MECHANICAL LEGEND

- 20x12 SA — DUCT SIZE & SYSTEM ABBREVIATION; FIRST FIGURE IS DIMENSION SHOWN ON PLAN
- DUCT SECTION, POSITIVE PRESSURE
- DUCT SECTION, NEGATIVE PRESSURE
- NEW DUCTWORK
- FLEXIBLE DUCTWORK
- DUCT TRANSITION
- RECT. TO ROUND TRANSITION
- BRANCH DUCTWORK
- TURNING VANES
- CEILING DIFFUSER - SUPPLY
- CEILING DIFFUSER - RETURN
- CEILING DIFFUSER - EXHAUST
- CEILING DIFFUSER - ROUND
- LINEAR SLOT DIFFUSER (DOUBLE SLOT)
- LOUVER AND SCREEN
- FIRE DAMPER, PROVIDE ACCESS DOOR
- VOLUME DAMPER
- BD — BACKDRAFT DAMPER
- SUPPLY/INTAKE AIRFLOW DIRECTION
- EXHAUST AIRFLOW DIRECTION
- GRILLE OR REGISTER, SIDEWALL
- PIPE CAP
- PIPE CONNECTION, BOTTOM
- PIPE CONNECTION, TOP
- PIPE ELBOW, TURNED UP
- PIPE ELBOW, TURNED DOWN
- PIPE TEE
- ANCHOR, INTERMEDIATE
- BUTTERFLY VALVE
- GATE VALVE
- BALL VALVE
- CHECK VALVE
- STRAINER VALVE
- THREE-WAY CONTROL VALVE
- TWO-WAY CONTROL VALVE
- PRESSURE GAUGE
- -U- — DOOR UNDERCUT
- Ø — DIAMETER

- MANUAL AIR VENT
- AUTOMATIC AIR VENT
- PUMP (SCHEMATIC)
- T — THERMOSTAT
- CO_2 — CARBON DIOXIDE SENSOR
- CO — CARBON MONOXIDE SENSOR
- M — MOTORIZED DAMPER
- A — PNEUMATIC DAMPER
- S — EMERGENCY SHUTDOWN SWITCH
- DP — DIFFERENTIAL PRESSURE SENSOR
- SD — DUCT SMOKE DETECTOR
- M — MASTER EMERGENCY SHUTDOWN SWITCH
- H — HUMIDISTAT
- HVAC - # — EQUIPMENT TAG
- BOD: 4' - 7" — BOTTOM OF DUCT ELEVATION TAG
- POINT OF DISCONNECTION
- POINT OF CONNECTION
- # — KEYED NOTE
- CD-A | W X H | ### — AIR TERMINAL AND AIRFLOW TAG
  - AIR QUANTITY DELIVERED BY DEVICE IN CFM
  - AIR TERMINAL NECK SIZE (IN.)
  - AIR TERMINAL MARK AS INDICATED IN SCHEDULE

OR

- SAD-# / ### CFM — AIR TERMINAL MARK AS INDICATED IN SCHEDULE; AIR QUANTITY DELIVERED BY DEVICE
- AREA OUT OF SCOPE
- AREA OF DEMOLITION

NOTES:

1. THIS LEGEND IS FOR REFERENCE ONLY.
2. ALL SYMBOLS WITHIN THIS LEGEND MAY NOT APPLY TO THIS PROJECT.

MECHANICAL ABBREVIATIONS

(D)	DEMOLITION
(E)	EXISTING
(R)	RELOCATED
AAV	AUTOMATIC AIR VENT
ABS	ABSOLUTE
AD	ACCESS DOOR
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
APPROX	APPROXIMATE
BFF	BELOW FINISHED FLOOR
BHP	BRAKE HORSEPOWER
CAP	CAPACITY
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CONC	CONCRETE
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUATION
CP-1	CONTROL PANEL WITH DESIGNATION
CU	CONDENSING UNIT
CW	CHILLED WATER
DB	DRY BULB
DEG	DEGREES
DEMO	DEMOLITION
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
EA	EXHAUST AIR
EAG	EXHAUST AIR GRILLE
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EMCS	EMERGENCY MANAGEMENT AND CONTROL SYSTEM
ENT	ENTERING
ERV	ENERGY RECOVERY VENTILATOR
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EWT	ENETERING WATER TEMPERATURE
EXH	EXHAUST
F	FAHRENHEIT
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FH	FIRE HYDRANT
FLEX	FLEXIBLE
FM	FLOW METER
FPM	FEET PER MINUTE
GAL	GALLONS
GH	GRAVITY HOOD
GM	GAS METER
GPM	GALLONS PER MINUTE
GUH	GAS UNIT HEATER
HP	HORSEPOWER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
ID	INSIDE DIAMETER/DIMENSION
IE	INVERT ELEVATION
IN	INCH
L	LOUVER
LAT	LEAVING AIR TEMPERATURE
LP	LOUVERED PENTHOUSE
LVL	LEVEL
LWT	LEAVING WATER TEMPERATURE
M	METER
MAX	MAXIMUM
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
N/A	NOT APPLICABLE
NG	NATURAL GAS
NTS	NOT TO SCALE
OA	OUTDOOR AIR
OD	OUTSIDE DIAMETER
OED	OPEN ENDED DUCT
PD	PRESSURE DROP
PSI	POUNDS PER SQUARE INCH
R	RADIUS
RA	RETURN AIR
RAG	RETURN AIR GRILLE
REFRIG	REFRIGERANT
RH	RADIANT HEATER
RL	REFRIGERANT LIQUID LINE
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION LINE
SA	SUPPLY AIR
SAG	SUPPLY AIR GRILLE
SB	SECURITY BARS
SF	SUPPLY FAN
SPEC	SPECIFICATION
STD	STANDARD
T	THERMOMETER
TA	TRANSFER AIR
TBD	TO BE DETERMINED
TEMP	TEMPERATURE
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TYP	TYPICAL
UH	UNIT HEATER
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
VRF	VARIABLE REFRIGERANT FLOW
W	WATT
WB	WET BULB
WMS	WIRE MESH SCREEN
WS	WASTE STACK

APPLICABLE CODES AND STANDARDS

FLORIDA BUILDING CODE, 8TH EDITION	FBC 2023
FLORIDA BUILDING CODE, EXISTING BLDG, 8TH EDITION	FBC-EB 2023
FLORIDA BUILDING CODE, MECHANICAL, 8TH EDITION	FBC-M 2023
FLORIDA BUILDING CODE, PLUMBING, 8TH EDITION	FBC-P 2023
FLORIDA BUILDING CODE, HURRICANE TESTING, 8TH EDITION	FBC-HT 2023
FLORIDA BUILDING CODE, ENERGY CONSERVATION, 8TH EDITION	FBC-EC 2023
FLORIDA FIRE PREVENTION CODE, 8TH EDITION	FFPC 2023
NATIONAL ELECTRIC CODE	NEC 2023
OCCUPATIONAL SAFETY AND HEALTH ACT	OSHA

NOTE: ALL APPLICABLE BUILDING CODES AND STANDARDS NOT SPECIFIED HEREIN.

DESIGN CONDITIONS FOR LOAD CALCULATIONS

SEASON	OUTDOOR DESIGN CONDITIONS	AIR-COOLED CONDENSER HEAT	ELEV. (FT)	INDOOR CONDITIONS / ROOM TYPE
				OFFICES
SUMMER (1.)	92,0 / 76,0 °F	95 °F	16.0	75 °F
WINTER (2.)	42,0 / 35,3 °F	95 °F	16.0	70 °F

NOTES:

1. BASED UPON ASHRAE 1% DB COOLING TEMPS.
2. BASED UPON ASHRAE 99% DB HEATING TEMPS.

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FAISAL F. EL AL TWAL — LICENSE — No. 92862 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

Digitally signed by Faisal Al Twal
Date: 2025.04.09 16:00:35-04'00'

