

USC COKER SUITE 416 OFFICE MODIFICATIONS

State Project #H27-D249-FW
GMK Project #18003.01
FEBRUARY 19, 2018
CONSTRUCTION DOCUMENTS

Prepared by:



ASSOCIATES, INC.

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DRAWING INDEX

ARCHITECTURAL

A2.4 PARTIAL 4TH FLOOR DEMOLITION, RENOVATION AND CEILING PLANS, DOOR AND FINISH SCHEDULES AND

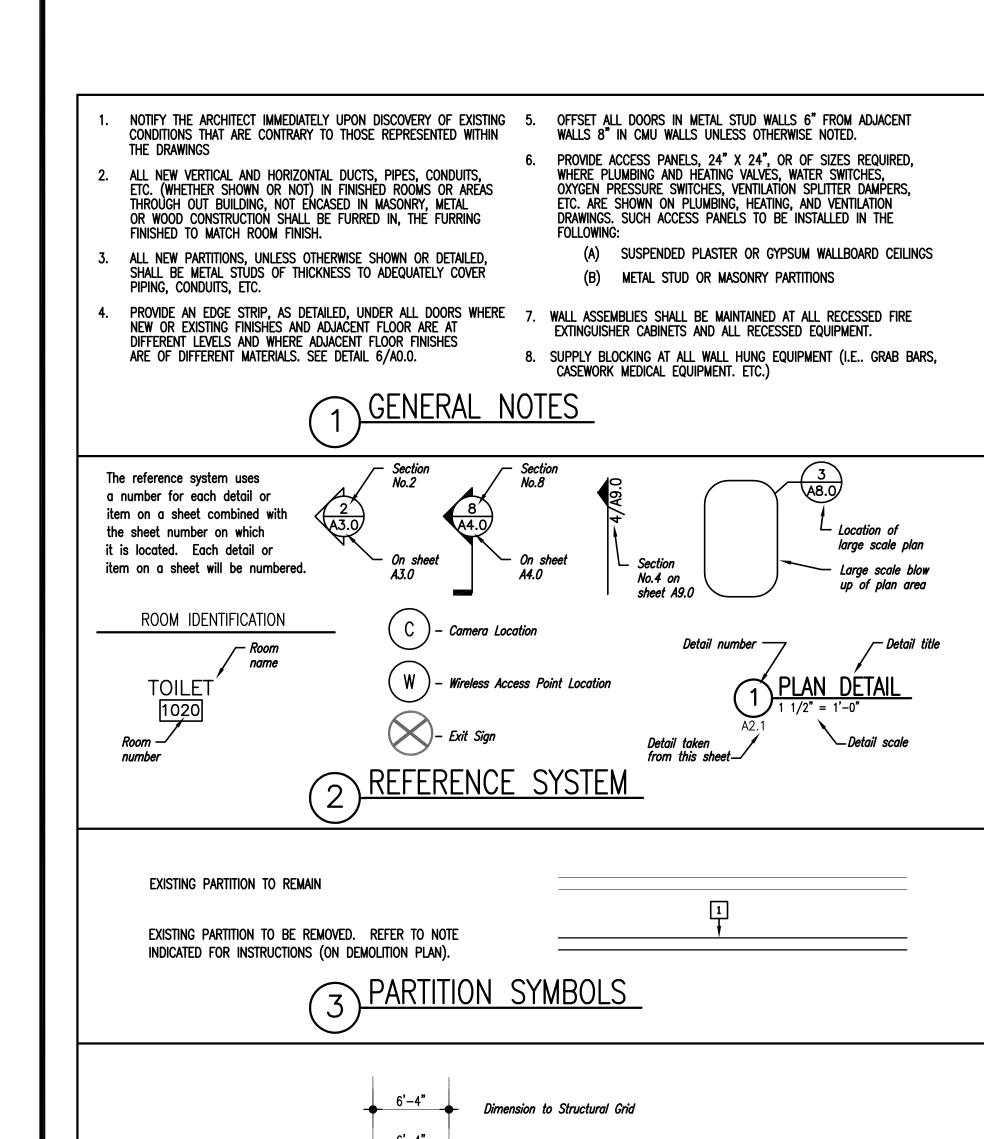
MISCELLANEOUS DETAILS
A11.1 SPECIFICATIONS
A11.2 SPECIFICATIONS

MECHANICAL

M2.4 FOURTH FLOOR HVAC DEMOLITION & RENOVATION FLOOR PLANS, SPECIFICATIONS & SCHEDULES

ELECTRICAL

E2.4 ELECTRICAL SPECIFICATIONS, DEMOLITION AND RENOVATION PLANS



KEY PLAN

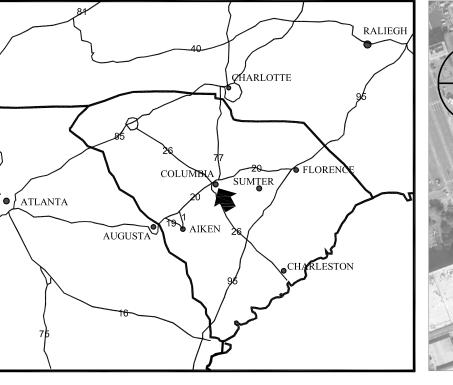
5 INTERIOR OPENING SYMBOLS

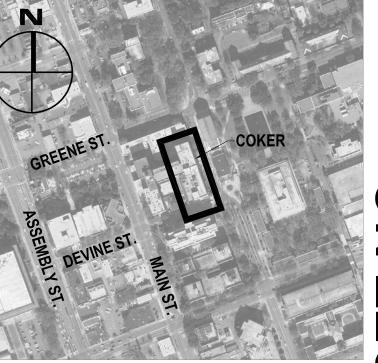
N.T.S.

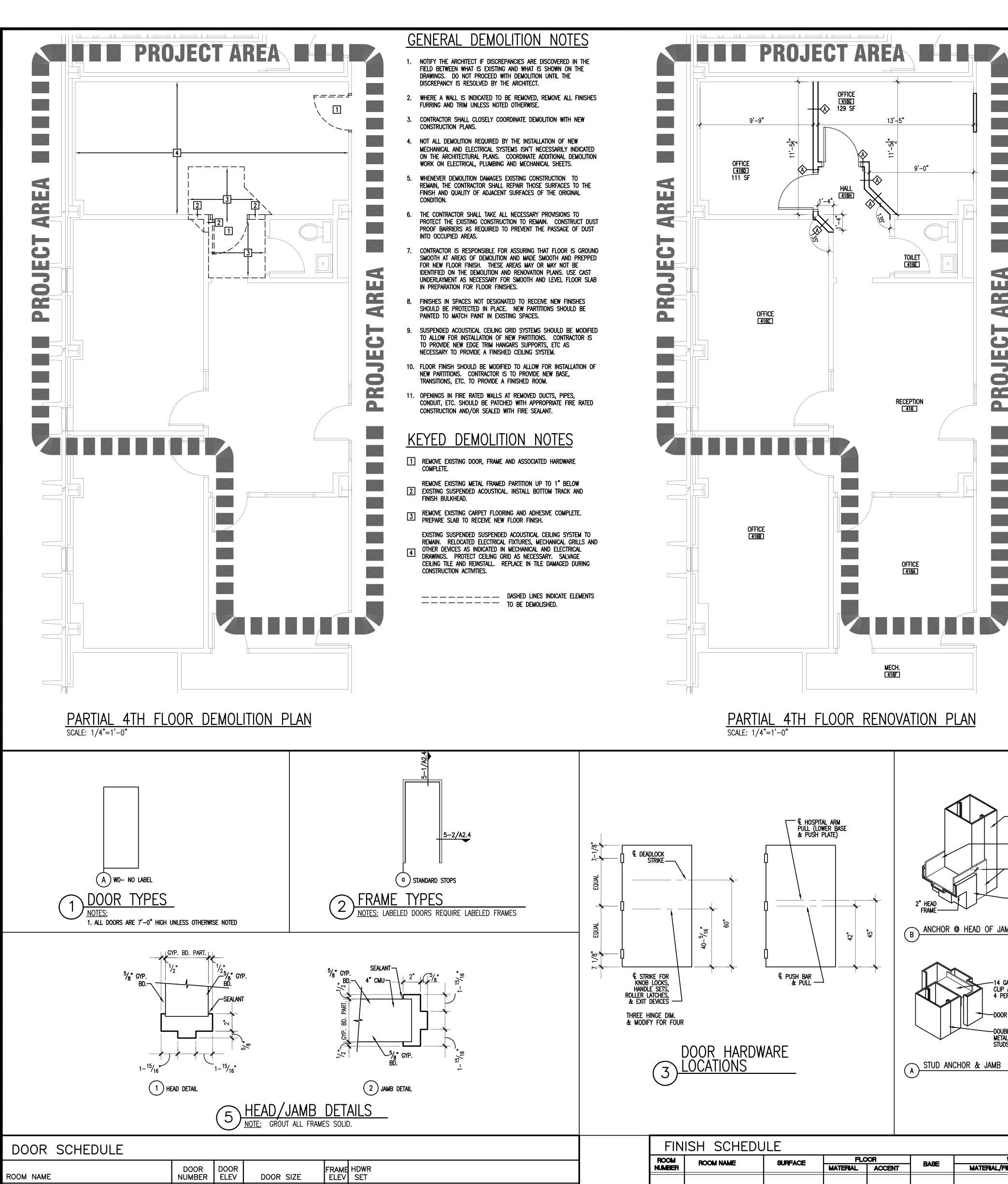
4 DIMENSION CONVENTIONS

N.T.S.

DOOR & FRAME PLAN SYMBOLS







3'-0" X 7'-0"

3'-0" X 7'-0"

416G

1. ALL HARDWARE TO BE BHMA OPERATIONAL GRADE 1 — HEAVY DUTY COMMERCIAL.

HARDWARE SUPPLIER SHALL COORDINATE WITH DOOR AND FRAME SUPPLIER ON PREPARATION FOR HARDWARE.

A. 3 MORTISE HINGES EACH DOOR LEAF FOR DOORS UP TO 3'-6" WIDE. FOR DOORS OVER 3'-6" WIDE PROVIDE 4 HINGES.

SUBMIT SCHEDULE, SPECS, PRODUCT DATA TO THE ARCHITECT FOR APPROVAL AS PER SECTION 01 3000.

FINISH SHALL BE SATIN NICKEL, OR MATCH EXISTING FINISH IF DIFFERENT.

. ALL HARDWARE SHALL MEET ANSI 117.1 AND ADA AS APPLICABLE.

KEYING SHALL BE COORDINATED WITH OWNER AND KEYS PROVIDED.

C. DOOR SILENCERS IN FRAME OR SMOKE SEALS IN RATED DOORS

3. 1 MORTISE LOCKSET (LEVER), OFFICE FUNCTION.

