DISTRIBUTION	PHILLIPS GARCO LIGHTING	ECF-1-4-160LA-481A-NW-208-BRP-IS	208	-	-	LED	158
SB	LED FULL DOME TOP BEVELED LOUVERED BOLLARD 42" HEIGHT	PHILLIPS GARCO LIGHTING	BRM836-42-CWL-NW-360-UNV-BRP	120	-	-	LED	10
SF	LINEAR OUTDOOR LED SIGN LIGHT	ORGATECH OMEGALUX	1400-4-LH-27-U-ND-A-P-SO-N	120	-	7.5/ft	LED	30
FLP	GRADE MOUNTED LED FLAGPOLE LUMINAIRE WITH SPOT OPTICS	BK LIGHTING	DE-LED-X34-SP-BZW-0-90/PP11-S12-B-MT-SF	120	-	-	LED	29

REFERENCE NOTES:

- 1
- SERVICE FEEDERS - SEE OPERATION'S AND STORAGE BUILDING POWER RISER DIAGRAMS FOR ADDITIONAL INFORMATION.
- 2
- LOCATION OF MAIN SERVICE DISCONNECT, METER AND C.T. CABINET. REFER TO FLOOR PLAN AND POWER RISER DIAGRAM FOR ADDITIONAL INFORMATION.
- 3
- ELECTRIC AUTOMOBILE CHARGING STATION. GE MODEL #EVDDR3GWXXGB. COORDINATE EXACT LOCATION PRIOR TO ROUGH-IN.
- 4
- POLE MOUNTED TWIN CCTV CAMERAS IN WEATHERPROOF ENCLOSURE. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH THE DEPARTMENT PRIOR TO ROUGH-IN. REFER TO DRAWING GE-114 FOR ADDITIONAL CONDUIT REQUIREMENTS FOR CAMERA SYSTEM
- 5
- PROVIDE (2) 1.25" CONDUIT TO SITE GATE MOTOR FOR POWER AND CONTROL WIRING (ROUTE TO SECURITY PANEL). ROUTE POWER FEEDERS TO OUTDOOR RATED LOCAL UPS AND CONTROL WIRING TO GATE OPERATOR. COORDINATE EXACT LOCATION AND CONNECTION REQUIREMENTS OF GATE HARDWARE WITH GATE INSTALLER PRIOR TO ROUGH-IN. REFER TO RISER DIAGRAM (SHEET GE-116, DETAIL 1) AND PANEL SCHEDULES FOR FEEDER SIZES AND ADDITIONAL INFORMATION.
- 6
- MOTORIZED GATE ACCESS CONTROL STATION. PROVIDE MINIMUM 3/4" CONDUIT TO GATE SYSTEM CONTROLLER. COORDINATE EXACT REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.
- 7
- (2) 2"C. (EMPTY WITH PULL CORDS). (1) 2"C. ADJACENT TO NEW PANEL 'L1' IN OPERATIONS BUILDING ELECTRICAL ROOM #25 AND (1) 2"C. IN IT ROOM #35 FOR FUTURE LIGHTING AND SECURITY. STUB-UP, CAP & MARK LOCATION.
- 8
- WEATHERPROOF JUNCTION BOX FOR CONNECTION TO IRRIGATION CONTROLLER. COORDINATE EXACT LOCATION.



GENERAL NOTES:

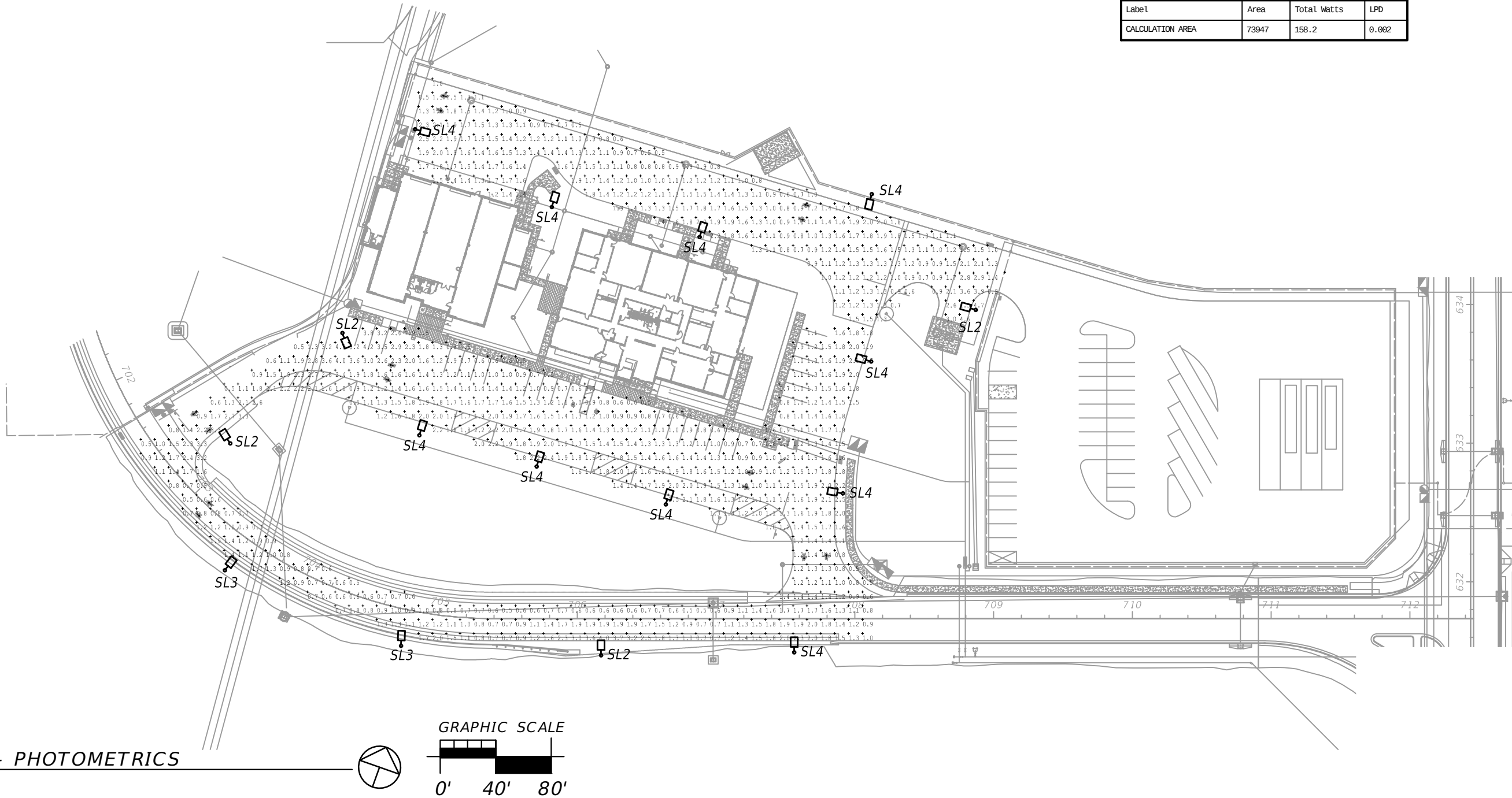
- A.
- DO NOT SCALE ELECTRICAL DRAWING FOR ANY DIMENSIONS.
- B.
- ALL WORK SHALL COMPLY WITH THE 2011 NATIONAL ELECTRIC CODE, NATIONAL, STATE AND LOCAL CODES. PROVIDE GROUNDING AND BONDING PER NEC 250.
- C.
- SEE RISER DIAGRAM DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC. ALL CONDUCTORS SHALL HAVE AN EQUIPMENT GROUND WIRE SIZED PER NEC.
- D.
- FIELD VERIFY EXACT LOCATION OF ALL DEVICES AND EQUIPMENT PRIOR TO ROUGH IN.
- E.
- REFER TO BUILDING PERMIT PLANS FOR BRANCH CIRCUIT WIRING, DETAILS, PANEL SCHEDULES AND ADDITIONAL INFORMATION.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SITE PLAN ELECTRICAL		SHEET NO. GE-111
DATE	DESCRIPTION		DATE		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			

Luminaire Schedule								
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description	Lum. Watts	Lum. Lumens
	4	SL2	SINGLE	N.A.	0.900	GARDCO ECF-2-160LA-481A-NW-IS	158.2	12600
	2	SL3	SINGLE	N.A.	0.900	GARDCO ECF-3-105LA-4870-NW-IS	103.8	8270
	10	SL4	SINGLE	N.A.	0.900	GARDCO ECF-4-160LA-481A-NW-IS	158.2	11367

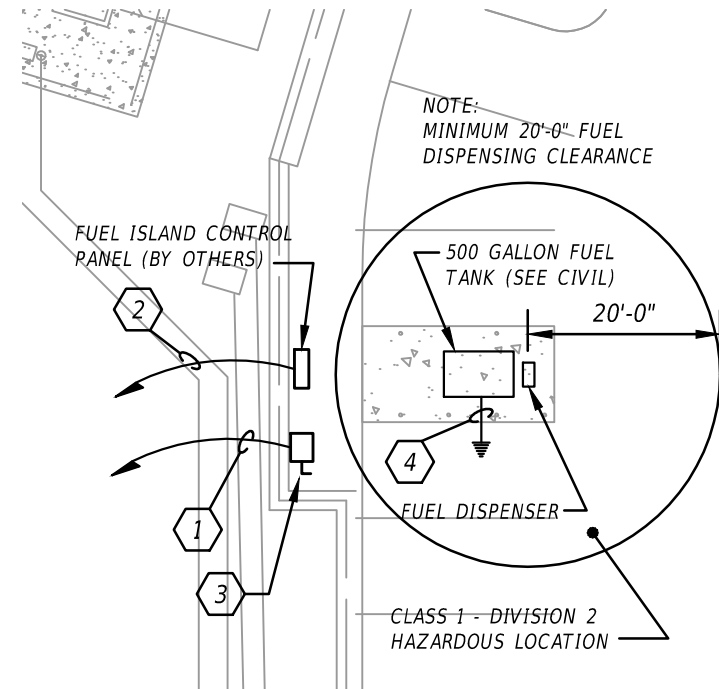
Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min Max/Min
LEED BOUNDARY	Illuminance	Fc	0.010	0.185	0.000	N.A. N.A.
SITE	Illuminance	Fc	1.41	5.2	0.5	2.82 10.40

LPD Area Summary			
Label	Area	Total Watts	LPD
CALCULATION AREA	73947	158.2	0.002

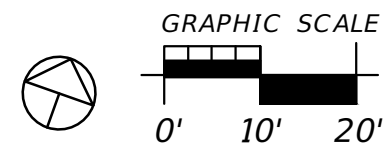


1 SITE PLAN - PHOTOMETRICS
1" = 80'-0"

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SITE PLAN PHOTOMETRICS	SHEET NO. GE-112
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		



1 **ENLARGED PARTIAL SITE PLAN - FUEL ISLAND**
1" = 20'-0"



REFERENCE NOTES: ⬡X

- ⬡1 2#6, 1#10GND. IN 1" C. TO PANEL 'PI' CIRCUIT #69 LOCATED IN OPERATIONS BUILDING. SEE BUILDING PLANS FOR ADDITIONAL INFORMATION.
- ⬡2 1" CONDUIT (WITH PULL CORD) FOR FUTURE SCADA DATA CABLING- TERMINATE IN OPERATIONS BUILDING IT ROOM. SEE BUILDING PLANS.
- ⬡3 EMERGENCY POWER OFF (EPO) SWITCH, PAINTED RED. NON-FUSED SAFETY SWITCH, NEMA 3R RATED, 30AMPS, 4 POLE, LOCATE OUTSIDE THE CLASS 1, DIVISION - 2 HAZARDOUS LOCATION. THE SWITCH SHALL DISCONNECT BOTH THE LINE AND NEUTRAL CONDUCTORS SUPPLYING THE FUEL PUMP. MOUNT DISCONNECT ON A CONCRETE BASE COATED UNISTRUT SUPPORT.
- ⬡4 5/8" DIA. X 20'-0" LONG COPPER CLAD GROUND ROD.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SITE PLAN FUEL ISLAND PLAN - ELECTRICAL		SHEET NO. GE-113
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			

REFERENCE NOTES: (X)

- 1

25' ALUMINUM POLE. POLE SHALL MATCH SITE LIGHTING POLES. REFER TO SHEET GE-111 LIGHTING FIXTURE SCHEDULE FOR POLE TYPE.
- 2

POLE MOUNTED IP CCTV CAMERA. REFER TO SITE VIDEO SURVEILLANCE CAMERA SCHEDULE FOR CAMERA TYPE. (FURNISH AND INSTALLED BY OWNER-CAMERA ONLY) PROVIDE CONDUIT, BACK BOXES AND WIRING AS INDICATED.
- 3

POLE MOUNTED CCTV ENCLOSURE. ENCLOSURE SHALL HOUSE FIBER OPTIC TERMINATION PANEL, HARDENED POE NETWORK SWITCH, UPS, AND SURGE SUPPRESSION.
- 4

FLUSH GRADE PULLBOX. SIZE AS REQUIRED PER NEC.

REFERENCE NOTES (cont.): (X)

- 5

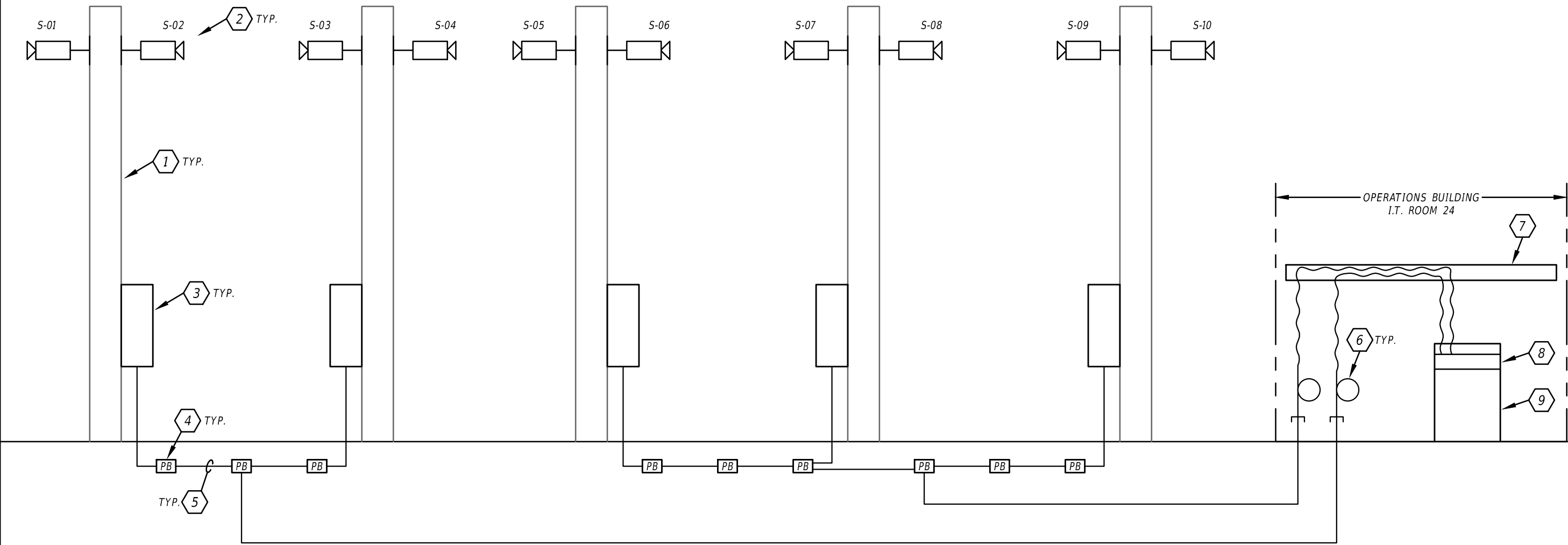
2" CONDUIT WITH 6 STRAND SINGLE MODE LOOSE TUBE OUTSIDE PLANT (OSP) FIBER OPTIC CABLE.
- 6

PROVIDE 30' CABLE SERVICE LOOP
- 7

ROUTE FIBER OPTIC CABLE THROUGH OVERHEAD CABLE TRAY.
- 8

FIBER OPTIC RACK MOUNTED PATCH PANEL. TERMINATE AND LABEL ALL FIBER OPTIC STRANDS.
- 9

COMMUNICATIONS RACK.



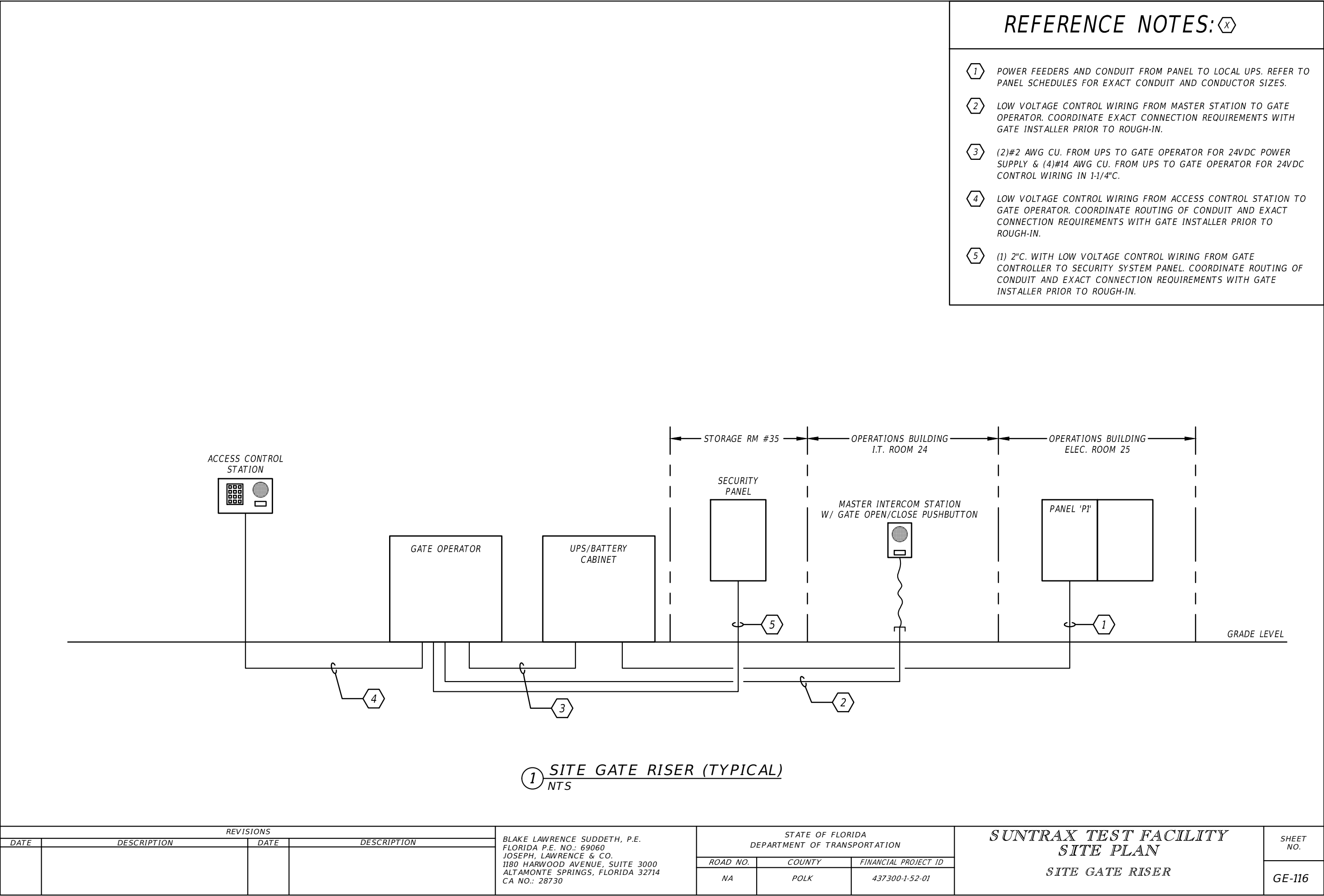
1 SITE CCTV RISER
NTS

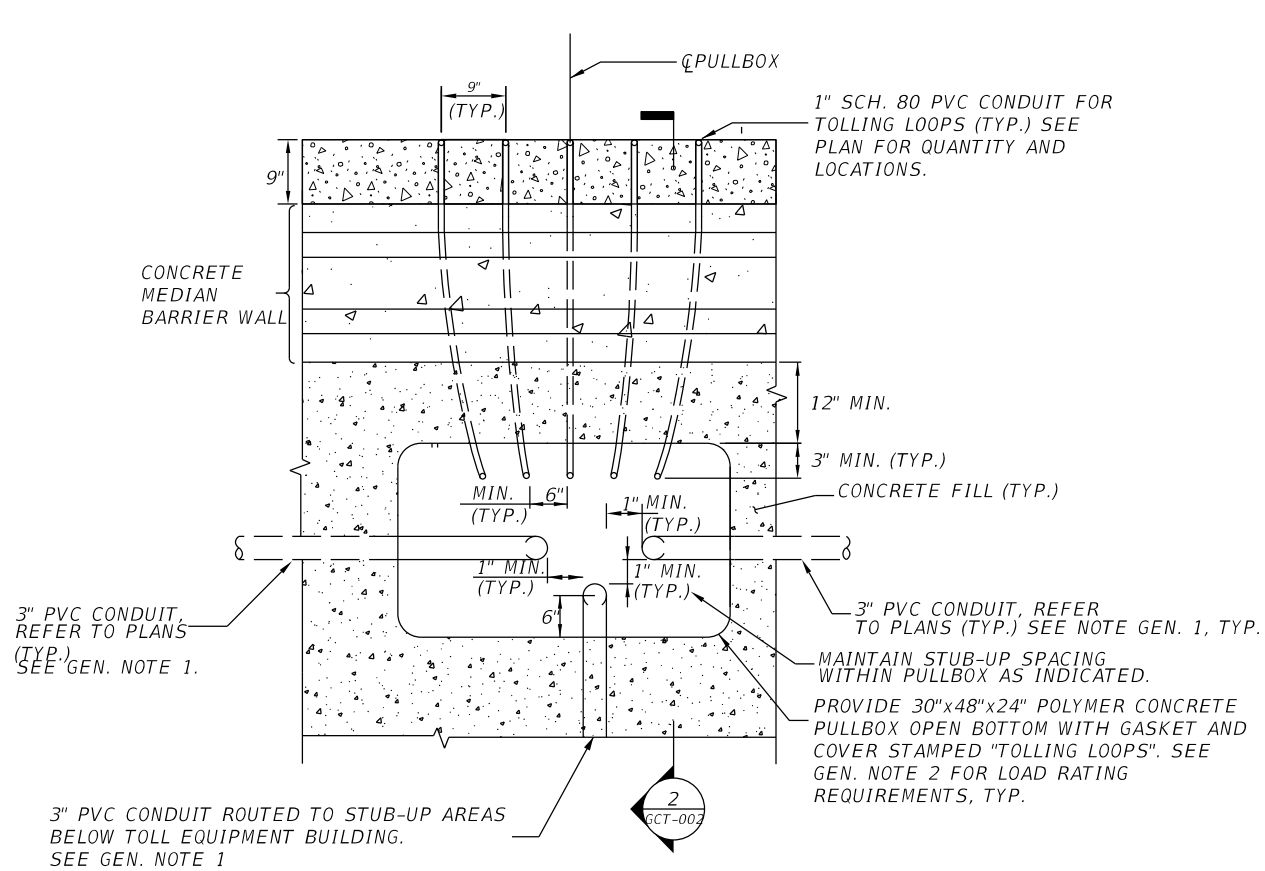
REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SITE PLAN SITE CCTV RISER	SHEET NO. GE-114
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

SITE VIDEO SURVEILLANCE CAMERA SCHEDULE												
LINE	CAMERA NUMBER	CAMERA TYPE	CAMERA LENS	CAMERA WIRING MEDIA	CAMERA MOUNTING	APPROXIMATE LOCATION FIELD OF VIEW	CAMERA SHEET NUMBER	NETWORK SWITCH LOCATION	CAMERA POWER REQUIREMENTS AND POWER SUPPLY LOCATION	REMARKS	VIDEO RECORDING HOURS PER DAY AND FRAMES PER SECOND (FPS)	VIDEO RECORDING STORAGE
1	S-01	WP VANDAL RESISTANT FIXED IP 5 MEGAPIXEL HD BULLET CAMERA AVIGILON 5.0-H4A-BO1-IR	4.3 - 8 mm	CAT 6 CABLE TO POLE MOUNTED CCTV CABINET AT POLE BASE	POLE MOUNTED WITH AVIGILON H4-BO-JBOX 1 ANDH4-MT-POLE1	NORTHWEST SIDE OF STORAGE BUILDING SITE LOOKING SOUTHWEST	AE1-101	POLE BASE MOUNTED CCTV CABINET	PoE SWITCH AT CCTV CABINET	NETWORK SWITCH CABLE BACKBONE SHALL BE VIA 6 STRAND SINGLE MODE FIBER OPTIC CABLE TO OPERATIONS BUILDING IT RM	24 HOURS WITH MOTION AT 30 FPS	30 DAYS
2	S-02	WP VANDAL RESISTANT FIXED IP 5 MEGAPIXEL HD BULLET CAMERA AVIGILON 5.0-H4A-BO1-IR	4.3 - 8 mm	CAT 6 CABLE TO POLE MOUNTED CCTV CABINET AT POLE BASE	POLE MOUNTED WITH AVIGILON H4-BO-JBOX 1 ANDH4-MT-POLE1	NORTHWEST SIDE OF STORAGE BUILDING SITE LOOKING SOUTHEAST	AE1-101	POLE BASE MOUNTED CCTV CABINET	PoE SWITCH AT CCTV CABINET	NETWORK SWITCH CABLE BACKBONE SHALL BE VIA 6 STRAND SINGLE MODE FIBER OPTIC CABLE TO OPERATIONS BUILDING IT RM	24 HOURS WITH MOTION AT 30 FPS	30 DAYS
3	S-03	WP VANDAL RESISTANT FIXED IP 5 MEGAPIXEL HD BULLET CAMERA AVIGILON 5.0-H4A-BO1-IR	4.3 - 8 mm	CAT 6 CABLE TO POLE MOUNTED CCTV CABINET AT POLE BASE	POLE MOUNTED WITH AVIGILON H4-BO-JBOX 1 ANDH4-MT-POLE1	NORTHEAST SIDE OF OPERATIONS BUILDING SITE LOOKING SOUTHWEST	AE1-101	POLE BASE MOUNTED CCTV CABINET	PoE SWITCH AT CCTV CABINET	NETWORK SWITCH CABLE BACKBONE SHALL BE VIA 6 STRAND SINGLE MODE FIBER OPTIC CABLE TO OPERATIONS BUILDING IT RM	24 HOURS WITH MOTION AT 30 FPS	30 DAYS
4	S-04	WP VANDAL RESISTANT FIXED IP 5 MEGAPIXEL HD BULLET CAMERA AVIGILON 5.0-H4A-BO1-IR	4.3 - 8 mm	CAT 6 CABLE TO POLE MOUNTED CCTV CABINET AT POLE BASE	POLE MOUNTED WITH AVIGILON H4-BO-JBOX 1 ANDH4-MT-POLE1	NORTHEAST SIDE OF OPERATIONS BUILDING SITE LOOKING SOUTHEAST	AE1-101	POLE BASE MOUNTED CCTV CABINET	PoE SWITCH AT CCTV CABINET	NETWORK SWITCH CABLE BACKBONE SHALL BE VIA 6 STRAND SINGLE MODE FIBER OPTIC CABLE TO OPERATIONS BUILDING IT RM	24 HOURS WITH MOTION AT 30 FPS	30 DAYS
5	S-05	WP VANDAL RESISTANT FIXED IP 5 MEGAPIXEL HD BULLET CAMERA AVIGILON 5.0-H4A-BO1-IR	4.3 - 8 mm	CAT 6 CABLE TO POLE MOUNTED CCTV CABINET AT POLE BASE	POLE MOUNTED WITH AVIGILON H4-BO-JBOX 1 ANDH4-MT-POLE1	SOUTHEAST SIDE OF PARKING SITE LOOKING NORTHWEST	AE1-101	POLE BASE MOUNTED CCTV CABINET	PoE SWITCH AT CCTV CABINET	NETWORK SWITCH CABLE BACKBONE SHALL BE VIA 6 STRAND SINGLE MODE FIBER OPTIC CABLE TO OPERATIONS BUILDING IT RM	24 HOURS WITH MOTION AT 30 FPS	30 DAYS
6	S-06	WP VANDAL RESISTANT FIXED IP 5 MEGAPIXEL HD BULLET CAMERA AVIGILON 5.0-H4A-BO1-IR	4.3 - 8 mm	CAT 6 CABLE TO POLE MOUNTED CCTV CABINET AT POLE BASE	POLE MOUNTED WITH AVIGILON H4-BO-JBOX 1 ANDH4-MT-POLE1	SOUTHEAST SIDE OF PARKING SITE LOOKING EAST	AE1-101	POLE BASE MOUNTED CCTV CABINET	PoE SWITCH AT CCTV CABINET	NETWORK SWITCH CABLE BACKBONE SHALL BE VIA 6 STRAND SINGLE MODE FIBER OPTIC CABLE TO OPERATIONS BUILDING IT RM	24 HOURS WITH MOTION AT 30 FPS	30 DAYS
7	S-07	WP VANDAL RESISTANT FIXED IP 5 MEGAPIXEL HD BULLET CAMERA AVIGILON 5.0-H4A-BO1-IR	4.3 - 8 mm	CAT 6 CABLE TO POLE MOUNTED CCTV CABINET AT POLE BASE	POLE MOUNTED WITH AVIGILON H4-BO-JBOX 1 ANDH4-MT-POLE1	SOUTHEAST SIDE OF OPERATIONS BUILDING SITE LOOKING NORTHEAST	AE1-101	POLE BASE MOUNTED CCTV CABINET	PoE SWITCH AT CCTV CABINET	NETWORK SWITCH CABLE BACKBONE SHALL BE VIA 6 STRAND SINGLE MODE FIBER OPTIC CABLE TO OPERATIONS BUILDING IT RM	24 HOURS WITH MOTION AT 30 FPS	30 DAYS
8	S-08	WP VANDAL RESISTANT FIXED IP 5 MEGAPIXEL HD BULLET CAMERA AVIGILON 5.0-H4A-BO1-IR	4.3 - 8 mm	CAT 6 CABLE TO POLE MOUNTED CCTV CABINET AT POLE BASE	POLE MOUNTED WITH AVIGILON H4-BO-JBOX 1 ANDH4-MT-POLE1	SOUTHEAST SIDE OF OPERATIONS BUILDING SITE LOOKING NORTHWEST	AE1-101	POLE BASE MOUNTED CCTV CABINET	PoE SWITCH AT CCTV CABINET	NETWORK SWITCH CABLE BACKBONE SHALL BE VIA 6 STRAND SINGLE MODE FIBER OPTIC CABLE TO OPERATIONS BUILDING IT RM	24 HOURS WITH MOTION AT 30 FPS	30 DAYS
9	S-09	WP VANDAL RESISTANT FIXED IP 5 MEGAPIXEL HD BULLET CAMERA AVIGILON 5.0-H4A-BO1-IR	4.3 - 8 mm	CAT 6 CABLE TO POLE MOUNTED CCTV CABINET AT POLE BASE	POLE MOUNTED WITH AVIGILON H4-BO-JBOX 1 ANDH4-MT-POLE1	SOUTHWEST SIDE OF STORAGE BUILDING SITE LOOKING NORTHEAST	AE1-101	POLE BASE MOUNTED CCTV CABINET	PoE SWITCH AT CCTV CABINET	NETWORK SWITCH CABLE BACKBONE SHALL BE VIA 6 STRAND SINGLE MODE FIBER OPTIC CABLE TO OPERATIONS BUILDING IT RM	24 HOURS WITH MOTION AT 30 FPS	30 DAYS
10	S-10	WP VANDAL RESISTANT FIXED IP 5 MEGAPIXEL HD BULLET CAMERA AVIGILON 5.0-H4A-BO1-IR	4.3 - 8 mm	CAT 6 CABLE TO POLE MOUNTED CCTV CABINET AT POLE BASE	POLE MOUNTED WITH AVIGILON H4-BO-JBOX 1 ANDH4-MT-POLE1	SOUTHWEST SIDE OF STORAGE BUILDING SITE LOOKING NORTHWEST	AE1-101	POLE BASE MOUNTED CCTV CABINET	PoE SWITCH AT CCTV CABINET	NETWORK SWITCH CABLE BACKBONE SHALL BE VIA 6 STRAND SINGLE MODE FIBER OPTIC CABLE TO OPERATIONS BUILDING IT RM	24 HOURS WITH MOTION AT 30 FPS	30 DAYS

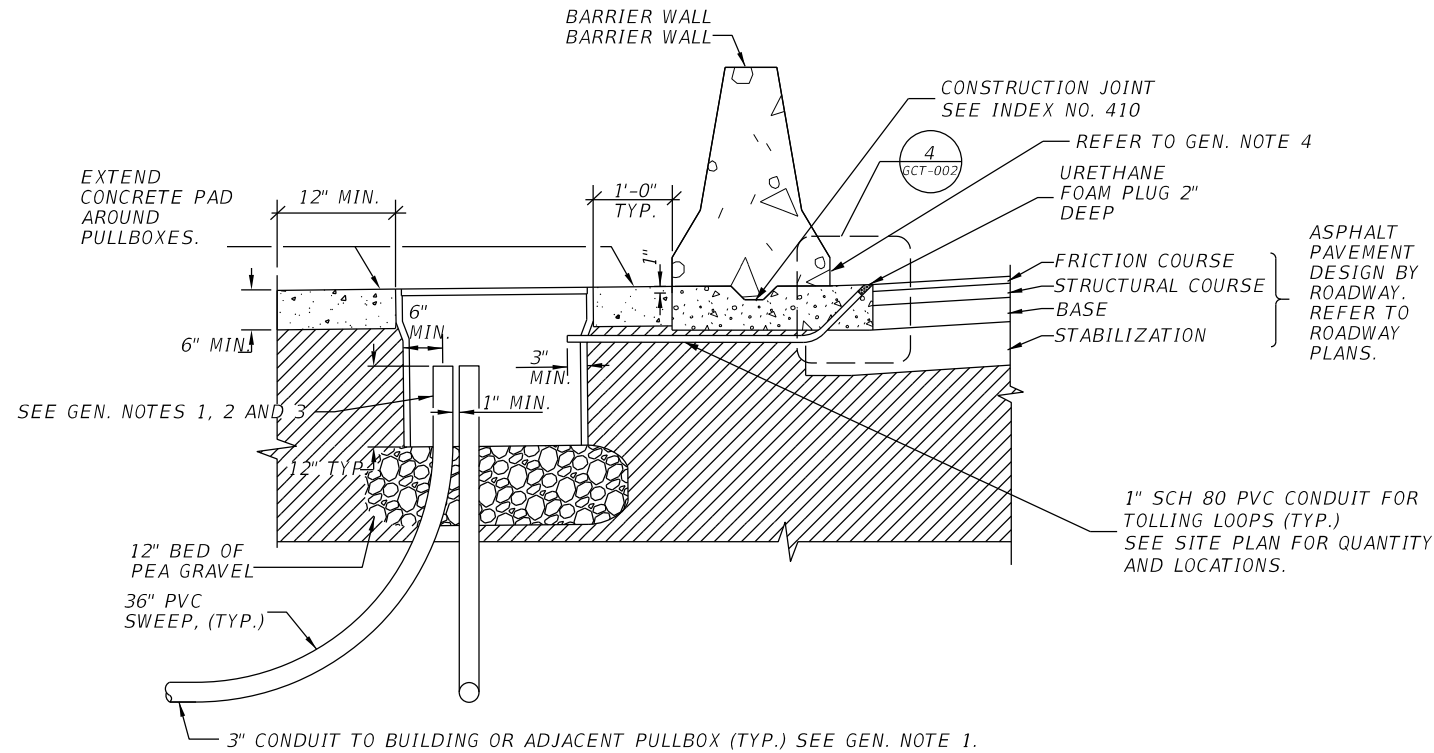
NOTE: CCTV CAMERAS (ONLY) ARE FURNISHED AND INSTALLED BY FTE.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY SITE PLAN SITE CCTV MATRIX	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		GE-1
					NA	POLK	437300-1-52-01		





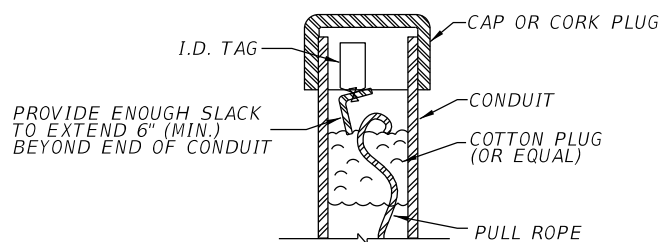
1 LOOP PULL BOX - TYPICAL PLAN
SCALE: N.T.S.



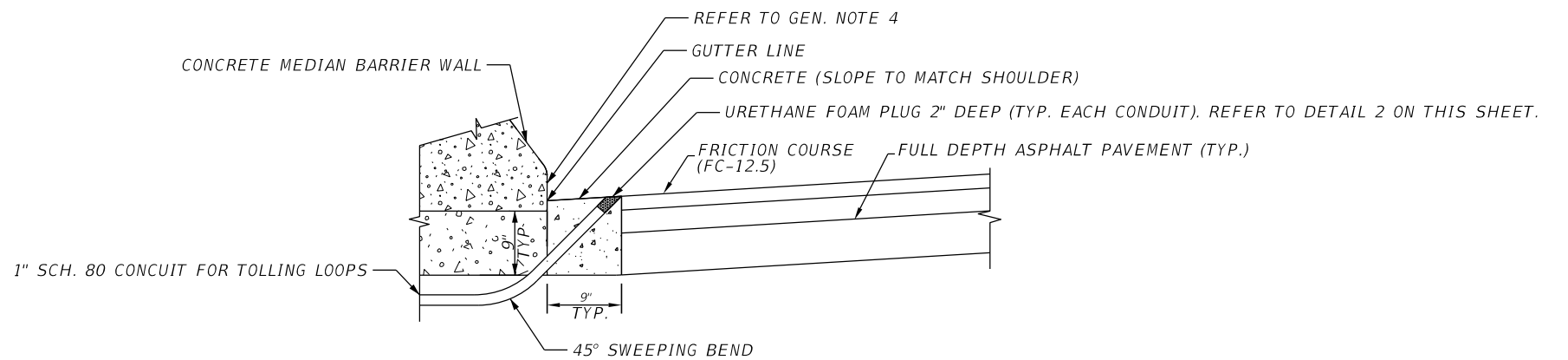
2 LOOP PULL BOX - TYPICAL SECTION
SCALE: N.T.S.

GENERAL NOTES:

1. SEAL BOTH ENDS OF CONDUIT WITH NON-CONDUCTING SEALING COMPOUND MANUFACTURED FOR THAT PURPOSE. PROVIDED PULL ROPE WITH ID TAG.
2. CAPPED CONDUIT SHOWN. USE SIMILAR INSTALLATION WITH COUPLING AND URETHANE FOAM PLUG. REFER TO DETAIL 3 FOR LANE LOOP STUB-OUT CONDUITS.
3. I.D. TAG TO INCLUDE FOLLOWING INFORMATION: NAME OF CONDUIT SYSTEM INTENDED EQUIPMENT OR DEVICE SERVED LOCATION OF OTHER END OF RUN.
4. PERFORM ONE TO EIGHT (DEPENDENT ON LANE CONFIGURATION) 1/4" DEEP BY 3" HIGH SAWCUTS, 9" APART, AT THE BOTTOM FACE OF BARRIER WALL FOR EASE OF LOCATING CONDUIT STUB UPS. REFER TO NOTE 6 ON GCT-002.

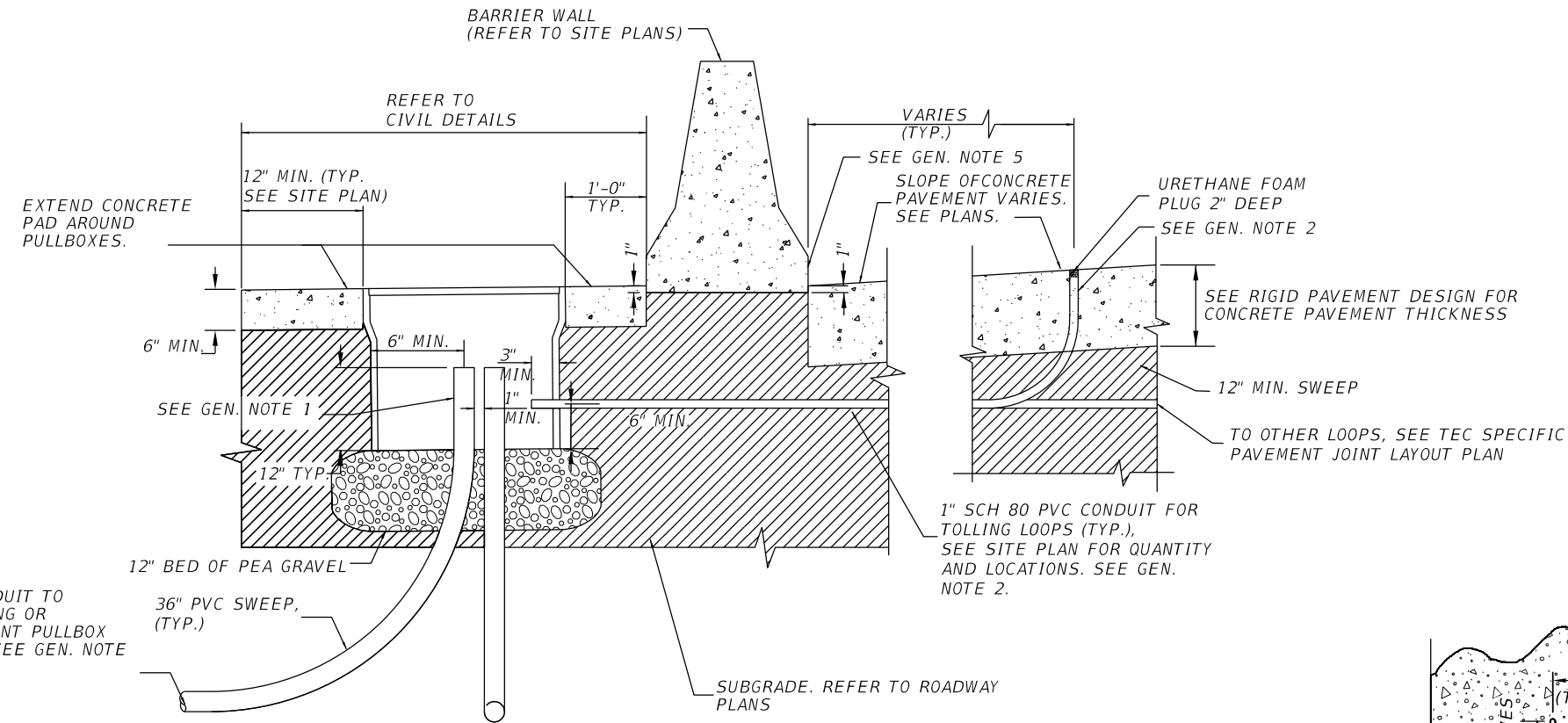


3 EMPTY CONDUIT PULL ROPE AND IDENTIFICATION DETAIL
SCALE: N.T.S.



4 LANE CONDUIT STUB-OUT DETAIL
SCALE: N.T.S.

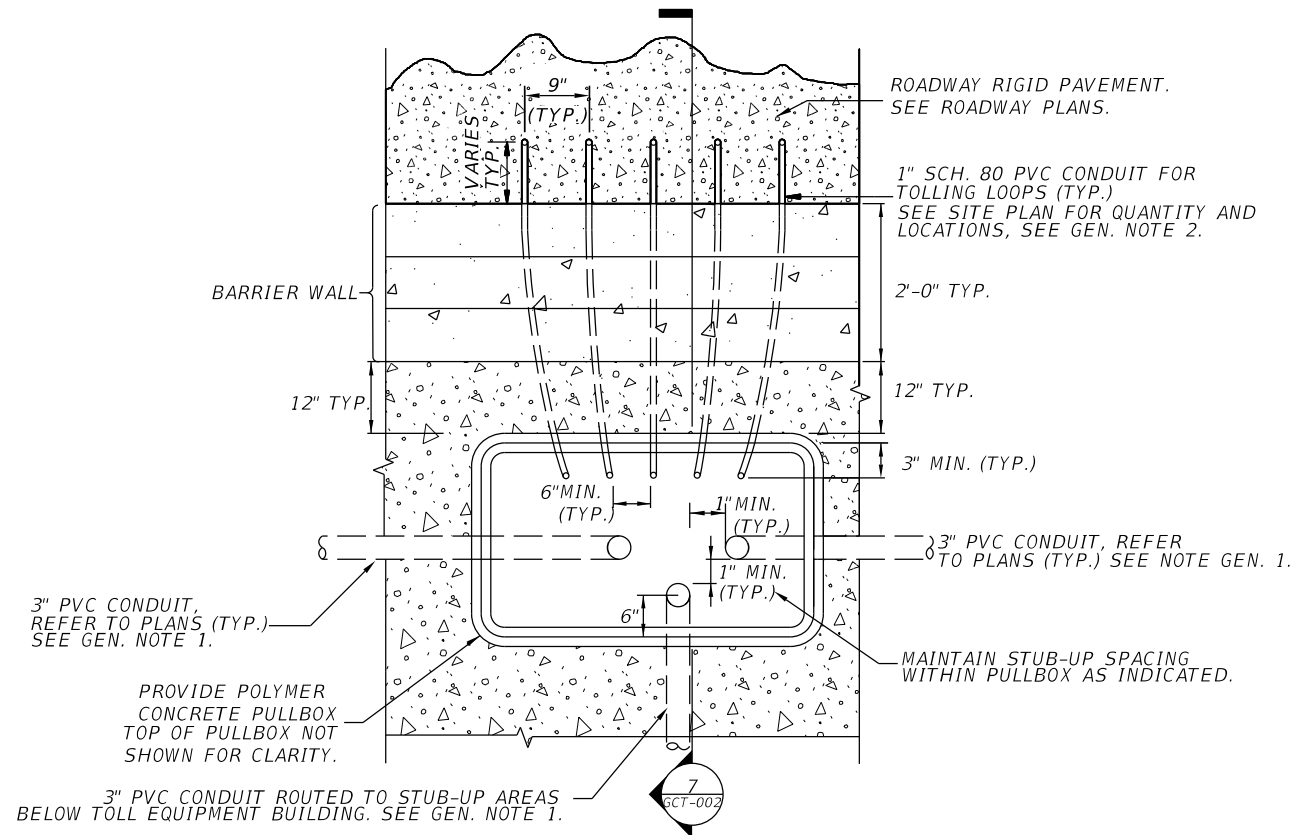
REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY LOOP PULL BOX DETAILS (1 OF 2)		SHEET NO. GCT-001
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			



7
GCT-002 LOOP PULL BOX - TYPICAL SECTION
SCALE: N.T.S.

GENERAL NOTES:

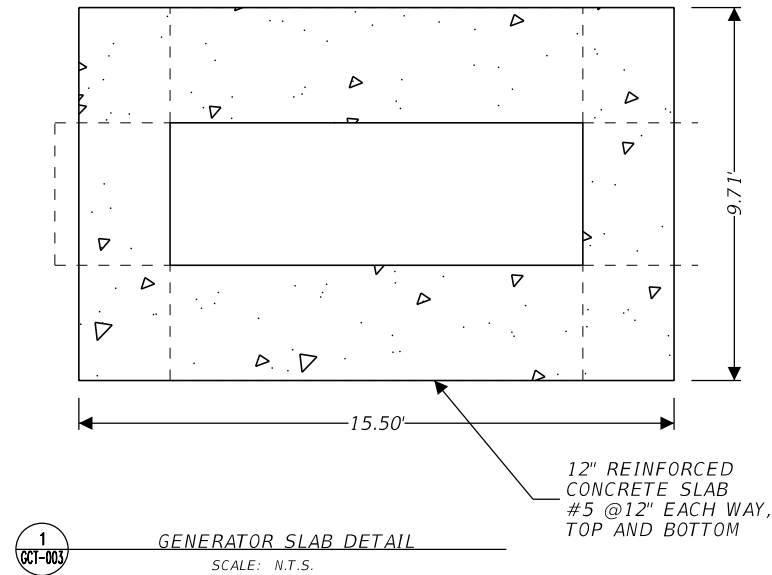
1. SEAL BOTH END OF CONDUIT WITH NON-CONDUCTING SEALING COMPOUND MANUFACTURED FOR THAT PURPOSE.
2. COORDINATE STUB-UP LOCATIONS WITH DEPARTMENT PRIOR TO DESIGN.
3. ALL CONDUIT AND PULLBOXES BY CONTRACTOR. LOOP SAWCUTTING AND WIRING BY THE TOLL EQUIPMENT CONTRACTOR.
4. THERE SHALL BE A MINIMUM OF (7) LOOP PULLBOXES PER TOLLING MOVEMENT.
5. PERFORM ONE TO EIGHT (DEPENDENT ON LANE CONFIGURATION) 1/4" BY 3" HIGH SAWCUTS, 9" APART, AT THE BOTTOM FACE OF BARRIER WALL FOR EASE OF LOCATING CONDUIT STUB UPS.
6. THE NUMBER OF 1" STUB-UP CONDUITS FOR EACH LOOP PULLBOX DEPENDS ON THE NUMBER OF LANES AND SHOULDERS AND SHALL BE AS FOLLOWS:
 - 6 LANES/2 SHOULDERS: EIGHT 1" CONDUITS.
 - 5 LANES/2 SHOULDERS: SEVEN 1" CONDUITS.
 - 4 LANES/2 SHOULDERS: SIX 1" CONDUITS.
 - ALL OTHER CROSS SECTIONS: FIVE 1" CONDUITS, MINIMUM.



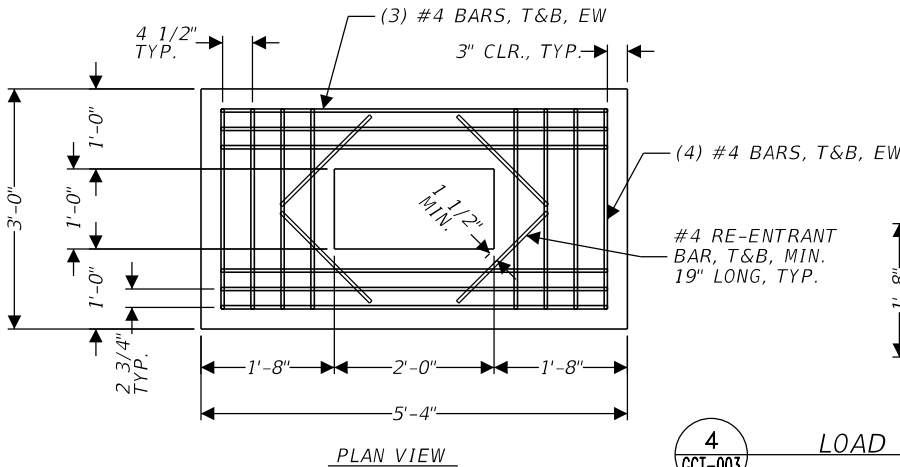
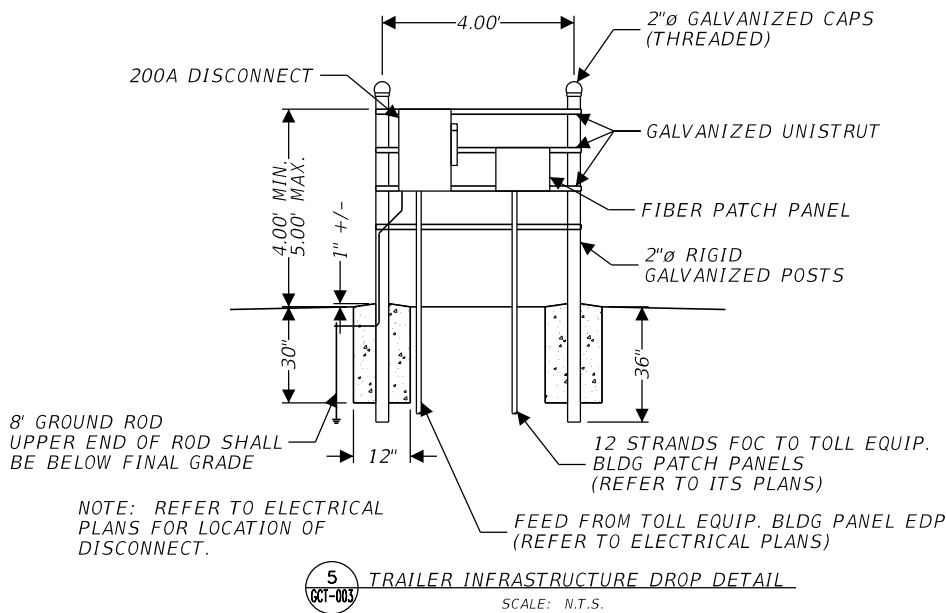
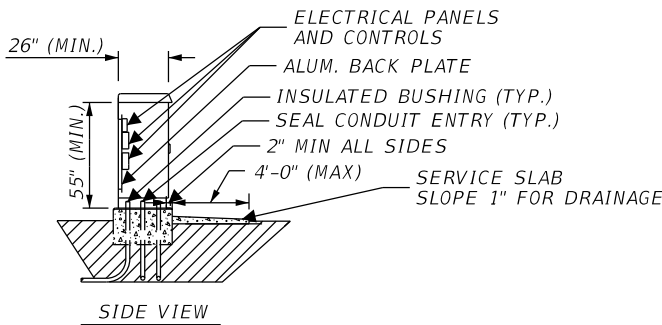
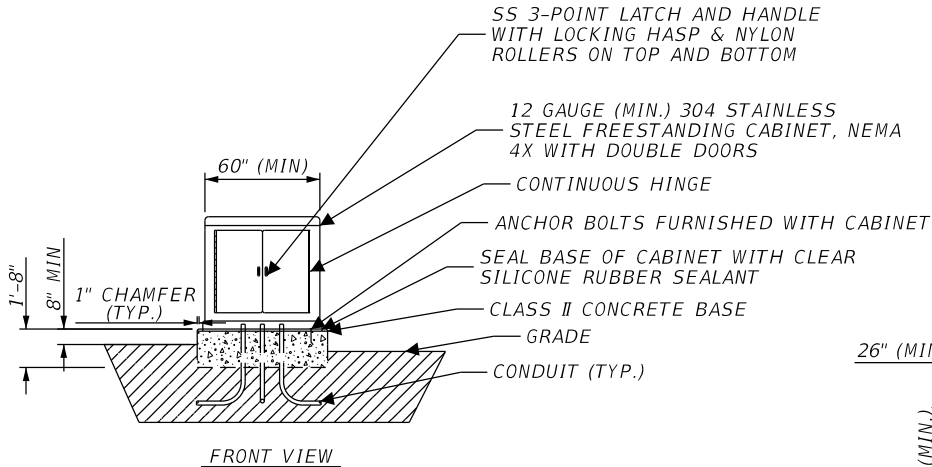
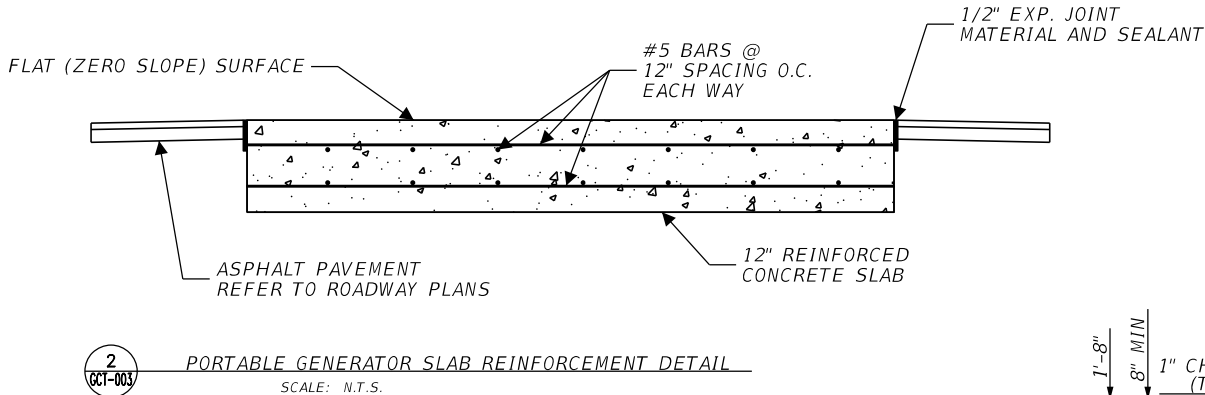
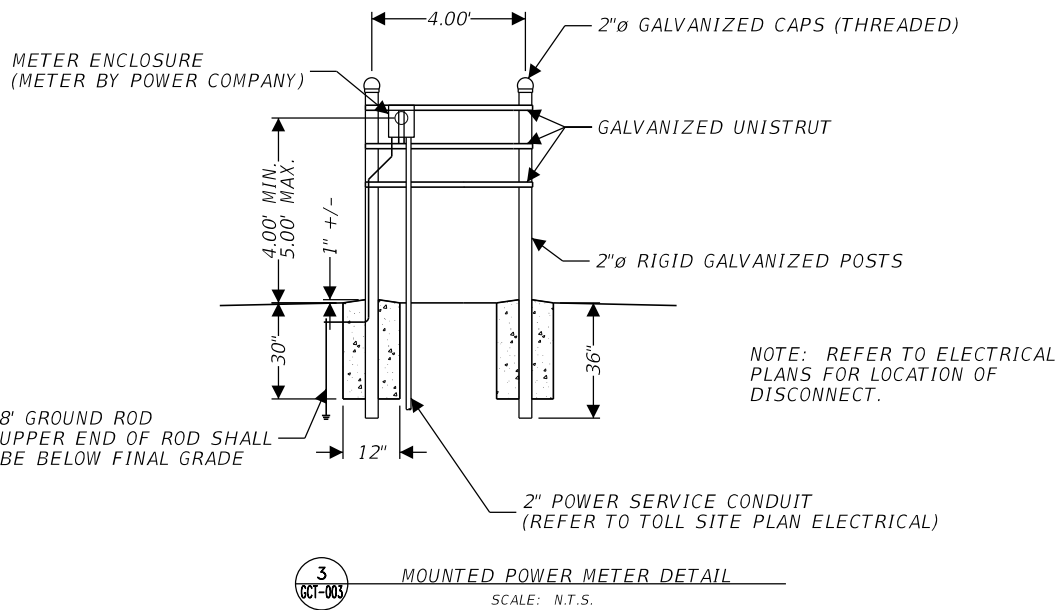
6
GCT-002 LOOP PULL BOX - TYPICAL PLAN
SCALE: N.T.S.

REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY LOOP PULL BOX DETAILS (2 OF 2)		SHEET NO. GCT-002
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			

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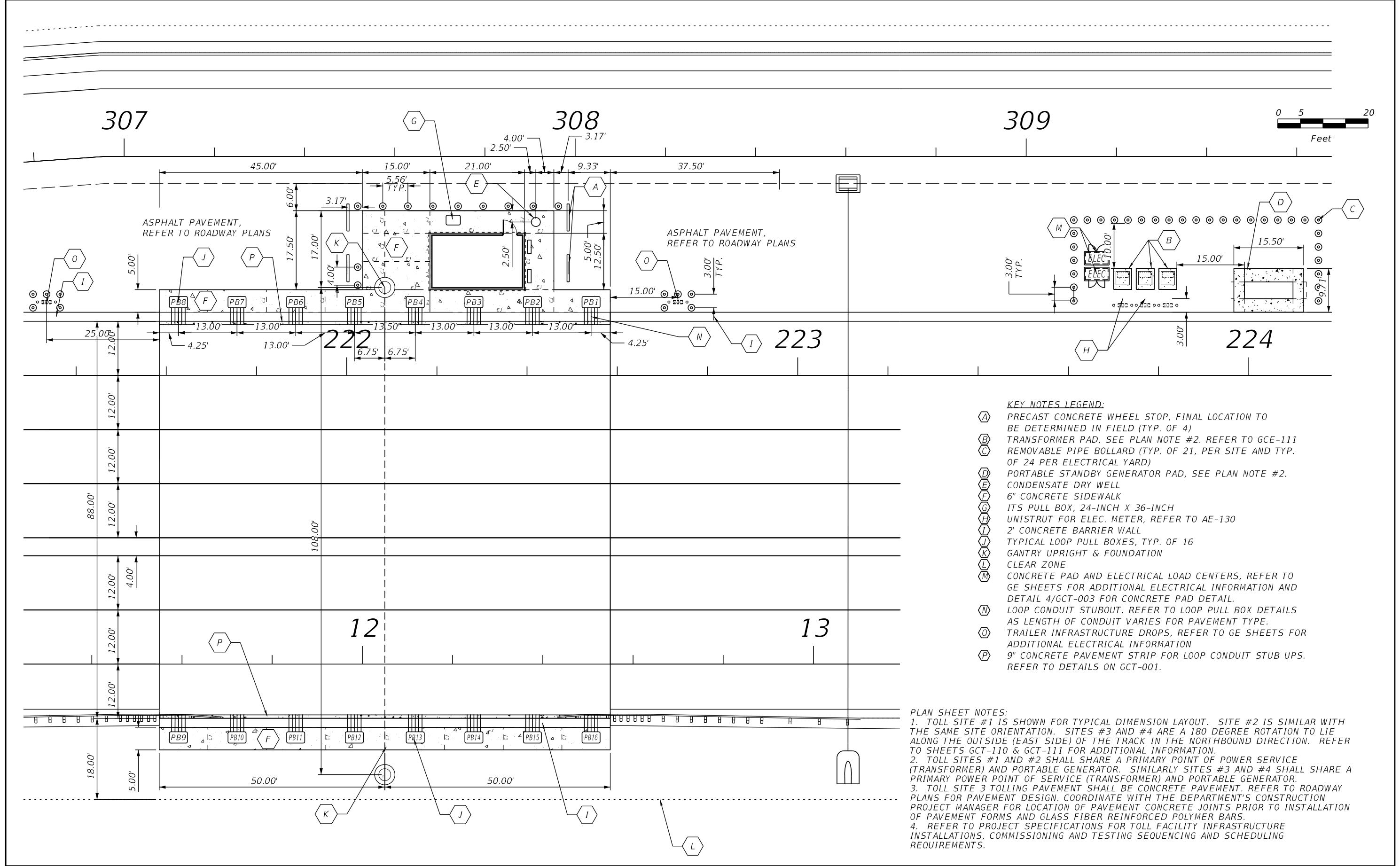
- GENERATOR SLAB NOTE**
1. CONCRETE STRENGTH: 3,000 PSI @ 28 DAYS (REFER TO STD. SPEC 347)
 2. REFER TO SHEETS GC-004 AND GC-005 FOR ADDITIONAL NOTES AND REQUIREMENTS



4
LOAD CENTER ENCLOSURE DETAIL
SCALE: N.T.S.

REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TYPICAL TOLL SITE DETAILS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		GCT-003
					NA	POLK	437300-1-52-01		

THE OFFICAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



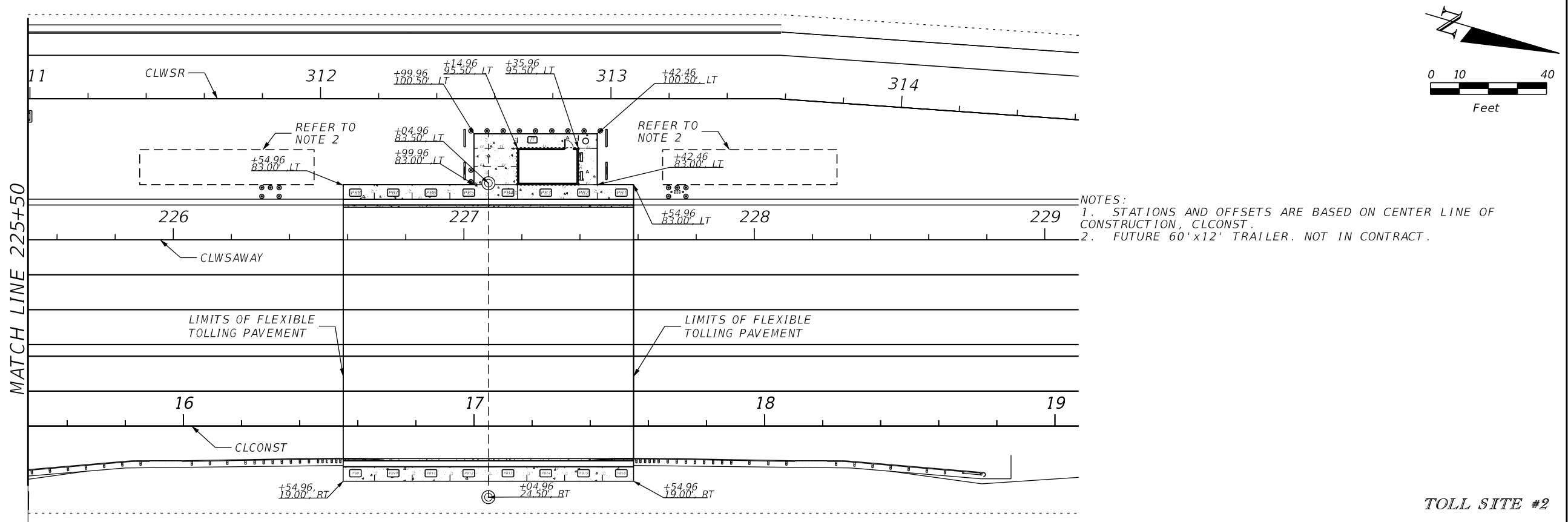
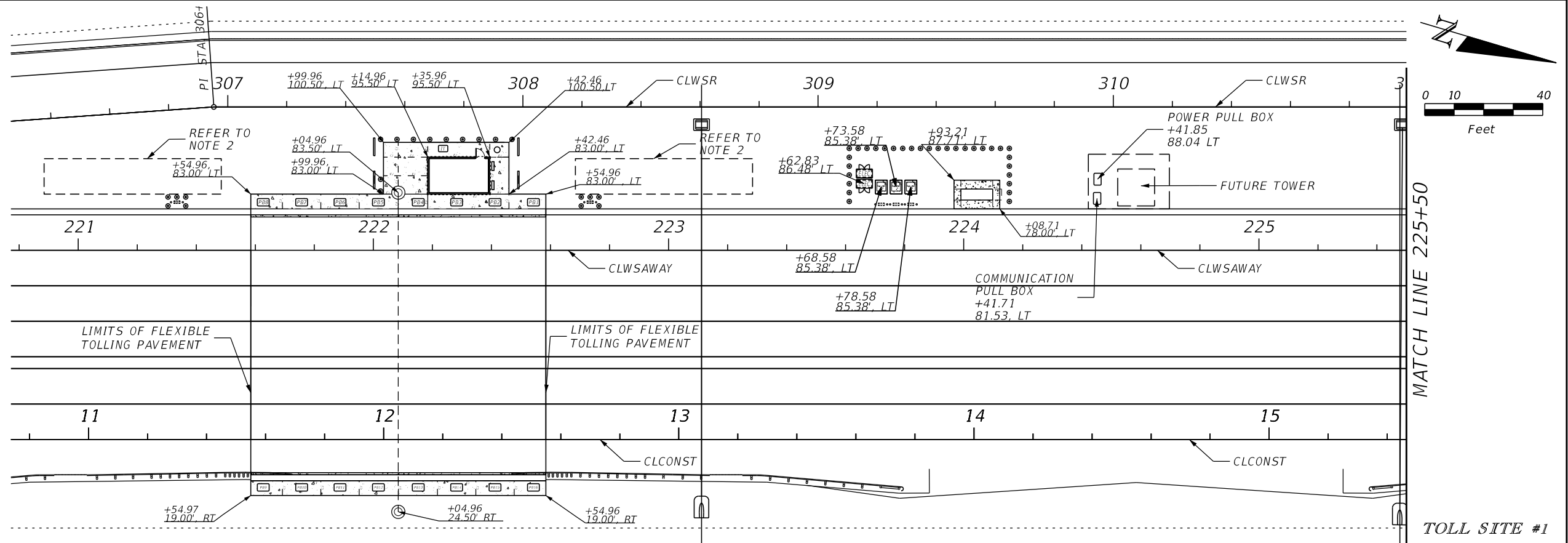
- KEY NOTES LEGEND:**
- (A) PRECAST CONCRETE WHEEL STOP, FINAL LOCATION TO BE DETERMINED IN FIELD (TYP. OF 4)
 - (B) TRANSFORMER PAD, SEE PLAN NOTE #2. REFER TO GCE-111
 - (C) REMOVABLE PIPE BOLLARD (TYP. OF 21, PER SITE AND TYP. OF 24 PER ELECTRICAL YARD)
 - (D) PORTABLE STANDBY GENERATOR PAD, SEE PLAN NOTE #2.
 - (E) CONDENSATE DRY WELL
 - (F) 6" CONCRETE SIDEWALK
 - (G) ITS PULL BOX, 24-INCH X 36-INCH
 - (H) UNISTRUT FOR ELEC. METER, REFER TO AE-130
 - (I) 2' CONCRETE BARRIER WALL
 - (J) TYPICAL LOOP PULL BOXES, TYP. OF 16
 - (K) GANTRY UPRIGHT & FOUNDATION
 - (L) CLEAR ZONE
 - (M) CONCRETE PAD AND ELECTRICAL LOAD CENTERS, REFER TO GE SHEETS FOR ADDITIONAL ELECTRICAL INFORMATION AND DETAIL 4/GCT-003 FOR CONCRETE PAD DETAIL.
 - (N) LOOP CONDUIT STUBOUT. REFER TO LOOP PULL BOX DETAILS AS LENGTH OF CONDUIT VARIES FOR PAVEMENT TYPE.
 - (O) TRAILER INFRASTRUCTURE DROPS, REFER TO GE SHEETS FOR ADDITIONAL ELECTRICAL INFORMATION
 - (P) 9" CONCRETE PAVEMENT STRIP FOR LOOP CONDUIT STUB UPS. REFER TO DETAILS ON GCT-001.

PLAN SHEET NOTES:

- TOLL SITE #1 IS SHOWN FOR TYPICAL DIMENSION LAYOUT. SITE #2 IS SIMILAR WITH THE SAME SITE ORIENTATION. SITES #3 AND #4 ARE A 180 DEGREE ROTATION TO LIE ALONG THE OUTSIDE (EAST SIDE) OF THE TRACK IN THE NORTHBOUND DIRECTION. REFER TO SHEETS GCT-110 & GCT-111 FOR ADDITIONAL INFORMATION.
- TOLL SITES #1 AND #2 SHALL SHARE A PRIMARY POINT OF POWER SERVICE (TRANSFORMER) AND PORTABLE GENERATOR. SIMILARLY SITES #3 AND #4 SHALL SHARE A PRIMARY POWER POINT OF SERVICE (TRANSFORMER) AND PORTABLE GENERATOR.
- TOLL SITE 3 TOLLING PAVEMENT SHALL BE CONCRETE PAVEMENT. REFER TO ROADWAY PLANS FOR PAVEMENT DESIGN. COORDINATE WITH THE DEPARTMENT'S CONSTRUCTION PROJECT MANAGER FOR LOCATION OF PAVEMENT CONCRETE JOINTS PRIOR TO INSTALLATION OF PAVEMENT FORMS AND GLASS FIBER REINFORCED POLYMER BARS.
- REFER TO PROJECT SPECIFICATIONS FOR TOLL FACILITY INFRASTRUCTURE INSTALLATIONS, COMMISSIONING AND TESTING SEQUENCING AND SCHEDULING REQUIREMENTS.

REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TYPICAL TOLL SITE GEOMETRY PLAN	SHEET NO. GCT-100
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

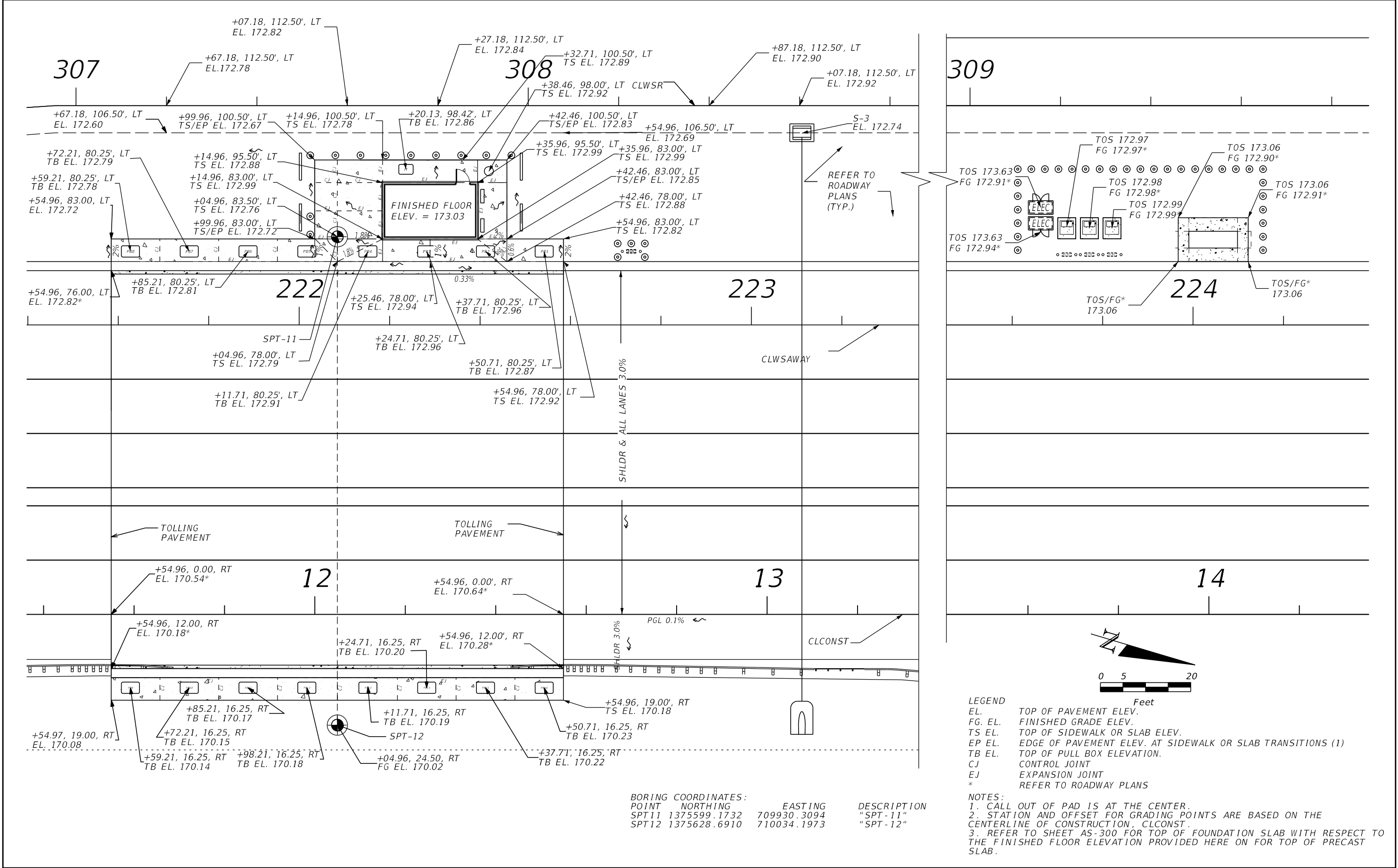
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



- NOTES:
1. STATIONS AND OFFSETS ARE BASED ON CENTER LINE OF CONSTRUCTION, CLCONST.
 2. FUTURE 60'x12' TRAILER. NOT IN CONTRACT.

