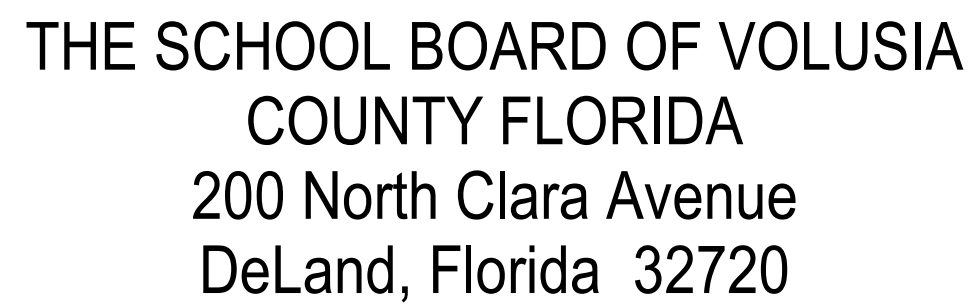


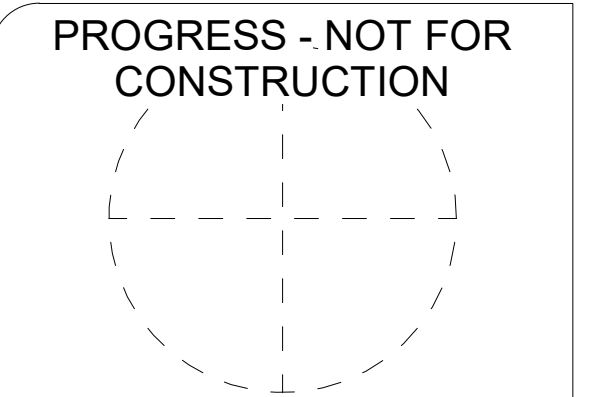


VCS Project NO. 2648221

4751 Hidden Lake Dr., Port Orange, FL 32129

JAMIE HAYNES	BOARD CHAIR
RUBEN COLON	VICE BOARD CHAIR
KRISTA GOODRICH	MEMBER
JESSIE THOMPSON	MEMBER
DONNA BROSEMER	MEMBER

DR. CARMEN J. BALGOBIN SUPERINTENDENT



REPLACE THE CHILLER, PIPING AND ACCESSORIES EXTERIOR OF THE BUILDING

Engineer's Statement of Compliance
To the best of my knowledge, these drawings and the project manual are complete and comply with the Florida Building Code.

A.	SURVEY PARCEL ID	XXX
B.	LEGAL DESCRIPTION	XXX
C.	OCCUPANCY TYPE	XXX
D.	CONSTRUCTION TYPE	TYPE XXX
E.	RISK CATEGORY	XXX
F.	AUTOMATIC SPRINKLER	XXX
G.	BUILDING AREA	XXX
H.	BUILDING HEIGHT	XXX
I.	OCCUPANT LOAD	XXX

The map shows the Charlotte Police Department's 10th Precinct, which covers an area of 1.5 square miles. The precinct is located in the Glenwood Village area, near the intersection of I-77 and I-85. The map includes labels for various streets and landmarks, such as Glenwood Village, Hidden Lake, Willow Run, Post-Orange Gateway Center, and the Charlotte Police Department's 10th Precinct. A red pin marks the location of the 10th Precinct.

NOT TO SCALE

MECHANICAL & ELECTRICAL
BCER ENGINEERING, INC.
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Melbourne, FL 32940
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00	- GENERAL
G000	COVER SHEET
23	- MECHANICAL
M001	MECHANICAL GENERAL INFORMATION
M002	MECHANICAL SCHEDULES
MD101	LEVEL 1 MECHANICAL DEMOLITION PLAN
M101	LEVEL 1 MECHANICAL PLAN
M501	MECHANICAL DETAILS
26	- ELECTRICAL
E001	ELECTRICAL GENERAL INFORMATION
E002	ELECTRICAL PROJECT NOTES
ED101	LEVEL 1 POWER DEMOLITION PLAN
E101	LEVEL 1 POWER PLAN
E601	ELECTRICAL ONE-LINE DIAGRAM
TOTAL # OF SHEETS: 11	

Construction Documents 11.12.2025

REVISIONS

[illegible]

HORIZON ELEMENTARY
REPLACE CHILLER BLDG. 11
VCS Project NO. 2648221
4751 Hidden Lake Dr.,
Port Orange, FL 32129

CHIENGR OF RECORD

EOR
BCER Engineering

DESIGNED BY BCER	DRAWN BY BCER
----------------------------	-------------------------

ISSUE DATE	AE PROJECT NUMBER
11/12/2025	145425001

SHEET TITLE	COVER SHEET
-------------	-------------

DRAWING NO.

G000

MECHANICAL LEGEND							
ALL SYMBOLS IN LEGEND MAY NOT NECESSARILY BE USED ON THIS PROJECT							
ABBREVIATIONS AND DESCRIPTIONS							
AFF AP BBD BOD BOP C.E.L. DIA., D, Ø EA I.E. MA MD MVD NC NIC NO OA REL SA	ABOVE FINISHED FLOOR ACCESS PANEL BAROMETRIC BACKDRAFT DAMPER BOTTOM OF DUCT BOTTOM OF PIPE CENTER LINE ELEVATION DIAMETER EXHAUST AIR INVERT ELEVATION MIXED AIR MOTORIZED DAMPER MANUAL VOLUME DAMPER NORMALLY CLOSED NOT IN CONTRACT NORMALLY OPEN OUTSIDE AIR RETURN AIR RELIEF AIR SUPPLY AIR	TCEAD TCOAD TCRAD TCP TYP UNO VTR (N) (E) (R) (F)	TEMPERATURE CONTROL EXHAUST AIR DAMPER TEMPERATURE CONTROL OUTSIDE AIR DAMPER TEMPERATURE CONTROL RETURN AIR DAMPER TEMPERATURE CONTROL PANEL TYPICAL UNLESS NOTED OTHERWISE VENT THROUGH ROOF NEW EXISTING RELOCATED FUTURE EXISTING WORK IS SHOWN AS LIGHT LINES TO BE DEMOLISHED WORK IS SHOWN WITH BOLD DASHED LINES NEW WORK IS SHOWN AS BOLD SOLID LINES	 INDICATES SUPPLY AND RETURN PIPING TO UNIT HEATING COIL TRANSITION TO SIZE ON PLANS CONTROL ENCLOSURE ACCESS EQUIPMENT TERMINAL OR VALV BOX EQUIPMENT TYPE FLOOR # IF MULTIPLE BOX # GPM N NORTH ARROW	 WORK NOTE SYMBOL REVISION SYMBOL AND CLOUD DIRECTION OF CUT SECTION DESIGNATION SHEET ON WHICH SECTION IS LOCATED ELEVATION DESIGNATION DIRECTION OF VIEW SHEET ON WHICH ELEVATION IS LOCATED POINT OF CONNECTION NEW TO EXISTING SHEET ON WHICH DETAIL IS LOCATED BREAK LINE CONTINUANCE LINE		
SHEET METAL FITTINGS AND EQUIPMENT							
 	SUPPLY ROUND DUCT DOWN SUPPLY ROUND DUCT UP RETURN ROUND DUCT DOWN RETURN ROUND DUCT UP EXHAUST ROUND DUCT DOWN EXHAUST ROUND DUCT UP SUPPLY DUCT DOWN SUPPLY DUCT UP RETURN DUCT DOWN RETURN DUCT UP EXHAUST DUCT DOWN EXHAUST DUCT UP RADIUS ELBOW VANED ELBOW	 	DUCT END CAP RECTANGULAR 90° TAKEOFF WITH BEVELED TAP ROUND 90° CONICAL TAKE OFF FROM RECTANGLE TRUNK ROUND 90° CONICAL TAKE OFF W/ MANUAL VOLUME DAMPER ROUND DUCT TAP OFF TOP OF DUCT BEVELED TAP OFF TOP OF DUCT RECTANGLE DUCT RISE/DROP IN PLAN RECTANGLE TO ROUND TRANSITION ROUND DUCT RISE/DROP IN PLAN BURIED, UNDERFLOOR OR UNDER DUCT FLEXIBLE DUCT	 	SUPPLY AIR DIFFUSER RETURN OR EXHAUST REGISTER/GRILLE UNSHADED AREAS INDICATE DIRECTION OF AIR FLOW (IF NO SHADING, 4-WAY OR ADJUSTABLE) LINEAR SLOT DIFFUSER CEILING AIR DEVICE WITH FIRE DAMPER MANUAL VOLUME DAMPER MOTOR MOTORIZED DAMPER MOTOR BACKDRAFT DAMPER DUCT SMOKE DETECTOR FIRE/SMOKE DAMPER (# REFERS TO SCHEDULE) FIRE DAMPER SMOKE DAMPER FLEXIBLE DUCT CONNECTION	 	UNIT HEATER BASEBOARD HEATER ACCESS PANEL SOUND ATTENUATOR DOOR UNDERCUT AIR FLOW - POSITIVE PRESSURE AIR FLOW - RETURN OR EXHAUST AIR FLOW DIRECTION FAN FAN CONTROL WIRE
PIPING DESIGNATIONS, FITTINGS AND EQUIPMENT							
--CD-- --CW- CS --CR-- --CWS --CWR-- D --FOS --FOR-- --FOV-- G HWS --HWR-- HRS --HRR-- HPS --HPR-- LPS --LPR-- MPS --MPR-- PWS --PWR-- RL RS RHG	CONDENSATE DRAIN CONDENSER WATER (COMMON) CONDENSER WATER SUPPLY CONDENSER WATER RETURN CHILLED WATER SUPPLY CHILLED WATER RETURN DRAIN FUEL OIL SUPPLY FUEL OIL RETURN FUEL OIL VENT GAS HEATING WATER SUPPLY HEATING WATER RETURN HEAT RECOVERY SUPPLY HEAT RECOVERY RETURN HIGH PRESSURE STEAM HIGH PRESSURE STEAM (CONDENSATE) RETURN LOW PRESSURE STEAM LOW PRESSURE STEAM (CONDENSATE) RETURN MEDIUM PRESSURE STEAM MEDIUM PRESSURE STEAM (CONDENSATE) RETURN PRE-COOLING WATER SUPPLY PRE-COOLING WATER RETURN REFRIGERANT LIQUID REFRIGERANT SUCTION REFRIGERANT HOT GAS	--SMS- --SMR-- NP CW SCW ARROW PARALLEL TO LINE INDICATES PITCH ARROW IN LINE INDICATES DIRECTION OF FLOW PIPE REDUCER ELBOW UP ELBOW DOWN TEE UP TEE DOWN RISE OR DROP BRANCH SIDE CONNECTION BRANCH TOP CONNECTION BRANCH BOTTOM CONNECTION PIPE CAP OR PLUG FLEXIBLE CONNECTION EXPANSION JOINT PIPE ANCHOR PIPE ALIGNMENT GUIDE EXPANSION LOOP	SNOWMELT SUPPLY SNOWMELT RETURN NON-POTABLE WATER POTABLE COLD WATER SOFT COLD WATER ARROW PARALLEL TO LINE INDICATES PITCH ARROW IN LINE INDICATES DIRECTION OF FLOW PIPE REDUCER ELBOW UP ELBOW DOWN TEE UP TEE DOWN RISE OR DROP BRANCH SIDE CONNECTION BRANCH TOP CONNECTION BRANCH BOTTOM CONNECTION PIPE CAP OR PLUG FLEXIBLE CONNECTION EXPANSION JOINT PIPE ANCHOR PIPE ALIGNMENT GUIDE EXPANSION LOOP	 	BALL VALVE CALIBRATED BALANCE VALVE PLUG VALVE NEEDLE VALVE SOLENOID VALVE PRESSURE REDUCING VALVE 2-WAY CONTROL VALVE 3-WAY CONTROL VALVE CHECK VALVE GLOBE VALVE BUTTERFLY VALVE BALANCING VALVE CIRCUIT SETTER GATE VALVE FOR STEAM UNION PIPE ANCHOR PIPE ALIGNMENT GUIDE 2-WAY VALVE PRESSURE INDEPENDENT VALVE GAS PRESSURE REGULATOR GAS COCK METER VENTURI	 	IN-LINE PUMP BASE MOUNTED PUMP PUMP STRAINER STRAINER W/BLOWOFF VALVE STEAM TRAP TEMPERATURE GAUGE PRESSURE/TEMPERATURE TAP WELL HOSE END BALL VALVE W/ CAP TEMPERATURE/PRESSURE RELIEF VALVE VACUUM BREAKER AUTOMATIC AIR VENT MANUAL AIR VENT PRESSURE GAUGE W/ COCK GAUGE W/ PIT/GAIL
CONTROL DEVICES							
 	FLOW SWITCH FLOW TRANSMITTER HUMIDITY SENSOR PRESSURE SENSOR PRESSURE DIFFERENTIAL SWITCH PRESSURE DIFFERENTIAL TRANSMITTER POSITION INDICATOR ROOM PRESSURE MONITOR	 	PRESSURE SWITCH HIGH PRESSURE SWITCH LOW TEMPERATURE SENSOR TEMPERATURE SWITCH HIGH TEMPERATURE SWITCH LOW SENSOR STATIC PRESSURE SENSOR AIR FLOW DIRECTION ARROW	 	HUMIDIFIER PARALLEL BLADE DAMPER OPPOSED BLADE DAMPER CURRENT SENSOR DAMPEN ACTUATOR MOTOR STARTER VARIABLE FREQUENCY DRIVE HORNS DUCT SMOKE DETECTOR FLOW SWITCH PRESSURE SWITCH CONTROL POINT	 	PRESSURE INDICATOR AQUASTAT MANUAL SWITCH WALL MOUNTED THERMOSTAT S - INDICATES NIGHT N - INDICATES SENSOR UNIT MOUNTED THERMOSTAT HUMIDISTAT CARBON MONOXIDE SENSOR CARBON DIOXIDE SENSOR INDICATOR LIGHT

