

Sheet Number

Legend

P2.5 SCALE: NOT TO SCALE

# happa

	Legend		
	Description	Quantity	Unit
	4" Thick Concrete PAD for Condensors	2	Count
/	6" Round Dia	180.25	ft
/	8" Round Dia	5.44	ft
/	10" Round Dia	14.81	ft
<u> </u>	 12" Round Dia	25.35	ft
	14" Round Dia	45.57	ft
	AF-1 Axial Fan 4100/6100 CFM by Greenheck MAC-24-323-B3-J1	1	Count
	AF-2 Axial Fan 4100/6100 CFM by Greenheck MAC-24-323-B3-J1	1	Count
	AF-3 Axial Fan 4100/6100 CFM by Greenheck MAC-24-323-B3-J1	1	Count
	AF-4 Axial Fan 4100/6100 CFM by Greenheck MAC-24-323-B3-J1	1	Count
	Control Relay	1	Count
	Cooling only Thermostat	4	Count
	DF-1 Destratification Fan by Vivid Air GFY-Z-10	1	Count
	ECUH-1 Electric Cabinet Unit Heater by Markel F3323TD-RP 5120BTU	1	Count
	EF-1 Exhaust Fan by Greenheck CUE-130-VG 1000CFM	1	Count
	EF-2 Exhaust Fan by Greenheck CUBE-220 4000CFM	1	Count
	EF-3 Exhaust Fan by Greenheck CUBE-220 4000CFM	1	Count
	EF-4 Exhaust Fan by Greenheck CUBE-099 500CFM	1	Count
	EF-5 Exhaust Fan by Greenheck CUBE-200 3000CFM	1	Count
	EG-D Exhaust by Price Apdor 24x24 6" Neck	2	Count
	EG-D Exhaust by Price Apdor 24x24 8" Neck	<u></u> 1	Count
	EG-E Exhaust by Price 530 14x10 12" Neck	1	Count
	Fittings (Bends, Reducers, Angles, Elbows etc)	20	Count
	Gas Detection system by Armstrong AMC-1ADA	1	Count
	GUH-1 Gas Unit Heater 200 MBH 3200 CFM by Trane GHNE-200	1	Count
	GUH-2 Gas Unit Heater 100 MBH 3200 CFM by Trane GHNE-100	1	Count
	GUH-3 Gas Unit Heater 200 MBH 3200 CFM by Trane GHNE-200	1	Count
<u></u>	GUH-4 Gas Unit Heater 200 MBH 3200 CFM by Trane GHNE-200	1	Count
	Heating only Thermostat	9	Count
<u></u>	L-1 Louver 4000 by Ruskin ELF6375DX 42x42	1	Count
4	L-2 Louver 4000 by Ruskin ELF6375DX 42x42  L-2 Louver 4000 by Ruskin ELF6375DX 42x42	1	Count
4	L-3 Louver 4000 by Ruskin ELF6375DX 42x42	1	Count
4	L-4 Louver 4000 by Ruskin ELF6375DX 42x42	1	Count
	L-4 Louver 4000 by Ruskin ELF6375DX 42X42  L-5 Louver 3000 Ruskin ELF6375DX 25 x 48	1	
<u></u>	L-10 Louver 18000 Ruskin ELF6375DX 25 x 46	1	Count
		2	Count
	RG-B Return by Price Apddr 24x24		Count
	RH-1 Radiant Heater	1	Count
	RH-2 Radiant Heater	1	Count
	RH-3 Radiant Heater	1	Count
	RH-4 Radiant Heater	1	Count
	RH-5 Radiant Heater	1	Count
	SD-A Supply by Price ASCD 24x24 6" Neck	2	Count
	SD-A Supply by Price ASCD 24x24 10" Neck	1	Count
	SD-A Supply by Price ASCD 24x24 12" Neck	1	Count
	SG-C Supply by Price 620D 6x6 8" Neck	1	Count
	Smoke Detector (CO and NO2)	4	Count
	Split System Heat Pump 1 by Trane 36000 BTU	1	Count

Split System Mini Heat Pump 2 by Trane 24000 BTU

Thermostat

Thermostat Wall

Vehicle Exhaust Flexible Drop with Shut-off Blast Gate

VEF-A Vehicle Exhaust Fan by Magnegrip CF363-7.5 4400 CFM

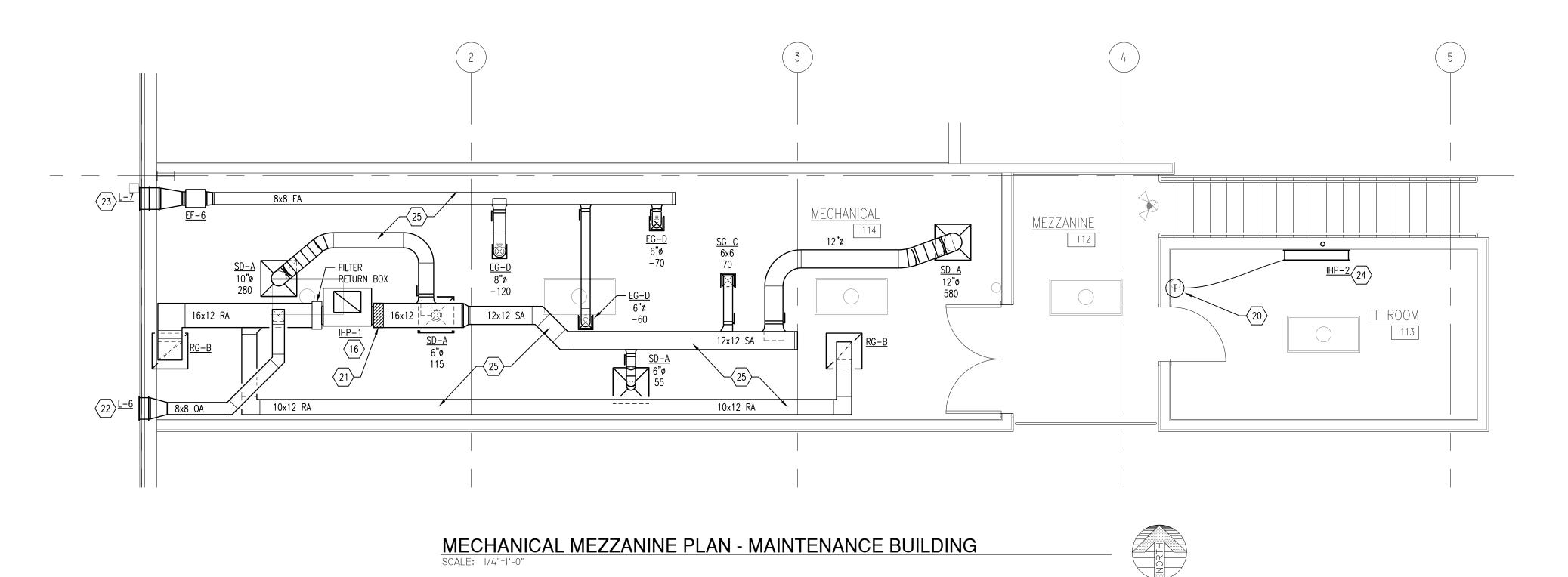
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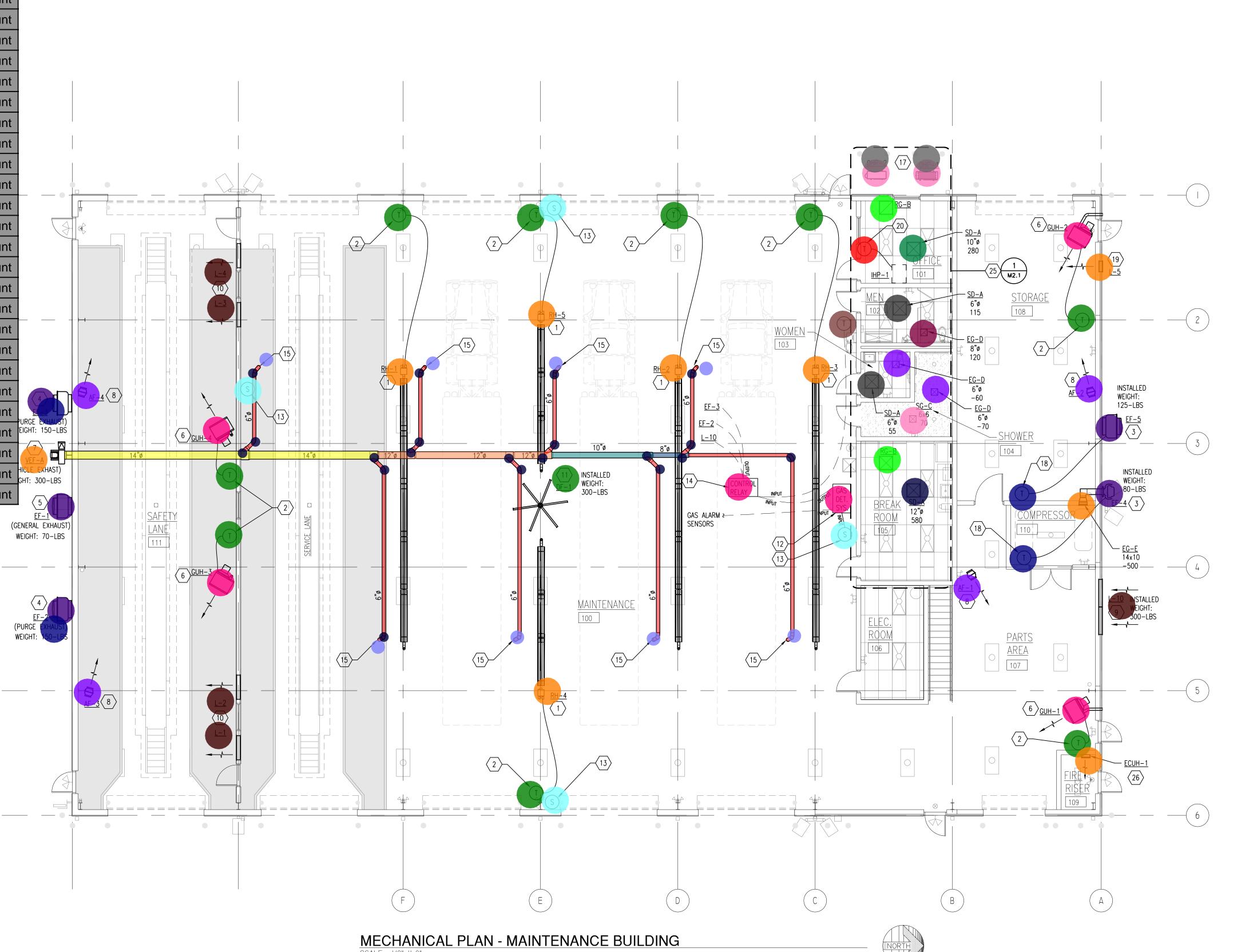
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## GENERAL HVAC NOTES