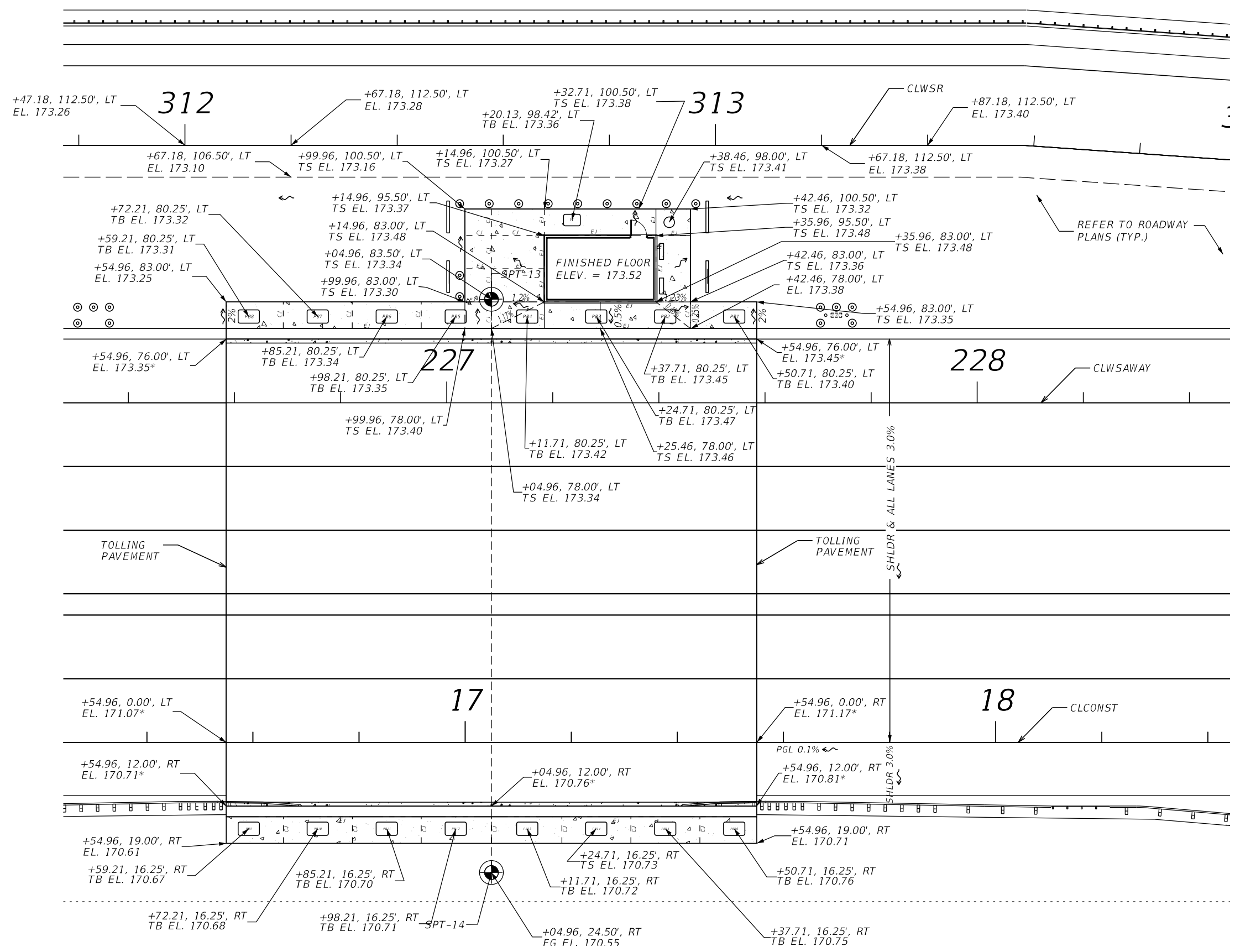
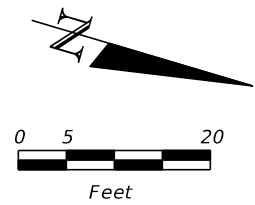
REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL SITE #1 & #2 SITE PLAN		SHEET NO. GCT-110
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

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- LEGEND
- EL. TOP OF PAVEMENT ELEV.
 - FG. EL. FINISHED GRADE ELEV.
 - TS EL. TOP OF SIDEWALK OR SLAB ELEV.
 - EP EL. EDGE OF PAVEMENT ELEV. AT SIDEWALK OR SLAB TRANSITIONS (1)
 - TB EL. TOP OF PULL BOX ELEVATION.
 - CJ CONTROL JOINT
 - EJ EXPANSION JOINT
 - * REFER TO ROADWAY PLANS

- NOTES:
1. STATION AND OFFSET FOR GRADING POINTS ARE BASED ON THE CENTER LINE OF CONSTRUCTION, CLCONST
 2. CALL OUT OF THE PAD IS AT THE CENTER.
 3. REFER TO SHEET AS-300 FOR TOP OF FOUNDATION SLAB WITH RESPECT TO THE FINISHED FLOOR ELEVATION PROVIDED HERE ON FOR TOP OF PRECAST SLAB.

BORING COORDINATES:

POINT	NORTHING	EASTING	DESCRIPTION
SPT13	1376080.1360	709793.6540	"SPT-13"
SPT14	1376109.6538	709897.5419	"SPT-14"

REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL SITE #2 GRADING PLAN		SHEET NO. GCT-121
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			

THE OFFICAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

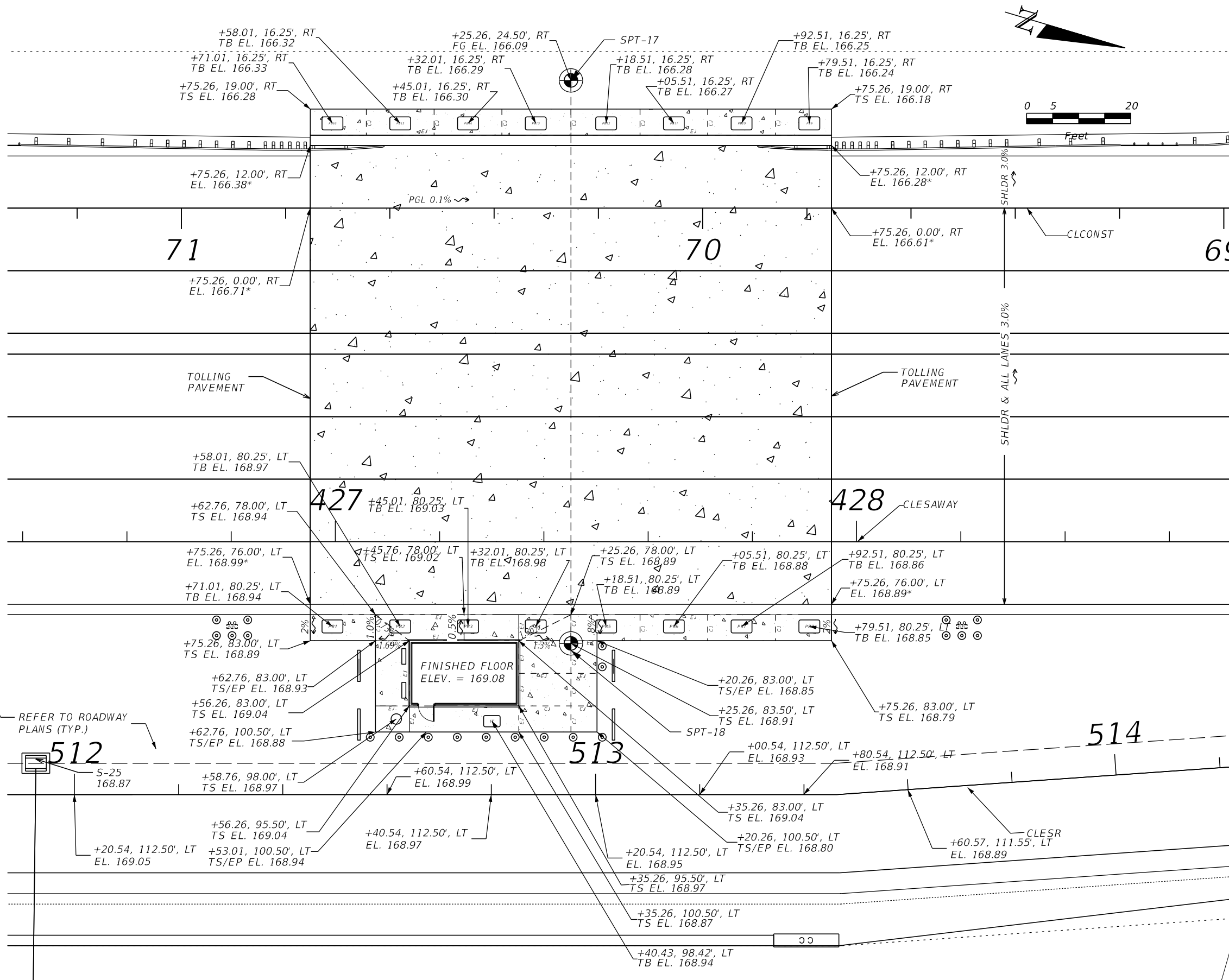
EL.	TOP OF PAVEMENT ELEV.
FG. EL.	FINISHED GRADE ELEV.
TS EL.	TOP OF SIDEWALK OR SLAB ELEV.
EP EL.	EDGE OF PAVEMENT ELEV. AT SIDEWALK OR SLAB TRANSITIONS (1)
TB EL.	TOP OF PULL BOX ELEVATION.
CJ	CONTROL JOINT
EJ	EXPANSION JOINT
*	REFER TO ROADWAY PLANS

1. WHEN TS ELEVATIONS ARE PROVIDED WITH NO CORRESPONDING EP ELEVATION, THEN TS ELEVATION EQUALS EP ELEVATION AND THE SURFACES ARE FLUSH.

2. STATIONS AND OFFSET FOR GRADING POINTS ARE BASED ON THE CENTERLINE OF CONSTRUCTION, CLCONST.

3. CALL OUT OF THE PAD IS AT THE CENTER.

4. REFER TO SHEET AS-300 FOR TOP OF FOUNDATION
SLAB WITH RESPECT TO THE FINISHED FLOOR
ELEVATION PROVIDED HERE ON FOR TOP OF PRECAST
SLAB.

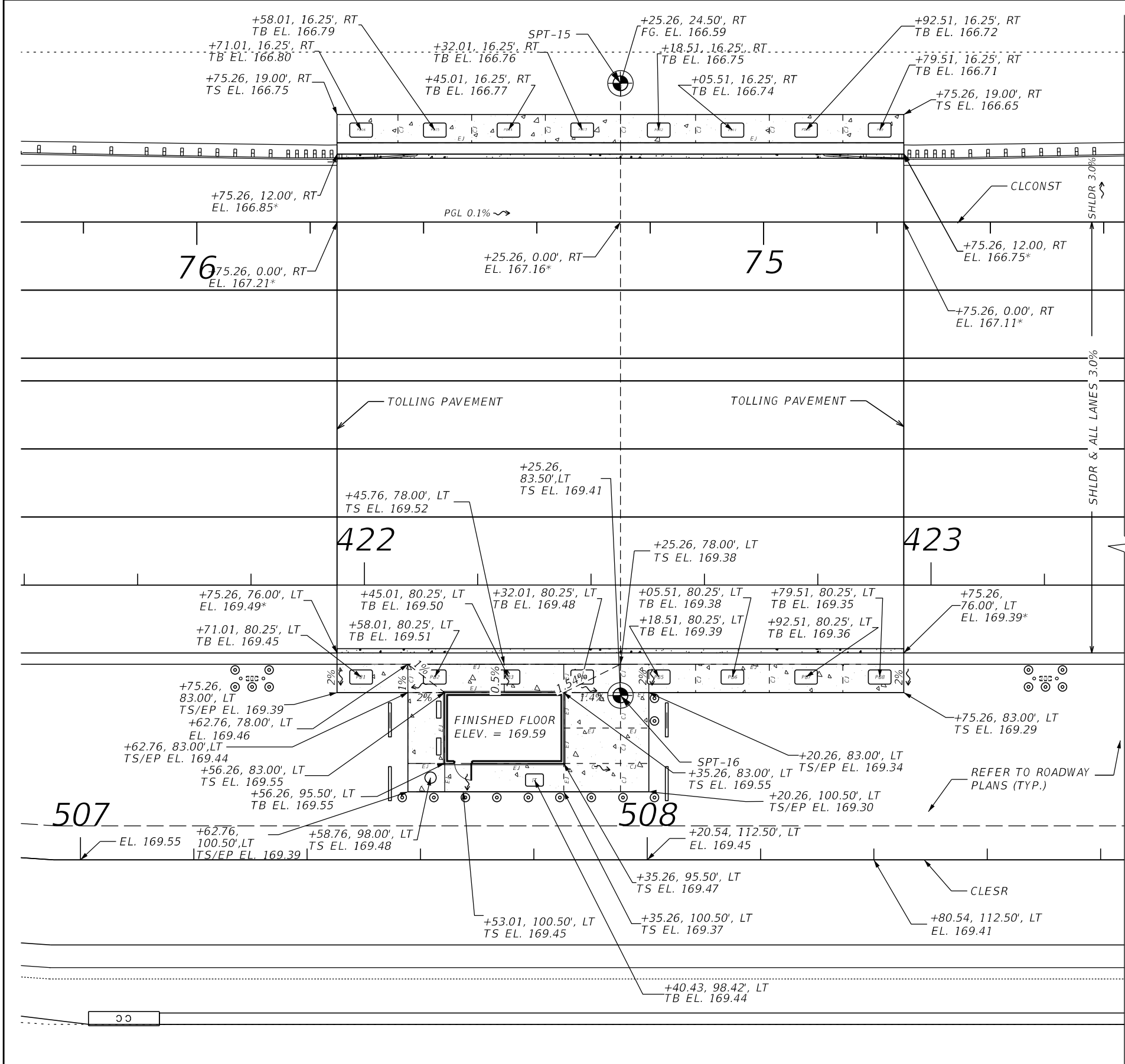


BORING COORDINATES:		
POINT	NORTHING	EASTING
SPT17	1376618.2854	711687.6857
SPT18	1376647.8031	711791.5736

DESCRIPTION
"SPT - 17"
"SPT - 18"

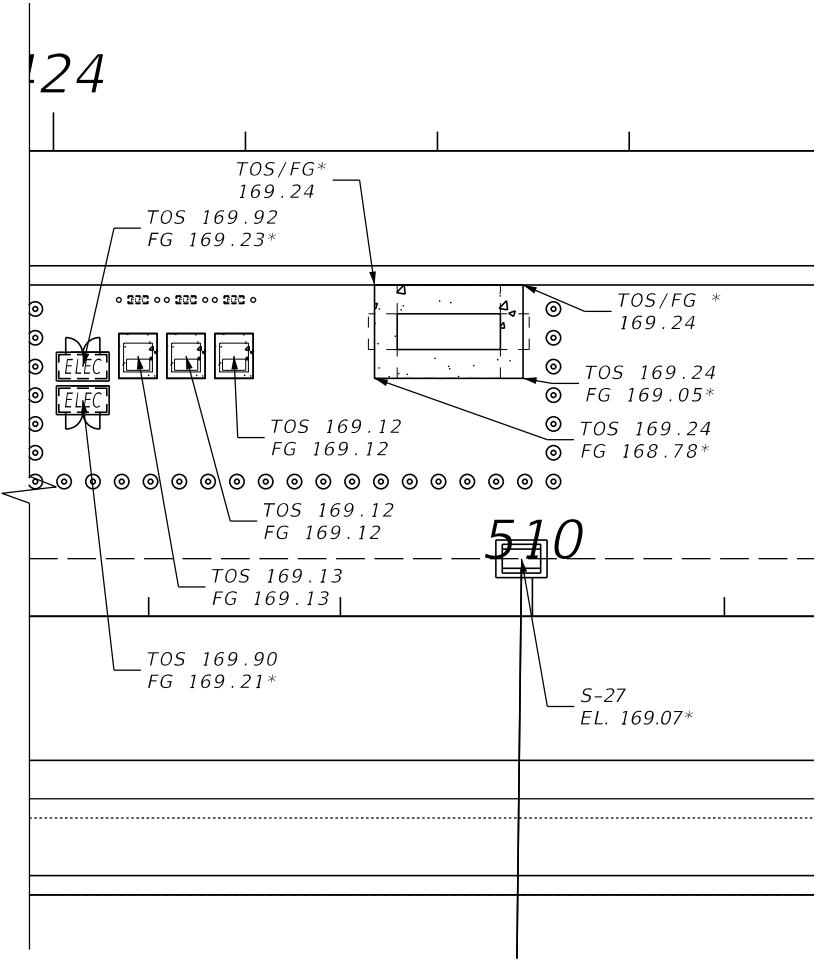
REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL SITE #3 GRADING PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		GCT-12

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- LEGEND**
- EL. TOP OF PAVEMENT ELEV.
FG. EL. FINISHED GRADE ELEV.
TS EL. TOP OF SIDEWALK OR SLAB ELEV.
EP EL. EDGE OF PAVEMENT ELEV. AT SIDEWALK OR SLAB TRANSITIONS (1)
TB EL. TOP OF PULL BOX ELEVATION.
CJ CONTROL JOINT
EJ EXPANSION JOINT
* REFER TO ROADWAY PLANS
- NOTES:**
- WHEN TS ELEVATIONS ARE PROVIDED WITH NO CORRESPONDING EP ELEVATION, THEN TS ELEVATION EQUALS EP ELEVATION AND THE SURFACES ARE FLUSH.
 - STATIONS AND OFFSET FOR GRADING POINTS ARE BASED ON THE CENTERLINE OF CONSTRUCTION, CLCONST.
 - CALL OUT OF THE TRANSFORMER PAD IS THE AT THE CENTER.
 - REFER TO SHEET AS-300 FOR TOP OF FOUNDATION SLAB WITH RESPECT TO THE FINISHED FLOOR ELEVATION PROVIDED HERE ON FOR TOP OF PRECAST SLAB.

BORING COORDINATES:			
POINT	NORTHING	EASTING	DESCRIPTION
SPT15	1376137.3226	711824.3411	"SPT-15"
SPT16	1376166.8403	711928.2290	"SPT-16"



REVISIONS				MOLLY A DEVIVERO, P.E. P.E. NO.: 64860 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FL 32750 CERTIFICATE OF AUTHORIZATION: 5898	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL SITE #4 GRADING PLAN		SHEET NO. GCT-123
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			

THE OFFICAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

CONSTRUCTION SPECIFICATIONS:

1. Florida Department of Transportation Standard Specifications for Road and Bridge Construction, July 2016 Edition and supplements thereto.

DESIGN SPECIFICATIONS:

1. American Association of State Highway and Transportation Officials (AASHTO), "Standard Specifications for Highway Bridges" (17th Edition, with Interims thru 2005).
2. American Association of State Highway and Transportation Officials (AASHTO), "Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals" (LTS-6, 6th Edition).
3. The Aluminum Association Design Manual Specifications and Guidelines for Aluminum Structures (2010 Edition).
4. FDOT "Plans Preparation Manual" (January 2016 Edition).
5. AISC Manual of Steel Construction (Fourteenth Edition).
6. FDOT Structures Manual, January 2016.
7. Florida's Turnpike Enterprise "General Tolling Requirements" (GTR) Volume 1 dated July, 2016.
8. FDOT Design Standards, Dated 2016.

DESIGN LOADINGS:

1. Dead Loads:
- Structural steel = 490 PCF
 - Aluminum = 175 PCF
 - Concrete = 150 PCF
 - Toll equipment: Concentrated load of 67 lbs. at each equipment location
 - Electrical/data cable trays & Miscellaneous: Uniform load of 125 plf along the front two chords and 250 plf along the back chord.
2. Wind Loads:
- FDOT Structures Manual Vol. 3, Wind Speed (3-second gust) = 110 mph (50-year Mean Recurrence Level).
 - Fixed Signs and Support = (1) Future 10' x 12' Sign centered over combined travel lanes in each direction.

ALUMINUM:

1. All aluminum materials shall meet the requirements of the Aluminum Association's Alloy 6061-T6 for tubes, and also the following ASTM Specifications (unless otherwise noted):
- Sheets = 5052
 - Plates = B209
 - Extruded Tube, Bar, Rod and Shapes = B221
 - Structural Shapes = B308
2. Welding Rods shall meet the requirements of Aluminum Association Alloy No. 5556 Filler Wire.
3. The proportioning of weld details and the operation of welding shall be in accordance with the Current Edition of the AWS Structural Welding Code D1.2-Aluminum.

REINFORCING STEEL:

1. All Reinforcing Steel shall be ASTM A615, Grade 60.
2. All dimensions pertaining to location of reinforcing steel are to centerline of bars except where clear dimension is noted to face of concrete.
3. Reinforcing Steel detail dimensions are out-to-out of bars.
4. Cover on Reinforcing Steel as follows, unless noted otherwise:
- Substructure 3 in. External Formed Surfaces
 - Substructure 4 in. External Surfaces Cast Against Earth
 - Substructure 6 in. Drilled Shafts
5. Concrete cover shown in the plans does not include reinforcement placement and fabrication tolerances unless shown as "minimum cover". See FDOT Standard Specifications for Allowable Reinforcement Placement Tolerances.

CONCRETE:

1. Concrete (unless noted otherwise):

FDOT Concrete Class	Minimum 28-Day Compressive Strength (PSI)	Location
II	F'c = 3,400	Concrete In-Fill
IV (Drilled Shafts)	F'c = 4,000	Drilled Shafts

2. Provide 3/4" chamfers on all exposed edges, unless noted otherwise.
3. Construction joints will be permitted only at locations indicated on plans. Additional construction joints or alterations to those shown shall require written approval of the engineer.

DIMENSIONS AND ELEVATIONS:

1. All dimensions are measured horizontally and vertically unless noted otherwise.
2. All dimensions are measured at mean temperature of 70° F.
3. Elevations are in feet, and are based on the North American Vertical Datum (NAVD) of 1988.

STRUCTURAL STEEL:

1. Submit shop drawings for all work. Include:
- a. Field verification of all uprights heights.
 - b. Foundation elevations necessary to ensure minimum vertical clearance as per traffic plans.
 - c. Anchor bolt orientation with respect to centerline of truss and the direction of traffic.
 - d. The method to be used to provide the required parabolic camber
2. Shop fabrication, assembly, handling, and shipping:
- a. Do not begin fabrication before receiving shop drawing approval.
 - b. Welding: Conform to American Welding Society Structural Welding Code (Steel) ANSI/AWS D1.1 (current edition)
 - c. Shop assemble the entire structure after galvanizing and prior to shipment.
 - d. If necessary, disassemble and secure components for shipment.
3. Gantry structure materials:
- a. Upright and chords (steel pipe): API-5L-X42 (42 ksi yield) or ASTM A500, Grade B
 - b. Steel angles: ASTM A709, Grade 36
 - c. Steel plates: ASTM A709, Grade 36
 - d. Weld metal: E70XX
 - e. Bolts: ASTM A325-X Type 1, (install per specification section 700) with single self-locking nuts.
 - f. Anchor bolts: ASTM F1554, Grade 55 with ASTM A563 grade A heavy-hex double nuts.
 - g. Install all nuts per manufacturer's instructions.
 - h. Bolt hole diameters: equal to the bolt diameter plus 1/16".
 - i. Anchor bolt hole diameters: equal to the bolt diameter plus 1/2".
 - j. Use of split lock washers is not permitted.
4. Galvanization
- a. Nuts, bolts, and washers: ASTM F2329
 - b. Other steel items: ASTM A123
5. Prior to erection, record the as-built anchor locations and provide to the engineer.
6. Provide a parabolic camber with the maximum upward deflection as shown on the camber diagram.
7. Location chord splices a minimum three truss panel lengths apart. Upright and Column splices are not allowed.
8. Refer to FDOT standard index 11320 for additional span gantry structure details.
9. U-bolt material shall be as noted in the plans.

UTILITIES:

1. The utilities shown in the plans are at approximate locations. For additional information, refer to the roadway utilities plans.
2. Field verify utility locations before commencing with construction.
3. Ensure that any existing utilities that are not to be relocated are not endangered or disturbed during construction. Ensure all active utilities are properly maintained within the construction limits.

FDOT Structure No. ####										
REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY	SHEET NO.	
DATE	DESCRIPTION		DATE		DESCRIPTION		ROAD NO.		COUNTY	FINANCIAL PROJECT ID
							NA	POLK	437300-1-52-01	GX-003
					GENERAL NOTES (1 OF 2)					

FDOT Structure No. ####

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

STAINLESS STEEL:

1. Sheets shall conform to ASTM A555, type 316. Plates shall conform to ASTM A240, type 304L. U-bolts shall be type 316. Structural shapes shall conform to ASTM A276, type 316L.
2. The proportioning of weld details and the operation of welding shall be in accordance with the current edition of the AWS Structural Welding Code D1.6 – Stainless Steel.

SHOP DRAWINGS:

1. Submit shop drawings for all work. Include:

• Field verification of all upright heights

• All foundation elevations and the highest and lowest final pavement elevations of the gantry necessary to ensure minimum vertical clearance

• Anchor bolt orientation with respect to centerline of truss and the direction of traffic

• Equipment support elements

• The method used to provide the required parabolic camber

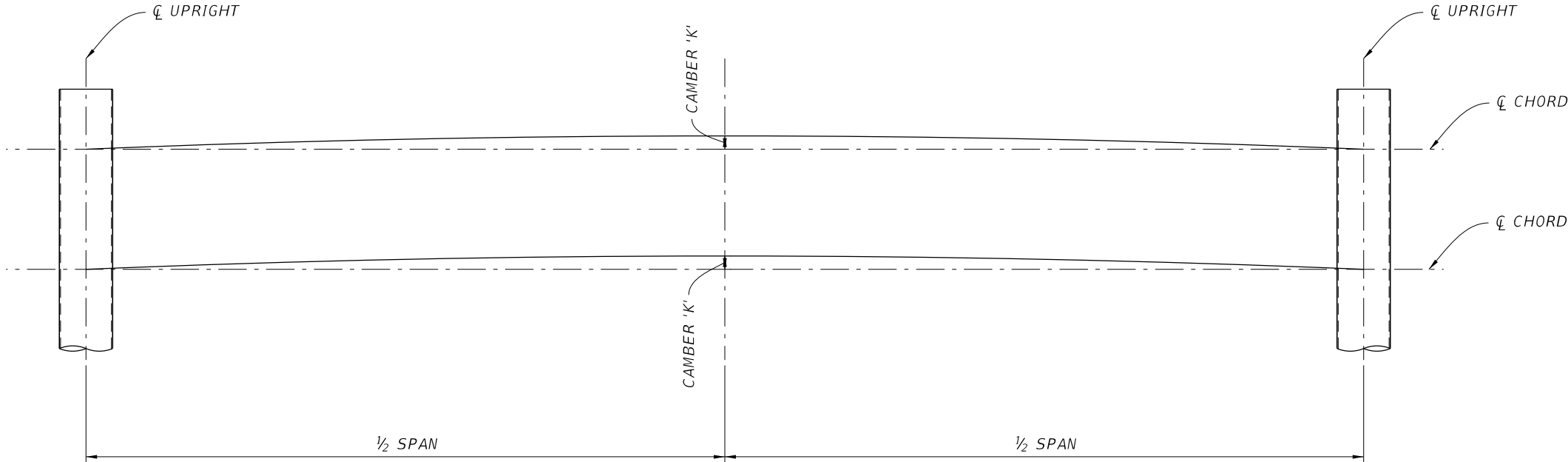
• Layout of the tolling equipment, field splices, W framing members, HSS 4.5" Ø pipe, and any other electrical equipment or structural member that could be in conflict with the toll equipment installation and operations.
2. Shop drawings shall be submitted showing the structural steel assembly and erection scheme.
3. Contractor shall submit the proposed erection procedures and details to the engineer for review and approval.

FABRICATION:

1. Fabrication shall not begin before shop drawing approval.
2. No field welding shall be permitted.
3. No shop welding splices of main chords or uprights shall be permitted.
4. Welding: Conform to American Welding Society Structural Welding Code (Steel) ANSI/AWS D1.1 (current edition).
5. The structure shall be shop assembled and inspected by the Department prior to shipping. Shop assembly shall occur after galvanization.
6. If necessary, disassemble and secure components for shipment.

LIST OF FREQUENTLY USED ABBREVIATIONS:
(For additional abbreviations refer to design standards index No. 001)

ASD	ALLOWABLE STRESS DESIGN
B.O.	BOTTOM OF
C.B.W.	CONCRETE BARRIER WALL
CJ	CONTROL JOINT
EB	EASTBOUND
EF	EACE FACE
EOL	EDGE OF LANE
ES	EACH SIDE
EW	END WALL
FB	FIELD BEND
FF	FAR FACE
GDR	GIRDER
HORIZ.	HORIZONTAL
IF	INSIDE FACE
LME	LOW MEMBER ELEVATION
LVC	LENGTH OF VERTICAL CURVE
MHC	MINIMUM HORIZONTAL DISTANCE
MVC	MINIMUM VERTICAL CLEARANCE
NF	NEAR FACE
OF	OUTSIDE FACE
OFM	OWNER FURNISHED MATERIAL
PMVC	POINT OF ACTUAL MINIMUM VERTICAL CLEARANCE
SBL	SLOPE BREAK LINE
SDG	STRUCTURES DESIGN GUIDELINES
SHLD	SHOULDER
SS	STAINLESS STEEL
TEC	TOLLING EQUIPMENT CONTRACTOR
T.O.	TOP OF
UNO	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
VES	VIOLATION ENFORCEMENT SYSTEM
VSS	VIDEO SURVEILLANCE SYSTEM
WL	WORK LINE
WP	WORK POINT



CAMBER NOTES:

1. CAMBER DIMENSION IS MEASURED TO THE HORIZONTAL CL OF THE CHORDS.
2. SEE GX-600 FOR 'K' VALUE.
3. BACK CHORD NOT SHOWN FOR CLARITY.

CAMBER DIAGRAM

REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY GENERAL NOTES (2 OF 2)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		GX-004

FDOT Structure No. ####

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

NOTES:

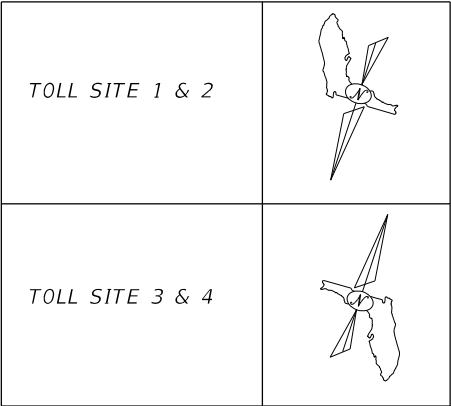
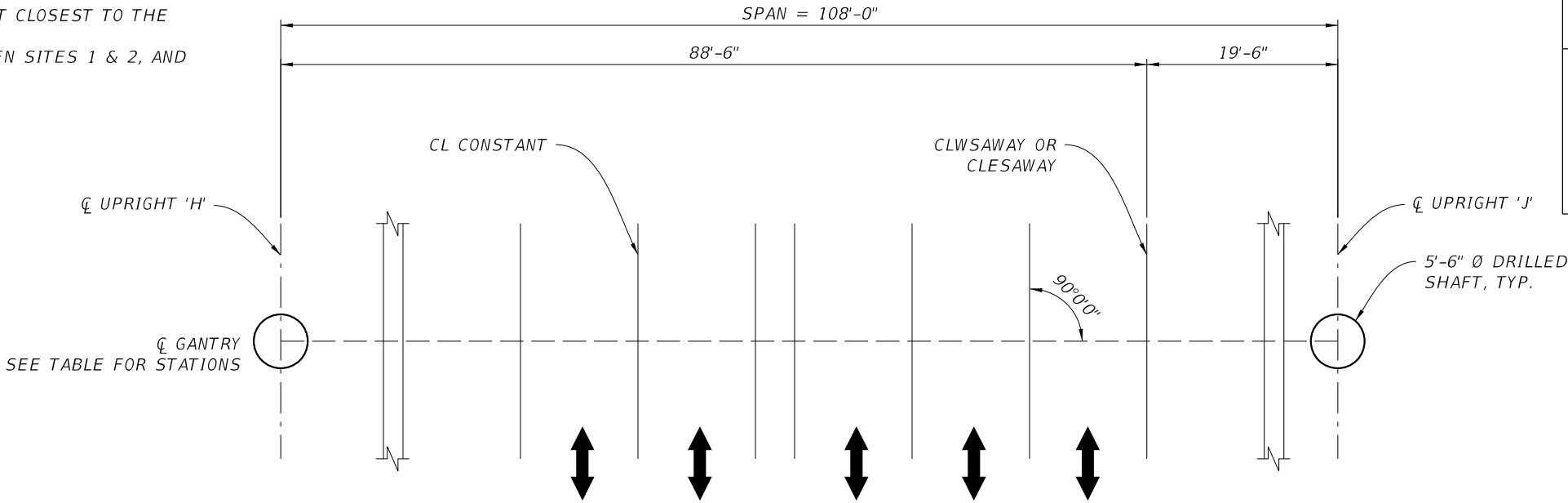
1.

WORK THIS SHEET WITH FDOT DESIGN STANDARD INDEX 11320. SEE GX-600 FOR SPAN STRUCTURE TOLLING EQUIPMENT DATA TABLE.
2.

LEFT AND RIGHT UPRIGHT DETERMINED WHEN FACING FRONT OF TRUSS.
3.

RIGHT UPRIGHT 'J' IS ALWAYS THE UPRIGHT CLOSEST TO THE TOLL EQUIPMENT BUILDING.
4.

DIRECTION OF STATIONING VARIES BETWEEN SITES 1 & 2, AND SITES 3 & 4.



SYMBOL LEGEND:



DRILLED SHAFT INSTALLATION NOTES:

1.

DRILLED SHAFTS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 455 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2.

FOR ADDITIONAL NOTES, SEE SHEET GX-003 & GX-004 "GENERAL NOTES."
3.

THE DRILLED SHAFTS SHALL BE INSTALLED TO MEET THE CRITERIA SET FORTH IN THE DRILLED SHAFT DATA TABLE.
4.

THE MINIMUM TIP ELEVATIONS SHOWN REPRESENT THE HIGHEST TIP ELEVATION NECESSARY TO SATISFY LATERAL STABILITY LOADING REQUIREMENTS. ANY REVISIONS MADE TO THE TIP ELEVATIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD, AND CONCURRED WITH BY THE DEPARTMENT.
5.

FOR ANCHOR BOLT SIZE AND PATTERN, SEE "SPAN STRUCTURE TOLLING EQUIPMENT DATA TABLE."
6.

IF VERTICAL SHAFT REINFORCEMENT IS REQUIRED TO BE SPLICED, REINFORCEMENT SHALL BE SPLICED BY MECHANICAL COUPLERS CAPABLE OF DEVELOPING 125% YIELD STRENGTH OF THE BARS BEING SPLICED. IF COUPLERS ARE REQUIRED, A 6" MINIMUM COVER SHALL BE MAINTAINED WITHIN THE LENGTH OF THE COUPLER. COUPLERS SHALL BE STAGGERED 2'-0" BETWEEN VERTICAL BARS. PROPOSED COUPLERS SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER. NO SPLICES WILL BE ALLOWED IN THE TOP 20 FEET OF THE SHAFTS.
7.

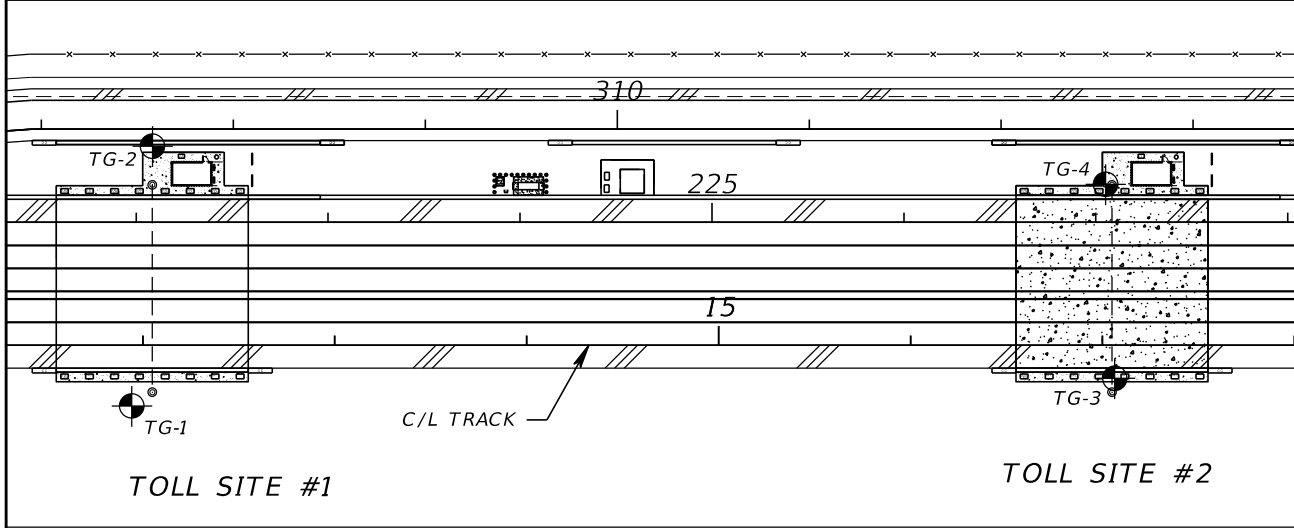
VERIFY CSL ACCESS TUBES WILL NOT INTERFERE WITH ANCHOR BOLT INSTALLATION BEFORE EXCAVATING THE SHAFT. WHEN CSL ACCESS TUBE LOCATIONS CONFLICT WITH ANCHOR BOLT LOCATIONS, MOVE THE CSL ACCESS TUBE LOCATION +/- TWO INCHES ALONG THE INNER CIRCUMFERENCE OF THE REINFORCING CAGE. NOTIFY THE ENGINEER BEFORE EXCAVATING THE SHAFT IF THE CSL ACCESS TUBE LOCATIONS CANNOT BE MOVED OUT OF CONFLICT WITH ANCHOR BOLT LOCATIONS.
8.

THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL UTILITIES AND NOTIFY ALL INVOLVED UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION, SHAFT DRILLING OR CONSTRUCTION AND SHALL BE RESPONSIBLE FOR MAKING ITS OWN DETERMINATION TO AVOID DAMAGE. ANY REQUIRED RELOCATION OF EXISTING UTILITIES SHALL BE DONE BY OTHERS. THE CONTRACTOR SHALL ENSURE THAT ACTIVE UTILITIES ARE PROPERLY MAINTAINED DURING CONSTRUCTION.

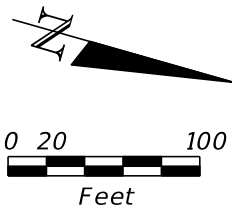
DRILLED SHAFT DATA TABLE				
GANTRY	STATION	UPRIGHT	TOP OF SHAFT ELEVATION	MINIMUM TIP ELEVATION
			FT	FT
#1	222+08.44	LEFT UPRIGHT 'H'	172.02	135.02
		RIGHT UPRIGHT 'J'	174.76	137.76
#2	227+08.44	LEFT UPRIGHT 'H'	172.55	135.55
		RIGHT UPRIGHT 'J'	175.34	138.34
#3	422+45.19	LEFT UPRIGHT 'H'	168.09	131.09
		RIGHT UPRIGHT 'J'	170.91	133.91
#4	427+45.19	LEFT UPRIGHT 'H'	168.59	131.59
		RIGHT UPRIGHT 'J'	171.41	134.41

REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01	FOUNDATION LAYOUT	GX-100

FDOT Structure No. ####



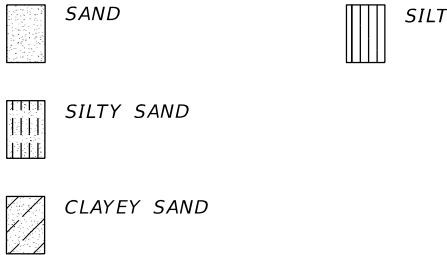
BORING LOCATION PLAN



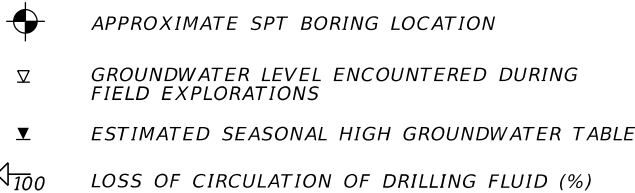
NOTES:

- THE BORING LOCATIONS (STATIONS, OFFSETS, AND ELEVATIONS) WERE SURVEYED BY THE PROJECT SURVEYOR.
- BASED ON A REVIEW OF THE "POTENTIOMETRIC SURFACE OF THE UPPER FLORIDAN AQUIFER, WEST-CENTRAL FLORIDA" MAPS PUBLISHED BY THE USGS, THE POTENTIOMETRIC SURFACE ELEVATION OF THE UPPER FLORIDAN AQUIFER IN THE VICINITY OF THE PROJECT SITE RANGES FROM APPROXIMATELY +120 TO +130 FEET, NGVD 29.

LEGEND



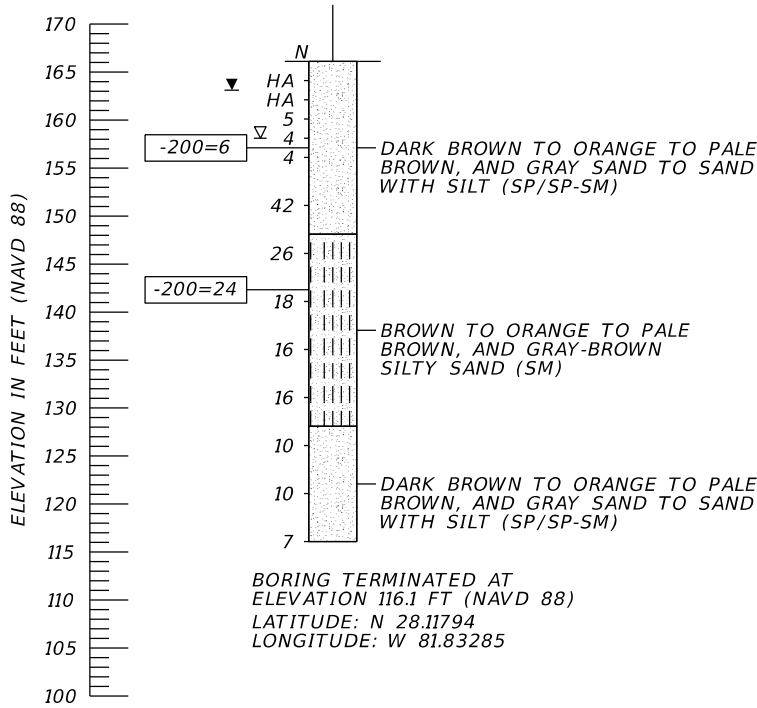
- SP UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW.
- N NUMBERS TO THE LEFT OF BORINGS INDICATE SPT VALUE FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED).
- 50/4 NUMBER OF BLOWS FOR 4 INCHES OF PENETRATION
- HA HAND AUGERED TO VERIFY UTILITY CLEARANCE
- 200 PERCENT PASSING #200 SIEVE
- NMC NATURAL MOISTURE CONTENT (%)
- LL LIQUID LIMIT
- PI PLASTICITY INDEX
- NAVD 88 NORTH AMERICAN VERTICAL DATUM OF 1988



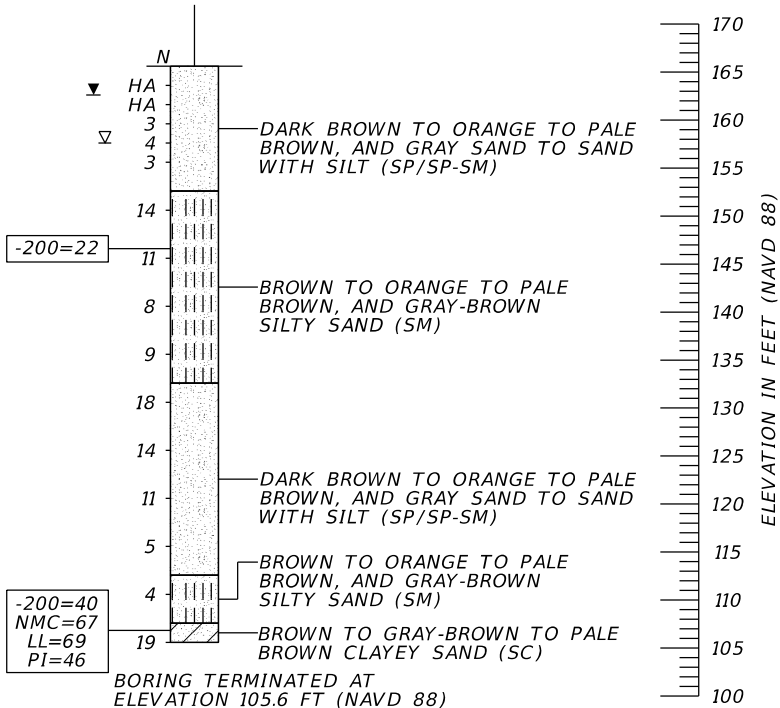
C/L TRACK CENTERLINE OF CONSTRUCTION OF TRACK

BOR # TG-1
STA. 11+94
REF. C/L TRACK
OFF 32' RT.
ELEV. 166.1
DATE 6/29/2016
DRILLER J. ERICKSON
HAMMER AUTOMATIC
RIG D-25

BOR # TG-2
STA. 12+05
REF. C/L TRACK
OFF 104' LT.
ELEV. 165.6
DATE 6/29/2016
DRILLER J. ERICKSON
HAMMER AUTOMATIC
RIG D-25



BORING TERMINATED AT
ELEVATION 116.1 FT (NAVD 88)
LATITUDE: N 28.11794
LONGITUDE: W 81.83285

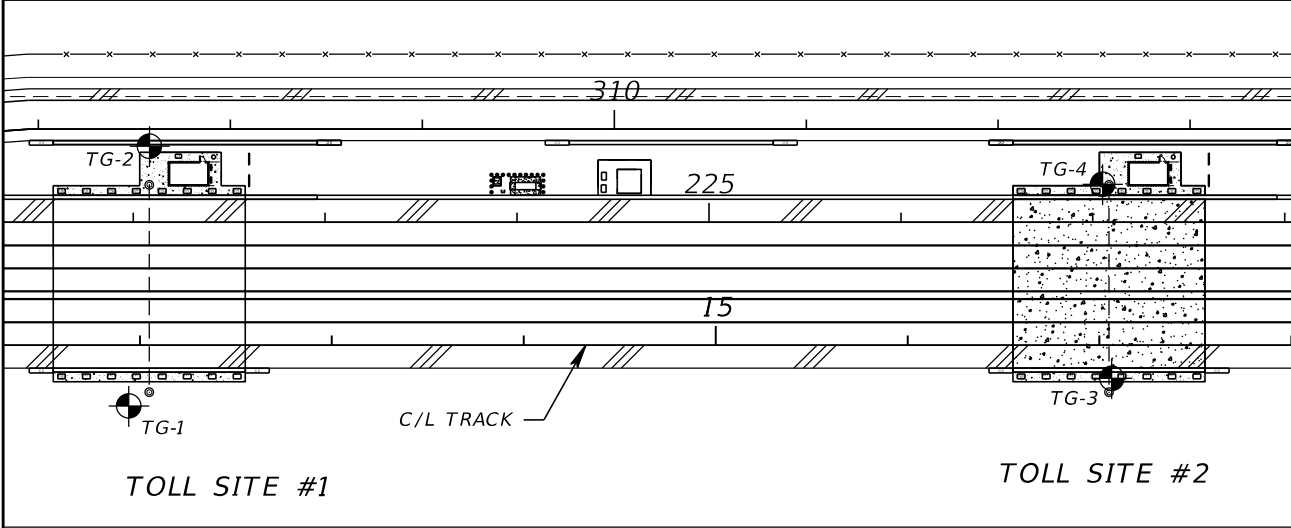


BORING TERMINATED AT
ELEVATION 105.6 FT (NAVD 88)
LATITUDE: N 28.11787
LONGITUDE: W 81.83327

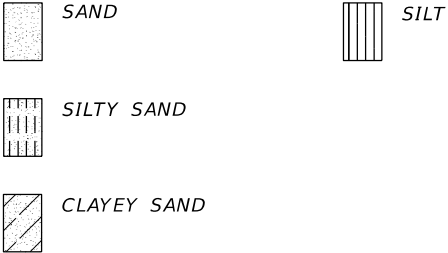
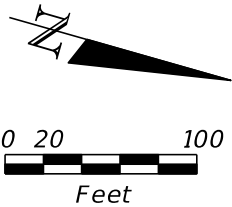
	SAFETY HAMMER	AUTOMATIC HAMMER
GRANULAR MATERIALS- RELATIVE DENSITY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 to 10	3 to 8
MEDIUM DENSE	10 to 30	8 to 24
DENSE	30 to 50	24 to 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 to 4	1 to 3
FIRM	4 to 8	3 to 6
STIFF	8 to 15	6 to 12
VERY STIFF	15 to 30	12 to 24
HARD	GREATER THAN 30	GREATER THAN 24

TOLL GANTRIES

REVISIONS				JEREMY A. SEWELL, P.E. P.E. LICENSE NUMBER 62951 TIERRA, INC. 591 SUSAN B. BRITT COURT WINTER GARDEN, FLORIDA 34787 CERTIFICATE OF AUTHORIZATION NO. 6486	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			REPORT OF CORE BORINGS (1)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					N/A	POLK	437300-1-52-01		GX-101



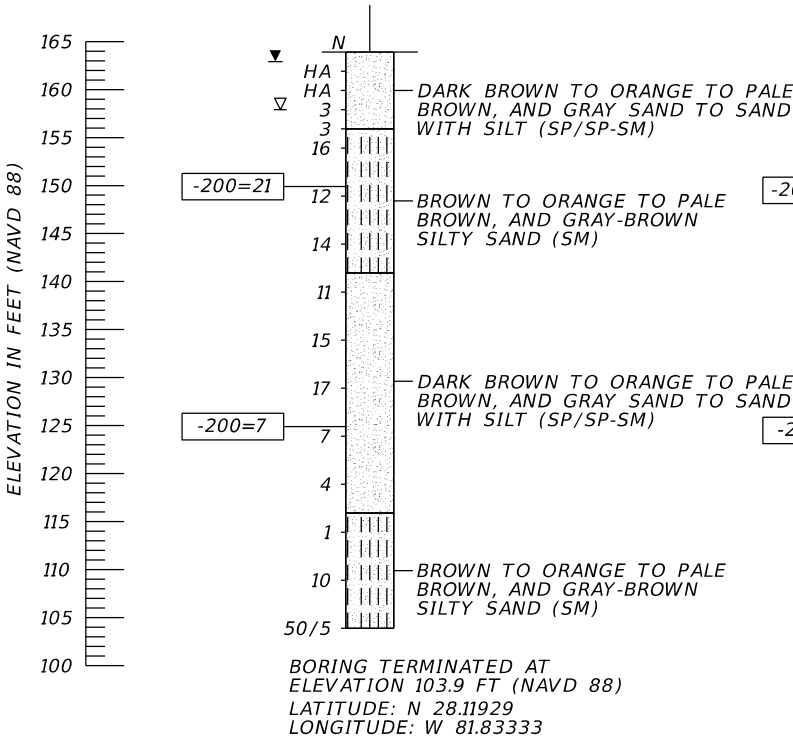
BORING LOCATION PLAN



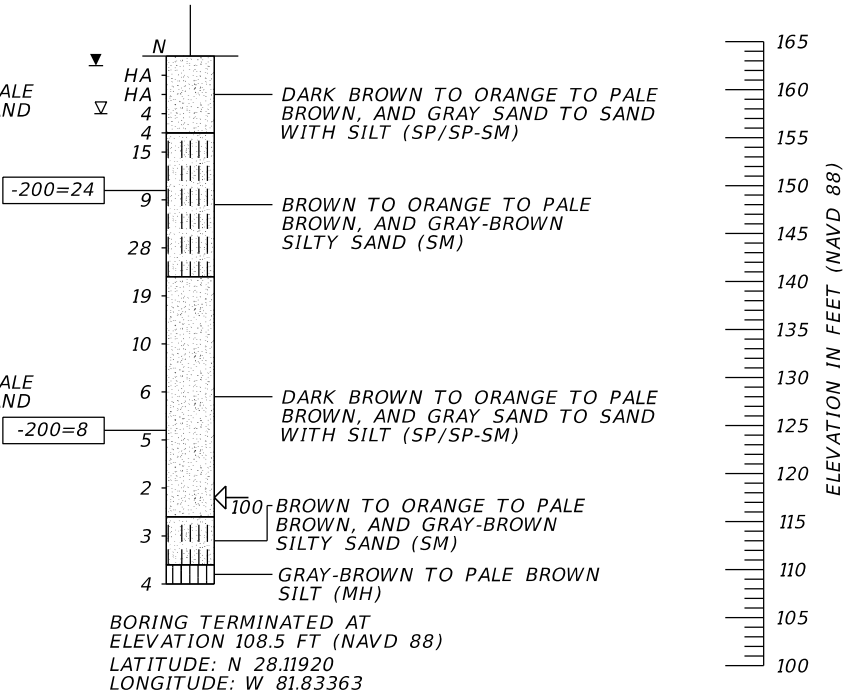
LEGEND	
SP	UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW.
N	NUMBERS TO THE LEFT OF BORINGS INDICATE SPT VALUE FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED).
50/4	NUMBER OF BLOWS FOR 4 INCHES OF PENETRATION
HA	HAND AUGERED TO VERIFY UTILITY CLEARANCE
-200	PERCENT PASSING #200 SIEVE
NMC	NATURAL MOISTURE CONTENT (%)
LL	LIQUID LIMIT
PI	PLASTICITY INDEX
NAVD 88	NORTH AMERICAN VERTICAL DATUM OF 1988
	APPROXIMATE SPT BORING LOCATION
	GROUNDWATER LEVEL ENCOUNTERED DURING FIELD EXPLORATIONS
	ESTIMATED SEASONAL HIGH GROUNDWATER TABLE
	LOSS OF CIRCULATION OF DRILLING FLUID (%)
C/L TRACK	CENTERLINE OF CONSTRUCTION OF TRACK

- NOTES:
- THE BORING LOCATIONS (STATIONS, OFFSETS, AND ELEVATIONS) WERE SURVEYED BY THE PROJECT SURVEYOR.
 - BASED ON A REVIEW OF THE "POTENTIOMETRIC SURFACE OF THE UPPER FLORIDAN AQUIFER, WEST-CENTRAL FLORIDA" MAPS PUBLISHED BY THE USGS, THE POTENTIOMETRIC SURFACE ELEVATION OF THE UPPER FLORIDAN AQUIFER IN THE VICINITY OF THE PROJECT SITE RANGES FROM APPROXIMATELY +120 TO +130 FEET, NGVD 29.

BOR # TG-3
STA. 17+06
REF. C/L TRACK
OFF. 17' RT.
ELEV. 163.9
DATE 6/28/2016
DRILLER J. ERICKSON
HAMMER AUTOMATIC
RIG D-25



BOR # TG-4
STA. 17+02
REF. C/L TRACK
OFF. 84' LT.
ELEV. 163.5
DATE 6/28/2016
DRILLER J. ERICKSON
HAMMER AUTOMATIC
RIG D-25

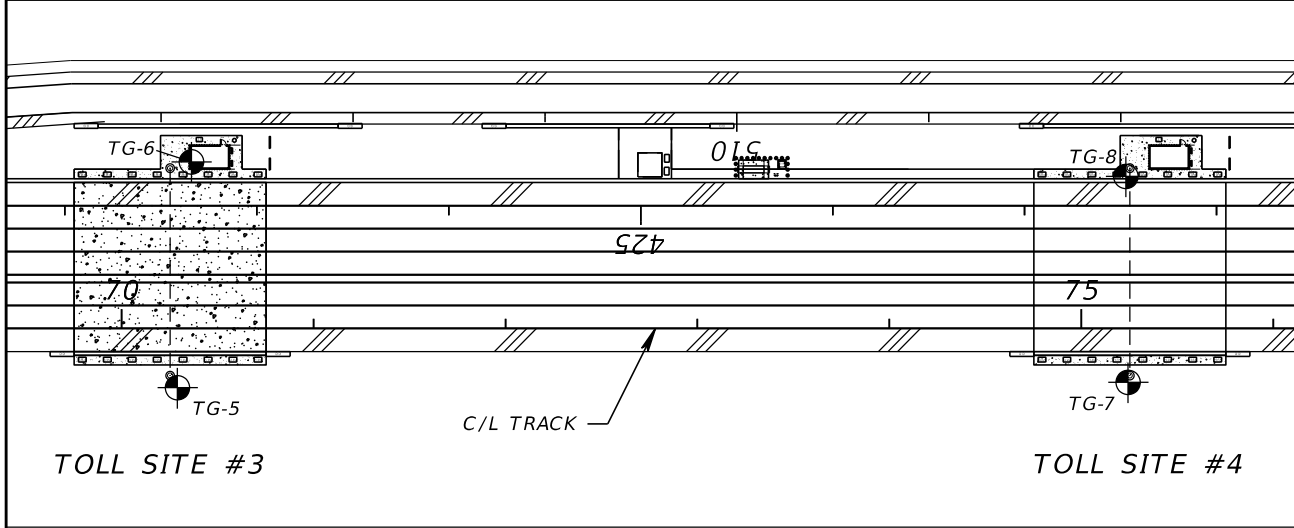


	SAFETY HAMMER	AUTOMATIC HAMMER
GRANULAR MATERIALS- RELATIVE DENSITY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 to 10	3 to 8
MEDIUM DENSE	10 to 30	8 to 24
DENSE	30 to 50	24 to 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 to 4	1 to 3
FIRM	4 to 8	3 to 6
STIFF	8 to 15	6 to 12
VERY STIFF	15 to 30	12 to 24
HARD	GREATER THAN 30	GREATER THAN 24

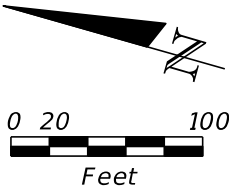
TOLL GANTRIES

REVISIONS				JEREMY A. SEWELL, P.E. P.E. LICENSE NUMBER 62951 TIERRA, INC. 591 SUSAN B. BRITT COURT WINTER GARDEN, FLORIDA 34787 CERTIFICATE OF AUTHORIZATION NO. 6486	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			REPORT OF CORE BORINGS (2)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					N/A	POLK	437300-1-52-01		GX-102

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

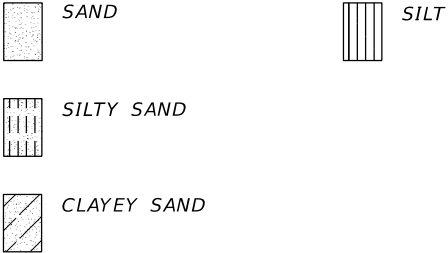


BORING LOCATION PLAN



NOTES:

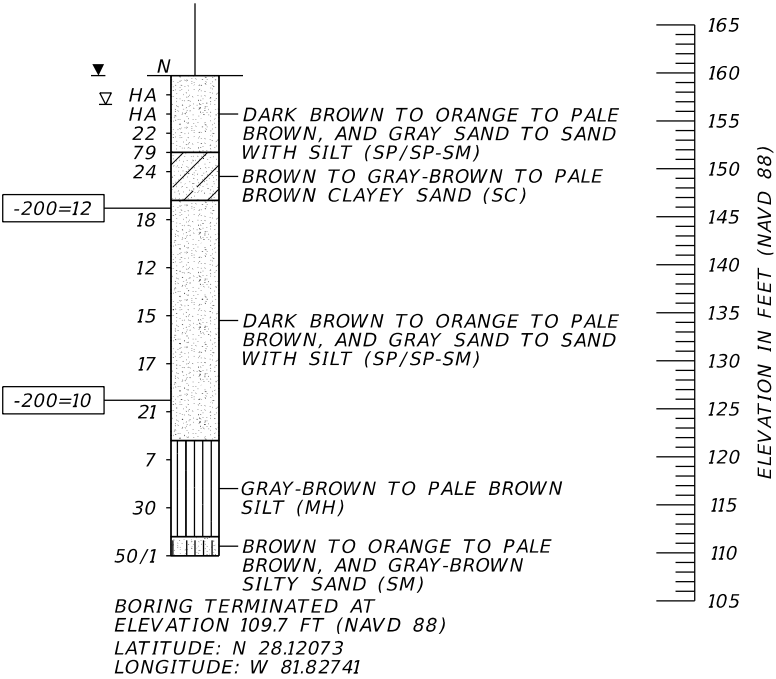
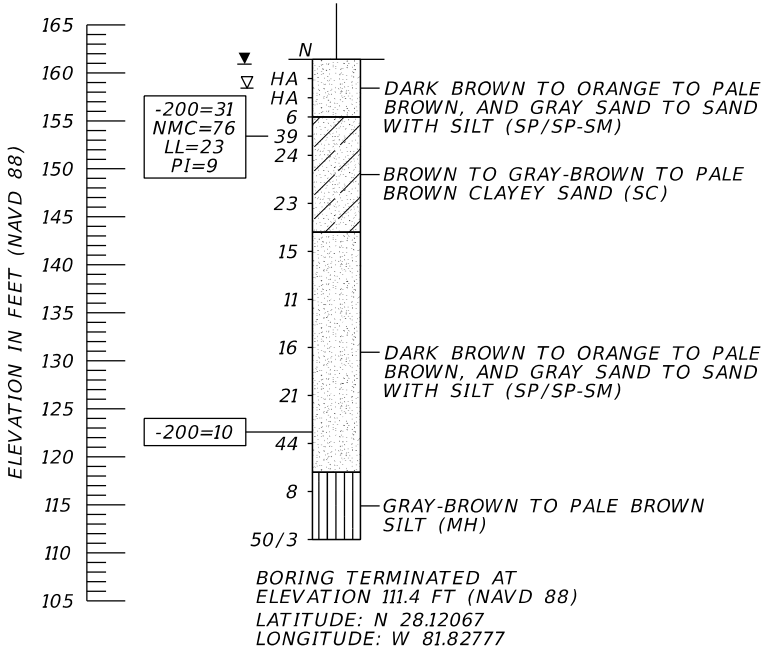
1. THE BORING LOCATIONS (STATIONS, OFFSETS, AND ELEVATIONS) WERE SURVEYED BY THE PROJECT SURVEYOR.
2. BASED ON A REVIEW OF THE "POTENTIOMETRIC SURFACE OF THE UPPER FLORIDAN AQUIFER, WEST-CENTRAL FLORIDA" MAPS PUBLISHED BY THE USGS, THE POTENTIOMETRIC SURFACE ELEVATION OF THE UPPER FLORIDAN AQUIFER IN THE VICINITY OF THE PROJECT SITE RANGES FROM APPROXIMATELY +120 TO +130 FEET, NGVD 29.



LEGEND	
SP	UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW.
N	NUMBERS TO THE LEFT OF BORINGS INDICATE SPT VALUE FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED).
50/4	NUMBER OF BLOWS FOR 4 INCHES OF PENETRATION
HA	HAND AUGERED TO VERIFY UTILITY CLEARANCE
-200	PERCENT PASSING #200 SIEVE
NMC	NATURAL MOISTURE CONTENT (%)
LL	LIQUID LIMIT
PI	PLASTICITY INDEX
NAVD 88	NORTH AMERICAN VERTICAL DATUM OF 1988
	APPROXIMATE SPT BORING LOCATION
	GROUNDWATER LEVEL ENCOUNTERED DURING FIELD EXPLORATIONS
	ESTIMATED SEASONAL HIGH GROUNDWATER TABLE
	LOSS OF CIRCULATION OF DRILLING FLUID (%)
C/L TRACK	CENTERLINE OF CONSTRUCTION OF TRACK

BOR # TG-5
STA. 70+29
REF. C/L TRACK
OFF. 31' RT.
ELEV. 161.4
DATE 6/28/2016
DRILLER J. ERICKSON
HAMMER AUTOMATIC
RIG D-25

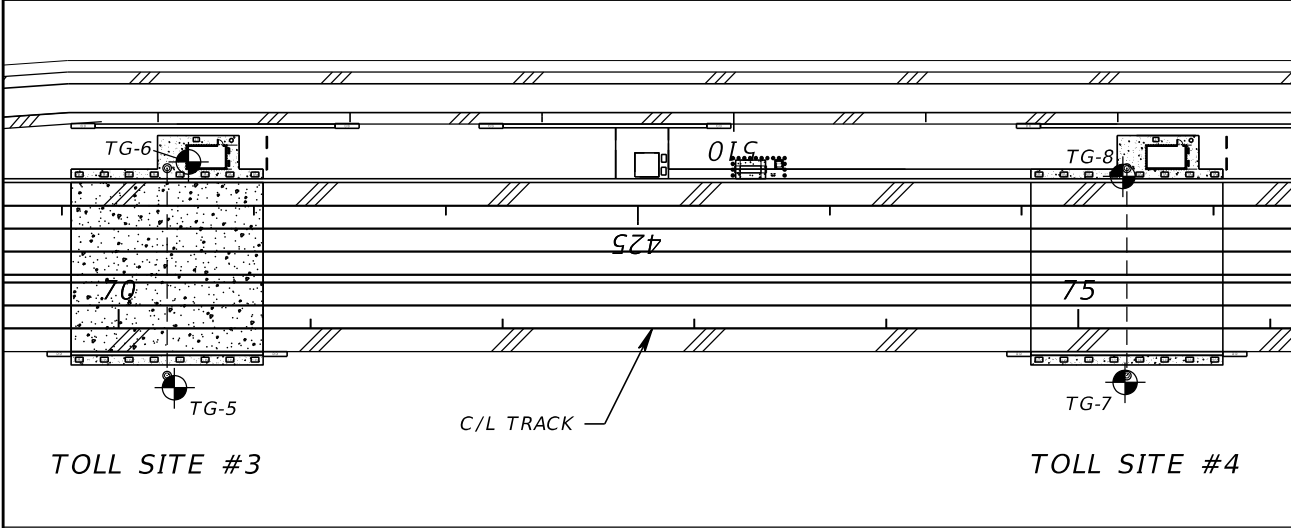
BOR # TG-6
STA. 70+36
REF. C/L TRACK
OFF. 87' LT.
ELEV. 159.7
DATE 6/28/2016
DRILLER J. ERICKSON
HAMMER AUTOMATIC
RIG D-25



	SAFETY HAMMER	AUTOMATIC HAMMER
GRANULAR MATERIALS- RELATIVE DENSITY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	LESS THAN 4 4 to 10 10 to 30 30 to 50 GREATER THAN 50	LESS THAN 3 3 to 8 8 to 24 24 to 40 GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY SOFT SOFT FIRM STIFF VERY STIFF HARD	LESS THAN 2 2 to 4 4 to 8 8 to 15 15 to 30 GREATER THAN 30	LESS THAN 1 1 to 3 3 to 6 6 to 12 12 to 24 GREATER THAN 24

TOLL GANTRIES

REVISIONS				JEREMY A. SEWELL, P.E. P.E. LICENSE NUMBER 62951 TIERRA, INC. 591 SUSAN B. BRITT COURT WINTER GARDEN, FLORIDA 34787 CERTIFICATE OF AUTHORIZATION NO. 6486	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			REPORT OF CORE BORINGS (3)	SHEET NO.
DATE	DESCRIPTION		DATE		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					N/A	POLK	437300-1-52-01		GX-103

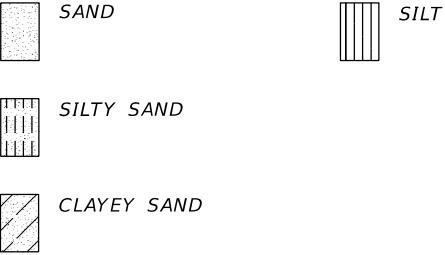


BORING LOCATION PLAN

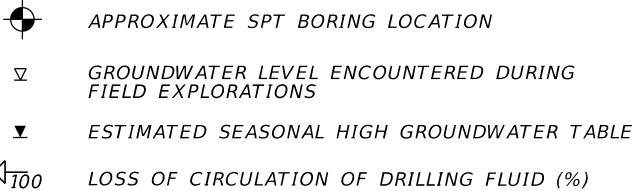
NOTES:

1. THE BORING LOCATIONS (STATIONS, OFFSETS, AND ELEVATIONS) WERE SURVEYED BY THE PROJECT SURVEYOR.
2. BASED ON A REVIEW OF THE "POTENTIOMETRIC SURFACE OF THE UPPER FLORIDAN AQUIFER, WEST-CENTRAL FLORIDA" MAPS PUBLISHED BY THE USGS, THE POTENTIOMETRIC SURFACE ELEVATION OF THE UPPER FLORIDAN AQUIFER IN THE VICINITY OF THE PROJECT SITE RANGES FROM APPROXIMATELY +120 TO +130 FEET, NGVD 29.

LEGEND



- SP UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW.
- N NUMBERS TO THE LEFT OF BORINGS INDICATE SPT VALUE FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED).
- 50/4 NUMBER OF BLOWS FOR 4 INCHES OF PENETRATION
- HA HAND AUGERED TO VERIFY UTILITY CLEARANCE
- 200 PERCENT PASSING #200 SIEVE
- NMC NATURAL MOISTURE CONTENT (%)
- LL LIQUID LIMIT
- PI PLASTICITY INDEX
- NAVD 88 NORTH AMERICAN VERTICAL DATUM OF 1988

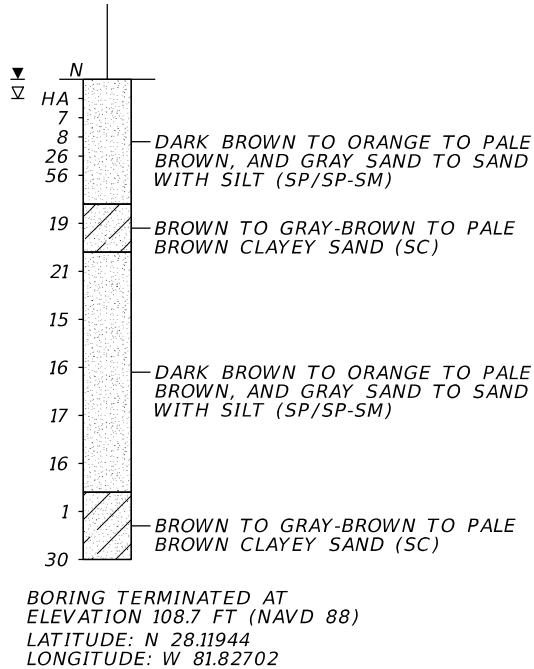
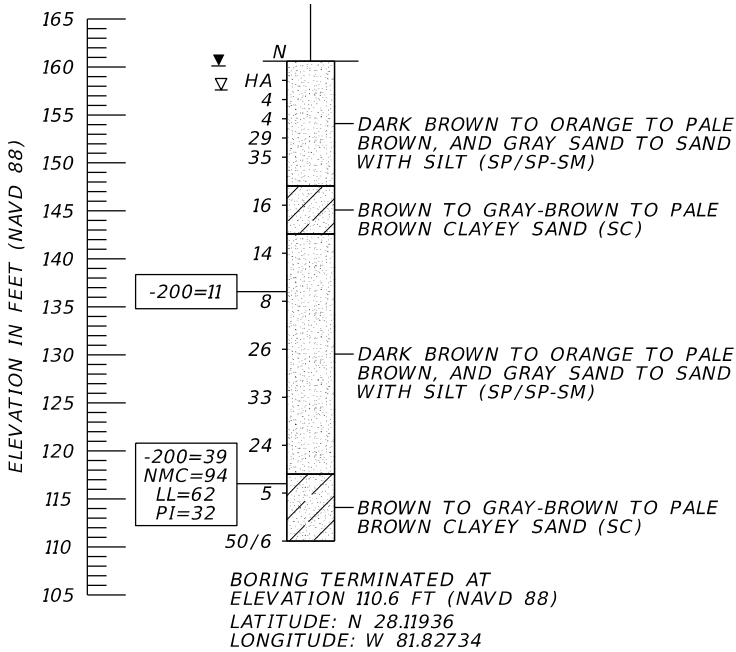


100 LOSS OF CIRCULATION OF DRILLING FLUID (%)

C/L TRACK CENTERLINE OF CONSTRUCTION OF TRACK

BOR # TG-7
STA. 75+24
REF. C/L TRACK
OFF 28' RT.
ELEV. 160.6
DATE 6/27/2016
DRILLER J. ERICKSON
HAMMER AUTOMATIC
RIG D-25

BOR # TG-8
STA. 75+23
REF. C/L TRACK
OFF 79' LT.
ELEV. 158.7
DATE 6/27/2016
DRILLER J. ERICKSON
HAMMER AUTOMATIC
RIG D-25



	SAFETY HAMMER	AUTOMATIC HAMMER
GRANULAR MATERIALS- RELATIVE DENSITY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 to 10	3 to 8
MEDIUM DENSE	10 to 30	8 to 24
DENSE	30 to 50	24 to 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 to 4	1 to 3
FIRM	4 to 8	3 to 6
STIFF	8 to 15	6 to 12
VERY STIFF	15 to 30	12 to 24
HARD	GREATER THAN 30	GREATER THAN 24

TOLL GANTRIES

REVISIONS				JEREMY A. SEWELL, P.E. P.E. LICENSE NUMBER 62951 TIERRA, INC. 591 SUSAN B. BRITT COURT WINTER GARDEN, FLORIDA 34787 CERTIFICATE OF AUTHORIZATION NO. 6486	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			REPORT OF CORE BORINGS (4)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					N/A	POLK	437300-1-52-01		GX-104

1. WORK THIS SHEET WITH FDOT DESIGN STANDARD INDEX 11320. SEE GX-600 FOR SPAN STRUCTURE TOLLING EQUIPMENT DATA TABLE.
2. LEFT AND RIGHT UPRIGHT DETERMINED WHEN FACING FRONT OF TRUSS.
- 3.. RIGHT UPRIGHT 'J' IS ALWAYS THE UPRIGHT CLOSEST TO THE TOLL EQUIPMENT BUILDING.
4. J-ARM LAYOUT SHOWN IS GENERIC AND NOT PER ANY TEC LAYOUT REQUIREMENTS.
5. THE GANTRY WAS DESIGNED FOR (18) J-ARMS PER 6'-0" INCREMENT.



SITE 4
LATITUDE: 28°07'09.8321"
LONGITUDE: -081°49'37.8045"
NORTHING: 1376152.08
EASTING: 711876.29

REVISIONS <table> <tr> <th>DATE</th> <th>DESCRIPTION</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>				DATE	DESCRIPTION	DATE	DESCRIPTION					BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023		STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION <table> <tr> <th>ROAD NO.</th> <th>COUNTY</th> <th>FINANCIAL PROJECT ID</th> </tr> <tr> <td>NA</td> <td>POLK</td> <td>437300-1-52-01</td> </tr> </table>			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	NA	POLK	437300-1-52-01	SUNTRAX TEST FACILITY GANTRY PLAN		SHEET NO. GX-110
DATE	DESCRIPTION	DATE	DESCRIPTION																						
ROAD NO.	COUNTY	FINANCIAL PROJECT ID																							
NA	POLK	437300-1-52-01																							

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

NOTES:

1. WORK THIS SHEET WITH FDOT DESIGN STANDARD INDEX NO. 11320. SEE GX-600 FOR SPAN STRUCTURE TOLLING EQUIPMENT DATA TABLE.

