

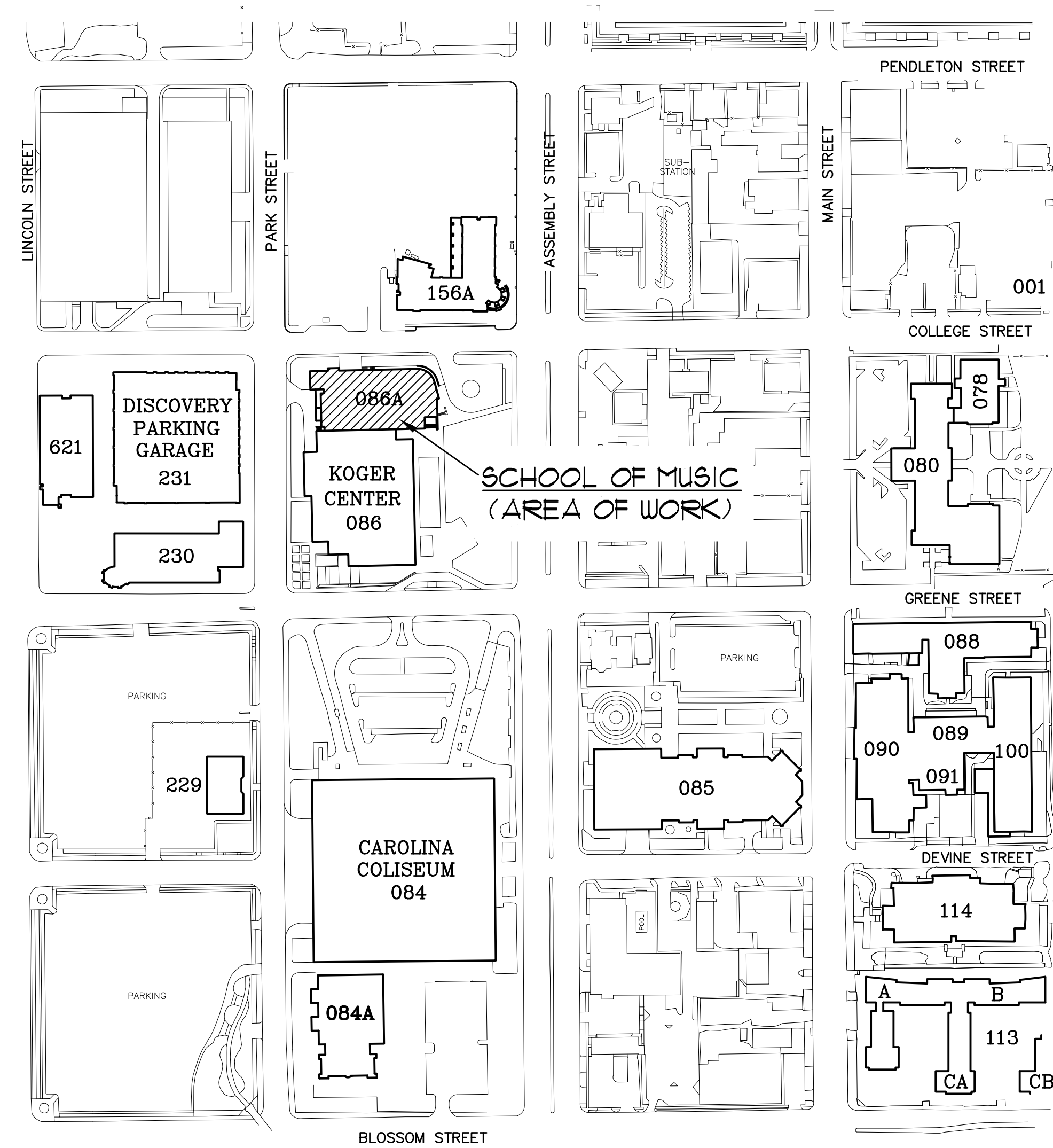
USC DEFERRED MAINTENANCE

SCHOOL OF MUSIC EMS/HVAC

STATE PROJECT NO. H27-6094

THE UNIVERSITY OF SOUTH CAROLINA
COLUMBIA, SOUTH CAROLINA

FACILITIES PLANNING AND CONSTRUCTION



INDEX OF DRAWINGS	
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E1	ELECTRICAL FLOOR PLANS, DETAILS, AND NOTES
E2	ELECTRICAL FLOOR PLANS, DETAILS, AND NOTES

MECHANICAL ENGINEER
MECHANICAL DESIGN, INC.
4403 BROAD RIVER ROAD
COLUMBIA, S.C. 29210
(803) 731-9834

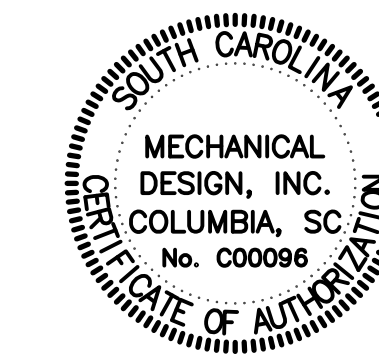
ELECTRICAL ENGINEER
LAND ENGINEERING ASSOCIATES, LLC
262 SANDHURST ROAD, SUITE 101
COLUMBIA, S.C. 29210
(803) 528-1437

CODE REVIEW INFORMATION

- PROJECT DESIGNED IN ACCORDANCE WITH:
1. International Building Code - 2012 Edition.
 2. International Plumbing Code - 2012 Edition.
 3. International Mechanical Code - 2012 Edition.
 4. National Electric Code - 2011 Edition.

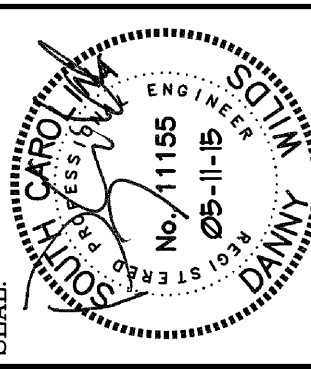
SPECIAL NOTE:
IT IS RECOMMENDED THAT THE CONTRACTOR VISIT THE PROJECT SITE PRIOR TO SUBMITTING BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS RELATING TO THIS PROJECT. SUBMISSION OF A BID WILL BE CONSIDERED AS EVIDENCE THAT THE CONTRACTOR HAS VISITED THE SITE OF WORK.

