

7. COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL CONTRACTOR.
8. ALL MOTOR STARTERS SHALL BE FURNISHED AND INSTALLED BY THE HVAC CONTRACTOR.
9. ALL REQUIRED CONTROL EQUIPMENT AND WIRING SHALL BE FURNISHED & INSTALLED BY THE HVAC CONTRACTOR.
10. THE TERMS "PROVIDE" OR "FURNISH" AS USED ON THESE PLANS, INDICATE THAT THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPLY, REFERENCED EQUIPMENT OF SYSTEMS, AND THE INSTALLATION OF THE EQUIPMENT TO FURNISH OR INSTALL THE EQUIPMENT TO THE ENTIRETY AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
11. CONTRACTOR SHALL PROVIDE AND INSTALL ALL COMPONENTS AND MATERIALS REQUIRED FOR THE INSTALLATION OF THE REFERENCED EQUIPMENT REQUIRED FOR A COMPLETE AND WORKABLE SYSTEM.
12. CONTRACT CLOSE OUT, IN THE PRESENCE OF THE OWNER, ENGINEER AND ALL SPECIFICATIONS HAVE BEEN MET TO THE SATISFACTION OF ALL PARTIES.
13. IT IS THE INTENTION THAT THESE SPECIFICATIONS, AND DRAWINGS ACCOMPANYING SAME, SHALL CONSTITUTE THE ENTIRE CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPLY, REFERENCED EQUIPMENT OF SYSTEMS, AND THE INSTALLATION OF THE EQUIPMENT TO FURNISH OR INSTALL THE EQUIPMENT TO THE ENTIRETY AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM. ANY WORK CHANGES WHICH MAY BE REQUIRED FOR THE INSTALLATION OF THE EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
14. IT IS THE INTENT AND PURPOSE OF THESE SPECIFICATIONS, AND DRAWINGS TO INCLUDE AND PROVIDE FOR ALL MATERIALS, APPLIANCES, LABOR OF THE ENTIRE SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPLY, REFERENCED EQUIPMENT OF SYSTEMS, AND THE INSTALLATION OF THE EQUIPMENT TO FURNISH OR INSTALL THE EQUIPMENT TO THE ENTIRETY AS REQUIRED FOR A COMPLETE INSTALLATION MUST BE FURNISHED BY THIS CONTRACTOR.
15. IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS TO PROVIDE ALL THE MATERIALS, APPLIANCES, LABOR OF THE ENTIRE SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPLY, REFERENCED EQUIPMENT OF SYSTEMS, AND THE INSTALLATION OF THE EQUIPMENT TO FURNISH OR INSTALL THE EQUIPMENT TO THE ENTIRETY AS REQUIRED FOR A COMPLETE INSTALLATION MUST BE FURNISHED BY THIS CONTRACTOR.

HVAC DEMOLITION NOTES

1. DEMONSTRATE WITH FIELD CONDITIONS FOR EXACT AREAS TO BE DEMOLISHED.
2. REMOVE ALL EQUIPMENT AND PIPING AS INDICATED ON PLAN, HOLDSHEEP, AND ALL SUPPORTS AND HANGERS, ASSOCIATED LOW VOLTAGE WIRING, VALVES, FITTINGS, CONTROLS AND ACCESSORIES WHICH PERTAIN TO THE EQUIPMENT TO BE REMOVED.
3. REMOVAL OF ALL POWER CONNECTIONS TO DEMOLITION ITEMS SHALL BE BY THE THIS CONTRACTOR.
4. ANY DISCREPANCIES BETWEEN THE DEMOLITION PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE OWNER OR ENGINEER. ANY DEMOLITION FIELD CONDITIONS SHALL NOT BE REMOVED UNTIL UNDISPUTEDLY APPROVED BY THE ENGINEER OR PROJECT FACILITIES MANAGER.
5. DEMOLITION WORK SHALL INCLUDE THE PREPARATION OF EXISTING EQUIPMENT FOR CONSTRUCTION OF THE EQUIPMENT. COORDINATE DEMOLITION WORK WITH THE CONSTRUCTION PLANS.
6. ALL EQUIPMENT REMAINS SHALL BECOME THE PROPERTY OF THIS CONTRACTOR. THIS CONTRACTOR IS RESPONSIBLE FOR THE PROPER REMOVAL AND DISPOSAL OF DEMOLITION ITEMS OFF-SITE, UNLESS OTHERWISE NOTED.
7. ALL CUTTING AND PATCHING NECESSARY FOR THE DEMOLITION WORK SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.
8. THE PLANS ARE INTENDED TO CONVEY THE EXTENT AND SCOPE OF THE DEMOLITION WORK. EVERY ITEM OF MATERIAL MAY NOT BE SHOWN. THE CONTRACTOR IS ADVISED TO SURVEY THE PROJECT SITE BEFORE SUBMITTING A BID FOR DEMOLITION WORK.