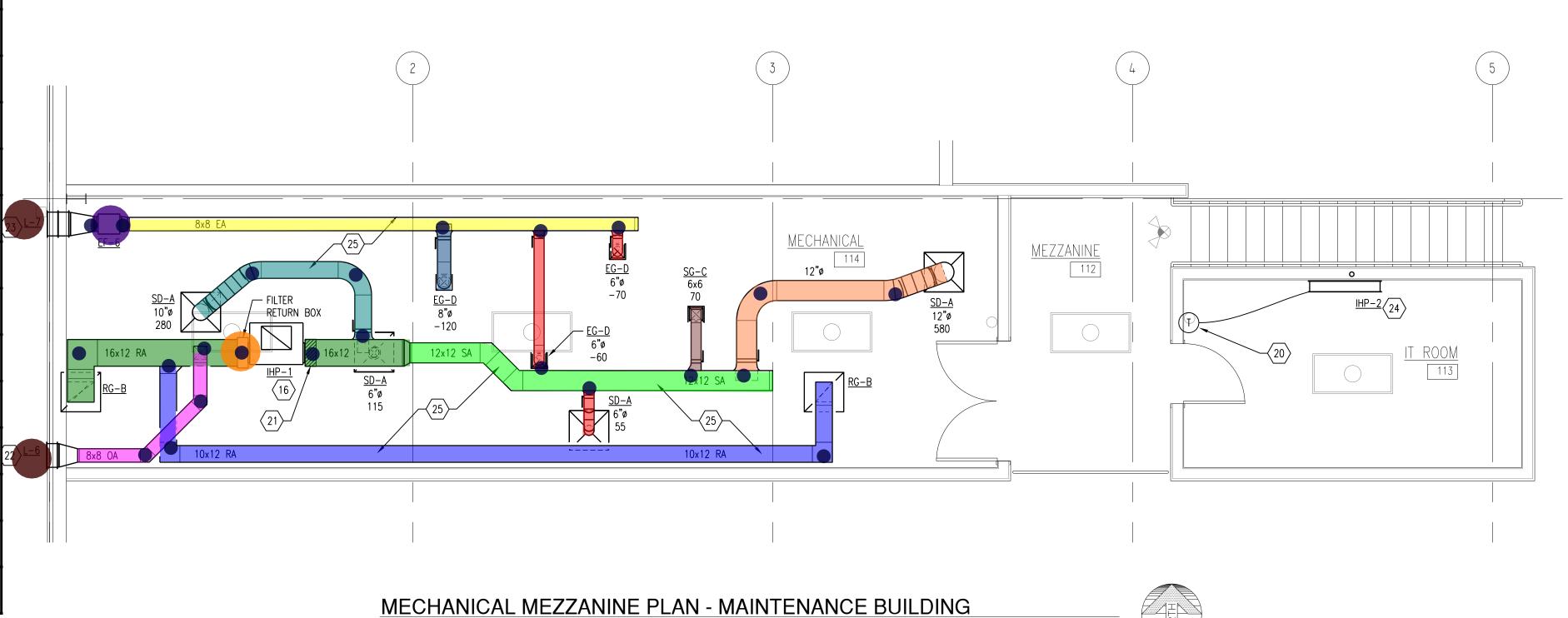
- A. ALL SUPPLY DIFFUSERS SHALL HAVE INSULATED BLANKET TENTS BY NAILOR INDUSTRIES OR
- B. INSULATED ALL SUPPLY DUCTWORK WITH R-8 INSULATION, INSULATE ALL RETURN DUCTWORK
- C. COORDINATE INSTALLATION OF DUCTWORK, EQUIPMENT, LINE SETS, AND CONDENSATE DRAINAGE PIPING WITH ALL OTHER TRADES TO VERIFY PROPER OPERATING INSTALLATION. ADJUST LOCATIONS AS REQUIRED AND/OR SUBMIT RFI TO ARCHITECT/ENGINEER.

