



ATTACHMENTS

ITB-DOT-16/17-8022-RM

**HEATING, VENTILATION AND AIR CONDITIONING (HVAC)
REPLACEMENT-NORTH REGION**

**FLORIDA'S TURNPIKE (S.R. 91), MILEPOST 172.0 TO MILEPOST 312.0
SEMINOLE EXPRESSWAY (S.R. 417), MILEPOST 37.6 TO MILEPOST 55.0
DANIEL WEBSTER WESTERN BELTWAY (S.R. 429), MILEPOST 0.0 TO MILEPOST 11.0**

ESTIMATED QUANTITIES CONTRACT

190736-1-93-25

ATTACHMENT "A"

LANE CLOSURE PROCEDURE

Non-Open Road Tolling (ORT) Short Term Lane Closure Procedure

Effective immediately, this is the procedure for the implementation of a short term lane closures at Toll Plazas in non-ORT lanes. A short duration lane closure is defined as from zero to three hours in length. The lane closure shall be in accordance with the latest version of the FDOT Standard Specifications for Road and Bridge Construction, Section 102, and Design Standards, Index No. 667 (Toll Plaza Traffic Control Standards), Sheet 6 of 6. A lane closure that takes longer than the three hours allowable maximum time limit shall have a separate lane closure Traffic Control Plan (TCP) written for it taking into account traffic patterns through the plaza.

Lane Closure Pre-implementation

1. Lane Closures for individual lanes shall not be conducted at a plaza during peak traffic hours. Peak Traffic hours by lane can be identified by using the ***Enterprise One Financial Services Monthly Reports*** on the Florida's Turnpike Enterprise Intranet and querying the latest ***"SunPass and Cash Traffic by Lane Number"*** report. Use the latest month report and lane statistics to determine peak and off peak traffic.
2. The Plaza Manager, in accordance with the latest version of the FDOT Design Standards, Index No. 667 (Toll Plaza Traffic Control Standards), Sheet 6 of 6, Note 5, shall be notified of the closure at least forty eight (48) hours in advance except in the case of an emergency. In the event of an emergency repair, the requestor of the lane closure shall make contact with the plaza manager immediately upon the determination that a lane closure is required.
3. SunWatch shall be notified at the same time the Plaza Manager is notified.

Lane Closure Requirements

1. All Lane Closures shall be in accordance with all requirements of the latest version of the FDOT Design Standards, Index No. 667 (Toll Plaza Traffic Control Standards), Sheet 6 of 6.
2. The Plaza Staff will close the lane in accordance with Tolls Operations procedures prior to the implementation of the Lane Closure. This means that the red light over the canopy will be activated and three cones placed in front of the lane. SunWatch at 407-264-3375 will be notified when the lane is closed.
3. Upon closure of the lane by Plaza staff, the vehicle that will block the lane will be placed in the lane. The vehicle shall be parked at an angle with the amber lights and flashers activated. The vehicle shall be parked with the wheels turned toward a lane without a booth or an unoccupied booth. Use only vehicle meeting the requirements found in Section 102-5.9 of the latest edition of FDOT Standard Specifications for Road and Bridge Construction. Note that for all aerial work a Truck/Trailer mounted attenuator is required to be placed in front of the aerial lift. Additional cones shall be placed in front of the work zone as identified on Sheet 6 of 6.

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4. Personnel working in the lane shall follow all FDOT safety procedures for working in a traffic lane as outlined in the FDOT Loss Prevention Manual 500-00-015 and other applicable Turnpike Enterprise or other agency procedures.
5. Upon completion of the work, the vehicles shall be removed from the lane. The additional cones will be removed and the three lane cones placed by the plaza personnel when the lane was closed will be in their original location across the lane. Notify the plaza staff when the lane is ready to be opened.
6. Approval must be obtained in advance from the appropriate Regional Toll Manager that requires the closure of a dedicated SunPass lane. This will be accomplished by contacting SunWatch at 407-264-3375 who will perform the coordination with the Regional Toll Manager.

Open Road Tolling (ORT) Lane Closure Procedure

Effective immediately, this is the procedure for the implementation of lane closures in ORT lanes.

Closing an open road tolling lane shall only be done at night between the hours of 9:00 PM and 6:00 AM. These closure times may vary to closing later in the evening and opening earlier in the morning depending on traffic patterns for that site. At no time will they close earlier than 9:00 PM or open later than 6:00 AM.

If the ORT lanes are at a barrier plaza that spans across the entire turnpike there are two options open for the closure:

1. If the plaza still has manual cash lanes adjacent to the ORT lanes that are open and operational at the plaza, traffic can be detoured through the plaza and the manual cash lanes in accordance with the latest version of the FDOT Design Standards, Index No. 667 (Toll Plaza Traffic Control Standards).
2. If the plaza does not have manual cash lanes adjacent to the ORT lanes to divert traffic through, the closure will only close those lanes required for the work. At no time will all lanes be closed at the same time. The lane closure shall be in accordance with the latest version of the FDOT Design Standards, Index No. 667 (Toll Plaza Traffic Control Standards), or other indexes in the Design Standards, Series 600 for a single or multi-lane closure.
3. If the ORT lanes are at a ramp, the lanes shall not be totally closed. The ramp closure shall be only for the lanes being worked and at least one lane shall remain open for the duration of the closure. If a shoulder of the ramp is covered by tolling equipment, the shoulder can be used as the open lane upon approval from Tolls. Lane closure shall be in accordance with the latest version of the FDOT Design Standards, Index No. 667 (Toll Plaza Traffic Control Standards), or other indexes in the Design Standards, Series 600 for a single or multi-lane closure.

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Lane Closure Pre-implementation

1. Approval must be obtained in advance from the appropriate Regional Toll Manager that requires the closure of an ORT lane. This will be accomplished by contacting SunWatch at 407-264-3375 who will perform the coordination with the Regional Toll Manager (and the Plaza Manager if it is a manned plaza with ORT Lanes).
2. SunWatch shall be notified of the closure of an ORT lane closure seven (7) days in advance except in the case of an emergency. In the event of an emergency repair, the requestor of the lane closure shall make contact with SunWatch immediately upon the determination that a lane closure is required.
3. An ORT Lane Closure Request shall be made through Project Solve seven (7) days in advance except in the case of an emergency. In the event of an emergency repair, the requestor of the lane closure shall make contact with SunWatch, Traffic Operations, and the plaza manager (if applicable), immediately upon the determination that a lane closure is required.

Lane Closure Requirements

1. All Lane Closures shall be in accordance with all requirements of the latest version of the FDOT Design Standards, Index No. 667 (Toll Plaza Traffic Control Standards), or other indexes in the Design Standards, Series 600 that may apply for a single or multi-lane lane closure.
2. Personnel shall not enter the lanes until after the MOT has been fully placed.
3. Personnel working in the lane shall follow all FDOT safety procedures for working in a traffic lane as outlined in the FDOT Loss Prevention Manual 500-00-015 and other applicable Turnpike Enterprise or other agency procedures.
4. Prior to opening the lane to traffic, all equipment and personnel will be removed from the lane closure area. The area shall be inspected prior to opening the lanes to make sure all debris is removed. SunWatch will be notified at 407-264-3375 when the lane is opened to traffic.

ATTACHMENT "B"
EXISTING EQUIPMENT TO BE REPLACED

REF #	SR #	MP #	BLDG. #	FACILITY LOCATION	A/C LOCATION	MANUFACTURER	PACKAGE UNIT		CONDENSER		AIR HANDLER		TON	BTU	VOLTS	PH	HEATING		COMMENTS	UNIT #
						CONDENSER/ AIR HANDLER	MODEL #	SERIAL #	MODEL #	SERIAL #	MODEL #	SERIAL #					TYPE	AMOUNT		
FLORIDA'S TURNPIKE MAINLINE (SR 91)																				
	91	193		YEEHAW JUNCTION TOLL PLAZA																
1				ADMINISTRATION BLDG.	AH IN MECHANICAL ROOM. CU BEHIND BUILDING	CARRIER/CARRIER	X	X	24ABR360A005	2506E30109	FK4DNB006	0906A90285	5	60,000	208/230	1	ELECTRIC	10 KW		CU1/AH1
	91	285		CLERMONT/LEESBURG MAINTENANCE YARD - FHP																
2			5908	BUILDING UNIT	AH IN FHP OFFICE CLOSET. CU ON SIDE OF BUILDING	CARRIER/CARRIER	X	X	38CKC030340	1104E06630	FA4BNF030	2404A87915	2.5	30,000	208	1	ELECTRIC	8 KW	Remove existing CU pad. Install new precast slab	CU2/AH2
3			5908	TOLLS STORAGE	AH in Generator Room. CU outside	COMFORT MAKER/CARRIER	X	X	38CM024301	2997E18732	FA4ANF024	0496A14841	2.0	24,000	208	1	ELECTRIC	10 KW	Remove and replace duct insulation in Generator Room. Approx 75 sf. AH unit is hanging. Replace hangers.	CU3/AH3
	91	288		LEESBURG MAINLINE TOLL PLAZA																
4			5453B	TOLL BOOTH #7	ROOF	TRANE	4WCC3018A1000A	6082ADS9H	X	X	X	X	1.5	18,000	208	1	ELECTRIC	5.3 KW	See Note 1 below	L
5			5453B	TOLL BOOTH #8	ROOF	TRANE	4WCC3018A1000A	60814259H	X	X	X	X	1.5	18,000	208	1	ELECTRIC	5.3 KW	See Note 1 below	M
6			5453B	TOLL BOOTH #9	ROOF	TRANE	4WCC3018A1000A	608137U9H	X	X	X	X	1.5	18,000	208	1	ELECTRIC	5.3 KW	See Note 1 below	N
7			5453B	TOLL BOOTH #10	ROOF	TRANE	4WCC3018A1000A	61325N29H	X	X	X	X	1.5	18,000	208	1	ELECTRIC	5.3 KW	See Note 1 below	O
SEMINOLE EXPRESSWAY (SR 417)																				
	417	48		LAKE JESUP MAINLINE TOLL PLAZA																
8			5443	TUNNEL UNIT	BEHIND BUILDING	ADDISON	PCA101X03E	010401702002	X	X	X	X	10.0	120,000	208	3	N/A	N/A	Remove existing outdoor sheetmetal internally insulated ductwork from unit to building connection points. Provide new ductwork of same construction as existing from unit connections to building connection points including flexible duct connections at both supply and return connections to new unit. Provide new starters, disconnect and lockable digital thermostat located in tunnel.	PU1
WESTERN BELTWAY (SR 429)																				
	429	1		SINCLAIR ROAD N/B ON RAMP TOLL PLAZA																
9			5618B	COMBO BUILDING	ROOF	AMER. STD. (R-410A)	4WCC3018A1000AA	6373TJL9H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	See Note 1 below	PU1
10			5618B	BOOTH 2	ROOF	AMER. STD. (R-410A)	4WCC3018A1000AA	6381W369H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	See Note 1 below	PU2
	429	1	5617B	SINCLAIR ROAD S/B RAMP TOLL PLAZA																
11				COMBO BUILDING	ROOF	AMER. STD. (R-410A)	4WCC3018A1000AA	637426M9H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	See Note 1 below	PU1
	429	6		US 192 N/B RAMP TOLL PLAZA (EAST)																
12			5612B	COMBO BUILDING	ROOF	AMER. STD. (R-410A)	4WCC3018A1000AA	6381W369H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW		PU1
13			5612B	BOOTH 2	ROOF	TRANE PACKAGE	WCC018F100BH	53851CC2H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	See Note 1 below	PU2
	429	6		US 192 S/B RAMP TOLL PLAZA (WEST)																
14			5611B	COMBO BUILDING	ROOF	AMER. STD. (R-410A)	4WCC3018A1000AA	6273SNY9H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	See Note 1 below	PU1
15			5611B	BOOTH 2	ROOF	AMER. STD. (R-410A)	4WCC3018A1000AA	63841YW9H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	See Note 1 below	PU2
	429	7		WESTERN BELTWAY MAINLINE TOLL PLAZA																
16			5602	ADMINISTRATION BUILDING	AHU IN MECH ROOM. CU BEHIND BUILDING	TRANE/ TRANE	X	X	2TTA0048A3000AA	5362TYK3F	TWE048P13FB0	5293MBX1V	4	48,000	208/230	1	ELECTRIC	10 KW		CU1B/AH1B
17				ADMINISTRATION BUILDING	AHU IN MECH ROOM. CU BEHIND BUILDING	TRANE/ TRANE	X	X	2TTA0048A3000AA	5362TBE3F	TWE048P13FB0	5293MB01V	4	48,000	208/230	1	ELECTRIC	10 KW		CU1B/AH1B
18			5602	TUNNEL UNIT	AH IN TUNNEL. CU(s) behind building	TRANE/ TRANE	X	X	2TTA0036A3000AA	531538F3F	MCCB003UA0A0UB	K05H01894A	5	60,000	208/230	1	ELECTRIC	10 KW	Two 3 ton condensers	CU3A/CU3B/AH3
19			5602B	BOOTH 1	ROOF	TRANE	X	X	2TTA0036A3000AA	531539N3F	X	X	3	36,000	208/230	1				PU1
20			5602B	BOOTH 2	ROOF	TRANE PACKAGE	WCC018F100BH	53943DF2H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	Upsize to electrical circuit required	PU2
21			5602B	BOOTH 3	ROOF	TRANE PACKAGE	WCC018F100BH	4315KSN2H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	Upsize to electrical circuit required	PU3
22			5602B	BOOTH 4	ROOF	TRANE PACKAGE	WCC018F100BG	2063X682H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	Upsize to electrical circuit required	PU4
23			5602	NORTHBOUND BREAKROOM	ROOF	TRANE PACKAGE	WCC018F100BH	431527K2H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	Upsize to electrical circuit required	AC-1
	429	7		N/B GANTRY EQUIPMENT BUILDING																
24			4613	BUILDING UNIT	AH INSIDE BUILDING. CU BEHIND BUILDING	LIEBERT/LIEBERT	X	X	PFH042APL3S771	0630N131666	BU036EAE05870	8358700001	3.5	42,000	208/230	1	N/A	N/A		CU1/AH1
	429	11		SEIDEL ROAD N/B RAMP TOLL PLAZA																
25			5603B	COMBO BUILDING	ROOF	TRANE PACKAGE	WCC018F100BH	5391X3E2H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	See Note 1 below	PU1
26			5603B	BOOTH 2	ROOF	TRANE PACKAGE	WCC018F100BH	53621E22H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	See Note 1 below	PU2
	429	11		SEIDEL ROAD S/B RAMP TOLL PLAZA																
27			5604B	COMBO BUILDING	ROOF	TRANE PACKAGE	WCC018F100BH	5391KXR2H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	See Note 1 below	PU1
28			5604B	BOOTH 2	ROOF	TRANE PACKAGE	WCC018F100BH	5355LHY2H	X	X	X	X	1.5	18,000	208/230	1	ELECTRIC	4.9 KW	See Note 1 below	PU2

NOTE 1: Electrical disconnects and 110V outlets are mounted directly to these units. Relocate disconnect and outlet to new unit or a new uni-strut frame(s) attached to roof deck. Complete roof repairs.