UNIVERSITY OF SOUTH CAROLINA
NOT TO SCALE



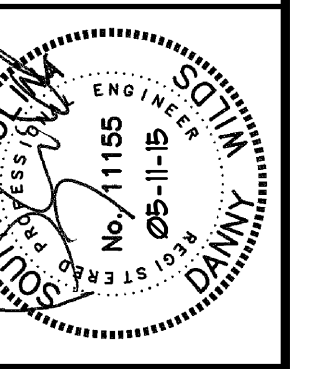
MECHANICAL DESIGN INC.
4403 Broad River Road
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CONTACT: JUSTIN VARCO
DATE: 05/11/15 COMM. NO. 153192

OFFICE OF
FACILITIES MANAGEMENT
COLUMBIA, SC 29208



BUILDING:	DRAWING:	DATE:	DATE:	DATE:	DATE:
086A	507 M1	04/09/15	JJV	CDU	ORIG. BY
REV.	DESCRIPTION	DATE	DATE	DATE	DATE

PROJECT TITLE: USC DEFERRED MAINTENANCE
SCHOOL OF MUSIC EMS/HVAC
S.C. STATE PROJ. NO. H27-6094
University of South Carolina



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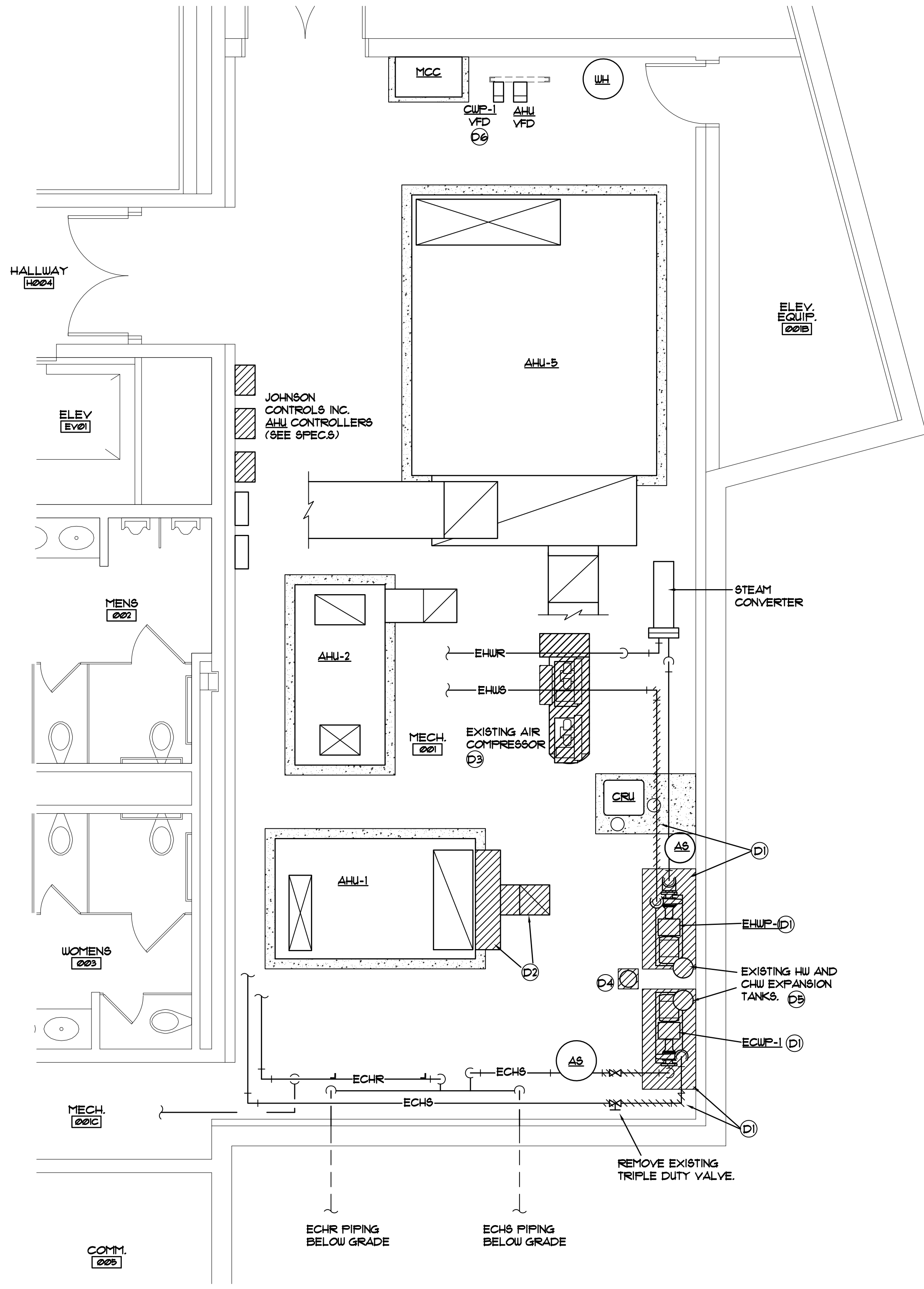
BUILDING: 086A
PROJECT TITLE: USC DEFERRED MAINTENANCE SCHOOL OF MUSIC EMS/HVAC
S.C. STATE PROJ. NO. H27-6094
University of South Carolina

