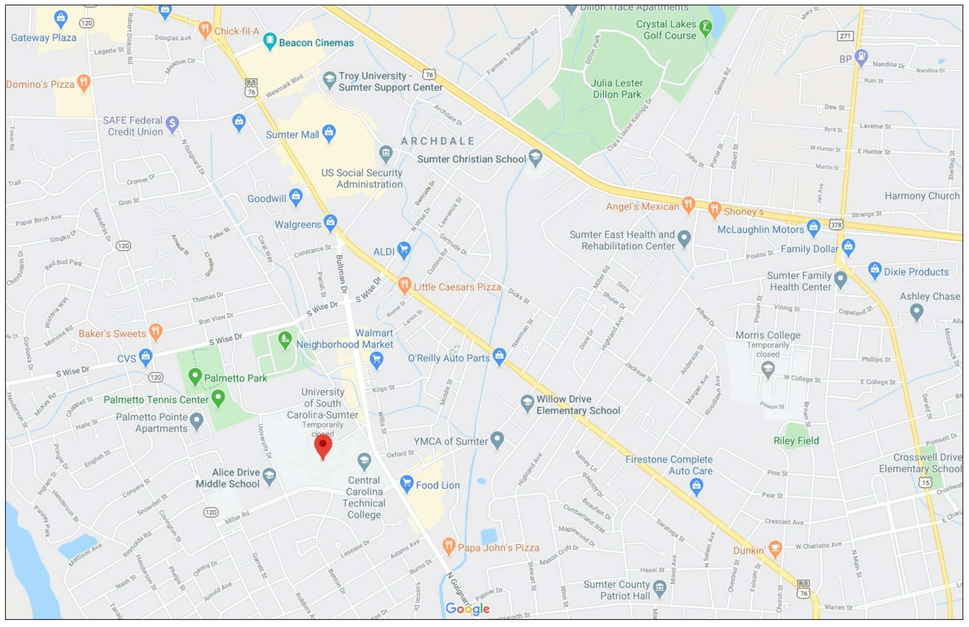
STUDENT UNION
HVAC REPLACEMENT
USC SUMTER

SUMTER, SC
PROJECT NUMBER H39-I322

LOCATION MAP



DESIGN CODES AND STANDARDS

PROJECT DESIGNED IN ACCORDANCE WITH:

1. INTERNATIONAL BUILDING CODE 2018 EDITION
2. INTERNATIONAL MECHANICAL CODE 2018 EDITION
3. NATIONAL ELECTRICAL CODE 2017 EDITION
4. STATE FIRE MARSHALL, LATEST EDITION
5. INTERNATIONAL FIRE CODE 2018 EDITION
6. INTERNATIONAL ENERGY CONSERVATION CODE 2009 EDITION.

DRAWING INDEX

GENERAL

T1 TITLE SHEET

ARCHITECTURAL

A1 REFLECTED CEILING PLAN

MECHANICAL

MD1 HVAC DEMOLITION FLOOR PLAN
M1 HVAC RENOVATION FLOOR PLAN
M2 HVAC ROOF PLAN
M3 NOTES AND LEGEND
M4 SCHEDULES
M5 DETAILS

STRUCTURAL

S1 PARTIAL ROOF FRAMING PLAN

ELECTRICAL

E1 ELECTRICAL NOTES AND LEGEND
E2 ELECTRICAL FIRST FLOOR DEMOLITION PLAN
E3 ELECTRICAL FIRST FLOOR RENOVATION PLAN

CAMPUS PLANNING
AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:

CHECKED BY: WCL
DRAWN BY:
ORIG. BY:
DRAWN BY: DEM
DATE:
DATE: 21AUG20
DESCRIPTION
BUILDING: 884
DRAWING:
REV:

PROJECT TITLE: USC SUMTER STUDENT UNION
MECHANICAL MAINTENANCE RENOVATION
STATE PROJECT NUMBER: H39-I322

University of South Carolina

Swygert & Associates
CONSULTING ENGINEERS
DBA Swygert & Assoc., Ltd.
Post Office Box 11686
Columbia, S.C. 29211
Telephone: (803) 791-9300
Facsimile: (803) 791-0830
mail@swygert-associates.com

SHEET: T1
OF

SHEET IN SET:
OF

N: \PROJECTS\18375\DRAWINGS\HVAC\18375-T1.dwg

NOTES TO SHEET

1. PROVIDE NEW CEILING AND TILE AS SHOWN IN AREAS WHERE DUCT IS REMOVED AND NEW DUCT INSTALLED.
2. PATCH EXISTING 1-HOUR FIRE RATED WALLS WITH SHEET ROCK TAPE AND MUD TO MATCH EXISTING WHERE DUCT, PIPING, ARE REMOVED.
3. REMOVE AND REPLACE LIMITED CEILING TILE AND GRID AS REQUIRED TO COMPLETE MECHANICAL WORK.

N

1 / A1 RENOVATION FLOOR PLAN

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

SOUTH CAROLINA — SWYGERT AND ASSOCIATES, LTD. NO. C00227 — CERTIFICATE OF AUTHORIZATION

Swygert & Associates
CONSULTING ENGINEERS
DBA Swygert & Assoc., Ltd.
Post Office Box 11686
Columbia, S.C. 29211
Telephone: (803) 791-9300
Facsimile: (803) 791-0830
mail@swygert-associates.com

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER No. 17994 8-24-20 WILLIAM C. LIMESTON

CHECKED BY: WCL | DRAWN BY:
ORIG. BY: | DRAWN BY:
DRAWN BY: DEM | DATE:
DATE: 21AUG20 | DESCRIPTION:
DRAWING: 884 | REV:
BUILDING:

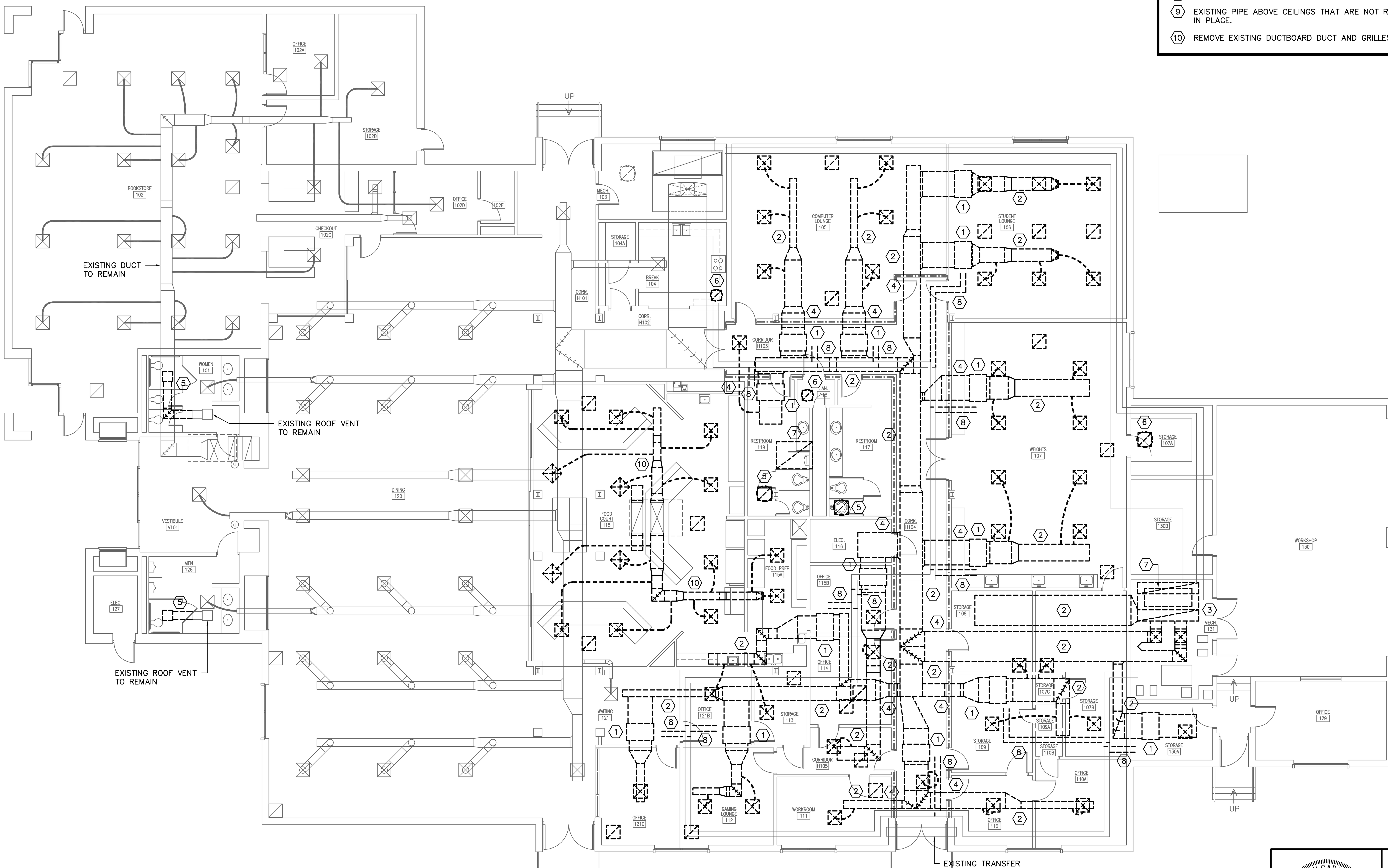
PROJECT TITLE: USC SUMTER STUDENT UNION
MECHANICAL MAINTENANCE RENOVATION
STATE PROJECT NUMBER: H39-1322
University of South Carolina

SHEET: A1
OF
SHEET IN SET:
OF

N:\PROJECTS\18375\DRAWINGS\HVAC\18375-A1.dwg

DEMOLITION NOTES

1. REMOVE EXISTING VAV COMPLETE, INCLUDING BUT NOT LIMITED TO HEATING COIL, MEDIUM PRESSURE DUCT AS SHOWN BACK TO TRUNK DUCT, CONTROLS, WIRING, AND PIPING CONNECTIONS.
2. REMOVE EXISTING DUCTWORK AS SHOWN. DUCTWORK INSULATION WILL BE REMOVED BY ABATEMENT CONTRACTOR UNDER SEPARATE CONTRACT BY USC.
3. REMOVE EXISTING AIR HANDLER COMPLETE, INCLUDING BUT NOT LIMITED TO DUCTWORK SHOWN, PIPING, WIRING, CONTROLS, AND CONCRETE PAD.
4. WHERE EXISTING DUCTS AND DAMPERS ARE REMOVED THROUGH RATED WALLS PATCH WALL PER EXISTING.
5. REMOVE EXISTING EXHAUST FAN COMPLETE, INCLUDING BUT NOT LIMITED TO FAN, DUCT, AND WIRING.
6. REMOVE EXISTING EXHAUST FAN COMPLETE, INCLUDING BUT NOT LIMITED TO DUCT, GRILLES, AND WIRING. PROVIDE ALUMINUM CURB CAP WITH 3" LIP WELDED ON CORNERS AND INSULATED WITH 2" POLYISO INSULATION.
7. REMOVE EXISTING VENT THROUGH ROOF AND COVER CURB WITH ALUMINUM CAP WITH 3" LIP WELDED ON CORNERS. INSULATE WITH 2" POLYISO INSULATION.
8. REMOVE HOT WATER PIPE WHERE VAV BOXES ARE REMOVED.
9. EXISTING PIPE ABOVE CEILINGS THAT ARE NOT REMOVED SHALL BE ABANDONED IN PLACE.
10. REMOVE EXISTING DUCTBOARD DUCT AND GRILLES. EXISTING UNIT TO REMAIN.