Collier County

MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY PUBLIC UTILITIES

RAW WATER BOOSTER PUMP STATION IMPROVEMENTS

MECHANICAL ABBREVIATIONS, LEGENDS, AND NOTES

PROJ:	200-08486-24001
DESN:	FFA
DRWN:	RZN
CHKD:	KPK

M-001

Bar measures 1 inch, otherwise drawing is not to scale

MECHANICAL GENERAL NOTES

GENERAL NOTES

1. THESE GENERAL NOTES APPLY TO ALL SHEETS. REFER TO INDIVIDUAL SHEETS FOR SHEET SPECIFIC NOTES.
2. CONTRACT DOCUMENT DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY. DO NOT SCALE FOR MATERIAL QUANTITIES. ALL SCALING SHOULD BE REFERENCED TO ARCHITECTURAL PLANS ONLY.
3. ALL MECHANICAL WORK SHALL BE IN COMPLIANCE WITH THE CODES LISTED IN THE TABLE ON M-001.
4. COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ALL OTHER DISCIPLINES AND AS SHOWN ON OTHER CONTRACT DRAWINGS.
5. CONTRACTOR SHALL VISIT SITE AND VERIFY ALL EXISTING CONDITIONS AND CONNECTIONS TO EXISTING WORK PRIOR TO BIDDING AND CONSTRUCTION.
6. COORDINATE ALL CUTTING AND PATCHING WITH GENERAL CONTRACTOR AND OTHER DISCIPLINES. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING RELATED TO THEIR WORK.
7. ALL ATTACHMENTS TO THE BUILDING STRUCTURE SHALL BE COORDINATED WITH THE STRUCTURAL DESIGN. ALL BRACING AND MOUNTING OF PIPES AND DUCTS SHALL MEET THE MINIMUM REQUIREMENTS OF THE MOST RECENT SMACNA HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE. CONTRACTOR SHALL MAINTAIN ONE COPY OF THIS MANUAL ON SITE AT ALL TIMES.
8. PROVIDE FLASHING AND COUNTERFLASHING FOR ALL PENETRATIONS THROUGH WALLS OR ROOF TO MAKE WATERPROOF INSTALLATION.
9. MAINTAIN A MINIMUM OF 6'-8" CLEARANCE TO UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC., THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
10. CONCRETE HOUSEKEEPING PADS FOR MECHANICAL EQUIPMENT SHALL HAVE A MINIMUM PAD THICKNESS OF 6 INCHES. PAD SHALL EXTEND BEYOND THE EQUIPMENT A MINIMUM OF 6 INCHES ON EACH SIDE. CONCRETE HOUSEKEEPING PADS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.
11. ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN THE DETAILS FOR PIPING, DUCTWORK, AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
12. ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED.
13. BALANCE AIR FLOW AT ALL AIR INLETS AND OUTLETS TO AIR QUANTITIES SHOWN. BALANCE ALL WATER FLOWS TO COILS AND MECHANICAL EQUIPMENT TO VALUES SHOWN. INSTALL TEST PLUGS WHERE NECESSARY. BALANCING CONTRACTOR SHALL BE INDEPENDENT OF THE INSTALLING CONTRACTORS AND CERTIFIED BY THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) OR ASSOCIATED AIR BALANCE COUNCIL (AABC).
14. ALL EXPOSED PIPE, PIPE SUPPORTS, DUCTWORK, UNFINISHED EQUIPMENT AND DUCT SUPPORTS SHALL MATCH ADJACENT FINISHES AS REQUIRED BY PAINTING SPECIFICATION AND ARCHITECTURAL DRAWINGS.
15. AT COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL PROVIDE COPIES OF BOUND OPERATIONS AND MAINTENANCE MANUALS.
16. AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.

EQUIPMENT NOTES

1. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
2. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.
3. IDENTIFY ALL NEW MECHANICAL EQUIPMENT WITH NAMEPLATES PERMANENTLY ENGRAVED PER SPECIFICATIONS.
4. MOTOR STARTERS AND VARIABLE FREQUENCY DRIVES, WHERE REQUIRED, SHALL BE PROVIDED AND MOUNTED BY THE MECHANICAL INSTALLER. CONDUIT AND WIRING SHALL BE PROVIDED BY ELECTRICAL INSTALLER.
5. ALL ROOF MOUNTED EQUIPMENT CURBS FOR EQUIPMENT PROVIDED BY THE MECHANICAL CONTRACTOR SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
6. EQUIPMENT AND APPLIANCES SHALL BE ACCESSIBLE FOR SERVICE, INSPECTION, REPAIR AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION. SUFFICIENT CLEARANCE SHALL BE MAINTAINED TO PERMIT CLEANING, REPLACEMENT OF FILTERS, BLOWERS, MOTORS, CONTROLS AND LUBRICATION OF MOVING PARTS.

DUCTWORK NOTES

1. OUTSIDE AIR FOR A HEATING OR COOLING SYSTEM SHALL NOT BE TAKEN FROM CLOSER THAN TEN (10) FEET FROM AN APPLIANCE VENT OUTLET, VENT OPENING OF A PLUMBING SYSTEM, OR THE DISCHARGE OUTLET OF EXHAUST FAN, UNLESS THE OUTLET IS THREE (3) FEET ABOVE THE OUTSIDE AIR INLET.
2. EXTERIOR LOUVERS ARE INDICATED FOR INFORMATION ONLY. DETAILED DESCRIPTIONS ARE PROVIDED IN THE ARCHITECTURAL DOCUMENTS AND SHALL BE COORDINATED WITH GENERAL CONTRACTOR.
3. ALL PENETRATIONS THROUGH FIRE AND SMOKE RATED WALLS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE FIRE AND SMOKE STOPPED WITH A UL APPROVED SEALANT SYSTEM.

PIPING NOTES

1. CONDENSATE AND PRESSURE RELIEF PIPING SHALL BE TYPE L OR M TUBING WITH WROUGHT COPPER FITTINGS. A PRIMARY DRAIN PAN SHALL BE PROVIDED WITH COOLING COIL AND EXTEND BEYOND THE LEAVING SIDE OF THE COIL AND UNDERNEATH THE COOLING COIL CONNECTIONS. PROVIDE SECONDARY DRAIN PIPE FOR EQUIPMENT ABOVE CEILINGS AND ROUTE TO A READILY VISIBLE LOCATION.
2. SUPPORT ALL PIPING SO THAT IT IS FIRMLY HELD IN PLACE BY APPROVED HANGERS AND SUPPORTS.

CONTROL NOTES

1. LOCATE ALL TEMPERATURE, PRESSURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH STRAIGHT SECTION OF PIPE OR DUCT UPSTREAM AND DOWNSTREAM AS RECOMMENDED BY THE MANUFACTURER FOR RATED ACCURACY.
2. UNLESS OTHERWISE SHOWN, LOCATE ALL ROOM SENSORS AND THERMOSTATS SUCH THAT OPERABLE PARTS ARE NO HIGHER THAN 48" ABOVE FINISHED FLOOR.
3. COORDINATE ALL CONTROLS AND SEQUENCES OF OPERATION WITH THE BUILDING AUTOMATION SYSTEM (BAS). PROVIDE ALL DEVICES, CONTROLLERS, SENSORS, CONDUIT, WIRING AND LABOR TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM TO MEET THE OWNER'S PROJECT REQUIREMENTS AND THE DESIGN INDICATED ON THESE DRAWINGS AND SPECIFICATIONS.
4. ALL CONTROL CONDUIT AND WIRING SHALL COMPLY WITH THE ELECTRICAL CODE AND THE SPECIFICATIONS.
5. THE CONTROLS CONTRACTOR IS RESPONSIBLE FOR POWER CIRCUITS AND WIRING TO ALL CONTROL PANELS.

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Date: 2025.04.09 16:00:37-04'00'

Collier County

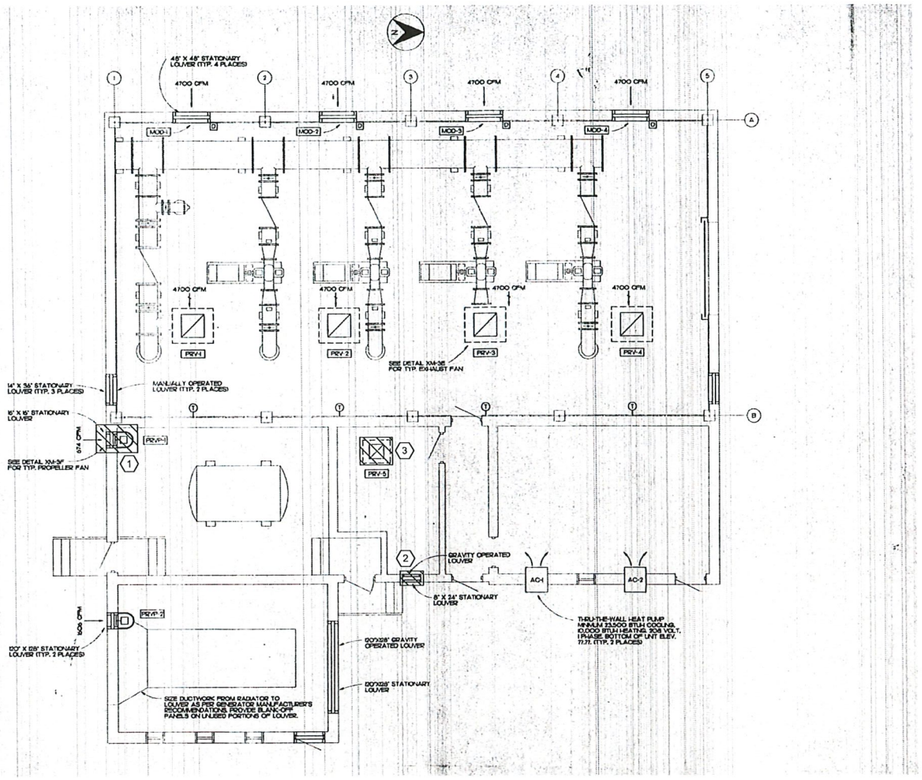
MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY PUBLIC UTILITIES
RAW WATER BOOSTER PUMP STATION IMPROVEMENTS
MECHANICAL GENERAL NOTES

PROJ:	200-08486-24001
DESN:	FFA
DRWN:	RZN
CHKD:	KPK

M-002

Bar measures 1 inch, otherwise drawing is not to scale



1 M-101 MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

2 M-101 DEMO PHOTO
SCALE: 3" = 1'-0"

3 M-101 DEMO PHOTO
SCALE: 3" = 1'-0"

4 M-101 DEMO PHOTO
SCALE: 3" = 1'-0"

GENERAL NOTES:

1. EXISTING SYSTEMS AND INFORMATION SHOWN ON THESE PLANS WERE DEVELOPED USING EXISTING BUILDING DRAWINGS. CONTRACTOR SHALL VERIFY AT SITE ALL EXISTING SYSTEMS. REMOVE ALL PORTIONS OF PIPING SYSTEMS BEING DEMOLISHED. TERMINATE EXISTING SYSTEMS IN A MANNER THAT WILL NOT CONFLICT WITH NEW WORK. CLOSELY COORDINATE NEW WORK WITH EXISTING SYSTEMS. PROVIDE OFFSETS IN EXISTING AND NEW SYSTEMS AS REQUIRED TO AVOID CONFLICTS.
2. COORDINATE DEMOLITION AND DISPOSAL WITH THE OWNER.
3. CONTRACTOR IS RESPONSIBLE TO REMOVE AND DELIVER EXISTING EQUIPMENT, MATERIALS, ETC., BEING DEMOLISHED TO THE OWNER WHERE SO DIRECTED. SHOULD THE OWNER DECIDE NOT TO KEEP THE EXISTING EQUIPMENT, MATERIALS ETC., BEING DEMOLISHED, IT BECOMES THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND BE DISPOSED OF IN A LEGAL MANNER.
4. EXISTING MECHANICAL EQUIPMENT, ACCESSORIES, SUPPORTS, CONTROLS, AND OTHER COMPONENTS SHALL BE DEMOLISHED AND REMOVED FROM SITE AS SHOWN.
5. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY LOCATIONS, DIMENSIONS, AND CONFIGURATION OF ALL EXISTING EQUIPMENT, HANGERS, SUPPORTS, ANCHORS, CONTROLS, ETC.
6. CONTRACTOR IS RESPONSIBLE FOR PATCHING ALL PENETRATIONS CREATED BY REMOVAL OF EQUIPMENT, PIPING, ETC. TO MATCH EXISTING. REPAIR ADJACENT CONSTRUCTION AND FINISHES DAMAGED DURING DEMOLITION AND EXTENSION WORK. PATCH TO MATCH ORIGINAL CONSTRUCTION. VERIFY ALTERNATIVE OR SPECIAL REPAIR METHODS WITH ARCHITECT/ENGINEER BEFORE PROCEEDING WITH DEMOLITION.

(#) KEYED NOTES:

1. REMOVE AND DISPOSE OF EXISTING WALL MOUNTED EXHAUST FAN INCLUDING ALL ASSOCIATED SUPPORTS, HANGARS, THERMOSTATS, DISCONNECTS, MOTOR STARTER, AND CONTROL WIRING AS SHOWN. THE CONTRACTOR SHALL TEMPORARILY CAP AND SEAL THE REMAINING WALL OPENING IN PREPARATION FOR THE NEW INTAKE LOUVER INSTALLATION. THE SEALING PROCESS SHALL INCLUDE THE USE OF INSULATION MATERIALS SUCH AS RIGID FOAM, FIBER GLASS OR APPROVED EQUAL TO ENSURE THERMAL EFFICIENCY AND PREVENT AIR LEAKAGE. THE INSULATION SHOULD BE INSTALLED SECURELY AROUND THE PERIMETER OF THE OPENING, AND THE CAP MUST BE CONSTRUCTED OF WEATHER-RESISTANT MATERIALS TO PROTECT AGAINST MOISTURE INTRUSION AND ENSURE STRUCTURAL INTEGRITY UNTIL THE NEW LOUVER IS INSTALLED.
2. REMOVE AND DISPOSE OF EXISTING LOUVER WITH ASSOCIATED MOTORIZED DAMPER AND CONTROL WIRING. THE REMAINING WALL OPENING SHALL BE PERMANENTLY SEALED TO ENSURE STRUCTURAL INTEGRITY AND PREVENT AIR AND MOISTURE INFILTRATION. THE SEALING PROCESS WILL INVOLVE THE INSTALLATION OF A WEATHER-RESISTANT CAP THAT IS FASTENED TO THE WALL. ADDITIONALLY, INSULATION MATERIALS, SUCH AS RIGID FOAM, FIBERGLASS OR APPROVED EQUAL SHALL BE APPLIED AROUND THE PERIMETER OF THE OPENING TO ENSURE THERMAL EFFICIENCY AND PREVENT AIR LEAKAGE.
3. REMOVE AND DISPOSE OF EXISTING ROOF MOUNTED EXHAUST FAN INCLUDING ALL ASSOCIATED SUPPORTS, HANGARS, THERMOSTATS, DISCONNECTS, MOTOR STARTER, AND CONTROL WIRING AS SHOWN. THE EXISTING CURB SHALL REMAIN IN PLACE AND MUST BE TIGHTLY SEALED TO PREVENT WATER INFILTRATION AND ENSURE STRUCTURAL INTEGRITY. THE SEALING PROCESS SHALL INVOLVE APPLYING POLYURETHANE WEATHER-RESISTANT SEALANT AROUND THE PERIMETER OF THE CURB TO CREATE A WATERTIGHT BARRIER. ADDITIONALLY, INSULATION MATERIALS, SUCH AS RIGID FOAM, FIBERGLASS OR APPROVED EQUAL SHALL BE APPLIED TO ENSURE THERMAL PERFORMANCE AND PREVENT CONDENSATION WITHIN THE CURB AREA.

8' 0' 8' 16'
SCALE: 1/8" = 1'-0"

Bar measures 1 inch, otherwise drawing is not to scale

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Date: 2025.04.09 16:00:42-04'00'

Collier County

MARK	DATE	DESCRIPTION

COLLIER COUNTY PUBLIC UTILITIES
RAW WATER BOOSTER PUMP STATION IMPROVEMENTS
EXISTING PUMP BUILDING MECHANICAL DEMOLITION PLAN & SECTIONS

PROJ:	200-08486-24001
DESN:	FFA
DRWN:	RZN
CHKD:	KPK

M-101

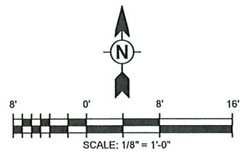
GENERAL NOTES:

1. DAHU-1 = THERMOSTAT.
2. PROVIDE ALL THERMOSTATS WITH LOCKBOX COVER.

LEGEND:

- DAHU/HP-1, L-1
- EF-1
- NOT IN PROJECT SCOPE

1 M-201 MECHANICAL ZONING PLAN
SCALE: 1/8" = 1'-0"



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

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Date: 2025.04.09 16:00:49-04'00'