SHEET: M1
- OF 2
SHEET IN SET:
OF

SYMBOLS

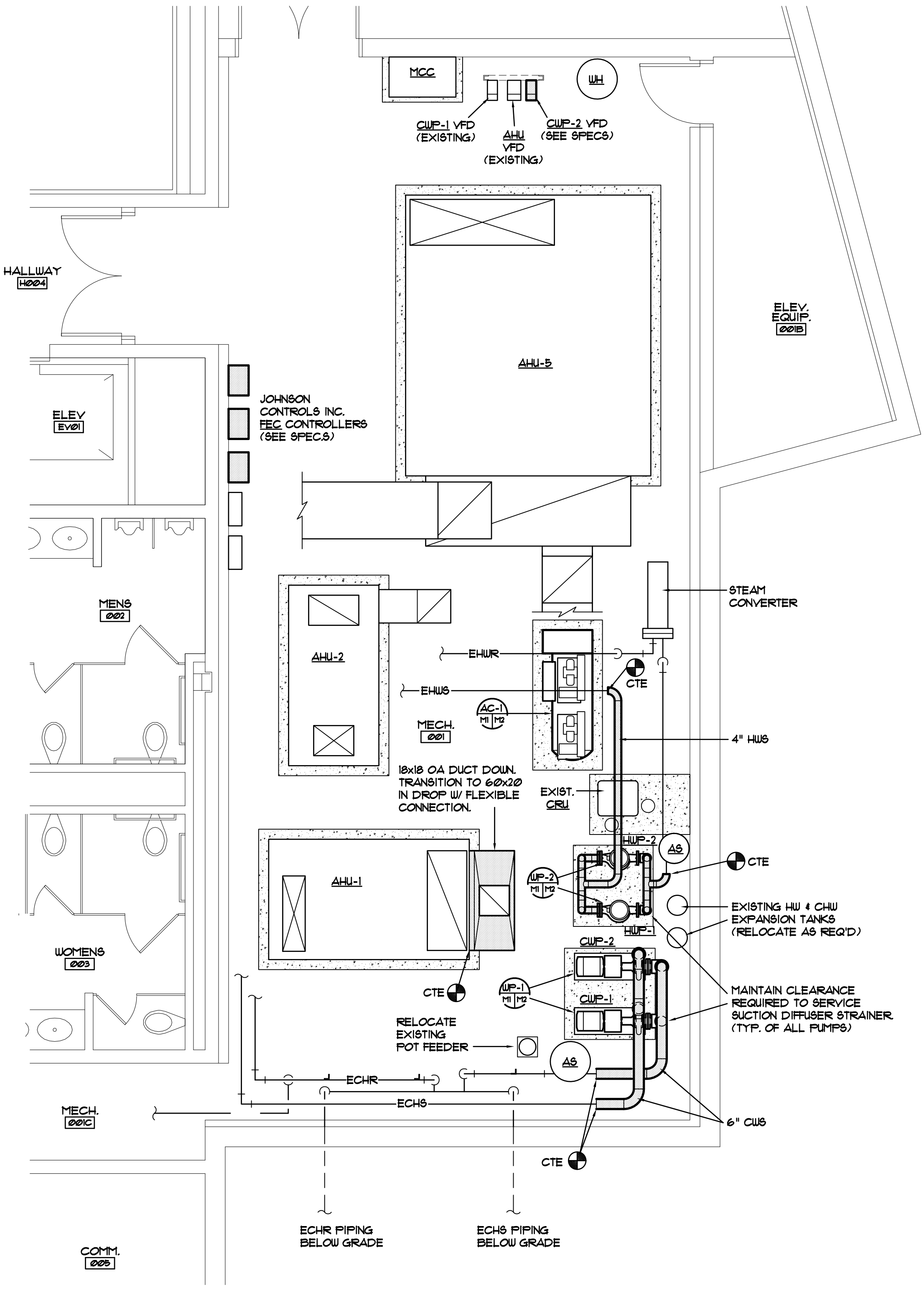
	NEW MATERIALS
	EXISTING TO BE REMOVED
	WATER FLOWRATE, GALLONS PER MINUTE
	EXISTING CHILLED WATER SUPPLY
	EXISTING CHILLED WATER RETURN
	NEW CHILLED WATER SUPPLY
	NEW CHILLED WATER RETURN
	BUTTERFLY VALVE
	PIPE TURNING DOWN
	CONNECT TO EXISTING

- ### NOTES
- DO NOT SCALE DRAWINGS. ROUGH FROM EQUIPMENT MANUFACTURER'S DRAWINGS AND EXISTING CONDITIONS.
 - DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED. DUCT SIZES SHOWN ON DRAWINGS ARE INTERIOR DIMENSIONS.
 - WHENEVER THE WORD "PROVIDE" IS USED IT SHALL MEAN FURNISH AND INSTALL COMPLETE AND READY FOR USE.
 - INSTALLATION OF EQUIPMENT, DUCTWORK, AND PIPING, INCLUDING VIBRATION ISOLATION SHALL COMPLY WITH 2012 INTERNATIONAL BUILDING CODE FOR SEISMIC PROTECTION.
 - ALL MATERIALS CALLED FOR TO BE REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER. ANY ITEM THE OWNER DOES NOT WILL TO KEEP SHALL BE REMOVED FROM THE SITE.
 - PROVIDE ALL ITEMS OF MISCELLANEOUS STEEL AS REQUIRED FOR INSTALLATION OF WORK.
 - PIPING SYSTEMS SHALL BE DRAINED AS REQUIRED FOR INSTALLATION OF WORK.
 - PROVIDE FOR ACCESS TO ALL MECHANICAL ITEMS REQUIRING CLEANING OR ADJUSTMENT.
 - PIPING SHALL BE KEPT CLEAN OF DEBRIS DURING INSTALLATION.