N

1 MD1 DEMOLITION FLOOR PLAN
SCALE: 1/8" = 1'-0"

N:\PROJECTS\18375\DRAWINGS\HVAC\18375-MD1.dwg

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER No. 17994 WILLIAM C. LIVINGSTON REGISTERED 8-21-20

CHECKED BY: WCL
DRAWN BY: DEM
DATE: 21AUG20
DRAWING:
BUILDING: 884

REV.	DESCRIPTION	DATE	ORIG. BY	DRAWN BY

PROJECT TITLE: USC SUMTER STUDENT UNION MECHANICAL MAINTENANCE RENOVATION
STATE PROJECT NUMBER: H39-1322
University of South Carolina

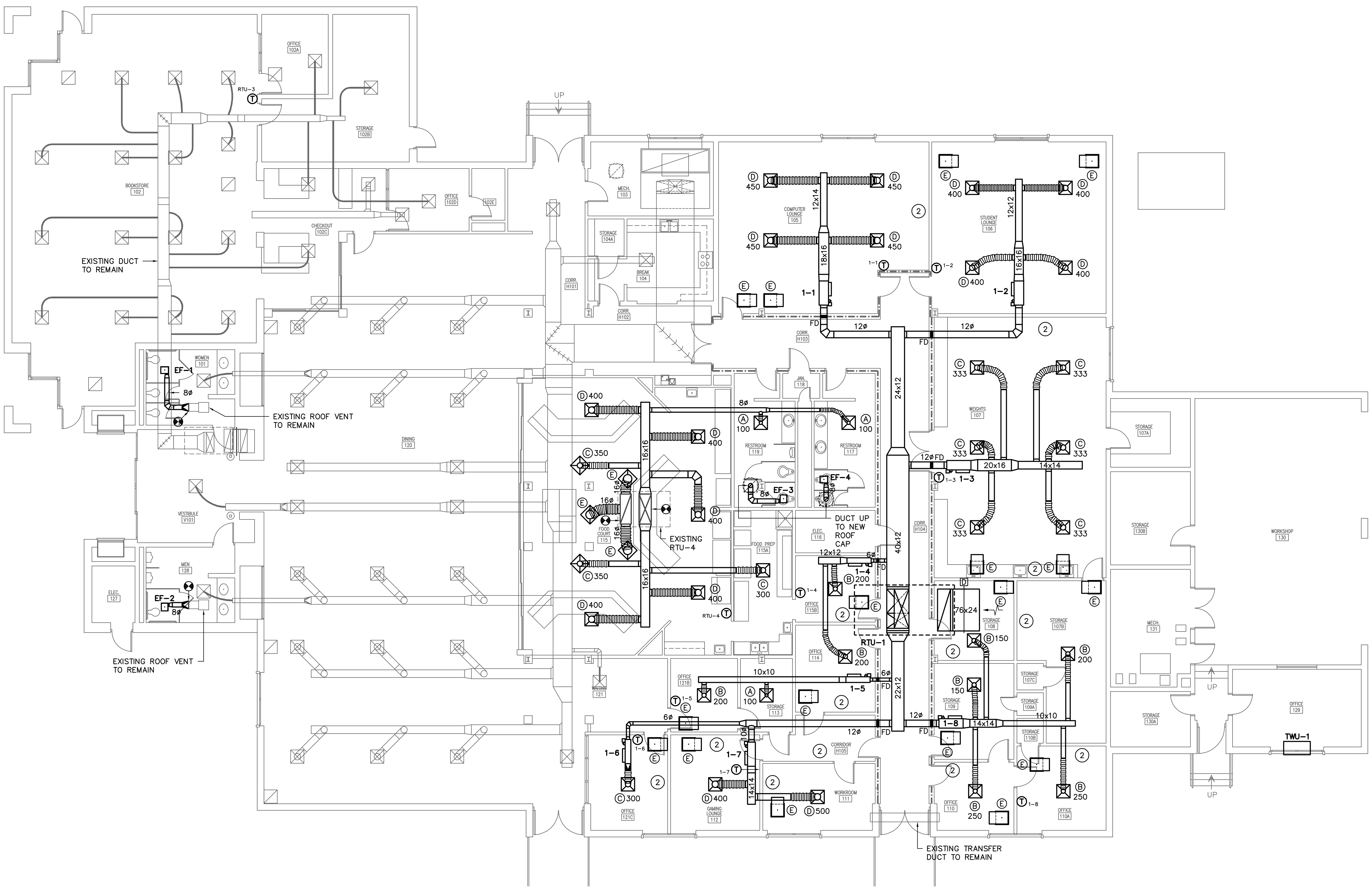
SOUTH CAROLINA SWYGERT AND ASSOCIATES, LTD. NO. C00227 CERTIFICATE OF AUTHORIZATION

Swygert & Associates
CONSULTING ENGINEERS
DBA Swygert & Assoc., Ltd.
Post Office Box 11686
Columbia, S.C. 29211
Telephone: (803) 791-9300
Facsimile: (803) 791-0830
mail@swygert-associates.com

SHEET: MD1
OF
SHEET IN SET:
OF

NOTES TO SHEET

1. TRANSFER DUCT ABOVE CEILING.
2. VERIFY OPEN RETURN PATH THROUGH WALLS ABOVE CEILING.



1 RENOVATION FLOOR PLAN

M1

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

N:\PROJECTS\18375\DRAWINGS\HVAC\18375-M1.dwg

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER No. 17994 WILLIAM C. LIVINGSTON REGISTERED 8-21-20

CHECKED BY: WCL

DRAWN BY: DEM

DATE: 21AUG20

DRAWING:

BUILDING: 884

REV.	DESCRIPTION	DATE	ORIG. BY	DRAWN BY

PROJECT TITLE: USC SUMTER STUDENT UNION MECHANICAL MAINTENANCE RENOVATION

STATE PROJECT NUMBER: H39-1322

University of South Carolina

SOUTH CAROLINA SWYGERT AND ASSOCIATES, LTD. NO. C00227 CERTIFICATE OF AUTHORIZATION

Swygert & Associates
CONSULTING ENGINEERS

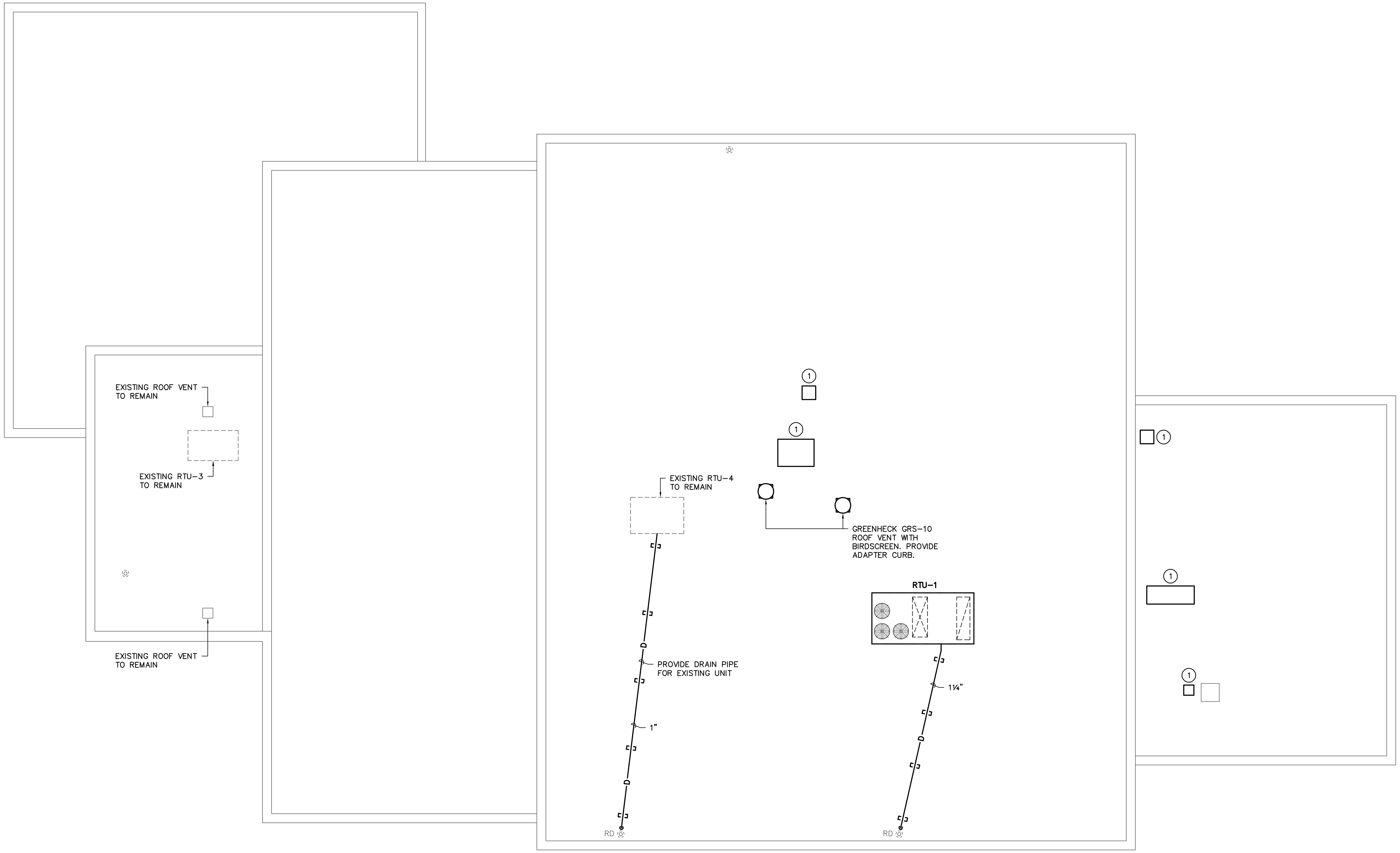
DBA Swygert & Assoc., Ltd.
Post Office Box 11686
Columbia, S.C. 29211

Telephone: (803) 791-9300
Facsimile: (803) 791-0830
mail@swygert-associates.com

SHEET: M1
OF

SHEET IN SET:
OF

NOTES TO SHEET
(1) ALUMINUM CURB CAP.