2. TRUSS WEB MEMBERS AND WIREWAYS NOT SHOWN FOR CLARITY.

3. TRAILING EQUIPMENT NOT SHOWN FOR CLARITY.

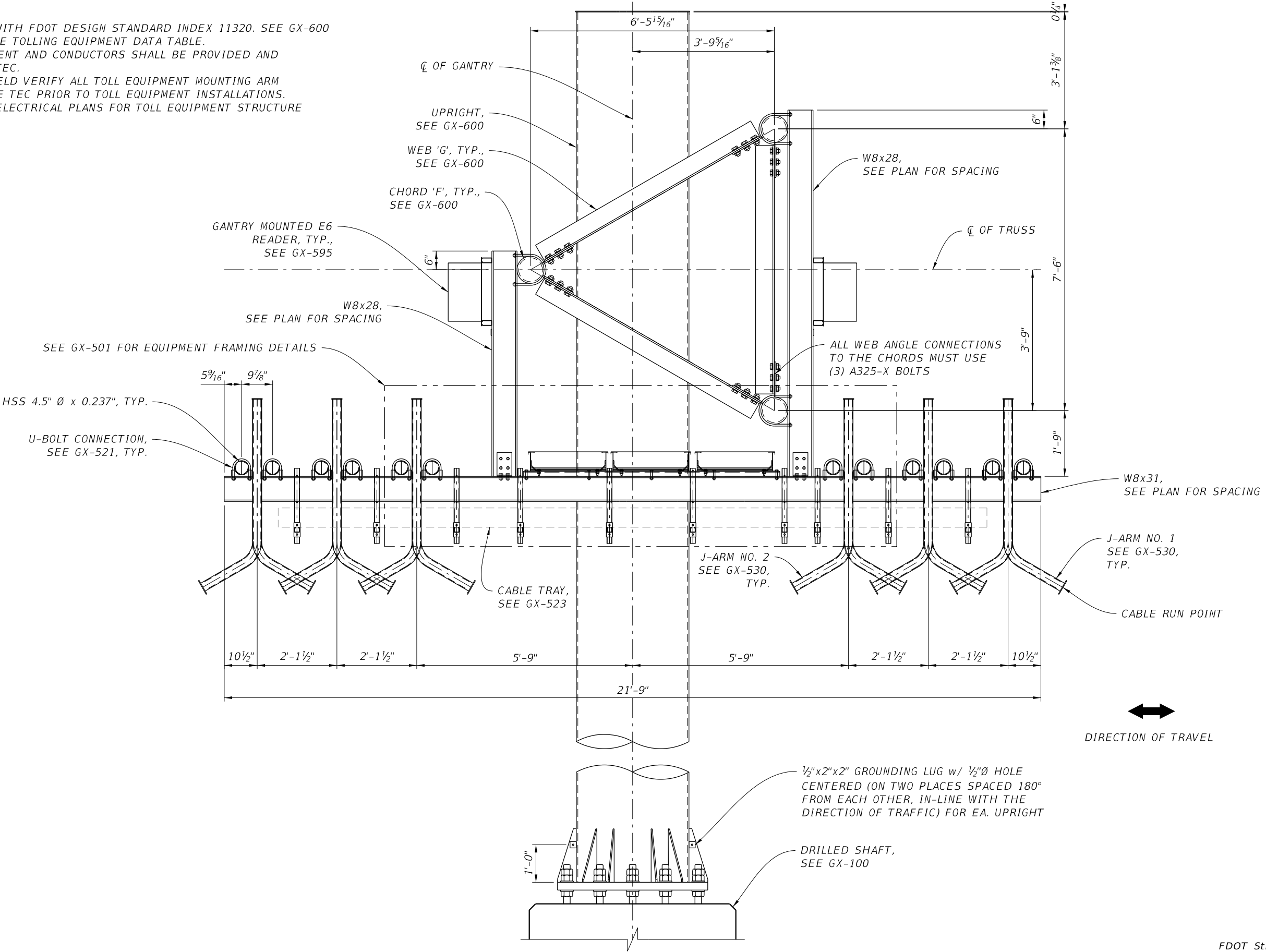
4. UPRIGHTS TO BE FILLED WITH CONCRETE 8'-0" ABOVE THE TOP OF FOUNDATION.

5. A.P.E. = AVERAGE PAVEMENT ELEVATION.

6. SEE ITS PLANS 437300-1-52-01 FOR FLASHING BEACON PAY ITEMS.

GANTRY	'H.P.' ELEVATION	'L.P.' ELEVATION	A.P.E.	℄ OF TRUSS ELEVATION
	FT	FT	FT	FT
#1	172.880	170.230	171.555	199.163
#2	173.370	170.750	172.060	199.668
#3	168.950	166.310	167.630	195.238
#4	169.440	166.800	168.120	195.728

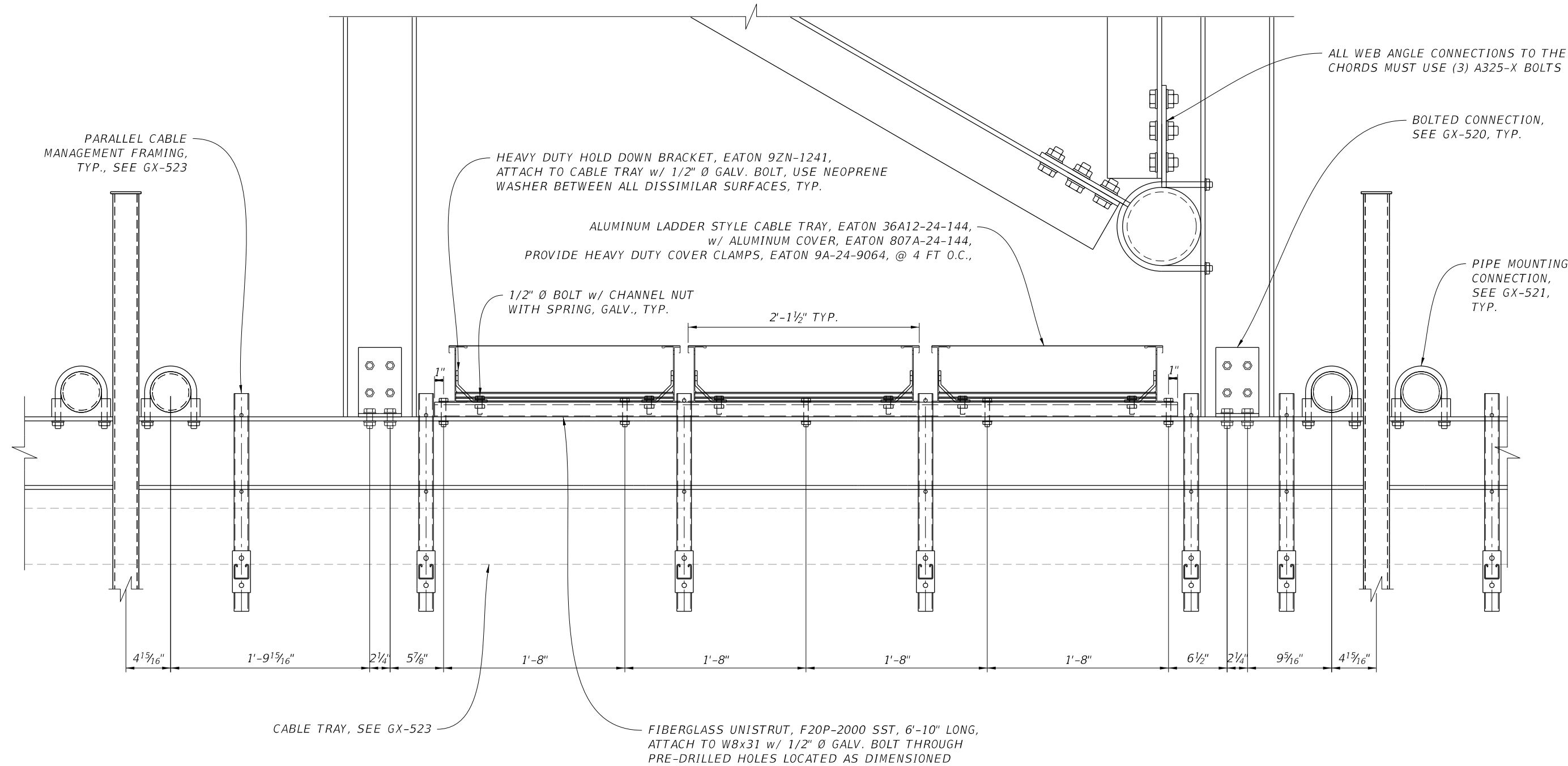
- NOTES:
1. WORK THIS SHEET WITH FDOT DESIGN STANDARD INDEX 11320. SEE GX-600 FOR SPAN STRUCTURE TOLLING EQUIPMENT DATA TABLE.
 2. ALL TOLLING EQUIPMENT AND CONDUCTORS SHALL BE PROVIDED AND INSTALLED BY THE TEC.
 3. COORDINATE AND FIELD VERIFY ALL TOLL EQUIPMENT MOUNTING ARM LOCATIONS WITH THE TEC PRIOR TO TOLL EQUIPMENT INSTALLATIONS.
 4. SEE TOLL FACILITY ELECTRICAL PLANS FOR TOLL EQUIPMENT STRUCTURE GROUNDING.



REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY TYPICAL SECTION	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		GX-500

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

NOTES:
1. WORK THIS SHEET WITH FDOT DESIGN STANDARD INDEX 11320. SEE GX-600 FOR SPAN STRUCTURE TOLLING EQUIPMENT DATA TABLE.

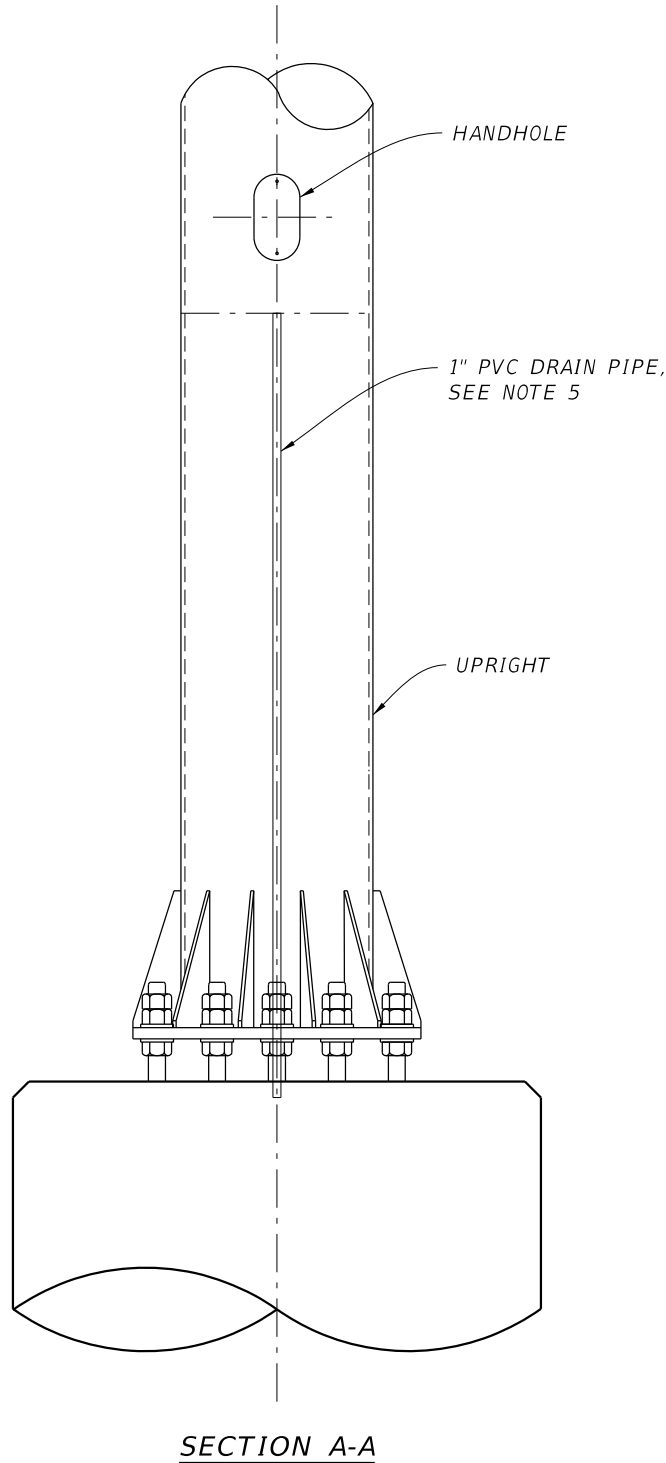
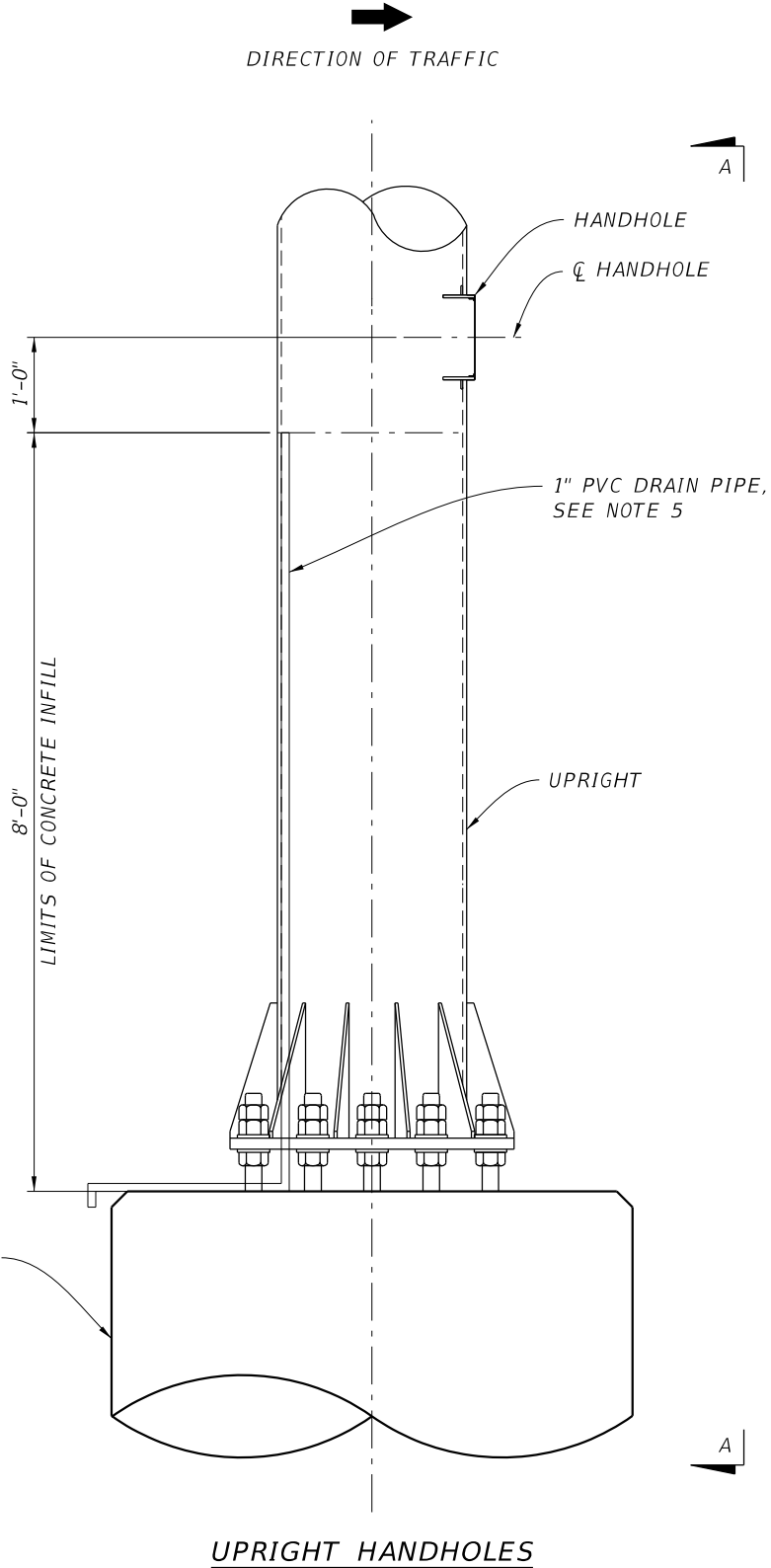
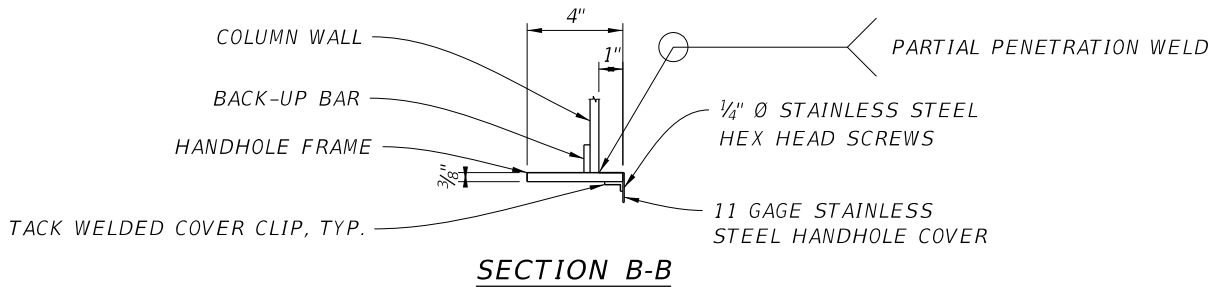
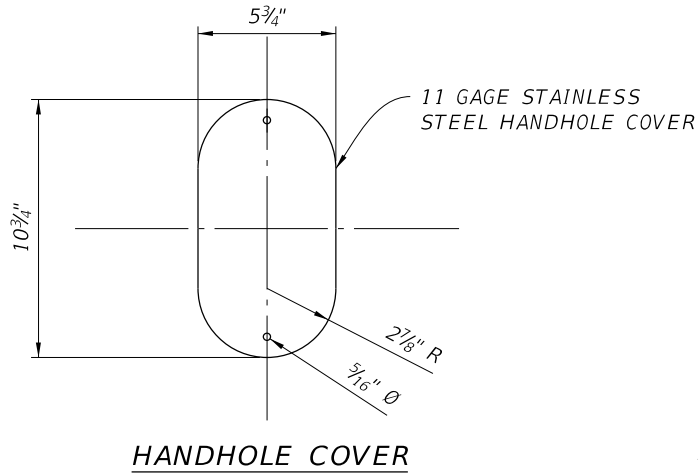
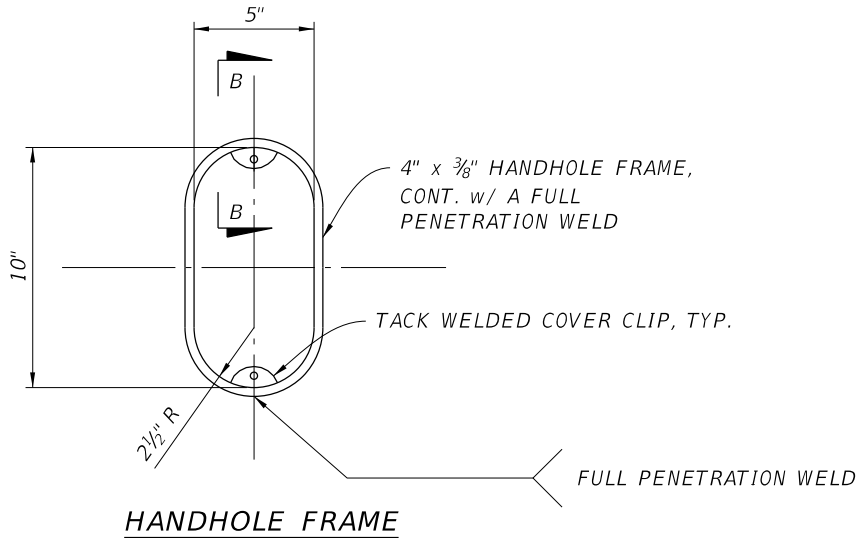


FDOT Structure No. #####												
REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY		EQUIPMENT FRAMING SECTION		SHEET NO.
DATE	DESCRIPTION		DATE		DESCRIPTION		ROAD NO.					COUNTY
							NA	POLK	437300-1-52-01			GX-501

FDOT Structure No. ####

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

- NOTES:
1. UPRIGHT SHALL BE FILLED WITH CONCRETE 8'-0" ABOVE THE TOP OF SHAFT. INFILL MAY EXTEND TO EDGES OF BASE PLATE AND AROUND ANCHOR BOLTS TO SIMPLIFY THE PLACEMENT OF FORMWORK.
 2. HANDHOLE FRAME SHALL BE ASTM A709, GRADE 36 MIN.
 3. HANDHOLE COVER SHALL BE ASTM A1011, GRADE 50 MIN.
 4. STAINLESS STEEL SCREWS SHALL BE AISI TYPE 316.
 5. TERMINATE 1" PVC PIPE w/ 90° ELBOW THAT EXTENDS BEYOND THE EDGE OF DRILLED SHAFT w/ A SECOND 90° ELBOW DRAINING DOWNWARD.
 6. WORK THIS SHEET w/ FDOT DESIGN STANDARD INDEX 18300, SHEET 3 OF 9.

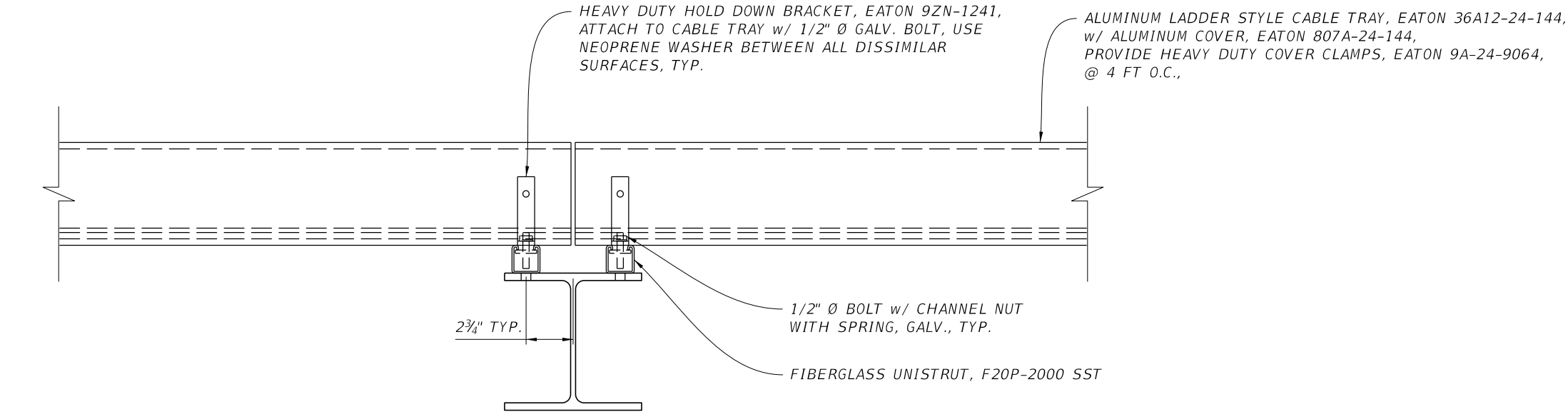


REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY UPRIGHT HANDHOLE DETAILS	SHEET NO. GX-510
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

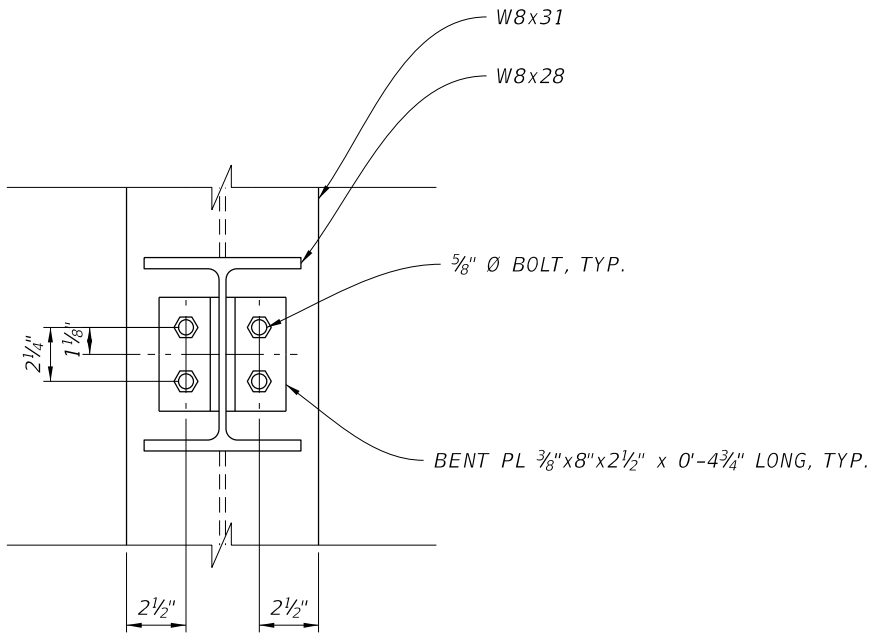
FDOT Structure No. ####

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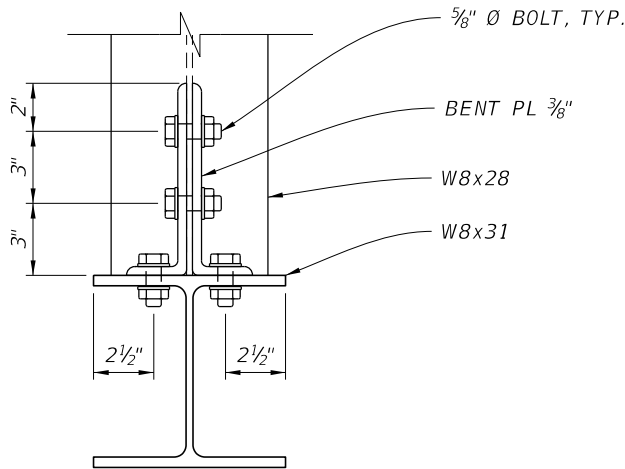
NOTES:
1. WORK THIS SHEET WITH FDOT DESIGN STANDARD INDEX 11320. SEE GX-600 FOR SPAN STRUCTURE TOLLING EQUIPMENT DATA TABLE.



CABLE MANAGEMENT FRAMING DETAIL



W8x28 TO W8x31 CONNECTION - PLAN



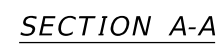
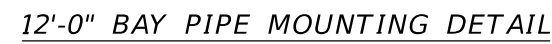
W8x28 TO W8x31 CONNECTION - SECTION

FDOT Structure No. ####

REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01	EQUIP. FRAMING (1 OF 4)	GX-520

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

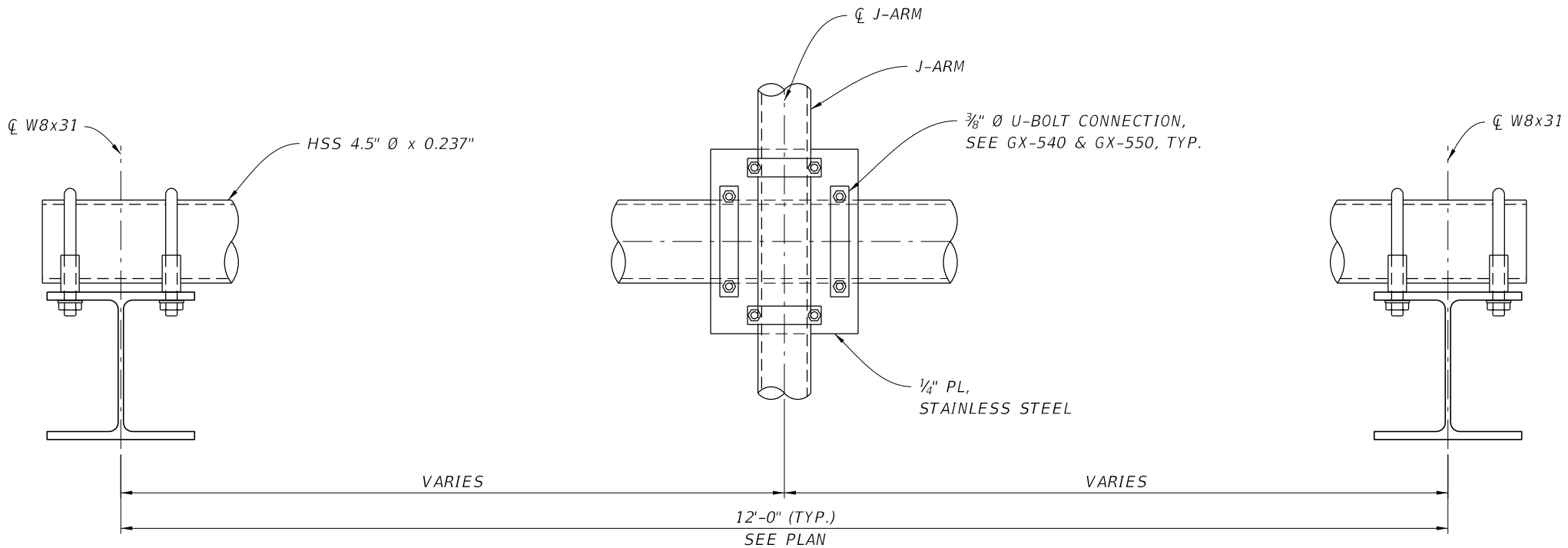
1. SEE PLAN AND ELEVATION FOR CONNECTION LOCATIONS.



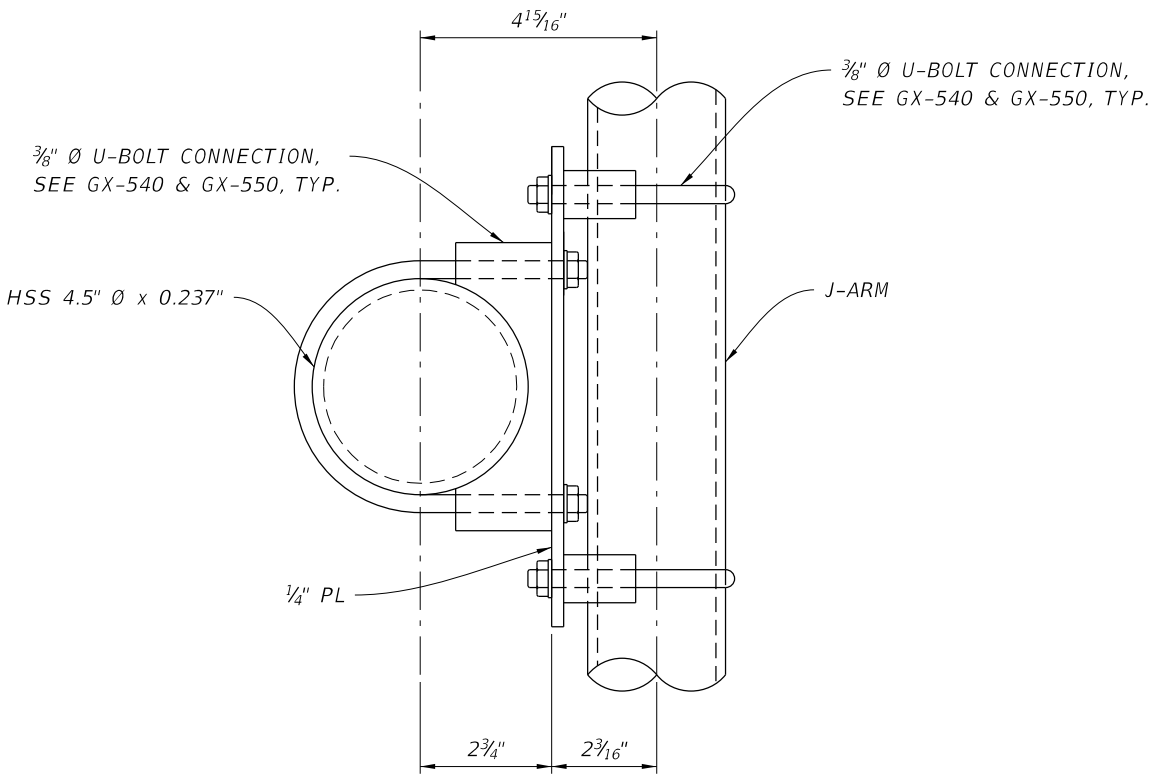
REVISIONS <table> <tr> <th>DATE</th> <th>DESCRIPTION</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>				DATE	DESCRIPTION	DATE	DESCRIPTION					BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023 STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION <table> <tr> <th>ROAD NO.</th> <th>COUNTY</th> <th>FINANCIAL PROJECT ID</th> </tr> <tr> <td>NA</td> <td>POLK</td> <td>437300-1-52-01</td> </tr> </table>			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	NA	POLK	437300-1-52-01	SUNTRAX TEST FACILITY GANTRY EQUIP. FRAMING (2 OF 4)		SHEET NO. GX-521
DATE	DESCRIPTION	DATE	DESCRIPTION																				
ROAD NO.	COUNTY	FINANCIAL PROJECT ID																					
NA	POLK	437300-1-52-01																					

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

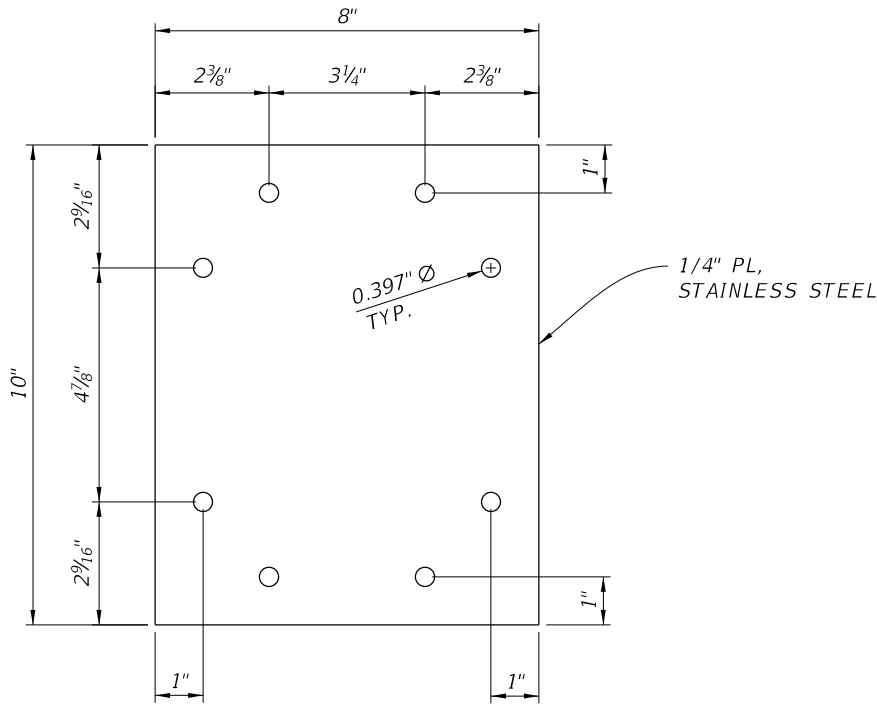
NOTES:
1. CONTRACTOR SHALL PROVIDE SIX SPARE HSS 4.5" Ø SUPPORT MEMBERS AND ASSOCIATED ATTACHMENT HARDWARE PER GANTRY TO THE DEPARTMENT.



TYPICAL J-ARM CONNECTION - ELEVATION



TYPICAL J-ARM CONNECTION - SECTION



CONNECTION PLATE

REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY EQUIP. FRAMING (3 OF 4)	SHEET NO. GX-522
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

FDOT Structure No. ####

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

ALUMINUM LADDER STYLE CABLE TRAY, EATON 36A12-24-144,
w/ ALUMINUM COVER, EATON 807A-24-144,
PROVIDE HEAVY DUTY COVER CLAMPS, EATON 9A-24-9064, @ 4 FT O.C.,

1 5/8" FIBERGLASS UNISTRUT, F20P-2000 SST,
ATTACH TO W8x31 w/ 1/2" Ø GALV. BOLT THROUGH
PRE-DRILLED HOLES LOCATED AS DIMENSIONED

NOTE: SEE GX-500 TO LOCATION OF FRAMING

W8x31

1 5/8" GALV. STEEL UNISTRUT, TYP.

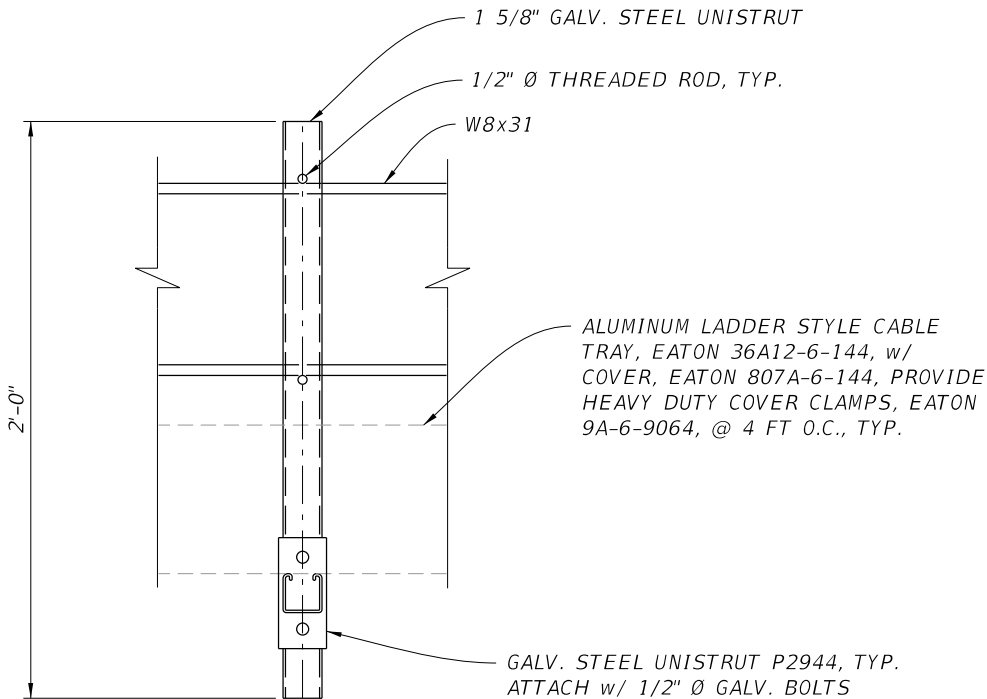
1/2" Ø THREADED ROD, TYP.

ALUMINUM LADDER STYLE CABLE TRAY, EATON 36A12-6-144,
w/ COVER, EATON 807A-6-144, PROVIDE HEAVY DUTY COVER
CLAMPS, EATON 9A-6-9064, @ 4 FT O.C., TYP.

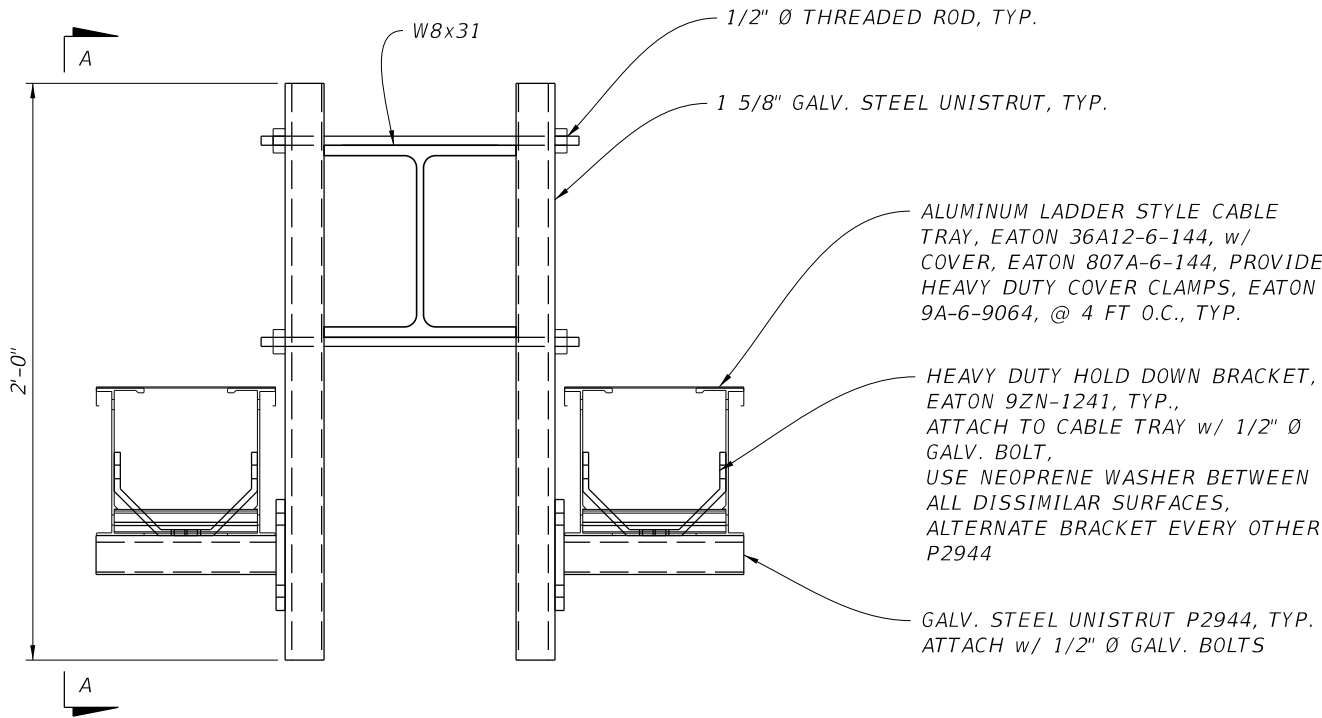
HEAVY DUTY HOLD DOWN BRACKET, EATON 9ZN-1241, TYP.,
ATTACH TO CABLE TRAY w/ 1/2" Ø GALV. BOLT,
USE NEOPRENE WASHER BETWEEN ALL DISSIMILAR SURFACES,
ALTERNATE BRACKET EVERY OTHER P2944

GALV. STEEL UNISTRUT P2944, TYP.
ATTACH w/ 1/2" Ø GALV. BOLTS

PARALLEL CABLE MANAGEMENT FRAMING DETAIL @ UNISTRUT



SECTION A-A

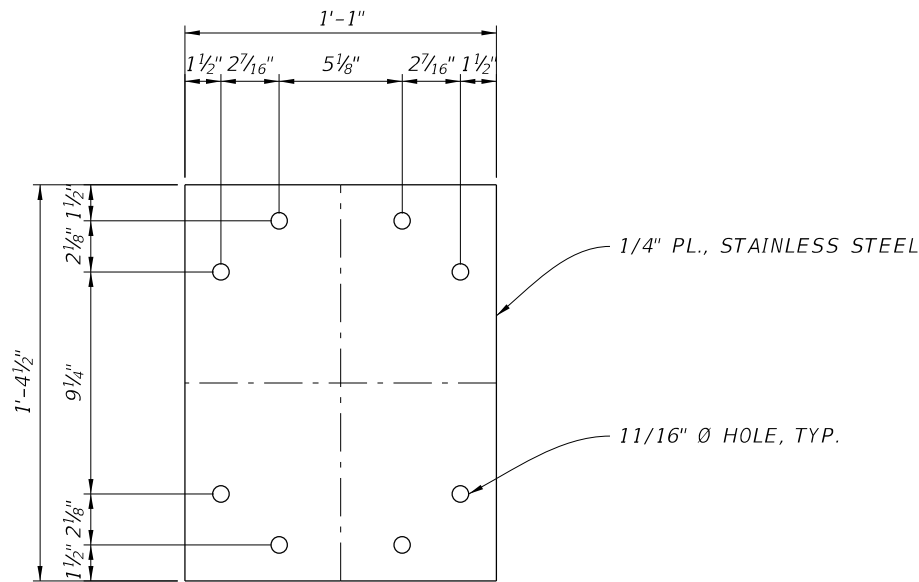


PARALLEL CABLE MANAGEMENT FRAMING DETAIL

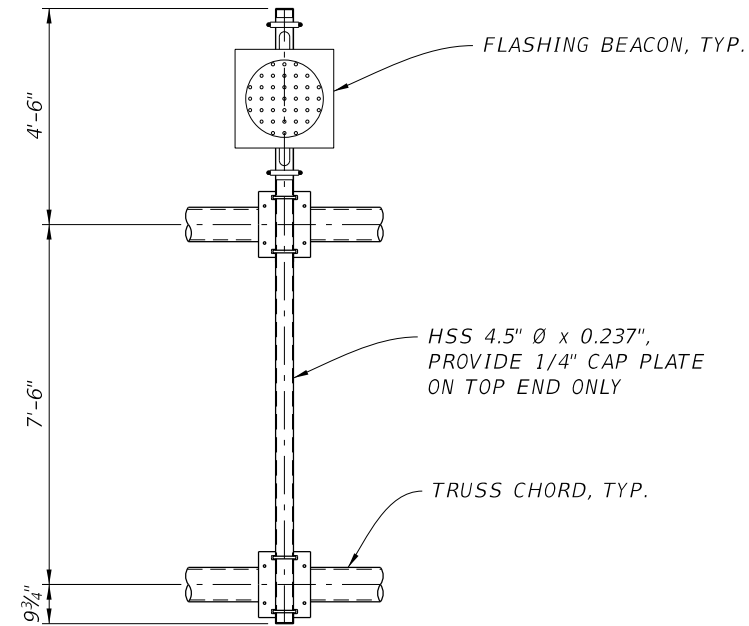
FDOT Structure No. ####

REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01	EQUIP. FRAMING (4 OF 4)	GX-523

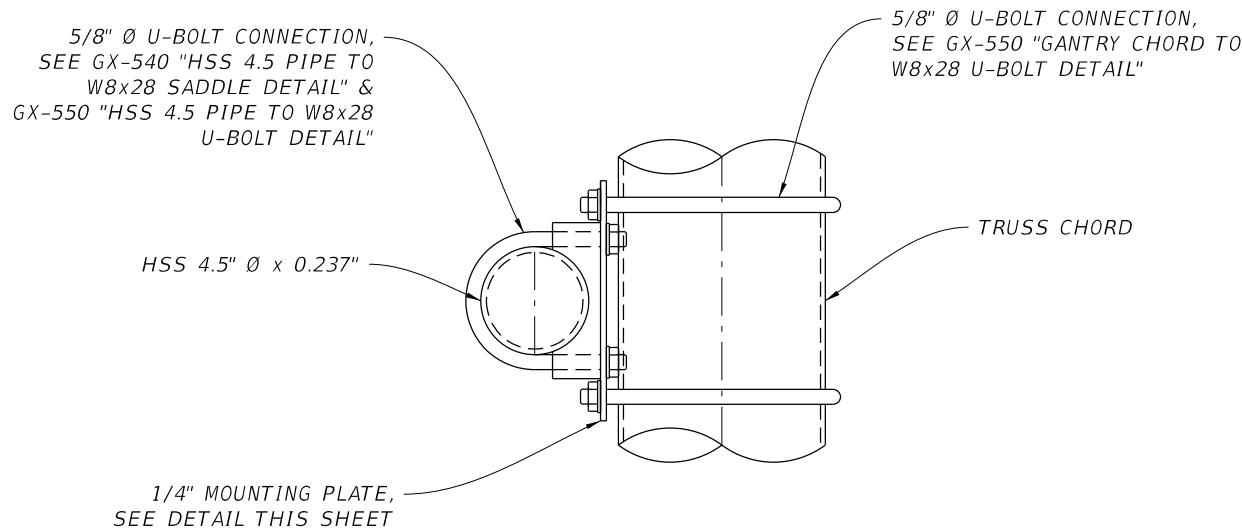
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



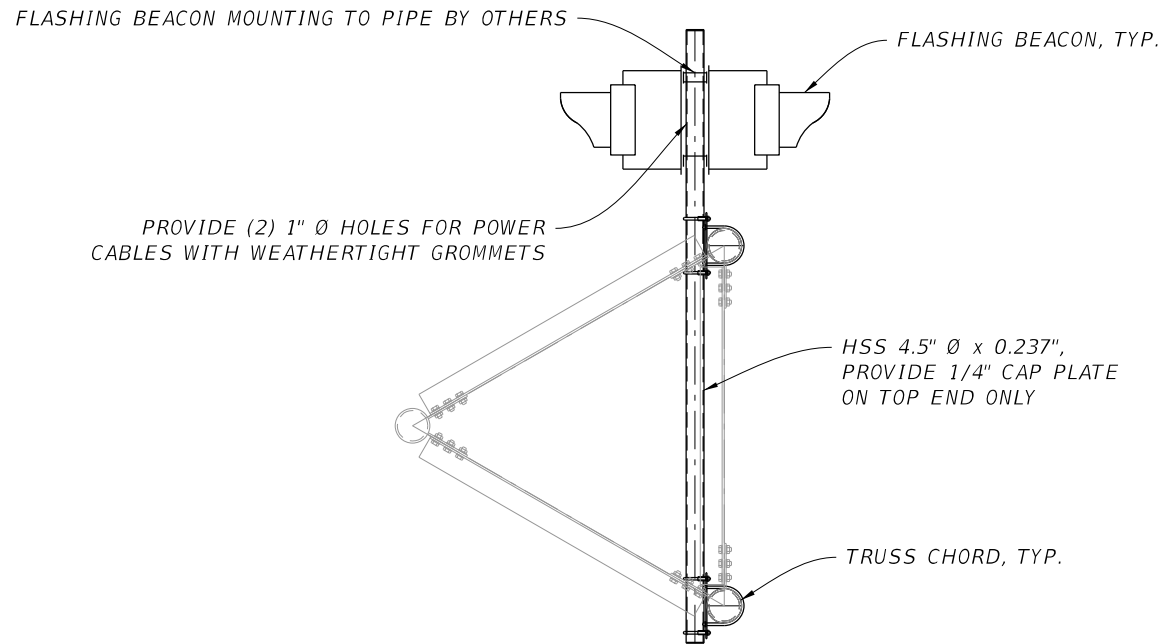
FLASHING BEACON MOUNTING PLATE



FLASHING BEACON MOUNTING DETAIL - FRONT



FLASHING BEACON MOUNTING DETAIL - PLAN



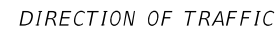
FLASHING BEACON MOUNTING DETAIL - SIDE

REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY FLASHING BEACON MOUNTING	SHEET NO. GX-524
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

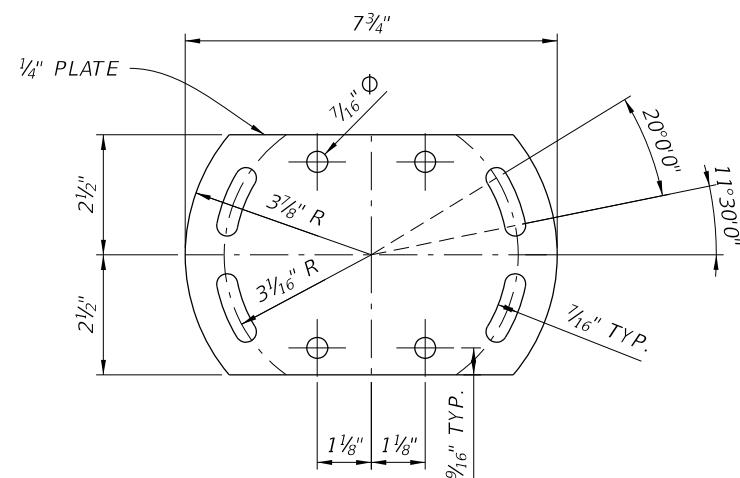
FDOT Structure No. ####

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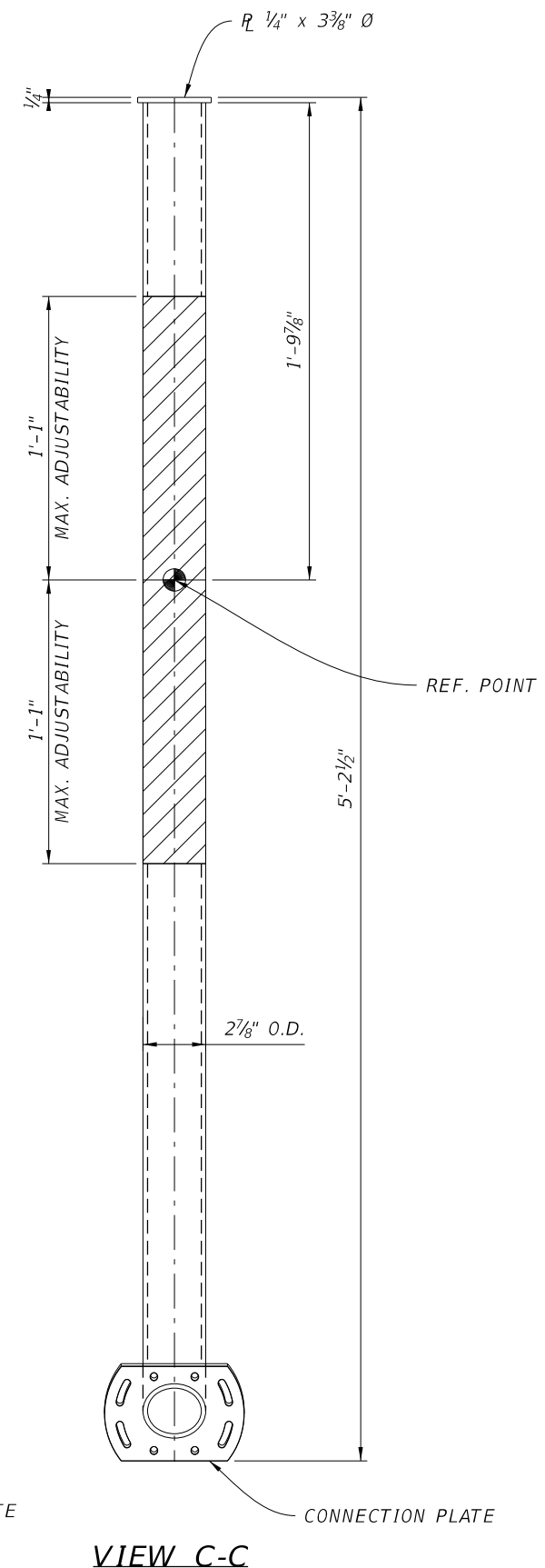
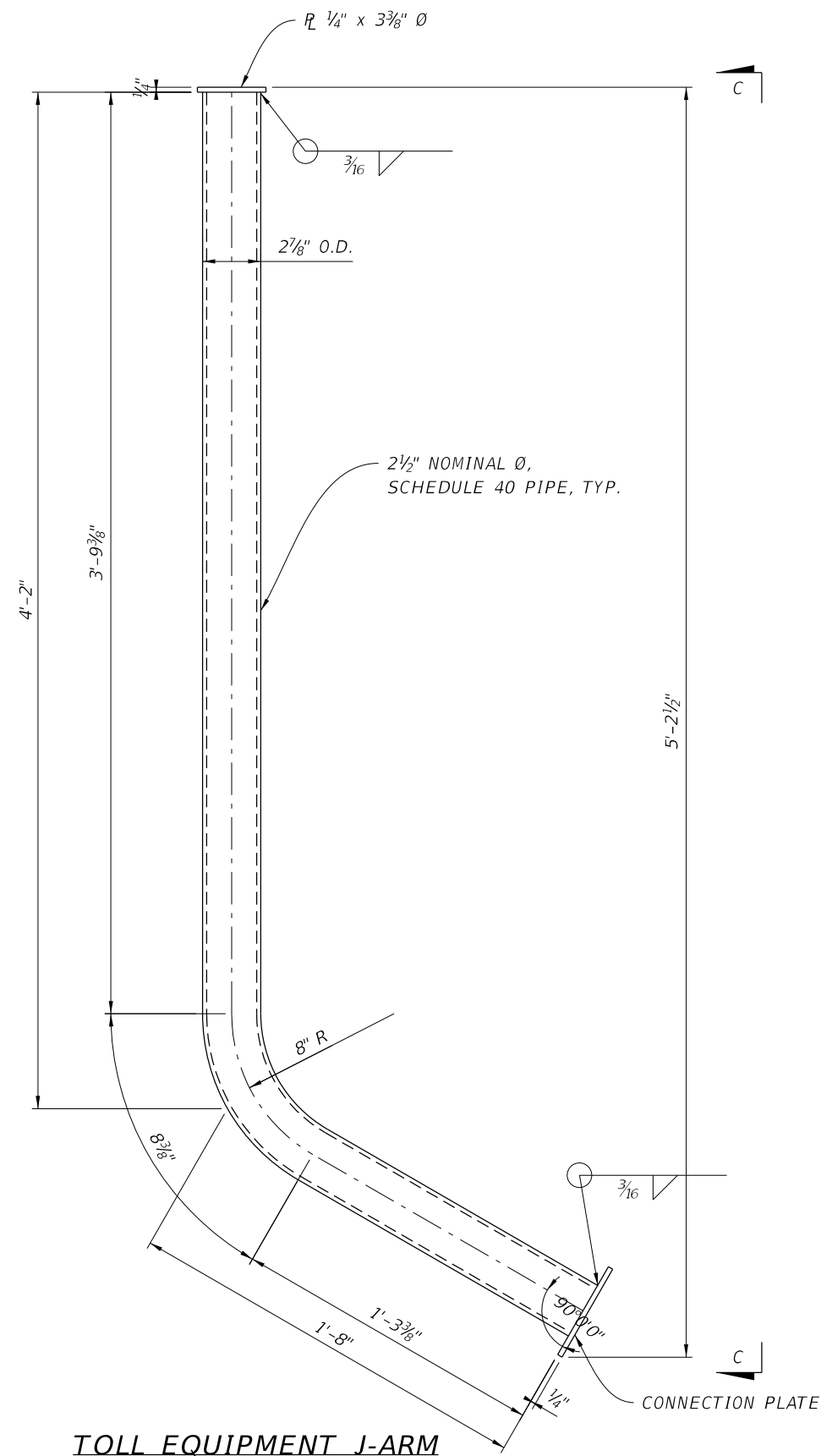
1. SEE PLAN AND ELEVATION FOR MEMBER LOCATIONS.
2. CONTRACTOR SHALL PROVIDE THREE SPARE J-ARMS AND ALL ASSOCIATED ATTACHMENT HARDWARE TO THE DEPARTMENT.



J-ARM MOUNTING POSITIONS



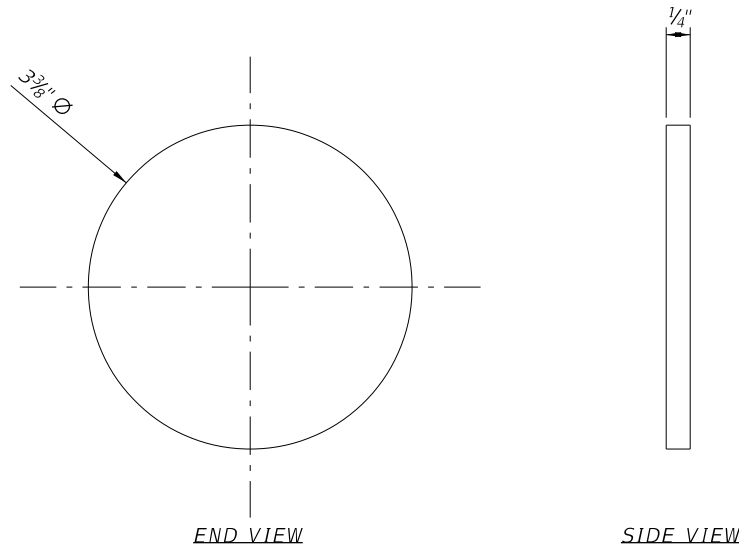
CONNECTION PLATE DETAIL



FDOT Structure No. ####

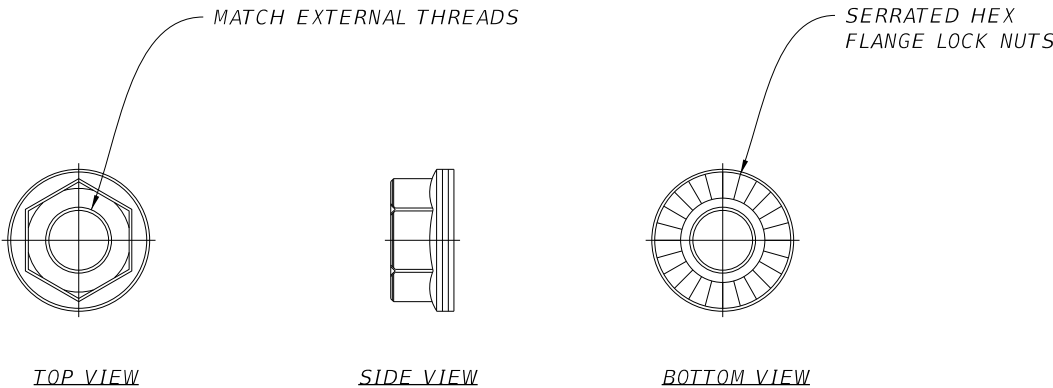
REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY J-ARM DETAILS (1 OF 2)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		GX-530
					NA	POLK	437300-1-52-01		

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NOTE: END CAP TO BE ALUMINUM 6061-T6. CHAMFER ALL EDGE 1/64" x 1/64"

END CAP FOR J-ARM PIPE



NOTE: LOCKING NUTS TO BE 316 STAINLESS STEEL

LOCKING NUTS

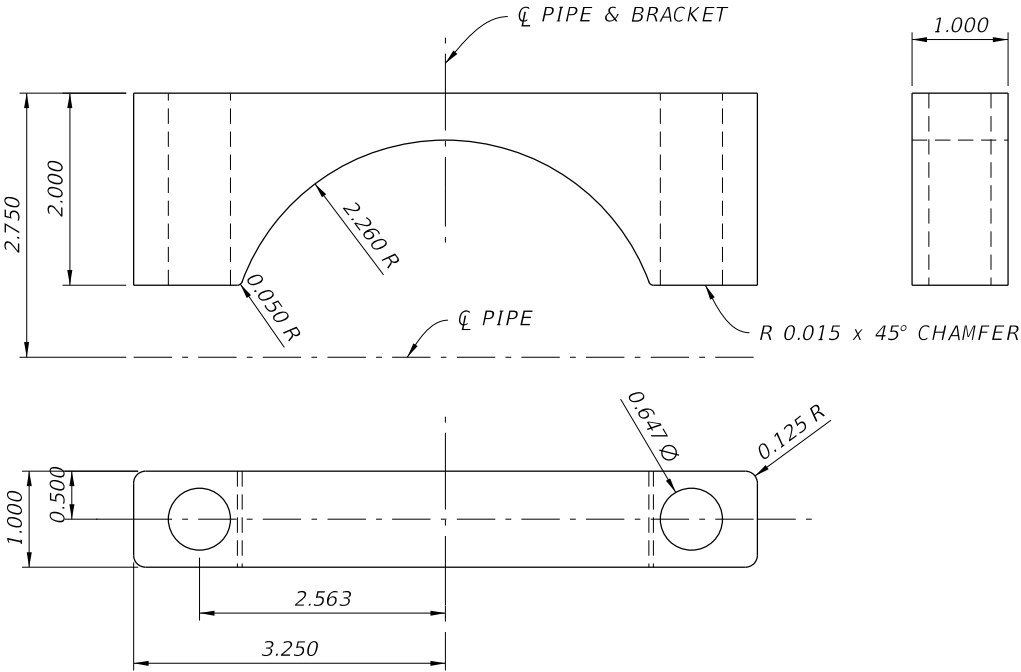
- J-ARM NOTES:
- THE J-ARM DESIGN SHALL ACCOMMODATE ALL THE REQUIREMENTS DEFINED IN THESE NON-ACCESSIBLE GANTRY PLANS AND THE PROJECT TOLLING INFRASTRUCTURE REQUIREMENTS. PROVIDE J-ARMS BY A PRECISION METAL MANUFACTURER THAT IS CAPABLE OF MEETING OR EXCEEDING THE SPECIFICATION REQUIREMENTS AND IS ON THE "QUALIFIED PRODUCERS LIST".
 - U-BOLTS SHALL HAVE A WASHER, LOCKING NUTS, AND A SADDLE. BOLTS SHALL BE TORQUED TO A SNUG TIGHT CONDITION.
 - SEE "PLAN" DRAWING OF EACH GANTRY FOR TOLL EQUIPMENT LOCATIONS.
 - ALL TOLL EQUIPMENT J-ARMS AND REQUIRED HARDWARE SHALL BE PROVIDED BY THE CONTRACTOR. ALL J-ARMS SHALL BE IDENTICAL WITH EXCEPTION OF THE TOLERANCES DICTATED HEREIN.
 - WELDING OPERATIONS AND PROCEDURES SHALL BE QUALIFIED TO AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (ALUMINUM) AWS D1.2, (CURRENT EDITION)
 - QUALIFICATION FOR WELDING AND WORKMANSHIP SHALL CONFORM TO AWS D1.2 (CURRENT EDITION), (ALUMINUM).
 - POST WELD CLEANING, REMOVE SPLASH AND SOOT.
 - THE J-ARM MATERIAL SHALL MEET ASTM B429, ALLOY 6061-T6 AND MEET FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 965-2 CERTIFICATION AND MILL ANALYSIS. THE J-ARMS SHALL HAVE AN OUTSIDE DIAMETER OF 2.875 INCHES WITH A TOLERANCE OF +/- 0.015 INCHES ALONG THE STRAIGHT SECTIONS OF THE ARM (ANSI H35.2) AND +/- 0.057 INCHES ALONG THE CURVED ARM SECTION (PIPE FABRICATION INSTITUTE STANDARD ES-24).
 - J-ARM ROUNDNESS MUST BE CHECKED AT THE FABRICATION FACILITY BEFORE SHIPPING TO THE JOBSITE IN ACCORDANCE WITH THE PRODUCER'S QUALITY CONTROL PLAN. THE DEPARTMENT MAY CHECK FOR J-ARM ROUNDNESS AT ANY TIME. PROVIDE MATERIAL TESTING REPORTS (MTRS) THAT SHOW THE MATERIAL MEETS ASTM B429, ALLOY 6061-T6. THERE MUST BE TRACEABILITY BETWEEN THE MTRS AND THE MATERIAL ACTUALLY USED FOR THE J-ARMS. THE DEPARTMENT MAY TEST THE J-ARMS FOR YIELD AND TENSILE STRENGTH AT ANY TIME PER FDOT SPECIFICATION 6-1.2.4.
 - THE J-ARM FABRICATOR SHALL BE AN APPROVED FABRICATOR OF ALUMINUM PRODUCTS PER FDOT SPECIFICATION SECTIONS 105-3.
 - THE J-ARM FABRICATOR SHALL PROVIDE A LETTER TO THE DEPARTMENT STATING THAT THE FABRICATOR IS CURRENTLY EQUIPPED/CAPABLE OF FABRICATING THE J-ARMS BASED ON THE CRITERIA DEFINED IN THESE PLANS. THIS LETTER SHALL BE PROVIDED AT LEAST ONE MONTH IN ADVANCE OF THE PROVISIONS BELOW FOR THE SAMPLE ARM. THE DEPARTMENT WILL NOT ACCEPT J-ARMS FROM FABRICATORS THAT CANNOT COMPLY WITH THE DESIGN AND TOLERANCE CRITERIA. THE DEPARTMENT RESERVES THE RIGHT TO VISIT AND INSPECT THE FABRICATION FACILITY, METHODS, AND MATERIALS AT ANY TIME.
 - EACH J-ARM FABRICATOR SHALL PROVIDE A SAMPLE J-ARM TO THE DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO FABRICATING ANY J-ARMS FOR THE PROJECT. THE ENTIRE FABRICATION PROCESS OF THE SAMPLE J-ARM SHALL BE OBSERVED BY THE DEPARTMENT AND/OR ITS REPRESENTATIVES. IF THE SAME J-ARM DOES NOT MEET THE CONTRACT REQUIREMENTS, THE DEPARTMENT WILL NOT ACCEPT J-ARMS FROM THE VENDOR FABRICATOR SUPPLYING THE SAMPLE UNTIL THE DESIGN AND TOLERANCE CRITERIA ARE MET FOR A SAMPLE ARM. ACCEPTANCE OF THE SAMPLE ARM BY THE DEPARTMENT DOES NOT CONSTITUTE ACCEPTANCE OF ALL J-ARMS PROVIDED SUBSEQUENTLY FOR THE PROJECT. THE DEPARTMENT MAY MEASURE ALL J-ARMS FOR CONFORMANCE TO DESIGN AND TOLERANCE CRITERIA AND REJECT ANY J-ARMS THAT DO NOT MEET THE DESIGN AND TOLERANCE CRITERIA. SAMPLE J-ARMS THAT MEET CRITERIA MAY BE USED AS PRODUCTION J-ARMS.
 - THE ABOVE STATED REQUIREMENTS FOR A LETTER AND A SAMPLE J-ARM ARE APPLICABLE FOR EACH J-ARM FABRICATOR.
 - SHOP DRAWINGS FROM ONE FABRICATOR SHALL NOT BE USED BY ANOTHER FABRICATOR.
 - THE POINT OF ATTACHMENT OF THE J-ARMS TO THE UPPER ARMS SHALL BE IN THE UPPER STRAIGHT SECTION OF THE J-ARM AND SHALL MEET THE CRITERIA DEFINED IN THESE PLANS.
 - THREE SPARE J-ARMS AND ALL ASSOCIATED REQUIRED J-ARM ATTACHMENT HARDWARE (U-BOLTS, PIPE SADDLES, MOUNTING PLATES, SELF-LOCKING NUTS, ETC.) PER GANTRY SHALL BE PROVIDED TO THE DEPARTMENT AND DELIVERED TO THE DEPARTMENT'S CENTRAL REPAIR DEPOT AT TURNPIKE MILEPOST 99. THE CONTRACTOR SHALL PROVIDE TWO WEEKS ADVANCE NOTICE PRIOR TO DELIVERING THE SPARE ITEMS.
 - SIX SPARE HORIZONTAL SUPPORT PIPES AND COMPLETE SETS OF ATTACHMENT HARDWARE PER GANTRY SHALL BE PROVIDED TO THE DEPARTMENT AND DELIVERED TO THE DEPARTMENT'S CENTRAL REPAIR DEPOT AT TURNPIKE MILEPOST 99. THE CONTRACTOR SHALL PROVIDE TWO WEEKS ADVANCE NOTICE PRIOR TO DELIVERING THE SPARE ITEMS.
 - FOR SPECIFICS CONCERNING J-ARMS, SEE SHEETS GX-522 TO GX-550.

REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		J-ARM DETAILS (2 OF 2)
					NA	POLK	437300-1-52-01		

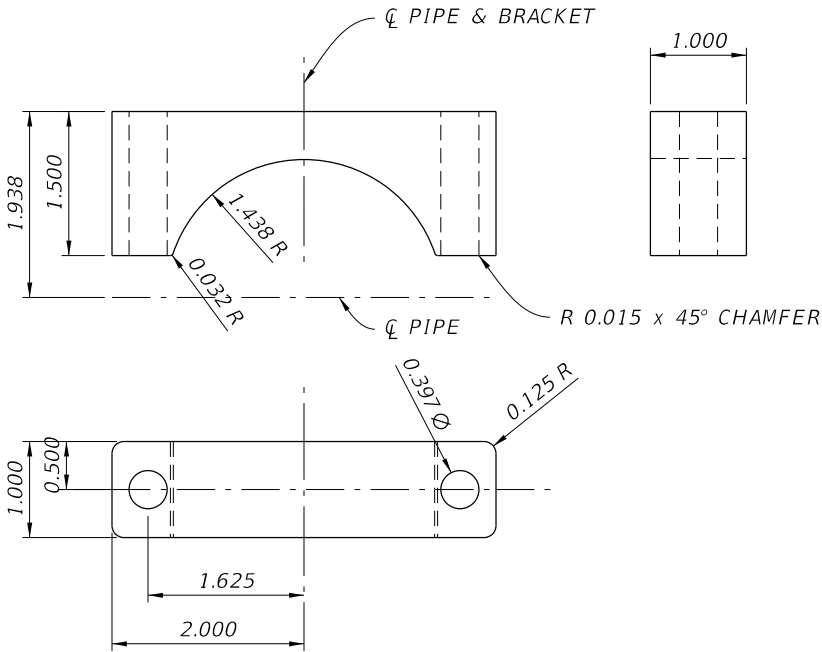
FDOT Structure No. ####

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

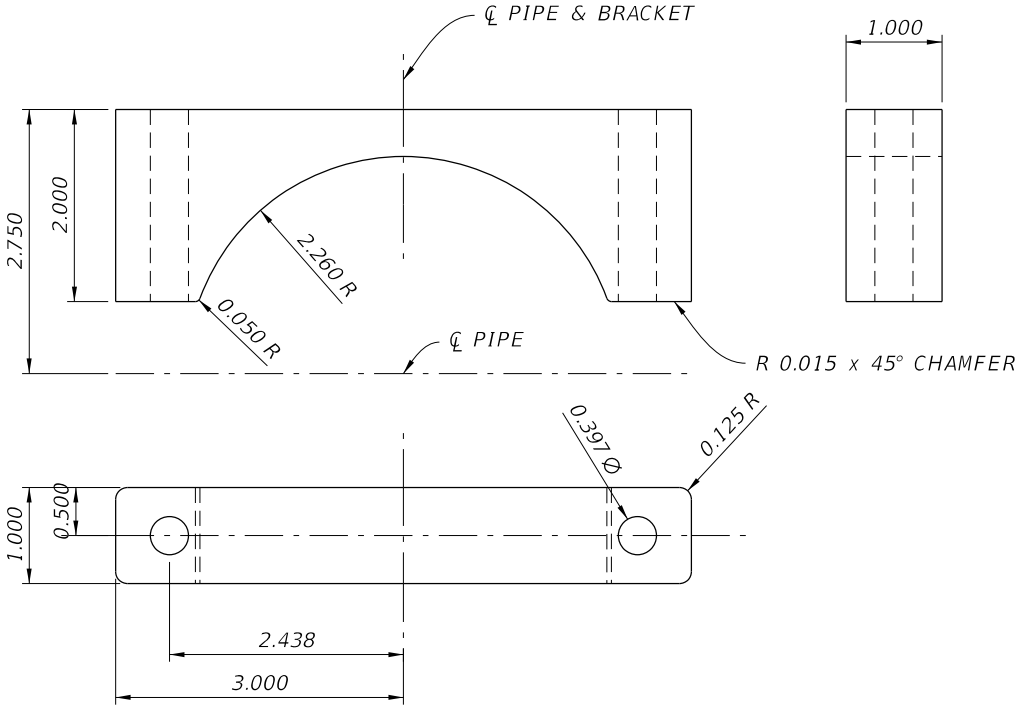
- NOTES:
1. BREAK ALL EDGES
 2. CLEAN AND DEGREASE PART.
 3. SADDLE TO BE GALVANIZED STEEL.
 4. ALL DIMENSIONS ARE IN INCHES, UNLESS NOTED OTHERWISE.
 5. FOR ADDITIONAL NOTES, SEE GX-531



HSS 4.5 PIPE TO W8x28 SADDLE DETAIL



J-ARM PIPE SADDLE DETAIL



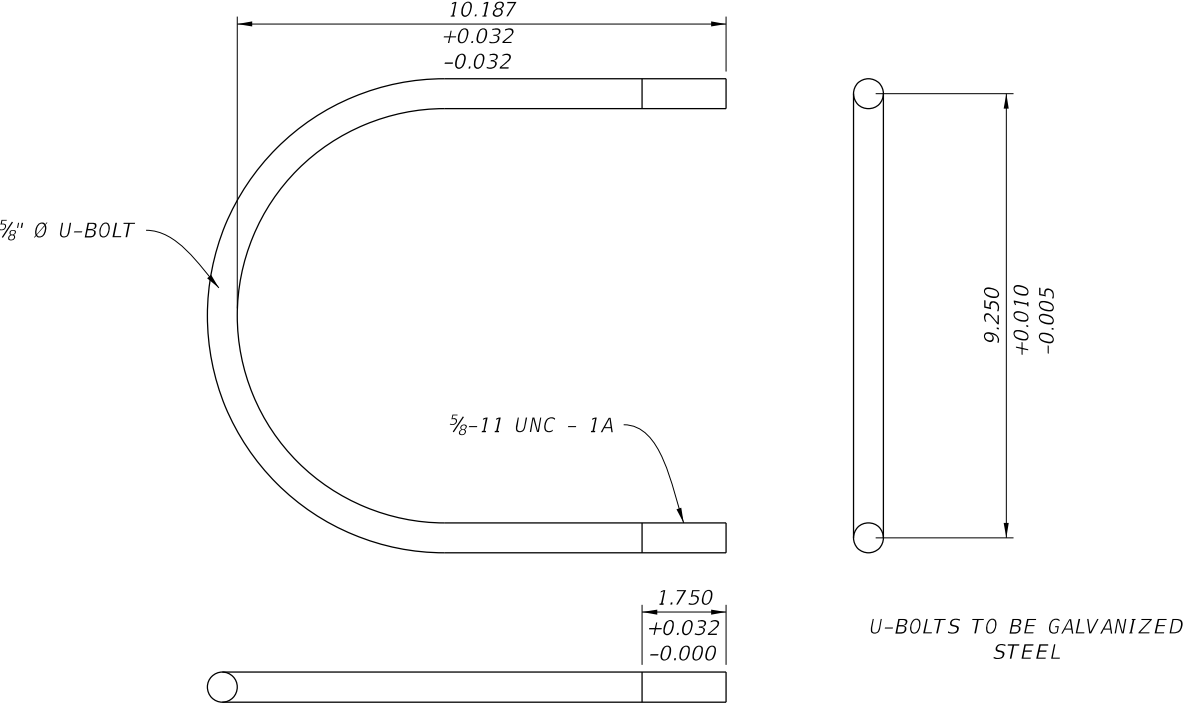
HSS 4.5 PIPE TO J-ARM PLATE SADDLE DETAIL

FDOT Structure No. ####

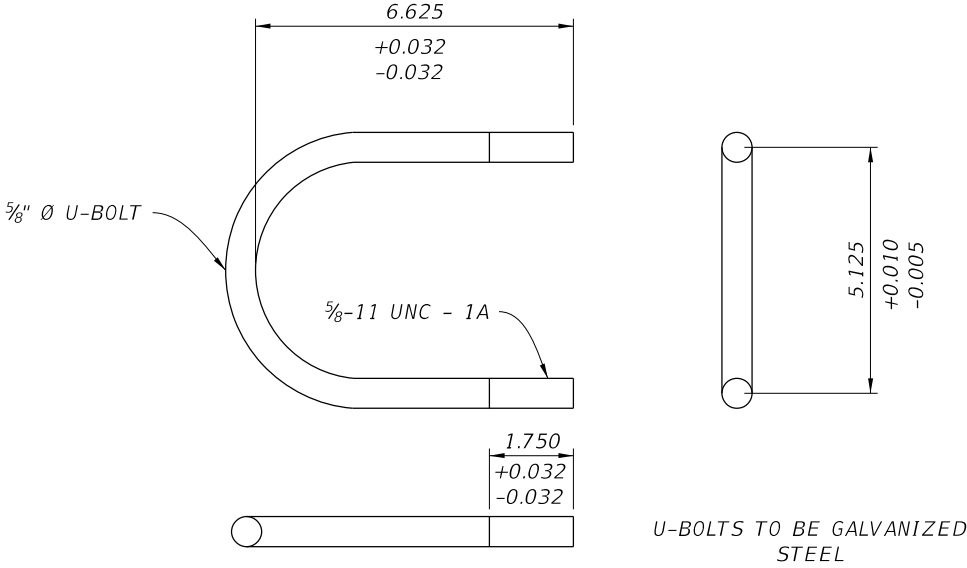
REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01	SADDLE DETAILS	GX-540

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

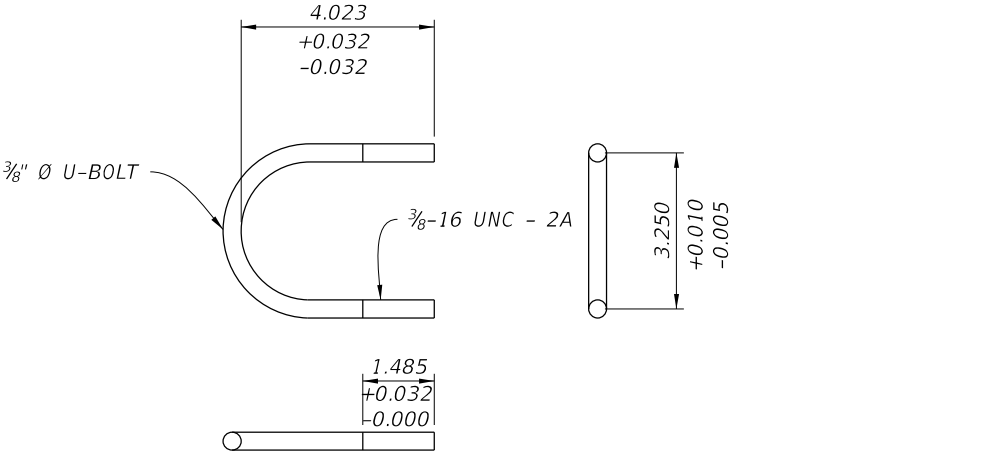
- NOTES:
- ALL DIMENSIONS ARE IN INCHES, UNLESS NOTED OTHERWISE.
 - FOR ADDITIONAL NOTES, SEE GX-531



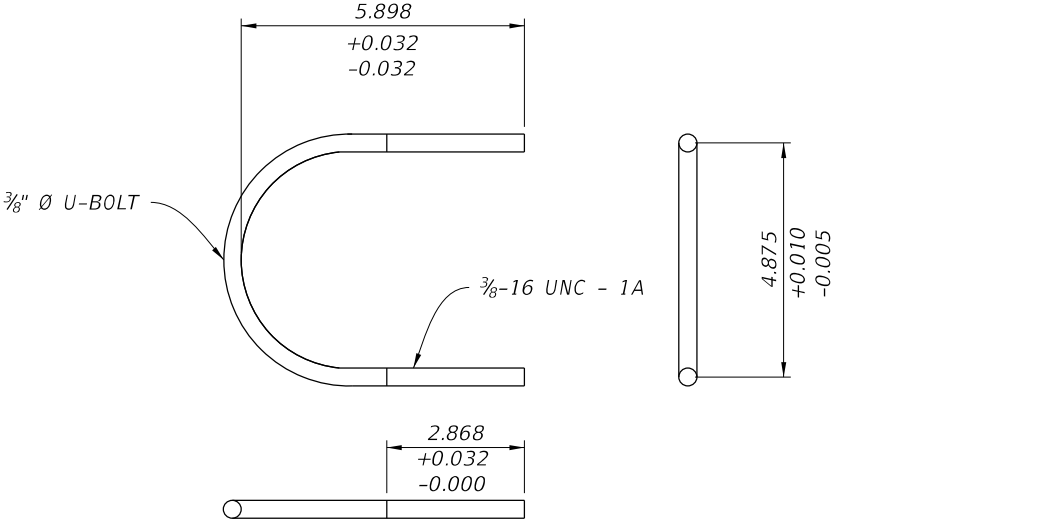
GANTRY CHORD TO W8x28 U-BOLT DETAIL



HSS 4.5 PIPE TO W8x28 U-BOLT DETAIL



J-ARM PLATE U-BOLT DETAIL



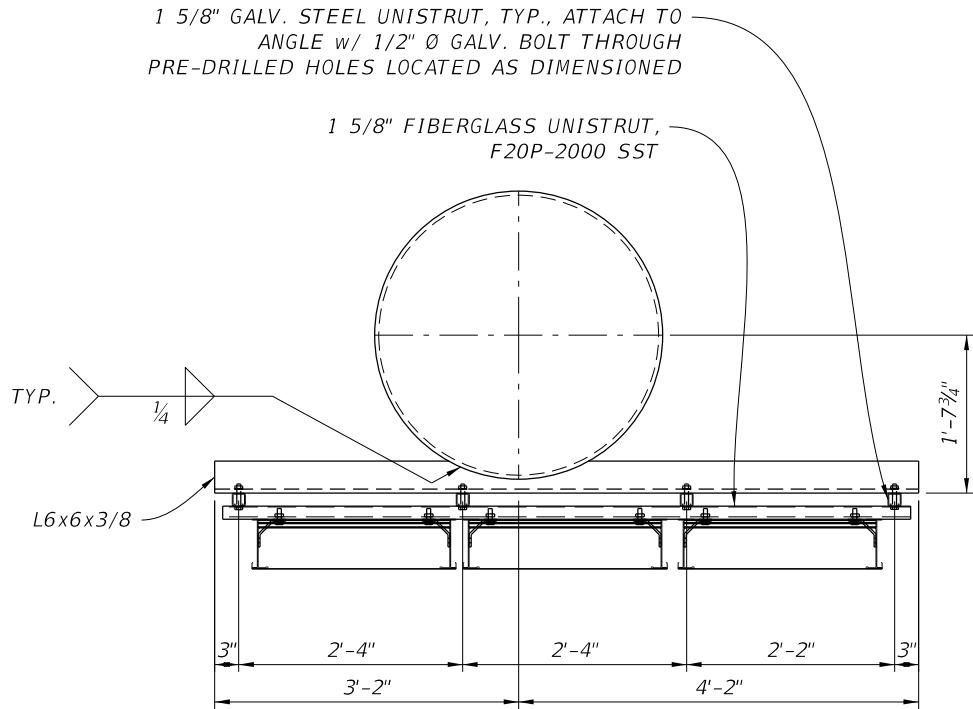
HSS 4.5 PIPE TO J-ARM PLATE U-BOLT DETAIL

FDOT Structure No. ####

REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY U-BOLT DETAILS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		GX-550

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

WIREWAY MOUNTING DATA TABLE	
LOCATION	ELEVATION 'A' (ft)
GANTRY #1	193.663
GANTRY #2	194.168
GANTRY #3	189.738
GANTRY #4	190.228



SECTION A-A

ALUMINUM LADDER STYLE
CABLE TRAY, EATON
36A12-24-144,
w/ ALUMINUM COVER, EATON
807A-24-144,
PROVIDE HEAVY DUTY COVER
CLAMPS, EATON 9A-24-9064,
@ 4 FT O.C.,

ELEVATION 'A'

90° VERTICAL BEND,
LADDER SUPPORTS OUTSIDE,
EATON 24-24-90V024

COVER THIS SIDE

HEAVY DUTY HOLD DOWN BRACKET,
EATON 9ZN-1241,
EA. SIDE OF CABLE TRAY,
ATTACH TO CABLE TRAY w/ 1/2" Ø GALV.
BOLT, USE NEOPRENE WASHER BETWEEN
ALL DISSIMILAR SURFACES, TYP.

ATTACH HEAVY DUTY HOLD DOWN BRACKET
TO UNISTRUT w/ 1/2" Ø BOLT w/ CHANNEL
NUT WITH SPRING, GALV., TYP.

SEE ELECTRICAL PLANS FOR TRANSITION
FROM VERTICAL CABLE TRAY TO TROUGHS.
CABLE SHALL BE SUPPORTED MAX 12"
FROM BOTTOM OF CABLE TRAY AND @
MAX 4½ FT THERE ON

WIREWAY MOUNTING DETAIL
FRONT ELEVATION

COVER THIS SIDE

L6x6x3/8, TYP.

ELEVATION 'A'

1 5/8" GALV. STEEL UNISTRUT,
TYP. ALL VERT. UNISTRUT,
ATTACH TO ANGLE w/ 1/2" Ø
GALV. BOLT THROUGH
PRE-DRILLED HOLES LOCATED
AS DIMENSIONED

1 5/8" FIBERGLASS UNISTRUT,
F20P-2000 SST, TYP ALL HORIZ.
UNISTRUT

NOTE: CABLE TRAY
NOT SHOWN IN THIS
VIEW FOR CLARITY

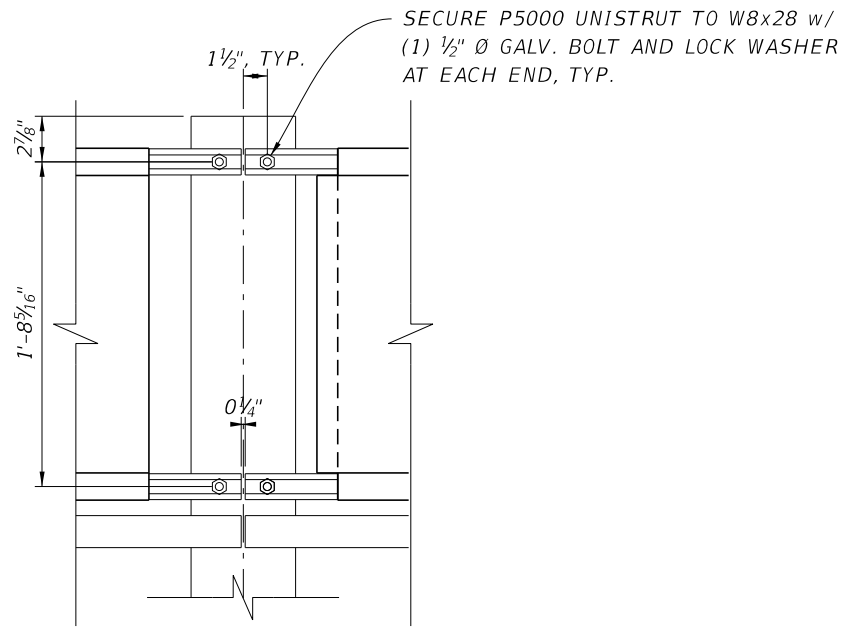
WIREWAY MOUNTING DETAIL
SIDE ELEVATION

REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY WIREWAY MOUNTING DETAILS	SHEET NO. GX-590
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

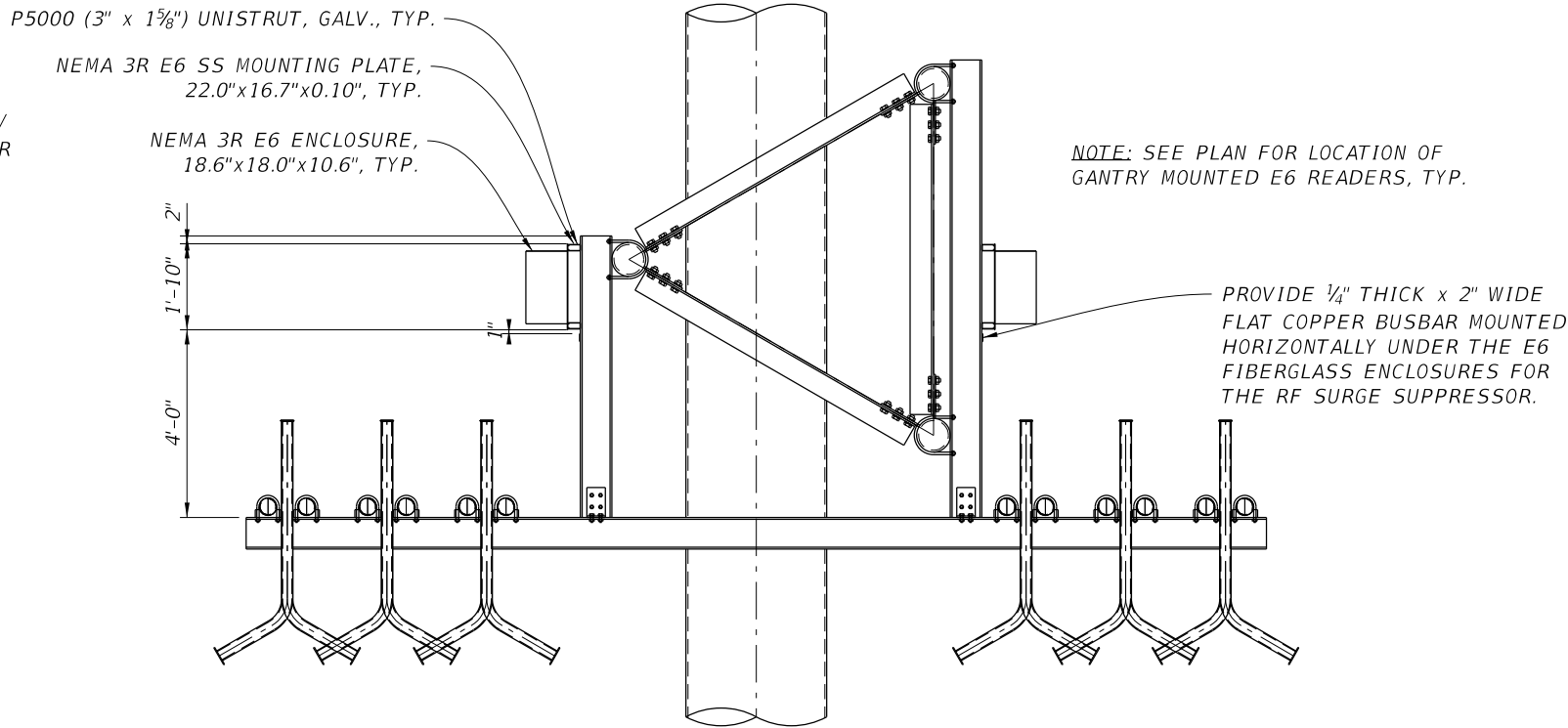
FDOT Structure No. ####

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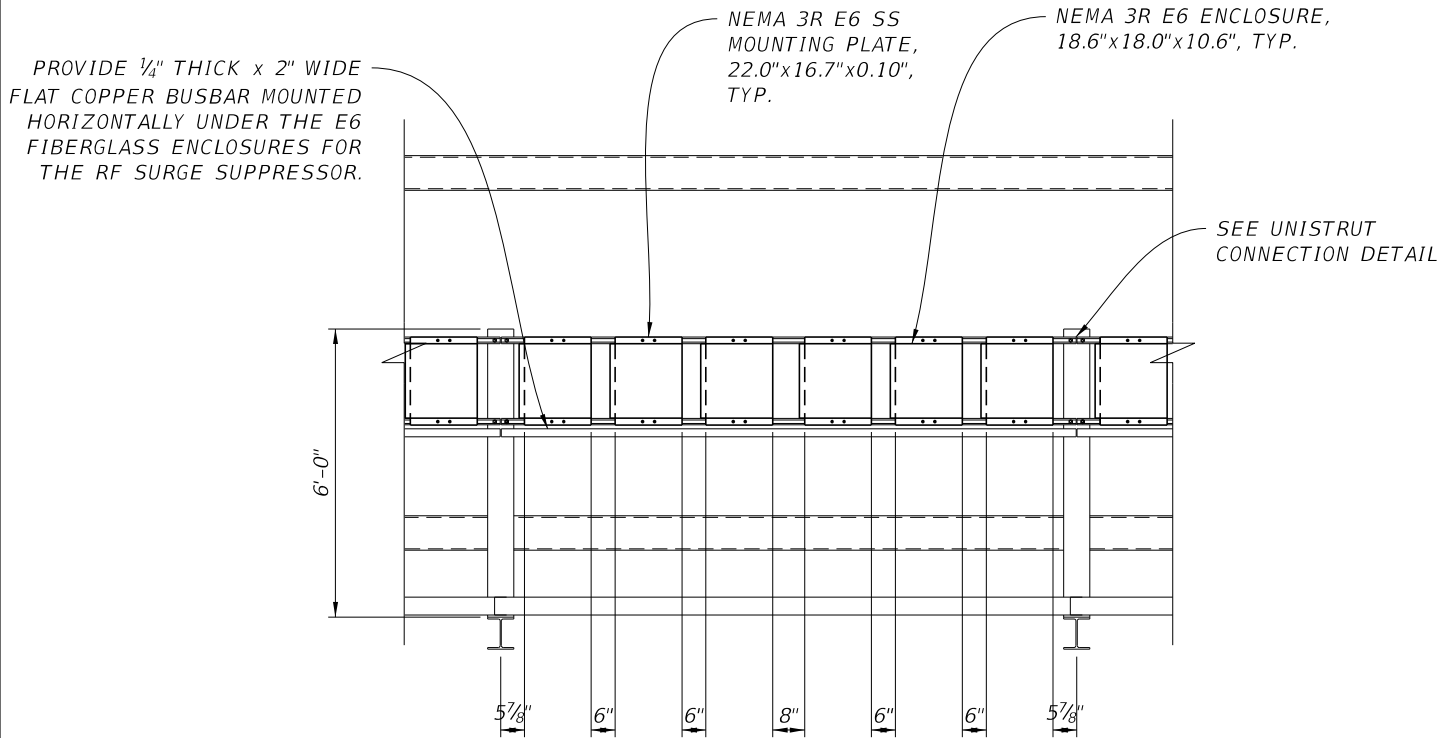
- NOTES:
- 1. DO NOT INSTALL CGB FITTING WITH OPENING IN AN UPWARD ORIENTATION.
 - 2. COORDINATE CGB CABLE SIZES INDICATED IN CABLE SCHEDULE.
 - 3. ALL UNISTRUTS SHALL BE HOT-DIPPED GALVANIZED 1 5/8"x1 5/8", 12 GA. OR APPROVED EQUAL.



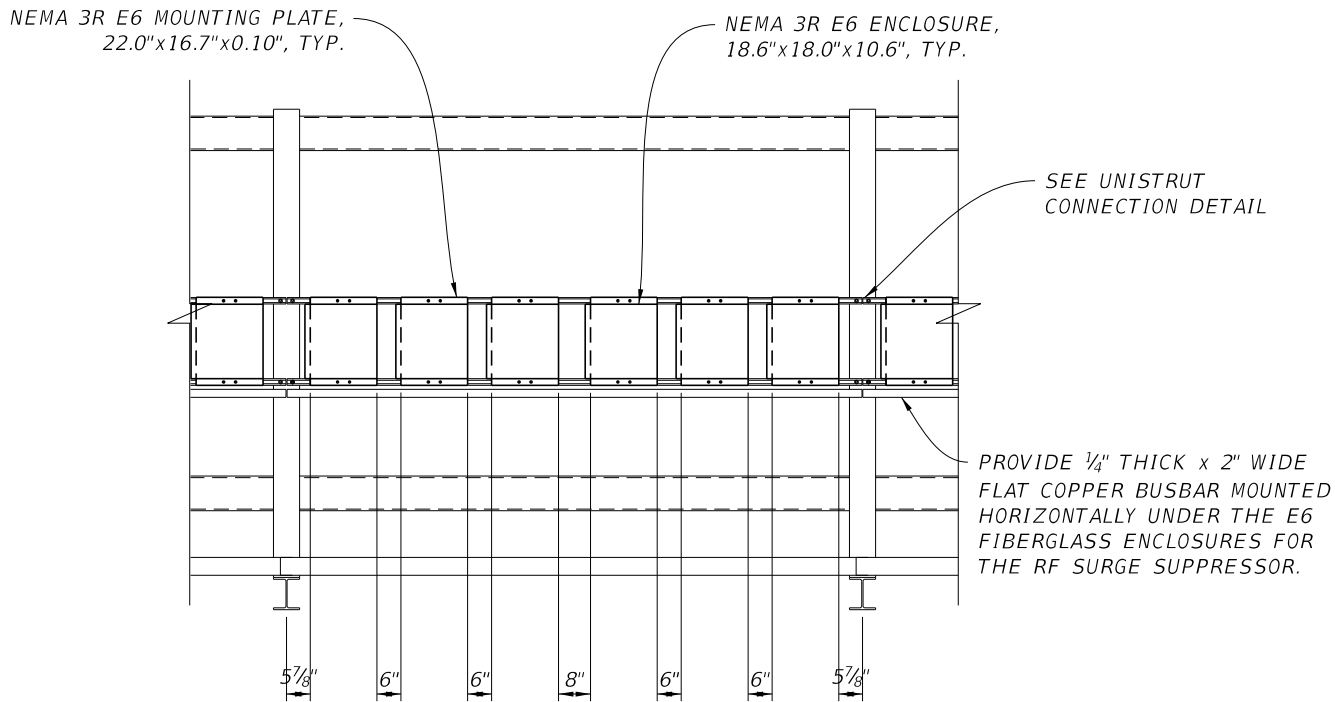
UNISTRUT CONNECTION DETAIL



E6 MOUNTING DETAIL



E6 MOUNTING DETAIL
BACK OF TRUSS



E6 MOUNTING DETAIL
FRONT FACE OF TRUSS

REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY E6 MOUNTING DETAILS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		GX-595

FDOT Structure No. ####

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

SPAN STRUCTURE TOLLING EQUIPMENT DATA TABLE												Table Date 01-01-11		
GANTRY #	STATION	DIMENSIONS			PNLS	MEMBER SIZES						SPLICE		
		A	B	C	D	E	F (CHORD)	G (WEB)	H (LEFT UPRIGHT)	J (RIGHT UPRIGHT)	K (CAMBER)	SA	SB	SC
		ft	ft	ft	#	in	O. D. x Wall Thk. (in)	Angle (in)	O. D. x Wall Thk. (in)	O. D. x Wall Thk. (in)	in	Angle (in)	#	in
1	222+08.44	108	26.90	23.39	18	90	8.625 x 0.625	L6x6x3/4	36" Ø x 0.750	36" Ø x 0.750	3	N/A	N/A	N/A
2	227+08.44	108	26.52	23.41	18	90	8.625 x 0.625	L6x6x3/4	36" Ø x 0.750	36" Ø x 0.750	3	N/A	N/A	N/A
3	422+45.19	108	26.48	23.41	18	90	8.625 x 0.625	L6x6x3/4	36" Ø x 0.750	36" Ø x 0.750	3	N/A	N/A	N/A
4	427+45.19	108	26.62	23.40	18	90	8.625 x 0.625	L6x6x3/4	36" Ø x 0.750	36" Ø x 0.750	3	N/A	N/A	N/A

SPAN STRUCTURE TOLLING EQUIPMENT DATA TABLE (CONT.)																							Table Date 01-01-11		
GANTRY #	ALTERNATE SPLICE**						GUSSET PLATES																		
	PA	PB	PC	PD	PE	PF	GA	GB*	GC		GD		GE		GF		GG		GH		GJ		GK		GL
	in	in	in	in	in	#	in	in	ft	in	ft	in	ft	in	ft	in	ft	in	ft	in	ft	in	ft	in	in
1	1 1/2	5 1/4	3/8	3/8	1 1/4	16	5/8	1 1/4	1	6	1	2 1/2	1	6 1/2	1	2 1/8	2	5 1/4	1	3	1	2 1/2	1	3	1/4
2	1 1/2	5 1/4	3/8	3/8	1 1/4	16	5/8	1 1/4	1	6	1	2 1/2	1	6 1/2	1	2 1/8	2	5 1/4	1	3	1	2 1/2	1	3	1/4
3	1 1/2	5 1/4	3/8	3/8	1 1/4	16	5/8	1 1/4	1	6	1	2 1/2	1	6 1/2	1	2 1/8	2	5 1/4	1	3	1	2 1/2	1	3	1/4
4	1 1/2	5 1/4	3/8	3/8	1 1/4	16	5/8	1 1/4	1	6	1	2 1/2	1	6 1/2	1	2 1/8	2	5 1/4	1	3	1	2 1/2	1	3	1/4

** - SEE SPLICE DETAIL THIS SHEET

* - ALL WEB ANGLE CONNECTIONS TO THE CHORDS MUST USE (3) A325-X BOLTS

SPAN STRUCTURE TOLLING EQUIPMENT DATA TABLE (CONT.)															Table Date 01-01-11	
GANTRY #	LEFT UPRIGHT CONNECTION								RIGHT UPRIGHT CONNECTION							
	LA	LB	LC	LD	LE	LF	LG	LH	RA	RB	RC	RD	RE	RF	RG	RH
	in	#	in	in	in	in	in	in	in	#	in	in	in	in	in	in
1	1 1/4	8	3/4	5/8	1/4	1/4	1/4	1/4	1 1/4	8	3/4	5/8	1/4	1/4	1/4	1/4
2	1 1/4	8	3/4	5/8	1/4	1/4	1/4	1/4	1 1/4	8	3/4	5/8	1/4	1/4	1/4	1/4
3	1 1/4	8	3/4	5/8	1/4	1/4	1/4	1/4	1 1/4	8	3/4	5/8	1/4	1/4	1/4	1/4
4	1 1/4	8	3/4	5/8	1/4	1/4	1/4	1/4	1 1/4	8	3/4	5/8	1/4	1/4	1/4	1/4

NOTES:

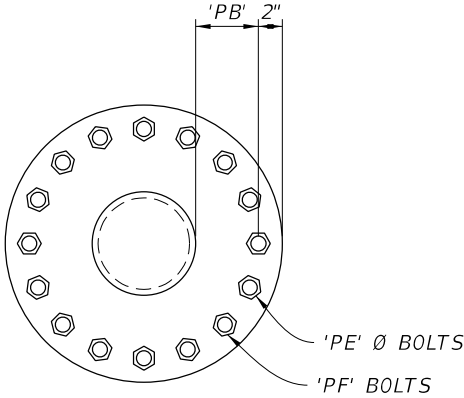
1. Work these Data Tables with Index 11320.
2. Design Wind Speed = 110 mph
3. Erection is the Contractor's responsibility.
To facilitate erection, the Contractor should consider using two vertical lift points, each located near a panel point approximately 20 to 25% of the truss length from each end.
4. 'DC' and 'FC' shall include quantity and size of reinforcing steel.

FOUNDATION NOTES:

1. Foundation design based on soil borings performed by Tierra, Inc. See Geotechnical Engineering Services Report, Toll Gantry Structures, dated December 5, 2016, Report No. 5511-15-035
2. Soil parameters used in design of foundations:
- All drilled shafts: Φ = 30°, γ = 102 pcf

SPAN STRUCTURE TOLLING EQUIPMENT DATA TABLE (CONT.)																			Table Date 01-01-11	
GANTRY #	LEFT BASE CONNECTION										RIGHT BASE CONNECTION									
	BA	BB	BC	BD	BE		BF	BG	BH	BJ	CA	CB	CC	CD	CE		CF	CG	CH	CJ
	in	#	in	in	ft	in	in	in	in	in	in	#	in	in	ft	in	in	in	in	in
1	2 1/2	12	2 1/4	1/2	1	6	3/8	3/8	1/4	1/4	2 1/2	12	2 1/4	1/2	1	6	3/8	3/8	1/4	1/4
2	2 1/2	12	2 1/4	1/2	1	6	3/8	3/8	1/4	1/4	2 1/2	12	2 1/4	1/2	1	6	3/8	3/8	1/4	1/4
3	2 1/2	12	2 1/4	1/2	1	6	3/8	3/8	1/4	1/4	2 1/2	12	2 1/4	1/2	1	6	3/8	3/8	1/4	1/4
4	2 1/2	12	2 1/4	1/2	1	6	3/8	3/8	1/4	1/4	2 1/2	12	2 1/4	1/2	1	6	3/8	3/8	1/4	1/4

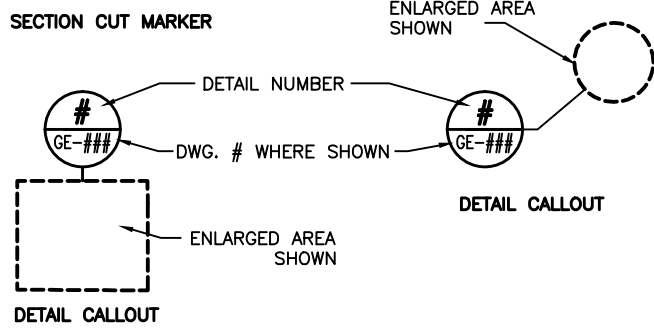
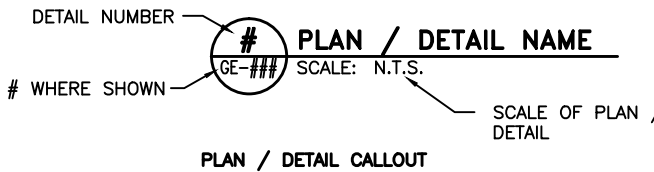
SPAN STRUCTURE TOLLING EQUIPMENT DATA TABLE (CONT.)															Table Date 01-01-11		
GANTRY #	LEFT DRILLED SHAFT								RIGHT DRILLED SHAFT								
	DA		DB		DC	DD	DE	DF	FA		FB		FC	FD	FE	FF	
	ft	in	ft	in	# / size	#	in	in	ft	in	ft	in	# / size	#	in	in	
1	37	0	5	6	22 #11	13	8	68	37	0	5	6	22 #11	13	8	68	
2	37	0	5	6	22 #11	13	8	68	37	0	5	6	22 #11	13	8	68	
3	37	0	5	6	22 #11	13	8	68	37	0	5	6	22 #11	13	8	68	
4	37	0	5	6	22 #11	13	8	68	37	0	5	6	22 #11	13	8	68	



ALTERNATE SPLICE DETAIL

FDOT Structure No. ####

REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY STRUCTURE DATA TABLES	SHEET NO.
DATE	DESCRIPTION		DATE		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		
									GX-600

ELECTRICAL SYMBOL LEGEND:				GENERAL SYMBOLS LEGEND:				ABBREVIATIONS:				ABBREVIATIONS CONT:			
SYMBOL		DESCRIPTION													
		125V, 20A NEMA L-20R, DUPLEX RECEPTACLE. 'WP' INDICATES WEATHERPROOF WITH LOCKABLE METAL IN-USE COVER COOPER WIUMV-1 OR EQUAL. 'GFI' INDICATES GROUND FAULT INTERRUPTER.				ELEVATION NUMBER DWG. # WHERE SHOWN EXTERIOR ELEVATION MARKER				NORTH NORTH ARROW		A AASHTO		AMPS AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	
		PAN TILT ZOOM CAMERA.				INDICATES DIRECTION OF CUTTING PLANE SECTION NUMBER DWG. # WHERE SHOWN SECTION CUT MARKER				ENLARGED AREA SHOWN DETAIL NUMBER DWG. # WHERE SHOWN ENLARGED AREA SHOWN DETAIL CALLOUT		AL, ALUM.		ALUMINUM	
		WIREWAY, TYPE AND LENGTH AS INDICATED ON PLANS.				DETAIL NUMBER DWG. # WHERE SHOWN PLAN / DETAIL NAME SCALE: N.T.S. SCALE OF PLAN / DETAIL PLAN / DETAIL CALLOUT		ANSI		AMERICAN NATIONAL STANDARDS INSTITUTE		ASTM		AMERICAN SOCIETY FOR TESTING AND MATERIALS	
		FLEXIBLE WIREWAY FITTINGS.						ATS		AUTOMATIC TRANSFER SWITCH		AVI		AUTOMATIC VEHICLE IDENTIFICATION	
		90° ELBOW FOR HORIZONTAL AND VERTICAL WIREWAY CONNECTION.						AWG		AMERICAN WIRE GAUGE		BCU		BATTERY CHARGER UNIT	
		45° ELBOW.						BLDG.		BUILDING		BPS		BYPASS SWITCH	
		90° ELBOW.						C.		CONDUIT		CCTV		CLOSED CIRCUIT TELEVISION	
		GROUND ROD UON.						CKT.		CIRCUIT		COMP		COMPUTER	
		DEVICE OR EQUIPMENT AS NOTED.						CU		COPPER		COMM.		COMMUNICATION	
		REFERENCE NOTES.						DEP		DEPARTMENT OF ENVIRONMENTAL PROTECTION		DIA.		DIAMETER	
		E6 READER.						DN		DOWN		DWG.		DRAWING	
								E6		ENCOMPASS 6 MULTIPROTOCOL READER		ENG.		ENGINE	
								ETC		ELECTRONIC TOLL COLLECTION		ETC.		ET CETERA	
								EQUIP.		EQUIPMENT		EPA		ENVIRONMENTAL PROTECTION AGENCY	
								EPO		EMERGENCY POWER OFF		EXT.		EXTERIOR	
								FOC		FIBER OPTIC CABLE		FT		FOOT; FEET	
								FTE		FLORIDA'S TURNPIKE ENTERPRISE		FTL		FEED THROUGH LUGS	
								FTM		FUEL TANK MONITOR		FUT		FUTURE	
								GA		GAUGE		GAL.		GALLON	
								GEC		GROUNDING ELECTRODE CONDUCTOR		GFI		GROUND FAULT INTERRUPTER	
								GND		GROUND		HID		HIGH INTENSITY DISCHARGE	
								HP		HORSEPOWER		HZ		HORIZONTAL, HERTZ	
								I.C.		INTERRUPTING CAPACITY		I.D.		IDENTIFICATION	
								IN.		INCHES		JB		JUNCTION BOX	
								KA		KILOAMPERES		KVA		KILOVOLT AMPERES	
								KW		KILOWATT		LED		LIGHT EMITTING DIODE	
								LFMC		LIQUID TIGHT FLEXIBLE METAL CONDUIT		LN CTR		LANE CONTROLLER	
								LOC.		LOCATION		LLC		LEAD LAG CONTROLLER	
								LP		LIGHTNING PROTECTION		LTG		LIGHTING	
								MAX.		MAXIMUM		MCB		MAIN CIRCUIT BREAKER	
								MTS		MANUAL TRANSFER SWITCH		MIN.		MINIMUM	
								ML		MAINLINE		M.L.O.		MAIN LUGS ONLY	
								MOT		MAINTENANCE OF TRAFFIC		MTD		MOUNTED	
								N		NEUTRAL		NB		NORTHBOUND	
								N.C.		NORMALLY CLOSED		N.E.C.		NATIONAL ELECTRICAL CODE	
								NEMA		NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION		NIC		NOT IN CONTRACT	
								NO.		NUMBER		N.O.		NORMALLY OPEN	
								N.T.S.		NOT TO SCALE		N3R		NEMA 3R	

ELECTRICAL GENERAL NOTES:

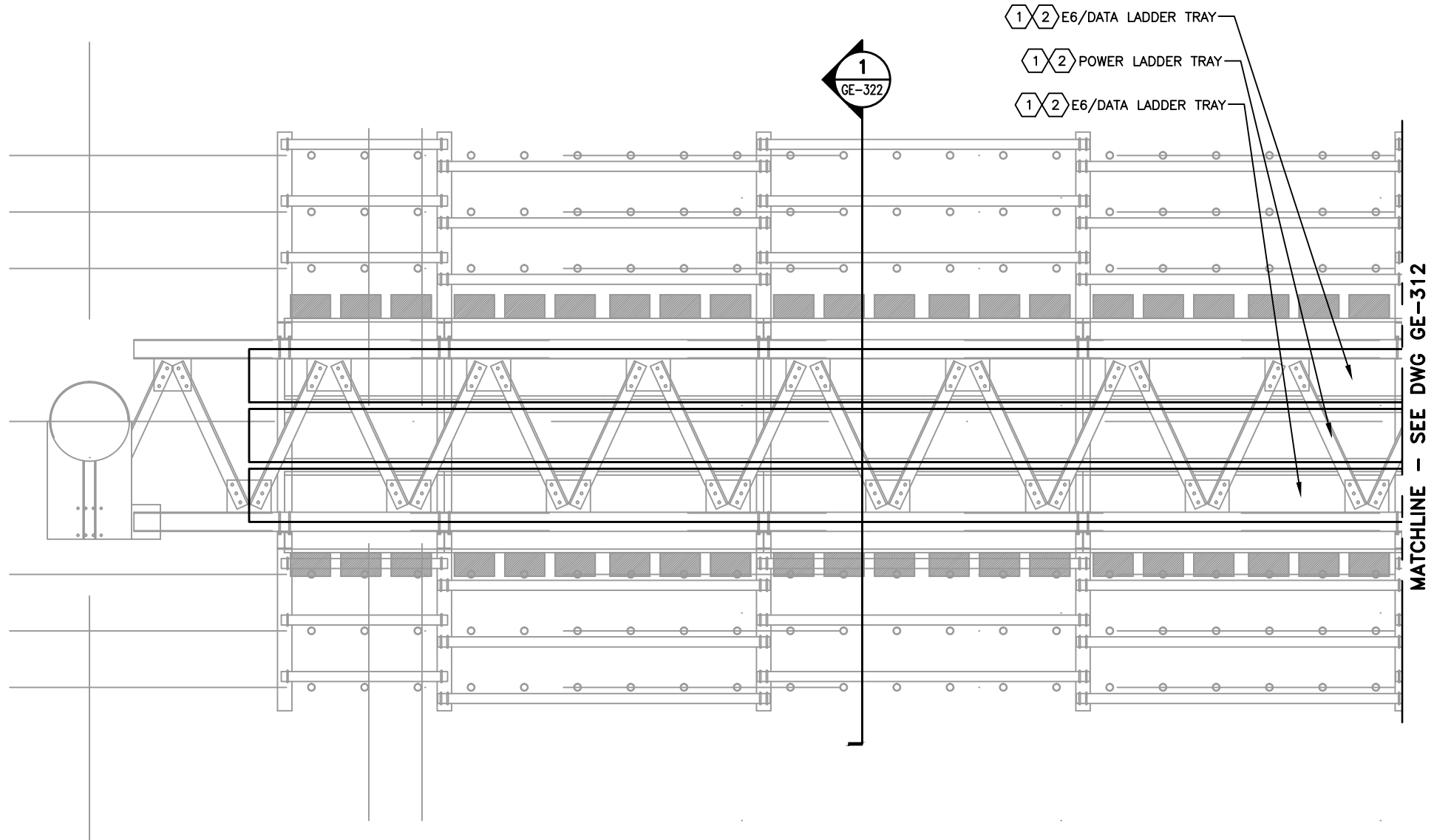
1. FEED ALL RECEPTACLES AND DEVICES WITH (2) #12, (1) #12 GND IN 3/4" C, UON.
2. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUIT RACEWAYS.
3. ALL 120V, 20A CIRCUIT HOMERUNS OVER 50FT. SHALL BE #10 CU MINIMUM, UON.
4. ALL 120V, 20A CIRCUIT HOMERUNS OVER 150FT. SHALL BE #8 CU MINIMUM, UON.
5. ALL 240V, 20A CIRCUIT HOMERUNS OVER 150FT. SHALL BE #10 CU. MINIMUM, UON.
6. ALL 240V, 20A CIRCUIT HOMERUNS OVER 300FT. SHALL BE #8 CU MINIMUM, UON.
7. PROVIDE PULL STRINGS IN ALL EMPTY CONDUIT AND RACEWAYS WITH LABELING AT EACH END. SEE DETAIL 3, DWG. CE-114.
8. THE USE OF ANY PROCESS INVOLVING ASBESTOS OR PCB, AND THE INSTALLATION OF ANY PRODUCT, INSULATION, COMPOUND OF MATERIAL CONTAINING OR INCORPORATING ASBESTOS OR PCB, IS PROHIBITED. PROVIDE A COMPLETE AND PROPERLY OPERATING ELECTRICAL SYSTEM WITHOUT THE USE OF ASBESTOS OR PCB.
9. CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID. SUBMISSION OF A BID WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED.
10. INCLUDE THE TRANSPORT AND DISPOSAL OR RECYCLING OF ALL WASTE MATERIALS GENERATED BY THIS PROJECT IN ACCORDANCE WITH ALL RULES, REGULATIONS AND GUIDELINES APPLICABLE.

A) COMPLY FULLY WITH FLORIDA STATUTE 403.7186 REGARDING MERCURY CONTAINING DEVICES AND LAMPS.

B) TRANSPORT AND DISPOSE OF LAMPS, BALLASTS AND OTHER MATERIALS IN ACCORDANCE WITH ALL DEP AND EPA GUIDELINES.

C) PROVIDE WRITTEN CERTIFICATION THAT ALL MATERIALS WERE RECYCLED OR DISPOSED OF PROPERLY PER THE GUIDELINES NOTED ABOVE.
11. LOCATE EXISTING UTILITIES AND PROTECT THEM FROM DAMAGE.
12. PHASE WORK AS REQUIRED BY MOT PLANS.
13. UNDERGROUND CONDUIT SHALL BE PVC SCH. 80, UON. UNDERGROUND CONDUIT SHALL TRANSITION TO RGS CONDUIT WITH PVC TO RGS CONDUIT FITTINGS. CONDUIT SHALL BE RGS ABOVE GRADE THROUGH AND INCLUDING THE FIRST 90 DEGREE FITTING UNDERGROUND UON.
14. TOLL EQUIPMENT AND ALL WIRING/CABLING FOR TOLL EQUIPMENT WILL BE FURNISHED AND INSTALLED BY T.E.C., UON.
15. UNDERGROUND CONDUITS SHALL BE INSTALLED A MINIMUM OF 36" BELOW GRADE.
16. EXPOSED EXTERIOR CONDUIT SHALL BE RGS THROUGH AND INCLUDING THE FIRST 90° BEND INSTALLED UNDERGROUND. TRANSITIONS BETWEEN RGS AND PVC CONDUIT SHALL BE MADE WITH A RGS TO PVC CONDUIT FITTING.
17. EQUIPMENT SPECIFIED WITH CATALOG NUMBERS OR PART NUMBERS SHALL NOT BE SUBSTITUTED UNLESS "OR EQUAL" IS INDICATED.
18. PLASTIC END CAPS SHALL BE INSTALLED ON ENDS OF UNISTRUT.
19. ALL LIQUID-TIGHT, FLEXIBLE CONDUIT SHALL BE METALLIC.
20. AC OR DC ELECTRICAL CIRCUITS OR WIRING THAT OPERATES AT 25 VOLTS OR GREATER SHALL NOT BE INSTALLED AND/OR LOCATED WITHIN 5 FEET OF ANY TRAFFIC DETECTION LOOP OR LOOP PULL BOX.

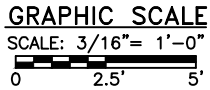
REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY ELECTRICAL GENERAL NOTES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION						
					ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		GE-302



1 GENTRY – ELECTRICAL PLAN (1 OF 2)
 GE-311 SCALE: 3/16"= 1'-0"

REFERENCE NOTES:

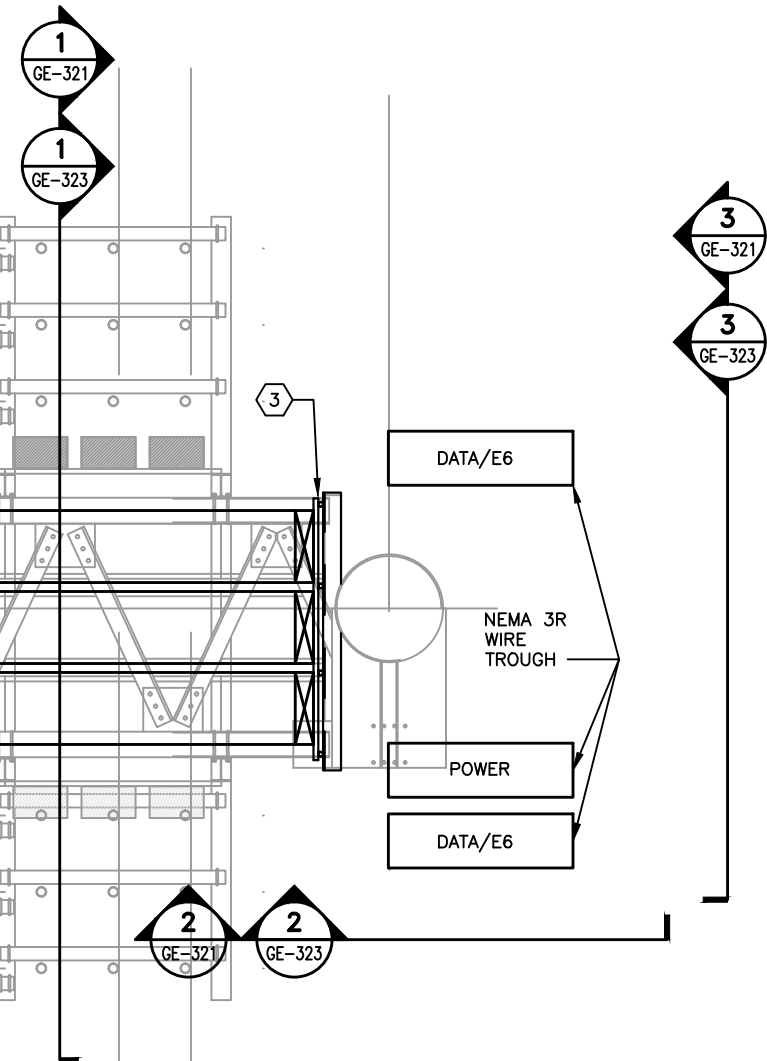
- 1 24"x6" ALUMINUM LADDER CABLE TRAY WITH SOLID FLANGED COVER MOUNTED TO TOLL EQUIPMENT STRUCTURE AND SUPPORTS. POWER CIRCUITING SHALL BE PROVIDED WITH GROUND WIRES IN THE POWER LADDER TRAY. SEE TSP FOR DETAILS.
- 2 CABLE TRAY WITH THE COVER FACING UP.



REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY ELECTRICAL PLAN (1 OF 2)	SHEET NO. GE-311
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

MATCHLINE - SEE DWG GE-312

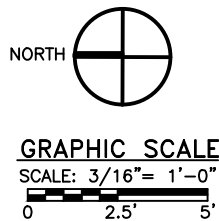
- 1 2 E6/DATA LADDER TRAY
- 1 2 POWER LADDER TRAY
- 1 2 E6/DATA LADDER TRAY



1 GANTRY - ELECTRICAL PLAN (2 OF 2)
GE-312 SCALE: 3/16"= 1'-0"

REFERENCE NOTES:

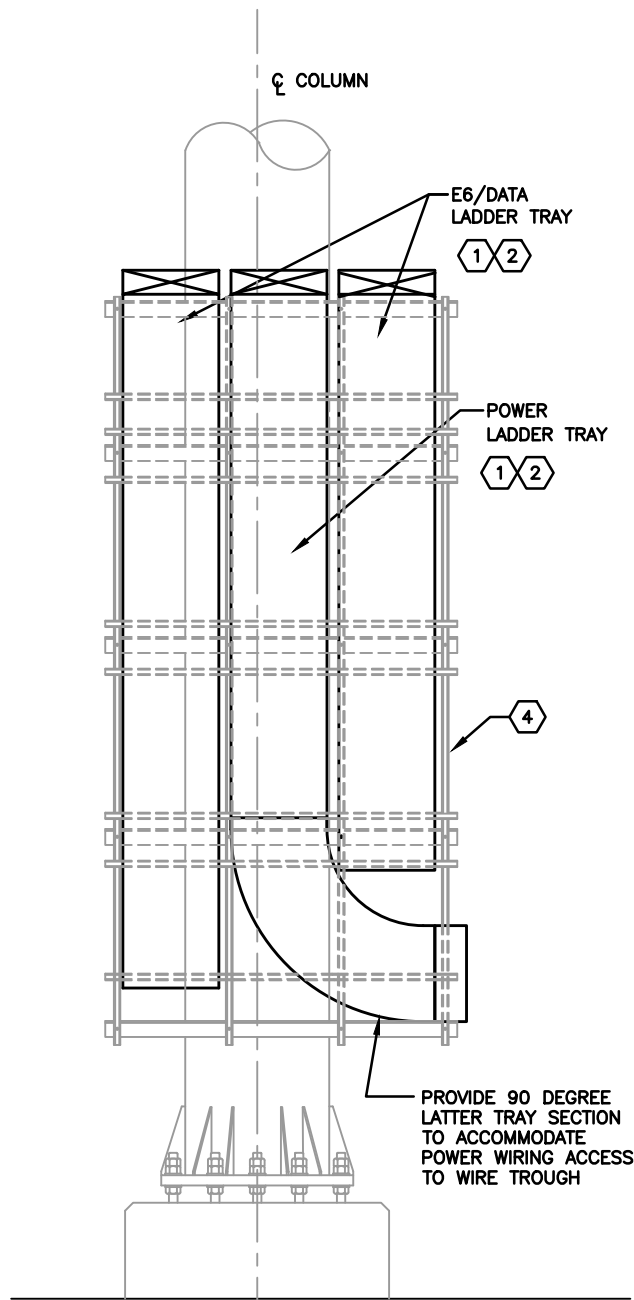
- 1 24"x6" ALUMINUM LADDER CABLE TRAY WITH SOLID FLANGED COVER MOUNTED TO TOLL EQUIPMENT STRUCTURE AND SUPPORTS. POWER CIRCUITING SHALL BE PROVIDED WITH GROUND WIRES IN THE POWER LADDER TRAY. SEE TSP FOR DETAILS.
- 2 CABLE TRAY WITH THE COVER FACING UP.
- 3 PROVIDE 90° ALUMINUM LADDER TRAY SECTION TO CONNECT HORIZONTAL AND VERTICAL LADDER TRAY.



REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY ELECTRICAL PLAN (2 OF 2)	SHEET NO. GE-312
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

GENERAL NOTES:

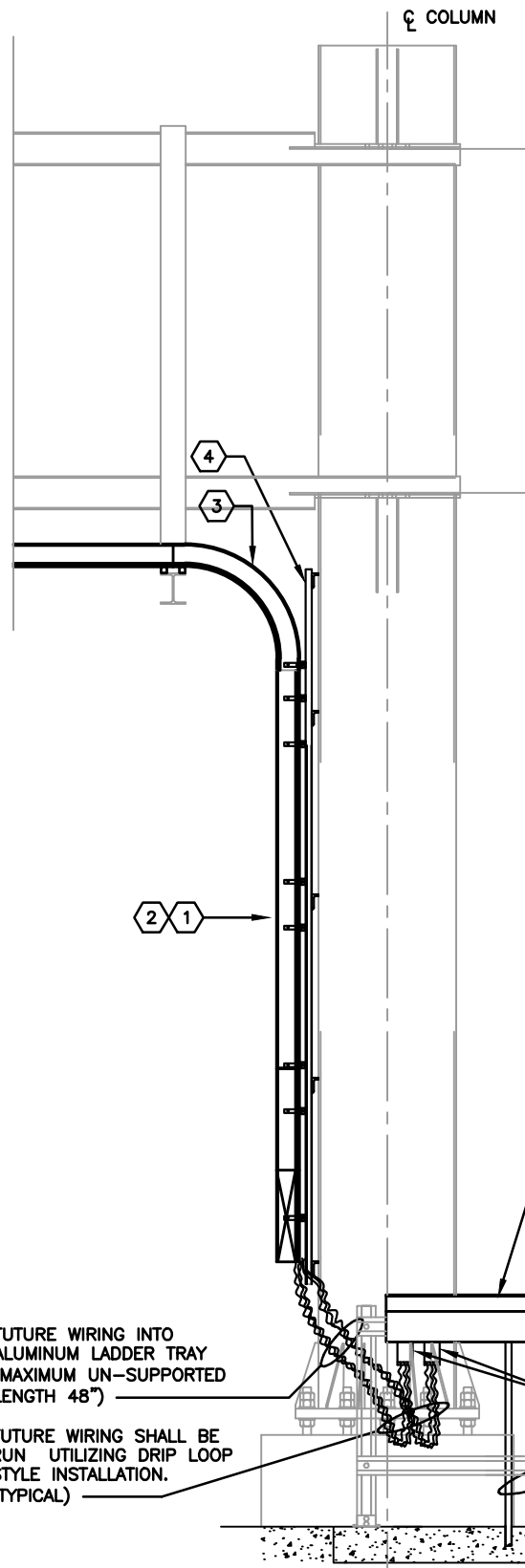
- UNISTRUT & MOUNTING HARDWARE SHALL BE DEBURRED & FILED SMOOTH TO REMOVE ROUGH EDGES.
- PROVIDE PLASTIC END CAPS FOR UNISTRUT SUPPORTS.
- PROVIDE TELESCOPING FITTINGS, MOUNTING HARDWARE AND ACCESSORIES TO PROVIDE A COMPLETE RACEWAY SYSTEM.
- UNISTRUT LESS THAN 20' SHALL BE CONTINUOUS WITHOUT SPLICES.
- SUPPORT FOR WIRING OUT OF THE LADDER TRAY AND INTO THE WIRE TROUGH SHALL BE SUPPORTED 12" WITH A MINIMUM 54" TO THE NEXT MEANS OF SUPPORT.



1 CABLETRAY - SECTION
GE-321 SCALE: 1/4" = 1'-0"

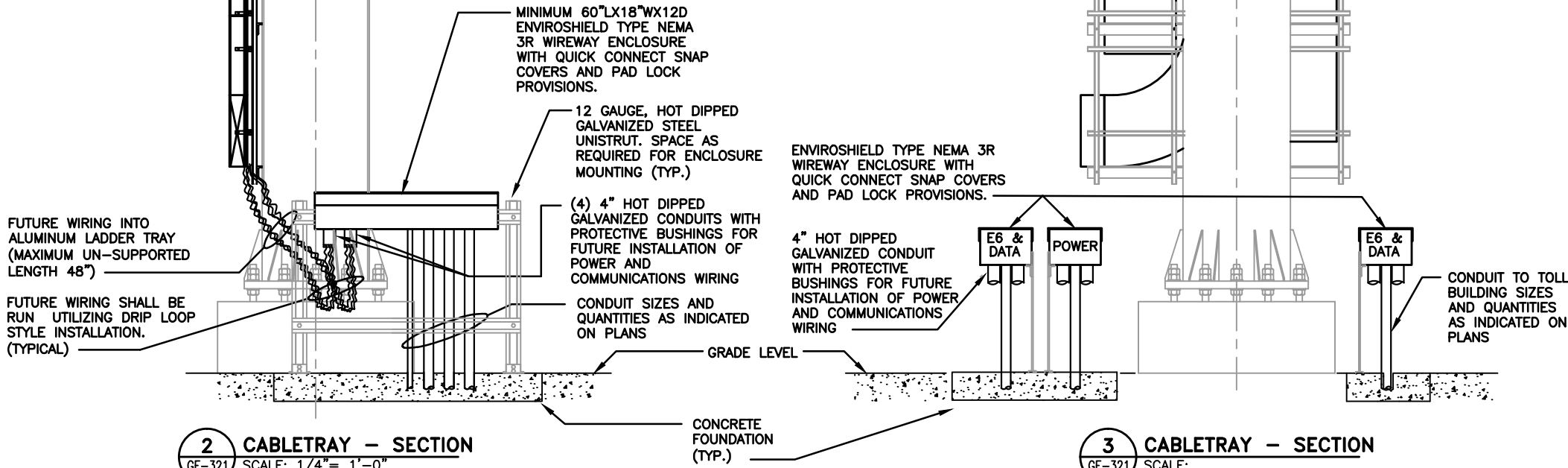
REFERENCE NOTES:

- 24"x6" ALUMINUM LADDER CABLE TRAY WITH SOLID FLANGED COVER MOUNTED TO TOLL EQUIPMENT STRUCTURE AND SUPPORTS. POWER CIRCUITING SHALL BE PROVIDED WITH GROUND WIRES IN THE POWER LADDER TRAY. SEE TSP FOR DETAILS.
- CABLE TRAY WITH FRONT FACING COVER.
- PROVIDE 90° ALUMINUM LADDER TRAY SECTION TO CONNECT HORIZONTAL AND VERTICAL LADDER TRAY.
- REFER TO STRUCTURAL DRAWINGS FOR SPECIFICATION OF UNISTRUT SUPPORT SYSTEM



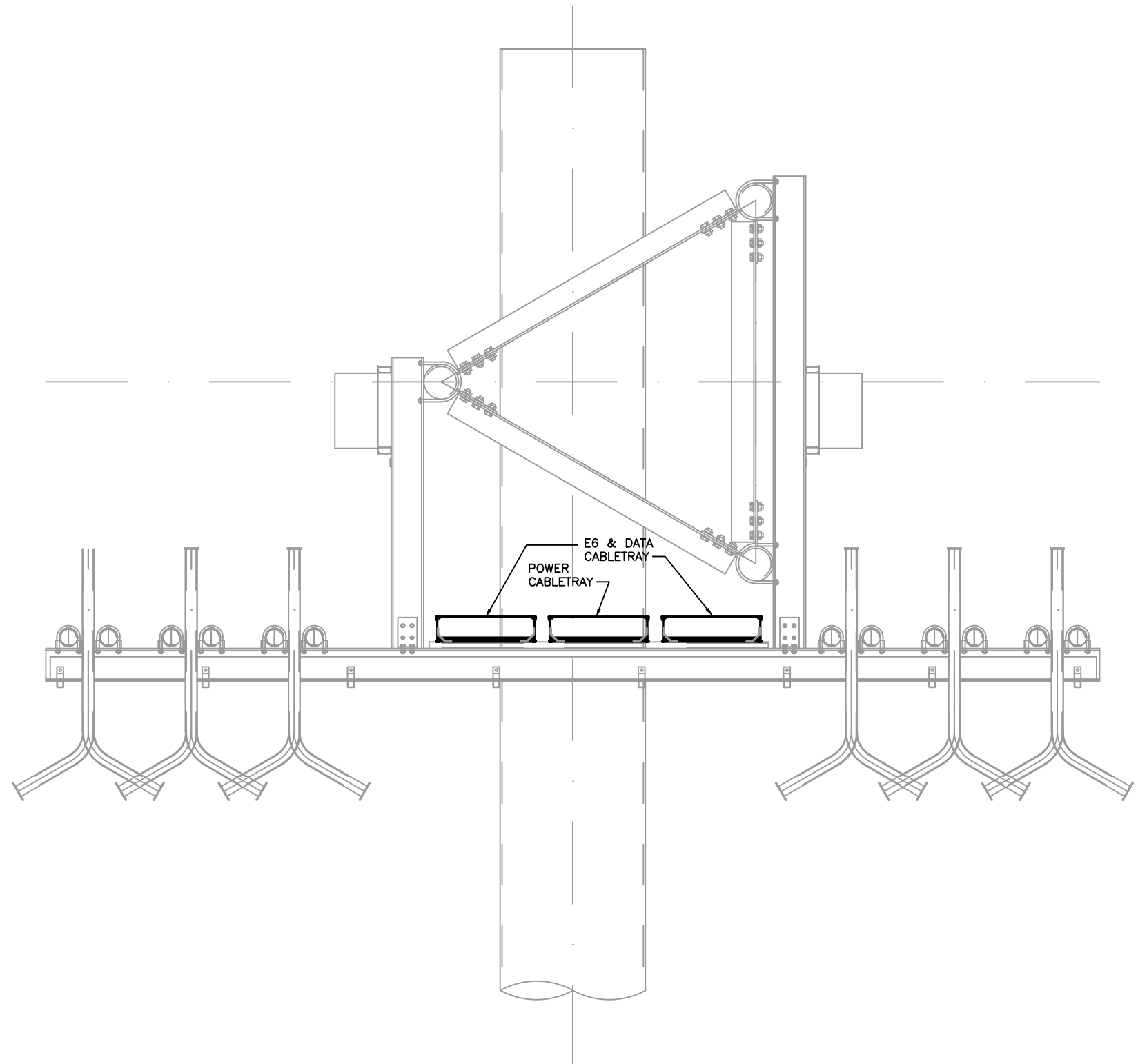
2 CABLETRAY - SECTION
GE-321 SCALE: 1/4" = 1'-0"

GRAPHIC SCALE
SCALE: 1/4" = 1'-0"
0 2' 4'



3 CABLETRAY - SECTION
GE-321 SCALE:

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY E6 & CABLE TRAY INSTALLATION DETAILS (1 OF 3)	SHEET NO. GE-321
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		



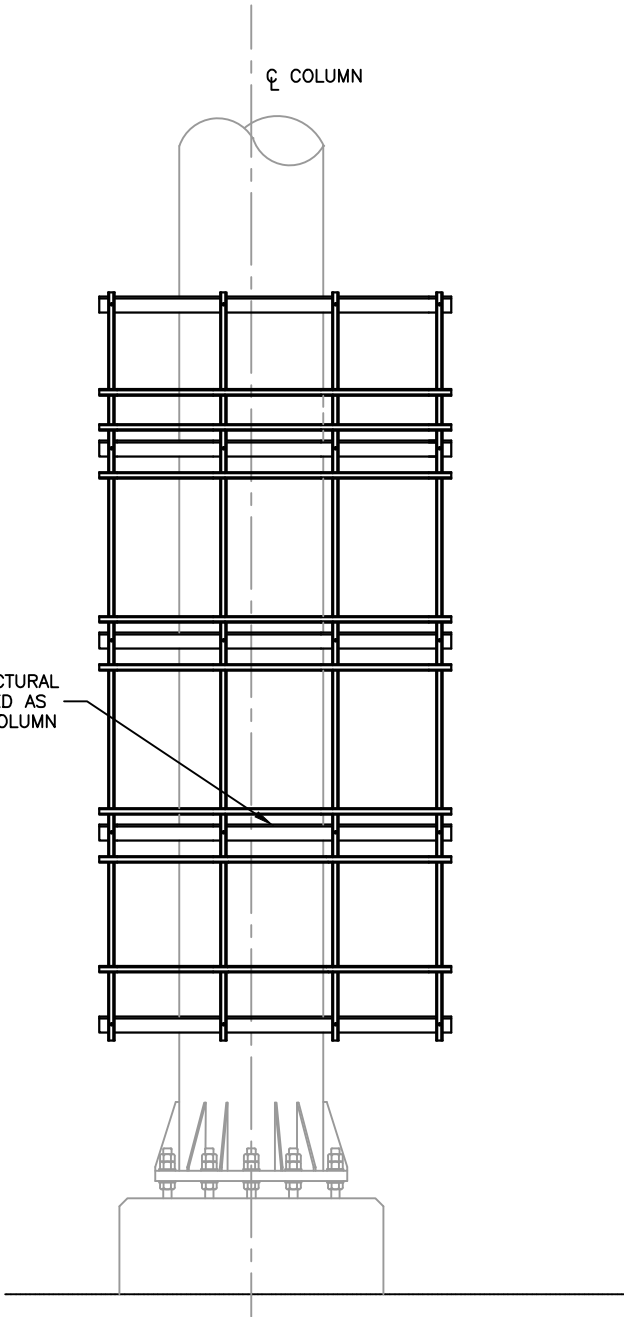
1 DATA POWER AND E6 WIRING ROUTING DETAIL (TYPICAL U.O.N.)
GE-322 SCALE: N.T.S.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY <i>E6 & CABLE TRAY INSTALLATION DETAILS (2 OF 3)</i>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		
									GE-322

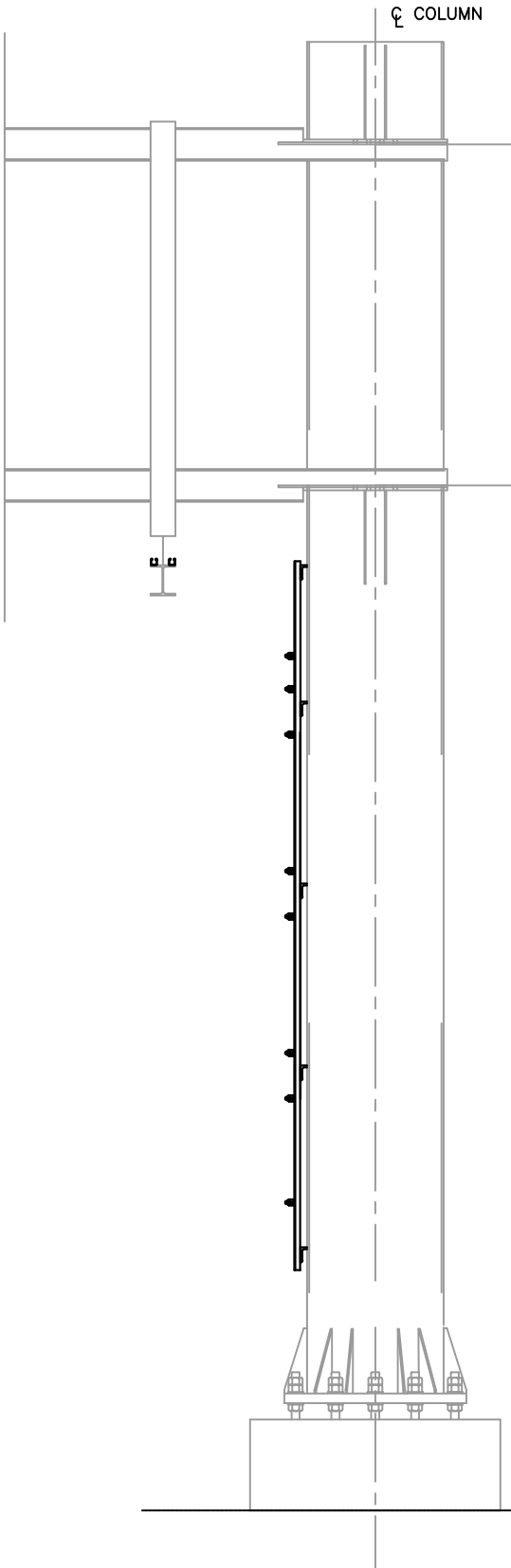
GENERAL NOTES:

- 1. UNISTRUT & MOUNTING HARDWARE SHALL BE DEBURRED & FILED SMOOTH TO REMOVE ROUGH EDGES.
- 2. PROVIDE PLASTIC END CAPS FOR UNISTRUT SUPPORTS.

PRE-DRILLED STRUCTURAL
SUPPORT FABRICATED AS
PART OF GANTRY COLUMN



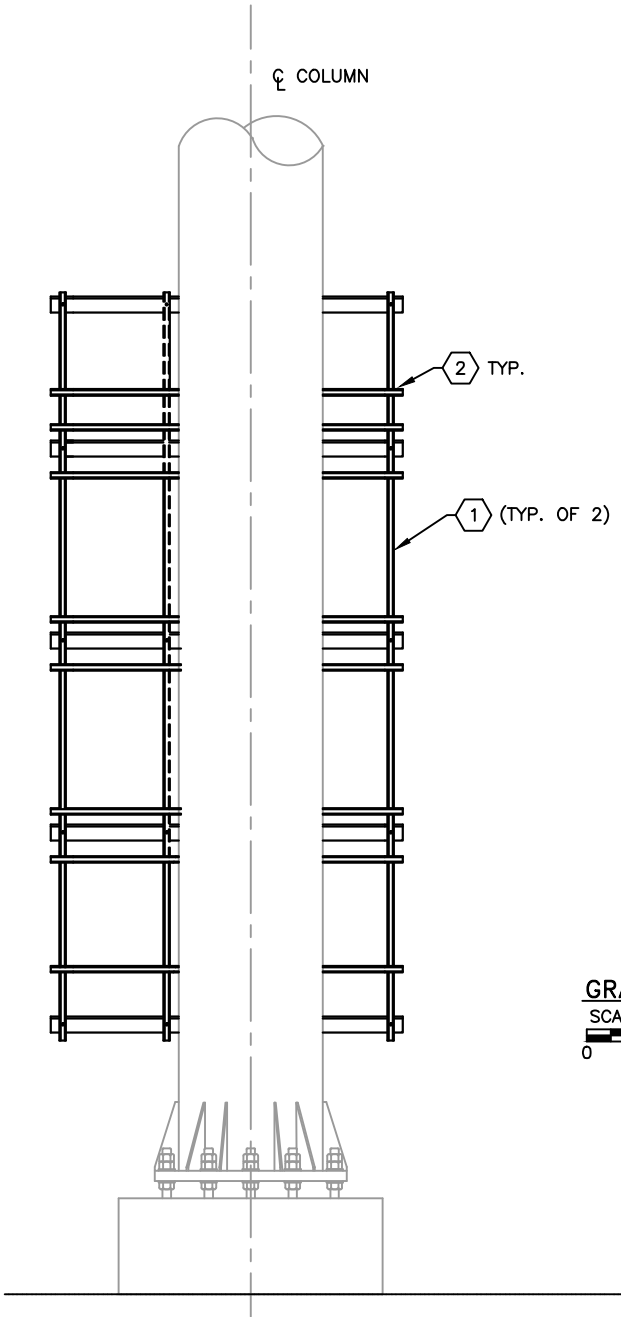
1 COLUMN UNISTRUT DETAIL
GE-323 SCALE: N.T.S.



2 COLUMN UNISTRUT DETAIL
GE-323 SCALE: N.T.S.

REFERENCE NOTES:

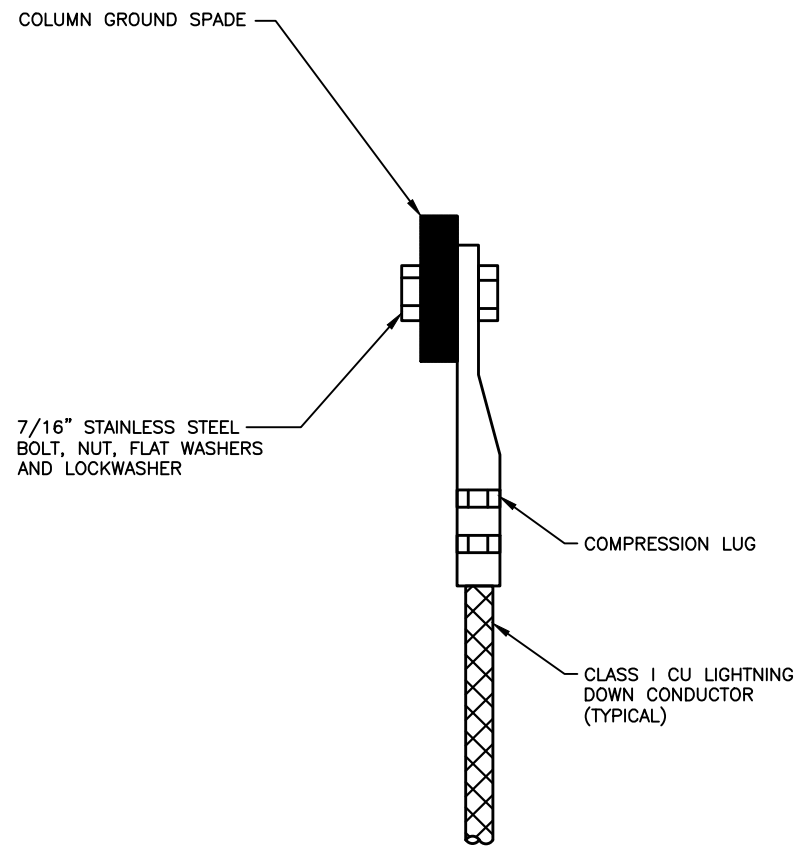
- 1 1-5/8" WIDTH SERIES, HOT-DIPPED GALVANIZED UNISTRUT. VERTICALLY MOUNTED AND SECURED TO STRUCTURAL MEMBERS VIA PRE-DRILLED HOLES.
- 2 1-5/8" WIDTH SERIES, HOT-DIPPED GALVANIZED UNISTRUT. MOUNTED ON EACH SIDE OF LADDER TRAY.