Collier County

MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY PUBLIC UTILITIES

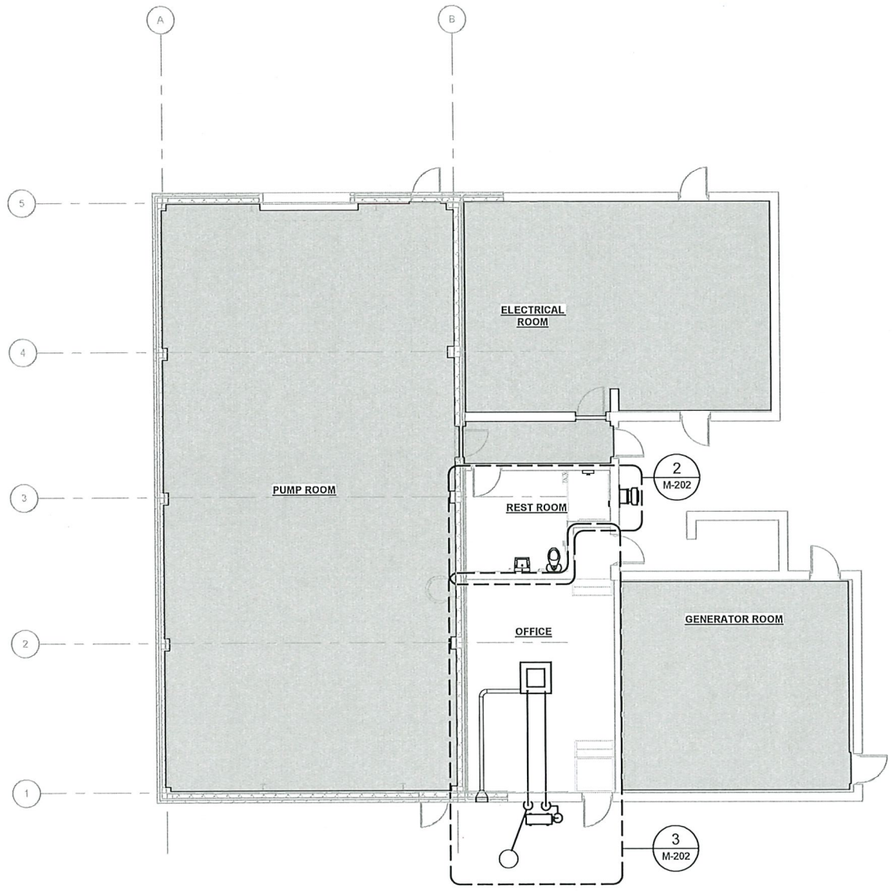
RAW WATER BOOSTER PUMP STATION IMPROVEMENTS

EXISTING PUMP BUILDING MECHANICAL ZONING PLAN

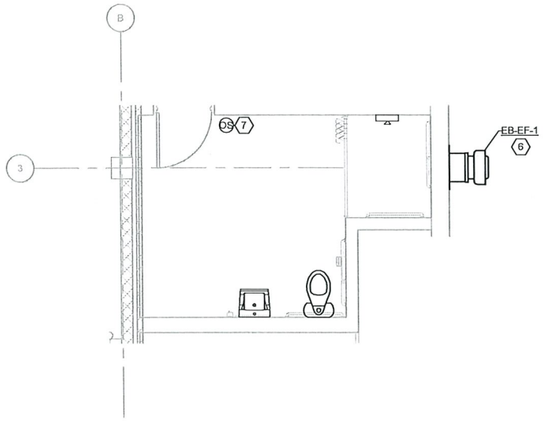
PROJ:	200-08486-24001
DESN:	FFA
DRWN:	RZN
CHKD:	KPK

M-201

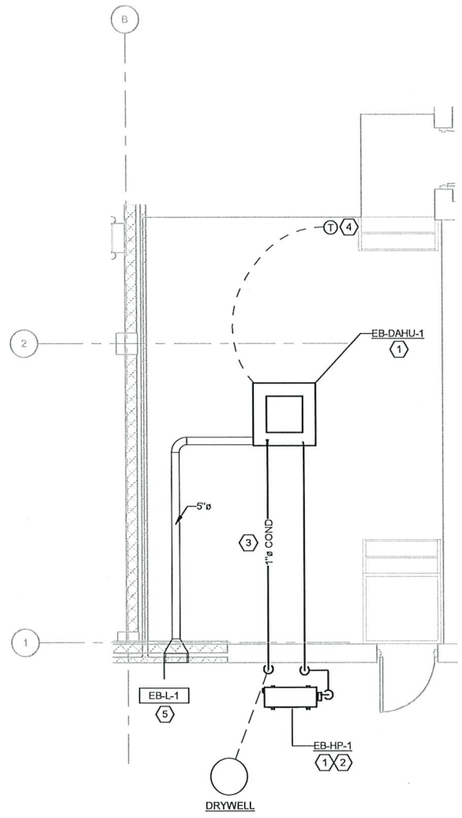
4/9/2025 3:48:37 PM Autodesk Docs://200-08486-24001 Collier Co Bridge Crane Add/M_08486-24001 CCBCA_RWB.rvt



1 M-202 MECHANICAL MODIFICATION PLAN
SCALE: 1/8" = 1'-0"



2 M-202 BATHROOM ENLARGED PLAN
SCALE: 1/4" = 1'-0"



3 M-202 OFFICE ENLARGED PLAN
SCALE: 1/4" = 1'-0"

LEGEND:

NOT IN PROJECT SCOPE

GENERAL NOTES:

1. ALL REFRIGERANT PIPING SHOWN ON PLAN SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATIONS.
2. CONNECTION TO EQUIPMENT SHALL BE VERIFIED WITH MANUFACTURER'S CERTIFIED DRAWINGS. TRANSITIONS TO ALL EQUIPMENT SHALL BE VERIFIED AND PROVIDED FOR EQUIPMENT FURNISHED.
3. DIMENSIONS SHALL BE FIELD VERIFIED AND COORDINATED PRIOR TO PROCUREMENT OR FABRICATION. COORDINATE THE WORK WITH OTHER DISCIPLINES INVOLVED. FIELD MODIFICATIONS SUCH AS OFFSETS IN PIPING OR DUCTWORK DUE TO OBSTRUCTIONS OR INTERFERENCES SHALL BE PROVIDED AT NO ADDITIONAL COST.
4. CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF WALL, SLAB AND PATCHING OF ALL PENETRATIONS CREATED DURING MECHANICAL INSTALLATION. REPAIR ADJACENT CONSTRUCTION AND FINISHES DURING INSTALLATION. PATCH TO MATCH ORIGINAL CONSTRUCTION.

(#) KEYED NOTES:

1. POSITION UNIT AT MANUFACTURE'S RECOMMENDED CLEARANCE.
2. REFRIGERANT LINES SHALL BE ROUTED FROM CONDENSING UNIT, SLEEVE THROUGH WALL AND TO AIR HANDLING UNIT. SIZE LINES PER MANUFACTURER'S RECOMMENDATIONS.
3. ROUTE NEW CONDENSATE TUBING DISCHARGE FROM CONDENSATE PUMP FROM AIR HANDLING UNIT THROUGH WALL AND TO CONDENSATE DRYWELL.
4. PROVIDE PROGRAMMABLE THERMOSTAT AND WIRE TO AIR HANDLING UNIT.
5. MOUNT LOUVER IN EXISTING OPENING.
6. MOUNT CENTERLINE OF EF-1 AT 8' 1" AFF. SEE ARCHITECTURAL ELEVATIONS.
7. PROVIDE AN OCCUPANCY SENSOR.

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Date: 2025.04.09 16:01:00-04'00'

Collier County

MARK	DATE	DESCRIPTION	BY

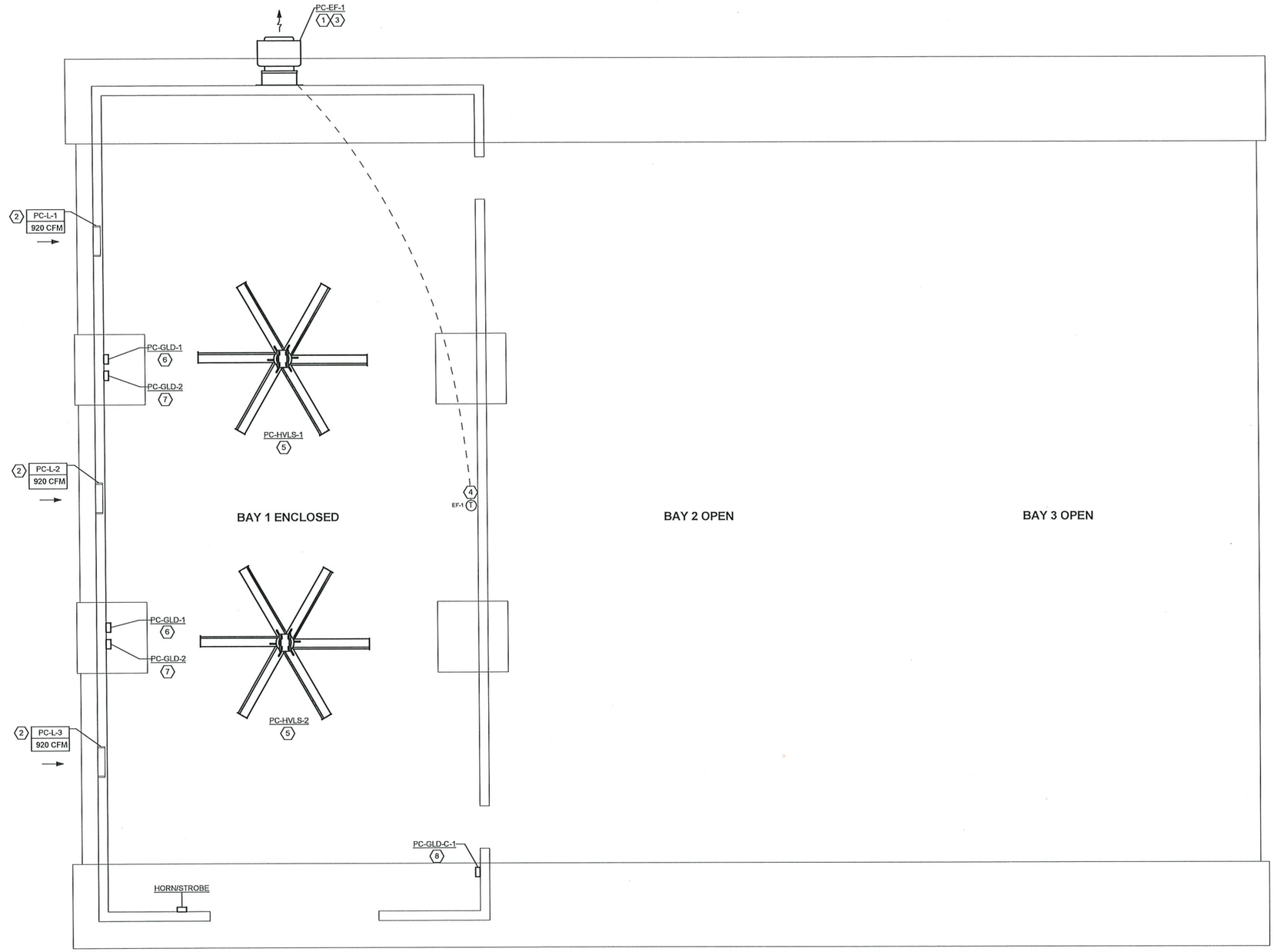
COLLIER COUNTY PUBLIC UTILITIES
RAW WATER BOOSTER PUMP STATION IMPROVEMENTS
EXISTING PUMP BUILDING MECHANICAL MODIFICATION PLAN

PROJ:	200-08486-24001
DESN:	FFA
DRWN:	RZN
CHKD:	KPK

M-202

4' 0' 4' 8' SCALE: 1/4" = 1'-0"
8' 0' 8' 16' SCALE: 1/8" = 1'-0"

Bar measures 1 inch, otherwise drawing is not to scale



1 / M-203 MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

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 DISCIPLINES INVOLVED. FIELD MODIFICATIONS SUCH AS OFFSETS IN PIPING OR DUCTWORK DUE TO OBSTRUCTIONS OR INTERFERENCES SHALL BE PROVIDED AT NO ADDITIONAL COST.

(#) KEYED NOTES:

1. POSITION UNIT AT MANUFACTURE'S RECOMMENDED CLEARANCE.
2. MOUNT BOTTOM OF LOUVERS L-1, L-2, AND L-3 AT 5' 0" AFF. SEE ARCHITECTURAL ELEVATIONS.
3. MOUNT CENTERLINE OF EF-1 AT 11' 8" AFF. SEE ARCHITECTURAL ELEVATIONS.
4. PROVIDE LINE VOLTAGE WIRED THERMOSTAT.
5. MOUNT 2' FROM CEILING USING Z-PURLIN MOUNTING SYSTEM.
6. PROVIDE CO SENSOR CARTRIDGE AT 3' 6" ABOVE FINISHED FLOOR.
7. PROVIDE NO2 SENSOR CARTRIDGE AT 1' 0" BELOW FINISHED CEILING.
8. WALL MOUNTED GAS LEAK DETECTION CONTROLLER.