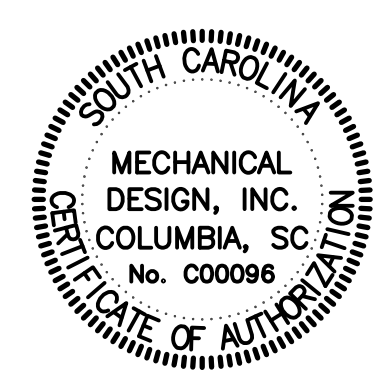
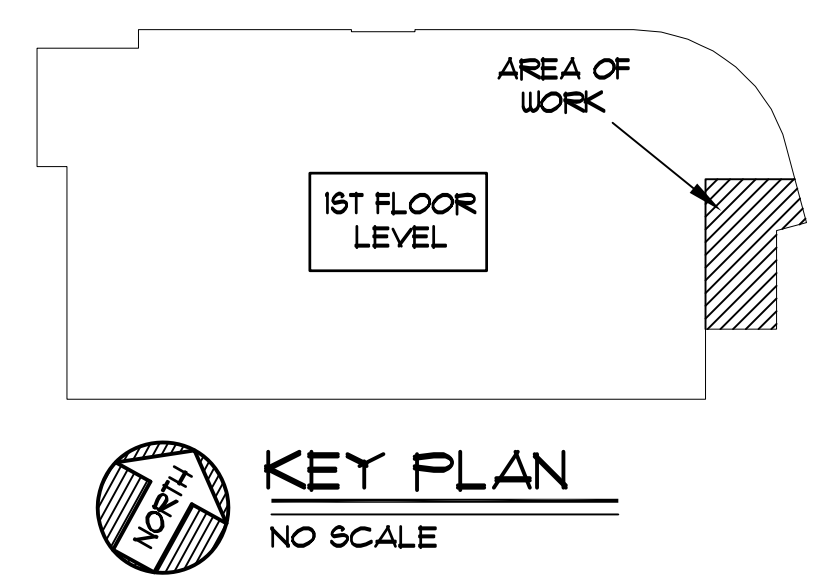


PARTIAL FLOOR PLAN - MECH. ROOM
SCALE: 1/4" = 1'-0"
FIRST FLOOR

- ### MECHANICAL DEMOLITION NOTES
- (D1) REMOVE PUMP COMPLETE, INCLUDING INERTIA BASES, SUPPORTS, PIPE AND ACCESSORIES AS INDICATED.
 - (D2) REMOVE EXISTING 0A DUCTWORK DOWN TO AHU-1. REWORK DUCTWORK AS INDICATED ON RENOVATION PLAN.
 - (D3) REMOVE EXISTING AIR COMPRESSOR COMPLETE. CLEAN AND DEGREASE FLOOR AREA PRIOR TO INSTALLING NEW HOUSE KEEPING PAD.
 - (D4) RELOCATE EXISTING POT FEEDER AS INDICATED. EXTEND AND/OR REPLACE PIPING AS REQUIRED.
 - (D5) DISCONNECT AND RELOCATE EXISTING EXPANSION TANKS AS REQUIRED TO INSTALL NEW PUMPS.
 - (D6) EXISTING VFD TO REMAIN FOR RE-USE.

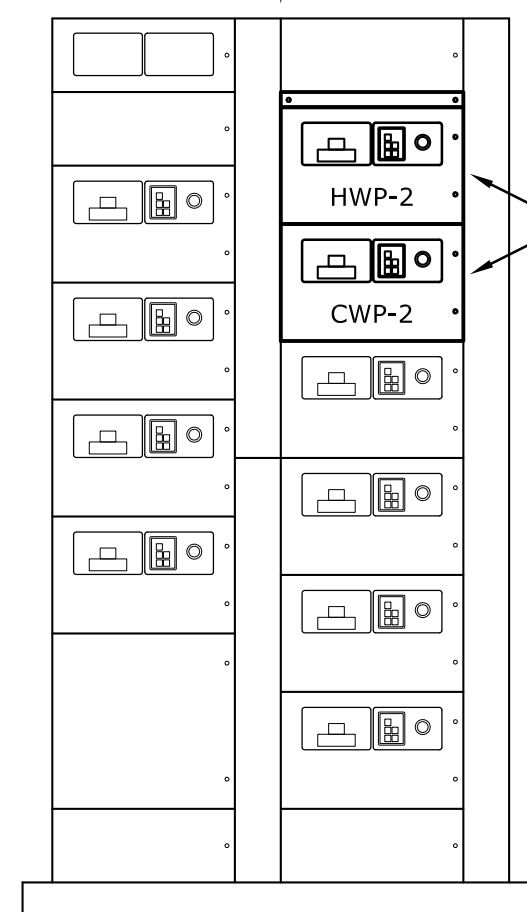


PARTIAL FLOOR PLAN - MECH. ROOM
SCALE: 1/4" = 1'-0"
FIRST FLOOR



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EXISTING 480-VOLT, 3-WIRE, WESTINGHOUSE #AZCU63800-IT-48-FVC ADVANTAGE MOTOR CONTROL CENTER.
SECTION 1 = 600A RATING
SECTION 2 = 300A RATING