COMPLIANCE FOR ASHRAE STANDARD 183			
LOCATION:	PORT ORANGE, FL;26 FT. ELEVATION, 29.11 DEGREES LATITUDE, -81.002 DEGREES LONGITUDE.		
OUTDOOR CONDITIONS:	SUMMER	= 92 DEGREES F / 78 DEGREES (MEAN COINCIDENT W.B.)	
	WINTER	= 42 DEGREES F	
INDOOR CONDITIONS:	COOLING	= (75) DEGREES F	
	HEATING	= (72) DEGREES F	
ENVELOPE CHARACTERISTICS:	GLASS SHADING COEF.	= N/A	
	GLASS "U" FACTOR	= N/A	
	GLASS LOW-E	= N/A	
	GLASS INTERIOR SHADING	= N/A	
	WALL INSULATION "R"	= N/A	
	ROOF INSULATION "R"	= N/A	
	PERIMETER FOUNDATION WALL INSULATION "R"	= N/A	
LOAD CALCULATION METHOD:	COOLING	= TETD/TA	
	HEATING	= UATD	

ADOPTED/ENFORCED CODES REQUIRED
2023 FLORIDA BUILDING CODE
2023 FLORIDA EXISTING BUILDING CODE
2023 FLORIDA MECHANICAL CODE
2020 NATIONAL ELECTRICAL CODE
AND LOCAL AMENDMENTS

PROJECT NARRATIVE

THE MECHANICAL SCOPE OF WORK FOR THIS PROJECT INCLUDES, BUT IS NOT LIMITED TO, THE REPLACEMENT OF ONE (1) AIR-COOLED SCROLL CHILLER AND TWO (2) HYDRONIC PUMPS.

DRAWING LIST - MECHANICAL	
M001	MECHANICAL GENERAL INFORMATION
M002	MECHANICAL SCHEDULES
MD/101	LEVEL 1 MECHANICAL DEMOLITION PLAN
M101	LEVEL 1 MECHANICAL PLAN
M501	MECHANICAL DETAILS
TOTAL # OF SHEETS: 5	