ATTACHMENT "C" NEW EQUIPMENT REQUIREMENTS

REF #	BLDG. #	FACILITY LOCATION	TON	PAY ITEM #	A/C APPLICATION	CURB OR CURB ADAPTER REQUIRED (YES/NO)	EXISTING CONCRETE PAD CLEAR AREA (UNOBSTRUCTED)	CU/AH/PU HOISTING (YES/NO)	VENDOR FURNISHED MOT REQUIRED (YES/NO)	MAXIMUM ALLOWABLE DURATION OF LANE CLOSURE (WITHIN ALLOWABLE WORK HOURS)	ALLOWABLE WORK TIMEFRAME	ALLOWABLE WORK DAYS	REQUIRED TEST & BALANCE (YES/NO)	REQUIRED PORTABLE AC UNITS (YES/NO)	REQUIRED VIBRATION BLOCKS (YES/NO)	COMMENTS
FLORIDA'S TURNPIKE MAINLINE (SR 91)																
		YEEHAW JUNCTION TOLL PLAZA														
1		ADMINISTRATION BLDG.	5.0	1	ADMINISTRATION	NO	Pad 5'x5' Clear 5'6" x 5'6"	NO	NO	N/A	7 AM TO 5 PM	M,T,W,TH, F	YES	YES	YES	Complete Building T&B. Drawing provided in Attachment G (Sheets AS-001 & 002). Access through 3x7 door. Room size is 3' 8" x 3' 8".
		CLERMONT/LEESBURG MAINTENANCE YARD - FHP														
2	5908	BUILDING UNIT	2.5	6	MISCELLANEOUS	NO	REPLACE PAD	AH	NO	N/A	7 AM TO 5 PM	M,T,W,TH, F	YES	YES	YES	Install new CU concrete pad. Demolish existing. Complete Building T&B. Drawing provided in Attachment G (Sheet AS-003)
3	5908	TOLLS STORAGE	2.0	5	MISCELLANEOUS	NO	36"X36"	AH	NO	N/A	7 AM TO 5 PM	M,T,W,TH, F	YES	NO	Spring isolators	Complete Building T&B. Drawing provided in Attachment G (Sheet AS-003)
		LEESBURG MAINLINE TOLL PLAZA														
4	5453B	TOLL BOOTH #7	2.0	4	TOLL BOOTH	YES	N/A	PU	YES	6	9 PM TO 3 AM	M,T,W,TH	NO	NO	NO	Upsize to electric circuit needed
5	5453B	TOLL BOOTH #8	2.0	4	TOLL BOOTH	YES	N/A	PU	YES	6	9 PM TO 3 AM	M,T,W,TH	NO	NO	NO	Upsize to electric circuit needed
6	5453B	TOLL BOOTH #9	2.0	4	TOLL BOOTH	YES	N/A	PU	YES	6	9 PM TO 3 AM	M,T,W,TH	NO	NO	NO	Upsize to electric circuit needed
7	5453B	TOLL BOOTH #10	2.0	4	TOLL BOOTH	YES	N/A	PU	YES	6	9 PM TO 3 AM	M,T,W,TH	NO	NO	NO	Upsize to electric circuit needed
SEMINOLE EXPRESSWAY (SR 417)																
		LAKE JESUP MAINLINE TOLL PLAZA														
8	5443	TUNNEL UNIT	10.0	9	TUNNEL	NO	7'x9'	NO	NO	N/A	7 AM TO 5 PM	M,T,W,TH, F	YES	YES	YES	PORTABLE EXHAUST TO BE DUCTED TO EXISTING RETURN DUCT. COMPLETE T&B OF TUNNEL SYSTEM. DRAWINGS PROVIDED IN ATTACHMENT G (Sheets AS-004 thru 007)
WESTERN BELTWAY (SR 429)																
		SINCLAIR ROAD N/B ON RAMP TOLL PLAZA														
9	5618B	COMBO BUILDING	2.0	3	COMBO	YES	N/A	PU	YES	N/A	7 AM TO 5 PM	M,T,W,TH, F	NO	NO	NO	See Note 1 on Attachment B
10	5618B	BOOTH 2	2.0	4	TOLL BOOTH	YES	N/A	PU	YES	N/A	7 AM TO 5 PM	M,T,W,TH, F	NO	NO	NO	See Note 1 on Attachment B
		SINCLAIR ROAD S/B RAMP TOLL PLAZA														
11	5617B	COMBO BUILDING	2.0	3	COMBO	YES	N/A	PU	YES	N/A	7 AM TO 5 PM	M,T,W,TH, F	NO	NO	NO	See Note 1 on Attachment B
		US 192 N/B RAMP TOLL PLAZA (EAST)														
12	5612B	COMBO BUILDING	2.0	3	COMBO	YES	N/A	PU	YES	N/A	7 AM TO 5 PM	M,T,W,TH, F	NO	NO	NO	See Note 1 on Attachment B
13	5612B	BOOTH 2	2.0	4	TOLL BOOTH	YES	N/A	PU	YES	N/A	7 AM TO 5 PM	M,T,W,TH, F	NO	NO	NO	See Note 1 on Attachment B
		US 192 S/B RAMP TOLL PLAZA (WEST)														

ATTACHMENT "C" NEW EQUIPMENT REQUIREMENTS

REF #	BLDG. #	FACILITY LOCATION	TON	PAY ITEM #	A/C APPLICATION	CURB OR CURB ADAPTER REQUIRED (YES/NO)	EXISTING CONCRETE PAD	CU/AH/PU HOISTING (YES/NO)	VENDOR FURNISHED MOT REQUIRED (YES/NO)	MAXIMUM ALLOWABLE DURATION OF LANE CLOSURE (WITHIN ALLOWABLE WORK HOURS)	ALLOWABLE WORK TIMEFRAME	ALLOWABLE WORK DAYS	REQUIRED TEST & BALANCE (YES/NO)	REQUIRED PORTABLE AC UNITS (YES/NO)	REQUIRED VIBRATION BLOCKS (YES/NO)	COMMENTS
							CLEAR AREA (UNOBSTRUCTED)									
14	5611B	COMBO BUILDING	2.0	3	COMBO	YES	N/A	PU	YES	N/A	7 AM TO 5 PM	M,T,W,TH, F	NO	NO	NO	See Note 1 on Attachment B
15	5611B	BOOTH 2	2.0	4	TOLL BOOTH	YES	N/A	PU	YES	N/A	7 AM TO 5 PM	7 AM TO 5 PM	NO	NO	NO	See Note 1 on Attachment B
WESTERN BELTWAY MAINLINE TOLL PLAZA																
16	5602	ADMINSTRATION BUILDING	4.0	2	ADMINSTRATION	NO	3' 11" x 4'	NO	NO	N/A	7 AM TO 5 PM	7 AM TO 5 PM	YES	YES	NO	Complete Building T&B. Drawing provided in Attachment G (Sheets AS-008 thru 013)
17		ADMINSTRATION BUILDING	4.0	2	ADMINSTRATION	NO	3' 11" x 4'	NO	NO	N/A	7 AM TO 5 PM	7 AM TO 5 PM	YES	YES	NO	Complete Building T&B. Drawing provided in Attachment G (Sheets AS-008 thru 013)
18	5602	TUNNEL UNIT	5.0	8	TUNNEL	NO	8' 9" x 4'	NO	NO	N/A	7 AM TO 5 PM	M,T,W,TH, F	YES	YES	YES	COMPLETE T&B OF TUNNEL SYSTEM. DRAWINGS PROVIDE IN ATTACHEMENT G (Sheets AS-008 thru 013)
19	5602B	BOOTH 1	2.0	4	TOLL BOOTH	YES	N/A	PU	YES	3	9 AM to 11:59 AM	M,T,W,TH	NO	NO	NO	Upgrade of electrical circuit required.
20	5602B	BOOTH 2	2.0	4	TOLL BOOTH	YES	N/A	PU	YES	3	9 AM to 11:59 AM	M,T,W,TH	NO	NO	NO	Upgrade of electrical circuit required.
21	5602B	BOOTH 3	2.0	4	TOLL BOOTH	YES	N/A	PU	YES	3	9 AM to 11:59 AM	M,T,W,TH	NO	NO	NO	Upgrade of electrical circuit required.
22	5602B	BOOTH 4	2.0	4	TOLL BOOTH	YES	N/A	PU	YES	3	9 AM to 11:59 AM	M,T,W,TH	NO	NO	NO	Upgrade of electrical circuit required.
23	5602	NORTHBOUND BREAKROOM	2.0	3	COMBO	YES	N/A	PU	YES	3	9 AM to 11:59 AM	M,T,W,TH	NO	NO	NO	Upgrade of electrical circuit required.
N/B GANTRY EQUIPMENT BUILDING																
24	4613	BUILDING UNIT	3.5	7	MISCELLANEOUS	NO	N/A	NO	NO	N/A	7 AM TO 5 PM	M,T,W,TH, F	NO	YES	NO	ONE TON PORTABLE REQUIRED
SEIDEL ROAD N/B RAMP TOLL PLAZA																
25	5603B	COMBO BUILDING	2.0	3	COMBO	YES	N/A	PU	NO	N/A	7 AM TO 5 PM	M,T,W,TH, F	NO	NO	NO	See Note 1 on Attachment B
26	5603B	BOOTH 2	2.0	4	TOLL BOOTH	YES	N/A	PU	NO	N/A	7 AM TO 5 PM	M,T,W,TH, F	NO	NO	NO	See Note 1 on Attachment B
SEIDEL ROAD S/B RAMP TOLL PLAZA																
27	5604B	COMBO BUILDING	2.0	3	COMBO	YES	N/A	PU	NO	N/A	7 AM TO 5 PM	M,T,W,TH, F	NO	NO	NO	See Note 1 on Attachment B
28	5604B	BOOTH 2	2.0	4	TOLL BOOTH	YES	N/A	PU	NO	N/A	7 AM TO 5 PM	M,T,W,TH, F	NO	NO	NO	See Note 1 on Attachment B

ATTACHMENT "D"

TOLL BOOTH AND COMBO BUILDING HVAC SPECIFICATIONS AND REQUIREMENTS

PACKAGED ROOF TOP HEAT PUMP AIR CONDITIONER REPLACEMENT

1.1 SCOPE OF WORK

- A. Replace existing AC equipment on field erected ramp plaza buildings and prefabricated booths per locations designated in Attachments B & C of the Contract Documents. Furnish and install 2 ton packaged roof top heat pump air conditioner unit(s) with auxiliary heat including all controls, monitoring, related attachments, curb adapters, electrical modifications and accessories required for a complete, operable system as indicated and specified herein.
- B. Remove existing roof top units including electrical, controls and existing curb adapters.
- C. Provide new PVC condensate drain piping that include a P-Trap from unit to existing drain location.
- D. Vendor shall removal and disposal of all work/installation/demolition related materials.
- E. Vendor shall provide all required retrofit work including but not limited to curb modifications, new curb adapter, securing of unit to curb adapter and curb adapter to existing curb, return air grille modifications, electrical connections, conductors, conduits and breakers, roof patching, condensate drainage and all permits required for installation. All patching and replacement of existing building and booth materials shall be of same material and quality.
- F. Vendor shall verify building/booth electrical voltage and available electrical capacity prior to providing submittals.
- G. Vendor shall secure/anchor unit to curb adapter and curb adapter to existing roof curb using all stainless steel fasteners and accessories. Attachment design shall comply with wind load requirements for Miami-Dade County regardless of project location, for Risk Category IV buildings in accordance with current edition of FBC.
- H. All unit replacements shall be scheduled with and approved by the Department prior to commencement of any work activities.

1.2 QUALITY ASSURANCE

- A. Single Source Responsibility:
 - 1. Provide units by a single manufacturer, unless otherwise approved by the Engineer.
- B. Performance Requirements:
 - 1. Comply with performance requirements of the following:
 - a. Air-Conditioning, Heating, and Refrigeration Institute (AHRI) Certified.
 - b. American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE)

ATTACHMENT "D"

TOLL BOOTH AND COMBO BUILDING HVAC SPECIFICATIONS AND REQUIREMENTS

- c. ASHRAE 52 - Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter.
- d. Underwriters' Laboratories (UL) Reference Standards.
- e. Energy Star Qualified

1.3 ACTION SUBMITTALS / FIELD WORK SHOPS

- A. Product Data: Submit manufacturer's product data and installation instructions for each air conditioning unit including rated capacities, operating characteristics, rough-in dimensions (as applicable), procedures for rigging, service connection requirements, drain connections, performances, materials, manufacturer's model numbers, power/electrical requirements and characteristics and furnished accessories.
- B. Shop Drawings/Erection Plans: Include plans, elevations, sections, details, and attachments to other work including Curb Adapters.
 - 1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 2. Wiring Diagrams: For power, signal, and control wiring.
 - 3. Warranty of equipment and installations
 - 4. Vendor shall submit signed and sealed sketches indicating unit attachment between replacement units and new curb adapter and between new curb adapter and existing curb.
- C. Perform initial work shop for a field erected and prefabricated booth. Location to be provided by the Department.

The Vendor shall perform a work shop that included graphic construction preliminary installation details that will include AC unit installation, unit anchoring, curb adapter, return air filter location and assembly, thermostat/controls location and electrical connections.

- 1. The Vendor shall design and size the roof curb adapter as part of the work shop and make all efforts to minimize the height of the curb adapter to lower the packaged roof top heat pump profile.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For packaged roof top heat pump air conditioner unit(s) to include operation, maintenance and parts manuals.
- B. Requirements for manuals are as follow:
 - 1. Provide one paper book copy of the packaged roof top heat pump air conditioner manufacturer's service, parts and repair manuals for each building under this Contract.

ATTACHMENT “D”

TOLL BOOTH AND COMBO BUILDING HVAC SPECIFICATIONS AND REQUIREMENTS

- a. The parts manuals must show the original equipment manufacturers part numbers for all parts and accessories included with the air conditioner units.
- b. The service and repair manuals shall include the manufacturer’s suggested preventive maintenance service activities, suggested intervals between each service, and the required parts and tools to perform the service.
- c. The service and repair manual will include separate chapters on each subsystem or major component of the air conditioner units. Each chapter will provide exploded view diagrams, required tools, and step by step procedures to repair or replace each component in the subsystem.
- d. Vendor to provide start up reports including initial startup readings such as amps, volts, pressure. Information shall include manufacturer’s model and serial number.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver air conditioning unit(s) in factory-fabricated containers designed to protect units and finish until final installation.
- B. Store air conditioning unit(s) in original containers and in location to provide adequate protection to unit(s) while not interfering with other construction operations.
- C. Handle air conditioning unit(s) carefully to avoid damage to components, enclosures, and finish. Do not install damaged equipment; replace and return damaged components to equipment manufacturer.

1.6 WARRANTY

- A. Packaged roof top heat pump air conditioner unit(s) shall be free from defects in materials and workmanship for a period of five (5) years for compressor and one (1) year on-site labor, materials, parts and equipment. Warranty period for all HVAC systems shall commence on date of Final Acceptance of last system accepted.

PART 2 - PRODUCTS

2.1 APPROVED MANUFACTURERS

- A. Day and Night
- B. Arco Air
- C. Comfortmaker

ATTACHMENT “D”

TOLL BOOTH AND COMBO BUILDING HVAC SPECIFICATIONS AND REQUIREMENTS

2.2 EFICIENCY/PERFORMANCE

- A. 14.2 SEER / 12 EER
- B. 8.0 HSPF
- C. Cooling – 23,000 BTU / Heating – 23,000

2.3 MANUFACTURED UNITS

- A. Basis of design: Day and Night High Efficiency nominal 2 ton package heat pump model PHD4 with 5 KW auxiliary electric heater or approved equal.
- B. Description: Factory assembled and tested, self-contained, packaged heat pump model air conditioner(s), auxiliary electric heater and temperature controls. The units shall be fully charged with refrigerant and filled with oil.

2.4 COMPONENTS

- A. Cabinet
 - 1. The top of the cabinet shall be sloped such that water is directed away from the building.
 - 2. Exterior cabinet and internal structural parts including base shall be constructed of galvanized steel. The evaporator compartment shall be insulated with 1/2-inch thick, 2 pound density, neoprene faced, fiberglass insulation.
 - 3. Cabinet shall receive a finish painted coating in color selected by Department and Engineer from manufacturer’s standard range.
 - 4. Three–Panel accessibility for maintenance and installation
 - 5. Hail guard (3/8” spacing) wire grilles
 - 6. Full perimeter steel base rails
 - 7. Outside air damper on AC unit with weather proof shroud.
- B. Refrigeration System
 - 1. The refrigeration system includes a liquid line filter drier, an external equalized expansion valve and a high and low pressure switches. Refrigeration system’s uses R-410A.
- C. Scroll Compressor
 - 1. Single stage scroll compressor
 - 2. Short–cycling protection for the compressor built into the defrost control board

ATTACHMENT "D"

TOLL BOOTH AND COMBO BUILDING HVAC SPECIFICATIONS AND REQUIREMENTS

3. The scroll compressor includes a suction gas cooled motor, and internal centrifugal oil pump, vibration isolating mounting and internal thermal overloads.
- D. Evaporator Coil
1. Evaporator coil shall be constructed of mechanically expanded copper tubes in enhanced surface aluminum fins. Provide a coated, galvanized, steel condensate drain pan.
- E. Condenser Coil
1. The air cooled condenser shall be constructed of mechanically expanded copper tubes in enhanced surface aluminum fins. Components shall be rated for up to 100-degrees F ambient.
- F. Evaporator Blower
1. Evaporator air shall be supplied by a direct drive high efficiency ECM blower motor.
 2. Dehumidification mode (airflow reduction)
- G. Heater
1. Provide a 5 KW Auxiliary electric heater

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine rough-in electrical services and installation of floors, roofs, walls and other conditions under which packaged roof top heat pump air conditioner unit(s) are to be installed. Verify dimensions of services and substrates before installing units.

3.2 INSTALLATION

- A. Set each packaged roof top heat pump air conditioner unit securely in place, in strict accordance with manufacturer's instructions and to withstand 152 miles per hour winds and adjust to correct height and level.
- B. Provide adequate drainage for condensate system from new unit to existing drain connection.

ATTACHMENT “D”

TOLL BOOTH AND COMBO BUILDING HVAC SPECIFICATIONS AND REQUIREMENTS

3.3 CLEANING

- A. After completion of installation and completion of other work in surrounding areas, remove protective coverings, if any, and clean packaged roof top heat pump air conditioner units, internally and externally.