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Collier County

MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY PUBLIC UTILITIES
RAW WATER BOOSTER PUMP STATION IMPROVEMENTS
PARKING CANOPY MECHANICAL PLAN

PROJ:	200-08486-24001
DESN:	FFA
DRWN:	RZN
CHKD:	KPK

M-203

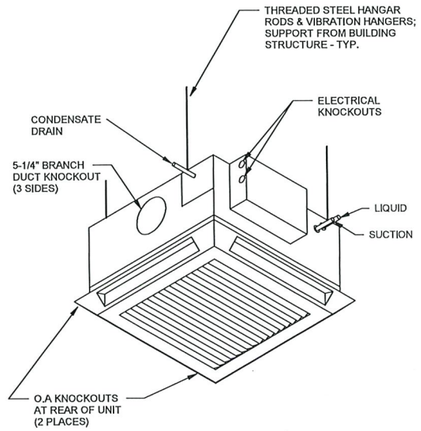
4' 0' 4' 8'
SCALE: 1/4" = 1'-0"

Bar measures 1 inch, otherwise drawing is not to scale

4/9/2025 10:38:32 AM Autodesk Docs://200-08486-24001 Collier Co Bridge Crane Add/M_08486-24001 CCBCA_Enclosed Garage.rvt

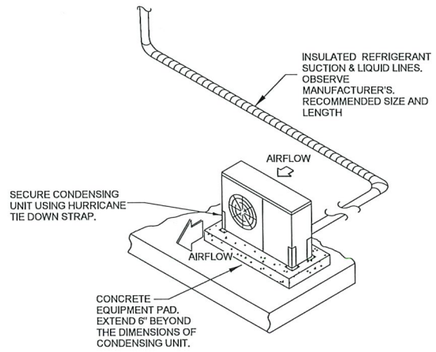
1 CEILING CASSETTE SYSTEM DETAIL

SCALE: NTS



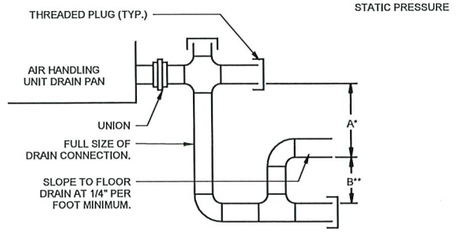
2 CONDENSING UNIT DETAIL

SCALE: NTS



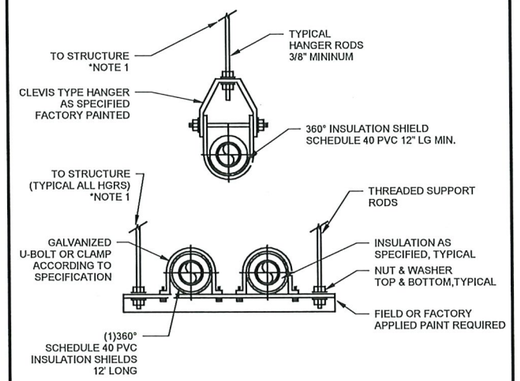
3 AHU CONDENSATE DRAIN DETAIL

SCALE: NTS



4 MECHANICAL PIPE HANGER DETAIL

SCALE: NTS

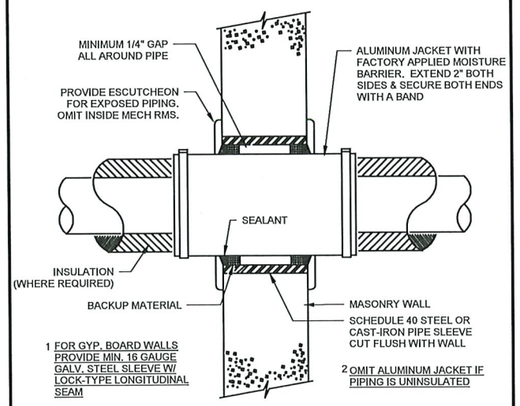


NOTES:

1. SUBMIT ANCHORING METHOD TO STRUCTURAL ENGINEER FOR APPROVAL.
2. SEE SPECIFICATION FOR PAINT REQUIREMENTS ON SUPPORTS.

5 WALL PIPE PENETRATION DETAIL

SCALE: NTS

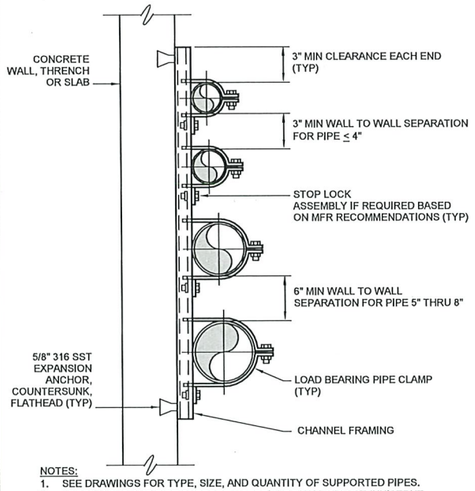


1 FOR GYP. BOARD WALLS PROVIDE MIN. 16 GAUGE GALV. STEEL SLEEVE W/ LOCK-TYPE LONGITUDINAL SEAM

2 OMIT ALUMINUM JACKET IF PIPING IS UNINSULATED

6 PIPE SUPPORT DETAIL

SCALE: NTS

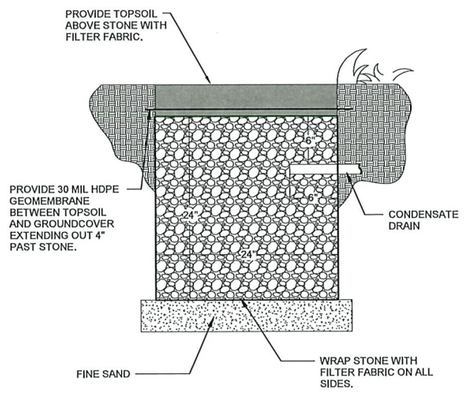


NOTES:

1. SEE DRAWINGS FOR TYPE, SIZE, AND QUANTITY OF SUPPORTED PIPES.
2. ALL FRAMING AND PIPE SUPPORT MATERIALS SHALL 316 SST (UNISTRUT OR EQUAL FOR EXTERIOR).

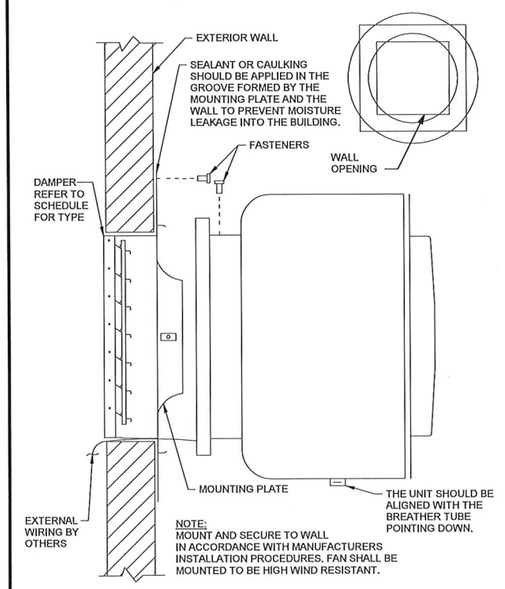
7 CONDENSATE DRYWELL DETAIL

SCALE: NTS



8 WALL EXHAUST FAN DETAIL

SCALE: NTS



NOTE:
MOUNT AND SECURE TO WALL IN ACCORDANCE WITH MANUFACTURERS INSTALLATION PROCEDURES. FAN SHALL BE MOUNTED TO BE HIGH WIND RESISTANT.

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Collier County

MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY PUBLIC UTILITIES
RAW WATER BOOSTER PUMP STATION IMPROVEMENTS
MECHANICAL DETAILS

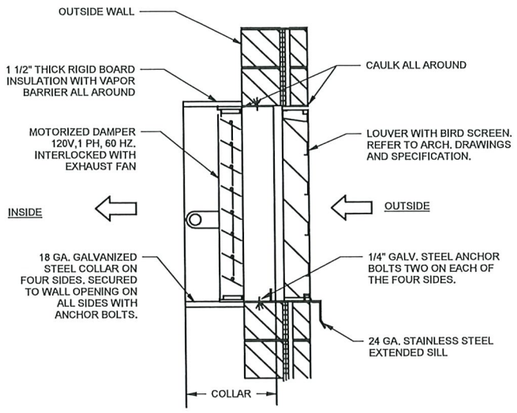
PROJ:	200-08486-24001
DESN:	FFA
DRWN:	RZN
CHKD:	KPK

M-501

Bar measures 1 inch, otherwise drawing is not to scale

1 LOUVER/DAMPER DETAIL

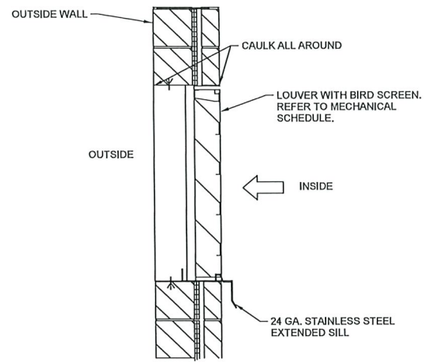
SCALE: NTS



NOTES:
1. FOR LOCATION AND SIZE OF THE WALL OPENINGS, SEE PLANS.
2. LOUVER/DAMPER ASSEMBLIES TO BE ASSEMBLED AT LOUVER MANUFACTURER FACTORY.
3. EXTENDED SILL TO BE PROVIDED BY LOUVER MANUFACTURER.
4. MOTOR ACTUATORS TO BE SIZED AND INSTALLED BY LOUVER MANUFACTURER.
5. INSTALLATION OF LOUVER TO BE IN ACCORDANCE WITH LOUVER MANUFACTURER'S RECOMMENDATIONS.

