ELECTRICAL SYMBOL LEGEND

BASIC MATERIALS

SYMBOL	DESCRIPTION
S_a	SINGLE POLE SWITCH (SUBSCRIPT INDICATES ITEM CONTROLLED)
S_3	THREE-WAY SWITCH
S_4	FOUR-WAY SWITCH
S_P	SINGLE POLE SWITCH WITH PILOT LIGHT
S_{WP}	SINGLE POLE SWITCH WITH WEATHERPROOF COVER
S_{WPL}	SINGLE POLE SWITCH WITH WEATHERPROOF LOCKING COVER
S_K	SINGLE POLE KEY SWITCH
S_{3K}	THREE-WAY KEY SWITCH
S_{4K}	FOUR-WAY KEY SWITCH
S_L	SINGLE POLE SWITCH WITH SECURITY LOCKING KEY
S_{LV}	LOW VOLTAGE SWITCH
S_F	FAN SWITCH
S_M	MANUAL MOTOR STARTER WITH OVERLOAD HEATERS
S_{MP}	MANUAL MOTOR STARTER WITH OVERLOAD HEATERS AND PILOT LIGHT
S_D	DIMMER SWITCH (1500 WATTS UNLESS OTHERWISE INDICATED)
	DUPLEX RECEPTACLE
T	TWIST LOCK RECEPTACLE
SP	SURGE PROTECTION TYPE (TVSS) DUPLEX RECEPTACLE
	PEDESTAL MOUNTED RECEPTACLE
	FLOOR OUTLET BOX AND DUPLEX RECEPTACLE WITH APPROPRIATE FLANGE.
	FLOOR OUTLET BOX WITH DUPLEX RECEPTACLE AND ONE COMBINATION W/ VOICE/DATA OUTLET
	FLOOR OUTLET BOX WITH TWO DUPLEX RECEPTACLES AND ONE COMBINATION W/ VOICE/DATA OUTLET
	FLOOR POKE THRU - WITH POWER AND TELECOMM DEVICES
PP	POWER POLE
	DUPLEX RECEPTACLE WIRED TO COMPUTER PANEL
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER
	DUPLEX SAFETY RECEPTACLE MOUNT COVERPLATES WITH SPANNER HEAD SCREWS
EWC	SIMPLEX RECEPTACLE (EWC DENOTES ELECTRIC WATER COOLER. COORDINATE WITH EWC INSTALLER FOR MOUNTING HEIGHT)
WP	GFI RECEPTACLE. WP DENOTES WEATHERPROOF COVER.
	GFI RECEPTACLE MOUNTED ABOVE COUNTER
	TWO DUPLEX RECEPTACLES WITH COMMON COVER
	TWO DUPLEX RECEPTACLES WITH COMMON COVER MOUNTED ABOVE COUNTER
IG	ISOLATED GROUND DUPLEX RECEPTACLE, (ORANGE DEVICE)
	DUPLEX RECEPTACLE NOTE: TICK MARKS SHOWN ON ANY DEVICE REPRESENTS RECEPTACLE CONNECTED TO THE EMERGENCY CIRCUIT (RED DEVICE) TYPICAL FOR ANY DEVICE IN LEGEND
C	CLOCK RECEPTACLE
	SPECIAL PURPOSE RECEPTACLE, RATING AS NOTED
	LIGHTING CONTROL TIME CLOCK
GND	GROUND BAR
	PLUG-IN STRIP WITH RECEPTACLES, 18" O.C. UNLESS OTHERWISE INDICATED
	UNDER GROUND CONCRETE ENCASED DUCTBANK
J	JUNCTION BOX
J	JUNCTION BOX
J	JUNCTION BOX- WALL MOUNTED
J	JUNCTION BOX- FURNITURE SYSTEM FEED
	CONDUIT SEAL-OFF FITTINGS
SS C3	SURGE SUPRESSOR C3 = SERVICE ENTRANCE DEVICE B3 = DISTRIBUTION BOARD DEVICE A3 = PANELBOARD DEVICE
ST	SHUNT-TRIP BUTTON - FLUSH MOUNTED UNLESS OTHERWISE NOTED NEMA 3R FOR EXTERIOR LOCATIONS
	MAGNETIC MOTOR STARTER OR CONTACTOR SIZE AS NOTED
EDH-X	ELECTRIC DUCT HEATER
S	MOTOR CONNECTION, NUMBER DENOTES HORSEPOWER
VFD	VARIABLE FREQUENCY DRIVE
DDC	DIRECT DIGITAL CONTROL PANEL
T	TRANSFORMER

BASIC MATERIALS CONT.

SYMBOL	DESCRIPTION
	AUTOMATIC TRANSFER SWITCH
30AR / NF	NON-FUSED DISCONNECT SWITCH, SIZE & # OF POLES NF DENOTES NON-FUSED AR DENOTES AMP RATING OF SWITCH
30AR / 20AF	FUSED DISCONNECT AR DENOTES AMP RATING OF SWITCH AF DENOTES AMP FUSE SIZE
MCP SIZE	# OF POLES
30/3 – 3R	COMBINATION MAGNETIC MOTOR STARTER, SIZE & # OF POLES 3 POLE UNLESS OTHERWISE NOTED
0	ENCLOSURE NEMA RATING. NEMA STARTER SIZE
	BRANCH CIRCUIT PANELBOARD, UNDER 250 VOLTS, SURFACE MOUNTED
	BRANCH CIRCUIT PANELBOARD, UNDER 250 VOLTS, FLUSH MOUNTED
	BRANCH CIRCUIT PANELBOARD, OVER 250 VOLTS, SURFACE MOUNTED
	BRANCH CIRCUIT PANELBOARD, OVER 250 VOLTS, FLUSH MOUNTED
	BRANCH CIRCUIT CONDUIT CONCEALED ABOVE CEILING OR IN WALL. CONDUIT SHALL INCLUDE PHASE, NEUTRAL AND GROUND CONDUCTORS AS REQUIRED FOR CIRCUITS (UNLESS OTHERWISE NOTED).
	BRANCH CIRCUIT CONDUIT CONCEALED IN SLAB, UNDERGROUND OR UNDER FLOOR.
	BRANCH CIRCUIT CONDUIT EXPOSED
	GROUND OR GROUND ROD AS NOTED
EM	EMERGENCY BRANCH CONDUIT
UP	CONDUIT TURNING UP
DN	CONDUIT TURNING DOWN
	CONDUIT STUB
	CONDUIT CONTINUED
	FLEXIBLE CONDUIT
	EXISTING TO BE REMOVED
	EXISTING TO REMAIN
	FUTURE
	NEW

LIGHTING

	FLUORESCENT STRIP FIXTURE
FIXTURE DESIGNATION — A	FLUORESCENT FIXTURE
CIRCUIT NUMBER — 2 a	LOWER CASE LETTER INDICATES CONTROL CIRCUIT SWITCH LEG
	FLUORESCENT FIXTURE DIAGONAL SHADING DENOTES EMERGENCY LIGHT FIXTURE.
	FLUORESCENT WALL MOUNTED FIXTURE WITH WALL OUTLET BOX
	HID, FLUORESCENT, OR INCANDESCENT FIXTURE
	ACCENT FLOOD LIGHTING - AIMING AS INDICATED
	EXIT LIGHT FIXTURE DIRECTION ARROWS AS SHOWN (SHADED QUADRANT INDICATES FACE(S) OF FIXTURE)
	WALL MOUNTED EXIT LIGHT FIXTURE
	BATTERY PACK WITH TWIN HEADS

LIGHTING CONTROL

OS	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR MOUNTED AT 90" A.F.F.
OS	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
S_O	WALL MOUNTED PASSIVE INDRA-RED OCCUPANCY SENSOR WITH MANUAL OVERRIDE. MOUNT @ 48" A.F.F.
S_T	WALL MOUNTED DIGITAL TIMER. 'P' INDICATED WITH PILOT LIGHT MOUNT @ 48" A.F.F.

PROVIDE ALL NECESSARY POWER PACKS AND RELAYS FOR A FULLY FUNCTIONAL SYSTEM

TELEPHONE/COMPUTER RACEWAY SYSTEM

SYMBOL	DESCRIPTION
	COMMUNICATIONS "INFORMATION OUTLET" MTD. AT RECEPTACLE HEIGHT UNLESS OTHERWISE NOTED. DIVISION 16 CONTRACTOR TO PROVIDE 4" SQUARE WITH SINGLE GANG RAISED MUD RING. CONTRACTOR TO STUB UP (2) 1" CONDUITS AT EACH LOCATION TO ABOVE CEILING AND TURN TO ACCESSIBLE CEILING SPACE. CONTRACTOR TO PROVIDE BUSHING ON END OF CONDUIT AND PULLSTRING WITHIN.
TV	TELEDATA/TV OUTLET - 4" SQUARE 2 GANG BOX WITH (2) 1" CONDUITS PER ABOVE.
	TELEPHONE OUTLET FLOOR MOUNTED
TTB	TELEPHONE/COMPUTER TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET
T	TELEPHONE SYSTEM RACEWAY

FIRE ALARM/DETECTION SYSTEM

SYMBOL	DESCRIPTION
F	MANUAL PULL STATION
	CEILING SMOKE DETECTOR, PHOTO-ELECTRIC TYPE UNLESS OTHERWISE NOTED E = ELEVATOR WITH RECALL CONTACTS I = IONIZATION
	DUCT SMOKE DETECTOR R = RETURN S = SUPPLY
R	SUPERVISED CONTROL RELAY
R	DUCT SMOKE REMOTE ALARM INDICATING LAMP, W/ TEST SWITCH, WALL MOUNTED 72" AFF
RT	REMOTE INDICATING LAMP FIRE ALARM WITH TEST SWITCH WALL MOUNTED 72" AFF
F	COMBINATION AUDIBLE/VISUAL NOTIFICATION DEVICE
SS	FIRE ALARM SPEAKER - CEILING MOUNTED
FS	WALL MOUNTED SPEAKER WITH STROBE
SS	FIRE ALARM SPEAKER - WALL MOUNTED
F	FIRE ALARM SPEAKER WITH STROBE - CEILING MOUNTED
F	VISUAL SIGNALING UNIT, WALL MOUNTED (NO AUDIO DEVICE)
P	FIREMANS PHONE JACK
TS	SPRINKLER TAMPER SWITCH CONNECTION
FS	SPRINKLER WATERFLOW SWITCH CONNECTION
FP	FIRE ALARM SYSTEM PRINTER
ZAM	ZONE ADDRESSABLE MODULE
	ELECTROMAGNETIC DOOR HOLD OPEN DEVICE
H	ELECTROMAGNETIC DOOR HOLD OPEN DEVICE CONNECTION TO CLOSURE/ HOLDER
H	ELECTROMAGNETIC DOOR HOLD OPEN DEVICE CONNECTION TO CLOSURE/ HOLDER INCLUDES DETECTOR
H	CEILING HEAT DETECTOR 135° UNLESS OTHERWISE INDICATED.
T	BEAM DETECTOR - TRANSMITTER
R	BEAM DETECTOR - RECEIVER
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FAAP	FIRE ALARM ANNUNCIATOR PLAN - FLUSH MOUNTED
F	FIRE ALARM SYSTEM CONDUIT AND WIRING
E	FIREMAN'S ELEVATOR WARNING LIGHT

GENERAL NOTES:

1. LIGHT SWITCHES SHALL BE MOUNTED 48 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE, UNLESS OTHERWISE NOTED.
2. RECEPTACLES SHALL BE LOCATED 18 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE, UNLESS OTHERWISE NOTED. ABOVE-COUNTER RECEPTACLES SHALL BE MOUNTED 6" ABOVE BACK SPLASH TO CENTERLINE OF DEVICE.
3. EQUIPMENT SHALL BE OF MATERIALS SUITABLE FOR AND RATED FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED.
4. A. WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH NEC 110.
   B. THE EXCLUSIVELY-DEDICATED SPACE EXTENDING FROM FLOOR TO STRUCTURAL CEILING WITH A WIDTH AND DEPTH OF THE PANELBOARD OR SWITCHBOARD MUST BE CLEAR OF ALL PIPING, DUCTS OR EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES IN ACCORDANCE WITH NEC 408.
5. WHEN ELECTRICAL BOXES ARE LOCATED IN VERTICAL FIRE-RESISTIVE ASSEMBLIES, (CLASSIFIED AS FIRE/SMOKE AND SMOKE PARTITIONS), THEY SHALL BE INSTALLED WITHOUT AFFECTING THE FIRE CLASSIFICATION. ALL OF THE FOLLOWING CONDITIONS SHALL BE MET:
   A. ALL ELECTRICAL BOXES SHALL BE METALLIC.
   B. BOX OPENING SHALL OCCUR ONLY ON ONE SIDE OF FRAMING SPACE.
   C. BOX OPENING SHALL NOT EXCEED 16 SQUARE INCHES.
   D. ALL CLEARANCES BETWEEN OUTLET BOX AND GYPSUM BOARD SHALL BE COMPLETELY FILLED WITH JOINT COMPOUND (OR OTHER APPROVED MATERIAL).
   E. PROVIDE A WALL AROUND OUTLETS LARGER THAT 16 SQUARE INCHES. THE INTEGRITY OF THE WALL RATING SHALL BE MAINTAINED.
   F. THE TOTAL AGGREGATE SURFACE AREA OF THE BOXES SHALL NOT EXCEED 100 SQUARE INCHES PER 100 SQUARE FEET.
   G. OUTLET BOXES LOCATED ON OPPOSITE SIDES OF FIRE-RESISTIVE ASSEMBLIES SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 24 INCHES.
   H. OUTLET BOXES SHALL BE SECURELY FASTENED TO WALL FRAMING MEMBERS.
   I. THE OPENING IN THE GYPSUM BOARD FACING SHALL BE CUT NOT TO EXCEED 1/8 INCH BETWEEN THE EDGES OF THE OUTLET BOX AND THE EDGES OF THE OPENING.
6. ALL DEVICES SHALL BE MOUNTED VERTICAL, UNLESS OTHERWISE NOTED.
7. ALL RECEPTACLES SHALL BE MOUNTED SUCH THAT THE GROUND PIN IS MOUNTED DOWN.

COMPLIANCE STATEMENT

PLANS HAVE BEEN PREPARED IN COMPLIANCE WITH THE 2010 FLORIDA BUILDING CODE AND THE 2008 NATIONAL ELECTRICAL CODE.

ELECTRICAL DRAWING INDEX

NOTE: SOME SYMBOLS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT.

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Sheet Title:
LEGEND, GENERAL NOTES AND INDEX - ELECTRICAL

Sheet No.
E0.01

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Seal

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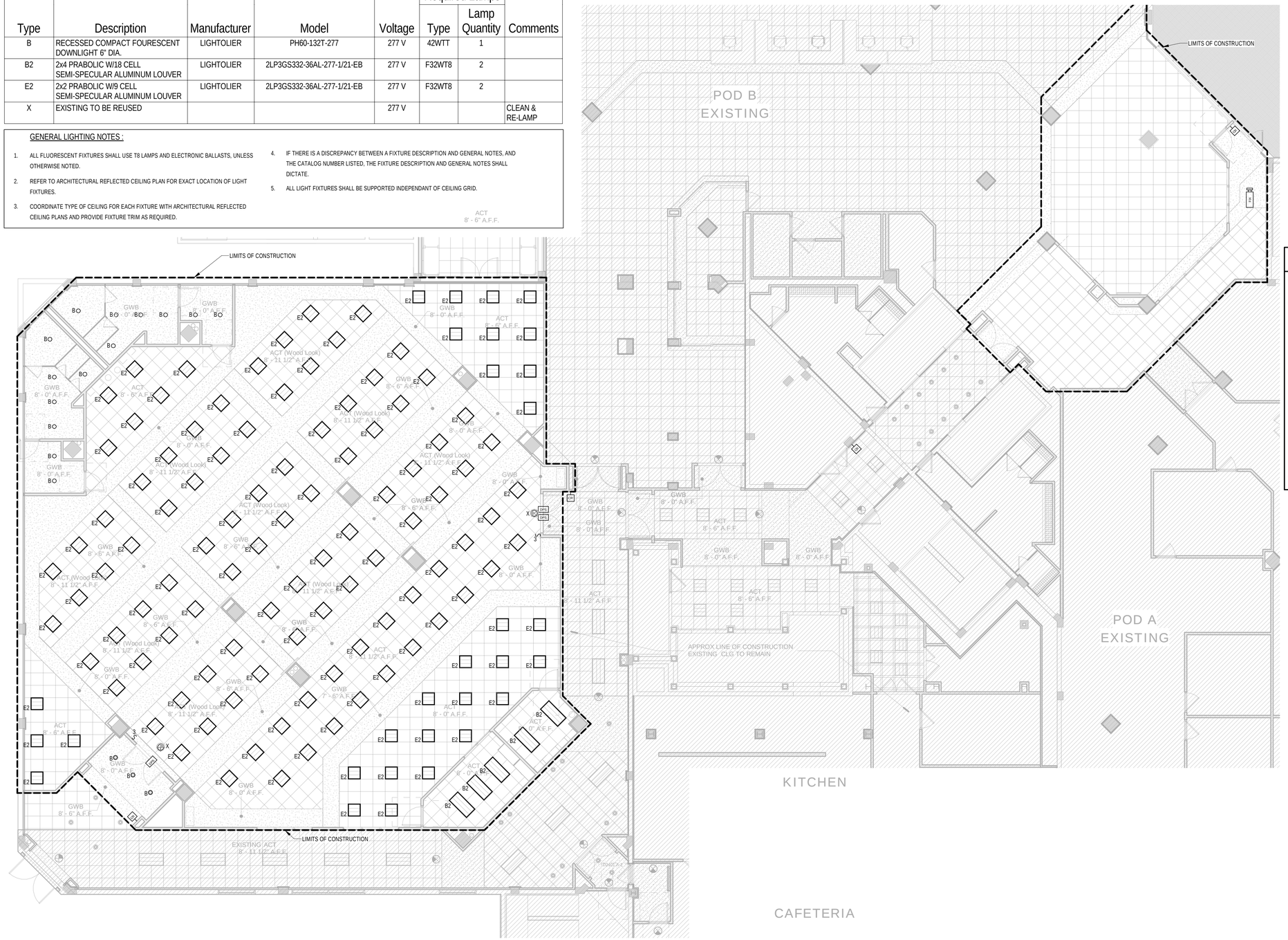
LIGHTING FIXTURE SCHEDULE

Type	Description	Manufacturer	Model	Voltage	Required Lamps: Type	Required Lamps: Lamp Quantity	Comments
B	RECESSED COMPACT FOURESCENT DOWNLIGHT 6" DIA.	LIGHTOLIER	PH60-132T-277	277 V	42WTT	1	
B2	2x4 PRABOLIC W/18 CELL SEMI-SPECULAR ALUMINUM LOUVER	LIGHTOLIER	2LP3GS332-36AL-277-1/21-EB	277 V	F32WT8	2	
E2	2x2 PRABOLIC W/9 CELL SEMI-SPECULAR ALUMINUM LOUVER	LIGHTOLIER	2LP3GS332-36AL-277-1/21-EB	277 V	F32WT8	2	
X	EXISTING TO BE REUSED			277 V			CLEAN & RE-LAMP

GENERAL LIGHTING NOTES :

1. ALL FLUORESCENT FIXTURES SHALL USE T8 LAMPS AND ELECTRONIC BALLASTS, UNLESS OTHERWISE NOTED.
2. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF LIGHT FIXTURES.
3. COORDINATE TYPE OF CEILING FOR EACH FIXTURE WITH ARCHITECTURAL REFLECTED CEILING PLANS AND PROVIDE FIXTURE TRIM AS REQUIRED.
4. IF THERE IS A DISCREPANCY BETWEEN A FIXTURE DESCRIPTION AND GENERAL NOTES, AND THE CATALOG NUMBER LISTED, THE FIXTURE DESCRIPTION AND GENERAL NOTES SHALL DICTATE.
5. ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDANT OF CEILING GRID.

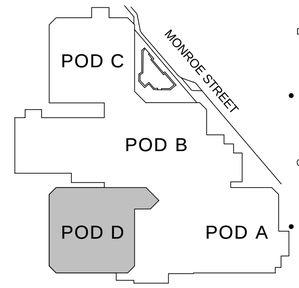


GENERAL NOTES:

1. ALL LIGHT FIXTURES SHALL BE CONNECTED TO EXISTING NORMAL POWER LIGHTING CIRCUITS. H3' UNLESS NOTED OTHERWISE. ALL LIGHT SWITCHES SHALL BE 277V RATED U.N.O.
2. COORDINATE EXACT LOCATION OF EACH LIGHT FIXTURE WITH MECHANICAL PIPING, CONDUIT, HVAC GRILLES, etc. FIELD ADJUST ANY LIGHT TO AVOID CONFLICT.
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT TYPE AND HEIGHT OF CEILING IN EACH ROOM. COORDINATE WITH ARCHITECT/ENGINEER PRIOR TO ROUGH-IN OF ANY FIXTURES. COORDINATE ALL CONTROL JOINTS LOCATIONS WITH LIGHT FIXTURES PRIOR TO ANY ROUGH-IN OF FIXTURES.
4. ALL ELECTRICAL CONTROL DEVICES SHALL BE MOUNTED AT A HEIGHT THAT IS ACCESSIBLE TO THE DISABLED IN ACCORDANCE WITH THE FLORIDA ACCESSIBILITY CODE. REFER TO ELECTRICAL SHEET E000 FOR MOUNTING HEIGHTS OF ELECTRICAL CONTROL DEVICES.
5. PROVIDE CONDUIT AND WIRING AS REQUIRED TO MEET CIRCUITING SHOWN TO CONFORM TO NEC REQUIREMENTS. PROVIDE EQUIPMENT GROUND CONDUCTOR IN ALL RACEWAYS.
6. MULTIPLE LIGHT SWITCHES, AT THE SAME LOCATION, SHALL BE GANGED TOGETHER UNDER ONE COVER PLATE. DIMMER SWITCHES SHALL BE INSTALLED IMMEDIATELY BELOW SWITCH LOCATIONS.
7. CORRIDOR LIGHTING TO BE CONNECTED TO EXISTING CORRIDOR LIGHTING CIRCUITS.

KEYNOTES:

1. SAME AS TYPE A, EXCEPT CIRCUIT IS FED FROM EMERGENCY DISTRIBUTION TYPICAL.
2. SAME AS TYPE B, EXCEPT CIRCUIT IS FED FROM EMERGENCY DISTRIBUTION, TYPICAL.



KEY PLAN

1 E1.01 SECOND FLOOR POD D PLAN PHASE II - LIGHTING

1/8" = 1'-0"

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SECOND FLOOR POD D PLAN PHASE II - LIGHTING

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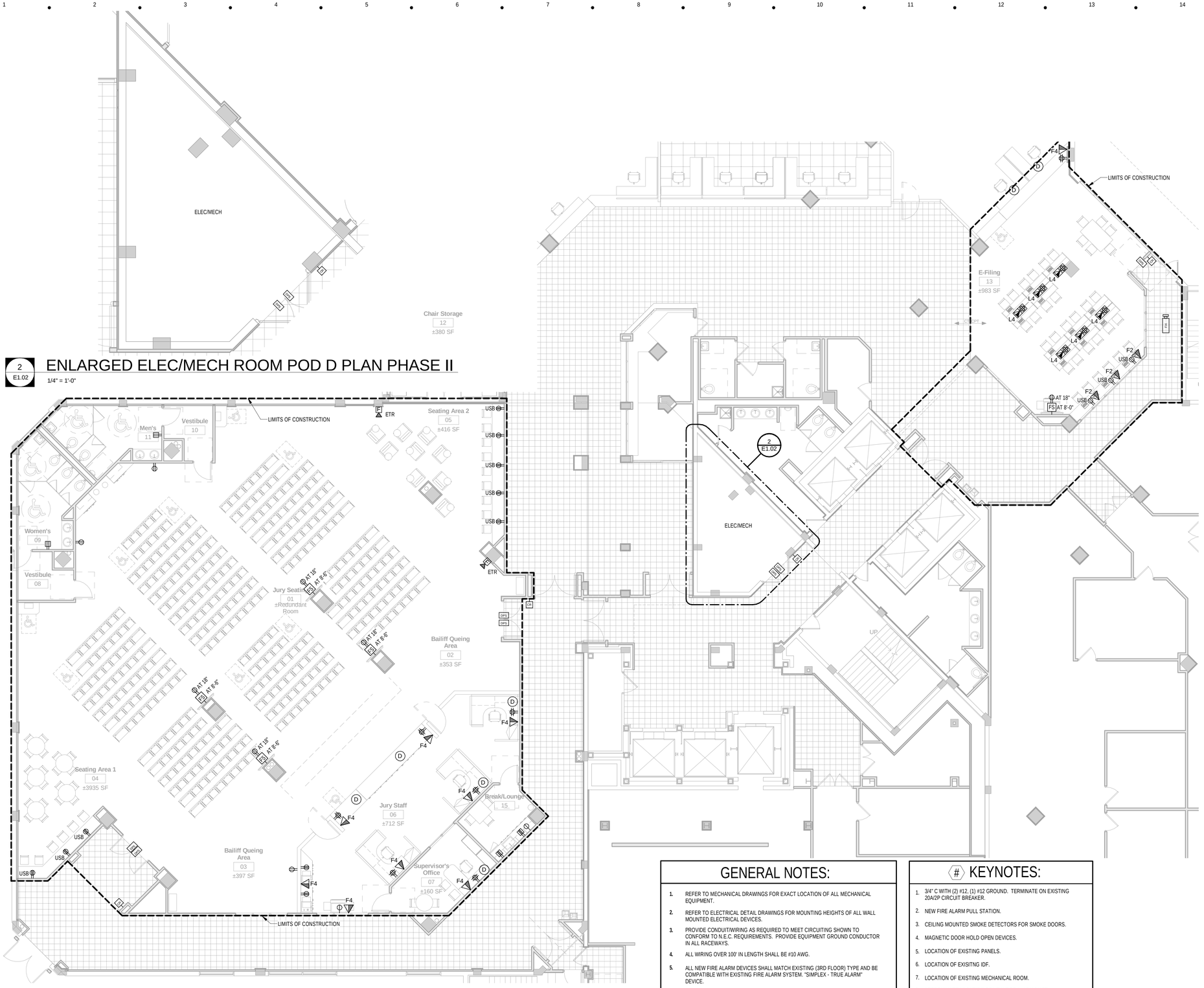
Sheet No.
E1.01



2 E1.02 ENLARGED ELEC/MECH ROOM POD D PLAN PHASE II

1/4" = 1'-0"

1 E1.02 SECOND FLOOR POD D PLAN PHASE II - POWER & SYSTEMS

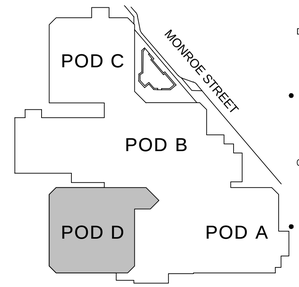
1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF ALL MECHANICAL EQUIPMENT.
2. REFER TO ELECTRICAL DETAIL DRAWINGS FOR MOUNTING HEIGHTS OF ALL WALL MOUNTED ELECTRICAL DEVICES.
3. PROVIDE CONDUIT/WIRING AS REQUIRED TO MEET CIRCUITING SHOWN TO CONFORM TO N.E.C. REQUIREMENTS. PROVIDE EQUIPMENT GROUND CONDUCTOR IN ALL RACEWAYS.
4. ALL WIRING OVER 100' IN LENGTH SHALL BE #10 AWG.
5. ALL NEW FIRE ALARM DEVICES SHALL MATCH EXISTING (3RD FLOOR) TYPE AND BE COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM. "SIMPLEX - TRUE ALARM" DEVICE.
6. ALL EXISTING CABLE RENDERED "ABANDONED" SHALL BE REMOVED ENTIRELY. ANY CABLE LEFT IN PLACE (NOT USED) SHALL BE TAGGED WITH LABELS INDICATING "FUTURE USE" WITH IDENTIFICATION AT BOTH ENDS.

KEYNOTES:

1. 3/4" C WITH (2) #12, (1) #12 GROUND. TERMINATE ON EXISTING 20A/2P CIRCUIT BREAKER.
2. NEW FIRE ALARM PULL STATION.
3. CEILING MOUNTED SMOKE DETECTORS FOR SMOKE DOORS.
4. MAGNETIC DOOR HOLD OPEN DEVICES.
5. LOCATION OF EXISTING PANELS.
6. LOCATION OF EXISITNG IDF.
7. LOCATION OF EXISTING MECHANICAL ROOM.
8. APPROXIMATE LOCATION OF NEW FIRE ALARM DUCT DETECTORS FOR CONTROL ON NEW FIRE SMOKE DAMPERS. COORDINATE LOCATION WITH MECHANICAL CONTRACTORS.



KEY PLAN

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Sheet Title:

SECOND FLOOR POD D PLAN PHASE II - POWER & SYSTEMS

Sheet No.

E1.02

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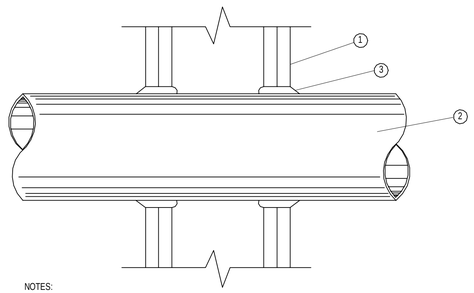


NOTES:

1. WALL ASSEMBLY - THE 1, 2, 3, OR 4 HOUR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY.

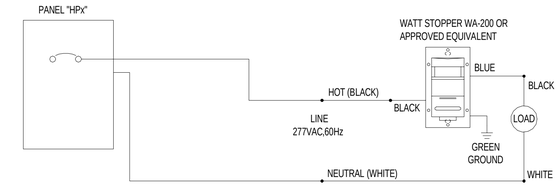
2. CONDUIT - NOM 4" DIA OR SMALLER STEEL ELECTRICAL METALLIC TUBING. A MAX OF ONE CONDUIT IS PERMITTED IN THE FIRESTOP SYSTEM. CONDUIT TO BE INSTALLED NEAR CENTER OF STUD CAVITY WIDTH AND TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.

3. FILL VOID OR CAVITY MATERIAL - CAULK FILL MATERIAL BEARING THE UL CLASSIFICATION MARKING INSTALLED TO COMPLETELY FILL ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND GYPSUM WALLBOARD AND WITH A MIN 1/4" DIAM BEAD OF CAULK APPLIED TO PERIMETER OF CONDUIT AT ITS EGRESS FROM THE WALL. CAULK INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW:

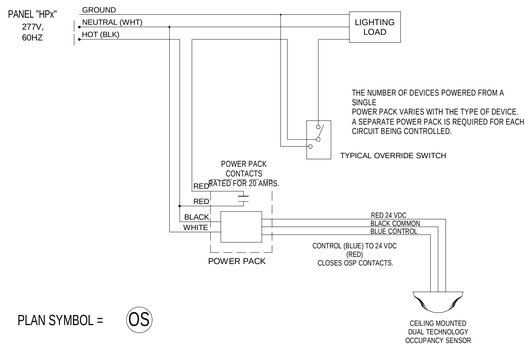
MAX CONDUIT DIAM, IN.	ANNULAR SPACE, IN.	F RATING, HR.	T RATING, HR.
1	0 TO 3/16	1 OR 2	0, 1 OR 2
1	1/4 TO 1/2	3 OR 4	3 OR 4
4	0 TO 1-1/2	1 OR 2	0
6	1/4 TO 1/2	3 OR 4	0
12	3/16 TO 3/8	1 OR 2	0

CONDUIT PENETRATION OF FIREWALL
UL SYSTEM NO. W-L-1001

3



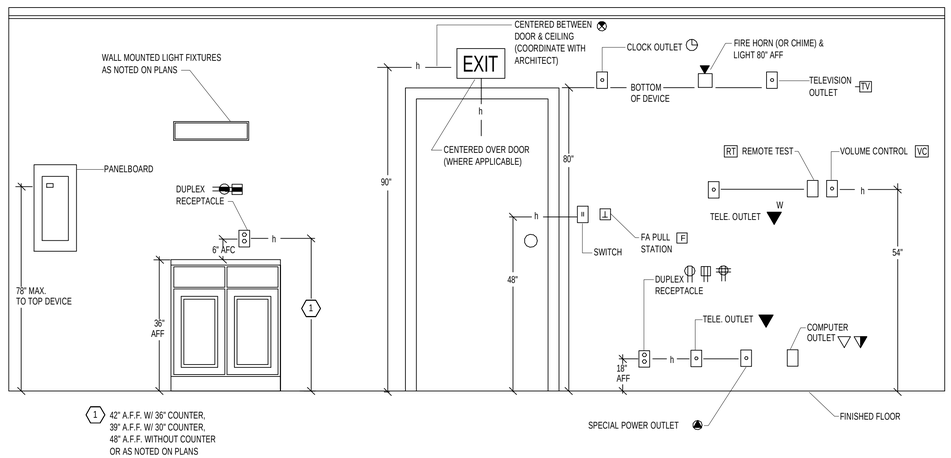
PLAN SYMBOL = S_O



PLAN SYMBOL = OS

TYPICAL OCCUPANCY SENSOR WIRING DIAGRAM
No Scale

1



MOUNTING HEIGHTS
No Scale

2

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EB #0000015 TLC NO: 714124

Seal:

Project Phase:
Design Development

Project #: 0118.22
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No.	Date	Revision

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Sheet Title:
DETAILS - ELECTRICAL

Sheet No.
E2.01

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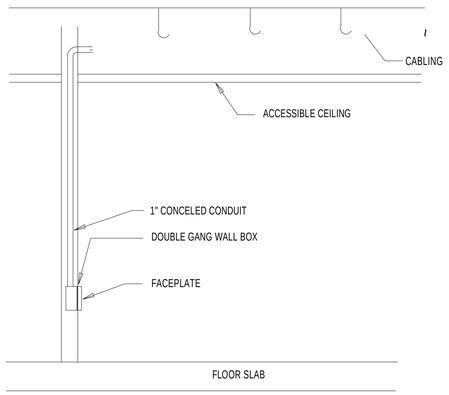
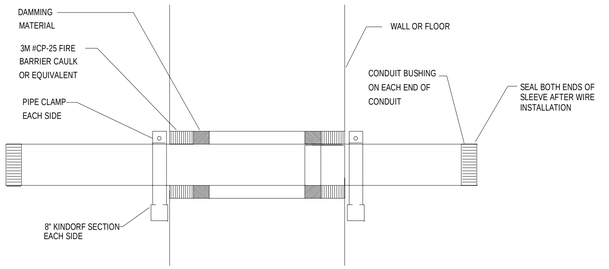


TYPICAL FLUSH OUTLET DETAIL 3
No Scale



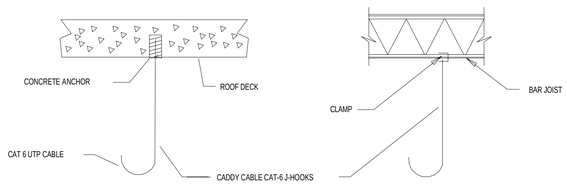
NOTE: CONTRACTOR SHALL RESTORE THE INTEGRITY OF RATED WALLS PENETRATED PER SPECIFICATIONS. ANY NEW PENETRATIONS SHALL FOLLOW THIS GUIDELINE.