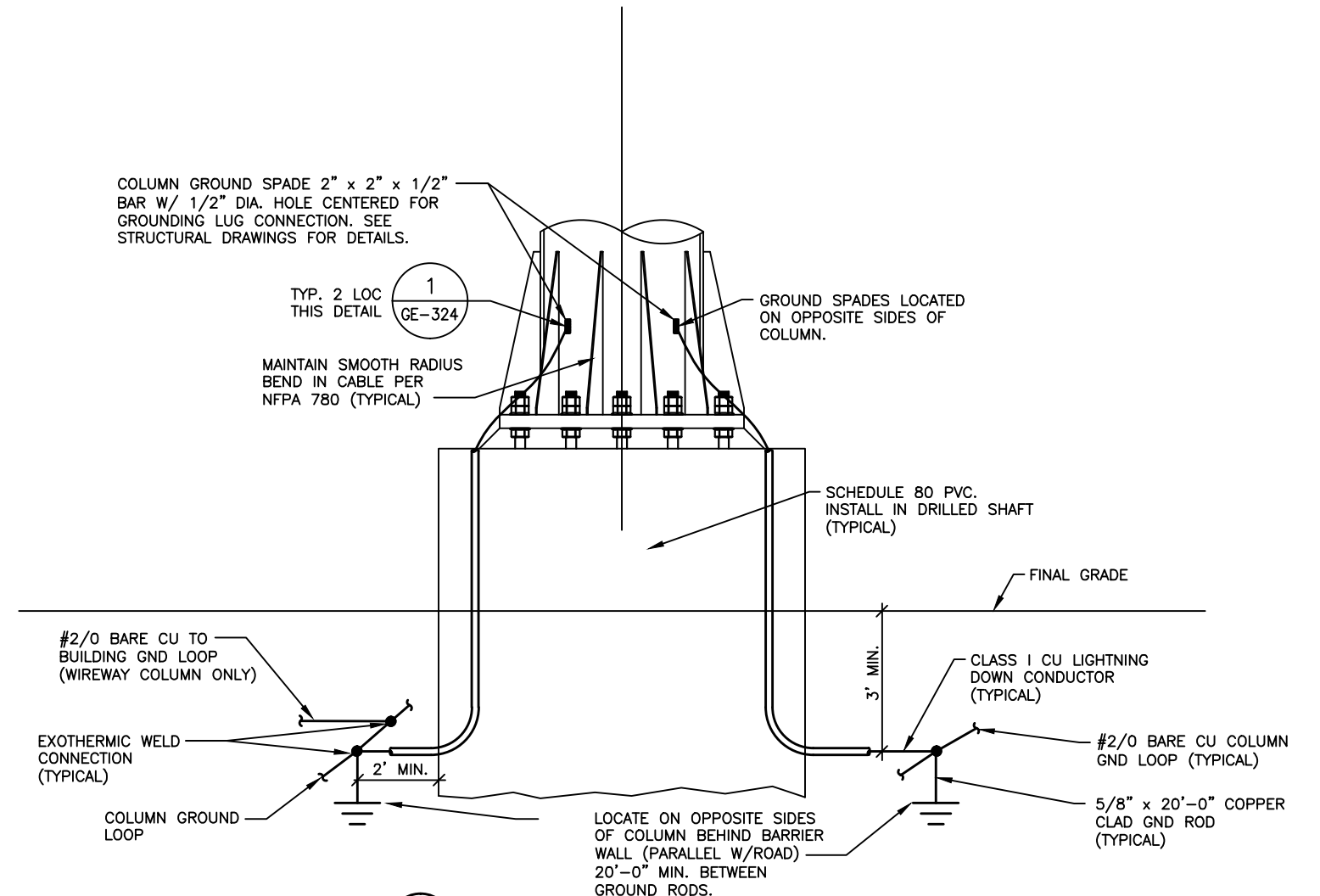
3 COLUMN UNISTRUT DETAIL
GE-323 SCALE: N.T.S.

GRAPHIC SCALE
SCALE: 1/4"= 1'-0"
0 2' 4'

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY E6 & CABLE TRAY INSTALLATION DETAILS (3 OF 3)	SHEET NO. GE-323
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		



1 GANTRY COLUMN GND SPADE CONNECTION DETAIL
 GE-324 SCALE: N.T.S.



2 GANTRY COLUMN GROUNDING DETAIL
 GE-324 SCALE: N.T.S.

GENERAL NOTE:
 1. GROUND EACH GANTRY COLUMN.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY GANTRY GANTRY - LIGHTNING PROTECTION DETAILS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		
									GE-324

ELECTRICAL SYMBOL LEGEND:				GENERAL SYMBOLS LEGEND:				ABBREVIATIONS:				ABBREVIATIONS CONT:			
SYMBOL		DESCRIPTION													
		CONDUIT UP.				ELEVATION NUMBER				NORTH		A		AMPS	
		CONDUIT DOWN.				DWG. # WHERE SHOWN				NORTH ARROW		AASHTO		AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	
		HOMERUN TO PANEL – LETTER INDICATES PANEL, NUMBERS INDICATE CIRCUITS. ALL RACEWAYS WITHOUT FURTHER DESIGNATION INDICATE A TWO–WIRE CIRCUIT. FOUR WIRES ARE INDICATED.				INDICATES DIRECTION OF CUTTING PLANE						AC		AIR CONDITIONING [UNIT]	
		LONG MARKS INDICATE NEUTRAL CONDUCTOR, SHORT MARKS INDICATE PHASE CONDUCTORS.				SECTION NUMBER						AFF		ABOVE FINISH FLOOR	
		PROVIDE GREEN GROUND CONDUCTOR IN ALL CONDUITS. (TIE) INDICATES CIRCUIT IS SHARED WITH ADDITIONAL RECEPTACLES.				DWG. # WHERE SHOWN						AFG		ABOVE FINISH GRADE	
		DEVICE OR EQUIPMENT AS NOTED				ENLARGED AREA SHOWN						AL, ALUM.		ALUMINUM	
		REFERENCE NOTES				DETAIL NUMBER						ANSI		AMERICAN NATIONAL STANDARDS INSTITUTE	
		OUTLET OR JUNCTION BOX, SIZE PER NEC.				DWG. # WHERE SHOWN						ASTM		AMERICAN SOCIETY FOR TESTING AND MATERIALS	
		PANELBOARD. (DIRTY POWER)				ENLARGED AREA SHOWN						ATS		AUTOMATIC TRANSFER SWITCH	
		SQUARE D POWERLINK PANELBOARD (CRITICAL POWER) PANELBOARD FED VIA UPS				DETAIL CALLOUT						AVI		AUTOMATIC VEHICLE IDENTIFICATION	
		CONTROL PANEL.				DETAIL CALLOUT						AWG		AMERICAN WIRE GAUGE	
		AUTOMATIC TRANSFER SWITCH.				DETAIL CALLOUT						BCU		BATTERY CHARGER UNIT	
		SURGE PROTECTION DEVICE.				DETAIL CALLOUT						BLDG.		BUILDING	
		GROUND ROD UON.				DETAIL CALLOUT						BPS		BYPASS SWITCH	
		PULL BOX.				DETAIL CALLOUT						C.		CONDUIT	
		EMERGENCY POWER SHUTOFF SWITCH.				DETAIL CALLOUT						CCTV		CLOSED CIRCUIT TELEVISION	
		LIGHTNING PROTECTION CONDUCTOR.				DETAIL CALLOUT						CKT.		CIRCUIT	
		UNDERGROUND GROUND CONDUCTOR.				DETAIL CALLOUT						COMP		COMPUTER	
		CONDUIT RACEWAY EXPOSED.				DETAIL CALLOUT						CU		COPPER	
		CONDUIT RACEWAY CONCEALED IN CEILING SPACE OR WALLS.				DETAIL CALLOUT						COMM.		COMMUNICATION	
		CONDUIT RACEWAY IN CONCRETE SLAB OR UNDERGROUND.				DETAIL CALLOUT						DEP		DEPARTMENT OF ENVIRONMENTAL PROTECTION	
		WIREWAY				DETAIL CALLOUT						DIA.		DIAMETER	
		WIREWAY FITTING				DETAIL CALLOUT						DN		DOWN	
		GROUND INSPECTION WELL				DETAIL CALLOUT						DWG.		DRAWING	
						DETAIL CALLOUT						E6		ENCOMPASS 6 MULTIPROTOCOL READER	
						DETAIL CALLOUT						ENG.		ENGINE	
						DETAIL CALLOUT						ETC		ELECTRONIC TOLL COLLECTION	
						DETAIL CALLOUT						ETC.		ET CETERA	
						DETAIL CALLOUT						EQUIP.		EQUIPMENT	
						DETAIL CALLOUT						EPA		ENVIRONMENTAL PROTECTION AGENCY	
						DETAIL CALLOUT						EPO		EMERGENCY POWER OFF	
						DETAIL CALLOUT						EXT.		EXTERIOR	
						DETAIL CALLOUT						FOC		FIBER OPTIC CABLE	
						DETAIL CALLOUT						FT		FOOT; FEET	
						DETAIL CALLOUT						FTE		FLORIDA'S TURNPIKE ENTERPRISE	
						DETAIL CALLOUT						FTL		FEED THROUGH LUGS	
						DETAIL CALLOUT						FTM		FUEL TANK MONITOR	
						DETAIL CALLOUT						FUT		FUTURE	
						DETAIL CALLOUT						GA		GAUGE	
						DETAIL CALLOUT						GAL.		GALLON	
						DETAIL CALLOUT						GEC		GROUNDING ELECTRODE CONDUCTOR	
						DETAIL CALLOUT						GFI		GROUND FAULT INTERRUPTER	
						DETAIL CALLOUT						GND		GROUND	
						DETAIL CALLOUT						HID		HIGH INTENSITY DISCHARGE	
						DETAIL CALLOUT						HP		HORSEPOWER	
						DETAIL CALLOUT						HZ		HORIZONTAL, HERTZ	
						DETAIL CALLOUT						I.C.		INTERRUPTING CAPACITY	
						DETAIL CALLOUT						I.D.		IDENTIFICATION	
						DETAIL CALLOUT						IN.		INCHES	
						DETAIL CALLOUT						JB		JUNCTION BOX	
						DETAIL CALLOUT						KA		KILOAMPERES	
						DETAIL CALLOUT						KVA		KILOVOLT AMPERES	
						DETAIL CALLOUT						KW		KILOWATT	
						DETAIL CALLOUT						LED		LIGHT EMITTING DIODE	
						DETAIL CALLOUT						LFMC		LIQUID TIGHT FLEXIBLE METAL CONDUIT	
						DETAIL CALLOUT						LN CTR		LANE CONTROLLER	
						DETAIL CALLOUT						LOC.		LOCATION	
						DETAIL CALLOUT						LLC		LEAD LAG CONTROLLER	
						DETAIL CALLOUT						LP		LIGHTNING PROTECTION	
						DETAIL CALLOUT						LTG		LIGHTING	
						DETAIL CALLOUT						MAX.		MAXIMUM	
						DETAIL CALLOUT						MCB		MAIN CIRCUIT BREAKER	
						DETAIL CALLOUT						MTS		MANUAL TRANSFER SWITCH	
						DETAIL CALLOUT						MIN.		MINIMUM	
						DETAIL CALLOUT						ML		MAINLINE	
						DETAIL CALLOUT						M.L.O.		MAIN LUGS ONLY	
						DETAIL CALLOUT						MOT		MAINTENANCE OF TRAFFIC	
						DETAIL CALLOUT						MTD		MOUNTED	
						DETAIL CALLOUT						N		NEUTRAL	
						DETAIL CALLOUT						NB		NORTHBOUND	
						DETAIL CALLOUT						N.C.		NORMALLY CLOSED	
						DETAIL CALLOUT						NEC		NATIONAL ELECTRICAL CODE	
						DETAIL CALLOUT						NEMA		NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	
						DETAIL CALLOUT						NIC		NOT IN CONTRACT	
						DETAIL CALLOUT						NO.		NUMBER	
						DETAIL CALLOUT						N.O.		NORMALLY OPEN	
						DETAIL CALLOUT						N.T.S.		NOT TO SCALE	
						DETAIL CALLOUT						N3R		NEMA 3R	

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS ELECTRICAL SYMBOL LEGEND & ABBREVIATIONS		SHEET NO. GCE-101
DATE	DESCRIPTION	DATE	DESCRIPTION							
						ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01			

ELECTRICAL GENERAL NOTES:

1. FEED ALL RECEPTACLES AND DEVICES WITH (2) #12, (1) #12 GND IN 3/4" C, UON.
2. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUIT RACEWAYS.
3. ALL 120V, 20A CIRCUIT HOMERUNS OVER 50FT. SHALL BE #10 CU MINIMUM, UON.
4. ALL 120V, 20A CIRCUIT HOMERUNS OVER 150FT. SHALL BE #8 CU MINIMUM, UON.
5. ALL 240V, 20A CIRCUIT HOMERUNS OVER 150FT. SHALL BE #10 CU. MINIMUM, UON.
6. ALL 240V, 20A CIRCUIT HOMERUNS OVER 300FT. SHALL BE #8 CU MINIMUM, UON.
7. VERIFY EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL INSTALLER PRIOR TO ROUGH-IN.
8. PROVIDE PULL STRINGS IN ALL EMPTY CONDUIT AND RACEWAYS WITH LABELING AT EACH END. SEE DETAIL 3, DWG. CE-114.
9. THE USE OF ANY PROCESS INVOLVING ASBESTOS OR PCB, AND THE INSTALLATION OF ANY PRODUCT, INSULATION, COMPOUND OF MATERIAL CONTAINING OR INCORPORATING ASBESTOS OR PCB, IS PROHIBITED. PROVIDE A COMPLETE AND PROPERLY OPERATING ELECTRICAL SYSTEM WITHOUT THE USE OF ASBESTOS OR PCB.
10. CONTACT THE POWER COMPANY AND TELEPHONE COMPANY WITHIN 10 DAYS OF THE AWARD OF THE CONTRACT AND SCHEDULE NEW SERVICE INSTALLATION.
11. CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID. SUBMISSION OF A BID WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED.
12. INCLUDE THE TRANSPORT AND DISPOSAL OR RECYCLING OF ALL WASTE MATERIALS GENERATED BY THIS PROJECT IN ACCORDANCE WITH ALL RULES, REGULATIONS AND GUIDELINES APPLICABLE.

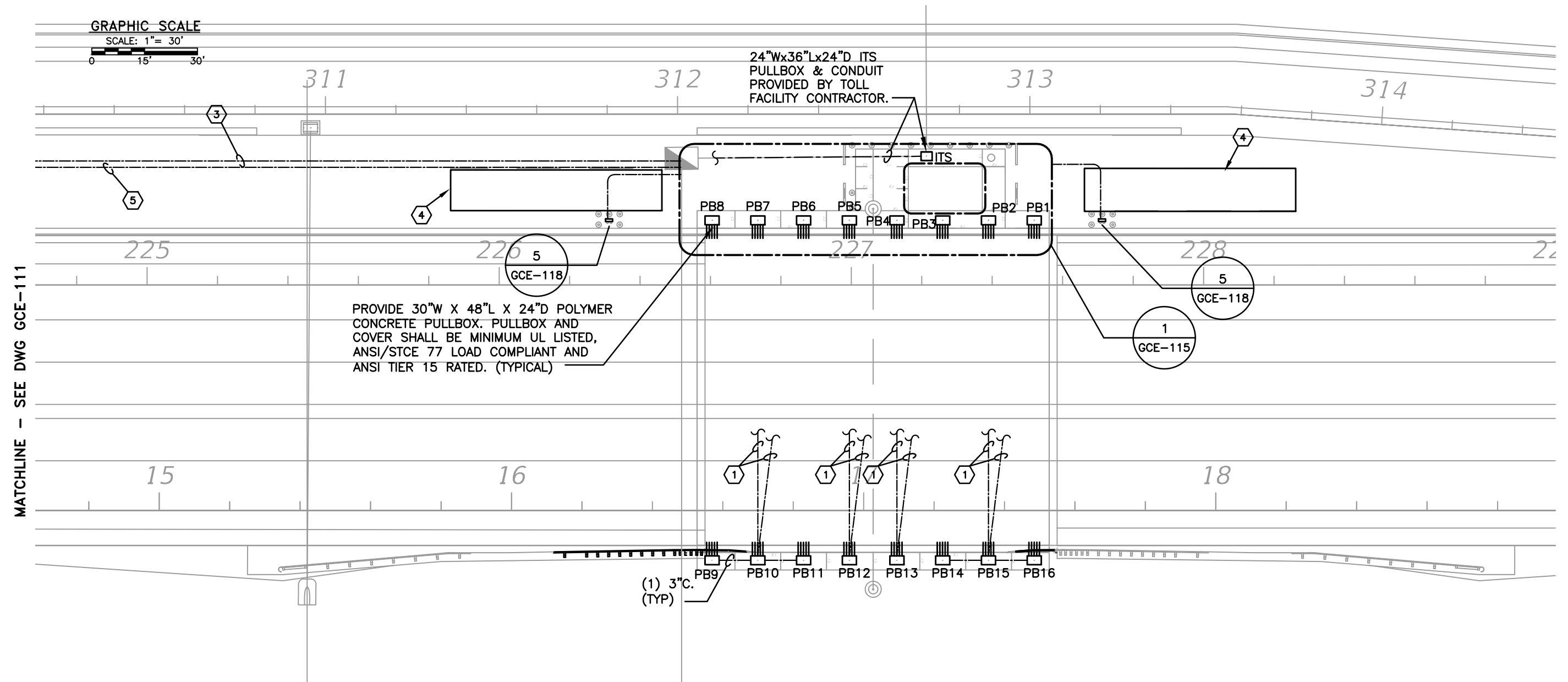
A) COMPLY FULLY WITH FLORIDA STATUTE 403.7186 REGARDING MERCURY CONTAINING DEVICES AND LAMPS.

B) TRANSPORT AND DISPOSE OF LAMPS, BALLASTS AND OTHER MATERIALS IN ACCORDANCE WITH ALL DEP AND EPA GUIDELINES.

C) PROVIDE WRITTEN CERTIFICATION THAT ALL MATERIALS WERE RECYCLED OR DISPOSED OF PROPERLY PER THE GUIDELINES NOTED ABOVE.
13. LOCATE EXISTING UTILITIES AND PROTECT THEM FROM DAMAGE.
14. PHASE WORK AS REQUIRED BY MOT PLANS.
15. UNDERGROUND CONDUIT SHALL BE PVC SCH. 80, UON. UNDERGROUND CONDUIT SHALL TRANSITION TO RGS CONDUIT WITH PVC TO RGS CONDUIT FITTINGS. CONDUIT SHALL BE RGS ABOVE GRADE THROUGH AND INCLUDING THE FIRST 90 DEGREE FITTING UNDERGROUND UON.

16. TOLL EQUIPMENT AND ALL WIRING/CABLING FOR TOLL EQUIPMENT WILL BE FURNISHED AND INSTALLED BY T.E.C., UON.
17. UNDERGROUND CONDUITS SHALL BE INSTALLED A MINIMUM OF 36" BELOW GRADE.
18. EXPOSED EXTERIOR CONDUIT SHALL BE RGS THROUGH AND INCLUDING THE FIRST 90° BEND INSTALLED UNDERGROUND. TRANSITIONS BETWEEN RGS AND PVC CONDUIT SHALL BE MADE WITH A RGS TO PVC CONDUIT FITTING.
19. EQUIPMENT SPECIFIED WITH CATALOG NUMBERS OR PART NUMBERS SHALL NOT BE SUBSTITUTED UNLESS "OR EQUAL" IS INDICATED.
20. CONDUIT RESERVED FOR TOLLING LOOPS SHALL BE SCH. 80 PVC.
21. PLASTIC END CAPS SHALL BE INSTALLED ON ENDS OF UNISTRUT.
22. ALL LIQUID-TIGHT, FLEXIBLE CONDUIT SHALL BE METALLIC.
23. ADJUST THE LOCATIONS OF THE SPD'S SUCH THAT THE MAXIMUM SPD BRAIDED/TWISTED LEADS LENGTH DO NOT EXCEED 24 INCHES AND HAVE NO SHARP TURNS.
24. AC OR DC ELECTRICAL CIRCUITS OR WIRING THAT OPERATES AT 25 VOLTS OR GREATER SHALL NOT BE INSTALLED AND/OR LOCATED WITHIN 5 FEET OF ANY TRAFFIC DETECTION LOOP OR LOOP PULL BOX.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS ELECTRICAL GENERAL NOTES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION						
					ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		GCE-102

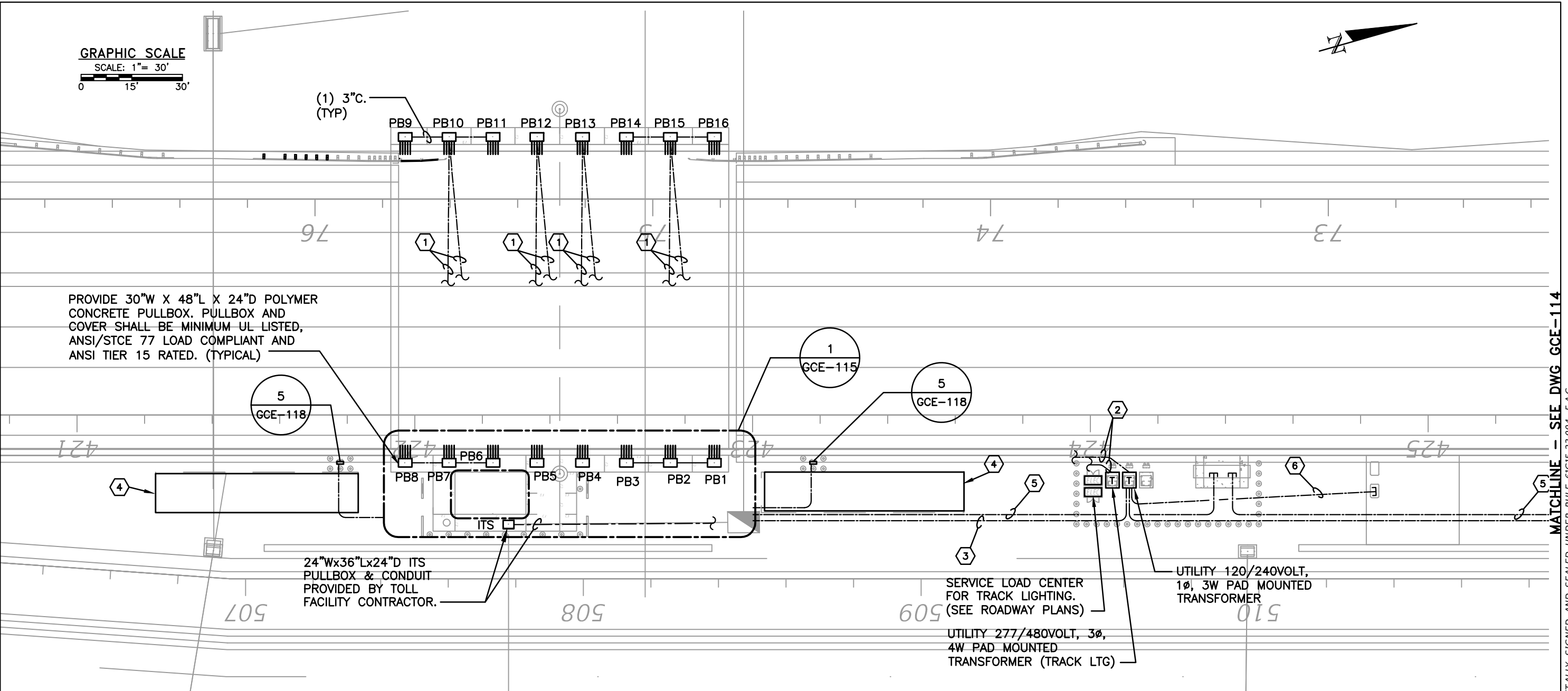


- GENERAL NOTES:

- REFERENCE NOTES:

- 3 UNDERGROUND SERVICE LATERAL, SEE DWG. AE-130. THE CONTRACTOR SHALL RUN SERVICE LATERAL AROUND, BUT NOT UNDER, LARGE PIECES OF EQUIPMENT AND/OR BUILDING FOOTERS. CONTRACTOR SHALL PAY FOR COSTS ASSOCIATED WITH THE INSTALLATION OF THE ELECTRICAL SERVICE FROM THE SECONDARY LUGS OF THE UTILITY XFMR TO AND INCLUDING THE SERVICE DISCONNECTING MEANS, GROUNDING, METER SOCKET AND OTHER WORK AS SPECIFIED.
- 4 APPROXIMATE LOCATION OF SERVICE TRAILERS. COORDINATE EXACT LOCATION WITH OWNER.
- 5 (2) 2" C. EACH WITH PULL WIRE AT FUTURE GENERATOR LOCATION. SEE POWER RISER DIAGRAM ON DRAWING AE-130 FOR ADDITIONAL INFORMATION.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS SITE PLAN - WEST		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			GCE-112
					NA	POLK	437300-1-52-01			



GENERAL NOTES:

1. DEVIATIONS FROM THIS DRAWING SHALL ONLY BE MADE WITH WRITTEN APPROVAL FROM FTE TOLLS AND CONSTRUCTION OFFICE.

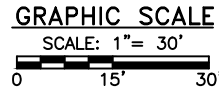
REFERENCE NOTES:

- (1) PROVIDE SEPARATE 3" HDPE CONDUIT RUNS. PROVIDE (2) CONDUIT RUNS BETWEEN PULLBOXES INDICATED AND TRENCH TO THE WORKING SPACE UNDER THE CABINET(S) SUPPORT FRAME, EACH CONDUIT RUN SHALL ONLY STUB UP IN ITS RESPECTIVE PULLBOX AND TRENCH TO THE WORKING SPACE UNDER THE CABINET SUPPORT FRAME LOCATED IN THE TOLLING EQUIPMENT BUILDING. ROUTING OF CONDUITS RUNS SHALL NOT BE CHANGED. SEE GEC-115 FOR STUB UP LOCATIONS UNDER TOLLING CABINET SUPPORT FRAME.
- (2) PROPOSED BURIED PRIMARY CIRCUITING CONSTRUCTED BY TAMPA ELECTRIC. CONTRACTOR SHALL COORDINATE WITH POWER COMPANY FOR THE POWER SERVICE COST. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRIMARY SERVICE COST. COORDINATE AND SCHEDULE WITH DARYL LESLIE, TAMPA ELECTRIC, (813-228-1157) FOR ELECTRICAL POWER SERVICE. CONTRACTOR SHALL CALL TAMPA ELECTRIC PHONE CENTER TO PAY FOR THE UPFRONT INSTALLATION COSTS FOR ELECTRICAL PRIMARY POWER AND GET AN ACCOUNT NUMBER SET UP.

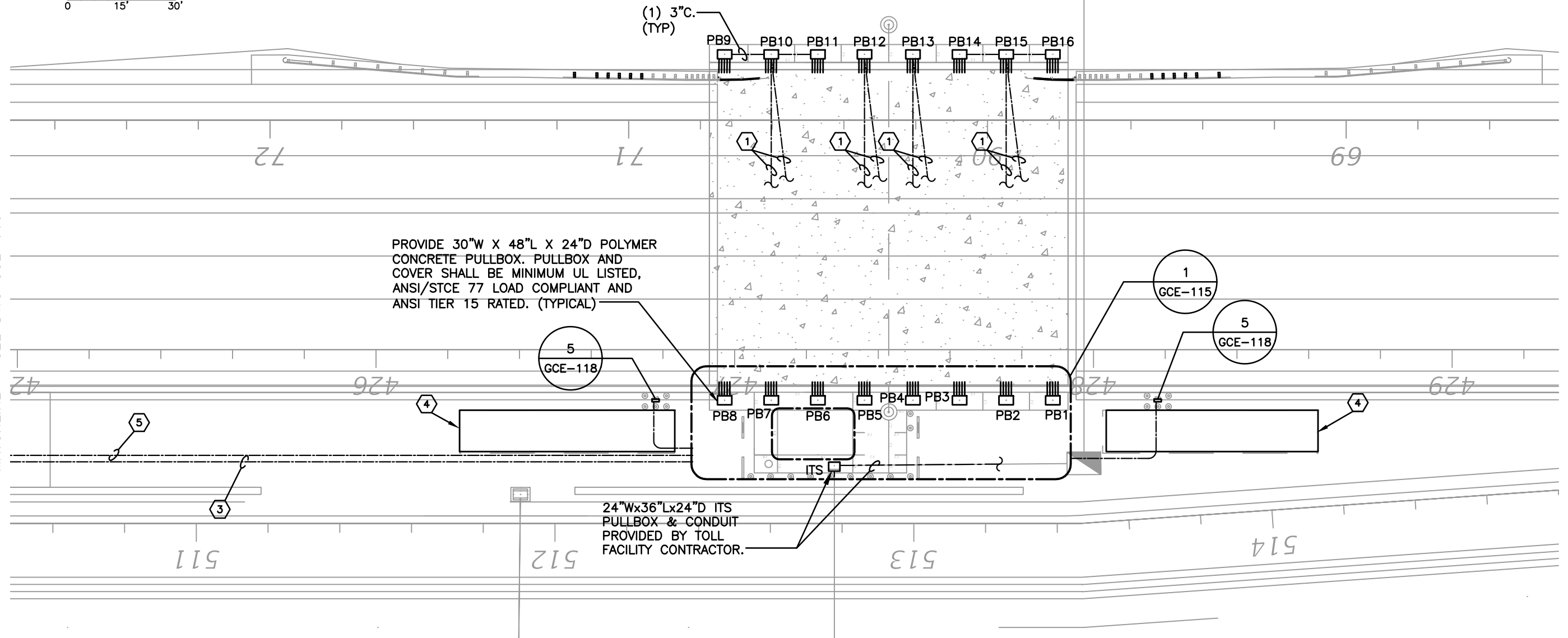
- (3) UNDERGROUND SERVICE LATERAL, SEE DWG. AE-130. THE CONTRACTOR SHALL RUN SERVICE LATERAL AROUND, BUT NOT UNDER, LARGE PIECES OF EQUIPMENT AND/OR BUILDING FOOTERS. CONTRACTOR SHALL PAY FOR COSTS ASSOCIATED WITH THE INSTALLATION OF THE ELECTRICAL SERVICE FROM THE SECONDARY LUGS OF THE UTILITY XFMR TO AND INCLUDING THE SERVICE DISCONNECTING MEANS, GROUNDING, METER SOCKET AND OTHER WORK AS SPECIFIED.
- (4) APPROXIMATE LOCATION OF SERVICE TRAILERS. COORDINATE EXACT LOCATION WITH OWNER.
- (5) (1) 4" CONDUIT STUBBED UP AND MARKED AT TOWER LOCATION FOR FUTURE ELECTRICAL SERVICE CONNECTION. COORDINATE EXACT LOCATION.
- (6) (2) 2" C. EACH WITH PULL WIRE AT FUTURE GENERATOR LOCATION. SEE POWER RISER DIAGRAM ON DRAWING AE-130 FOR ADDITIONAL INFORMATION.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS SITE PLAN - EAST	SHEET NO. GCE-113
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

MATCHLINE - SEE DWG GCE-114
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



MATCHLINE - SEE DWG GCE-113



GENERAL NOTES:

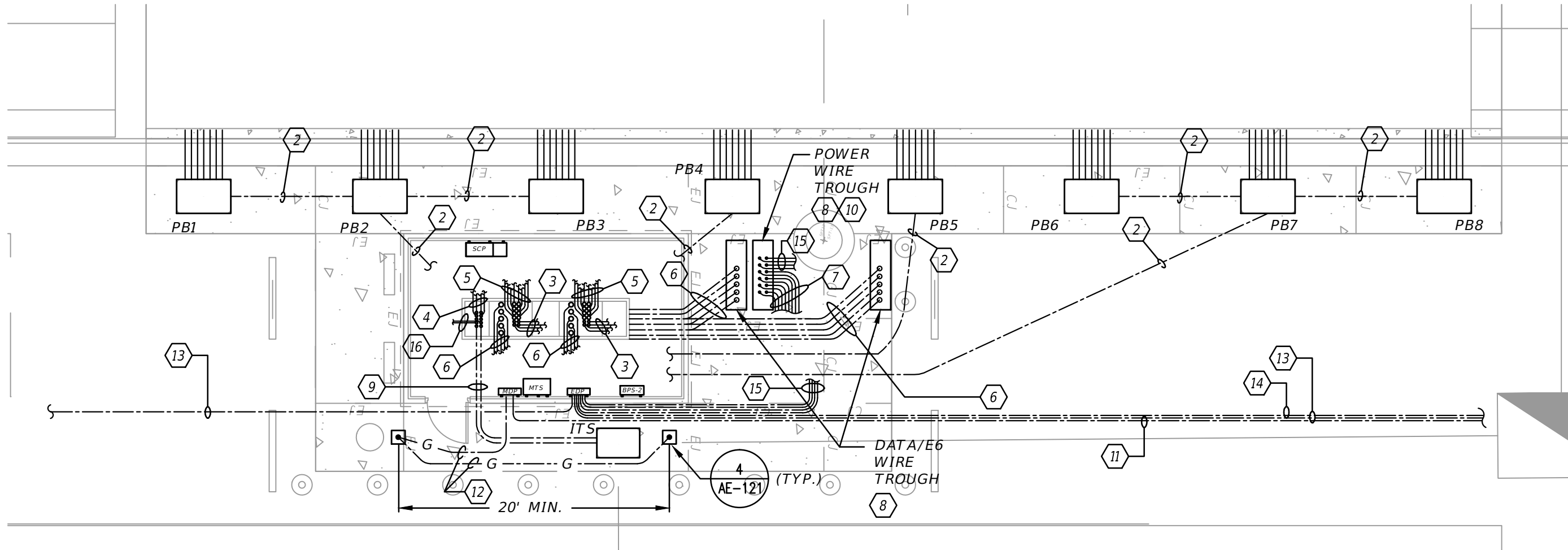
1. DEVIATIONS FROM THIS DRAWING SHALL ONLY BE MADE WITH WRITTEN APPROVAL FROM FTE TOLLS AND CONSTRUCTION OFFICE.

REFERENCE NOTES:

1. PROVIDE SEPARATE 3" HDPE CONDUIT RUNS. PROVIDE (2) CONDUIT RUNS BETWEEN PULLBOXES INDICATED AND TRENCH TO THE WORKING SPACE UNDER THE CABINET(S) SUPPORT FRAME, EACH CONDUIT RUN SHALL ONLY STUB UP IN ITS RESPECTIVE PULLBOX AND TRENCH TO THE WORKING SPACE UNDER THE CABINET SUPPORT FRAME LOCATED IN THE TOLLING EQUIPMENT BUILDING. ROUTING OF CONDUITS RUNS SHALL NOT BE CHANGED. SEE GEC-115 FOR STUB UP LOCATIONS UNDER TOLLING CABINET SUPPORT FRAME.
2. PROPOSED BURIED PRIMARY CIRCUITING CONSTRUCTED BY TAMPA ELECTRIC. CONTRACTOR SHALL COORDINATE WITH POWER COMPANY FOR THE POWER SERVICE COST. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRIMARY SERVICE COST. COORDINATE AND SCHEDULE WITH DARYL LESLIE, TAMPA ELECTRIC, (813-228-1157) FOR ELECTRICAL POWER SERVICE. CONTRACTOR SHALL CALL TAMPA ELECTRIC PHONE CENTER TO PAY FOR THE UPFRONT INSTALLATION COSTS FOR ELECTRICAL PRIMARY POWER AND GET AN ACCOUNT NUMBER SET UP.

3. UNDERGROUND SERVICE LATERAL, SEE DWG. AE-130. THE CONTRACTOR SHALL RUN SERVICE LATERAL AROUND, BUT NOT UNDER, LARGE PIECES OF EQUIPMENT AND/OR BUILDING FOOTERS. CONTRACTOR SHALL PAY FOR COSTS ASSOCIATED WITH THE INSTALLATION OF THE ELECTRICAL SERVICE FROM THE SECONDARY LUGS OF THE UTILITY XFMR TO AND INCLUDING THE SERVICE DISCONNECTING MEANS, GROUNDING, METER SOCKET AND OTHER WORK AS SPECIFIED.
4. APPROXIMATE LOCATION OF SERVICE TRAILERS. COORDINATE EXACT LOCATION WITH OWNER.
5. (2) 2" C. EACH WITH PULL WIRE AT FUTURE GENERATOR LOCATION. SEE POWER RISER DIAGRAM ON DRAWING AE-130 FOR ADDITIONAL INFORMATION.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS SITE PLAN - EAST	SHEET NO. GCE-114
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		



REFERENCE NOTES:

- (1) (2) 3" LOOP CONDUIT TO LOOP PULLBOXES THROUGH DIRECTIONAL DRILL. SEE SITE PLAN FOR CONTINUATION.

(2) (2) 3"C. (LOOPS).

(3) (4) 2"C. (POWER) TO POWER WIRE TROUGH.

(4) (4) 2"C. (GANTRY CAMERAS) TO E6/DATA WIRE TROUGH.

(5) (8) 3"C. (LOOPS)

(6) (5) 4"C. (GANTRY E6 AND DATA) TO E6/DATA WIRE TROUGH.

(7) (8) 2"C. (POWER) TOLLING CABINET.

(8) MINIMUM 60"LX18"WX12"D ENVIROSHIELD TYPE NEMA 3R WIREWAY ENCLOSURE WITH QUICK CONNECT SNAP COVERS AND PAD LOCK PROVISIONS.

(9) (2) 2"C. TO ITS PULLBOX (FOC FOR NETWORK CONNECTIONS). FOC WILL BE INSTALLED BY ITS CONTRACTOR. COORDINATE CONDUIT ROUTING WITH ITS CONTRACTOR.

(10) NEMA 3R PWR WIRE TROUGH. PROVIDE (20) TERMINAL GROUND BAR AND ROUTE #4 SOLID BARE CU, CONDUCTOR FROM GROUND BAR TO GROUND SPADE ON COLUMN. PROVIDE INSULATED THROAT GROUNDING BUSHINGS ON CONDUIT ENTERING THE WIRE TROUGH. BOND GROUNDING BUSHINGS TO GROUND BAR WITH #8 GROUNDING CONDUCTOR.

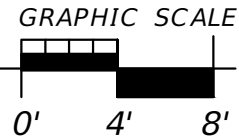
(11) SERVICE LATERAL, SEE SITE PLAN AND POWER RISER DIAGRAM ON DRAWING AE-130 FOR ADDITIONAL INFORMATION.

(12) GROUNDING ELECTRODE SYSTEM. SEE DWG. AE-130.
- (13) 2"C. WITH 3#1 & 1 #8GND. TO TRAILER DISCONNECT SWITCH. SEE SITE PLAN AND POWER RISER DIAGRAM ON DRAWING AE-130 FOR ADDITIONAL INFORMATION.

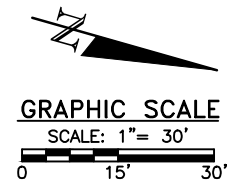
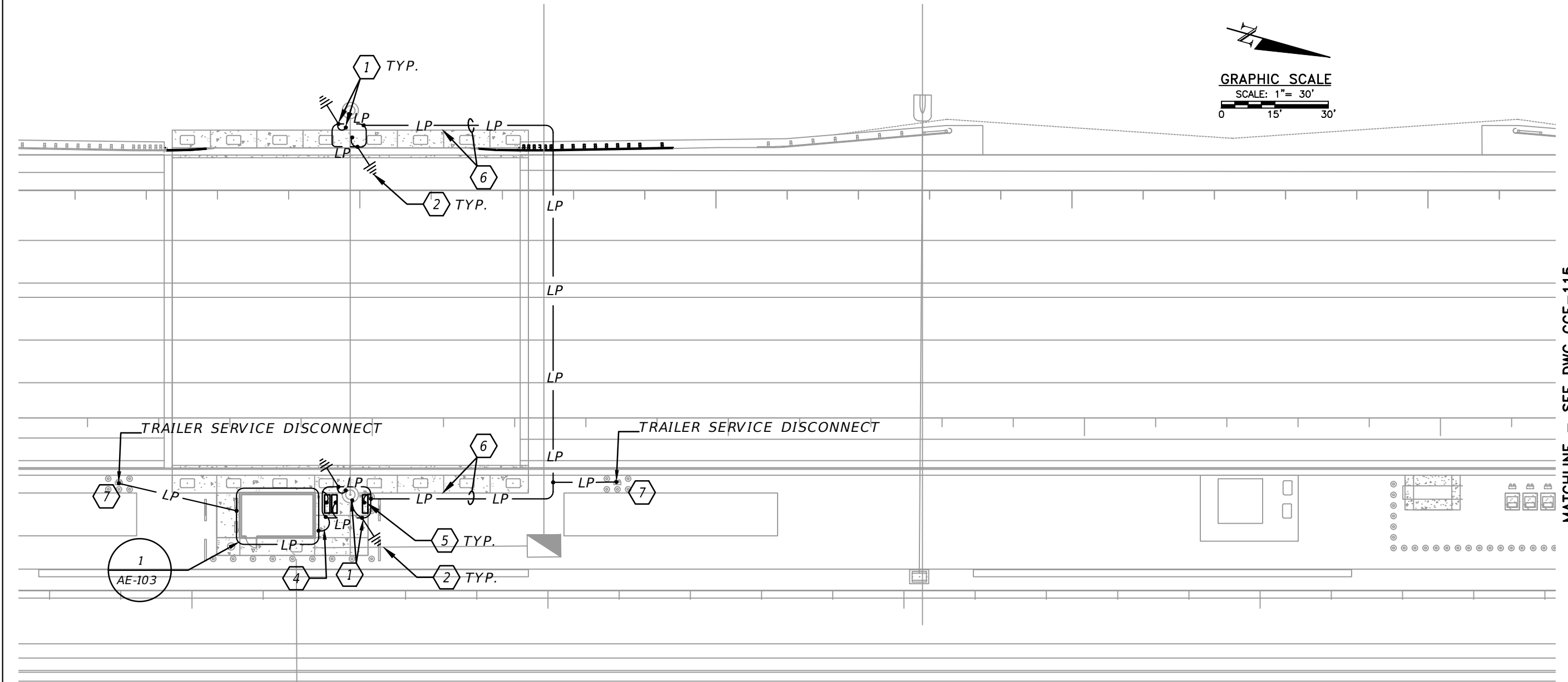
(14) (2) 2" C. (POWER) AND (1) 3/4 C. (COMM) EACH WITH PULL WIRE TO FUTURE GENERATOR LOCATION. SEE SITE PLAN AND POWER RISER DIAGRAM ON DRAWING AE-130 FOR ADDITIONAL INFORMATION.

(15) CONDUITS BETWEEN PANEL 'EDP' AND POWER WIREWAY AS DESCRIBED BELOW:
(1) 1" CONDUIT FOR PTZ POWER ON GANTRY
(3) 1" CONDUITS (SPARE) FOR FUTURE POWER CONNECTIONS.

(16) (1) 2" CONDUITS FOR EACH OF 2 TRAILERS AT THIS LOCATION. TYPICAL FOR 4 LOCATIONS FOR TRAILER FIBER FEEDS - REFER TO SITE PLANS FOR LOCATIONS.



REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS ENLARGED SITE PLAN TYPICAL TOLLING BUILDINGS		SHEET NO. GCE-115
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			



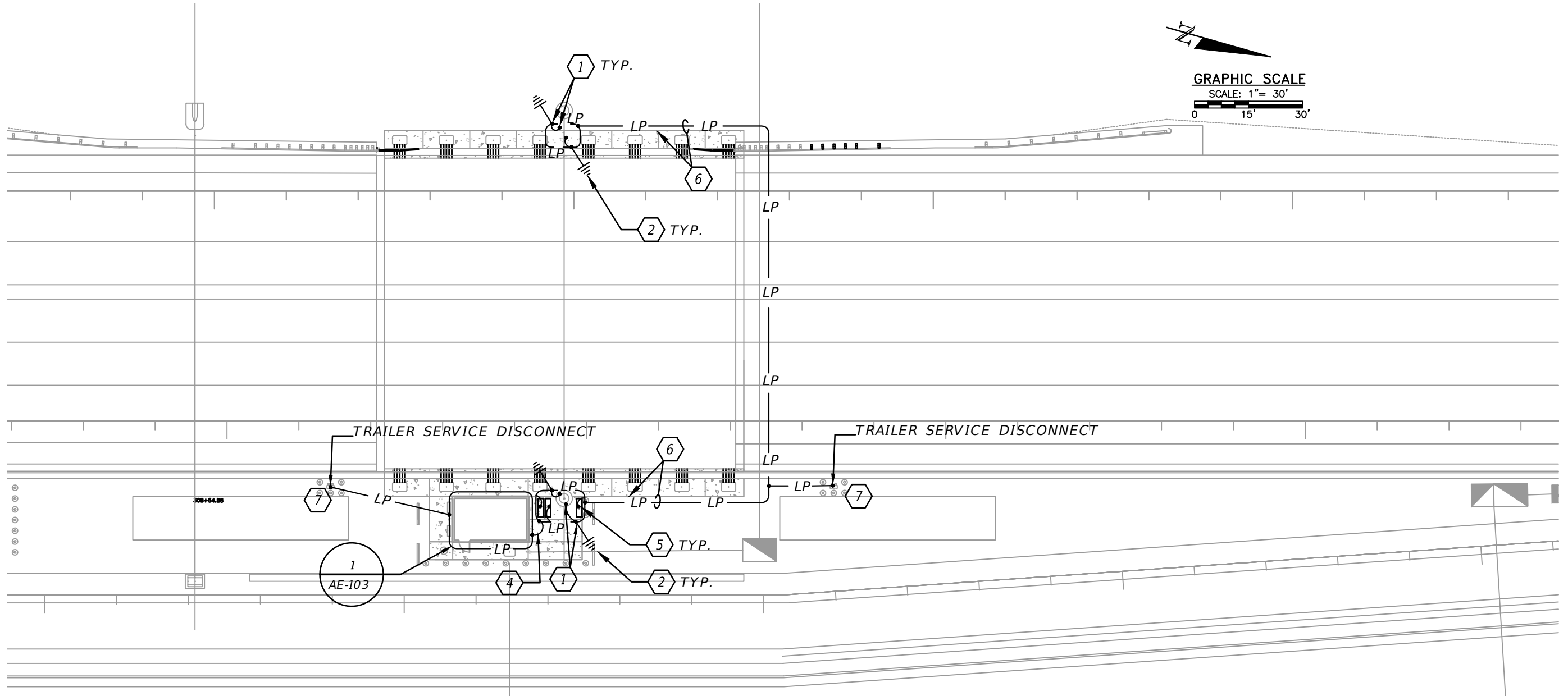
MATCHLINE - SEE DWG GCE-115

REFERENCE NOTES:

- 1 STRANDED COPPER LIGHTNING PROTECTION CONDUCTOR. BONDED TO GANTRY COLUMN AND TO LOOP CONDUCTOR. REFER TO DWG. GE-324 FOR DETAILS.
- 2 20' LONG X 5/8" DIAMETER COPPER-CLAD STEEL GROUND ROD.
- 3 BARE, STRANDED-COPPER CONDUCTOR, 36" BELOW FINISHED GRADE. DO NOT ROUTE CONDUCTOR UNDER TOLLING LOOP PAVEMENT.
- 4 LIGHTNING PROTECTION CONDUCTOR (DIRECT BURIED) TO TOLL EQUIPMENT BUILDING GROUND LOOP CONDUCTOR.
- 5 BOND ALL METAL WIRE TROUGHS TO THE UNDERGROUND LIGHTNING PROTECTION LOOP CONDUCTOR. QTY. (3)
- 6 MINIMUM DISTANCE FROM LOOP PAVEMENT FOR LIGHTNING PROTECTION CONDUCTION SHALL BE 5'-0":
- 7 BOND TRAILER ELECTRICAL SERVICE EQUIPMENT AND METALLIC UNISTRUT SUPPORT SURFACE

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS LIGHTNING PROTECTION PLAN WEST - (EAST SIMILAR)	SHEET NO. GCE-116
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

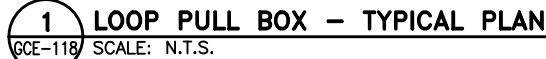
MATCHLINE - SEE DWG GCE-114



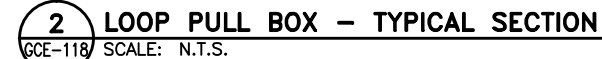
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- 2 20' LONG X 5/8" DIAMETER COPPER-CLAD STEEL GROUND ROD.
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- 5 BOND ALL METAL WIRE TROUGHS TO THE UNDERGROUND LIGHTNING PROTECTION LOOP CONDUCTOR. QTY. (3)
- 6 MINIMUM DISTANCE FROM LOOP PAVEMENT FOR LIGHTNING PROTECTION CONDUCTION SHALL BE 5'-0":
- 7 BOND TRAILER ELECTRICAL SERVICE EQUIPMENT AND METALLIC UNISTRUT SUPPORT SURFACE

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS LIGHTNING PROTECTION PLAN WEST - (EAST SIMILAR)		SHEET NO. GCE-117
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					NA	POLK	437300-1-52-01			

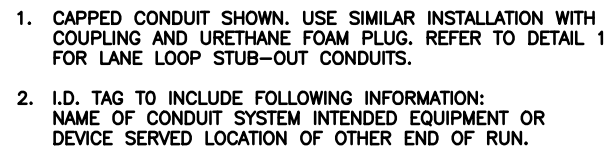
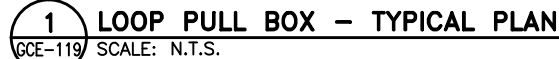


- ### 3 EMPTY CONDUIT PULL ROPE AND IDENTIFICATION DETAIL

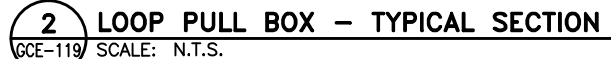


4 LANE CONDUIT STUB-OUT DETAIL
GCF-118 SCALE: N.T.S.



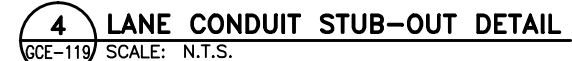


3 **EMPTY CONDUIT PULL ROPE AND IDENTIFICATION DETAIL**
GCE-119 SCALE: N.T.S.



1. SEAL BOTH END OF CONDUIT WITH NON-CONDUCTING SEALING COMPOUND MANUFACTURED FOR THAT PURPOSE.
2. COORDINATE STUB-UP LOCATIONS WITH DEPARTMENT PRIOR TO DESIGN.
3. ALL CONDUIT AND PULLBOXES BY CONTRACTOR. LOOP SAWCUTTING AND WIRING BY THE TOLL EQUIPMENT CONTRACTOR.
4. THERE SHALL BE A MINIMUM OF (7) LOOP PULLBOXES PER TOLLING MOVEMENT.
5. PERFORM ONE TO EIGHT (DEPENDENT ON LANE CONFIGURATION) 1/4" BY 3" HIGH SAWCUTS, 9" APART, AT THE BOTTOM FACE OF BARRIER WALL FOR EASE OF LOCATING CONDUIT STUB UPS.
6. THE NUMBER OF 1" STUB-UP CONDUITS FOR EACH LOOP PULLBOX DEPENDS ON THE NUMBER OF LANES AND SHOULDERS AND SHALL BE AS FOLLOWS:

- 6 LANES/2 SHOULDERS: EIGHT 1" CONDUITS.
- 5 LANES/2 SHOULDERS: SEVEN 1" CONDUITS.
- 4 LANES/2 SHOULDERS: SIX 1" CONDUITS.
- ALL OTHER CROSS SECTIONS: FIVE 1" CONDUITS, MINIMUM.



REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS TOLLING LOOP CONDUIT & PULL BOX DETAILS (1 OF 2)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		GCE-119

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

INDEX OF TOLL BUILDING PLANS

REF. DWG. NO.	SHEET TITLE
AA-001	TOLL EQUIPMENT BUILDING KEY SHEET
AA-002	ABBREVIATIONS, SYMBOL LEGEND, NOTES, AND BUILDING CODE DATA
AA-010	FLOOR PLAN
AA-011	REFLECTED CEILING PLAN
AA-012	ROOF PLAN
AA-013	EXTERIOR ELEVATIONS
AA-014	BUILDING SECTION
AA-015	WALL SECTIONS
AA-016	TOLL EQUIPMENT BUILDING STEEL LOCK DETAILS
AA-017	TOLL EQUIPMENT BUILDING DOOR AND FINISH SCHEDULES
AS-001	STRUCTURAL GENERAL NOTES
AS-100	PLANS
AS-200	EXTERIOR ELEVATIONS
AS-300	SECTIONS AND DETAILS
AS-301	SECTIONS AND DETAILS
AM-001	HVAC DETAILS, NOTES, LEGEND AND SEQUENCE OF OPERATION
AM-101	HVAC FLOOR PLAN
AM-601	HVAC EQUIPMENT DETAILS
AE-010	ELECTRICAL SYMBOL LEGEND & ABBREVIATIONS
AE-011	ELECTRICAL GENERAL NOTES
AE-101	BUILDING - POWER PLAN
AE-102	BUILDING - LIGHTING PLAN
AE-103	BUILDING - LIGHTNING PROTECTION PLAN
AE-104	BUILDING - SCADA & SECURITY SYSTEM PLAN
AE-105	BUILDING - TOLLING SYSTEM PLAN
AE-111	TOLLING COMMUNICATIONS CABINET DETAIL
AE-112	BUILDING - INTERIOR ELEVATIONS (1 OF 3)
AE-113	BUILDING - INTERIOR ELEVATIONS (2 OF 3)
AE-114	BUILDING - INTERIOR ELEVATIONS (3 OF 3)
AE-121	BUILDING - GROUNDING DETAILS (1 OF 2)
AE-122	BUILDING - GROUNDING DETAILS (2 OF 2)
AE-123	BUILDING - LIGHTNING PROTECTION DETAILS
AE-124	BUILDING - SECURITY & ACCESS CONTROL SYSTEM DETAILS
AE-125	BUILDING - RACEWAY INSTALLATION DETAILS
AE-126	BUILDING - CONDUIT STUB-UP DETAILS
AE-130	BUILDING - POWER RISER DIAGRAM
AE-131	BUILDING - PANEL SCHEDULES AND LOAD SUMMARY
AE-132	SCADA SYSTEM BLOCK DIAGRAM NOTES
AE-133	SCADA SYSTEM BLOCK DIAGRAM

GOVERNING DESIGN STANDARDS

Florida Department of Transportation, FY2016-2017 Design StandardseBook (DSeB) and applicable Design Standards Revisions (DSRs) at the following website
<http://www.dot.state.fl.us/rddesign/DesignStandards/Standards.shtm>.

APPLICABLE DSRs:

GOVERNING TOLLING CRITERIA

General Tolling Requirements (GTR) dated July 2016, as amended by contract documents.
For GTR Design Standards and Tolling Criteria follow the link on the website:
<http://www.floridasturnpike.com/design/gtr.html>

GOVERNING STANDARD SPECIFICATIONS:

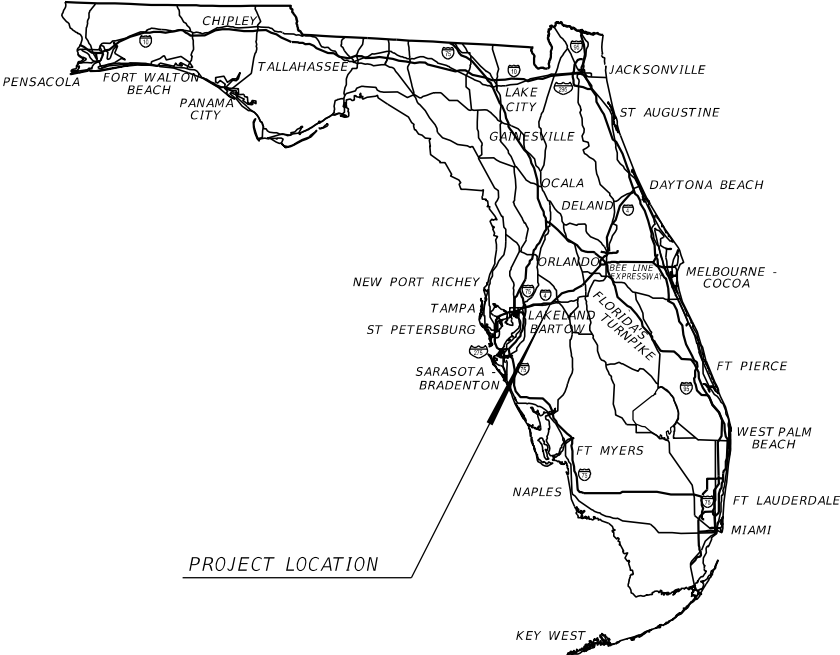
Florida Department of Transportation, January 2017 Standard Specifications for Road and Bridge Construction at the following website:
<http://www.dot.state.fl.us/programmanagement/Implemented/SpecBooks>

CONTRACT PLANS

FINANCIAL PROJECT ID 437300-1-52-01
FINANCIAL PROJECT ID 437300-2-52-01

POLK COUNTY (16470)
SUNTRAX TEST FACILITY

TOLL BUILDING PLANS



ARCHITECTURAL PLANS
ARCHITECT OF RECORD:
GARY KRANSTON, R.A.
R.A. NO. 11541
BENTLEY ARCHITECTS + ENGINEERS, INC.
651 WEST WARREN AVE., SUITE 200
LONGWOOD, FL 32750
T. 407 331 6116
F. 407 331 4566
WWW.BAEONLINE.COM
CONTRACT NO. C-9L54
VENDOR NO. 59-3045321
BPE CA NO. 5898
BPA & ID CA NO. AAC002023

FTE PROJECT MANAGER:
PATRICK M. MUENCH, P.E.

GEC PROJECT MANAGER:
JOSH PEDERSEN, P.E.

REVISIONS:

KEY SHEET REVISIONS	
DATE	DESCRIPTION

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
E8Q39	17	AA-001

A.R.V. ABANDONED ROOF VENT
A/C AIR-CONDITIONING UNIT
ACOUS. ACOUSTIC
ADJ. ADJUSTABLE
A.F.F. ABOVE FINISH FLOOR
ALT. ALTERNATE
ALUM. ALUMINUM
ANT. ANTENNA
ARCHT. ARCHITECTURAL

BD.	BOARD
B.U.R.	BUILT-UP ROOFING
BLDG.	BUILDING
BLKG.	BLOCKING
BM.	BEAM
BOT.	BOTTOM
BRKT.	BRACKET

CCTV	CLOSED CIRCUIT TELEVISION
C.C.	CENTER TO CENTER
C.F.	COUNTERFLASHING
C.I.	CAST IRON
CAP.	CAPACITY
CEM.	CEMENT
CHKD.	CHECKERED
CLG.	CEILING
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CTSK.	COUNTERSINK
CU.	COPPER

D.F.	DRINKING FOUNTAIN
D.L.	DEAD LOAD
D.S.	DOWNSPOUT
DET.	DETAIL
DFR.	DEFLECTOR
DIA.	DIAMETER
DIM.	DIMENSION
DWG.	DRAWING
DWGS.	DRAWINGS
EA.	EACH
E.C.	ELECTRICAL CONDUIT
E.F.	EXHAUST FAN
E.J.	EXPANSION JOINT

ELEV./EL ELEVATION
E.P.O. EMERGENCY POWER
SHUT-OFF STATION
E.W.C. ELECTRIC WATER COOLER
EXSTG. EXISTING
EXP. EXPANSION
EXT. EXTERIOR
FBC FLORIDA BUILDING CODE
F.D. FLOOR DRAIN

F.E.	FIRE EXTINGUISHER
F.O.	FRAMED OPENING
F.S.	FLUE STACK
FIN.FL.	FINISH FLOOR
FTG.	FOOTING
G.I.	GALVANIZED IRON
G.S.	GRAVEL STOP
GA.	GAUGE
GALV.	GALVANIZED
GL.	GLASS
GTR.	GUTTER
G.W.B.	GYPSUM WALL BOARD

H.B.	HOSE BIB
H.M.	HOLLOW METAL
H.P.	HIGH POINT
HD.	HEAD
HGT.	HEIGHT

L.L.	LIVE LOAD
L.P.	LOW POINT
LAB.	LABELED
LAV.	LAVATORY
LBS.	POUNDS

M.B.	MODIFIED BITUMEN
M.O.	MASONRY OPENING
M.T.	METAL THRESHOLD
MAR.	MARBLE
MAR.T.	MARBLE THRESHOLD
MIN.	MINIMUM

N.I.C. NOT IN CONTRACT
NO. NUMBER

O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.H.	ROOF OVERHANG
O.S.	OVERFLOW SCUPPER
OBS.	OBSCURE
OPNG.	OPENING

PART.	PARTITION
PLBG	PLUMBING
P.I.T.	PITCH PAN
PL.	PLATE
PLAS.	PLASTER
PNLS.	PANELS
P.P.	PIPE PENETRATION
PRELIM.	PRELIMINARY
PT.	POINT

R.	RISER
R.D.	ROOF DRAIN
R.H.	ROOF HATCH
R.V.	ROOF VENT
R.W.L.	RAIN WATER LEADER
RAD.	RADIUS
REINF.	REINFORCING
REQ.	REQUIRED
RM.	ROOM
S.B.	SPLASH BLOCK
S.F.	SUPPLY FAN /SQUARE FOOT
S.O.	SPILL-OUT
S.S.	STAINLESS STEEL
SH.	SHOWER
SECT.	SECTION
SHT.	SHEET
SKY.	SKYLIGHT
SL.	SLOPE
SP.LT.	SPOT LIGHT
SQ.	SQUARE
STD.	STANDARD
STL.	STEEL

T&G	TONGUE & GROOVE
T.	TREAD
T.C.	TIN CLAD
T.E.C.	TOLL EQUIPMENT CO
TRANS.	TRANSOM
TYP.	TYPICAL

V. VINYL
V.I.F. VERIFY IN FIELD
V.T.R. VENT THRU ROOF
VERT. VERTICAL
VEST. VESTIBULE

W.S. WORKING SCUPPER
WD. WOOD
WDW. WINDOW

1. WORK SHALL COMPLY WITH APPLICABLE CODES INCLUDING LOCAL CODES AND ORDINANCES, FLORIDA BUILDING CODE, LATEST EDITION.
2. DO NOT SCALE DRAWINGS.
3. DIMENSIONS MUST BE FIELD VERIFIED. CONFIRM ROUGH OPENING DIMENSIONS AS NEEDED FOR ALL DOORS, WINDOWS, AND EQUIPMENT. DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. LARGE SCALE DRAWINGS SHALL GOVERN OVER SMALL.
5. WORK SHALL FOLLOW THE MANUFACTURER'S SPECIFICATIONS ALONG WITH ACCEPTED TRADE PRACTICES AND STANDARDS.
6. ALL EQUIPMENT SHALL HAVE MANUFACTURER'S WARRANTY.
7. DRAWINGS ARE TO BE ISSUED TO THE SUBCONTRACTORS IN COMPLETE SETS.
8. FIELD VERIFY DIMENSIONS, SPACES AND CONDITIONS PRIOR TO FABRICATION AND INSTALLATION OF EQUIPMENT AND MATERIAL.
9. REFER TO RFP DOCUMENTS FOR ADDITIONAL GENERAL AND SITE SPECIFIC REQUIREMENTS.

1. THIS IS A STANDARD LIST OF ABBREVIATIONS, THE INCLUSION OF A MATERIAL ON THIS LIST DOES NOT NECESSARILY MEAN THAT THE MATERIAL IS BEING USED ON THIS PROJECT.
2. THIS LIST OF ABBREVIATIONS IS FOR TERMS USED BY ARCHITECTURAL, STRUCTURAL, AND SEVERAL OTHER DISCIPLINES.
3. DISCIPLINES OTHER THAN ARCHITECTURAL AND STRUCTURAL MAY HAVE SUPPLEMENTAL LISTS OF ABBREVIATIONS INCLUDED WITH THEIR DRAWINGS.
4. SOME ARCHITECTURAL SYMBOLS ARE NOT SHOWN ON THIS SHEET AS THEY ARE SPECIFIC TO THE SHEET THEY ARE ON.

PRODUCT SUB	CATEGORY	"BASIS OF DESIGN" MANUFACTURER	NOTICE OF ACCEPTANCE OR STATE OF FLORIDA APPROVAL #
EXT. DOORS	SWINGING	CECO	FL APPROVED PRODUCT NO. FL10723.1-R1
ROOFING	SBS MODIFIED BITUMEN ROOFING SYSTEM	SOPREMA	NOA NO. 10-0408.04
ROOFING	ROOFING ACCESSORIES THAT ARE AN INTEGRAL PART OF THE ROOFING SYSTEM.	SOPREMA	NOA NO. 12-0315.02
* MANUFACTURER IS RESPONSIBLE FOR ALL DOCUMENTATION REQUIRED TO SATISFY NOA REQUIREMENTS.			

 PLAN/ ENLARGED
AREA DETAIL

 CUT/ELEVATION
DETAIL

 BUILDING SECTION

 WALL SECTION

 EXTERIOR ELEVATION

 INTERIOR ELEVATION
SYMBOL

APPLICABLE CODES:

FLORIDA BUILDING CODE 2014 EDITION WITH AMENDMENTS AND SUPPLEMENTS:
FLORIDA BUILDING CODE; BUILDING, 2014
FLORIDA BUILDING CODE; ACCESSIBILITY, 2014
FLORIDA BUILDING CODE; MECHANICAL, 2014
FLORIDA BUILDING CODE; PLUMBING, 2014
FLORIDA BUILDING CODE; ENERGY CONSERVATION, 2014

NFPA 101, 2015 (LIFE SAFETY)
NFPA 70, 2011 (NATIONAL ELECTRICAL CODE)

OCCUPANCY CLASSIFICATION: GROUP S-2 - LOW-HAZARD INDUSTRIAL STORAGE
(CHAPTER 3, SECTION 311.3) UNMANNED BUILDING

OCCUPANCY SEPARATION: NO SEPARATION REQUIRED

FIRE RESISTANCE: NON-COMBUSTIBLE

TYPE IIB - UNPROTECTED CONSTRUCTION, NOT SPRINKLERED
(CONSTRUCTION REQUIREMENTS PER TABLE 600 (FBC, 2010))

INTERIOR BEARING & NON BEARING WALLS NON-COMBUSTIBLE

COLUMNS NON-COMBUSTIBLE

BEAMS, GIRDERS, TRUSSES & ARCHES NON-COMBUSTIBLE

FLOORS & FLOOR/CEILING ASSEMBLIES NON-COMBUSTIBLE

ROOFS AND ROOF/CEILING NON-COMBUSTIBLE

EXTERIOR BEARING WALLS 10'-20': NON-COMBUSTIBLE

EXIT ACCESS CORRIDOR WALLS NON-RATED
(LESS THAN 30 OCCUPANTS)
(FBC TABLE 1018.1)

HEIGHT AND AREA LIMITATIONS FOR TYPE IIB, UNPROTECTED CONSTRUCTION
UNSPRINKLERED (PER FBC TABLE 503):

MAX HEIGHT: 55' **MAX. AREA:** 17,000 S.F.

TOTAL GROSS BUILDING AREA = 263 S.F.
TOTAL NET BUILDING AREA = 228 S.F.

USE OF AREA AREA (SQ FT)OCC. PER SF OCC. LOAD (ROUNDED UP)

MECH/ELEC./STOR. 263 (GROSS) / 300 = 1

$$TOTAL\ OCCUPANCY\ LOAD = 1$$

TOTAL BUILDING OCCUPANT LOAD = 1
TOTAL EGRESS WIDTH OF DOOR REQUIRED:
FIRST FLOOR (1 X 0.2) = 0.2 INCH
PROVIDED TOTAL EXIT DOOR WIDTH = 34 INCHES
MINIMUM CLEAR WIDTH OF EXIT DOOR PROVIDED:
34 INCHES > 0.2 INCHES ; ACCEPTABLE

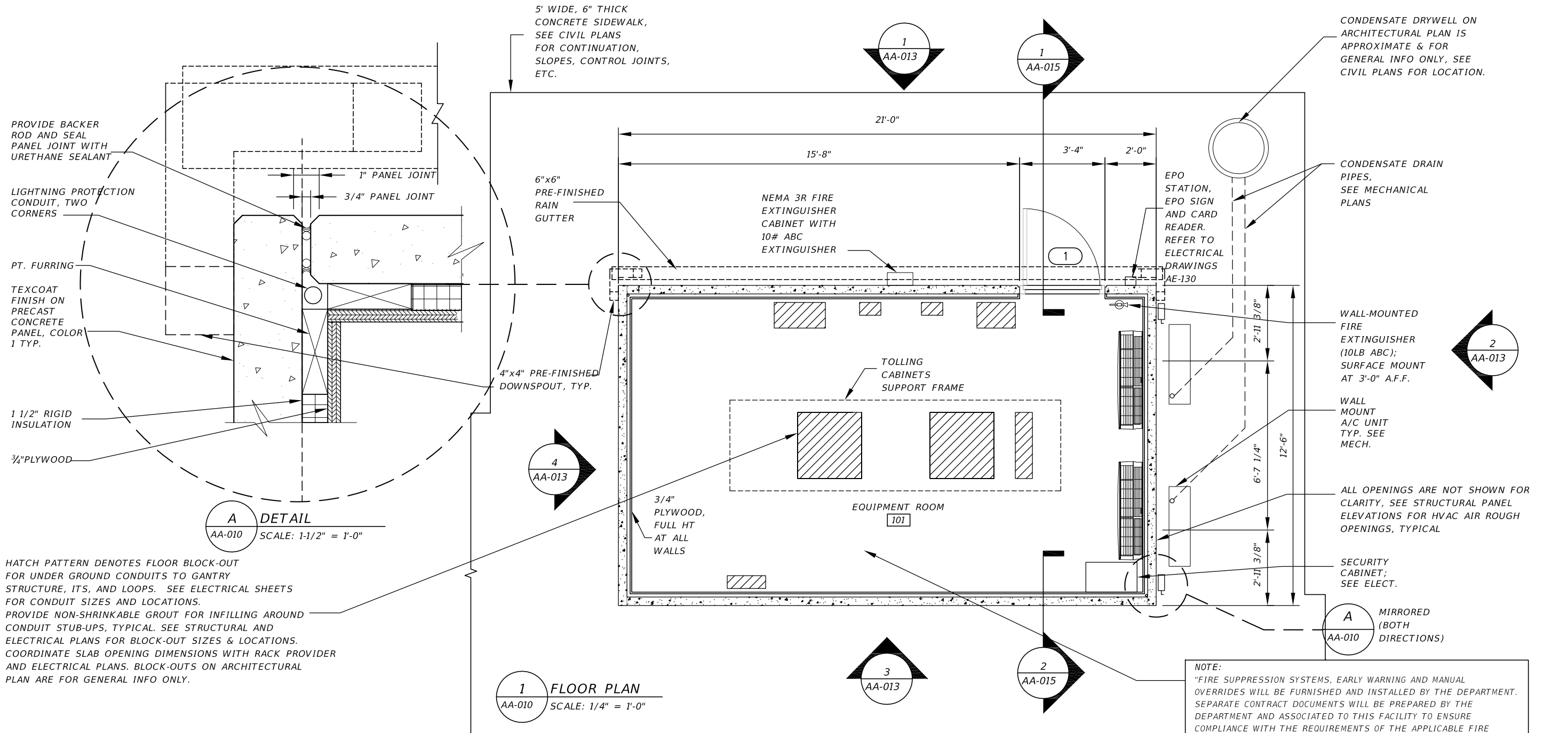
HURRICANE ENHANCED *NO*

ROOF:	R-19 MIN.
EXTERIOR WALLS:	R-9 MIN.

AS REQUIRED BY SECTION 1609 OF THE FLORIDA BUILDING CODE: BUILDING 2014

1. BASIC WIND SPEED	186 MPH
2. RISK CATEGORY	III
3. WIND EXPOSURE	CATEGORY 'C'

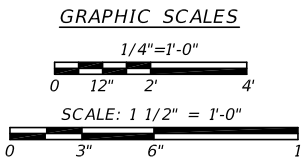
REVISIONS				GARY KRANSTON, R.A. FLORIDA R.A. NO.: 11541 BENTLEY ARCHITECTS & ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS ABBREVIATIONS, SYMBOLS, NOTES & BUILDING CODE DATA	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						POLK	437300-1-52-01		AA-002



NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #1 & #2
NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #3 & #4

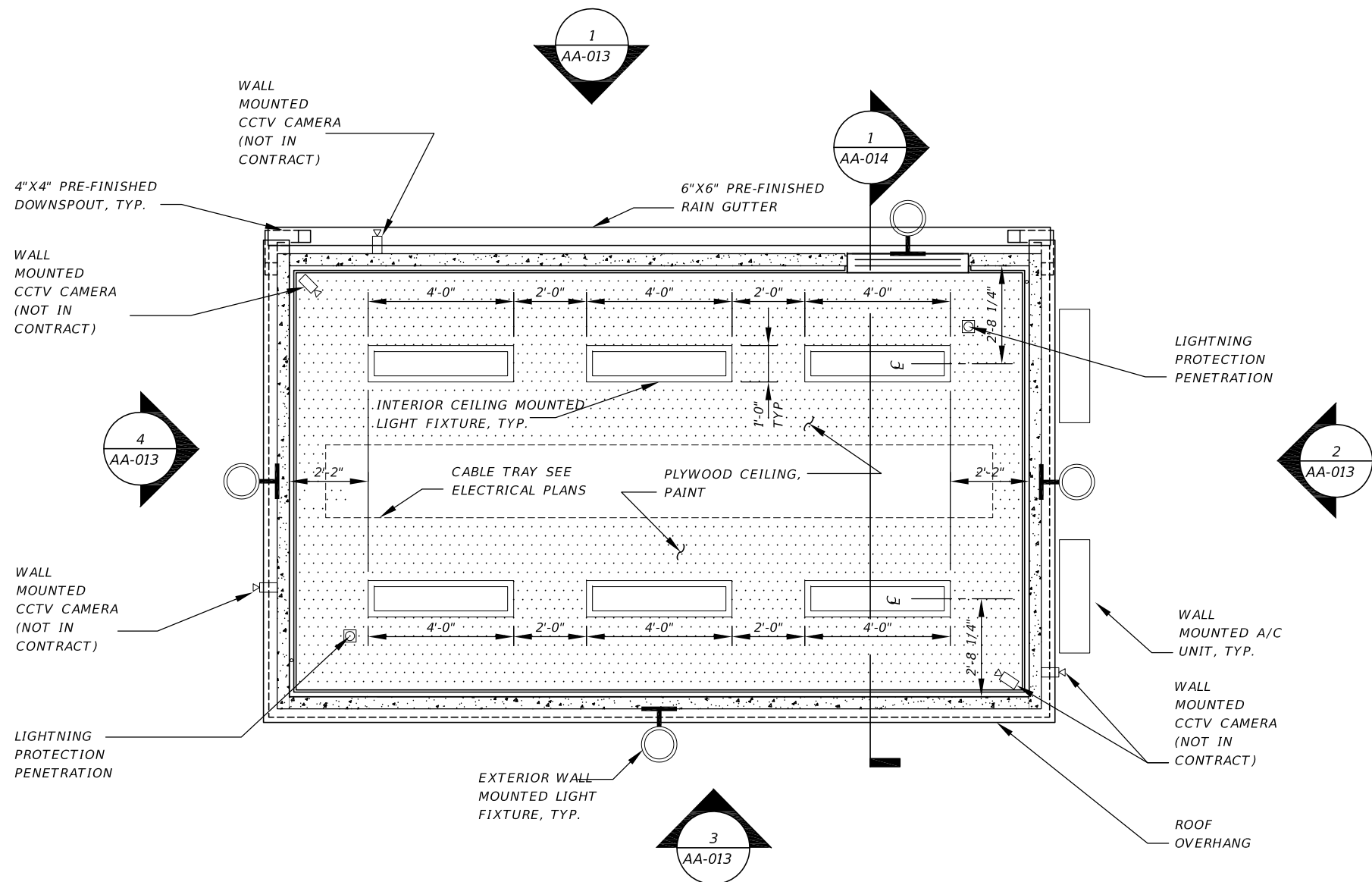
NOTE:

1. PROVIDE, INSTALL, AND TEST GROUND RODS PRIOR TO BUILDING/SLAB INSTALLATION, SEE ELECTRICAL PLANS FOR DETAILS.
2. SEE CIVIL SITE PLANS FOR SITE SPECIFIC EQUIPMENT BUILDING ORIENTATION.
3. TOP OF SLAB ELEVATION SHALL BE 18" MINIMUM ABOVE THE ESTABLISHED 100 YEAR FLOOD PLANE. SEE CIVIL SITE PLANS FOR TOP OF SLAB FLOOD ELEVATION.
4. SEE SHEET AA-015 FOR WALL MOUNTED EQUIPMENT FASTENER CRITERIA



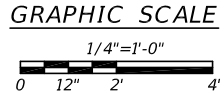
REVISIONS				GARY KRANSTON, R.A. FLORIDA R.A. NO.: 11541 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS FLOOR PLAN	SHEET NO. AA-010
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						POLK	437300-1-52-01		

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G1-16.005, F.A.C.