N

1 RENOVATION ROOF PLAN
M2

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

N:\PROJECTS\18375\DRAWINGS\HVAC\18375-M2.dwg

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER No. 17994 WILLIAM C. LIVINGSTON 8-21-20

BUILDING: 884 | DRAWING: | DATE: 21AUG20 | DRAWN BY: DEM | CHECKED BY: WCL

REV.	DESCRIPTION	DATE	ORIG. BY	DRAWN BY

PROJECT TITLE: USC SUMTER STUDENT UNION MECHANICAL MAINTENANCE RENOVATION
STATE PROJECT NUMBER: H39-1322
University of South Carolina

SOUTH CAROLINA SWYGERT AND ASSOCIATES, LTD. NO. C00227 CERTIFICATE OF AUTHORIZATION

Swygert & Associates
CONSULTING ENGINEERS
DBA Swygert & Assoc., Ltd. Post Office Box 11686 Columbia, S.C. 29211
Telephone: (803) 791-9300 Facsimile: (803) 791-0830 mail@swygert-associates.com

SHEET: M2 OF
SHEET IN SET: OF

LEGEND

SYMBOL	DESCRIPTION
—— D ——	DRAIN LINE
Ⓐ100	TYPE "A" DIFFUSER, 100 CFM
Ⓣ	THERMOSTAT
CO_2	CARBON DIOXIDE SENSOR
FD	FIRE DAMPER
RD	CEILING RADIATION DAMPER
FSD	COMBINATION FIRE/SMOKE DAMPER W/ 120V ACTUATOR
MBD	MANUAL OPPOSED BLADE BALANCING DAMPER
MOD	MOTORIZED DAMPER
	RECTANGULAR SUPPLY DUCTWORK
	OVAL SUPPLY DUCTWORK
	RETURN, EXHAUST, FRESH AIR DUCTWORK
48x24	48"x24" RECTANGULAR DUCT
48/24	48"x24" OVAL DUCT

VENTILATION SCHEDULE

AREA	VENTILATION RATE PER PERSON	VENTILATION RATE PER AREA	REMARKS
CORRIDORS	N/A	0.06 CFM / SQ. FT.	2
CLASSROOMS	10 CFM / PERSON	0.12 CFM / SQ. FT.	2
OFFICES/WORK RMS.	5 CFM / PERSON	0.06 CFM / SQ. FT.	2

1. PER TABLE 403.3, 2003 IMC.
2. PER ASHRAE STANDARD 62.1 – 2004.

GENERAL CONSTRUCTION NOTES

GENERAL CONSTRUCTION NOTES:

CEILINGS:

1. REMOVE AND SALVAGE EXISTING CEILING TILE AND GRID AS REQUIRED TO INSTALL HVAC WORK AS SHOWN ON THE PLANS. RE–INSTALL EXISTING GRID AND TILE AFTER HVAC WORK IS COMPLETE.
2. REPLACE DAMAGED CEILING GRID AND TILES TO MATCH EXISTING. DO NOT INSTALL OR RE–INSTALL NEW CEILING TILES ADJACENT TO EXISTING CEILING TILES. RELOCATE EXISTING CEILING TILES FROM OTHER ROOMS AS REQUIRED SO THAT THE ENTIRE CEILING OF EACH ROOM WILL EITHER HAVE NEW CEILING TILES OR EXISTING CEILING TILES TO PROVIDE A UNIFORM APPEARANCE IN EACH ROOM. SEE SPECIFICATIONS 09113 FOR CEILING TILE AND GRID.
3. AT CORRIDORS, INSTALL CEILING GRID AT HEIGHT AS REQUIRED TO INSTALL DUCTWORK BETWEEN CEILING ASSEMBLY AND FLOOR STRUCTURE ABOVE. COORDINATE AND VERIFY FINAL CEILING HEIGHT WITH THE ENGINEER PRIOR TO INSTALLING CEILING GRID. MAINTAIN MINIMUM 9' CEILINGS.
4. INSTALL FIRE ALARM DEVICES AS REQUIRED AND AS NOTED IN THE ELECTRICAL DRAWINGS. COORDINATE DEVICES WITH ELECTRICAL CONTRACTOR.
5. WHERE DUCT OR TRANSFER DUCTS AND THROUGH WALL UNITS ARE REMOVED, PATCH WALL OPENINGS SMOOTH AND FLUSH WITH EXISTING ADJACENT WALL CONSTRUCTION.

ROOF:

6. ROOF CURBS INSTALLED SHALL BE SET DOWN DIRECTLY ON ROOF DECK AND ANCHORED PER STRUCTURAL DRAWINGS. ROOF FLASHING SHALL BE SEALED TO MATCH EXISTING ROOF. ROOF INSULATION AND CANT SHALL EXTEND UP SIDE OF CURB WITH MEMBRANE UP TO NAILER STRIP PER DETAIL ON SHEET M5.

CUTTING AND PATCHING NOTES

1. CUT IN–PLACE CONSTRUCTION TO PROVIDE FOR INSTALLATION OF OTHER COMPONENTS OR PERFORMANCE OF OTHER CONSTRUCTION, AND SUBSEQUENTLY PATCH AS REQUIRED TO RESTORE SURFACES TO THEIR ORIGINAL CONDITION.
2. EXISTING WARRANTIES: REMOVE, REPLACE, PATCH, AND REPAIR MATERIALS AND SURFACES CUT OR DAMAGED DURING INSTALLATION OR CUTTING AND PATCHING OPERATIONS, BY METHODS AND WITH MATERIALS SO AS NOT TO VOID EXISTING WARRANTIES.
3. TEMPORARY SUPPORT: PROVIDE TEMPORARY SUPPORT OF WORK TO BE CUT.
4. PROTECTION: PROTECT IN–PLACE CONSTRUCTION DURING CUTTING AND PATCHING TO PREVENT DAMAGE. PROVIDE PROTECTION FROM ADVERSE WEATHER CONDITIONS FOR PORTIONS OF PROJECT THAT MIGHT BE EXPOSED DURING CUTTING AND PATCHING OPERATIONS.
5. EXISTING UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS: WHERE EXISTING SERVICES/SYSTEMS ARE REQUIRED TO BE REMOVED, RELOCATED, OR ABANDONED, BYPASS SUCH SERVICES/SYSTEMS BEFORE CUTTING TO MINIMIZE OR PREVENT INTERRUPTION TO OCCUPIED AREAS.
6. CUTTING: CUT IN–PLACE CONSTRUCTION BY SAWING, DRILLING, BREAKING, CHIPPING, GRINDING, AND SIMILAR OPERATIONS, INCLUDING EXCAVATION, USING METHODS LEAST LIKELY TO DAMAGE ELEMENTS RETAINED OR ADJOINING CONSTRUCTION. IF POSSIBLE, REVIEW PROPOSED PROCEDURES WITH ORIGINAL INSTALLER; COMPLY WITH ORIGINAL INSTALLER'S WRITTEN RECOMMENDATIONS.
7. IN GENERAL, USE HAND OR SMALL POWER TOOLS DESIGNED FOR SAWING AND GRINDING, NOT HAMMERING AND CHOPPING. CUT HOLES AND SLOTS NEATLY TO MINIMUM SIZE REQUIRED, AND WITH MINIMUM DISTURBANCE OF ADJACENT SURFACES. TEMPORARILY COVER OPENINGS WHEN NOT IN USE.
8. FINISHED SURFACES: CUT OR DRILL FROM THE EXPOSED OR FINISHED SIDE INTO CONCEALED SURFACES.
9. CONCRETE AND MASONRY: CUT USING A CUTTING MACHINE, SUCH AS AN ABRASIVE SAW OR A DIAMOND–CORE DRILL. USE WET SAW TO MINIMIZE DUST.
10. MECHANICAL AND ELECTRICAL SERVICES: CUT OFF PIPE OR CONDUIT IN WALLS OR PARTITIONS TO BE REMOVED. CAP, VALVE, OR PLUG AND SEAL REMAINING PORTION OF PIPE OR CONDUIT TO PREVENT ENTRANCE OF MOISTURE OR OTHER FOREIGN MATTER AFTER CUTTING.
11. PROCEED WITH PATCHING AFTER CONSTRUCTION OPERATIONS REQUIRING CUTTING ARE COMPLETE.
12. PATCHING: PATCH CONSTRUCTION BY FILLING, REPAIRING, REFINISHING, CLOSING UP, AND SIMILAR OPERATIONS FOLLOWING PERFORMANCE OF OTHER WORK. PATCH WITH DURABLE SEAMS THAT ARE AS INVISIBLE AS PRACTICABLE. PROVIDE MATERIALS AND COMPLY WITH INSTALLATION REQUIREMENTS SPECIFIED IN OTHER SECTIONS, WHERE APPLICABLE.
13. EXPOSED FINISHES: RESTORE EXPOSED FINISHES OF PATCHED AREAS AND EXTEND FINISH RESTORATION INTO RETAINED ADJOINING CONSTRUCTION IN A MANNER THAT WILL MINIMIZE EVIDENCE OF PATCHING AND REFINISHING.
14. CLEAN PIPING, CONDUIT, AND SIMILAR FEATURES BEFORE APPLYING PAINT OR OTHER FINISHING MATERIALS.
15. FLOORS AND WALLS: WHERE WALLS OR PARTITIONS THAT ARE REMOVED EXTEND ONE FINISHED AREA INTO ANOTHER, PATCH AND REPAIR FLOOR AND WALL SURFACES IN THE NEW SPACE. PROVIDE AN EVEN SURFACE OF UNIFORM FINISH, COLOR, TEXTURE, AND APPEARANCE. REMOVE IN–PLACE FLOOR AND WALL COVERINGS AND REPLACE WITH NEW MATERIALS, IF NECESSARY, TO ACHIEVE UNIFORM COLOR AND APPEARANCE.
16. WHERE PATCHING OCCURS IN A PAINTED SURFACE, PREPARE SUBSTRATE AND APPLY PRIMER AND INTERMEDIATE PAINT COATS APPROPRIATE FOR SUBSTRATE OVER THE PATCH, AND APPLY FINAL PAINT COAT OVER ENTIRE UNBROKEN SURFACE CONTAINING THE PATCH. PROVIDE ADDITIONAL COATS UNTIL PATCH BLENDS WITH ADJACENT SURFACES.
17. CEILINGS: PATCH, REPAIR, OR REHANG IN–PLACE CEILINGS AS NECESSARY TO PROVIDE AN EVEN–PLANE SURFACE OF UNIFORM APPEARANCE.
18. EXTERIOR BUILDING ENCLOSURE: PATCH COMPONENTS IN A MANNER THAT RESTORES ENCLOSURE TO A WEATHERTIGHT CONDITION AND ENSURES THERMAL AND MOISTURE INTEGRITY OF BUILDING ENCLOSURE.
19. CLEANING: CLEAN AREAS AND SPACES WHERE CUTTING AND PATCHING ARE PERFORMED. REMOVE PAINT, MORTAR, OILS, PUTTY, AND SIMILAR MATERIALS FROM ADJACENT FINISHED SURFACES.