IF ADDITIONAL SLEEVES ARE NEEDED OR REQUESTED USE FOLLOWING WALL SLEEVE SIZING TABLE EQUIVALENT TO CAT. 5 CABLES
ADJUST COUNT BASED ON CABLE SIZES

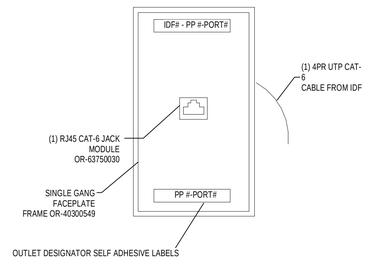
# OF CABLES	SLEEVE SIZE
1-8	1"
9-14	1 1/4"
15-18	1 1/2"
19-26	2"
27-40	2 1/2"
41-60	3"

UNLESS OTHERWISE NOTED ON DRAWINGS

HORIZONTAL/VERTICAL PENETRATION DETAIL 1
No Scale



CABLE HANGERS 4
No Scale



IDF # : IDF WHERE OUTLET IS CONNECTED TO
PP # : PATCH PANEL IN IDF
PORT #: PORT # ON PATCH PANEL

FOR THE OTHER JACK COUNT IN OUTLET PROVIDE AS FOLLOWS			
# OF JACKS	FACE PLATE	# OF RJ45 CAT-6 JACKS OR-63750030	# OF UTP CAT-6 CABLES FROM IDF
F2	OR-40300548	2	2
F3	OR-40300547	3	3
F4	OR-40300546	4	4
F6	OR-40300545	6	6

TYPICAL DATA OUTLET 2
No Scale

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DETAILS - ELECTRICAL

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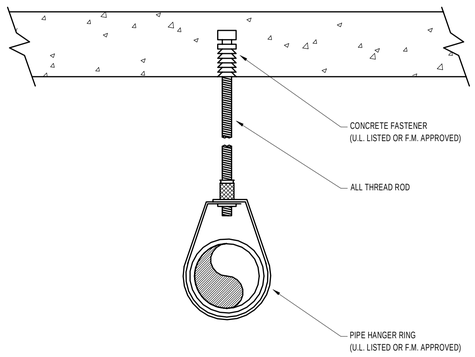
Florida License #48477

Seal

Sheet No.
E2.02

SCOPE OF WORK

SCOPE OF WORK: THE SPRINKLER CONTRACTOR SHALL RELOCATE EXISTING SPRINKLER HEADS TO ACCOMMODATE FOR NEW WALL AND CEILING LAYOUT. CONTRACTOR SHALL PROVIDE HYDRAULIC CALCULATION TO VERIFY THAT THE SPRINKLER SYSTEM WILL FUNCTION PROPERLY WITH THE NEW SPRINKLER HEAD LAYOUT! PROVIDE ALL NEW PIPING, FITTINGS AND SPRINKLER HEADS FOR NEW LAYOUT. CONTRACTOR SHALL COORDINATE DOWN-TIME WITH OWNER AND THE LOCAL AHJ.



HANGER - CONCRETE
No Scale

2

61G15 FAC COMPLIANCE NOTES

(2) ACCEPTANCE TEST CRITERIA IDENTIFIED:
THE ACCEPTANCE TESTING FOR ABOVE GROUND WET-PIPE FIRE SPRINKLER SYSTEM AND ALL RELATED COMPONENTS SHALL CONSIST OF ALL APPLICABLE ITEMS SHOWN ON FORMS: NFPA 13, 2002, CHAPTER 16, FIGURE 16.1, CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR ABOVEGROUND PIPING, AND NFPA 13, 2002 EDITION, CHAPTER 10, FIGURE 10.10.1, CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING. NFPA 13, 2002 " INSTALLATION OF SPRINKLER SYSTEMS" AND NFPA 24, "INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES" REQUIREMENTS ARE APPLICABLE IN THEIR ENTIRETY RELATING TO DESIGN, INSTALLATION AND ACCEPTANCE TESTING CRITERIA.

(3) STRUCTURAL SUPPORT AND STRUCTURAL OPENINGS REQUIRED BY THE FIRE PROTECTION SYSTEM ARE SHOWN ON THE DOCUMENTS THE EXISTING STRUCTURAL SUPPORT SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED BY A STATE OF FLORIDA LICENSED STRUCTURAL ENGINEER IN ACCORDANCE WITH THE FLORIDA ADMINISTRATIVE CODE. NO ADDITIONAL DEAD LOADS ARE REQUIRED FOR THE MODIFICATION OF THIS STANDPIPE SYSTEM.

B) APPLICABLE NFPA STANDARD TO BE APPLIED
NFPA 13, AND FLORIDA FIRE PREVENTION CODE LATEST EDITION.

(A) POINT OF SERVICE
THE POINT OF SERVICE IS AN EXISTING 8" SPRINKLER MAIN THAT BEGINS AT THE NEW BACKFLOW THAT IS LOCATED APPROX. 30' FROM THE BUILDING SPRINKLER RISER.

(C) CLASSIFICATION OF HAZARD OCCUPANCY FOR EACH ROOM OR AREA

LIGHT HAZARD: OPEN OFFICE SPACE, RESTROOMS AND CONFERENCE ROOMS

ORDINARY HAZARD GROUP 1: STORAGE AREAS, MECHANICAL ROOMS, MATERIAL STORAGE AND ELECTRICAL ROOMS

(D) DESIGN APPROACH:

LIGHT HAZARD :
SPRINKLER SYSTEM TO BE ATTACHED AND SUPPLIED FROM SPRINKLER RISER STANDPIPE. SYSTEM SHALL BE EXTENDED INTO ENTIRE BUILDING IN ACCORDANCE WITH NFPA-13. U.L. LIGHT HAZARD. LISTED AND APPROVED UPRIGHT & PENDANTS (5.6 K-FACTOR) SPRINKLER HEADS TO BE USED. HEADS SHALL BE RATED AT 155 DEGREES. MAX. SPRINKLER HEAD SPACING SHALL NOT EXCEED 225 SQ FT WITH A .10 DENSITY. SPRINKLER CONTRACTOR SHALL PROVIDE HYDRAULIC CALCULATION. 1500 SQ. FT. SHALL BE USED WHEN PERFORMING HYDRAULIC CALCULATION

ORDINARY HAZARD GROUP 1 :
SPRINKLER SYSTEM TO BE ATTACHED AND SUPPLIED FROM SPRINKLER RISER STANDPIPE. SYSTEM SHALL BE EXTENDED INTO ENTIRE BUILDING IN ACCORDANCE WITH NFPA-13. U.L. ORDINARY HAZARD. LISTED AND APPROVED UPRIGHTS & PENDANTS (5.6 K-FACTOR) SPRINKLER HEADS TO BE USED. HEADS SHALL BE RATED AT 155 DEGREES. MAX. SPRINKLER HEAD SPACING SHALL NOT EXCEED 130 SQ FT WITH A .15 DENSITY SPRINKLER CONTRACTOR SHALL PROVIDE HYDRAULIC CALCULATION. 1500 SQ FT SHALL BE USED WHEN PERFORMING HYDRAULIC CALCULATIONS

(F) FLOW TEST DATA: SPRINKLER CONTRACTOR SHALL PROVIDE A CURRENT FLOW TEST THAT SHALL BE INCLUDED WITH SHOP DRAWING SUBMITTAL.

(G) VALVING AND ALARM REQUIREMENTS TO MINIMIZE POTENTIAL FOR IMPAIRMENTS AND UNRECOGNIZED FLOW OF WATER

THE EXISTING FIRE SPRINKLER RISER FOR THIS BUILDING IS EQUIPPED WITH A WATER FLOW SWITCH WITH A LOCAL ALARM AND OFF-SITE MONITORING.

(I) BACKFLOW PREVENTION AND METERING SPECIFICATIONS:

THE BACKFLOW PREVENTION DEVICE ASSEMBLY AND METERING EQUIPMENT ARE EXISTING AND MEET THE REQUIREMENTS OF THE LOCAL WATER PURVEYOR. THE MAX. PRESSURE LOSS SHALL NOT EXCEED -8 P.S.I. @ 1000 GPM

(J) QUALITY AND PERFORMANCE SPECIFICATIONS OF ALL YARD AND INTERIOR FIRE PROTECTION COMPONENTS

ALL NEW YARD AND INTERIOR FIRE PROTECTION EQUIPMENT SHALL BE UL LISTED AND FM APPROVED.

FIRE PROTECTION LEGEND

SYMBOL	DESCRIPTION
OR	- CONTROL VALVE W/TAMPER SWITCH
	- CHECK VALVE
	- FLOW SWITCH
FDC	- FIRE DEPARTMENT CONNECTION
PIV	- POST INDICATOR VALVE W/TAMPER SWITCH
FVC	- FIRE VALVE CABINET
FDV	- STANDPIPE WITH FIRE DEPARTMENT VALVE
	- SPRINKLER AND DRAIN RISER
	- BACKFLOW PREVENTOR W/TAMPER SWITCHES
	- ROOF MANIFOLD
	- HYDRAULIC REFERENCE NODE
	- NEW SPRINKLER PIPING
F.C.	- FLUSHING CONNECTION
	- EXISTING \" UPRIGHT SPRINKLER
	- EXISTING \" RECESSED SPRINKLER
	- EXISTING \" CONCEALED SPRINKLER
	- EXISTING CONTROL VALVE W/TAMPER SWITCH
	- EXISTING SPRINKLER PIPING
	- EXISTING SPRINKLER PIPING TO BE REMOVED
	- CONNECT TO EXISTING
	- DEMOLISH TO POINT INDICATED
1	- REVISION REFERENCE
1 FP-1	- DETAIL REFERENCE: TOP-DETAIL#, BOTTOM-DRAWING# SHOWN ON

NOTE: SOME SYMBOLS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT

FIRE SPRINKLER LEGEND

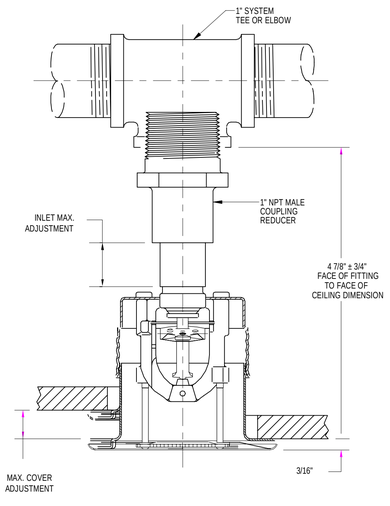
SYMBOL	ORF	TEMP	RESPONSE	K-FAC	FINISH	MODEL	STYLE	PLATE	MFG.
●	5.6"	135°	QUICK	5.5	CHROME	F4FR	CONCEALED	CHROME	RELIABLE
○	5.6"	155°	QUICK	5.62	BRASS	F1FR	UPRIGHT	NONE	RELIABLE
⊠	5.6"	155°	QUICK	5.62	BRASS	F1FR	UPRIGHT	HD/GD	RELIABLE

APPLICABLE CODES AND STANDARDS

FLORIDA BUILDING CODE 2010 EDITION
FLORIDA FIRE PREVENTION CODE 2010 EDITION
FLORIDA ADMINISTRATION CODE 61G15 FAC
NFPA 13, 2007 EDITION
NFPA 14, 2007 EDITION

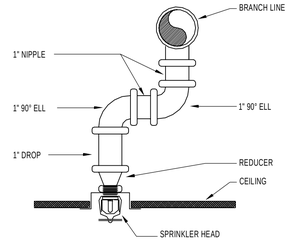
GENERAL NOTES

1. FIRE PROTECTION SYSTEM TO COMPLY WITH NFPA 13, 14, 20, 24 AND ALL APPLICABLE STATE CODES.
2. FINAL INSPECTION AND APPROVAL BY LOCAL FIRE MARSHAL AND ARCHITECT/ENGINEER.
3. SPRINKLER SHOP DRAWINGS AND MATERIAL SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER AND STATE FIRE MARSHAL AND SHALL BE APPROVED PRIOR TO ANY INSTALLATION.
4. PIPE ROUTING SHOWN IS SCHEMATIC ONLY. IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO PROVIDE ANY ADDITIONAL OFFSETS REQUIRED FOR PROPER INSTALLATION AND COORDINATION WITH OTHER TRADES.
5. PIPING IN AREAS WITH EXPOSED STRUCTURE SHALL BE INSTALLED AS HIGH AS POSSIBLE TO ALLOW THE OWNER MAXIMUM USE OF THE SPACE.
6. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING DESCRIPTIONS AND HEIGHTS.
7. SPRINKLERS ARE TO BE COORDINATED WITH ALL DIFFUSERS, SPEAKERS, LIGHTING FIXTURES AND CEILING SYSTEMS. SPACING OF SPRINKLERS SHALL BE IN ACCORDANCE WITH NFPA 13 AND THE LISTING OF THE SPRINKLER.
8. SPRINKLER LOCATIONS SHALL BE CENTERED IN THE TILE. PROVIDE ARMOVER OR SWING JOINT AS REQUIRED.
9. SPRINKLERS IN AREAS WITH EXPOSED STRUCTURE (OBSTRUCTED CONSTRUCTION) SHALL BE INSTALLED WITH DEFLECTOR 1" BELOW THE BOTTOM OF THE BEAM (MAXIMUM 22" BELOW ROOF DECK). EXPOSED BAR JOISTS THAT HAVE SPRAY-ON FIRE PROOFING THAT MAKES THE JOIST SOLID SHALL BE TREATED LIKE A BEAM WITH THE SPRINKLERS 1" BELOW THE BOTTOM OF THE FIRE PROOFING.
10. SLEEVE AND/OR FIRESTOP ALL PENETRATIONS THROUGH RATED WALLS, CEILINGS, AND FLOORS WITH UL LISTED ASSEMBLIES. FIRESTOP ASSEMBLIES SHALL BE EQUAL OR EXCEED THE RATING OF THE WALL, CEILING OR FLOOR. SEE ARCHITECTURAL DRAWINGS FOR FINAL FINISHES.
11. PROVIDE ACCESS PANELS TO ALL VALVES ABOVE NON-ACCESSIBLE CEILINGS AND CHASES.
12. PROVIDE A PERMANENTLY ATTACHED NAME TAG TO THE RISER STATING THE REQUIRED DESIGN CRITERIA FOR EACH HYDRAULICALLY-DESIGNED SYSTEM.
13. PROVIDE SPRINKLERS UNDERNEATH ALL EXPOSED DUCTWORK WHICH IS OVER 48" WIDE AND SPACE HEADS AROUND ALL OBSTRUCTIONS IN ACCORDANCE WITH NFPA 13. HEADS UNDER DUCTS ARE NOT INDICATED ON THE DRAWINGS BUT ARE REQUIRED AND SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13. SPRINKLER LOCATIONS UNDER DUCTWORK AND AROUND OBSTRUCTIONS SHALL BE GOVERNED BY FINAL INSTALLED LOCATIONS.
14. PROVIDE SPRINKLER GUARDS ON ALL HEADS IN ELECTRIC ROOMS, TELEPHONE ROOMS, ELEVATOR ROOMS, ELEVATOR SHAFTS AND ON ANY HEADS LESS THAN 7'-0" ABOVE THE FLOOR.
15. IF SYSTEM PRESSURE EXCEEDS 100 PSI, ALL HANGERS ON END HEADS IN PENDANT POSITION SHALL BE WITHIN 12" OF END OF LINE IN ACCORDANCE WITH NFPA 13.
16. COORDINATE PIPING WITH ALL ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, ETC.) PRIOR TO ANY INSTALLATION. DO NOT ROUTE ANY PIPING OVER ANY ELECTRICAL PANELS UNDER ANY CIRCUMSTANCES. ANY PIPING RUN OVER ELECTRICAL SHALL BE REROUTED AT NO ADDITIONAL COST.
17. SPRINKLERS IN ELEVATOR SHAFTS AND EQUIPMENT ROOMS ARE TO BE INTERMEDIATE TEMPERATURE 200°F SPRINKLERS PER NFPA 13.



SPRINKLER HEAD DETAIL
No Scale

3



SWING JOINT
No Scale

1

FP - FIRE PROTECTION DRAWING LIST

SHEET NUMBER	SHEET NAME	ISSUED
FP0.01	LEGEND, NOTES, INDEX & 61G15 FAC - FIRE PROTECTION	
FP1.01	SECOND FLOOR POD D PLAN PHASE II - FIRE PROTECTION	

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Project:
Lee County Justice Center Second Floor Remodel Pod D Part B

Owner:
Lee County Board of Commissioners

Consultant:
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Sheet Title:
LEGEND, NOTES, INDEX & 61G15 FAC - FIRE PROTECTION

Sheet No.
FP0.01

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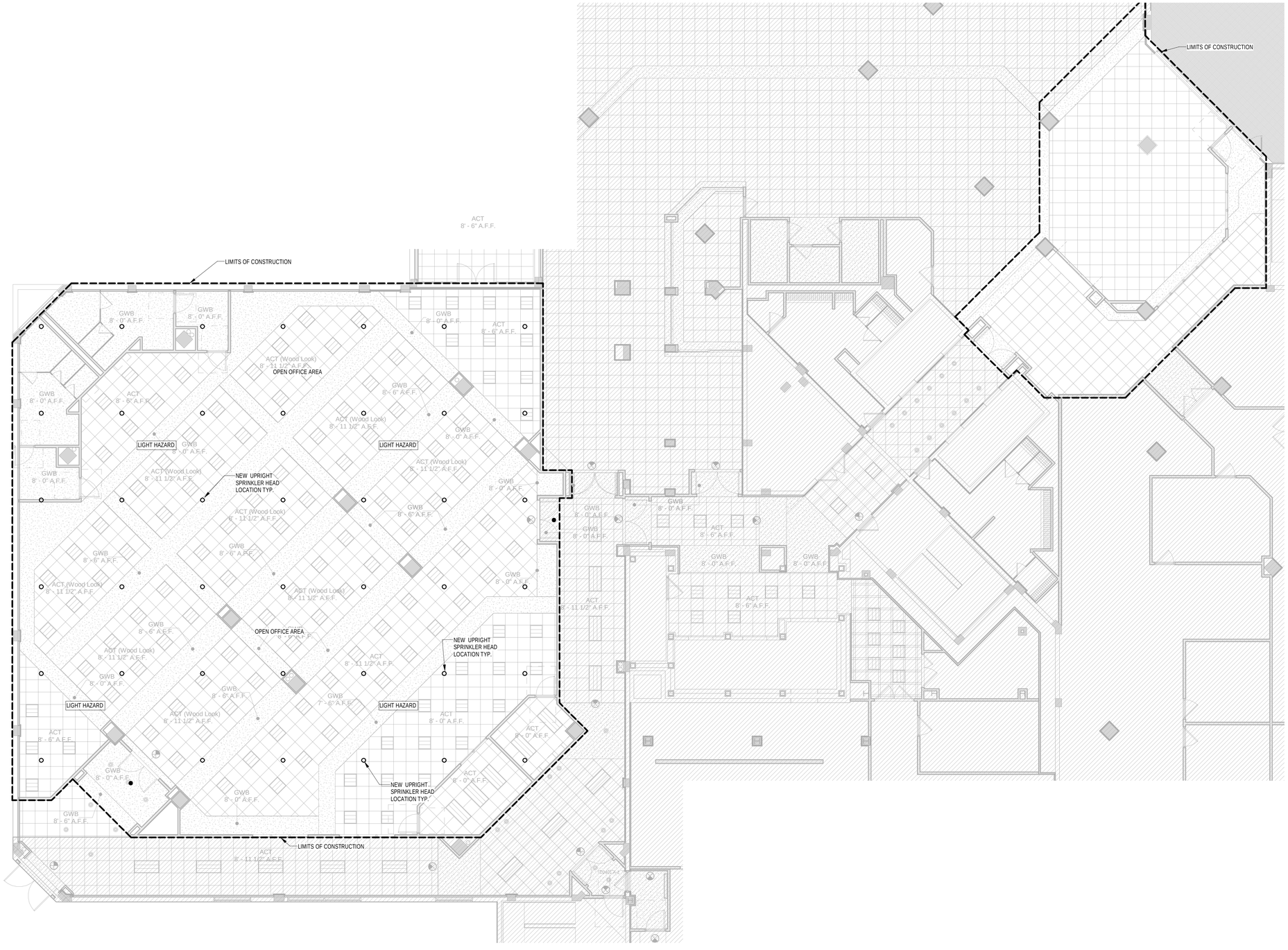
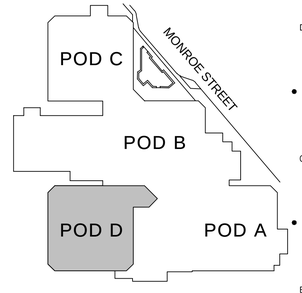


1 FP1.01

SECOND FLOOR POD D PLAN PHASE II - FIRE PROTECTION

1/8" = 1'-0"



KEY PLAN

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SECOND FLOOR POD D PLAN PHASE II - FIRE PROTECTION

Sheet No.

FP1.01

MECHANICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
	-CEILING DIFFUSER, ROUND NECK (CEILING DIFFUSERS ARE 4-WAY THROW UNO)
1	-REVISION REFERENCE
1 M-1	-DETAIL REFERENCE. TOP-DETAIL#, BOTTOM-DRAWING# SHOWN ON
T	-THERMOSTAT/TEMPERATURE SENSOR
	-DUCT SMOKE DETECTOR
	-CONNECT TO EXISTING
	-DEMOLISH TO POINT INDICATED
1	-SHEET NOTE CALLOUT
	-SQUARE THROAT ELBOW W/TURNING VANES
	-RADIUS ELBOW
	-RECTANGULAR/ROUND BRANCH TAKE-OFF OR ROUND/ROUND BRANCH TAKE-OFF
	-FIRE DAMPER (WITH ACCESS PANEL)
F/S	-FIRE & SMOKE DAMPER (WITH ACCESS PANEL)
	-MANUAL BALANCING DAMPER
UC	-UNDERCUT DOOR
24x12	-NEW DUCTWORK, FIRST DIMENSION IS SIDE SHOWN
24x12	-EXISTING DUCTWORK TO REMAIN
24x12	-EXISTING DUCTWORK TO BE REMOVED
24x12 DOWN UP W/IN FLOOR	-DUCT ELBOW, POSITIVE PRESSURE (SUPPLY), FIRST DIMENSION INDICATES SIDE TO WHICH ARROW IS POINTING
	-DUCT ELBOW, NEGATIVE PRESSURE, RETURN
	-DUCT ELBOW UP THROUGH ROOF OR SLAB ABOVE
	-VOLUME WITH ELECTRIC HEAT

SYMBOL	DESCRIPTION
	-FLEXIBLE DUCT
	-TRANSITION, CONCENTRIC
	-TRANSITION, ECCENTRIC
10x8 8Ø	-TRANSITION, SQUARE TO ROUND
	-SQUARE THROAT TEE
	-RECTANGLE-TO-ROUND TAKE-OFF
	-STANDARD BRANCH TAKE-OFF
	-SPIN-IN TAKE-OFF

MECHANICAL ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AFD	-ADJUSTABLE FREQUENCY DRIVE	LD	-LINEAR DIFFUSER
AFF	-ABOVE FINISHED FLOOR	MBH	-THOUSAND BTUs PER HOUR
AFR	-ABOVE FINISHED ROOF	MCA	-MINIMUM CIRCUIT AMPS
AHU	-AIR HANDLING UNIT	MOCP	-MAXIMUM OVER CURRENT PROTECTION
AP	-ACCESS PANEL	MOD	-MOTOR OPERATED CONTROL DAMPER (MOD)
BOP	-BOTTOM OF PIPE	NC	-NORMALLY CLOSED
BHP	-BRAKE HORSEPOWER	NO	-NORMALLY OPEN
BTU	-BRITISH THERMAL UNIT	NTS	-NOT TO SCALE
h	-CENTER LINE	OA	-OUTSIDE AIR
$\dot{V}$	-CFM (CUBIC FEET PER MINUTE)	OAL	-OUTSIDE AIR LOUVER
CD	-CEILING DIFFUSER	PRV	-PRESSURE REDUCING VALVE
CT	-COOLING TOWER	PRS	-PRESSURE REDUCING STATION
CV	-CONSTANT AIR VOLUME	PSI	-POUNDS PER SQUARE INCH
ΔP	-CHANGE IN PRESSURE	PSIG	-PSI GAUGE
ΔT	-CHANGE IN TEMPERATURE	PTAC	-PACKAGED TERMINAL AIR CONDITIONER
CFM	-CUBIC FEET PER MINUTE	PVC	-POLYVINYL CHLORIDE PIPE
CU	-CONDENSING UNIT	RA	-RETURN AIR
DDC	-DIRECT DIGITAL CONTROLS	RHC	-REHEAT COIL
DN	-DOWN	RHP	-ROOFTOP HEAT PUMP
EAT	-ENTERING AIR TEMPERATURE	RPM	-REVOLUTIONS PER MINUTE
ESP	-EXTERNAL STATIC PRESSURE	RS/L	-REFRIGERANT SUCTION & LIQUID LINES
EWT	-ENTERING WATER TEMPERATURE	RTU	-ROOFTOP AIR HANDLING UNIT
FCU	-FAN COIL UNIT	SA	-SUPPLY AIR
FD	-FIRE DAMPER	SP	-STATIC PRESSURE
FF	-FINAL FILTERS	TAD	-TRANSFER AIR DUCT
FLA	-FULL LOAD AMPS	TSP	-TOTAL STATIC PRESSURE
FPM	-FEET PER MINUTE	UNO	-UNLESS NOTED OTHERWISE
GPM	-GALLONS PER MINUTE	V/PH	-VOLTS/PHASE
KW	-KILOWATT	VAV	-VARIABLE AIR VOLUME
LAT	-LEAVING AIR TEMPERATURE	VFD	-VARIABLE FREQUENCY DRIVE
LWT	-LEAVING WATER TEMPERATURE		

PLUMBING GENERAL NOTES

1. FIELD VERIFY EXISTING INSTALLATIONS. MODIFY EXISTING PLUMBING SYSTEMS, WHICH ARE TO REMAIN ACTIVE, TO FACILITATE RECONNECTION AND EXTENSION OF THE NEW WORK.
2. NOTIFY OWNER AT LEAST 24 HOURS PRIOR TO INTERRUPTING EXISTING SERVICE. SCHEDULE DISCONNECTION AND TIE-INS TO MINIMIZE DISRUPTION OF SERVICES. SERVICES ARE NOT TO BE LEFT DISRUPTED DURING NON-NORMAL CONTRACTOR WORKING HOURS.
3. PIPE ROUTING SHOWN IS SCHEMATIC AND IS NOT INTENDED TO INDICATE EXACT ROUTING AND ANY ADDITIONAL OFFSETS AND FITTINGS REQUIRED FOR PROPER INSTALLATION AND TO MAINTAIN CLEARANCES. VERIFY STRUCTURAL, MECHANICAL AND ELECTRICAL INSTALLATIONS AND OTHER POTENTIAL OBSTRUCTIONS AND ROUTE PIPING TO AVOID INTERFERENCES.
4. CONCEAL PIPING ABOVE CEILINGS, WITHIN WALLS OR CHASES EXCEPT IN MECHANICAL ROOMS OR AS SPECIFICALLY NOTED. PROVIDE ACCESS PANELS FOR ALL VALVES CONCEALED IN WALLS OR ABOVE NON-ACCESSABLE CEILINGS.
5. SLEEVE AND FIRE STOP PENETRATIONS OF RATED WALLS, FLOORS, CEILINGS AND ROOFS. FLASH AND COUNTERFLASH ROOF PENETRATIONS.
6. WHEN BEAM SLEEVE PENETRATIONS ARE NECESSARY, COORDINATE PENETRATIONS WITH ALL TRADES, THE ARCHITECT AND THE STRUCTURAL ENGINEER.
7. SEE ARCHITECTURAL DRAWINGS FOR FIXTURE LOCATIONS AND MOUNTING HEIGHTS. ALL EXPOSED PIPE AND FITTINGS IN FINISHED AREAS SHALL BE CHROME PLATED.
8. PROVIDE CLEANOUTS IN ACCORDANCE WITH APPROPRIATE CODES AND REGULATIONS.
10. COORDINATE PIPING WITH ALL ELECTRICAL EQUIPMENT(PANELS, TRANSFORMERS, ETC.) PRIOR TO ANY INSTALLATION. DO NOT ROUTE ANY PIPING OVER ANY ELECTRICAL PANELS UNDER ANY CIRCUMSTANCES. ANY PIPING RUN OVER PANELS SHALL BE REROUTED AT NO ADDITIONAL COST.

HVAC GENERAL NOTES

1. CONNECTION TO EQUIPMENT SHALL BE VERIFIED WITH MANUFACTURER'S CERTIFIED DRAWINGS. TRANSITIONS TO ALL EQUIPMENT SHALL BE VERIFIED AND PROVIDED FOR EQUIPMENT FURNISHED.
2. DIMENSIONS SHALL BE FIELD-VERIFIED AND COORDINATED PRIOR TO PROCUREMENT OR FABRICATION. COORDINATE THE WORK WITH OTHER TRADES INVOLVED. FIELD MODIFICATIONS SUCH AS OFFSETS IN PIPING OR DUCTWORK (INCLUDING DIVIDED DUCTWORK) NEEDED DUE TO OBSTRUCTIONS OR INTERFERENCES SHALL BE PROVIDED AT NO ADDITIONAL COST. FOR PROJECTS INVOLVING RENOVATION, COORDINATE NEW WORK WITH EXISTING ELEMENTS SUCH AS THE BUILDING STRUCTURE AND ARCHITECTURAL FEATURES, SPRINKLER PIPING, LIGHTS, PLUMBING, AND ELECTRICAL CONDUIT.
3. DUCT CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARD.
4. SEE SPECIFICATIONS FOR GAUGES, THICKNESS, BRACING, REQUIREMENTS, ETC., OF DUCTWORK.
5. PROVIDE AIR TURNING VANES IN ALL 90 DEGREE RECTANGULAR DUCT ELBOWS.
6. DUCT SIZES AND ALL OPENINGS THROUGH BUILDING CONSTRUCTION SHALL SUIT EQUIPMENT FURNISHED.
7. COORDINATE DIFFUSER, GRILLE AND REGISTER LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND EQUIPMENT OF ALL TRADES.
8. LOCATE THERMOSTATS, TEMPERATURE SENSORS, HUMIDISTATS, AND HUMIDITY SENSORS AT 48" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. COORDINATE LOCATIONS WITH OTHER EQUIPMENT, FURNITURE, AND DOOR SWINGS.
9. ALL EQUIPMENT, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED AND/OR SPECIFIED. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED TO PROVIDE A VIBRATION-FREE, RIGID INSTALLATION.
10. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
11. DAMPERS AND INSIDES OF DUCTS VISIBLE THROUGH GRILLES, REGISTERS AND DIFFUSERS SHALL BE PAINTED FLAT BLACK.
12. REFER TO TYPICAL DETAILS FOR PIPING AND INSTALLATION OF EQUIPMENT.
13. ACCESS PANELS IN DUCTWORK AND CEILINGS SHALL BE PROVIDED WHERE REQUIRED FOR OPERATION, BALANCING OR MAINTENANCE OF ALL MECHANICAL EQUIPMENT.
14. ALL DUCTWORK AND PIPING IS SHOWN SCHEMATICALLY. PROVIDE ALL TRANSITIONS, TURNING VANES, ELBOWS, FITTINGS, ETC., TO ALLOW SMOOTH FLOWS. ALL SPLIT DUCT FITTINGS SHALL TRANSITION TO FULL SIZE OF THE SUM OF BOTH BRANCHES, UPSTREAM OF SPLIT.
15. VERIFY FINISH WITH ARCHITECT PRIOR TO PURCHASING GRILLES, REGISTERS, DIFFUSERS, LOUVERS AND OTHER AIR DISTRIBUTION DEVICES.
16. PROVIDE FLEXIBLE DUCT CONNECTIONS ON ALL DUCTWORK CONNECTING TO EACH FAN, AIR HANDLING UNITS, AND FAN COIL UNITS.
17. PROVIDE TRANSITIONS AT DIFFUSER NECKS AS REQUIRED TO MATCH SIZES OF FLEX DUCTS TO BE CONNECTED.
18. INTERRUPTIONS TO EXISTING SERVICES SHALL BE SCHEDULED FOR TIMES OTHER THAN NORMAL OPERATING HOURS (SUCH AS NIGHTS AND WEEKENDS). SUCH INTERRUPTIONS TO SERVICES SHALL NOT BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER'S REPRESENTATIVE AND PROPER COORDINATION WITH OTHER TRADES. PRE-WORK SHALL BE PERFORMED TO MAKE THE SHUTDOWN PERIOD AS BRIEF AS POSSIBLE.
19. ALL EQUIPMENT, DUCTWORK, ETC., TO BE REMOVED SHALL REMAIN PROPERTY OF THE OWNER OR DISPOSED OF LEGALLY, AS DIRECTED BY OWNER.
20. MAINTAIN CLEARANCE OF A MINIMUM OF 6" BETWEEN DUCTWORK, PIPING, EQUIPMENT, ETC., AND ALL FIRE RATED AND FIRE/SMOKE RATED PARTITIONS, TO ALLOW FOR INSPECTIONS OF RATED WALLS.
21. DUCT RUNOUTS TO DIFFUSERS SHALL MATCH THE SIZE OF THE DIFFUSER NECK.
22. SLEEVE AND SEAL ALL PIPING PENETRATIONS THROUGH BUILDING PARTITIONS.
23. PIPING, DUCTWORK, LEAK PROTECTION APPARATUS, OR OTHER EQUIPMENT FOREIGN TO ELECTRICAL SWITCHBOARDS, PANELBOARDS, DISTRIBUTION BOARDS, OR MOTOR CONTROL CENTERS SHALL NOT BE INSTALLED WITHIN THE REQUIRED SPACE FOR WORKING CLEARANCES OR DEDICATED SPACES OF THE ELECTRICAL EQUIPMENT, EXTENDING IN FRONT OF AND FROM FLOOR TO STRUCTURAL CEILING WITH A WIDTH AND DEPTH OF THE ELECTRICAL EQUIPMENT IN ACCORDANCE WITH NEC-110.26.