ELECTRICAL DEMOLITION NOTES

2. DISCONNECT AND REMOVE ALL DEVICES, FIXTURES, FIRE ALARM DEVICES AND OTHER ELECTRICAL DEVICES, POWER CONNECTIONS TO HVAC EQUIPMENT AND DISCONNECT WITHIN CONDUIT & WIRING FROM ALL WALLS/Ceilings AND BEING REMOVED, WITHIN CONDUIT & WIRING FROM ALL PANELS OF ORIGIN, ALL EXISTING CIRCUIT BREAKERS SHALL REMAIN IN PLACE AND LABELED AS "SPARE".
3. ALL EXISTING DEVICES SCHEDULED TO REMAIN SHALL BE EXTENDED/RE-CIRCUITED TO MAINTAIN CONTINUITY OF CIRCUIT/DEVICES.
4. REMOVALS SHALL INCLUDE, BUT NOT BE LIMITED TO DEVICES, FIXTURES, EQUIPMENT AND DISCONNECT SWITCHES, CONDUIT & WIRING.
5. ELECTRICAL CONTRACTOR TO PROVIDE ALL NECESSARY TEMPORARY WORK AND MATERIALS TO RENDER EXISTING SYSTEM OPERATIONAL, INCLUDING BUT NOT LIMITED TO, WORKING IN ALL OCCUPIED SPACES, INCLUDING BASEMENTS, COORDINATE WITH ALL TRADES, OWNER AND OVERALL CONSTRUCTION PHASING SCHEDULE.

SWITCHBOARDS, PANEL BOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES, AND MOTOR EXAMINATION, ADJUSTMENT, SERVICING OR MAINTENANCE QUALIFIED PERSONS SHALL BE FIELD MARKED TO WARN HAZARDOUS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.

8. ALL LIGHTING WIRING SHALL BE #12MCM UNLESS OTHERWISE NOTED. THE NUMBER OF WIRES SHOWN ON THE DRAWINGS SHALL BE THE MINIMUM REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE ELECTRICAL SYSTEM IN EACH CASE.
9. CONDUITS PASSING THROUGH EXTERIOR BUILDING, FLOORS OR WALLS SHALL BE PROTECTED. CONDUITS SHALL BE INSTALLED WITH WATER TIGHT WALL CONDUIT SEAL FITTINGS.
10. EQUIPMENT FURNISHED BY OTHERS SHALL BE INSTALLED & ENERGIZED BY THE ELECTRICAL CONTRACTOR.
11. ONLY CONDUITS HAVING OUTSIDE DIAMETERS NO LARGER THAN ONE-THIRD OF THE THICKNESS OF SLAB MAY BE INSTALLED WITHIN CONCRETE SLABS.
12. CONDUITS IN STRUCTURAL SLABS ARE TO BE SPACED SO AS TO PROVIDE NO LESS THAN THREE CONDUIT DIAMETERS CENTER TO CENTER, WHENEVER POSSIBLE. LARGER SPACING IS PREFERRED.
13. CONTINUOUS ROWS OF CONDUITS ARE NOT TO BE PLACED IMMEDIATELY ALONG BEARING ENDS OF SLABS.
14. THE ELECTRICAL CONTRACTOR SHALL NOT ENDANGER THE STABILITY OR THE STRUCTURE OR ANY PART OF THE BUILDING BY CUTTING, DRILLING OR OTHERWISE, AND SHALL NOT IN ANY WAY CUT OR WEAKEN THE WORK OR UNDERLYING STRUCTURE, EXCEPT WITH THE WRITTEN CONSENT OF AN ARCHITECT OR DIRECTION OF THE ARCHITECT AND/OR GENERAL CONTRACTOR.
15. THE ELECTRICAL CONTRACTOR SHALL SECURE ALL APPROVALS AND CERTIFICATES SHOWN AND PAY ALL FEES FOR ALL THE WORK INSTALLED. PAYMENT WILL BE MADE.
16. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST CODES.
17. APPLICABLE VERSION OF THE NEC AS WELL AS ALL STATE AND LOCAL CODES.
18. THE DRAWINGS INDICATE AND THE SPECIFICATIONS DESCRIBE THE GENERAL LAYOUT, LOCATION AND LOCATION OF OUTLET BOXES, ETC. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL THE WORK. IT IS THE RESPONSIBLE MODIFICATIONS IN THE WORK AS THE OWNER, HAD TO BE IN CONFLICT WITH EXISTING CONDITIONS, THE WORKER SHALL MAKE ALL TRADES AND FOR THE PROPER INSTALLATION OF THE WORK.
19. PRIOR TO SUBMISSION OF BID PROPOSAL, THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE CAREFULLY THE EXISTING CONDITIONS AND THE WORK THAT WILL BE INCURRED DURING THE PERFORMANCE OF HIS WORK.