2 LOUVER DETAIL

SCALE: NTS

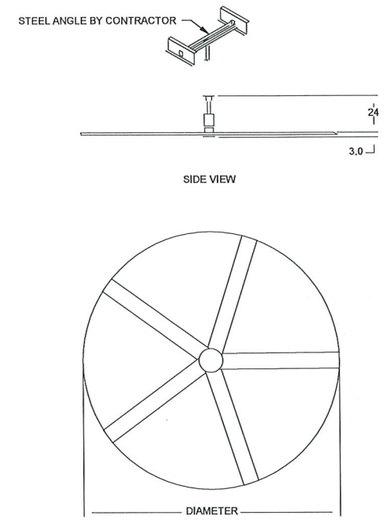


NOTES:

1. FOR LOCATION AND SIZE OF THE WALL OPENINGS, SEE PLANS.
2. EXTENDED SILL TO BE PROVIDED
3. INSTALLATION OF LOUVER TO BE IN ACCORDANCE WITH LOUVER MANUFACTURER'S
4. LOUVER SHALL BE FLORIDA PRODUCT APPROVED

3 HVLS FAN DETAIL

SCALE: NTS



NOTES:
1. VERIFY ALL DIMENSIONS AND INSTALLATION REQUIREMENTS WITH FAN SUPPLIER.

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FAISAL F. AL TWAL LICENSE No. 92852 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Date: 2025.04.09 16:01:45-04'00'

Collier County

MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY PUBLIC UTILITIES

RAW WATER BOOSTER PUMP STATION IMPROVEMENTS

MECHANICAL DETAILS

PROJ:	200-08486-24001
DESN:	FFA
DRWN:	RZN
CHKD:	KPK

M-502

Bar measures 1 inch, otherwise drawing is not to scale

EXISTING PUMP BUILDING DUCTLESS SPLIT SYSTEM (HP) SCHEDULE

MARK	AREA SERVED	LOCATION	TYPE	AIR HANDLING UNIT								CONDENSING UNIT									MANUFACTURER	INDOOR MODEL	OUTDOOR MODEL	NOTES
				AIR FLOW		COOLING				HEAT PUMP HEATING				COMPRESSOR					ELECTRICAL					
				SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	TYPE	E.A.T. (°F)		CAPACITY (MBH)		OUTPUT (MBH)	DESIGN AMBIENT (°F)			QTY	STAGE	REFRIG.	AMBIENT TEMP. (°F)	SEER2	VOLTS / PH / HZ	MCA	MOCP				
							DB	WB	TOTAL	SENS.															
EB-DAHU-1	OFFICE	INDOOR	CEILING CASSETTE	1200	80	DX	80	67	36.0	31.0	42.0	47	EB-HP-1	OUTDOOR	1	SINGLE	R-410A	95	22	208-230 / 1 / 60	25	31	MITSUBISHI	PLA-A36EA8	PUZ-A36NKA7	1,2,3,4,5,6,7

NOTES:

1. ALL UNITS CURRENTLY LISTED WITH R-410A REFRIGERANT WILL BE SELECTED WITH NEXT GENERATION REFRIGERANT (R-454B OR EQUIVALENT) AT TIME OF BIDDING/CONSTRUCTION. THESE UNITS UTILIZING NEXT GENERATION REFRIGERANT WILL BE REQUIRED TO MEET THE PERFORMANCE AND CAPACITY AS INDICATED ON SCHEDULES. ADDITIONAL ACCESSORIES SUCH AS LEAK DETECTION SENSORS WILL ALSO BE PROVIDED TO MEET UPDATED SAFETY REQUIREMENTS.
2. PROVIDE SINGLE POINT POWER CONNECTION, GROUND FAULT PROTECTION, AND DISCONNECTS.
3. PROVIDE MOTOR WITH OVERLOAD PROTECTION AND DRIVE KITS.
4. PROVIDE COATING PER SECTION 230546 ON EXTERIOR CABINET AS WELL AS ALL INTERNAL COMPONENTS INCLUDING COILS, FINS, EQUIPMENT ETC.
5. PROVIDE WITH 7 DAY 2-STAGE COOLING PROGRAMMABLE THERMOSTAT
6. REFER TO CONTROL DRAWINGS FOR ADDITIONAL INFORMATION. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL CONTROL COMPONENTS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
7. BASIS OF DESIGN IS MITSUBISHI OR APPROVED EQUAL.

EXISTING PUMP BUILDING LOUVER SCHEDULE

MARK	AREA SERVED	LOCATION	ASSOCIATED EQUIPMENT	TYPE	SERVICE	SIZE (IN)			PERFORMANCE CRITERIA				MATERIAL	MANUFACTURER	MODEL	NOTES
						HEIGHT	WIDTH	DEPTH	AIRFLOW (CFM)	VELOCITY (FPM)	FREE AREA (FT²)	PRESSURE DROP (IN WG)				
EB-L-1	OFFICE	WALL MOUNTED	DAHU-1	DRAINABLE	INTAKE	16	16	6	80	140	0.57	0.003	ALUMINUM	GREENHECK	ESD-635X	1,2,3,4,5,6

NOTES:

1. COORDINATE LOCATION AND FINISH WITH ARCHITECTURAL.
2. PROVIDE INTAKE LOUVERS WITH BIRD/INSECT SCREENS AND EXHAUST LOUVER WITH INSECT SCREEN.
3. PROVIDE 2 COATS OF 70% PVDF.
4. LOUVERS SHALL BE FLORIDA PRODUCT APPROVED.
5. LOUVERS SHALL BE ENHANCED AMCA 540 RATED.
6. BASIS OF DESIGN IS GREENHECK OR APPROVED EQUAL.

EXISTING PUMP BUILDING FAN SCHEDULE

MARK	AREA SERVED	LOCATION	FAN					ELECTRICAL								MOUNTING TYPE	WEIGHT (LBS)	MANUFACTURER	MODEL	NOTES
			AIRFLOW (CFM)	ESP (IN-WC)	FAN RPM	WHEEL TYPE	DRIVE TYPE	MOTOR ENCLOSURE	HP	MOTOR RPM	VOLTS	PHASE	HZ	MCA	MOCP					
EB-EF-1	REST ROOM	OUTDOOR	120	0.05	578	CENTRIFUGAL	DIRECT	TENV	1/10	1725	115	1	60	2	15	SIDEWALL MOUNTED	51	GREENHECK	CUE-080-VG	1,2,3,4,5,6

NOTES:

1. INCLUDE SOLID STATE SPEED CONTROL.
2. PROVIDE NEW FAN WITH HIGH WIND RATING PER MANUFACTURER AND VALID NOA'S.
3. PROVIDE SINGLE POINT POWER CONNECTION, MOTOR WITH OVERLOAD PROTECTION, GROUND FAULT PROTECTION, EXTERNAL WIRING PIGTAIL AND NEMA-4X DISCONNECT SWITCH.
4. PROVIDE FAN WITH ALUMINUM CONSTRUCTION, WALL GRILLE, GRAVITY BACKDRAFT DAMPER, STAINLESS STEEL FASTENERS, AND ALUMINUM BIRD SCREEN.
5. PROVIDE HI-PRO POLYESTER COATING ON EXTERIOR CABINET AS WELL AS ALL INTERNAL COMPONENTS.
6. BASIS OF DESIGN IS GREENHECK OR APPROVED EQUAL.

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Date: 2025.04.09 16:02:06-04'00'

Collier County

MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY PUBLIC UTILITIES
RAW WATER BOOSTER PUMP STATION IMPROVEMENTS
EXISTING PUMP BUILDING MECHANICAL SCHEDULES

PROJ:	200-08486-24001
DESN:	FFA
DRWN:	RZN
CHKD:	KPK

M-601

Bar measures 1 inch, otherwise drawing is not to scale

4/9/2025 3:48:39 PM Autodesk Docs://200-08486-24001 Collier Co Bridge Crane Add/M_08486-24001 CCBCA_RWB.rvt

PARKING CANOPY (PC) LOUVER SCHEDULE

MARK	AREA SERVED	LOCATION	ASSOCIATED EQUIPMENT	TYPE	SERVICE	SIZE (IN)			PERFORMANCE CRITERIA				MATERIAL	MANUFACTURER	MODEL	NOTES
						HEIGHT	WIDTH	DEPTH	AIRFLOW (CFM)	VELOCITY (FPM)	FREE AREA (FT^2)	PRESSURE DROP (IN WG)				
PC-L-1	BAY 1 ENCLOSED	WALL MOUNTED	EF-1	DRAINABLE	INTAKE	24	26	6	920	462	1.99	0.032	ALUMINUM	GREENHECK	ESD-635X	1,2,3,4,5,6
PC-L-2	BAY 1 ENCLOSED	WALL MOUNTED	EF-1	DRAINABLE	INTAKE	24	26	6	920	462	1.99	0.032	ALUMINUM	GREENHECK	ESD-635X	1,2,3,4,5,6
PC-L-3	BAY 1 ENCLOSED	WALL MOUNTED	EF-1	DRAINABLE	INTAKE	24	26	6	920	462	1.99	0.032	ALUMINUM	GREENHECK	ESD-635X	1,2,3,4,5,6

NOTES:

1. COORDINATE LOCATION AND FINISH WITH ARCHITECTURAL.
2. PROVIDE INTAKE LOUVERS WITH BIRD/INSECT SCREENS AND EXHAUST LOUVER WITH INSECT SCREEN.
3. PROVIDE 2 COATS OF 70% PVDF.
4. BASIS OF DESIGN IS GREENHECK OR APPROVED EQUAL.
5. LOUVERS SHALL BE FLORIDA PRODUCT APPROVED.
6. LOUVERS SHALL BE ENHANCED AMCA 540 RATED.

