1244 BLOSSOM
5TH FLOOR INTERIOR RENOVATION

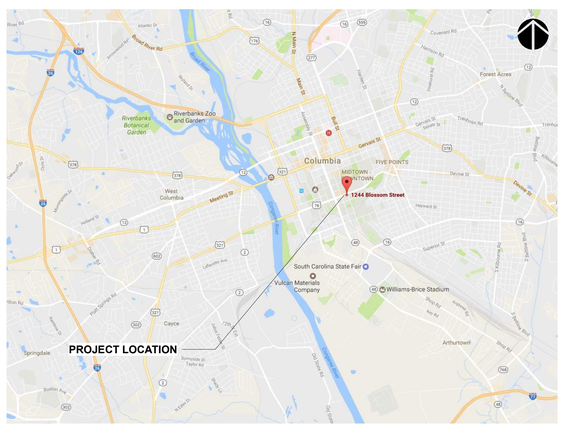
1244 Blossom Street
Columbia, SC 29208
for

UNIVERSITY OF SOUTH CAROLINA

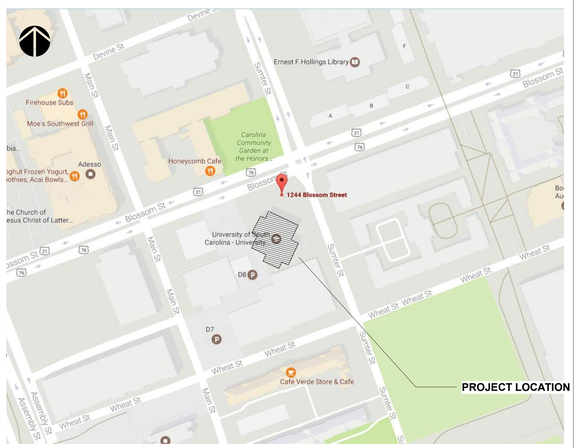
PROJECT TEAM

ARCHITECTS	GOODWYN MILLS AND CAWOOD, INC.
INTERIOR DESIGNERS	GOODWYN MILLS AND CAWOOD, INC.
ELECTRICAL ENGINEERS	BELKA ENGINEERING ASSOCIATES
MECHANICAL ENGINEERS	SWYGERT & ASSOCIATES

VICINITY MAP



LOCATION MAP



BUILDING CODE SUMMARY

BUILDING CODE SUMMARY

NAME OF PROJECT: 1244 Blossom Interior Renovation
ADDRESS: 1244 Blossom St, Columbia, SC
PROPOSED USE: BUSINESS
OWNER OR AUTHORIZED AGENT: University of South Carolina PHONE # 803-777-5500
OWNED BY: ☐ CITY/COUNTY ☐ PRIVATE ■ STATE
CODE ENFORCEMENT JURISDICTION: ☐ CITY ☐ COUNTY ■ OSE

LEAD DESIGN PROFESSIONAL:

POSITION	FIRM	NAME	PHONE #	E-MAIL
ARCHITECT	GOODWYN, MILLS & CAWOOD	MARC W WARREN	803.766.1235	marc.warren@gmcnetwork.com
PROJECT MGR.	GOODWYN, MILLS & CAWOOD	MARC W WARREN	803.766.1235	marc.warren@gmcnetwork.com

YEAR EDITION OF CODE: 2015 INTERNATIONAL BUILDING CODE
☐ NEW CONSTRUCTION ■ RENOVATION (EXISTING BLDG.) ☐ UPFIT ☐ ALTERATION

BUILDING DATA IBC

CONSTRUCTION TYPE: ■ I-B - CONCRETE FRAME
SPRINKLERS: ■ NO ☐ YES
STANDPIPES: ☐ NO ■ YES
FIRE DISTRICT: ■ NO ☐ YES
BUILDING HEIGHT: 5 STORY/STORIES
MEZZANINE: ■ NO ☐ YES
HIGH RISE: ■ NO ☐ YES

GROSS BUILDING AREA (SQ. FT.):

FLOOR	EXISTING	NEW	RENO/ UPFIT
FIRST FLOOR	14600	0	4990
SECOND FLOOR	14250	0	7375
THIRD FLOOR	15000	0	5500
FOURTH FLOOR	15000	0	5600
TOTAL	58850	0	23465

ALLOWABLE AREA

PRIMARY OCCUPANCY: ■ BUSINESS
MIXED OCCUPANCY: ■ NO

FIRE PROTECTION REQUIREMENTS

LIFE SAFETY PLAN SHEET #, IF PROVIDED EXISTING BUILDING IS UNSPRINKLERED

BUILDING ELEMENT

CORRIDOR SEPARATION	EXISTING BUILDING DOES NOT HAVE CORRIDOR SEPARATION - NO NEW CORRIDORS PROVIDED BY NEW LAYOUT
TENANT SEPARATION	SINGLE OCCUPANT BUILDING, TENANT SEPARATION NOT APPLICABLE

LIFE SAFETY SYSTEM REQUIREMENTS

EMERGENCY LIGHTING: ☐ NO ■ YES
EXIT SIGNS: ☐ NO ■ YES
FIRE ALARM: ☐ NO ■ YES
SMOKE DETECTION SYSTEMS: ☐ NO ■ YES

EXIT REQUIREMENTS

NUMBER AND ARRANGEMENT OF EXITS

2 REQUIRED, 2 PROVIDED EXITS CLEARLY MARKED IN THE SPACE

PER THE 2015 IEBC, THE EXISTING BUILDING AT 1244 BLOSSOM STREET, COLUMBIA , SC IS BEING REVIEWED UTILIZING THE PERFORMANCE COMPLIANCE METHOD IN ACCORDANCE WITH CHAPTER 14. THE EVALUATION INCLUDES ALL OF THE ASSOCIATED EVALUATION CRITERIA SET FORTH IN SECTION 1401.6 AND SHALL BE APPROVED BY ATHORITY HAVING JURISDICTION, USC FIRE MARSHAL.

1. THE EXISTING BUILDING IS CONSTRUCTED AS A CONCRETE FRAME EQUIVALENT TO A TYPE 1B CONSTRUCTION.
2. THE EXISTING "B" - BUSINESS OCCUPANCY IS UNCHANGED.
3. THE BUILDING HEIGHT AND ARE A BELOW THE ALLOABLE AREA FOR NEW CONSTRUCTION FOR THE CONSTRUCTION TYPE.
4. THE CURRENT BUILDING DOES NOT HAVE A SPRINKLER SYSTEM, BUT DOES HAVE AN EXISTING FIRE DEPARTMENT CONNECTION AND STANDPIPES WITH HOSE CONNECTIONS.

IN ACCORDANCE WITH SECTION 1401.2.4 - ALTERATIONS AND REPAIRS: AN EXISTING BUILDING OR PORTION THEREOF THAT DOES NOT COMPLY WITHTHE REQUIREMENTS OF THIS CODE FOR NEW CONSTRUCTION SHALL NOT BE ALTERED OR REPAIRED IN SUCH A MANNER THAT RESULTS IS A BUILDING BEING LESS SAFE OR SANITARY THAN SUCH BUILDING IS CURRENTLY.

PER THE COMPLIANCE METHOD, THE EXISTING BUILDING EXCEEDS THE PASS THRESHOLD AND THEREFORE, CORRIDOR RATING OF THE BUILDING CORRIDORS, INCLUDING CORRIDORS FORMED BY NEW WALLS IS NOT REQUIRED.