MECHANICAL PIPING SYMBOL LEGEND

SYMBOL	DESCRIPTION
	- DOMESTIC COLD WATER
	- ABOVE GROUND SANITARY
	- SANITARY VENT
	- BALL VALVE
	-VALVE ON RISER
E	-CAP
	-CONNECTION, BOTTOM
	-CONNECTION, TOP
	-COUPLING
	-ELBOW, 90°
	-ELBOW, 45°

HVAC EQUIPMENT TAGS

TAG
A 200
CFM
-AIR DISTRIBUTION DEVICE

AHU NUMBER
AHU-1
-AIR HANDLING UNIT

MECHANICAL DRAWING INDEX

NOTE: SOME SYMBOLS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT

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Owner:
Lee County Board of Commissioners

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EB #0000015 TLC NO: 714124

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LEGEND, GENERAL NOTES AND INDEX - MECHANICAL

Sheet No.
M0.01

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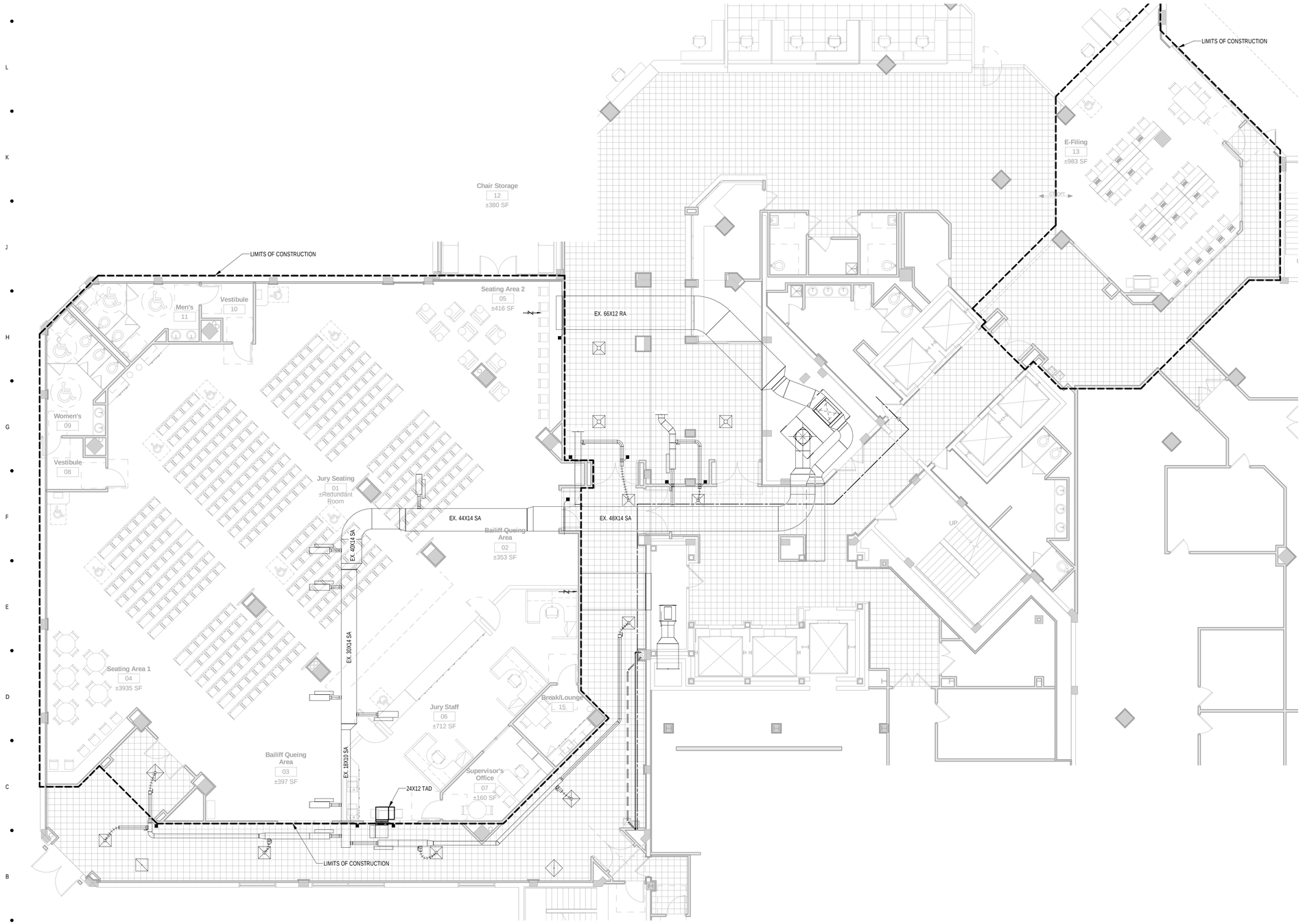

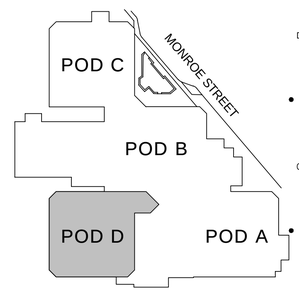

KEY PLAN

1
M1.01

SECOND FLOOR POD D PLAN PHASE II - MECHANICAL

1/8" = 1'-0"

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SECOND FLOOR POD D PLAN PHASE II - MECHANICAL

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PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE TYPE	FIXTURE MANUFACTURER	FIXTURE MODEL	TRIM MANUFACTURER	TRIM MODEL	FLOW RATE / FLUSH RATE	SPECIFICATIONS / ACCESSORIES
EWC-1	ELECTRIC WATER COOLER (ACCESSIBLE)	ELKAY	EMABFTL(VR) 8SC				DUAL HEIGHT ADA DRINKING FOUNTAIN WITH STAINLESS STEEL BASIN AND PANELS, MECHANICALLY ACTIVATED FRONT AND SIDE PUSHBARS . ELECTRICAL CHARACTERISTICS: 115V AC, 370W, 60 HZ, SINGLE PHASE.

AIR DISTRIBUTION SCHEDULE

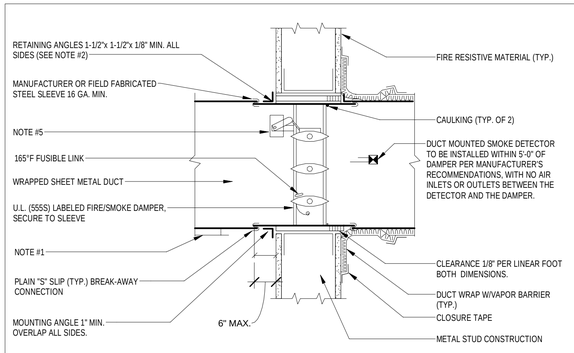
MARK	CFM MIN	CFM MAX	NECK SIZE	FACE SIZE LENGTH	DESCRIPTION
A	0	110	6Ø	24x24	SUPPLY DIFFUSER REUSE SALVAGED SUPPLY LOUVER COLOR: WHITE 24X24 MODULE SIZE
	115	250	8Ø	24x24	
B	0	500	N/A	24x24	RETURN GRILLE TITUS 350RL COLOR: WHITE

NOTES:

1. SELECT UNDAMAGED DEVICES FROM THOSE REMOVED DURING DEMOLITION. THROUGHLY CLEAN EACH UNIT BEFORE INSTALLATION.

EXISTING VAV UNIT SCHEDULE

Mark	Nominal Inlet Size	Design Air Flow	Min. Air Flow	Heating Air Flow	Static Pressure
VAV 232C	0' - 6''	360 CFM	225 CFM	225 CFM	0.25 in-wg
VAV 234C	0' - 6''	360 CFM	225 CFM	225 CFM	0.25 in-wg



NOTES:

1. PROVIDE ACCESS DOOR & LABEL ON SIDE OR BOTTOM OF DUCT AS FOLLOWS:

DUCT WIDTH	DOOR SIZE
10" THRU 12"	8"X8"
14" THRU 20"	12"X12"
22" AND ABOVE	18"X18"

2. 1-1/2" x 1-1/2" x 1/8" RETAINING ANGLES SHALL LAP STRUCTURAL OPENING 1" MIN. & COVER CORNERS OF OPENINGS. ANGLES ATTACH TO SLEEVE ONLY AND MUST NOT BE ATTACHED TO EACH OTHER AT CORNERS OR TO WALL.
3. ALL ATTACHMENTS PER MANUFACTURER'S APPROVED INSTALLATION INSTRUCTION.
4. VERTICAL POSITION SHOWN. HORIZONTAL INSTALLATION SIMILAR.
5. ACTUATOR TO BE MOUNTED ON OUTSIDE OF DAMPER SLEEVE ON ACCESIBLE SIDE. ACTUATOR SHALL NOT INTERFERE WITH "S" JOINT. ACTUATOR ASSEMBLY TO BE U.L. LABELED.
6. VERIFY THAT ACCESS IS PROVIDED ON THE ACTUATOR SIDE OF THE WALL/FLOOR SO THAT THE LINK MAY BE SERVICED WITH THE DAMPER IN CLOSED POSITION.

3 FIRE & SMOKE DAMPER INSTALLATION
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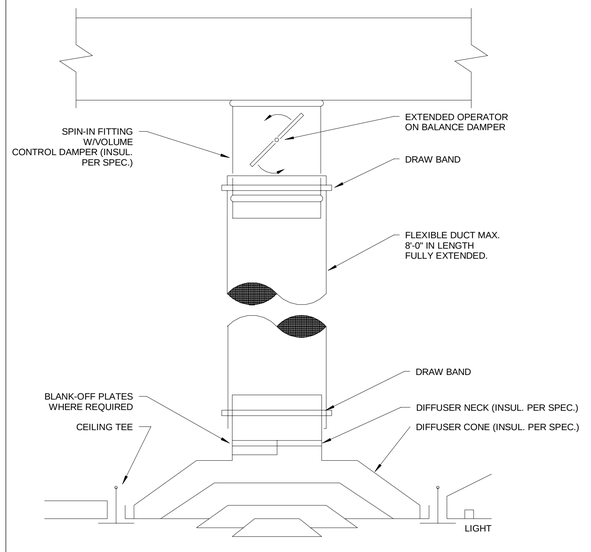

2 DIFFUSER MOUNTING
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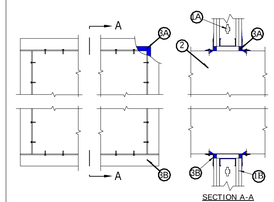

1. Wall Assembly — The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
A. Studs — Wall framing may consist of steel channel studs. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC. Additional steel studs shall be used to completely frame the opening.
B. Wallboard, Gypsum* — Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max size of opening is 9,800 in2 (6.32 m2) with a max dimension of 100 in. (254 cm).
The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Steel Duct — Nom 96 by 96 in. (244 by 244 cm, or smaller) galv steel duct to be installed within the opening. The duct shall be constructed and reinforced in accordance with SMACNA construction standards and provided with 2 in. (51 mm) standing seams. The annular space between the duct and the periphery of opening shall be a min 1 in.(25 mm) to a max 2 in. (51 mm) with the exception that the standing seams which shall be installed at point contact to the framing of the opening. Duct to be rigidly supported on both sides of opening.
The hourly T Rating of the firestop system is 0 hr except that when the thickness of the steel duct is 18 ga, the T Rating is ¾ hr.
3. Firestop System — The firestop system shall consist of the following.
A. Fill, Void or Cavity Material* - Intumescent Caulk or Sealant — Min 5/8 in. (16 mm) thickness of caulk applied within annulus, flush with both surfaces of wall assembly.
B. Steel Retaining Angles — Min 16 gauge galv steel angles sized to lap duct a min of 2 in. (51 mm) and lap wall surface a min of 1 in. (25 mm). Angles attached to the duct on both sides of wall with No. 10 (or larger) steel sheet metal screws 1 in. (25 mm) from each end, and 6 in. (152 mm) OC. On the opposite side of wall, the screw pattern to be staggered.
*Bearing the UL Classification Mark

1 1 HOUR WALL - DUCT PENETRATION DETAIL
No Scale

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MECHANICAL DETAILS AND SCHEDULES

Sheet No.

M3.01

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HVAC SPECIFICATIONS:

1.00 - GENERAL PROVISIONS

1.1 SUMMARY
A. PROVIDE ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE AND OPERATIONAL HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS.

1.2 EXAMINATION OF DOCUMENTS.
A. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO ESTABLISH TYPE AND QUALITY OF MATERIALS, SIZES AND CAPACITIES OF COMPONENTS, AND A GENERAL LAYOUT AND LOCATION OF COMPONENTS THAT COMPRISE THE HVAC SYSTEMS.

B. CONTRACTOR SHALL PROVIDE IN HIS BID:
1. ALL LABOR, TOOLS, MATERIALS, PLANT, TRANSPORTATION, TAXES, RELATED ITEMS, ETC., ESSENTIAL FOR INSTALLATION AND OPERATION OF THE WORK.
2. ALL SYSTEMS SHALL BE COMPLETE AND LEFT IN OPERATING CONDITION.

1.3 WARRANTY
A. ALL PRODUCTS AND WORKMANSHIP SHALL BE WARRANTED FOR A MINIMUM OF (1) ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION.

1.4 CODES AND STANDARDS
A. FURNISH AND INSTALL HVAC SYSTEMS TO MEET ALL CURRENT REQUIREMENTS OF THE FLORIDA BUILDING CODE 2010, THE FLORIDA MECHANICAL CODE 2010, AND ALL LOCAL CODES HAVING JURISDICTION..

1.5 PERMITS AND INSPECTIONS
A. SECURE AND PAY FOR ALL PERMITS AND LICENSES BEFORE ACTUAL WORK IS STARTED AND OBSERVE ANY REQUIREMENT STIPULATED THEREON.

B. THE INSTALLATION SHALL BE MADE IN A NEAT AND WORKMANLIKE MANNER BY PERSONNEL LICENSED AND SKILLED IN THE TRADE. THE WORK WILL BE INSPECTED BY AN AGENT OF THE GOVERNMENTAL AUTHORITY HAVING JURISDICTION.

1.6 CUTTING AND PATCHING
A. PROVIDE ALL NECESSARY CUTTING AND PATCHING REQUIRED IN CONNECTION WITH MECHANICAL WORK.

1.7 SUBMITTALS
A. FINAL REVIEW OF EQUIPMENT AND MATERIALS WILL BE BASED ON THE MANUFACTURER'S CATALOG CUTS, BROCHURES AND PERFORMANCE DATA. FOUR (4) SETS OF EACH ITEM SHALL BE SUBMITTED FOR REVIEW.
1. AIR GRILLES, REGISTERS, AND DIFFUSERS
2. DAMPERS
3. DUCT MATERIAL
4. DUCT INSULATION

1.8 CLEANING
A. CLEAR AWAY ALL DEBRIS, SURPLUS MATERIALS, ETC., (AND DISPOSE BY LEGAL PROCEDURE) RESULTING FROM WORK AND OPERATIONS, LEAVING THE JOB AND EQUIPMENT PROVIDED UNDER CONTRACT IN A CLEAN AND FIRST-CLASS CONDITION.

1.9 RECORD DOCUMENTS
A. PROVIDE "AS-BUILT" DRAWINGS INCLUDING DUCT SYSTEMS ROUTING, AND INSTALLED ACCESSORIES AND DEVICES.

1.10 CONTRACTOR QUALIFICATIONS
A. CONTRACTOR SHALL PROVIDE QUALIFIED EXPERIENCE INSTALLING AND SERVICING COMMERCIAL HVAC EQUIPMENT FOR A MINIMUM OF 5 YEARS.

B. CONTRACTOR SHALL BE RESPONSIBLE TO COVER THE SERVICE FEES FOR ANY AND ALL SUBSEQUENT SITE VISITS NECESSARY TO ENSURE THAT EQUIPMENT IS INSTALLED AND OPERATING PROPERLY. CONTRACTOR'S WORK SHALL NOT BE CONSIDERED COMPLETE UNTIL TEST AND BALANCE REPORT INDICATES THAT THE EQUIPMENT COMPONENTS ARE PROPERLY INSTALLED AND OPERATING PER DESIGN DOCUMENTS AND MANUFACTURER'S WRITTEN INSTALLATION RECOMMENDATIONS.

2.00 - PRODUCTS

2.1 METAL DUCTWORK
A. MATERIALS: UNLESS NOTED OTHERWISE, ALL DUCTWORK SHALL BE GALVANIZED SHEET METAL. FIBERGLASS DUCT BOARD SHALL BE PROHIBITED.
1. GALVANIZED SHEET STEEL: LOCK-FORMING QUALITY, ASTM A527, COATING DESIGNATION G 90.

B. SEALING MATERIALS
1. JOINT AND SEAM SEALANT: ONE-PART, NONSAG, SOLVENT-RELEASE-CURING, POLYMERIZED BUTYL SEALANT COMPLYING WITH FS TT-S-001657, TYPE I; FORMULATED WITH A MINIMUM OF 75 PERCENT SOLIDS. TAPING IS NOT PERMITTED. SEALANT IS NOT TO BE VISIBLE.

C. HANGERS AND SUPPORTS
1. BUILDING ATTACHMENTS: PROVIDE INSERTS AS APPROPRIATE FOR BUILDING MATERIALS.
2. HANGERS: GALVANIZED SHEET STEEL. CONFORM WITH TABLE 4-1 IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS, CURRENT EDITION, FOR SHEET STEEL WIDTH AND GAGE.
3. DUCT ATTACHMENTS: SHEET METAL SCREWS, BLIND RIVETS, OR SELF-TAPPING METAL SCREWS; COMPATIBLE WITH DUCT MATERIALS.

D. DUCT FABRICATION: CONSTRUCT IN ACCORDANCE WITH SMACNA REQUIREMENTS.

E. DUCTWORK SHALL COMPLY WITH THE FOLLOWING MINIMUM PRESSURE REQUIREMENTS:
1. SUPPLY DUCTWORK FROM TERMINAL UNIT TO AIR DEVICE: 2 INCH W.G.
2. EXHAUST AIR DUCTWORK: -1 INCH W.G.

F. ALL LONGITUDINAL SEAMS SHALL COMPLY WITH SMACNA. SEAMS SHALL BE SELECTED BASED ON THE SPECIFIED PRESSURE CLASSIFICATION. THE INSIDE FACING OF ALL LONGITUDINAL SEAMS ANDTRANSVERSE JOINTS SHALL BE FLAT AND SMOOTH. SEALANT SHALL BE APPLIED OVER THE CONTINUOUS LENGTH OF ALL SEAMS.

2.2 DUCT ACCESSORIES
A. FLEXIBLE DUCTS
1. GENERAL: COMPLY WITH UL 181, CLASS 1.
2. FLEXIBLE DUCTS - INSULATED: FACTORY-FABRICATED, INSULATED, ROUND DUCT, WITH AN OUTER JACKET ENCLOSING 1-INCH-THICK, GLASS FIBER INSULATION AROUND A CONTINUOUS INNER LINER.
a. REINFORCEMENT: STEEL-WIRE HELIX ENCAPSULATED IN THE INNER LINER.
b. OUTER JACKET: GLASS-REINFORCED, REINFORCED METALIZED POLYESTER JACKET.
c. INNER LINER: POLYETHYLENE FILM.
3. FLEXIBLE DUCT CLAMPS: NYLON BAND INSTALLED WITH USE OF TENSION CLAMPING TOOL.

2.3 AIR INLETS AND OUTLETS
A. GENERAL: EXCEPT AS OTHERWISE INDICATED, PROVIDE MANUFACTURER'S STANDARD CEILING AIR DIFFUSERS WHERE SHOWN; OF SIZE, SHAPE, CAPACITY AND TYPE INDICATED; CONSTRUCTED OF MATERIALS AND COMPONENTS AS INDICATED, AND AS REQUIRED FOR COMPLETE INSTALLATION. PROVIDE CEILING AIR DIFFUSERS THAT HAVE, AS MINIMUM, TEMPERATURE AND VELOCITY TRAVERSES, THROW AND DROP, AND NOISE CRITERIA RATINGS FOR EACH SIZE DEVICE AS LISTED INMANUFACTURER'S CURRENT DATA. PROVIDE DIFFUSERS WITH BORDER STYLES THAT ARE COMPATIBLEWITH ADJACENT CEILING SYSTEMS, AND THAT ARE SPECIFICALLY MANUFACTURED TO FIT INTO CEILINMODULE WITH ACCURATE FIT AND ADEQUATE SUPPORT. PROVIDE CEILING DIFFUSERS OF TYPE, CAPACITY, AND WITH ACCESSORIES AND FINISHES AS LISTED ON DIFFUSER SCHEDULE.

B. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE DIFFUSERS OF ONE OF THE FOLLOWING OR AS APPROVED:
1. PRICE INDUSTRIES
2. KRUEGER MFG. CO.
3. TITUS PRODUCTS DIV.; PHILIPS INDUSTRIES, INC.

2.4 DAMPERS
A. STANDARD VOLUME CONTROL DAMPERS: SINGLE BLADE DESIGN, STANDARD LEAKAGE RATING, SUITABLE FOR HORIZONTAL OR VERTICAL APPLICATIONS. PROVIDE FACTORY FABRICATED VOLUME CONTROL DAMPERS COMPLETE WITH REQUIRED HARDWARE AND ACCESSORIES. PROVIDE BOWDEN CABLE CONTROLLER, CONCEALED CEILING INSTALLATION, AS REQUIRED.

2.5 HANGERS AND SUPPORTS
A. BUILDING ATTACHMENTS: PROVIDE BEAM CLAMPS, INSERTS, AND SUPPORTS AS APPROPRIATE FOR BUILDING MATERIALS.

HVAC SPECIFICATIONS: (CONT.)

2.7 SHEET METAL DUCT INSULATION
A. ALL PRODUCTS, INCLUDING VAPOR BARRIERS AND ADHESIVES, SHALL CONFORM TO NFPA 90A. FOR ALL PRODUCTS, THE FLAME SPREAD RATING SHALL NOT EXCEED 25 AND THE SMOKE DEVELOPED RATING SHALL NOT EXCEED 50.

B. DUCT INSULATION SHALL BE A MINIMUM 1-INCH THICK, 1-1/2 LB. DENSITY FIBERGLASS BLANKET; MAXIMUM THERMAL CONDUCTIVITY OF 0.31 BTUH/°F/SQ.FT. AT 75 DEG F WITH FACTORY APPLIED REINFORCED-FOIL-KRAFT FACING. SEAL ALL JOINTS AND SEAMS USING NYLON FINISH FABRIC AND MASTIC.

C. DUCT INSULATION MASTIC SHALL BE LOW ODOR, FIRE AND VAPOR RETARDANT, WITH PERMEANCE NOT EXCEEDING 0.08 PERMS INACCORDANCE WITH ASTM E96. MASTIC COATING SHALL BE NONFLAMMABLE IN BOTH WET AND DRY STATES.

D. DUCT INSULATION ADHESIVE SHALL ADHERE FIBERGLASS BLANKET TO METAL DUCTWORK. WHERE DUCT WIDTH IS 24-INCHES OR GREATER, THE INSULATION SHALL BE ADDITIONALLY SECURED TO THE BOTTOM OF THE DUCT USING MECHANICAL FASTENERS SPACED 1-FOOT ON CENTER TO PREVENT SAGGING OF THE INSULATION.

2.8 COMBINATION FIRE AND SMOKE DAMPERS
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:
1. AIR BALANCE INC.; A DIVISION OF MESTEK, INC.
2. CESCO PRODUCTS; A DIVISION OF MESTEK, INC.
3. GREENHECK FAN CORPORATION.
4. NAILOR INDUSTRIES INC.
5. POTTORFF.
6. RUSKIN COMPANY.

B. TYPE: DYNAMIC; RATED AND LABELED ACCORDING TO UL 555 AND UL 555S BY AN NRTL.

C. CLOSING RATING IN DUCTS UP TO 4-INCH WG (1-KPA) STATIC PRESSURE CLASS AND MINIMUM 2000-FPM (10-M/S) VELOCITY.

D. FIRE RATING: 1-1/2 HOURS.

E. FRAME: HAT-SHAPED, 0.094-INCH- (2.4-MM-) THICK, GALVANIZED SHEET STEEL, WITH MECHANICALLY ATTACHED CORNERS AND MOUNTING FLANGE.

F. HEAT-RESPONSIVE DEVICE: REPLACEABLE, 165 DEG F (74 DEG C) RATED, FUSIBLE LINKS.

G. HEAT-RESPONSIVE DEVICE: ELECTRIC RESETTABLE DEVICE AND SWITCH PACKAGE, FACTORY INSTALLED, 250 DEG F (121 DEG C) RATED.

H. SMOKE DETECTOR: INTEGRAL, FACTORY WIRED FOR SINGLE-POINT CONNECTION.

I. BLADES: ROLL-FORMED, HORIZONTAL, OVERLAPPING, 0.063-INCH- (1.6-MM-) THICK, GALVANIZED SHEET STEEL.

J. LEAKAGE: CLASS II.

K. RATED PRESSURE AND VELOCITY TO EXCEED DESIGN AIRFLOW CONDITIONS.

L. MOUNTING SLEEVE: FACTORY-INSTALLED, 0.05-INCH- (1.3-MM-) THICK, GALVANIZED SHEET STEEL; LENGTH TO SUIT WALL OR FLOOR APPLICATION.

M. MASTER CONTROL PANEL FOR USE IN DYNAMIC SMOKE-MANAGEMENT SYSTEMS.

N. DAMPER MOTORS: TWO-POSITION ACTION.

O. COMPLY WITH NEMA DESIGNATION, TEMPERATURE RATING, SERVICE FACTOR, ENCLOSURE TYPE, AND EFFICIENCY REQUIREMENTS FOR MOTORS SPECIFIED IN SECTION 230513 "COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT."
1. MOTOR SIZES: MINIMUM SIZE AS INDICATED. IF NOT INDICATED, LARGE ENOUGH SO DRIVEN LOAD WILL NOT REQUIRE MOTOR TO OPERATE IN SERVICE FACTOR RANGE ABOVE 1.0.
2. CONTROLLERS, ELECTRICAL DEVICES, AND WIRING: COMPLY WITH REQUIREMENTS FOR ELECTRICAL DEVICES AND CONNECTIONS SPECIFIED IN SECTION 230900 "INSTRUMENTATION AND CONTROL FOR HVAC."
3. PERMANENT-SPLIT-CAPACITOR OR SHADED-POLE MOTORS: WITH OIL-IMMERSED AND SEALED GEAR TRAINS.
4. SPRING-RETURN MOTORS: EQUIP WITH AN INTEGRAL SPIRAL-SPRING MECHANISM WHERE INDICATED. ENCLOSE ENTIRE SPRING MECHANISM IN A REMOVABLE HOUSING DESIGNED FOR SERVICE OR ADJUSTMENTS. SIZE FOR RUNNING TORQUE RATING OF 150 IN. X LBF (17 N X M) AND BREAKAWAY TORQUE RATING OF 150 IN. X LBF (17 N X M).
5. OUTDOOR MOTORS AND MOTORS IN OUTDOOR-AIR INTAKES: EQUIP WITH O-RING GASKETS DESIGNED TO MAKE MOTORS WEATHERPROOF. EQUIP MOTORS WITH INTERNAL HEATERS TO PERMIT NORMAL OPERATION AT MINUS 40 DEG F (MINUS 40 DEG C).
6. NONSPRING-RETURN MOTORS: FOR DAMPERS LARGER THAN 25 SQ. FT. (2.3 SQ. M), SIZE MOTOR FOR RUNNING TORQUE RATING OF 150 IN. X LBF (17 N X M) AND BREAKAWAY TORQUE RATING OF 300 IN. X LBF (34 N X M).
7. ELECTRICAL CONNECTION: 115 V, SINGLE PHASE, 60 HZ.

P. ACCESSORIES:
1. AUXILIARY SWITCHES FOR SIGNALING OR POSITION INDICATION.
2. TEST AND RESET SWITCHES, DAMPER MOUNTED.

3.1 METAL DUCTWORK AND INSULATION
A. GENERAL: SELECT DUCTWORK ACCORDING TO THE FOLLOWING APPLICATIONS:
1. CONCEALED SUPPLY AND RETURN AIR: GALVANIZED SHEET METAL, EXTERNALLY INSULATED
2. CONCEALED SUPPLY RUNOUTS: UL181 FLEXIBLE DUCTWORK
3. SUPPLY AIR THE FIRST 10 FEET OF RETURN AIR DUCTS EXPOSED IN FINISHED AREAS: GALVANIZED SHEET METAL READY FOR PAINT,INTERNALLY LINED.

B. SEAM AND JOINT SEALING
1. SEAL ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS.

C. HANGING AND SUPPORTING
1. INSTALL METAL DUCT WITH SUPPORT SYSTEMS INDICATED IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

D. CLEANING
1. REMOVE DUST AND DEBRIS FROM INSIDE DUCTS AND FITTINGS.
2. CLEAN EXTERIOR OF INSULATION TO REMOVE DUST AND DIRT.

3.2 TESTING, ADJUSTING, AND BALANCING HVAC SYSTEMS
A. SUMMARY:
1. TEST, ADJUST, AND BALANCE THE AIR SYSTEMS.
2. VERIFY TEMPERATURE CONTROL SYSTEM OPERATION.
3. PROVIDE COPY OF BALANCE REPORT TO OWNER AND ARCHITECT.

FIRE PROTECTION SPECIFICATIONS:

1.00 - GENERAL PROVISIONS

1.1 PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT FOR A COMPLETE AND PROPERLY OPERATING FIRE PROTECTION SYSTEM.

1.2 CODES AND STANDARDS: THE FIRE SPRINKLER PROTECTION SYSTEMS INSTALLATION, FLUSHING AND TESTING SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 13 AND 24, 2007 AND ALL LOCAL CODES HAVING JURISDICTION.

1.3 PIPE THREAD PATTERN: ALL THREADS SHALL BE IN ACCORDANCE WITH LOCAL FIRE DEPARTMENT SPECIFICATIONS AND NFPA 1963, 1998 REVISION.

1.4 UL/FM APPROVAL: ALL EQUIPMENT, VALVES, COUPLINGS, HANGERS AND DEVICES SHALL BE APPROVED BY UNDERWRITERS' LABORATORY (UL) OR FACTORY MUTUAL (FM) FOR USE IN FIRE PROTECTION SERVICE.

1.5 LICENSURE: THE FIRE PROTECTION SYSTEMS SHALL BE INSTALLED BY A STATE OF FLORIDA CERTIFIED FIRE PROTECTION CONTRACTOR.

1.6 ALL FIRE PROTECTION WORK SHALL BE DONE IN A NEAT AND WORKMAN-LIKE MANNER.

1.7 CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND FEES, ETC., REQUIRED FOR THE EXECUTION OF THIS WORK.

1.8 CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES BEFORE FABRICATION OR INSTALLATION. OFFSETS AND/OR TRANSITIONS REQUIRED SHALL BE PROVIDED WITHOUT ADDITIONAL COST. CONTRACTOR SHALL COORDINATE AND INSTALL WORK IN A TIMELY MANNER TO PREVENT DELAYS IN THE CONSTRUCTION.

1.9 CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE DAMAGED EQUIPMENT AND/OR MATERIAL.

1.10 PIPING SHOP DRAWINGS: SUBMIT 1/8" SCALE PIPING SHOP DRAWINGS. SHOP DRAWINGS SHALL INCLUDE SPRINKLER PIPING CUT LENGTHS, OFFSETS, FITTINGS AND DEVICES, ELEVATIONS, HANGER LOCATIONS, SPRINKLER HEAD COUNT BY TYPE, ELEVATION SECTIONS AND OTHER INSTALLATION INFORMATION. SUBMIT HYDRAULIC CALCULATIONS PROVING THE VIABILITY OF THE MOST HYDRAULICALLY-REMOTE AREAS OF THE PROJECT. INDICATE HYDRAULIC REFERENCE POINTS AND SUBMIT COMPUTER ANALYZED NODAL CALCULATIONS IN BOTH TABULAR AND GRAPHICAL FORMATS. HYDRAULIC IMBALANCE SHALL NOT EXCEED 0.01 GPM AT ANY NODE, AND WATER VELOCITY SHALL NOT EXCEED 20 FEET PER SECOND. DEMONSTRATE COMPLIANCE WITH THE REQUIREMENTS OF NFPA-13 REGARDING DENSITY, AREA OF APPLICATION, SELECTION OF HYDRAULICALLY-REMOTE AREAS, AND MAXIMUM COVERAGE PER SPRINKLER.

1.11 COORDINATE ALL PIPE ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION. ROUTE ALL PIPING TO AVOID DUCTWORK, PIPING, AND BUILDING STRUCTURE.

2.00 - BASIC MATERIALS AND METHODS

2.1 GENERAL: ONLY THE FOLLOWING MATERIALS DESIGNED FOR 175 PSIG CWP SHALL BE USED FOR FIRE PROTECTION PIPING UNLESS SPECIFICALLY INDICATED OTHERWISE. ALL PIPING MATERIALS SHALL HAVE A CORROSION RESISTANCE RATING (CCR) OF 1.0 OR GREATER.

2.2 PIPE: 2 INCH OR SMALLER PIPE, AND ALL THREADED PIPING SHALL BE BLACK STEEL, SCHEDULE 40, ASTM A-53. 2-1/2 INCH AND LARGER PIPE MAY BE BLACK STEEL, SCHEDULE 10, ASTM A-135.

2.3 FITTINGS: SCHEDULE 40 BLACK STEEL PIPE SHALL BE JOINED BY MECHANICAL COUPLINGS, THREADED OR WELDED FITTINGS; SCHEDULE 10 BLACK STEEL PIPE SHALL BE JOINED BY ROLLED GROOVE COUPLINGS OR WELDED FITTINGS ONLY. WELDED BRANCH CONNECTIONS WHICH ARE AT LEAST 2 NOMINAL PIPE SIZES SMALLER THAN THE MAINS ARE PERMITTED. THREADED FITTINGS ARE ACCEPTABLE ONLY FOR PIPING 2 INCHES AND SMALLER.

2.4 HANGERS: ALL HANGER SPACING SHALL COMPLY WITH THE REQUIREMENTS OF NFPA-13.

2.5 SPRINKLER HEAD LOCATION: INSTALL SPRINKLER HEADS IN THE CENTER OF THE CEILING TILES FOR SUSPENDED CEILING APPLICATIONS.

2.6 SPRINKLER CAGE GUARD: PROVIDE HEAD GUARDS ON ALL HEADS IN ELECTRICAL ROOMS AND ON ALL HEADS LESS THAN 7'-0" ABOVE FINISHED FLOOR.

2.7 GAUGES: PROVIDE GAUGES AND GAUGE VALVES AS REQUIRED BY NFPA 13. GAUGE SCALE SHALL BE 0-300 PSI UNLESS OTHERWISE INDICATED.

2.8 ACCESS PANELS: PROVIDE ACCESS PANELS TO ALL VALVES WITHIN CHASES OR ABOVE NON-ACCESSIBLE CEILINGS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.

2.9 HYDROSTATIC TESTS: ABOVE GROUND AND BELOW GROUND PIPING SYSTEMS SHALL BE HYDROSTATICALLY TESTED AT NOT LESS THAN 200 PSI PRESSURE, OR AT 50 PSI IN EXCESS OF THE MAXIMUM PRESSURE, WHICHEVER IS GREATER, FOR A PERIOD OF 2 HOURS. THE TEST PRESSURE SHALL BE READ FROM A GAUGE LOCATED AT THE LOW ELEVATION POINT OF THE INDIVIDUAL SYSTEM OR PORTION OF THE SYSTEM BEING TESTED. THE SPRINKLER PIPING SHALL NOT HAVE LEAKAGE EXCEEDING THE AMOUNTS SPECIFIED IN NFPA 24. LEAKAGE QUANTITIES SHALL BE DETERMINED BY PUMPING AT THE SPECIFIED TEST PRESSURE FROM A CALIBRATED CONTAINER. REPAIR LEAKING JOINTS AND RETEST AS NECESSARY UNTIL ALL SYSTEMS HAVE BEEN TESTED. TEST THE PIPING BETWEEN THE CHECK VALVE IN THE FIRE DEPARTMENT INLET PIPE AND THE OUTSIDE CONNECTION THE SAME AS THE BALANCE OF THE SYSTEM.

3.00 - FIRE PROTECTION PRODUCTS AND ACCESSORIES

3.1 QUICK-RESPONSE UPRIGHT SPRINKLERS: SPRINKLER HEADS SHALL BE MANUFACTURED WITH UPRIGHT DEFLECTORS FOR INSTALLATION ABOVE THE BRANCH LINE WITH BRASS FINISH - CENTRAL GB-QR OR VIKING MICROFAST MODEL M.

3.2 QUICK RESPONSE SEMI-RECESSED SPRINKLERS: SPRINKLER HEADS SHALL BE MANUFACTURED WITH PENDANT DEFLECTOR FOR INSTALLATION BELOW THE BRANCH LINE WITH CHROME-PLATED FINISH - CENTRAL GB-QR OR VIKING MICROFAST MODEL M WITH MODEL F-1 ESCUTCHEON.

PLUMBING SPECIFICATIONS:

1.00 - GENERAL PROVISIONS

1.1 PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT FOR A COMPLETE AND PROPERLY OPERATING PLUMBING SYSTEM.

1.2 CODES AND STANDARDS: ALL PLUMBING WORK SHALL BE IN STRICT COMPLIANCE WITH THE FLORIDA PLUMBING CODE 2010 AND ALL LOCAL CODES HAVING JURISDICTION.

1.3 ALL PLUMBING WORK SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER.

1.4 CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND FEES, ETC., REQUIRED FOR THE EXECUTION OF THIS WORK.

1.5 CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES BEFORE FABRICATION OR INSTALLATION. OFFSETS AND/OR TRANSITIONS REQUIRED SHALL BE PROVIDED WITHOUT ADDITIONAL COST. CONTRACTOR SHALL COORDINATE AND INSTALL HIS WORK IN A TIMELY MANNER TO PREVENT DELAYS IN THE CONSTRUCTION.