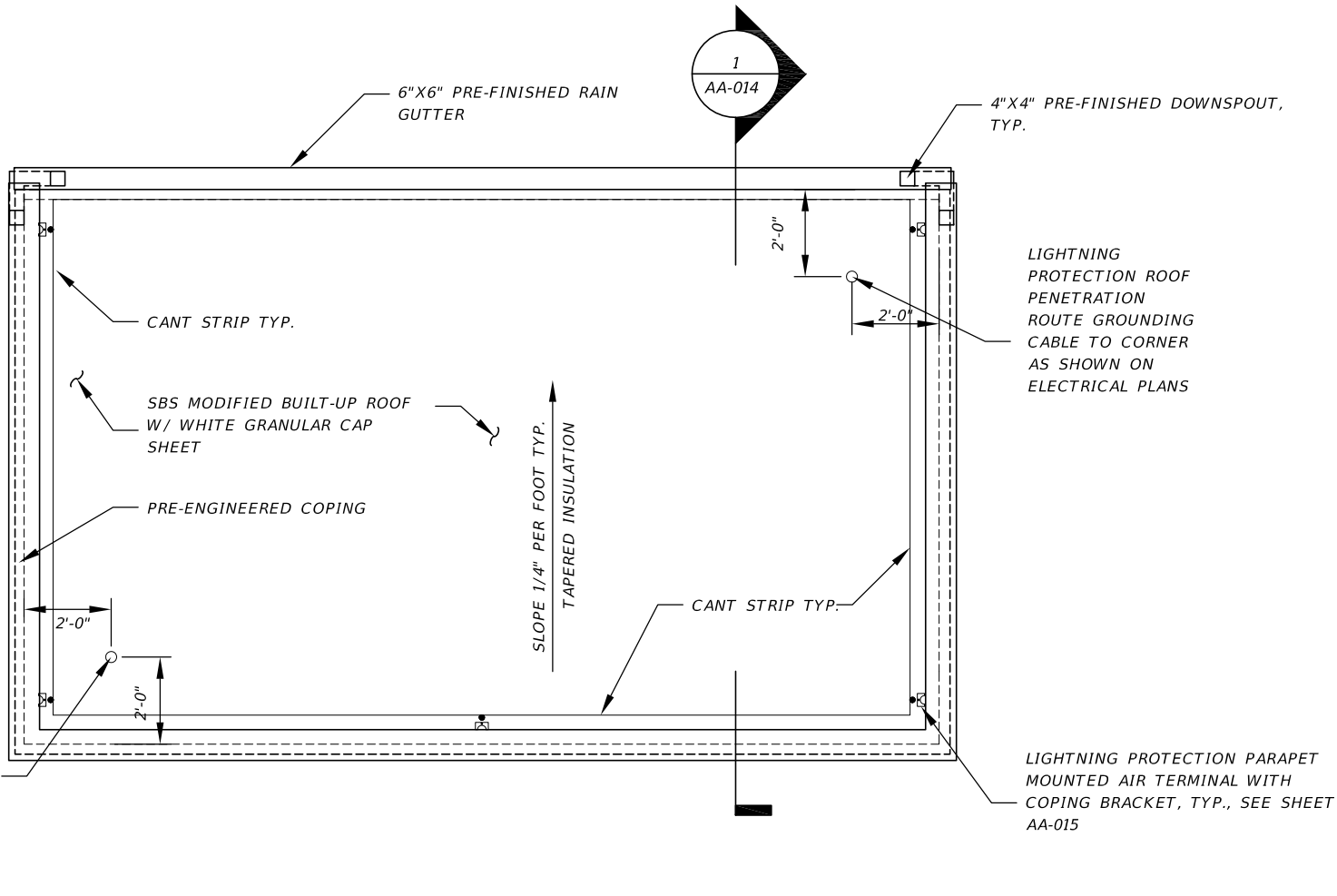


1 REFLECTED CEILING PLAN
AA-011 SCALE: 1/4" = 1'-0"

NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #1 & #2
NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #3 & #4



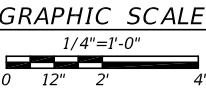
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						POLK	437300-1-52-01		



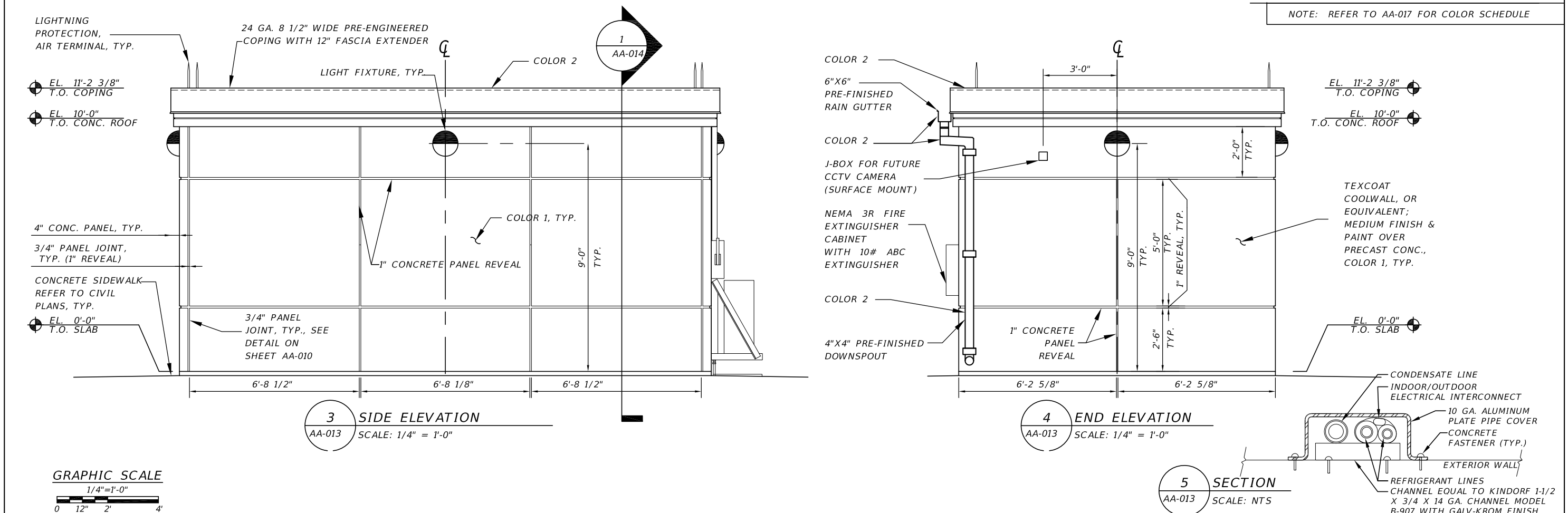
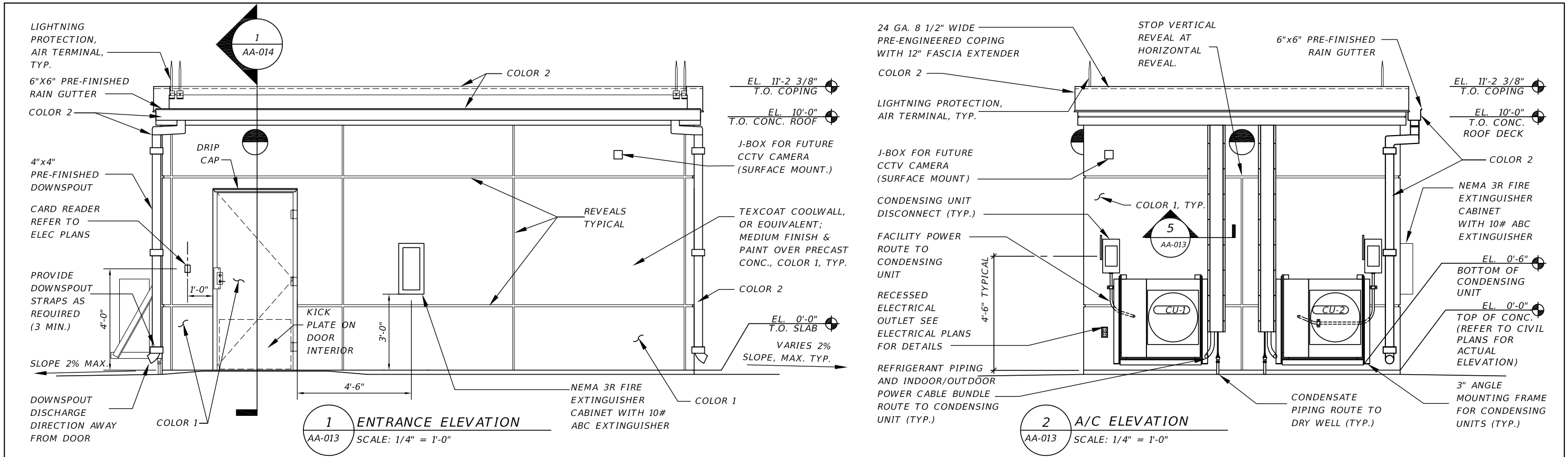
1 ROOF PLAN
AA-012 SCALE: 1/4" = 1'-0"

NOTE:
ALL ROOF COMPONENTS SHALL MEET
2014 FLORIDA BUILDING CODE WITH
AMENDMENTS & SUPPLEMENTS WIND LOAD
POSITIVE AND NEGATIVE PRESSURES
AND HAVE A FLORIDA PRODUCT APPROVAL
FOR THESE LOADS. SEE STRUCTURAL
FOR DESIGN LOADS.

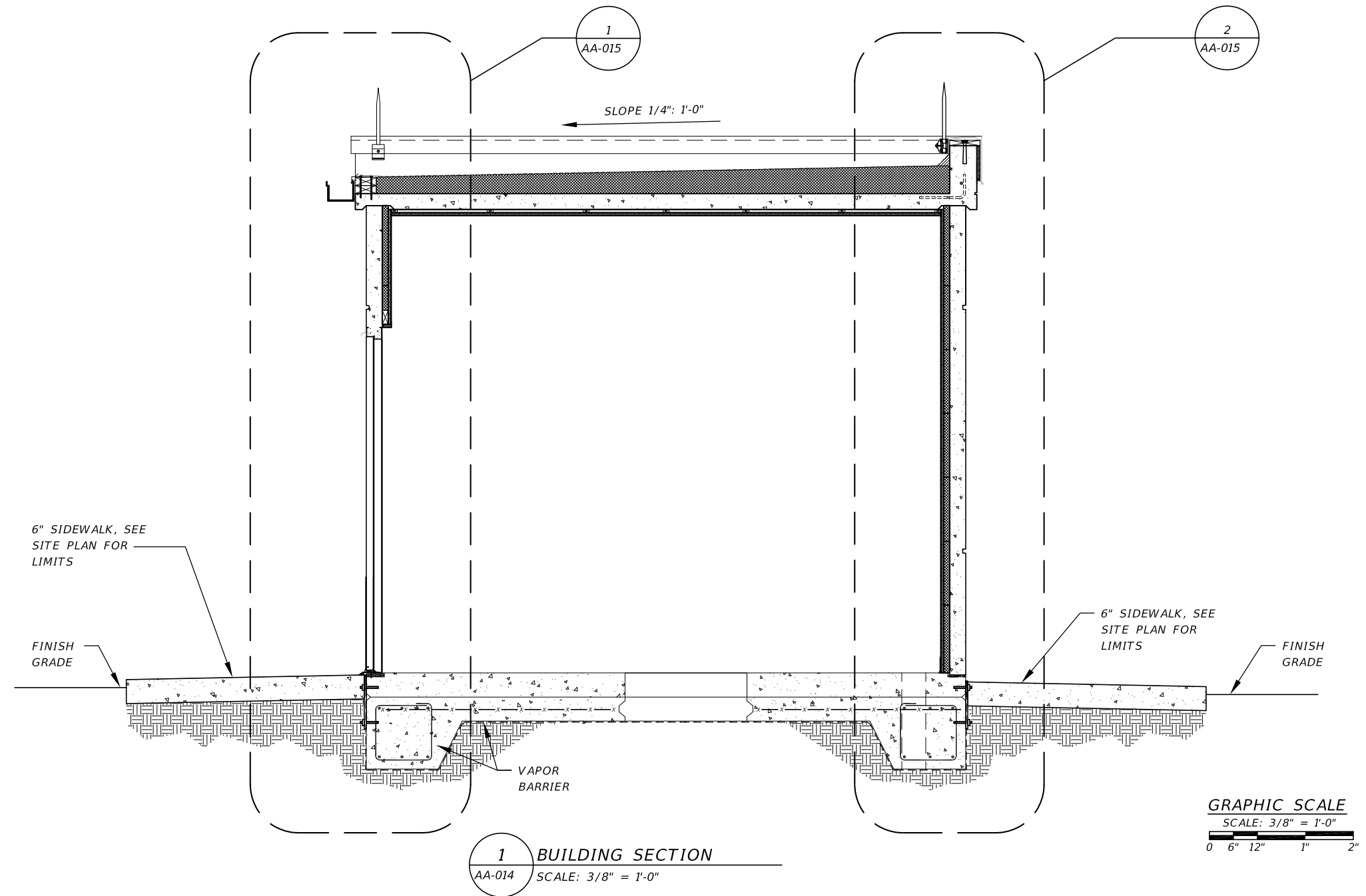
NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #1 & #2
NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #3 & #4



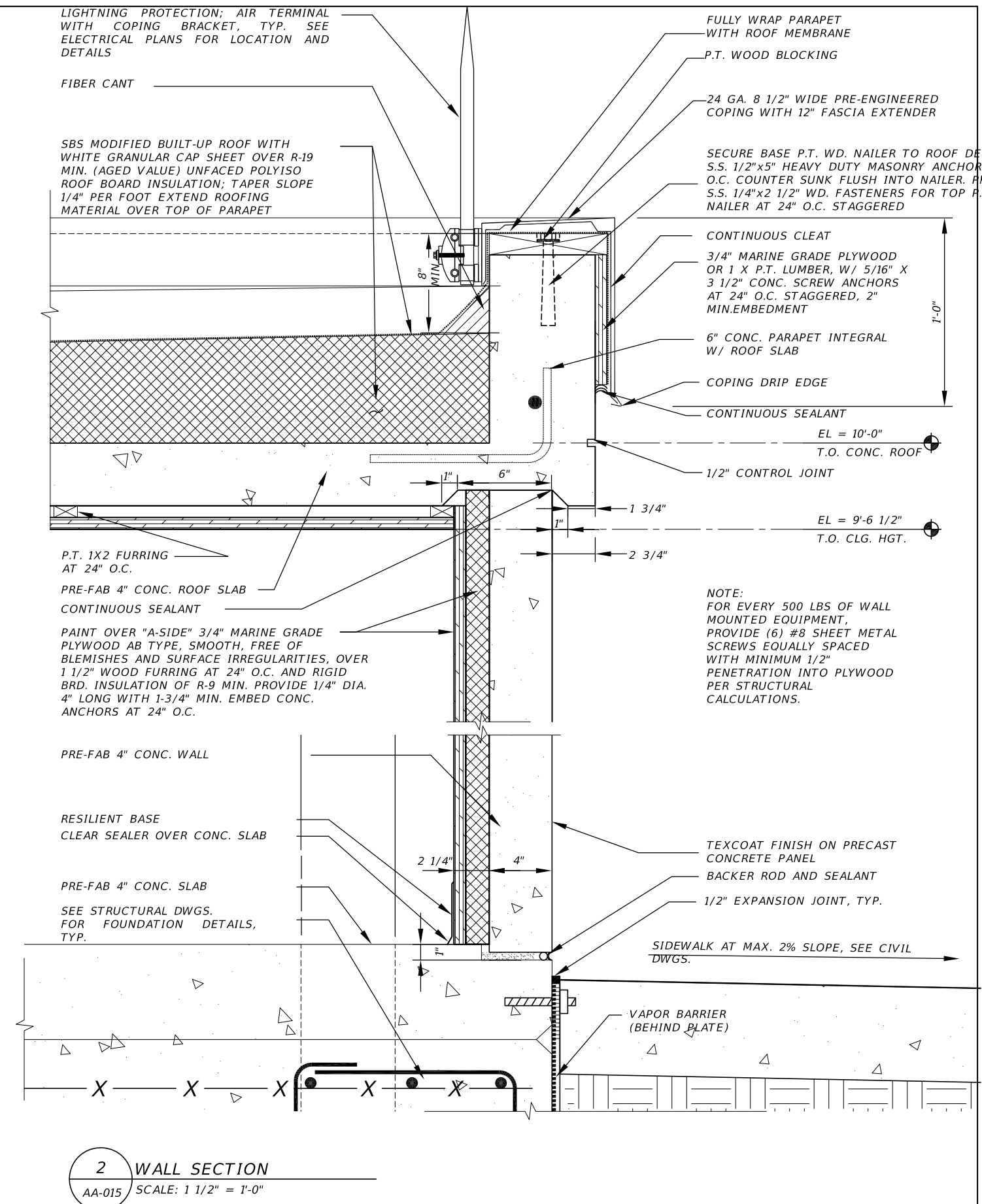
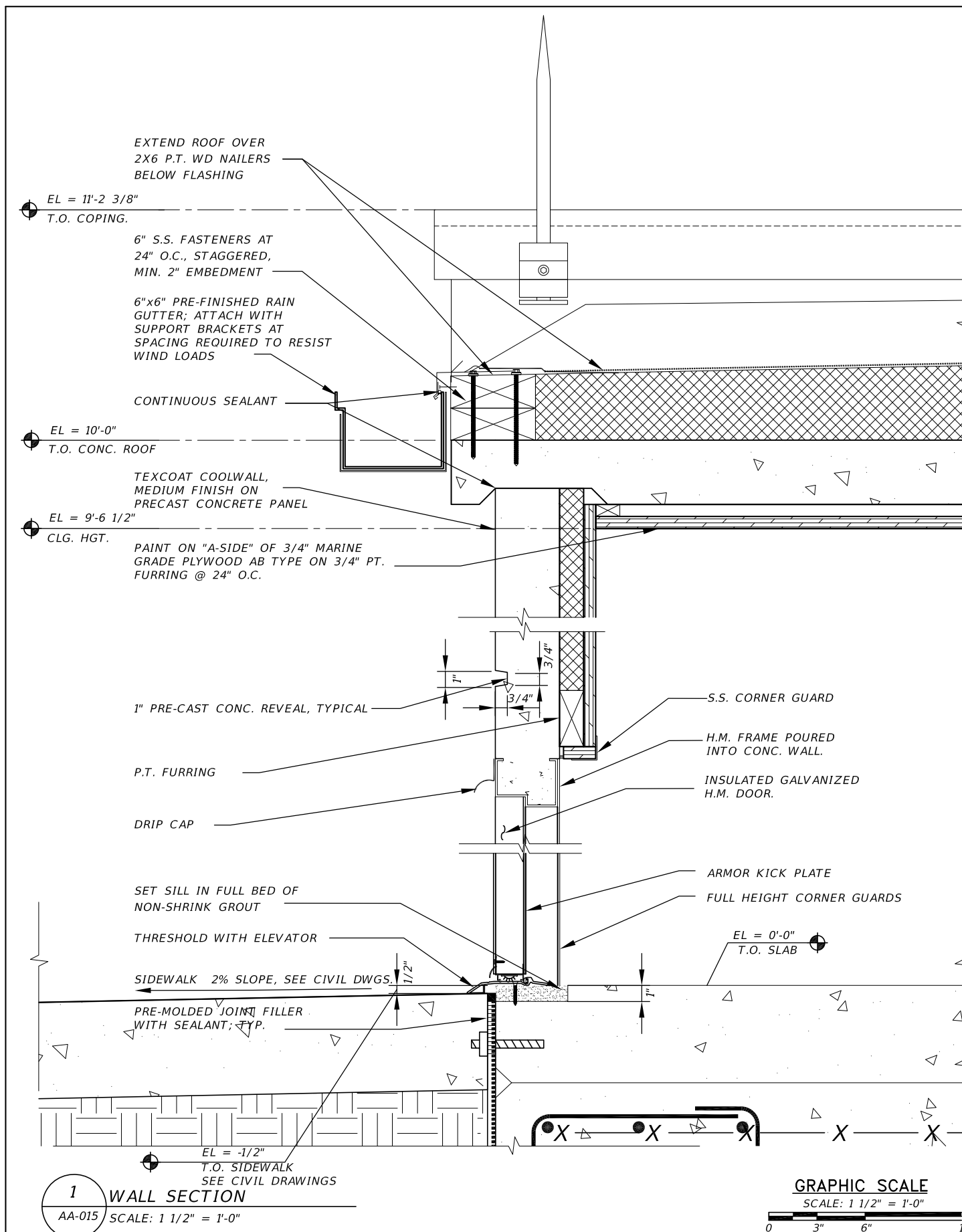
REVISIONS				GARY KRANSTON, R.A. FLORIDA R.A. NO.: 11541 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS ROOF PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		AA-012
						POLK	437300-1-52-01		



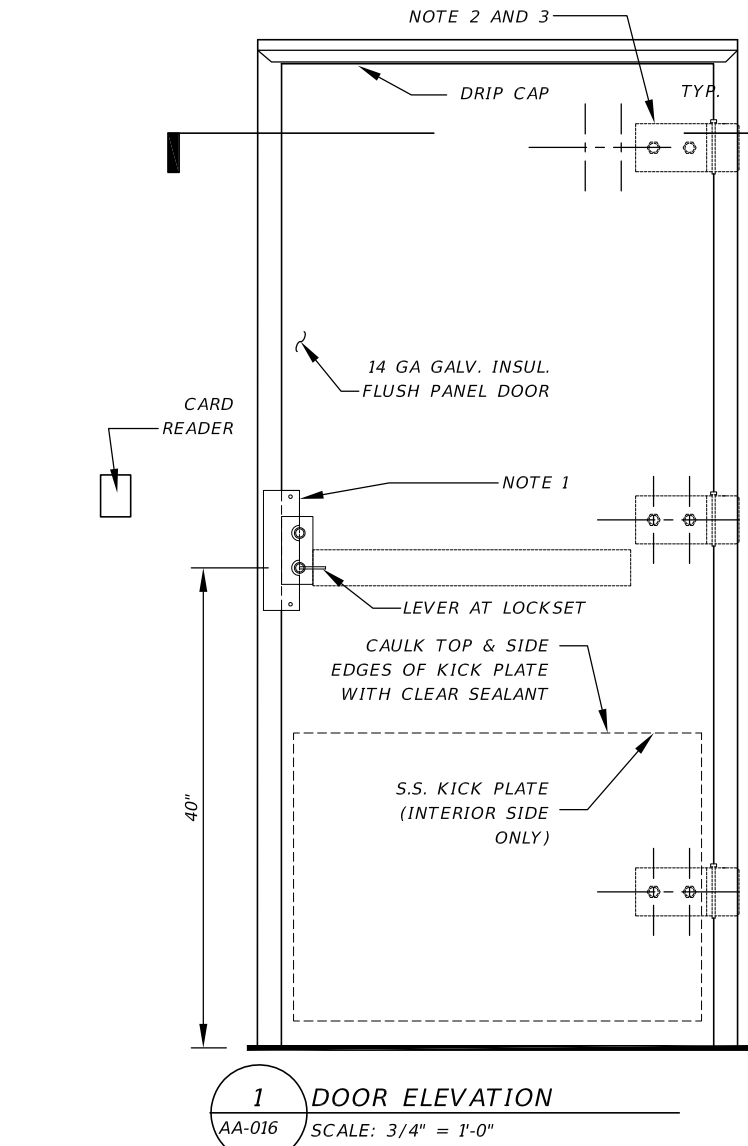
REVISIONS				GARY KRANSTON, R.A. FLORIDA R.A. NO.: 11541 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS EXTERIOR ELEVATIONS		SHEET NO. AA-013
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
						POLK	437300-1-52-01			



REVISIONS				GARY KRANSTON, R.A. FLORIDA R.A. NO.: 11541 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS BUILDING SECTION	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		AA-014
						POLK	437300-1-52-01		



REVISIONS				GARY KRANSTON, R.A. FLORIDA R.A. NO.: 11541 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS WALL SECTIONS	SHEET NO. AA-015
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						POLK	437300-1-52-01		

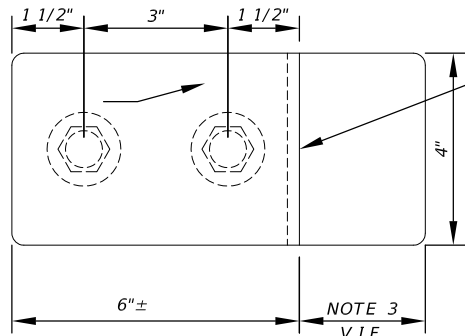


1 DOOR ELEVATION
AA-016 SCALE: 3/4" = 1'-0"

NOTES - ADDITIONAL HARDWARE FOR EACH NEW DOOR

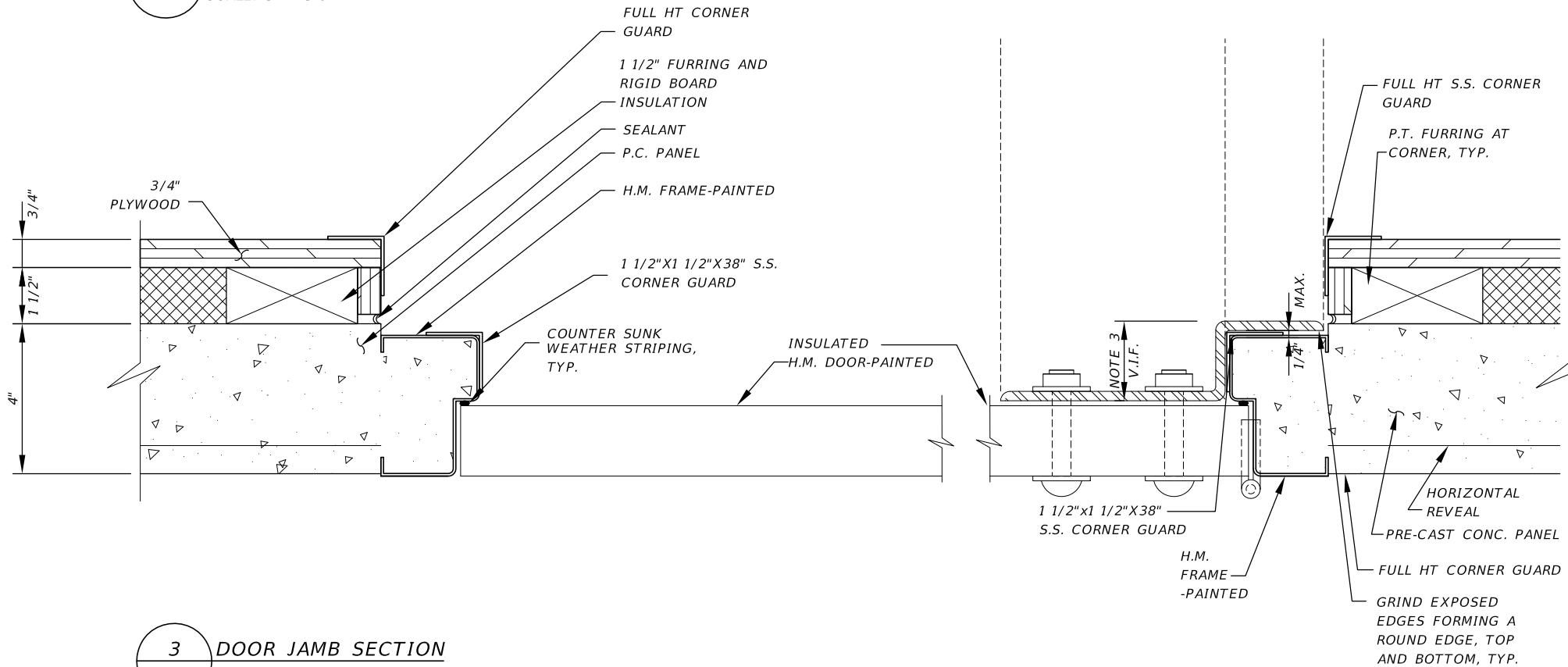
- NOTE 1:
PROVIDE 3"x10"x3/32" THICK GALVANIZED STEEL PROTECTION PLATE AT LOCKSET WITH TWO-3/8"Ø GALVANIZED THRU-BOLTS. CUT PLATE TO FIT AROUND KEY HOLE AND DOOR LEVER.
- NOTE 2:
PROVIDE THREE JAMB GUARD PLATES ON THE INTERIOR SIDE AT DOOR HINGE LOCATIONS, SEE DETAIL 2 THIS SHEET.
- NOTE 3:
COORDINATE SIZE OF JAMB GUARD WITH DOOR FRAME PROVIDED BY TOLL EQUIPMENT BUILDING MANUFACTURER.

JAMB GUARD MADE OF 1/4" GALV. STEEL BENT PLATE WITH (2) 1/2" DIA. THRU-BOLTS, PROVIDE GALV. WASHERS ON EXTERIOR & INTERIOR SIDE; PAINT TO MATCH DOOR COLOR. PROVIDE SHOP APPLIED HIGH PERFORMANCE COATING PAINT AND PRIMER. PREPARE GALVANIZED STEEL BY REMOVING CONTAMINATION AND OILS FROM SURFACE AS RECOMMENDED BY COATING MANUFACTURER. SUBMIT SHOP DRAWINGS AND HIGH PERFORMANCE COATING SPECIFICATIONS FOR REVIEW

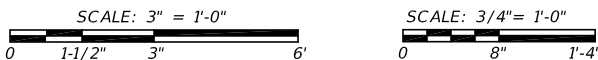


2 DOOR JAMB ELEVATION
AA-016 SCALE: 3" = 1'-0"

FABRICATOR SHALL COORDINATE BENT PLATE RADIUS AND TOLERANCES WITH DOOR FRAME WIDTH.



3 DOOR JAMB SECTION
AA-016 SCALE: 3" = 1'-0"



REVISIONS				GARY KRANSTON, R.A. FLORIDA R.A. NO.: 11541 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS STEEL LOCK DETAILS		SHEET NO. AA-016
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
						POLK	437300-1-52-01			

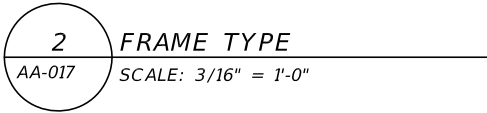
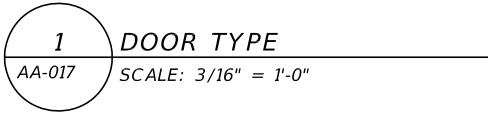
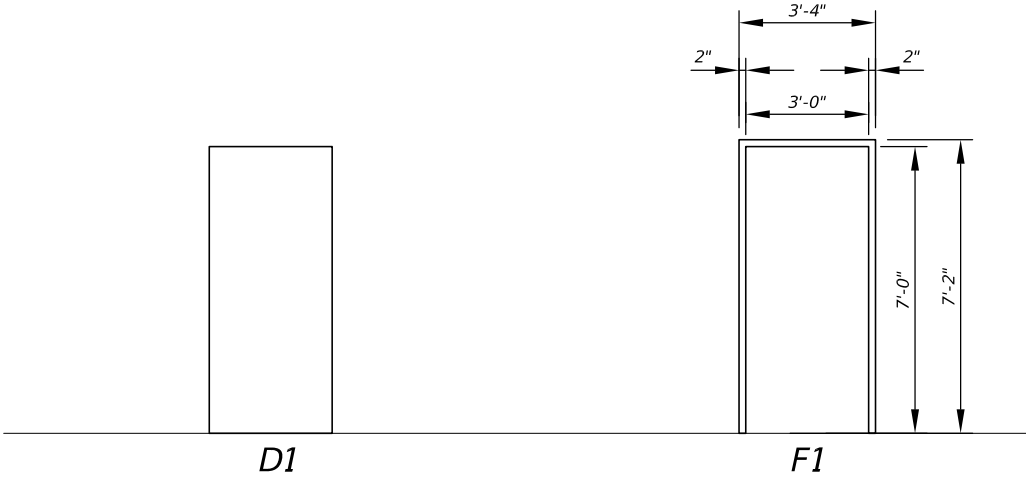
EQUIPMENT BUILDING COLOR SCHEDULE
COLOR 1: CREAM – FEDERAL STANDARD NO. 17886 – (FIELD PAINT COLOR FOR INTERIOR WALLS, CEILING, DOOR, & DOOR FRAME. EXTERIOR WALLS, DOOR, DOOR FRAME, EQUIPMENT SCREEN WALL)
COLOR 2: PAC-CLAD, KYNAR 500 MILITARY BLUE – (METAL COPING, DOWNSPOUT, GUTTER)
COLOR 3: BROWN – FEDERAL STANDARD NO. 20062 – (INTERIOR BASE)
NOTE 1: PROVIDE TEXCOAT COOLWALL; MEDIUM FINISH ON PRECAST CONCRETE; PAINT.

DOOR SCHEDULE: EQUIPMENT BUILDING																	
DOOR NUMBER		DOOR							FRAME						HARDWARE SET	CARD ACCESS	REMARKS
	ROOM NAME	SIZE	THICKNESS	TYPE	LOUVER	LABEL	MATERIAL	UNDER CUT	TYPE	MAT.	PAINT	HEAD	JAMB	THRESHOLD			
01	EQUIPMENT ROOM	3'-0" X 7'-0"	1 3/4"	D1	-	-	H.M.	-	F1	H.M.	X				X	X	SEE SPECIFICATIONS FOR DOOR HARDWARE SET AND ELECTRICAL DWG'S FOR SECURITY WIRING.

DOOR SCHEDULE NOTES:

1. DOOR MARKED WITH AN "X" UNDER THE CARD ACCESS COLUMN TO HAVE "CARDKEY" KEYPAD AND SWIPE READER UNIT - SEE PLANS FOR LOCATIONS
2. DOOR AND HARDWARE SHALL MEET FBC FOR POSITIVE AND NEGATIVE PRESSURES AND HAVE A FLORIDA PRODUCT APPROVAL FOR THESE LOADS. SEE STRUCTURAL FOR DESIGN LOADS.

FINISH LEGEND: EQUIPMENT BUILDING					
MARK	FLOORING (F-#)	BASE (B-#)	WALL FINISH (W-#)	CEILING (C-#)	REMARKS
1	CONC. W/ CLEAR SEALER	VINYL	PAINT OVER PLYWOOD	PAINT OVER PLYWOOD	



REVISIONS				GARY KRANSTON, R.A. FLORIDA R.A. NO.: 11541 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE, SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS DOOR AND FINISH SCHEDULES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						POLK	437300-1-52-01		AA-017

STRUCTURAL GENERAL NOTES:

A. BUILDING CODES:

1. FLORIDA BUILDING CODE, 2014 EDITION WITH APPROVED SUPPLEMENTS.
2. ACI 318-14 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
3. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, FOURTEENTH EDITION.
4. AWS STRUCTURAL WELDING CODE (2004).

B. DESIGN CRITERIA:

1. LIVE LOADS:
ROOF 65 PSF
FLOOR 125 PSF

2. DEAD LOADS:
ROOF 4 PSF
MISC 3 PSF

3. BUILDING WIND LOADS AS PER ASCE 7-10 FOR A ULTIMATE DESIGN WIND SPEED (3-SECOND GUST) OF 186 MPH AND NOMINAL DESIGN WIND SPEED OF 144 MPH.
RISK CATEGORY: III
EXPOSURE "C"
INTERNAL PRESSURE COEFFICIENT (TABLE 26.11-1: ±0.18)
ENCLOSURE CLASSIFICATION: ENCLOSED
COMPONENT AND CLADDING PRESSURES: BASED ON ULTIMATE DESIGN WIND SPEED (3-SECOND GUST) OF 186 MPH: DOOR/HVAC UNIT HUNG ON WALL (+69 PSF; -)92 PSF)

4. ALLOWABLE SOIL PRESSURE = 2000 PSF

C. CONSTRUCTION MATERIALS:

1. CAST-IN-PLACE CONCRETE COMPRESSIVE STRENGTH:
4000 PSI AT 28 DAYS (SLAB, FOUNDATION, EQUIPMENT PADS)
2500 PSI AT 28 DAYS (GROUT IN 8" CMU WALL)
2. REINFORCING STEEL - ASTM A615, GRADE 60 UNCOATED.
3. WELDING ELECTRODES - AWS E-70XX.
4. WELDED STEEL WIRE FABRIC - ASTM A185.
5. PRECAST CONCRETE COMPRESSIVE STRENGTH:
5000 PSI AT 28 DAYS (BUILDING)
6. ALL MISCELLANEOUS STEEL ASTM A36.
7. ANCHOR BOLTS - A307 OR A36, GALVANIZED.
8. MINIMUM COMPRESSIVE STRENGTH OF MASONRY $f'm = 1500$ PSI
NOTE: NET AREA COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNITS WITH TYPE M OR S MORTAR = 1900 PSI.

D. FOUNDATIONS:

1. ALL EARTHWORK AND COMPACTION FOR STRUCTURES SHALL BE AS PER TECHNICAL SPECIAL PROVISION SECTION 31 00 00, EARTHWORK.

E. PRECAST CONCRETE BUILDING:

1. PRECAST CONCRETE BUILDING DESIGN TO MEET APPLICABLE DESIGN CRITERIA AND CONSTRUCTION MATERIALS LISTED IN THE STRUCTURAL GENERAL NOTES AT A MINIMUM.
2. PRECAST CONCRETE BUILDING DESIGN SHALL ALSO CONSIDER LOADS FROM CONDUIT, CABLE TRAYS AND ALL OTHER SUSPENDED ITEMS.
3. PRECAST CONCRETE BUILDING DESIGN AND WALL CONSTRUCTION SHALL PROVIDE THE CODE REQUIRED CLEAR COVER AT THE WALL REVEALS.

F. MASONRY:

1. MASONRY CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6/TMS 602) PUBLISHED BY ACI EXCEPT AS MODIFIED BY REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS.
2. ALL BLOCK SHALL BE 8" HOLLOW LOAD-BEARING (NORMAL WEIGHT) CONCRETE BLOCK CONFORMING TO ASTM C90, GRADE N, TYPE II. ALL MORTAR SHALL CONFORM TO ASTM C270 TYPE S, EXCEPT USE TYPE M BELOW GRADE.

G. GENERAL NOTES:

1. ALL CONCRETE EMBEDDED STEEL ANGLES, WELD PLATES, ANCHORAGE DEVICES, ETC., SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 AND/OR F2329.
2. ALL REINFORCEMENT TO BE DETAILED AND FABRICATED IN ACCORDANCE WITH ACI 315-94 ALL CONSTRUCTION JOINTS, WITH REINFORCING PASSING THROUGH THE JOINT, SHALL BE ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY ¼ INCH, UNLESS NOTED OTHERWISE.
3. PROVIDE THE FOLLOWING MINIMUM CONCRETE COVER, UNLESS NOTED OTHERWISE ON THE PLANS:
FOUNDATIONS - - - - - 3"
SLABS ON GRADE - - - - - CENTERED
4. VERIFY AND CORRELATE ALL DIMENSIONS BEFORE PROCEEDING WITH FABRICATION AND CONSTRUCTION.
5. CHAMFER ALL EXPOSED EDGES ¾"x¾", EXCEPT AS NOTED OTHERWISE.
6. ALL DIMENSIONS ARE MEASURED HORIZONTALLY OR VERTICALLY UNLESS NOTED OTHERWISE.

H. COORDINATION:

1. COORDINATE ALL MECHANICAL AND CONDUIT PENETRATIONS THROUGH CONCRETE WITH THE CIVIL, MECHANICAL AND ELECTRICAL SHOP DRAWINGS PRIOR TO PLACING CONCRETE.
2. THE STRUCTURAL SHEETS SHALL BE COORDINATED WITH THE CIVIL, ARCHITECTURAL, MECHANICAL AND ELECTRICAL SHEETS TO PROPERLY LOCATE PIPE SLEEVES, BLOCK-OUTS, ETC. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
3. THE STRUCTURAL SHEETS SHALL BE COORDINATED WITH THE STANDARD SPECIFICATIONS, SUPPLEMENTS AND TECHNICAL SPECIAL PROVISIONS.

I. DEWATERING:

1. EXPECT TO PERFORM DEWATERING FOR FOUNDATIONS. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT THE FLOTATION OF STRUCTURES UNTIL ALL BACKFILL IS PROPERLY COMPACTED IN PLACE AND CONSTRUCTION IS COMPLETE.

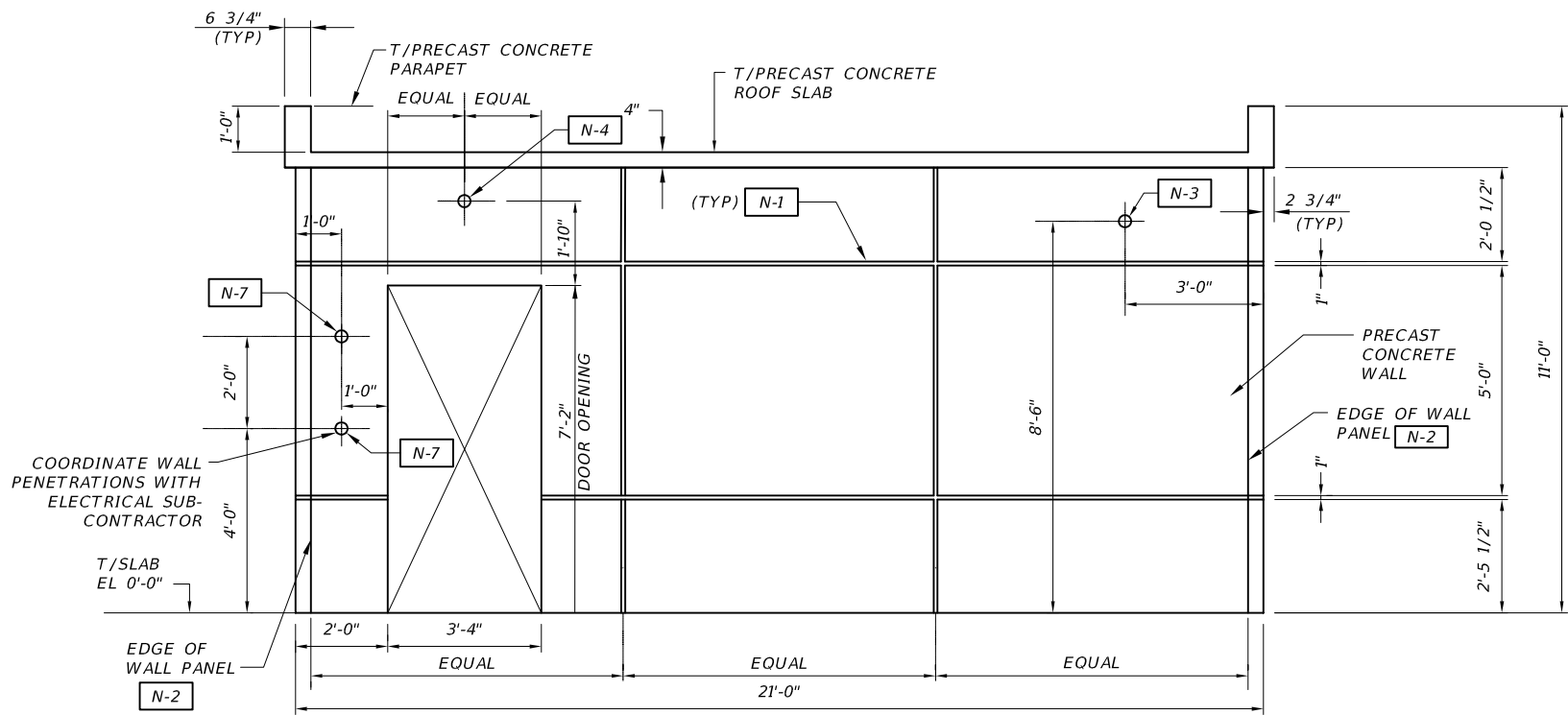
J. SUBMITTAL:

1. SUBMIT FOR ENGINEER REVIEW SHOP DRAWINGS FOR THE FOLLOWING ITEMS:

CONCRETE MIX DESIGN

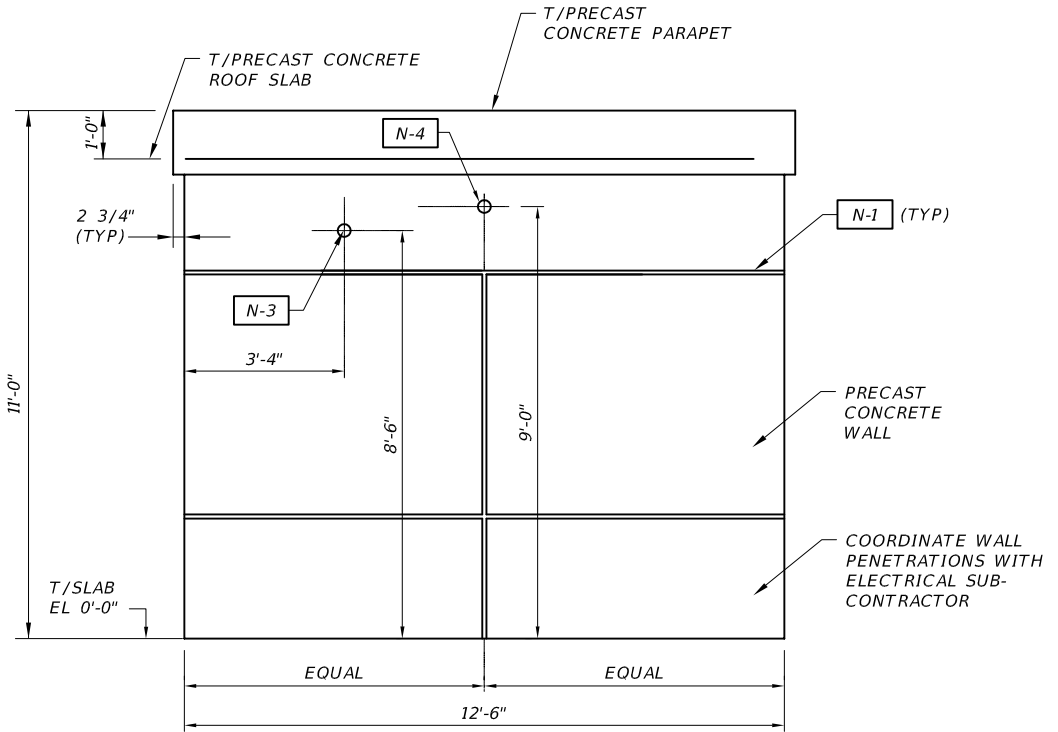
PRECAST CONCRETE BUILDING (INCLUDING SIGNED AND SEALED CALCULATIONS/DRAWINGS BY A LICENSED FLORIDA PROFESSIONAL ENGINEER)

REVISIONS				BRENTON D. DAILY, P.E. FLORIDA P.E. NO. 81028 BENTLEY ARCHITECTS + ENGINEERS, INC. 651 WEST WARREN AVENUE SUITE 200 LONGWOOD, FLORIDA 32750 BPE CA NO. 5898 BPA & ID CA NO. AAC002023	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDING		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	STRUCTURAL GENERAL NOTES		AS-001
					NA	POLK	437300-1-52-01			

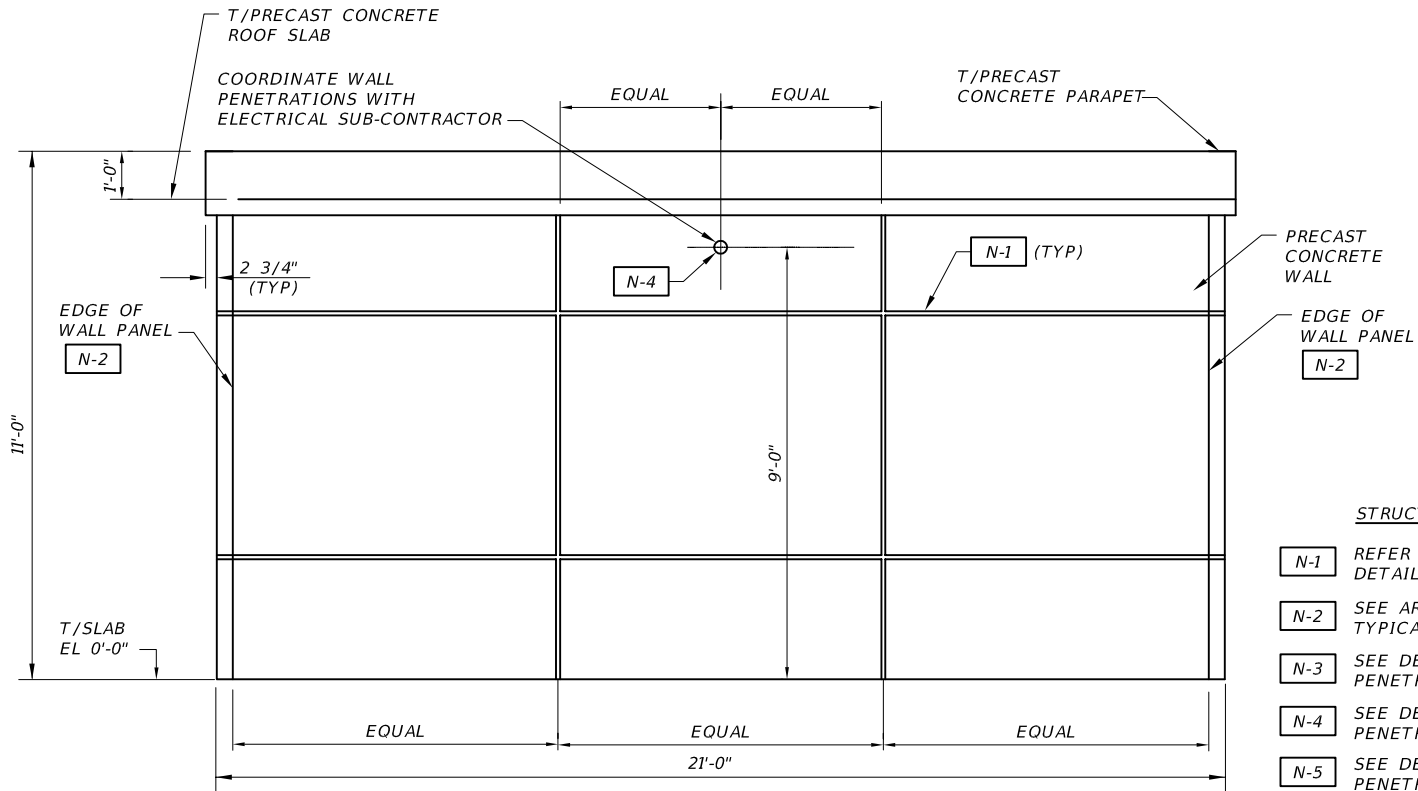


1 ELEVATION
AS-200 SCALE: 1/4" = 1'-0"

* - COORDINATE THESE WALL PENETRATIONS WITH MECHANICAL SUBCONTRACTOR

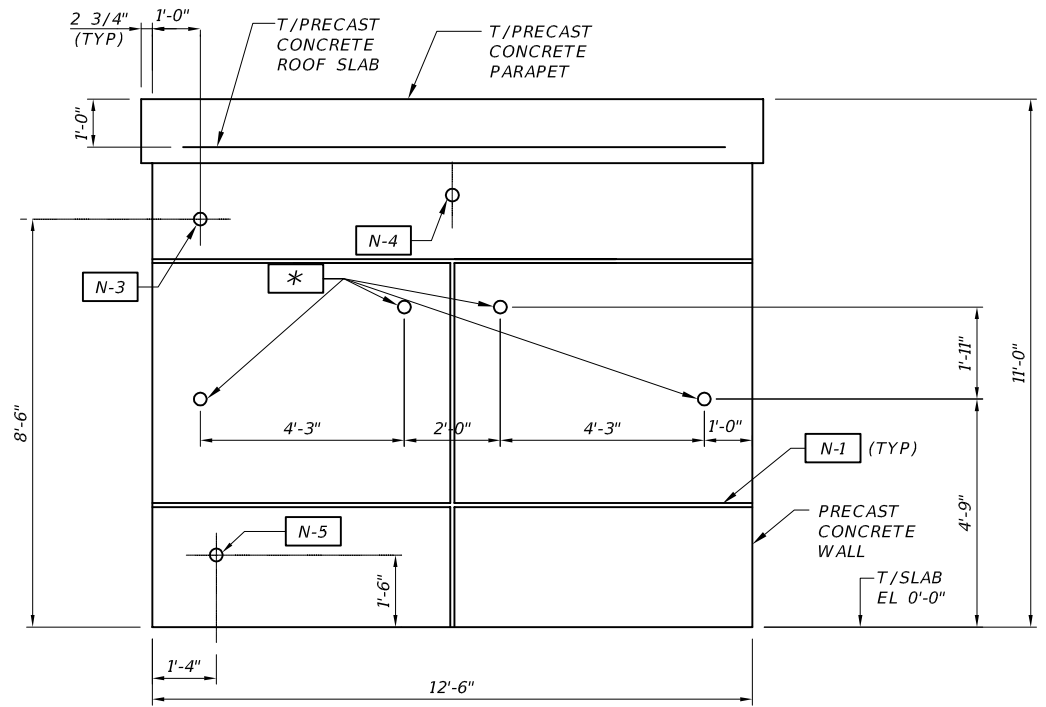


2 ELEVATION
AS-200 SCALE: 1/4" = 1'-0"

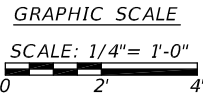


3 ELEVATION
AS-200 SCALE: 1/4" = 1'-0"

- STRUCTURAL ITEM NOTES:
- N-1 REFER TO DETAIL 6/AS-300 FOR DETAIL OF REVEALS
 - N-2 SEE ARCHITECTURAL DRAWINGS FOR TYPICAL CORNER JOINT DETAIL.
 - N-3 SEE DETAIL "2"/AE-125 FOR WALL PENETRATION INFORMATION.
 - N-4 SEE DETAIL "4"/AE-125 FOR WALL PENETRATION INFORMATION.
 - N-5 SEE DETAIL "1"/AE-125 FOR WALL PENETRATION INFORMATION.
 - N-6 NOT USED
 - N-7 SEE DETAIL "5"/AE-125 FOR WALL PENETRATION INFORMATION.

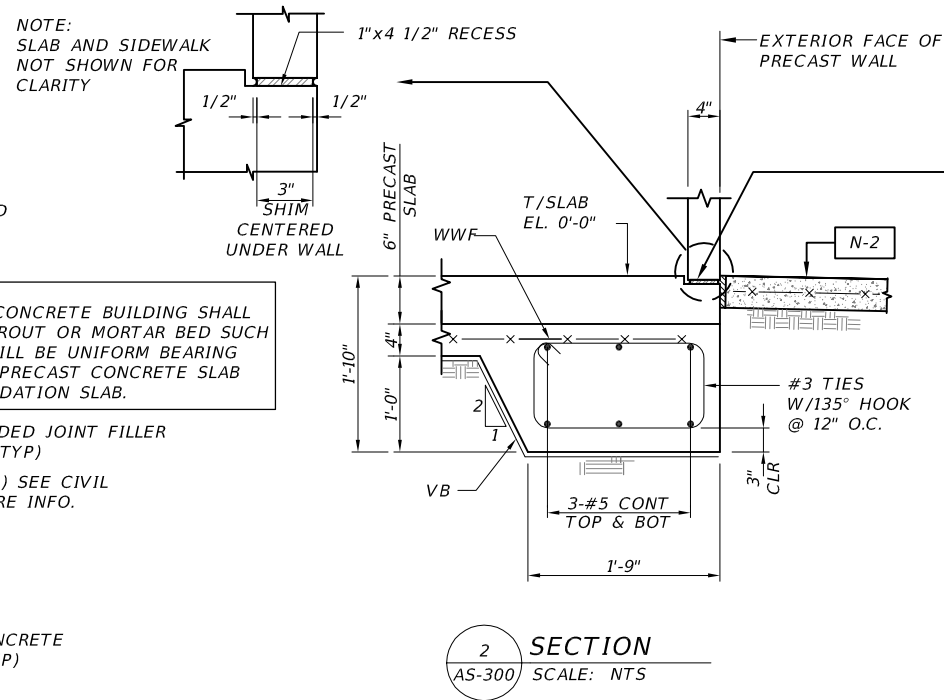


4 ELEVATION
AS-200 SCALE: 1/4" = 1'-0"

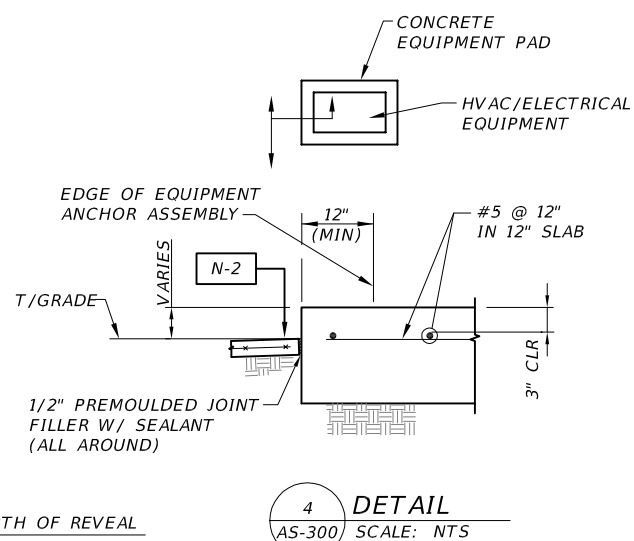


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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

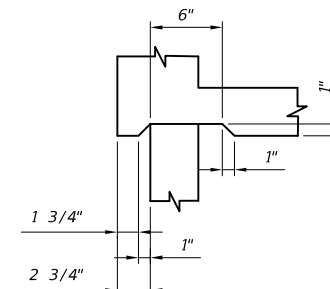
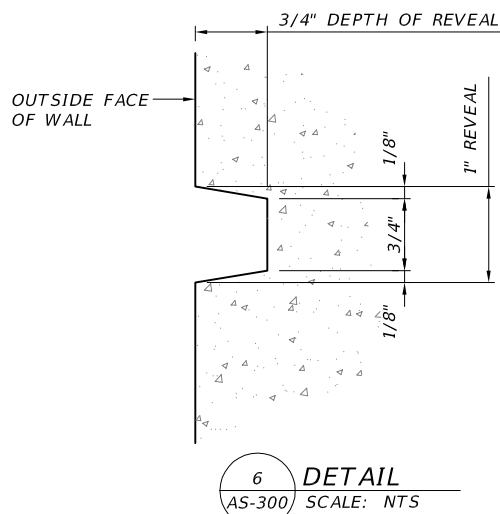
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23-004, F.A.C.



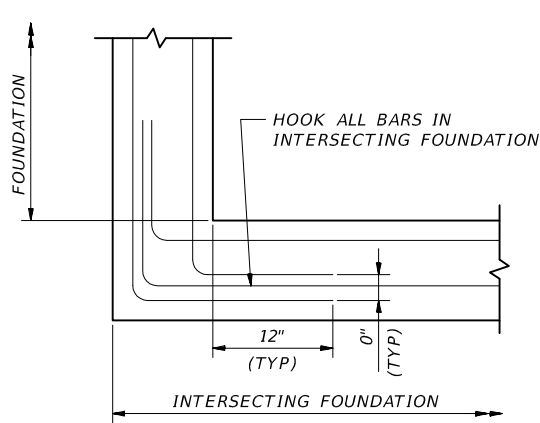
TOP OF CONCRETE FOUNDATION MUST BE CONSTRUCTED WITHIN A +1/4" TOLERANCE TO ALLOW FOR AN EVEN BEARING SURFACE FOR THE PRECAST CONCRETE BUILDING. STAINLESS STEEL SHIMS WILL BE USED TO ENSURE THAT ALL LOAD BEARING SURFACES ARE AT THE SAME ELEVATION (WITHIN A TOLERANCE OF +1/16"). WHEN THE SHELTER IS SET WITH THE CORRECT SHIMS IN PLACE, COMPLETELY ENCASE THE SHIMS IN GROUT. THIS NON-SHRINK HIGH STRENGTH GROUT SHALL ALSO BE USED TO COMPLETELY SEAL THE PERIMETER OF THE BUILDING AGAINST WATER INTRUSION.



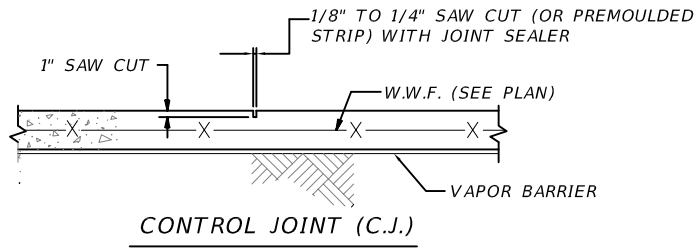
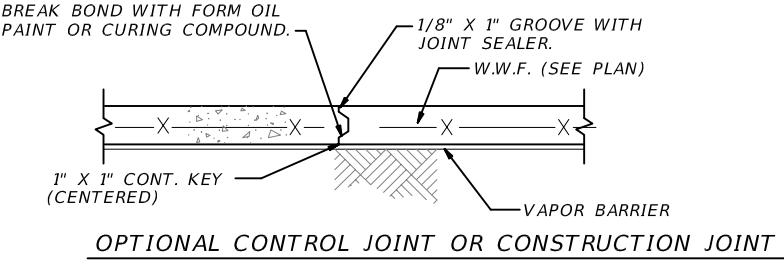
LEGEND:
VB - VAPOR BARRIER



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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		AS-300



TYPICAL FOUNDATION CORNER REINFORCING
NTS

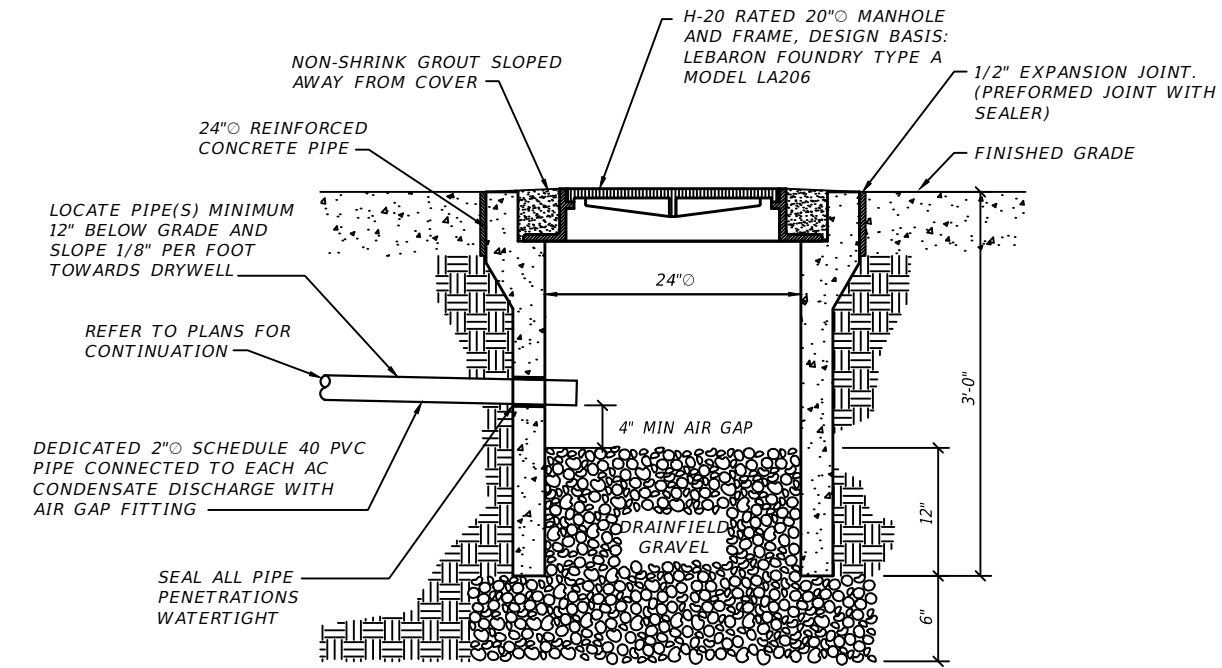


SAW CONTROL JOINT NOTES:

1. MAKE SAW CUT AS SOON AS SLAB IS ABLE TO SUPPORT WEIGHT OF WORKERS AND SAWING EQUIPMENT WITHOUT DAMAGE TO FINISH SURFACE OF SLAB. BEGIN SAW CUTTING OF SLAB WITHIN 8 HOURS OF SLAB BEING FINISHED.
2. CLEAN JOINT PRIOR TO FILLING, WITH JOINT SEALER

TYPICAL SLAB JOINTS
NTS

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01	SECTIONS AND DETAILS	AS-301



1 CONDENSATE DRYWELL
AM-001 SCALE: NOT TO SCALE

GENERAL NOTES:

- IN GENERAL, PLANS AND DIAGRAMS OF UTILITY RUNS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED. TAKE RESPONSIBILITY TO COORDINATE AT SITE ALL PLUMBING, HVAC AND ELECTRICAL WORK SO AS NOT TO CONFLICT IN LOCATION WITH OTHER WORK UNDER THE CONTRACT.
- TAKE RESPONSIBILITY TO READ AND COMPLY WITH DIVISION 23 AND 26 OF THE CONTRACT SPECIFICATIONS SPECIAL TECHNICAL PROVISIONS FOR ALL WORK SHOWN ON THESE DRAWINGS.
- WHERE THE CONTRACTOR PROPOSES TO USE AN APPROVED SUBSTITUTION ITEM OTHER THAN THAT SPECIFIED OR DETAILED ON THE DRAWINGS WHICH REQUIRES ANY REDESIGN OF THE STRUCTURE, PARTITIONS, FOUNDATIONS, PIPING, WIRING OR ANY OTHER PART OF THE MECHANICAL, ELECTRICAL, OR ARCHITECTURAL LAYOUT, ALL SUCH REDESIGN AND CONSTRUCTION COSTS AND ALL NEW DRAWINGS AND DETAILING REQUIRED SHALL BE PREPARED AND INSTALLED BY THE CONTRACTOR AT HIS OWN EXPENSE. PRIOR APPROVAL FOR THIS WORK MUST BE SUBMITTED TO THE ENGINEER.
- SPACE ALLOTTED FOR MECHANICAL AND ELECTRICAL WORK IS CRITICAL. MECHANICAL AND ELECTRICAL EQUIPMENT HAVE BEEN LOCATED TO ACHIEVE REQUIRED SERVICE CLEARANCES AND MAY NOT BE CHANGED WITHOUT THE CONSENT OF THE ENGINEER. TAKE RESPONSIBILITY TO THOROUGHLY FAMILIARIZE SELF WITH THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS PRIOR TO FABRICATING AND INSTALLING ANY MATERIALS.
- ALL POWER WIRING OF MECHANICAL EQUIPMENT SHALL BE BY DIVISION 26.
- ALL CONTROL WIRING, CONDUIT, AND RELATED CONTROL DEVICES SHALL BE INSTALLED UNDER DIVISION 23 AND SHALL COMPLY WITH THE REQUIREMENTS OF DIVISION 26.
- MECHANICAL CONTRACTOR SHALL TAKE RESPONSIBILITY FOR THE PROTECTION OF STORED MATERIALS AND EQUIPMENT FOR THE DURATION OF THE PROJECT. PROVIDE PROTECTIVE COVER OVER EQUIPMENT TO ENSURE AGAINST WATER AND DUST DAMAGE AND PROVIDE SUITABLE PALLETS BETWEEN EQUIPMENT AND MATERIALS STORED ON GROUND.
- IN THE EVENT THAT IT BECOMES NECESSARY FOR THE AIR CONDITIONING EQUIPMENT TO BE TURNED ON FOR BUILDING DEHUMIDIFICATION DURING THE FINAL PHASES OF CONSTRUCTION, TAKE RESPONSIBILITY FOR AND IMPLEMENT ALL PRECAUTIONS TO PROTECT THE EVAPORATOR COILS FROM DUST. A COMPLETE CHANGE OF FILTERS WILL BE REQUIRED PRIOR TO TESTING AND BALANCING THE SYSTEM.
- MECHANICAL CONTRACTOR SHALL TAKE RESPONSIBILITY FOR COORDINATING SUPPLY AND RETURN AIR OPENINGS IN PRECAST WALLS WITH TOLL EQUIPMENT BUILDING AND MECHANICAL EQUIPMENT MANUFACTURERS. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- REFER TO TSPs FOR SEQUENCE OF OPERATION.

HVAC LEGEND	
	DUCTWORK SIZE. FIRST NUMBER DENOTES WIDTH AND SECOND NUMBER DENOTES DEPTH. SIZE INDICATES CLEAR INSIDE DIMENSIONS.
	AIR FLOW
	EQUIPMENT IDENTIFICATION
	CONDENSATE DRAIN
	AIR CONDITIONER
	CUBIC FEET PER MINUTE
	ABOVE FINISHED FLOOR
	FLORIDA'S TURNPIKE ENTERPRISE
	KEYED NOTE. REFERS TO CONSTRUCTION NOTES.
	SECTION LETTER
	SECTION SYMBOL
	SHEET WHERE SECTION IS SHOWN
	DETAIL NUMBER
	DETAIL SYMBOL
	SHEET WHERE DETAIL IS SHOWN

REVISIONS				ADAM JOSEPH BARNEY, P.E. FLORIDA P.E. NO.: 69124 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS HVAC DETAILS, NOTES, LEGEND AND SEQUENCE OF OPERATION		SHEET NO.	
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			AM-001	
					NA	POLK	437300-1-52-01				

NOTES:

- 1

AC UNIT CONDENSATE DRAIN LINE. UNIT PROVIDED WITH INTERNAL DRAIN TRAP, EXTERNAL TRAP NOT REQUIRED. INDIRECT WASTE TO 2" CONDENSATE RECEPTOR WITH AIR GAP. TYPICAL OF 2.
- 2

DUAL UNIT CONTROLLER WITH INTEGRAL THERMOSTAT AND TIMER. INSTALL CONTROLLER AT 92" AFF. COORDINATE ALL THERMOSTAT SEQUENCING AND ALARM SET-POINTS WITH FTE REPRESENTATIVE.
- 3

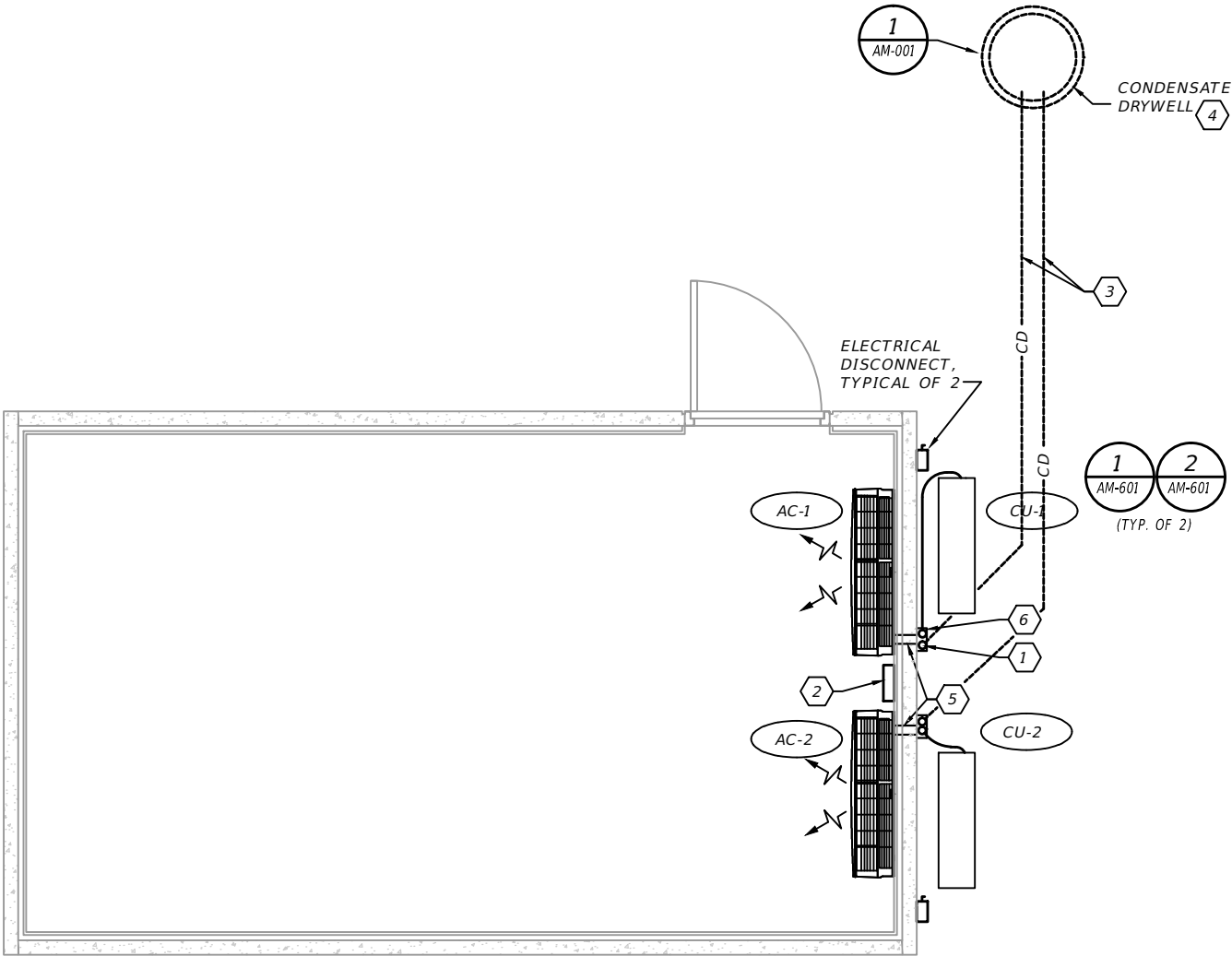
2"Ø SCHEDULE 40 PVC CONDENSATE DRAIN LINE BELOW GRADE, TYPICAL OF 2. MINIMUM SLOPE SHALL BE 1/8" PER FOOT.
- 4

CONTRACTOR SHALL TAKE RESPONSIBILITY OF FINAL FIELD COORDINATION WITH CIVIL SITE AND GRADING PLANS, UTILITY PLANS AND ALL OTHER TRADES FOR THE EXACT LOCATION OF CONDENSATE DRY WELL. SEE CIVIL SITE AND GRADING PLANS FOR DRYWELL LOCATION.
- 5

2 1/2" SLOPED PIPE SLEEVE FOR REFRIGERANT AND CONDENSATE PIPING. MOUNT BOTTOM OF SLEEVE AT APPROXIMATELY 80" AFF. COORDINATE PENETRATION WITH AC UNIT MANUFACTURER'S REQUIREMENTS PRIOR TO CASTING THE SLEEVE.
- 6

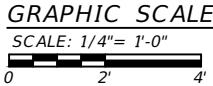
GALVANIZED STEEL PIPING COVER PLATE PAINTED TO MATCH WALL COLOR. RUN FROM SOFFIT ABOVE DOWN TO 24" A.F.G. ENSURE ALL REVEAL CROSSINGS AND FITTING ENDS ARE SEALED TO PREVENT WATER INTRUSION.