INDEX OF DRAWINGS

STATE OF SOUTH CAROLINA
MARC W. WARREN
COLUMBIA, SC
6088
REGISTERED ARCHITECT
4/16/19

STATE OF SOUTH CAROLINA
GOODWYN, MILLS & CAWOOD, INC
GREENVILLE, SC
REGISTERED ARCHITECT
DATE

GOODWYN | MILLS | CAWOOD

ISSUE | DATE
5TH FLOOR | 04/26/19

drawn by: MWW
checked by: MWW

UNIVERSITY OF SOUTH CAROLINA
1244 BLOSSOM, COLUMBIA, SC
5TH FLOOR INTERIOR RENOVATION

GMC # ACOL170002

TITLE SHEET

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PROJECT SPECIFICATIONS

SECTION 064116 - PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Plastic-laminate-faced architectural cabinets.
2. Countertops
3. Hardware and Accessories
4. Wood furring, blocking, shims, and hanging strips for installing plastic-laminate-faced architectural cabinets unless concealed within other construction before cabinet installation.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product, including panel products high-pressure decorative laminate adhesive for bonding plastic laminate and cabinet hardware and accessories.

B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.

1. Show details full size.
2. Show locations and sizes of cutouts and holes for electrical switches and outlets and other items installed in architectural plastic-laminate cabinets.

C. Samples for Verification:

1. Plastic laminates, 8 by 10 inches (200 by 250 mm), for each type, color, pattern, and surface finish, with one sample applied to core material and specified edge material applied to one edge.
2. Exposed cabinet hardware and accessories, one unit for each type and finish.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer / fabricator.

B. Product Certificates: For each type of product, provide certificate signed by the Installer / fabricator certifying that the work complies with the quality standards, grades and other requirements as referenced and specified herein.

1.5 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

B. Woodwork Quality Standard: Comply with the applicable provisions for grading and workmanship of the Architectural Woodwork Institute (AWI), Architectural Woodwork Quality Standards and Guide Specifications, current edition, herein referred to as Standards, expect otherwise specified. AWI certification for this project is not required.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect casework during transit, delivery, storage and handling to prevent damage, soiling and deterioration.

1.7 FIELD CONDITIONS

A. Field Measurements: Where cabinets are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

B. Established Dimensions: Where cabinets are indicated to fit to other construction, establish dimensions for areas where cabinets are to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

PART 2 - PRODUCTS

2.1 PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS

A. Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades of architectural plastic-laminate cabinets indicated for construction, finishes, installation, and other requirements.

1. The Contract Documents contain selections chosen from options in the quality standard and additional requirements beyond those of the quality standard. Comply with those selections and requirements in addition to the quality standard.

B. Grade: Premium.

C. Type of Construction: Frameless.

D. Cabinet, Door, and Drawer Front Interface Style: Flush overlay.

E. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or if not indicated, as required by woodwork quality standard.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
   a. Formica Corporation.
   b. Wilsonart International Holdings, Inc.

F. Laminate Cladding for Exposed Surfaces:

1. Horizontal Surfaces: Grade HGS.
2. Vertical Surfaces: Grade HGS.
3. Edges: Grade HGS.
4. Pattern Direction: Vertically for doors and fixed panels, horizontally for drawer fronts.

G. Materials for Semiexposed Surfaces:

1. Surfaces Other Than Drawer Bodies: High-pressure decorative laminate, NEMA LD 3, Grade VGS.
   a. Edges of Plastic-Laminate Shelves: PVC T-mold matching laminate in color.
   b. For semiexposed backs of panels with exposed plastic-laminate surfaces, provide surface of high-pressure decorative laminate, NEMA LD 3, Grade VGS.
2. Drawer Sides and Backs: Solid-laminate lumber.
3. Drawer Bottoms: Hardwood plywood.

H. Dust Panels: 1/4-inch (6.4-mm) plywood or tempered hardboard above compartments and drawers unless located directly under tops.

I. Concealed Backs of Panels with Exposed Plastic-Laminate Surfaces: High-pressure decorative laminate, NEMA LD 3, Grade BKL.

J. Drawer Construction: Fabricate with exposed fronts fastened to subfront with mounting screws from interior of body.

1. Join subfronts, backs, and sides with glued rabbeted joints supplemented by mechanical fasteners.

K. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:

1. Refer to the finish legend on sheet A-800 and as selected by Architect from laminate manufacturer's full range in the following categories:
   a. Solid colors. Standard finish.
   b. Wood grains. Standard finish.
   c. Patterns. Standard e finish.

2.2 WOOD MATERIALS

A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.

1. Wood Moisture Content: 8 to 13 percent.

B. Composite Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.

1. Medium-Density Fiberboard: ANSI A208.2, Grade 130, made with binder containing no urea formaldehyde.
2. Particleboard: ANSI A208.1, Grade M-2, made with binder containing no urea formaldehyde.
3. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive containing no urea formaldehyde.

2.3 CABINET HARDWARE AND ACCESSORIES

A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets except for items specified in Section 087111 "Door Hardware (Descriptive Specification)."

B. Butt Hinges: 2-3/4-inch (70-mm), five-knuckle steel hinges made from 0.095-inch- (2.4-mm-) thick metal, and as follows:

1. Semiconcealed Hinges for Flush Doors: BHMA A156.9, B01361.

C. Back-Mounted Pulls: BHMA A156.9, B02011.

D. Pulls: 6" Bar Pulls

E. Catches: Magnetic catches, BHMA A156.9, B03141.

F. Adjustable Shelf Standards and Supports: BHMA A156.9, B04071; with shelf rests, B04081.

G. Shelf Rests: BHMA A156.9, B04013; metal, two-pin type with shelf hold-down clip.

H. Drawer Slides: BHMA A156.9.

1. Grade 1 and Grade 2; Side mounted and extending under bottom edge of drawer; full-extension type; epoxy-coated steel with polymer rollers.
2. For drawers not more than 3 inches (75 mm) high and not more than 24 inches (600 mm) wide, provide Grade 2.
3. For drawers more than 3 inches (75 mm) high but not more than 6 inches (150 mm) high and not more than 24 inches (600 mm) wide, provide Grade 1.

4. For drawers more than 6 inches (150 mm) high or more than 24 inches (600 mm) wide, provide Grade 1HD-200 – heavy duty.

I. Plastic Slides for Sliding Glass Doors: BHMA A156.9, B07063.

J. Door Locks: BHMA A156.11, E07121, Provide keying to match School District Standards.

K. Drawer Locks: BHMA A156.11, E07041. Provide keying to match School District Standards.

L. Door and Drawer Silencers: BHMA A156.16, L03011.

M. Exposed and Concealed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.

1. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.

N. Miscellaneous Hardware:

1. File cabinet insets, hooks and rails for lateral file drawers.
2. Plastic Grommets – 3" dia. Typical.

2.4 PLASTIC LAMINATE COUNTERTOPS

A. Quality Standard: Comply with AWI Section requirements for Custom Grade for Countertops.

B. Type of Top: High pressure laminate complying with the following:

1. Grade: HGS.
2. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces as selected.
3. Grain Direction: Parallel to cabinet fronts.
4. Edge Treatment:
   a. Edge Type: Square Edge.
5. Core Material: Plywood except use exterior grade plywood for units to receive sinks and in areas exposed to moisture.

C. Provide and install unbreakable 3 inch diameter grommets above each electrical and data outlets. Color of grommets shall match finish of adjacent surface of countertop. Surfaces of grommet shall be smooth and rounded to prevent wear and damage to cable and wire.

2.5 SOLID SURFACING MATERIAL COUNTERTOPS

A. Quality Standard: Comply with AWI Section requirements for Custom Grade for Countertops.

B. Type of Top: Solid Surface Countertops shall complying with the following:

1. Solid surfacing Thickness: 1/2" (12mm)
2. Edge Treatment: 1/2" Bullnose.
3. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures as selected.

C. Provide and install 3 inch diameter grommets above each electrical and data outlets. Color of grommets shall match finish of adjacent surface of countertop. Surfaces of grommet shall be smooth and rounded to prevent wear and damage to cable and wire.

2.6 MISCELLANEOUS MATERIALS

C. Adhesives: Do not use adhesives that contain urea formaldehyde.

D. Adhesive for Bonding Plastic Laminate: Contact cement.

1. Adhesive for Bonding Edges: Hot-melt adhesive or adhesive specified above for faces.

2.7 FABRICATION

A. Examine all conditions and verify all dimensions at the project site. Fabrication and/or installation of the casework and related elements constitutes acceptance of the existing conditions.