1.6 CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE DAMAGED EQUIPMENT AND/OR MATERIAL.

1.7 PROVIDE ALL MATERIALS REQUIRED TO PROPERLY SUPPORT ALL PIPING AND EQUIPMENT. PIPE HANGERS SHALL BE ADJUSTABLE TYPE AND BE SPACED IN ACCORDANCE WITH THE STANDARD PLUMBING CODE. PROVIDED PLASTIC COATED RING ON HANGERS FOR COPPER PIPING TO PROVIDE DIELECTRIC ISOLATION.

1.8 PROVIDE DIELECTRIC UNIONS OR FLANGES BETWEEN COPPER AND STEEL PIPING AND BETWEEN BRASSWARE AND STEEL. DO NOT USE STEEL AND COPPER PIPING IN THE SAME SYSTEM WITHOUT SUCH ISOLATION.

1.9 PROVIDE REDUCING FITTINGS (REDUCING BUSHINGS SHALL NOT BE USED) WHERE CHANGES IN PIPE SIZES OCCUR.

1.10 THIS CONTRACTOR SHALL SUPPLY AND INSTALL ALL SERVICES THROUGHOUT THE REMODELED PORITION OF THE BUILDING AND MAKE CONNECTION TO NEAREST UTILITIES. CONTRACTOR SHALL SUPPLY AND INSTALL FIXTURES, FITTINGS, VALVING AND TRIM AND MAKE READY FOR USE ALL FIXTURES, EQUIPMENT, ETC.

1.11 SEE ARCHITECTURAL DRAWINGS FOR FIXTURE LOCATIONS AND MOUNTING HEIGHTS.

2.00 - BASIC MATERIALS AND METHODS

2.1 ABOVEGROUND WATER PIPE AND FITTINGS - TYPE "L" COPPER.

2.2 PROVIDE UNIONS OR FLANGES IN ALL DOMESTIC WATER SERVICE LINES AT EACH PIECE OF EQUIPMENT, SPECIALTY VALVES OR AT OTHER LOCATIONS REQUIRED FOR READY DISCONNECT.

2.3 WATER HAMMER ARRESTORS SHALL BE INSTALLED AT THE LOCATIONS ON THE PLANS AND IN ACCORDANCE WITH PDI STANDARD WH-201. PRODUCTS SHALL BE EQUAL TO THOSE MANUFACTURED BY PRECISION PLUMBING PRODUCTS OR SIOUX CHIEF.

2.4 VALVES: PROVIDE VALVES TO ISOLATE EACH RISER, BRANCH LINE AND PIECE OF EQUIPMENT.

2.5 ABOVEGROUND SANITARY WASTE, SANITARY VENT AND STORM PIPING - SERVICE WEIGHT CAST IRON WITH NO-HUB COUPLINGS - ("HUSKEY 4000" OR "CLAMPALL" ONLY).

2.6 ABOVEGROUND SANITARY WASTE ARMS - SERVICE WEIGHT CAST IRON WITH NO-HUB COUPLINGS OR DWV COPPER.

2.7 INSTALL GRAVITY LINES SLOPED AT 1/8" PER FOOT FOR PIPE 3" AND LARGER AND 1/4" PER FOOT FOR PIPE SMALLER THAT 3". VERIFY INVERT ELEVATION WITH SITE PIPING PRIOR TO ANY PIPE BEING INSTALLED.

3.00 - PLUMBING FIXTURES AND TRIM

3.1 ALL PLUMBING FIXTURES SHALL BE "FIRST QUALITY" AS DEFINED AND SET FORTH IN COMMERCIAL STANDARD CS77-28 AS PROMULGATED BY THE U.S. DEPARTMENT OF COMMERCE.

3.2 FIXTURES AND FITTINGS PROPOSED SHALL BE FROM ONE MANUFACTURER AND OF SIMILAR CHARACTER IN ANY ROOM OR LOCATION. ESCUTCHEONS, HANDLES, ETC., ON THE DIFFERENT FIXTURES SHALL BE OF THE SAME DESIGN.

3.3 PROVIDE FIXTURE CARRIERS AS RECOMMENDED BY FIXTURE MANUFACTURER AND/OR CONSTRUCTION METHOD.

3.4 PROVIDE ACCESS PANELS TO ALL VALVES WITHIN CHASES OR ABOVE NON-ACCESSIBLE CEILINGS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.

4.00 - VALVES AND COCKS

4.1 VALVES 2" AND SMALLER SHALL BE BALL VALVES, 150 PSI SWP, 400 PSI WOG. STANDARD PORT BALL, BRONZE TRIM, CAST BRONZE BODY, CHROMIUM-PLATED BRASS BALL, BRONZE NON-BLOWOUT STEM, TEFLON SEAT, DOUBLE O-RING STEM SEALS, ZINC-COATED STEEL HANDLE WITH PLASTIC COATED HAND GRIP, 90 DEGREE OPERATION FROM FULL OPEN TO TIGHT SHUT-OFF - STOCKHAM S214-BR-T-T, STOCKHAM S216-BR-T-S OR EQUAL.

5.00 - STERILIZATION

5.1 DOMESTIC WATER PIPING SHALL BE THOROUGHLY FLUSHED OUT AND STERILIZED IN ACCORDANCE WITH THE STANDARD PLUMBING CODE.

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Seal

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Second Floor
Remodel Pod D
Part B

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EB #0000015 TLC NO: 714124

Seal:

Project Phase:
Design Development

Project #: 0118.22
Project Issued: 07/16/13
Sheet Issued:

No.	Date	Revision

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Sheet Title:
MECHANICAL SPECIFICATIONS

Sheet No.
M6.01

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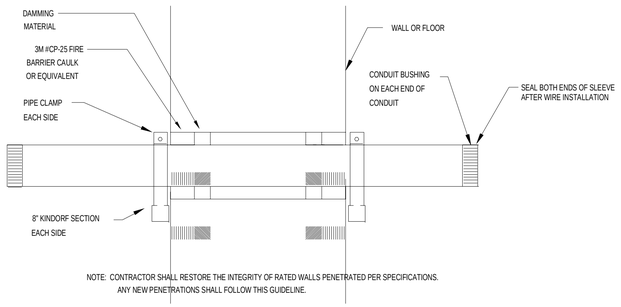


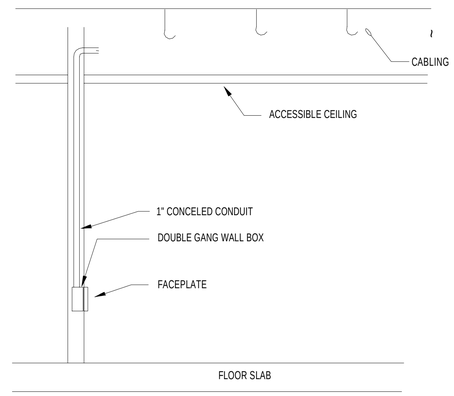
NOTE: CONTRACTOR SHALL RESTORE THE INTEGRITY OF RATED WALLS PENETRATED PER SPECIFICATIONS. ANY NEW PENETRATIONS SHALL FOLLOW THIS GUIDELINE.

IF ADDITIONAL SLEEVES ARE NEEDED OR REQUESTED USE FOLLOWING WALL SLEEVE SIZING TABLE EQUIVALENT TO CAT. 5 CABLES
ADJUST COUNT BASED ON CABLE SIZES

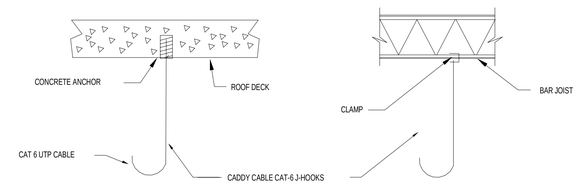
# OF CABLES	SLEEVE SIZE
1-8	1"
9-14	1 1/4"
15-18	1 1/2"
19-26	2"
27-40	2 1/2"
41-60	3"

UNLESS OTHERWISE NOTED ON DRAWINGS

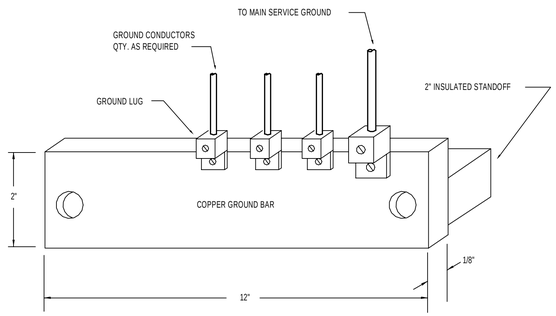
HORIZONTAL/VERTICAL PENETRATION DETAIL
No Scale — 1



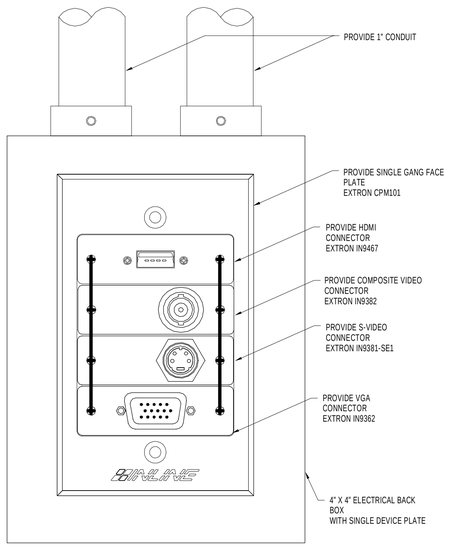
TYPICAL FLUSH OUTLET DETAIL
No Scale — 2



CABLE HANGERS
No Scale — 3

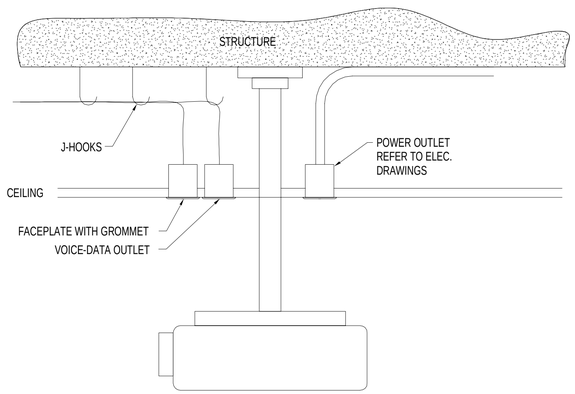


COMMUNICATIONS GROUND BAR
No Scale — 4



AV CONTRACTOR TO PROVIDE ALL CABLING AND TERMINATIONS FROM A/V OUTLET TO CEILING MOUNTED PROJECTOR.

A/V PLATE DETAIL
No Scale — 5



OWNER PROVIDED PROJECTOR

PROJECTOR MOUNTING
No Scale — 6

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Seal:

Project Phase:
Construction Documents

Project #: 0118.22
Project Issued: 11/05/14
Sheet Issued:

No.	Date	Revision

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Sheet Title:
TECHNOLOGY DETAILS

Sheet No.
T202

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ELECTRICAL SYMBOL LEGEND

BASIC MATERIALS

SYMBOL	DESCRIPTION
S_a	SINGLE POLE SWITCH (SUBSCRIPT INDICATES ITEM CONTROLLED)
S_3	THREE-WAY SWITCH
S_4	FOUR-WAY SWITCH
S_P	SINGLE POLE SWITCH WITH PILOT LIGHT
S_{WP}	SINGLE POLE SWITCH WITH WEATHERPROOF COVER
S_{WPL}	SINGLE POLE SWITCH WITH WEATHERPROOF LOCKING COVER
S_K	SINGLE POLE KEY SWITCH
S_{3K}	THREE-WAY KEY SWITCH
S_{4K}	FOUR-WAY KEY SWITCH
S_L	SINGLE POLE SWITCH WITH SECURITY LOCKING KEY
S_{LV}	LOW VOLTAGE SWITCH
S_F	FAN SWITCH
S_M	MANUAL MOTOR STARTER WITH OVERLOAD HEATERS
S_{MP}	MANUAL MOTOR STARTER WITH OVERLOAD HEATERS AND PILOT LIGHT
S_D	DIMMER SWITCH (1500 WATTS UNLESS OTHERWISE INDICATED)
	DUPLEX RECEPTACLE
T	TWIST LOCK RECEPTACLE
SP	SURGE PROTECTION TYPE (TVSS) DUPLEX RECEPTACLE
	PEDESTAL MOUNTED RECEPTACLE
	FLOOR OUTLET BOX AND DUPLEX RECEPTACLE WITH APPROPRIATE FLANGE.
	FLOOR OUTLET BOX WITH DUPLEX RECEPTACLE AND ONE COMBINATION W/ VOICE/DATA OUTLET
	FLOOR OUTLET BOX WITH TWO DUPLEX RECEPTACLES AND ONE COMBINATION W/ VOICE/DATA OUTLET
	FLOOR POKE THRU - WITH POWER AND TELECOMM DEVICES
PP	POWER POLE
	DUPLEX RECEPTACLE WIRED TO COMPUTER PANEL
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER
	DUPLEX SAFETY RECEPTACLE MOUNT COVERPLATES WITH SPANNER HEAD SCREWS
EWC	SIMPLEX RECEPTACLE (EWC DENOTES ELECTRIC WATER COOLER. COORDINATE WITH EWC INSTALLER FOR MOUNTING HEIGHT)
WP	GFI RECEPTACLE. WP DENOTES WEATHERPROOF COVER.
	GFI RECEPTACLE MOUNTED ABOVE COUNTER
	TWO DUPLEX RECEPTACLES WITH COMMON COVER
	TWO DUPLEX RECEPTACLES WITH COMMON COVER MOUNTED ABOVE COUNTER
IG	ISOLATED GROUND DUPLEX RECEPTACLE, (ORANGE DEVICE)
	DUPLEX RECEPTACLE NOTE: TICK MARKS SHOWN ON ANY DEVICE REPRESENTS RECEPTACLE CONNECTED TO THE EMERGENCY CIRCUIT (RED DEVICE) TYPICAL FOR ANY DEVICE IN LEGEND
C	CLOCK RECEPTACLE
	SPECIAL PURPOSE RECEPTACLE, RATING AS NOTED
	LIGHTING CONTROL TIME CLOCK
GND	GROUND BAR
	PLUG-IN STRIP WITH RECEPTACLES, 18" O.C. UNLESS OTHERWISE INDICATED
	UNDER GROUND CONCRETE ENCASED DUCTBANK
J	JUNCTION BOX
J	JUNCTION BOX
J	JUNCTION BOX- WALL MOUNTED
J	JUNCTION BOX- FURNITURE SYSTEM FEED
	CONDUIT SEAL-OFF FITTINGS
SS C3	SURGE SUPRESSOR C3 = SERVICE ENTRANCE DEVICE B3 = DISTRIBUTION BOARD DEVICE A3 = PANELBOARD DEVICE
ST	SHUNT-TRIP BUTTON - FLUSH MOUNTED UNLESS OTHERWISE NOTED NEMA 3R FOR EXTERIOR LOCATIONS
	MAGNETIC MOTOR STARTER OR CONTACTOR SIZE AS NOTED
EDH-X	ELECTRIC DUCT HEATER
S	MOTOR CONNECTION, NUMBER DENOTES HORSEPOWER
VFD	VARIABLE FREQUENCY DRIVE
DDC	DIRECT DIGITAL CONTROL PANEL
T	TRANSFORMER

BASIC MATERIALS CONT.

SYMBOL	DESCRIPTION
	AUTOMATIC TRANSFER SWITCH
30AR NF	NON-FUSED DISCONNECT SWITCH, SIZE & # OF POLES NF DENOTES NON-FUSED AR DENOTES AMP RATING OF SWITCH
30AR 20AF	FUSED DISCONNECT AR DENOTES AMP RATING OF SWITCH AF DENOTES AMP FUSE SIZE
MCP SIZE	# OF POLES
30/3 0 3R	COMBINATION MAGNETIC MOTOR STARTER, SIZE & # OF POLES 3 POLE UNLESS OTHERWISE NOTED ENCLOSURE NEMA RATING. NEMA STARTER SIZE
	BRANCH CIRCUIT PANELBOARD, UNDER 250 VOLTS, SURFACE MOUNTED
	BRANCH CIRCUIT PANELBOARD, UNDER 250 VOLTS, FLUSH MOUNTED
	BRANCH CIRCUIT PANELBOARD, OVER 250 VOLTS, SURFACE MOUNTED
	BRANCH CIRCUIT PANELBOARD, OVER 250 VOLTS, FLUSH MOUNTED
	BRANCH CIRCUIT CONDUIT CONCEALED ABOVE CEILING OR IN WALL. CONDUIT SHALL INCLUDE PHASE, NEUTRAL AND GROUND CONDUCTORS AS REQUIRED FOR CIRCUITS UNLESS OTHERWISE NOTED.
	BRANCH CIRCUIT CONDUIT CONCEALED IN SLAB, UNDERGROUND OR UNDER FLOOR.
	BRANCH CIRCUIT CONDUIT EXPOSED
	GROUND OR GROUND ROD AS NOTED
EM	EMERGENCY BRANCH CONDUIT
UP	CONDUIT TURNING UP
DN	CONDUIT TURNING DOWN
	CONDUIT STUB
	CONDUIT CONTINUED
	FLEXIBLE CONDUIT
	EXISTING TO BE REMOVED
	EXISTING TO REMAIN
*	EXISTING AFFECTED BY THIS PROJECT
	FUTURE
	NEW

LIGHTING

	FLUORESCENT STRIP FIXTURE
FIXTURE DESIGNATION — A	FLUORESCENT FIXTURE
CIRCUIT NUMBER — 2 a	LOWER CASE LETTER INDICATES CONTROL CIRCUIT SWITCH LEG
	FLUORESCENT FIXTURE DIAGONAL SHADING DENOTES EMERGENCY LIGHT FIXTURE.
	FLUORESCENT WALL MOUNTED FIXTURE WITH WALL OUTLET BOX
	HID, FLUORESCENT, OR INCANDESCENT FIXTURE
	ACCENT FLOOD LIGHTING - AIMING AS INDICATED
	EXIT LIGHT FIXTURE DIRECTION ARROWS AS SHOWN (SHADED QUADRANT INDICATES FACE(S) OF FIXTURE)
	WALL MOUNTED EXIT LIGHT FIXTURE
	BATTERY PACK WITH TWIN HEADS

LIGHTING CONTROL

OS	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR MOUNTED AT 90" A.F.F.
OS	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
S_O	WALL MOUNTED PASSIVE INDRA-RED OCCUPANCY SENSOR WITH MANUAL OVERRIDE. MOUNT @ 48" A.F.F.
S_T	WALL MOUNTED DIGITAL TIMER. 'P' INDICATED WITH PILOT LIGHT MOUNT @ 48" A.F.F.

PROVIDE ALL NECESSARY POWER PACKS AND RELAYS FOR A FULLY FUNCTIONAL SYSTEM

TELEPHONE/COMPUTER RACEWAY SYSTEM

SYMBOL	DESCRIPTION
	COMMUNICATIONS "INFORMATION OUTLET" MTD. AT RECEPTACLE HEIGHT UNLESS OTHERWISE NOTED. DIVISION 16 CONTRACTOR TO PROVIDE 4" SQUARE WITH SINGLE GANG RAISED MUD RING. CONTRACTOR TO STUB UP (2) 1" CONDUITS AT EACH LOCATION TO ABOVE CEILING AND TURN TO ACCESSIBLE CEILING SPACE. CONTRACTOR TO PROVIDE BUSHING ON END OF CONDUIT AND PULLSTRING WITHIN.
TV	TELEDATA/TV OUTLET - 4" SQUARE 2 GANG BOX WITH (2) 1" CONDUITS PER ABOVE.
	TELEPHONE OUTLET FLOOR MOUNTED
TTB	TELEPHONE/COMPUTER TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET
T	TELEPHONE SYSTEM RACEWAY

FIRE ALARM/DETECTION SYSTEM

SYMBOL	DESCRIPTION
F	MANUAL PULL STATION
	CEILING SMOKE DETECTOR, PHOTO-ELECTRIC TYPE UNLESS OTHERWISE NOTED E = ELEVATOR WITH RECALL CONTACTS I = IONIZATION
	DUCT SMOKE DETECTOR R = RETURN S = SUPPLY
R	SUPERVISED CONTROL RELAY
R	DUCT SMOKE REMOTE ALARM INDICATING LAMP, W/ TEST SWITCH, WALL MOUNTED 72" AFF
RT	REMOTE INDICATING LAMP FIRE ALARM WITH TEST SWITCH WALL MOUNTED 72" AFF
F	COMBINATION AUDIBLE/VISUAL NOTIFICATION DEVICE
SS	FIRE ALARM SPEAKER - CEILING MOUNTED
FS	WALL MOUNTED SPEAKER WITH STROBE
SS	FIRE ALARM SPEAKER - WALL MOUNTED
F	FIRE ALARM SPEAKER WITH STROBE - CEILING MOUNTED
F	VISUAL SIGNALING UNIT, WALL MOUNTED (NO AUDIO DEVICE)
P	FIREMANS PHONE JACK
TS	SPRINKLER TAMPER SWITCH CONNECTION
FS	SPRINKLER WATERFLOW SWITCH CONNECTION
FP	FIRE ALARM SYSTEM PRINTER
ZAM	ZONE ADDRESSABLE MODULE
	ELECTROMAGNETIC DOOR HOLD OPEN DEVICE
H	ELECTROMAGNETIC DOOR HOLD OPEN DEVICE CONNECTION TO CLOSURE/ HOLDER
H	ELECTROMAGNETIC DOOR HOLD OPEN DEVICE CONNECTION TO CLOSURE/ HOLDER INCLUDES DETECTOR
H	CEILING HEAT DETECTOR 135° UNLESS OTHERWISE INDICATED.
T	BEAM DETECTOR - TRANSMITTER
R	BEAM DETECTOR - RECEIVER
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FAAP	FIRE ALARM ANNUNCIATOR PLAN - FLUSH MOUNTED
F	FIRE ALARM SYSTEM CONDUIT AND WIRING
E	FIREMAN'S ELEVATOR WARNING LIGHT

GENERAL NOTES:

1. LIGHT SWITCHES SHALL BE MOUNTED 48 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE, UNLESS OTHERWISE NOTED.
2. RECEPTACLES SHALL BE LOCATED 18 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE, UNLESS OTHERWISE NOTED. ABOVE-COUNTER RECEPTACLES SHALL BE MOUNTED 6" ABOVE BACK SPLASH TO CENTERLINE OF DEVICE.
3. EQUIPMENT SHALL BE OF MATERIALS SUITABLE FOR AND RATED FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED.
4. A. WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH NEC 110.
   B. THE EXCLUSIVELY-DEDICATED SPACE EXTENDING FROM FLOOR TO STRUCTURAL CEILING WITH A WIDTH AND DEPTH OF THE PANELBOARD OR SWITCHBOARD MUST BE CLEAR OF ALL PIPING, DUCTS OR EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES IN ACCORDANCE WITH NEC 408.
5. WHEN ELECTRICAL BOXES ARE LOCATED IN VERTICAL FIRE-RESISTIVE ASSEMBLIES, (CLASSIFIED AS FIRE/SMOKE AND SMOKE PARTITIONS), THEY SHALL BE INSTALLED WITHOUT AFFECTING THE FIRE CLASSIFICATION. ALL OF THE FOLLOWING CONDITIONS SHALL BE MET:
   A. ALL ELECTRICAL BOXES SHALL BE METALLIC.
   B. BOX OPENING SHALL OCCUR ONLY ON ONE SIDE OF FRAMING SPACE.
   C. BOX OPENING SHALL NOT EXCEED 16 SQUARE INCHES.
   D. ALL CLEARANCES BETWEEN OUTLET BOX AND GYPSUM BOARD SHALL BE COMPLETELY FILLED WITH JOINT COMPOUND (OR OTHER APPROVED MATERIAL).
   E. PROVIDE A WALL AROUND OUTLETS LARGER THAT 16 SQUARE INCHES. THE INTEGRITY OF THE WALL RATING SHALL BE MAINTAINED.
   F. THE TOTAL AGGREGATE SURFACE AREA OF THE BOXES SHALL NOT EXCEED 100 SQUARE INCHES PER 100 SQUARE FEET.
   G. OUTLET BOXES LOCATED ON OPPOSITE SIDES OF FIRE-RESISTIVE ASSEMBLIES SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 24 INCHES.
   H. OUTLET BOXES SHALL BE SECURELY FASTENED TO WALL FRAMING MEMBERS.
   I. THE OPENING IN THE GYPSUM BOARD FACING SHALL BE CUT NOT TO EXCEED 1/8 INCH BETWEEN THE EDGES OF THE OUTLET BOX AND THE EDGES OF THE OPENING.
6. ALL DEVICES SHALL BE MOUNTED VERTICAL, UNLESS OTHERWISE NOTED.
7. ALL RECEPTACLES SHALL BE MOUNTED SUCH THAT THE GROUND PIN IS MOUNTED DOWN.

(N) = NEW EQUIPMENT)
(E) = EXISTING TO REMAIN)
(R) = EXISTING TO BE REMOVED)
(ER) = EXISTING TO BE RELOCATED)

COMPLIANCE STATEMENT

WORK ON THESE PLANS HAS BEEN PREPARED IN ACCORDANCE WITH THE 2008 NATIONAL ELECTRICAL CODE, AS WELLS AS THE 2010 FLORIDA BUILDING CODE WITH AMENDMENTS.

NOTE: SOME SYMBOLS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT.

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Sheet Title:
ELECTRICAL SYMBOL LEGEND, GENERAL NOTES & INDEX

Sheet No.
E001

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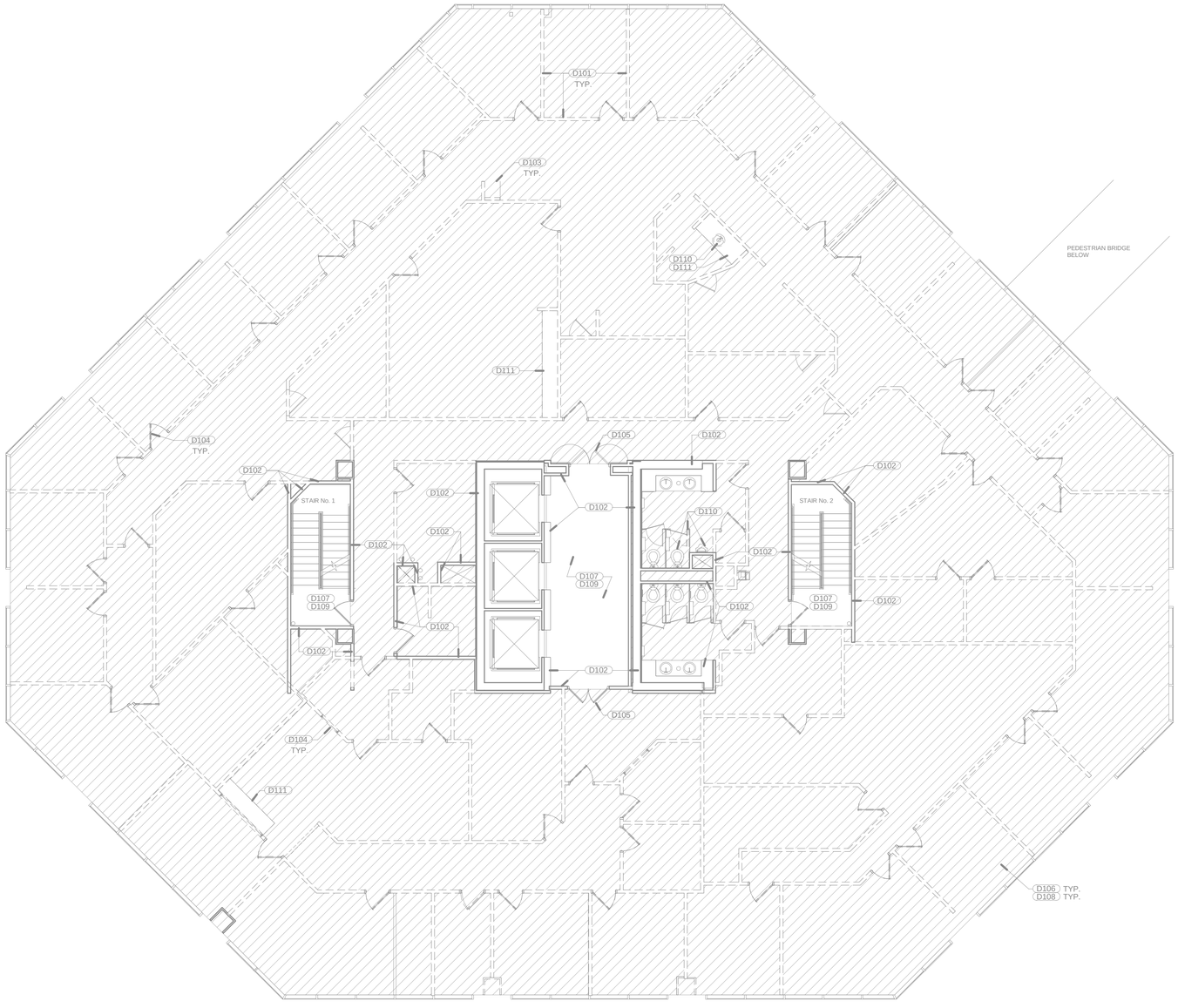

KEYNOTES:

1. EXISTING STAIRWELL. NO DEMOLITION REQUIRED.
2. EXISTING ELEVATOR CORE. NO CHANGES REQUIRED.
3. THE EXTENT OF THE DEMOLITION WITHIN THIS EXISTING ELECTRICAL ROOM, IS CONFINED TO ANY WORK ASSOCIATED WITH THE REMOVAL OF THE EXISTING CONDUIT AND WIRING WHICH IS TO BE ABANDONED (EITHER HIGH VOLTAGE, LOW VOLTAGE, OR STRUCTURED CABLING). NOTE: ONLY THE CONDUIT AND CABLING ASSOCIATED WITH THE ABANDONED SYSTEMS IS TO BE REMOVED. THERE ARE EXISTING SYSTEMS BOTH LIFE SAFETY AND FOR OTHER TENANTS WHICH MUST REMAIN IN SERVICE. DEMOLITION IN THIS AREA TO BE VERY SELECTIVE.
4. DEMOLITION WITHIN THIS SPACE IS CALLED OUT ON THE POWER AND SYSTEMS FLOOR PLAN, AND IS RELATED TO THE RELOCATION/UPGRADE OF ELECTRICAL SERVICE TO THE NEW AIR HANDLER.
5. DEMOLITION WITHIN THIS SPACE IS SELECTIVE AND LIMITED TO THE REPLACEMENT OF SOME OF THE EXISTING LIGHT FIXTURES AND THE RELOCATION OF ROOM LIGHTING CONTROL.
6. DEMOLITION WITHIN THIS SPACE IS SELECTIVE AND LIMITED REMOVAL OF SOME EXISTING WALLS AND CEILINGS. COORDINATE IN FIELD.
7. UNLESS SPECIFICALLY NOTED OTHERWISE IN #1 - #6 ABOVE, ALL OTHER DEVICES AND CABLING WHICH SERVES THIS FLOOR ARE TO BE REMOVED. ALL CABLING AND CONDUIT NOT SCHEDULED TO BE RE-USED, IS TO BE REMOVED ALL THE WAY BACK TO THE EXISTING PANELBOARD OR TERMINAL CABINET FROM WHICH IT ORIGINATED. IF CONDUIT AND CABLING RUNNING THROUGH THE THIRD FLOOR IS SERVING OTHER AREAS OF THE BUILDING, CONTRACTOR SHALL RE-ROUTE SAID CONDUIT AND CABLING TO MAINTAIN EXISTING SYSTEMS WHICH SERVE OTHER FLOORS. ESPECIALLY LIFE SAFETY SYSTEMS.

1 E101 5TH FLOOR - DEMOLITION - ELECTRICAL

1/8" = 1'-0"

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5TH FLOOR DEMOLITION PLAN - ELECTRICAL

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Seal

Sheet No.

E101

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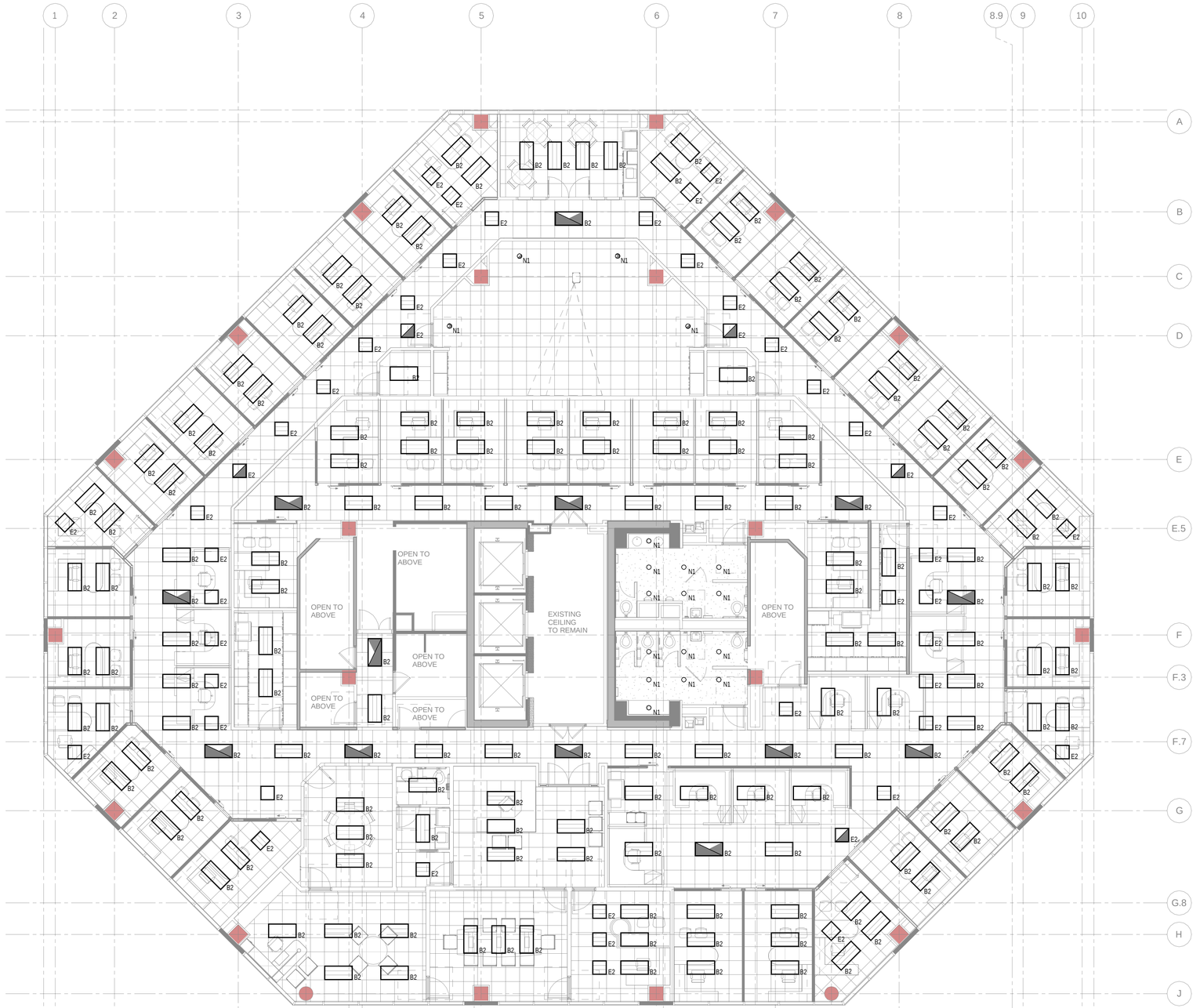

1 E102 5TH FLOOR - LIGHTING
1/8" = 1'-0"

GENERAL NOTES:

1. ALL LIGHT FIXTURES SHALL BE CIRCUITED TO EXISTING PANEL 'H3' UNLESS NOTED OTHERWISE. ALL LIGHT SWITCHES SHALL BE 277V RATED U.O.N.
2. COORDINATE EXACT LOCATION OF EACH LIGHT FIXTURE WITH MECHANICAL PIPING, CONDUIT, HVAC GRILLES, etc. FIELD ADJUST ANY LIGHT TO AVOID CONFLICT.
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT TYPE AND HEIGHT OF CEILING IN EACH ROOM. COORDINATE WITH ARCHITECT/ENGINEER PRIOR TO ROUGH-IN OF ANY FIXTURES. COORDINATE ALL CONTROL JOINTS LOCATIONS WITH LIGHT FIXTURES PRIOR TO ANY ROUGH-IN OF FIXTURES.
4. ALL ELECTRICAL CONTROL DEVICES SHALL BE MOUNTED AT A HEIGHT THAT IS ACCESSIBLE TO THE DISABLED IN ACCORDANCE WITH THE FLORIDA ACCESSIBILITY CODE. REFER TO ELECTRICAL SHEET E000 FOR MOUNTING HEIGHTS OF ELECTRICAL CONTROL DEVICES.
5. PROVIDE CONDUIT AND WIRING AS REQUIRED TO MEET CIRCUITING SHOWN TO CONFORM TO NEC REQUIREMENTS. PROVIDE EQUIPMENT GROUND CONDUCTOR IN ALL RACEWAYS.
6. MULTIPLE LIGHT SWITCHES, AT THE SAME LOCATION, SHALL BE GANGED TOGETHER UNDER ONE COVER PLATE. DIMMER SWITCHES SHALL BE INSTALLED IMMEDIATELY BELOW SWITCH LOCATIONS.