DESIGN CONDITIONS

SEASON	OUTSIDE	INSIDE
SUMMER	96° FDB / 78° FWB	75° FDB / 50–60% RH
WINTER	24° FDB	70° FDB

GENERAL NOTES

1. VISIT SITE PRIOR TO BIDDING. THIS CONTRACTOR SHALL DETERMINE DIFFICULTY OF INSTALLATION AND REFLECT THIS IN HIS BIDDING. DO NOT SCALE DRAWINGS. THIS CONTRACTOR SHALL VERIFY ALL EXISTING ITEMS AND LOCATIONS IN THE FIELD.
2. ALL DUCTWORK LOCATIONS SHALL BE COORDINATED WITH WORK UNDER OTHER DIVISIONS OF THE SPECIFICATIONS TO AVOID INTERFERENCE.
3. EXISTING PIPE, DUCTWORK, CONDUIT, ETC THAT INTERFERES WITH THE ROUTING OF NEW SYSTEMS SHALL BE RELOCATED. THIS CONTRACTOR SHALL INCLUDE THE COST OF SUCH IN HIS BID UNLESS NOTED OTHERWISE.
4. ALL PIPING AND DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH FLOORS, ROOFS AND PARTITIONS.
5. ALL MECHANICAL ITEMS EXTENDING THROUGH WALLS AND ROOF SHALL BE FLASHED AND COUNTERFLASHED.
6. EXTEND ALL DRAIN LINES TO NEAREST ROOF DRAIN OR AS INDICATED – SO ROUTED AS TO AVOID INTERFERENCE WITH PASSAGEWAYS AND MAINTENANCE. DRAINS FROM ROOF TOP UNITS SHALL BE TRAPPED PER STATIC PRESSURE REQUIREMENTS.
7. ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS AND FURTHER SUPPORTS OR HANGERS SHALL BE PROVIDED TO PREVENT WEIGHT OF PIPING BEING PLACED ON EQUIPMENT.
8. ALL DUCTWORK SPECIFIED TO BE LINED SHALL BE INCREASED IN SIZE TO ALLOW FOR LINER.
9. FIRE DAMPERS SHALL BE INSTALLED WHERE SHOWN ON PLANS, IN ALL FIRE PARTITIONS. BLADES SHALL BE LOCATED OUT OF AIRSTREAM.
10. SPACE ABOVE CEILING TO BE USED AS RETURN AIR PLENUM WHERE DUCT IS NOT INDICATED ABOVE RETURN AIR GRILLES.
11. ALL OPEN END DUCTS SHALL HAVE 1/4–INCH MESH GALVANIZED SCREEN IN REMOVABLE FRAME.
12. PROVIDE FOR ACCESS TO ALL EQUIPMENT REQUIRING CLEANING OR ADJUSTMENT.
13. THIS CONTRACTOR SHALL PROVIDE ALL ITEMS OF MISCELLANEOUS STEEL AS REQUIRED FOR INSTALLATION OF ALL MECHANICAL ITEMS.
14. REMOVAL AND REPLACEMENT OF CEILING, AS REQUIRED FOR INSTALLATION OF NEW WORK, SHALL BE PERFORMED BY A CONTRACTOR NORMALLY EMPLOYED TO DO SUCH WORK. MECHANICAL CONTRACTOR SHALL NOT REMOVE AND REPLACE CEILINGS WITH HIS OWN FORCES.
15. THIS CONTRACTOR SHALL INCLUDE ALL CONTROL WIRING. DIVISION 26 WILL PROVIDE ALL POWER WIRING. ALL WIRING SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE. CONTROL WIRING SHALL BE CONCEALED WITHIN WALL. DUCT DETECTORS PROVIDED BY DIVISION 26 SHALL BE INSTALLED BY DIVISION 23. POWER WIRING AND FIRE ALARM CONNECTIONS SHALL BE BY DIVISION 26. CONTROL WIRING FOR UNIT SHUTDOWN SHALL BE BY DIVISION 23.
16. LOCATE ALL SPACE CONTROL INSTRUMENTS 4'–0" ABOVE FINISHED FLOOR.
17. CORRECT SETTINGS ON ALL BALANCING FITTINGS SHALL BE PERMANENTLY MARKED. PROVIDE ORANGE FLAGGING RIBBON ON EACH DAMPER HANDLE FOR EASY IDENTIFICATION.
18. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY DISMANTLING OF EQUIPMENT TO BE REMOVED.
19. ITEMS REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF.
20. THE HVAC SYSTEMS SHALL NOT BE OPERATED DURING HEAVY CONSTRUCTION OPERATIONS INCLUDING MASONRY, GYPSUM BOARD SANDING, HEAVY CLEANUP ACTIVITIES, OR OTHER ACTIVITIES THAT CREATE AIRBORNE PARTICLES OR DEBRIS. ALL SYSTEMS SHALL BE CLEAN OF CONSTRUCTION DEBRIS, DUST AND DIRT AT FINAL COMPLETION. DUCT CLEANING AND UNIT/COIL CLEANING SHALL BE PERFORMED IF REQUIRED.

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER No. 17994 WILLIAM C. LIVINGSTON REGISTERED 8-21-20

CHECKED BY: WCL | DRAWN BY: DEM | DATE: 21AUG20 | DRAWING: | BUILDING: 884

REV. | DESCRIPTION | DATE | ORIG. BY | DRAWN BY

PROJECT TITLE: USC SUMTER STUDENT UNION MECHANICAL MAINTENANCE RENOVATION
STATE PROJECT NUMBER: H39–1322
University of South Carolina

SOUTH CAROLINA SWYGERT AND ASSOCIATES, LTD. NO. C00227 CERTIFICATE OF AUTHORIZATION

Swygert & Associates
CONSULTING ENGINEERS
DBA Swygert & Assoc., Ltd. Post Office Box 11686 Columbia, S.C. 29211
Telephone: (803) 791–9300 Facsimile: (803) 791–0830 mail@swygert–associates.com

SHEET: M3 OF
SHEET IN SET: OF

N:\PROJECTS\18375\DRAWINGS\HVAC\18375–M3.dwg

VARIABLE VOLUME BOX SCHEDULE

TAG	TRANE MODEL	AIR INLET INCHES	COOLING		HEATING			MAX. A.P.D. IN. W.C.	REMARKS
			MAX CFM	MIN CFM	CFM	KW	STAGES		
1–1	VCEF	12	2,000	600	630	9.0	2	0.08	1,2,3
1–2	VCEF	12	1,600	480	525	6.5	2	0.05	1,2,3
1–3	VCEF	12	2,000	600	630	1.0	2	0.08	1,2,3
1–4	VCEF	6	400	120	170	2.0	1	0.14	1,2,3
1–5	VCEF	6	300	100	100	1.0	1	0.02	1,2,3
1–6	VCEF	6	300	100	170	2.0	1	0.02	1,2,3
1–7	VCEF	6	900	270	270	4.0	2	0.14	1,2,3
1–8	VCEF	10	1,000	300	560	8.0	2	0.03	1,2,3

1. PROVIDE HEATING COIL ON BOX DISCHARGE WITH 4'–0" STRAIGHT PLENUM BEFORE FITTINGS OR TAKEOFFS.
2. PROVIDE 1" FOIL FACED INSULATION, LINE FUSE, AND DOOR INTERLOCKING DISCONNECT SWITCH.
3. CONTROLS SHALL BE PROVIDED BY THE CONTROL CONTRACTOR AND FACTORY MOUNTED.

ROOFTOP VARIABLE AIR VOLUME UNIT SCHEDULE

TAG	TRANE MODEL NO.	SUPPLY FAN			EXHAUST FAN			OUTDOOR AIR–CFM	DX NET COOLING CAPACITY @ 95°F		EER	ELECTRIC HEAT – KW	REMARKS
		AIRFLOW CFM	ESP IN. WG	FAN H.P.	AIRFLOW CFM	ESP IN. WG	FAN H.P.		EA DB/WB	LA BD/WB			
RTU–1	TED330	8,900	2.2	10	3,000	0.5	1	1,200	81.8/68.7	59.5/57.5	11.0	36	1–7

1. PROVIDE WITH CERTIFIED SEISMIC CURB, INTERNAL VIBRATION ISOLATION, ECONOMIZER, EXHAUST FAN WITH STATIC TRAC, VARIABLE FREQUENCY DRIVE ON SUPPLY FAN, ABD SHAFT GROUNDING RING.
2. PROVIDE MICROPROCESSOR CONTROLS TO OPERATE THE UNIT WHEN INSTRUCTED BY THE EMS. PROVIDE STAND ALONE CONTROLS INCLUDING DISCHARGE TEMPERATURE AND DUCT STATIC PRESSURE SENSORS. UNIT SHALL INCLUDE AUXILIARY CONTACTS FOR START AND STOP CONTROL FROM BUILDING MANAGEMENT SYSTEM.
3. PROVIDE BACNET INTERFACE MODULE TO INTERFACE WITH OWNER'S EXISTING BUILDING MANAGEMENT SYSTEM.
4. PROVIDE STAINLESS STEEL CONDENSATE DRAIN PAN.
5. INSTALL DUCT SMOKE DETECTORS IN RETURN WIRED TO SHUT DOWN THE UNIT.
6. PROVIDE 1 YEAR PARTS AND LABOR WARRANTY AND 5 YEAR COMPRESSOR WARRANTY.
7. PROVIDE FACTORY STARTUP.

AIR DISTRIBUTION SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL	FRAME	CFM	NECK SIZE	FACE SIZE	MAX NC	REMARKS
Ⓐ	UNI–FLOW SUPPLY	PRICE	ASPD	LAY–IN	0–125	6ø	24x24	25	1,2
Ⓑ	UNI–FLOW SUPPLY	PRICE	ASPD	LAY–IN	126–250	8ø	24x24	25	1,2
Ⓒ	UNI–FLOW SUPPLY	PRICE	ASPD	LAY–IN	251–350	10ø	24x24	25	1,2
Ⓓ	UNI–FLOW SUPPLY	PRICE	ASPD	LAY–IN	351–450	12ø	24x24	25	1,2
Ⓔ	PERFORATED RETURN	PRICE	APDDR	LAY–IN	0–1000	22x22	24x24	25	1,2

1. PROVIDE WITH STANDARD WHITE FINISH.
2. PROVIDE ALUMINUM OR ALUMINIZED STEEL CONSTRUCTION.

PACKAGED TERMINAL UNIT SCHEDULE

TAG	GE MODEL NO.	COOLING CAP.–MBH @ 80/67/95	HTG. CAP. –MBH 47°F AMB.	AUX. HT. –KW	CFM	EER/COP	REMARKS
TWU–1	AZ6SH12DAD	11.6	10.4	1.9	450	11.3/3.5	1,2

1. PROVIDE FIBERGLASS REINFORCED POLYESTER WALL SLEEVE, POLYCARBONATE ARCHITECTURAL GRILLE, SUBBASE, AND LINE CORD POWER KIT.
2. PROVIDE MANUAL POSITIVE CLOSING FRESH AIR VENT, FREEZE SENTINAL PROTECTION, AND INDOOR COIL FROST CONTROL.