B. Fabricate cabinets to dimensions, profiles, and details indicated.

D. Laminate Casework:

1. Grade: AWI Premium Grade (Sec. 400)
2. Face Construction: Flush overlay type, except as otherwise indicated on the Drawings or specified herein (drawer front, doors and fixed panels conceal casework behind).
3. Thickness and Style: As shown, or if not shown, provide minimum 3/4 inch thick medium density particleboard: counters, doors, drawer fronts and fixed panels, except where required to be thicker by standards or as shown on the Drawings; provide flush design units.
4. Edges of Door, Drawers and Face Frame: Plastic laminate matching exposed surfaces. Ease exposed edges of overlap sheet.
5. Backs of Doors: Plastic laminate matching exposed surfaces.
6. Backs of Plastic Laminate Components (Except Doors): Provide full backer sheets.
7. Openings:
   a. Cut openings for equipment to be installed. Comply with equipment manufacturer's requirements, but provide internal corners of 1/8 inch minimum radius. Smooth saw cut and ease edges.
8. Interior Finish: Provide plastic melamine interior finish on all surfaces of casework, except back of doors which are to have the same laminate finish as the door fronts.
9. Install hardware at the shop prior to delivery. Remove hardware for finish application, where necessary for field finishing, and reinstall after finishing.

E. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project site.

F. Countertops / Back & Side Splashes: Fabricate tops in one-piece or if necessary in the fewest sections possible.

1. Provide square edge for plastic laminate tops and bull nose for solid surface tops.
2. Wrap laminate around and under work surface so that there are no exposed surfaces or edges.

PART 3 - EXECUTION

3.1 PREPARATION

A. Verify all measurements at the project site and provide any necessary closures and trim to fit the items to enclosing walls and construction.

3.2 INSTALLATION

A. Grade: Install cabinets to comply with same grade as item to be installed.

B. Assemble cabinets and complete fabrication at Project site to the extent that it was not completed in the shop.

C. Install cabinets level, plumb, true, and straight. Shim as required with concealed shims.

D. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

E. Anchor cabinets to anchors or blocking built in or directly attached to substrates.

F. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers.

3.3 ADJUSTING AND CLEANING

A. Protection: Advise Contractor of procedures and precautions for protection of materials, installed casework, and finishes from damage by the Work of other trades until acceptance of the Work by the Owner.

B. Repair damaged and defective cabinets, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.

C. Clean, lubricate, and adjust hardware.

D. Clean cabinets on exposed and semiexposed surfaces.

END OF SECTION 064116

SECTION 081113 – HOLLOW METAL FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes: hollow-metal frames

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: elevations, frame details for each frame type, including dimensioned profiles and metal thicknesses, details of each different wall opening condition, details of anchorages, joints, field splices and connections.

C. Schedule: Provide a schedule of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings.

1.4 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For each type of hollow-metal door and frame assembly, for tests preformed by a qualified testing agency.

B. Oversize Construction Certification: For assemblies required to be fire rated and exceeding limitations of labeled assemblies.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

1. Provide additional protection to prevent damage to factory-finished units

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4 inch (102mm) high wood blocking. Provide minimum 1/4 inch (6mm) space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Comply with performance requirements specified, as determined by testing of hollow-metal frames representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

1. hollow-metal frames shall withstand movements of supporting structure including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.

2. Failure also includes the following:
   a. Thermal stresses transferring to building structure.
   b. Glass breakage.
   c. Noise or vibration created by wind and thermal and structural movements.
   d. Loosening or weakening of fasteners, attachments, and other components.
   e. Failure of operating units.

B. Seismic Performance: Hollow-metal systems shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

2.2 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Ceco Door Products; an Assa Abloy Group Company
2. Curries Company; an Assa Abloy Group company

B. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

2.3 REGULATORY REQUIREMENTS

A. Fire-Rated Assemblies: Complying with NFPA 80 and listed labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings and temperature rise limits indicated, based on testing at positive pressure according to NFPA 252 or UL 10C

1. Smoke-and Draft-Control Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.

B. Fire-Rated, Borrowed-Light Assemblies: Complying with NFPA 80 and Listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

2.4 INTERIOR FRAMES

A. Construct interior frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Commercial Frames: NAAMM-HMMA 861.

1. Physical Performance: Level A according to SDI A205.4.
2. Frames:
   a. Materials: Uncoated steel sheet, minimum thickness of 0.042 inch (1.0mm)
   b. Construction: Full profile welded
3. Exposed Finish: Prime.

2.5 FRAME ANCHORS

A. Jamb Anchors:

1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch (1.0 mm) thick, with corrugated or perforated straps not less than 2 inches (51 mm) wide by 10 inches (254 mm) long; or wire anchors not less than 0.177 inch (4.5 mm)
2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick.
3. Postinstalled Expansion Type for In-Place Concrete or Masonry: minimum 3/8 inch (9.5 mm) diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.

B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch (1.0 mm) and as follows:

1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

2.6 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.

D. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z (12/12) coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B

E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

F. Power -Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

2.7 FABRICATION

A. Fabricate hollow-metal work to be rigid and fee of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum thickness . Where practical, fit and assemble units in manufacturer's profiles, with minimum radius for metal thickness. Where practical fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.

1. Sidelight and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
4. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk screws at bottoms of jambs.
5. Jamb Anchors: Provide number and spacing of anchors as follows:
   a. Masonry Type: Locate anchors not more than 16 inches (406 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c., to match coursing, and as follows:
      1) Two anchors per jamb up to 60 inches (1524 mm) high.
      2) Three anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
      3) Four anchors per jamb from 90 to 120 inches (2286 to 3048 mm) high.
      4) Four anchors per jamb plus one additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 120 inches (3048 mm) high.
   b. Stud-Wall Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:
      1) Three anchors per jamb up to 60 inches (1524 mm) high.
      2) Four anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
      3) Five anchors per jamb from 90 to 96 inches (2286 to 2438 mm) high.
      4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 96 inches (2438 mm) high.
   c. Compression Type: Not less than two anchors in each frame.
   d. Postinstalled Expansion Type: Locate anchors not more than 6 inches (152 mm) from top and bottom of frame. Space anchors not more than 26 inches (660 mm) o.c.
6. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
   a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
   b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

C. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.

D. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.

1. Reinforce frames to receive nontemplated, mortised, and surface-mounted door hardware.
2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.

E. Stops and Moldings: Provide stops and moldings around glazed lites and louvers where indicated. Form corners of stops and moldings with mitered hairline joints.

1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow-metal work.
2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
4. Provide loose stops and moldings on inside of hollow-metal work.
5. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.

2.8 STEEL FINISHES

A. Prime Finish: Clean, pretereat, and apply manufacturer's standard primer

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

2.9 ACCESSORIES

A. Mullions and Transom Bars: Join to adjacent memebers by welding or rigid mechanical anchors.

B. Grout Guards: Formed from same material as frames, not less than 0.016 inch (0.4 mm) thick.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.

C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth.

B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.

B. Hollow-Metal Frames: Install hollow-metal frames of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
   a. At fire-rated openings, install frames according to NFPA 80.
   b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
   c. Install frames with removable stops located on secure side of opening.
   d. Install door silencers in frames before grouting.
   e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
   f. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
   g. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.
2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
   a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation inside frames.
4. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
5. In-Place Concrete or Masonry Construction: Use this method only if necessary. Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
6. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
   a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
   b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
   c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
   d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.

C. Glazing: Comply with installation requirements in Section 088000 "Glazing" and with hollow-metal manufacturer's written instructions.

1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches (230 mm) o.c. and not more than 2 inches (51 mm) o.c. from each corner.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.