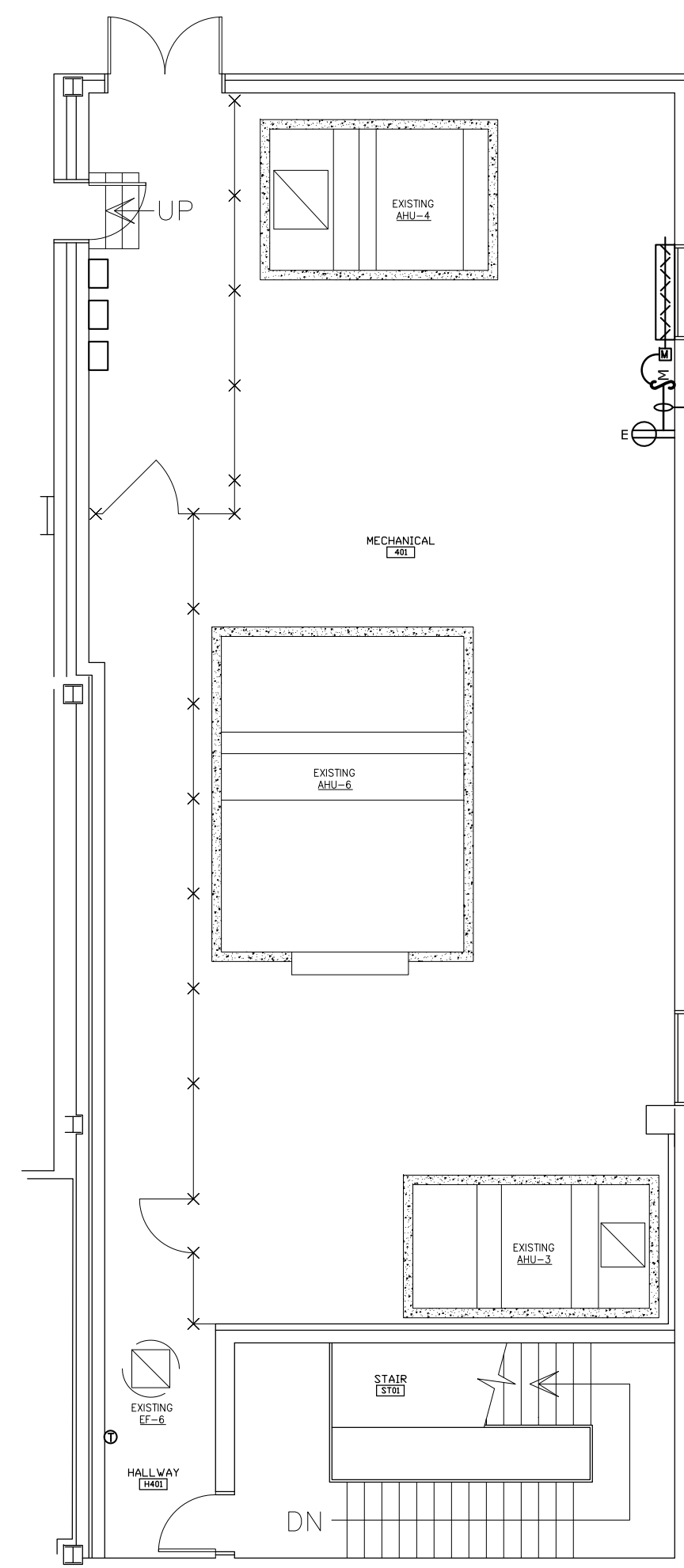


REMOVE EXISTING SPARE BUCKET DOOR. PROVIDE TWO NEW COMBINATION CIRCUIT BREAKER-MOTOR STARTER BUCKETS WITH HINGED DOORS TO SERVE NEW PUMPS. MODIFY EXISTING MCC BUSWORK AND PROVIDE BUS CONNECTING KITS AND CONDUCTORS AS REQUIRED TO CONNECT CIRCUIT BREAKERS AND STARTERS. PROVIDE FILLER PLATE(S) IF NEW BUCKET DOORS DO NOT FILL ENTIRE OPENING.

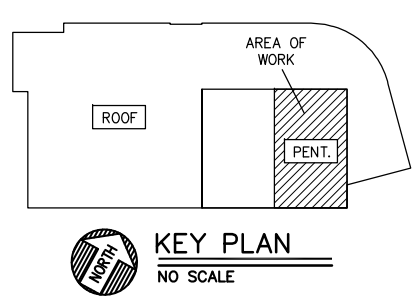
BREAKER FOR HWP-2 SHALL BE 3-POLE AND RATED 15 AMPERES. STARTER FOR HWP-2 SHALL BE NEMA SIZE "1" AND SHALL BE OF THE SAME TYPE AND ELECTRONIC FEATURES AS THE EXISTING STARTERS IN THE MOTOR CONTROL CENTER.

BREAKER FOR CWP-2 SHALL BE 3-POLE AND RATED 40 AMPERES. STARTER FOR CWP-2 SHALL BE NEMA SIZE "2" AND SHALL BE OF THE SAME TYPE AND ELECTRONIC FEATURES AS THE EXISTING STARTERS IN THE MOTOR CONTROL CENTER.

2 MOTOR CONTROL CENTER MCC-1
E1 NOT TO SCALE FIRST FLOOR



PROVIDE 3/4" EMT WITH TWO #12 AWG THHN COPPER CONDUCTORS AND A GREEN INSULATED #12 AWG COPPER GROUND WIRE IN 3/4" EMT RACEWAY FROM EXISTING SURFACE RECEPTACLE BACKBOX TO NEW MOTORIZED DAMPER - CONNECT WIRING TO EXISTING 120-VOLT RECEPTACLE CIRCUIT. WIRE THROUGH MOTOR-RATED SNAP SWITCH - FINAL RACEWAY CONNECTION TO DAMPER MOTOR SHALL BE MADE WITH LIQUID-TIGHT FLEXIBLE METAL CONDUIT.



1 PARTIAL FLOOR PLAN - ELECTRICAL RENOVATION
E1 SCALE: 1/8" = 1'-0" PENTHOUSE

ELECTRICAL LEGEND

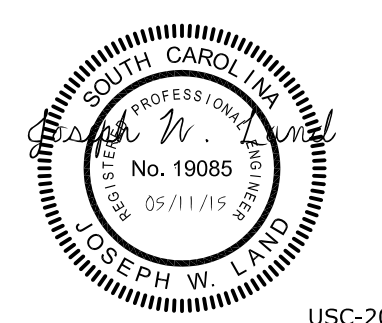
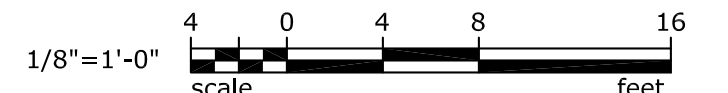
SYMBOL	DESCRIPTION
	ELECTRICAL CONNECTION TO A MOTOR OR TO MOTOR-DRIVEN EQUIPMENT. PROVIDE RACEWAY AND WIRING AS NOTED ON PLAN.
	STEEL JUNCTION BOX WITH SCREW COVER - WALL MOUNTED.
	MOTOR-RATED SNAP SWITCH WITH STEEL NEMA-1 TYPE BACKBOX. WALL MOUNT SWITCH ADJACENT TO MOTORIZED DAMPER.
	EXISTING NON-FUSED SAFETY DISCONNECT SWITCH - TO REMAIN IN PLACE.
	EXISTING 120-VOLT RECEPTACLE OUTLET, SURFACE MOUNTED ON WALL WITH EXPOSED RACEWAY - TO REMAIN IN PLACE.