D. OVERHEAD STOP OR WALL BUMPER AS REQUIRED

OFFICE

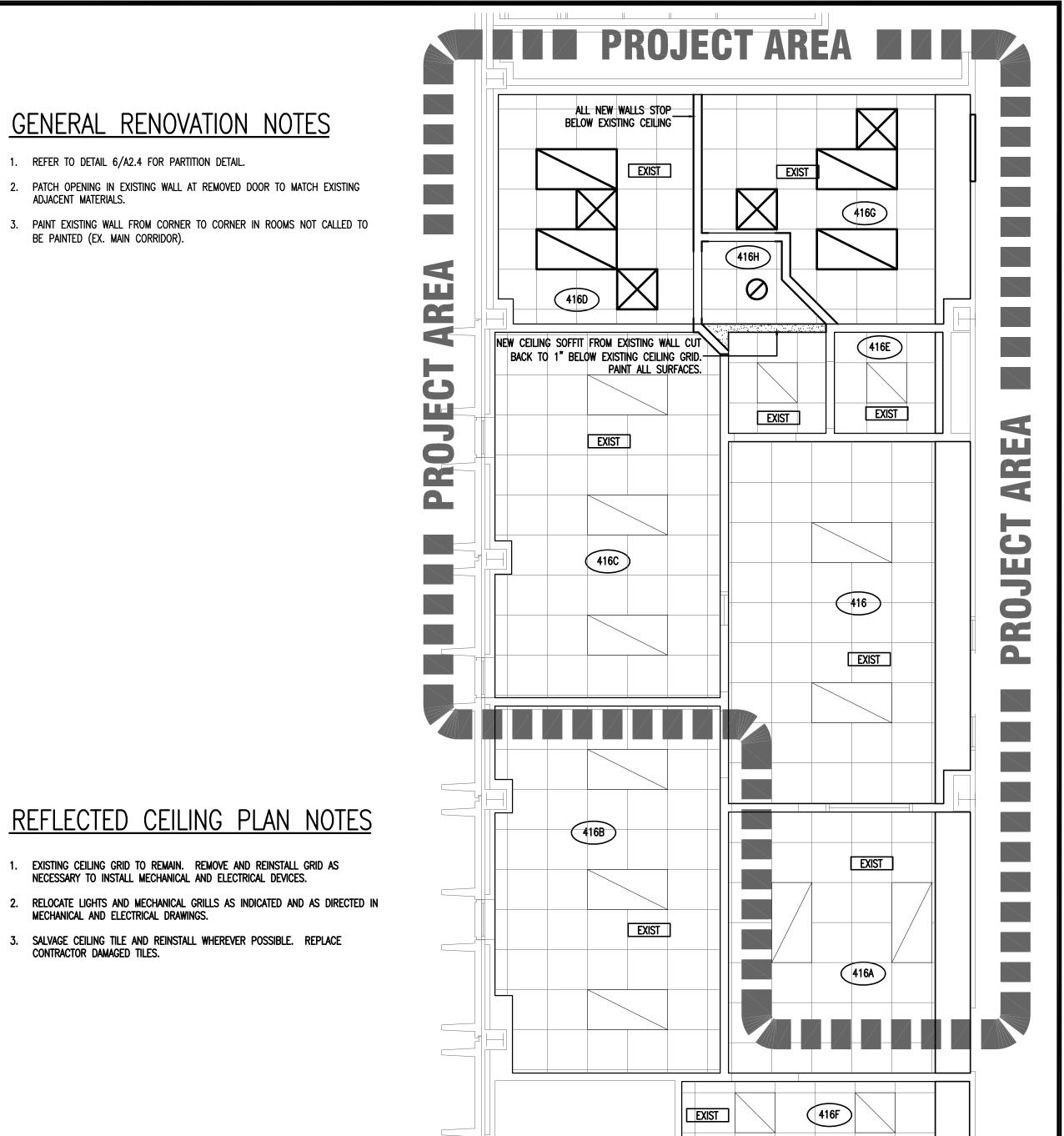
OFFICE FUNCTION

OFFICE FUNCTION

PNT – PAINT

rb – Rubber Base

ACT - ACOUSTICAL TILE CEILING



PARTIAL 4TH FLOOR REFLECTED CEILING PLAN

FINISHED CEILING

AT TOP OF WALL.

BASE FINISH

FLOOR FINISH -

NON-RATED INTERIOR
WALL DETAIL

A - 35%" METAL STUDS

-3/4" CHNL. WELD OR SADDLE TIE TO EACH STUD

ASSOCIATES. INC.

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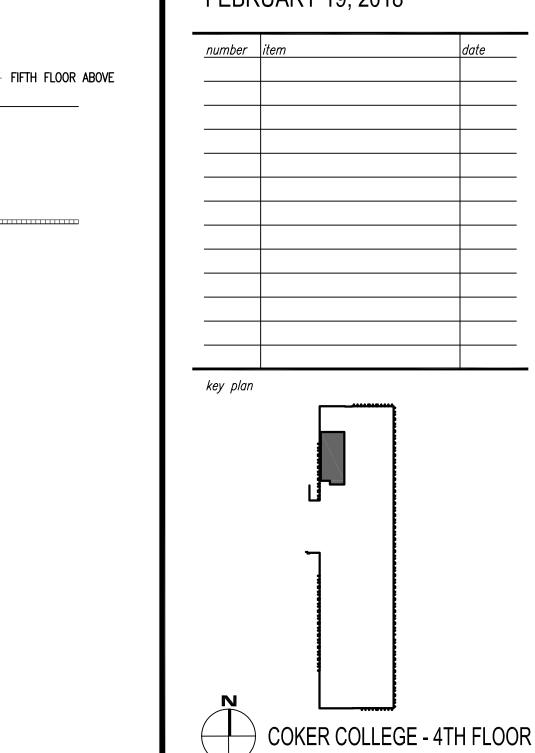
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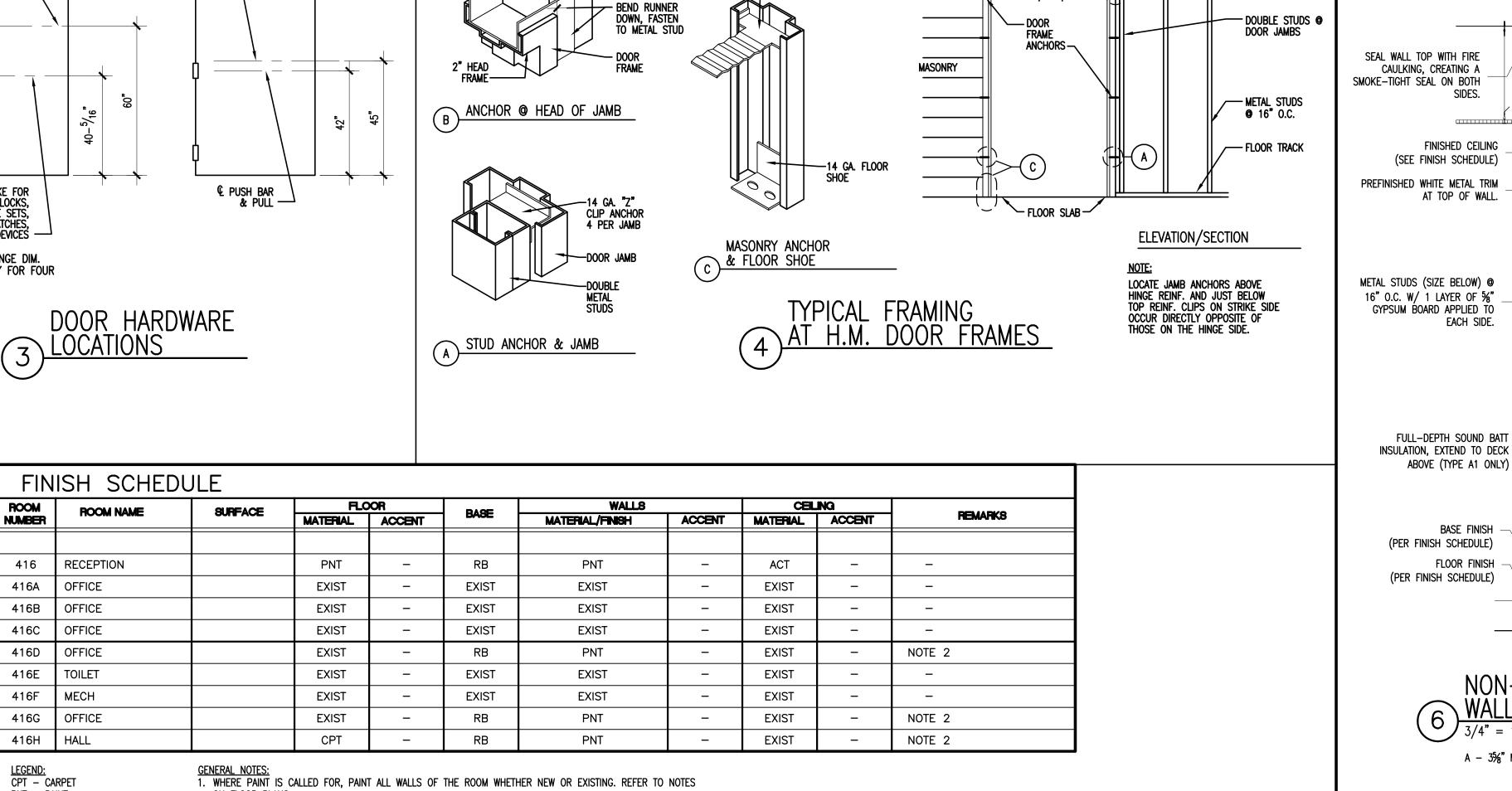


PARTIAL 4TH FLOOR DEMOLITION, RENOVATION AND CEILING PLANS, DOOR AND FINISH SCHEDULES AND **MISCELLANEOUS DETAILS**

sheet number

FOURTH FLOOR

checked by



2. RUBBER BASE TO BE APPLIED TO ALL WALLS WHETHER NEW OR EXISTING AND TO BASE OF ALL MILLWORK

GENERAL RENOVATION NOTES

1. EXISTING CEILING GRID TO REMAIN. REMOVE AND REINSTALL GRID AS

3. SALVAGE CEILING TILE AND REINSTALL WHEREVER POSSIBLE. REPLACE

NECESSARY TO INSTALL MECHANICAL AND ELECTRICAL DEVICES.

MECHANICAL AND ELECTRICAL DRAWINGS.

14 GA. "T" ANCHOR 4 PER JAMB

1. REFER TO DETAIL 6/A2.4 FOR PARTITION DETAIL.

BE PAINTED (EX. MAIN CORRIDOR).

ADJACENT MATERIALS.