MECHANICAL GENERAL NOTES	
1.	DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. WHATEVER IS CALLED FOR IN EITHER IS BINDING AS THOUGH CALLED FOR IN BOTH.
2.	DUCT AND PIPE SIZE DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE.
3.	THE EQUIPMENT SPECIFIED ON THE DRAWINGS HAVE BEEN SELECTED AS THE BASIS OF DESIGN. THE USE OF REVIEWED OR SPECIFIED EQUALS SHALL BE COORDINATED BY THE CONTRACTOR AS TO SPACE REQUIREMENTS, EQUIPMENT DIMENSIONS AND PERFORMANCE. ANY ADDITIONAL COSTS EITHER DIRECTLY OR INDIRECTLY CAUSED BY EQUALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4.	COORDINATE ALL DIFFUSER AND GRILLE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLAN, FIRE PROTECTION, AND ELECTRICAL DRAWINGS.
5.	DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL DESIGN INTENT, ARRANGEMENT AND EXTENT OF SYSTEMS. DO NOT SCALE DRAWINGS NOR USE AS SHOP DRAWINGS. WHERE ALTERNATE ROUTING, OFFSETS AND TRANSITIONS ARE REQUIRED FOR FIELD COORDINATION OF ALL TRADES, THIS CONTRACTOR SHALL MAKE CHANGES WITHOUT ADDITIONAL COSTS.
6.	CONTRACTOR SHALL NOT SHUT-OFF/PUT OUT OF SERVICE ANY SYSTEMS/SERVICES WITHOUT FIRST COORDINATING ALL DOWNTIME WITH OWNER'S PERSONNEL. CONTRACTOR SHALL PROVIDE A DETAILED M.O.P. AS REQUIRED. DO NOT BEGIN WORK WITHOUT WRITTEN APPROVAL.
7.	ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY DIRECTED OTHERWISE.
8.	CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND INSTALLING SLEEVES, INSERTS AND SUPPORTS AS REQUIRED FOR THIS SCOPE OF WORK AND/OR CORE DRILL REQUIREMENTS. COORDINATE WITH GENERAL CONTRACTOR AND STRUCTURAL ENGINEER.
9.	CONTRACTOR SHALL CLOSELY COORDINATE NEW MECHANICAL WITH ALL NEW AND EXISTING MECHANICAL, PLUMBING, ELECTRICAL, FIRE PROTECTION, ARCHITECTURAL AND STRUCTURAL MEMBERS. REFER TO DIVISION 23 SPECIFICATIONS FOR CEILING SPACE ALLOCATION PRIORITIES.
10.	BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO ENTERING INTO CONTRACT. NO ADDITIONAL COST WILL BE ALLOWED FOR FAILURE TO DO SO.
11.	ALL MECHANICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE CODES LISTED ON THIS SHEET AND THE ARCHITECTURAL CODE PLAN.
12.	THE ADOPTED ENERGY CODE FOR THIS PROJECT REQUIRES COMMISSIONING OF THE MECHANICAL SYSTEMS. THE MECHANICAL CONTRACTOR SHALL INCLUDE EXPENSES IN THEIR BID ASSOCIATED WITH THE CODE REQUIRED COMMISSIONING PROCESS. THESE INCLUDE BUT ARE NOT LIMITED TO ATTENDING COMMISSIONING MEETINGS, COMPLETING PREFUNCTIONAL CHECKLISTS, DEMONSTRATING SYSTEM PERFORMANCE, AND ADDRESSING COMMISSIONING AUTHORITY REVIEW COMMENTS. [THIS NOTE HAS LIMITED APPLICABILITY AND SHOULD BE INCLUDED ONLY ON PROJECTS THAT MEET THE FOLLOWING CRITERIA: 1. FOLLOWS THE IECC (OR VARIATION OF, SUCH AS THE FECC), 2. THE TOTAL MECHANICAL COOLING SYSTEM CAPACITY IS GREATER THAN 480,000 BTU/H, 3. THE TOTAL MECHANICAL HEATING SYSTEM CAPACITY IS GREATER THAN 600,000 BTU/H (INCLUDING SERVICE WATER HEATING), 4. THE HVAC SYSTEM DOES NOT SERVE INDIVIDUAL DWELLING UNITS OR SLEEPING UNITS. IF YOU ARE STILL UNSURE IF THIS NOTE APPLIES TO YOUR PROJECT, REFER TO SECTION C408 OF THE IECC OR FECC.]
13.	CONTRACTOR SHALL PROVIDE SUBMITTALS ON ITEMS LISTED IN THE MECHANICAL SCHEDULES AND AS REQUIRED IN EACH SECTION OF SPECIFICATION TO THE ENGINEER/OWNER FOR REVIEW PRIOR TO THE ORDER, PURCHASE OR INSTALLATION OF THESE SAME ITEMS.
14.	ALL EXISTING EQUIPMENT TO BE REMOVED SHALL HAVE ALL RELATED HOUSEKEEPING PADS, PIPING, CONTROLS, GAUGES, ELECTRICAL SERVICE, HANGERS, SUPPORTS AND ANY MISCELLANEOUS RELATED SERVICE OR PARTS REMOVED COMPLETELY.
15.	PROVIDE MANUAL AIR VENTS ON CLOSED SYSTEM WATER PIPING AT ALL CHANGES IN ELEVATION DOWNWARD IN DIRECTION OF WATER FLOW.
16.	CONTRACTOR SHALL CONSTRUCT AND INSTALL DUCTWORK ACCORDING TO SMACNA STANDARDS AS A MINIMUM REQUIREMENT. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
17.	ALL DUCT DIMENSIONS ARE OUTSIDE DIMENSIONS. WHERE DUCT LINER IS USED, THE THICKNESS OF THE LINER TO MAINTAIN THE CLEAR INSIDE DIMENSION HAS BEEN INCLUDED. REFER TO DUCT INSULATION / LINER SCHEDULE AND/OR DIVISION 23 OF THE SPECIFICATIONS.
18.	SPIN-IN FITTINGS TO VAV BOXES AND DIFFUSERS SHALL BE CONICAL TYPE (EXCEPT LOCATIONS WHERE LISTED DUCT HEIGHT DOES NOT ACCOMMODATE). SPIN-IN FITTINGS TO DIFFUSERS SHALL INCLUDE AN INTEGRAL MANUAL VOLUME DAMPER.
19.	RIGID INLET DUCTS TO VAV BOXES (AND OUTLET DUCTS FOR EXHAUST TERMINALS) SHALL BE THE SAME SIZE AS THE VAV BOX INLET CONNECTION UNLESS NOTED OTHERWISE FOR A MINIMUM OF THREE DIAMETERS OF STRAIGHT DUCT.
20.	ALL OPENINGS FROM EXHAUST DUCTS, EXHAUST FANS, GRAVITY ROOF VENTS, INTAKE LOUVERS AND GOOSENECKS SHALL BE A MINIMUM OF 12" ABOVE THE TOP OF THE FINISHED ROOFING SURFACE.
21.	MOUNT THERMOSTAT AT 42" ON CENTER ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED (ADA REQUIREMENT). ALIGN WITH OTHER ADJACENT DEVICES ON WALL.
22.	PROVIDE REDLINE MARK-UPS FOR ANY FIELD CHANGES OR MODIFICATIONS ON THE CONSTRUCTION DOCUMENTS. REDLINE DRAWINGS SHALL BE PROVIDED WHETHER COORDINATION DRAWINGS ARE REQUIRED OR NOT.
23.	EQUIPMENT E.E.R. AND/OR C.O.P. VALUES SHALL COMPLY WITH THE CURRENT EDITION OF ASHRAE 90.1.
24.	EXISTING EQUIPMENT AS NOTED ON THE DRAWINGS SHALL BE RETURNED TO THE OWNER AT THEIR DESIGNATED LOCATION.
25.	PRIOR TO BALANCING MECHANICAL CONTRACTOR SHALL PROVIDE A CLEAN SET OF FILTERS FOR AIR HANDLING UNITS. THIS CONTRACTOR SHALL PROVIDE A MEANS TO SIMULATE 50% LOADED FILTERS. SYSTEM SHALL BE BALANCED IN THIS MODE.

[illegible]

REVISIONS

HORIZON ELEMENTARY
REPLACE CHILLER BLDG. 11
VCS Project NO. 2648221
4751 Hidden Lake Dr.,
Port Orange, FL 32129

FOR BCER Engineering		ARCHENGR OF RECORD	
DESIGNED BY MIKE SCHRODER	DRAWN BY MICHAEL ACCALIOS		
ISSUE DATE 11/12/2025	AE PROJECT NUMBER 145425001		
SHEET TITLE MECHANICAL GENERAL INFORMATION			
DRAWING NO. M001			

CAPACITY CONVENTIONS

- STATIC PRESSURES AND AIR PRESSURE DROPS ARE AT ALTITUDE OF PROJECT.
- HEATING AND COOLING OUTPUT CAPACITIES ARE AT ALTITUDE OF PROJECT.
- HORSEPOWERS ARE CORRECTED FOR PROJECT ALTITUDE.
- NATURAL GAS INPUTS ARE AT SEA LEVEL.

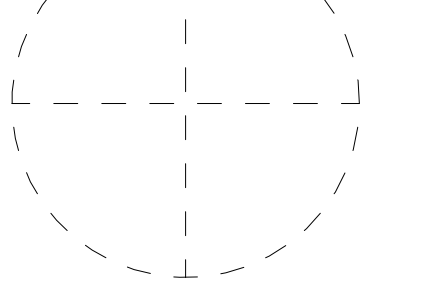
HORIZON ELEMENTARY
REPLACE CHILLER BLDG. 11
VCS Project NO. 2648221
4751 Hidden Lake Dr.,
Port Orange, FL 32129

M002

WORK NOTES

M1	REMOVE EXISTING CHILLER AND ASSOCIATED INTEGRATED HYDRONIC PUMPS.
M2	REMOVE PORTIONS OF EXISTING CHILLED WATER PIPING AS NECESSARY FOR NEW CHILLER CONNECTIONS.
M3	REMOVE AND REPLACE ANY EXISTING PIPING ACCESSORIES AS NECESSARY TO ACCOMMODATE NEW CHILLER INSTALLATION.

PROGRESS - NOT FOR
CONSTRUCTION



REVISIONS

[illegible]

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4751 Hidden Lake Dr.,
Port Orange, FL 32129

4751 Hidden Lake Dr.,
Port Orange, FL 32129

CHENGR OF RECORD

BCER Engineering

DESIGNED BY
**MIKE
SCHRODER**

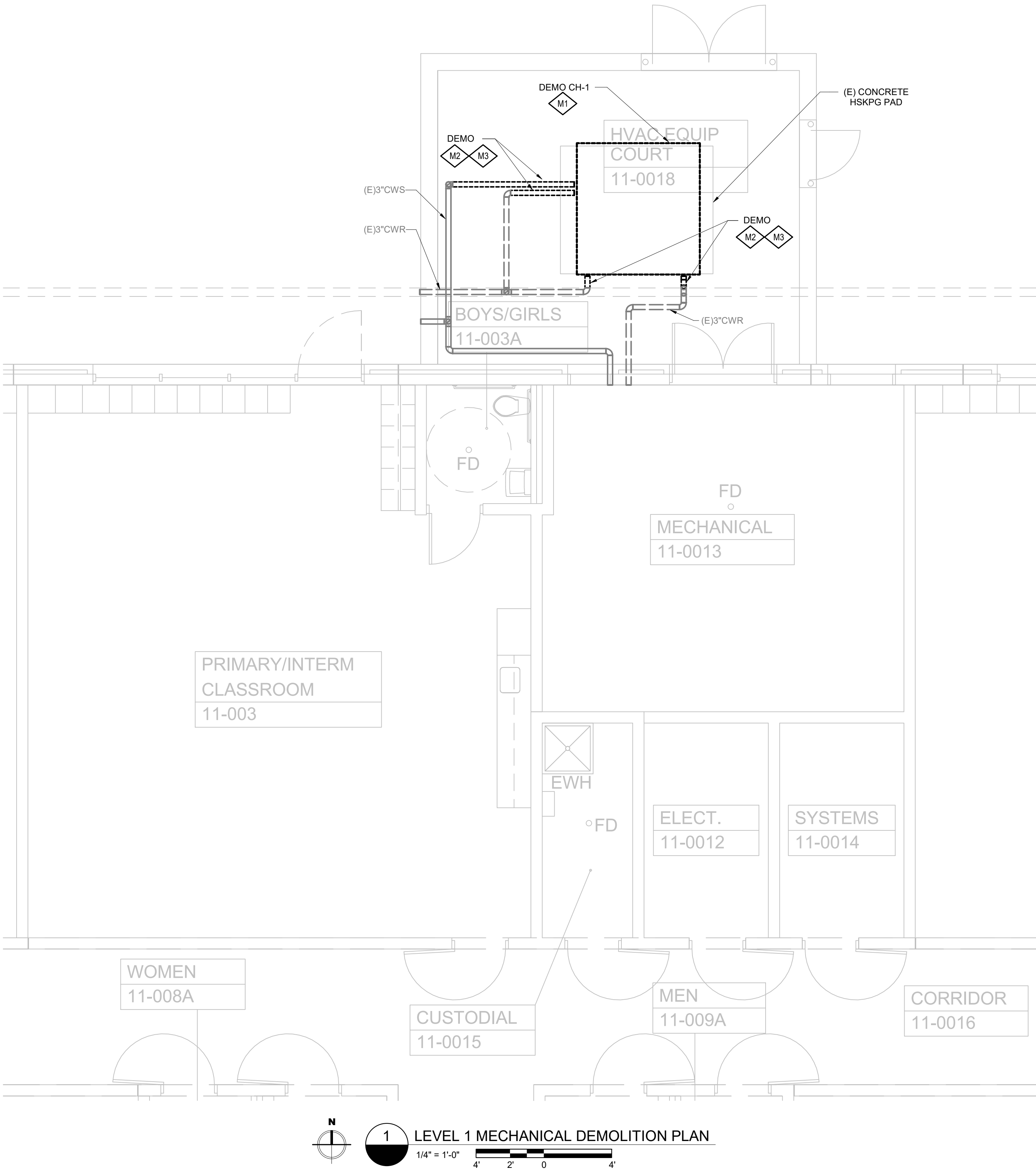
ISSUE DATE
11/12/2025

PROJECT NUMBER
145425001

LEVEL 1 MECHANICAL DEMOLITION PLAN

DRAWING NO.