- A. VERIFY & COORDINATE CONDUIT ROUTING.
- B. VERIFY & COORDINATE SCOPE OF DEMOLITION WORK.
- C. VERIFY & COORDINATE SCOPE OF WORK INVOLVING CONNECTIONS TO EXISTING BASE BUILDING SYSTEMS.
- D. VERIFY SCOPE OF WORK THAT HAS TO BE DONE WITH EXISTING BASE BUILDING SYSTEM AS REQUIRED TO ACCOMMODATE ALL ABOVE SERVICES.
- E. VERIFY WITH GENERAL CONTRACTOR SCOPE OF WORK ASSOCIATED WITH REMOVAL OF EXISTING EQUIPMENT TO BE PREPURCHASED.
- F. COORDINATE WITH THE BUILDING ENGINEER AND GENERAL CONTRACTOR SHUT DOWNS OF EXISTING FACILITIES.
- G. ARRANGE FOR SITE VISIT WITH THE BLDG. OWNER REPRESENTATIVE AND GENERAL CONTRACTOR.
- H. CLAIMS FOR ADDITIONAL COMPENSATION ARISING DUE TO THE FAILURE OF THE CONTRACTOR TO FULLY UNDERSTAND THE SITE CONDITIONS SHALL NOT BE PAID FOR BY ANY OTHER PARTY.
- I. CONNECTIONS TO EXISTING WORK:
 - A. INSTALL NEW WORK AND CONNECT TO EXISTING WORK, WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES.
 - B. TEMPORARY SHUTDOWNS OF EXISTING SERVICES:
 - a. AT NO ADDITIONAL CHARGES.
 - b. AT TIMES NOT TO INTERFERE WITH NORMAL OPERATION OF EXISTING SERVICES.
 - C. ONLY WITH WRITTEN CONSENT OF THE GENERAL CONTRACTOR AND/OR BUILDING OWNERS REPRESENTATIVE.
- J. ALARM AND EMERGENCY SYSTEMS: NOTS TO BE INTERRUPTED.
- K. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES AS REQUIRED WITH NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK.
- L. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND ACCEPTABLE MANNER, RESTORE EXISTING WORK TO ORIGINAL CONDITION, INCLUDING MAINTENANCE OF WIRING CONTINUITY AS REQUIRED.
- M. PRIOR TO DEMOLITION OF AN EXISTING POWER PANEL, THE CONTRACTOR SHALL SEARCH OUT ALL EXISTING CIRCUITS FED FROM THE PANEL TO PREVENT ANY ACCIDENTAL SERVICE INTERRUPTIONS.

27. ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY OWNER PRIOR TO INSTALLATION.
28. FOR EACH LOCATION OF OTHER TRADES EQUIPMENT, SEE RESPECTIVE TRADE DRAWINGS.
29. FOR RECEPTACLE & OUTLETS MOUNTING HEIGHTS AND POSITION (HORIZONTAL, VERTICAL, COORDINATE, ETC.) SEE RESPECTIVE TRADE DRAWINGS.