EXHAUST FAN SCHEDULE

TAG	GREENHECK MODEL NO.	TYPE	CFM	ESP	MOTOR H.P./W.	SONES (MAX.)	REMARKS
EF–1	SP–A250	CEILING	210	0.375	83 W	3.8	1, 2
EF–2	SP–A250	CEILING	210	0.375	83 W	3.8	1, 2
EF–3	SP–A250	CEILING	210	0.375	83 W	3.8	1, 2
EF–4	SP–A250	CEILING	210	0.375	83 W	3.8	1, 2

1. PROVIDE WITH CEILING GRILLE, BACKDRAFT DAMPER, DISCONNECT SWITCH, AND SPEED CONTROL.
2. INTERLOCK WITH LIGHT SWITCH, WIRED BY ELECTRICAL CONTRACTOR.

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: SOUTH CAROLINA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS No. 17294 8-24-20 WILLIAM C. SWYGERT

CHECKED BY: WCL | DRAWN BY: | ORIG. BY: | DRAWN BY: DEM | DATE:

REV:	DESCRIPTION	DATE:
		21AUG20

BUILDING: 884
DRAWING:

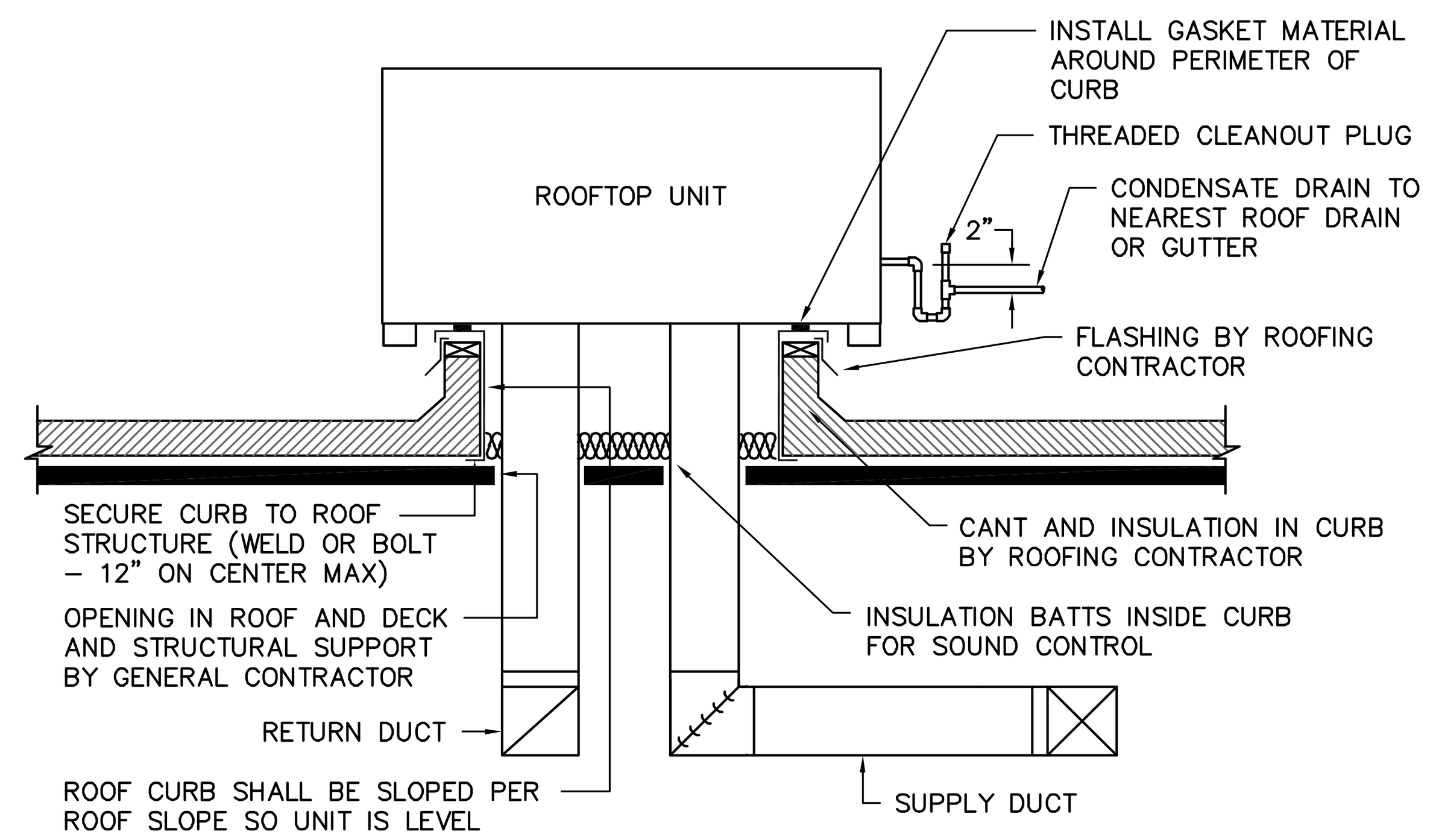
PROJECT TITLE: USC SUMTER STUDENT UNION
MECHANICAL MAINTENANCE RENOVATION
STATE PROJECT NUMBER: H39–I322
University of South Carolina

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION SWYGERT AND ASSOCIATES, LTD. NO. C00227

Swygert & Associates
CONSULTING ENGINEERS
DBA Swygert & Assoc., Ltd.
Post Office Box 11686
Columbia, S.C. 29211
Telephone: (803) 791–9300
Facsimile: (803) 791–0830
mail@swygert–associates.com