B. Remove grout and other bonding material from hollow-metal work immediately after installation.

C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

E. Factory-Finish Touchup: Clean abraded areas and repair with same material used for factory finish according to manufacturer's written instructions.

F. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081113

SECTION 081200 - ALUMINUM DOORS, DOOR FRAMES, AND OFFICE FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes: Interior aluminum doors, door frames and office framing, including fire rated assemblies.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: For aluminum frames. Include plans, elevations, sections, full-size details, and attachments to other work.

C. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.

1.4 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For aluminum-framed systems, for tests performed by manufacturer and witnessed by a qualified testing agency.

B. Sample Warranties: For special warranties.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For aluminum-framed system to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of aluminum-framed systems that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:
   a. Structural failures including, but not limited to, excessive deflection.
   b. Noise or vibration created by wind and thermal and structural movements.
   c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
   d. Failure of operating components.
2. Warranty Period: Two years from date of Substantial Completion.

B. Special Finish Warranty: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of factory-applied finishes within specified warranty period.

1. Deterioration includes, but is not limited to, the following:
   a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
   b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
   c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Comply with performance requirements specified, as determined by testing of aluminum-framed systems representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

1. Aluminum-framed systems shall withstand movements of supporting structure including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.

2. Failure also includes the following:
   a. Thermal stresses transferring to building structure.
   b. Glass breakage.
   c. Noise or vibration created by wind and thermal and structural movements.
   d. Loosening or weakening of fasteners, attachments, and other components.
   e. Failure of operating units.

B. Seismic Performance: Aluminum-framed systems shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

2.2 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

2. BASIS OF DESIGN: Wilson Partitions. Series 478 , including fire rated frames and doors

B. Source Limitations: Obtain all components of aluminum frame system, including framing and accessories, from single manufacturer.

2.3 FRAMING

A. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.

1. Construction: Nonthermal.
2. Glazing System: Retained mechanically with gaskets on four sides.
3. Glazing Plane: Center.
4. Finish: Dark Bronze anodized finish.
5. Fabrication Method: Field-fabricated stick system.

B. Framing characteristics:

1. Rectilinear Design with 2" face profile and 4-7/8" throat

C. Backer Plates: Manufacturer's standard, continuous backer plates for framing members, if not integral, where framing abuts adjacent construction.

D. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

E. Materials:

1. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
   a. Sheet and Plate: ASTM B 209 (ASTM B 209M).
   b. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
   c. Extruded Structural Pipe and Tubes: ASTM B 429/B 429M.
   d. Structural Profiles: ASTM B 308/B 308M.

F. Fire Rating: Provide manufacturer's standard assembly for 1 hour fire rating assembly walls - provide 60 minute frame and door assembly with associated glazing.

2.4 ENTRANCE DOOR SYSTEMS

A. Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing operation.

1. Door Construction: 1-3/4-inch (44.5-mm) overall thickness, with minimum 0.125-inch- (3.2-mm-) thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or concealed tie rods.
2. Door Design: Wide stile; 5-inch (127-mm) nominal width with 12" bottom.
3. Glazing Stops and Gaskets: Square, snap-on, extruded-aluminum stops and preformed gaskets.
4. Fire Rating: Provide Fire Rated Assembly with associated glazing.

2.5 ENTRANCE DOOR HARDWARE

A. Entrance Door Hardware: provide Schlage office set 8256 with cylinder to revice best core, color US26D

B. Silencers: BHMA A156.16, Grade 1.

2.6 GLAZING

A. Glazing: Comply with Section 088000 "Glazing."

B. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, etc.

C. Glazing Sealants: As recommended by manufacturer.

D. Fire Rated Glazing: Clear, Fire Light Glazing equal to the required fire rating.

2.7 ACCESSORIES

A. Fasteners and Accessories: Manufacturer's standard corrosion-resistant fasteners and accessories compatible with adjacent materials.

1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
2. Reinforce members as required to receive fastener threads.

B. Anchors: Three-way adjustable anchors with minimum adjustment of 1 inch (25.4 mm) that accommodate fabrication and installation tolerances in material and finish compatible with adjoining materials and recommended by manufacturer.

2.8 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Fabricate components that, when assembled, have Profiles that are sharp, straight, and free of defects or deformations. Accurately fitted joints with ends coped or mitered. Physical and thermal isolation of glazing from framing members. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances. Fasteners, anchors, and connection devices that are concealed.

C. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.

D. Doors and Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.

1. At interior doors, provide silencers at stops to prevent metal-to-metal contact. Install three silencers on strike jamb of single-door frame.

E. Entrance Doors: Reinforce doors as required for installing entrance door hardware.

F. Entrance Door Hardware Installation Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. Verify wall thickness does not exceed manufacturer's recommended tolerances for specified throat size.

3.2 INSTALLATION

A. General:

1. Comply with manufacturer's written instructions.
2. Do not install damaged components.
3. Fit joints to produce hairline joints free of burrs and distortion.
4. Rigidly secure nonmovement joints.
5. Install anchors with separators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
   a. Use concealed installation clips to assure that splices and connections are tightly butted and properly aligned.
   b. Secure clips to main structural extrusion components and not to snap-in or trim members.
   c. Do not use screws or other fasteners that will be exposed to view when installation is complete.
6. Seal perimeter and other joints unless otherwise indicated.

B. Install components plumb and true in alignment with established lines and grades.

C. Install operable units level and plumb, securely anchored, and without distortion. Adjust contact and hardware movement to produce proper operation.

D. Install glazing as specified in Section 088000 "Glazing."

E. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.

1. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

F. INstall fire-rated assemblies in compliance with UL listed materials, components and systems. Provide listed lable on frame and door.

3.3 ERECTION TOLERANCES

A. Erection Tolerances: Install aluminum-framed systems to comply with the following maximum tolerances:

1. Plumb: 1/8 inch in 10 feet (3.2 mm in 3 m); 1/4 inch in 40 feet (6.35 mm in 12.2 m).
2. Level: 1/8 inch in 20 feet (3.2 mm in 6 m); 1/4 inch in 40 feet (6.35 mm in 12.2 m).
3. Alignment:
   a. Where surfaces abut in line or are separated by reveal or protruding element up to 1/2 inch (12.7 mm) wide, limit offset from true alignment to 1/16 inch (1.6 mm).
   b. Where surfaces are separated by reveal or protruding element from 1/2 to 1 inch (12.7 to 25.4 mm) wide, limit offset from true alignment to 1/8 inch (3.2 mm).
   c. Where surfaces are separated by reveal or protruding element of 1 inch (25.4 mm) wide or more, limit offset from true alignment to 1/4 inch (6 mm).
4. Location: Limit variation from plane to 1/8 inch in 12 feet (3.2 mm in 3.6 m); 1/2 inch (12.7 mm) over total length.

3.4 ADJUSTING AND CLEANING

A. Clean exposed frames promptly after installation, using cleaning methods recommended by frame manufacturer.

B. Touch up marred areas so that touch-up is not visible from a distance of 4 feet. Remove and replace frames that cannot be satisfactorily adjusted.

3.5 PROTECTION

A. Provide protection required to assure that frames will be without damage or deterioration upon substantial completion of the project.

END OF SECTION 081200

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes: Solid-core doors with wood-veneer faces with Factory and field finishing.

B. Related Sections:

1. Section 088000 "Glazing" for glass view panels in flush wood doors.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of door indicated. Include details of core and edge construction and trim for openings. Include factory-finishing specifications.

B. Samples for Verification: wood veneer species, cut and finish to match existing.

1. Factory finishes applied to actual door face materials, approximately 8 by

SECTION 088000 - GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Sections includes:
1. Glass for exterior, interior, and overhead fixed, transfer/sash framing glazed in curtain walls and skylights.

B. Related Requirements:
1. Section 084113 "Aluminum-Framed Entrances and Storefronts."
2. Section 084313 "Aluminum-Framed Storefronts."
3. Section 084413 "Glazed Aluminum Curtain Walls."
4. Section 088300 "Mirrors."