ш

3

END OF SECTION

SECTION 08 1113 - HOLLOW METAL FRAMES SECTION 08 1416 - FLUSH WOOD DOORS PART 1 GENERAL 1.01 SECTION INCLUDES A. FLUSH WOOD DOORS; FLUSH CONFIGURATION; FIRE RATED AND NON-RATED. B. STEEL FRAMES FOR WOOD DOORS. 1.02 RELATED REQUIREMENTS A. SECTION 09 9000 — PAINTING AND COATING: FIELD FINISHING OF DOORS. 1.03 SUBMITTALS A. SEE SECTION 01 3000 - ADMINISTRATIVE REQUIREMENTS, FOR SUBMITTAL PROCEDURES. A. SEE SECTION 01 3000 - ADMINISTRATIVE REQUIREMENTS, FOR SUBMITTAL PROCEDURES. B. PRODUCT DATA: MATERIALS AND DETAILS OF DESIGN AND CONSTRUCTION, HARDWARE LOCATIONS, B. PRODUCT DATA: INDICATE DOOR CORE MATERIALS AND CONSTRUCTION; VENEER SPECIES, TYPE AND REINFORCEMENT TYPE AND LOCATIONS, ANCHORAGE AND FASTENING METHODS, AND FINISHES. C. SHOP DRAWINGS: DETAILS OF EACH OPENING, SHOWING ELEVATIONS, GLAZING, FRAME PROFILES, AND . SHOP DRAWINGS: SHOW DOORS AND FRAMES, ELEVATIONS, SIZES, TYPES, SWINGS, UNDERCUTS IDENTIFYING LOCATION OF DIFFERENT FINISHES, IF ANY. BEVELING, BLOCKING FOR HARDWARE, FACTORY MACHINING, FACTORY FINISHING, CUTOUTS FOR GLAZING AND OTHER DETAILS. D. SPECIMEN WARRANTY. A. STORE IN ACCORDANCE WITH NAAMM HMMA 840. E. SAMPLES: SUBMIT TWO SAMPLES OF DOOR VENEER, 12X12 INCH IN SIZE ILLUSTRATING WOOD B. PROTECT WITH RESILIENT PACKAGING: AVOID HUMIDITY BUILD—UP UNDER COVERINGS: PREVENT GRAIN, STAIN COLOR, AND SHEEN. F. WARRANTY, EXECUTED IN OWNER'S NAME. 1.04 QUALITY ASSURANCE A. INSTALLED FIRE RATED DOOR ASSEMBLY: CONFORM TO NFPA 80 FOR FIRE RATED CLASS AS 1. ASSA ABLOY CECO. CURRIES. OR FLEMING: WWW.ASSAABLOYDSS.COM. 1.05 DELIVERY, STORAGE, AND HANDLING 2. REPUBLIC DOORS: WWW.REPUBLICDOOR.COM. A. PACKAGE, DELIVER AND STORE DOORS IN ACCORDANCE WITH SPECIFIED QUALITY STANDARD. 3. STEELCRAFT, AN ALLEGION BRAND: WWW.ALLEGION.COM/US. B. ACCEPT DOORS ON SITE IN MANUFACTURER'S PACKAGING. INSPECT FOR DAMAGE. C. PROTECT DOORS WITH RESILIENT PACKAGING SEALED WITH HEAT SHRUNK PLASTIC. DO NOT STORE A. REQUIREMENTS FOR ALL DOORS AND FRAMES: IN DAMP OR WET AREAS; OR IN AREAS WHERE SUNLIGHT MIGHT BLEACH VENEER. SEAL TOP AND 1. ACCESSIBILITY: COMPLY WITH ICC A117.1 AND ADA STANDARDS. BOTTOM EDGES WITH TINTED SEALER IF STORED MORE THAN ONE WEEK. BREAK SEAL ON SITE TO 2. DOOR TOP CLOSURES: FLUSH WITH TOP OF FACES AND EDGES. PERMIT VENTILATION. 3. DOOR EDGE PROFILE: BEVELED ON BOTH EDGES. 4. DOOR TEXTURE: SMOOTH FACES. A. INTERIOR DOORS: PROVIDE MANUFACTURER'S WARRANTY FOR THE LIFE OF THE INSTALLATION. 5. HARDWARE PREPARATION: IN ACCORDANCE WITH BHMA A156.115, WITH REINFORCEMENT WELDED B. INCLUDE COVERAGE FOR DELAMINATION OF VENEER, WARPING BEYOND SPECIFIED INSTALLATION In place, in addition to other requirements specified in door grade standard. TOLERANCES, DEFECTIVE MATERIALS, AND TELEGRAPHING CORE CONSTRUCTION. 6. FINISH: FACTORY PRIMED, FOR FIELD FINISHING. PART 2 PRODUCTS B. COMBINED REQUIREMENTS: IF A PARTICULAR DOOR AND FRAME UNIT IS INDICATED TO COMPLY WITH MORE THAN ONE TYPE OF REQUIREMENT. COMPLY WITH ALL THE SPECIFIED REQUIREMENTS FOR EACH 2.01 MANUFACTURERS TYPE; FOR INSTANCE, AN EXTERIOR DOOR THAT IS ALSO INDICATED AS BEING SOUND-RATED MUST A. WOOD VENEER FACED DOORS: COMPLY WITH THE REQUIREMENTS SPECIFIED FOR EXTERIOR DOORS AND FOR SOUND-RATED DOORS: 1. GRAHAM WOOD DOORS: WWW.GRAHAMDOORS.COM WHERE TWO REQUIREMENTS CONFLICT, COMPLY WITH THE MOST STRINGENT. 2. EGGERS INDUSTRIES: WWW.EGGERSINDUSTRIES.COM. 3. HALEY BROTHERS: WWW.HALEYBROS.COM. 4. MARSHFIELD DOORSYSTEMS, INC: WWW.MARSHFIELDDOORS.COM. 1. COMPLY WITH THE REQUIREMENTS OF GRADE SPECIFIED FOR CORRESPONDING DOOR. a. ANSI A250.8 - SDI-100, LEVEL 1 DOOR FRAMES: 16 GAGE, 0.053 INCH, MINIMUM A. ALL DOORS: SEE DRAWINGS FOR LOCATIONS AND ADDITIONAL REQUIREMENTS. 1. QUALITY LEVEL: CUSTOM GRADE, STANDARD DUTY PERFORMANCE, IN ACCORDANCE WITH b. Frames for wood doors: comply with frame requirements specified in ansi A250.8 AWI/AWMAC/WI (AWS). - SDI-100, LEVEL 1, 18 GAGE, 0.042 INCH 2. WOOD VENEER FACED DOORS: 5-PLY UNLESS OTHERWISE INDICATED. 2. FINISH: SAME AS FOR DOOR. B. INTERIOR DOORS: 1-3/4 INCHES THICK UNLESS OTHERWISE INDICATED; FLUSH CONSTRUCTION. 3. Provide Mortar Guard Boxes for Hardware cut—outs in Frames to be installed in 1. REFER TO THE DOOR SCHEDULE. MASONRY OR TO BE GROUTED. PROVIDE SOLID CORE DOORS AT ALL LOCATIONS. 4. Frames wider than 48 inches: Reinforce with Steel Channel Fitted tightly into Frame 3. FIRE RATED DOORS: TESTED TO RATINGS INDICATED ON DRAWINGS IN ACCORDANCE WITH NFPA 252 OR UL 10B - NEGATIVE (NEUTRAL) PRESSURE; UNDERWRITERS LABORATORIES INC. (UL) OR INTERTEK/WARNOCK HERSEY (WHI) LABELED WITHOUT ANY VISIBLE SEALS WHEN DOOR IS OPEN. A. REMOVABLE STOPS: FORMED SHEET STEEL, SHAPE AS INDICATED ON DRAWINGS, MITERED OR BUTTED 4. WOOD VENEER FACING FOR FIELD TRANSPARENT FINISH WHERE INDICATED ON DRAWINGS. CORNERS; PREPARED FOR COUNTERSINK STYLE TAMPER PROOF SCREWS. 5. WOOD VENEER FACING FOR FIELD OPAQUE FINISH WHERE INDICATED ON DRAWINGS. B. MECHANICAL FASTENERS FOR CONCEALED METAL-TO-METAL CONNECTIONS: SELF-DRILLING, SELF-TAPPING, STEEL WITH ELECTROPLATED ZINC FINISH. 2.03DOOR AND PANEL CORES C. GROUT FOR FRAMES: PORTLAND CEMENT GROUT OF MAXIMUM 4-INCH SLUMP FOR HAND A. NON-RATED SOLID CORE AND 20 MINUTE RATED DOORS: TYPE PARTICLEBOARD CORE (PC), PLIES TROWELING; THINNER PUMPABLE GROUT IS PROHIBITED. AND FACES AS INDICATED. d. Silencers: Resilient Rubber, fitted into drilled hole; 3 on strike side of single door, 3 B. FIRE RATED DOORS: MINERAL CORE TYPE, WITH FIRE RESISTANT COMPOSITE CORE (FD), PLIES AND ON CENTER MULLION OF PAIRS, AND 2 ON HEAD OF PAIRS WITHOUT CENTER MULLIONS. FACES AS INDICATED ABOVE; WITH CORE BLOCKING AS REQUIRED TO PROVIDE ADEQUATE ANCHORAGE E. TEMPORARY FRAME SPREADERS: PROVIDE FOR ALL FACTORY— OR SHOP—ASSEMBLED FRAMES. of hardware without through—bolting. A. VENEER FACING FOR TRANSPARENT FINISH: BIRCH, VENEER GRADE IN ACCORDANCE WITH QUALITY A. PRIMER: RUST—INHIBITING, COMPLYING WITH ANSI A250.10, DOOR MANUFACTURER'S STANDARD. STANDARD INDICATED, PLAIN SLICED (FLAT CUT), WITH BOOK MATCH BETWEEN LEAVES OF VENEER, B. BITUMINOUS COATING: ASPHALT EMULSION OR OTHER HIGH-BUILD, WATER-RESISTANT, RESILIENT RUNNING MATCH OF SPLICED VENEER LEAVES ASSEMBLED ON DOOR OR PANEL FACE. B. VENEER FACING FOR OPAQUE FINISH: CLOSED GRAIN HARDWOOD VENEER. 2.05 ACCESSORIES A. ASTRAGALS FOR NON-RATED DOUBLE DOORS: STEEL, T SHAPED, OVERLAPPING AND RECESSED AT A. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. B. VERIFY THAT OPENING SIZES AND TOLERANCES ARE ACCEPTABLE. B. ASTRAGALS FOR FIRE RATED DOUBLE DOORS: STEEL, T SHAPED, OVERLAPPING AND RECESSED AT FACE EDGE, SPECIFICALLY FOR DOUBLE DOORS. A. COAT INSIDE OF FRAMES TO BE INSTALLED IN MASONRY OR TO BE GROUTED, WITH BITUMINOUS 2.06DOOR CONSTRUCTION COATING, PRIOR TO INSTALLATION. A. FABRICATE DOORS IN ACCORDANCE WITH DOOR QUALITY STANDARD SPECIFIED. B. CORES CONSTRUCTED WITH STILES AND RAILS: A. INSTALL IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFIED DOOR GRADE STANDARD AND 1. PROVIDE SOLID BLOCKS AT LOCK EDGE FOR HARDWARE REINFORCEMENT. 2. PROVIDE SOLID BLOCKING FOR OTHER THROUGHBOLTED HARDWARE. B. IN ADDITION, INSTALL FIRE RATED UNITS IN ACCORDANCE WITH NFPA 80. C. FACTORY MACHINE DOORS FOR HARDWARE OTHER THAN SURFACE—MOUNTED HARDWARE, IN C. COORDINATE FRAME ANCHOR PLACEMENT WITH WALL CONSTRUCTION. ACCORDANCE WITH HARDWARE REQUIREMENTS AND DIMENSIONS. D. GROUT FRAMES IN MASONRY CONSTRUCTION, USING HAND TROWEL METHODS; BRACE FRAMES SO D. FACTORY FIT DOORS FOR FRAME OPENING DIMENSIONS IDENTIFIED ON SHOP DRAWINGS, WITH EDGE THAT PRESSURE OF GROUT BEFORE SETTING WILL NOT DEFORM FRAMES. CLEARANCES IN ACCORDANCE WITH SPECIFIED QUALITY STANDARD. E. COORDINATE INSTALLATION OF HARDWAR 1. EXCEPTION: DOORS TO BE FIELD FINISHED F. COORDINATE INSTALLATION OF GLAZING. E. PROVIDE EDGE CLEARANCES IN ACCORDANCE WITH THE QUALITY STANDARD SPECIFIED. G. COORDINATE INSTALLATION OF ELECTRICAL CONNECTIONS TO ELECTRICAL HARDWARE ITEMS. 2.07FACTORY FINISHING - WOOD VENEER DOORS H. TOUCH UP DAMAGED FACTORY FINISHES. A. FINISH WORK IN ACCORDANCE WITH AWI/AWMAC/WI (AWS), SECTION 5 - FINISHING FOR GRADE SPECIFIED AND AS FOLLOWS: A. MAXIMUM DIAGONAL DISTORTION: 1/16 IN MEASURED WITH STRAIGHT EDGE, CORNER TO CORNER. a. SYSTEM - 1, LACQUER, NITROCELLULOSE. A. ADJUST FOR SMOOTH AND BALANCED DOOR MOVEMENT. b. Stain: As selected by architect. c. Sheen: Flat. A. REFER TO DOOR AND FRAME SCHEDULE ON THE DRAWINGS B. FACTORY FINISH DOORS IN ACCORDANCE WITH APPROVED SAMPLE. C. SEAL DOOR TOP EDGE WITH COLOR SEALER TO MATCH DOOR FACING. PART 3 EXECUTION 3.01 EXAMINATION A. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. B. VERIFY THAT OPENING SIZES AND TOLERANCES ARE ACCEPTABLE. C. DO NOT INSTALL DOORS IN FRAME OPENINGS THAT ARE NOT PLUMB OR ARE OUT-OF-TOLERANCE FOR SIZE OR ALIGNMENT. A. INSTALL DOORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND SPECIFIED QUALITY 1. INSTALL FIRE—RATED DOORS IN ACCORDANCE WITH NFPA 80 REQUIREMENTS. B. FACTORY-FINISHED DOORS: DO NOT FIELD CUT OR TRIM; IF FIT OR CLEARANCE IS NOT CORRECT, C. USE MACHINE TOOLS TO CUT OR DRILL FOR HARDWARE. D. COORDINATE INSTALLATION OF DOORS WITH INSTALLATION OF FRAMES AND HARDWARE. E. COORDINATE INSTALLATION OF GLAZING 3.03 TOLERANCES A. CONFORM TO SPECIFIED QUALITY STANDARD FOR FIT AND CLEARANCE TOLERANCES. B. CONFORM TO SPECIFIED QUALITY STANDARD FOR TELEGRAPHING, WARP, AND SQUARENESS. 3.04 ADJUSTING A. ADJUST DOORS FOR SMOOTH AND BALANCED DOOR MOVEMENT. B. ADJUST CLOSERS FOR FULL CLOSURE. 3.05 SCHEDULE - SEE DRAWINGS END OF SECTION

PART 1 GENERAL

.02 SUBMITTALS

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.02DOORS AND FRAMES

2.03STEEL FRAMES

HEAD. FLUSH WITH TOP

2.04 ACCESSORY MATERIALS

2.05FINISH MATERIALS

PART 3 EXECUTION

3.02 PREPARATION

3.03INSTALLATION

3.04 TOLERANCES

3.05 ADJUSTING

3.06 SCHEDULE

END OF SECTION

A. GENERAL:

1.01 SECTION INCLUDES

A. NON-FIRE-RATED FRAMES.

C. FIRE-RATED STEEL FRAMES.

1.03 DELIVERY, STORAGE, AND HANDLING

A. STEEL DOORS AND FRAMES:

ASSOCIATES. INC.