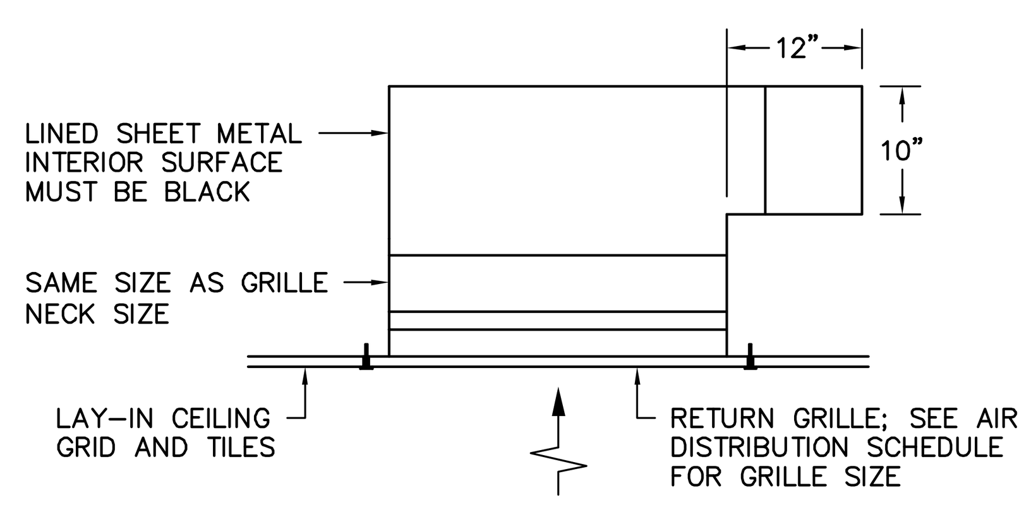
SHEET: M4
OF
SHEET IN SET:
OF

N: \PROJECTS\18375\DRAWINGS\HVAC\18375–M4.dwg



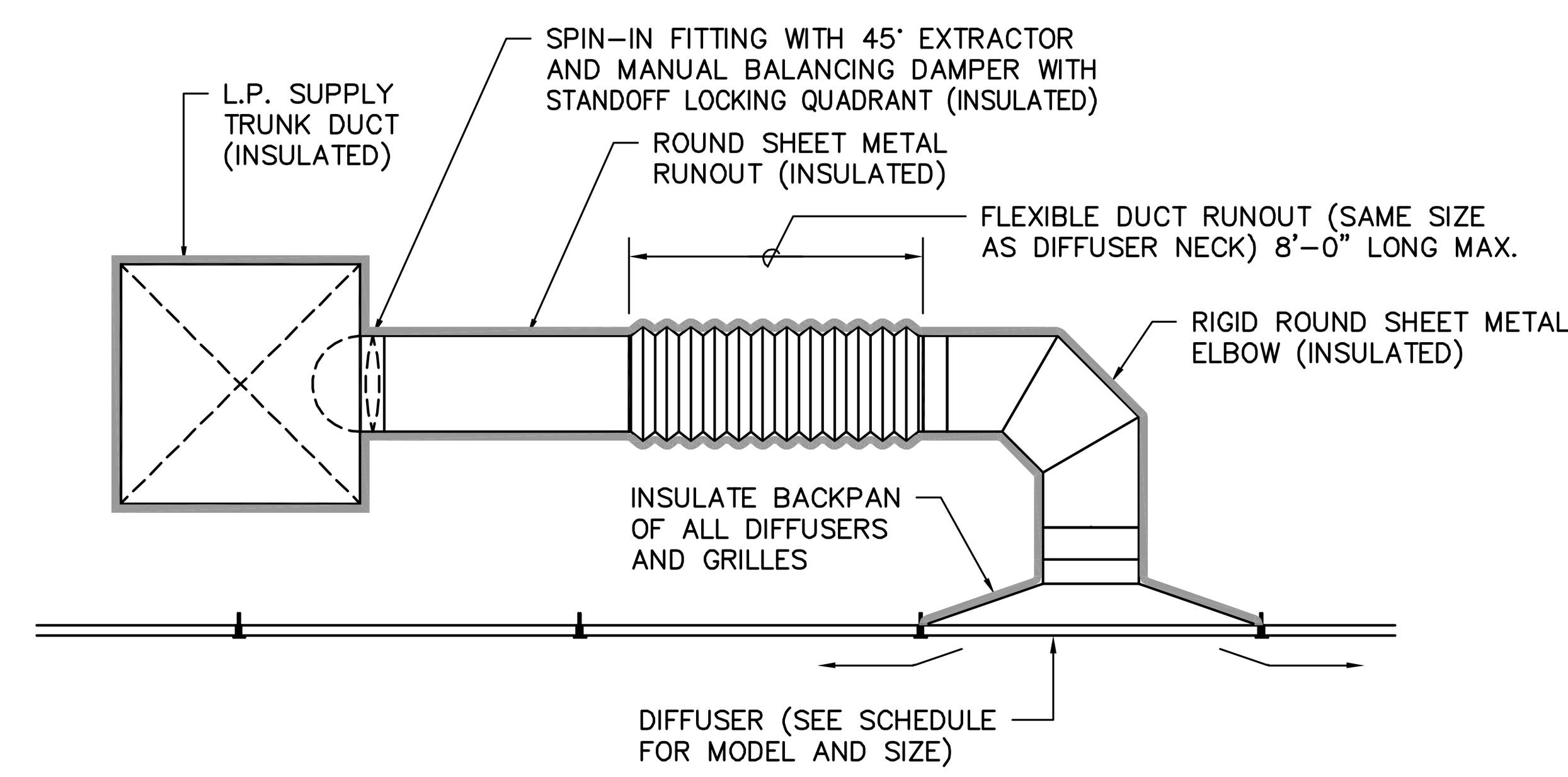
ROOFTOP UNIT DETAIL

NO SCALE



RETURN GRILLE DETAIL

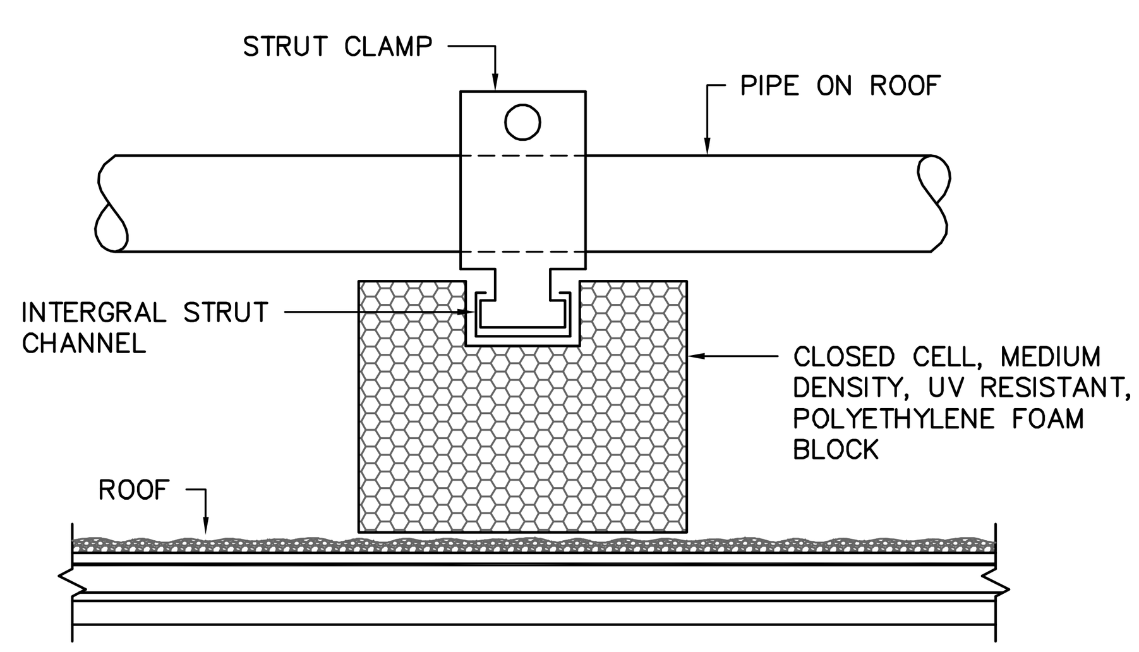
NO SCALE



CEILING DIFFUSER DETAIL

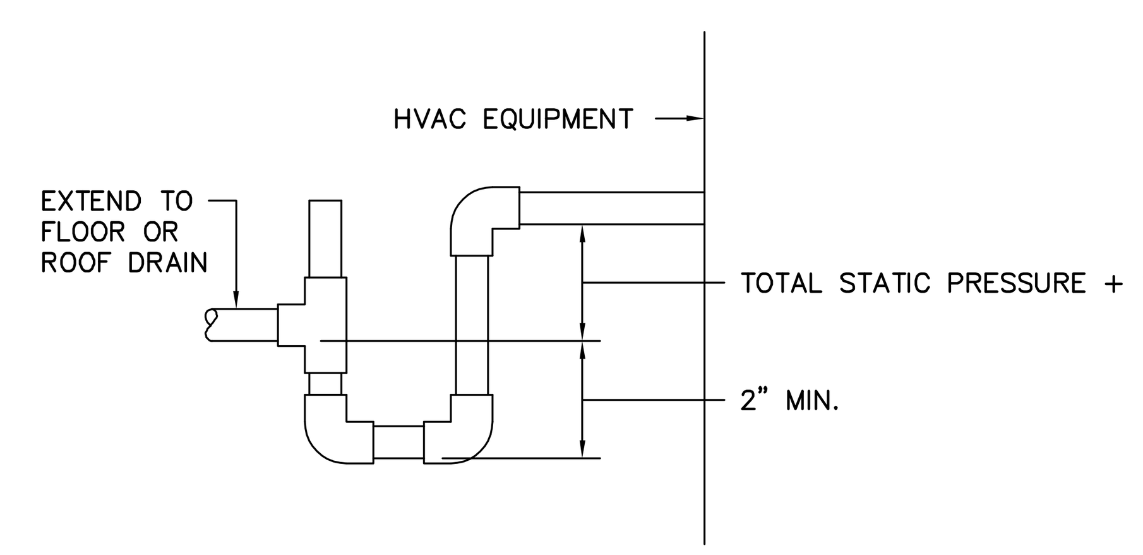
NO SCALE

NOTE:
LOCATE PIPE SUPPORT BLOCKS MAXIMUM 8'–0" ON CENTERS AND AT EACH FITTING.



ROOFTOP PIPE SUPPORT DETAIL

NO SCALE



CONDENSATE DRAIN DETAIL

NO SCALE

N:\PROJECTS\18375\DRAWINGS\HVAC\18375–M5.dwg

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER No. 17994 WILLIAM C. LIVINGSTON 8-21-20

CHECKED BY: WCL
DRAWN BY: DEM
DATE: 21AUG20
DRAWING:
BUILDING: 884

REV.	DESCRIPTION	DATE	ORIG. BY	DRAWN BY

PROJECT TITLE: USC SUMTER STUDENT UNION MECHANICAL MAINTENANCE RENOVATION
STATE PROJECT NUMBER: H39–1322
University of South Carolina

SOUTH CAROLINA SWYGERT AND ASSOCIATES, LTD. NO. C00227 CERTIFICATE OF AUTHORIZATION

Swygert & Associates
CONSULTING ENGINEERS
DBA Swygert & Assoc., Ltd. Post Office Box 11686 Columbia, S.C. 29211
Telephone: (803) 791–9300 Facsimile: (803) 791–0830 mail@swygert–associates.com

SHEET: M5 OF
SHEET IN SET: OF

GENERAL NOTES

1. IN CASE OF A DISCREPANCY BETWEEN THE MECHANICAL AND STRUCTURAL DRAWINGS, CONSULT WITH THE MECHANICAL ENGINEER. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS RELATED TO EXISTING CONSTRUCTION.

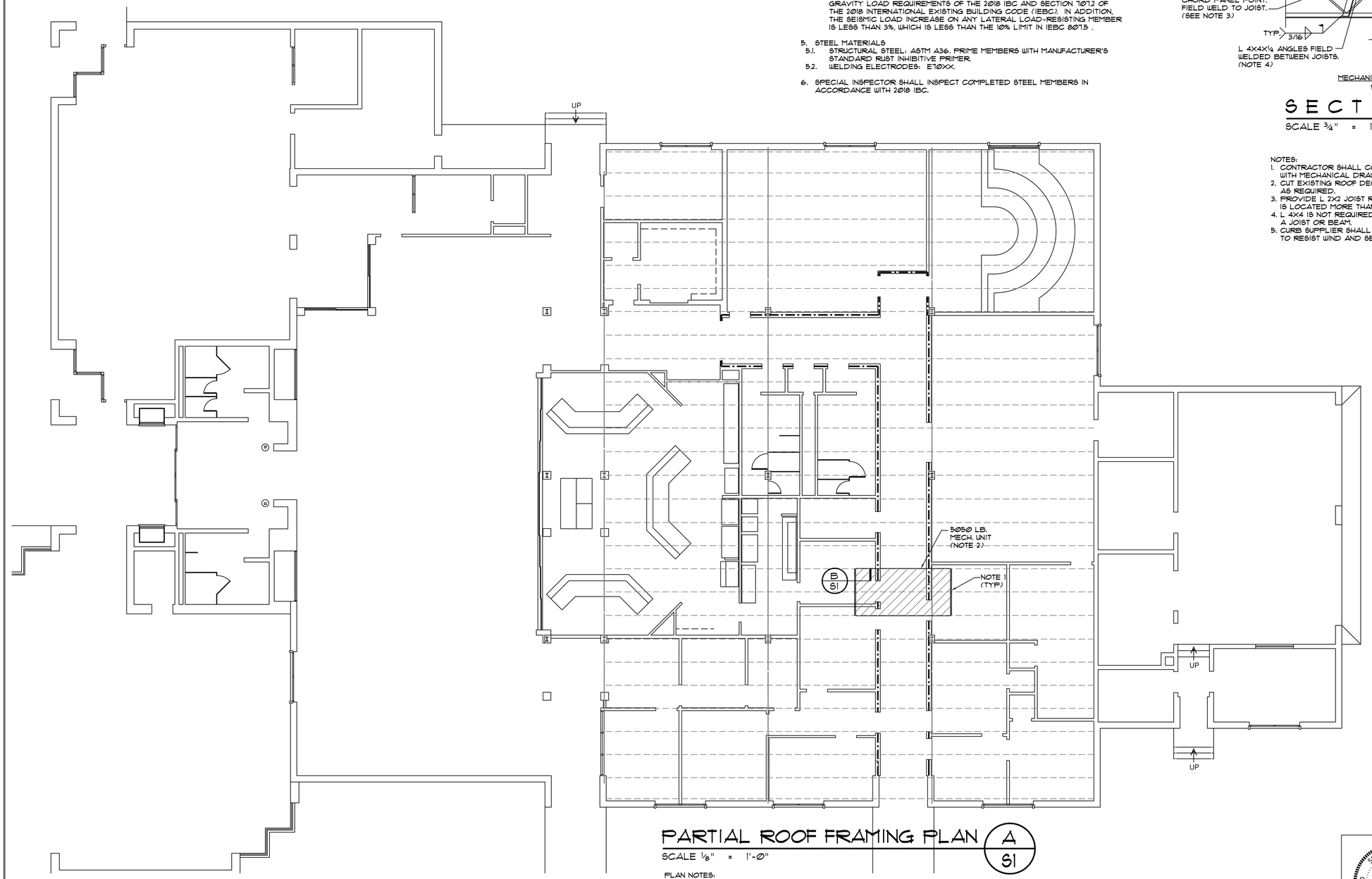
2. EXISTING STRUCTURAL INFORMATION IS BASED ON THE ORIGINAL STRUCTURAL DRAWINGS DATED MARCH, 1975.