GENERAL CONSTRUCTION NOTES

- PROVIDE ALL WORK IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:
INTERNATIONAL BUILDING CODE 2012 EDITION
NFPA 70 - NATIONAL ELECTRICAL CODE 2011 EDITION
 - PROVIDE RACEWAY AND WIRING TO ALL DEVICES AND EQUIPMENT INDICATED ON THE CONTRACT DRAWINGS. THE DRAWINGS INDICATE PARTIAL RACEWAY AND WIRING REQUIREMENTS TO HELP CLARIFY DESIGN INTENT. WHERE RACEWAY AND/OR WIRING IS NOT INDICATED FOR DEVICES OR EQUIPMENT THE ARRANGEMENT, GROUPING, AND ROUTING SHALL BE PROVIDED IN ACCORDANCE WITH THE 2011 EDITION OF THE NATIONAL ELECTRICAL CODE.
 - RACEWAYS SHALL BE 3/4" EMT WITH COMPRESSION TYPE FITTINGS UNLESS NOTED OR DETAILED OTHERWISE. ALL WIRE SHALL BE COPPER WITH THHN INSULATION.
 - JUNCTION BOXES SHALL BE STEEL TYPE WITH SCREW COVER, SIZED AND SUPPORTED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. PROVIDE JUNCTION BOXES AS REQUIRED FOR POWER WIRING RENOVATIONS.
 - INSTALL ELECTRICAL SYSTEMS WITHOUT INTERFERING WITH DUCTS, PIPES, STRUCTURAL MEMBERS, OR OTHER SYSTEMS.
 - THOROUGHLY CLEAN ALL EQUIPMENT AND SYSTEMS BEFORE PLACING IN OPERATION. RESTORE FINISHED SURFACES IF DAMAGED AND DELIVER THE ENTIRE INSTALLATION IN AN APPROVED CONDITION. THE CONTRACTOR SHALL INSTRUCT THE OWNER'S PERSONNEL IN THE PROPER OPERATION AND MAINTENANCE OF ALL SYSTEMS.
 - THE CONTRACTOR SHALL GUARANTEE THE WORK INSTALLED UNDER THIS CONTRACT FOR A PERIOD OF ONE YEAR AFTER DATE OF FINAL ACCEPTANCE. DEFECTS WHICH APPEAR AS A RESULT OF NORMAL USAGE SHALL BE REMEDIED BY THE CONTRACTOR TO THE COMPLETE SATISFACTION OF THE OWNER WITHOUT COST TO THE OWNER.
 - CUTTING, DRILLING, AND PATCHING: PROVIDE CHASES, SLOTS, AND OPENINGS IN EXISTING BUILDING COMPONENTS TO ALLOW FOR ELECTRICAL INSTALLATIONS. PERFORM CUTTING, DRILLING, FITTING, AND PATCHING REQUIRED TO:
 - INSTALL EQUIPMENT, MATERIALS, AND RACEWAYS IN EXISTING STRUCTURES.
 - REMOVE AND REPLACE DEFECTIVE WORK THAT DOES NOT CONFORM TO REQUIREMENTS OF THE CONTRACT DOCUMENTS.
 - UPON WRITTEN INSTRUCTIONS FROM THE ARCHITECT/ENGINEER, UNCOVER AND RESTORE WORK TO PROVIDE FOR ARCHITECT/ENGINEER OBSERVATION OF CONCEALED WORK.
- PROTECT EXISTING STRUCTURES, FURNISHINGS, FINISHES, MECHANICAL SYSTEMS, AND ELECTRICAL SYSTEMS WHILE PERFORMING CUTTING, DRILLING, FITTING, AND PATCHING.
- PATCH EXISTING SURFACES AND BUILDING COMPONENTS USING NEW MATERIALS THAT MATCH EXISTING MATERIALS. PATCHING SHALL BE PERFORMED BY EXPERIENCED INSTALLERS.

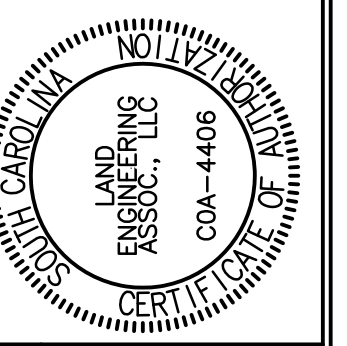
GENERAL DEMOLITION NOTES

- THE CONTRACTOR SHALL VISIT THE SITE/BUILDING TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND SHALL INCLUDE ALL WORK REQUIRED FOR COMPLETE DEMOLITION AND RENOVATION IN HIS BID.



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(803) 528-1437
Joe.Land.LEA@sc.rr.com

OFFICE OF
FACILITIES MANAGEMENT
COLUMBIA, SC 29208



CHECKED BY: JWJ	DATE: 11 MAY 15	ORIG. BY: []	DATE: []
DRAWN BY: JSJ	DATE: []	DESCRIPTION: []	REV. []
BUILDING: 086A	DATE: []	DESCRIPTION: []	REV. []

PROJECT TITLE: USC DEFERRED MAINTENANCE SCHOOL OF MUSIC EMS/HVAC
S.C. STATE PROJECT NO. H27-6094
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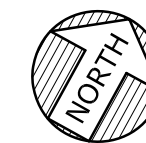
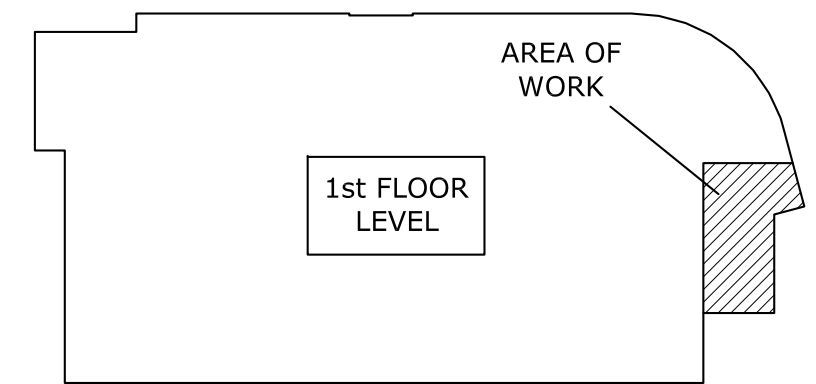
SHEET: E1
1 OF 2
SHEET IN SET: [] OF []