PART 4 - TEST AND BALANCE REQUIREMENTS

Perform a test and balance of the entire system see requirements below:

- A. Procure the services of an independent Test and Balance Agency, approved by the Engineer, which specializes in the balancing and testing of heating, ventilating, and air conditioning systems.
- B. The Test and Balance Agency shall submit proof of having successfully completed at least five (5) projects of similar size and scope, and shall be certified as conforming to the standards and guidelines of the Associated Air Balance Council (AABC), unless otherwise approved.
- C. All instruments used shall be accurately calibrated within six months of balancing and maintained in good working order. If requested, the test shall be conducted in the presence of the Engineer and/or his representative.
- D. All information required as shown but not listed to shall be compiled in a neat, orderly itemized format on AABC Test Forms. All test data shall be submitted to the Engineer.
 - 1. HVAC Equipment
 - 2. Mark Number.
 - 3. Total Supply Air CFM original Specified and Actual.
 - 4. Return Air CFM original Specified and Actual.
 - 5. Outside Air CFM original Specified and Actual.
 - 6. Exhaust Air CFM original Specified and Actual.
 - 7. Cooling - Return and Supply Air DBF and WBF originally Specified and Actual.
 - 8. Motor HP originally Specified and Actual.
 - 9. Motor and Fan RPM originally Specified and Actual.
 - 10. Voltage, Phase and Cycles originally Specified and Actual.
 - 11. AIR DEVICES (GRILLES AND REGISTERS)
 - 12. Mark Number.
 - 13. Room Number.
 - 14. CFM Specified and Actual Size.
 - 15. Effective Area.
 - 16. Velocity FPM.

END OF ATTACHMENT “D”

ATTACHMENT "E"
CERTIFICATION
DISBURSEMENT OF PREVIOUS PAYMENTS

Date: _____, 2017

Contract No.: _____

Financial Project No(s): _____

Contract For:

To release payment for all work performed in the Month of _____, 2017

(State)

(Zip)

As prime contractor for the above referenced contract, hereby certifies that all subcontractors, laborers, and material suppliers having an interest in this contract have received their pro rata share of all previous payments made by the Department for all work completed and materials and equipment furnished in the previous period.

(Name of Business)

(Signature) Owner, President, Vice President or Designated Officer (Corp. Resolution*)

(Address)

(Print/Type Name)

(City)

(Title)

*If person signing for the Business is someone other than the Owner, President, or Vice President, a copy of the Corporate Resolution granting signature authorization must be attached to form.

CERTIFICATION MUST BE ATTACHED TO INVOICE

ATTACHMENT "F"

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
CERTIFICATE OF CONTRACT COMPLETION

Contract Number _____ FPIN.: 190736-1-93-25 _____

Project Description Heating, Ventilation and Air Conditioning (HVAC) – North Region, Florida’s Turnpike (SR 91), Milepost 172.0 to Milepost 312.0; Seminole Expressway (SR 417), Milepost 37.6 to Milepost 55.0; Daniel Webster Western Beltway (SR 429), Milepost 0.0 to Milepost 11.0

Contractor _____

Contract Date _____ Total Amount \$ _____

CONTRACTOR'S AFFIDAVIT

I solemnly swear and affirm: That the work under the above named contract and all amendments and supplements thereto have been completed in accordance with the requirements of said contract; that all costs incurred for equipment, materials, labor, and services against the project have been paid; that no liens have been attached against the project; that no suits are pending by reason of work on the project under the contract; that all Worker's Compensation claims are covered by Worker's Compensation insurance as required by law; that all public liability claims are adequately covered by insurance, and that the Owner shall save, protect, defend, indemnify, and hold the Department harmless from and against any and all claims which arise as a direct or indirect result of any transaction, event or occurrence related to performance of the work contemplated under said contract.

(Signature), Owner, President, Vice President or other Designated Officer (Corp. Resolution)

(Title)

(Corporate Seal)

STATE OF _____

COUNTY OF _____

The foregoing affidavit was acknowledged before me this _____ day of _____, 20__

by _____, on behalf of the Vendor. He/She is personally known to me or has
(Print/Type Name of Person Signing Above)

produced _____, as identification.
(Type of Identification)

Notary Public: _____
(Signature)

(Notary Stamp)

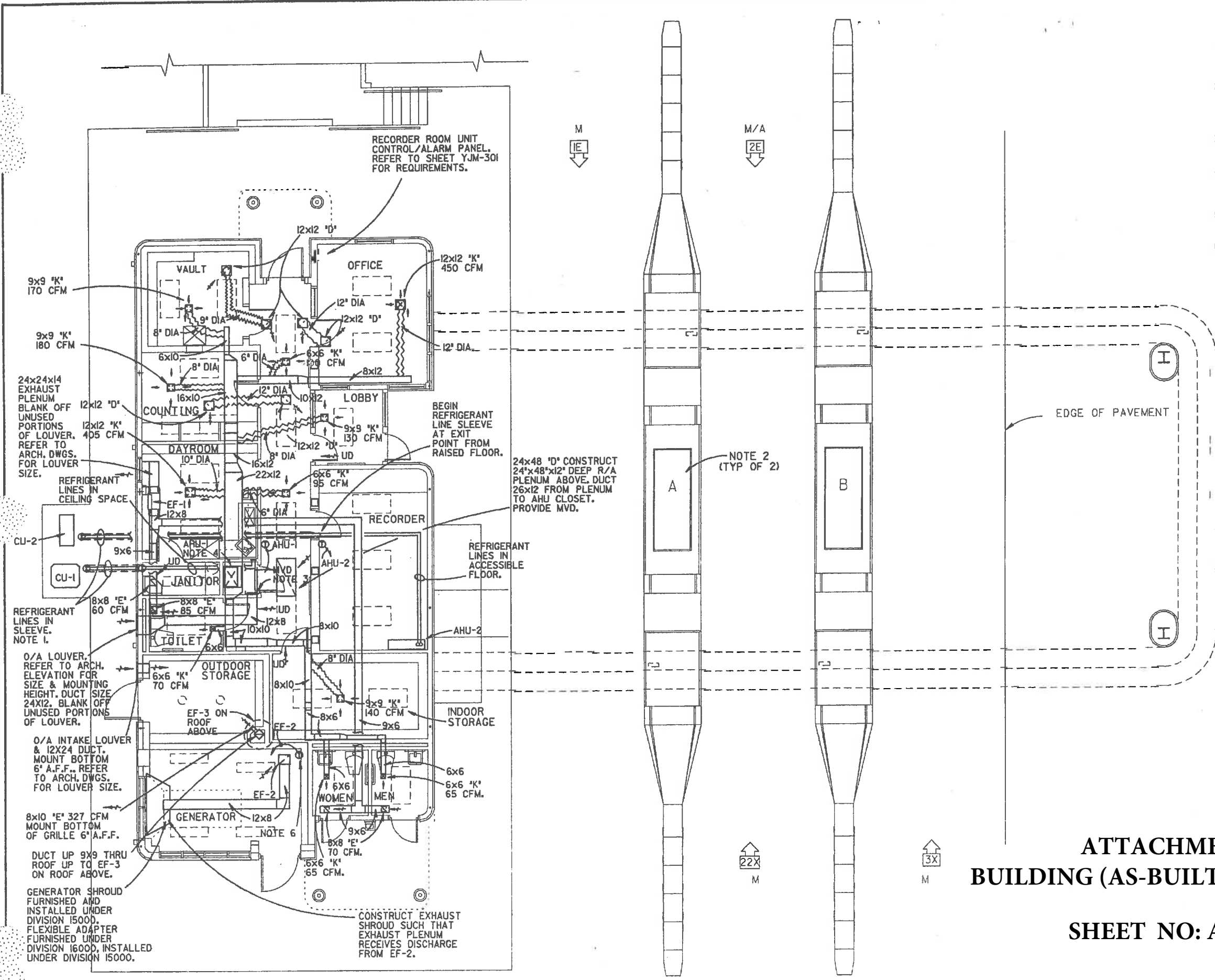
Type/Print Name: _____

* If person signing for the Business is someone other than the Owner, President, or Vice President, a copy of the Corporate Resolution granting signature authorization must be furnished in the bid package.

CERTIFICATION MUST BE ATTACHED TO THE FINAL INVOICE

NOTES

1. PVC SLEEVES SHALL BE 4" OR TWICE THE SUCTION LINE INSULATION DIAMETER, WHICHEVER IS GREATER.
2. HVAC EQUIPMENT FOR PREFABRICATED BOOTH SHALL BE FACTORY-INSTALLED AND SHALL BE PROVIDED AS PART OF THE PREFABRICATED BOOTH.
3. PROVIDE MVD AT RETURN AIR AND OUTSIDE AIR DUCTS AT MECHANICAL CLOSET.
4. REFER TO SHEET YJE-104 FOR DUCT MOUNTED SMOKE DETECTOR REQUIREMENTS.
5. DOOR UNDERCUTS SHALL BE IN COMPLIANCE WITH NFPA-80.
6. WHERE INDICATED, SET THERMOSTAT TO 85° F UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.



**ATTACHMENT G
BUILDING (AS-BUILT) HVAC PLANS**

SHEET NO: AS-001

REVISIONS		DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DESIGNED BY	L.M.M.	DATE	HW/93	DRAWN BY	L.M.M.	DATE	HW/93
CHECKED BY	A.F.F.	DATE	HW/93	CHECKED BY	A.F.F.	DATE	HW/93
SUPERVISED BY: ALFONSO FERNANDEZ-FRAGA							

Volkert
DAVID VOLKERT & ASSOCIATES, INC.
MECHANICAL ENGINEERS

BUILDING H.V.A.C. PLAN

AIR DISTRIBUTION SCHEDULE			
TYPE	DESCRIPTION	ACCESSORIES	MANUFACTURER & MODEL NO.
D	WALL/CEILING RETURN/EXHAUST GRILLE	-----	METAL-AIRE MODEL RH
E	WALL/CEILING EXHAUST/RETURN GRILLE	O.B.D.	METAL-AIRE MODEL RHD
K	SQUARE CEILING DIFFUSER	O.B.D.	METAL-AIRE SERIES 5000

SPLIT A/C UNIT SCHEDULE																															
AIR HANDLING UNIT														AIR COOLED CONDENSING UNIT																	
UNIT DESIGNATION	AREA SERVED	LOCATION	OPERATING WEIGHT LBS. (APPROX.)	DESIGN MANUFACTURER & MODEL NO.	MINIMUM S.E.E.R. / E.E.R.	NO. OF AHU ELECTRICAL CIRCUITS	TOTAL CFM	FAN				COOLING COIL				FILTER		HEAT		UNIT DESIGNATION	TYPE OF FAN	NO. OF FANS AND HP	AMBIENT AIR TEMP. °F DB	NO. OF COMPRESSORS	UNIT TOTAL AMPS, F.L.	ELECTRICAL SERVICE	OPERATING WEIGHT LBS. (APPROX.)	MANUFACTURER & MODEL NO.	REFRIGERANT LINE SIZE INCHES SUCTION/LIQUID	NOTES	
								VENT CFM	EXTERNAL STATIC PRESSURE (IN. WATER)	MOTOR HP (NON-OVERLOAD)	ELECTRICAL SERVICE	TOTAL CAPACITY BTU/HR.	SENSIBLE CAPACITY BTU/HR.	ENTERING AIR TEMP. °F DB/WB	LVG. AIR TEMP. °F DB/WB	TYPE AND THICKNESS	QUANTITY AND SIZE, INCHES	HEATING COIL TYPE	TOTAL HEATING CAPACITY												NO. OF HEATING STEPS
AHU 1	PLAZA BLDG.	MECH CLOSET	189	CARRIER 402000	10/9.4	1	1070	320	0.55	3/4	208V 3 φ	58,000	43,392	79/65	58/55	TA/F	① 2 1/2" x 23 3/4"	ELEC.	1.5 KW	1	CU-1	PROP	⑥ 1.6 FLA.	87	1	17.3(COMP) 1.6(FAN)	208V 3 φ	255	CARRIER 38TR8060	3/8" x 1/4"	⑩ ⑪ ⑫
AHU 2	PLAZA RECORDER	RECORDER ROOM	230	LIEBERT DAE020E	-	1	870	-	-	1/4	208V φ	16,700	15,500	77/64	54.7/63	CLEANABLE 7	① 15" x 15" PER MANUF.	ELEC.	0.8 FLA W/ RHTAHLM	1	CU-2	PROP	⑥ 1/3	87	1	9.8	208V φ	150	LIEBERT DMC020A	3/8" x 1/4"	⑩ ⑪ ⑫

- NOTES:
- ① PROVIDE HEATER AS MANUFACTURED BY DELL CORPORATION, FT LAUDERDALE, FL., OR WARREN MFG. CO., HIALEAH, FL. HEATER SHALL BE EQUIPPED WITH ALL KITS REQUIRED FOR SINGLE-POINT AHU ELECTRICAL CONNECTION.
 - ② SUPPLY AIR SMOKE DETECTOR SHALL SHUT OFF UNIT IN SMOKE MODE.
 - ③ UNIT SELECTED AT HIGH FAN SPEED.
 - ④ PROVIDE REHEAT AND HUMIDIFIER PACKAGE.
 - ⑤ PROVIDE FIELD-FABRICATED FLOOR STAND FOR INDOOR UNIT. UTILIZE GALVANIZED STEEL UNISTRUT SUPPORTS.
 - ⑥ PROVIDE FACTORY-INSTALLED SUPPLY AND RETURN GRILLES.
 - ⑦ MODIFY UNIT TO PIPE REFRIGERANT LINES DOWN THROUGH FLOOR, NOT UP TO CEILING.
 - ⑧ PROVIDE LIEBERT MR-1 REMOTE MONITOR PANEL.
 - ⑨ REMOTE MONITORING PANEL SHALL MONITOR AND CONTROL RECORDER ROOM UNIT. MONITORING PANEL SHALL BE INSTALLED IN SUPERVISOR'S OFFICE IN PLAZA BUILDING. THE PANEL SHALL PROVIDE ALARMS FOR HIGH WATER LEVEL (CONDENSATE), HIGH HEAD PRESSURE AND HIGH TEMPERATURE.
 - ⑩ PROVIDE 'TIME-GUARD' COMPRESSOR SHORT-CYCLING PROTECTION.
 - ⑪ PROVIDE TIME-DELAY RELAY AND THERMOSTATIC EXPANSION VALVE.
 - ⑫ INSTALL ALL UNITS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

VENTILATION FAN SCHEDULE																											
FAN NO.	AREA SERVED	OPERATING WEIGHT, LBS. (APPROX.)	LOCATION	TOTAL AIR CFM	MANUFACTURER & MODEL NO.	DRIVE TYPE	WHEEL TYPE	SPEED (RPM)	FAN				ACCESSORIES						NOTES								
									TOTAL STATIC PRESSURE (IN. WATER)	MOTOR HP (NON-OVERLOAD)	STARTER TYPE/FURNISHED BY	ELECTRICAL SERVICE	MASONRY OPENING	SERVICE SWITCH	CONSTRUCTION	MULTIBLADE BACKDRAFT DAMPER	BIRDSCREEN	ROOF CURB MODEL NO.		INTERLOCK WITH							
EF-1	TOILETS, JANITOR	46	DAYROOM CEILING SP.	285	GREENHECK DS0-90-D	DIRECT	CENTRI-FUGAL	1400	0.375	1/0	MANUALLY MECH. CONT.	120V 1PH	SEE ARCH.	●	STEEL	●	●	●	●	●	●	●	●	●	●	AHU-1	①
EF-2	GENERATOR ROOM	21	CEILING	386	GREENHECK SF-12T	DIRECT	CENTRI-FUGAL	1580	0.125	2.8 AMP	—	120V 1PH	SEE ARCH.	●	STEEL	●	●	●	●	●	●	●	●	●	●	—	THERMO-STAT
EF-3	OUTDOOR STORAGE	14	ROOF	327	GREENHECK G-70	DIRECT	CENTRI-FUGAL	1550	0.125	1/30	MANUALLY MECH. CONT.	120V 1PH	10 1/2" x 10 1/2"	●	ALUM.	●	●	●	●	●	●	●	●	●	CPB	—	
EF-4	BASE TRUNKING REB	16	WALL	260	GREENHECK SDE-10-32-E	DIRECT	PROP.	1050	0.100	1/25	—	120V 1PH	—	●	STEEL	●	●	●	●	●	●	●	●	●	—	DOOR SWITCH	②

- NOTES:
- ① PROVIDE SOLID STATE SPEED CONTROL.
 - ② REFER TO SHEET YJP-102 FOR FAN LOCATION ON PLAN.