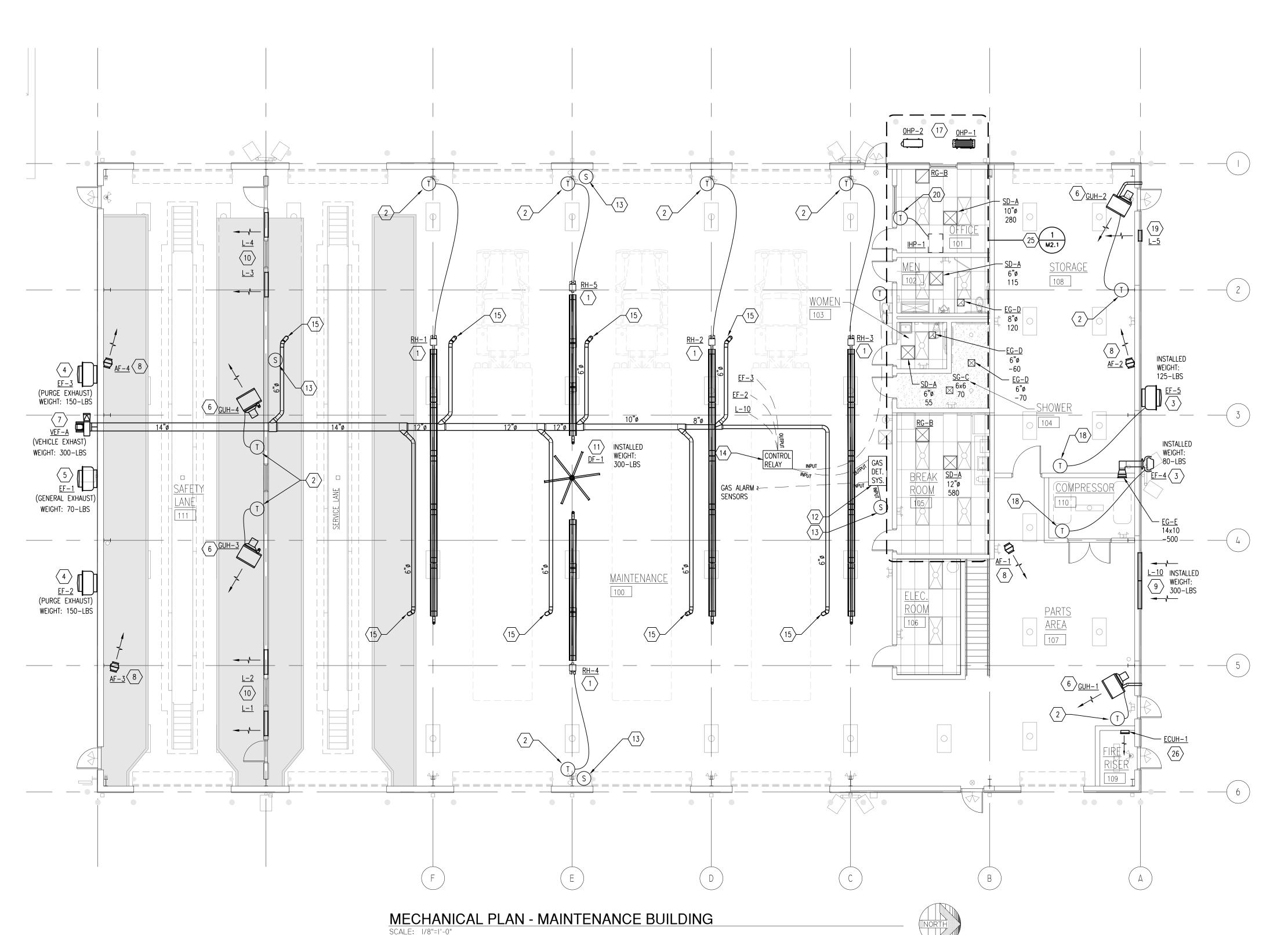
## (#) MECHANICAL KEY NOTES

- 1. PROVIDE NATURAL GAS INFRARED RADIANT HEATER AS SCHEDULED. SUSPEND FROM STRUCTURE AT 14'-2" ABOVE FINISH FLOOR, VERIFY INSTALLATION HEIGHT WITH OWNER AND OTHER TRADES. REFER TO PLUMBING PLANS FOR GAS PIPING. EXTEND FLUE UP THRU ROOF PER MANUFACTURER'S INSTRUCTIONS.
- 2. PROVIDE ENERGY-CODE COMPLIANT HEATING-ONLY THERMOSTAT AT 4'-0" ABOVE FINISH FLOOR ON BUILDING COLUMN OR WALL. EXTEND 24V CONTROL WIRING TO HEATER. COORDINATE SET POINT WITH OWNER.
- 3. PROVIDE SIDEWALL EXHAUST FAN AS SCHEDULED, REFER TO ARCHITECTURAL ELEVATIONS FOR INSTALLATION HEIGHT. EXTEND FULL-SIZE EXHAUST DUCTWORK THRU WALL INTO INTERIOR. FAN SHALL OPERATE ON THERMOSTAT.
- 4. PROVIDE SIDEWALL EXHAUST FAN AS SCHEDULED, REFER TO ARCHITECTURAL ELEVATIONS FOR INSTALLATION HEIGHT. EXTEND FULL-SIZE EXHAUST DUCTWORK THRU WALL INTO INTERIOR. PROVIDE GAS DETECTION SYSTEM BY ARMSTRONG MONITORING OR HAWK EQUIPMENT SERVICES. WIRE THERMOSTAT INTO GAS DETECTION CONTROL BOX SO EXHAUST FAN WILL ENGAGE FROM EITHER THE THERMOSTAT SET POINT OR BY DETECTION OF EXCESS CO OR
- 5. PROVIDE SIDEWALL EXHAUST FAN AS SCHEDULED, REFER TO ARCHITECTURAL ELEVATIONS FOR INSTALLATION HEIGHT. EXTEND FULL-SIZE EXHAUST DUCTWORK THRU WALL INTO INTERIOR. FAN SHALL OPERATE CONTINUOUSLY DURING BUSINESS HOURS VIA TIME CLOCK CONTROLS.
- 6. INSTALL UNIT HEATER AT 12'-0" ABOVE FINISH FLOOR, EXTEND FLUE THRU ROOF OR WALL, REFER TO PLUMBING PLANS FOR GAS PIPING.
- 7. VEHICLE EXHAUST SYSTEM FAN, DUCTWORK, AND HOSE DROPS SHALL BE PROVIDED AND INSTALLED ON THIS CONTRACT, COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.
- 8. INSTALL AXIAL FAN WITH DOUBLE ARTICULATING WALL-MOUNT ARM AT 12'-0" ABOVE FINISH FLOOR. ONE WALL SWITCH MAY CONTROL UP TO TWO FANS IN THE SAME ROOM, COORDINATE WITH ELECTRICAL CONTRACTOR. SET AT LOW-SPEED SETTING.
- 9. PROVIDE EXTERIOR LOUVER AT 11'-0" ABOVE FINISH FLOOR. FIELD VERIFY THAT THE INTAKE LOUVER IS MINIMUM 10'-0" HORIZONTALLY AWAY FROM ANY GAS FLUES OR SIDEWALL EXHAUST FANS. PROVIDE MOTORIZED DAMPER TO BE INTERLOCKED WITH EF-1 AND GAS DETECTION SYSTEM OUTPUT CONTROL RELAY, COORDINATE WITH ELECTRICAL CONTRACTOR.
- 10. INSTALL WALL LOUVER AT 14'-0" ABOVE FINISH FLOOR.
- 11. PROVIDE DESTRATIFICATION FAN AS SCHEDULED. SUSPEND FROM STRUCTURE AT 20'-7" ABOVE FINISH FLOOR, VERIFY INSTALLATION HEIGHT WITH OWNER AND OTHER TRADES. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.
- 12. PROVIDE SINGLE-ZONE GAS DETECTION SYSTEM BY ARMSTRONG MONITORING, MODEL AMC-1ADA. COORDINATE LINE VOLTAGE REQUIREMENTS WITH ELECTRICAL CONTRACTOR. INSTALL UNIT AT 4'-6" ABOVE FINISH FLOOR.
- 13. PROVIDE CARBON MONOXIDE (CO) AND NITROGEN DIOXIDE (NO2) LOW-VOLTAGE GAS DETECTION SENSOR BY ARMSTRONG MONITORING, MODEL AMC-1222. INSTALL SENSOR ON WALL AT 4'-6" ABOVE FINISH FLOOR, LOW VOLTAGE WIRING SHALL BE PROTECTED IN METAL CONDUIT. PROVIDE QUANTITIES/SPACING OF CO AND NO2 SENSORS AS RECOMMENDED BY GAS DETECTION SYSTEM MANUFACTURER.
- 14. MECHANICAL CONTRACTOR SHALL PROVIDE AND WIRE CONTROL RELAY AS REQUIRED FOR PURGE EXHAUST FANS (EF-2 AND EF-3) TO ENGAGE AND LOUVER L-10 TO OPEN UPON DETECTION OF HIGH LEVEL OF CARBON MONOXIDE (CO) OR NITROGEN DIOXIDE (NO2) DETECTED IN THE SERVICE BAY OR SAFETY LANE GAS SENSORS OR UPON HIGH SET POINT REACHED IN THERMOSTAT.
- 15. VEHICLE EXHAUST FLEXIBLE DROP WITH SHUT-OFF BLAST GATE.
- 16. PROVIDE INSULATED LINE-SETS BETWEEN INDOOR AND OUTDOOR HEAT PUMP, SIZED PER MANUFACTURER'S INSTRUCTIONS. ROUTE CONDENSATE DRAIN TO MOP SERVICE SINK.
- 17. COORDINATE WITH GENERAL CONTRACTOR TO INSTALL 4" THICK CONCRETE PAD FOR OUTDOOR HEAT PUMP CONDENSERS, INSTALL PER MANUFACTURER'S CLEARANCE
- 18. PROVIDE ENERGY-CODE COMPLIANT COOLING-ONLY THERMOSTAT AT 4'-0" ABOVE FINISH FLOOR ON WALL. EXTEND 24V CONTROL WIRING TO EXHAUST FAN. COORDINATE SET POINTS WITH OWNER.
- 19. PROVIDE EXTERIOR LOUVER AT 1'-0" ABOVE FINISH FLOOR. PROVIDE MOTORIZED DAMPER TO BE INTERLOCKED WITH EF-5. COORDINATE WITH ELECTRICAL CONTRACTOR.
- 20. INSTALL WALL THERMOSTAT AT 4'-0" ABOVE FINISH FLOOR AND EXTEND CONTROL WIRING TO ASSOCIATED INDOOR HEAT PUMP UNIT.
- 21. PROVIDE ELECTRIC REHEAT COIL ON DISCHARGE OF AIR HANDLER. REFER TO HEAT PUMP SCHEDULE FOR SIZING AND CONTROLS REQUIREMENTS. REHEAT COIL IS POWERED SEPARATELY FROM THE AIR HANDLER, COORDINATE WITH ELECTRICAL CONTRACTOR.
- 22. PROVIDE EXTERIOR LOUVER AT 13'-0" ABOVE FINISH FLOOR. PROVIDE MOTORIZED DAMPER TO BE INTERLOCKED WITH ASSOCIATED HEAT PUMP. COORDINATE WITH ELECTRICAL
- 23. PROVIDE EXTERIOR LOUVER AT 13'-0" ABOVE FINISH FLOOR. PROVIDE MOTORIZED DAMPER TO BE INTERLOCKED WITH EF-6. COORDINATE WITH ELECTRICAL CONTRACTOR.
- 24. INSTALL HEAT PUMP AT 8'-0" ABOVE FINISH FLOOR. PROVIDE INSULATED LINE-SETS BETWEEN INDOOR AND OUTDOOR HEAT PUMP, SIZED PER MANUFACTURER'S INSTRUCTIONS. ROUTE CONDENSATE DRAIN TO STAND PIPE, COORDINATE WITH PLUMBING CONTRACTOR.
- 25. INSTALL DUCTWORK FOR OFFICE, TOILET, AND BREAK ROOMS ON THE MEZZANINE FLOOR.
- COORDINATE PENETRATIONS WITH JOIST LOCATIONS AND ADJUST AS NEEDED. 26. COORDINATE EXACT LOCATION OF ECUH-1 WITH DOMESTIC WATER AND FIRE RISERS; ADJUST

# Legend

Description	Quantity	Unit
6" Round Dia	10.56	ft
8" Round Dia	2.98	ft
10" Round Dia	11.82	ft
12" Round Dia	13.38	ft
Duct Rectangular 6x6	3.22	ft
Duct Rectangular 8x8	25.92	ft
Duct Rectangular 12x12	15.52	ft
Duct Rectangular 12x12	18.68	ft
EF-6 Exhaust Fan by Greenheck SQ-95 250CFM	1	Count
Filter Return Box	1	Count
Fittings (Bends, Reducers, Angles, Elbows etc)	23	Count
L-6 Louver 240 by Ruskin ELF6375DX 14x14	1	Count
L-7 Louver 250 by Ruskin ELF6375DX 14x14	1	Count
Rectangular Duct 8x8	9.65	ft
Rectangular Duct 12 x 10	40.79	ft





## GENERAL HVAC NOTES

- A. ALL SUPPLY DIFFUSERS SHALL HAVE INSULATED BLANKET TENTS BY NAILOR INDUSTRIES OR
- B. INSULATED ALL SUPPLY DUCTWORK WITH R-8 INSULATION, INSULATE ALL RETURN DUCTWORK
- C. COORDINATE INSTALLATION OF DUCTWORK, EQUIPMENT, LINE SETS, AND CONDENSATE DRAINAGE PIPING WITH ALL OTHER TRADES TO VERIFY PROPER OPERATING INSTALLATION. ADJUST LOCATIONS AS REQUIRED AND/OR SUBMIT RFI TO ARCHITECT/ENGINEER.