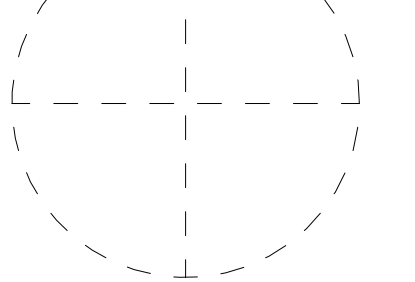
MD101



WORK NOTES

M4	INSTALL NEW PIPING/VALVES OF THE SAME TYPE AND SIZE AS THE EXISTING THAT WERE DEMOLISHED AND CONNECT TO NEW CHILLER.
M5	PROVIDE NEW AIR COOLED SCROLL CHILLER, ACCH-1, ON EXISTING CONCRETE PAD. CONNECT EXISTING CHILLED WATER SUPPLY PIPING AND EXISTING CHILLED WATER RETURN PIPING TO NEW CHILLER.
M6	NEW CHILLER IS FURNISHED WITH FACTORY-INTEGRATED DUAL HYDRONIC PUMPS AND EXPANSION TANK.
M7	NEW CHILLER TO BE RAISED ON STEEL PLATE TOP AND BOTTOM NEOPRENE COVERED TO PREVENT CORROSION. PROVIDE 2-3 INCH CLEARANCE ABOVE CONCRETE SLAB.
M8	EXISTING BUILDING AUTOMATION SYSTEM CONTROL PANEL TO REMAIN. CONTRACTOR SHALL PROVIDE ALL CONTROLS NECESSARY TO INTEGRATE NEW CHILLER AND PUMPS INTO THE EXISTING BUILDING AUTOMATION SYSTEM CONTROLS.

PROGRESS - NOT FOR
CONSTRUCTION



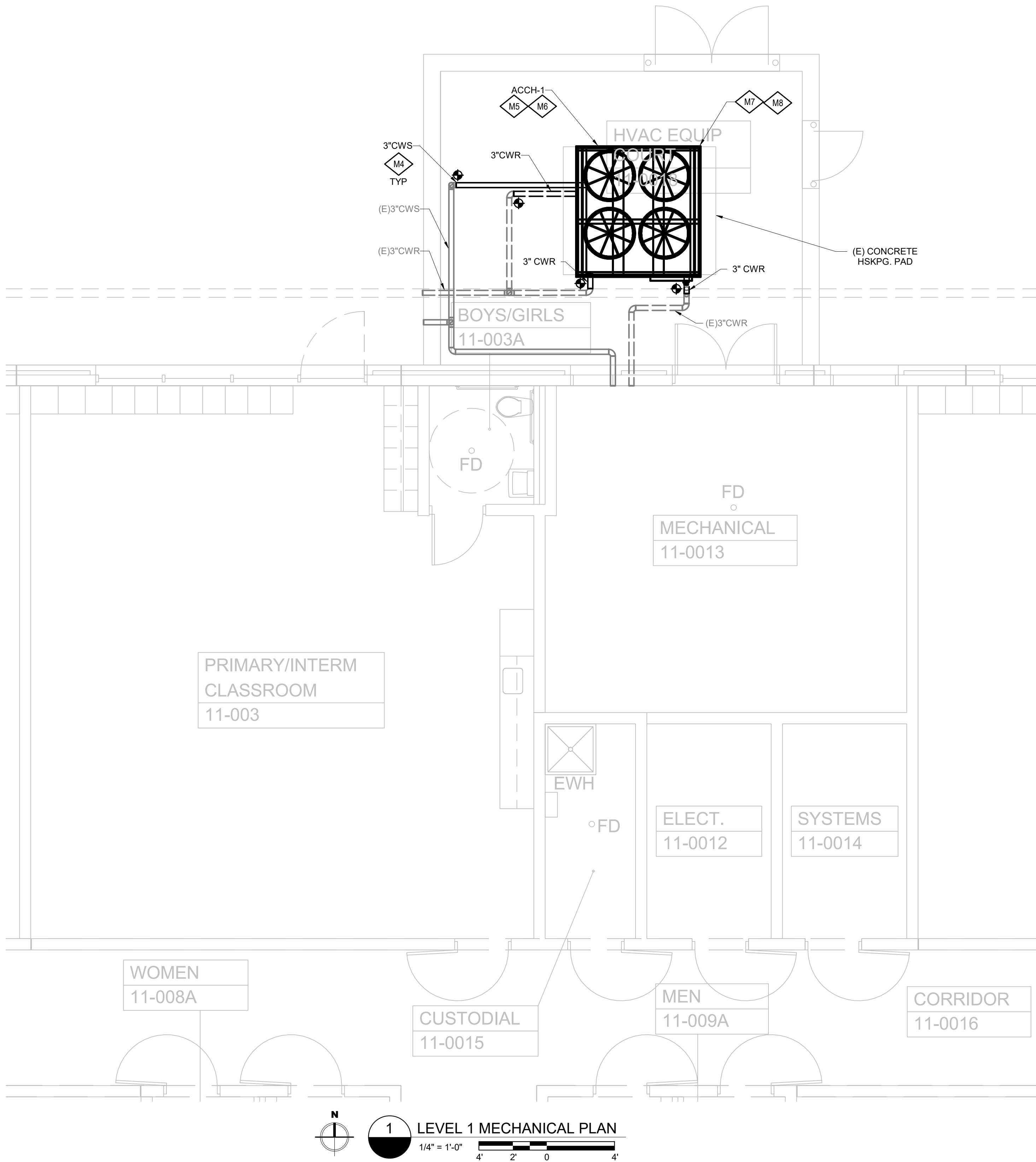
REVISIONS

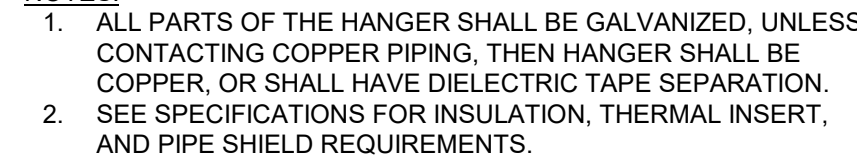
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VCS Project NO. 2648221
4751 Hidden Lake Dr.,
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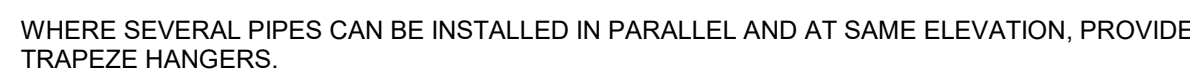
EOR BCER Engineering	
DESIGNED BY MIKE SCRODGER	DRAWN BY MICHAEL ACCALIOS
ISSUE DATE 11/12/2025	A/E PROJECT NUMBER 145425001
SHEET TITLE LEVEL 1 MECHANICAL PLAN	
DRAWING NO.	

M101





(1) WHERE PIPING OF VARIOUS SIZES IS SUPPORTED TOGETHER BY TRAPEZE HANGERS, SPACE HANGERS FOR THE PIPE WITH THE SHORTEST HORIZONTAL SPACING FROM THE TABLE.