1.3 ACTION SUBMITTALS

A. Product Data: For each type of glass product other than clear monolithic, vision glass; 12 inches (300 mm) square.

B. Shop Drawings: For glazing. Include plans, elevations, and sections drawn to scale, and large-scale details of typical units. Include details of the following conditions:
1. Glazing systems.
2. Glazing accessory Samples: For sealants and colored spacers, in 24 inch (600 mm) lengths. Install sealant Samples between two strips of material representative in color to glass and framing.
3. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.

C. Delegated-Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For installer and sealant testing agency.

B. Product Certificates: For glass.

C. Product Test Reports: For glass indicated to comply with requirements by referencing performance standards, for tests performed by manufacturer and witnessed by a qualified testing agency.

D. Preconstruction Adhesion and Compatibility Test Report: For each kind of glazing sealant, glazing gasket, and glazing accessory indicated, for tests performed by manufacturer and witnessed by a qualified testing agency.

E. Preconstruction adhesion and compatibility test report.

Sample Warranties: For special warranties.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications for Insulating Glass Units with Low-E Coatings: A qualified insulating-glass manufacturer who is approved and certified by coated-glass manufacturer.

Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

Fabricator Qualifications: A qualified fabricator who is certified to fabricate laminated glass units by IGCC or by a testing agency acceptable to authorities having jurisdiction.

Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for materials and execution.

1. Build mockups for the following types of glazing units, of sizes indicated below, incorporating glass, glazing sealants, and glazing gaskets indicated for Project, including glazing methods.
a. Mock-up Building Segment: Include at least one complete glazed unit.

Preinstallation Meetings: Conduct preinstallation meeting at least 30 days before start of glazing work. Require attendance of persons directly affecting, performing, or inspecting glazing work, including glass manufacturer's technical representative, glass fabricator, glass installers, and glazing sealant and gasket manufacturers. Review the following:
1. Review and finalize construction schedule and verify availability of materials, glass fabricator and installer's personnel, and facilities needed to make progress and avoid delays.
2. Review weather limitations, if any, for glazing work.
3. Review and finalize glazing schedule including glass types, glass thicknesses, and glass sizes.
4. Review glass-framing system, glass edge blocking, and glass setting sequence.
5. Review glass-framing system, glass edge clearances and bite, and coverage.
6. Review glass-framing system, expansion provisions, and drainage details.
7. Review temporary protection requirements for glazing work, both during and after installation.
8. Review procedures for maintaining and cleaning glass during construction period.
9. Review procedures for protecting glass from breakage, scratching, and soiling.
10. Review glass observation and reporting requirements.
11. Review procedures for handling deficient glazing work, including repair or removal and replacement.
12. Review procedures for field quality control.
13. Review glass unit and framing system deflection requirements.
14. Review structural loading limitations of framing and glass.
15. Review procedures for maintenance of glass and framing after Substantial Completion.

1.6 PRECONSTRUCTION TESTING

A. Preconstruction Adhesion and Compatibility Testing: Test each glass product, tape sealant, gasket, glazing accessory, and glass framing member for adhesion to and compatibility with elastomeric glazing sealants.
1. Test in combinations indicated to be used on Project, according to test methods and procedures in previous testing of current sealant products and glazing materials matching those submitted.
2. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of glass framing to glazing sealants.
3. Test no fewer than 10 glass units of each type of material, including joint substrates, shims, sealant backings, secondary seals, and miscellaneous materials.
4. Include glass units from each manufacturing facility at which glass units are fabricated for Project.
5. For materials failing tests, submit sealant manufacturer's written instructions for corrective measures including the use of specially formulated primers.

1.7 DELIVERY, STORAGE AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

B. Comply with insulating-glass manufacturer's written instructions for venting and sealing units to avoid hermetic seal rupture due to altitude change.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

B. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or are below 40 deg F (4.4 deg C).

1.9 WARRANTY

A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer agrees to replace coated glass units that deteriorate within specified warranty period.

1. Warranty Period: 10 years from date of Substantial Completion.

B. Manufacturer's Special Warranty for Laminated-Glass Units: Manufacturer agrees to replace laminated glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.

1. Warranty Period: 10 years from date of Substantial Completion.

C. Manufacturer's Special Warranty for Insulating Glass: Manufacturer agrees to replace insulating glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage, attributable to the following: movements of supporting glass-framing members and other attached or adjacent construction; deterioration of glazing materials; and other defects in construction. Glass that does not break during these tests shall be considered to have passed if there is no glass fallout, as defined in Section 01400 "Quality Requirements," during or as a result of the applied test load.

B. Delegated-Design Engage a qualified professional engineer, as defined in Section 01400 "Quality Requirements," to design glazing systems and to provide a written statement of glazing design indicated below. Include analysis data signed and sealed by the qualified professional engineer responsible for preparing the data.

C. Structural Performance of Glazing: Install and glaze window units to withstand the following design loads within limits and under conditions indicated determined according to the IBC and ASTM E 1300:

1. Design Wind Pressures: Determine design wind pressures applicable to Project according to ASCE/SEI 7, based on heights above grade indicated on Drawings.
2. Probability of Breakage for Sloped Glazing: For glass surfaces sloped more than 15 degrees from vertical, design glass for a probability of breakage not greater than 1/100.
3. Deflection: For glass supported on all four edges, limit center-of-glass deflection at design wind pressure to not more than 1/60 times the short-side length or 1 inch (25 mm), whichever is less.
4. Deflection: For glass supported on two edges, limit deflection normal to glass plane to not more than 1/60 times the glass span or 1 inch (25 mm), whichever is less.

D. Safety Glazing Locations: Provide glass in locations indicated as safety glazing and as otherwise required by authorities having jurisdiction.

E. Insulating-Glass Units: Provide units with a desiccant-filled spacer dimple or continuous spacer designed to prevent water vapor accumulation within the unit's air space.

2.2 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Pilkington North America
2. Pittsburgh Glass Works

B. Source Limitations for Glass: Obtain from single source from single manufacturer for each glass type.

C. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.

2.3 GLASS PRODUCTS, GENERAL

A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below unless more stringent requirements are indicated. Refer to these publications for glazing terminology not defined in this Section or in referenced standards.
1. GANA Publications: "Laminated Glazing Reference Manual" and "Glazing Manual."
2. IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."
3. IGMA Publication for Sloped Glazing: IGMA TB-3001, "Guidelines for Sloped Glazing."
4. IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."

B. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.

C. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass that complies with performance requirements and is not less than the thickness indicated.
1. Minimum Glass Thickness for Exterior Lites: 6 mm.

D. Strength: Where annealed float glass is indicated, provide annealed float glass, heat-strengthened float glass, or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened float glass is indicated, provide heat-strengthened float glass or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where fully tempered float glass is indicated, provide fully tempered float glass.

2.4 GLASS PRODUCTS

A. Clear Annealed Float Glass: ASTM C 1036, Type I, Class 1 (clear), Quality-Q3.

B. Fully Tempered Float Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated unless otherwise indicated), Type I, Class 1 (clear) or Class 2 (tinted), Quality-Q3.

C. Heat-Strengthened Float Glass: ASTM C 1048, Kind HS (heat strengthened), Type I, Condition A (uncoated unless otherwise indicated), Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.

D. Ceramic-Coated Spandrel Glass: ASTM C 1048, Type I, Condition B, Quality-Q3.

2.5 LAMINATED GLASS

A. Laminated Glass: ASTM C 1172. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.

B. Interlayer Thickness: Provide thickness not less than that indicated and that is needed to comply with requirements.

2.6 INSULATING GLASS

A. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190.

B. Spacer: Manufacturer's standard spacer material and construction.

2.7 GLAZING SEALANTS

A. Compatibility: Compatible with one another and with other materials they contact, including glass products, seals of insulating-glass units, and glazing gaskets.
1. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
2. Color of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.

B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.
1. Use for: Structural-sealant glazing.