# # MECHANICAL KEY NOTES

- PROVIDE NATURAL GAS INFRARED RADIANT HEATER AS SCHEDULED. SUSPEND FROM STRUCTURE AT 14'-2" ABOVE FINISH FLOOR, VERIFY INSTALLATION HEIGHT WITH OWNER AND OTHER TRADES. REFER TO PLUMBING PLANS FOR GAS PIPING. EXTEND FLUE UP THRU ROOF PER MANUFACTURER'S INSTRUCTIONS.
- PROVIDE ENERGY-CODE COMPLIANT HEATING-ONLY THERMOSTAT AT 4'-0" ABOVE FINISH FLOOR ON BUILDING COLUMN OR WALL. EXTEND 24V CONTROL WIRING TO HEATER. COORDINATE SET POINT WITH OWNER.
- 3. PROVIDE SIDEWALL EXHAUST FAN AS SCHEDULED, REFER TO ARCHITECTURAL ELEVATIONS FOR INSTALLATION HEIGHT. EXTEND FULL—SIZE EXHAUST DUCTWORK THRU WALL INTO INTERIOR. FAN SHALL OPERATE ON THERMOSTAT.
- 4. PROVIDE SIDEWALL EXHAUST FAN AS SCHEDULED, REFER TO ARCHITECTURAL ELEVATIONS FOR INSTALLATION HEIGHT. EXTEND FULL-SIZE EXHAUST DUCTWORK THRU WALL INTO INTERIOR. PROVIDE GAS DETECTION SYSTEM BY ARMSTRONG MONITORING OR HAWK EQUIPMENT SERVICES. WIRE THERMOSTAT INTO GAS DETECTION CONTROL BOX SO EXHAUST FAN WILL ENGAGE FROM EITHER THE THERMOSTAT SET POINT OR BY DETECTION OF EXCESS CO OR
- 5. PROVIDE SIDEWALL EXHAUST FAN AS SCHEDULED, REFER TO ARCHITECTURAL ELEVATIONS FOR INSTALLATION HEIGHT. EXTEND FULL—SIZE EXHAUST DUCTWORK THRU WALL INTO INTERIOR.
- FAN SHALL OPERATE CONTINUOUSLY DURING BUSINESS HOURS VIA TIME CLOCK CONTROLS.

  6. INSTALL UNIT HEATER AT 12'-0" ABOVE FINISH FLOOR, EXTEND FLUE THRU ROOF OR WALL,
- 7. VEHICLE EXHAUST SYSTEM FAN, DUCTWORK, AND HOSE DROPS SHALL BE PROVIDED AND INSTALLED ON THIS CONTRACT, COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.
- 8. INSTALL AXIAL FAN WITH DOUBLE ARTICULATING WALL-MOUNT ARM AT 12'-0" ABOVE FINISH FLOOR. ONE WALL SWITCH MAY CONTROL UP TO TWO FANS IN THE SAME ROOM, COORDINATE WITH ELECTRICAL CONTRACTOR. SET AT LOW-SPEED SETTING.
- 9. PROVIDE EXTERIOR LOUVER AT 11'-0" ABOVE FINISH FLOOR. FIELD VERIFY THAT THE INTAKE LOUVER IS MINIMUM 10'-0" HORIZONTALLY AWAY FROM ANY GAS FLUES OR SIDEWALL EXHAUST FANS. PROVIDE MOTORIZED DAMPER TO BE INTERLOCKED WITH EF-1 AND GAS DETECTION SYSTEM OUTPUT CONTROL RELAY, COORDINATE WITH ELECTRICAL CONTRACTOR.
- 10. INSTALL WALL LOUVER AT 14'-0" ABOVE FINISH FLOOR.

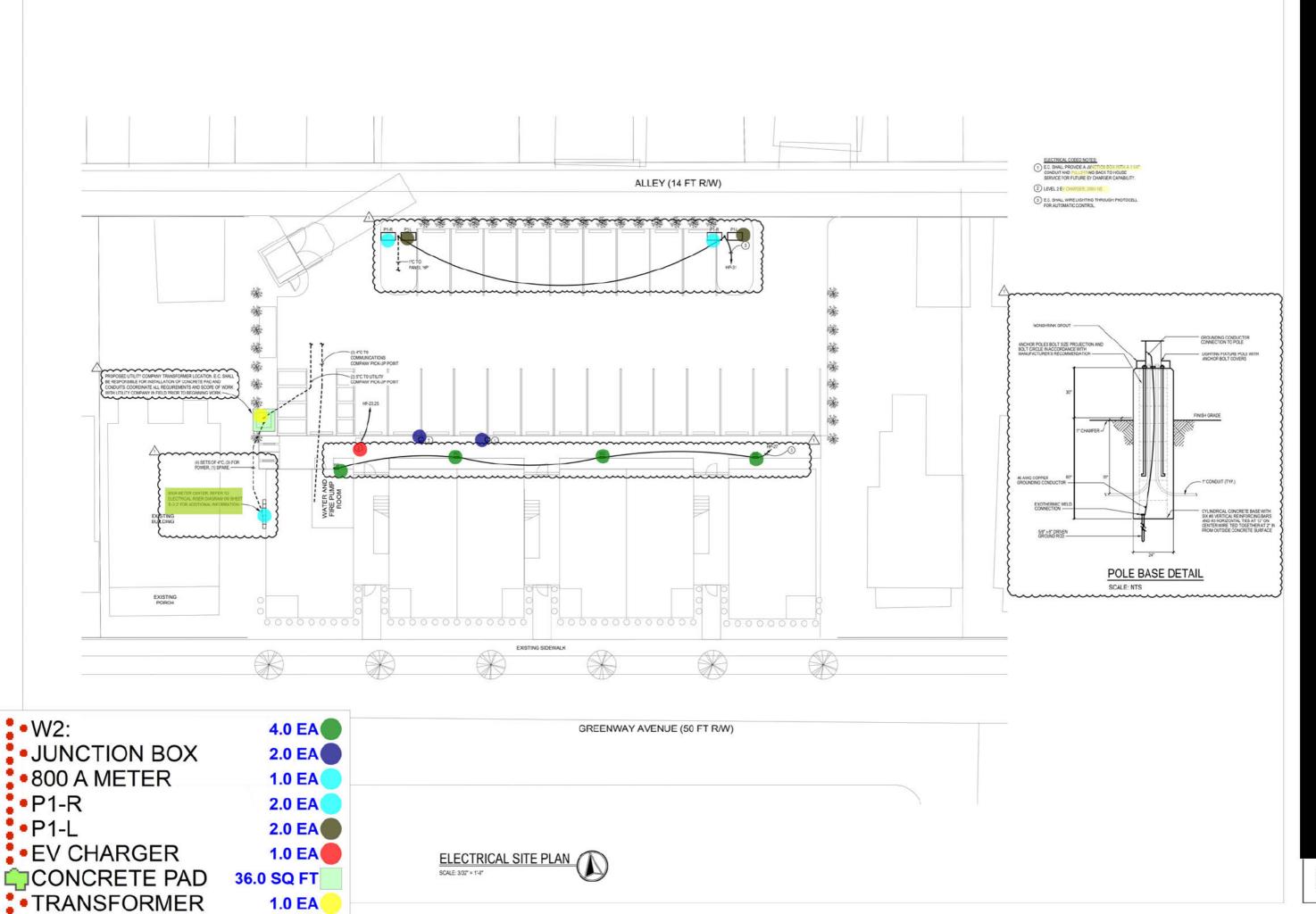
REFER TO PLUMBING PLANS FOR GAS PIPING.

- 11. PROVIDE DESTRATIFICATION FAN AS SCHEDULED. SUSPEND FROM STRUCTURE AT 20'-7" ABOVE FINISH FLOOR, VERIFY INSTALLATION HEIGHT WITH OWNER AND OTHER TRADES. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.
- 12. PROVIDE SINGLE-ZONE GAS DETECTION SYSTEM BY ARMSTRONG MONITORING, MODEL AMC-1ADA. COORDINATE LINE VOLTAGE REQUIREMENTS WITH ELECTRICAL CONTRACTOR. INSTALL UNIT AT 4'-6" ABOVE FINISH FLOOR.
- 13. PROVIDE CARBON MONOXIDE (CO) AND NITROGEN DIOXIDE (NO<sub>2</sub>) LOW-VOLTAGE GAS DETECTION SENSOR BY ARMSTRONG MONITORING, MODEL AMC-1222. INSTALL SENSOR ON WALL AT 4'-6" ABOVE FINISH FLOOR, LOW VOLTAGE WIRING SHALL BE PROTECTED IN METAL CONDUIT. PROVIDE QUANTITIES/SPACING OF CO AND NO2 SENSORS AS RECOMMENDED BY GAS DETECTION SYSTEM MANUFACTURER.
- 14. MECHANICAL CONTRACTOR SHALL PROVIDE AND WIRE CONTROL RELAY AS REQUIRED FOR PURGE EXHAUST FANS (EF−2 AND EF−3) TO ENGAGE AND LOUVER L−10 TO OPEN UPON DETECTION OF HIGH LEVEL OF CARBON MONOXIDE (CO) OR NITROGEN DIOXIDE (NO₂) DETECTED IN THE SERVICE BAY OR SAFETY LANE GAS SENSORS OR UPON HIGH SET POINT REACHED IN THERMOSTAT.
- 15. VEHICLE EXHAUST FLEXIBLE DROP WITH SHUT-OFF BLAST GATE.