HVAC LEGEND

- 12x9 DUCTWORK (NUMBER INDICATES SIZE)
- FLEXIBLE DUCTWORK
- THERMOSTAT, MOUNT 54" A.F.F.
- EXHAUST OR RETURN AIR
- SUPPLY OR FRESH AIR DUCT
- AFF ABOVE FINISHED FLOOR
- FD FIRE DAMPER
- MOD MOTOR OPERATED DAMPER
- MVD MANUAL VOLUME DAMPER
- BDD BACKDRAFT DAMPER
- FDS COMBINATION FIRE & SMOKE DAMPER
- CFM CUBIC FEET PER MINUTE
- AHU AIR HANDLING UNIT
- CU CONDENSING UNIT
- FCU FAN COIL UNIT
- SF SUPPLY FAN
- EF EXHAUST FAN
- SA SUPPLY AIR
- RA RETURN AIR
- OA OUTSIDE AIR
- UD UNDERCUT DOOR
- FA FREE AREA
- D DROP (DUCTWORK)
- R RISE (DUCTWORK)
- EEDH ELECTRIC DUCT HEATER
- O.B.D. OPPOSED BLADE DAMPER
- NTS NOT TO SCALE

ATTACHMENT G
BUILDING (AS-BUILT) HVAC PLANS
SHEET NO: AS-002

BOTTLED GAS FIRED UNIT HEATERS

UH - NO.	INPUT/btu's	OUTPUT	CFM	HP	MODEL NO *
UH -1	100,000	80,000	1300	1/20	GP-100
UH -2	12,800	9600	444	1/125	GP-33
UH -3	100,000	80,000	1300	1/20	GP-100

* TRANE MODEL NUMBERS USED AS GUIDE.
ALL MOTORS - 120V - 1 ph - 60 cyc.

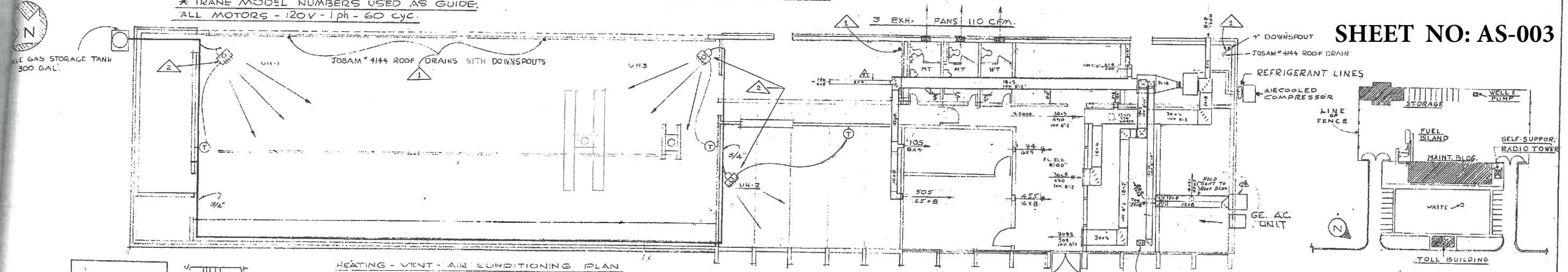
SPLIT SYSTEM HEAT PUMP

DBSW	WBON	MAX-CA	CFM	SH	TH	MODEL NO	HP	V	Ph	cyc
76.6	64.0	105	1600	32000	49000	BUF 50	1/2	230	1	60
						RAP 40	4	230	3	60
						CONDENSER FAN	J.	230	1	60
76.6	64.0	105	800	-	18,000	CARRIER-60C2	2.0KW	230	3	60

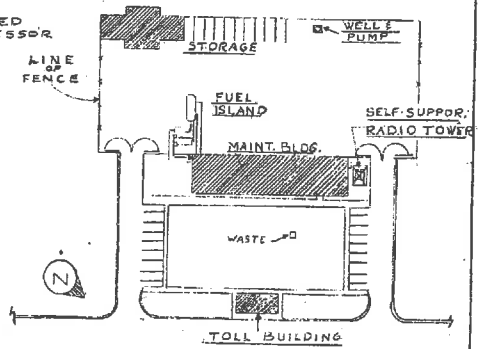
TRANE NUMBERS USED AS GUIDE

**ATTACHMENT G
BUILDING (AS-BUILT) HVAC PLANS**

SHEET NO: AS-003



HEATING - VENT - AIR CONDITIONING PLAN

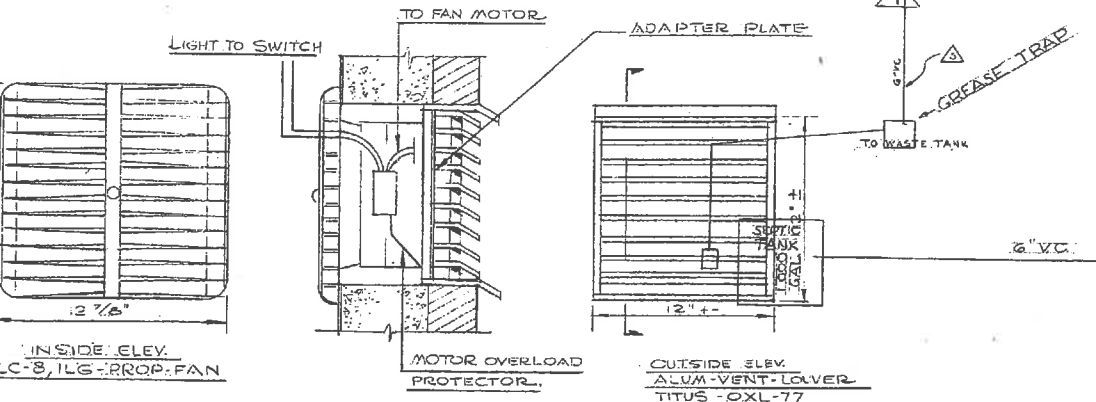
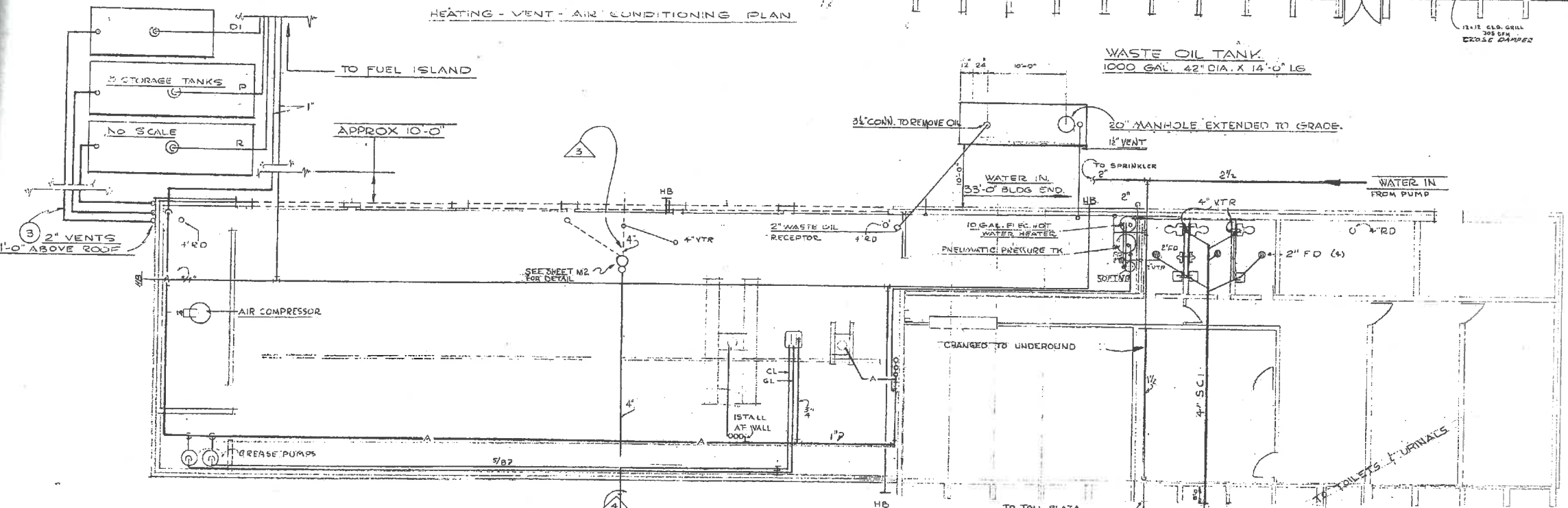


AREA PLAN - 1" = 100'-0"

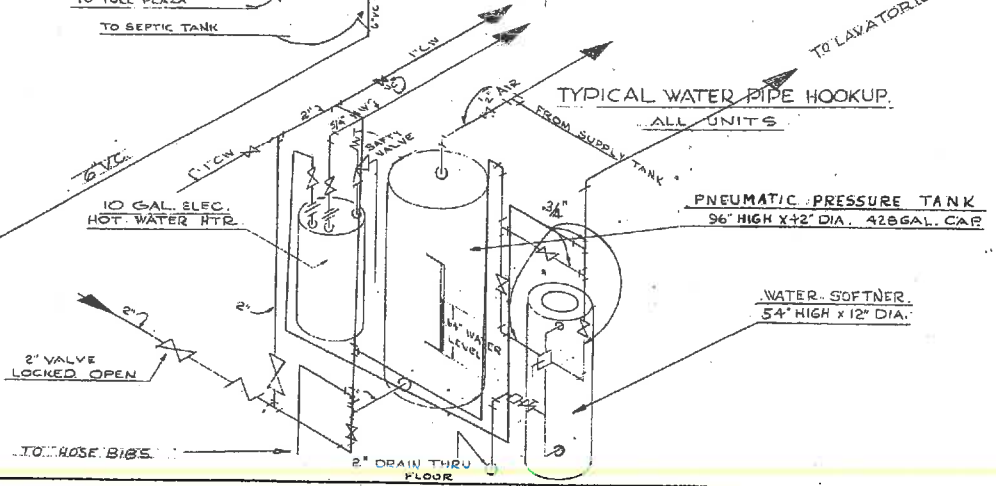
LIST OF SYMBOLS

- A AIR
- CW COLD WATER
- HW HOT WATER
- HB HOSE BIB
- SGI SANITARY GALV. IRON
- VTR VENT THRU ROOF
- FD FLOOR DRAIN
- CL CHASSIS LUBE
- GL GREASE LUBE
- UH UNIT HEATER
- P PREMIUM GAS
- R REGULAR GAS
- DI #1 DIESEL OIL

Leisburg FHP
APR 20 1964



EXHAUST FAN - TOILETS
TYPICAL ALL UNITS



NO.	REVISION	BY	DATE
1	ADDED HEAT PUMP TO RADIO EQUIP. ROOM	TNT	2-12-64
2	ADD DUCT	TNT	2-7-64
3	REVISED AIR CONDITIONING DUCT WORK	TNT	10-9-63
4	RE-LOCATED ROOF DRAINS	RCASEY	8-28-63
5	RE-LOCATED UNIT HEATERS	RCASEY	8-28-63
6	RE-MOVE DRYNELL	RCASEY	8-28-63
7	TIE-IN DRAIN LINE TO SAN. WASTE LINE	RCASEY	8-28-63
8	TIE DRAIN LINE TO WASTE TANK	TNT	10-5-63

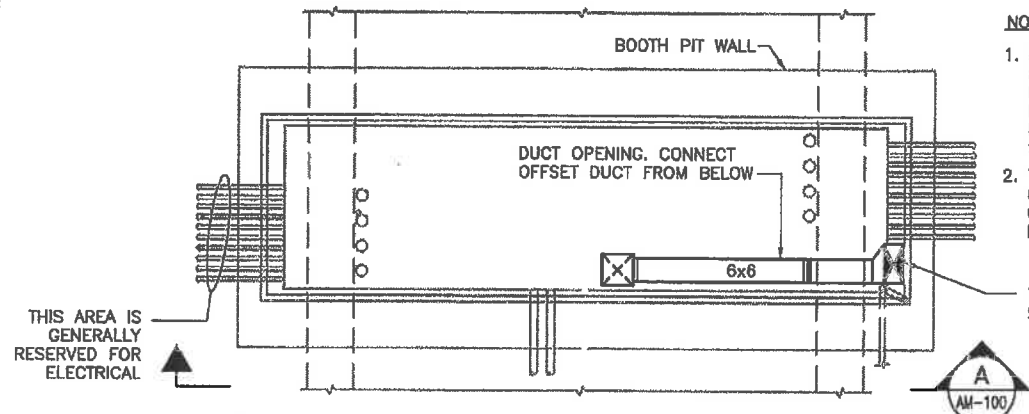
FLORIDA STATE TURNPIKE AUTHORITY
SUNSHINE STATE PARKWAY
PROJECT NO. 2
**ORLANDO SOUTH-INTERCHANGE
MAINTENANCE BUILDING
HVAC & PLUMBING PLANS**
WELLMAN-LORD ENGINEERING, INC.
WARREN H. SMITH, A.I.A., ARCHITECT
MADE A.P. DATE 5-9-63 TRACED DATE
CHECKED A.B.C. DATE 5-10-63 SCALE 1/8" = 1'-0"
CONTRACT NO. 38-B SHEET M-1 OF

BOOTH AND TUNNEL SYSTEM AIR BALANCE SCHEDULE			
SUPPLY TERMINAL TYPE	QUANTITY	CFM	TOTAL
ELEVATOR EQUIPMENT ROOM	1	300	300
TUNNEL SUPPLY DIFFUSER	3	270	810
TOLL BOOTH	4	100	400
SYSTEM TOTAL			1510

GENERAL NOTES:

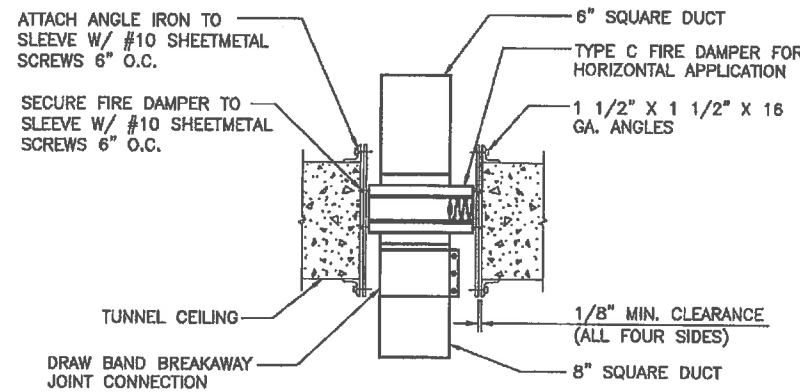
- IN GENERAL, PLANS AND DIAGRAMS OF UTILITY RUNS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED. CONTRACTOR SHALL COORDINATE AT SITE ALL PLUMBING, HVAC AND ELECTRICAL WORK SO AS NOT TO CONFLICT IN LOCATION WITH OTHER WORK UNDER THE CONTRACT.
- TAKE RESPONSIBILITY TO READ AND COMPLY WITH DIVISION 15 AND 16 OF THE CONTRACT SPECIFICATIONS TECHNICAL SPECIAL PROVISIONS FOR ALL WORK SHOWN ON THESE DRAWINGS.
- THE DIMENSIONS SHOWN FOR ALL DUCTS SHOWN IN PLACE GIVE THE VIEWED DIMENSION FIRST AND THEN THE HEIGHT. DUCT DIMENSIONS ARE "FREE AREA". WHERE INSIDE DUCT INSULATION LINER IS SPECIFIED, THE SIZE OF THE DUCT SHALL BE INCREASED TO PROVIDE THE EQUIVALENT "FREE AREA" SPECIFIED.
- TAKE RESPONSIBILITY FOR THE PROTECTION OF STORED MATERIALS AND EQUIPMENT FOR THE DURATION OF THE PROJECT. PROVIDE PROTECTIVE COVER OVER EQUIPMENT TO INSURE AGAINST WATER AND DUST DAMAGE AND PROVIDE SUITABLE PALLETS BETWEEN EQUIPMENT AND MATERIALS STORED ON GROUND.

HVAC LEGEND	
	DUCTWORK SIZE. FIRST NUMBER DENOTES VIEWED DIMENSION AND SECOND NUMBER DENOTES DEPTH. SIZE INDICATES CLEAR INSIDE DIMENSIONS.
	DUCTWORK TO BE DEMOLISHED
	EXISTING DUCTWORK TO REMAIN
	INTERNALLY INSULATED RECTANGULAR DUCTWORK.
	VOLUME DAMPER. PROVIDE OPPOSED BLADE TYPE FOR RECTANGULAR DUCT.
	FIRE DAMPER
	NEW DUCTWORK POINT OF CONNECTION.
	CUBIC FEET PER MINUTE (CFM)



BOOTH PIT DUCTWORK PLAN VIEW
SCALE: 1/4" = 1'-0"
1 AM-100

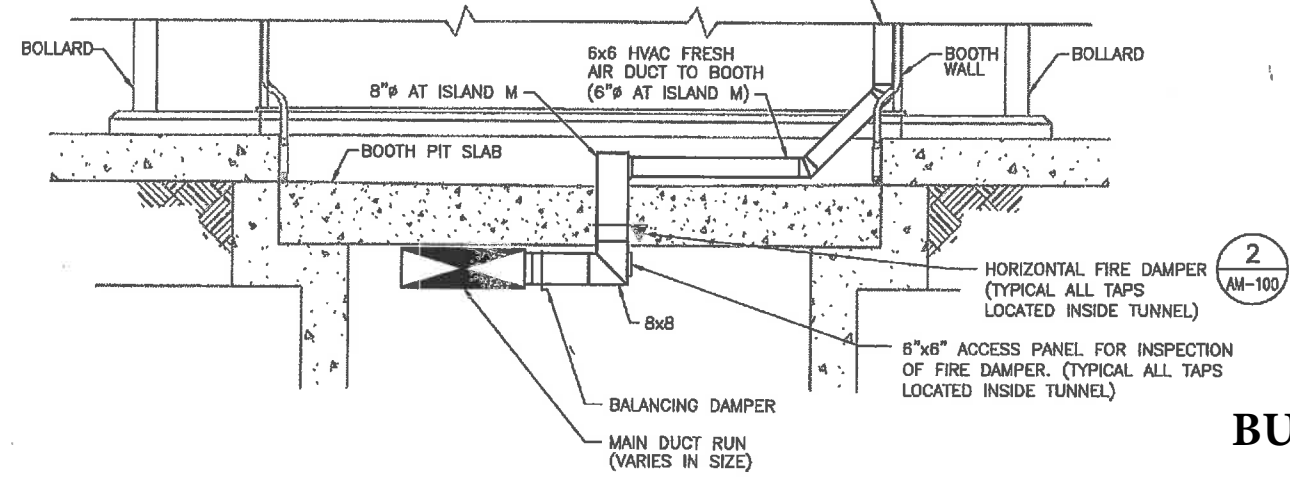
- NOTE:**
- ELECTRICAL CONDUITS AND PLUMBING PIPING ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. REFER TO ELECTRICAL AND PLUMBING DRAWINGS FOR EXACT SIZES AND LOCATIONS.
 - TAKE RESPONSIBILITY FOR COORDINATING AND ELIMINATING CONFLICTS BETWEEN MECHANICAL, ELECTRICAL, AND STRUCTURAL.