(#) KEYNOTES:

1. EXISTING AREA LIGHTING TO REMAIN. (NO WORK)
2. EXISTING ELECTRICAL ROOM. PANEL LOCATIONS ARE SHOWN IN THE ROOM ENLARGEMENT ON E102.
3. ALL CORRIDOR AND OPEN OFFICE AREA FIXTURES TO BE WIRED THRU LIGHTING CONTACTOR CONTROLLED BY BUILDING EMS SYSTEM. PROVIDE OVER - RIDE SWITCHES IN LOCATIONS NOTED. SEE PANEL SCHEDULES AND DETAIL DRAWINGS FOR MORE INFORMATION. SHADED FIXTURES ARE ON EMERGENCY LIGHTING CIRCUITS. PROVIDE 'EM' BYPASS RELAY FOR SWITCH OVERRIDE IN EMERGENCY MODE DURING POWER LOSS.
4. PROVIDE SEPARATE SLIDER DIMMER(S) AS INDICATED. DIMMERS TO BE SIZED APPROPRIATELY FOR LOAD SERVED. COLOR TO MATCH OTHER DEVICES. MOUNT DIMMERS IN SEPARATE BOXES TO ACCOMMODATE HEAT.
5. NEW BATHROOM LIGHTING TO REPLACE EXISTING AS INDICATED. CONNECT TO CIRCUITS INDICATED AND SWITCH AS SHOWN.
6. ALL DOWNLIGHTS SHOWN ON THIS PLAN ARE TO BE TYPE 'D' UNLESS NOTED OTHERWISE. SEE FIXTURE SCHEDULE ON DRAWING 'E301'.
7. ALL EXIT LIGHT FIXTURES SHOWN ON THIS PLAN ARE TO BE CIRCUITED TO PANEL 'HE3-4'.
8. EXISTING BATHROOM SCONCES TO REMAIN, CLEAN & RELAMP FIXTURES. CONNECT TO CIRCUITS INDICATED AND SWITCH AS SHOWN.

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5TH FLOOR PLAN - LIGHTING

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E102

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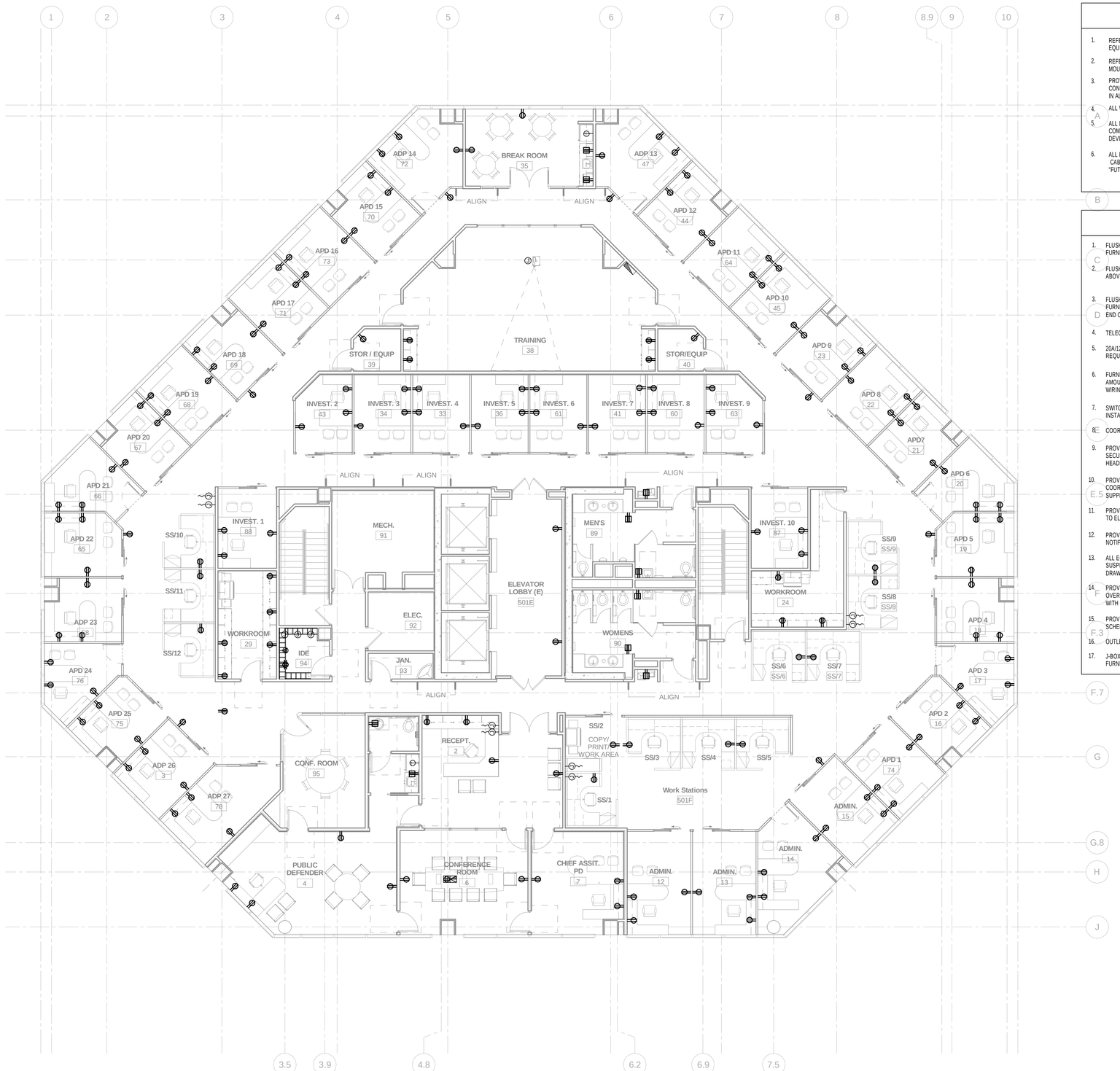

GENERAL NOTES:

1. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF ALL MECHANICAL EQUIPMENT.
2. REFER TO ELECTRICAL DETAIL DRAWINGS FOR MOUNTING HEIGHTS OF ALL WALL MOUNTED ELECTRICAL DEVICES.
3. PROVIDE CONDUIT/WIRING AS REQUIRED TO MEET CIRCUITING SHOWN TO CONFORM TO N.E.C. REQUIREMENTS. PROVIDE EQUIPMENT GROUND CONDUCTOR IN ALL RACEWAYS.
4. ALL WIRING OVER 100' IN LENGTH SHALL BE #10 AWG.
5. ALL NEW FIRE ALARM DEVICES SHALL MATCH EXISTING (3RD FLOOR) TYPE AND BE COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM. "SIMPLEX - TRUE ALARM" DEVICE.
6. ALL EXISTING CABLE RENDERED "ABANDONED" SHALL BE REMOVED ENTIRELY. ANY CABLE LEFT IN PLACE (NOT USED) SHALL BE TAGGED WITH LABELS INDICATING "FUTURE USE" WITH IDENTIFICATION AT BOTH ENDS.

(#) KEYNOTES:

1. FLUSH, WALL MOUNTED J-BOX, FOR NORMAL POWER CONNECTION TO MODULAR FURNITURE.
2. FLUSH, WALL MOUNTED J-BOX, FOR VOICE/DATA CABLING. PROVIDE (1) 1" CONDUIT TO ABOVE CEILING SPACE. PROVIDE BUSHING ON END OF CONDUIT WITH PULL STRING.
3. FLUSH, WALL MOUNTED J-BOX, FOR VOICE/DATA CABLING CONNECTION TO MODULAR FURNITURE. PROVIDE (2) 1" CONDUITS TO ABOVE CEILING SPACE. PROVIDE BUSHING ON END OF CONDUIT WITH PULL STRING.
4. TELECOMM. SERVICES TO POKE-THRUS REQUIRES (2) 3/4" CONDUITS
5. 20A/125V. SIMPLEX OUTLET FOR COPIER/FAX UNIT, COORDINATE DEVICE REQUIREMENTS WITH OWNER.
6. FURNITURE MOUNTED DEVICE. CIRCUIT AS INDICATED ON THIS PLAN. LOCATION AND AMOUNT OF DEVICES SET BY SYSTEM FURNITURE SUPPLIER. COORDINATE FURNITURE WIRING ACCESS LOCATIONS WITH VENDOR PRIOR TO ROUGH-IN.
7. SWITCH FOR MOTORIZED PROJECTION. VERIFY REQUIREMENTS WITH SUPPLIER/ INSTALLER.
8. COORDINATE LOCATION OF DETECTORS WITH OTHER CEILING DEVICES.
9. PROVIDE SINGLE GANG J-BOX WITH BLANK COVER PLATE AT 48" A.F.F. FOR FUTURE SECURITY ACCESS CONTROL. (BY OTHERS) RUN 3/4"C IN WALL TO J-BOX ABOVE DOOR HEADER.
10. PROVIDE FIRE ALARM RELAY TO INTERFACE WITH THE ACCESS CONTROL SYSTEM. COORDINATE LOCATION OF AND CONNECITON TO RELAY WITH THE SECURITY SYSTEM SUPPLIER/INSTALLER. PROVIDE (4) 20A CIRCUITS FOR SECURITY EQUIP.
11. PROVIDE J-BOX RECESSED UNDER COUNTER FOR OVER RIDE BUTTON. RUN 3/4"C. BACK TO ELECTRICAL ROOM.
12. PROVIDE J-BOX RECESSED UNDER COUNTER FOR SECURITY ASSISTANCE NOTIFICATION. RUN 3/4"C BACK TO ELECTRICAL ROOM.
13. ALL EQUIPMENT, INCLUDING FIRE ALARM SYSTEM PANEL & TRANSFORMER SUSPENDED FROM STRUCTURE OVERHEAD, IS EXISTING TO REMAIN U.O.N., SEE DRAWING `E301' FOR PANEL INFORMATION.
14. PROVIDE CEILING RECEPTACLE AND J-BOX FOR TELECOM CONNECTION TO OVERHEAD PROJECTOR. COORDINATE ADDITIONAL A/V CONDUIT REQUIREMENTS WITH OWNER.
15. PROVIDE NEW 15KVA TRANSFORMER AND 120/208V PANEL `L3E'. SEE PANEL SCHEDULES FOR MORE DETAILS.
16. OUTLETS MOUNTED LOW IN WALL BELOW GLAZING.
17. J-BOXES ABOVE CEILING FOR VOICE, DATA AND POWER FEED INTO MODULAR FURNITURE VIA POWER POLE.

1 E103 5TH FLOOR - POWER
1/8" = 1'-0"

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5TH FLOOR PLAN - POWER & SYSTEMS

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E103

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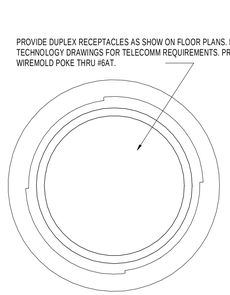
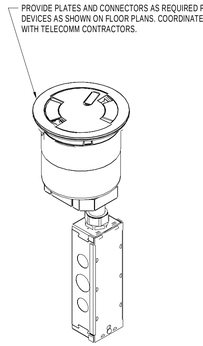
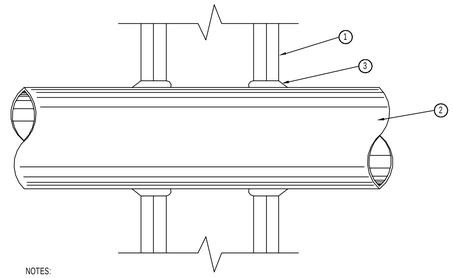




PLAN SYMBOL

FLOOR POKE THRU OUTLET
No Scale

1



NOTES:

1. WALL ASSEMBLY - THE 1, 2, 3, OR 4 HOUR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY.

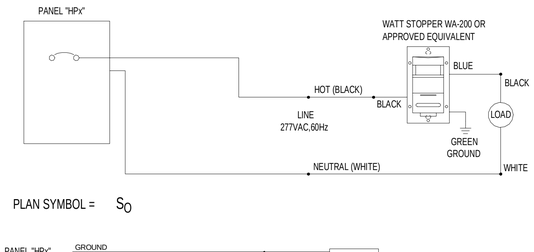
2. CONDUIT - NOM 4" DIA OR SMALLER STEEL ELECTRICAL METALLIC TUBING. A MAX OF ONE CONDUIT IS PERMITTED IN THE FIRESTOP SYSTEM. CONDUIT TO BE INSTALLED NEAR CENTER OF STUD CAVITY WIDTH AND TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.

3. FILL VOID OR CAVITY MATERIAL - CAULK FILL MATERIAL BEARING THE UL CLASSIFICATION MARKING INSTALLED TO COMPLETELY FILL ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND GYPSUM WALLBOARD AND WITH A MIN 1/4" DIAM BEAD OF CAULK APPLIED TO PERIMETER OF CONDUIT AT ITS EGRESS FROM THE WALL. CAULK INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW:

MAX CONDUIT DIAM, IN.	ANNULAR SPACE, IN.	F RATING, HR.	T RATING, HR.
1	0 TO 3/16	1 OR 2	0, 1 OR 2
1	1/4 TO 1/2	3 OR 4	3 OR 4
4	0 TO 1-1/2	1 OR 2	0
6	1/4 TO 1/2	3 OR 4	0
12	3/16 TO 3/8	1 OR 2	0

CONDUIT PENETRATION OF FIREWALL
UL SYSTEM NO. W-L-1001

2



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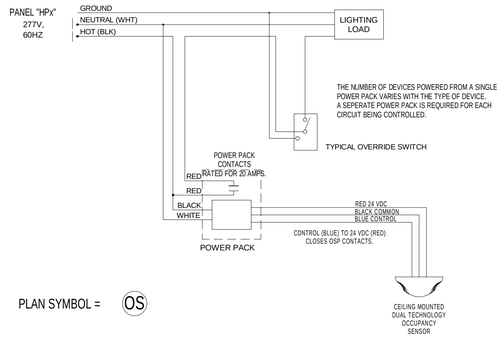
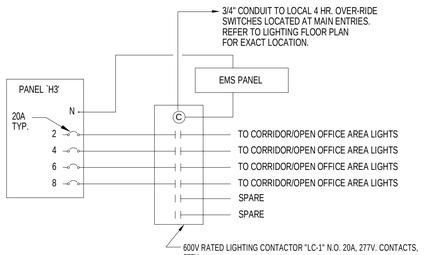
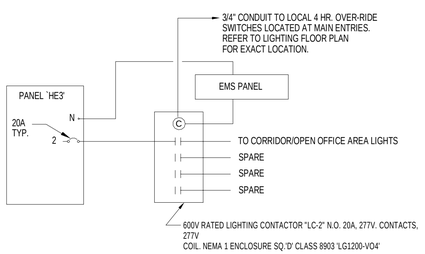


PLAN SYMBOL = OS

TYPICAL OCCUPANCY SENSOR WIRING DIAGRAM
No Scale

3





CORRIDOR LIGHTING CONTROL DIAGRAM
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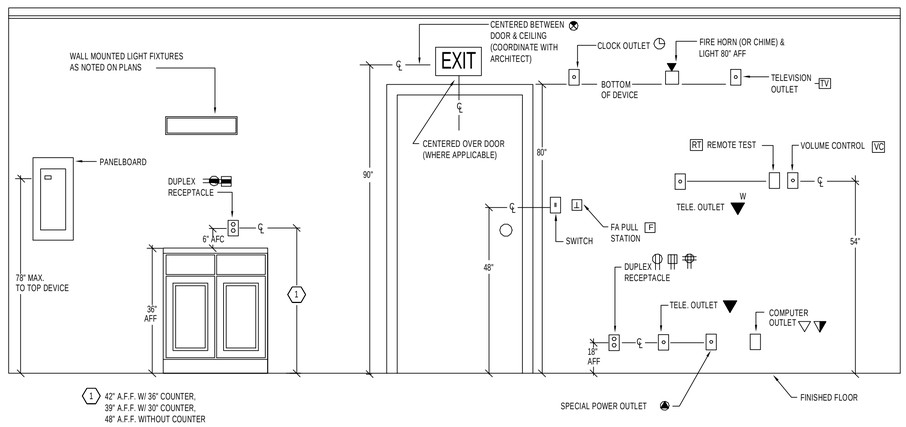
4



MOUNTING HEIGHTS
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5

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Sheet Title:
ELECTRICAL DETAILS

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Seal

Sheet No.
E201

APPLICABLE CODES AND STANDARDS
FIRE PROTECTION SYSTEM

FLORIDA ADMINISTRATIVE CODE 61G15 (2) (B) 1/06/05
FLORIDA BUILDING CODE, 2007 EDITION
NFPA-13, 2007 EDITION
NFPA-24, 2007 EDITION

61G15 FAC COMPLIANCE NOTES

61G15-32.003

(2) ACCEPTANCE TEST CRITERIA
SHALL COMPLY WITH N.F.P.A. 13 2007 CHAPTER 16. SYSTEM ACCEPTANCE SECTION:
16.1 APPROVAL OF SPRINKLER SYSTEM.
16.2 ACCEPTANCE REQUIREMENTS.
16.3 CIRCULATING CLOSED LOOP SYSTEM
16.4 INSTRUCTION
16.5 HYDRAULIC DESIGN INFORMATION SIGNS
10.10.1 CONTRACTORS MATERIAL & TEST CERTIFICATE FOR UNDERGROUND PIPING

(5) STRUCTURAL SUPPORT COORDINATION:
THIS IS AN EXISTING STRUCTURE THERE ARE NO ADDITIONAL LIVE AND DEAD LOADS THAT ARE REQUIRED FOR THE MODIFICATION OF THE EXISTING SPRINKLER SYSTEM.

61G15-32.004 (2)

(A) POINT OF SERVICE:
THE POINT OF SERVICE IS A EXISTING 6" FIRE MAIN THE ENTERS THE BUILDING. THERE IS AN EXISTING ELECTRIC
FIRE PUMP. THIS WILL REMAIN ACTIVE THOUGHT OUT THE RENOVATION.

(C) CLASSIFICATION OF HAZARD OCCUPANCY FOR EACH ROOM OR AREA:
LIGHT HAZARD: RESTROOMS, OFFICE AREAS, CONFRENCE ROOMS, BREAK ROOMS AND SMALL CLOSTES
ORDINARY HAZARD GROUP 1: MECHANICAL ROOMS AND ELECTRICAL ROOMS

LIGHT HAZARD :
SPRINKLER SYSTEM TO BE ATTACHED AND SUPPLIED FROM SPRINKLER RISER STANDPIPE. SYSTEM SHALL BE EXTENDED INTO ENTIRE BUILDING IN ACCORDANCE WITH NFPA-13. U.L, LIGHT HAZARD. LISTED AND APPROVED UPRIGHTS & PENDANTS (5.6 K-FACTOR) SPRINKLER HEADS TO BE USED. HEADS SHALL BE RATED AT 155 DEGREES. MAX. SPRINKLER HEAD SPACING SHALL NOT EXCEED 225 SQ FT WITH A .10 DENSITY SPRINKLER CONTRACTOR SHALL PROVIDE HYDRAULIC CALCULATION. 1500 SQ FT SHALL BE USED WHEN PERFORMING HYDRAULIC CALCULATIONS. PROVIDE INTERMEDIATE TEMP SPRINKLER HEADS IN ATTIC AREA.

ORDINARY HAZARD GROUP 1 :
SPRINKLER SYSTEM TO BE ATTACHED AND SUPPLIED FROM SPRINKLER RISER STANDPIPE. SYSTEM SHALL BE EXTENDED INTO ENTIRE BUILDING IN ACCORDANCE WITH NFPA-13. U.L, LIGHT HAZARD. LISTED AND APPROVED UPRIGHTS & PENDANTS (5.6 K-FACTOR) SPRINKLER HEADS TO BE USED. HEADS SHALL BE RATED AT 155 DEGREES. MAX. SPRINKLER HEAD SPACING SHALL NOT EXCEED 130 SQ FT WITH A .15 DENSITY SPRINKLER CONTRACTOR SHALL PROVIDE HYDRAULIC CALCULATION. 1500 SQ FT SHALL BE USED WHEN PERFORMING HYDRAULIC CALCULATIONS.

(F) FLOW TEST DATA:
THE SPRINKLER CONTRACTOR SHALL PROVIDE A CURRENT FIRE FLOW TEST AT THE TIME OF SHOP DRAWING SUBMITTAL. HYDRAULIC CALCULATIONS SHALL ALSO BE PERFORMED BY THE CONTRACTOR DEMONSTRATING THAT
THERE IS ADEQUATE AMOUNT OF FIRE FLOW FOR THE NEWLY RENOVATED FLOOR.

(G) VALVING AND ALARM REQUIREMENTS TO MINIMIZE POTENTIAL FOR IMPAIRMENTS AND UNRECOGNIZED FLOW OF WATER:
THE EXISTING FIRE SPRINKLER RISER IS EQUIPPED WITH A WATER FLOW SWITCH WITH A LOCAL ALARM AND OFF-SITE
MONITORING. THE BACKFLOW PREVENTION DEVICE IS EXISTING.

(H) MICROBIAL INDUCED CORROSION (MIC):
THE LOCAL WATER PURVEYOR, LEE COUNTY PUBLIC UTILITIES, ACKNOWLEDGES THAT THE WATER SERVICE PROVIDED MEETS OR EXCEEDS STATE AND FEDERAL CORROSION WATER CONTROL QUALITY PARAMETERS. ADDITIONALLY, THE PURVEYOR ACKNOWLEDGES THAT NO SPECIFIC TESTING GUIDELINES FOR MIC PRESENTLY EXIST. AS SUCH THE INSTALLING FIRE SPRINKLER CONTRACTOR SHALL MAKE PIPE AND FITTING SELECTIONS BASED ON THIS INFORMATION AND IN ACCORDANCE WITH NFPA 13, (2002 EDITION), CHAPTER 8, SUBSECTION 8.15.3.2.2; CHAPTER 15, SUBSECTION 15.1.5; AND ANNEX A, SUBSECTION A.15.1.5.

(I) BACKFLOW PREVENTION AND METERING SPECIFICATIONS:
IS EXISTING AND SHALL REMAIN.

(J) QUALITY AND PERFORMANCE SPECIFICATIONS OF ALL YARD AND INTERIOR FIRE PROTECTION COMPONENTS:
ALL NEW YARD AND INTERIOR FIRE PROTECTION EQUIPMENT SHALL BE UL LISTED AND FM APPROVED.

SCOPE OF WORK: THIS BUILDING HAS WITH A EXISTING SPRINKLER AND STANDPIPE SYSTEM PER NFPA 13 AND 14. THE SPRINKLER SYSTEM SHALL BE MODIFIED ON THE 3RD FLOOR TO ACCOMMODATE THE NEW WALLS AND CEILINGS. THE SYSTEM SHALL BE HYDRAULICALLY CALCULATED BY THE SPRINKLER CONTRACTOR. SHOP DRAWING ARE REQUIRED TO BE APPROVED PRIOR TO INSTALLING BY THE OWNER, AHJ, ARCHITECT AND THE ENGINEERS. UPON COMPELLATION THE SYSTEM SHALL BE HYDROSTATICALLY TESTED PER THE LOCAL AHJ.

FIRE PROTECTION LEGEND

SYMBOL	DESCRIPTION
OR	- CONTROL VALVE W/TAMPER SWITCH
	- CHECK VALVE
	- FLOW SWITCH
FDC	- FIRE DEPARTMENT CONNECTION
PIV	- POST INDICATOR VALVE W/TAMPER SWITCH
FVC	- FIRE VALVE CABINET
FDV	- STANDPIPE WITH FIRE DEPARTMENT VALVE
	- SPRINKLER AND DRAIN RISER
	- BACKFLOW PREVENTOR W/TAMPER SWITCHES
	- ROOF MANIFOLD
	- HYDRAULIC REFERENCE NODE
	- NEW SPRINKLER PIPING
F.C.	- FLUSHING CONNECTION
1	- REVISION REFERENCE
1 FP-1	- DETAIL REFERENCE: TOP-DETAIL#, BOTTOM-DRAWING# SHOWN ON

NOTE: SOME SYMBOLS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT

GENERAL NOTES

1. FIRE PROTECTION SYSTEM TO COMPLY WITH NFPA 13, 14, 20, 24 AND ALL APPLICABLE STATE CODES.
2. FINAL INSPECTION AND APPROVAL BY LOCAL FIRE MARSHAL AND ARCHITECT/ENGINEER.
3. SPRINKLER SHOP DRAWINGS AND MATERIAL SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER AND STATE FIRE MARSHAL AND SHALL BE APPROVED PRIOR TO ANY INSTALLATION.
4. PIPE ROUTING SHOWN IS SCHEMATIC ONLY. IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO PROVIDE ANY ADDITIONAL OFFSETS REQUIRED FOR PROPER INSTALLATION AND COORDINATION WITH OTHER TRADES.
5. PIPING IN AREAS WITH EXPOSED STRUCTURE SHALL BE INSTALLED AS HIGH AS POSSIBLE TO ALLOW THE OWNER MAXIMUM USE OF THE SPACE.
6. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING DESCRIPTIONS AND HEIGHTS.
7. SPRINKLERS ARE TO BE COORDINATED WITH ALL DIFFUSERS, SPEAKERS, LIGHTING FIXTURES AND CEILING SYSTEMS. SPACING OF SPRINKLERS SHALL BE IN ACCORDANCE WITH NFPA 13 AND THE LISTING OF THE SPRINKLER.
8. SPRINKLER LOCATIONS SHALL BE CENTERED IN THE TILE. PROVIDE ARMOVER OR SWING JOINT AS REQUIRED.
9. SPRINKLERS IN AREAS WITH EXPOSED STRUCTURE (OBSTRUCTED CONSTRUCTION) SHALL BE INSTALLED WITH DEFLECTOR 1" BELOW THE BOTTOM OF THE BEAM (MAXIMUM 22" BELOW ROOF DECK). EXPOSED BAR JOISTS THAT HAVE SPRAY-ON FIRE PROOFING THAT MAKES THE JOIST SOLID SHALL BE TREATED LIKE A BEAM WITH THE SPRINKLERS 1" BELOW THE BOTTOM OF THE FIRE PROOFING.
10. SLEEVE AND/OR FIRESTOP ALL PENETRATIONS THROUGH RATED WALLS, CEILINGS, AND FLOORS WITH UIL LISTED ASSEMBLIES. FIRESTOP ASSEMBLIES SHALL BE EQUAL OR EXCEED THE RATING OF THE WALL, CEILING OR FLOOR. SEE ARCHITECTURAL DRAWINGS FOR FINAL FINISHES.
11. PROVIDE ACCESS PANELS TO ALL VALVES ABOVE NON-ACCESSIBLE CEILINGS AND CHASES.
12. PROVIDE A PERMANENTLY ATTACHED NAME TAG TO THE RISER STATING THE REQUIRED DESIGN CRITERIA FOR EACH HYDRAULICALLY-DESIGNED SYSTEM.
13. PROVIDE SPRINKLERS UNDERNEATH ALL EXPOSED DUCTWORK WHICH IS OVER 48" WIDE AND SPACE HEADS AROUND ALL OBSTRUCTIONS IN ACCORDANCE WITH NFPA 13. HEADS UNDER DUCTS ARE NOT INDICATED ON THE DRAWINGS BUT ARE REQUIRED AND SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13. SPRINKLER LOCATIONS UNDER DUCTWORK AND AROUND OBSTRUCTIONS SHALL BE GOVERNED BY FINAL INSTALLED LOCATIONS.
14. PROVIDE SPRINKLER GUARDS ON ALL HEADS IN ELECTRIC ROOMS, TELEPHONE ROOMS, ELEVATOR ROOMS, ELEVATOR SHAFTS AND ON ANY HEADS LESS THAN 7'-0" ABOVE THE FLOOR.
15. IF SYSTEM PRESSURE EXCEEDS 100 PSI, ALL HANGERS ON END HEADS IN PENDANT POSITION SHALL BE WITHIN 12" OF END OF LINE IN ACCORDANCE WITH NFPA 13.
16. COORDINATE PIPING WITH ALL ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, ETC.) PRIOR TO ANY INSTALLATION. DO NOT ROUTE ANY PIPING OVER ANY ELECTRICAL PANELS UNDER ANY CIRCUMSTANCES. ANY PIPING RUN OVER ELECTRICAL SHALL BE REROUTED AT NO ADDITIONAL COST.
17. WET BULK SUPPLY MAINS AND HOSE SUPPLY MAINS EXPOSED TO THE WEATHER SHALL BE INSULATED AND PROVIDED WITH AN ALUMINUM JACKET.