CONTRACTOR.

- 16. PROVIDE INSULATED LINE-SETS BETWEEN INDOOR AND OUTDOOR HEAT PUMP, SIZED PER MANUFACTURER'S INSTRUCTIONS. ROUTE CONDENSATE DRAIN TO MOP SERVICE SINK.
- 17. COORDINATE WITH GENERAL CONTRACTOR TO INSTALL 4" THICK CONCRETE PAD FOR OUTDOOR HEAT PUMP CONDENSERS, INSTALL PER MANUFACTURER'S CLEARANCE REQUIREMENTS.
- 18. PROVIDE ENERGY-CODE COMPLIANT COOLING-ONLY THERMOSTAT AT 4'-0" ABOVE FINISH FLOOR ON WALL. EXTEND 24V CONTROL WIRING TO EXHAUST FAN. COORDINATE SET POINTS WITH OWNER.
- 19. PROVIDE EXTERIOR LOUVER AT 1'-0" ABOVE FINISH FLOOR. PROVIDE MOTORIZED DAMPER TO BE INTERLOCKED WITH EF-5. COORDINATE WITH ELECTRICAL CONTRACTOR.
- 20. INSTALL WALL THERMOSTAT AT 4'-0" ABOVE FINISH FLOOR AND EXTEND CONTROL WIRING TO ASSOCIATED INDOOR HEAT PUMP UNIT.
- 21. PROVIDE ELECTRIC REHEAT COIL ON DISCHARGE OF AIR HANDLER. REFER TO HEAT PUMP SCHEDULE FOR SIZING AND CONTROLS REQUIREMENTS. REHEAT COIL IS POWERED SEPARATELY FROM THE AIR HANDLER, COORDINATE WITH ELECTRICAL CONTRACTOR.
- 22. PROVIDE EXTERIOR LOUVER AT 13'-0" ABOVE FINISH FLOOR. PROVIDE MOTORIZED DAMPER TO BE INTERLOCKED WITH ASSOCIATED HEAT PUMP. COORDINATE WITH ELECTRICAL
- 23. PROVIDE EXTERIOR LOUVER AT 13'-0" ABOVE FINISH FLOOR. PROVIDE MOTORIZED DAMPER TO BE INTERLOCKED WITH EF-6. COORDINATE WITH ELECTRICAL CONTRACTOR.
- 24. INSTALL HEAT PUMP AT 8'-0" ABOVE FINISH FLOOR. PROVIDE INSULATED LINE-SETS BETWEEN INDOOR AND OUTDOOR HEAT PUMP, SIZED PER MANUFACTURER'S INSTRUCTIONS. ROUTE CONDENSATE DRAIN TO STAND PIPE, COORDINATE WITH PLUMBING CONTRACTOR.
- 25. INSTALL DUCTWORK FOR OFFICE, TOILET, AND BREAK ROOMS ON THE MEZZANINE FLOOR. COORDINATE PENETRATIONS WITH JOIST LOCATIONS AND ADJUST AS NEEDED.
- 26. COORDINATE EXACT LOCATION OF ECUH-1 WITH DOMESTIC WATER AND FIRE RISERS; ADJUST LOCATION AS REQUIRED FOR OTHER TRADES TO INSTALL THEIR RISERS.

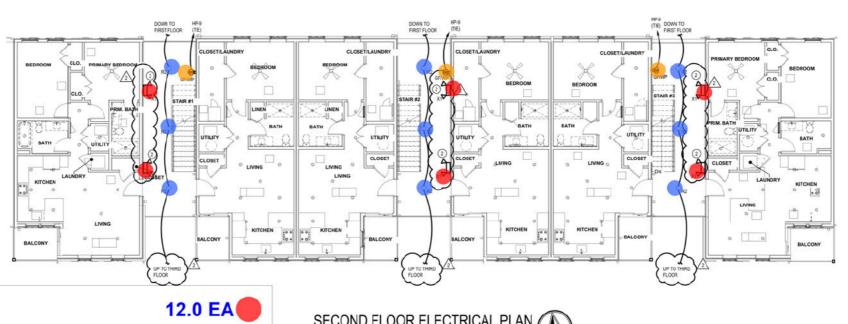
# Legend # MECHANICAL KEY NOTES Quantity Unit Description 1. INSTALL AXIAL FAN WITH DOUBLE ARTICULATING WALL-MOUNT ARM AT 12'-0" ABOVE FINISH FLOOR. BOTH FANS SHALL BE CONTROLLED BY A SINGLE WALL SWITCH, COORDINATE WITH ELECTRICAL CONTRACTOR. SET AT LOW SPEED SETTING. AF-5 Axial Fan 4100/6100 CFM by Greenheck MAC-24-323-B3-J1 2. PROVIDE EXTERIOR LOUVER AT 2'-0" ABOVE FINISH FLOOR. PROVIDE MOTORIZED DAMPER TO BE INTERLOCKED WITH ASSOCIATED EXHAUST FAN. COORDINATE WITH ELECTRICAL CONTRACTOR. Count 3. INSTALL UNIT HEATER AT 12'-0" ABOVE FINISH FLOOR, EXTEND FLUE THRU WALL WITH WALL AF-6 Axial Fan 4100/6100 CFM by Greenheck MAC-24-323-B3-J1 Count INSTALLATION HEIGHT. EXTEND FULL-SIZE EXHAUST DUCTWORK THRU WALL INTO INTERIOR. Concentric Vent-Through Roof Kit Count EF-7 Exhaust Fan by Greenheck CUBE-200 3000CFM Count 6. INSTALL THERMOSTAT AT 4'-0" ABOVE FINISH FLOOR. 7. INSTALL UNIT HEATER AT 16'-0" ABOVE FINISH FLOOR, EXTEND FLUE THRU WALL WITH WALL HOOD RAIN CAP. EF-8 Exhaust Fan by Greenheck CUBE-200 3000CFM Count GUH-5 Gas Unit Heater 200 MBH 3200 CFM by Trane GHNE-200 Count GUH-6 Gas Unit Heater 200 MBH 3200 CFM by Trane GHNE-200 Count GUH-7 Gas Unit Heater 200 MBH 3200 CFM by Trane GHNE-200 Count GUH-8 Gas Unit Heater 200 MBH 3200 CFM by Trane GHNE-200 Count L-8 Louver 3000 by Ruskin ELF6375DX 25x48 Count L-9 Louver 3000 by Ruskin ELF6375DX 25x48 Count Thermostat Count <u>DETAILING BAY</u> 201 <u>EQUIPMENT BAY</u> 202



# WATER ROOM

- ELECTRICAL CODED NOTES:

  (1) E.C. SHALL WIRE THROUGH PHOTOCELL.
- ② E.C. SHALL WIRE EMERGENCY LIGHTING AHEAD OF ANY SWITCHING OR AUTOMATIC CONTROLS.



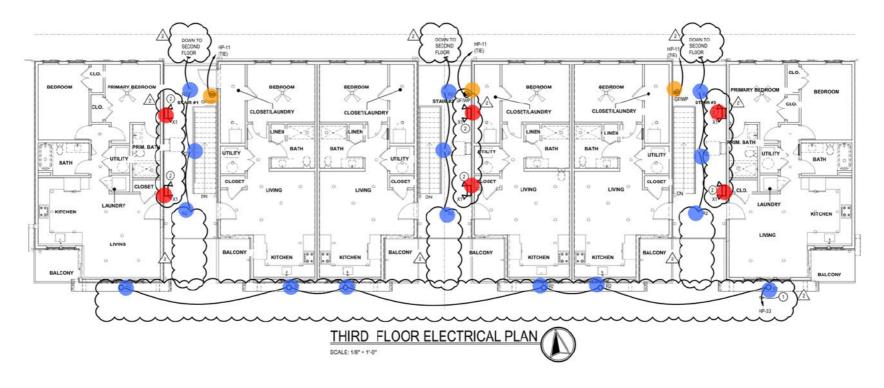


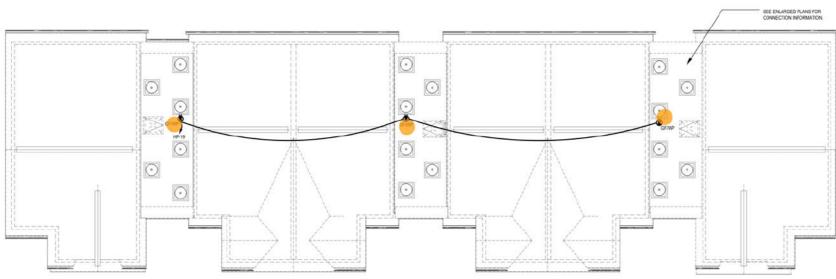
18.0 EA

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NOTE: E.C. SHALL FURNISH AND INSTALL A SURGE-PROTECTIVE DEVICE FOR EACH UNIT FANEL. TO SATISFY THE REQUIREMENTS OF NEC 215.18(A).