PARKING CANOPY (PC) FAN SCHEDULE

MARK	AREA SERVED	LOCATION	FAN					ELECTRICAL								MOUNTING TYPE	WEIGHT (LBS)	MANUFACTURER	MODEL	NOTES
			AIRFLOW (CFM)	ESP (IN-WC)	FAN RPM	WHEEL TYPE	DRIVE TYPE	MOTOR ENCLOSURE	HP	MOTOR RPM	VOLTS	PHASE	HZ	MCA	MOCP	CONTROL				
PC-EF-1	BAY 1 ENCLOSED	OUTDOOR	2760	0.5	916	CENTRIFUGAL	DIRECT	TENV	1	1000	208	1	60	9	20	-	WALL MOUNTED	115	GREENHECK	CUE-180-VG	1,2,3,4,5,6

NOTES:

1. INCLUDE VARI GREEN 2-SPEED WITH INTEGRAL 85-277V TO 24VDC TRANFORMER CONTROL.
2. PROVIDE NEW FAN WITH HIGH WIND RATING PER MANUFACTURER AND VALID NOA'S.
3. PROVIDE SINGLE POINT POWER CONNECTION, MOTOR WITH OVERLOAD PROTECTION, GROUND FAULT PROTECTION, EXTERNAL WIRING PIGTAIL AND NEMA-4X DISCONNECT SWITCH.
4. PROVIDE FAN WITH ALUMINUM CONSTRUCTION, WALL GRILLE, GRAVITY BACKDRAFT DAMPER, STAINLESS STEEL FASTENERS, AND ALUMINUM BIRD SCREEN.
5. PROVIDE HI-PRO POLYESTER COATING ON EXTERIOR CABINET AS WELL AS ALL INTERNAL COMPONENTS.
6. BASIS OF DESIGN IS GREENHECK OR APPROVED EQUAL.

PARKING CANOPY (PC) HIGH VOLUME LOW SPEED FAN SCHEDULE

MARK	AREA SERVED	LOCATION	FAN			ELECTRICAL				MOUNTING TYPE	WEIGHT (LBS.)	MANUFACTURER	MODEL	NOTES
			CFM	FAN RPM	DRIVE TYPE	MOTOR ENCLOSURE	MOTOR HP	VOLTS / PH / HZ	FLA					
PC-HVLS-1	BAY 1 ENCLOSED	CEILING	14,517	32	DIRECT	IP54	0.67	208 / 3 / 60	7.0	CEILING	178	GREENHECK	DC-6-12	1,2,3,4,5,6
PC-HVLS-2	BAY 1 ENCLOSED	CEILING	14,517	32	DIRECT	IP54	0.67	208 / 3 / 60	7.0	CEILING	178	GREENHECK	DC-6-12	1,2,3,4,5,6

NOTES:

1. PROVIDE WITH EXRTUDED ALUMINUM AIRFOIL KIT.
2. PROVIDE WITH Z-PURLIN MOUNTING KIT.
3. PROVIDE SINGLE POINT POWER CONNECTION, MOTOR WITH OVERLOAD PROTECTION, GROUND FAULT PROTECTION, EXTERNAL WIRING PIGTAIL AND NEMA-4X DISCONNECT SWITCH.
4. PROVIDE FAN WITH ALUMINUM CONSTRUCTION.
5. PROVIDE HI-PRO POLYESTER COATING ON EXTERIOR CABINET AS WELL AS ALL INTERNAL COMPONENTS.
6. BASIS OF DESIGN IS GREENHECK OR APPROVED EQUAL.

PARKING CANOPY (PC) GAS LEAK DETECTION SYSTEM SCHEDULE

MARK	DESCRIPTION	LOCATION	POWER REQUIRED	OUTPUT RATING	MANUFACTURER	MODEL	NOTES
PC-GLD-1	CO SENSOR	BAY 1 ENCLOSED	24 VAC/VDC	5A @ 250 VAC / 30 VDC	HONEYWELL	E3SM-E3SCO	1
PC-GLD-2	NO2 SENSOR	BAY 1 ENCLOSED	24 VAC/VDC	5A @ 250 VAC / 30 VDC	HONEYWELL	E3SM-E3NO2	1
PC-GLD-C-1	CONTROLLER	BAY 1 ENCLOSED	24-38 VDC / 17-27 VAC	5A @ 250 VAC / 30 VDC	HONEYWELL	301-C-DLC	1,2

NOTES:

1. BASIS OF DESIGN IS HONEYWELL OR APPROVED EQUAL.
2. PROVIDE 24 VOLT HORNS AND STROBES. CONTROLLER RELAY TO ACTIVATE HORN/STROBE.

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PARKING CANOPY MECHANICAL SCHEDULES

PROJ:	200-08486-24001
DESN:	FFA
DRWN:	RZN
CHKD:	KPK

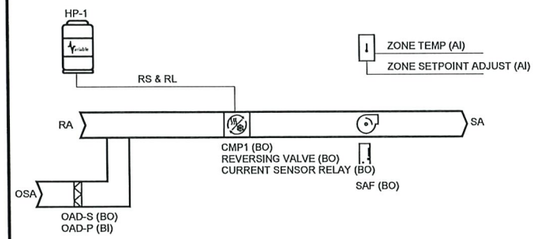
M-602

Bar measures 1 inch, otherwise drawing is not to scale

1 EXISTING PUMP BUILDING OFFICE MINISPLIT CONTROLS

SCALE: NTS

FLOW DIAGRAM: DAHU/HP-1



SEQUENCE OF OPERATION: SPLIT SYSTEM WITH OUTSIDE AIR DAMPER

THIS SEQUENCE OF OPERATIONS DESCRIBES THE "SYSTEM-LEVEL" CONTROL FUNCTIONS OF A SPLIT SYSTEM, WHICH INCLUDES COORDINATING THE OPERATION OF THE OUTDOOR UNIT WITH TERMINAL UNITS DURING THE VARIOUS OPERATING MODES. THE "EQUIPMENT-LEVEL" CONTROL FUNCTIONS OF THE OUTDOOR UNIT AND THE TERMINAL UNITS ARE CONTAINED IN THEIR RESPECTIVE SEQUENCE OF OPERATIONS DOCUMENTS.

SPLIT SYSTEM HEAT PUMP:
THE SYSTEM SHALL PROVIDE ASYNCHRONOUS HEATING OR COOLING TO THE ZONE SERVED BY THE SPLIT SYSTEM. THE SYSTEM IS OFF WHEN THE OUTDOOR UNIT IS OFF AND ALL TERMINAL UNITS ARE OFF. WHEN ANY TERMINAL UNIT TRANSITIONS TO THE ON STATE, THE SYSTEM SHALL TRANSITION TO THE ON STATE AND THE OUTDOOR UNIT SHALL TRANSITION TO EITHER THE COOL STATE OR HEAT STATE, DEPENDING ON THE CALL TO HEAT OR COOL FROM THE TERMINAL UNITS.

WHEN THE OUTDOOR UNIT IS IN COOL STATE, IT SUPPLIES SUB-COOLED LIQUID REFRIGERANT TO THE TERMINAL UNIT. WHEN THE OUTDOOR UNIT IS IN HEAT STATE, IT SUPPLIES SUPERHEATED GAS REFRIGERANT TO THE TERMINAL UNIT.
THE TERMINAL UNIT SHALL COMMUNICATE TO THE OUTDOOR UNIT THE NEED FOR COOLING OR HEATING.

WHEN THE STATE OF THE SPLIT SYSTEM IS ON AND THE INDOOR UNIT TRANSITION TO THE OFF STATE, THE OUTDOOR UNIT SHALL TRANSITION TO THE SHUTDOWN STATE. ENTERING THIS STATE SHALL CAUSE THE OUTDOOR UNIT TO PERFORM THE NECESSARY FUNCTIONS REQUIRED TO PREPARE THE REFRIGERANT SYSTEM TO STOP OPERATION. ONCE THE REFRIGERANT SYSTEM HAS STOPPED OPERATION, THE OUTDOOR UNIT SHALL TRANSITION TO THE OFF STATE AND THE SYSTEM STATE SHALL TRANSITION TO THE OFF STATE.

SPLIT SYSTEM CONTROL (NO BAS):
THE SYSTEM CONTROL DEVICE IS A COMPUTER BASED APPLICATION THAT PROVIDES A METHOD FOR A BUILDING OPERATOR TO MONITOR AND CONTROL THE OPERATION OF ONE OR MORE SYSTEMS THAT SERVE A BUILDING.

THE SYSTEM CONTROL DEVICE SHALL HAVE THE ABILITY TO MONITOR AND CONTROL SPLIT SYSTEM FUNCTIONS SUCH AS, BUT NOT LIMITED TO, TIME SCHEDULE BASED OPERATION, RECORDING OF OPERATING PARAMETER DATA VALUES AS A TIME OR SAMPLE SERIES, AND CONTROL INDIVIDUAL SPLIT TERMINAL UNIT.