SINGLE ZONE DUCTLESS SPLIT AC UNIT SCHEDULE	
EQUIPMENT NO.	AHU-1/CU-1 AND AHU-2/CU-2
RATED/TOTAL CAPACITY (MBH)	34.2
SENSIBLE CAPACITY (MBH)	23.9
CAPACITY RANGE (MBH)	12.0 - 34.2
REFERENCE MANUFACTURER	DAIKIN
MINIMUM SYSTEM SEER/EER	14.0 / 6.8
REFRIGERANT	R410A
SYSTEM ELECTRICAL POWER REQUIREMENTS	230/1/60
INDOOR / OUTDOOR - MCA	1 / 25
INDOOR WALL AIR HANDLING UNIT (AHU)	
REFERENCE MODEL NO.	PKA-A36KA6
SUPPLY AIRFLOW RATE (LOW-MID-HIGH) WITH WET COIL - CFM	635-790-830
BLOWER MOTOR (ECM) - F.L.A.	0.57
BLOWER MOTOR OUTPUT - WATTS	56
SHF / MOISTURE REMOVAL - P.T.H.	0.70 / 9.2
FILTER	WASHABLE
UNIT WEIGHT - LBS	46
OUTDOOR CONDENSING UNIT (CU)	
REFERENCE MODEL NO.	PUY-A36NHAE-BS
COMPRESSOR TYPE	DC INVERTER-DRIVEN TWIN POTARY
FAN MOTOR (ECM) - F.L.A.	0.75
MOCP - A	40
UNIT WEIGHT - LBS	163
NOTES	1 THRU 8
NOTES:	
1. PROVIDE A SINGLE POINT POWER CONNECTION AT THE OUTDOOR UNIT. THREE WIRES ARE THEN RAN FROM THE OUTDOOR UNIT TO THE INDOOR UNIT CARRYING LINE VOLTAGE.	
2. PROVIDE MANUFACTURERS OPTION OF A SEACOAST PROTECTION (BLYGOLD POLUAL XT COIL COATING) ON THE CONDENSING UNIT.	
3. PROVIDE DUAL UNIT AC CONTROLLER FOR LEAD/LAG SEQUENCING.	
4. DUAL UNIT CONTROLLER SHALL CONTAIN 4 SEPARATE NO/NC ALARM OUTPUT CONTACTS THAT WILL CHANGE STATE TO INDICATE EACH OF THE FOLLOWING ALARM CONDITIONS: - CURRENT IN THE 240 VAC BRANCH CIRCUITS TO EACH OUTDOOR UNIT. - VOLTAGE (240 VAC) ON THE BRANCH CIRCUIT FOR EACH OUTDOOR UNIT. - VOLTAGE (24 VDC) ON THE BRANCH CIRCUIT TO EACH INDOOR AIR HANDLER UNIT. - VOLTAGE (12 VDC) ON THE PAR31-MAA THERMOSTAT CONTROLLER.	
5. PROVIDE RIGID CONDUIT (EMT) FOR ALL CONTROL WIRING.	
6. PROVIDE ENGRAVED PLASTIC EQUIPMENT NAMEPLATES.	
7. REFER TO TSPs FOR UNIT CONTROLLER REQUIREMENTS.	
8. REFER TO TSP 230900 - DUAL HVAC LEAD LAG CONTROLLER.	



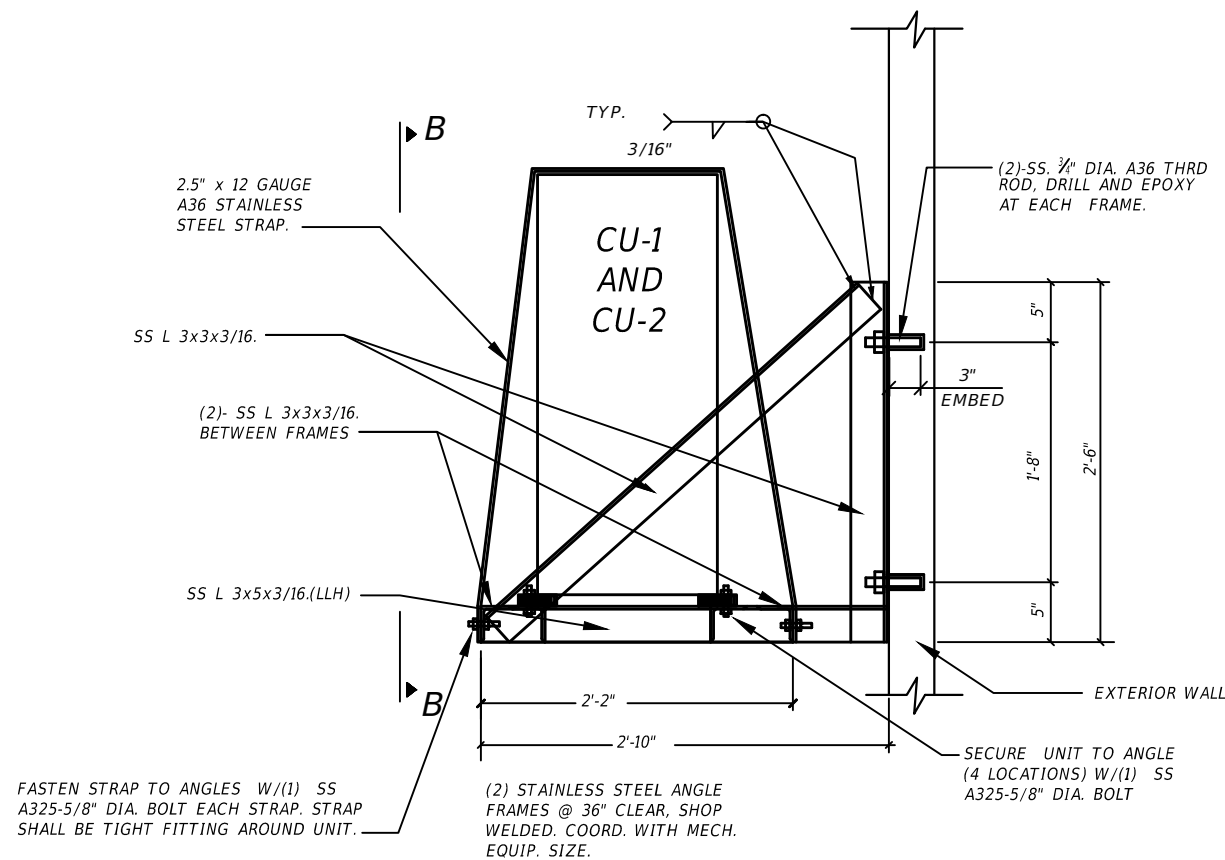
1 HVAC FLOOR PLAN
AM-101
SCALE: 1/4"= 1'-0"

NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #1 & #2; AS INDICATED
NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #3 & #4

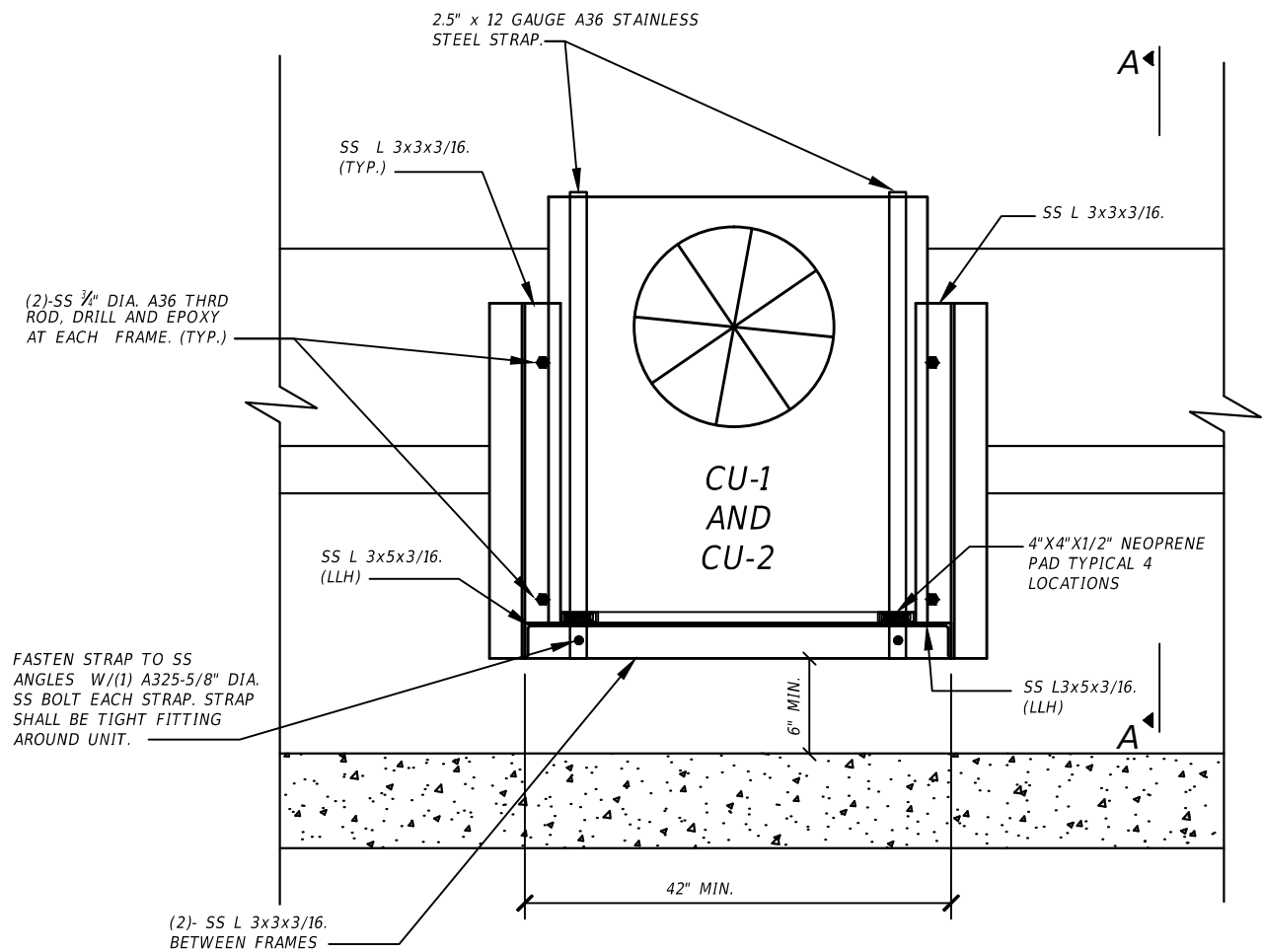


REVISIONS				ADAM JOSEPH BARNEY, P.E. FLORIDA P.E. NO.: 69124 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS HVAC FLOOR PLAN		SHEET NO. AM-101	
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID				
					NA	POLK	437300-1-52-01				

- NOTES:**
- ALL HARDWARE SHALL BE STAINLESS AND SUPPORT FRAME SHALL BE CONSTRUCTED OF STAINLESS STEEL. (BOLTS, NUTS, STRAPS, ANCHORS, SUPPORT FRAME ETC.)
 - MOUNT BOTTOM OF CU FRAME AT A MINIMUM OF 6" A.F.G



1 WALL-MOUNTED CONDENSING UNIT SECTION A-A
AM-601 SCALE: NOT TO SCALE



1 WALL-MOUNTED CONDENSING UNIT SECTION B-B
AM-601 SCALE: NOT TO SCALE

REVISIONS				ADAM JOSEPH BARNEY, P.E. FLORIDA P.E. NO.: 69124 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS HVAC EQUIPMENT DETAILS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		
									AM-601

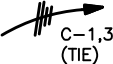
DESCRIPTION

DESCRIPTION

A		FLUORESCENT LIGHTING FIXTURE WITH OUTLET BOX. LETTER INDICATES FIXTURE TYPE. SEE LIGHTING FIXTURE SCHEDULE.
		COMPACT FLUORESCENT LIGHTING FIXTURE, SURFACE MOUNTED. LETTER INDICATES FIXTURE TYPE. SEE LIGHTING FIXTURE SCHEDULE.
		SINGLE POLE TOGGLE SWITCH. MOUNTED TOP 48" AFF.
		EMERGENCY LIGHT UNIT WALL MOUNTED 7'-0" AFF. CONNECT TO LINE SIDE (UNSWITCHED CONDUCTOR) OF CIRCUIT.
		125V, 20A NEMA L-20R, DUPLEX RECEPTACLE. 'WP' INDICATES WEATHERPROOF WITH LOCKABLE METAL IN-USE COVER. 'GFI' INDICATES GROUND FAULT INTERRUPTER. MOUNTED BOTTOM 16" AFF. UNLESS OTHERWISE NOTED.
		QUAD (TWO DUPLEX) RECEPTACLE. MOUNTED BOTTOM 16" AFF. UNLESS OTHERWISE NOTED.
		SPECIAL RECEPTACLE AS NOTED.
		PUSHBUTTON. MOUNTED AS NOTED.
		DISCONNECT SWITCH AS NOTED.
		METALLIC, LIQUID-TIGHT, FLEXIBLE CONDUIT CONNECTION.
		OUTLET OR JUNCTION BOX, SIZE PER NEC.
		PANELBOARD. (DIRTY POWER)
		SQUARE D POWERLINK PANELBOARD (CRITICAL POWER) PANELBOARD FED VIA UPS
		CONTROL PANEL.
		AUTOMATIC TRANSFER SWITCH.
		SURGE PROTECTION DEVICE.
		ROOF-MOUNTED AIR TERMINAL.
		GROUND ROD UON.
		PULL BOX.
		EMERGENCY POWER SHUTOFF SWITCH.
		LIGHTNING PROTECTION CONDUCTOR.
		UNDERGROUND GROUND CONDUCTOR.
		CONDUIT RACEWAY EXPOSED.
		CONDUIT RACEWAY CONCEALED IN CEILING SPACE OR WALLS.
		CONDUIT RACEWAY IN CONCRETE SLAB OR UNDERGROUND.
		GROUND ROD - RISER DIAGRAM

— ○ — CONDUIT UP.

— ● — CONDUIT DOWN.

 HOMERUN TO PANEL — LETTER INDICATES PANEL, NUMBERS INDICATE BRANCH CIRCUITS. ALL RACEWAYS WITHOUT FURTHER DESIGNATION INDICATE A TWO-WIRE CIRCUIT. FOUR WIRES ARE INDICATED.

 LONG MARKS INDICATE NEUTRAL CONDUCTOR,
 SHORT MARKS INDICATE PHASE CONDUCTORS.
PROVIDE GREEN GROUND CONDUCTOR IN ALL CONDUITS.
(TIE) INDICATES CIRCUIT IS SHARED WITH ADDITIONAL RECEPTACLES.

 DEVICE OR EQUIPMENT AS NOTED

 REFERENCE NOTES

 TELEPHONE OUTLET BOX, INCLUDING TELEPHONE SET

 PAN TILT ZOOM CAMERA

 BACK BOX FOR CCTV CAMERA

GENERAL SYMBOLS LEGEND:

EXTERIOR ELEVATION MARKER

ELEVATION NUMBER

DRAWING # WHERE SHOWN

SECTION CUT MARKER

INDICATES DIRECTION OF CUTTING PLANE

SECTION NUMBER

DRAWING # WHERE SHOWN

DETAIL CALLOUT

ENLARGED AREA SHOWN

DETAIL NUMBER

DRAWING # WHERE SHOWN

ENLARGED AREA SHOWN

DETAIL CALLOUT

DETAIL NUMBER

DRAWING # WHERE SHOWN

PLAN / DETAIL NAME

SCALE: N.T.S.

SCALE OF PLAN / DETAIL

PLAN / DETAIL CALLOUT

ABBREVIATIONS:

A	AMPS
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AC	AIR CONDITIONING [UNIT]
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AL, ALUM.	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATS	AUTOMATIC TRANSFER SWITCH
AVI	AUTOMATIC VEHICLE IDENTIFICATION
AWG	AUTOMATIC WIRE GAUGE
BCU	BATTERY CHARGER UNIT
BLDG.	BUILDING
BPS	BYPASS SWITCH
C.	CONDUIT
CCTV	CLOSED CIRCUIT TELEVISION
CKT.	CIRCUIT
COMP	COMPUTER
CU	COPPER
COMM.	COMMUNICATION
DEP	DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIA.	DIAMETER
DN	DOWN
DVAS	DIGITAL VIDEO AUDITING SYSTEM
DWG.	DRAWING
E6	ENCOMPASS 6 MULTIPROTOCOL READER
ENG.	ENGINE
ETC	ELECTRONIC TOLL COLLECTION
ETC.	ET CETERA
EQUIP.	EQUIPMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPO	EMERGENCY POWER OFF
EXT.	EXTERIOR
FOC	FIBER OPTIC CABLE
FT	FOOT; FEET
FTE	FLORIDA'S TURNPIKE ENTERPRISE
FTL	FEED THROUGH LUGS
FTM	FUEL TANK MONITOR
FUT	FUTURE
FV	FRONT VCAR
GA	GAUGE
GAL.	GALLON
GEC	GROUNDING ELECTRODE CONDUCTOR
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HZ	HORIZONTAL, HERTZ
I.C.	INTERRUPTING CAPACITY
I.D.	IDENTIFICATION
IN.	INCHES
JB	JUNCTION BOX
KA	KILOAMPERES
KVA	KILOVOLT AMPERES
KW	KILOWATT
LED	LIGHT EMITTING DIODE
LFMC	LIQUID-TIGHT, FLEXIBLE, METAL CONDUIT
LN CTR	LANE CONTROLLER
LOC.	LOCATION
LLC	LEAD LAG CONTROLLER
LP	LIGHTNING PROTECTION
LTG	LIGHTING
MAX.	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MTS	MANUAL TRANSFER SWITCH
MIN.	MINIMUM
ML	MAINLINE
M.L.O.	MAIN LUGS ONLY
MOT	MAINTENANCE OF TRAFFIC
MTD	MOUNTED
N	NEUTRAL
NB	NORTHBOUND
N.C.	NORMALLY CLOSED

ABBREVIATIONS CONT:

NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NIC	NOT IN CONTRACT
NO.	NUMBER
N.O.	NORMALLY OPEN
N.T.S.	NOT TO SCALE
N3R	NEMA 3R
OC	ON CENTER
OPUS	OPTICAL PROFILE UNIFYING SYSTEM
ORT	OPEN ROAD TOLLING
Ø	PHASE
P	POLE
PCB	POLYCHLORINATED BIPHENYL
PNL	PANEL
PTZ	PAN TILT ZOOM
PVC	POLYVINYL CHLORIDE
RECEPT.	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RMS	ROOT MEAN SQUARED
RV	REAR VCAR
SB	SOUTHBOUND
SCADA	SUPERVISORY CONTROL & DATA ACQUISITION
SCH.	SCHEDULE
SCP	SCADA CONTROL PANEL
SCTE	SOCIETY OF CABLE TELECOMMUNICATIONS ENGINEERS
SD	SQUARE D
SER	SERVICE ENTRANCE RATED
SPD	SURGE PROTECTIVE DEVICE
SPEC(S)	SPECIFICATION(S)
S.P.S.T.	SINGLE-POLE, SINGLE-THROW
S.S.	STAINLESS STEEL
STP	SHIELDED TWISTED PAIR
SQ.	SQUARE
STFE	STATE TOLL FACILITY ENGINEER
SYMM.	SYMMETRICAL
T.E.C.	TOLL EQUIPMENT CONTRACTOR
T&H	TEMPERATURE AND HUMIDITY SENSOR
T.O.	TOLL OPERATIONS
TSP	TECHNICAL SPECIAL PROVISIONS
TYP.	TYPICAL
UL	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VAC	VOLTS ALTERNATING CURRENT
VCAR	VEHICLE CAPTURE AND RECOGNITION EQUIPMENT
VDAC	VEHICLE DETECTION AND CLASSIFICATION UNIT
VES	VIOLATION ENFORCEMENT SYSTEM
VSS	VIDEO SURVEILLANCE SYSTEM
W	WIRE; WATT
W/	WITH
WP	WEATHERPROOF (NEMA 3R)
XFMR	TRANSFORMER

SECURITY CARD ACCESS
SYSTEM SYMBOL LEGEND:

- [CR]** PROXIMITY CARD READER PROVIDED BY SECURITY CONTRACTOR.
- [C]** DOOR CONTACT CONCEALED TYPE.
- [DL]** ELECTRIFIED LEVER TRIM.
- [RX]** REQUEST TO EXIT CONTACTS (INTEGRAL TO PUSH BAR).
- [PT]** POWER TRANSFER LOOP.
- [RXS]** REQUEST TO EXIT MOTION SENSOR.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS ELECTRICAL SYMBOL LEGEND & ABBREVIATIONS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		AE-010
					NA	POLK	437300-1-52-01		

ELECTRICAL GENERAL NOTES:

1. FEED ALL RECEPTACLES AND DEVICES WITH (2) #12, (1) #12 GND IN 3/4" C, UON.

2. PROVIDE (2) #12, (1) #12 GND AND #12 SWITCHLEGS AS REQUIRED IN 3/4" C FOR ALL BUILDING LIGHTING, UON.

3. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUIT RACEWAYS.

4. ALL 120V, 20A CIRCUIT HOMERUNS OVER 50FT. SHALL BE #10 CU MINIMUM, UON.

5. ALL 120V, 20A CIRCUIT HOMERUNS OVER 150FT. SHALL BE #8 CU MINIMUM, UON.

6. ALL 240V, 20A CIRCUIT HOMERUNS OVER 150FT. SHALL BE #10 CU. MINIMUM, UON.

7. ALL 240V, 20A CIRCUIT HOMERUNS OVER 300FT. SHALL BE #8 CU MINIMUM, UON.

8. VERIFY EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL INSTALLER PRIOR TO ROUGH-IN.

9. PROVIDE PULL STRINGS IN ALL EMPTY CONDUIT AND RACEWAYS WITH LABELING AT EACH END. SEE DETAIL 3, DWG. CE-114.

10. THE USE OF ANY PROCESS INVOLVING ASBESTOS OR PCB, AND THE INSTALLATION OF ANY PRODUCT, INSULATION, COMPOUND OR MATERIAL CONTAINING OR INCORPORATING ASBESTOS OR PCB, IS PROHIBITED. PROVIDE A COMPLETE AND PROPERLY OPERATING ELECTRICAL SYSTEM WITHOUT THE USE OF ASBESTOS OR PCB.

11. CONTACT THE POWER COMPANY WITHIN 10 DAYS OF THE AWARD OF THE CONTRACT AND SCHEDULE NEW SERVICE INSTALLATION.

12. INCLUDE THE TRANSPORT AND DISPOSAL OR RECYCLING OF ALL WASTE MATERIALS GENERATED BY THIS PROJECT IN ACCORDANCE WITH ALL RULES, REGULATIONS AND GUIDELINES APPLICABLE.

A) COMPLY FULLY WITH FLORIDA STATUTE 403.7186 REGARDING MERCURY CONTAINING DEVICES AND LAMPS.

B) TRANSPORT AND DISPOSE OF LAMPS, BALLASTS AND OTHER MATERIALS IN ACCORDANCE WITH ALL DEP AND EPA GUIDELINES.

C) PROVIDE WRITTEN CERTIFICATION THAT ALL MATERIALS WERE RECYCLED OR DISPOSED OF PROPERLY PER THE GUIDELINES NOTED ABOVE.

13. LOCATE EXISTING UTILITIES AND PROTECT THEM FROM DAMAGE.

14. PHASE WORK AS REQUIRED BY MOT PLANS.

15. UNDERGROUND CONDUIT SHALL BE PVC SCH. 80, UON. UNDERGROUND CONDUIT SHALL TRANSITION TO RGS CONDUIT WITH RGS TO PVC CONDUIT FITTINGS. CONDUIT SHALL BE RGS ABOVE GRADE THROUGH AND INCLUDING THE FIRST 90 DEGREE FITTING UNDERGROUND UON.

16. EQUIPMENT BLDG. INTERIOR: CONDUIT WITH A TRADE SIZE OF LESS THAN 2" SHALL BE EMT. CONDUIT WITH A TRADE SIZE OF 2" AND GREATER SHALL BE RGS.

17. TOLL EQUIPMENT AND ALL WIRING/CABLING FOR TOLL EQUIPMENT WILL BE FURNISHED AND INSTALLED BY T.E.C., UON.

18. UNDERGROUND CONDUITS SHALL BE INSTALLED A MINIMUM OF 36" BELOW GRADE.
19. EXPOSED EXTERIOR CONDUIT SHALL BE RGS THROUGH AND INCLUDING THE FIRST 90° BEND INSTALLED UNDERGROUND. TRANSITIONS BETWEEN RGS AND PVC CONDUIT SHALL BE MADE WITH A RGS-TO-PVC CONDUIT FITTING.

20. EQUIPMENT SPECIFIED WITH CATALOG NUMBERS OR PART NUMBERS SHALL NOT BE SUBSTITUTED UNLESS "OR EQUAL" IS INDICATED.

21. PLASTIC END CAPS SHALL BE INSTALLED ON ENDS OF UNISTRUT.

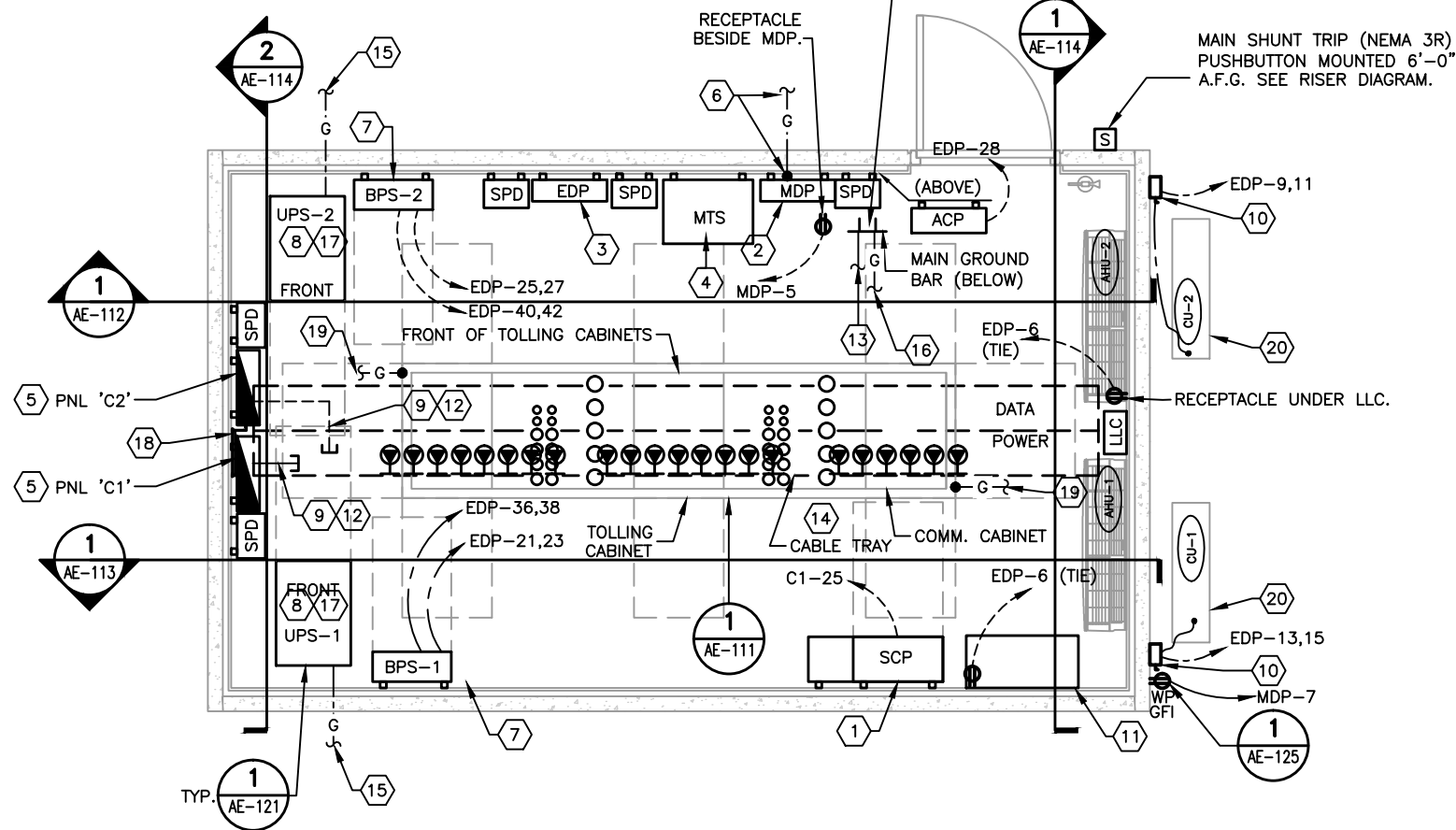
22. ELECTRICAL INSTALLATION REQUIREMENTS INCLUDING ALL DRAWINGS AND SPECIFICATIONS SHALL BE PROVIDED TO THE BLDG. MANUFACTURER PRIOR TO BLDG. FABRICATION. FLUSH-MOUNTED BACK BOXES, CONDUIT ROUTING, LIGHT FIXTURE SUPPORTS ETC. SHALL BE COORDINATED TO ENSURE PROPER INSTALLATION AND PROPER LOCATIONS. RE-WORK DUE TO INSUFFICIENT COORDINATION SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

23. SCALED BLDG. ELEVATION DRAWINGS INDICATING EQUIPMENT LAYOUT SHALL BE SUBMITTED FOR REVIEW PRIOR TO PROCUREMENT OF EQUIPMENT. REFER TO TSP'S FOR ADDITIONAL REQUIREMENTS.

24. ALL LIQUID-TIGHT, FLEXIBLE CONDUIT SHALL BE METALLIC.

25. AC OR DC ELECTRICAL CIRCUITS OR WIRING THAT OPERATES AT 25 VOLTS OR GREATER SHALL NOT BE INSTALLED AND/OR LOCATED WITHIN 5 FEET OF ANY TRAFFIC DETECTION LOOP OR LOOP PULL BOX.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS ELECTRICAL GENERAL NOTES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		
									AE-011



1 BUILDING - POWER PLAN
AE-101 SCALE: 1/4" = 1'-0"

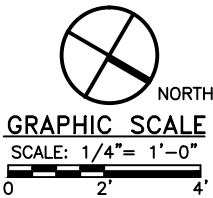
NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #1 & #2; AS INDICATED
NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #3 & #4

GENERAL NOTES:

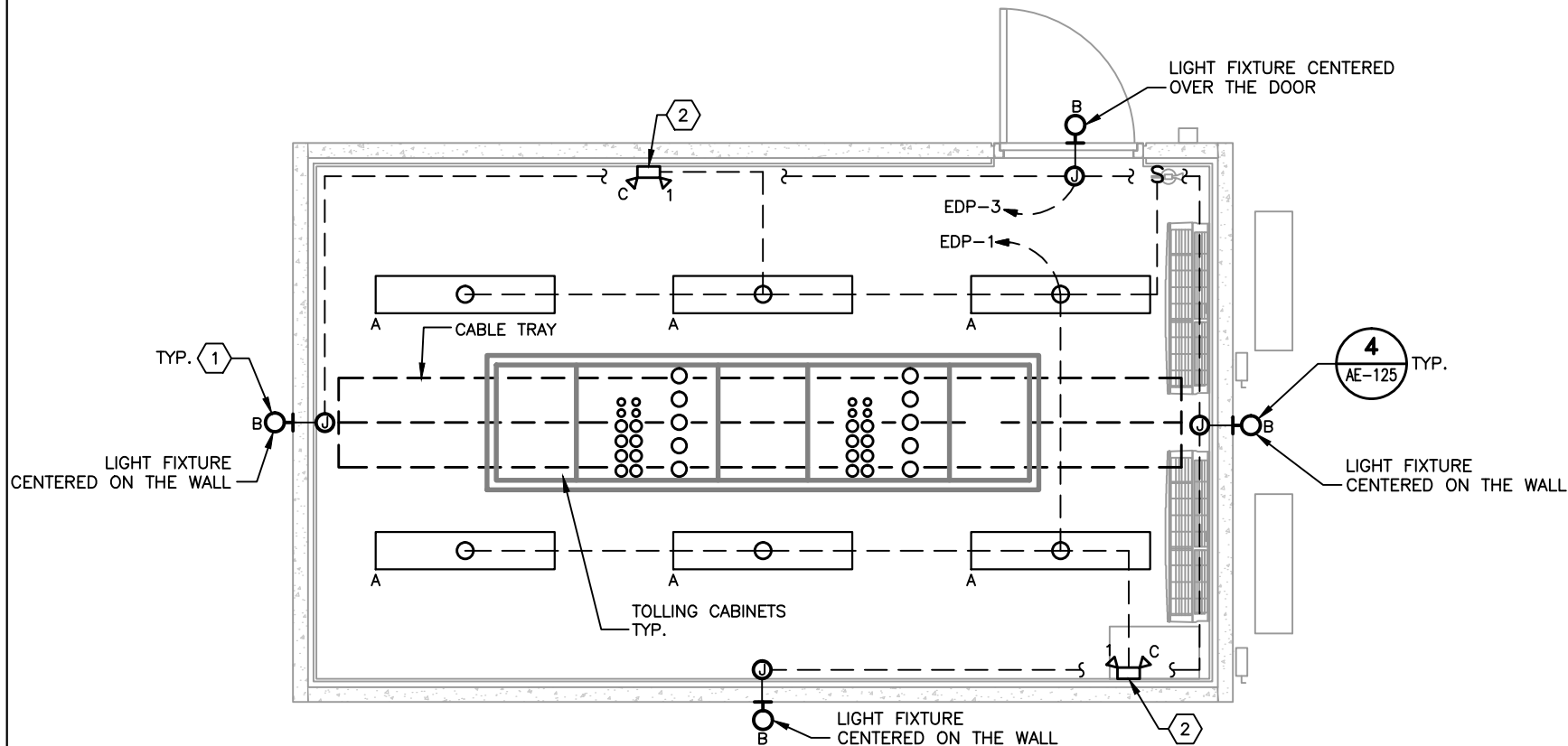
1. REFER TO DWG. AE-125 FOR BUILDING RACEWAY INSTALLATION DETAILS.
2. REFER TO DWG. AE-121 & AE-122 FOR GROUNDING REQUIREMENTS.
3. WALL MOUNTED EQUIPMENT SHALL BE MOUNTED ON UNISTRUT AND NOT DIRECTLY TO WALL. SEE TSP'S FOR DETAILS.
4. ALL CONDUITS THAT PENETRATE WALLS OR FLOORS SHALL BE SEALED WITH GRAY ELECTRICAL PUTTY TO PREVENT MOIST OUTSIDE AIR FROM ENTERING BUILDING THOUGH CONDUITS CAPPED FROM OTHER LOCATIONS

REFERENCE NOTES:

- 1 SCADA PNL 'SCP' TO BE PROVIDED BY CONTRACTOR. SEE TSP SECTION 26 09 13.
- 2 MAIN SERVICE PANELBOARD 'MDP': REFER TO POWER RISER DIAGRAM FOR DETAILS.
- 3 ELECTRICAL DISTRIBUTION PANELBOARD 'EDP': SEE PANELBOARD SCHEDULE ON DWG. AE-131 FOR DETAILS.
- 4 MANUAL TRANSFER SWITCH 'MTS' REFER TO POWER RISER DIAGRAM FOR DETAILS.
- 5 PANELBOARD (CRITICAL PWR): REFER TO PANELBOARD SCHEDULES ON DWG. AE-131 FOR DETAILS.
- 6 SEE AE-130 AND SITE PLANS FOR GROUNDING ELECTRODE SYSTEM REQUIREMENTS.
- 7 UPS BYPASS SWITCH: MOUNT BYPASS 4'-6" AFF WITH CONTROLS ON TOP OF THE ENCLOSURE, REFER TO POWER RISER DIAGRAM FOR DETAILS.
- 8 UPS: PROVIDE A MIN. OF 36" CLEAR SPACE IN FRONT AND 12" BEHIND UPS. REFER TO POWER RISER DIAGRAM FOR CIRCUITING REQUIREMENTS AND DETAILS.
- 9 PROVIDE A #4 AWG BARE CU GROUNDING CONDUCTOR FROM CRITICAL PANEL GROUND BUS TO THE CABLE TRAY. BOND CONDUCTORS TO CABLE TRAY WITH UL LISTED FITTING FOR AL TO CU BOND.
- 10 60A, 240V, 2-POLE, NEMA 3R DISCONNECT FUSED PER HVAC MANUFACTURER'S RECOMMENDATIONS.
- 11 WALL-MOUNTED STORAGE CABINET. MOUNT WITH TOP OF CABINET AT 6'-0" AFF. 30"HX27"WX14"D. SEE TSP SECTION 26 28 13.
- 12 ROUTE TC TYPE CABLE (2 #12 AWG, 1 #12 GND) ALONG CABLE TRAYS AND EXTEND TO CABLE TRAY-MOUNTED RECEPTACLES. PROVIDE CABLE GLAND SEAL FOR EACH TC CABLE PASS THROUGH AT TOP OF PANEL. MATCH CABLE GLAND NPT SIZE TO CABLE SIZE.
- 13 BOND #4, BARE STRANDED-CU CONDUCTOR TO MAIN GND BUSBAR & EXTEND IN 1" SCH. 80 PVC OVERHEAD TO CABLE TRAY AND TOLLING CABINETS. BOND CONDUCTOR TO CABLE TRAY & EXTEND CONDUCTOR THE FULL LENGTH OF THE CABLE TRAY. BOND CONDUCTOR WITH UL LISTED FITTING FOR AL TO CU BOND EACH SECTION.
- 14 24" WIDE x 6" DEEP CABLE TRAY WITH DIVIDER. SEE AE-111 AND TSP'S FOR REQUIREMENTS.
- 15 #2/0 CONTINUOUS, BARE STRANDED-COPPER GROUNDING ELECTRODE CONDUCTOR TO GROUND ROD AND CONCRETE-ENCASED ELECTRODE. REFER TO DWG. AE-121 AND AE-130 FOR DETAIL.
- 16 BOND #2/0 BARE, STRANDED-COPPER, GROUNDING CONDUCTOR TO MAIN GND BUS BAR & EXTEND TO CONCRETE-ENCASED ELECTRODE.
- 17 ROUTE LIQUID-TIGHT, FLEXIBLE, METAL CONDUIT FROM UPS TO BPS. UPS SHALL BE LOCATED AS SHOWN NOT LESS THAN 24" FROM TOLLING/COMM. CABINETS.
- 18 WALL MOUNTED 12"(WIDE) X 5" MAX RAIL HEIGHT (4" NEMA VE1 LOADING DEPTH) ALUMINUM, LADDER-TYPE, POWER CABLE TRAY (FROM TOP OF PANEL TO THE HEIGHT OF HORIZONTAL CABLE TRAY). PROVIDE AND INSTALL REDI-RAIL MODEL NO. H15AR100K006-06 OR APPROVED EQUAL. PROVIDE A CONTINUOUS #4 GROUND WIRE IN CABLE TRAY. PROVIDE A UL LISTED BONDING JUMPER, COOPER B-LINE MODEL NO. 99-30 OR APPROVED EQUAL.
- 19 BOND THE RAISED METAL SUPPORT FRAME TO TO CONCRETE-ENCASED ELECTRODE (OR REBAR IN FOOTER) BY #4, BARE STRANDED-COPPER CONDUCTOR AT EACH END OF THE SUPPORT STAND. BOND CONDUCTOR WITH UL LISTED FITTING FOR AL TO CU BOND (IF ALUMINUM FRAME).
- 20 THE WIRING BETWEEN THE AHUs AND THE CUs SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.



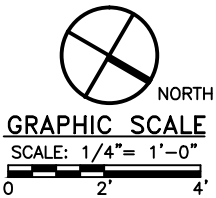
REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS POWER PLAN	SHEET NO. AE-101
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		



1 BUILDING - LIGHTING PLAN
AE-102 SCALE: 1/4"= 1'-0"

NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #1 & #2; AS INDICATED
NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #3 & #4

LIGHTING FIXTURE SCHEDULE						
TYPE	DESCRIPTION	MANUFACTURER	VOLT	LAMPS	MOUNTING	REMARKS
A	1' X 4' LED WRAPAROUND	H.E. WILLIAMS #39-4-L52/835-A-DRV-120 OR APPROVED EQUAL	120	LED	PENDANT- BOTTOM 8'-0" AFF SWIVEL STEM	
B	DIECAST ALUMINUM WALL MTD LED, LIGHT GRAY FINISH	LUMINAIRE #YRV13-15W-3500-120-CP-GRY- SHCAB-PC OR APPROVED EQUAL	120	LED	WALL SURFACE MTD. @ 9'-0" AFF	FOR WET LOCATION SEE ARCHITECTURAL ELEVATIONS
C	LED BATTERY PACK EMERGENCY LIGHT	BEGHELLI #PEH-1-AT OR APPROVED EQUAL	120	W/UNIT	WALL SURFACE 2'-0" BELOW CEILING	



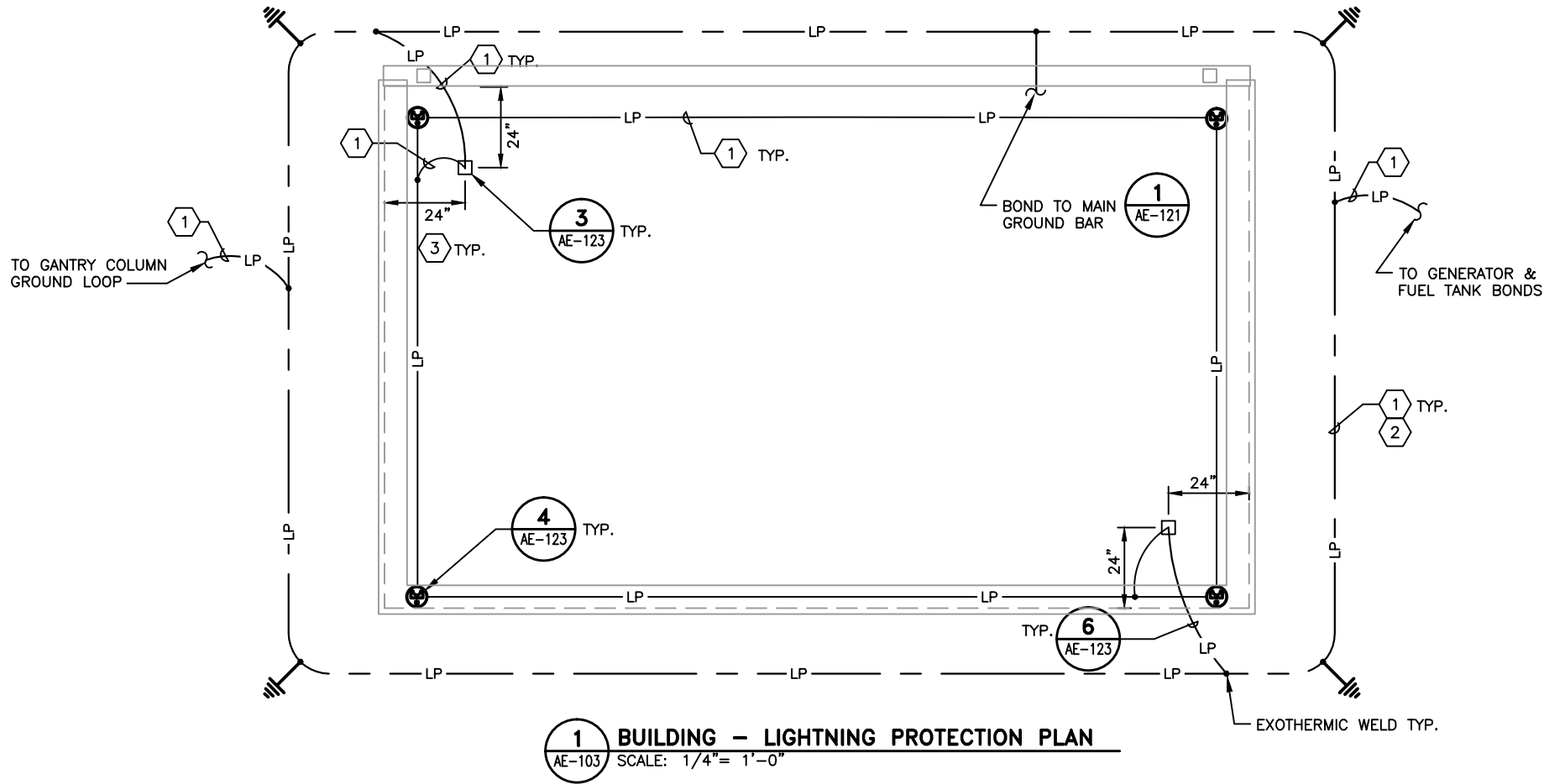
REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS BUILDING - LIGHTING PLAN	SHEET NO. AE-102
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

GENERAL NOTES:

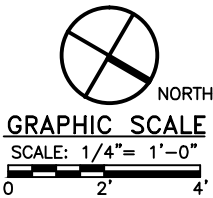
- 1. CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH NFPA 780 CLASS I MATERIAL REQUIREMENTS.
- 2. SEE SITE PLANS FOR ADDITIONAL REQUIREMENTS.

REFERENCE NOTES:

- 1 SEE TSP SECTION 26 41 13 FOR CONDUCTOR SIZES.
- 2 GROUND RING ELECTRODE SHALL BE INSTALLED 36" (MIN.) BELOW GRADE.
- 3 24" FROM EXTERIOR OF WALL TO CENTERLINE OF THROUGH-ROOF CONDUCTOR.

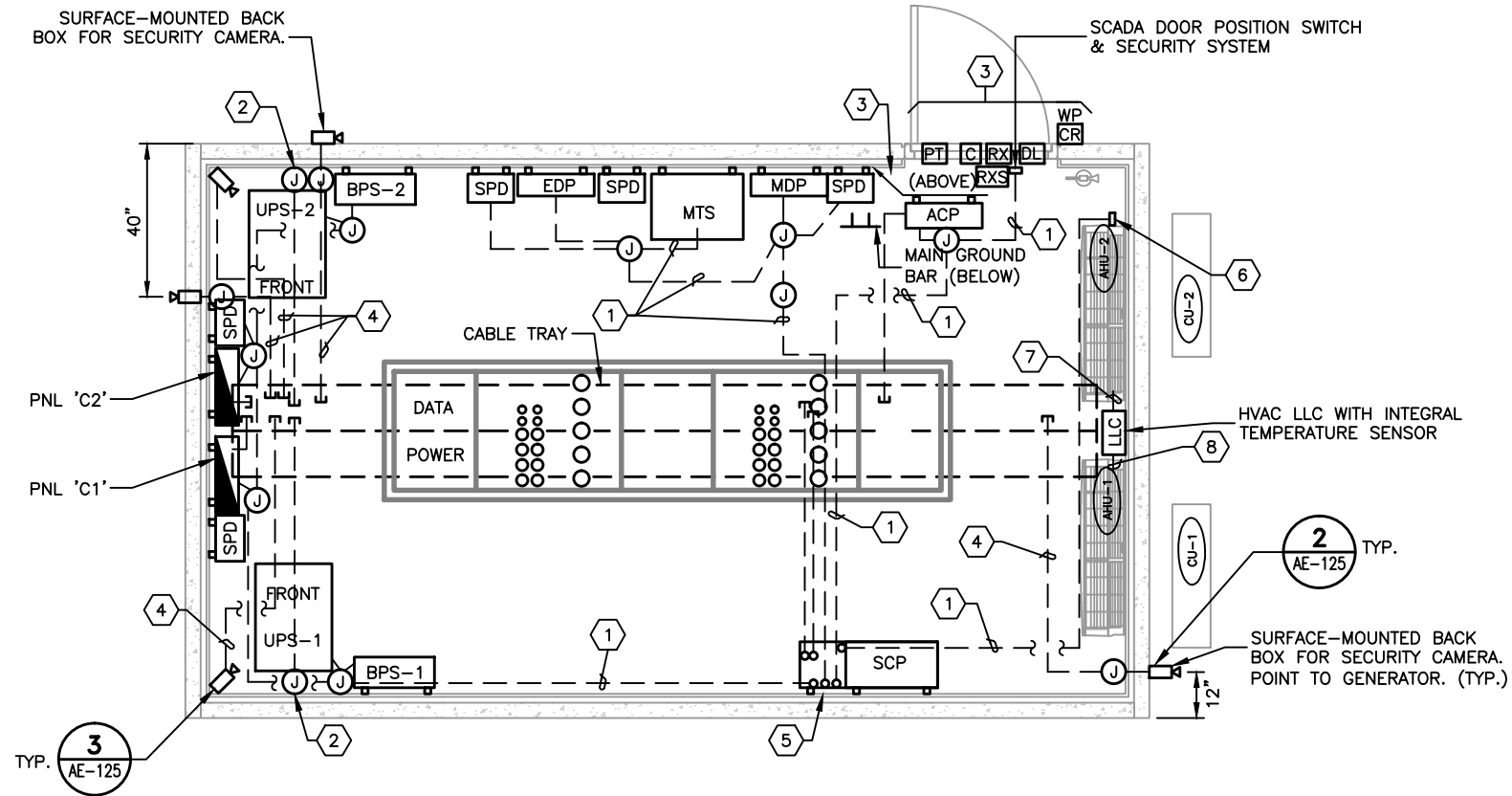


NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #1 & #2; AS INDICATED
NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #3 & #4



REVISIONS				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS LIGHTNING PROTECTION PLAN			SHEET NO. AE-103
DATE	DESCRIPTION	DATE	DESCRIPTION					
				ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				NA	POLK	437300-1-52-01		

BLAKE LAWRENCE SUDDETH, P.E.
FLORIDA P.E. NO.: 69060
JOSEPH, LAWRENCE & CO.
1180 HARWOOD AVENUE, SUITE 3000
ALTAMONTE SPRINGS, FLORIDA 32714
CA NO.: 28730



1 BUILDING – SCADA AND SECURITY SYSTEM PLAN
AE-104 SCALE: 1/4" = 1'-0"

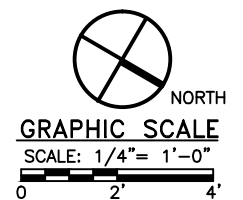
NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #1 & #2; AS INDICATED
NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #3 & #4

GENERAL NOTES:

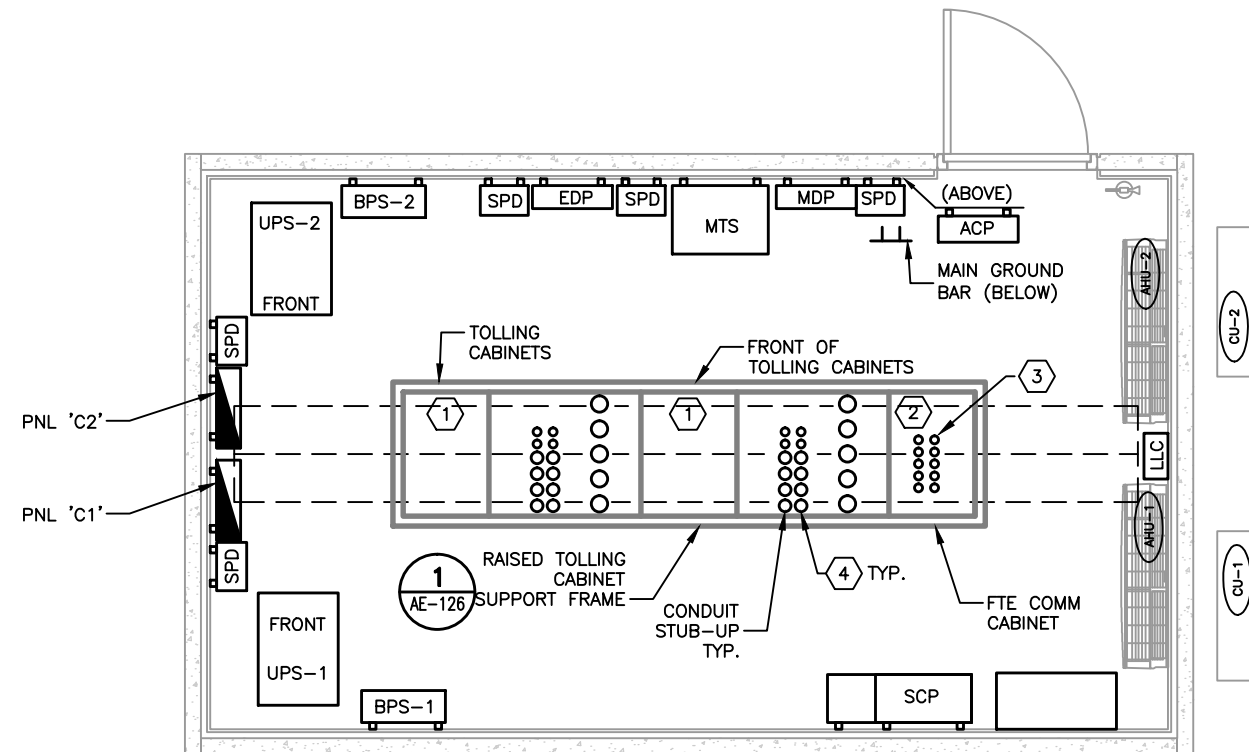
- SEE DWG. AE-125 FOR BUILDING RACEWAY INSTALLATION DETAILS.
- SEE DWG. AE-121 AND AE-122 FOR GROUNDING REQUIREMENTS.
- CONDUIT STUBBED OVER CABLE TRAY SHALL BE PROVIDED WITH AN INSULATED THROAT GROUNDING BUSHING AND BONDED TO THE CABLE TRAY WITH A #4 BARE COPPER CONDUCTOR.
- WALL-MOUNTED EQUIPMENT SHALL BE SECURED TO WALL VIA UNISTRUT SUPPORTS. SEE TSP'S FOR DETAILS.
- SEE SITE PLANS FOR ADDITIONAL SCADA & SECURITY CONDUIT ROUTING.

REFERENCE NOTES:

- CONDUIT FOR SCADA CONNECTIONS. REFER TO AE-133 AND BUILDING INTERIOR ELEVATION FOR CONDUIT & CONDUCTOR SIZES.
- SINGLE GANG BACK BOX & 1"C. ROUTED TO DATA SIDE OF CABLE TRAY FOR UPS NETWORK CONNECTIONS. LOCATE BACK BOX NOT MORE THAN 12" FROM UPS NETWORK TERMINATIONS.
- SECURITY ACCESS EQUIPMENT. REFER TO AE-010 & AE-124 FOR SYMBOLS AND DETAILS. SEE TSP'S FOR ADDITIONAL REQUIREMENTS.
- 1"C (DATA) FOR CCTV CAMERA. CONDUIT TO BE ROUTED FROM J-BOX TO CABLE TRAY. COORDINATE EXACT LOCATION WITH DEPARTMENT.
- 12"x12"x36", NEMA 1 PAINTED STEEL WIRING TROUGH. PROVIDE (2) 3" NIPPLES BETWEEN TOP OF WIRING TROUGH AND BOTTOM OF SCADA CONTROL PNL (SCP).
- MOISTURE DETECTOR. SEE DWG. AE-133 FOR DETAILS.
- (2) #12, 1 #12G, 1"C. (AC-1/AC-2 INTERCONNECT)
- (4) #12, 1 #12G, 1"C. (HVAC LLC WIRING AND AC-1/AC-2 INTERCONNECT)



REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS SCADA & SECURITY SYSTEM PLAN	SHEET NO. AE-104
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		



1 BUILDING – TOLLING SYSTEM PLAN
AE-105 SCALE: 1/4"= 1'-0"

NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #1 & #2; AS INDICATED
NORTH ARROW DIRECTION	LOCATION
	TOLL SITE #3 & #4

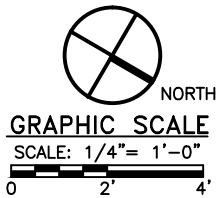
GENERAL NOTES:

- SEE SITE PLANS FOR CONDUIT ROUTING OUTSIDE THE BUILDING.
- SEE DWG. AE-126 FOR CONDUIT STUB-UP DETAIL INDICATING CONDUIT SIZE, LOCATION AND QUANTITIES.
- SEE TSP'S FOR COMMUNICATION SERVICE CONNECTION REQUIREMENTS.
- RAISED METAL FRAME TO SUPPORT THE TOLLING AND COMMUNICATIONS CABINETS SHALL BE FURNISHED AND INSTALLED BY THE TOLL FACILITY CONTRACTOR. SUPPORT FRAME DETAILS ARE SHOWN FOR CONDUIT STUB-UP COORDINATION ONLY.
- COMMUNICATIONS CABINET SHALL BE FURNISHED AND INSTALLED BY THE TOLL FACILITY CONTRACTOR.
- TOLLING EQUIPMENT CABINETS WILL BE PROVIDED AND INSTALLED BY THE DEPARTMENT'S TOLL EQUIPMENT CONTRACTOR AFTER THE ENTIRE SITE IS COMPLETE.

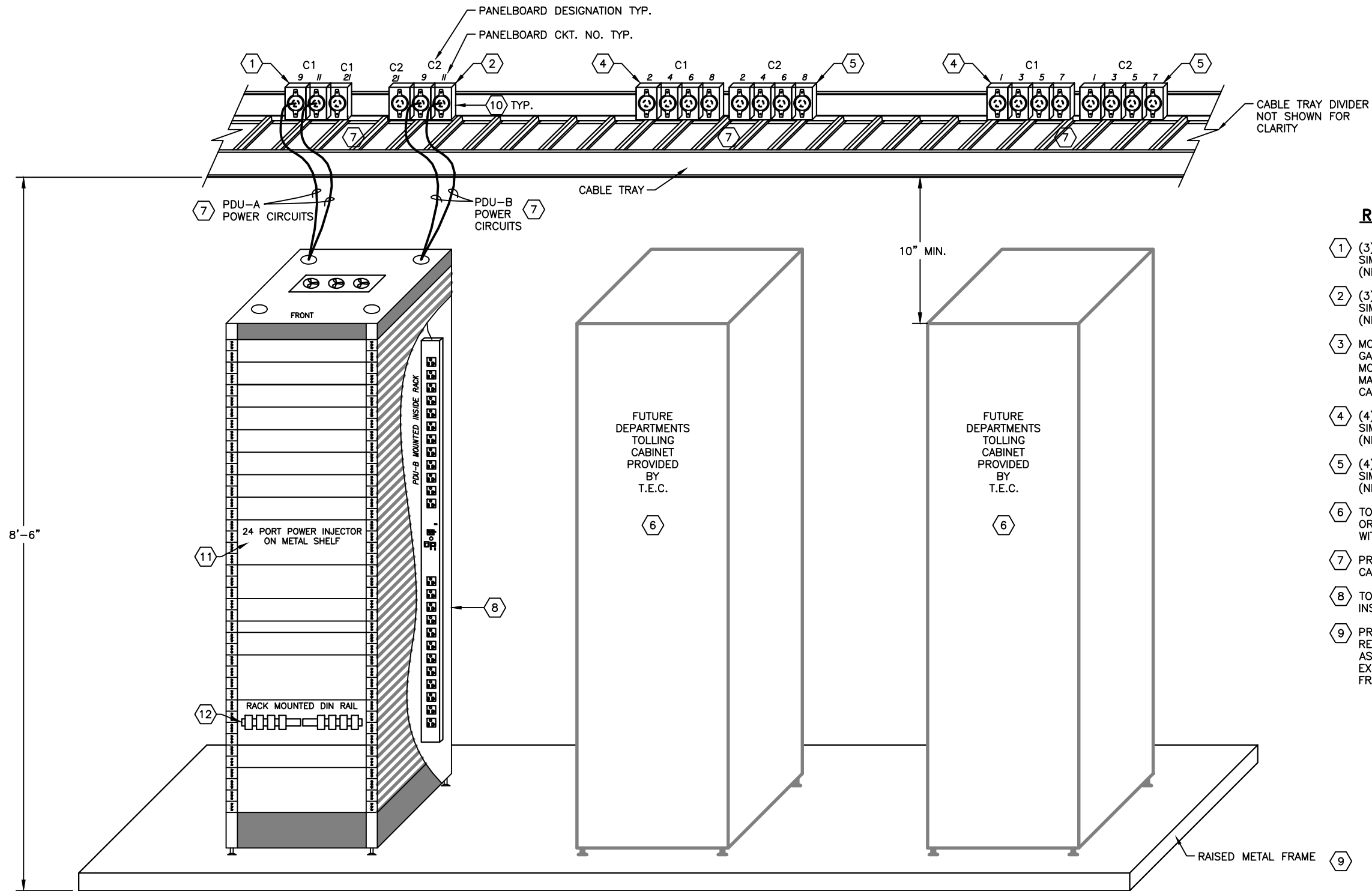
- (4) 2" CONDUIT FOR FOC ENTRANCE. (1) FOR INNER LOOP CONNECTION. (1) FOR OUTER LOOP CONNECTION AND (2) SPARES
(2) 2" CONDUIT FOR FOC CONNECTION TO SITE TRAILERS.
(4) 2" CONDUIT FOR GENTRY MOUNTED CCTV CAMERAS

REFERENCE NOTES:

- 1 TOLLING EQUIPMENT CABINETS SHALL BE PROVIDED AND INSTALLED BY THE DEPARTMENT'S TOLL EQUIPMENT CONTRACTOR.
- 2 COMMUNICATIONS CABINET & CABINET SUPPORT FRAME SHALL BE PROVIDED AND INSTALLED BY THE TOLL FACILITY CONTRACTOR.
- 3 4) 2" CONDUIT FOR FOC ENTRANCE. (1) FOR INNER LOOP CONNECTION. (1) FOR OUTER LOOP CONNECTION AND (2) SPARES
(2) 2" CONDUIT FOR FOC CONNECTION TO SITE TRAILERS.
(4) 2" CONDUIT FOR GENTRY MOUNTED CCTV CAMERAS
- 4 SEE AE-126 AND SITE PLAN FOR CONDUIT ROUTINGS.



REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS TOLLING SYSTEM PLAN	SHEET NO. AE-105
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

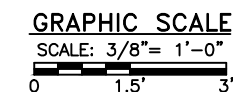
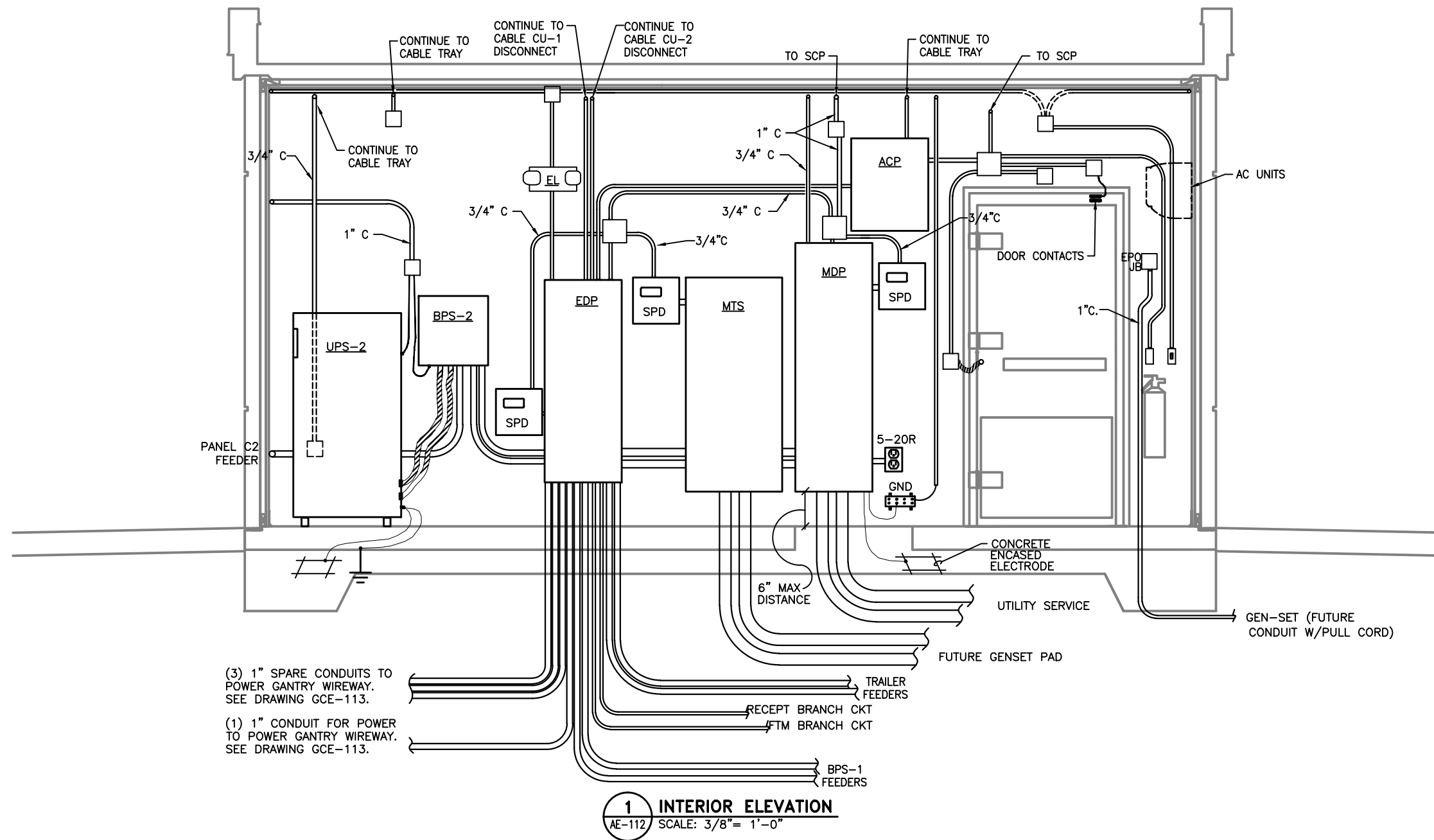


REFERENCE NOTES:

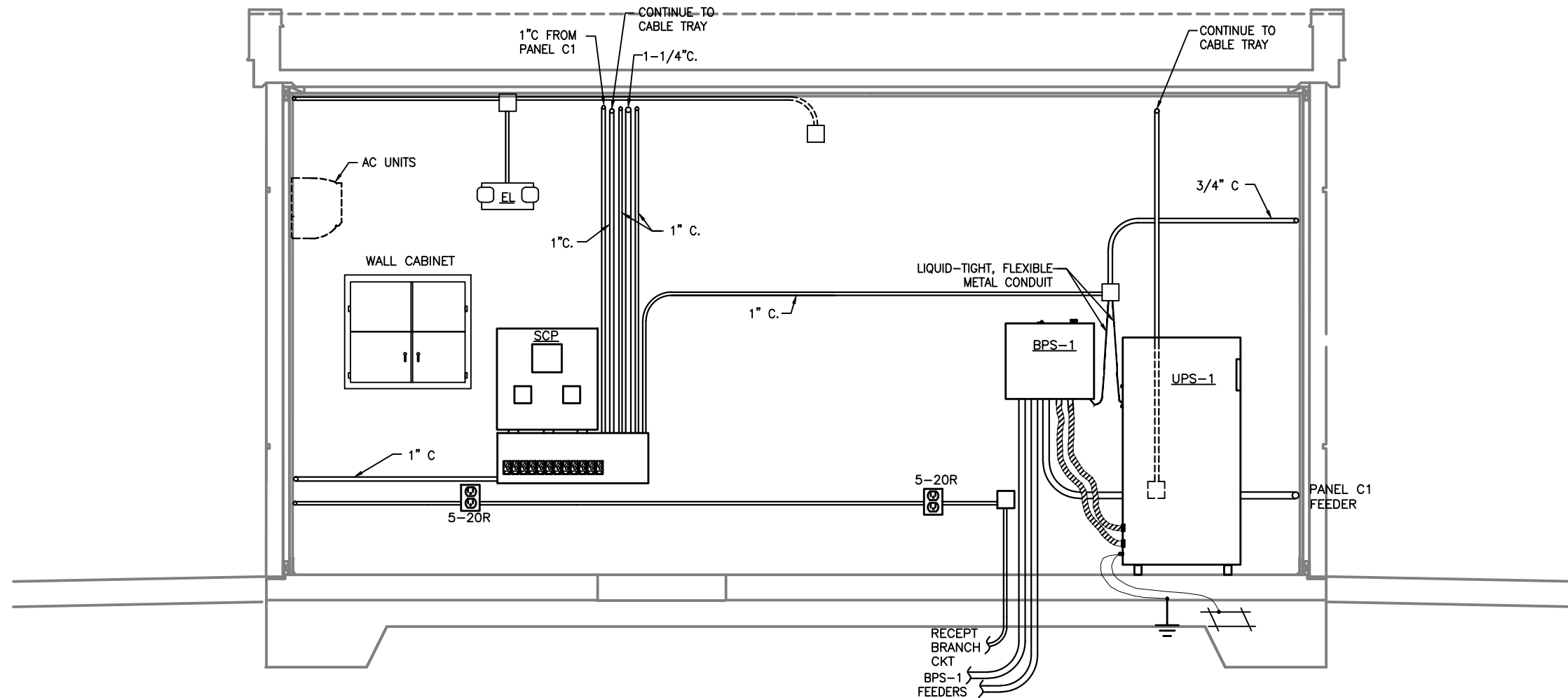
- 1 (3) 120VAC 20A DEDICATED CIRCUITS FROM PANEL C1. SIMPLEX RECEPTACLES, COLOR TO BE ORANGE, TWIST LOCK (NEMA L5-20R)
- 2 (3) 120VAC 20A DEDICATED CIRCUITS FROM PANEL C2. SIMPLEX RECEPTACLES, COLOR TO BE ORANGE, TWIST LOCK (NEMA L5-20R)
- 3 MOUNT RECEPTACLES TO TOP OF CABLE TRAY IN SINGLE GANG BACK BOX. SECURE BACK BOX TO CABLE TRAY WITH MOUNTING BRACKET MANUFACTURED BY CABLE TRAY MANUFACTURER. PROVIDE STRAIN RELIEF CORD GRIPS FOR CABLES ENTERING BACK BOX KELLEMS OR EQUAL.
- 4 (4) 120VAC 20A DEDICATED CIRCUITS FROM PANEL C1. SIMPLEX RECEPTACLES, COLOR TO BE ORANGE, TWIST LOCK (NEMA L5-20R)
- 5 (4) 120VAC 20A DEDICATED CIRCUITS FROM PANEL C2. SIMPLEX RECEPTACLES, COLOR TO BE ORANGE, TWIST LOCK (NEMA L5-20R)
- 6 TOLLING CABINET ORIENTATION IN BLDG. MAY DIFFER FROM ORIENTATION SHOWN ON THIS DWG. COORDINATE ORIENTATION WITH BLDG AND SITE PLANS.
- 7 PROVIDE DROP-OUT FITTINGS WITH 4" RADIUS ABOVE EACH CABINET WHERE CABLES LEAVE CABLE TRAY.
- 8 TOLLING COMMUNICATION CABINET SHALL BE FURNISHED AND INSTALLED BY THE TOLL FACILITY CONTRACTOR.
- 9 PROVIDE 1/2" BOLTS IN THE HOLES WHERE THE WHEELS ARE REMOVED FROM THE FREE STANDING CABINETS. DRILL HOLES AS REQUIRED IN THE RAISED METAL FRAME TO ACCOMMODATE EXISTING CABINET FASTENER HOLES. SECURE CABINETS TO FRAME WITH LOCKNUTS, WASHER AND NUTS AS REQUIRED.