30. CONTRACTOR SHALL PROVIDE AND INSTALL ALL COMPONENTS INDICATED ON DETAILS SHEETS, PLANS, SPECIFICATIONS AND INSTRUMENT EQUIPMENT REQUIRED FOR A COMPLETE WORKABLE SYSTEM.
31. USE OF ISOLATED TYPE GROUNDING CONDUCTOR FOR IGT TYPE RECEPTACLES, PLUG MOLDS & EQUIPMENT DISTRIBUTION, DRUGS AND EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GROUNDING CONDUCTOR SYSTEM, DRUGS AND INSTALL GROUNDING FITTING, EQUIPMENT GROUND WIRING ETC. AS REQUIRED.
32. ALL CONDUITS, TRANSDUCERS ETC. SHALL BE SUPPORTED FROM STRUCTURAL STEEL ONLY. COORDINATE WITH GENERAL CONTRACTOR.
33. ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT IN ELECTRICAL AND P&ID AS REQUIRED TO SUSTAIN THE WEIGHT OF EQUIPMENT. COORDINATE WITH GENERAL CONTRACTOR.
34. PROVIDE BARRIERS IN ALL PULL BOXES FOR CONDUIT SETS.
35. PAINT AND RUST PROOF ALL HARDWARE & CONDUITS ON ROOF AND IN EXPOSED AREAS AS DIRECTED BY GENERAL CONTRACTOR.
36. NUMBER SUMMER ADJACENT TO LIGHTING FIXTURES, RECEPTACLES, OUTLETS, JUNCTION BOXES ETC. INDICATES CIRCUIT NUMBER.
37. ALL GROUND CONNECTIONS TO THE BUILDING STEEL SHALL BE EXOTHERMIC WELDED.
38. FOR PNEUMATIC FLOOR SYSTEMS, THE ELECTRICAL CONTRACTOR SHALL DRILL HOLE IN FLOOR FOR THE TRANSITION FROM BELOW FLOOR TO FLOOR SERVED.
39. FLEXIBLE CONNECTIONS IN EXPOSED AREAS SHALL NOT EXCEED 18" MAXIMUM.
40. ALL EQUIPMENT DEVICES, WIRING, ETC. SHOWN ON THE DRAWINGS IS NOT UNLESS OTHERWISE NOTED.
41. ELECTRICAL CONTRACTOR SHALL PROVIDE SLEEVES/ OPENINGS FOR ALL CONDUIT RISERS PENETRATING WALLS, ROOFS, FLOORS, CEILING, AND MECH. ROOMS SLAB PENETRATIONS SHALL BE WATERPROOFED, APPROVED PENETRATIONS & FIRE/WATER WATER PROOFING SHALL BE GENERAL CONTRACTOR.
42. ELECTRICAL CONTRACTOR SHALL BECOME FAMILIAR AND COMPLY WITH OWNERS BUILDING STANDARDS FOR CONSTRUCTION.
43. ALL FINAL CONNECTIONS TO VIBRATING EQUIPMENT (MOTORS, CONDENSERS ETC.) SHALL BE THROUGH A LIQUID TIGHT FLEXIBLE METAL CONDUIT.
44. LOCATION OF ALL SLAB PENETRATIONS FOR SLEEVES & CONDUITS SHALL BE REVIEWED & APPROVED BY STRUCTURAL ENGINEER & ARCHITECT.
45. CONTRACTOR SHALL WIRE NO MORE THAN EIGHT CONVENIENCE RECEPTACLES TO A 20A SINGLE POLE CIRCUIT. SEE #12&A, #12 AND #13. CONDUIT & 1-20A SINGLE POLE CIRCUIT BREAKER TO MEET THIS REQUIREMENT.
46. ALL PENETRATIONS THROUGH FIRE RATED PARTITIONS SHALL BE SEALED FIRESTOPPING MATERIAL AND/OR STEEL.
47. THE TERMS "PROVIDE" OR "FURNISH" AS USED ON THESE PLANS REFERRED TO THE CONTRACTOR IS TO FURNISH AND INSTALL THE MATERIALS AND EQUIPMENT IN THEIR ENTIRETY AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
48. CONTRACT TAKE OUT IN THE PRESENCE OF THE OWNER, ENGINEER OR ARCHITECT, DESIGN OR IN THE PRESENCE OF THE SYSTEMS AND THAT ALL SPECIFICATIONS HAVE BEEN MET TO THE SATISFACTION OF ALL PARTIES.
49. IT IS THE INTENTION THAT THESE SPECIFICATIONS, AND DRAWINGS ACCOMPANYING SAME, SHALL BE SUFFICIENT FOR THE FURNISHING AND INSTALLING OF THE SYSTEMS COMPLETELY. THE CONTRACTOR SHALL WORK SHOWN ON THE DRAWINGS AND NOT PARTICULARLY SHOWN. ANY WORK NOT SHOWN OR NOT VISIBLE, OR ANY WORK CHANGES WHICH MAY BE EVIDENT ON THE DRAWINGS, OR ANY WORK CHANGES WHICH BE FURNISHED BY THIS CONTRACTOR.
50. IT IS THE INTENT AND PURPOSE OF THESE SPECIFICATIONS AND DRAWINGS TO INCLUDE THE CONTRACTOR FOR ALL MATERIALS, APPLIANCES AND LABOR TO COMPLETE THE SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE SYSTEM HEREINAFTER SPECIFICALLY MENTIONED WORKING SPECIFICATIONS OR NOT SPECIFICALLY MENTIONED IN THESE SPECIFICATIONS OR NOT SPECIFICALLY MENTIONED IN THESE SPECIFICATIONS. COMPLETE INSTALLATION MUST BE FURNISHED BY THIS CONTRACTOR.
51. IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS TO PROVIDE ALTERATIONS AND/OR NEW SPECIFICATIONS AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS TO THE CONTRACTOR. THE NEW SYSTEMS IN EVERY RESPECT, CAPABLE OF OPERATING AS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DETAIL NECESSARY FOR COMPLETION OF THESE SYSTEMS IN ACCORDANCE WITH GOOD PRACTICE.