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USC CAMPUS PLANING AND

CONSTRUCTION 1300 PICKENS STREET COLUMBIA, SOUTH CAROLINA 29208

project name **USC COKER SUITE 416** OFFICE MODIFICATIONS

State project number H27-D249-FW project number 18003.01

seals/signature

issued for CONSTRUCTION DOCUMENTS

FEBRUARY 19, 2018

key plan

SPECIFICATIONS

sheet number

COKER COLLEGE - 4TH FLOOR

<u>drawn by</u> JKS checked by JKS

SECTION 09 9000 - PAINTING AND COATING

ASSOCIATES. INC.

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USC CAMPUS PLANING AND

1300 PICKENS STREET COLUMBIA, SOUTH CAROLINA 29208 project name

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key plan **COKER COLLEGE - 4TH FLOOR**

sheet title **SPECIFICATIONS**

sheet number

A. COLLECT WASTE MATERIAL THAT COULD CONSTITUTE A FIRE HAZARD, PLACE IN CLOSED METAL CONTAINERS, AN

END OF SECTION

REMOVE DAILY FROM SITE.

A. PROTECT FINISHED COATINGS UNTIL COMPLETION OF PROJECT.

B. TOUCH-UP DAMAGED COATINGS AFTER SUBSTANTIAL COMPLETION.

.05 PROTECTION

<u>drawn by</u> JKS checked by JKS

SECTION 23 3700 - AIR OUTLETS AND INLETS

B. PRODUCT DATA: PROVIDE DATA FOR EQUIPMENT REQUIRED FOR THIS PROJECT. LOCATION, APPLICATION, AND NOISE LEVEL.

H. CONNECT DIFFUSERS TO LOW PRESSURE DUCTS DIRECTLY OR WITH 6 FEET MAXIMUM LENGTH OF FLEXIBLE DUCT HELD IN PLACE WITH STRAP OR CLAMP

I. CONNECT FLEXIBLE DUCTS TO METAL DUCTS WITH ADHESIVE. J. SET PLENUM DOORS 6 TO 12 INCHES ABOVE FLOOR. ARRANGE DOOR SWINGS SO THAT FAN STATIC PRESSURE HOLDS DOOR IN CLOSED POSITION.

K. DURING CONSTRUCTION PROVIDE TEMPORARY CLOSURES OF METAL OR TAPED POLYETHYLENE ON OPEN DUCTWORK TO PREVENT CONSTRUCTION DUST FROM ENTERING DUCTWORK SYSTEM. L. LEAVE TEMPORARY CLOSURES IN PLACE UNTIL READY FOR INSTALLATION. AT NO TIME

ARE NOT PROTECTED BY TEMPORARY CLOSURES EXCEPT FOR THE SECTION THAT IS BEING INSTALLED AT THAT TIME. M. PROVIDE TEMPORARY CLOSURES ON THE FACE OF ALL GRILLES, REGISTERS AND

DURING THE INSTALLATION OF THE DUCTWORK SHALL THERE BE ANY OPENINGS THAT

N. SEAL ALL JOINTS WITH SEALANT. 3.02 SCHEDULES

A. DUCTWORK MATERIAL: 1. LOW PRESSURE SUPPLY (HEATING SYSTEMS): STEEL. 2. RETURN AND RELIEF: STEEL.

B. DUCTWORK PRESSURE CLASS: 1. LOW PRESSURE SUPPLY: 1 INCH. 2. RETURN AND RELIEF: -2 INCH.

C. DUCTWORK SEAL CLASS:

 SUPPLY: CLASS A 2. RETURN: CLASS A.

END OF SECTION

<u>SECTION 23 3300 - DUCT ACCESSORIES</u>

A. NFPA 90A - STANDARD FOR THE INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS; NATIONAL FIRE PROTECTION ASSOCIATION; 2002.

B. NFPA 92A - STANDARD ON SMOKE-CONTROL SYSTEMS; NATIONAL FIRE PROTECTION C. SMACNA (DCS) - HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE;

A. PRODUCT DATA: PROVIDE FOR SHOP FABRICATED ASSEMBLIES INCLUDING VOLUME CONTROL DAMPERS AND DUCT ACCESS DOORS. INCLUDE ELECTRICAL

B. SHOP DRAWINGS: INDICATE FOR SHOP FABRICATED ASSEMBLIES INCLUDING VOLUME CONTROL DAMPERS AND DUCT ACCESS DOORS. C. MANUFACTURER'S INSTALLATION INSTRUCTIONS: PROVIDE INSTRUCTIONS FOR FIRE

D. OPERATION AND MAINTENANCE MANUALS: INCLUDE IN MANUALS THE INFORMATION

3. MAINTENANCE INSTRUCTIONS, INCLUDING PREVENTATIVE AND CORRECTIVE

6. SHOP DRAWINGS AND PRODUCT DATA

A. PRODUCTS REQUIRING ELECTRICAL CONNECTION: LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC. AS SUITABLE FOR THE PURPOSE SPECIFIED AND

A. PROTECT DAMPERS FROM DAMAGE TO OPERATING LINKAGES AND BLADES

A. FABRICATE IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS -METAL AND FLEXIBLE, AND AS INDICATED.

B. FLEXIBLE DUCT CONNECTIONS: FABRIC CRIMPED INTO METAL EDGING STRIP. 1. FABRIC: UL LISTED FIRE-RETARDANT NEOPRENE COATED WOVEN GLASS FIBER FABRIC TO NFPA 90A, MINIMUM DENSITY 30 OZ PER SQ YD. 2. METAL: 3 INCHES WIDE, 24 GAGE THICK GALVANIZED STEEL.

1. LOUVERS & DAMPERS, INC: WWW.LOUVERS-DAMPERS.COM.

3. RUSKIN COMPANY: WWW.RUSKIN.COM. B. FABRICATE IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS -METAL AND FLEXIBLE, AND AS INDICATED.

C. SINGLE BLADE DAMPERS: FABRICATE FOR DUCT SIZES UP TO 6 X 30 INCH. D. END BEARINGS: EXCEPT IN ROUND DUCTS 12 INCHES AND SMALLER. PROVIDE END BEARINGS. ON MULTIPLE BLADE DAMPERS, PROVIDE OIL-IMPREGNATED NYLON OR

1. PROVIDE LOCKING, INDICATING QUADRANT REGULATORS ON SINGLE AND

2. ON INSULATED DUCTS MOUNT QUADRANT REGULATORS ON STAND-OFF MOUNTING 3. WHERE ROD LENGTHS EXCEED 30 INCHES PROVIDE REGULATOR AT BOTH ENDS.

A. VERIFY THAT ELECTRIC POWER IS AVAILABLE AND OF THE CORRECT CHARACTERISTICS.

A. INSTALL ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, NFPA 90A, AND FOLLOW SMACNA HVAC DUCT CONSTRUCTION STANDARDS — METAL AND 3.02 SCHEDULES FLEXIBLE. REFER TO SECTION 15810 FOR DUCT CONSTRUCTION AND PRESSURE

B. PROVIDE DUCT TEST HOLES WHERE INDICATED AND REQUIRED FOR TESTING AND C. PROVIDE BALANCING DAMPERS AT POINTS ON SUPPLY, RETURN, AND EXHAUST

SYSTEMS WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. INSTALL MINIMUM 2 DUCT WIDTHS FROM DUCT TAKE-OFF. D. PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFF TO DIFFUSERS. GRILLES. AND

A. ASHRAE STD 70 - METHOD OF TESTING THE PERFORMANCE OF AIR OUTLETS AND

A. SEE SECTION 01 3000 - ADMINISTRATIVE REQUIREMENTS FOR SUBMITTAL

REVIEW OUTLETS AND INLETS AS TO SIZE, FINISH, AND TYPE OF MOUNTING PRIOR TO SUBMISSION. SUBMIT SCHEDULE OF OUTLETS AND INLETS SHOWING TYPE, SIZE,

A. TEST AND RATE AIR OUTLET AND INLET PERFORMANCE IN ACCORDANCE WITH ASHRAE

A. AMERICAN LOUVER COMPANY; ALC GRILLES AND REGISTERS:

B. CARNES, A DIVISION OF CARNES COMPANY INC: WWW.CARNES.COM/SLE. C. HART & COOLEY, INC: WWW.HARTANDCOOLEY.COM.

D. KRUEGER: WWW.KRUEGER-HVAC.COM. E. PRICE INDUSTRIES: WWW.PRICE-HVAC.COM.

F. TITUS: WWW.TITUS-HVAC.COM. G. RUSKIN LOUVERS H. GREENHECK LOUVERS

I. METAL—AIRE 2.02 RECTANGULAR CEILING DIFFUSERS A. TYPE: SEE AIR DISTRIBUTION SCHEDULE.

B. FABRICATION: STEEL WITH BAKED ENAMEL FINISH. C. ACCESSORIES: PROVIDE RADIAL OPPOSED BLADE VOLUME CONTROL DAMPER; REMOVABLE CORE WITH DAMPER ADJUSTABLE FROM DIFFUSER FACE.

D. INSULATED BACKPAN: 1/2" FIBERGLASS WITH FOIL/SCRIM VAPOR BARRIER. PART 3 EXECUTION

A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. B. CHECK LOCATION OF OUTLETS AND INLETS AND MAKE NECESSARY ADJUSTMENTS IN POSITION TO CONFORM WITH ARCHITECTURAL FEATURES, SYMMETRY, AND LIGHTING

END OF SECTION

<u>SECTION 23 0713 - MECHANICAL INSULATION</u>

PART 1 GENERAL 1.01 SECTION INCLUDES

A. DUCT INSULATION.

1.02 SCOPE OF WORK: A. PROVIDE INSULATION AS SPECIFIED FOR MAKE-UP WATER, CHILLED WATER, AND EXTERIOR AND CONDENSATE DRAIN PIPING SYSTEMS, INCLUDING VALVES, FITTINGS, FLANGES, STRAINERS, AND MECHANICAL COUPLINGS.

1.03 REFERENCES A. ASTM C 518 - STANDARD TEST METHOD FOR STEADY-STATE HEAT FLUX MEASUREMENTS AND THERMAL TRANSMISSION PROPERTIES BY MEANS OF THE HEAT

FLOW METER APPARATUS; 1991. B. ASTM C 553 - STANDARD SPECIFICATION FOR MINERAL FIBER BLANKET THERMAL INSULATION FOR COMMERCIAL AND INDUSTRIAL APPLICATIONS; 1992.