OUTSIDE AIR DAMPER:
THE OUTSIDE AIR DAMPER SHALL OPEN ANYTIME THE UNITS CALLED TO RUN AND THE CURRENT SENSOR RELAY INDICATES THE COMPRESSOR IS OPERATING.

SPLIT SYSTEM CONTROLLER

SPLIT SYSTEM - CENTRAL CONTROLLER SYSTEM
THE CONTROL OF THE SYSTEM OF THIS TYPE SHALL CONSIST OF CENTRAL CONTROL DEVICE DESIGNED WITH THE INTENT TO PROVIDE A SINGLE LOCATION FOR AN OPERATOR TO MONITOR AND CONTROL THE INDOOR UNIT AND AUXILIARY SPLIT SYSTEM COMPONENTS.

THE CENTRAL CONTROLLER SHALL BE ABLE TO CONTROL THE FOLLOWING INDOOR UNIT FUNCTIONS:

- ON/OFF OF THE UNIT
- SPACE TEMPERATURE SETPOINT
- HEAT/COOL/AUTO/DRY OPERATION MODE
- FAN SPEED SETTING
- AIRFLOW DIRECTION

THE CENTRAL CONTROLLER SHALL DISPLAY THE INDOOR UNIT STATUS INFORMATION:

- ROOM TEMPERATURE (DEG-F OR DEG-C)
- SPACE TEMPERATURE SETPOINT
- ON/OFF STATUS OF THE UNIT
- HEAT/COOL/AUTO/DRY OPERATION MODE
- ERROR CODE

THE CENTRAL CONTROLLER SHALL BE ABLE TO SCHEDULE ON/OFF INDOOR UNIT OPERATION:

- DAILY
- WEEKLY
- ANNUALLY

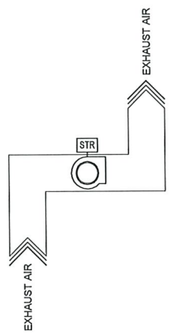
THE CENTRAL CONTROLLER SHALL COLLECT, STORE, AND DISPLAY HISTORICAL DATA IN A GRAPHICAL MANNER FOR THE FOLLOWING DATA:

- FAN OPERATION TIME
- SET TEMPERATURE
- ROOM TEMPERATURE

CONTROL SYSTEM START-UP SHALL BE PERFORMED BY THE MANUFACTURER OR BY A FACTORY CERTIFIED REPRESENTATIVE. REPRESENTATIVE SHALL HAVE A THOROUGH UNDERSTANDING OF SYSTEM CONFIGURATION AND OPERATION. THE REPRESENTATIVE SHALL PROVIDE PROOF OF CERTIFICATION.

2 EXISTING PUMP BUILDING EXHAUST FAN CONTROLS

SCALE: NTS



RESTROOM EXHAUST FAN SEQUENCE OF OPERATIONS

RUN CONDITIONS:
FAN WILL OPERATE WHEN LIGHTS ARE ON. WHEN LIGHTS ARE OFF, FAN SHALL BE OFF. SEE OCCUPANCY SENSOR ON PLANS.

CONTRACTOR SHALL PROVIDE ALL NECESSARY WIRING AND CONDUIT, DEVICES, CONTROLLERS, INTERLOCKS, AND SWITCHES TO MEET THE INTENT OF THESE SEQUENCES AND THE CONTROL DIAGRAM(S) SHOWN. CONTRACTOR SHALL COORDINATE FOR A FULLY FUNCTIONAL SYSTEM.

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FAISAL F. AL TWAL LICENSE No. 92862 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Faisal Al Twal
Date: 2025.04.09 16:02:53-04'00'

Collier County

MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY PUBLIC UTILITIES

RAW WATER BOOSTER PUMP STATION IMPROVEMENTS

EXISTING PUMP BUILDING MECHANICAL CONTROLS

PROJ:	200-08486-24001
DESN:	FFA
DRWN:	RZN
CHKD:	KPK

M-901

Bar measures 1 inch, otherwise drawing is not to scale

1 PARKING CANOPY EXHAUST FAN CONTROLS

SCALE: NTS

SEQUENCE SUMMARY:

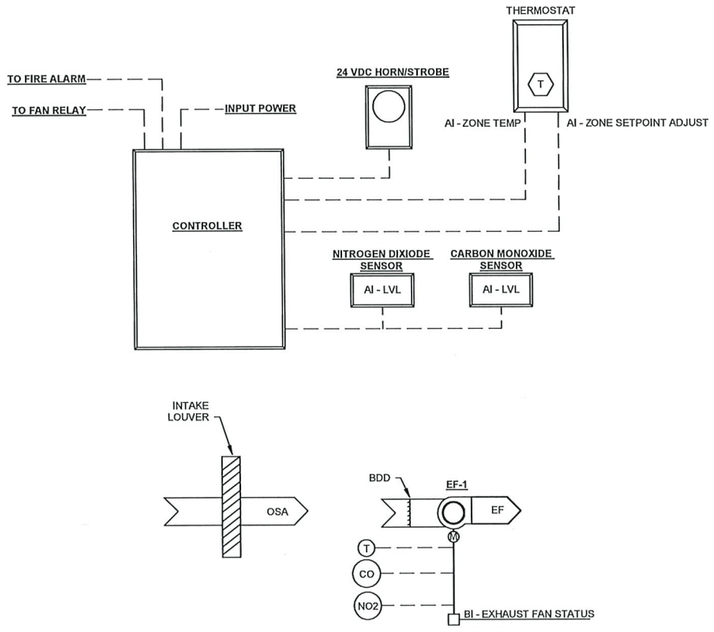
THE STORAGE WAREHOUSE WILL RECEIVE SUMMER VENTILATION FROM EXHAUST FAN EF-1. THE EXHAUST FANS SHALL BE CONTROLLED BY SPACE THERMOSTATS. INITIAL SETTINGS SHALL BE 85 DEG F (ADJ.)

CARBON MONOXIDE FIRST ALARM TO BE SET AT 25 PPM THAT SHALL ACTIVATE EXHAUST FANS TO HIGH SPEED. FANS SHALL CONTINUE TO RUN UNTIL LEVELS DROP BELOW 25 PPM.

NITROGEN DIOXIDE FIRST ALARM TO BE SET AT 0.7 PPM THAT SHALL ACTIVATE EXHAUST FANS TO HIGH SPEED. FANS SHALL CONTINUE TO RUN UNTIL LEVELS DROP BELOW 0.7 PPM.

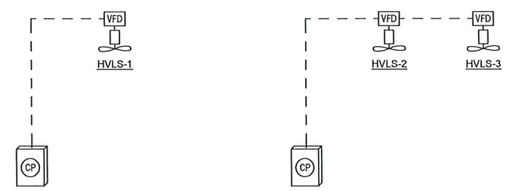
STAND ALONE EXHAUST FAN WITH HARDWIRED CONTROL: THE FAN AND ITS ASSOCIATED EQUIPMENT WILL OPERATE IN STAND-ALONE MODE. ALL CONTROL FUNCTIONS FOR THE FAN AND ITS ASSOCIATED EQUIPMENT WILL BE PERFORMED THROUGH INTERLOCK
WIRING

CONTRACTOR SHALL PROVIDE ALL NECESSARY WIRING AND CONDUIT, DEVICES, CONTROLLERS, INTERLOCKS, AND SWITCHES AS NECESSARY TO MEET THE INTENT OF THESE SEQUENCES AND THE CONTROL DIAGRAMS SHOWN. CONTRACTOR SHALL COORDINATE FOR A FULLY FUNCTIONAL SYSTEM.



2 PARKING CANOPY HVLS FAN CONTROLS

SCALE: NONE



HIGH VOLUME LOW SPEED FAN
SEQUENCE OF OPERATIONS (HVLS-1, 2, 3)

BUILDING AUTOMATION SYSTEM INTERFACE:
HVLS FANS WILL OPERATED IN STAND-ALONE MODE. THE FANS WILL NOT BE CONTROLLED OR MONITORED BY A BUILDING AUTOMATION SYSTEM (BAS).

RUN CONDITIONS:
FANS WILL OPERATE TOGETHER ON INPUT FROM LOCAL CONTROL PANEL. CONTROLLER SHALL ALLOW FOR THE FOLLOWING OPERATIONS:
A. POWER ON / OFF
B. ROTATION DIRECTION
C. SPEED

SMOKE DETECTOR SHUTDOWN:
THE UNIT SHALL SHUT DOWN IN RESPONSE TO A SIGNAL FROM THE SMOKE DETECTOR INDICATING THE PRESENCE OF SMOKE. SMOKE DETECTORS SHALL BE INTERLOCKED TO THE UNIT THROUGH THE DRY CONTACTS OF THE SMOKE DETECTORS. MANUAL RESET OF THE SMOKE DETECTORS SHALL BE REQUIRED TO RESTART THE UNIT.

CONTRACTOR SHALL PROVIDE ALL NECESSARY WIRING AND CONDUIT, DEVICES, CONTROLLERS, INTERLOCKS, AND SWITCHES TO MEET THE INTENT OF THESE SEQUENCES AND THE CONTROL DIAGRAM(S) SHOWN. CONTRACTOR SHALL COORDINATE FOR A FULLY FUNCTIONAL SYSTEM.

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Collier County

MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY PUBLIC UTILITIES
RAW WATER BOOSTER PUMP STATION IMPROVEMENTS
PARKING CANOPY MECHANICAL CONTROLS

PROJ:	200-08486-24001
DESN:	FFA
DRWN:	RZN
CHKD:	KPK

M-902

Bar measures 1 inch, otherwise drawing is not to scale