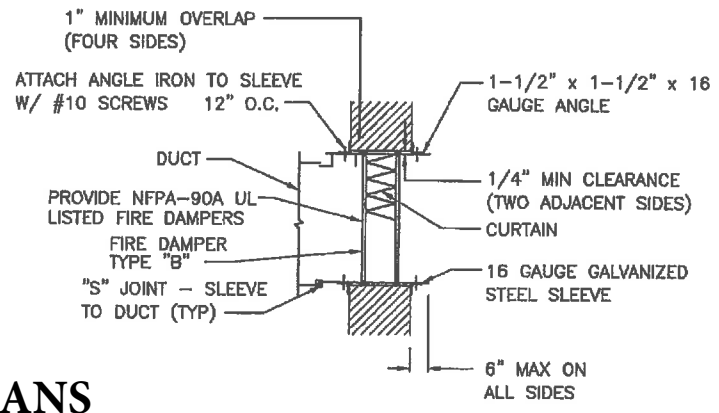
HORIZONTAL FIRE DAMPER DETAIL
N.T.S.
2 AM-100

CONTRACTOR TO MAKE CONNECTION OF 6"x6" DUCTS TO 5"x10" VENTILATION AIR DUCTING SYSTEM OF PREFABRICATED BOOTH PROVIDED. COORDINATE WITH BOOTH MANUFACTURER FOR TYPE AND LOCATION OF CONNECTION REQUIRED. ENSURE THAT AIR SUPPLY DUCT DOES NOT INTERFERE WITH OTHER INSTALLATIONS. REFER TO TUNNEL HVAC PLANS FOR LOCATION OF CONNECTION.

NOTE:
BOOTH PIT DUCTWORK DETAILS ARE TYPICAL OF ISLANDS C, D AND L. PROVIDE 8" ROUND PRE-MANUFACTURED DOUBLE WALL INSULATED SHEET METAL DUCTWORK FOR DUCT EXTENSION THROUGH DUCT BANK TO ISLAND M. PROVIDE 8" ROUND DUCT IN BOOTH PIT FOR CONNECTION TO BOOTH VENTILATION DUCT, SIMILAR CONFIGURATION TO THAT SHOWN IN DETAIL.



TYPICAL BOOTH DUCTWORK SECTION
SCALE: 1/4" = 1'-0"
A AM-100



VERTICAL FIRE DAMPER DETAIL
N.T.S.
3 AM-100

**ATTACHMENT G
BUILDING (AS-BUILT) HVAC PLANS**

SHEET NO: AS-004

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



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7650 West Courtney
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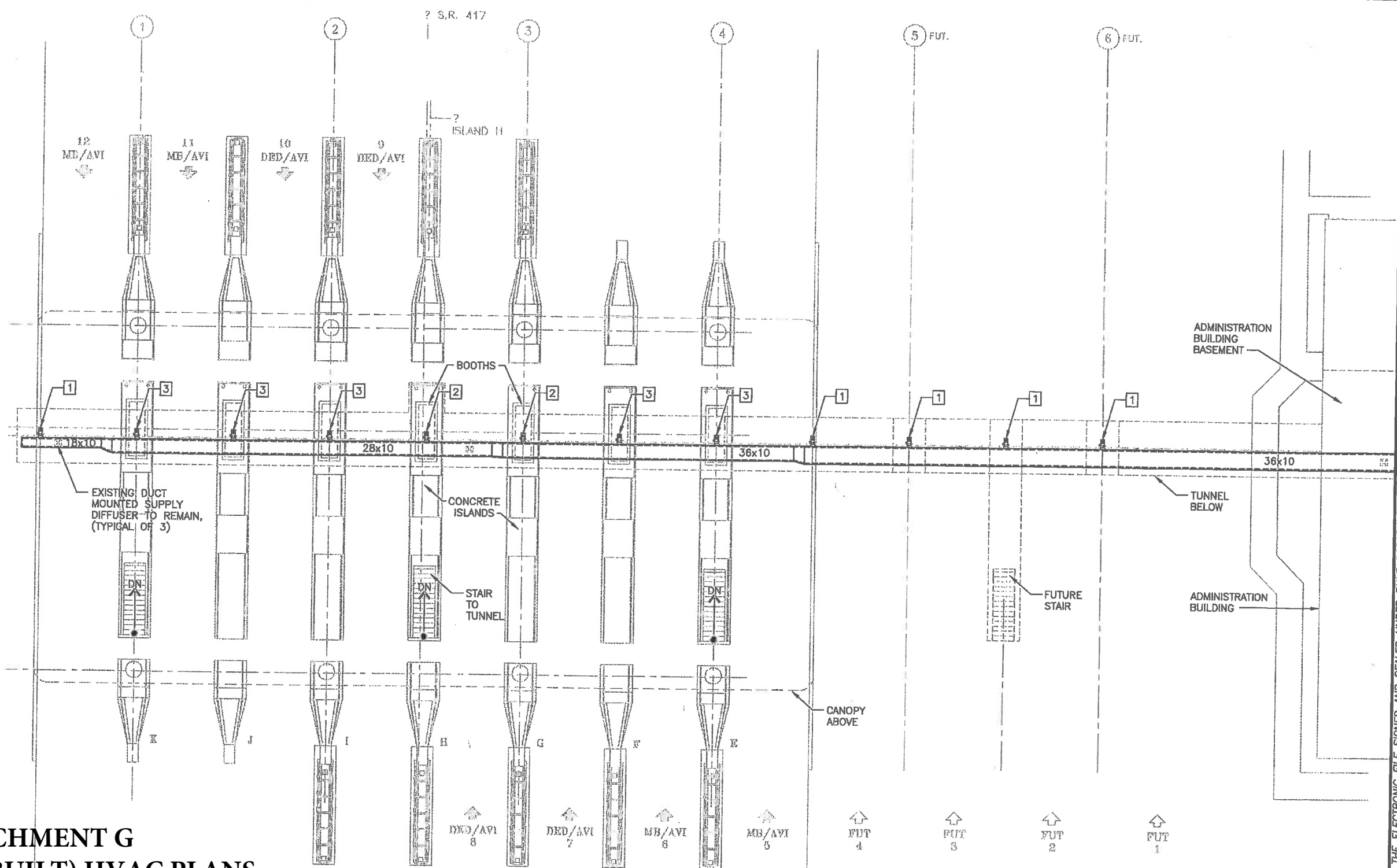
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 417	SEMINOLE	417545-2-52-01

LAKE JESUP TOLL PLAZA ORT CONVERSION SEMINOLE EXPRESSWAY (SR 417)	
HVAC LEGEND AND GENERAL NOTES	
DRAWING NO.	AM-100
SHEET NO.	43

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

**ATTACHMENT G
BUILDING (AS-BUILT) HVAC PLANS**

SHEET NO: AS-005



1 TUNNEL HVAC DEMO PLAN
AM-101 SCALE: 1" = 20'-0"

NOTES:

- 1 EXISTING 8x8 DUCT STUB-OUT FOR FUTURE CONNECTION.
- 2 EXISTING 8x8 DUCT STUB-OUT CAPPED, INSULATED AND SEALED AIR TIGHT.
- 3 REMOVE 8x8 DUCT PENETRATION OF TUNNEL ROOF AND SUPPLY DUCT TO BOOTH. PROVIDE INSULATED SHEET METAL PATCH TO SEAL DUCT AIR TIGHT. MATCH EXISTING.



GRAPHIC SCALE
SCALE: 1" = 20'-0"
0 10' 20'

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

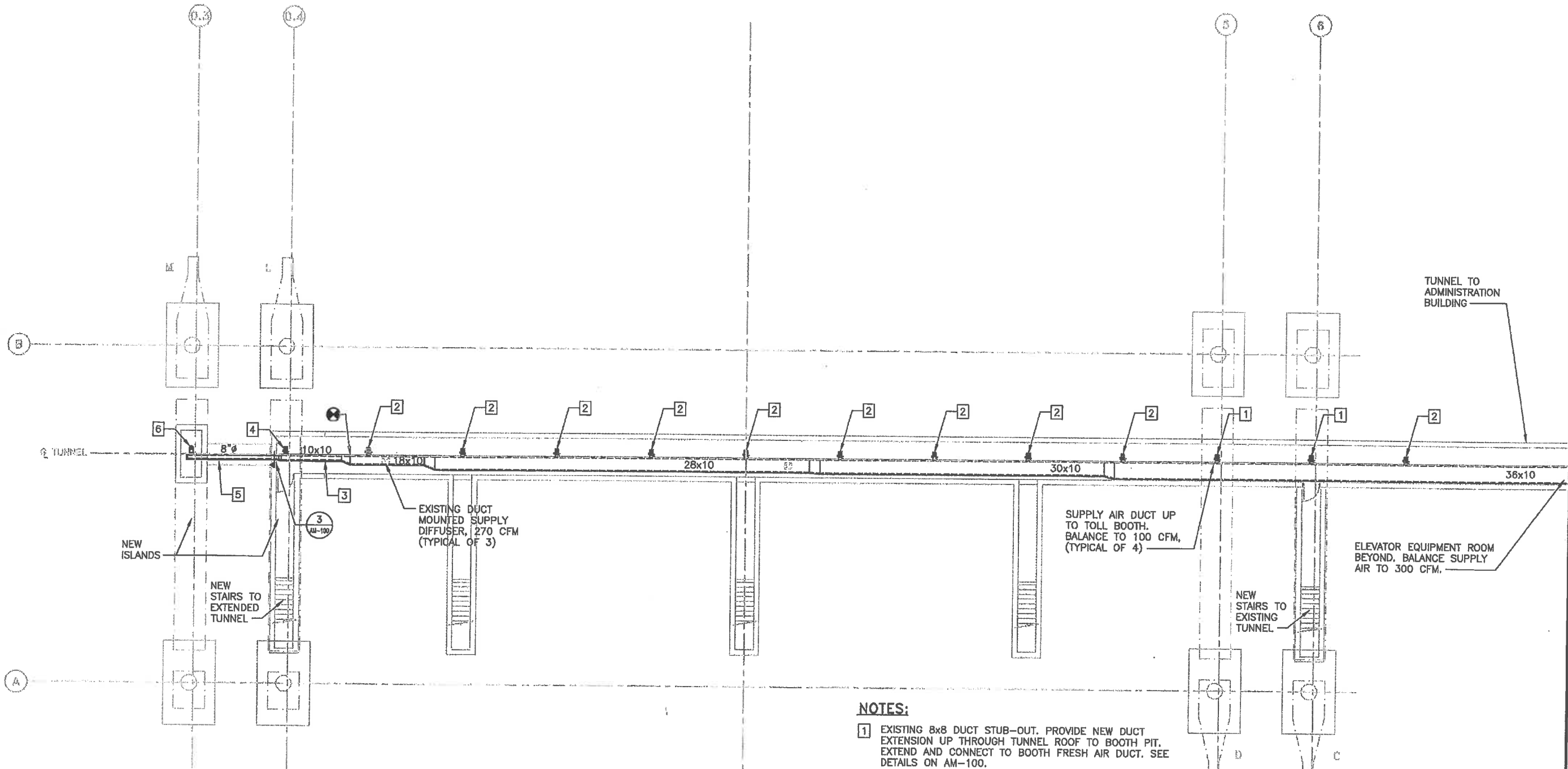
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Tampa, FL 33607-1462
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 417	SEMINOLE	417545-2-52-01

LAKE JESSUP TOLL PLAZA ORT CONVERSION SEMINOLE EXPRESSWAY (SR 417)	
TUNNEL HVAC DEMO PLAN	

DRAWING NO.	AM-101
SHEET NO.	44

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.



**ATTACHMENT G
BUILDING (AS-BUILT) HVAC PLANS**

SHEET NO: AS-006

1 TUNNEL HVAC PLAN
AM-102 SCALE: 1" = 20'-0"

NOTES:

- 1 EXISTING 8x8 DUCT STUB-OUT. PROVIDE NEW DUCT EXTENSION UP THROUGH TUNNEL ROOF TO BOOTH PIT. EXTEND AND CONNECT TO BOOTH FRESH AIR DUCT. SEE DETAILS ON AM-100.
- 2 EXISTING 8x8 DUCT STUB-OUT CAPPED, INSULATED AND SEALED AIR TIGHT.
- 3 NEW 10x10 SUPPLY DUCT, MATCH EXISTING.
- 4 NEW 8x8 DUCT STUB-OUT WITH BALANCING DAMPER. MATCH EXISTING. PROVIDE NEW DUCT EXTENSION UP THROUGH TUNNEL ROOF TO BOOTH PIT. EXTEND AND CONNECT TO BOOTH FRESH AIR DUCT. SEE DETAILS ON AM-100.
- 5 NEW 8"Ø DUCT IN DUCT BANK. NEW 8"Ø ROUND DUCTWORK SHALL BE PRE-MANUFACTURED DOUBLE WALL INSULATED SHEET METAL. COORDINATE PLACEMENT WITH ELECTRICAL CONDUITS.
- 6 NEW 6"Ø DUCT STUB-OUT. EXTEND AND CONNECT TO BOOTH FRESH AIR DUCT. SEE DETAILS ON AM-100. PROVIDE WITH BALANCING DAMPER ACCESSIBLE THROUGH BOOTH FLOOR.