1 TOLLING COMMUNICATION CABINET DETAILS - MAINLINE
AE-111 SCALE: N.T.S.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS TOLLING COMMUNICATIONS CABINET DETAIL	SHEET NO. AE-111
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		



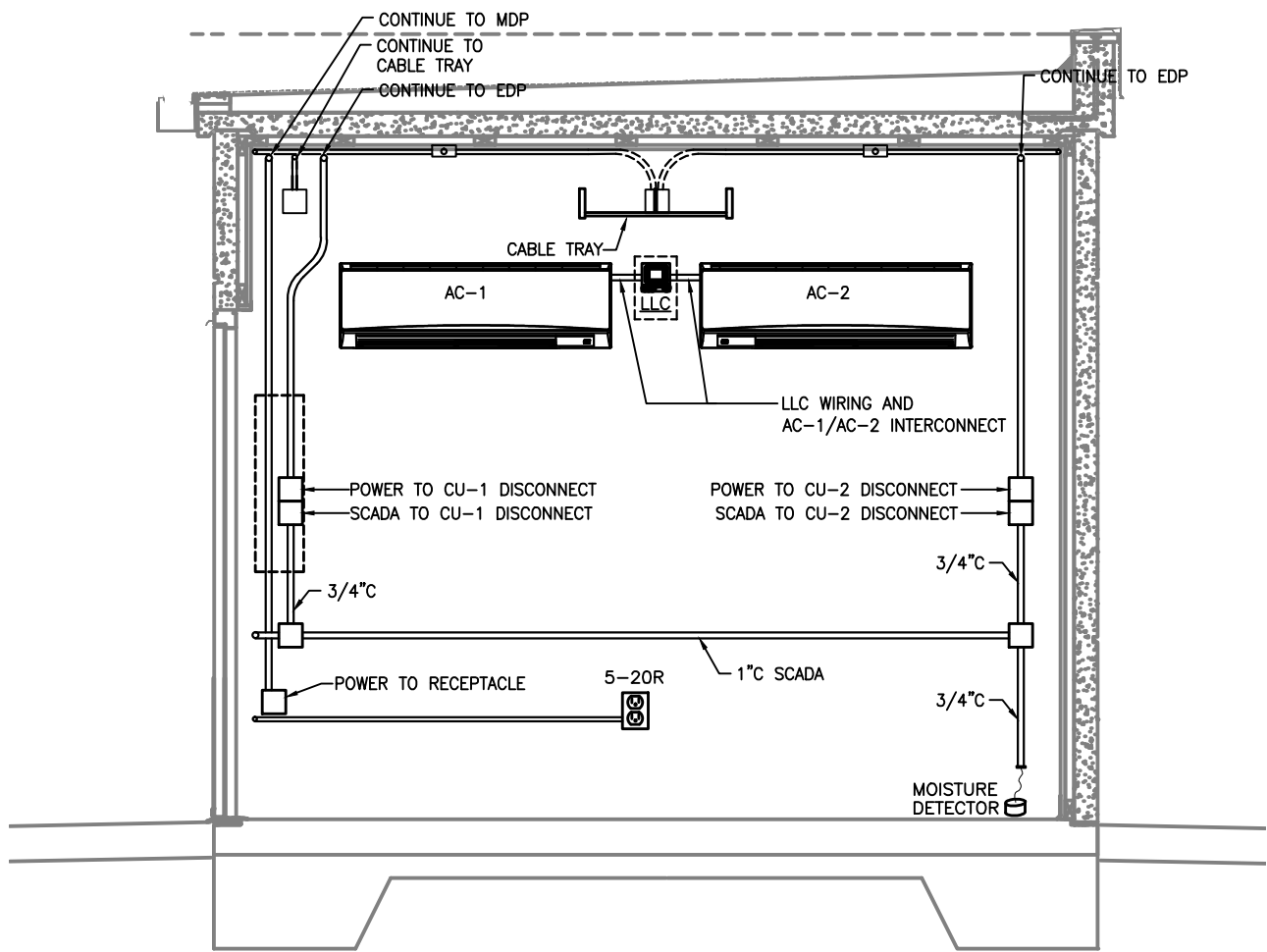
REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS BUILDING - INTERIOR ELEVATIONS (1 OF 3)	SHEET NO. AE-112
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		



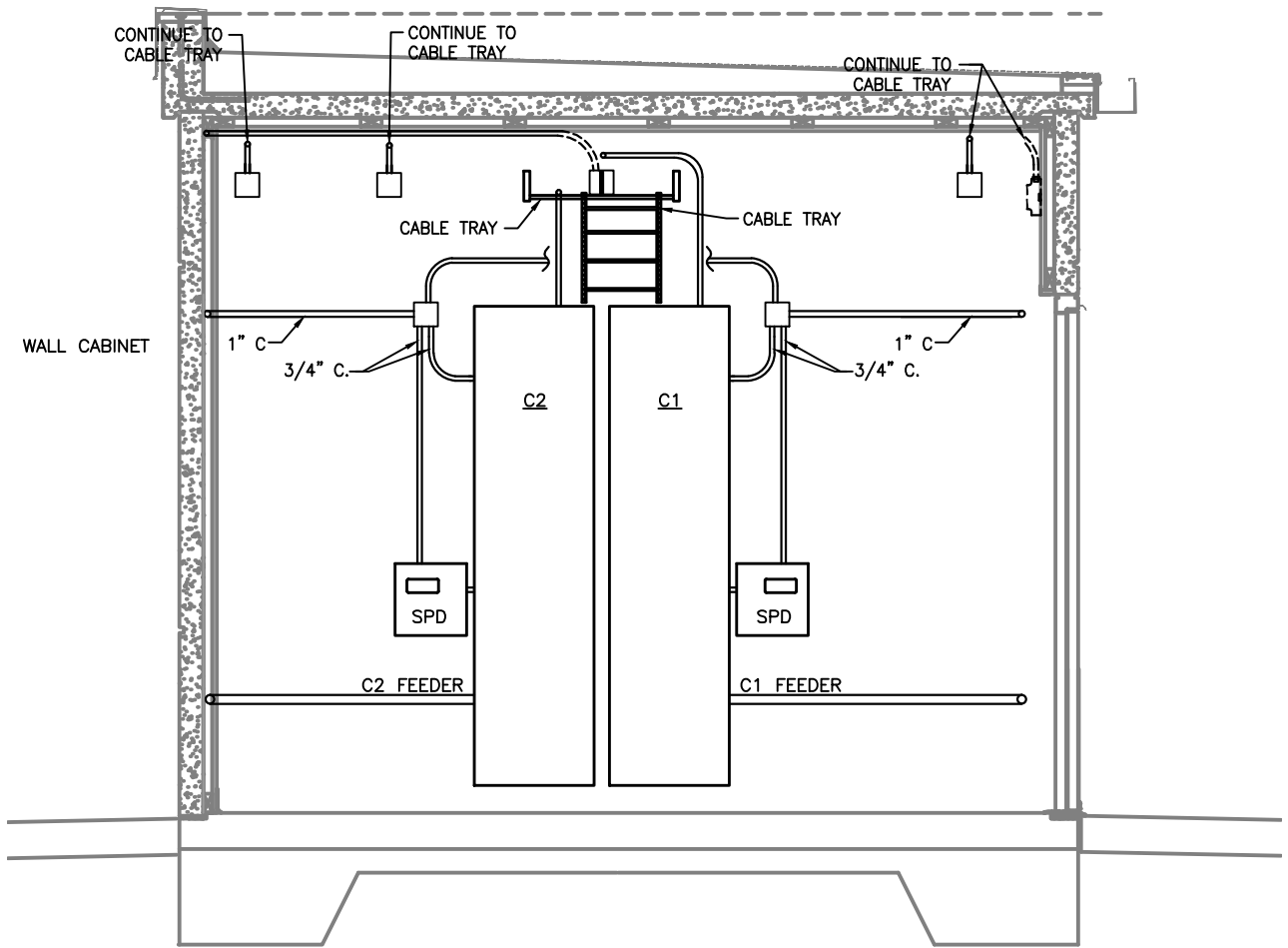
1 INTERIOR ELEVATION
 AE-113 3/8" = 1'-0"

GRAPHIC SCALE
 SCALE: 3/8" = 1'-0"
 0 1.5' 3'

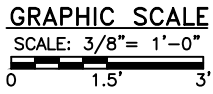
REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS BUILDING - INTERIOR ELEVATIONS (2 OF 3)	SHEET NO. AE-113
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		



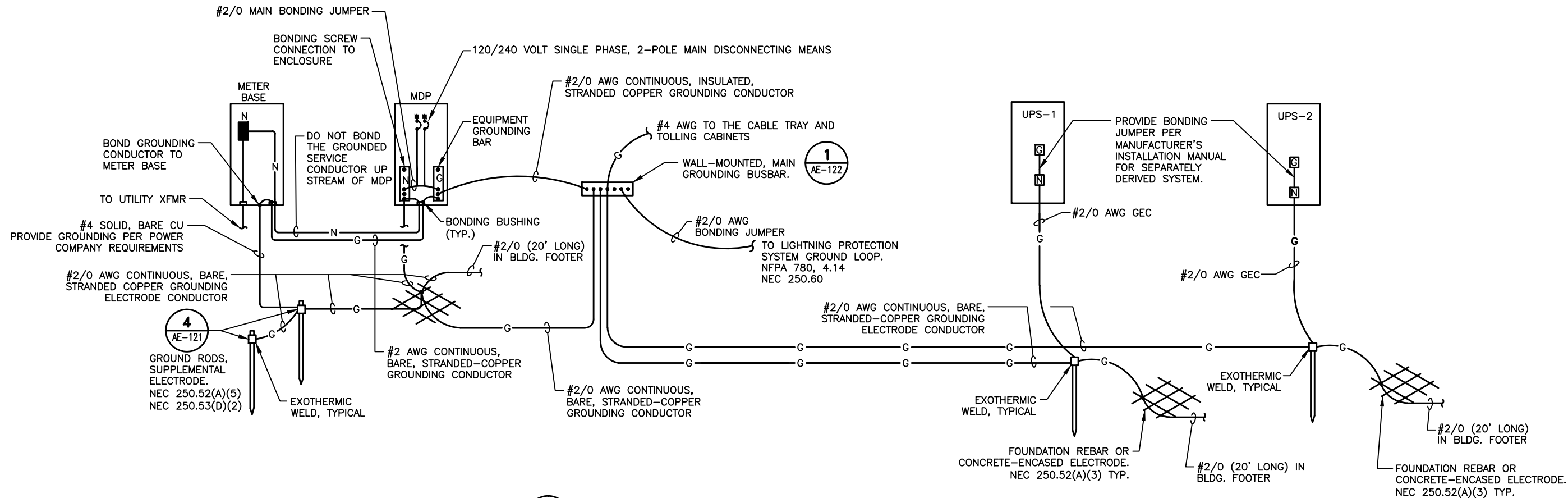
1 INTERIOR ELEVATION
 AE-114 SCALE: 3/8"= 1'-0"



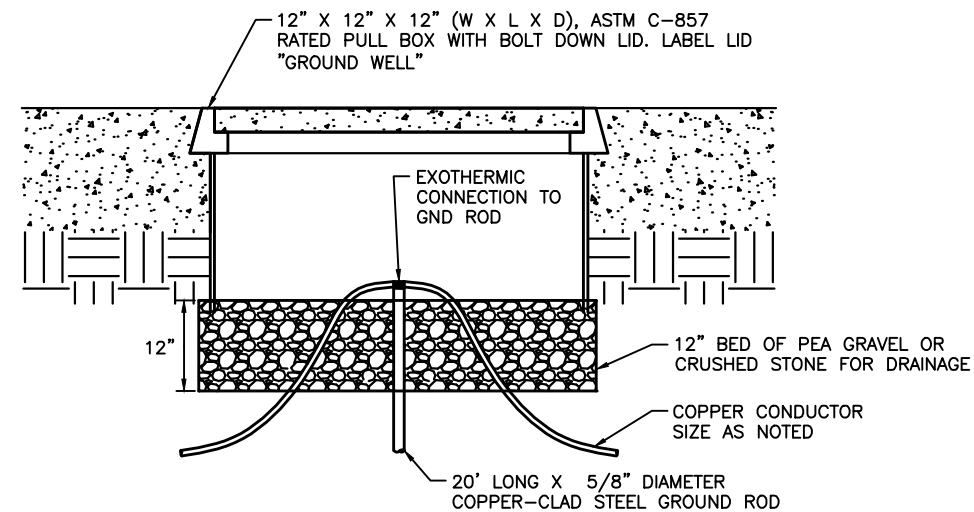
2 INTERIOR ELEVATION
 AE-114 SCALE: 3/8"= 1'-0"



REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS BUILDING - INTERIOR ELEVATIONS (3 OF 3)	SHEET NO. AE-114
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

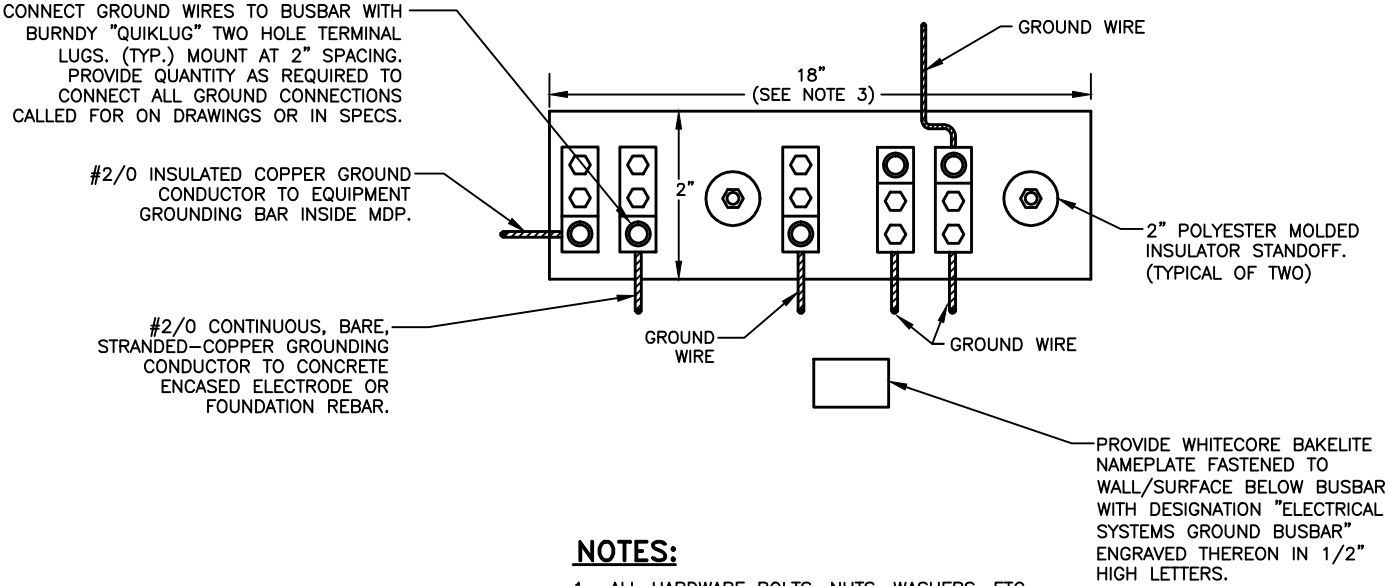


1 SERVICE ENTRANCE & UPS GROUNDING REQUIREMENTS
 AE-121 SCALE: N.T.S.



4 GROUND INSPECTION WELL DETAIL
 AE-121 SCALE: N.T.S.

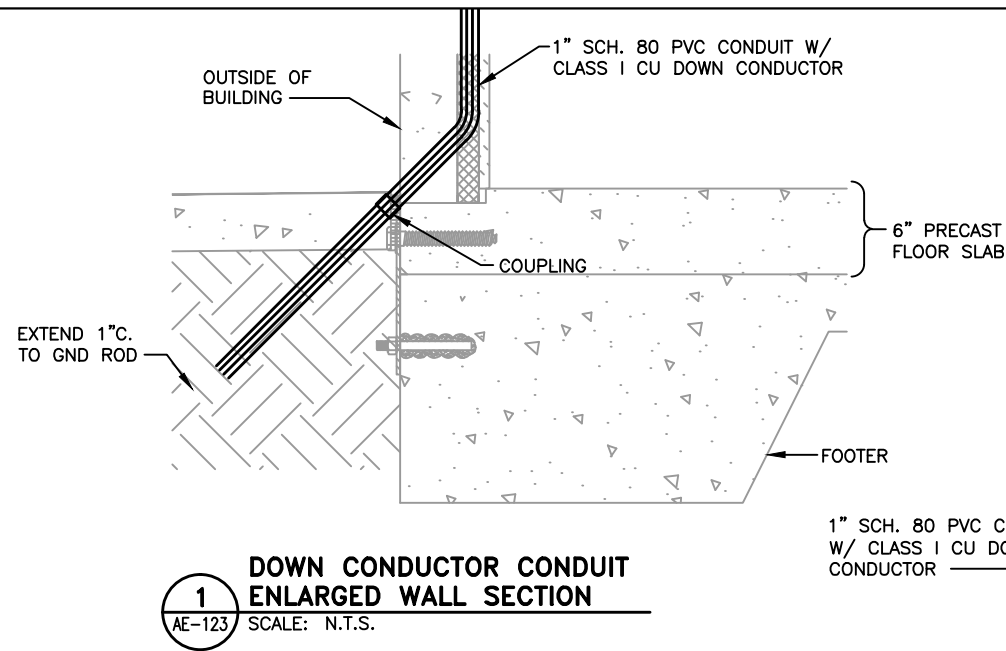
REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS GROUNDING DETAILS (1 OF 2)	SHEET NO. AE-121
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		



- NOTES:**
1. ALL HARDWARE BOLTS, NUTS, WASHERS, ETC. SHALL BE SOLID COPPER OR BRONZE.
 2. COPPERPLATING IS NOT ACCEPTABLE. BUSBAR SHALL BE 1/4" THICK x 2" WIDE FLAT COPPER.
 3. INCREASE LENGTH AS REQUIRED FOR NUMBER OF CONNECTIONS. PROVIDE 2" SPACING BETWEEN LUGS.

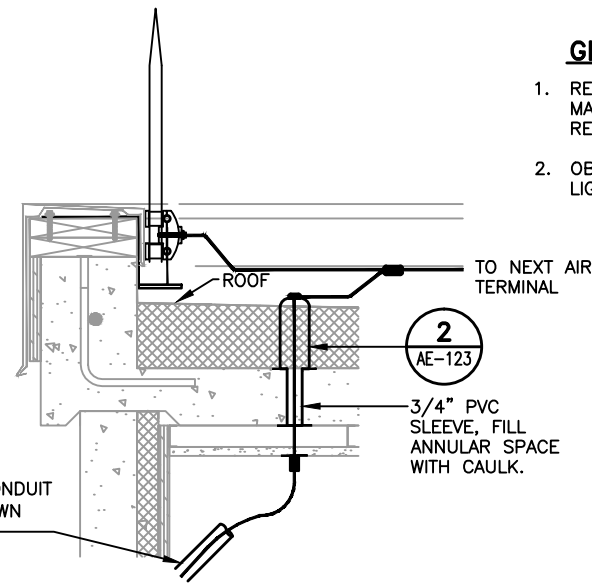
1 **GROUNDING BUSBAR DETAIL**
AE-122 SCALE: N.T.S.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01	GROUNDING DETAILS (2 OF 2)	AE-122



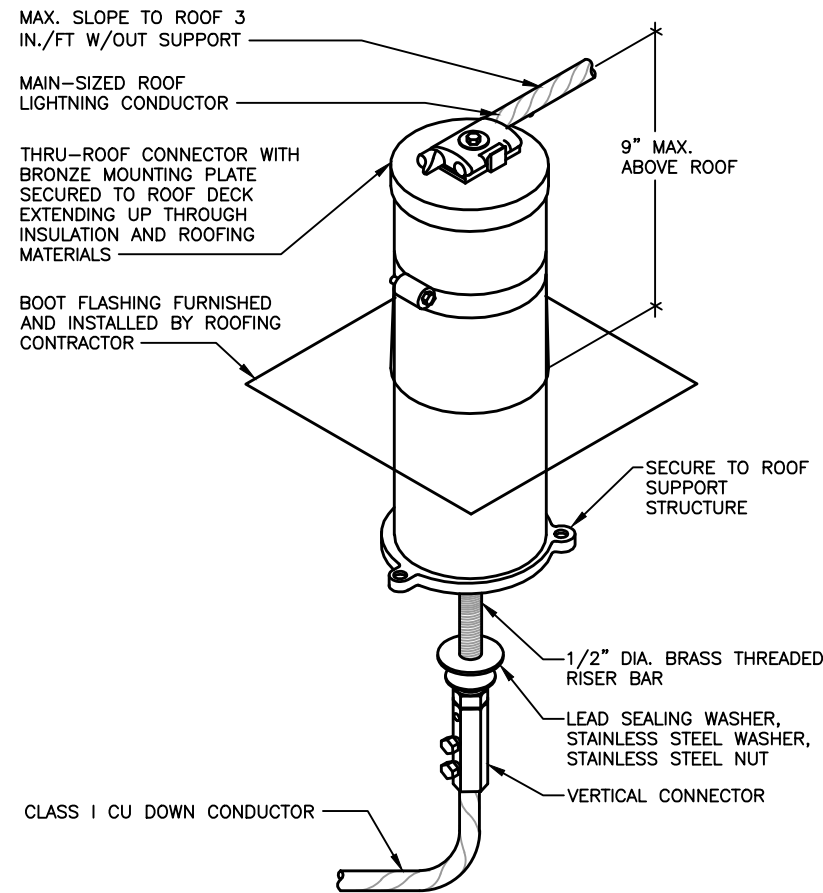
1 DOWN CONDUCTOR CONDUIT ENLARGED WALL SECTION

AE-123 SCALE: N.T.S.



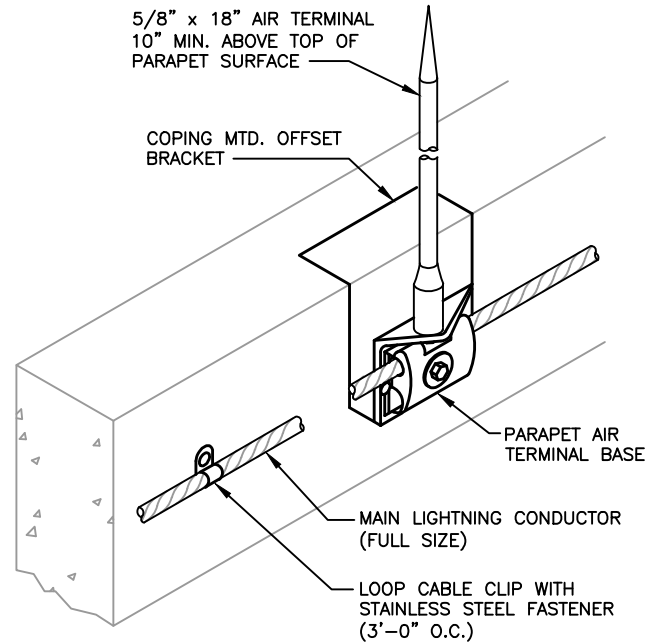
2 DOWN CONDUCTOR THRU ROOF ENLARGED WALL SECTION

AE-123 SCALE: N.T.S.



3 THRU ROOF CONNECTOR WITH FLASHING TUBE AND CABLE BASE

AE-123 SCALE: N.T.S.



4 PARAPET AIR TERMINAL DETAIL

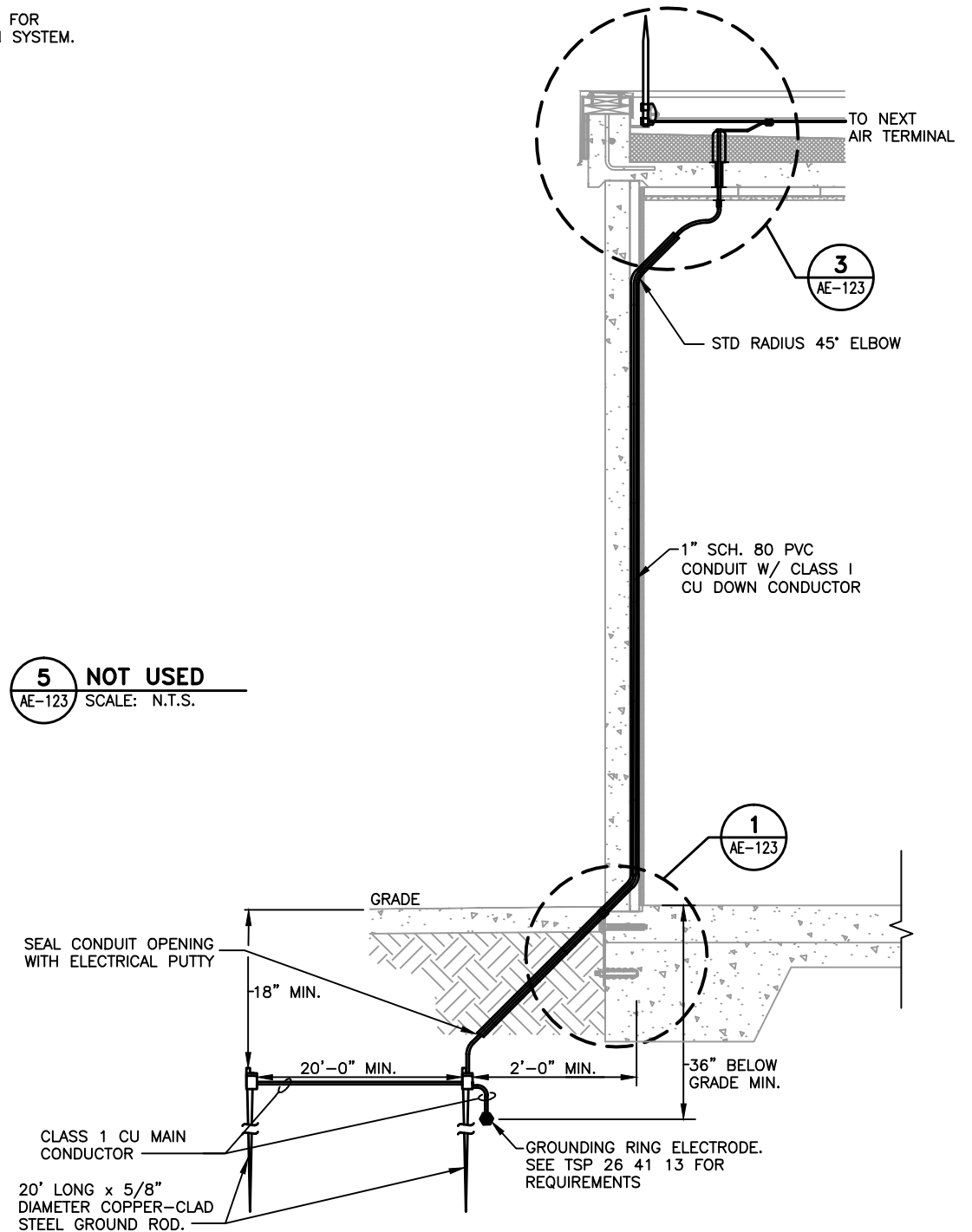
AE-123 SCALE: N.T.S.

GENERAL NOTES:

1. REFER TO SPECIFICATIONS FOR MATERIALS AND ADDITIONAL REQUIREMENTS.
2. OBTAIN MASTER LABEL FOR LIGHTNING PROTECTION SYSTEM.

5 NOT USED

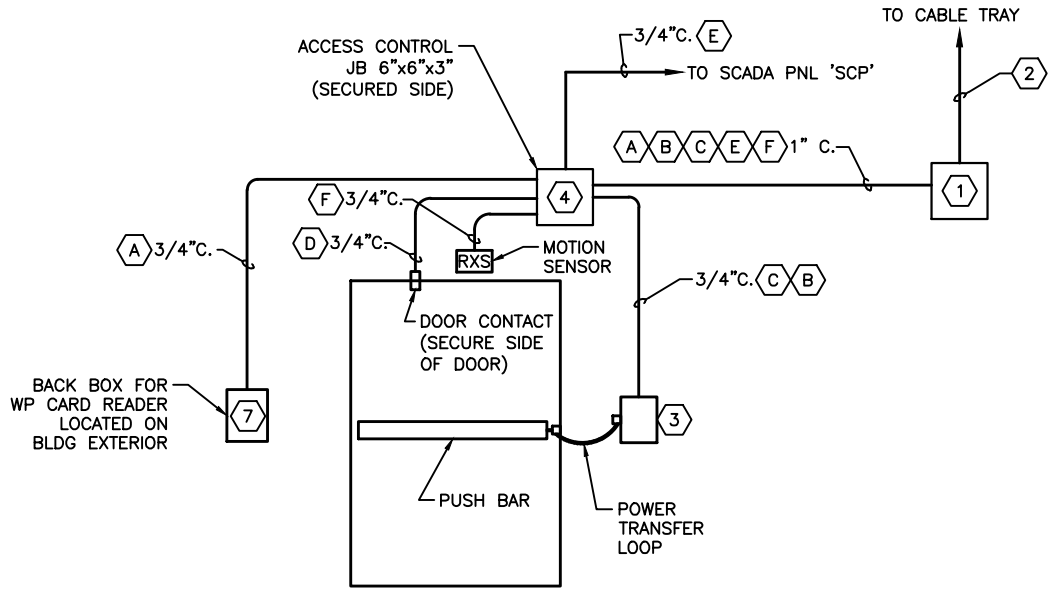
AE-123 SCALE: N.T.S.



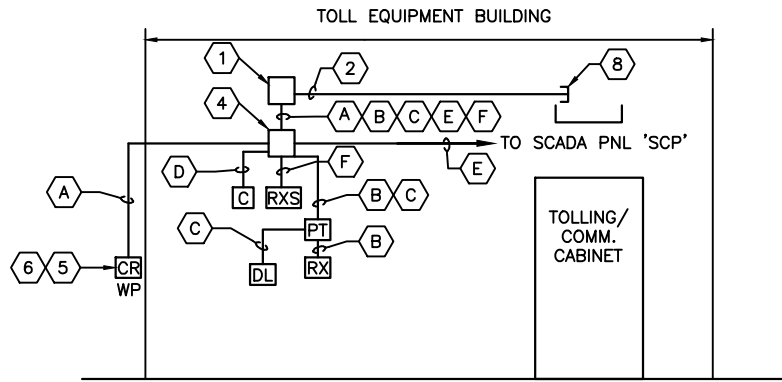
6 DOWN CONDUCTOR BUILDING WALL SECTION

AE-123 SCALE: N.T.S.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS LIGHTNING PROTECTION DETAILS	SHEET NO. AE-123
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		



1 SECURITY/ACCESS CONTROL BUILDING DOOR DETAIL
AE-124 SCALE: N.T.S.



2 SECURITY CARD ACCESS SYSTEM RISER DIAGRAM
AE-124 SCALE: N.T.S.

GENERAL NOTES:

1. PROVIDE DOOR-MOUNTED SECURITY/ACCESS CONTROL DEVICE, OUTLET BOXES, WIRING, ELECTRIC LEVER TRIM, ENCLOSURES & ALL REQUIRED CABLING, REFER TO TSP 28 05 14 & 08 71 00.
2. SEE AE-104 & AE-125 FOR DETAILS.
3. SEE AE-010 FOR SECURITY CARD ACCESS SYSTEM SYMBOL LEGEND.

REFERENCE NOTES:

- 1 ACCESS CONTROL PANEL ENCLOSURE 20"Wx24"H, HINGED DOOR AND BACK PANEL.
- 2 1"C.
- 3 4" SQUARE, SURFACE MOUNTED BOX WITH BLANK PLATE.
- 4 6" X 6" X 3" METAL JUNCTION BOX. MOUNT ON SECURE SIDE ABOVE DOOR.
- 5 BACK BOXES FOR CARD READERS SHALL BE MOUNTED 48" AFF.
- 6 BACK BOXES FOR CARD ACCESS DEVICES SHALL BE FLUSH MOUNTED.
- 7 SINGLE GANG BACK BOX FOR PROXIMITY CARD READER.
- 8 STUB CONDUIT OVER CABLE TRAY. PROVIDE INSULATED THROAT GROUNDING BUSHING ON END OF CONDUIT AND BOND CONDUIT TO CABLE TRAY WITH #6 AWG BARE COPPER GROUNDING CONDUCTOR.

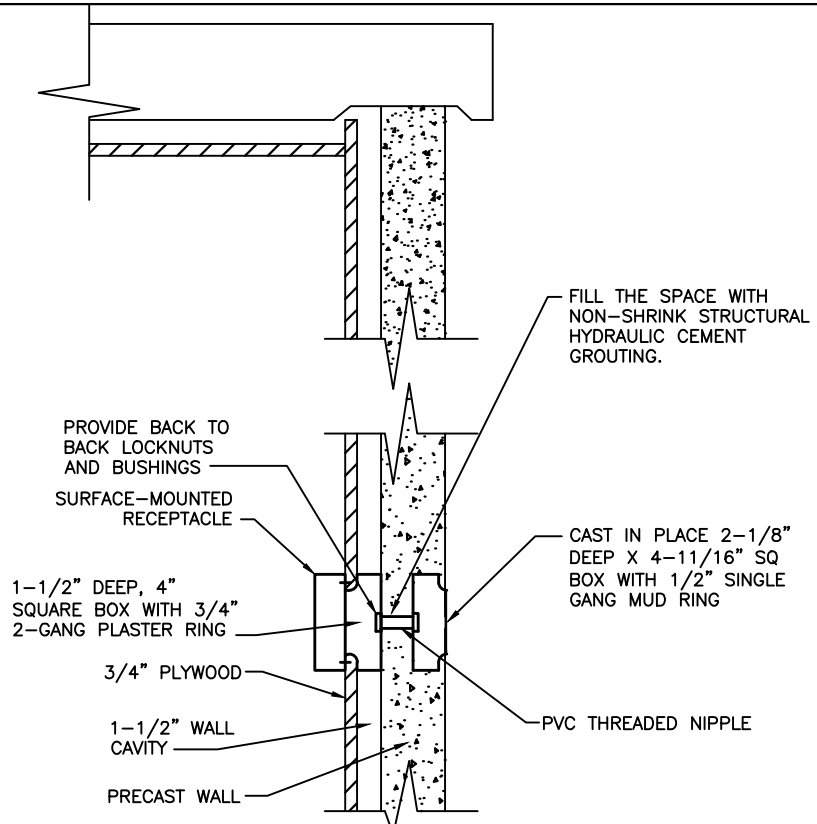
SECURITY/ACCESS CONTROL WIRING NOTES:

NOTE: CONDUCTORS SHALL BE SHIELDED, STRANDED UON.

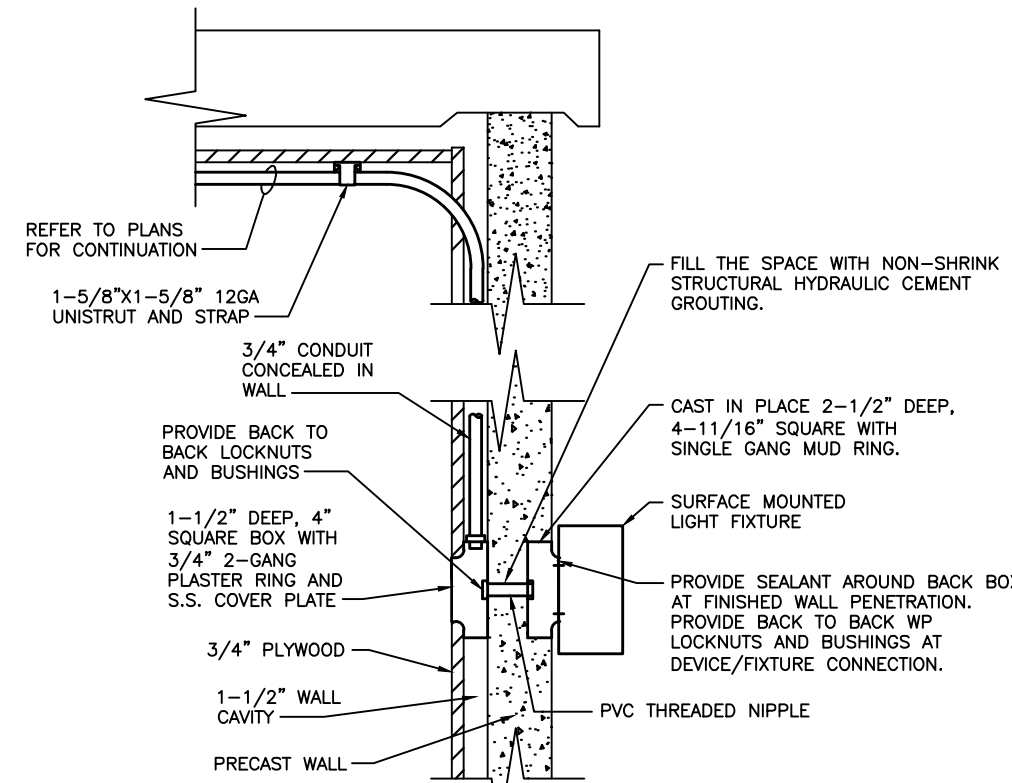
- | | | |
|---|----------------------------------|---|
| A | CARD READER: | 18AWG-6 CONDUCTOR SHIELDED. |
| B | REQUEST TO EXIT: | 18AWG-2 CONDUCTOR. |
| C | ELECTRIFIED LEVER TRIM: | 18AWG-2 CONDUCTOR. |
| D | DOOR CONTACT: | 18AWG-4 CONDUCTOR. (PROVIDED WITH DOOR CONTACT) |
| E | DOOR CONTACT: | 18AWG-2 CONDUCTOR. |
| F | REQUEST TO EXIT INFRARED SENSOR: | 18AWG-2 CONDUCTOR. |

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS SECURITY & ACCESS CONTROL SYSTEM DETAILS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		AE-124
					NA	POLK	437300-1-52-01		

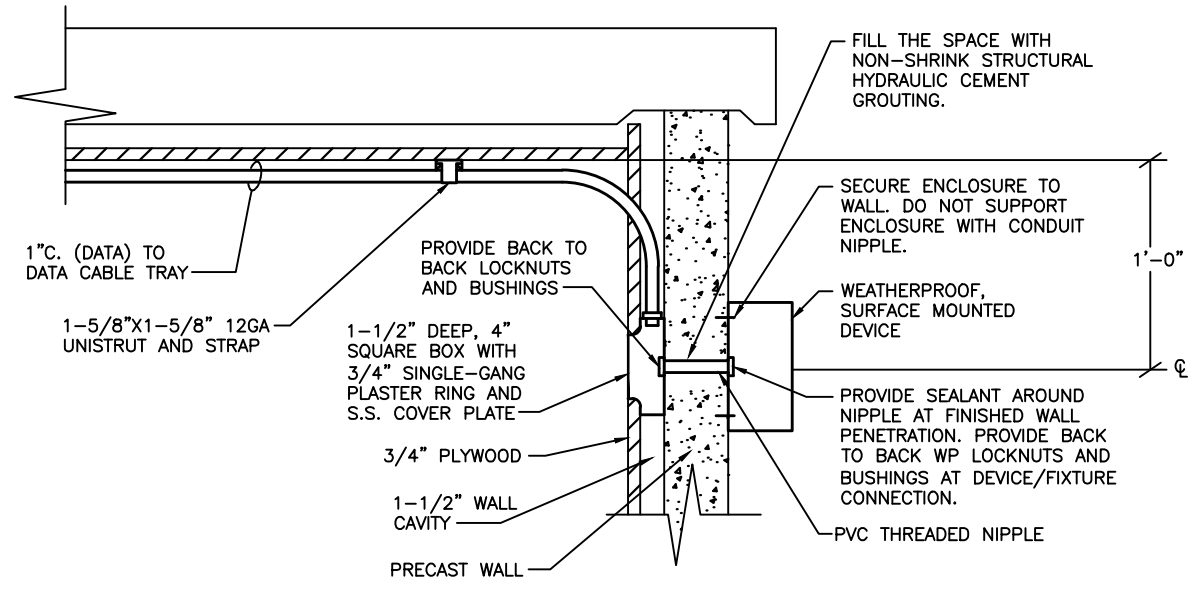
BLAKE LAWRENCE SUDDETH, P.E.
FLORIDA P.E. NO.: 69060
JOSEPH, LAWRENCE & CO.
1180 HARWOOD AVENUE, SUITE 3000
ALTAMONTE SPRINGS, FLORIDA 32714
CA NO.: 28730



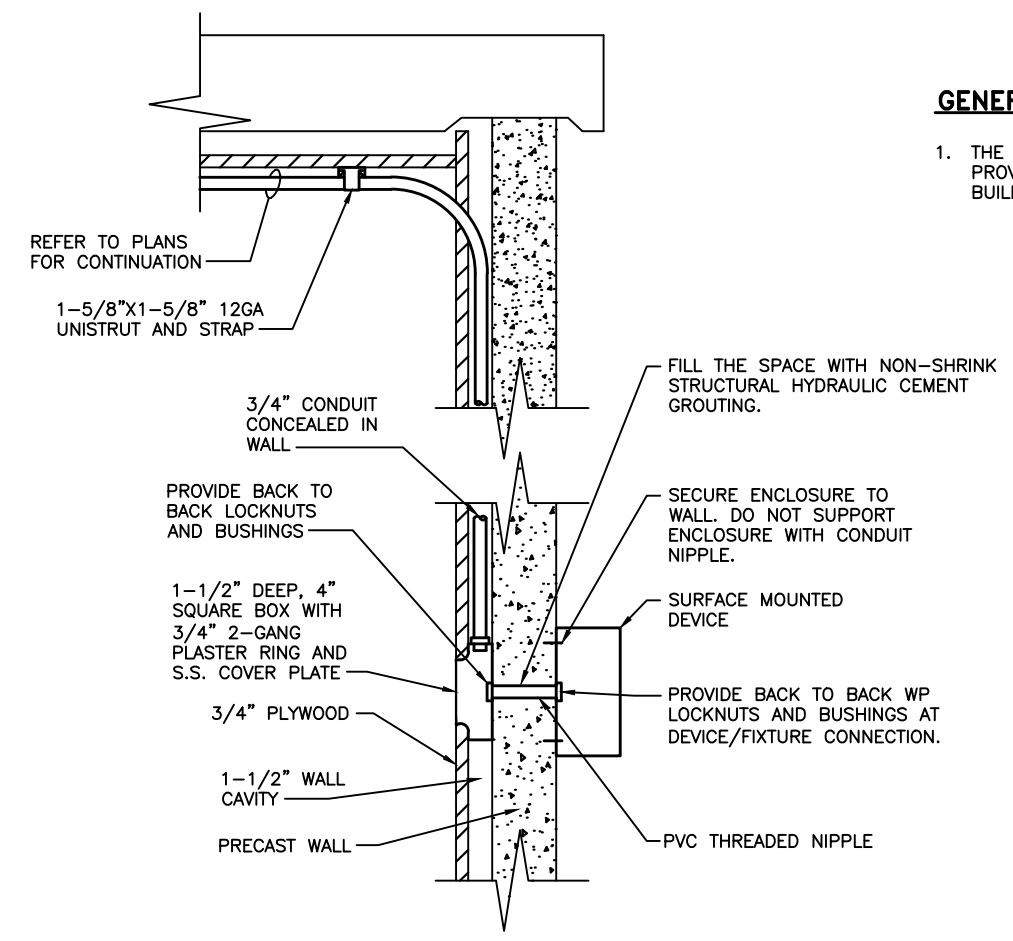
1 FLUSH MOUNTED EXTERIOR DEVICE
AE-125 SCALE: N.T.S.



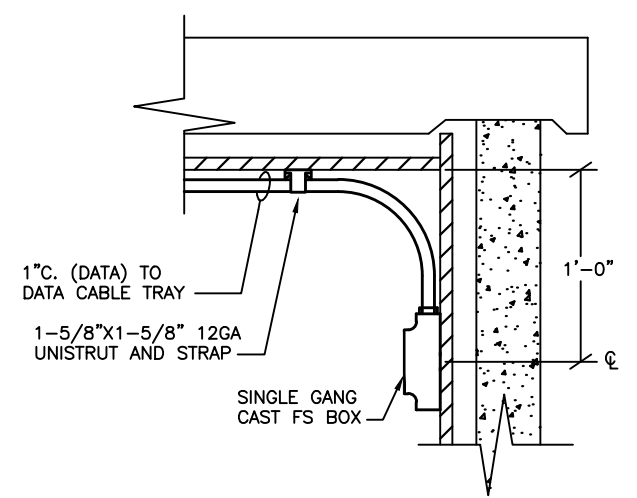
4 SURFACE MOUNTED LIGHT FIXTURE
AE-125 SCALE: N.T.S.



2 SURFACE MOUNTED EXTERIOR CCTV OUTLET
AE-125 SCALE: N.T.S.



5 SURFACE MOUNTED EXTERIOR DEVICE
AE-125 SCALE: N.T.S.

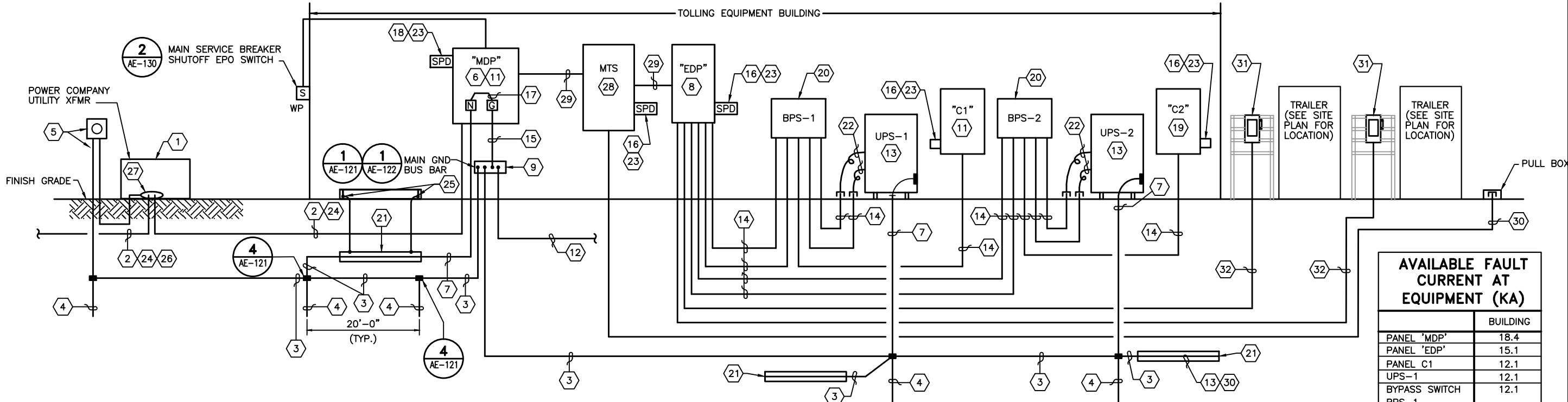


3 INTERIOR CCTV OUTLET BOX
AE-125 SCALE: N.T.S.

GENERAL NOTES:

1. THE CONTRACTOR TO MAKE NECESSARY PROVISIONS FOR PROVIDING CONDUIT OPENINGS AND AVOID DISTURBANCE OF BUILDING REINFORCING MATERIAL.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS RACEWAY INSTALLATION DETAILS	SHEET NO. AE-125
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		



1 BUILDING – POWER RISER DIAGRAM
AE-130 N.T.S.

REFERENCE NOTES:

- 1 PAD-MOUNTED, UTILITY TRANSFORMER. 120/240V, SINGLE PHASE, 3W, 60HZ SECONDARY. COORDINATE REQUIREMENTS WITH LOCAL POWER COMPANY. REFER TO SITE PLAN FOR ADDITIONAL DETAILS.
- 2 SERVICE LATERAL: 2 SETS OF 3-400KCMIL IN 3"C. EACH 36" MIN. BELOW GRADE. RISER SHALL BE RGS CONDUIT. SEE AE-121 FOR BONDING REQUIREMENTS.
- 3 #2/0 BARE, STRANDED-COPPER, GROUNDING CONDUCTOR.
- 4 16' LONG X 5/8" DIAMETER COPPER-CLAD STEEL GROUND ROD.
- 5 400A, POST-MOUNTED METER SOCKET, PAINTED AL, W/ LEVER BYPASS AND GROUNDING PER POWER CO. REQUIREMENTS, FURNISHED & INSTALLED BY CONTRACTOR. CONTRACTOR SHALL COORDINATE AND PROVIDE A UTILITY COMPANY APPROVED METER SOCKET.
- 6 PANELBOARD "MDP"-400A, 2P MCB, 3W, 240V, N.O. AUXILIARY CONTACT WITH GND BUS, INSULATED NEUTRAL BUS, NEMA 1 ENCLOSURE. PROVIDE NAMEPLATE "MAIN #1 OF 2. MAIN #2 IS LOCATED INSIDE GENERATOR ENCLOSURE" MUST BE LISTED AS SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT.
- 7 GROUNDING ELECTRODE CONDUCTOR #2/0 BARE, STRANDED-COPPER 36" MIN. BELOW GRADE.
- 8 ELECTRICAL DISTRIBUTION PANELBOARD "EDP", 120/240V., SINGLE PHASE, 3W. SEE PANELBOARD SCHEDULE ON DWG. AE-131.
- 9 NOT ALL GROUNDING CONDUCTORS ARE SHOWN ON THIS DWG. SEE DETAIL 1 ON AE-121 FOR ADDITIONAL BONDING REQUIREMENTS.
- 10 2-2"C. EACH (EMPTY WITH PULL - CAP AND MARK)
- 11 PANELBOARD. SEE PANELBOARD SCHEDULES ON DWG. AE-131.
- 12 #2/0 BARE STRANDED COPPER GROUNDING CONDUCTOR BETWEEN MAIN GROUND BUS BAR AND LIGHTNING PROTECTION SYSTEM. INSTALL CONDUCTOR IN 1" SCH. 80 PVC C. WHERE EXPOSED.
- 13 15 KVA UPS, 120/240VAC, SINGLE PHASE, 3W WITH REMOTE SHUT OFF CONTACT MODBUS TCP/IP NETWORK MONITOR CARD WITH DB-9 CONNECTION, BATTERY MODULES AND GROUNDING LUG. SEE TSP 26 33 53 FOR DETAILS.

- 14 3 #1 & 1 #6 GND IN 1 1/2" CONDUIT.
- 15 GROUNDING CONDUCTOR FROM PANELBOARD "MDP" GROUND BUS TO MAIN GND BUS BAR, #2/0 BARE STRANDED COPPER.
- 16 PROVIDE TYPE 2 SECONDARY SERVICE SPD.
- 17 MAIN BONDING JUMPER #2/0 BARE STRANDED COPPER.
- 18 TYPE 1 PRIMARY SERVICE ENTRANCE SPD.
- 19 PANELBOARD. SEE PANEL SCHEDULES ON DWG. AE-131.
- 20 PROVIDE 240V, 125A, WALL MOUNTED BYPASS SWITCH. SEE TSP 26 33 53 FOR DETAILS.
- 21 BOND A #2/0 BARE CU CONDUCTOR TO REBAR IN THE BUILDING FOOTER TO ACT AS A CONCRETE ENCASED ELECTRODE IN ACCORDANCE WITH NEC ARTICLE 250.
- 22 PROVIDE LIQUID TIGHT FLEXIBLE METAL CONDUIT FROM 4" AFF TO UPS.
- 23 SPD SHALL BE LOCATED SUCH THAT THE LEADS DO NOT EXCEED 24 INCHES. MAINTAIN LEADS AS SHORT & STRAIGHT AS POSSIBLE FROM CB TO SPD.
- 24 TRANSITION DIRECT BURIED SCHEDULE 80 PVC CONDUIT TO RGS AT LAST 90 DEGREE ELBOW BEFORE RISING UP AND EMERGE FROM GRADE TO BECOME EXPOSED. APPLY 2-COAT BITUMASTIC PAINT FINISH TO DIRECT BURIED PORTION OF RGS CONDUIT, UP TO AND INCLUDING 6" ABOVE FINAL GRADE. REFER TO TSP FOR FURTHER INFORMATION.
- 25 BOND EACH END OF THE RAISED ALUMINUM MOUNTING FRAME TO THE CONCRETE ENCASED ELECTRODE IN THE BUILDING FOUNDATION.
- 26 TO ADJACENT TOLL BUILDING.
- 27 METER C.T. AT TRANSFORMER. COORDINATE ALL REQUIREMENTS WITH TECO.
- 28 MANUAL TRANSFER SWITCH, 400 AMPS, 120/240V 2 POLE, 3W (SOLID NEUTRAL), NEMA TYPE 1 ENCLOSURE.
- 29 2-2"C. EACH WITH 3 #3/0 & 1 #2/0 GND.

- 30 2-2"C. FOR CONNECTION TO FUTURE GENSET. CAP, MARK AND PROVIDE PULL CORD. SEE SITE PLAN FOR LOCATION. CONDUIT TO BE TERMINATED IN PULL BOX. SEE SITE PLANS EAST AND WEST
- 31 240VOLT, 2 POLE, 200AMP, NEMA 4X WITH GROUND KIT MOUNTED ON UNISTRUT SUPPORT SYSTEM FOR CONNECTION TO TRAILER.
- 32 2"C. WITH 3#1 & 1 #8 GND.

AVAILABLE FAULT CURRENT AT EQUIPMENT (KA)

	BUILDING
PANEL "MDP"	18.4
PANEL "EDP"	15.1
PANEL C1	12.1
UPS-1	12.1
BYPASS SWITCH BPS-1	12.1
PANEL C2	12.1
UPS-2	12.1
BYPASS SWITCH BPS-2	12.1

SIGN SPEC:

-PROVIDE ALUMINUM SHEET OF ALLOY AND TEMPER RECOMMENDED BY THE SIGN MANUFACTURER FOR THE TYPE OF USE AND FINISH INDICATED, AND WITH THE STRENGTH AND DURABILITY PROPERTIES NO LESS THAN SPECIFIED IN ASTM B-209 FOR 5005-H15.

-USE FASTENERS FABRICATED FROM METALS THAT ARE NOT CORROSIVE TO THE SIGN MATERIAL AND MOUNTING SURFACE.

-PROVIDE SIGN COPY THAT COMPLIES WITH THE REQUIREMENTS INDICATED FOR SIZE, STYLE, SPACING, CONTENT, POSITION, MATERIAL, FINISHES AND COLOR OF LETTERS, NUMBERS, AND OTHER GRAPHIC DEVICES.

-PROVIDE BAKED-ENAMEL FINISH:
AA-M4XC12C42R1x (MECHANICAL FINISH: MANUFACTURER'S STANDARD, OTHER NONDIRECTIONAL TEXTURED; CHEMICAL FINISH: CHEMICAL CONVERSION COATING, ACID CHROMATE-FLUORIDE-PHOSPHATE PRETREATMENT; ORGANIC COATING: AS SPECIFIED BELOW). APPLY BAKED ENAMEL IN COMPLIANCE WITH PAINT MANUFACTURER'S SPECIFICATIONS FOR CLEANING, CONVERSION COATING, AND PAINTING.



EPO STATION

2 MAIN POWER SHUTOFF SWITCH DETAIL
AE-130 SCALE: N.T.S.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS POWER RISER DIAGRAM	SHEET NO. AE-130
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					NA	POLK	437300-1-52-01		

120/240V.,1Ø,3W 22 KAIC MIN. FTL, SER						PANEL "MDP" SCHEDULE						400A, MAIN SHUNT- TRIP CKT BKR SURFACE MOUNTED NEMA TYPE 1					
CKT. NO.	KVA	BKR	WIRE SIZE	CON DUIT	LOAD	CKT. NO.	KVA	BKR	WIRE SIZE	CON DUIT	LOAD	CKT. NO.	KVA	BKR	WIRE SIZE	CON DUIT	LOAD
1	-	60/2	6	3/4	SPD 5	2	-	-	-	-	-	3	-	-	-	-	-
3	-	-	-	-	-	4	-	-	-	-	-	5	0.2	20/1	12	3/4	RECEPT.
5	0.2	20/1	12	3/4	RECEPT.	6	-	-	-	-	-	7	0.2	20/1	12	3/4	RECEPT.
7	0.2	20/1	12	3/4	RECEPT.	8	-	-	-	-	-	9	-	-	-	-	-
9	-	-	-	-	-	10	-	-	-	-	-	11	-	-	-	-	-
11	-	-	-	-	-	12	-	-	-	-	-	13	-	-	-	-	-
13	-	-	-	-	-	14	-	-	-	-	-	15	-	-	-	-	-
15	-	-	-	-	-	16	-	-	-	-	-	17	-	-	-	-	-
17	-	-	-	-	-	18	-	-	-	-	-	19	-	-	-	-	-
19	-	-	-	-	-	20	-	-	-	-	-	TOTAL CONNECTED LOAD: 70.61					
TOTAL DEMAND LOAD: 70.96						SEE NOTES 1 2 7 8						* = CONTINUOUS					

120/240V.,1Ø,3W 22 KAIC MIN.						PANEL "EDP" SCHEDULE						400A, M.L.O. SURFACE MOUNTED NEMA TYPE 1					
CKT. NO.	KVA	BKR	WIRE SIZE	CON DUIT	LOAD	CKT. NO.	KVA	BKR	WIRE SIZE	CON DUIT	LOAD	CKT. NO.	KVA	BKR	WIRE SIZE	CON DUIT	LOAD
1	0.5	20/1	12	3/4	LIGHTING (INTERIOR)	2	-	20/1	-	-	SPARE	3	0.21	20/1	12	3/4	LIGHTING (BLDG. EXT.)
3	0.21	20/1	12	3/4	LIGHTING (BLDG. EXT.)	4	-	20/1	-	-	SPARE	5	-	20/1	-	-	SPARE
5	-	20/1	-	-	SPARE	6	0.4	20/1	12	3/4	RECEPT.	7	-	20/1	-	-	SPARE
7	-	20/1	-	-	SPARE	8	-	20/1	-	-	SPARE	9	4.80	40/2	8	3/4	CU-1
9	4.80	40/2	8	3/4	CU-1	10	0.2	20/1	10	1	PTZ CAMERA	11	-	20/1	-	-	SPARE
11	-	20/1	-	-	SPARE	12	-	20/1	-	-	SPARE	13	4.80	40/2	8	3/4	CU-2
13	4.80	40/2	8	3/4	CU-2	14	-	20/1	-	-	SPARE	15	-	20/1	-	-	SPARE
15	-	20/1	-	-	SPARE	16	-	20/1	-	-	SPARE	17	-	50/2	-	-	SPARE
17	-	50/2	-	-	SPARE	18	-	20/1	-	-	SPARE	19	-	-	-	-	SPARE
19	-	-	-	-	SPARE	20	14.4	100/2	1	2	TRAILER 9	21	15.0	100/2	1	1 1/2	PNL 'C1' VIA UPS-1
21	15.0	100/2	1	1 1/2	PNL 'C1' VIA UPS-1	22	14.4	100/2	1	2	TRAILER 9	23	-	20/1	-	-	SPARE
23	-	20/1	-	-	SPARE	24	-	20/1	-	-	SPARE	25	15.0	100/2	1	1 1/2	PNL 'C2' VIA UPS-2
25	15.0	100/2	1	1 1/2	PNL 'C2' VIA UPS-2	26	0.5	20/1	12	3/4	SECURITY SYSTEM	27	-	20/1	-	-	SPARE
27	-	20/1	-	-	SPARE	28	-	20/1	-	-	SPARE	29	-	20/1	-	-	SPARE
29	-	20/1	-	-	SPARE	30	-	20/1	-	-	SPARE	31	-	20/1	-	-	SPARE
31	-	20/1	-	-	SPARE	32	-	30/2	10	3/4	SPD 5	33	-	20/1	-	-	SPARE
33	-	20/1	-	-	SPARE	34	-	100/2	1	1 1/2	UPS-1 BYPASS	35	-	20/1	-	-	SPARE
35	-	20/1	-	-	SPARE	36	-	100/2	1	1 1/2	UPS-2 BYPASS	37	-	20/1	-	-	SPARE
37	-	20/1	-	-	SPARE	38	-	100/2	1	1 1/2	UPS-2 BYPASS	39	-	20/1	-	-	SPARE
39	-	20/1	-	-	SPARE	40	-	-	-	-	SPARE	41	-	20/1	-	-	SPARE
41	-	20/1	-	-	SPARE	42	-	-	-	-	SPARE	TOTAL CONNECTED LOAD: 70.21					
TOTAL DEMAND LOAD: 70.56 KVA						SEE NOTES 1 2 8						* = CONTINUOUS					

REFERENCE NOTES:

- 1
- PANELS SHALL BE PROVIDED WITH GROUND BAR & INSULATED NEUTRAL BAR.
- 2
- MINIMUM 22,000 AIC FOR ALL CIRCUIT BREAKERS IN THE PANEL.
- 3
- ALL CIRCUIT BREAKERS FOR PANEL C1 AND PANEL C2 SHALL BE AS PER TSP 26 24 17.
- 4
- PROVIDE CONTROLLER IN EACH PANEL "C1" & "C2".
- 5
- SCH. 80 PVC CONDUIT.
- 6
- PROVIDE BRANCH CIRCUIT MONITOR FACTORY INSTALLED.
- 7
- PROVIDE FEED-THRU LUGS.
- 8
- FOR ALL BRANCH CIRCUITS, SIZE THE EQUIPMENT GROUND PER NEC TABLE 250.122. UPSIZE FOR VOLTAGE DROP IF REQUIRED.
- 9
- REFER TO TOLL BUILDING SITE/ENLARGED PLANS FOR LOCATION OF TRAILERS

120/240V.,1Ø,3W 22 KAIC MIN.						TYPICAL PANEL "C1" SCHEDULE (CRITICAL POWER)						100A, MAIN CKT. BKR SURFACE MOUNTED NEMA TYPE 1					
CKT. NO.	KVA	BKR	WIRE SIZE	CON DUIT	LOAD	CKT. NO.	KVA	BKR	WIRE SIZE	CON DUIT	LOAD	CKT. NO.	KVA	BKR	WIRE SIZE	CON DUIT	LOAD
1	0.5	20/1	12	-	TOLL EQUIP.	2	0.5	20/1	12	-	TOLL EQUIP.	3	0.5	20/1	12	-	TOLL EQUIP.
3	0.5	20/1	12	-	TOLL EQUIP.	4	0.5	20/1	12	-	TOLL EQUIP.	5	0.5	20/1	12	-	TOLL EQUIP.
5	0.5	20/1	12	-	TOLL EQUIP.	6	0.5	20/1	12	-	TOLL EQUIP.	7	0.5	20/1	12	-	TOLL EQUIP.
7	0.5	20/1	12	-	TOLL EQUIP.	8	0.5	20/1	12	-	TOLL EQUIP.	9	0.5	20/1	12	-	TOLL EQUIP.
9	0.5	20/1	12	-	TOLL EQUIP.	10	0.5	20/1	-	-	FUTURE	11	0.5	20/1	12	-	TOLL EQUIP.
11	0.5	20/1	12	-	TOLL EQUIP.	12	0.5	20/1	-	-	FUTURE	13	0.5	20/1	-	-	FUTURE
13	0.5	20/1	-	-	FUTURE	14	0.5	20/1	-	-	FUTURE	15	0.5	20/1	-	-	FUTURE
15	0.5	20/1	-	-	FUTURE	16	0.5	20/1	-	-	FUTURE	17	0.5	20/1	-	-	FUTURE
17	0.5	20/1	-	-	FUTURE	18	0.5	20/1	-	-	FUTURE	19	0.5	20/1	-	-	FUTURE
19	0.5	20/1	-	-	FUTURE	20	0.5	20/1	-	-	FUTURE	21	0.5	20/1	-	-	WAN SWITCH
21	0.5	20/1	-	-	WAN SWITCH	22	0.5	20/1	-	-	FUTURE	23	0.5	20/1	-	-	FUTURE
23	0.5	20/1	-	-	FUTURE	24	0.5	20/1	-	-	FUTURE	25	0.5	20/1	12	3/4	SCADA PNL
25	0.5	20/1	12	3/4	SCADA PNL	26	0.5	20/1	-	-	FUTURE	27	0.5	20/1	-	-	FUTURE
27	0.5	20/1	-	-	FUTURE	28	0.5	20/1	-	-	FUTURE	29	0.5	20/1	-	-	FUTURE
29	0.5	20/1	-	-	FUTURE	30	0.5	20/1	-	-	FUTURE	31	0.5	20/1	-	-	FUTURE
31	0.5	20/1	-	-	FUTURE	32	0.5	20/1	-	-	FUTURE	33	-	20/1	-	-	SPARE
33	-	20/1	-	-	SPARE	34	-	20/1	-	-	SPARE	35	-	20/1	-	-	SPARE
35	-	20/1	-	-	SPARE	36	-	20/1	-	-	SPARE	37	-	20/1	-	-	SPARE
37	-	20/1	-	-	SPARE	38	-	20/1	-	-	SPARE	39	-	-	-	-	SPARE
39	-	-	-	-	SPARE	40	-	20/1	-	-	SPARE	41	-	30/2	10	3/4	SPD 5
41	-	30/2	10	3/4	SPD 5	42	-	20/1	-	-	SPARE	TOTAL CONNECTED LOAD: 15.0 KVA					
TOTAL DEMAND LOAD: 15.0 KVA						SEE NOTES 1 2 3 4 6 8						* = CONTINUOUS					

120/240V.,1Ø,3W 22 KAIC MIN.						TYPICAL PANEL "C2" SCHEDULE (CRITICAL POWER)						100A, MAIN CKT. BKR SURFACE MOUNTED NEMA TYPE 1					
CKT. NO.	KVA	BKR	WIRE SIZE	CON DUIT	LOAD	CKT. NO.	KVA	BKR	WIRE SIZE	CON DUIT	LOAD	CKT. NO.	KVA	BKR	WIRE SIZE	CON DUIT	LOAD
1	0.5	20/1	12	-	TOLL EQUIP.	2	0.5	20/1	12	-	TOLL EQUIP.	3	0.5	20/1	12	-	TOLL EQUIP.
3	0.5	20/1	12	-	TOLL EQUIP.	4	0.5	20/1	12	-	TOLL EQUIP.	5	0.5	20/1	12	-	TOLL EQUIP.
5	0.5	20/1	12	-	TOLL EQUIP.	6	0.5	20/1	12	-	TOLL EQUIP.	7	0.5	20/1	12	-	TOLL EQUIP.
7	0.5	20/1	12	-	TOLL EQUIP.	8	0.5	20/1	12	-	TOLL EQUIP.	9	0.5	20/1	12	-	TOLL EQUIP.
9	0.5	20/1	12	-	TOLL EQUIP.	10	0.5	20/1	-	-	FUTURE	11	0.5	20/1	12	-	TOLL EQUIP.
11	0.5	20/1	12	-	TOLL EQUIP.	12	0.5	20/1	-	-	FUTURE	13	0.5	20/1	-	-	FUTURE
13	0.5	20/1	-	-	FUTURE	14	0.5	20/1	-	-	FUTURE	15	0.5	20/1	-	-	FUTURE
15	0.5	20/1	-	-	FUTURE	16	0.5	20/1	-	-	FUTURE	17	0.5	20/1	-	-	FUTURE
17	0.5	20/1	-	-	FUTURE	18	0.5	20/1	-	-	FUTURE	19	0.5	20/1	-	-	FUTURE
19	0.5	20/1	-	-	FUTURE	20	0.5	20/1	-	-	FUTURE	21	0.5	20/1	-	-	WAN SWITCH
21	0.5	20/1	-	-	WAN SWITCH	22	0.5	20/1	-	-	FUTURE	23	0.5	20/1	-	-	FUTURE
23	0.5	20/1	-	-	FUTURE	24	0.5	20/1	-	-	FUTURE	25	0.5	20/1	-	-	FUTURE
25	0.5	20/1	-	-	FUTURE	26	0.5	20/1	-	-	FUTURE	27	0.5	20/1	-	-	FUTURE
27	0.5	20/1	-	-	FUTURE	28	0.5	20/1	-	-	FUTURE	29	0.5	20/1	-	-	FUTURE
29	0.5	20/1	-	-	FUTURE	30	0.5	20/1	-	-	FUTURE	31	0.5	20/1	-	-	FUTURE
31	0.5	20/1	-	-	FUTURE	32	0.5	20/1	-	-	FUTURE	33	-	20/1	-	-	SPARE
33	-	20/1	-	-	SPARE	34	-	20/1	-	-	SPARE	35	-	20/1	-	-	SPARE
35	-	20/1	-	-	SPARE	36	-	20/1	-	-	SPARE	37	-	20/1	-	-	SPARE
37	-	20/1	-	-	SPARE	38	-	20/1	-	-	SPARE	39	-	20/1	-	-	SPARE
39	-	20/1	-	-	SPARE	40	-	-	-	-	SPARE	41	-	20/1	-	-	SPARE
41	-	20/1	-	-	SPARE	42	-	30/2	10	3/4	SPD 5	TOTAL CONNECTED LOAD: 15.0 KVA					
TOTAL DEMAND LOAD: 15.0 KVA						SEE NOTES 1 2 3 4 6 8						* = CONTINUOUS					

PANEL "MDP" LOAD SUMMARY	
CONTINUOUS LOADS	1.41 KVA
25% OF CONTINUOUS LOADS	0.35 KVA
NON-CONTINUOUS LOADS	40.40 KVA
NON-CONTINUOUS LOADS (TRAILERS)	28.80 KVA
TOTAL NEC DEMAND LOAD (KVA)	70.96 KVA
TOTAL NEC DEMAND LOAD @ 240V, 1Ø (AMPERES)	295.66 AMPERES

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS PANEL SCHEDULES AND LOAD SUMMARY	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION						
					ROAD NO.	COUNTY	FINANCIAL PROJECT ID		AE-131
					NA	POLK	437300-1-52-01		

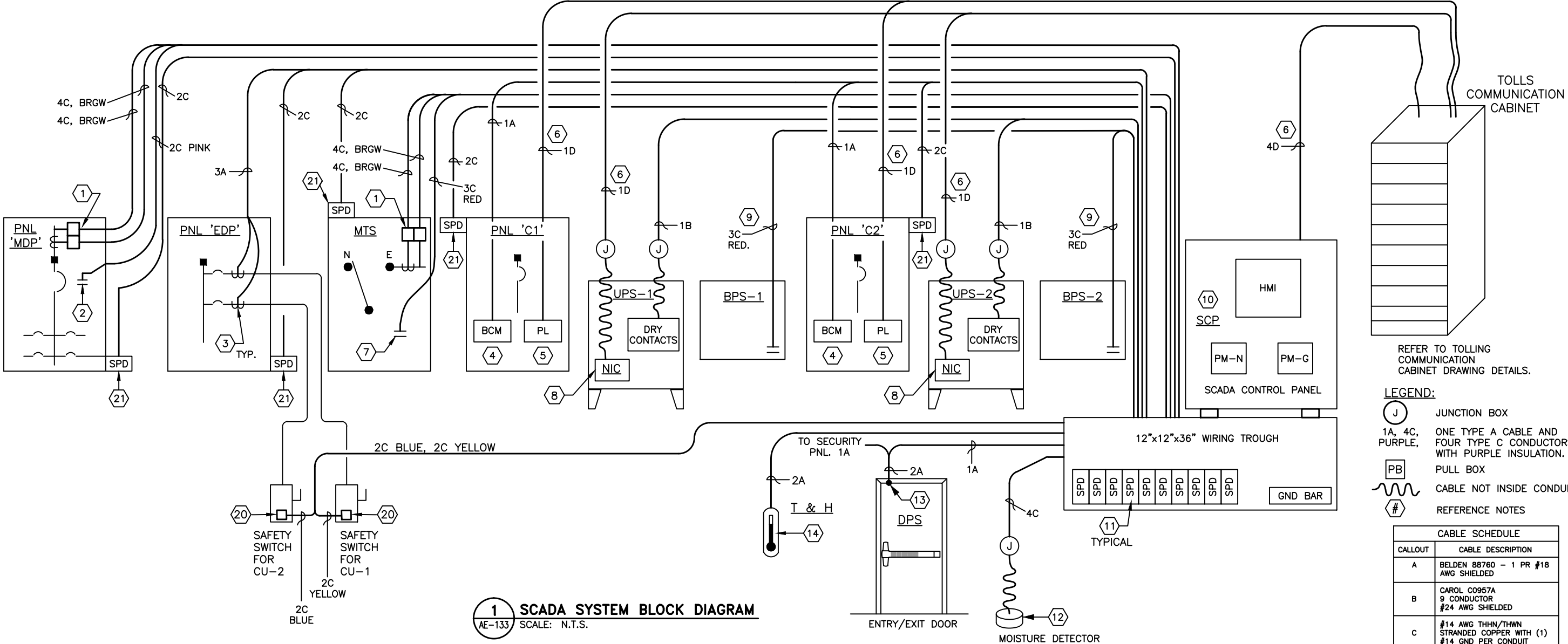
GENERAL NOTES:

- 1. FOR ADDITIONAL REQUIREMENTS, SEE TSP 26 09 13 SCADA SYSTEMS.
- 2. ALL CONDUCTORS SHALL BE COPPER.
- 3. DATA WIRING AND POWER WIRING SHALL BE RUN IN SEPARATE CONDUITS.
- 4. THE CONTRACTOR INSTALLED SCADA ROUGH-IN SHALL BE INSPECTED BY THE DEPARTMENT PRIOR TO ACCEPTANCE.

REFERENCE NOTES:

- 1 PROVIDE LINE SIDE CURRENT AND VOLTAGE SENSING. ELECTRICAL CONTRACTOR SHALL FIELD INSTALL CLASS B CURRENT TRANSFORMERS WITH 0-5 AMP SECONDARY FOR EACH PHASE WITH CT SHORTING BLOCK CAT # CTSB-10. ELECTRICAL CONTRACTOR SHALL FIELD INSTALL VOLTAGE SENSING FOR EACH PHASE AND NEUTRAL WITH FUSED TERMINAL BLOCK CAT # VTFB-6.
- 2 PROVIDE CONTACTS TO MONITOR THE POSITION OF THE CIRCUIT BREAKER. AUXILIARY CONTACTS CLOSE WHEN THE BREAKER IS CLOSED AND OPEN WHEN THE BREAKER IS OPEN.
- 3 PROVIDE CURRENT TRANSDUCER TO MEASURE THE LOAD CURRENT AND TO MONITOR CURRENT OF THE TOLL EQUIPMENT BUILDING AIR CONDITIONERS.
- 4 PROVIDE POWER LOGIC BRANCH CIRCUIT MONITOR, FACTORY INSTALLED.
- 5 PROVIDE CONTROLLER CAPABLE OF REMOTELY OPERATING THE TOLLING SYSTEM BRANCH CIRCUIT BREAKERS IN THE CRITICAL POWER PANEL.
- 6 FINAL CONNECTION SHALL BE RUN OVERHEAD UTILIZING THE CABLE TRAY, THEN TO THE COMMUNICATION RACK BY THE DEPARTMENT.
- 7 PROVIDE AUXILIARY CONTACTS TO MONITOR THE POSITION OF THE ATS. CONTACTS ARE CLOSED WHEN THE ATS IS IN NORMAL POSITION AND OPEN WHEN ATS IS IN EMERGENCY POSITION.
- 8 PROVIDE NETWORK INTERFACE CARD IN THE UPS. CARD COMMUNICATES WITH THE NETWORK ROUTER VIA ETHERNET AND MONITORS THE UPS PARAMETERS, ALARMS, BY-PASS CONDITION AND BATTERY CONDITION.
- 9 PROVIDE MONITORING, PER MANUFACTURER'S SPECIFICATIONS, OF THE EXTERNAL UPS MAINTENANCE BYPASS SWITCH POSITION.
- 10 SCADA CONTROL PANEL. SEE SPECIFICATIONS SECTION 260913.
- 11 PROVIDE SURGE PROTECTION DEVICE - DIN RAIL MOUNTED. TYPICAL OF 24. ALL EXTERIOR SCADA METALLIC WIRING RUNS ENTERING THE BUILDING SHALL BE CONNECTED FIRST TO A SPD, PRIOR TO ANY EQUIPMENT CONNECTION WITHIN THE TOLL EQUIPMENT BUILDING.
- 12 PROVIDE MOISTURE DETECTOR - FLOOR MOUNTED.
- 13 DOOR POSITION SWITCH. PRE-INSTALLED AS PART OF THE ACCESS CONTROL SYSTEM. MOUNTED ON THE SECURE SIDE OF THE DOOR.
- 14 PROVIDE TEMPERATURE AND HUMIDITY SENSOR, WALL MOUNTED AT +6 FT. ADJACENT TO THE HVAC THERMOSTAT.
- 15 PROVIDE FUEL TANK MONITOR - THE SCADA SYSTEM MONITORS FUEL TANK LEAK DETECTOR ALARM CONTACTS.
- 16 PROVIDE FUEL TANK LEAK ALARM.
- 17 PROVIDE ONE HIGH LEVEL FLOAT SWITCH AND ONE LOW LEVEL FLOAT SWITCH. HIGH LEVEL ALARM (90%) LOW LEVEL ALARM (30%).
- 18 PROVIDE ANALOG FUEL LEVEL SENSOR, OUTPUT SIGNAL 4-20 mA, +/- 2% ACCURACY, 2" NPT, NEMA 4X ALUMINUM HOUSING AND 12" LEAD LENGTH. THE SCADA SYSTEM MONITORS THE ANALOG FUEL LEVEL SENSOR.
- 19 PROVIDE GENERATOR CONTROLLER - COMMUNICATES WITH SCADA SYSTEM BY MODBUS RTU PROTOCOL TO MONITOR EMERGENCY POWER V, A, W, Hz, pf, ALL GENERATOR ALARMS, LOW BATTERY VOLTS, AND LOSS OF BATTERY CHARGER AC POWER. ALSO GENERATOR START/STOP CONTROL AND RUN RELAY.
- 20 2240 VAC VOLTAGE MONITOR RELAY CONNECTED TO THE LOAD SIDE OF THE FUSED SAFETY SWITCH FOR EACH AIR CONDITIONER. THE SCADA CONTROLLER WILL MONITOR THE POSITION OF THE RELAY CONTACTS. INSTALL VOLTAGE MONITOR ICM CONTROLS, CAT# ICM491. USE INSULATED TAP CONNECTORS EQUAL TO ILSCO CAT# PCT-4-4 TO TAP THE CONDUCTORS.
- 21 SPD WITH N.O. DRY CONTACTS. SEE TSP'S FOR REQUIREMENTS.

REVISIONS				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS SCADA SYSTEM BLOCK DIAGRAM NOTES		SHEET NO.	
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID				
					NA	POLK	437300-1-52-01				
										AE-132	



REVISIONS				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	SUNTRAX TEST FACILITY TOLL EQUIPMENT BUILDINGS SCADA SYSTEM BLOCK DIAGRAM			SHEET NO. AE-133
DATE	DESCRIPTION	DATE	DESCRIPTION					
				BLAKE LAWRENCE SUDDETH, P.E. FLORIDA P.E. NO.: 69060 JOSEPH, LAWRENCE & CO. 1180 HARWOOD AVENUE, SUITE 3000 ALTAMONTE SPRINGS, FLORIDA 32714 CA NO.: 28730	ROAD NO. NA	COUNTY POLK	FINANCIAL PROJECT ID 437300-1-52-01	