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Sheet Title:
FIRE PROTECTION SYMBOL LEGEND, GENERAL NOTES & INDEX

Sheet No.
F001

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Seal

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HVAC SYMBOL LEGEND

SYMBOL	DESCRIPTION
	-EXHAUST DUCT UP THROUGH SLAB W/FAN ON ROOF ABOVE
	-EXHAUST FAN ON ROOF W/DUCT DOWN THROUGH ROOF
	-OUTSIDE AIR DUCT UP THROUGH SLAB W/FAN ON ROOF ABOVE
	-OUTSIDE AIR FAN ON ROOF W/DUCT DOWN THROUGH ROOF
	-CEILING DIFFUSER, ROUND NECK (CEILING DIFFUSERS ARE 4-WAY THROW UNO)
	-ROUND DIFFUSER
	-CEILING RETURN
	-CEILING EXHAUST
	-CEILING DIFFUSER, RECTANGULAR OR SQUARE NECK (CEILING DIFFUSERS ARE 4-WAY THROW UNO)
	-SUPPLY REGISTER OR GRILLE (VERTICAL MOUNT, SIDEWALL)
	-RETURN/EXHAUST REGISTER OR GRILLE (VERTICAL MOUNT, SIDEWALL)
1	-REVISION REFERENCE
1 M-1	-DETAIL REFERENCE: TOP - DETAIL#; BOTTOM - DRAWING# SHOWN ON
	-THERMOSTAT/TEMPERATURE SENSOR
	-HUMIDISTAT/HUMIDITY SENSOR
	-DUCT SMOKE DETECTOR
	-CONNECT TO EXISTING
	-DEMOLISH TO POINT INDICATED
	-MOTORIZED CONTROL DAMPER
	-TEMPERATURE SENSOR
	-PRESSURE SENSOR
	-BACKDRAFT DAMPER
	-NEUTRAL RELATIVE PRESSURE
	-POSITIVE RELATIVE PRESSURE
	-NEGATIVE RELATIVE PRESSURE
	-SHEET NOTE CALLOUT
1	-SHEET NOTE CALLOUT
1	-SHEET NOTE CALLOUT
	-CEILING MOUNTED ACCESS DOOR

SYMBOL	DESCRIPTION
	-FIRE DAMPER (WITH ACCESS PANEL)
	-FIRE & SMOKE DAMPER (WITH ACCESS PANEL)
	-EXISTING FIRE DAMPER TO REMAIN
	-EXISTING FIRE & SMOKE DAMPER TO REMAIN
SA-1	-SOUND ATTENUATOR
	-MOTOR OPERATED CONTROL DAMPER (MOD)
FM	-AIR FLOW MEASURING STATION
	-MANUAL BALANCING DAMPER
	-DOOR GRILLE
1/2	-UNDERCUT DOOR
	-ACCESS DOORS, VERTICAL OR HORIZONTAL
	-STAINLESS STEEL DUCTWORK
	-FLEXIBLE CONNECTION
	-FLAT OVAL DUCT
	-NEW DUCTWORK, FIRST DIMENSION IS SIDE SHOWN
	-EXISTING DUCTWORK TO REMAIN
24x12	-EXISTING DUCTWORK TO BE REMOVED
DOWN UP W/IN FLOOR	-DUCT ELBOW, POSITIVE PRESSURE (SUPPLY)
	-DUCT ELBOW, EXHAUST
	-DUCT ELBOW, NEGATIVE PRESSURE, RETURN
	-DUCT ELBOW UP THROUGH ROOF OR SLAB ABOVE
	-RECTANGULAR DUCT SECTION UP, POSITIVE PRESSURE, SUPPLY OR OUTSIDE AIR
	-RECTANGULAR DUCT SECTION UP, NEGATIVE PRESSURE, RETURN
	-RECTANGULAR DUCT SECTION UP, EXHAUST
	-ROUND DUCT SECTION UP
	-FLAT OVAL DUCT SECTION UP

SYMBOL	DESCRIPTION
UP DN	-CHANGE OF ELEVATION
	-FLEXIBLE DUCT
	-TRANSITION, CONCENTRIC
	-TRANSITION, ECCENTRIC
	-TRANSITION, SQUARE TO ROUND
	-SQUARE THROAT ELBOW W/TURNING VANES
	-RADIUS ELBOW
	-RECTANGULAR/ROUND BRANCH TAKE-OFF OR ROUND/ROUND BRANCH TAKE-OFF
	-SQUARE THROAT TEE
	-RADIUS TEE
	-RECTANGLE-TO-ROUND TAKE-OFF
	-STANDARD BRANCH TAKE-OFF
	-SPIN-IN TAKE-OFF

HVAC PIPING SYMBOL LEGEND

SYMBOL	DESCRIPTION
CWS	-CONDENSER WATER SUPPLY
CWR	-CONDENSER WATER RETURN
CHWS	-CHILLED WATER SUPPLY
CHWR	-CHILLED WATER RETURN
CD	-CONDENSATE
CR	-CONDENSATE RETURN
PC	-PUMPED CONDENSATE
HWR	-HOT WATER RETURN
HWS	-HOT WATER SUPPLY
HPS	-HIGH PRESSURE STEAM SUPPLY
MPS	-MEDIUM PRESSURE STEAM SUPPLY
LPS	-LOW PRESSURE STEAM SUPPLY
HPR	-HIGH PRESSURE STEAM RETURN
MPR	-MEDIUM PRESSURE STEAM RETURN
LPR	-LOW PRESSURE STEAM RETURN
RL	-REFRIGERANT LIQUID
RS	-REFRIGERANT SUCTION

SYMBOL	DESCRIPTION
	-FLOW DIRECTION
	-GATE VALVE
	-BALL VALVE
	-CALIBRATING BALANCING VALVE
	-BUTTERFLY VALVE
	-GAS COCK
	-UNION
	-STRAINER
	-CONTROL VALVE
	-SOLENOID VALVE
	-PSI REG.
	-CHECK VALVE
	-FLOW SWITCH
	-SLOPE DIRECTION (DOWN)
	-FLEX CONNECTION
	-O.S.&Y. GATE VALVE
	-STEAM TRAP
	-THREE-WAY CONTROL VALVE
	-THERMOMETER
	-TWO-WAY CHECK VALVE
	-RELIEF VALVE
	-VALVE ON RISER

SYMBOL	DESCRIPTION
EQUIP.	- P-TRAP
MV	-MANUAL VENT
	-PRESSURE GAUGE
FM	-FLOW METER
M	-WATER METER
	-INLINE PUMP
	-INLINE PUMP
	-CAP
	-CONNECTION, BOTTOM
	-CONNECTION, TOP
	-COUPLING
	-ELBOW, 90°
	-ELBOW, 45°
	-ELBOW, TURNED DOWN
	-ELBOW, TURNED UP
	-TEE, OUTLET DOWN
	-TEE, OUTLET UP
D D	-45° PIPE RISE (R) / DROP (D)
	-PIPE ANCHORS
	-CONCENTRIC REDUCER
	-ECCENTRIC REDUCER

NOTE: SOME SYMBOLS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT

HVAC ABBREVATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AFD	-ADJUSTABLE FREQUENCY DRIVE	MCA	-MINIMUM CIRCUIT AMPS
AFF	-ABOVE FINISHED FLOOR	MOCP	-MAXIMUM OVER CURRENT PROTECTION
AFR	-ABOVE FINISHED ROOF	MOD	-MOTOR OPERATED CONTROL DAMPER (MOD)
AHU	-AIR HANDLING UNIT	NC	-NORMALLY CLOSED
AP	-ACCESS PANEL	NO	-NORMALLY OPEN
BOP	-BOTTOM OF PIPE	NTS	-NOT TO SCALE
BHP	-BRAKE HORSEPOWER	OA	-OUTSIDE AIR
BTU	-BRITISH THERMAL UNIT	OAL	-OUTSIDE AIR LOUVER
℄	-CENTER LINE	PRV	-PRESSURE REDUCING VALVE
℄	-CFM (CUBIC FEET PER MINUTE)	PRS	-PRESSURE REDUCING STATION
CD	-CEILING DIFFUSER	PSI	-POUNDS PER SQUARE INCH
CT	-COOLING TOWER	PSIG	-PSI GAUGE
CV	-CONSTANT AIR VOLUME	PTAC	-PACKAGED TERMINAL AIR CONDITIONER
CFM	-CUBIC FEET PER MINUTE	PVC	-POLYVINYL CHLORIDE PIPE
CU	-CONDENSING UNIT	RA	-RETURN AIR
DDC	-DIRECT DIGITAL CONTROLS	RHC	-REHEAT COIL
DN	-DOWN	RHP	-ROOFTOP HEAT PUMP
EAT	-ENTERING AIR TEMPERATURE	RPM	-REVOLUTIONS PER MINUTE
ESP	-EXTERNAL STATIC PRESSURE	RS/L	-REFRIGERANT SUCTION & LIQUID LINES
EWT	-ENTERING WATER TEMPERATURE	RTU	-ROOFTOP AIR HANDLING UNIT
FCU	-FAN COIL UNIT	SA	-SUPPLY AIR
FD	-FIRE DAMPER	SP	-STATIC PRESSURE
FF	-FINAL FILTERS	TSP	-TOTAL STATIC PRESSURE
FLA	-FULL LOAD AMPS	UNO	-UNLESS NOTED OTHERWISE
FPM	-FEET PER MINUTE	V/PH	-VOLTS/PHASE
GPM	-GALLONS PER MINUTE	VAV	-VARIABLE AIR VOLUME
KW	-KILOWATT	VFD	-VARIABLE FREQUENCY DRIVE
LAT	-LEAVING AIR TEMPERATURE	△P	-CHANGE IN PRESSURE
LWT	-LEAVING WATER TEMPERATURE	△T	-CHANGE IN TEMPERATURE
LD	-LINEAR DIFFUSER		
MBH	-THOUSAND BTUs PER HOUR		

HVAC EQUIPMENT TAGS

TAG
A 200
CFM
-AIR DISTRIBUTION DEVICE

AHU NUMBER
AHU-1
-AIR HANDLING UNIT

VARIABLE/CONSTANT AIR VOLUME TERMINAL UNITS

TERMINAL UNIT TYPE
VAV - VARIABLE TERMINAL UNIT

FLOOR NUMBER
TERMINAL NUMBER
VAV-3-1

IAQ - VENTILATION DESIGN CRITERIA

AREA SERVED	ASHRAE 62-2004 PEOPLE OA RATE, CFM/PERS	ASHRAE 62-2004 AREA OA RATE CFM/SQ FT	ASHRAE 62-2004 EXHAUST AIR RATE, CFM/FIXTURE	FLORIDA MECHANICAL CODE PEOPLE OA RATE, CFM/PERS	FLORIDA MECHANICAL CODE AREA OA RATE CFM/SQ FT	FLORIDA MECHANICAL CODE EXHAUST AIR RATE, CFM/FIXTURE
OFFICE	5	0.06	0	20	0	0
CONFERENCE/MEETING RM.	5	0.06	0	20	0	0
CORRIDOR	0	0.06	0	0	0.05	0
LOBBIES	5	0.06	0	15	0	0
BREAK ROOMS	5	0.06	0	0	0	0
STORAGE ROOM	0	0.12	0	0	0.15	0
TOILET - PUBLIC	0	0	50	0	0	20
WAITING/RECEPTION	5	0.06	0	15	0	0

NOTES:

1. VENTILATION IS CALCULATED IN ACCORDANCE WITH THE VENTILATION RATE PROCEDURE PER ASHRAE STANDARD 62.1-2007, IN COMPLIANCE WITH THE 2007 FLORIDA BUILDING CODE, MECHANICAL, CHAPTER 4, SECTION 403.4.
2. ACTUAL OCCUPANCY FOR OFFICES, CONFERENCE ROOMS, WAITING ROOMS AND BREAK ROOMS ARE BASED ON SEATING PROVIDED WITHIN EACH SPACE.
3. MAXIMUM OUTSIDE AIRFLOW RATES ARE CALCULATED PER THE TABLE ABOVE.
4. EXHAUST AIRFLOWS FOR FIXTURES ARE BASED ON CONTINUOUS VENTILATION RATES. EXHAUST SYSTEMS FOR THESE SPACES ARE DESIGNED TO OPERATE CONTINUOUSLY.
5. OUTSIDE AIR QUANTITIES ARE BASED ON 30% OUTDOOR AIR AT THE ROOFTOP PACKAGED UNITS.

COMPLIANCE STATEMENT

THESE PLANS HAVE BEEN PREPARED IN COMPLIANCE WITH THE 2007 FLORIDA BUILDING CODE AND THE 2007 FLORIDA MECHANICAL CODE.

GENERAL NOTES

1. CONNECTION TO EQUIPMENT SHALL BE VERIFIED WITH MANUFACTURER'S CERTIFIED DRAWINGS. TRANSITIONS TO ALL EQUIPMENT SHALL BE VERIFIED AND PROVIDED FOR EQUIPMENT FURNISHED.
2. DIMENSIONS SHALL BE FIELD-VERIFIED AND COORDINATED PRIOR TO PROCUREMENT OR FABRICATION. COORDINATE THE WORK WITH OTHER TRADES INVOLVED. FIELD MODIFICATIONS SUCH AS OFFSETS IN PIPING OR DUCTWORK (INCLUDING DIVIDED DUCTWORK) NEEDED DUE TO OBSTRUCTIONS OR INTERFERENCES SHALL BE PROVIDED AT NO ADDITIONAL COST. FOR PROJECTS INVOLVING RENOVATION, COORDINATE NEW WORK WITH EXISTING ELEMENTS SUCH AS THE BUILDING STRUCTURE AND ARCHITECTURAL FEATURES, SPRINKLER PIPING, LIGHTS, PLUMBING, AND ELECTRICAL CONDUIT.
3. DUCT CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARD.
4. SEE SPECIFICATIONS FOR GAUGES, THICKNESS, BRACING, REQUIREMENTS, ETC., OF DUCTWORK.
5. PROVIDE AIR TURNING VANES IN ALL LOW PRESSURE 90 DEGREE RECTANGULAR DUCT ELBOWS.
6. DUCT SIZES AND ALL OPENINGS THROUGH BUILDING CONSTRUCTION SHALL SUIT EQUIPMENT FURNISHED.
7. COORDINATE DIFFUSER, GRILLE AND REGISTER LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND EQUIPMENT OF ALL TRADES.
8. LOCATE TEMPERATURE SENSORS, HUMIDITY SENSORS AND CARBON DIOXIDE SENSORS AT 48" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. COORDINATE LOCATIONS WITH OTHER EQUIPMENT, FURNITURE, AND DOOR SWINGS.
9. ALL EQUIPMENT, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED AND/OR SPECIFIED. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED TO PROVIDE A VIBRATION-FREE, RIGID INSTALLATION.
10. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
11. DAMPERS AND INSIDES OF DUCTS VISIBLE THROUGH GRILLES, REGISTERS AND DIFFUSERS SHALL BE PAINTED FLAT BLACK.
12. REFER TO TYPICAL DETAILS FOR PIPING, DUCTWORK AND INSTALLATION OF EQUIPMENT.
13. TRAPPED CONDENSATE DRAINS FROM ALL MECHANICAL EQUIPMENT SHALL BE PROVIDED FOR PROPER DRAINAGE TO SUIT EQUIPMENT FURNISHED.
14. ACCESS PANELS IN DUCTWORK AND CEILINGS SHALL BE PROVIDED WHERE REQUIRED FOR OPERATION, BALANCING OR MAINTENANCE OF ALL MECHANICAL EQUIPMENT.
15. ALL DUCTWORK AND PIPING IS SHOWN SCHEMATICALLY. PROVIDE ALL TRANSITIONS, TURNING VANES, ELBOWS, FITTINGS, ETC., TO ALLOW SMOOTH FLOWS. ALL SPLIT DUCT FITTINGS SHALL TRANSITION TO FULL SIZE OF THE SUM OF BOTH BRANCHES, UPSTREAM OF SPLIT.
16. VERIFY FINISH WITH ARCHITECT PRIOR TO PURCHASING GRILLES, REGISTERS, DIFFUSERS, LOUVERS AND OTHER AIR DISTRIBUTION DEVICES.
17. PROVIDE FLEXIBLE DUCT CONNECTIONS ON ALL DUCTWORK CONNECTING TO EACH FAN, AIR HANDLING UNITS, AND FAN COIL UNITS.
18. PROVIDE TRANSITIONS AT DIFFUSER NECKS AS REQUIRED TO MATCH SIZES OF FLEX DUCTS TO BE CONNECTED.
19. INTERRUPTIONS TO EXISTING SERVICES SHALL BE SCHEDULED FOR TIMES OTHER THAN NORMAL OPERATING HOURS (SUCH AS NIGHTS AND WEEKENDS). SUCH INTERRUPTIONS TO SERVICES SHALL NOT BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER'S REPRESENTATIVE AND PROPER COORDINATION WITH OTHER TRADES. PRE-WORK SHALL BE PERFORMED TO MAKE THE SHUTDOWN PERIOD AS BRIEF AS POSSIBLE.
20. ALL EQUIPMENT, DUCTWORK, ETC., TO BE REMOVED SHALL REMAIN PROPERTY OF THE OWNER OR DISPOSED OF LEGALLY, AS DIRECTED BY OWNER.
21. MAINTAIN CLEARANCE OF A MINIMUM OF 6" BETWEEN DUCTWORK, PIPING, EQUIPMENT, ETC., AND ALL FIRE RATED AND FIRE/SMOKE RATED PARTITIONS, TO ALLOW FOR INSPECTIONS OF RATED WALLS.
22. DUCT RUNOUTS TO DIFFUSERS SHALL MATCH THE SIZE OF THE DIFFUSER NECK.
23. WATER PRESSURE DROPS THROUGH COIL CONTROL VALVES SHALL NOT EXCEED 5 PSI.
24. UNLESS OTHERWISE NOTED, ALL EQUIPMENT AND VALVE DRAINS SHALL BE INDEPENDENTLY PIPED FULL SIZE TO THE NEAREST PLUMBING DRAIN.
25. SLEEVE AND SEAL ALL PIPING PENETRATIONS THROUGH BUILDING PARTITIONS. PROVIDE MANUAL AIR VENTS AT ALL HIGH POINTS IN CHILLED WATER AND HOT WATER PIPING.
26. THIS HVAC SYSTEM IS DESIGNED AS A PLENUM RETURN SYSTEM.

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EB #0000015 TLC NO: 714125

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Sheet Title:
HVAC SYMBOL LEGEND, GENERAL NOTES & INDEX

Sheet No.
M001

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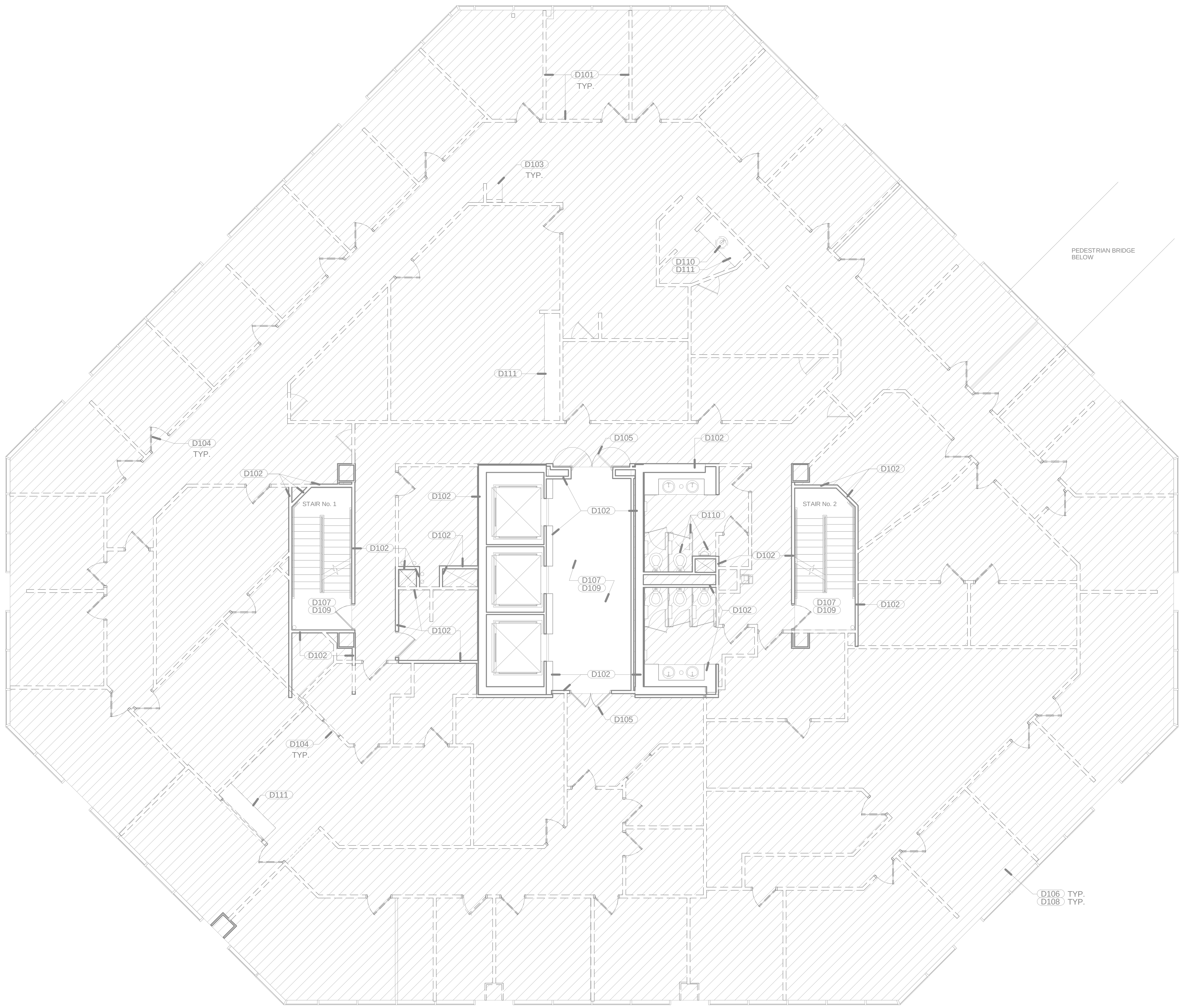
C:\Users\mark.hauser\Documents\714125_LCJC ANNEX 5TH FL_MEP CENTRAL_R14_mark.hauser.rvt 1/8/2015 8:09:46 AM



KEYNOTES:

1. EXISTING AHU TO BE REMOVED. INSTALL NEW ISOLATION VALVES WITH BLIND FLANGES AT RISER.
2. EXISTING SUPPLY AIR DUCTWORK TO BE REMOVED (TYPICAL).
3. EXISTING VAV BOXES TO BE REMOVED. REMOVE ALL ASSOCIATED DUCTWORK, PIPING, WIRING AND CONTROLS.
4. LINEAR SUPPLY/RETURN DIFFUSER TO BE REMOVED.
5. LINEAR SUPPLY/RETURN/EXHAUST DIFFUSER TO BE REMOVED.
6. EXHAUST DUCT AND GRILLE TO BE REMOVED.
7. EXISTING 4" CONCRETE PAD TO BE REMOVED.
8. DUCT SIZES ARE SHOWN FOR REFERENCE ONLY.

DEMOLITION NOTES

1. THE CONTRACTOR SHALL PROVIDE PROTECTION FOR ALL PARTS OF THE BUILDING. ITS CONTENTS AND OCCUPANTS WHEREVER WORK UNDER THIS CONTRACT IS PERFORMED.
2. DEMOLITION SHALL INCLUDE REMOVAL OF EXISTING BUILDING CONSTRUCTION TO EXTENT REQUIRED TO PERFORM CONSTRUCTION ACTIVITIES INDICATED.
3. THE DEMOLITION PROCEDURES SHALL PROVIDE FOR SAFE CONDUCT OF THE WORK, PROTECTION OF PERSONNEL, CAREFUL REMOVAL AND DISPOSITION OF MATERIALS SPECIFIED TO BE SALVAGED, PROTECTION OF PROPERTY TO REMAIN UNDISTURBED, COORDINATION WITH OTHER WORK IN PROGRESS, AND TIMELY DISCONNECTION OF UTILITY SERVICES.
4. EXISTING WORK TO REMAIN SHALL BE PROTECTED FROM DAMAGE. WORK DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO MATCH EXISTING WORK OR WORK INSTALLED UNDER THIS CONTRACT DEPENDING ON CONTRACT REQUIREMENTS.
5. EXISTING WORK SHALL BE CUT, DRILLED, ALTERED, REMOVED OR TEMPORARILY REMOVED AND REPLACED FOR PERFORMANCE OF WORK UNDER THE CONTRACT. WORK REPLACED SHALL MATCH SIMILAR EXISTING WORK. STRUCTURAL MEMBERS OF CONCRETE OR STRUCTURAL STEEL SHALL NOT BE CUT OR ALTERED, EXCEPT AS SHOWN WITHOUT AUTHORIZATION OF THE OWNER. WORK REMAINING IN PLACE DAMAGED OR DEFACED DURING THIS CONTRACT SHALL BE RESTORED TO THE CONDITION AT TIME OF AWARD OF CONTRACT. CUT, ALTER, REMOVE OR TEMPORARILY REMOVE AND REPLACE EXISTING WORK FOR THE INSTALLATION OF MECHANICAL, PLUMBING AND ELECTRICAL WORK AND OTHER CONSTRUCTION.
6. PROPERLY REMOVE AND DISPOSE OF ALL EXISTING FIXTURES AS REQUIRED TO ACCOMODATE NEW PLAN. REFER TO THE ARCHITECTURAL DEMOLITION PLANS. CONSULT WITH THE OWNER AND OBTAIN OWNERS APPROVAL PRIOR TO DISPOSAL OF REMOVED MATERIAL.
7. UNLESS INDICATED OTHERWISE, ALL EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, WIRING, HANGERS AND SUPPORTS SHALL BE REMOVED BACK TO BELOW SLAB, ABOVE CEILING, OR WITHIN WALL CAVITIES AS INDICATED ON THE DRAWINGS. REFER TO THE ARCHITECTURAL DEMOLITION PLANS. CONSULT WITH THE OWNER AND OBTAIN OWNERS APPROVAL PRIOR TO DISPOSAL OF REMOVED MATERIAL.
8. THE EXISTING EQUIPMENT INDICATED ON THESE DRAWINGS REPRESENTS A BEST FAITH EFFORT BY THE ENGINEER TO DEMONSTRATE THE CONDITIONS UNDER WHICH THE WORK IS TO BE EXECUTED. THE CONTRACTOR SHALL VISIT SITE AND REVIEW EXISTING CONDITIONS TO THE DEGREE AND EXTENT NECESSARY TO PREPARE A PROPER AND ADEQUATE BID FOR THE WORK INDICATED. SUBMISSION OF A BID WILL BE INTERPRETED AS MEANING THE CONTRACTOR HAS REVIEWED EXISTING CONDITIONS AND UNDERSTANDS THE DIFFICULTIES AND CHALLENGES UNDER WHICH THE WORK IS TO BE ACCOMPLISHED.

1 / M101 **5TH FLOOR - DUCTWORK - DEMOLITION**
1/8" = 1'-0"

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5TH FLOOR DEMOLITION PLAN - HVAC

Sheet No.
M101

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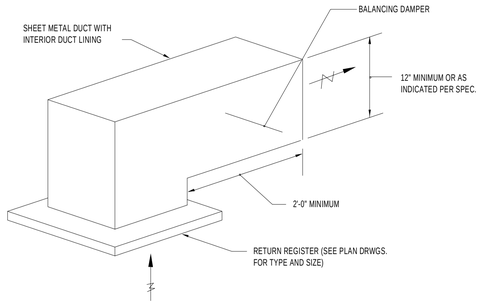
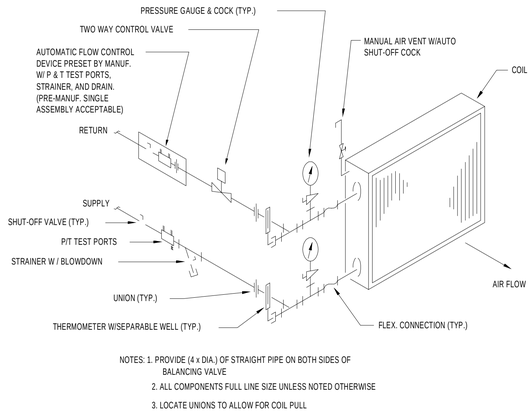


TYPICAL RETURN AIR BOOT
No Scale

3



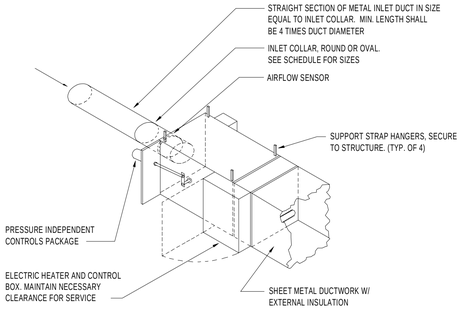
NOTES: 1. PROVIDE (4 x DIA.) OF STRAIGHT PIPE ON BOTH SIDES OF BALANCING VALVE

2. ALL COMPONENTS FULL LINE SIZE UNLESS NOTED OTHERWISE

3. LOCATE UNIONS TO ALLOW FOR COIL PULL

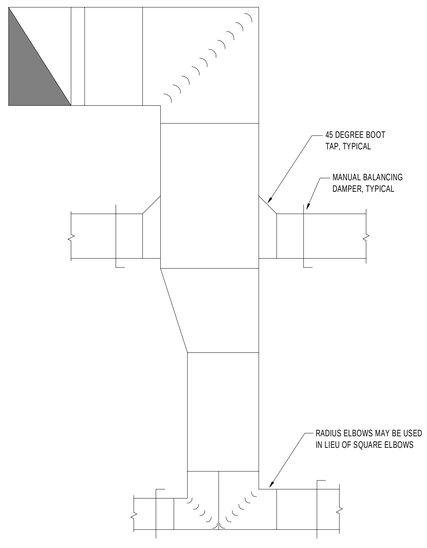
2-WAY COIL PIPING DIAGRAM
No Scale

2



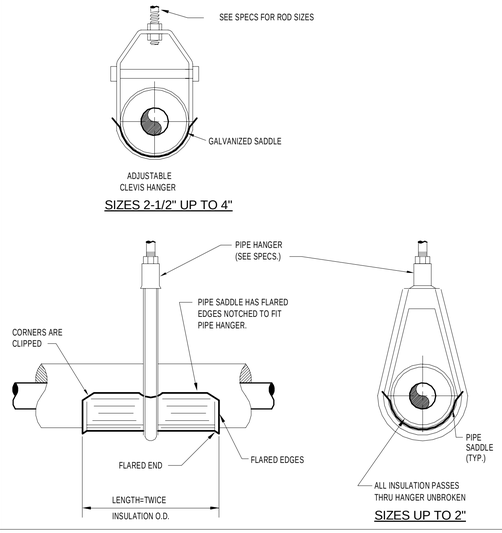
VARIABLE VOLUME TERMINAL W/ELECTRIC HEAT
No Scale

1



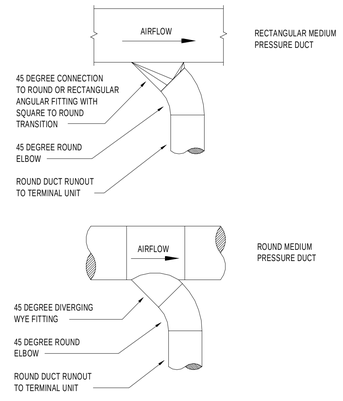
TYPICAL LOW PRESSURE DUCTWORK
No Scale

6



INSULATED PIPE HANGER - INDOORS
No Scale

5



MEDIUM PRESSURE DUCT BRANCH TAKE-OFF
No Scale

4

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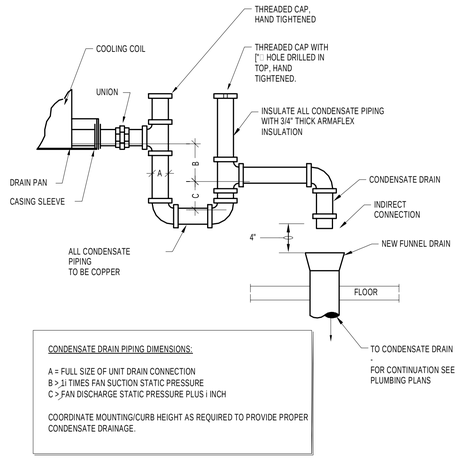
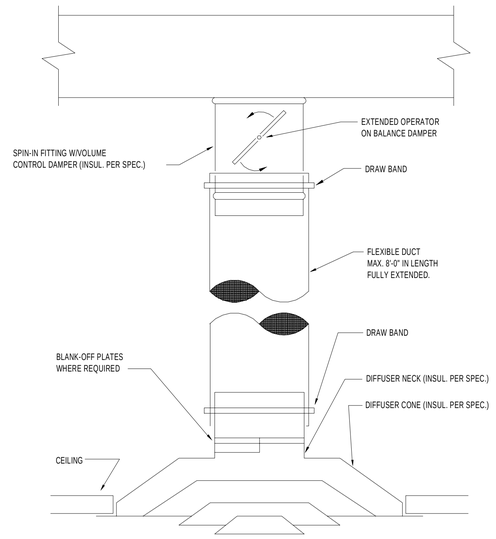
M201



AHU CONDENSATE DRAIN TRAP

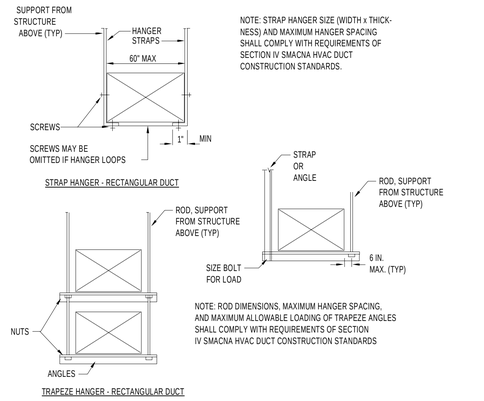
3



DIFFUSER MOUNTING

No Scale

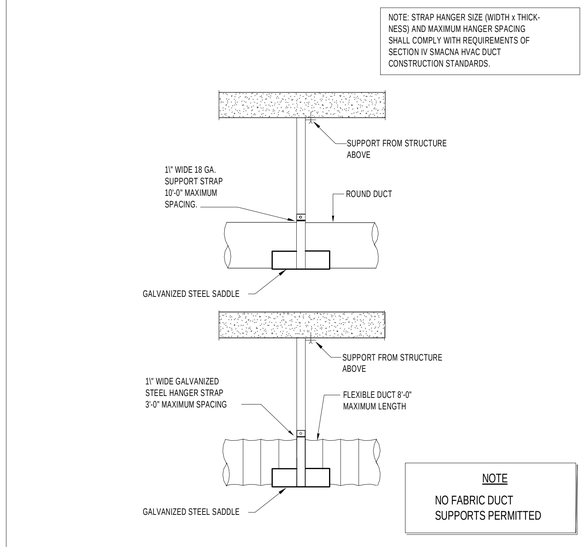
2



TYPICAL RECTANGULAR DUCT SUPPORT

No Scale

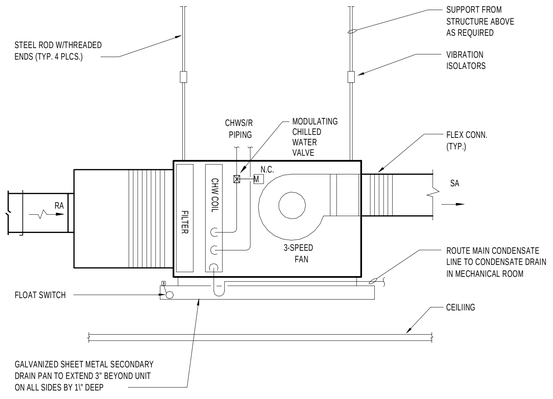
1



TYPICAL ROUND/FLEX DUCT SUPPORT

No Scale

5



FAN COIL UNIT INSTALLATION

No Scale

4

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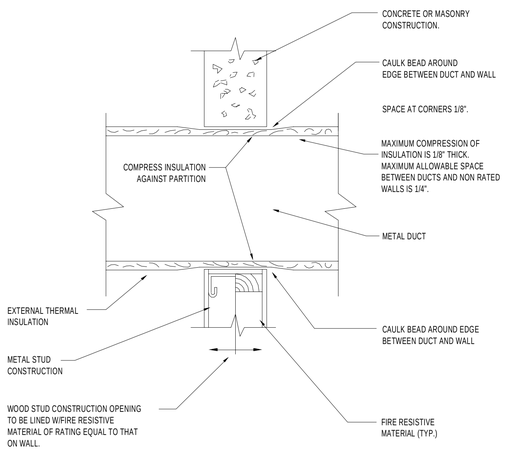
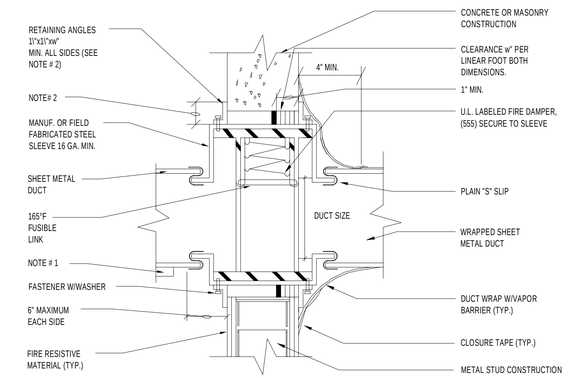


DUCT PENETRATION THROUGH NON-RATED WALLS. 3

No Scale



NOTES:

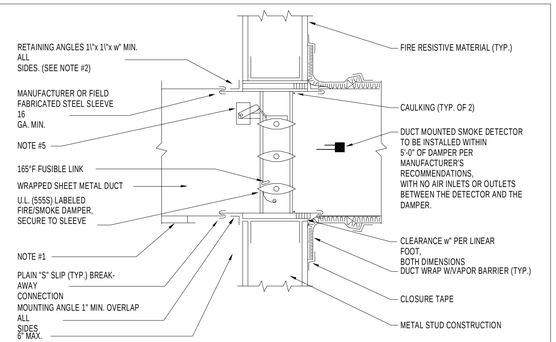
1. PROVIDE ACCESS DOOR & LABEL ON SIDE OR BOTTOM OF DUCT AS FOLLOWS:

DUCT WIDTH	DOOR SIZE
10" THRU 12"	8" x 8"
14" THRU 20"	12" x 12"
22" AND ABOVE	18" x 18"

2. 1\"x1\"xw" RETAINING ANGLES SHALL LAP STRUCTURAL OPENING 1" MIN. & COVER CORNERS OF OPENINGS. ANGLES ATTACH TO SLEEVE ONLY AND MUST NOT BE ATTACHED TO EACH OTHER AT CORNERS OR TO WALL.
3. ALL ATTACHMENTS PER MANUFACTURER'S APPROVED INSTALLATION INSTRUCTION.
4. VERTICAL POSITION SHOWN. HORIZONTAL INSTALLATION SIMILAR. DAMPER TO BE SPRING LOADED WHEN HORIZONTAL.

FIRE DAMPER INSTALLATION 2

No Scale



NOTES:

1. PROVIDE ACCESS DOOR & LABEL ON SIDE OR BOTTOM OF DUCT AS FOLLOWS:

DUCT WIDTH	DOOR SIZE
10" THRU 12"	8" x 8"
14" THRU 20"	12" x 12"
22" AND ABOVE	18" x 18"

2. 1" x 1" x w" RETAINING ANGLES SHALL LAP STRUCTURAL OPENING 1" MIN. & COVER CORNERS OF OPENINGS. ANGLES ATTACH TO SLEEVE ONLY AND MUST NOT BE ATTACHED TO EACH OTHER AT CORNERS OR TO WALL.
3. ALL ATTACHMENTS PER MANUFACTURER'S APPROVED INSTALLATION INSTRUCTION.
4. VERTICAL POSITION SHOWN. HORIZONTAL INSTALLATION SIMILAR.
5. ACTUATOR TO BE MOUNTED ON OUTSIDE OF DAMPER SLEEVE ON ACCESIBLE SIDE. ACTUATOR SHALL NOT INTERFERE WITH "S" JOINT. ACTUATOR ASSEMBLY TO BE U.L. LABELED. PROVIDE WITH MODULATING ACTUATOR AND REMOTE MOUNTED TEST STATION.
6. VERIFY THAT ACCESS IS PROVIDED ON THE ACTUATOR SIDE OF THE WALL/FLOOR SO THAT THE LINK MAY BE SERVICED WITH THE DAMPER IN CLOSED POSITION.