C. ASTM E 96 - STANDARD TEST METHODS FOR WATER VAPOR TRANSMISSION OF MATERIALS; 1995. D. SMACNA (DCS) - HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE;

1.04 SUBMITTALS A. PRODUCT DATA: PROVIDE PRODUCT DESCRIPTION, THERMAL CHARACTERISTICS, LIST OF MATERIALS AND THICKNESS FOR EACH SERVICE, AND LOCATIONS. B. OPERATION AND MAINTENANCE MANUALS: INCLUDE IN MANUALS THE INFORMATION

LISTED BELOW. C. SHOP DRAWINGS AND PRODUCT DATA 1.05 REGULATORY REQUIREMENTS

A. MATERIALS: CONFORM TO MAXIMUM FLAME SPREAD/SMOKE DEVELOPED RATING OF 25/50 IN ACCORDANCE WITH ASTM E 84. 1.06 DELIVERY, STORAGE, AND PROTECTION

A. ACCEPT MATERIALS ON SITE IN ORIGINAL FACTORY PACKAGING, LABELLED WITH MANUFACTURER'S IDENTIFICATION, INCLUDING PRODUCT DENSITY AND THICKNESS. B. PROTECT INSULATION FROM WEATHER AND CONSTRUCTION TRAFFIC, DIRT, WATER, CHEMICAL, AND MECHANICAL DAMAGE, BY STORING IN ORIGINAL WRAPPING.

1.07 ENVIRONMENTAL REQUIREMENTS A. MAINTAIN AMBIENT TEMPERATURES AND CONDITIONS REQUIRED BY MANUFACTURERS OF ADHESIVES, MASTICS, AND INSULATION CEMENTS. B. MAINTAIN TEMPERATURE DURING AND AFTER INSTALLATION FOR MINIMUM PERIOD OF

24 HOURS. PART 2 PRODUCTS 2.01 DUCT INSULATION A. GLASS FIBER, FLEXIBLE

> MANUFACTURERS. a. PROVIDE PRODUCTS COMPLYING WITH THE SPECIFICATIONS BY ONE OF

THE FOLLOWING MANUFACTURES. 1) CERTAIN TEED CORPORATION. 2) JOHNS MANVILLE

3) KNAUF FIBERGLASS GMBH.

4) OWENS-CORNING FIBERGLASS CORPORATION. INSULATION: ASTM C 553; FLEXIBLE, NONCOMBUSTIBLE BLANKET. a. 'K' VALUE : ASTM C 518, 0.31 AT 75 DEGREES F

b. MAXIMUM SERVICE TEMPERATURE: 250 DEGREES F. c. MAXIMUM MOISTURE ABSORPTION: 0.20 PERCENT BY VOLUME. VAPOR BARRIER JACKET: a. Kraft Paper with glass fiber yarn and bonded to aluminized film.

b. MOISTURE VAPOR TRANSMISSION: ASTM E 96; 0.02 PERM. c. SECURE WITH PRESSURE SENSITIVE TAPE. 4. VAPOR BARRIER TAPE:

a. KRAFT PAPER REINFORCED WITH GLASS FIBER YARN AND BONDED TO ALUMINIZED FILM, WITH PRESSURE SENSITIVE RUBBER BASED ADHESIVE. PART 3 EXECUTION 3.01 INSTALLATION

 C. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. D. INSTALL IN ACCORDANCE WITH NAIMA NATIONAL INSULATION STANDARDS.

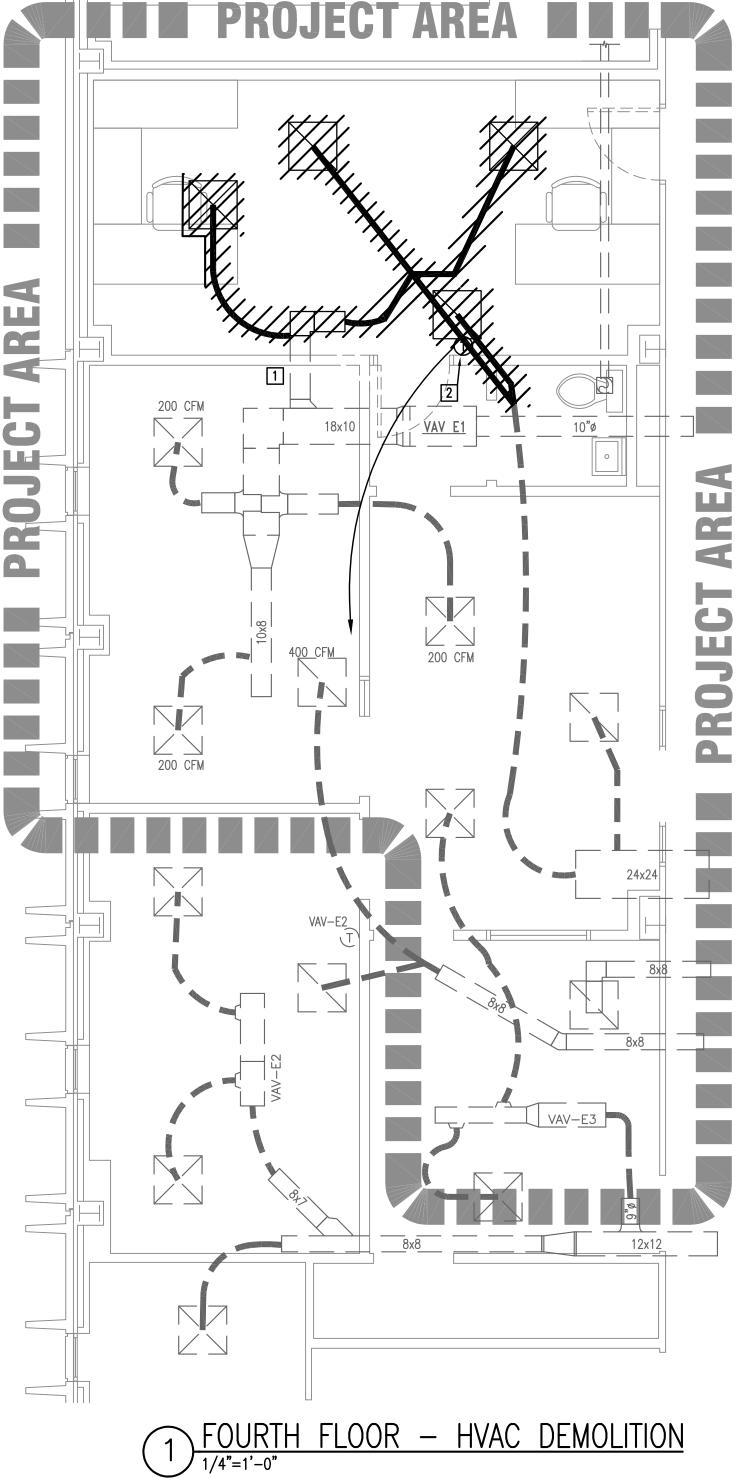
INSULATED DUCTS CONVEYING AIR BELOW AMBIENT TEMPERATURE: a. PROVIDE INSULATION WITH VAPOR BARRIER JACKETS. FINISH WITH TAPE AND VAPOR BARRIER JACKET.

c. CONTINUE INSULATION THROUGH WALLS, SLEEVES, HANGERS, AND OTHER d. INSULATE ENTIRE SYSTEM INCLUDING FITTINGS, JOINTS, FLANGES, FIRE

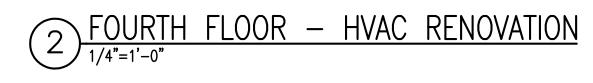
DAMPERS, FLEXIBLE CONNECTIONS, AND EXPANSION JOINTS. A. DUCTWORK INSULATION

a. FLEXIBLE GLASS FIBER DUCT INSULATION: 2 INCH THICK. RETURN DUCTS AND OUTSIDE AIR DUCTS CONCEALED. a. FLEXIBLE GLASS FIBER DUCT INSULATION: 2 INCH THICK.

END OF SECTION



DEMOLITION KEYNOTES: 1. REMOVE AIR DISTRIBUTION AND DUCTWORK SHOWN HATCHED AND CAP EXISTING DUCT. 2. RELOCATE EXISTING PNEUMATIC THERMOSTAT.



PROJECT AREA PROJECT AREA

18x10

VAV E1

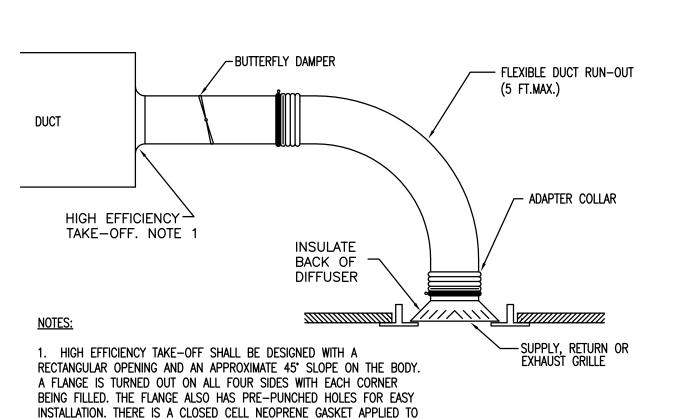
200 CFM

416D

200 CFM

RENOVATION KEYNOTES: (1.) SET BOX TO 900 CFM MAX (2) RELOCATE EXISTING PNEUMATIC THERMOSTAT. (3) RE-BALANCE TO NEW AIRFLOW.

TAG	DESCRIPTION	NECK	MODULE SIZE	MOUNT	CONSTR.	MFGR	MODEL	NOTE
Α	SQUARE PLAQUE CEILING SUPPLY	AS SHOWN	24x24	LAY-IN	ALUMINUM	PRICE	SERIES APD	1,2,3
В	PERFORATED CEILING RETURN/EXHAUST	AS SHOWN	24x24	LAY-IN	ALUMINUM	PRICE	SERIES APDDR	1,3



2. PROVIDE MIN OF 3 DUCT DIAMETERS BETWEEN TAPS OR AFTER

DAMPER IN TAKE-OFF.

THE FLANGE TO ASSURE A TIGHT SEAL. PROVIDE INTEGRAL BALANCING

MECHANICAL GENERAL NOTES

DO NOT SCALE DRAWINGS: SEE ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DOORS, WINDOWS, CEILING DIFFUSERS, ETC.

LOCATE ALL THERMOSTATS. HUMIDISTATS AND SWITCHES 4'-0" ABOVE FINISH FLOOR; ALIGN WITH LIGHT SWITCHES. ALL PIPING AND DUCTWORK LOCATIONS SHALL BE COORDINATED WITH

THE WORK UNDER OTHER DIVISIONS OF THE SPECIFICATIONS TO AVOID INTERFERENCE. CORRECT SETTINGS ON ALL BALANCING FITTINGS SHALL BE PERMANENTLY MARKED. RUNOUTS SHALL PITCH DOWN IN DIRECTION OF FLOW A MINIMUM OF

1" IN 30 FEET.

AIR DISTRIBUTION SYSTEMS WITH MORE THAN ONE BRANCH, OR MULTIPLE OUTLETS ON A BRANCH, SHALL HAVE VOLUME DAMPERS TO BALANCE AIR FLOWS. SPIN-IN FITTINGS ARE PERMITTED FOR CONNECTING FLEX DUCT TO BRANCH OR TRUNK DUCTS WHERE FLEX DUCTS ARE INDICATED. IF FLEX DUCT CANNOT BE CONNECTED WITH A SPIN-IN, A HARD DUCTED TAKEOFF MUST BE PROVIDED. 45 DEGREE TAKEOFFS SHALL BE USED ON ALL HARD DUCTED SUPPLY BRANCHES.

ALL PIPING, DUCTS, VENTS, ETC. EXTENDING THRU EXTERIOR WALLS AND ROOFS SHALL BE FLASHED AND COUNTERFLASHED. PROVIDE ALL TRANSITIONS REQUIRED FOR INSTALLATION OF DUCT, DUCT HEATERS, AIR VOLUME CONTROLLERS, FAN COIL UNITS, EXHAUST FANS, SUPPLY FANS, AND ALL OTHER EQUIPMENT AND

APPURTENANCES. 10. ALL DUCT IS GALVANIZED SHEET METAL EXCEPT AS NOTED. 11. DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.

PROVIDE DIELECTRIC FITTINGS AT ALL LOCATIONS WHERE DISSIMILAR METALS ARE JOINED IN PIPING AND DUCT SYSTEMS.

12. AIR DISTRIBUTION UNITS SHALL HAVE TRIM REQUIRED FOR FINISHED

MECHANICAL DEMOLITION NOTES

DRAWINGS SHOW GENERAL INTENT OF DEMOLITION. QUANTITIES, LOCATIONS, SIZES AND EQUIPMENT ARE SHOWN TO INDICATE TYPE OF SYSTEM INSTALLED AND DOES NOT NECESSARILY REPRESENT EXACT CONDITIONS. CONTRACTOR SHALL FIELD VERIFY BEFORE BIDDING.