DEMOLITION NOTES

1. ALL EXISTING MOTOR LOADS ARE SERVED FROM EXISTING MOTOR CONTROL CENTER "MCC-1" UNLESS NOTED OTHERWISE.
2. THERE ARE EXISTING INDUSTRIAL-TYPE FLUORESCENT STRIP FIXTURES HUNG BY THREADED RODS IN MECHANICAL ROOM 001. CONTRACTOR SHALL INCLUDE IN HIS BID TO RELOCATE 5 EXISTING LIGHT FIXTURES TO ACCOMMODATE PIPING AND DUCTWORK ADDITIONS IN THE MECHANICAL ROOM. FOR EACH FIXTURE, PROVIDE NEW THREADED RODS FROM EXISTING CONCRETE CEILING TO RE-HANG FIXTURES AND PROVIDE NEW FIXTURE WHIPS AND ASSOCIATED WIRING TO SERVE FIXTURES AT NEW LOCATIONS.

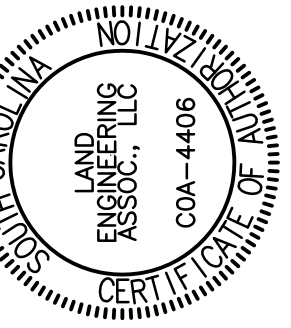
RENOVATION NOTES

1. HWP-2: PROVIDE THREE #12 AWG THHN COPPER CONDUCTORS WITH ONE #12 AWG GREEN INSULATED COPPER GROUND WIRE IN 3/4" EMT RACEWAY FROM MOTOR CONTROL CENTER "MCC-1" TO NEW MOTOR. FINAL RACEWAY CONNECTION TO MOTOR SHALL BE MADE WITH LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
2. CWP-2: PROVIDE THREE #10 AWG THHN COPPER CONDUCTORS WITH ONE #10 AWG GREEN INSULATED COPPER GROUND WIRE IN 3/4" EMT RACEWAY FROM MOTOR CONTROL CENTER "MCC-1" TO NEW MOTOR (ROUTE THROUGH NEW VARIABLE FREQUENCY DRIVE). FINAL RACEWAY CONNECTION TO MOTOR SHALL BE MADE WITH LIQUID-TIGHT FLEXIBLE METAL CONDUIT.



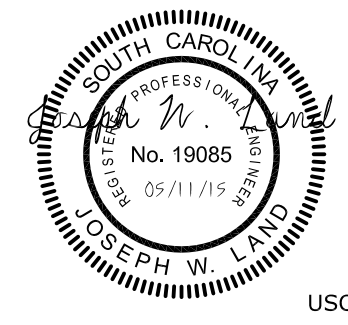
KEY PLAN
NOT TO SCALE

OFFICE OF
FACILITIES MANAGEMENT
COLUMBIA, SC 29208



SEAL: [Professional Engineer Seal]	CHECKED BY: JWL
DATE: 11 MAY 15	ORIG. BY: []
DRAWN BY: JSJ	DATE: []
BUILDING: 086A	DESCRIPTION: []
REV.:	