USE FIRE RATED OUTLET BOX IN FIRE RATED WALLS OR STANDARD STEE OUTLET BOXES NOT GREATER THAN 16" IN AREA AND SEPARATE B 24" HORIZONTALLY IF LOCATED OPPOSITE ANOTHER DEVICE IN THIS WALL.

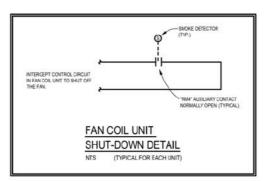
NOTE

NEC (06.12(1) TAMPER-RESISTANT RECEPTACLES IN ALL AREAS OF DWELLING SPECIFIED 210.52, ALL NON-LOCKING-TYPE 125 VOLT, 15 AND 20 AMP RECEPTACLES SHALL BE

NEC 406.12, FECEPTACLES IN THE FOLLOWING LOCATIONS SHALL NOT BETAMPER-RESISTATIVE
1) RECEPTACLES LOCATED NORE THAN 5-12 FEET ABOVE THE FLOOR.

2) RECEPTAGLES THAT ARE PART OF A LUMINAIRE OR APPLIANCE.

 A SINGLE RECEPTACLE OR DUPLEX RECEPTACLE FOR TWO APPLIANCES LOCATED WITHIN DEDICATED SPACE FOR EACH APPLIANCE THAT, IN NORMAL USE, IS NOT EASILY MOVE

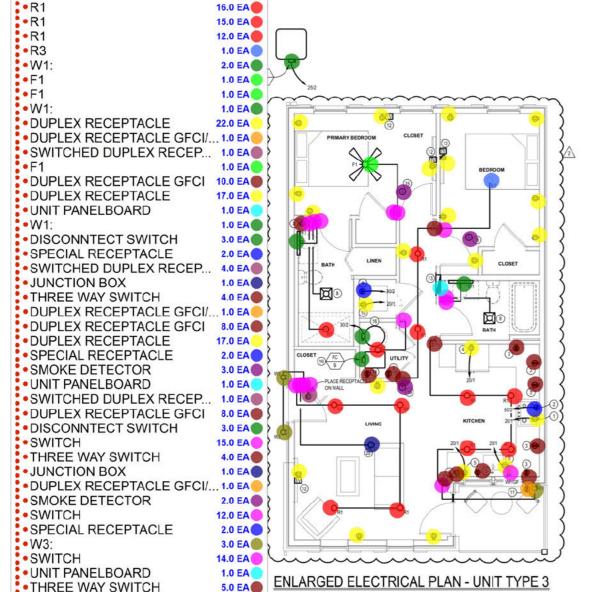


#### ELECTRICAL CODED NOTES:

- (1) MICROWAVE, 120V, ON COUNTER OR IN MILLWORK VERIFY EXACT LOCATION AND MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS PRIOR TO INSTALLATION.
- (2) ELECTRIC RANGE, 208V, 1PH, RUN 2 #6COPPER AND #10 GRD, (OR 2 # 4 ALUMINUM AND #10 GRD.)FROM A 50A-2P RANGE OUTLET.
- ① DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT PROTECTION PER NATIONAL ELECTRIC CODE. MOUNT @ 44" A.F.F. OR AT HEIGHT AS NOTED.
- (4) REFRIGERATOR, 120 VOLT, @ 60" A.F.F. RUN 2 #12 & #12 GRD FROM DUPLEX RECEPTACLE TO A 20A-19 GROUND FAULT CIRCUIT BREAKER
- (5) DISHWASHER, 120V. 1PH. PROVIDE DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT PROTECTION PER NATIONAL ELECTRIC CODE.
- (6) DISPOSAL, 120V, 1PH. PROVIDE GFCI RECEPTACLE BELOW SINK CONTROLLED BY SWITCH.
- VERIFY EXACT LOCATION OF SWITCH. INSTALL PER NEC 422.16(B).

  (7) HEAT PUMP CONDENSING UNIT (HP-B, LOCATED ON ROOF), 208V 1/0. RUN 2#10 & #10 GRD FROM A 30A-29 WP DISCONNECT SWITCH AT UNIT (BY E.C.) TO A 25A-2P BREAKER IN APARTMENT PANEL, MAKE ALL FINAL CONNECTIONS.
- (8) EXHAUST FAN CEILING MOUNTED, 18W 120V. CONTROLLED BY LIGHT SWITCH.
- (9) DRYER, 5.0 KW, 208 VOLT, 1 PHASE. RUN 2#10 & 1#10 GRD TO A 30A-2P BREAKER. FURNISH AND INSTALL NEMA 10-30R RECEPTACLE. VERIFY MOUNTING HEIGHT.
- (ii) WASHER, 120 VOLT, 1 PHASE. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A GF.C.I. DUPLEX QU'ILLET ON A SEPARATE 20A-1P CRCUIT.
- (1) EXTERIOR GFCI RECEPTACLE WITH WEATHERPROOF WHILE-IN-USE CLEAR COVER. MOUNT @ 24" ABOVE FINISHED GROUND OR AS NOTED.
- (2) THE ELECTRICAL CONTRACTOR SHALL PROVIDE A SEPARATE LINE ITEM PRICE (ALTERNATE OF TO FURNISH AND INSTALL ALL NECESSARY CARLE TV SERVICE ENTRANCE CONDUITS INTO BUILDING AND THROUGH FRE PARTITION WALLS AFTER CABLE INSTALLATION. CABLE SYSTEM SHALL BE PREVINED BY THE CABLE TV COMPANY OR THE ELECTRICAL CONTRACTOR (SYSTEM INSTALLATION IS THE RESPONSIBILITY OF THE ELECTRICAL
- CONTRACTOR REGARDLESS OF WHO INSTALLS THE SYSTEM, FULLY COORDINATE THE INSTALLATION WITH THE CABLE TV COMPANY. AS PART OF THE BASE BID, PROVIDE A 12' EMT CONDUIT WIPULL STRING FROM TV BOXUP INWALL TO OTHER FLOORS. E.C. TO VERIFY EXACT MOUNTING HEIGHT OF TV & ASSOCIATED RECEPTACLE.

- UNIT PANELBOARD, RECESSED. PROVIDE CIRCUIT DIRECTORY. VERFY EXACT LOCATION, PROVIDE ALL REQUIRED CLEARANCES. SEE ELECTRICAL RISER FOR ADDITIONAL INFORMATION.
- (4) DEMARK LOCATION FOR STRUCTURED MEDIA CENTER ENCLOSURE. LOW VOLTAGE HOMERUN FROM PICK UP POINT TO BE RAN UNDER SLAB IN SLEEVES TO UNIT. PROVIDE GFCI RECEPTACLE (87-07 VERIFY EXACT LOCATION AND MOUNTING HEIGHT IN FIELD PROVIDE CATE CABLE TO TELEPHONE OUTLET AND COAX TO TV OUTLETS FROM THIS LOCATION. COORDINATE ALL WORK WILCOWVOLTAGE CONTRACTOR.
- CEILING MOUNTED SINGLEMULTIPLE STATION SMOKE DETECTOR, DUAL SENSING TECHNOLOGY (PHOTOELECTRIC AND IONIZATION) KIDDE MODEL P1210, 130 VOLT WITH EATTER PACK-UP, PURINSHED AND INSTALLED BY ELECTRICAL CONTRACTOR. DIRECT WIRE DETECTORS TO THE LIGHTING ORCUIT IN THE ROOM WHERE IT IS LOCATED. INTERWIRE DETECTORS OF THAT ACTIVATION OF ONE DEVICE WILL ACTUATE ALL OTHER ALARMS WITHIN THE INDIVIDUAL UNIT. WIRING SYSTEMS AND POWER SOURCES SHALL COMPLY WITH STATE AND LOCAL CODE AND FOLLOW MANUFACTURERS RECOMMENDATIONS. INSTALL A MINIMUM OF 10 FROM ANY COOKING APPLIANCE
- (B) ELECTRC WATER HEATER (2) 4500W (NON-SIMULTANEOUS) ELEMENTS, 208V, 10. RUN 2 #10 AND #10 GRD. FROM A 30A'2P DISCONNECT TO A 30A'2P BREAKER. MAKE ALL FINAL CONNECTIONS.
- (7) FAN COL INDOOR UNIT WITH AUXILIARY HEAT (FC-A), 5.0 KW, 208V, 10. RUN 2 #10 AND #10 GRD. FROM AN INTEGRAL DISCONNECT SWITCH AT UNIT TO A 30A-2P BREAKER. MAKE ALL FINAL CONNECTIONS. PROVIDE SHUTDOWN WIRINS PER FAN COIL UNIT SHUT DOWN DETAIL ON THIS SHEFT.
- (3) HEAT PUMP CONDENSING UNIT (HP-A, LOCATED ON ROOF), 208V 10. RUN 2#12 &#12 GRD FROM A 30A-29 WP DISCONNECT SWITCH AT UNIT (BY E.C.) TO A 20A-29 BREAKER IN APARTMENT FANEL MAKE ALL FINAL CONNECTIONS.
- (B) FAN COIL INDOOR UNIT WITH AUXILIARY HEAT (FC-8), 5.0 KW, 208V, 10. RUN 2 #10 AND #10 GRD. FROM AN INTEGRAL DISCONNECT SWITCH AT UNIT TO A 30A-2P BREAKER. MAKE ALL FINAL CONNECTIONS. PROVIDE SHUTDOWN WIRINS PER FAN COIL UNIT SHUT DOWN DETAIL ON THIS SHEET.
- D. E.C. SHALL PROVIDE 120V-1P JUNCTION BOX FOR FUTURE RATED CELLING FAN. PROVIDE SWITCHFOR CEILING FANLIGHT COMBO (PROVIDE 2 SWITCHES IN ADA UNIT, ONE FOR FAN SPEED & 1 FOR FANLIGHT.