REVISIONS

REPLACE CHILLER BLDG. 1
VCS Project NO. 2648221

4751 Hidden Lake Dr.,
Port Orange, FL 32129

PC

Port Orange, FL 32129

3. REFER TO ELECTRICAL SCHEDULES SHEET FOR LIGHTING CONTROL SCHEDULE AND LIGHTING CONTROL SCHEDULE AND NOTES.
2. COORDINATE AND VERIFY EXACT MOUNTING LOCATIONS AND HEIGHTS OF WALL DEVICES WITH ARCHITECTURAL PLANS, ELEVATIONS, AND MILLWORK SHOP DRAWINGS PRIOR TO ROUGH-IN. HEIGHTS INDICATED ARE TO THE CENTERLINE OF THE DEVICE UNLESS OTHERWISE INDICATED.
3. REFER TO ELECTRICAL REFLECTED CEILING PLANS FOR CEILING TYPES AND EXACT LOCATION OF ALL FIXTURES. COORDINATE AND VERIFY ALL LUMINAIRE REQUIREMENTS WITH ARCHITECT PRIOR TO PREPARING SUBMITTALS INCLUDING, BUT NOT LIMITED TO, MOUNTING METHOD (MOUNTING HEIGHT(S)), CEILING TYPES, AND FINISHES AND/OR COLORS. COORDINATE LUMINAIRE LOCATIONS WITH MECHANICAL PIPING, DUCTWORK, FIRE PROTECTION, CABLE TRAY, CONDUIT, ETC. TO AVOID CONFLICTS.
4. RECESSED FIXTURES INSTALLED INDOORS SHALL BE THERMALLY PROTECTED.
5. SUPPORT ALL LUMINAIRES FROM STRUCTURE. LAY-IN FIXTURES SHALL BE SUPPORTED WITH TWO #12AWG WIRES FROM OPPOSITE ENDS UNLESS OTHERWISE NOTED.
6. PROVIDE NEUTRAL AND GROUND CONDUCTORS THROUGHOUT ALL LIGHTING BRANCH CIRCUITS INCLUDING ALL SWITCH OR LIGHTING CONTROL DEVICE LOCATIONS.
7. ALL LIGHTING CONTROLS SHALL COMPLY WITH IECC. REFER TO APPLICABLE CODES LISTED ON ARCHITECTURAL CODE PLAN AND ELECTRICAL GENERAL INFORMATION SHEET FOR SPECIFIC VERSION OF IECC APPLICABLE TO PROJECT.
8. LOCATIONS OF OCCUPANCY SENSORS ARE DIAGRAMMATIC. FIELD COORDINATE EXACT LOCATIONS OF CEILING MOUNTED OCCUPANCY SENSORS PER MANUFACTURER'S INSTRUCTIONS. MANUFACTURER DRAWINGS SHALL BE PROVIDED INDICATING COVERAGE AREAS. IF ADDITIONAL SENSORS ARE NEEDED FOR COMPLETE COVERAGE OF SPACE, THEY SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AS REQUIRED TO PROVIDE COMPLETE SPACE COVERAGE. DO NOT LOCATE OCCUPANCY SENSORS WITHIN SIX FEET OF AN HVAC SUPPLY DEVICE. CARE SHALL BE TAKEN TO LOCATE SENSORS AWAY FROM WINDOWS TO MINIMIZE NOISANCE TRIPPING.
9. CONTRACTOR SHALL PROVIDE ALL NECESSARY SWITCH PACKS FOR OCCUPANCY SENSORS TO PROVIDE FUNCTION INDICATED.
10. ALL OCCUPANCY SENSORS SHALL HAVE AN AUXILIARY CONTACT THAT WILL ALLOW THEM TO INTERFACE WITH THE HVAC SYSTEM.
11. ALL EXIT SIGNS SHALL BE CIRCUITED TO LIGHTING CIRCUIT SERVING OTHER LUMINAIRES IN THE SAME SPACE AS THE EXIT SIGNS.
12. ALL EMERGENCY BATTERY PACKS SHALL BE WIRED AHEAD OF LOCAL SWITCHING AND SHALL NOT AFFECT THE NORMAL OPERATION OF THE LUMINAIRE. PROVIDE UNSWITCHED HOT CONDUCTOR TO BATTERY PACKS AS REQUIRED PER MANUFACTURER'S INSTALLATION AND CONTROL INENT.
13. ALL EMERGENCY LIGHTING SHALL BE NORMALLY CONTROLLED. LOSS OF UTILITY POWER SHALL ENERGIZE ALL EGRESS LIGHTING TO FULL BRIGHT. THE DESIGN SHALL MEET ALL UL STANDARDS FOR EMERGENCY REQUIREMENTS.
14. PROVIDE UNIT PRICE FOR ADDITIONAL EXIT SIGN(S) AND INSTALLATION AS REQUIRED BY INSPECTOR (AHJ).
15. LOW VOLTAGE LIGHTING CONTROL WIRING IN EXPOSED SPACES SHALL BE RUN CONCEALED IN WALLS WHERE POSSIBLE. EXPOSED RUNS ACROSS CEILING SHALL BE RUN IN CONDUIT, PAINTED TO MATCH ADJACENT FINISH.

1. DEMOLITION DRAWINGS MAY NOT SHOW EVERY ITEM TO BE DEMOLISHED. DURING PRE-BID SITE VISIT, CONTRACTOR SHALL DETERMINE THE EXACT EXTENT OF DEMOLITION TO FACILITATE ALL WORK INDICATED BY THE CONTRACT DOCUMENTS PRIOR TO EXPOSITION NO EXPOSURE. CONTRACTOR SHALL BE ALLOWED FOR WORK REQUIRED TO ACHIEVE THE END RESULT AS INDICATED BY THE CONTRACT DOCUMENTS. REMOVE OR REWORK EXISTING ELECTRICAL SYSTEMS AS REQUIRED WHEN IN CONFLICT WITH NEW CONSTRUCTION. REWORK EXISTING TERMINATIONS, CONNECTIONS, CONDUIT, WIRING, ETC. TO ACCEPT NEW WORK. MAINTAIN CIRCUIT CONTINUITY TO EXISTING DEVICES. EXISTING DEVICES TO REMAIN OR BE RELOCATED. WIRING AND RACEWAY SHALL BE PROVIDED AS NECESSARY TO REENERGIZE EXISTING DEVICES TO REMAIN WHEN POWER TO SUCH DEVICES IS INTERRUPTED DUE TO DEMOLITION OF OTHER DEVICES ON THE SAME CIRCUIT. PRIOR TO COMMENCEMENT OF ANY DEMO WORK, CONFIRM EXISTING CONDITIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES REQUIRING RESOLUTION.
2. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR WALL, FLOOR, AND CEILING DEMOLITION REQUIREMENTS.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SCHEDULE ALL DEMOLITION WORK WITH THE OWNER WELL IN ADVANCE. WORK SHALL BE PERFORMED AT SUCH TIMES AND UNDER SUCH CONDITIONS AS SUITS THE OWNER. DEMOLITION SHALL BE STAGED TO MINIMIZE THE AMOUNT OF DOWNTIME.
4. WHERE COMPLETE CIRCUITS ARE DEMOLISHED, THE WIRING SHALL BE DEMOLISHED BACK TO THE BRANCH CIRCUIT PANELBOARD. UNDER NO CIRCUMSTANCES ARE ABANDONED DEVICES OR BRANCH CIRCUITS ALLOWED. DO NOT LEAVE WIRES CONNECTED TO SPARE CIRCUIT BREAKERS. RACEWAYS MAY REMAIN, AND BE REUSED WHERE APPLICABLE. RACEWAYS AND BRANCH CIRCUITS NOT REUSED FOR NEW CONSTRUCTION SHALL BE COMPLETELY DEMOLISHED, INCLUDING PIPE Hangers, STRAPS, OR THE WIRES ANCHORED IN CONCRETE SLAB ABOVE CEILING THAT ARE NO LONGER IN USE. PATCH HOLES LEFT IN WALLS AND FLOORS AFTER REMOVAL OF EXISTING PIPING, CONDUIT, ETC. TO MATCH NEW OR EXISTING CONSTRUCTION AND FIRE RATING.
5. ALL ITEMS IDENTIFIED TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY INCLUDING ALL WIRING AND EXPOSED CONDUIT AND CONDUIT SUPPORTS BACK TO POINT OF ORIGIN OR NEXT DEVICE TO REMAIN. CONTRACTOR SHALL USE CARE IN REMOVING DEVICES AND FIXTURES AND THEN SHALL MAKE THEM AVAILABLE TO THE OWNER FOR FUTURE USE. OWNER ACCEPTED ITEMS, UNLESS OTHERWISE NOTED, SHALL BE STORED IN AN AREA DESIGNATED BY THE OWNER. ALL DEVICES AND FIXTURES NOT RETAINED BY THE OWNER SHALL BE DISPOSED OF LEGALLY BY THE CONTRACTOR. IF ANY HAZARDOUS MATERIALS ARE DISCOVERED DURING DEMOLITION, NOTIFY OWNER AND ARCHITECT FOR FURTHER DIRECTION.
6. WALL BOXES IN EXISTING WALLS TO REMAIN SHALL BE LEFT IN PLACE. REUSE THESE BOXES FOR NEW WIRING DEVICES IF THE EXISTING BOX IS WITHIN 12-INCHES LATEROALLY OF NEW DEVICE LOCATION AND AT THE SAME MOUNTING HEIGHT AND WHERE CURRENT NEC AND LOCAL CODE REQUIREMENTS ARE MAINTAINED. EXISTING BOXES CAPABLY BE REUTILIZED IN PLACE AND SHOULD BE RELOCATED. PROVIDE BLANK COVERPLATES FOR EXISTING BOXES NOT REUSED FOR NEW DEVICES.
7. WHERE EXISTING CONDUITS ARE BEING REMOVED AND HAVE BEEN ROUTED IN EXISTING WALLS, THE CONCRETE SURFACES SHALL BE REFINISHED. CONDUITS SHALL BE CUT BACK FLUSH WITH CONCRETE. FILL WITH GROUT TO ACHIEVE A SMOOTH AND EVEN FINISH FLUSH WITH CONCRETE SURFACE AFTER CONDUCTORS HAVE BEEN REMOVED.
8. REFLECT TO OTHER TRADES' DRAWINGS FOR ITEMS DEMOLISHED BY OTHERS. ELECTRICAL CONTRACTOR SHALL DEMOLISH ALL RELATED ELECTRICAL WIRING, CONDUIT AND ASSOCIATED ELECTRICAL EQUIPMENT, ETC. AS REQUIRED AS PART OF THIS PROJECT.