GENERAL SYMBOLS

- POINT OF CONNECTION BETWEEN NEW
AND EXISTING WORK
- POINT OF DISCONNECT
- INDICATES SECTION LETTER
- INDICATES DRAWING NUMBER WHERE LOCATED
- TEMPERATURE SENSOR
- PUMP

HVAC LINE TYPES

- [illegible]

Sl. No.	Particulars	Amount
1	REVENUE	
2	GRAND TOTAL	

LEGEND AND SCHEDULE OF H.V.A.C. EQUIPMENT			
SYMBOL	MANUFACTURER	CATALOG #	DESCRIPTION
AC-1 	STULZ (OR APPROVED EQUIV.)	CRS-42-AR	MICROPROCESSOR CONTROLLED CLIMATE CONTROL IN ROW SYSTEM. 146,000 BTUH TOTAL COOLING AT 70° DB/65° WB DRY BULB ENTERING AIR TEMPERATURE (3) ½ HP DIRECT DRIVE BLOWERS TOTALING 1500 CFM. DIRECT EXPANSION COIL - 260 FPM HORIZONTAL RATED SCROLL COMPRESSOR, R410A REFRIGERANT 77.8"x11.6"x42.1"
SCS-060-S-5A 	STULZ (OR APPROVED EQUIV.)		CONDENSATE: • PUMP • PIPING CONNECTION LOCATION: • PIPE CONNECTION LOCATION: • AIR PATTERN: • SPRAY FILTERS: • CONDENSATES: • UNIT COLOR: CONDENSER: • CONDENSER TYPE: • OUTDOOR AMBIENT: • MINIMUM OUTDOOR AMBIENT: CONTROLLER: • CONTROLLER: • T/H CONTROL, SENSOR LOCATION: • DIGITAL I/O DRY CONTACTS: • SUMMARY ALARM DRY-CONTACTS: NETWORKING: • MULTI-UNIT SEQUENCING: • REMOTE BMS COMMUNICATIONS: ACCESSORIES: • LEAK DETECTION: CONDENSATE: SPOT TYPE WATER DETECTOR (1) - FIELD INSTALL N/O AUXILIARY CONTACT UNIT MOUNTED CONDENSATE PUMP

NOTE: SEE SPECIFICATION SECTION 28 81 23 FOR FURTHER INFORMATION AND NOTES.

CONSTRUCTION PHASING

1. PERFORM ALL ELECTRICAL WORK UP TO FINAL CONNECTION TO EQUIPMENT, ENERGIZE AND TEST.
2. INSTALL ALL NEW HVAC AND POWER AND TEST.
3. COORDINATE CUT OVER OF POWER FROM EXISTING EQUIPMENT TO NEW PANEL.
4. REMOVE ALL EXISTING UNUSED EQUIPMENT.

[illegible]

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