3.0 EA

6.0 EA

1.0 EA

1.0 EA

2.0 EA

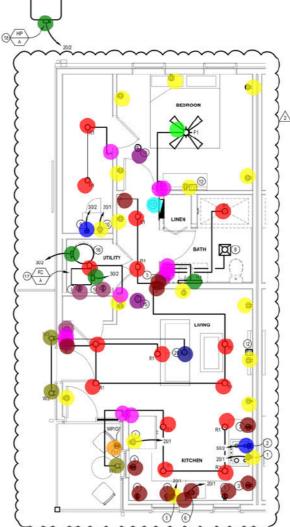
• W3:

•W3:

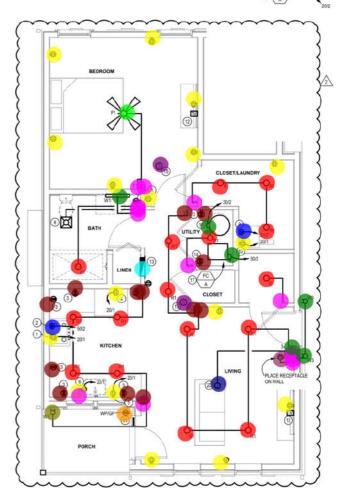
DISCONNTECT SWITCH

JUNCTION BOX

SMOKE DETECTOR



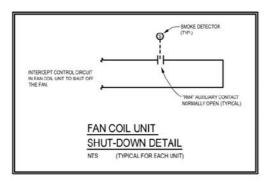




ENLARGED ELECTRICAL PLAN - UNIT TYPE 1- 'ACCESSIBLE'

USE FIRE RATED OUTLET BOX IN FIRE RATED WALLS OR STANDARD STEEL OUTLET BOXES NOT GREATER THAN 15' IN AREA AND SEPARATE B 24' HORIZONTALLY IF LOCATED OPPOSITE ANOTHER DEVICE IN THIS WALL. NOTE: EC. SHALL FURNISH AND INSTALL A SURGE-PROTECTIVE DEVICE FOR EACH UNIT PANEL TD SATISFY THE REQUIREMENTS OF NEC 215.18(A).

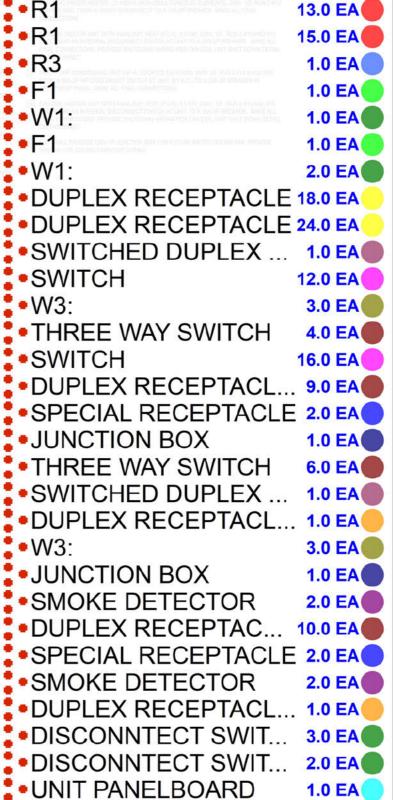
NEC 406.12, PECEPTACLES IN THE FOLLOWING LOCATIONS SHALL NOT BETAMPER-RESIS EPTACLES LOCATED NORE THAN 5-12 FEET ABOVE THE FLOOR.

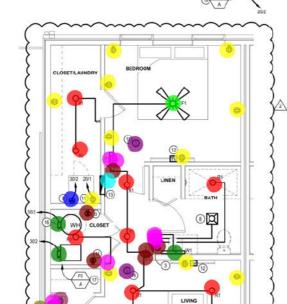


### ELECTRICAL CODED NOTES:

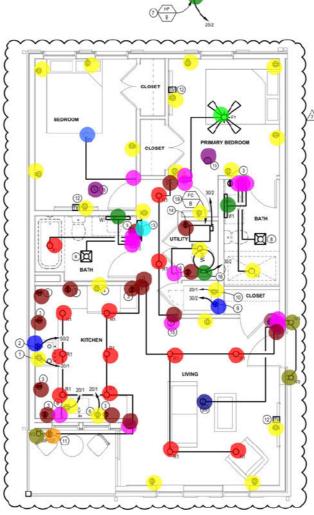
- MICROWAVE, 120V, ON COUNTER OR IN MILLWORK, VERIFY EXACT LOCATION AND MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS PRIOR TO INSTALLATION.
- DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT PROTECTION PER NATIONAL ELECTRIC CCDE. MOUNT @ 44" A.F.F. OR AT HEIGHT AS NOTED.
- (1) REFRIGERATOR, 120 VOLT, @ 60" A.F.F. RUN 2 #12 &#12 GRD FROM DUPLEX RECEPTACLE TO A 20A-1P GROUND FAULT CIRCUIT BREAKER.
- (3) DISHWASHER, 120V, 1PH. PROVIDE DUPLEX RECEPTACLE WITH GROUND FAULT CROUIT PROTECTION PER NATIONAL ELECTRIC CODE.
- DISPOSAL, 120V, 1PH. PROVIDE GFCI RECEPTACLE BELOW SINK CONTROLLED BY SWITCH. VERIFY EXACT LOCATION OF SWITCH. INSTALL PER NEC 422.16(3).
- THEAT PUMP CONDENSING UNIT (HP-B, LOCATED ON ROOF), 208V 1Ø. RUN 2 #10 & #10 G FROM A 30A-2P WP DISCONNECT SWITCH AT UNIT (BY E.C.) TO A 25A-2P BREA APARTMENT PANEL. MAKE ALL FINAL CONNECTIONS.
- (8) EXHAUST FAN CEILING MOUNTED, 18W 120V. CONTROLLED BY LIGHT SWITCH
- G.F.C.I. DUPLEX OUTLET ON A SEPARATE 20A-1P CIRCUIT.
- (1) EXTERIOR GFCI RECEPTACLE WITH WEATHERPROOF WHILE-IN-USE CLEAR COVER. MC
- INTO BUILDING AND THROUGH FIRE PARTITION WALLS AFTER CABLE INSTALLATION. C SYSTEM SHALL BE PREWIRED BY THE CABLE TV COMPANY OR THE ELECTRICAL CONTRACTOR. (SYSTEM INSTALLATION IS THE RESPONSBILITY OF THE ELECTRICAL CONTRACTOR REGARDLESS OF WHO INSTALLS THE SYSTEM). FULLY COORDINATE TH INSTALLATION WITH THE CABLE TV COMPANY. AS PART OF THE BASE BID, PROVICE A 1 EMT CONDUIT WIPULL STRING FROM TV BOX UP IN WALL TO OTHER FLOORS. E.C. TO V EXACT MOUNTING HEIGHT OF TV & ASSOCIATED RECEPTACLE.

- (1) UNIT PANELBOARD, RECESSED. PROVIDE CIRCUIT DIRECTORY, VERIFY EXACT LOCATION, PROVIDE ALL REQUIRED CLEARANCES. SEE ELECTRICAL RISER FOR ADDITIONAL
- (1) DEMARKLOCATION FOR STRUCTURED MEDIA CENTER ENCLOSURE, PROVIDE GFCI RECEPTACLE (8)\*-07. VERIFY EXACT LOCATION AND MOUNTING HEIGHT IN FIELD, PROVID CATE CASE TO TELEPHONE OUTLET AND COAX TO TO UNITETS FROM THIS LOCATION. CCORDINATE ALL WORK WILLOW YOLTAGE CONTRACTOR.
- (15) CELING MOUNTED SINGLEMULTIPLE STATION SMCKE DETECTOR, DUAL SENSING TECHNOLOGY (PHOTOELECTRIC AND IONIZATION) KIDDE MODEL P12010, 120 VOLT WITH BATTERY BACK-UP, FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. DIRECT WIRE DETECTORS TO THE LIGHTING CIRCUIT IN THE ROOM WHERE IT IS LOCATED. INTERWIRE DETECTORS SO THAT ACTIVATION OF ONE DEVICE WILL ACTUATE ALL OTHER ALARMS WITHIN THE INDIVIDUAL UNIT. WIRING SYSTEMS AND POWER SOURCES SHALL COMPLY WITH STATE AND LOCAL CODE AND FOLLOW MANUFACTURER'S RECOMMENDATIONS. INSTALL A MINIMUM OF 10' FROM ANY COOKING APPLIANCE