ALL SUPPORTS, PADS, HANGERS, INSULATION, CONTROLS, STARTERS, ACCESSORIES, AND APPURTENANCES NOT REQUIRED FOR THE INSTALLATION OF THE NEW SYSTEM. WHEN PARTIAL DEMOLITION OF A SYSTEM IS INDICATED, THE PART OF

DEMOLITION OF EQUIPMENT. SYSTEMS, AND COMPONENTS SHALL INCLUDE

THE SYSTEM SHOWN TO REMOVED SHALL BE REMOVED TO THE ACTIVE MAIN OR BRANCH IF NOT REQUIRED FOR THE INSTALLATION OF THE NEW SYSTEM. THE ACTIVE MAIN OR BRANCH SHALL BE REPAIRED TO MATCH NEW INSTALLATION AS MUCH AS PRACTICAL. IF SYSTEM IS INSULATED, INSULATION SHALL BE PATCHED AND FINISHED REPAIR (IE: VAPOR BARRIER, COATING, ETC.)

. PATCHING OF BUILDING STRUCTURES AND FINISHES SHALL PERTAIN TO ALL WALLS, FLOORS, SLABS, ROOFS, STRUCTURES, AND FINISHES. PATCHES SHALL MATCH EXISTING STRUCTURE, FIRE RATING AND FINISH. . ALL OPENINGS CREATED BY THE ABANDONMENT OR REMOVAL OF EXISTING

SYSTEMS SHALL BE PATCHED.

6. ALL WALLS, ROOFS, SLABS, STRUCTURES, AND FINISHES WHOSE FINISH IS IRREGULAR DUE TO THE REMOVAL OF SYSTEMS, SUPPORTS, PADS, ACCESSORIES, AND APPURTENANCES SHALL BE PATCHED. ALL FINISHES SHALL MATCH EXISTING FINISH. WHEN FINISH OBVIOUSLY

DOES NOT MATCH EXISTING FINISH SUCH AS SHADE OF PAINT. AGE OF

FINISH, ETC., THE FINISH SHALL BE APPLIED TO THE PATCH AND THE

SURFACE IN ALL DIRECTIONS UNTIL A SURFACE CHANGE OF A MINIMUM

OF 45 DEGREES. REMOVAL OF SYSTEMS SHALL INCLUDE COMPLETE SYSTEM WHENEVER PRACTICAL. IF NOT, SYSTEM (IE: PIPE, CONDUIT, ETC.) SHALL BE REMOVED TO 1 INCH BELOW SURFACE.

ASSOCIATES. IN C.

Design/Planning/Construction

1201 Main Street, Suite 2100

ARCHITECT WILL BE SUBJECT TO LEGAL ACTION.

Columbia, S.C. 29201

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USC CAMPUS PLANING AND CONSTRUCTION 1300 PICKENS STREET COLUMBIA, SOUTH CAROLINA 29208

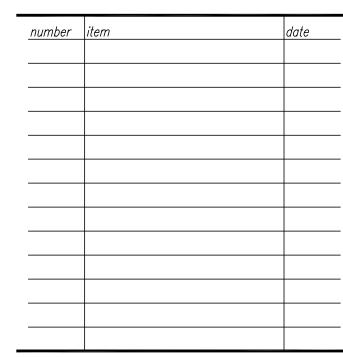
project name **USC COKER SUITE 416** OFFICE MODIFICATIONS

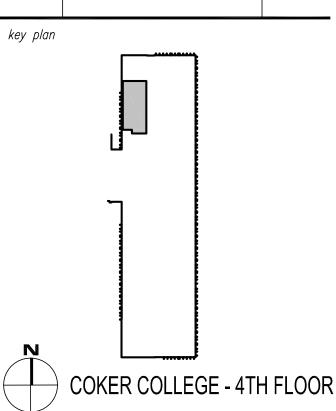
State project number H27-D249-FW project number 18003.01

seals/signature

CONSTRUCTION DOCUMENTS

FEBRUARY 19, 2018





FOURTH FLOOR HVAC DEMOLITION & RENOVATION FLOOR PLANS. SPECIFICATIONS & SCHEDULES

sheet number

<u>drawn by</u> **JWE** checked by JDR

GENERAL NOTES:

- 1. DO NOT SCALE DRAWINGS. LOCATE OUTLETS, EQUIPMENT AND OTHER ELECTRICAL DEVICES AS INDICATED AND COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE EXACT LIGHTING FIXTURE LOCATIONS WITH ARCHITECTURAL REFLECTED
- 2. MINIMUM SIZE CONDUCTOR FOR POWER SHALL BE #12 AWG. PROVIDE DEDICATED NEUTRAL FOR EACH BRANCH CIRCUIT.
- OTHERWISE NOTED IN PANELBOARD SCHEDULES OR ON 4. ALL BRANCH CIRCUIT LOADS SHALL BE BALANCED ACROSS

3. BRANCH CIRCUIT SIZES ARE #12 AWG, 1/2" C. UNLESS

- PANELBOARD BUSSES TO OBTAIN MINIMUM NEUTRAL CURRENT. 5. ALL FLEXIBLE CONDUIT SHALL CONTAIN A GREEN WIRE
- BONDED TO RIGID RACEWAY, BOX OR FIXTURE AT EACH END OF FLEX. SIZE GROUND PER NEC TABLE 250-122. 6. PROVIDE PULL STRING IN ALL EMPTY RACEWAYS.
- 7. COORDINATE WITH OTHER TRADES TO CONCEAL ELECTRICAL WORK AND PROVIDE OUTLETS IN CORRECT LOCATIONS.
- 8. DO NOT FLUSH MOUNT JUNCTION BOXES BACK TO BACK, STAGGER TO REDUCE SOUND TRANSMISSION BETWEEN ROOMS.
- 9. CONCEAL OUTLETS FOR ALL EQUIPMENT IN FINISHED AREAS. OBTAIN ROUGH-IN DIAGRAMS FOR ALL EQUIPMENT AND

INSTALL ELECTRICAL WORK ACCORDING TO DIAGRAMS.

- 10. SEAL ALL PENETRATIONS TO RATED WALLS, CEILINGS AND FLOORS WITH UL LISTED FIREPROOFING SYSTEM. THIS IS TO INCLUDE BUT IS IN NO WAY LIMITED TO CONDUCTOR, RACEWAY AND DEVICE PENETRATIONS. SUBMIT SYSTEM AND INSTALLATION DETAILS AS PART OF SHOP DRAWING SUBMITTAL. TYPES SHALL BE KEYED TO FLOOR PLAN FOR APPLICABLE LOCATIONS FOR ALL PENETRATION LOCATIONS.
- 11. WHERE NOT INDICATED OTHERWISE, EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED PER NEC TABE 250-122.
- 12. ALL CONDUITS 1" AND LARGER SHALL HAVE A GROUNDING BUSHING BONDING CONDUIT TO ENCLOSURE.
- 13. REMOVE DRYWALL DUST AND MUD FROM THE INTERIOR OF BOXES BEFORE INSTALLING DEVICES.

DAMAGED DEVICES AND DEVICE PLATES AS NEEDED.

- 14. AT SUBSTANTIAL COMPLETION CLEAN ALL LIGHT FIXTURES AND CLEAN ALL DEVICES IN THE CONSTRUCTION AREAS. REPLACE
- 15. CONCEAL ALL CONDUIT AND RACEWAY. IF CONDITIONS REQUIRE CONDUIT OR RACEWAY TO BE RUN EXPOSED COORDINATE ROUTING WITH ARCHITECT AND PAINT AS REQUIRED BY

16. ELECTRICAL WORK SHALL COMPLY WITH ALL NATIONAL, STATE AND LOCAL CODES, REQUIREMENTS AND ORDINANCES.

- 17. ALL BACKBOXES SHALL BE MINIMUM 4" SQUARE.
- 18. ALL EMT FITTINGS SHALL BE STEEL COMPRESSION TYPE WITH INSULATED THROAT.

GENERAL DEMOLITION NOTES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTION AND REMOVAL OF ANY ELECTRICAL DEVICES OR SYSTEMS AS REQUIRED FOR BUILDING ADDITION WORK.

OR REMOVAL OF ANY ELECTRICAL SYSTEM DEVICE OR EQUIPMENT.

COORDINATE WITH ARCHITECTURAL DRAWINGS AND PROVIDE LABOR AND MATERIALS FOR ALL WORK REQUIRED TO DISCONNECT DEVICES, LIGHT FIXTURES, ETC AT WALLS AND CEILINGS SCHEDULED FOR DEMOLITION. WHERE DEVICES OR FIXTURES ARE REMOVED OR OTHERWISE MODIFIED TO ACCOMMODATE NEW CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL CONNECTIONS AND WIRING TO EXISTING BRANCH CIRCUITS AND DEVICES

AND EXTENDING CIRCUITS AS REQUIRED TO MAINTAIN CONNECTIVITY TO EXISTING

ADJACENT DEVICES AND FIXTURES TO REMAIN. NOTIFY OWNER PRIOR TO DISCONNECTION

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING STYLES AND FINISHES OF EXISTING DEVICES. COVER PLATES. AND FIXTURES. NEW DEVICES AND EXIT SIGNS SHALL BE FURNISHED TO CLOSELY MATCH AESTHETIC CHARACTERISTICS OF EXISTING FIXTURES AND

WHERE DEVICES OR EQUIPMENT ARE ABANDONED OR DEMOLISHED AS PART OF THE SCOPE OF WORK, THE OWNER HAS FIRST RIGHT OF REFUSAL TO ALL EQUIPMENT, WIRING, AND MATERIALS DEMOLISHED. THE CONTRACTOR SHALL PROVIDE FOR PROPER DISPOSAL OF ALL EQUIPMENT AND MATERIALS NOT ACCEPTED BY THE OWNER. CONTRACTOR SHALL PROVIDE FOR REASONABLE TRANSPORTATION TO STORAGE FACILITY AS DIRECTED BY THE OWNER FOR ALL EQUIPMENT AND MATERIALS FOR WHICH THE OWNER CHOOSES TO RETAIN POSSESSION OF AFTER REMOVAL.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PATCHING, PAINTING, ETC AS REQUIRED O CLOSELY MATCH ADJACENT BUILDING FINISHES WHERE DEVICES OR EQUIOPMENT ARE

WHERE DEVICES OR FIXTURES ARE DEMOLISHED OR OTHERWISE ABANDONED AS PART OF THIS WORK, THE CONTRACTOR SHALL REMOVE ALL WIRING, RACEWAY, AND PERIPHERAL MATERIALS AND SUPPORTS TO SOURCE PANEL OR TO NEAREST JUNCTION BOX WHERE CIRCUIT SERVES OTHER DEVICES OR FIXTURES IN ADJACENT AREAS WHICH ARE TO REMAIN. FIFI D. COORDINATE.

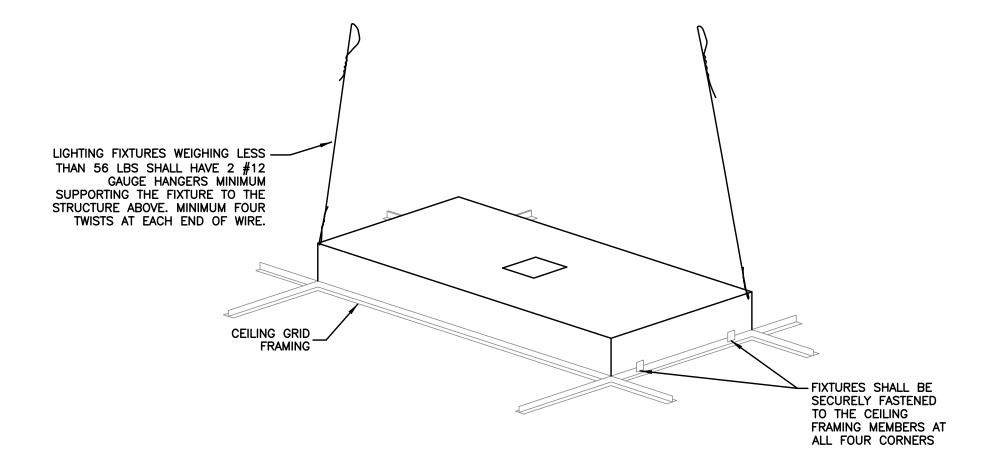
CONTRACTOR SHALL PROVIDE REVISED CIRCUIT DIRECTORIES IN ALL PANELBOARDS ASSOCIATED WITH AREA OF RENOVATION TO INDICATE ALL LOADS BOTH EXISTING AND MODIFIED/NEW UPON COMPLETION OF RENOVATION WORK.