FIRE & SMOKE DAMPER INSTALLATION 1

No Scale

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M203

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AIR HANDLING UNIT SCHEDULE CHW/HW

PLAN MARK	MODEL NO.	UNIT TYPE	UNIT COMPONENTS IN DIRECTION OF AIR FLOW SEE LEGEND BELOW	AIR FLOWS		FAN AND MOTOR DATA								COOLING COIL										FILTER REQUIREMENTS		SOUND DATA											
															DESIGN CONDITIONS				CAPACITY		AIR DATA		WATER DATA				FILTER		DISCHARGE						RADIATED FROM CASING			
															EAT		LAT																			
				TOTAL CFM	OA CFM	EXT. SP	WHEEL TYPE	FAN RPM	MOTOR HP	VOLTS/ PHASE	MOTOR RPM	MOTOR TYPE	VFD	COIL AIR FLOW	DB	WB	DB	WB	SEN. MBH	TOTAL MBH	MAX. VEL. FPM	MIN. ROWS	ENT.	LVG.	FLOW GPM	TYPE	EFF.	63	125	250	500	1K	2K	4K	8K	63	125	250	500	1K	2K	4K	8K
AHU-6S	PCC SIZE 30	VERTICAL VAV DRAW-THRU	FLT, CCL, FAN	16,000	2040	3.0	25" AF	1479	20	460/3	1800	BELT	YES	16,000	75.0	63.0	53.0	52.7	386.9	481.1	500	6	42	57	63.92	PLEAT	MERV 8	93	83	81	76	70	68	62	57	86	78	70	73	71	54	38	44

COMPONENTS LEGEND

CCL - COOLING COIL
FAN - FAN
FLT - PRE-FILTERS

NOTES:

1. INDOOR UNIT MODEL NUMBERS AND EQUIPMENT SELECTIONS BASED ON TRANE
2. AIR PRESSURE DROP FOR FILTERS SHALL INCLUDE A 0.5" DIRTY FILTER ALLOWANCE.
3. CAPACITIES SHOWN ARE MINIMUM. AIR AND WATER PRESSURE DROPS ARE MAXIMUM.
4. FILTER MODEL NUMBERS AND SELECTIONS BASED ON FARR.
5. FILTER EFFICIENCY BASED ON ASHRAE 52.1-1992 TEST METHOD.
6. MAX. CHW COIL APD SHALL BE 0.9 IN W.G.
7. MAX. CHW COIL WPD SHALL BE 10.0 FT.
8. DISCONNECT BY DIVISION 26.

TABLE 4-2
MINIMUM HANGER SIZES FOR ROUND DUCT

DIA.	MAXIMUM SPACING	WIRE/ DIA.	ROD	STRAP
10" DN. 250 MM DN	12' 3.7 M	ONE 12 GA. ONE 2.75 MM	1/4" 6.4 MM	1"x 22 GA. 25.4 x 0.85 MM
11-18"	12'	TWO 12 GA. OR ONE 8 GA.	1/4"	1"x 22 GA.
460 MM	3.7 M	ONE 4.27 MM	6.4 MM	25.4 x 0.85 MM
19-24" 610 MM	12' 3.7 M	TWO 10 GA. TWO 3.51 MM	1/4" 6.4 MM	1"x 22 GA. 25.4 x 0.85 MM
25-36" 900 MM	12' 3.7 M	TWO 8 GA. TWO 2.7 MM	3/8" 9.5 MM	1"x 20 GA. 25.4 x 0.85 MM
37-50" 1270 MM	12' 3.7 M	→	TWO 3/8" TWO 9.5 MM	TWO 1"x 20 GA. (2) 25.4 x 1.00 MM
51-60" 1520 MM	12' 3.7 M	→	TWO 3/8" TWO 9.5 MM	TWO 1"x 18 GA. (2) 25.4 x 1.31 MM
61-84" 2130 MM	12' 3.7 M	→	TWO 3/8" TWO 9.5 MM	TWO 1"x 16 GA. (2) 25.4 x 1.61 MM

NOTES

1. STRAPS ARE GALVANIZED STEEL; RODS ARE UNCOATED OR GALVANIZED STEEL; WIRE IS BLACK ANNEALED, BRIGHT BASIC, OR GALVANIZED STEEL. ALL ARE ALTERNATIVES
2. REFER TO SMACNA DUCT STANDARDS - SECOND EDITION: FIG. 4-4 FOR LOWER SUPPORTS.
3. REFER TO SMACNA DUCT STANDARDS - SECOND EDITION: FIG. 4-2 AND 4-3 FOR UPPER ATTACHMENTS.
4. TABLE ALLOWS FOR CONVENTIONAL WALL THICKNESS, AND JOINT SYSTEMS PLUS ONE LB/SF INSULATION WEIGHT. IF HEAVIER DUCTS ARE TO BE INSTALLED, ADJUST HANGER SIZES TO BE WITHIN THEIR LOAD LIMITS; REFER TO SMACNA DUCT STANDARDS - SECOND EDITION: ALLOWABLE LOADS WITH TABLE 4-1. HANGER SPACING MAY BE ADJUSTED BY SPECIAL ANALYSIS.
5. DESIGNERS: FOR INDUSTRIAL GRADE SUPPORTS, INCLUDING SADDLES, SINGLE LOAD TRAPEZE LOADS, LONGER SPANS AND FLANGE JOINT LOADS, SEE SMACNA'S ROUND INDUSTRIAL DUCT CONSTRUCTION STANDARDS.
6. REFER TO SMACNA DUCT STANDARDS - SECOND EDITION: FIGS.3-9 AND 3-10 FOR FLEXIBLE DUCT SUPPORTS.

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TABLE 4-1
RECTANGULAR DUCT HANGERS
MINIMUM SIZE

MAXIMUM HALF OF DUCT PERIMETER	PAIR AT 10 FT SPACING		PAIR AT 8 FT SPACING		PAIR AT 5 FT SPACING		PAIR AT 4 FT SPACING	
	STRAP	WIRE/ ROD	STRAP	WIRE/ ROD	STRAP	WIRE/ ROD	STRAP	WIRE/ ROD
P/2 = 30"	1"x 22 GA.	10 GA. (.135")	1"x 22 GA.	10 GA. (.135")	1"x 22 GA.	12 GA. (.106")	1"x 22 GA.	12 GA. (.106")
P/2 = 72"	1"x 18 GA.	3/8"	1"x 20 GA.	1/4"	1"x 22 GA.	1/4"	1"x 22 GA.	1/4"
P/2 = 96"	1"x 16 GA.	3/8"	1"x 18 GA.	3/8"	1"x 20 GA.	3/8"	1"x 22 GA.	1/4"
P/2 = 120"	1\" x 16 GA	1/2"	1"x 16 GA.	3/8"	1"x 18 GA.	3/8"	1"x 20 GA.	1/4"
P/2 = 168"	1\" x 16 GA	1/2"	1\" x 16 GA	1/2"	1"x 16 GA.	3/8"	1"x 18 GA.	3/8"
P/2 = 192"	NOT GIVEN	1/2"	1\" x 16 GA	1/2"	1"x 16 GA.	3/8"	1"x 16 GA.	3/8"
P/2 = 193" UP	SPECIAL ANALYSIS REQUIRED							

WHEN STRAPS ARE LAP JOINED USE THESE MINIMUM FASTENERS:

1"x 18, 20, 22 GA.-TWO #10 OR ONE 1/4" BOLT
1"x 16 GA.-TWO 1/4" DIA.
1 1/2"x 16 GA. -TWO 3/8" DIA.
PLACE FASTENERS IN SERIES, NOT SIDE BY SIDE.

SINGLE HANGER MAXIMUM ALLOWABLE LOAD	
STRAP	WIRE OR ROD (DIA.)
1"x 22 GA.-260 LBS. 1"x 20 GA.-320 LBS. 1"x 18 GA.-420 LBS. 1"x 16 GA.-700 LBS. 1 1/2"x 16 GA. -1100 LBS.	0.016"-.80 LBS. 0.135"- 120 LBS. 0.162"- 160 LBS. 1/4"- 270 LBS. 3/8"- 680 LBS. 1/2"- 1250 LBS. 5/8"- 2000 LBS. 3/4"- 3000 LBS.

NOTES

1. DIMENSIONS OTHER THAN GAGE ARE IN INCHES.
2. TABLES ALLOW FOR DUCT WEIGHT, 1 LB./SF INSULATION WEIGHT AND NORMAL REINFORCEMENT AND TRAPEZE WEIGHT, BUT NO EXTERNAL LOADS.
3. FOR CUSTOM DESIGN OF HANGERS, DESIGNERS MAY CONSULT SMACNA'S RECTANGULAR INDUSTRIAL DUCT STANDARDS, THE AISI COLD FORMED STEEL DESIGN MANUAL AND THE AISC STEEL CONSTRUCTION MANUAL.
4. STRAPS ARE GALVANIZED STEEL; OTHER MATERIALS ARE UNCOATED STEEL.
5. ALLOWABLE LOADS FOR P/2 ASSUME THAT DUCTS ARE 16 GA. MAXIMUM, EXCEPT THAT WHEN MAXIMUM DUCT DIMENSION (W) IS OVER 60" THEN P/2 MAXIMUM IS 1.25W.
6. FOR UPPER ATTACHMENTS REFER TO SMACNA DUCT STANDARDS - SECOND EDITION: FIG. 4-2
7. FOR LOWER ATTACHMENTS REFER TO SMACNA DUCT STANDARDS - SECOND EDITION: FIG. 4-4
8. FOR TRAPEZE SIZES REFER TO SMACNA DUCT STANDARDS - SECOND EDITION: TABLE 4-3 AND FIG. 4-5.
9. 12, 10, OR 8 GA. WIRE IS STEEL OF BLACK ANNEALED, BRIGHT BASIC, OR GALVANIZED TYPE.

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VARIABLE AIR VOLUME TERMINAL UNIT SCHEDULE

PLAN MARK	DESIGN CFM	MINIMUM CFM	INLET SIZE	NC RATING	MAX. APD (IN WG)	HEATER COIL DATA					
						KW	POWER	STEPS	EAT (°F)	LAT (°F)	HEATING CFM
VAV-3-1	950	285	10	< 20	0.10	4	277/1	2	55	81.6	475
VAV-3-2	700	210	8	< 20	0.10	3	277/1	1	55	82.1	350
VAV-3-3	1875	562	12	< 20	0.10	8	277/1	2	55	81.6	950
VAV-3-4	800	240	8	< 20	0.10	4	277/1	2	55	86.6	400
VAV-3-5	475	142	8	< 20	0.10	2	277/1	1	55	80.3	250
VAV-3-6	1200	360	10	< 20	0.10	5	277/1	2	55	81.3	600
VAV-3-7	675	210	8	< 20	0.10	3	277/1	1	55	82.1	300
VAV-3-8	175	52	5	< 20	0.10	1	277/1	1	55	91.3	100
VAV-3-9	425	120	6	< 20	0.10	2	277/1	1	55	86.6	200
VAV-3-10	625	187	8	< 20	0.10	3	277/1	1	55	84.2	325
VAV-3-11	275	82	6	< 20	0.10	1.5	277/1	1	55	86.6	150
VAV-3-12	350	105	5	< 20	0.10	1.5	277/1	1	55	82.1	175
VAV-3-13	675	202	8	< 20	0.10	3	277/1	1	55	82.1	350
VAV-3-14	725	217	8	< 20	0.10	3	277/1	1	55	80.3	375
VAV-3-15	550	165	8	< 20	0.10	3	277/1	1	55	89.5	275
VAV-3-16	750	225	8	< 20	0.10	3	277/1	1	55	80.3	375
VAV-3-17	200	60	5	< 20	0.10	1	277/1	1	55	86.6	100
VAV-3-18	NOT USED	-	-	-	-	-	-	-	-	-	-
VAV-3-19	1200	360	10	< 20	0.10	5	277/1	2	55	81.3	600
VAV-3-20	450	135	8	< 20	0.10	2	277/1	1	55	83.1	225
VAV-3-21	525	157	8	< 20	0.10	3	277/1	1	55	89.5	275
VAV-3-22	200	60	5	< 20	0.10	1	277/1	1	55	86.6	100
VAV-3-23	625	187	8	< 20	0.10	3	277/1	1	55	84.2	325
VAV-3-24	775	232	8	< 20	0.10	4	277/1	2	55	86.6	400
VAV-3-25	1125	340	10	< 20	0.10	5	277/1	2	55	84.4	575
VAV-3-26	1675	502	12	< 20	0.10	7	277/1	2	55	81.5	850
VAV-3-27	950	285	10	< 20	0.10	4	277/1	2	55	81.6	475

NOTES:

1. BASIS OF DESIGN: ENVIROTEC.
2. PROVIDE WITH INTEGRAL DISCONNECT.
3. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
4. 3/4" FIBERGLASS - DOUBLE WALL.
5. FIELD-MOUNTED CONTROLS.
6. ELECTRONIC CONTROL PACKAGE AND DISCONNECT (FUSED).

SOUND ATTENUATOR SCHEDULE

PLAN MARK	MODEL	AIR FLOW CFM	FACE VEL. FPM	PRESS. DROP IN. WG.	SIZE W x H x L INCHES	MINIMUM DYNAMIC INSERTION LOSS, dB								MAXIMUM SELF GENERATED NOISE, dB							
						OCTAVE BAND								OCTAVE BAND							
						1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
SA-1	ES	NOTE 3	1778	0.70	36 x 18 x 60	6	12	19	35	49	49	35	24	63	57	54	50	49	53	53	50

NOTES:

1. OCTAVE BAND CENTER FREQUENCY (HZ) 1-63, 2-125, 3-250, 4-500, 5-1000, 6-2000, 7-4000, 8-8000.
2. SELECTIONS ARE BASED ON INDUSTRIAL ACOUSTICS QUIET DUCT SILENCERS RECTANGULAR FILM LINED.
3. REQUIRES (2) 36x18 SILENCERS IN TANDEM - 8000 CFM PER SILENCER FOR A TOTAL OF 16,000 CFM.
4. ACCEPTABLE ALTERNATE MANUFACTURER IS VIBRO-ACOUSTICS.

CHILLED WATER FAN COIL UNIT

PLAN MARK	MODEL NO.	AIRFLOW CFM / EXT SP	COOLING COIL DATA									FAN & MOTOR DATA								SERVICE
			MIN.SEN. MBH	MIN.TOT. MBH	EAT		LAT		WATER TEMP. °F		FLOW GPM	DRIVE TYPE	FAN #1 HP	FAN #1 RPM	FAN #2 HP	FAN #2 RPM	MCA	MOCP	VOLTS/ PHASE	
					DB	WB	DB	WB	ENT.	LVG.										
FC-1	FCCB12 SIZE 120	600/0.40"	11.9	14.0	75	63	55	54.9	42	57	2.6	DIRECT	0.13	1279	0.24	1224	2.65	15.0	208/1	IT ROOM 347
FC-2	FCCB12 SIZE 120	300/0.50"	5.8	7.1	75	63	55	54.9	42	57	1.3	DIRECT	0.13	1279	0.24	1224	2.65	15.0	208/1	ELEC RM 307

NOTES:

1. MODEL NUMBERS AND EQUIPMENT SELECTIONS BASED ON TRANE
2. MAX APD ACROSS CHW COIL SHALL BE 0.5".
3. MAX WPD ACROSS CHW COIL SHALL BE 3.0 FT.
4. SINGLE POINT POWER CONNECTION.
5. DISCONNECT BY DIV 26.
6. PROVIDE WITH MERV 8 FILTERS.
7. PROVIDE WITH VALVING PACKAGE.
8. PROVIDE CONTROLLER TO INTERFACE WITH EXISTING EMS SYSTEM.

AIR DISTRIBUTION SCHEDULE

MARK	CFM	NECK SIZE	FACE SIZE LENGTH	DESCRIPTION
A SUPPLY	000-125 126-250 251-325 326-450 451-625	6□ 8□ 10□ 12□ 14□	24x24 24x24 24x24 24x24 24x24	BASIS OF DESIGN: TITUS TMS-AA COLOR: WHITE MATERIAL: ALUMINUM OPPOSED BLADE DAMPERS: NO
B RETURN	000-120 121-225 226-350 351-500 501-800	6□ 8□ 10□ 12□ 14□	24x24 24x12 24x12 24x12 24x12	BASIS OF DESIGN: TITUS 50F COLOR: WHITE MATERIAL: ALUMINUM OPPOSED BLADE DAMPERS: NO PROVIDE WITH SQUARE TO ROUND TRANSITION WHERE ROUND DUCT CONNECTION IS SHOWN.
C SUPPLY	000-100	6□	8x8	BASIS OF DESIGN: TITUS 300FS COLOR: WHITE MATERIAL: ALUMINUM OPPOSED BLADE DAMPERS: NO PROVIDE WITH SQUARE TO ROUND TRANSITION WHERE ROUND DUCT CONNECTION IS SHOWN.
D EXHAUST	000-120	6□	8x8	BASIS OF DESIGN: TITUS 50F COLOR: WHITE MATERIAL: ALUMINUM OPPOSED BLADE DAMPERS: NO PROVIDE WITH SQUARE TO ROUND TRANSITION WHERE ROUND DUCT CONNECTION IS SHOWN.
E SIDEWALL SUPPLY	000-300 101-600	12x8 18x10	12x8 18x10	BASIS OF DESIGN: TITUS 300FL COLOR: WHITE MATERIAL: PLASTIC OPPOSED BLADE DAMPERS: NO
F SIDEWALL RETURN	000-300 101-600	12x8 18x10	12x8 18x10	BASIS OF DESIGN: TITUS 50F COLOR: WHITE MATERIAL: PLASTIC OPPOSED BLADE DAMPERS: NO PROVIDE WITH SQUARE TO ROUND TRANSITION WHERE ROUND DUCT CONNECTION IS SHOWN.
G LINEAR SUPPLY	000-225	8□	4 FEET	BASIS OF DESIGN: TITUS TBD-10 COLOR: WHITE MATERIAL: ALUMINUM OPPOSED BLADE DAMPERS: YES 2 SLOT, 1" SLOTS 8" CONNECTION PROVIDE W/INSULATED PLENUM.
H LINEAR RETURN	000-225	8□	4 FEET	BASIS OF DESIGN: TITUS TBD-10 COLOR: WHITE MATERIAL: ALUMINUM OPPOSED BLADE DAMPERS: NO 2 SLOT, 1" SLOTS 8" CONNECTION PROVIDE W/ INSULATED PLENUM.

NOTES:

1. AIR DISTRIBUTION DEVICES LOCATED WITHIN ACOUSTICAL TILE CEILINGS SHALL BE PROVIDED WITH BORDER TYPE 3 FOR LAY-IN MOUNTING. AIR DISTRIBUTION DEVICES LOCATED WITHIN GYPSUM BOARD CEILINGS OR WALLS SHALL BE PROVIDED WITH PLASTER FRAME. REFER TO ARCHITECTURAL DOCUMENTS FOR CEILING TYPES.
2. AIR DISTRIBUTION DEVICES LOCATED IN SMALL ROOMS WHERE FULL 24"x24" GRID ARE NOT AVAILABLE SHALL BE PROVIDED WITH SURFACE MOUNTING BORDERS IN LIEU OF LAY-IN. SECURE EACH DEVICE TO CEILING GRID WITH FIELD-FABRICATED SUPPORTS.

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HVAC SCHEDULES

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Seal

Sheet No.
M301

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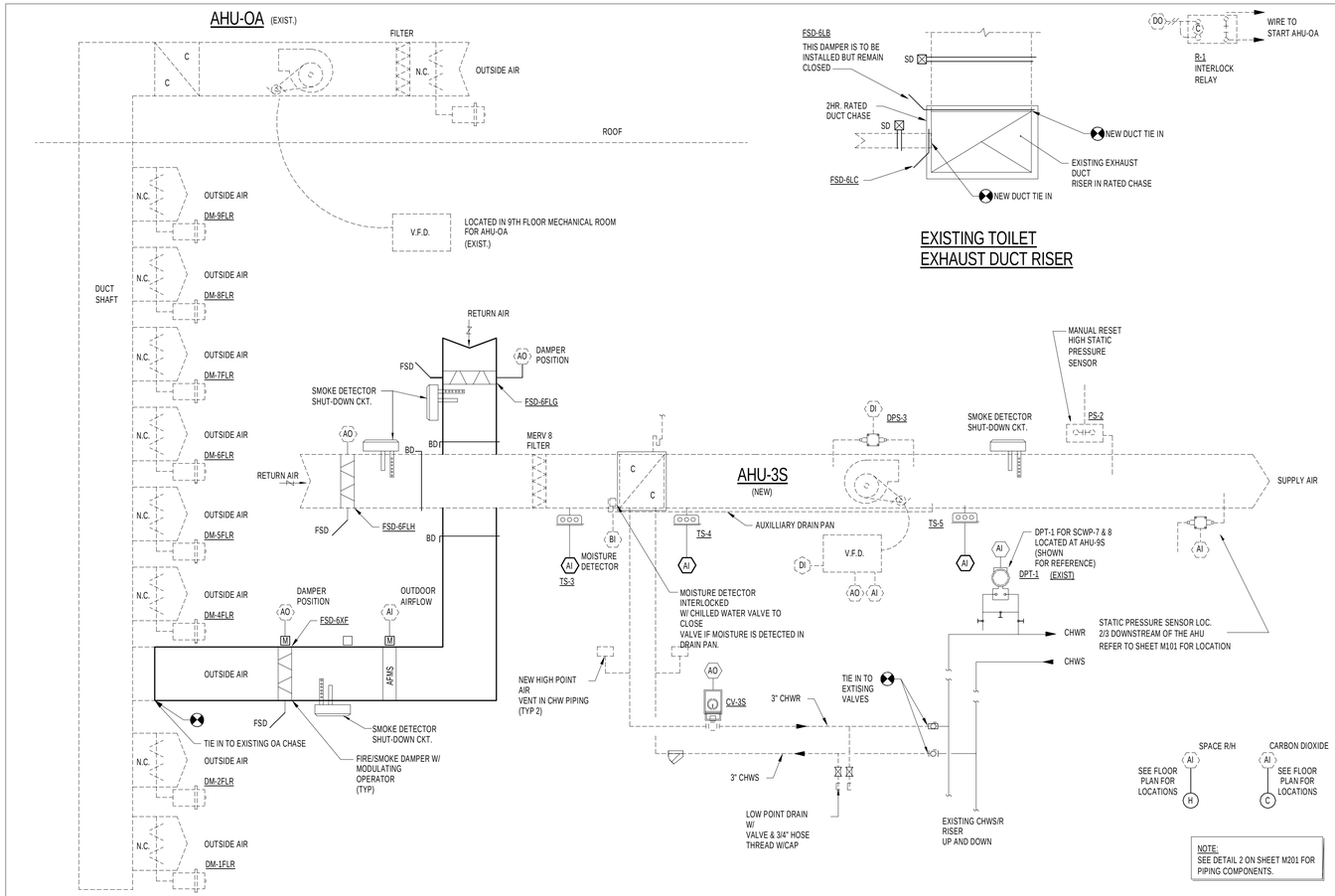


EXISTING TOILET EXHAUST DUCT RISER

DUAL PATH AHU CONTROL FOR AHU-3S

2

SEQUENCE OF CONTROL:

CHILLED WATER SYSTEM

1. START LEAD SECONDARY CHWS PUMP (SCWP-7 OR 8 LOCATED IN THE CENTRAL PLANT) ON CALL FOR COOLING FROM ANY VAV BOX. THE LAG PUMP SHALL BE STARTED IN THE CASE OF FAILURE OF THE LEAD PUMP. PUMP SPEED SHALL BE CONTROLLED BY INDIVIDUAL VARIABLE FREQUENCY MOTOR DRIVES VIA A DIFFERENTIAL PRESSURE TRANSDUCER LOCATED IN THE SUNTRUST 9TH FLOOR MECHANICAL ROOM.

2. CHILLED WATER IS PROVIDED FROM THE CENTRAL CHILLER PLANT.

SINGLE PATH VARIABLE AIR VOLUME AIR HANDLING UNIT AHU-3S AND AHU-OA

1. MORNING BUILDING COOL-DOWN:
START AHU-3S BASED UPON OPTIMAL START PROGRAMMING THAT CALCULATES THE PROPER TIME OF START-UP TO COOL SPACE WITH THE HIGHEST TEMPERATURE READING BEFORE THE TIME OF BUILDING OCCUPANCY. THE PROGRAMMING SHALL USE HISTORICAL TRENDS AS WELL AS OUTSIDE AIR AND SPACE TEMPERATURE IN DETERMINING THE ACTUAL START TIME. DURING MORNING COOL-DOWN THE OUTSIDE DAMPER SHALL BE CLOSED AND THE RETURN AIR DAMPER SHALL BE 100% OPEN. START AHU-3S SUPPLY FAN. MODULATE THE 2-WAY CHILLED WATER CONTROL VALVE FOR AHU-3S TO MAINTAIN A MINIMUM 55 DEGREES F SUPPLY AIR TEMPERATURE DOWN STREAM OF THE SUPPLY FAN.

2. OCCUPIED HOURS:
A. START SUPPLY AIR FAN AHU-3S. OPEN THE OUTSIDE AIR DAMPER.

B. MODULATE THE ASSOCIATED 2-WAY CHILLED WATER CONTROL VALVE FOR AHU-3S CHILLED WATER COILS TO MAINTAIN 55°F D.B. (ADJ) LEAVING AIR TEMPERATURE FROM THE CHILLED WATER COIL.

C. AHU-3S SUPPLY AIR FAN SHALL BE CONTROLLED VIA THE ASSOCIATED VARIABLE FREQUENCY MOTOR DRIVE TO MAINTAIN THE SUPPLY DUCT STATIC PRESSURE SET-POINT.

D. PROVIDE LEAVING AIR TEMPERATURE (L.A.T.) RESET STRATEGY TO CONTROL L.A.T. BASED ON POSITION OF VAV BOX DAMPERS. RAISE L.A.T. 1° F. EVERY 15 MINUTES UNTIL ANY VAV BOX IS AT FULL OPEN AND SPACE TEMPERATURE AT ANY SENSOR IS ABOVE SETPOINT OR UNTIL SPACE R/H RISES ABOVE 60% R/H. LOWER THE L.A.T. 1° F. EVERY 15 MINUTES ANY VAV BOX IS AT MIN. POSITION AND SPACE TEMPERATURE IS BELOW THE SPACE TEMPERATURE SETPOINT.

E. IN NORMAL OPERATION, MODULATING FIRE/SMOKE DAMPERS FSD-6LF, FSD-6LG AND FSD-6LH SHALL BE CONTROLLED TO MAINTAIN THE DESIGN OUTDOOR AIR AND RETURN MINIMUM REQUIRED OUTDOOR AIR SETPOINT AND BE CONTROLLED BY SPACE C02 SENSORS. IN ALL ALARM CONDITION, DUCT SMOKE DETECTORS SHALL SHUT DOWN THE SUPPLY FAN AND CLOSE THE FIRE/SMOKE DAMPERS.

3. UNOCCUPIED HOURS:

A. STOP AHU-3S SUPPLY FAN.

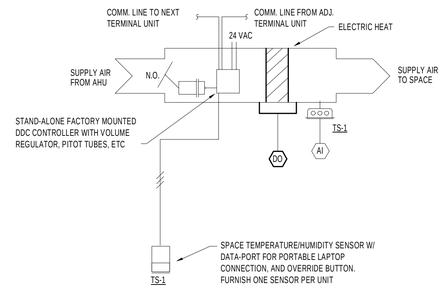
B. CLOSE FLOOR OUTSIDE AIR SUPPLY DAMPER FSD-6LF, RETURN AIR DAMPERS FSD-6LG, FSD-6LF AND EXHAUST AIR DAMPERS FSD-6LC.

C. START AND STOP AHU-3S TO MEET UNOCCUPIED SPACE TEMPERATURE SETPOINT. USE INDIVIDUAL SPACE TEMPERATURES TO DETERMINE THE START / STOP OF AHU-3S.

5. SAFETIES

A. STOP AHU SUPPLY FANS AND CLOSE RETURN AIR DAMPERS ON DETECTION OF SMOKE. COORDINATE WITH THE ELECTRICAL CONTRACTOR.

B. PROVIDE HIGH STATIC PRESSURE LIMIT SHUT-DOWN OF THE AIR HANDLING SYSTEM. PROVIDE WITH MANUAL RESET. SET PRESSURE AT 4" W.C.



VARIABLE VOLUME TERMINAL W/ REHEAT

No Scale

1

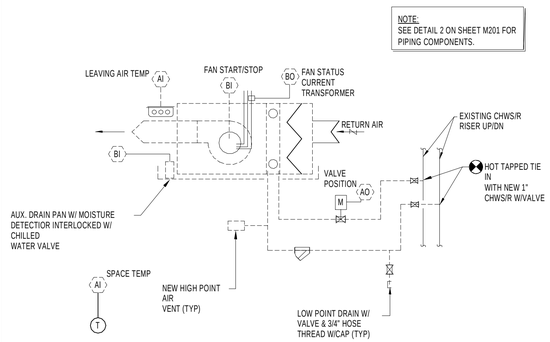
VARIABLE AIR VOLUME TERMINAL BOXES WITH ELECTRIC REHEAT:

1. MODULATE THE VAV BOX DAMPER TO MAINTAIN THE SPACE SET-POINT TEMPERATURE VIA THE ASSOCIATED SPACE WALL MOUNTED TEMPERATURE SENSOR. MODULATE BETWEEN THE SCHEDULED REQUIRED MAXIMUM CFM AND MINIMUM CFM FLOW TO MAINTAIN THE SPACE SET-POINT TEMPERATURE.

2. WHEN THE VAV BOX REACHES ITS MINIMUM CFM SET-POINT AND A THE SPACE TEMPERATURE FALLS BELOW THE ROOM SET-POINT, ENABLE THE STAGES OF ELECTRIC REHEAT IN THE VAV BOX TO REACH THE SPACE TEMPERATURE SET-POINT. PROVIDE PROOF OF FLOW ACROSS VAV BOX HEATING COIL BEFORE ALLOWING THE COIL TO ENERGIZE.

3. ALL SET-POINTS SHALL BE ADJUSTABLE FROM THE BAS.

4. SET UNOCCUPIED HIGH TEMPERATURE LIMIT TO 80°F. SET UNOCCUPIED LOW TEMPERATURE TO 65°F. WHEN SPACE TEMPERATURE IS OUTSIDE OF SETPOINTS, VAV BOX DAMPER SHOULD MOVE TO THE APPROPRIATE POSITION AND ENERGIZED THE AIR HANDLING UNIT.



SEQUENCE OF OPERATION
1. SUPPLY FAN WILL CYCLE ON A CALL FOR COOLING.

2. MODULATING CHILLED WATER VALVE (NORMALLY CLOSED) WILL BE POSITIONED TO MAINTAIN 55°F (ADJ) LAT DURING OPERATION.

3. IF SPACE TEMPERATURE EXCEEDS 80°F OR IS LESS THAN 60°F, AN ALARM SHALL BE SENT TO THE EMS FRONT END

CHILLED WATER FAN COIL UNIT FC-1 / FC-2

No Scale

3

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Sheet Title:
HVAC CONTROL DIAGRAMS

Sheet No.
M401

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Seal

PLUMBING GENERAL NOTES:

1. READ THE SPECIFICATIONS AND ALL NOTES ON PLANS.

2. UTILITIES AND SERVICES INDICATED ARE TAKEN FROM VARIOUS OLD AND NEW SURVEYS, AS-BUILT RECORDS AND FIELD INVESTIGATIONS. UNFORSEEN CONDITIONS PROBABLY EXIST AND NEW WORK MAY NOT BE FIELD LOCATED EXACTLY AS SHOWN ON DRAWINGS. COOPERATION WITH OTHER TRADES IN ROUTING AND PIPE DEPTHS, AS DETERMINED DURING CONSTRUCTION WILL BE NECESSARY.

3. PROVIDE ALL OFFSETS AND FITTINGS AND MAKE CONNECTION TO EXISTING UTILITIES.

4. CONCEAL PIPING ABOVE CEILINGS, WITHIN WALLS OR CHASES EXCEPT IN MECHANICAL ROOMS OR AS SPECIFICALLY NOTED. PROVIDE ACCESS PANELS FOR ALL VALVES CONCEALED IN WALLS OR ABOVE NON-ACCESSABLE CEILINGS.

5. SLEEVE AND FIRE STOP PENETRATIONS OF RATED WALLS, FLOORS, CEILINGS AND ROOFS. FLASH AND COUNTERFLASH ROOF PENETRATIONS.

6. WHEN BEAM SLEEVE PENETRATIONS ARE NECESSARY, COORDINATE PENETRATIONS WITH ALL TRADES, THE ARCHITECT AND THE STRUCTURAL ENGINEER.

7. NOT USED.

8. SEE ARCHITECTURAL DRAWINGS FOR EXACT PLUMBING FIXTURE LOCATIONS AND MOUNTING HEIGHTS.

9. PROVIDE CLEANOUTS AT BASE OF ALL RISER STACKS AND IN ACCORDANCE WITH APPROPRIATE CODES AND REGULATIONS.

10. WHERE POTABLE WATER STUBS OUT OF WALL OR IS EXPOSED, THE PLUMBING CONTRACTOR SHALL TRANSITION TO COPPER (FOR WC OR URINALS) AND CHROME PLATED UNDER LAV'S & SINKS.

11. THIS CONTRACTOR MUST REFER TO THE ARCHITECTURAL DRAWINGS FOR ADDITIONAL WORK SCOPE COVERED BY THE ARCHITECT. COORDINATE WITH THE GENERAL CONTRACTOR AND ALL THE SUB-CONTRACTORS INVOLVED.

12. APPLICABLE CODES INCLUDE, BUT ARE NOT LIMITED TO:

    A. FLORIDA BUILDING CODE, 2007 EDITION PLUMBING .

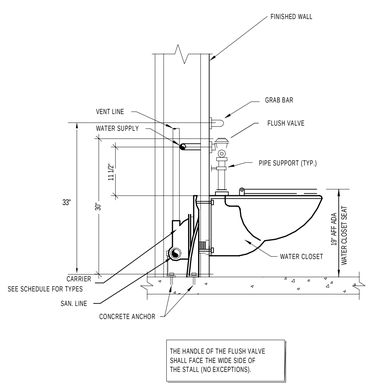
    B NFPA 101, LIFE SAFETY CODE, 2007 EDITION

    C. AMENDMENTS TO ANY OF THE ABOVE CODES WHICH ARE ENFORCED BY THE LOCAL AUTHORITY HAVING JURISDICTION OVER THIS PROJECT.

13. FIELD VERIFY EXISTING INSTALLATIONS. MODIFY EXISTING PLUMBING SYSTEMS, WHICH ARE TO REMAIN ACTIVE, TO FACILITATE RECONNECTION AND EXTENSION OF THE NEW WORK.

14. NOTIFY OWNER AT LEAST 24 HOURS PRIOR TO INTERRUPTING EXISTING SERVICE. SCHEDULE DISCONNECTION AND TIE-INS TO MINIMIZE DISRUPTION OF SERVICES. SERVICES ARE NOT TO BE LEFT DISRUPTED DURING NON-NORMAL CONTRACTOR WORKING HOURS.

15. PLENUM CEILINGS OCCUR THROUGHOUT, CONTRACTOR TO EITHER VERIFY REQUIRED FIRE RATINGS ARE MET OR WRAP ALL PVC AND/OR CPVC PIPING WITHIN CEILING SPACE WITH 3M FIRE WRAP.



WATER CLOSET
No Scale

1

PLUMBING FIXTURE SCHEDULE

[redacted] WALL HUNG WATER CLOSET

VITREOUS CHINA, 1.6 GALLON, WALL HUNG, SIPHON JET, ELONGATED CLOSET BOWL WITH 1-1/2" TOP SPUD.

1.6 GALLON CHROME PLATED FLUSH VALVE(EXPOSED), 1-INCH I.P.S. SCREW DRIVER ANGLE STOP WITH PROTECTIVE CAP, ADJUSTABLE TAILPIECE, VACUUM BREAKER FLUSH CONNECTION AND SPUD COUPLING FOR 1-1/2" TOP SPUD, DIE CAST WALL FLANGE WITH SET SCREW, SPUD FLANGE AND SOLID RING PIPE SUPPORT.