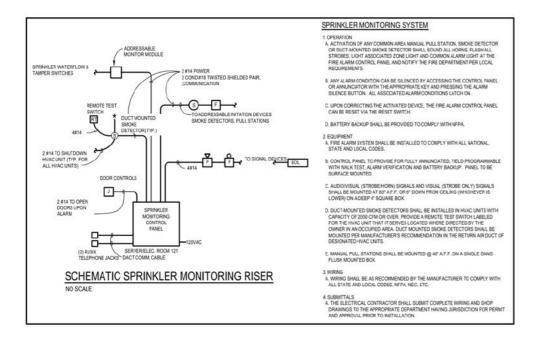


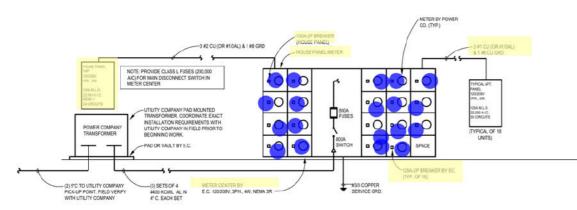
**ENLARGED ELECTRICAL PLAN - UNIT TYPE 5** 

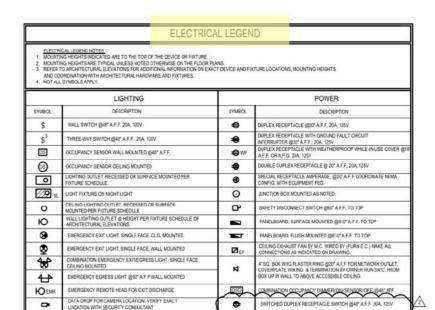


1.0 EA UNIT PANELBOARD 1.0 EA

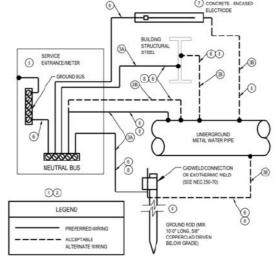
#### SPRINKLER MONITORING LEGEND EIRE ALARM LEGEND NOTES: MOUNTING HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE OR FIXTURE. 2. MOUNTING HEIGHTS ARE TYPICAL UNLESS NOTED OTHERWISE ON THE FLOOR PLANS. REFER TO ARCHITECTURAL ELEVATIONS FOR ADDITIONAL INFORMATION ON EXACT DEVICE AND FISTURE LOCATIONS MOUNTING HEIGHTS AND COORDINATION WITH ARCHITECTURAL HARDWARE AND FIXTURES. DESCRIPTION DESCRIPTION RE ALARM CONTROL PANEL (86-0" TO TOP IRE ALARM SYSTEM MANUAL PULL STATION @48" A.F.F. FACP ED ANN RE ALARM SYSTEM PHOTOELECTRIC SMOKE DETECTOR WITH 108E, DUCT MOUNTED, ADDRESSABLE ₽d (3) RT RE SUPPRESSION SYSTEM WATERFLOW SWITCH FURN. AND ISTALLED BY FIRE PROTECTION CONTRACTOR, WIRED BY LECTRICAL CONTRACTOR, PROVIDE ADDRESSABLE MONITOR RE SUPPRESSION SYSTEM TAMPER SWITCH FURN, AND INSTAL FIRE PROTECTION CONTRACTOR, WRED BY ELECTRICAL INTRACTOR, PROVIDE ADDRESSABLE MONITOR MODULE T W FIRE ALARM SYSTEM HEAT SENSOR CEILING MOUNTED, 0







MARK	DESCRIPTION	VOLT	LAMP	MOUNT	MANUFACTURER
P1-L	EXTERIOR LED POLE LIGHT - LEFT CUTOFF	120	51W LED 5348 LUM 3000K	SUM SURFACE	LITHONIA LIGHTING DSX1-LED-P1-30K-70CRI-LCCO-MVOLT-DDBXD MOUNTED TO 12-0" POLE W/30" POLE BASE
P1-R	EXTERIOR LED POLE LIGHT - RIGHT CUTOFF	120	51W LED 5348 LUM 3000K	SURFACE	LITHONIA LIGHTING DSX1-LED-P1-30K-70CRI-ROCO-MIVOLT-DDBXD MOUNTED TO 12-0" POLE W/30" POLE BASE
R1	4° DIAMÈTER SUM SURFACE DOWNLIGHT WITH WHITE TRIM	120	10W LED 600 LUM 3000K	SUM SURFACE	HALO SMD4R-6-930-WH-DM PROVIDE WITH STEEL, FIRE RATED JUNCTION BOX
R2	12" DIAMETER EXTERIOR SURFACE DOWNLIGHT	120	16.6W LED 1077 LUM	SURFACE	LITHONIA OLCFM-15-DDB
R3	14.5° DIAMETER SURFACE MOUNTED	120	29W LED 1200 LUM 3000K	CELING SURFACE	LUMENCIA LLDC718D-MCT-SN-ORB-PDA
W1	24" LINEAR VANTY FIXTURE FROSTED LENS BLACK FINISH	120	36W LED 1942 LUM 3000K	WALL MOUNTED	PROGRESS LIGHTING P300150-031-30
W2	FORWARD THROW MEDIUM OPTIC	120	54V LED 5637 LUM 3000K	WALL MOUNTED	LITHONIA LIGHTING DSXW2 LED 30C 530 30K TFTM MVOLT
W3	EXTERIOR LED IVALL SCONCE	120	LED LUM 4000K	WALL MOUNTED	LITHONIA LIGHTING LDN6CYL-30K7-LO6-AR-LSS-MVOLT-GZ10-WM- WL-DBL
F1	64" 3 BLADE CELING FAN BLACK FINISH WITH WALL SWITCH & REVERSE SWITCHING	120	11W LED 1600 LUM 3000K	CELING MOUNT	FANINATION #FP0#7218BL64BL-LK-F W/ WALL CONTROL C21
S1	I' STRIP	120	LED SET TO 8000LM. 4000K	WALL MOUNT	LITHONIA #CSSL96 AL04 MVOLT SWW3 80CRI
X1	2-HEAD EMERGENCY FIXTURE	120	LED FURN	CELING MOUNT	LITHONIA #EU2C M7



#### CODED NOTES:

- ALL GROUNDING AND BONDING MUST COMPLY WITH NEC ARTICLE 250 AND/ OR LOCAL ORDINANCES.
- USE NEC TABLE 250-68 TO SIZE BONDING CONDUCTORS/JUMPERS, BONDING JUMPERS MUST BE INSTALLED IN ACCORDANCE WITH NEC ARTICLE 250-68.
- (3A) BOND GROUND ROD, METAL WATER PIPE, BUILDING STEEL OR METAL (WHERE EFFECTIVELY RODUNDED) AND CONCRETE-ENCASED ELECTRODE SIESE CODED
  NOTE 1). CONNECTION TO METAL WATER PIPE SHALL BE MADE WITHIN 5 FEET OF
  POINT OF ENTRANCE OF PIPE PER NEC 250.52 (A) (1).
- (B) ALTERNATE BONDING SCHEME: BOND GROUND ROD, BUILDING STEEL OR INETAL (MINERE EFFECTMEL VARIABLED) AND CONCRETE BENCASED ELECTRODE (SEE CODED NOTE) TO MOTEN, MITTER PIPE CONDECTIONS TO METAL MAYER PIPE SHALL SE MADE WITHIN 5 FEET OF POINT OF ENTRANCE OF PIPE PER NEC 250.52 (A) (1).
- 4 LOCATE GROUND ROD OUTSIDE BUILDING WILL NEAR SERVICE ENTRANCE IF MEASURED RESINANCE BETWEEN GROUND ROD AND EARTH IS ZEOMAS OR LESS, A SINGLE GROUND ROD SE REQUIRED. IT MEASURED RESISTANCE IS GREATER THAN 25 OMNS, INSTALL SHIPPLEMENTIAL ELECTRODIC, NOT LESS THAN 6-12 FARRY FROM DROWN. GROUND ROD, FRE RES 205.53(2) (2) TO
- (5) PROTECT GROUNDING AND BONDING CONDUCTORS WHERE THEY PENETRATE CONCRETE FOUNDATIONS.
- 6 SIZE CONDUCTOR PER NEC TABLE 250.66 AND NEC ARTICLE 250.66.
- CONCRETE-ENCASEDELECTRODE ENCASED WITHIN AT LEAST 2 NOHES OF CONCRETE, LOCATED WITHIN AND NAME THE BOTTOM OF A CONCRETE FOUNDATION OR FOOTING IN DIRECT CONTACT WITH THE EARTH, NINMUM 20 FOOT LENGTH OF ELECTRICALLY CONDUCTIVE MATERIAL. SEE NEC.250.52 (A) (3).
- (8) SEE ELECTRICAL RISER FOR MINIMUM SIZE AWG COPPER PER NEC 250.52 (A) (3).

284.59 GROUNDING ELECTRODE SYSTEM: ALL GROUNDING ELECTROGES AS DESCRIBED IN 305 SSIAN; IN THROUGH (M/C) THAT ARE PRESENT IT EACH BULLING OR STRUCTURE SERVES SHALL BE BOUNDED TOCETHER TO FORM THE GROUNDING ELECTRODE SYSTEM WHERE NAME OF THESE GROUNDING ELECTRODES SYSTEM, ONE OR MATE OF THE GROUNDING ELECTRODES SHOPED IN 205 SIA(4). SERVICE ENTRANCE GROUNDING DETAIL

BUILDING METER CENTER BUILDING