1. REFER TO THE MECHANICAL EQUIPMENT CONNECTION SCHEDULE ON THE ELECTRICAL SCHEDULES SHEET FOR MECHANICAL EQUIPMENT FEEDER INFORMATION AND BREAKER SIZES.
2. PROVIDE FUSES SIZED FOR EQUIPMENT INDICATED TO HAVE A FUSED DISCONNECT PER EQUIPMENT MANUFACTURER REQUIREMENTS.
3. DISCONNECT SWITCH LOCATIONS ARE SHOWN DIAGRAMMATICALLY AND SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION TO SUIT EQUIPMENT AND SPACE. DISCONNECT SWITCHES SHALL BE WITHIN SIGHT OF THE EQUIPMENT THEY SERVE AND MOUNTED AT A MAXIMUM 6'-3" TO THE TOP OF THE OPERATING HANDLE. MAINTAIN NEC WORKSPACE CLEARANCES AND REQUIREMENTS.
4. RECEPTACLES INDICATED TO BE MOUNTED ABOVE COUNTER ARE TO BE MOUNTED HORIZONTALLY 6" ABOVE COUNTER.
5. COORDINATE AND VERIFY EXACT MOUNTING LOCATIONS AND HEIGHTS OF WALL AND FLOOR DEVICES WITH ARCHITECTURAL PLANS, ELEVATIONS, AND MILLWORK SHOP DRAWINGS OR ANY FURNITURE OR SPECIALTY EQUIPMENT SUPPLIER DRAWINGS PRIOR TO ROUGH-IN. HEIGHTS INDICATED ARE TO THE CENTERLINE OF THE DEVICE UNLESS OTHERWISE INDICATED.
6. COORDINATE EXACT REQUIREMENTS AND LOCATIONS OF MECHANICAL, PLUMBING, FIRE/LIFE SAFETY, AND TECHNOLOGY EQUIPMENT WITH MECHANICAL, PLUMBING, FIRE/LIFE SAFETY, AND TECHNOLOGY DRAWINGS, SPECIFICATIONS, DETAILS AND CONTRACTORS PRIOR TO ROUGH-IN.
7. ALL GENERAL-PURPOSE RECEPTACLES IN SHOP AND/OR UTILITY AREAS SHALL BE GFCI RATED AND MOUNTED AT +42" AFF.
8. NO RECEPTACLES SHALL BE MOUNTED BELOW +18" AFF UNLESS NOTED OTHERWISE.
9. FOR RECEPTACLES DENOTED "TV", COORDINATE RECEPTACLE LOCATION AND MOUNTING HEIGHT WITH TV BRACKET AND CATV OUTLET PRIOR TO ROUGH-IN.
10. THE CONTRACTOR SHALL TAKE DIMENSIONS FOR FLOOR MOUNTED DEVICES FROM ARCHITECTURAL AND VENDOR DRAWINGS.
11. ALL 125V THROUGH 250V RECEPTACLES INSTALLED FOR VENDING MACHINES OR IN LOCKER ROOMS, BATHROOMS, KITCHENS, ROOFTOPS, SHOPS, AND OUTDOORS, AND WITHIN 6' OF THE OUTSIDE EDGE OF SINKS OR A WATER SOURCE SHALL BE GFCI TYPE IN AN ACCESSIBLE LOCATION PER NEC OR PROTECTED BY A GFCI BREAKER. WHERE RECEPTACLE IS NOT READILY ACCESSIBLE, PROVIDE A REMOTE GFCI RESET BUTTON IN AN ACCESSIBLE LOCATION AND A NON-GFCI RECEPTACLE IN THE INACCESSIBLE LOCATION. DO NOT DAISY CHAIN OR FEED-THROUGH GFCI DEVICES.
12. RECEPTACLES FOR ELECTRIC WATER COOLERS TO BE CONCEALED BEHIND SHROUD. REMOTE GFCI RESET BUTTON SHALL BE INSTALLED CENTERED 6" BELOW THE BOTTOM OF THE ELECTRIC WATER COOLER. PROVIDE A SEPARATE RECEPTACLE FOR EACH DRINKING FOUNTAIN COMPARTMENT. SEPARATE RECEPTACLES CAN SHARE CIRCUIT INDICATED.
13. FINAL CONNECTIONS TO MOTORS, AND OTHER VIBRATING EQUIPMENT SHALL BE WITH SEAL TIGHT FLEX AND APPROVED FITTINGS. DO NOT SECURE CONDUITS, DISCONNECTS, OR DEVICES TO DUCTWORK OR MECHANICAL EQUIPMENT.
14. RECEPTACLES MOUNTED BACK-TO-BACK IN FIRE RATED WALLS SHALL BE PROVIDED WITH A THROUGH-PENETRATION FIRESTOP SYSTEM.
15. ALL EXTERIOR RECEPTACLES TO HAVE METALLIC WEATHERPROOF WHILE IN-USE COVERS.
16. PROVIDE AND INSTALL A RECEPTACLE WITHIN 25' OF HVAC EQUIPMENT.
17. MOUNT ROOF-MOUNTED RECEPTACLE ENCLOSURE ON STAINLESS STEEL UNISTRUT CHANNEL SUPPORT/STAND 18-INCHES ABOVE FINISHED ROOF TO BOTTOM OF RECEPTACLE. PROVIDE FLASHING AT CONDUIT ROOF PENETRATION. CONDUIT SHALL BE GALVANIZED RIGID STEEL AT PENETRATION EXTENDING TO RECEPTACLE BOX CONNECTION. RECEPTACLE MAY BE MOUNTED TO ROOFTOP EQUIPMENT OR ROOFTOP EQUIPMENT SUPPORT IN LIEU OF SUPPORT/STAND IF NEC AND IMC REQUIREMENTS ARE MAINTAINED AND SUCH MOUNTING IS ACCEPTABLE TO ROOFTOP EQUIPMENT MANUFACTURER/SUPPLIER.
18. CONNECTIONS TO ITEMS INDICATED BY WORK NOTES OR OTHER NOTATION SHALL BE 20A, 120V, 1[(2#12 + 1#12G) 3/4"] UNLESS NOTED OTHERWISE.
19. FEEDS TO FURNITURE SYSTEM PANELS SHALL BE CONFIGURED TO MATCH FURNITURE SYSTEM CIRCUITRY REQUIREMENTS, WITH THE SAME NUMBER OF PHASE, NEUTRAL, AND GROUND CONDUCTORS. MULTIPLE CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR IN THE SAME BRANCH CIRCUIT FEED SHALL HAVE COMMON HANDLE TIE ON BREAKERS.
20. PROVIDE TAMPER RESISTANT RECEPTACLES IN ALL SPACES REQUIRED BY THE NEC.
21. PROVIDE WALL AND FLOOR MOUNTED DEVICES IN MEETING ROOMS AS REQUIRED IN NEC 210.65. PROVIDE UNIT PRICE FOR ADDITIONAL FLOOR BOXES AND WALL-MOUNTED RECEPTACLES INCLUDING INSTALLATION AS REQUIRED BY INSPECTOR (AHJ).

1. ALL NEW WORK IS SHOWN BY SOLID BOLD LINES; ALL EXISTING WORK IS SHOWN AS SOLID LIGHT LINES. DASHED BOLD LINES INDICATE REMOVAL.
2. EXISTING INFORMATION SHOWN ON THE DRAWINGS HAS BEEN TAKEN FROM OWNER FURNISHED DRAWINGS AND/OR LIMITED FIELD OBSERVATIONS. BCR IS NOT RESPONSIBLE FOR THE ACCURACY OF ANY INFORMATION OR THE ADEQUACY, SAFETY, AND CONFORMANCE TO CURRENT PREVAILING CODES OF ANY WORK SHOWN AS EXISTING ON THESE DRAWINGS. NOT ALL OF THE EXISTING ELECTRICAL SYSTEM EQUIPMENT MAY BE SHOWN. PRIOR TO BID, THE CONTRACTOR SHALL WALK THE SITE AND BECOME FAMILIAR WITH THE EXTENT OF THE REMODEL WORK. CONTRACTOR IS RESPONSIBLE FOR BRINGING ANY CONCERNS TO THE ARCHITECT/ENGINEER AT LEAST ONE WEEK PRIOR TO BID. NO EXTRA COSTS WILL BE ALLOWED FOR ALTERATIONS OF A FORESEEABLE NATURE REQUIRED TO ACHIEVE THE END RESULT AS INDICATED BY THE DRAWINGS.
3. REUSE EXISTING CONDUIT WHERE CURRENT NEC AND LOCAL CODE REQUIREMENTS ARE MAINTAINED. PROVIDE NEW CONDUIT AND WIRE FOR NEW INSTALLATIONS AND EXTENSION OF EXISTING INSTALLATIONS. REUSE EXISTING CONDUIT IN PLACE. DO NOT REINSTALL EXISTING CONDUIT. PROVIDE LABELING PER SPECIFICATIONS FOR REUSED CONDUIT.
4. A DETAILED WRITTEN METHOD OF PROCEDURE IS REQUIRED WHEN A CONSTRUCTION ACTIVITY OR OUTAGE AFFECTS THE SAFETY OF THE OCCUPANTS OF THE BUILDING. THIS MUST BE PROVIDED ONLY AT TIMES APPROVED BY THE OWNER IN WRITING. VERIFY MAXIMUM OUTAGE TIME WITH OWNER PRIOR TO PREPARATION OF MOP. NOTICE SHALL BE PROVIDED A MINIMUM OF [1 WEEK] IN ADVANCE OF OUTAGE. WORK WHICH COULD RESULT IN AN ACCIDENTAL OUTAGES SHALL BE PERFORMED WITH THE OWNER ADVISED OF SUCH WORK.
5. PROVIDE INDIVIDUAL NEUTRALS AS REQUIRED ON ALL AFFECTED EXISTING CIRCUITS.
6. CONTRACTOR SHALL CLOSELY COORDINATE NEW ELECTRICAL WITH ALL NEW AND EXISTING OWNER, MECHANICAL, PLUMBING, ELEVATOR, FIRE PROTECTION, ARCHITECTURAL, STRUCTURAL, AND TECHNOLOGY EQUIPMENT.
7. PANEL SCHEDULE INFORMATION AND EXISTING CIRCUITING SHOWN WAS TAKEN FROM EXISTING PANEL DIRECTORIES AND PLANS. ACTUAL CONDITIONS MAY VARY AND SHOULD BE FIELD VERIFIED. PROVIDE NEW TWO, FOUR, AND CIRCUIT DIRECTORIES FOR ALL EXISTING PANELBOARDS AFFECTED BY NEW CONSTRUCTION. CONTRACTOR TO UPDATE PANELBOARD DIRECTORIES WHERE CIRCUITS HAVE BEEN DELETED, ADDED, OR REVISED.