GRAPHIC SCALE
SCALE: 1" = 20'-0"
0 10' 20'

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 417	SEMINOLE	417545-2-52-01

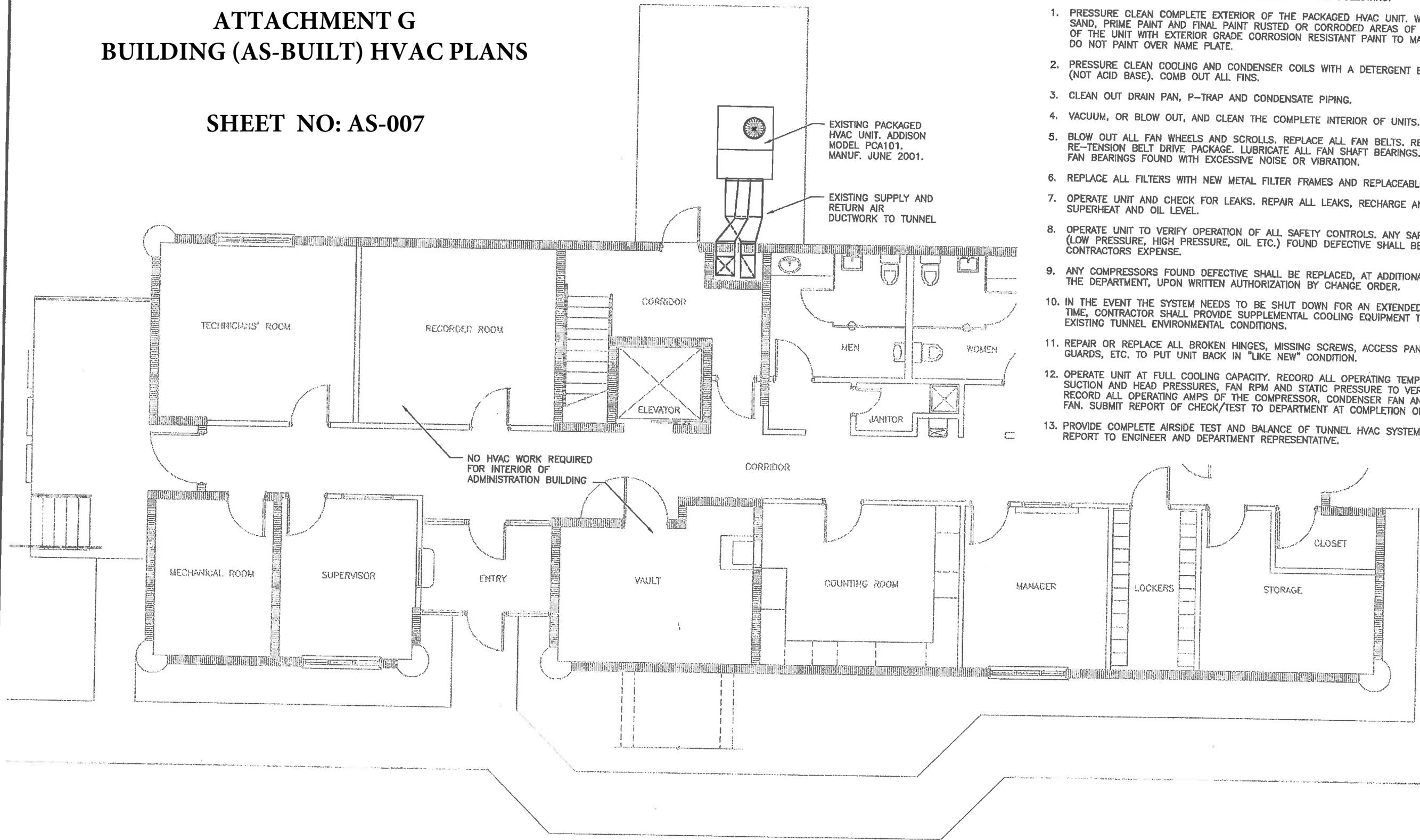
**LAKE JESUP TOLL PLAZA ORT CONVERSION
SEMINOLE EXPRESSWAY (SR 417)**

TUNNEL HVAC PLAN

DRAWING NO.
AM-102
SHEET NO.
45

ATTACHMENT G BUILDING (AS-BUILT) HVAC PLANS

SHEET NO: AS-007



HVAC RENOVATION NOTES

PROVIDE AC EQUIPMENT SERVICE FOR EXISTING PACKAGED HVAC UNIT SERVING TUNNEL. SERVICE SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

1. PRESSURE CLEAN COMPLETE EXTERIOR OF THE PACKAGED HVAC UNIT. WIRE BRUSH, SAND, PRIME PAINT AND FINAL PAINT RUSTED OR CORRODED AREAS OF THE EXTERIOR OF THE UNIT WITH EXTERIOR GRADE CORROSION RESISTANT PAINT TO MATCH EXISTING. DO NOT PAINT OVER NAME PLATE.
2. PRESSURE CLEAN COOLING AND CONDENSER COILS WITH A DETERGENT BASED CLEANER (NOT ACID BASE). COMB OUT ALL FINS.
3. CLEAN OUT DRAIN PAN, P-TRAP AND CONDENSATE PIPING.
4. VACUUM, OR BLOW OUT, AND CLEAN THE COMPLETE INTERIOR OF UNITS.
5. BLOW OUT ALL FAN WHEELS AND SCROLLS. REPLACE ALL FAN BELTS. RE-ALIGN AND RE-TENSION BELT DRIVE PACKAGE. LUBRICATE ALL FAN SHAFT BEARINGS. REPLACE ANY FAN BEARINGS FOUND WITH EXCESSIVE NOISE OR VIBRATION.
6. REPLACE ALL FILTERS WITH NEW METAL FILTER FRAMES AND REPLACEABLE MEDIA.
7. OPERATE UNIT AND CHECK FOR LEAKS. REPAIR ALL LEAKS, RECHARGE AND VERIFY SUPERHEAT AND OIL LEVEL.
8. OPERATE UNIT TO VERIFY OPERATION OF ALL SAFETY CONTROLS. ANY SAFETY CONTROL (LOW PRESSURE, HIGH PRESSURE, OIL ETC.) FOUND DEFECTIVE SHALL BE REPLACED AT CONTRACTORS EXPENSE.
9. ANY COMPRESSORS FOUND DEFECTIVE SHALL BE REPLACED, AT ADDITIONAL EXPENSE TO THE DEPARTMENT, UPON WRITTEN AUTHORIZATION BY CHANGE ORDER.
10. IN THE EVENT THE SYSTEM NEEDS TO BE SHUT DOWN FOR AN EXTENDED PERIOD OF TIME, CONTRACTOR SHALL PROVIDE SUPPLEMENTAL COOLING EQUIPMENT TO MAINTAIN EXISTING TUNNEL ENVIRONMENTAL CONDITIONS.
11. REPAIR OR REPLACE ALL BROKEN HINGES, MISSING SCREWS, ACCESS PANELS, LOUVERS, GUARDS, ETC. TO PUT UNIT BACK IN "LIKE NEW" CONDITION.
12. OPERATE UNIT AT FULL COOLING CAPACITY. RECORD ALL OPERATING TEMPERATURES, SUCTION AND HEAD PRESSURES, FAN RPM AND STATIC PRESSURE TO VERIFY OPERATION. RECORD ALL OPERATING AMPS OF THE COMPRESSOR, CONDENSER FAN AND EVAPORATOR FAN. SUBMIT REPORT OF CHECK/TEST TO DEPARTMENT AT COMPLETION OF THE PROJECT.
13. PROVIDE COMPLETE AIRSIDE TEST AND BALANCE OF TUNNEL HVAC SYSTEM. SUBMIT FINAL REPORT TO ENGINEER AND DEPARTMENT REPRESENTATIVE.

GRAPHIC SCALE
SCALE: 1/8" = 1'-0"
0 4' 8'

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 417	SEMINOLE	417545-2-52-01

LAKE JESUP TOLL PLAZA ORT CONVERSION SEMINOLE EXPRESSWAY (SR 417)	
TUNNEL HVAC EQUIPMENT RENOVATION PLAN	

DRAWING NO.	AM-103
SHEET NO.	46

SPLIT SYSTEM AIR CONDITIONING SCHEDULE

		MAINLINE PLAZA			SMALL RAMP	
EQUIPMENT NO.		AHU-1A&B	AHU-2	AHU-3	AHU-1	
GENERAL DATA	TOTAL CAPACITY (BTU/HR)	50,081	11,200	60,100	11,400	
	SENSIBLE CAPACITY (BTU/HR)	34,290	7,490	35,400	7,790	
	REFERENCE MANUFACTURER	TRANE	SANYO	TRANE	SANYO	
	MINIMUM SYSTEM SEER	10.15	10.0	-	10.0	
AIR HANDLING UNIT	TOTAL SUPPLY AIR FLOW (CFM)	1,340	360	1000	360	
	OUTSIDE AIR FLOW (CFM)	350	-	600	-	
	AIR TEMP. (F °) DB/WB	ENTERING	84.4/69.1	-	82°/70°	-
		LEAVING	60.7/57.8	-	50.94°/50.55°	-
	EXTERNAL STATIC PRESSURE DROP (IN. W.G.)	-	-	-	-	
	FILTER TYPE	THROWAWAY	THROWAWAY	THROWAWAY	THROWAWAY	
	FAN HORSEPOWER	1/2	1/75	1.0	1/75	
	FAN ELEC. SERVICE (VOLTS/PHASE/HERTZ)	208/1/60	208/1/60	208/3/60	240/1/60	
	HEATER SIZE - STAGES	10-1	1.23-1	10-2	1.5-1	
	ELEC. HEATER SERVICE (VOLTS/PHASE/HERTZ)	208/3/60	208/1/60	208/3/60	-	
REFERENCE MODEL NO.	TWEO48C	12KHS22	MCCX-3	12KHS22		
CONDENSING UNIT	EQUIPMENT NO.	CU-1A & 1B	CU-2	CU-3A & 3B	CU-1	
	CONDENSING UNIT WEIGHT (LBS)	216	92	190	92	
	COMPRESSOR FULL LOAD AMPS	16	5.0	12.0	5.0	
	MINIMUM CIRCUIT AMPS	22	20	-	20	
	RATED OUTDOOR TEMP. (F °)	95°	95°	95°	95°	
	ELEC. SERVICE (VOLTS/PHASE/HERTZ)	208/3/60	208/1/60	208/3/60	240/1/60	
REFERENCE MODEL NO.	TTA048C	-	TTA036	-		
NOTES	①②③	③	④⑤⑥ ⑦⑧⑨⑩⑪⑫⑬	⑪		

- ① SEE SPECIFICATIONS FOR CONDENSING UNIT SAFETIES.
- ② PROVIDE SINGLE TRANE BAY28X183 THERMOSTAT, BAY28X187 SUB BASE AND BAYSTAT021 REMOTE TEMPERATURE SENSOR. (SEE DIVISION 15 SPECIFICATIONS.)
- ③ THERMOSTAT PROVIDED WITH UNIT.
- ④ PROVIDE FACTORY INSTALLED HOT GAS COIL, CONTRACTOR TO PROVIDE HOT GAS REHEAT PIPING AND CONTROLS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- ⑤ PROVIDE 2"-1.5 LB INSULATION AND SOLID DOUBLE WALL CONSTRUCTION.
- ⑥ PROVIDE FACTORY MOUNTED CONTROLS. SEE SPECIFICATIONS FOR SEQUENCE OF OPERATION.
- ⑦ PROVIDE FACTORY MOUNTED ELECTRIC HEAT.
- ⑧ PROVIDE FACTORY MOUNTED STARTER FOR FAN MOTOR, HEAT STRIP, AND CONDENSING UNIT(S).
- ⑨ PROVIDE DUAL COMPRESSORS WITH 10 TON CONDENSING UNIT. ALSO PROVIDE HOT GAS BYPASS EQUIPMENT.
- ⑩ PROVIDE PERMANENTLY MOUNTED (KEY LOCK) REMOTE CONTROL WITH UNIT.
- ⑪ INTERLOCK SMOKE DETECTOR TO AUTOMATICALLY SHUT-DOWN AHU WHEN ACTIVATED.
- ⑫ WHEN SYSTEM IS BALANCED UNIT SHOULD BE THROTTLED BACK TO 925 CFM. WHEN FUTURE LANES AND BOOTHS ARE ADDED THE UNIT WILL BE ALLOWED TO OPERATE AT FULL CAPACITY.

**ATTACHMENT G
BUILDING (AS-BUILT) HVAC PLANS**

SHEET NO: AS-008

PACKAGED HEAT PUMP UNIT SCHEDULE

	SMALL RAMP	BREAKROOM
UNIT DESIGNATION	AC-1 & 2	AC-1
AREA SERVED	TOLL BOOTHS	BREAKROOM
LOCATION	SEE PLAN	SEE PLAN
TOTAL CAPACITY (BTU/HR)	18,900	18,900
SENSIBLE CAPACITY (BTU/HR)	11,784	11,784
TOTAL AIR (CFM)	600	600
OUTSIDE AIR (CFM)	120	120
EXTERNAL STATIC PRESSURE (INS.W.G.)	0.66(MAX)	0.66(MAX)
ENTERING AIR TEMP. (EVAPORATOR)	78.8/67.3	78.8/67.3
LEAVING AIR TEMP.	61.8/58	61.8/58
TOTAL HEATING CAPACITY (KW) / STAGES	4.98/1	4.98/1
INDOOR FAN MOTOR HP.	1/4	1/4
UNIT TOTAL FULL LOAD AMPS.	14.1	14.1
ELEC. SERVICE (VOLTS/PHASE/HERTZ)	240/1/60	240/1/60
OPERATING WEIGHT	280	280
DESIGN MANUFACTURER	TRANE	TRANE
MODEL NO.	WCC018F	WCC018F
NOTES	①②	①②

- ① SEE SPECIFICATIONS FOR ALL REQUIREMENTS AND ACCESSORIES.
- ② PROVIDE FACTORY MOUNTED ELECTRIC HEAT STRIP.

DESIGN CONDITIONS SCHEDULE

	SUMMER		WINTER
	DB(F)	WB(F)	DB(F)
OUTDOOR	93	76	39
INDOOR	78	65	68

VENTILATION FAN SCHEDULE

	MAINLINE PLAZA		SMALL RAMP	BREAKROOM
EQUIPMENT NO.	EF-1	EF-2	EF-1	EF-3
TYPE	CENTRIFUGAL	CEILING	CEILING	CEILING
DRIVE	DIRECT	DIRECT	DIRECT	DIRECT
AIR FLOW (CFM)	650	100	120	120
STATIC PRESSURE (INS.W.G.)	.250	.125"	.125"	.125"
FAN SPEED (RPM)	1140	LOW	LOW	LOW
MOTOR HORSEPOWER	1/12	50W	50W	50W
ELEC. SERVICE (VOLTS/PHASE/HERTZ)	120/1/60	120/1/60	120/1/60	120/1/60
DESIGN MANUFACTURER	PENN	PENN	PENN	PENN
MODEL NO.	WAT20	ZEPHYR Z-6	ZEPHYR Z-6	ZEPHYR Z-6
ACCESSORIES	①②③	①②④⑤	①②④⑤	①②④⑤

- ① PROVIDE SOLID STATE VARIABLE SPEED CONTROL SWITCH MTD. IN FAN HOUSING.
- ② PROVIDE BACKDRAFT DAMPER AND DISCONNECT SWITCH.
- ③ INTERLOCK WITH AHU-1A & B
- ④ INTERLOCK WITH LIGHT SWITCH. (BY DIV. 16)
- ⑤ PROVIDE TIMER TO CONTINUE FAN OPERATION FOR 10 MINUTES AFTER LIGHT HAS BEEN SWITCHED OFF. TIMER SHALL BE WIRED AND INSTALLED BY ELECTRICAL CONTRACTOR.

AIR DISTRIBUTION EQUIPMENT SCHEDULE

EQUIPMENT DESIGNATION	MAINLINE, RAMP PLAZAS, AND BREAKROOM										
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(J)	(K)	(L)
DESCRIPTION	24 X 24 PERFORATED	24 X 24 PERFORATED	SUPPLY DIFFUSER	RET. & EXH. REGISTER	SUPPLY DIFFUSER	SIDEWALL REGISTER	TRANSFER GRILLE	PENTHOUSE LOUVER	DOOR GRILLE	SUPPLY DIFFUSER	RETURN GRILLE
FRAME STYLE	LAY-IN	LAY-IN	-	-	-	-	-	-	DOOR MOUNT	LAY IN	LAY IN
MATERIAL	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM
BLOW PATTERN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN
NECK SIZE	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN
DAMPER	-	-	-	-	O.B.D.	O.B.D.	O.B.D.	-	-	SEE NOTE	-
DESIGN MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	GREENHECK	METAL AIRE	TITUS	TITUS
MODEL NO.	PAS-AA	PAR-AA	250-AA	4 FL (45°)	TDC-AA	272-FL	4 FL (45°)	WIH	RG-DF	TDCA-AA	55 FL
ACCESSORIES	①	①	①	①	①	①	①	③	③	①④	①

- ① PROVIDE STANDARD #25 WHITE BAKED ENAMEL FINISH.
- ② GRILLE EQUIPPED WITH FIRE DAMPER.
- ③ PROVIDE INSECT SCREEN
- ④ PROVIDE THROW REDUCING VANES ON ALL SIDES OF DIFFUSER FOR 50% THROW REDUCTION. TITUS MODEL TRV.