2.8 GLAZING TAPES

A. Back-Bedding Mastic Glazing Tapes: Preformed butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 919 and AAMA 804.3 tape, where indicated.

B. Expanded Cellular Glazing Tapes: Closed-cell, PVC-foam tapes; factory coated with adhesive on both surfaces and complying with AAMA 800 for the following types:
1. Type 1: For glazing applications in which tape is subject to continuous pressure.
2. Type 2: For glazing applications in which tape will be compressed by glazing units and sash or stops.

2.9 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with requirements of manufacturers of glass and other glazing materials for application indicated and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers, and Sealers: Type recommended by sealant or gasket manufacturer.

C. Setting Blocks: Elastomeric material with a Shore A durometer hardness of 85 plus or minus 5.

D. Spacers: Elastomeric blocks or continuous extrusions of hardness required to maintain glass lites in place for installation indicated.

E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

F. Cylindrical Glazing Gaskets: Extruded compression gaskets of material and density required to comply with glazing sealant depth and otherwise produce optimum glazing sealant performance.

2.10 FABRICATION OF GLAZING UNITS

A. Fabricate glass in factory or shop to the greatest extent possible to comply with applicable recommendations in writing by glass manufacturers and complying with other requirements specified.

B. Cut, drill, and finish glass units to sizes required for openings indicated on Project, with edge and surface conditions, and holes and cutouts complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.
1. Allow for "thermal movements" from ambient and surface temperature changes acting on glass framing members and glazing components.
2. Allow for "building movements," including sway and deflection of building structural members, as noted on Drawings.

C. Clean-cut or flat glass vertical edges of fully glazed monolithic lites to produce square edges with right-angle chamfers at junctions of edges and faces.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine framing, glazing channels, and stops, with installer present, for compliance with the following:
1. Manufacturer's written instructions for dimensions, tolerances, and characteristics of framing system.
2. Presence and functioning of weep systems.
3. Minimum required face and edge clearances.
4. Effective sealing between joints of glass-framing members.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

B. Examine glazing units to locate and mark manufacturer's labels, which are to be removed after glazing is complete.

C. Do not use materials that will leave visible marks in the completed Work.

3.3 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Protection of Coated Glass: Protect coated glass from direct contact with materials other than cleaning solutions, water, and tools approved in writing by glass manufacturer. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.

C. Glass Handling: Protect glass edges from damage during handling, installation, and cleaning. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.

D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thick, compatible setting sealant, unless otherwise required by manufacturer.

E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

F. Provide spacers for glass lites where length plus width is larger than 50 inches (1270 mm).
1. Locate spacers directly opposite each other on both faces of glass. Install the same number and size of spacers on each face.
2. Place spacers not more than 24 inches (600 mm) from each corner.
3. Position spacers to maintain uniform sight lines. Do not displace spacers by inserting glazing compound.

G. Provide blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

H. Set glass lites in each series with uniform pattern, draw, and similar characteristics.

I. Where wedge-shaped gaskets are driven into one side of channel to produce a pressure or bite on glass, provide sufficient force on opposite side to maintain contact with uniform pressure.

J. Where resilient-type setting blocks are used, they must be loaded after the perimeter gasket or sealant is applied.

3.4 TAPE GLAZING

A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above edge of stops.

B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.

C. Miter-cut tape at corners and butt joints securely. Seal joints in tapes with compatible sealant approved by tape manufacturer.

D. Apply tape to glazing channel or directly to glass as recommended by tape manufacturer and according to requirements in referenced glazing publications, unless otherwise indicated by manufacturer's written instructions.

E. Do not remove release paper from tape until right before each glazing unit is installed.

F. Apply heel bead of elastomeric sealant over exposed edge of tape.

G. Center glass lites in opening on setting blocks, and press firmly against tape by inserting glazing compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.

H. Apply compression gaskets to produce uniform pressure against glass. Do not use gaskets that are too large for openings. Cut gaskets at corners to produce tight seals without developing excessive pressure in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

3.5 GASKET GLAZING (DRY)

A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

B. Insert soft compression gasket between glass and frame or stop so it is securely in place with joints miter cut and bonded together at corners.

C. Use spacers complying with ASTM C 864 for framing panels to steel members from 0.033 to 0.172 inch (0.84 to 4.84 mm) thick.

D. Installation with Pressure-Glazing Stops: Center glass lites in opening on setting blocks, and press firmly against soft compression gasket. Install dense compression gaskets and secure in place with stops so they are in contact with glass before stops are completely engaged. Miter gaskets at corners and seal watertight with sealant recommended by gasket manufacturer.
1. Fit gaskets to glass so they are pressed uniformly into contact with glass and to maintain a weathertight seal. Do not use gaskets that are too large for openings. Cut gaskets at corners to produce tight seals without developing excessive pressure in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

E. Installation with Drive-in Wedge Gaskets: Center glass lites in opening on setting blocks, and press firmly against soft compression gasket by inserting dense compression gaskets between stops and glass. Use tools designed for this purpose to drive wedges into gap between stop and glass at 6-inch (150-mm) centers. Stop wedges 1/2 inch (13 mm) short of contacting corners to prevent corner pinching. Seal gasket joints with sealant recommended by gasket manufacturer.

F. Installation with Pressure-Glazing Stops, Soft Compression Gasket, and Flush Glass Surfaces: Center glass lites in opening on setting blocks and press firmly against soft compression gasket. Install dense compression gaskets and press against glass with pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing excessive pressure in glass. Install gaskets so they protrude past face of glazing stops.

3.6 GLAZING AND PROTECTION

A. Immediately after installation remove nonpermanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains.

C. Remove and replace glass that is damaged during construction period.

D. Wash glass on both faces not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass according to manufacturer's written instructions.

3.7 MONOLITHIC GLASS SCHEDULE

A. Minimum Thickness: 6 mm, 1/4 inch.

B. Glass Type "C" Clear annealed float glass for use in insulated units.
1. Minimum Thickness: 6 mm, 1/4 inch.
2. Safety glazing required below all units.

3.8 LAMINATED GLASS SCHEDULE

A. Glass Type "LAM" Clear laminated glass with two plies of annealed float glass.
1. Minimum Thickness of Each Glass Ply: 3 mm.
2. Interlayer Thickness: 0.060 inch (0.28 mm).
3. Location: Refer to the drawings for locations.

3.9 FIRE-RESISTOR-RATED GLAZING

A. Glass Type "F" Fire-rated glazing, laminated glass ceramic, with polished surface finish and transparent appearance.
1. Thickness: 3/16 inch (5 mm) or 5/16 inch (8.0 mm).
2. Fire-Protection Ratings: Provide fire-protection ratings indicated on Drawings.
3. 45-minute fire-rated glazing: 45-minute rated interior doors.
4. 60-minute fire-rated glazing: 60-minute rated interior doors.
5. 90-minute fire-rated glazing: 90-minute rated interior doors.
6. 180-minute fire-rated glazing: 3-hour rated fire doors.

END OF SECTION 088000

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:
1. Gypsum board.
2. Tile backing panels.

B. Related Requirements:
1. Section 061053 "Miscellaneous Rough Carpentry" for wood furring, blocking, and grounds.
2. Section 092216 "Nonstructural Metal Framing" for nonstructural framing and suspension systems that support gypsum board panels.
3. Section 093013 "Ceramic Tiling" for ceramic tile.
4. Section 095000 "Ceiling" for gypsum wallboard ceilings.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Show locations of cutouts, and show details of edge conditions, joints, openings, attachments, and penetrations. Indicate dimensions and locations of furring, blocking, and hanging strips, including concealed blocking and reinforcement.
1. Show locations and types of furring, blocking, and hanging strips, including concealed blocking and reinforcement.

C. Samples: For the following products:
1. Trim Accessories: Full-size Sample minimum 12 inch (300 mm) long for each trim accessory indicated.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.5 FIELD CONDITIONS

A. Environmental Conditions: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, those that have become moldy, or those that show signs of deterioration after becoming wet.