2. REFER TO THE ELECTRICAL SPECIFICATIONS AND DETAILS FOR ADDITIONAL INSTALLATION REQUIREMENTS. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. WHATEVER IS CALLED FOR IN EITHER IS BINDING AS THOUGH CALLED FOR IN BOTH. SHOULD DRAWINGS AND SPECIFICATIONS DIFFER IN WHAT IS REQUIRED, THE STRICTER REQUIREMENT SHALL APPLY UNLESS WRITTEN CLARIFICATION IS OBTAINED FROM THE ENGINEER TO GO WITH THE LESSOR REQUIREMENT.
3. THE EQUIPMENT SPECIFIED ON THE DRAWINGS HAS BEEN SELECTED AS THE BASIS OF DESIGN. THE USE OF REVIEWED OR SPECIFIED EQUALS SHALL BE AT THE DISCRETION OF THE CONTRACTOR AS TO SPACE REQUIREMENTS, EQUIPMENT DIMENSIONS, AND PERFORMANCE. ANY ADDITIONAL COSTS EITHER DIRECTLY OR INDIRECTLY CAUSED BY EQUALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL DESIGN INTENT. ARRANGEMENT AND EXTENT OF SYSTEMS. DO NOT SCALE DRAWINGS NOR USE AS SHOP DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF EXACT ROUTING OF ALL SERVICES WITH ALL OTHER TRADES. WHERE ALTERNATE ROUTING, OFFSETS, AND TRANSITIONS ARE REQUIRED FOR FIELD COORDINATION WITH OTHER TRADES, THIS CONTRACTOR SHALL MAKE CHANGES WITHOUT ADDITIONAL COSTS.
5. PROVIDE ELECTRICAL EQUIPMENT, INSTALL, AND SUPPORT IN COMPLIANCE WITH SEISMIC, WIND LOAD, SNOW LOAD, SOIL CONDITIONS AND OTHER CRITERIA FOR PROJECT SITE. REFER TO CIVIL, STRUCTURAL, OR OTHER PROJECT DOCUMENTS FOR DEFINITION OF SUCH CRITERIA FOR PROJECT SITE.
6. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT IN A TIMELY MANNER WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT, OR INSTALLATION METHODS.
7. ALL ELECTRICAL SYSTEM COMPONENTS SHALL BE LISTED OR LABELED BY UL OR OTHER RECOGNIZED TESTING FACILITY.
8. ALL ELECTRICAL SYSTEMS INCLUDING WORK, MATERIALS, AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE CODES LISTED ON THE GENERAL INFORMATION SHEET, THE ARCHITECTURAL CODE PLAN, AND THE CODES ADOPTED BY THE AUTHORITY HAVING JURISDICTION.
9. PROVIDE PERMITS AND INSPECTIONS REQUIRED.
10. PROTECT ELECTRICAL EQUIPMENT THROUGHOUT CONSTRUCTION.
11. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PROVIDED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS UNLESS SPECIFICALLY DIRECTED OTHERWISE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION, OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
12. SYSTEMS SHALL BE COMPLETE, OPERABLE, AND READY FOR CONTINUOUS OPERATION PRIOR TO FINAL PUNCH. LIGHTS, SWITCHES, RECEPTACLES, MOTORS, ETC. SHALL BE CONNECTED, PROGRAMMED, AND OPERABLE. SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF CONTRACTOR'S TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER PRIOR TO FINAL PUNCH.
13. CONTRACTOR SHALL PROVIDE SUBMITTALS ON ITEMS LISTED IN THE ELECTRICAL SCHEDULES AND AS REQUIRED IN SPECIFICATIONS TO THE ENGINEER FOR REVIEW PRIOR TO ORDER, PURCHASE, OR INSTALLATION OF THESE SAME ITEMS. SUBMITTALS SHALL INCLUDE, BUT NOT BE LIMITED TO WIRING DEVICES, SAFETY SWITCHES, FUSES, MOTOR STARTERS, CONDUIT, CONDUIT FITTINGS, BUILDING WIRE AND CABLE.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION AND INSTALLATION OF SLEEVES, INSERTS AND SUPPORTS AS REQUIRED FOR THIS SCOPE OF WORK AND/OR ANY CORE DRILLING. X-RAY THE FLOOR PRIOR TO CORE DRILL UNLESS NOTED OTHERWISE. COORDINATE WITH G.C. AND STRUCTURAL ENGINEER AS REQUIRED.
15. DO NOT ROUTE CONDUIT WITHIN STRUCTURAL FLOORS, TOPPING SLABS, CONCRETE SHEAR WALLS, OR CONCRETE FLOOR BEAMS OR JOISTS UNLESS SPECIFICALLY NOTED OTHERWISE AND WRITTEN APPROVAL IS OBTAINED FROM THE STRUCTURAL ENGINEER. TOP OF CONDUIT TO BE 12" MINIMUM CLEAR FROM BOTTOM OF JOISTS. DO NOT DAMAGE REINFORCING BARS.
16. PROTECT STRUCTURE AND OWNER EQUIPMENT FROM DAMAGE. IMMEDIATELY REPLACE OR REPAIR, TO ORIGINAL CONDITION, DAMAGE CAUSED BY THE CONTRACTOR WHETHER EQUIPMENT APPEARS TO BE CURRENTLY IN USE OR NOT, UNLESS WRITTEN AUTHORIZATION IS OBTAINED FROM THE OWNER INDICATED OTHERWISE. PREPARE LISTING OF ALL EXISTING DAMAGED ITEMS AND SUBMIT TO OWNER PRIOR TO BEGINNING WORK.

1. DISTRIBUTION EQUIPMENT SHALL BE FULLY RATED (NOT SERIES RATED).
2. PROVIDE A FRAMED RECORD DRAWING OF ONE-LINE MOUNTED ON MAIN ELECTRICAL ROOM WALL FOR REFERENCE.
3. SOME PANELBOARDS HAVE MULTIPLE SECTIONS. REFER TO FLOOR PLANS AND PANEL SCHEDULES FOR NUMBER OF SECTIONS PER PANELBOARD AND ADDITIONAL INFORMATION ON BRANCH CIRCUITING. IF USING AN 84-POLE SINGLE SECTION PANEL, WIREWAY SHALL NOT BE LOCATED MORE THAN 2' ABOVE PANEL UNLESS WIRING IS DERATED.
4. REFER TO THE MECHANICAL EQUIPMENT CONNECTION SCHEDULE ON ELECTRICAL SCHEDULES SHEET FOR MECHANICAL EQUIPMENT FEEDER INFORMATION AND BREAKER SIZES.
5. REFER TO THE DRY TYPE TRANSFORMER SCHEDULE ON THE ELECTRICAL ONE-LINE DIAGRAM SHEET FOR TRANSFORMER FEEDERS AND GROUNDING REQUIREMENTS. NOT ALL TRANSFORMER SIZES INDICATED ARE UTILIZED AS PART OF THIS PROJECT.
6. REFER TO THE FEEDER TABLE ON THE ELECTRICAL ONE-LINE DIAGRAM SHEET FOR FEEDER SIZING REQUIREMENTS. NOT ALL FEEDERS INDICATED ARE UTILIZED AS PART OF THIS PROJECT.
7. CONNECTION OF CONDUCTORS TO EQUIPMENT TERMINALS SHALL BE IN ACCORDANCE WITH NEC SECTION 110.14.
8. A PRIMARY DISCONNECTING MEANS SHALL BE PROVIDED WITHIN SIGHT OF ALL TRANSFORMERS UNLESS THE LOCATION OF THE DISCONNECT IS FIELD MARKED ON THE TRANSFORMER AND THE REMOTE DISCONNECTING MEANS IS LOCKABLE. EC SHALL CONFIRM THAT THE PROPOSED INSTALLATION IS ACCEPTABLE WITH THE AHJ PRIOR TO ORDERING EQUIPMENT.
9. A SECONDARY DISCONNECTING MEANS SHALL BE PROVIDED WITHIN TEN FEET OF THE SECONDARY SIDE OF THE TRANSFORMER. IF THE PANEL BEING FED BY THE TRANSFORMER IS NOT WITHIN TEN FEET OF THE TRANSFORMER, A DISCONNECT SWITCH SIZED PER THE TRANSFORMER SCHEDULE SHALL BE PROVIDED. EC SHALL CONFIRM THAT THE PROPOSED INSTALLATION IS ACCEPTABLE WITH THE AHJ PRIOR TO ORDERING EQUIPMENT.
10. SHORT CIRCUIT CURRENT CALCULATIONS AND AIC RATINGS ON DRAWINGS SHALL BE CONSIDERED PRELIMINARY (BASED ON ENGINEER ASSUMPTION OF UTILITY TRANSFORMER SIZE AND FEEDER LENGTHS) FOR CONTRACTOR PRICING PURPOSES. CONTRACTOR SHALL PERFORM SHORT CIRCUIT CURRENT CALCULATIONS AND AIC-FLASH STUDY FOR AVAILABLE SHORT CIRCUIT CURRENT BASED ON INTENDED INSTALLATION AND ISSUE ELECTRICAL DISTRIBUTION EQUIPMENT SUBMITTALS. UTILIZE TRANSFORMER SIZE AND AVAILABLE FAULT LEVEL AS DICTATED BY UTILITY COMPANY FOR SUCH CALCULATIONS. BASED ON STUDY, CONTRACTOR SHALL:
 - A. ADJUST AIC RATINGS OF EQUIPMENT IN SUBMITTALS BASED ON SHORT CIRCUIT CURRENT STUDY.
 - B. PROVIDE ARC-FLASH HAZARD WARNING LABELING ON EQUIPMENT PER NEC REQUIREMENTS BASED ON SUCH STUDY RESULTS.
 - C. COORDINATE WITH MECHANICAL CONTRACTOR TO ENSURE THAT MECHANICAL EQUIPMENT AIC RATINGS ARE ABOVE SUCH CALCULATED SHORT CIRCUIT CURRENT LEVELS. ELECTRICAL CONTRACTOR SHALL PROVIDE LOCAL FUSED DISCONNECT SWITCHES TO ASSIST MECHANICAL CONTRACTOR WITH RESOLUTION OF CONDITIONS WHERE LARGER AIC RATINGS OF MECHANICAL EQUIPMENT IS NOT AVAILABLE BUT LET THROUGH OF FUSES AND AIC RATING OF FUSED DISCONNECT CAN ADDRESS THE ISSUE.