**PROJECT
RECORD
DOCUMENTS**

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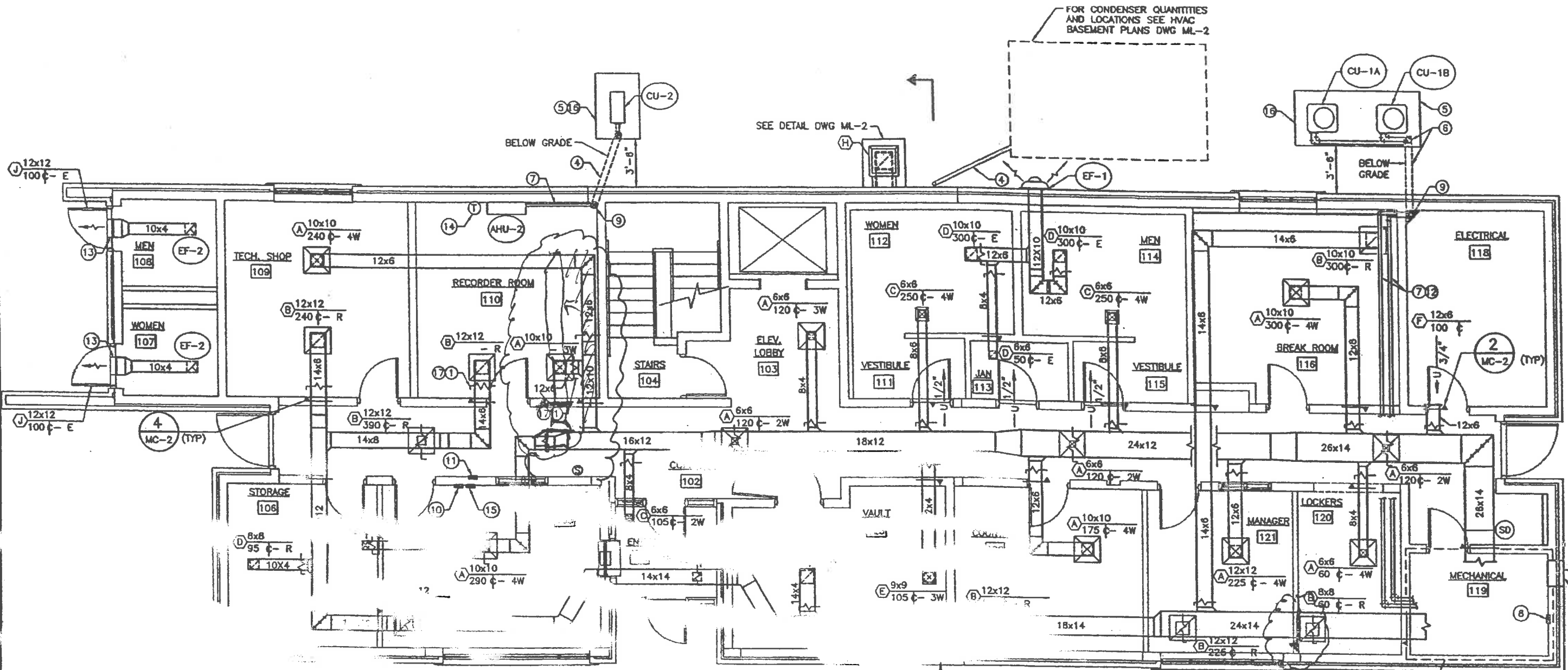
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR. 429	OSCEOLA AND ORANGE	403498-6-52-01

WESTERN BELTWAY
PART C - MAINLINE & RAMP PLAZAS

HVAC SCHEDULES

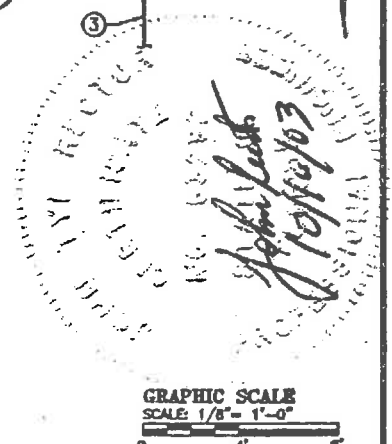
DRAWING NO.	MC-3
SHEET NO.	192



ATTACHMENT G
 BUILDING (AS-BUILT) HVAC PLANS

SHEET NO: AS-009

PROJECT
 RECORD
 DOCUMENTS



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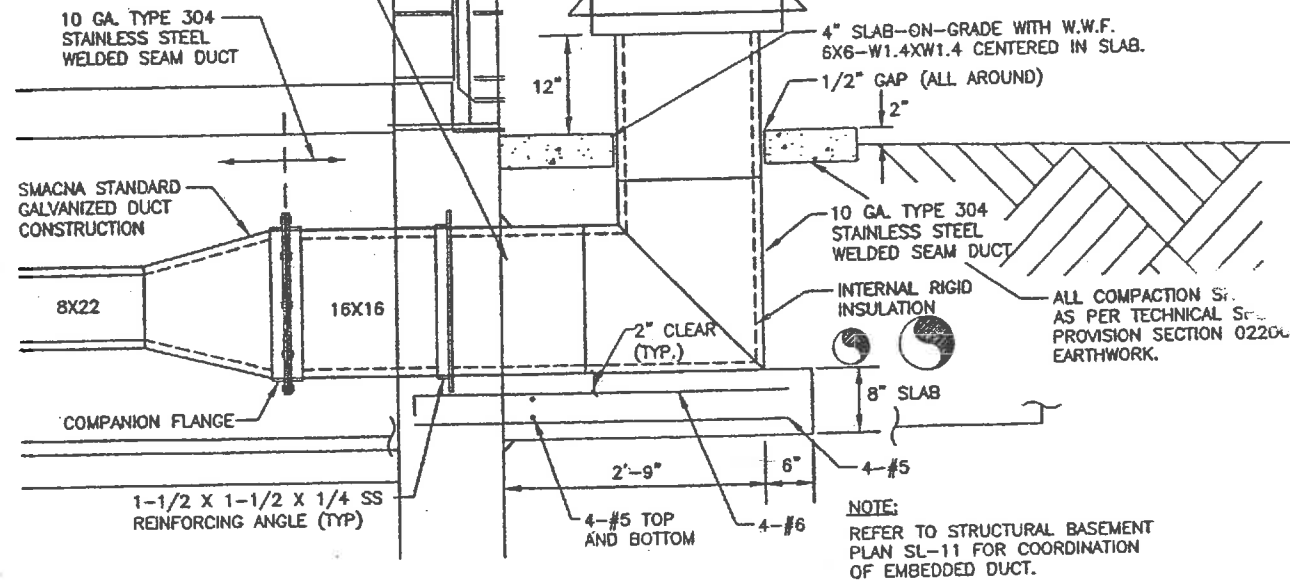
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 429	OSCEOLA AND ORANGE	403498-6-52-01

WESTERN BELTWAY PART C - MAINLINE PLAZA	
HVAC BUILDING PLAN	
DRAWING NO.	ML-1
SHEET NO.	193

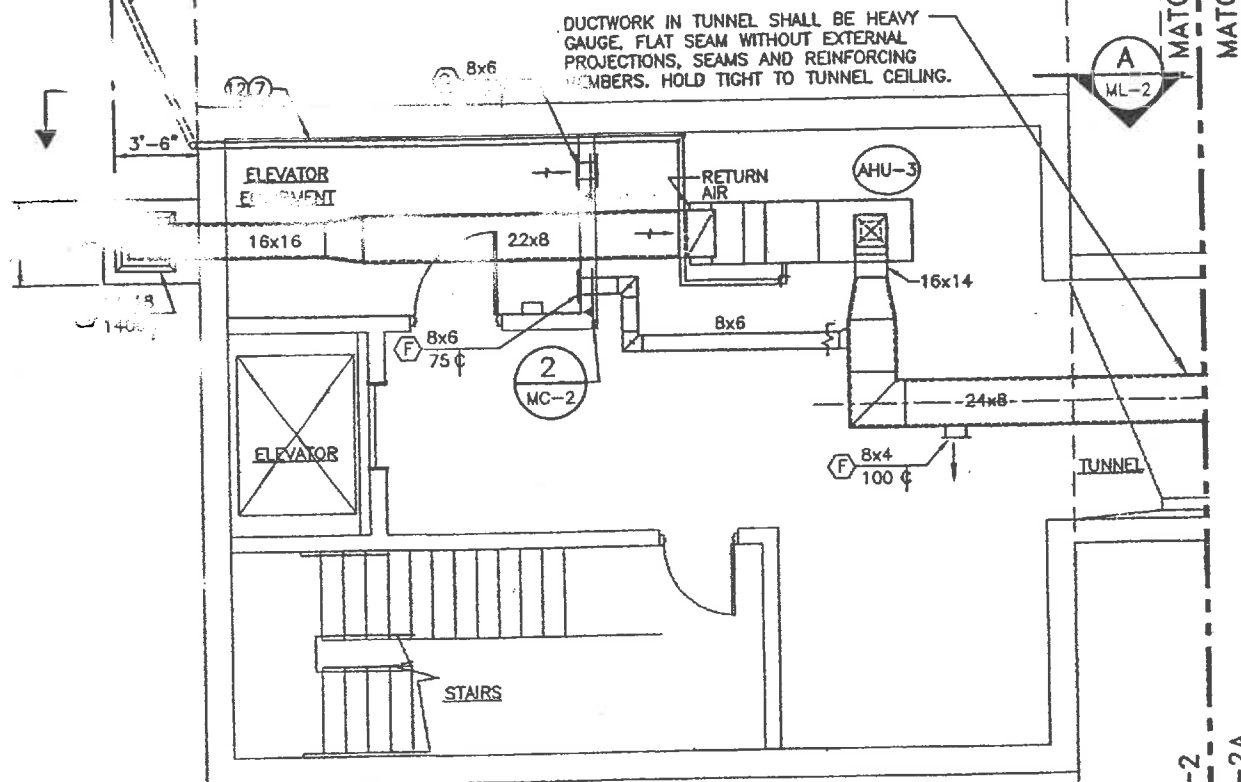
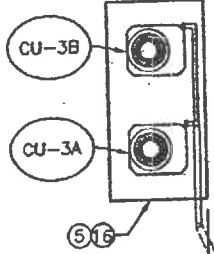
ATTACHMENT G
BUILDING (AS-BUILT) HVAC PLANS

SHEET NO: AS-010

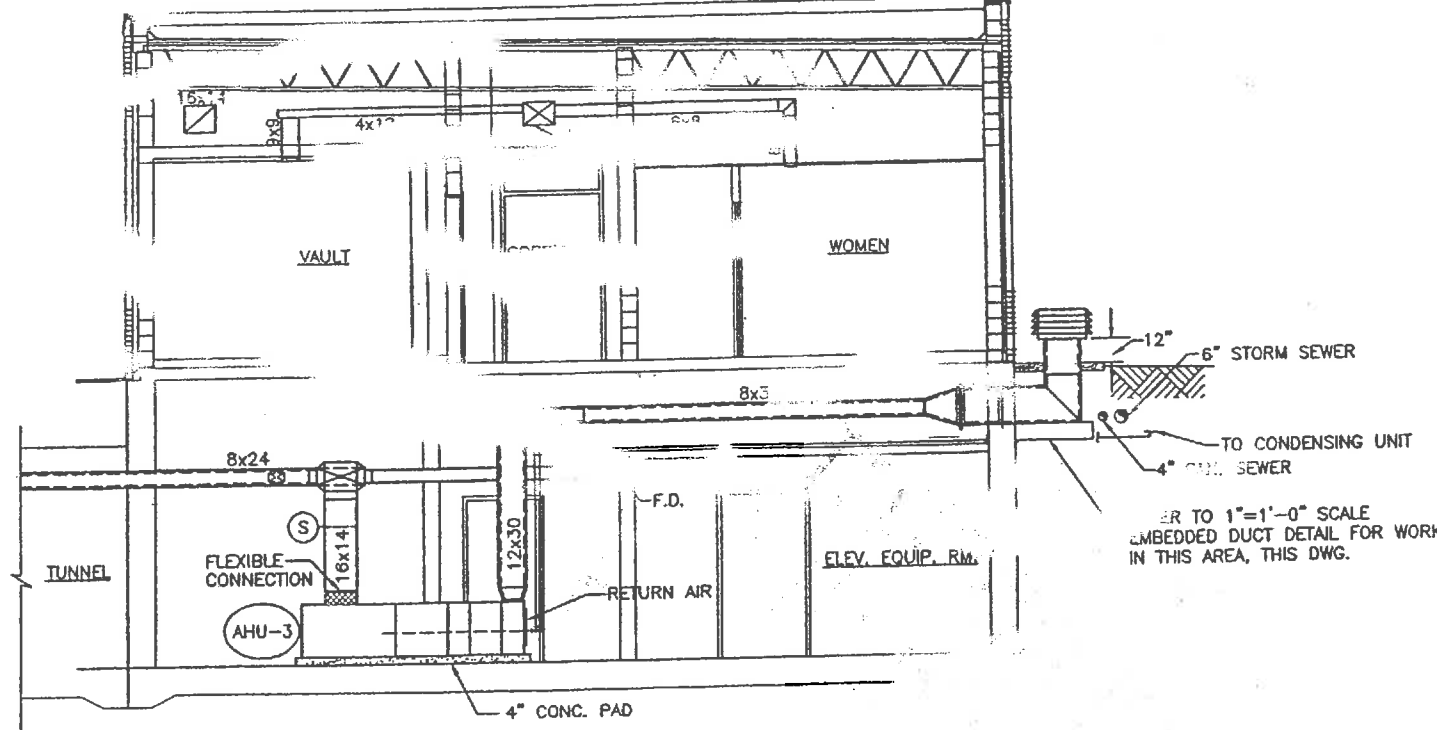
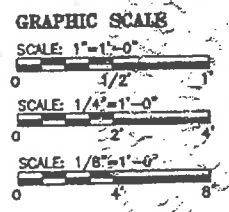
WATERPROOFING FOR PENETRATION AND TERMINATIONS IS COVERED IN SECTION 07120 - SBS COVERED SHEET WATERPROOFING.



EMBEDDED DUCT DETAIL
SCALE: 1"=1'-0"



HVAC BASEMENT PLAN
SCALE: 8"=1'-0"
PROJECT RECORD DOCUMENTS



SECTION A
SCALE: 1/4"=1'-0" ML-2

MATCHLINE DWG. ML-2
MATCHLINE DWG. ML-2A

MATCHLINE DWG. ML-2
MATCHLINE DWG. ML-2A

4/11/2007

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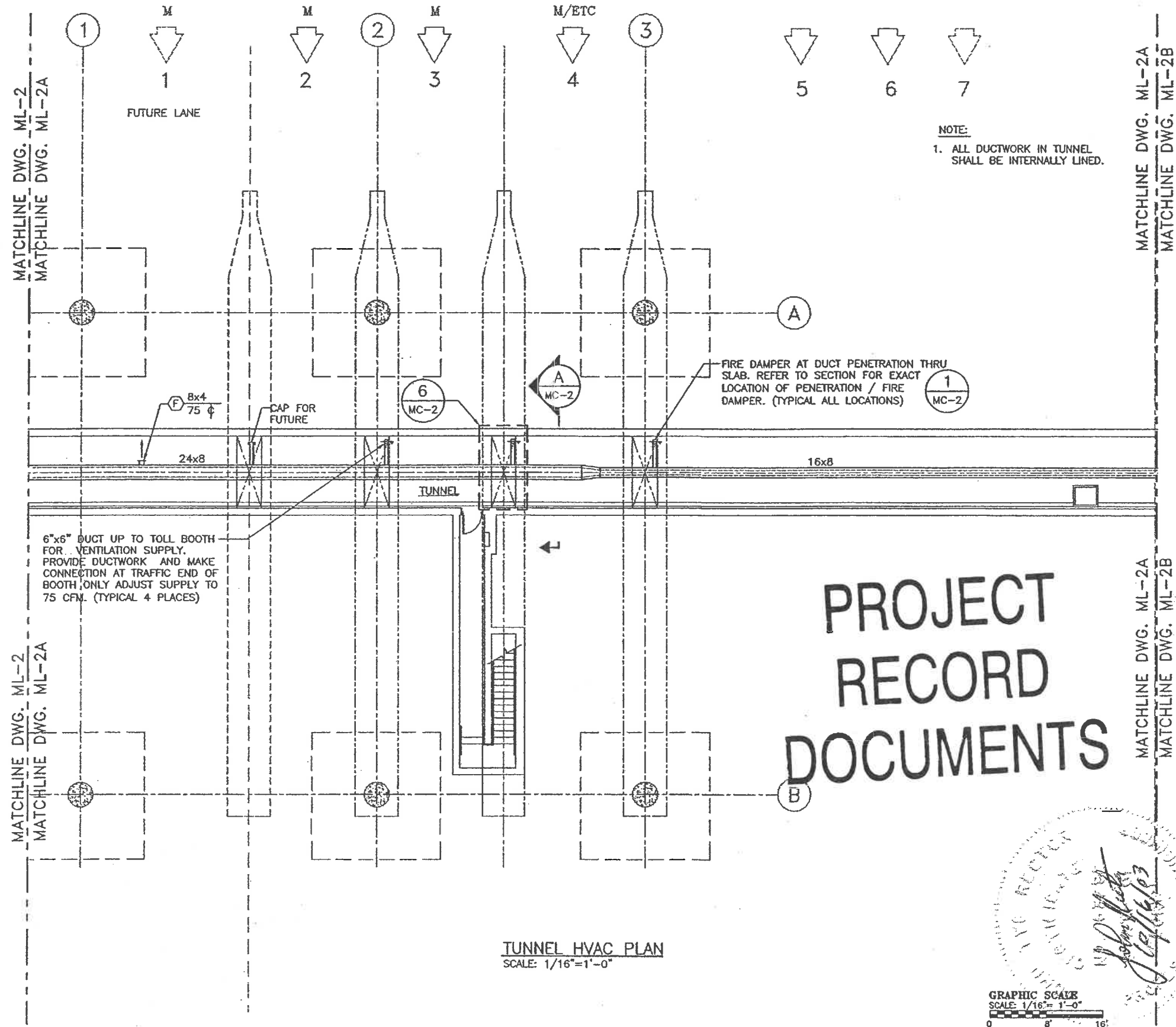
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 429	OSCEOLA AND ORANGE	403498-6-52-01