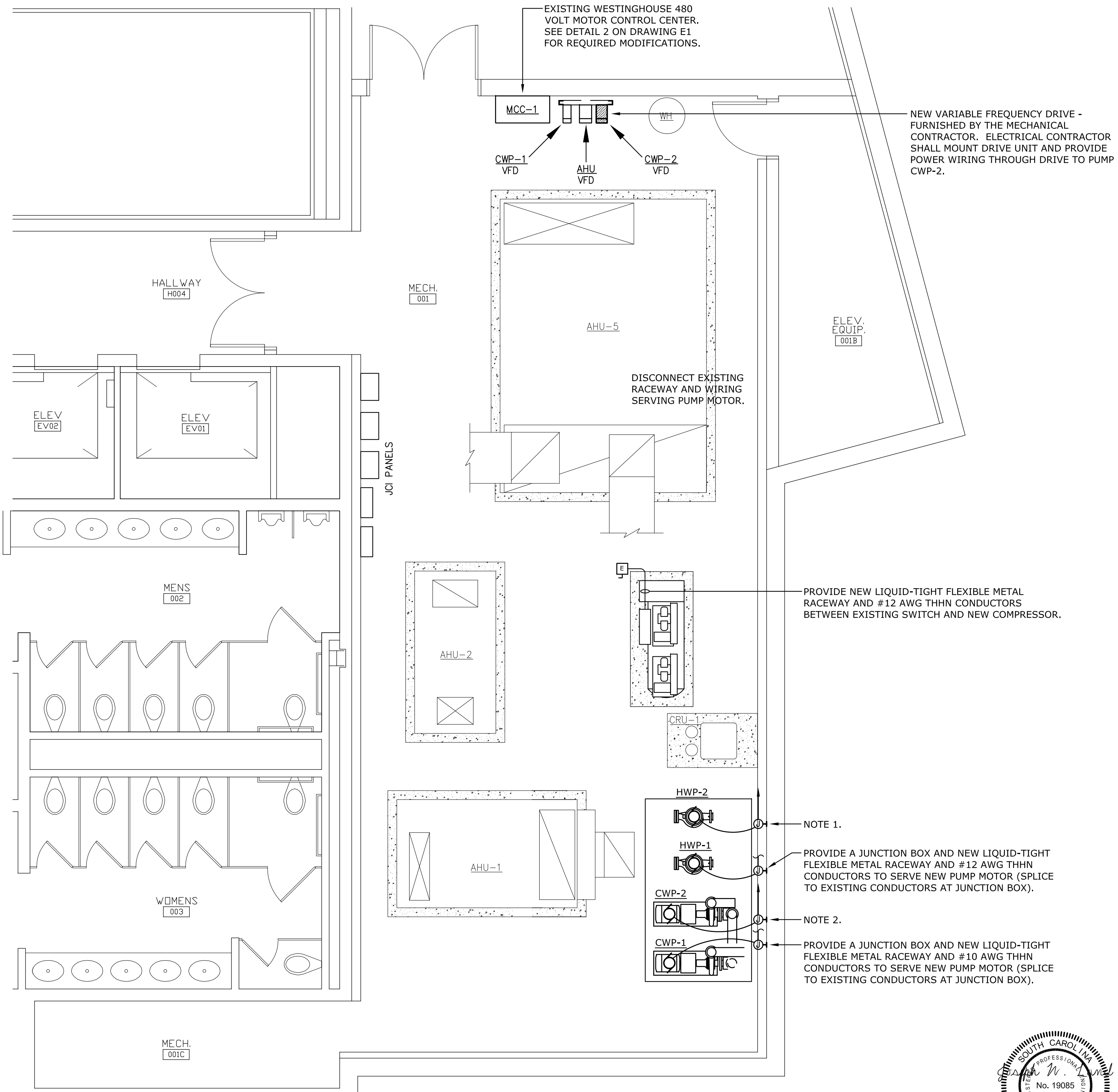
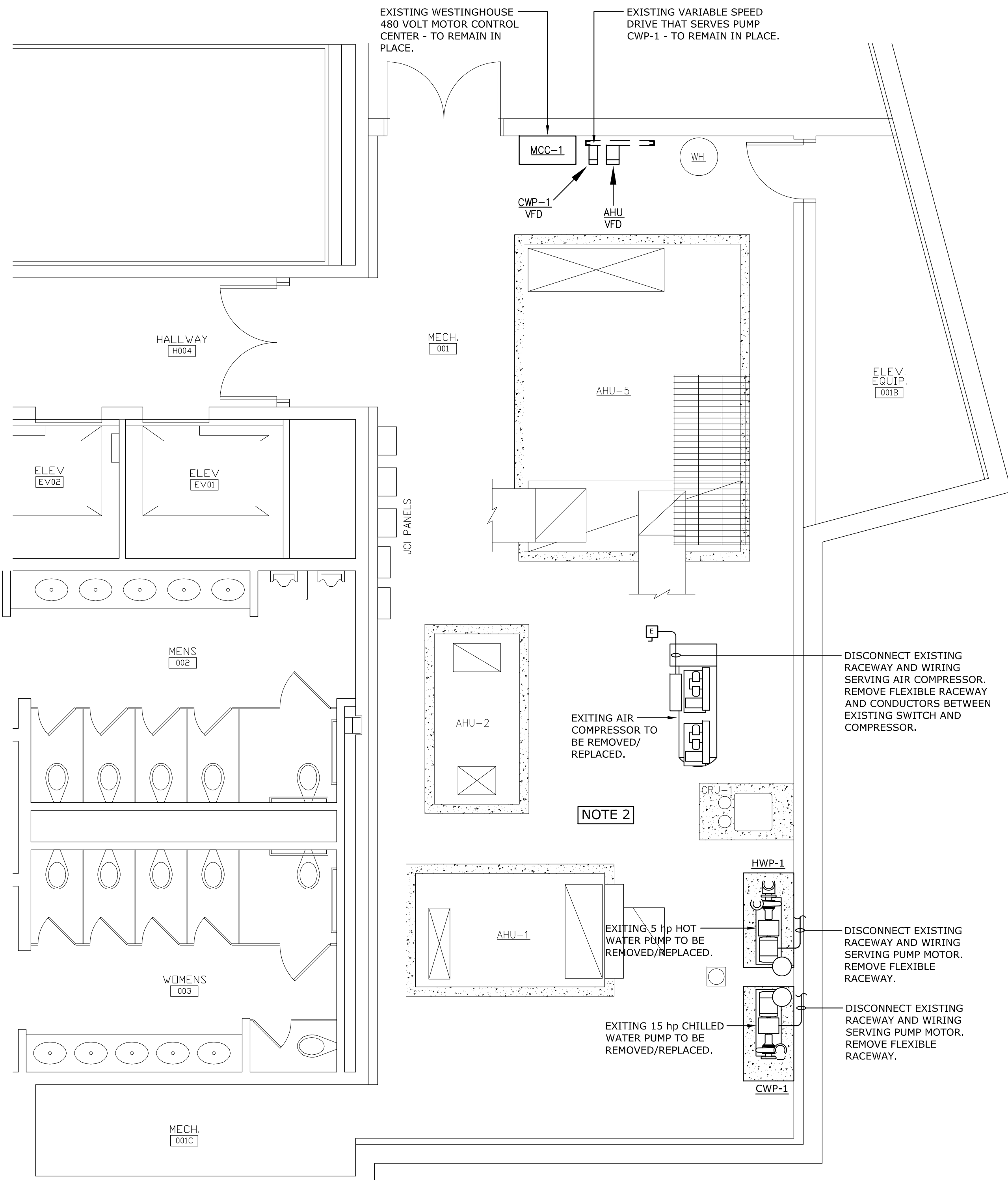
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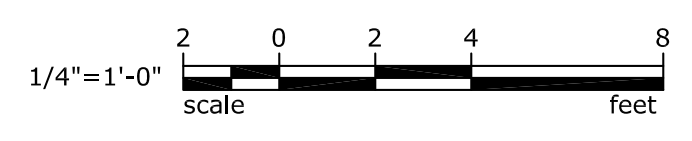
USC-2014-08

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SHEET: E2
2 OF 2
SHEET IN SET: [] OF []



1 PARTIAL FLOOR PLAN - ELECTRICAL DEMOLITION
SCALE: 1/4" = 1'-0"
FIRST FLOOR



2 PARTIAL FLOOR PLAN - ELECTRICAL RENOVATION
SCALE: 1/4" = 1'-0"
FIRST FLOOR