EOR
BCER Engineering

SHEET TITLE

ELECTRICAL PROJECT NOTES

DRAWING NO.

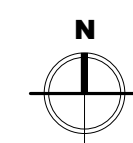
E002

GENERAL NOTES

****REFER TO ELECTRICAL PROJECT NOTES SHEET FOR ADDITIONAL REQUIREMENTS****

WORK NOTES

E1	DISCONNECT EXISTING CHILLER FEEDERS AND REMOVE ASSOCIATED DISCONNECT SWITCH. MAINTAIN FEEDERS FOR RECONNECTION TO NEW CHILLER AND CHILLER'S DISCONNECT SWITCH.
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LEVEL 1 POWER DEMOLITION PLAN

1/4" = 1'-0"

[illegible]

REVISIONS

HORIZON ELEMENTARY
REPLACE CHILLER BLDG. 11
VCS Project NO. 2648221
4751 Hidden Lake Dr.,
Port Orange, FL 32129

EOR BCER Engineering		ARCHENGR OF RECORD
DESIGNED BY MIKE CORDERO	DRAWN BY JOE BERKEBILE	
ISSUE DATE 11/12/2025	AE PROJECT NUMBER 145425001	

SHEET TITLE

LEVEL 1 POWER
DEMOLITION PLAN

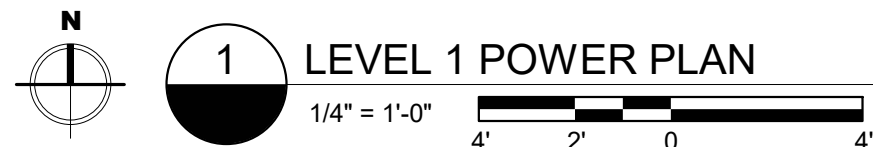
DRAWING NO. **ED101**

GENERAL NOTES

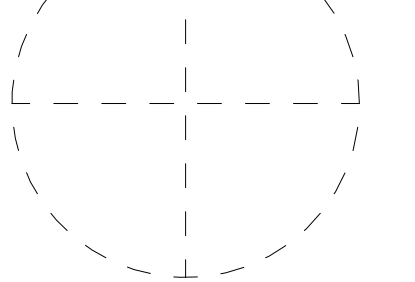
****REFER TO ELECTRICAL PROJECT NOTES SHEET FOR ADDITIONAL REQUIREMENTS**

WORK NOTE

E2	LOCATION OF NEW CHILLER. EXTEND EXISTING FEEDERS TO NEW LOCATION AND MAKE CONNECTION TO CHILLER'S INTEGRAL DISCONNECT SWITCH.
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PROGRESS - NOT FOR
CONSTRUCTION



REVISIONS

[illegible]

HORIZON ELEMENTARY
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DESIGNED BY MIKE CORDERO	DRAWN BY JOE BERKEBILE
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ISSUE DATE	AE PROJECT NUMBER
11/12/2025	145425001

SHEET TITLE

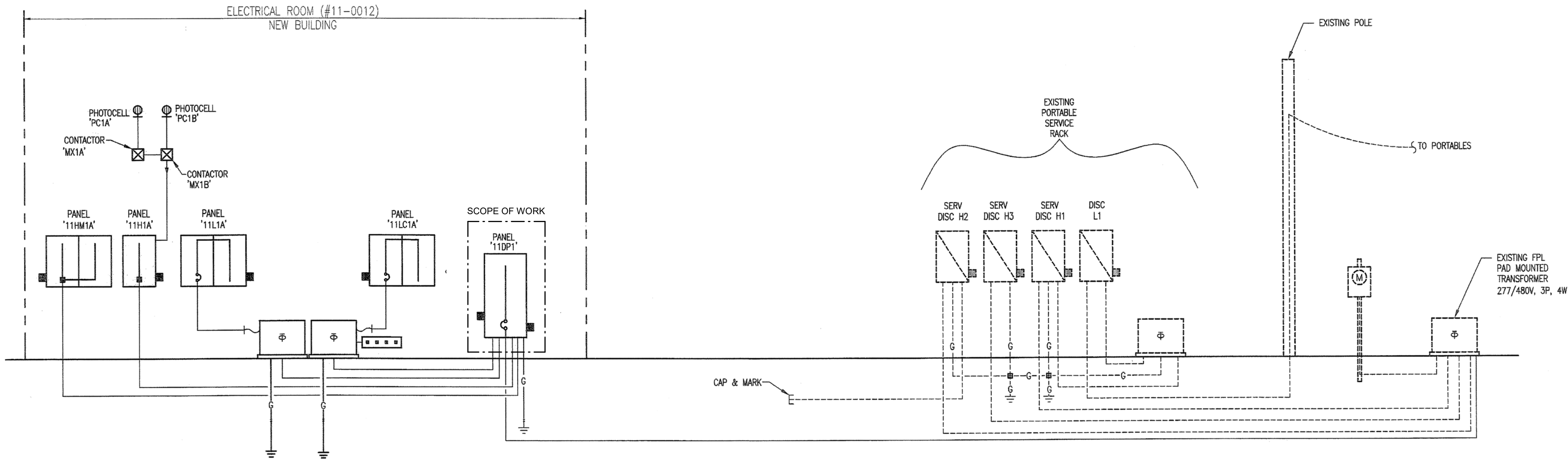
LEVEL 1 POWER PLAN

DRAWING NO.

E101

MECHANICAL EQUIPMENT SCHEDULE (MQ)																	
PLAN CODE	DESCRIPTION	LOAD DATA						KVA	DISCONNECT				PANEL	CIRCUIT	CB SIZE	FEEDER SIZE	NOTES
		VOLTAGE	PH	HP	KW	MCA	MOCp		TYPE	SIZE	FUSE SIZE	NEMA RATING					
CH-1	CHILLER	480 V	3			129	150 A	85.8	NF	200A	NA	3R	11DP1	7,9,11	150	1[(3#1/0 + 6G)CU 1-1/2"C]	1,2,3
GENERAL NOTES																	
A. COORDINATE AND VERIFY ALL EQUIPMENT REQUIREMENTS WITH SUPPLIER AND MECHANICAL DRAWINGS PRIOR TO SUBMITTALS INCLUDING, BUT NOT LIMITED TO, VOLTAGE, OVERCURRENT PROTECTION, CONTROL, DISCONNECTING MEANS, ETC.																	
B. IF MOTOR IS PROVIDED WITH THERMAL OVERLOAD PROTECTION AND A THERMAL OVERLOAD SWITCH IS INDICATED, A MOTOR RATED SWITCH CAN BE USED AS A DISCONNECTING MEANS.																	
NOTES																	
1. SINGLE POINT ELECTRICAL CONNECTION.																	
2. CONTRACTOR SHALL REUSE AND EXTEND EXISTING CONDUIT AND WIRE. IF CONDUIT AND WIRE DIFFERS FROM THE SCHEDULE PLEASE CONTACT ENGINEER OF RECORD.																	
3. CHILLER IS A ONE FOR ONE REPLACEMENT AND ELECTRICAL LOAD HAS NOT CHANGED OR HAS DECREASED. LOAD ANALYSIS NOT NEEDED.																	

SHORT CIRCUIT SCHEDULE														
PROJECT NAME:			PROJECT NO:			BY:								
	DESCRIPTION	LENGTH/ PRIMARY VOLTAGE	VOLTAGE/ SECONDARY VOLTAGE	WIRE SIZE/ XFRMR KVA...	WIRE MATERIAL/ TRANSFORMER (C OR A) T=XFRMR	CONDUIT (S OR N)	VOLTAGE CLASS (V)	WIRES (S OR T)	C OR Z VALUE	# OF PARALLEL RUNS	Isc AVAILABLE UPSTREAM	f	M	I(sc Fault)
X0	300KVA Utility Xfrm @1.6%Z													
X1	Main Panel 11DP1	200	480	300	A	N	600	S	14923	2	22,500	0.5441	0.6476	14,572
X2	Chiller CH1	50	480	1X	C	S	600	S	8925	1	14,572	0.2946	0.7725	11,256
														X0
														X1
														X2



1 ELECTRICAL ONE-LINE DIAGRAM
NOT TO SCALE

GENERAL NOTES

****REFER TO ELECTRICAL PROJECT NOTES SHEET FOR ADDITIONAL REQUIREMENTS****

WORK NOTES

PROGRESS - NOT FOR
CONSTRUCTION

[illegible]

HORIZON ELEMENTARY
REPLACE CHILLER BLDG. 11
VCS Project NO. 2648221
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ARCH/ENGR OF RECORD

EOR
BCER Engineering

DESIGNED BY
MIKE
CORDERO

DRAWN BY
**JOE
BERKEBILE**

ISSUE DATE
11/12/2025

AE PROJECT NUMBER
14542500

SHEET TITLE

ELECTRICAL ONE-LINE
DIAGRAM

DRAWING NO.

E601