REMOVE ALL CEILING MOUNTED DEVICES FROM CEILINGS BEING DEMOLISHED OR REWORKED AND REINSTALL AT SAME LOCATION OR NEW LOCATION AS DESCRIBED ON RENOVATION DRAWINGS. WHERE ANY NEW CEILINGS ARE LOWERED AND ARE BELOW LEVEL OF EXISTING WALL MOUNTED DEVICES, CONTRACTOR SHALL RELOCATE EXISTING DEVICES BELOW NEW CEILING LEVEL AND EXTEND WIRING/RACEWAY AS REQUIRED.

CAREFULLY REVIEW ARCHITECTURAL, MECHANICAL, AND PLUMBING DEMOLITION PLANS EXAMINE WORK TO BE DONE AND PROVIDE ALL ELECTRICAL WORK AS REQUIRED FOR DEMOLITION OF WALLS, CEILINGS, EQUIPMENT, OR SIMILAR AS DESCRIBED IN CONTRACT DOCUMENT SET. THIS INCLUDES RELOCATION, REROUTING, ETC OF ELECTRICAL CIRCUITS OR INFRASTRUCTURE WHERE REQUIRED FOR WORK UNDER OTHER TRADES WHETHER SPECIFICALLY INDICATED ON ELECTRICAL DRAWINGS OR NOT. CONTRACTOR IS REQUIRED O VISIT THE SITE PRIOR TO PLACING BID AND INCLUDE IN BID ANY LABOR AND MATERIALS ASSOCIATED WITH RELOCATION OR MODIFICATION OF EXISTING ELECTRICAL SYSTEMS WHICH MAY BE AFFECTED BY WORK IN THE AREAS OF RENOVATION OR

THE SCOPE OF WORK REQUIRES PARTIAL ELECTRICAL DEMOLITION IN AN AREA OF THE FACILITY WHICH WILL BE IN-USE DURING THE RENOVATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CIRCUITING AND CONNECTIONS AND SHALL NOT TURN POWER OFF TO ANY CIRCUIT BREAKER OR PORTION OF THE ELECTRICAL DISTRIBUTION SYSTEM WITHOUT PERMISSION OF THE OWNER.

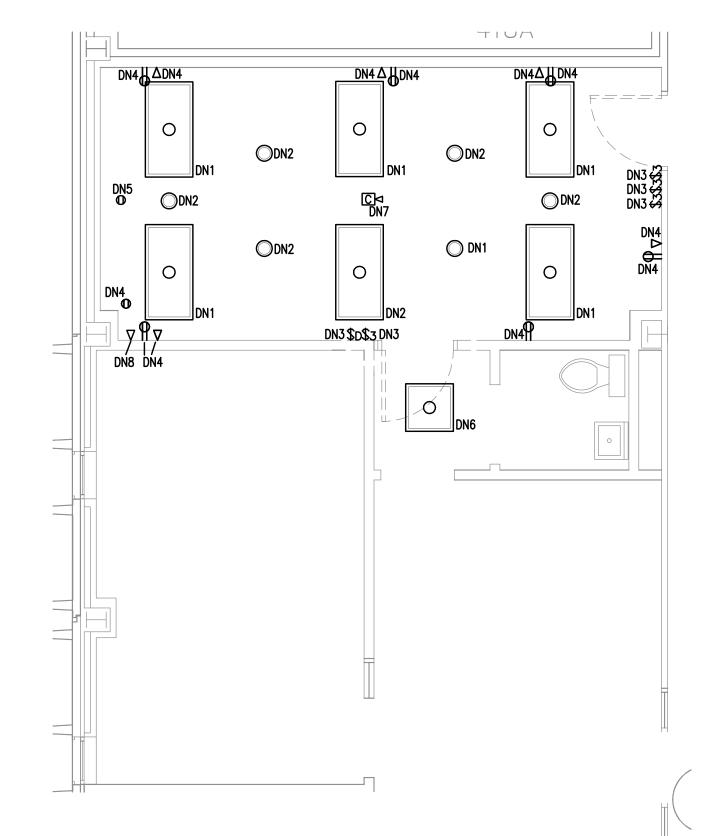
THE DEMOLITION NOTES INCLUDED IN THESE DRAWINGS ARE INTENDED TO REPRESENT A GENERAL DIRECTIVE FOR DISCONNECTION AND REMOVAL OF EXISTING EQUIPMENT AND PREPARATION OF EXISTING ROOMS OR AREAS SCHEDULED FOR RENOVATION. THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECTURAL DRAWINGS AND THE OWNER PRIOR TO DISCONNECTION OR MODIFICATION OF ANY ELECTRICAL SYSTEM ELEMENT OR



ADJACENT BUILDING AREAS.

RECESSED LAY-IN FIXTURE DETAIL

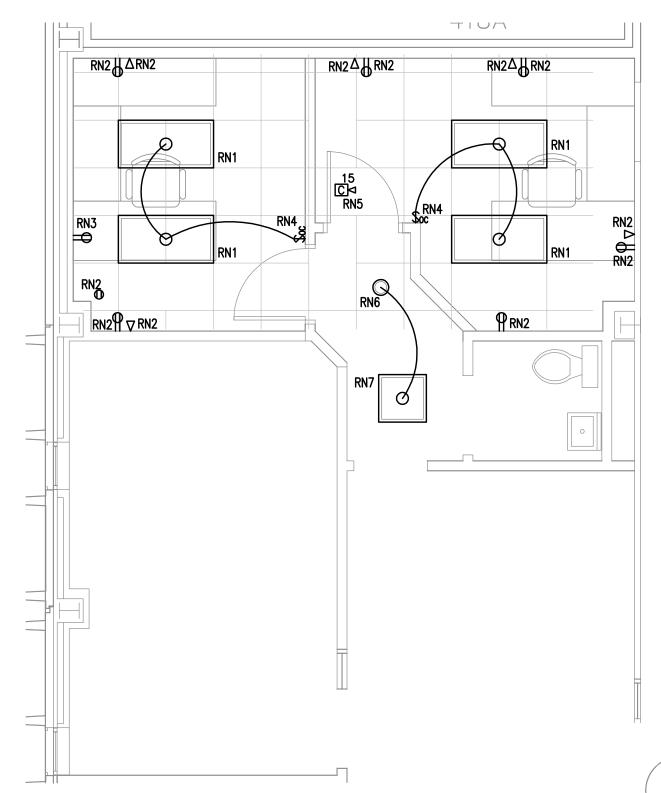
ELECTRICAL SYMBOL SCHEDULE SYMBOL DESCRIPTION SYMBOL DESCRIPTION EXISTING ELECTRICAL CIRCUIT BREAKER PANELBOARD. BRANCH CIRCUIT RACEWAY. RUN CONCEALED IN CEILING OR WALLS. ARROWHEAD DENOTES HOMERUN TO PANEL. CROSSLINES DENOTE NUMBER OF PHASE AND NEUTRAL CONDUCTORS WHEN MAORE THAN DUPLEX RECEPTACLE, 120 VOLT, 20 AMP, WALL MOUNTED, 16" AFF, UNLESS OTHERWISE NOTED. LP1−2.4 TWO ARE TO BE INSTALLED. TEXT DENOTES PANEL NAME AND CIRCUIT NUMBERS FOR HOMERUN. INSTALL GROUND WIRE IN ALL RACEWAYS. #12 AWG MINIMUM AND AS PER CODE. EXISTING DUPLEX RECEPTACLE, 120 VOLT, 20 AMP, CEILING MOUNTED. BRANCH CIRCUIT RACEWAY. RUN IN AND/OR UNDER SLAB. ARROWHEAD DENOTES HOMERUN TO PANEL. ABBREVIATIONS CROSSLINES DENOTE NUMBER OF PHASE AND NEUTRAL CONDUCTORS WHEN MORE THAN TWO ARE TO BE INSTALLED. TEXT DENOTES PANEL NAME AND CIRCUIT NUMBERS FOR HOMERUN. INSTALL GROUND ABOVE FINISHED FLOOR. WIRE IN ALL RACEWAYS. #12 AWG MINIMUM AND AS PER CODE. AUTOMATIC TRANSFER SWITCH. BREAKER. CONDUIT. EXISTING CEILING MOUNTED 2'X4' FLUORESCENT LIGHT FIXTURE. CLEAN AND RELAMP AS NECESSARY. SEE RECESSED LAY-IN FIXTURE DETAIL. ELECTRICAL CONTRACTOR, DIVISION 26. EXHAUST FAN. EXISTING CEILING MOUNTED 2'X2' FLUORESCENT LIGHT FIXTURE. CLEAN AND RELAMP AS NECESSARY. FAN COIL UNIT. GENERAL CONTRACTOR, DIVISION 00 THROUGH 25. 0 GROUND FAULT CIRCUIT INTERRUPTER. LIGHT EMITTING DIODE EXISTING RECESSED CEILING MOUNTED LIGHT FIXTURE. CLEAN AND RELAMP AS NECESSARY. JUNCTION BOX. EXISTING LIGHT SWITCH, 3-WAY. KILOVOLT AMPERES. KILOWATT. EXISTING DIMMER SWITCH. MECHANICAL CONTRACTOR, DIVISION 27. 120-277V OCCUPANCY SENSOR WALL SWITCH. PASSIVE INFRARED TYPE UNLESS OTHERWISE NEC SWBD TYP 2014 NATIONAL ELECTRICAL CODE. (NFPA 70). NOTED ON DRAWINGS. WATTSTOPPER PW-100 OR EQUIVALENT. "D" DENOTES DUAL TECHNOLOGY TYPE (WATTSTOPPER DW-100), "U" DENOTES ULTRASONIC TYPE (WATTSTOPPER TYPICAL. UW-100). WATER COOLER. wc XFMR TRANSFORMER. COMMUNICATIONS/SIGNAL EXISTING FIRE ALARM HORN WITH FLASHING LIGHT, MOUNTED IN LAY IN CEILING. NUMBER DENOTES CANDELA LIGHT LEVEL OF STROBE. "C" DENOTES CEILING MOUNTED WITH 360 DEGREE VISIBLE VISUAL EXISTING SINGLE GANG DATA OUTLET. FLUSH WALL MOUNTED.



DEMOLITION NOTES (DN):

- DN1 RELOCATE EXISTING LIGHT FIXTURE AND RECONFIGURE CIRCUITING AS SHOWN ON ELECTRICAL RENOVATION PLANS.
- DN2 REMOVE EXISTING LIGHT FIXTURE. SEE GENERAL DEMOLITION NOTES FOR EQUIPMENT DISPOSITION AND CEILING REPAIR.
- DN3 REMOVE EXISTING LIGHT SWITCH, BACKBOX, CONDUIT AND CONDUCTORS. SEE GENERAL DEMOLITION NOTES FOR EQUIPMENT DISPOSITION AND WALL REPAIR.
- DN4 EXISTING ELECTRICAL RECEPTACLE OR DATA OUTLET TO REMAIN.
- DN5 RELOCATE EXISTING ELECTRICAL RECEPTACLE FOR FUTURE USE AS SHOWN ON ELECTRICAL RENOVATION PLANS. EXTEND CIRCUITING AS REQUIRED.
- DN6 EXISTING LIGHT FIXTURE TO REMAIN. CLEAN FIXTURE.
- DN7 EXISTING FIRE ALARM DEVICE TO REMAIN. FURNISH AND INSTALL NEW STROBE AS SHOWN ON ELECTRICAL RENOVATION PLANS
- DN8 REMOVE EXISTING COMMUNICATIONS OUTLET. SEE GENERAL DEMOLITION NOTES FOR EQUIPMENT DISPOSITION AND WALL REPAIR.