WESTERN BELTWAY PART C - MAINLINE PLAZA	
HVAC BASEMENT PLAN	

DRAWING NO.	ML-2
SHEET NO.	194

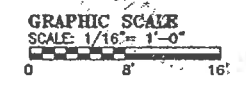
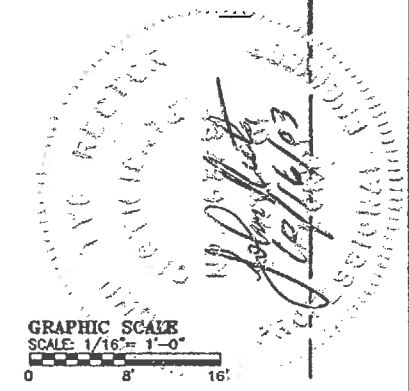
ATTACHMENT G
BUILDING (AS-BUILT) HVAC PLANS

SHEET NO: AS-011



PROJECT
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DOCUMENTS

TUNNEL HVAC PLAN
SCALE: 1/16"=1'-0"



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No. 00000002
John T. Rector, P.E. No. 53292

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR. 429	OSCEOLA AND ORANGE	403498-6-52-01

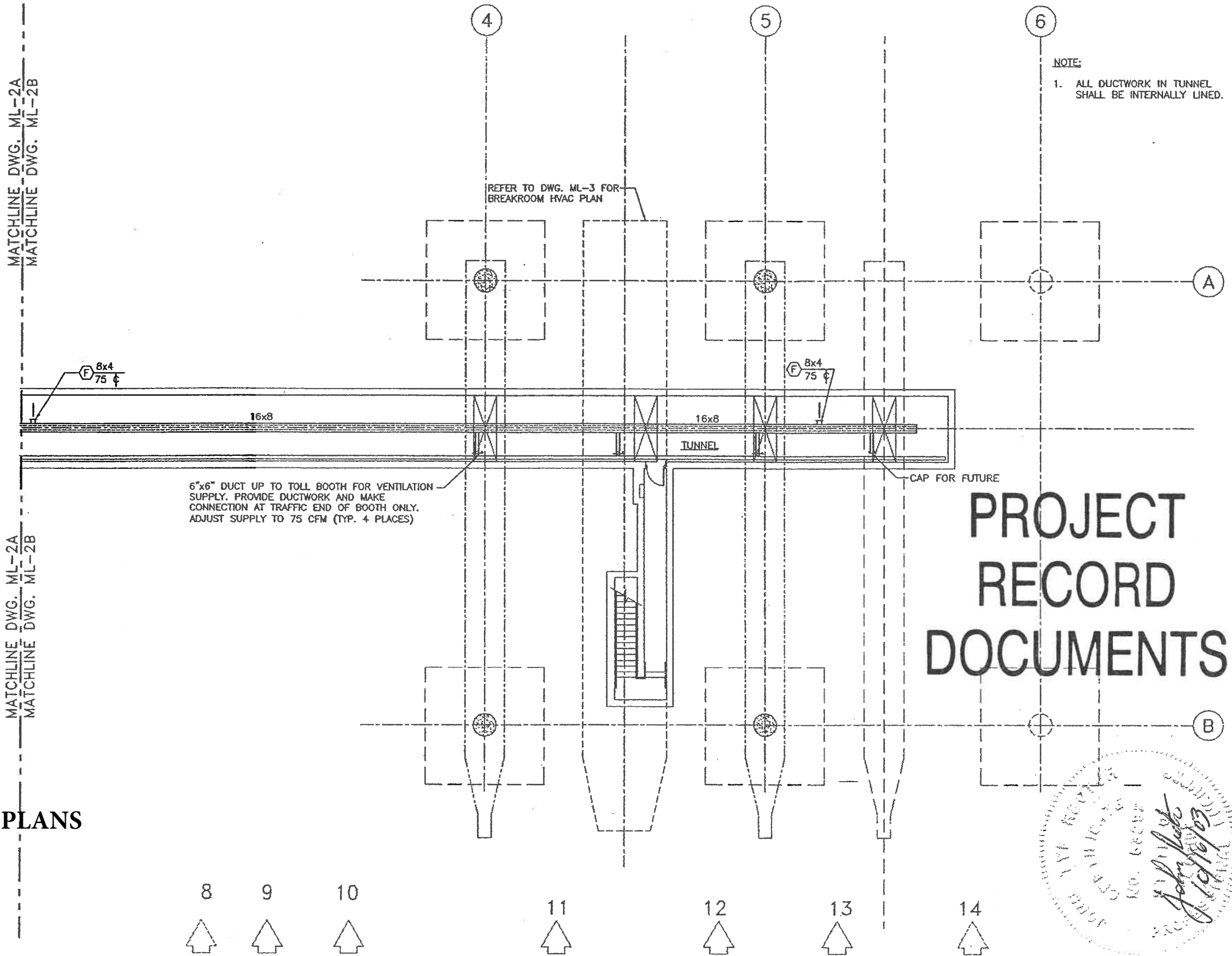
WESTERN BELTWAY PART C - MAINLINE PLAZA	
HVAC TUNNEL PLAN	

DRAWING NO. ML-2A
SHEET NO. 195

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ATTACHMENT G
BUILDING (AS-BUILT) HVAC PLANS

SHEET NO: AS-012



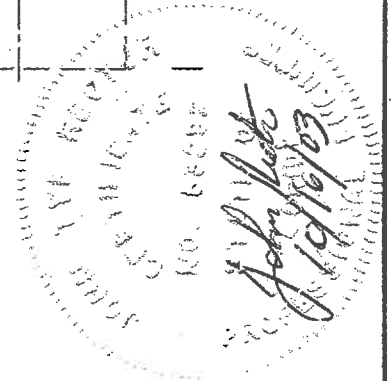
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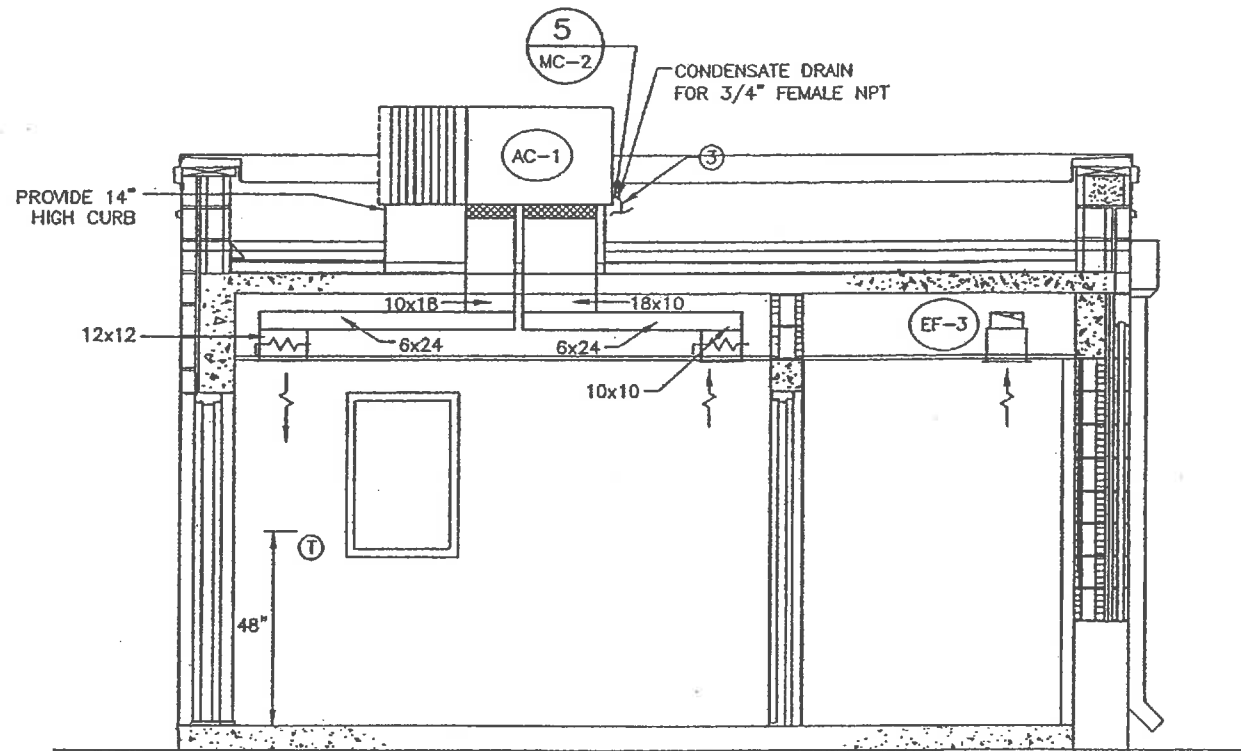
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7650 West Courtney
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Tampa, FL 33607-1482
No. 00000002
John T. Recker, P.E. No. 53292

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR. 429	OSCEOLA AND ORANGE	403498-6-52-01

WESTERN BELTWAY PART C - MAINLINE PLAZA	
HVAC TUNNEL PLAN	

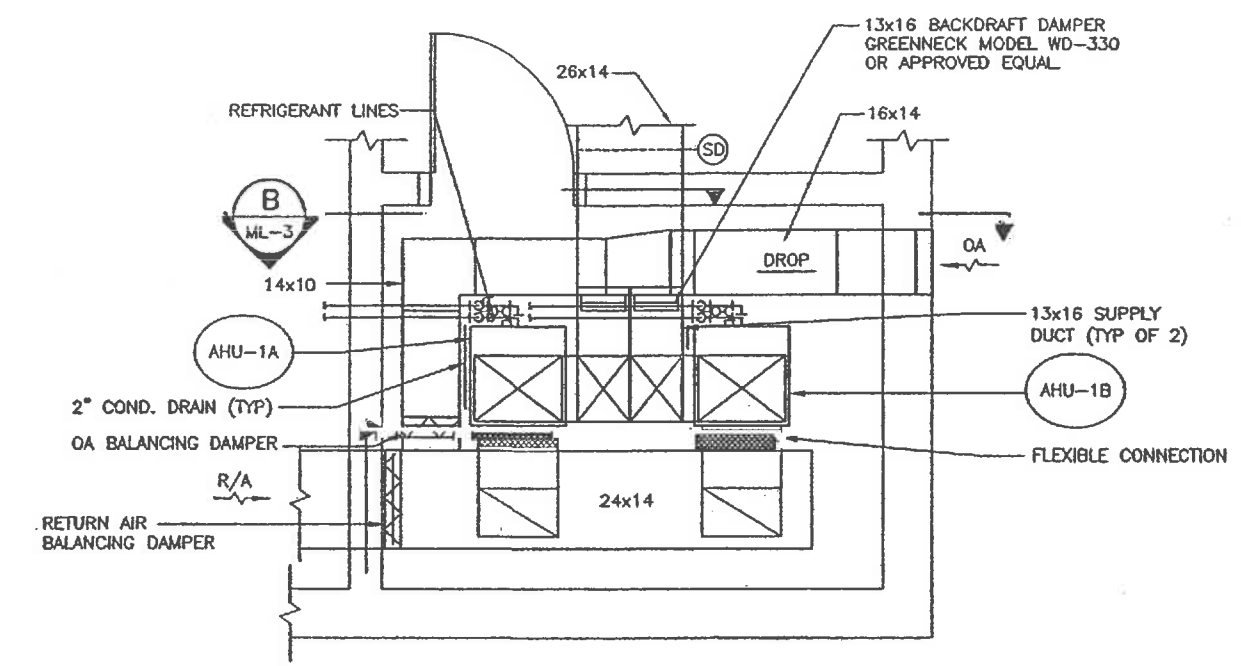
DRAWING NO. ML-2B
SHEET NO. 196





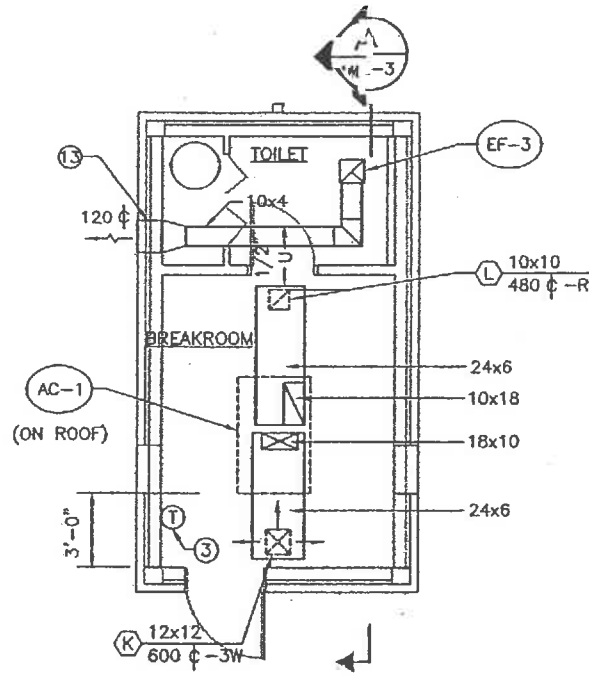
SECTION A
SCALE: 1/4"=1'-0" ML-3

NOTE:
ANCHOR ALL ROOF MOUNTED PIPING AND EQUIPMENT WITH STAINLESS STEEL FASTENERS.



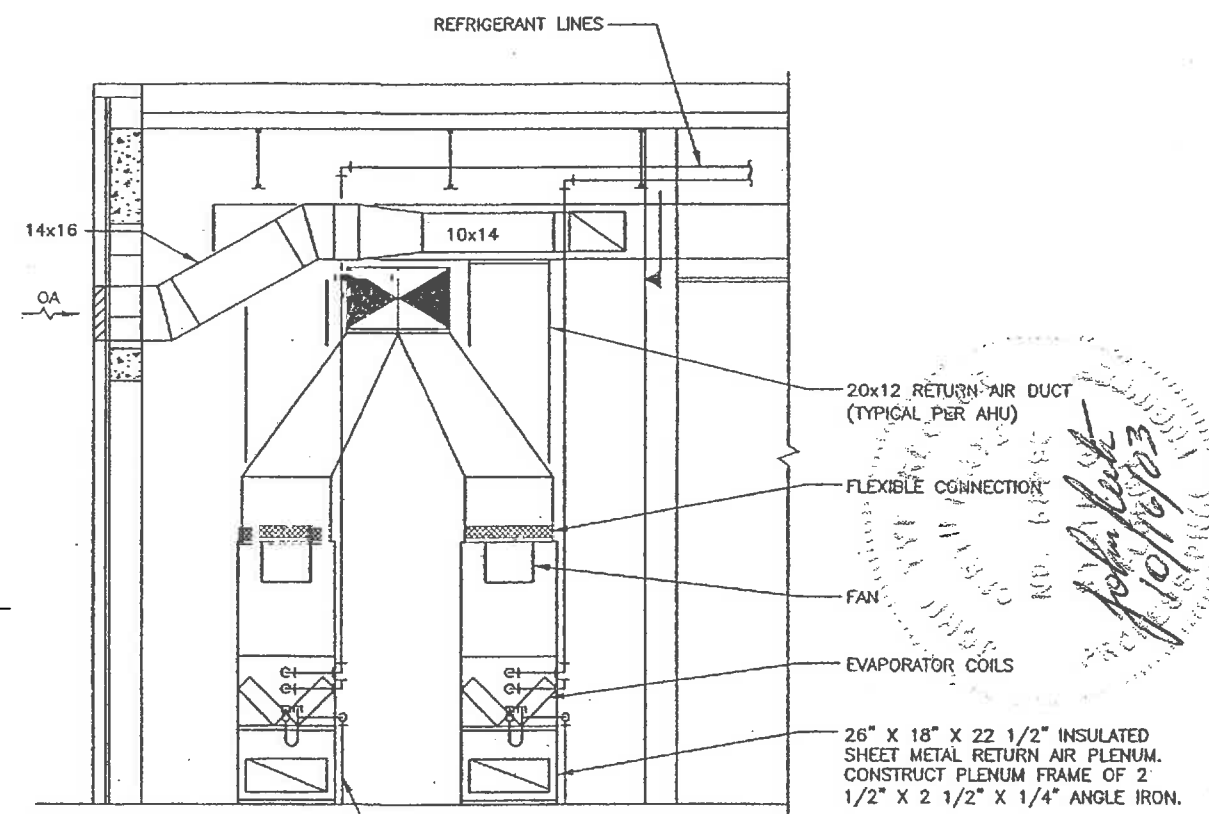
MECHANICAL ROOM PLAN 1
SCALE: 1/4"=1'-0" ML-3

ATTACHMENT G BUILDING (AS-BUILT) HVAC PLANS



HVAC BREAKROOM PLAN
SCALE: 1/8"=1'-0"

NOTE:
DIMENSIONS SHOWN FOR AIR CONDITIONING UNIT LOCATIONS ARE CRITICAL AND MUST BE MAINTAINED TO ALLOW SUFFICIENT CLEARANCE FOR MAINTENANCE.



SECTION B
SCALE: 1/4"=1'-0" ML-3

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

GRAPHIC SCALE
SCALE: 1/8"=1'-0"
0 4 8

SHEET NO: AS-013

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
No. 00000002
John T. Rector, P.E. No. 53292

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 429	OSCEOLA AND ORANGE	403498-6-52-01

WESTERN BELTWAY PART C - MAINLINE PLAZA	
HVAC ENLARGED PLANS AND SECTIONS	

DRAWING NO. ML-3
SHEET NO. 197