SEAT SHALL BE EXTRA HEAVY SOLID PLASTIC WITH STAINLESS STEEL SELF SUSTAINING CHECK HINGE, OPEN FRONT LESS COVER.

FULLY ADJUSTABLE CLOSET CARRIER ADJUSTED TO STANDARD HEIGHT.

BASIS OF DESIGN

CHINA - AMERICAN STANDARD - 2257.103
FLUSH VALVE - SLOAN ROYAL 111-XL-YK
SEAT - BEMIS - 1655-SS/C
CARRIER - ZURN - Z-1200 SERIES

[redacted] ACCESSIBLE ELECTRIC WATER COOLER

TYPE 304 STAINLESSS STEEL DRINKING FOUNTAIN POLISHED TO A #4 SATIN FINISH WITH DUAL HEIGHT RECEPTOR, SELF CLOSING FRONT MOUNTED PUSH BUTTON TYPE BUBBLERS, STRAINER AND TAILPIECE. SURFACE MOUNTED REFRIGERANT CHILLER UNIT CAPABLE OF 8 GPH OF 50 °F AT AN AMBIEMT TEMPERATURE OF 90 °F, ELECTRICAL CHARACTERISTICS - 115V AC, 60HZ, SINGLE PHASE.

WATERSENTRY VII FILTER WITH 1,500 GALLON CAPACITY TO REMOVE CYSTS, LEAD AND CHLORINE.

CHROME PLATED 17 GAUGE 1-1/4 X 1-1/2 BRASS P-TRAP WITH CLEANOUT.

3/8 INCH I.P.S. CHROME PLATED SUPPLY WITH LOOSE KEY STRAIGHT STOP AND WALL FLANGE.

BASIS OF DESIGN

FOUNTAIN - ELKAY - LZSTL-8-C
TRAP - MCGUIRE - 8902
SUPPLY - MCGUIRE- 158LK

[redacted] MOP SINK

FLOOR MOUNTED PRECAST TERRAZO WITH STAINLESS STEEL CAP, 24" X 24" X 12", DRAIN BODY SHALL BE STAINLESS STEEL CAST INTEGRAL, AND SHALL PROVIDE FOR A CAULKED LEAD CONNECTION AND NOT LESS THAN 1" DEEP TO A 3" PIPE. PROVIDE WITH STAINLESS STEEL WALL GUARD.

SERVICE FAUCET SHALL BE CHROME PLATED WITH RENEWABLE SEATS IN MONEL, VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK, AND 3/4" HOSE THREAD ON SPOUT.

36" HOSE WITH 3/4" CHROME COUPLING AND WALL BRACKET.

BASIS OF DESIGN

SINK - WILLIAMS SBC-1700 - BP
FAUCET - CHICAGO - 897
HOSE - WILLIAMS - T-35

[redacted] SINK

DOUBLE COMPARTMENT SELF RIMMING SINK CONSTRUCTED OF TYPE 304 18-8 STAINLESS STEEL 33" X 19" X 7-1/2" DEEP. INTERIOR AND TOP SURFACES SHALL BE POLISHED TO A HIGH LUSTER FINISH. PROVIDE SINK WITH CRUMB CUP STRAINER.

8" CHROME PLATED BRASS FAUCET, VANDAL RESISTANT 2.0 GPM FLOW REGULATOR, SINGLE LEVER HANDLE AND 10" SPOUT.

1/2" COMPRESSION X 3/8" COMPRESSION CHROME PLATED ANGLE SUPPLY STOPS WITH CHROME PLATED 12" FLEXIBLE RISERS AND ESCUTCHEONS.

CHROME PLATED 17 GAUGE 1-1/2" TWO COMPARTMENT CONTINUOUS WASTE.

CHROME PLATED 17 GAUGE 1-1/2" X 1-1/2" P-TRAP WITH CLEANOUT.

BASIS OF DESIGN

SINK - ELKAY - LR-3319
FAUCET - CHICAGO - 2300-8
SUPPLIES - MCGUIRE - 2165CC
CONTINUOUS WASTE - ELKAY - LK-53
TRAP - MCGUIRE - 8912

[redacted] WALL HUNG ACCESSIBLE WATER CLOSET

VITREOUS CHINA, 1.6 GALLON, WALL HUNG, SIPHON JET, ELONGATED CLOSET BOWL WITH 1-1/2" TOP SPUD.

1.6 GALLON CHROME PLATED FLUSH VALVE(EXPOSED), 1-INCH I.P.S. SCREW DRIVER ANGLE STOP WITH PROTECTIVE CAP, ADJUSTABLE TAILPIECE, VACUUM BREAKER FLUSH CONNECTION AND SPUD COUPLING FOR 1-1/2" TOP SPUD, DIE CAST WALL FLANGE WITH SET SCREW, SPUD FLANGE, SOLID RING PIPE SUPPORT AND ADA HANDLE.

SEAT SHALL BE EXTRA HEAVY SOLID PLASTIC WITH STAINLESS STEEL SELF SUSTAINING CHECK HINGE, OPEN FRONT LESS COVER.

FULLY ADJUSTABLE CLOSET CARRIER ADJUSTED TO ACCESSIBLE HEIGHT, SEE SPECS.

NOTE: FLUSH VALVE HANDLE SHALL FACE WIDE SIDE OF STALL.

BASIS OF DESIGN

CHINA - AMERICAN STANDARD - 2257.103
FLUSH VALVE - SLOAN ROYAL 111-XL-YK
SEAT - BEMIS - 1655-SS/C
CARRIER - ZURN - Z-1200 SERIES

[redacted] WALL HUNG ACCESSIBLE URINAL

VITREOUS CHINA, 1.0 GALLON WALL HUNG, SIPHON JET URINAL WITH INTEGRAL FLUSHING RIM, INTEGRAL TRAP, WALL HANGERS, AND 2 INCH FEMALE FLANGED OUTLET CONNECTION.

1.0 GALLON CHROME PLATED FLUSH VALVE(EXPOSED), 3/4-INCH I.P.S. SCREWDRIVER CHECK ANGLE STOP WITH PROTECTIVE CAP, ADJUSTABLE TAILPIECE, VACUUM BREAKER FLUSH CONNECTION AND SPUD COUPLING FOR 3/4" TOP SPUD, DIE CAST WALL FLANGE WITH SET SCREW, SPUD FLANGE AND SOLID RING PIPE SUPPORT.

FULLY ADJUSTABLE URINAL CARRIER ADJUSTED TO ACCESSIBLE HEIGHT, SEE SPECS.

BASIS OF DESIGN

CHINA - AMERICAN STANDARD - 6501.010
FLUSH VALVE - SLOAN ROYAL 186-1-XL-YK
CARRIER - ZURN ZR-1222

[redacted] ACCESSIBLE WALL HUNG LAVATORY

VITREOUS CHINA LAVATORY, 20" X 18", PUNCHED FOR 4"CENTERSET FITTING AND CONCEALED ARM CARRIER SUPPORT.

4" CENTERSET CHROME PLATED BRASS FAUCET, VANDAL RESISTANT 0.5 GPM FLOW REGULATOR, CHROME PLATED WRISTBLADE HANDLES WITH HOT AND COLD WATER CODED INDEXES.

PRE-INSULATED CHROME PLATED WHEELCHAIR LAVATORY STRAINER, CAST GRID DRAIN PLUG WITH STRAINER AND OFFSET DRAIN ASSEMBLY WITH 1-1/4 INCH O.D. TAILPIECE, CHROME PLATED 17 GAUGE 1-1/4 X 1-1/2" BRASS P-TRAP WITH CLEANOUT.

PRE-INSULATED 1/2" COMPRESSION X 3/8 INCH COMPRESSION CHROME PLATED ANGLE SUPPLY STOPS WITH CHROME PLATED 12" FLEXIBLE RISERS AND ESCUTCHEONS.

FULLY ADJUSTABLE LAVATORY CARRIER ADJUSTED TO ACCESSIBLE HEIGHT, SEE SPECS.

BASIS OF DESIGN

CHINA - AMERICAN STANDARD - 0356.012
FAUCET - CHICAGO - 802A-317-E2805
STRAINER/TRAP/STOPS - MCGUIRE - 2125WC
CARRIER - ZURN ZR-1200 SERIES

[redacted] SINK

SINGLE COMPARTMENT SELF RIMMING SINK CONSTRUCTED OF TYPE 304 18-8 STAINLESS STEEL 22" X 19" X 7-1/2" DEEP. INTERIOR AND TOP SURFACES SHALL BE POLISHED TO A HIGH LUSTER FINISH. PROVIDE SINK WITH CRUMB CUP STRAINER.

8" CHROME PLATED BRASS FAUCET, VANDAL RESISTANT 2.0 GPM FLOW REGULATOR, SINGLE LEVER HANDLE AND 10" SPOUT.

1/2" COMPRESSION X 3/8" COMPRESSION CHROME PLATED ANGLE SUPPLY STOPS WITH CHROME PLATED 12" FLEXIBLE RISERS AND ESCUTCHEONS.

CHROME PLATED 17 GAUGE 1-1/2" X 1-1/2" P-TRAP WITH CLEANOUT.

BASIS OF DESIGN

SINK - ELKAY - LR-2219
FAUCET - CHICAGO - 2300-8
SUPPLIES - MCGUIRE - 2165CC
TRAP - MCGUIRE - 8912

[redacted] CONDENSATE DRAIN

COATED CAST IRON BODY WITH BOTTOM OUTLET, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE TYPE "I" NICKEL BRONZE STRAINER, 6" ROUND TOP, WITH 1" RAISED LIP.

BASIS OF DESIGN

ZURN - Z-415

PLUMBING SYMBOL LEGEND

CD	-CONDENSATE
CO	-CLEANOUT
CW	-COLD WATER
CONT	-CONTINUATION
DN	-DOWN
FU	-FIXTURE UNITS
HW	-HOT WATER
IE	-INVERT ELEVATION
SAN	-SANITARY
ST	-STORM
SF	-SQUARE FEET
TYP	-TYPICAL
VTR	-VENT THRU ROOF
	-HOSE BIBB
	-BALANCING VALVE
	-CLEANOUT
	-COLD WATER PIPING
	-HOT WATER PIPING
	-HW RECIRCULATING PIPING
S	-SANITARY PIPING
S	-UNDERGROUND SANITARY PIPING
	-SANITARY VENT PIPING
CD	-CONDENSATE PIPING
	-CONNECT TO EXISTING

COMPLIANCE STATEMENT

THESE PLANS HAVE BEEN PREPARED IN COMPLIANCE WITH THE 2007 FLORIDA BUILDING CODE - PLUMBING.

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	DESCRIPTION	SOIL	WASTE	VENT	CW	HW
WC-1&2	ACCESSIBLE WATER CLOSET	3"		2"	1"	
L-1	ACCESSIBLE LAVATORY		1"	1\"	\"	\"
EWC-1	ELECT WATER COOLER		1"	1\"	\"	
U-1	ACCESSIBLE URINAL		2"	2"	]"	
S-1	SINGLE BOWL SINK		2"	1\"	\"	\"
S-2	DOUBLE BOWL SINK		2"	1\"	\"	\"
MS-1	MOP SINK		3"	2"	\"	\"

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Owner:
Lee County Board of County Commissioners

Consultant:

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Sheet Title:
PLUMBING SYMBOL LEGEND, GENERAL NOTES & INDEX

Sheet No.
P001

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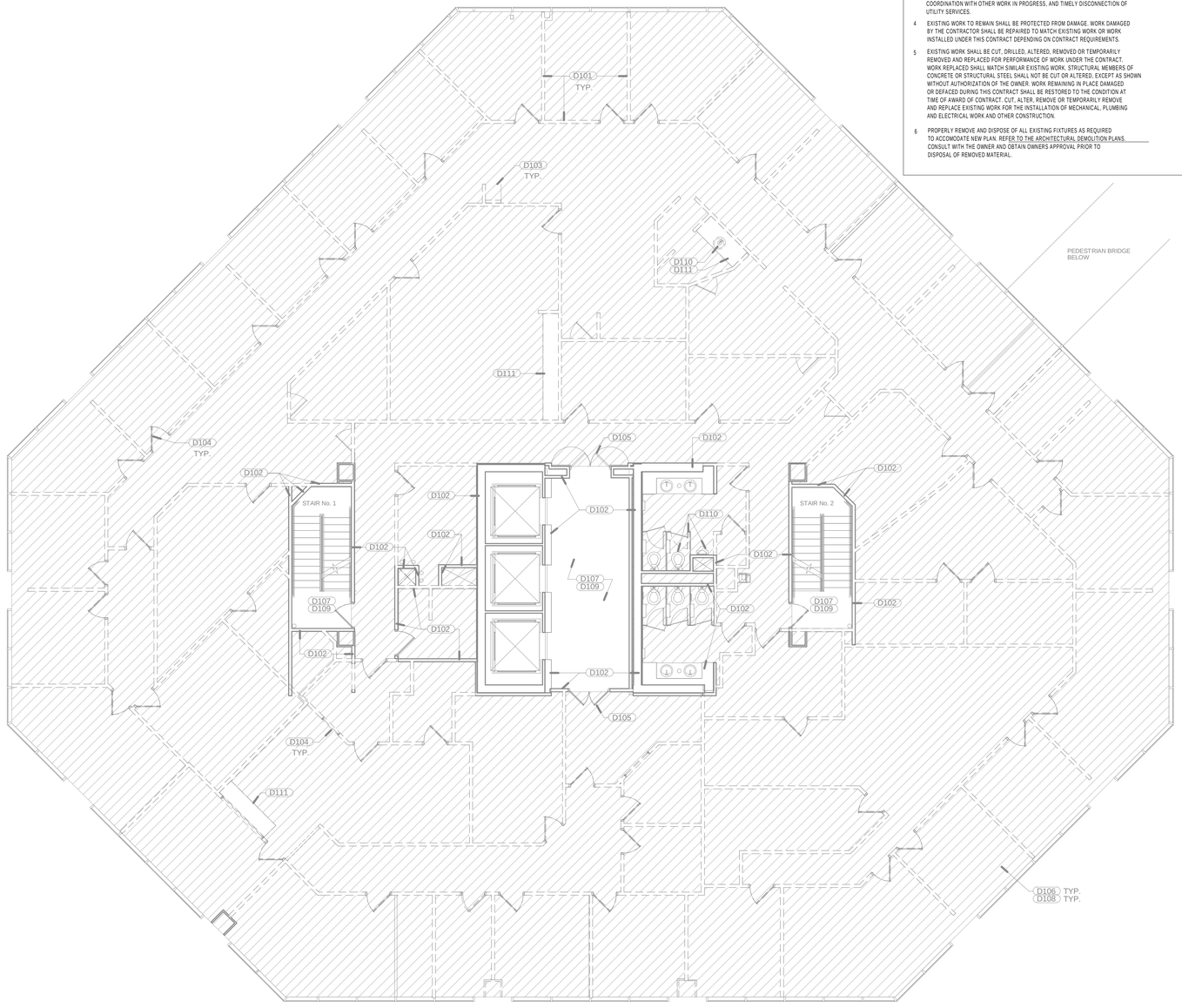

DEMOLITION NOTES:

1. THE CONTRACTOR SHALL PROVIDE PROTECTION FOR ALL PARTS OF THE BUILDING, ITS CONTENTS AND OCCUPANTS WHEREVER WORK UNDER THIS CONTRACT IS PERFORMED.
2. DEMOLITION SHALL INCLUDE REMOVAL OF EXISTING BUILDING CONSTRUCTION TO EXTENT REQUIRED TO PERFORM CONSTRUCTION ACTIVITIES INDICATED.
3. THE DEMOLITION PROCEDURES SHALL PROVIDE FOR SAFE CONDUCT OF THE WORK, PROTECTION OF PERSONNEL, CAREFUL REMOVAL AND DISPOSITION OF MATERIALS SPECIFIED TO BE SALVAGED, PROTECTION OF PROPERTY TO REMAIN UNDISTURBED, COORDINATION WITH OTHER WORK IN PROGRESS, AND TIMELY DISCONNECTION OF UTILITY SERVICES.
4. EXISTING WORK TO REMAIN SHALL BE PROTECTED FROM DAMAGE. WORK DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO MATCH EXISTING WORK OR WORK INSTALLED UNDER THIS CONTRACT DEPENDING ON CONTRACT REQUIREMENTS.
5. EXISTING WORK SHALL BE CUT, DRILLED, ALTERED, REMOVED OR TEMPORARILY REMOVED AND REPLACED FOR PERFORMANCE OF WORK UNDER THE CONTRACT. WORK REPLACED SHALL MATCH SIMILAR EXISTING WORK. STRUCTURAL MEMBERS OF CONCRETE OR STRUCTURAL STEEL SHALL NOT BE CUT OR ALTERED, EXCEPT AS SHOWN WITHOUT AUTHORIZATION OF THE OWNER. WORK REMAINING IN PLACE DAMAGED OR DEFACED DURING THIS CONTRACT SHALL BE RESTORED TO THE CONDITION AT TIME OF AWARD OF CONTRACT. CUT, ALTER, REMOVE OR TEMPORARILY REMOVE AND REPLACE EXISTING WORK FOR THE INSTALLATION OF MECHANICAL, PLUMBING AND ELECTRICAL WORK AND OTHER CONSTRUCTION.
6. PROPERLY REMOVE AND DISPOSE OF ALL EXISTING FIXTURES AS REQUIRED TO ACCOMODATE NEW PLAN. REFER TO THE ARCHITECTURAL DEMOLITION PLANS. CONSULT WITH THE OWNER AND OBTAIN OWNERS APPROVAL PRIOR TO DISPOSAL OF REMOVED MATERIAL.
7. UNLESS INDICATED OTHERWISE, ALL EXISTING SANITARY WASTE & VENT, AND DOMESTIC HOT AND COLD WATER PIPING SHALL BE CAPPED OR PLUGGED BELOW SLAB, ABOVE CEILING, OR WITHIN WALL CAVITIES. REFER TO THE ARCHITECTURAL DEMOLITION PLANS. CONSULT WITH THE OWNER AND OBTAIN OWNERS APPROVAL PRIOR TO DISPOSAL OF REMOVED MATERIAL.
8. THE EXISTING PIPING INDICATED ON THESE DRAWINGS WAS COMPILED FROM ORIGINAL CONSTRUCTION DRAWINGS, "AS-BUILT" DRAWINGS AND ENGINEERS FIELD OBSERVATIONS. THE EXISTING PIPING INDICATED REPRESENTS A BEST FAITH EFFORT BY THE ENGINEER TO DEMONSTRATE THE CONDITIONS UNDER WHICH THE WORK IS TO BE EXECUTED. THE CONTRACTOR SHALL VISIT SITE AND REVIEW EXISTING CONDITIONS TO THE DEGREE AND EXTENT NECESSARY TO PREPARE A PROPER AND ADEQUATE BID FOR THE WORK INDICATED. SUBMISSION OF A BID WILL BE INTERPRETED AS MEANING THE CONTRACTOR HAS REVIEWED EXISTING CONDITIONS AND UNDERSTANDS THE DIFFICULTIES AND CHALLENGES UNDER WHICH THE WORK IS TO BE ACCOMPLISHED.
9. DRAWINGS INDICATE INSTALLATION OF NEW FIXTURES TIED TO EXISTING SANITARY WASTE AND VENT PIPING. SCOPE OF WORK INCLUDES CUTTING AND REMOVAL OF EXISTING FLOOR SLAB FOR THE PURPOSE OF INSTALLING NEW U.G. SANITARY PIPING. SLAB CUT AND TRENCH WIDTH SHALL BE KEPT TO A MINIMUM. IN NO INSTANCE SHALL SLAB CUT/TRENCH WIDTH EXCEED 36 INCHES WITHOUT PRIOR APPROVAL OF ARCHITECT.
10. REMOVE ALL EXISTING DOMESTIC WATER COPPER PIPING/FITTINGS ON THIS FLOOR AND REPLACE WITH CPVC PIPING AND FITTINGS.

DEMOLITION KEY NOTES:

- (A) FIXTURE TO BE REMOVED. FIXTURE, FAUCET AND FITTINGS TO BE TURNED OVER TO CM FOR DEMOLITION . CAP ALL ASSOCIATED PIPING ABOVE CEILING/BELOW SLAB AS NECESSARY.
- (B) FIXTURE TO REMAIN AT SAME LOCATION. CLEAN AND PREPARE AS NEW.
- (C) EXISTING 3" CONDENSATE RISER FROM ABOVE. OFFSET BELOW 4TH FLOOR TO DROP AS SHOWN, THAN OFFSET BACK TO ORIGINAL LOCATION BELOW 3RD FLOOR.

1 P101 5TH FLOOR - PLUMBING - DEMOLITION

1/8" = 1'-0"

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Sheet Title:
5TH FLOOR DEMOLITION PLAN - PLUMBING

Sheet No.
P101

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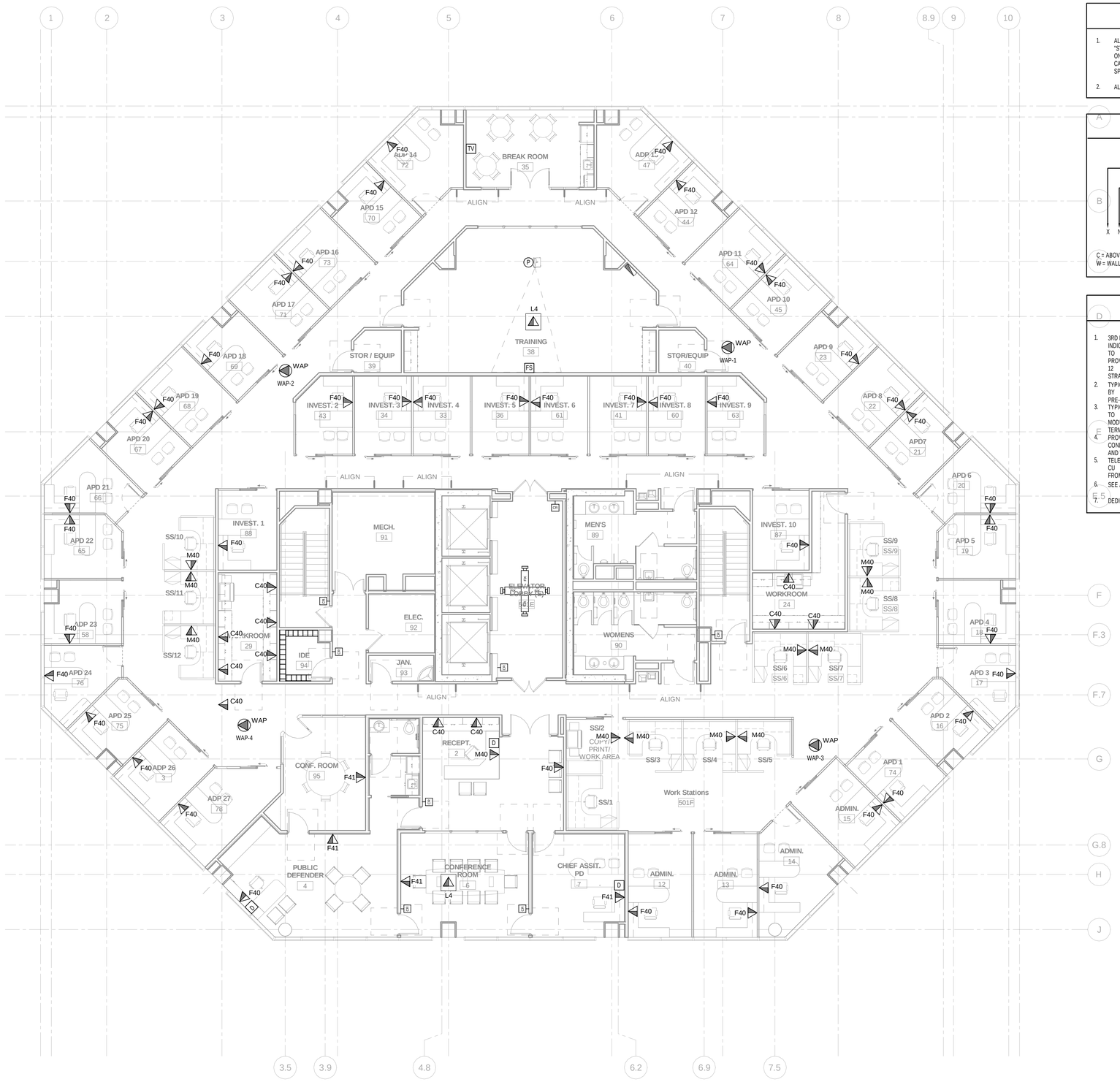


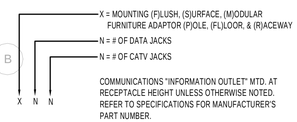
1 T101 5TH FLOOR - TECHNOLOGY

1/8" = 1'-0"

GENERAL NOTES:

1. ALL WORK DESCRIBED ON THE "TECHNOLOGY" DRAWINGS ARE PART OF A "STRUCTURED CABLING" SYSTEM. THE WORK PERTAINING TO THIS SYSTEM CAN ONLY BE PROVIDED AND INSTALLED BY ONE OF THE PRE-QUALIFIED STRUCTURED CABLING SYSTEM (SCS) CONTRACTORS LISTED IN THE DIVISION 17 SPECIFICATIONS.
2. ALL CABLING SHALL BE PLENUM RATED

IMO KEY



C = ABOVE COUNTER
W = WALL MOUNTED

KEYNOTES:

1. 3RD FLOOR IT ROOM. PROVIDE 3/4" PLYWOOD BACKBOARD, 8'-0" HIGH, WHERE INDICATED. SEE ENLARGED TECHNOLOGY ROOM PLAN FOR DETAILS. CONTRACTOR TO PROVIDE AND INSTALL A 100 PR UTP FOR VOICE TO THE SECOND FLOOR MDF AND A 12 STRAND SM/24 STRAND MM FOC FROM THIS LOCATION TO THE SECOND FLOOR MDF
2. TYPICAL FLUSH MOUNTED VOICE/DATA OUTLET. CABLING, OUTLETS, AND TERMINATIONS BY PRE-QUALIFIED DIV. 17 CONTRACTOR.
3. TYPICAL MODULAR FURNITURE CONNECTION, COORDINATE REQUIRED CONNECTIONS TO MODULAR FURNITURE WITH SUPPLIER/INSTALLER. CABLING, OUTLETS, AND TERMINATIONS BY PRE-QUALIFIED DIV. 17 CONTRACTOR.
4. PROVIDE TELECOM CONNECTION TO OVERHEAD PROJECTOR. COORDINATE A/V CONDUIT AND WIRING REQUIREMENTS WITH OWNER PRIOR TO INSTALLATION.
5. TELECOMMUNICATIONS GROUND BUS. SEE DETAIL #4 ON DRAWING `T202'. PROVIDE #6 CU FROM GROUND BUS BACK TO ELECTRICAL PANEL SERVING THIS EQUIPMENT.
6. SEE A/V WALL PLATE DETAIL #5 ON DRAWING `T202' FOR MORE DETAIL.
7. DEDICATED LOCATION FOR COMCAST CABLE TAP. COORDINATE WITH OWNER.

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5TH FLOOR PLAN - TECHNOLOGY

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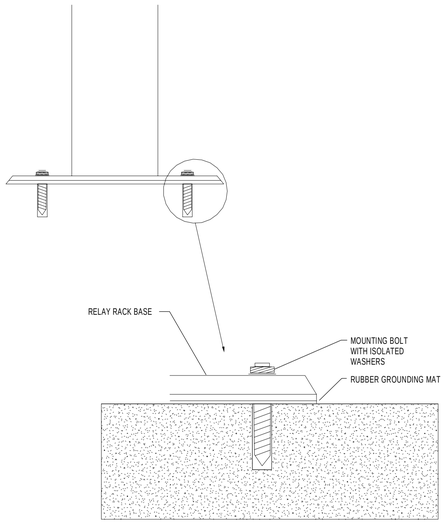
Sheet No.
T101



RACK MOUNTING ON CONCRETE

No Scale

1

INTERMEADIATE DISTRIBUTION FRAME NOTES

E CABLING NOTES (SHOWN FOR REFERENCE ONLY)

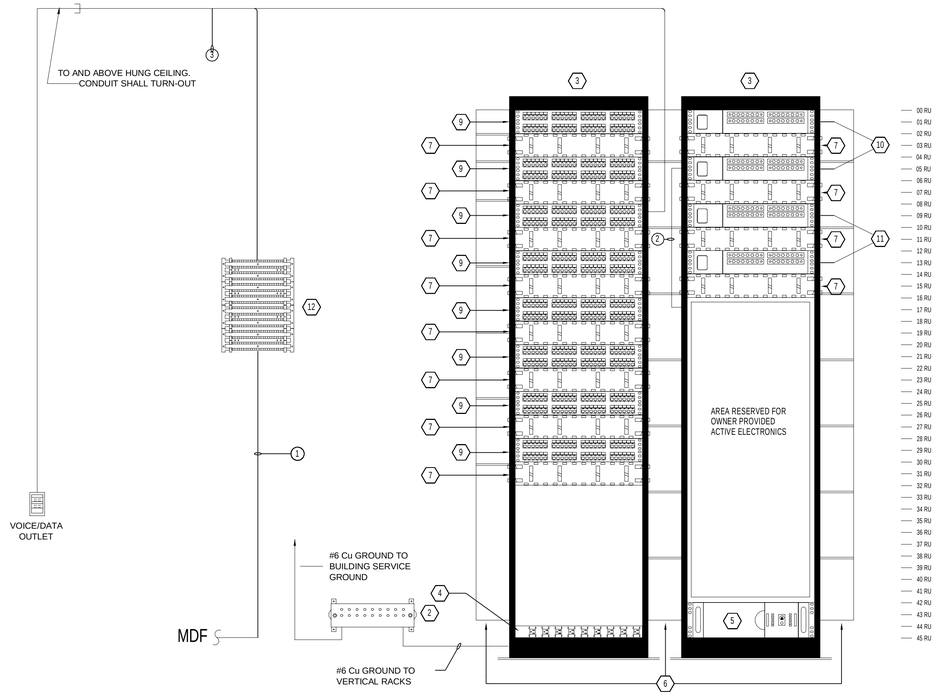
1. (1) 200 PAIR TELEPHONE/VOICE TIE CABLE FROM BUILDING MDF ON SECOND FLOOR. AT MDF
   TERMINATE CABLE ON EXISTING XLBET RACK, AT 3RD FLOOR IDF TERMINATE ON S210 TOWER
2. SCS MULTIMODE FIBER OPTIC PATCH CORDS FOR OWNER'S ACTIVE HUBS, LENGTH AS REQUIRED. REFER TO
   SPECIFICATIONS FOR MORE DETAIL.
3. (#) 4 PAIR CAT 6 PLENUM RATED VOICE/DATA STATION CABLE TO INFORMATION OUTLET. TERMINATE DATA CABLES AT DATA STATION PATCH PANEL, AND VOICE CABLES AT 110 PUNCHDOWN BLOCKS.

   # = REFER TO RESPECTIVE FLOOR PLANS FOR QUANTITY OF PORTS PER OULET, TO DETERMINE THE NUMBER OF 4 PAIR STATION CABLE REQUIRED AT EACH LOCATION.

DIVISION 17 CONTRACTOR'S KEYNOTES

1. ELEVATION INDICATES ALL EQUIPMENT AND CABLING REQUIRED TO BE PROVIDED FOR THIS LOCATION.
   FIBER OPTIC, COPPER, AND BONDING/GROUNDING BACKBONES ARE PROVIDED BY SCS CONTRACTOR.
2. TELECOMMUNICATIONS GROUNDING BUSBAR (TGB). SEE DETAIL
3. ALL VERTICAL RACKS TO BE PROVIDED WITH VERTICAL AND HORIZONTAL CABLE MANAGEMENT.
4. RACK MOUNTED POWER STRIP.
5. RACK MOUNTED UPS UNIT. 30A/120V, 2880VA MINIMUM
6. VERTICAL CABLE MANAGEMENT
7. HORIZONTAL CABLE MANAGEMENT
8. NOT USED
9. 48 PORT CAT 6, VOICE/DATA PATCH PANEL.
10. (2) 24 PORT FIBER OPTIC PATCH PANEL/DISTRIBUTION CENTERS. (1) FOR SINGLEMODE FIBER AND (1) FOR
    MULTIMODE FIBER. PROVIDE AND INSTALL (1) 24SM/24MM FOC FROM MDF ON SECOND FLOOR TO THIS LOCATION. CONNECTIONS TO BE TYPE SC WITH FUSION SPLICE PIGTAILS
11. (2) 24 PORT FIBER OPTIC PATCH PANEL/DISTRIBUTION CENTERS. (1) FOR SINGLEMODE FIBER AND (1) FOR
    MULTIMODE FIBER. PROVIDE AND INSTALL (1) 24SM/24MM FOC FROM PUBLIC DEFENDER'S SERVER ROOM
    TO THIS LOCATION. CONNECTIONS TO BE TYPE SC WITH FUSION SPLICE PIGTAILS.
12. 110 PUNCHDOWN BLOCKS (QUANTITY AS REQUIRED) FOR TELEPHONE/VOICE TIE CABLES

NOTE:
ALL WORK SHOWN ON THIS DRAWING, UNLESS SPECIFICALLY NOTED OTHERWISE IS TO BE PROVIDED BY THE DIVISION 17 CONTRACTOR. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THESE DOCUMENTS AND THE ASSOCIATED SPECIFICATIONS.

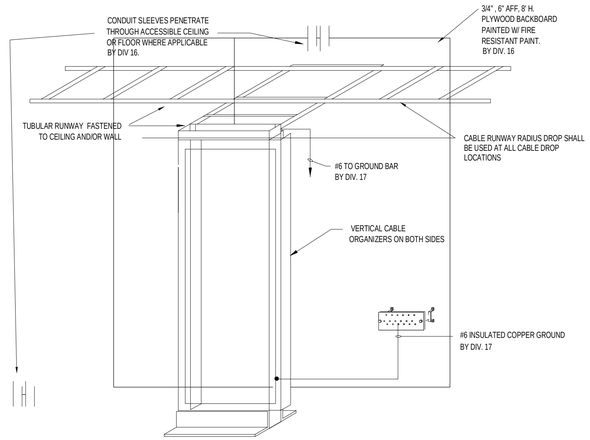


INTERMEADIATE DISTRIBUTION FRAME RISER ELEVATION

1

No Scale

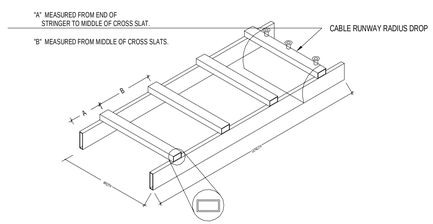
2



TYPICAL RACK ISOMETRIC VIEW

No Scale

3

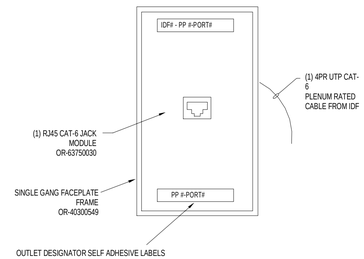


CHATSWORTH TUBULAR RUNWAY UNIVERSAL RUNWAY SYSTEM

TUBULAR RUNWAY ABOVE RACKS

No Scale

4



FOR THE OTHER JACK COUNT IN OUTLET PROVIDE AS FOLLOWS

# OF JACKS	FACE PLATE	# OF RJ45 CAT-6 JACKS OR-63750030	# OF UTP CAT-6 CABLES FROM IDF
2	OR-40300548	2	2
3	OR-40300547	3	3
4	OR-40300546	4	4
6	OR-40300545	6	6

TYPICAL DATA OUTLET

No Scale

5

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