PARTIAL FOURTH FLOOR DEMOLITION PLAN



RENOVATION NOTES (RN):

- RELOCATE EXISTING LIGHT FIXTURE AND RECONFIGURE SWITCHING AS SHOWN. PROVIDE POWER FROM EXISTING CIRCUIT.
- RN2 EXISTING ELECTRICAL RECEPTACLE OR COMMUNICATIONS OUTLET TO REMAIN AS IS.
- RN3 RELOCATE EXISTING ELECTRICAL RECEPTACLE. FLUSH MOUNT, PROVIDE POWER FROM
- RN4 PROVIDE NEW OCCUPANCY SENSOR LIGHT SWITCH TO MATCH EXITING FINISHES. CIRCUIT AS SHOWN.
- RN5 EXISTING FIRE ALARM DEVICE. FURNISH AND INSTALL NEW STROBE RATED AT 15 CANDELA.
- RN6 RELOCATE EXISTING LIGHT FIXTURE. PROVIDE POWER AND SWITCHING FROM CIRCUIT SERVING LIGHT FIXTURES IN SAME CORRIDOR.
- RN7 EXISTING LIGHT FIXTURE TO REMAIN AS IS. CLEAN FIXTURE.

PARTIAL FOURTH FLOOR RENOVATION PLAN

ELECTRICAL SPECIFICATIONS

- 1. GENERAL PROVISIONS
- A. Work included in these specifications and included on the drawings shall include furnishing all labor, materials, supplies, and equipment to perform all work required including cutting, channeling, and chasing, to install a complete and working electrical system(s) in accordance with these sections of the specifications and the accompanying drawings. This shall include all required preparation work, raceways,
- coordination, etc. required to install the electrical system. B. The electrical work shall include, but in no way be limited to the following:
- Raceways (To include raceways for conductors and cables, but also empty for designated signal systems and future uses.) Electrical Distribution System. Interior Lighting Systems.
- Interior Power Systems. Wiring Devices. Connection and installation of Equipment Furnished Under Other Divisions of the Specification.
- C. The contractor is responsible for including any and all work related to the electrical that is noted in any part of the specifications or any part of the drawings, including Divisions 1, 23 and any other sections. The contractor will supply power to equipment at the voltage indicated on the drawings. The contractor will be held responsible for coordinating the equipment voltages, control equipment, wiring, and locations and type of terminations/connections and/or disconnects required to comply with the National Electrical Code, International Building Code, International Energy Conservation Code, all local codes, and the equipment manufacturer's requirements.

D. Electrical Drawings are diagrammatic in nature except where specific dimensions, or specific details are shown on the electrical, mechanical, or architectural drawings. The contractor shall refer to other drawings for exact locations of equipment, building dimensions, architectural details and conditions affecting the electrical work; however, field measurements take precedence over dimensioned drawings. The Electrical Contractor shall provide all labor and materials and all incidental elements; junction and pull boxes, filters, pull wires, connectors, support materials, fuses, disconnect switches, lamps, and labels, to install, connect, start—up and result in a complete and working system in accordance with the drawings and specifications. The contractor is responsible for coordinating the installation of all electrical work with the work of other contractors and/or trades. The electrical drawings are such that the electrical service to equipment furnished and installed under other sections of the contract documents (examples, include but are not limited to: HVAC equipment, water heaters, fans, pumps, motors, etc) is coordinated for the specified equipment only. If the equipment installed under other divisions of the contract documents is not the specified equipment it is the responsibility of the contractor to coordinate the electrical service/interface

E. Provide all wiring, connectors, fittings, connections, and all accessories for the complete installation of, and final connections to, equipment furnished under other divisions of the specifications and where indicated on the drawings or otherwise specified.

- F. The contractor is responsible for obtaining all required permits and complying with all National (NEC, IBC, NFPA), State, County, and Municipal codes and regulations. This shall include, but not be limited to, the following:
- 1. Federal Occupational Safety and Health Act (OSHA) 2. NFPA 70 (National Electrical Code) 3. NFPA 101 (Life Safety Code)
- 4. Americans with Disabilities Act (ADA) 5. International Building Code (IBC).
- 6. International Fire Code (IFC).
- 7 NFPA 72 8. ASHRAE 90.1 2007 Edition.
- G. The contractor shall keep a set of construction drawings during the length of the project on which he shall note any and all changes from the original drawings. This record set of drawings shall be updated daily. H. Electrical Subcontractor shall submit for review by the Engineer detailed shop drawings of all material listed below. All submittal data shall be submitted at one time. No material or equipment for which Engineer's review is required shall be delivered to the job site or installed until the Electrical Contractor has in his possession the reviewed and approved shop drawings for the particular material and/or equipment. The Electrical Contractor shall assemble, organize, prepare and review for correctness shop drawings on all materials,

equipment, fixtures and devices to be used. If material submitted is the result of "value engineering" or "prior approval" changes the submittal must contain supporting documentation of the approved changes, otherwise it will be reviewed against the specified products on these plans. The Electrical contractor shall furnish the number of copies specified by the Architect or one (1) PDF electronic copy of shop drawings if no number is specified by the Architect. Shop drawings that are incorrectly submitted, contain errors or omissions, or not in the form and sequence specified shall be rejected as unapproved.

Review of shop drawings in no way relieves the Contractor of his responsibility of quantity, dimensions, weights, means and methods, safety, or coordination with others.

Failure of the Contractor to submit shop drawings to the Engineer with reasonable time for review shall not entitle the Contractor to an extension of contract time. Reasonable review time is fifteen working days unless otherwise specified. At minimum shop drawings shall be submitted for

Lighting control systems including relay panel and automatic switches Basic materials; wire, conduit, fittings, wiring devices

Submit requests for substitution to Engineer through the Architect by US Mail or Courier no fewer than ten (10) working days prior to bid time. Requests shall contain cutsheets, catalog numbers, etc. Any approval will be in writing by the Engineer. Substituted items will not result in an increase in cost to the Owner.

K. Catalog numbers and names that appear in the specifications or on the plans may be incomplete or obsolete and are for descriptive purposes only. As such they may not indicate all of the parts, pieces and systems required for a complete and operating installation. is the responsibility of the Electrical Contractor, the Vendor and the Supplier to review the plans, specifications and applications to determine the correct item(s) required to include all installation and support materials and systems for a complete and working installation.

- 2. FIRE SPREAD PREVENTION MATERIAL
- A. The work shall include the requirement to install fire spread prevention material wherever the electrical contractor installs or penetrates a material (wall, etc.) to install electrical equipment or materials.
- B. Fire Resistance Rating: Whenever a fire rated wall, floor, floor—ceiling or roof—ceiling assembly is shown with through—penetrations, provide materials and application procedures which have been tested and classified by UL and approved by FM for the assembly. C. Installation shall be in accordance with the printed instructions as supplied by the manufacturer
- 3. RACEWAYS/CONDUITS AND ASSOCIATED EQUIPMENT
- A. The work shall include all raceways, conduits, fittings, and all other equipment required to install a raceway system. This shall include, but not limited to the following: . Rigid metal conduit and fittings . Electrical metallic tubing and fittings.
- 5. Flexible metal conduit and fittings. B. Except where otherwise permitted on drawings route all conductors in conduit.
- C. All signal systems shall have their wiring installed in conduit/raceways to above accessible ceiling. All cabling exposed and above ceiling shall be plenum rated.
- Conduit routing and device wiring for signal system components is not shown on the drawings. The contractor shall coordinate with the signal system manufacturer to determine the conduit (size and routing) and wiring requirements to circuit the equipment shown on the
- D. Specified products and their areas of use shall be as described on drawings.
- E. Fittings shall be steel compression type, concrete tight for all EMT raceways. For rigid galvanized steel and IMC, fittings shall be threaded galvanized iron, heavy steel, concrete tight.
- F. Size conduit for conductor type installed; 1/2 inch minimum size. G. For all empty raceways, furnish and install a nylon pull cord. The nylon pull cord shall be rated for a 200 pound force pull strength.
- 4. WIRE AND CABLE 600 VOLTS AND LESS
- A. Work shall include the furnishing and installing of all required wire and cable to complete the wiring and electrical system. This shall include, but not be limited to the following: 1. Building wire.
- 3. Communications cabling as specified on drawings. B. Feeders and Branch Circuits Larger Than 6 AWG: Copper, stranded conductor, 600 volt insulation, THHN. Feeders and Branch Circuits 6 AWG and Smaller: Copper conductor, 600 volt insulation, THHN. 6 and 8 AWG, stranded conductor; smaller than 8 AWG, solid conductor. MINIMUM SIZE SHALL BE #12 FOR ALL WIRING ABOVE 48 VOLTS. All conductors in damp or wet locations (including below
- grade) shall be listed for that use, THWN-2 or equivalent. C. All cables shall be color coded. Color coding shall be as follows
 - 120/208 Volt

2. Wiring connections and terminations.

D. Each wire or cable in a feeder at its terminal points, and in each pull—box, junction box, and panel gutter through which it passes shall be identified to show the circuit number of the breaker that it connects to. Each common wire, common circuit to common loop of a system, sound system, or any signal system conductor, shall be identified.

E. All installation shall be in accordance with the NEC. All splices shall be in junction boxes and shall be electrically and mechanically secure. Where a circuit home run is shown on the plans without any conductor or raceway identification, it shall be a minimum of 2 # 12, 1 # 12 Ground, 1/2" Conduit. Place an equal number of conductors for each phase of a circuit in same raceway or cable. Splice only in junction or outlet boxes. Neatly train and lace wiring inside boxes, equipment, and panelboards. Perform continuity test on all power and equipment branch circuit conductors. Verify proper phasing connections.

- 5. WIRING DEVICES
- A. The shall include the furnishing and installing of any and all wiring devices required to make a complete and functioning wiring system See the drawings for symbols and descriptions of devices. Devices specified are to establish a level of quality. All devices shall be best specification grade. Equivalent devices by Pass and Seymore or Leviton are acceptable.

B. Duplex receptacle shall be 20 ampere, 120 volt, 2—Pole, 3—Wire, NEMA 5—20R. Unit shall be HBL #5362.

- C. Ground Fault receptacle shall be HBL #5362SG.
- D. Light switches other than sweep switches and low voltage button stations shall be 20 ampere, 120-277 volt. Unit shall be HBL #1221 for SPST, HBL #1223 for three-way, and HBL #1224 for Four-Way.

Installation shall be per NEC. Include ground wire and connection with all receptacle circuits. Quadraplex receptacles shall be two duplex receptacles installed in a two gang box. Install wall switches OFF position down. Install convenience receptacles grounding pole on top. Install devices and wall plates flush and level. Provide GFCI receptacle within 6' of any water source. GFCI receptacles shall not be used to protect non-GFCI receptacles.

ASSOCIATES. IN C.

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ARCHITECT WILL BE SUBJECT TO LEGAL ACTION.

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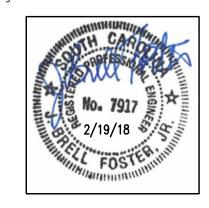
consultants

USC CAMPUS PLANING AND CONSTRUCTION 1300 PICKENS STREET COLUMBIA, SOUTH CAROLINA 29208

USC COKER SUITE 416 OFFICE MODIFICATIONS

State project number H27-D249-FW project number

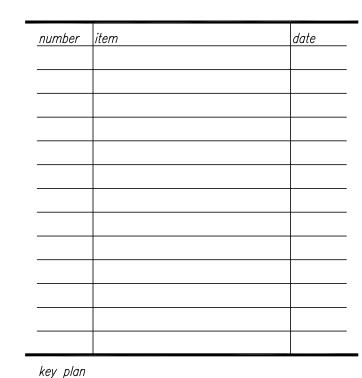
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CONSTRUCTION DOCUMENTS

FEBRUARY 19, 2018



COKER COLLEGE - 4TH FLOOR

ELECTRICAL SPECIFICATIONS, DEMOLITION AND RENOVATION

sheet number

checked by JBF