D. Environmental Limitations: Do not install interior products until installation areas are enclosed and conditioned.

E. Do not install panels that are wet, those that are moldy, or those that show signs of deterioration after becoming exposed to weather.

F. Temperature and Ventilation: Maintain temperature of 50 deg F (10 deg C) minimum during and after gypsum board application until joint treatment is complete and dry. Provide ventilation to remove excess moisture.

1.6 SEQUENCING

A. Sequence installation of gypsum board with other construction to minimize the need to cut board for passage of other construction. Examine gypsum board after other finishes are in place and mark any areas that require cutting so that edges will be concealed by other construction.

1.7 COORDINATION

A. Coordinate size of framing and furring members and spacing of framing and furring with dimensions of gypsum board and with locations of supplementary framing required for openings and support of fixtures, equipment, services, and heavy trim. Comply with framing installation requirements in ASTM C 840 and gypsum board manufacturer's written instructions.

B. Coordinate sizes and locations of framing and furring with other construction that will be concealed by gypsum board.

PART 2 - PRODUCTS

2.1 PANEL PRODUCTS, GENERAL

A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.2 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: As determined by testing identical products per ASTM E 84 by a qualified testing agency. Provide materials with the following surface-burning characteristics:
1. Flame Spread Index: 25 or less.
2. Smoke Developed Index: 50 or less.

B. Fire-Resistance Ratings: Provide materials and construction identical to those tested in assemblies indicated according to ASTM E 119 by an independent testing agency.

2.3 GYPSUM WALLBOARD

A. Gypsum Wallboard: ASTM C 1396/C 1396M.
1. Thickness: 5/8 inch (15.9 mm).
2. Long Edges: Tapered.

B. Gypsum Board, Type X: ASTM C 1396/C 1396M.
1. Thickness: 5/8 inch (15.9 mm).
2. Long Edges: Tapered.

C. Gypsum Ceiling Board: ASTM C 1396/C 1396M.
1. Thickness: 5/8 inch (15.9 mm).
2. Long Edges: Tapered.

D. Moisture- and Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.
1. Core: 5/8 inch (15.9 mm); Type X for use where indicated.
2. Long Edges: Tapered.
3. Mold Resistance: ASTM D 3273, score of 10 as tested according to ASTM D 3274.

2.4 CHANNEL-TYPE GYPSUM BOARD

A. Gypsum Liner Panels: Manufacturer's standard 1/2-inch- (12.7-mm-) thick, gypsum-based, water-resistant core and paper liner surfaces, with square edges and manufacturer's standard width and length.

B. Steel Channels: Manufacturer's standard, roll-formed, galvanized steel sheet, C-shaped with knurled or embossed web, of depth required, with 1-1/4-inch- (32-mm-) wide flanges.

2.5 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:
1. Interior Gypsum Board: Paper.
2. Exterior Gypsum Soffits: Glass mesh mesh recommended for direct application to gypsum board base.

C. Joint Compound for Interior Gypsum Board: Factory-premixed, vinyl-based compound formulated for use as taping, filling, and topping compound. Use setting-type taping compound for installing paper tape.
1. Prefilling: At open joints, rounded or beveled panel edges, use setting-type joint compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
3. Fill Coat: For second coat, use drying-type, all-purpose compound.
4. Finish Coat: For third coat, use drying-type, all-purpose compound.
5. Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound.

2.6 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Laminating Adhesive: Adhesive or joint compound recommended for directly laminating gypsum panels to substrate.

C. Sound Attenuation Blankets: Unfaced mineral-fiber blankets made from glass, rock, or slag fibers; produced separately from or as part of insulation batts and blankets.

D. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

E. Acoustical Sealant for Exposed and Concealed Joints: Nonstaining, latex sealant complying with ASTM C 834.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Acoustical Surfaces Inc.; Acoustical Sealant.
b. Grabber Construction Products; Acoustical Sealant.
c. USG Corporation; SHEETROCK Acoustical Sealant.

F. Thermal Insulation: As specified in Section 072100 "Thermal Insulation."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates including welded hollow-metal frames and framing, with Installer present, for compliance with requirements and other conditions affecting performance.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

A. Comply with ASTM C 840.

B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

E. Form control and expansion joints with space between edges of adjoining gypsum panels.

F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

G. Installation on Metal Framing: Extend panels over framing members perpendicular to framing and attach at perimeter and intermediate framing members.

H. Installation on Wood Framing: Extend panels over framing members perpendicular to framing and attach at perimeter and intermediate framing members.

I. Installation on Concrete: Adhere to concrete substrates with adhesive.

J. Install gypsum board around ductwork, pipes, and conduits so openings are not much larger than penetrating objects. Where openings are cut, they must be smooth and circular or oval. Cut openings to minimize overlap of edges and supports. Seal perimeter joints with acoustical sealant.

3.3 APPLYING INTERIOR GYPSUM BOARD

A. Install gypsum board vertically to minimize the number of joints, unless otherwise indicated.

B. Single-Layer Application:
1. On ceilings, apply gypsum panels before wall/partition board application to provide back support for edges of panels. Where ceiling abuts wall/partition, apply panels over wall/partition panels.
2. Apply gypsum panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.
3. Stagger abutting end joints not less than one framing member in alternate courses of board.
4. Apply panels so that terminations in finished areas occur only at trim accessories, control joints, ceilings, or walls, unless otherwise indicated or required by fire-resistance-rated assembly, and comply with requirements for forming control joints.
5. Install panels with long dimension parallel to framing to minimize the number of end joints.
6. Offset abutting end joints not less than one framing member in alternate courses of board.
7. Install panels with long dimension parallel to framing to minimize the number of end joints.
8. Single-Layer Application:
a. On ceilings, apply gypsum panels before wall/partition board application to provide back support for edges of panels. Where ceiling abuts wall/partition, apply panels over wall/partition panels.
b. Apply gypsum panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.
c. Stagger abutting end joints not less than one framing member in alternate courses of board.
d. Apply panels so that terminations in finished areas occur only at trim accessories, control joints, ceilings, or walls, unless otherwise indicated or required by fire-resistance-rated assembly, and comply with requirements for forming control joints.
e. Install panels with long dimension parallel to framing to minimize the number of end joints.
f. Offset abutting end joints not less than one framing member in alternate courses of board.

C. Multilayer Application:
1. Fastening Methods: Apply gypsum panels to supports with steel drill screws.
2. On partitions/walls, apply gypsum board to base layers and face layers vertically (parallel to framing) with joints of board layers located over stud or framing member and face layers offset at least one stud or framing member with base layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Fasten base layers and face layers separately to supports with screws.

3.4 INSTALLING TRIM ACCESSORIES

A. General: For trim with back flanges intended for fastening to framing, install with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Control Joints: Install control joints at locations indicated on Drawings.

C. Interior Trim: Install in locations indicated on Drawings and per approved shop drawings.
1. L-Bead: Use where indicated.
2. U-Bead: Use at exposed panel edges.

D. Aluminum Trim: Install in locations indicated on Drawings and per approved shop drawings.

3.5 PANEL PRODUCTS, GYPSUM BOARD

A. General: Treat gypsum board joints, interior angles, edges, trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

C. Gypsum Board Finish Levels:
1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
2. Level 2: Panels that are substrates for tile.
3. Level 3: Where indicated.
4. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
5. Level 5: Not used.

D. Prefill joints and interior angles of panels to be treated with compound and promptly remove from faces and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

E. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

F. Finish panels according to ASTM C 840 and to produce the following levels of gypsum board finish:
1. Panels that are substrates for tile: Level 2.
2. Panels that are substrates for joint compound and prompt removal from faces and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
3. Where indicated: Level 3.
4. At panel surfaces that will be exposed to view unless otherwise indicated: Level 4.
5. Where indicated: Level 5.