3. DESIGN CRITERIA
   - 3.1. BUILDING CODE: 2018 INTERNATIONAL BUILDING CODE
   - 3.2. BUILDING CATEGORY III
   - 3.3. SEISMIC DESIGN DATA
     - 3.3.1. IMPORTANCE FACTOR 1.25
     - 3.3.3. S_s = 0.373 S_1 = 0.107
     - 3.3.4. S_{DS} = 0.278 S_{D1} = 0.199
     - 3.3.5. SITE CLASS D (ASSUMED) SEISMIC DESIGN CATEGORY C
   - 3.4. WIND DESIGN DATA
     - 3.4.1. WIND VELOCITY 133 MPH, EXPOSURE C

4. NEW MECHANICAL UNITS (SEE MECHANICAL DWGS.)
   - 4.1. ALTHOUGH THE NEW UNITS INCREASE THE GRAVITY LOAD ON SOME MEMBERS BY MORE THAN 5%, ALL MEMBERS STILL COMPLY WITH THE GRAVITY LOAD REQUIREMENTS OF THE 2018 IBC AND SECTION 707.2 OF THE 2018 INTERNATIONAL EXISTING BUILDING CODE (IEBC). IN ADDITION, THE SEISMIC LOAD INCREASE ON ANY LATERAL LOAD-RESISTING MEMBER IS LESS THAN 3%, WHICH IS LESS THAN THE 10% LIMIT IN IEBC 807.3 .

5. STEEL MATERIALS
   - 5.1. STRUCTURAL STEEL: ASTM A36. PRIME MEMBERS WITH MANUFACTURER'S STANDARD RUST INHIBITIVE PRIMER.
   - 5.2. WELDING ELECTRODES: E70XX.

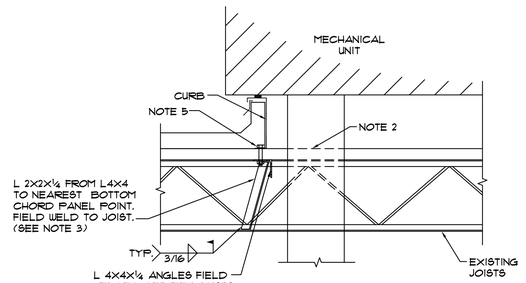
6. SPECIAL INSPECTOR SHALL INSPECT COMPLETED STEEL MEMBERS IN ACCORDANCE WITH 2018 IBC.



PARTIAL ROOF FRAMING PLAN (A/S1)

SCALE 1/8" = 1'-0"

PLAN NOTES:
1. PROVIDE L 4X4X1/4 FRAMING UNDER ALL SIDES OF UNITS WHICH DO NOT OCCUR DIRECTLY OVER A BEAM OR JOIST AS SHOWN ON PLAN AND AS SHOWN ON B/S1. DEPENDING ON THE LOCATIONS OF THE EXISTING FRAMING AND SIZES OF THE ACTUAL MECHANICAL UNITS, MORE ANGLES MAY BE REQUIRED THAN SHOWN ON PLAN ABOVE.
2. DUCTS MUST BE TRANSITIONED WITHIN THE UNIT CURBS SO THAT DUCT OPENINGS THROUGH ROOF WILL FIT BETWEEN JOISTS. DO NOT CUT ANY JOISTS.



MECHANICAL UNIT SUPPORT DETAIL ON EXISTING ROOF

SECTION B/S1

SCALE 3/4" = 1'-0"

NOTES:
1. CONTRACTOR SHALL COORDINATE FRAME DIMENSIONS AND LOCATIONS WITH MECHANICAL DRAWINGS AND WITH EQUIPMENT SELECTED.
2. CUT EXISTING ROOF DECK OUT UNDER UNIT ONLY FOR DUCT OPENINGS AS REQUIRED.
3. PROVIDE L 2X2 JOIST REINFORCEMENT AS INDICATED WHEREVER CURB IS LOCATED MORE THAN 4" FROM A TOP CHORD PANEL POINT.
4. L 4X4 IS NOT REQUIRED WHERE SIDE OF UNIT OCCURS DIRECTLY OVER A JOIST OR BEAM.
5. CURB SUPPLIER SHALL DESIGN ATTACHMENTS OF CURB TO STRUCTURE TO RESIST WIND AND SEISMIC LOADS.

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 23150 JOSEPH LEE MARTIN 08.21.20

DATE:	DRAWN BY:	CHECKED BY:
21 AUG 20	RAB	JLM

REV.	DESCRIPTION	DATE	ORIG. BY	DRAWN BY

BUILDING: 884 DRAWING:

PROJECT TITLE: USC SUMTER STUDENT UNION
MECHANICAL MAINTENANCE RENOVATION
STATE PROJECT NUMBER: H39-1322
University of South Carolina

SOUTH CAROLINA JOHNSON & KING ENGINEERS No. C00165 CERTIFICATE OF AUTHORIZATION

JOHNSON&KING ENGINEERS
structural consultants
1223 Elmwood Avenue | 803.779.8830 T
Columbia, SC 29201 | 803.779.8831 F

SHEET: S1
OF
SHEET IN SET:
OF

ELECTRICAL GENERAL NOTES

1. BRANCH CIRCUIT WIRING SHALL BE NO. 12 AWG UNLESS NOTED OTHERWISE. WHERE CONDUCTOR AND RACEWAY SIZE ARE SHOWN AT HOMERUN, SUCH SIZE SHALL BE USED FOR THE ENTIRE CIRCUIT. EXCEPTION: FINAL CONNECTION TO DEVICES, IN OUTLET BOXES, IS NOT REQUIRED TO BE LARGER THAN NO. 12 AWG.
2. 20A/120V BRANCH CIRCUITS EXCEEDING 100' IN LENGTH FROM PANEL TO FARTHEST DEVICE OR FIXTURE SHALL USE NO. 10 CONDUCTORS AND 3/4"C.
3. RACEWAYS SHALL BE INSTALLED CONCEALED IN NEW WALL CONSTRUCTION ABOVE CEILINGS, BELOW FLOOR, AND IN OTHER CAVITIES TO THE GREATEST EXTENT POSSIBLE. WHERE EXPOSED RACEWAYS MUST BE USED, LAYOUT RACEWAYS TO MINIMIZE THE NUMBER OF VERTICAL RUNS.
4. FEEDER AND BRANCH CIRCUITS ROUTING SHALL COMPLY WITH DETAILS ON DRAWINGS AND SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES BEFORE AND DURING CONSTRUCTION.
5. REFER TO THE MECHANICAL DRAWINGS FOR PROJECT PHASING.
6. THE ARRANGEMENT, GROUPING, AND ROUTING OF BRANCH CIRCUITS SHALL BE PROVIDED AT THE CONTRACTOR'S DISCRETION IN ACCORDANCE WITH GENERALLY ACCEPTED PRACTICE FOR ELECTRICAL WORK, THE NATIONAL ELECTRICAL CODE REQUIREMENTS, LOCAL ORDINANCES.
7. A COMMON NEUTRAL SHALL NOT BE INSTALLED IN A HOMERUN FOR 2 OR 3 BRANCH CIRCUITS UNLESS DIRECTION IS PROVIDED BY THE ENGINEER IN WRITTING FOR A SPECIFIC APPLICATION.
8. MULTIPLE SINGLE-POLE BRANCH CIRCUITS (UP TO 3 HOTS, 3 NEUTRALS, 1 GROUND) RATED FOR 30-AMPS OR LESS MAY BE PULLED INTO A SINGLE RACEWAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING THE RACEWAYS AND DERATING CONDUCTORS PER NEC ARTICLE 310.15.
9. A GROUND CONDUCTOR SHALL BE PROVIDED IN ALL RACEWAYS UNLESS NOTED OTHERWISE.
10. THE USE OF MC CABLE IS NOT ALLOWED.
11. SEAL ALL EXISTING AND NEW FIRE RATED WALL AND FLOOR PENETRATIONS IN THE CONSTRUCTION AREA
12. SEE MECHANICAL DRAWINGS FOR ALL LOCATIONS OF FIRE RATED WALLS.
13. WHEREVER ON THE ELECTRICAL DRAWINGS THE WORD "PROVIDE" IS USED, IT SHALL BE INFERRED TO MEAN "FURNISH AND INSTALL".
14. AREAS OF WORK EXIST FOR THIS PROJECT WHICH ARE NOT ACCESSIBLE OR HAVE LIMITED ACCESS DURING DESIGN. AS SUCH CONTRACTOR SHALL VERIFY ALL UTILITIES IN AREA OF WORK BEFORE DEMOLITION OF ANY SERVICE. ANY ELECTRICAL COMPONENTS NOT SHOWN SHALL BE IDENTIFIED AND THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED AS SOON AS POSSIBLE. NO ELECTRICAL REWORK SHALL BE COMMENCED WITHOUT COORDINATION OF BOTH ARCHITECT AND ENGINEER.
15. IN AREAS WHERE THE EXISTING CEILINGS ARE NOT SLATED TO BE REMOVED, THE CONTRACTOR SHALL WORK THRU THE EXISTING CEILINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED TILE OR GRID THAT IS A RESULT OF THEIR WORK.

    SUPPORT ALL EXISTING CONDUITS AND JUNCTION BOXES ABOVE THE CEILING PER NEC IN THE CONSTRUCTION AREA.
16. REMOVE ALL ABANDONED CONDUIT, WIRE, AND COMMUNICATION CABLES ABOVE THE CEILING IN THE CONSTRUCTION AREA.
17. PROVIDE JUNCTION BOX COVER PLATES ON ALL EXISTING JUNCTION BOXES ABOVE THE CEILING IN THE CONSTRUCTION AREA.
18. WHERE INFORMATION SHOWN ON THESE DRAWINGS CONFLICTS WITH VERIFIED FIELD CONDITIONS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER
19. ALL ELECTRICAL EQUIPMENT TO BE REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIALS UNTIL RELEASED BY OWNER'S PROJECT MANAGER. MATERIALS THAT OWNER'S PROJECT MANAGER CHOOSES TO RETAIN SHALL BE DELIVERED BY THE CONTRACTOR TO A LOCATION DESIGNATED BY THE PROJECT MANAGER. ALL OTHER MATERIALS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.
20. PROVIDE UPDATE, TYPED PANEL DIRECTORIES IN ALL PANELS AFFECTED BY THIS RENOVATION.

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
R	EXISTING DISCONNECT SWITCH TO BE REMOVED BY ELECTRICAL CONTRACTOR
E	EXISTING DISCONNECT SWITCH TO REMAIN IN PLACE
M	DISCONNECT SWITCH INTEGRAL WITH MECHANICAL EQUIPMENT
1	DISCONNECT SWITCH PROVIDED BY ELECTRICAL CONTRACTOR (100 AMP, 3-POLE, 240V, FUSIBLE, NEMA 3R)
2	DISCONNECT SWITCH PROVIDED BY ELECTRICAL CONTRACTOR (200 AMP, 3-POLE, 240V, FUSIBLE, NEMA 3R)
3	DISCONNECT SWITCH PROVIDED BY ELECTRICAL CONTRACTOR (400 AMP, 3-POLE, 240V, FUSIBLE, NEMA 3R)
D	DUCT TYPE SMOKE DETECTOR (FURNISHED BY ELECTRICAL CONTRACTOR; INSTALLED AND WIRED FOR FAN SHUTDOWN BY MECHANICAL CONTRACTOR; AND CONNECTED TO EXISTING FIRE ALARM CONTROL PANEL BY ELECTRICAL CONTRACTOR)
◇	DUCT TYPE SMOKE DETECTOR, MOUNTED IN EXISTING ACOUSTICAL TILE CEILING BELOW HVAC UNIT (PROVIDED BY ELECTRICAL CONTRACTOR)
▬	EXISTING ELECTRICAL PANEL TO REMAIN

EXISTING ELECTRICAL PANEL DESCRIPTIONS

PANEL "M"	400 AMP, MAIN BREAKER	GE TYPE "SCP" PLUS
PANEL "A"	225 AMP, M.L.O.	GE TYPE "A" SERIES
PANEL "B"	100 AMP, M.L.O.	GE TYPE "NLAB"
PANEL "C"	225 AMP, M.L.O.	GE TYPE "NLAB"
PANEL "F"	225 AMP, M.L.O.	GE TYPE "A" SERIES
PANEL "G"	800 AMP, MAIN BREAKER	GE TYPE "SCP" PLUS

EXISTING FIRE ALARM CONTROL PANEL (FACP) SIMPLEX 4020 SERIES

ELECTRICAL DRAWING INDEX

E1 ELECTRICAL SYMBOL LEGEND AND GENERAL NOTES

E2 ELECTRICAL DEMOLITION PLAN

E3 ELECTRICAL RENOVATION PLAN

BELKA ENGINEERING ASSOC. INC. No. C00953 CERTIFICATE OF AUTHORIZATION SOUTH CAROLINA

BELKA ENGINEERING ASSOCIATES

2519A PLATT SPRINGS RD | WEST COLUMBIA, SC
(803) 731-0650 Office | (803) 960-6443 Cell

CONTACT: CLIFF STRINGFIELD
CSTRINGFIELD@BEA-Consulting.com

SW21804

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: JASON I. ARCHER, LICENSED PROFESSIONAL ENGINEER, No. 26181, SOUTH CAROLINA, 8-21-20

BUILDING: 884	DRAWING:	DRAWN BY: TSR	CHECKED BY: CES
REV.	DESCRIPTION	DATE: 21AUG20	ORIG. BY	DRAWN BY

PROJECT TITLE:
USC SUMTER STUDENT UNION
MECHANICAL MAINTENANCE RENOVATION
STATE PROJECT NUMBER: H39-1322

University of South Carolina

SHEET: E1
1 OF 3

SHEET IN SET:
OF

GENERAL ELECTRICAL DEMOLITION NOTE

ELECTRICAL CONTRACTOR SHALL TEMPORARILY HANG EXISTING LIGHTING FIXTURES FROM STRUCTURAL CEILING AS REQUIRED WHERE EXISTING GRID IS TAKEN DOWN TO INSTALL NEW DUCTWORK. COORDINATE THIS WORK WITH THE MECHANICAL CONTRACTOR.

ELECTRICAL DEMOLITION NOTES

1. DISCONNECT AND REMOVE EXISTING CIRCUIT FROM EXISTING VAV UNIT.
2. EXISTING ROOFTOP UNIT SHALL REMAIN AS IS.
3. DISCONNECT EXISTING CIRCUIT FROM RESTROOM EXHAUST FAN AND REMOVE DISCONNECT SWITCH. NEW RESTROOM EXHAUST FAN SHALL BE INTERLOCKED WITH EXISTING RESTROOM LIGHTING. EXTEND LIGHTING CIRCUIT AS REQUIRED.
4. DISCONNECT AND REMOVE EXISTING CIRCUIT FROM EXISTING EXHAUST FANS. THESE FANS SHALL NOT BE REPLACED.
5. DISCONNECT AND REMOVE EXISTING CIRCUIT FROM EXISTING AIR HANDLER AND REMOVE DISCONNECT SWITCH. EXISTING CONDUIT MAY BE REUSED FOR NEW EQUIPMENT IF CORRECT SIZE FOR NEW CONDUCTORS.

EXISTING AIR HANDLER
EXISTING CHILLER
EXISTING VAV NOTE 1
EXISTING ROOF TOP UNIT
EF NOTE 3
EF NOTE 4
EXISTING RTU-4 NOTE 2
EXISTING PANELS (TYP.)
EXISTING FIRE ALARM CONTROL PANEL
EXISTING AIR HANDLER NOTE 5
EXISTING PUMPS
EXISTING PANEL "B"
EXISTING BOILER
TERRACE
UP

1/8"=1'-0" scale 4 0 4 8 16 feet

N
REF

1 / E2 FIRST FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

SW21804

BELKA ENGINEERING ASSOC. INC. No. C00953 CERTIFICATE OF AUTHORIZATION SOUTH CAROLINA

BELKA ENGINEERING ASSOCIATES
2519A PLATT SPRINGS RD | WEST COLUMBIA, SC
(803) 731-0650 Office | (803) 960-6443 Cell
CONTACT: CLIFF STRINGFIELD
CSTRINGFIELD@BEA-Consulting.com

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: JASON L. ARNHART LICENSED PROFESSIONAL ENGINEER SOUTH CAROLINA No. 26181 8-21-20

CHECKED BY: CES
DRAWN BY: TSR
DRAWING: BUILDING: 884
REV: | DESCRIPTION | DATE | ORIG. BY | DRAWN BY
1 | | 21AUG20 | | TSR

PROJECT TITLE:
USC SUMTER STUDENT UNION
MECHANICAL MAINTENANCE RENOVATION
STATE PROJECT NUMBER: H39-1322
University of South Carolina

SHEET: E2
2 OF 3
SHEET IN SET: OF

ELECTRICAL RENOVATION NOTES

1. PROVIDE THE FOLLOWING BREAKERS AND BRANCH CIRCUITS IN EXISTING PANELS FOR VAV UNITS (CIRCUITS AS MARKED ON PLAN; ALL VAV CIRCUITS ARE 3 PHASE, SOME EXISTING PANEL NUMBERING IS SINGLE DIGIT AND SOME ARE 3-DIGIT):

UNIT	BREAKER	CONDUCTORS/CONDUIT
VAV 1-1	40A/3P	4#8, 1#10G. IN 1"C.
VAV 1-2	30A/3P	4#10, 1#10G. IN 3/4"C.
VAV 1-3	30A/3P	4#10, 1#10G. IN 3/4"C.
VAV 1-4, 1-5, 1-6, 1-7	35A/3P	4#8, 1#10G. IN 1"C.
VAV 1-8	30A/3P	4#10, 1#10G. IN 3/4"C.

2. PROVIDE BREAKERS, BRANCH CIRCUITS, AND DISCONNECT SWITCHES FOR THE ROOFTOP UNITS LISTED BELOW. ELECTRICAL CONNECTIONS SHALL BE THROUGH BASE OF UNITS; COORDINATE WITH MECHANICAL CONTRACTOR. CIRCUITS AND DISCONNECT SWITCHES AS MARKED ON PLAN.

UNIT	BREAKER	CONDUCTORS/CONDUIT
RTU-1	175A/3P	3#2/0, 1#4G. IN 2"C.

3. PROVIDE 20 AMP, 120V CIRCUIT (#12 CONDUCTORS) FOR HVAC CONTROLS. COORDINATE LOCATION WITH MECHANICAL CONTRACTOR.
4. FOR EXHAUST FANS, EXTEND EXISTING 120V LIGHTING CIRCUIT IN EACH RESTROOM (PLAN SHOWS CIRCUITS FROM AS-BUILT DRAWINGS; CONTRACTOR SHALL FIELD VERIFY). LIGHTING AND EXHAUST FANS SHALL BE CONTROLLED SIMULTANEOUSLY WITH EXISTING SINGLE POLE SWITCH.
5. FURNISH DUCT TYPE SMOKE DETECTORS FOR INSTALLATION BY MECHANICAL CONTRACTOR. CONNECT TO EXISTING FIRE ALARM CONTROL PANEL LOCATED IN EXISTING ELECTRICAL ROOM 116. PROVIDE TEST STATIONS AND MOUNT IN EXISTING GRID CEILING. FIRE ALARM CABLES SHALL BE IN CONDUIT.
6. AT EACH ROOF TOP UNIT, PROVIDE ONE 20 AMP, GFI TYPE DUPLEX RECEPTACLE WITH METALLIC "WHILE-IN-USE" WEATHERPROOF COVER AND FEED ALL THREE NEW DUPLEX RECEPTACLES WITH 20 AMP CIRCUIT FROM EXISTING PANEL "C". COORDINATE MOUNTING OF RECEPTACLE ON ROOF TOP UNIT WITH MECHANICAL CONTRACTOR.
7. FOR TWU-1, PROVIDE 20 AMP, 2 POLE BREAKER IN PANEL "B" AND 2#12, 1#12G. IN 3/4"C. PROVIDE WALL RECEPTACLE AT UNIT.

1/8"=1'-0" scale 4 0 4 8 16 feet

N REF

1/E3 FIRST FLOOR RENOVATION PLAN

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

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER JASON L. ARCHERHART No. 26181 8-21-20

BUILDING: 884	DRAWING:	REV.	DESCRIPTION	DATE
				21AUG20

DRAWN BY: TSR | CHECKED BY: CES

PROJECT TITLE: USC SUMTER STUDENT UNION
MECHANICAL MAINTENANCE RENOVATION
STATE PROJECT NUMBER: H39-1322
University of South Carolina

SW21804

SOUTH CAROLINA BELKA ENGINEERING ASSOC. INC. No. C00953 CERTIFICATE OF AUTHORIZATION

BELKA ENGINEERING ASSOCIATES
2519A PLATT SPRINGS RD | WEST COLUMBIA, SC
(803) 731-0650 Office | (803) 960-6443 Cell
CONTACT: CLIFF STRINGFIELD
CSTRINGFIELD@BEA-Consulting.com

SHEET: E3
3 OF 3

SHEET IN SET: OF