3.6 PROTECTION

A. Protect adjacent surfaces from drywall compound and promptly remove from faces and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

B. Protect finished installation and components from damage during construction.

C. Remove and replace panels that are damaged, exceed allowable tolerances, or have been exposed to inclement weather or excessive moisture.
1. Inspections that panels are not damaged include, but are not limited to, injury or spotted by surface contamination and discoloration.

END OF SECTION 092900

PROJECT SPECIFICATIONS

Go.02
sheet of

UNIVERSITY OF SOUTH CAROLINA
1244 BLOSSOM, COLUMBIA, SC
5TH FLOOR INTERIOR RENOVATION

GMC # ACOL170002

ISSUE	DATE
5TH FLOOR	04/26/19
drawn by:	MWW
checked by:	Checker

GOODWYN | MILLS | CAWOOD

STATE OF SOUTH CAROLINA — MARC W. WARREN — 29669 — REGISTERED ARCHITECT — 4/16/19

STATE OF SOUTH CAROLINA — GOODWYN MILLS & CAWOOD, INC — GREENVILLE, SC — REGISTERED ARCHITECT

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
A. Section includes acoustical panels and exposed suspension systems for interior ceilings.
B. Section includes repair of existing suspension systems for interior ceilings.
C. Section includes Snap-on Grid Cover system.

1.3 PREINSTALLATION MEETINGS
A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS
A. Product Data: For each type of product.
B. Samples: For each exposed product and for each color and texture specified, 6 inches (150 mm) in size.
C. Samples for Initial Selection: For components with factory-applied finishes.
D. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of sizes indicated below:
1. Acoustical Panels: Set of 6-inch- (150-mm-) square Samples of each type, color, pattern, and texture.

1.5 INFORMATIONAL SUBMITTALS
A. Qualification Data: For testing agency.
B. Product Test Reports: For each acoustical panel ceiling, for tests performed by manufacturer and witnessed by a qualified testing agency.
C. Evaluation Reports: For each acoustical panel ceiling suspension system and anchor and fastener type, from ICC-ES.
D. Field quality-control reports.

1.6 CLOSEOUT SUBMITTALS
A. Maintenance Data: For finishes to include in maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS
A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Acoustical Ceiling Units: Full-size panels equal to 2 percent of quantity installed, but not less than 2 full boxes of tile per school.

1.8 DELIVERY, STORAGE, AND HANDLING
A. Deliver acoustical panels, suspension-system components, and accessories to Project site and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.

1.9 FIELD CONDITIONS
A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
1. Pressurized Plenums: Operate ventilation system for not less than 48 hours before beginning acoustical panel ceiling installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
A. Source Limitations: Obtain each type of acoustical ceiling panel and its supporting suspension system from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS
A. Seismic Performance: Suspended ceilings shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
B. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
1. Flame-Spread Index: Class A according to ASTM E 1264.
2. Smoke-Developed Index: 450 or less.

2.3 CEILING GRID COVERS
A. Manufacturers: GridMAX, by Acoustic Ceiling Products (ACP), PO Box 1581, Appleton, WI, 54912-1581; Phone - Toll Free 800-434-3750; Fax - Toll Free 800-434-3751
B. Grid Material: Virgin grade polyvinyl chloride (PVC). Laminated components are ABS (acrylonitrile butadiene styrene terpolymer) plastic, laminated with hot stamping foil
C. Manufacturer's Grid Cover Style (metric with inch-pound equivalents): GridMAX sizes as indicated below (field verify the actual grid size prior to ordering material:
1. Model 210 - 24 mm (15/16 Inch) Grid Face, 1220 mm (48 inch) Main Cover
2. Model 220 - 24 mm (15/16 Inch) Grid Face, 584 mm (23 inch) Tee Cover
D. Cover Finish: Finish Unpainted: White, (00)

2.4 ACOUSTICAL PANELS APC-1
A. Basis-of-Design Product: Subject to compliance with requirements, provide **USG Grid; DX\DXL-15\16"** or a comparable product by one of the following:
1. CertainTeed Corporation.
2. United States Gypsum Company – USG Clean Room Acoustical Panel – Smooth Textured Panel
B. Acoustical Panel Standard: Provide manufacturer's standard panels according to ASTM E 1264 and designated by type, form, pattern, acoustical rating, and light reflectance unless otherwise indicated.
C. Classification: Provide panels as follows:
1. Type and Form: Type III, wet formed mineral fiber.
2. Pattern: Smooth-Textured Panel.
D. Color: **White.**
E. Light Reflectance (LR): Not less than 0.80.
F. Ceiling Attenuation Class (CAC): Not less than 35.
G. Noise Reduction Coefficient (NRC): Not less than 0.55.
H. Edge/Joint Detail: **Square.**
I. Thickness: 5/8 inch (15 mm).
J. Modular Size: 24 by 24 inches (610 by 1220 mm), typical, 24 by 24 inches (610 by 610 mm) may be used as needed or where indicated.
K. Antimicrobial Treatment: Manufacturer's standard broad-spectrum, antimicrobial formulation that inhibits fungus, mold, mildew, and gram-positive and gram-negative bacteria and showing no mold, mildew, or bacterial growth when tested according to ASTM D 3273, ASTM D 3274, or ASTM G 21 and evaluated according to ASTM D 3274 or ASTM G 21.

2.6 METAL SUSPENSION SYSTEM APC-1
A. Basis-of-Design Product: Subject to compliance with requirements, provide **USG Grid**; or a comparable product by one of the following:
1. CertainTeed Corporation.
2. United States Gypsum Company.
B. Metal Suspension-System Standard: Provide manufacturer's standard, direct-hung, metal suspension system and accessories according to ASTM C 635/C 635M and designated by type, structural classification, and finish indicated.
1. High-Humidity Finish: Where indicated, provide coating tested and classified for "severe environment performance" according to ASTM C 635/C 635M.
C. Wide-Face, Single-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet electrolytically zinc coated, with prefinished flanges of width indicated.
1. Structural Classification: Heavy-duty system.
2. Face Finish: Painted white.

2.7 ACCESSORIES
A. Attachment Devices: Size for five times the design load indicated in ASTM C 635/C 635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
1. Anchors in Concrete: Anchors of type and material indicated below, with holes or loops for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to five times that imposed by ceiling construction, as determined by testing according to ASTM E 488/E 488M or ASTM E 1512 as applicable, conducted by a qualified testing and inspecting agency.
a. Corrosion Protection: Carbon-steel components zinc plated according to ASTM B 633, Class SC 1 (mild) service condition.
b. Alloy Group: Stainless-steel components complying with ASTM F 593 and ASTM F 594, Group 1 Alloy 304 or 316.
c. Corrosion Protection: Components fabricated from nickel-copper-alloy rods complying with ASTM B 164 for UNS No. N04400 alloy.
2. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing according to ASTM E 1190, conducted by a qualified testing and inspecting agency.
B. Wire Hangers, Braces, and Ties: Provide wires as follows:
1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
2. Size: Wire diameter sufficient for its stress at three times hanger design load (ASTM C 635/C 635M, Table 1, "Direct Hung") will be less than yield stress of wire, but not less than 0.135-inch- (3.5-mm-) diameter wire.
C. Hanger Rods: Mild steel, zinc coated or protected with rust-inhibitive paint.
D. Angle Hangers: Angles with legs not less than 7/8 inch (22 mm) wide; formed with 0.04-inch- (1-mm-) thick, galvanized-steel sheet complying with ASTM A 653/A 653M, G90 (Z275) coating designation; with bolted connections and 5/16-inch- (8-mm-) diameter bolts.
E. Seismic Clips: Manufacturer's standard seismic clips designed to secure acoustical panels in place during a seismic event.
F. Seismic Stabilizer Bars: Manufacturer's standard perimeter stabilizers designed to accommodate seismic forces.
G. Seismic Struts: Manufacturer's standard compression struts designed to accommodate seismic forces.

2.8 METAL EDGE MOLDINGS AND TRIM
A. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension-system runners.
1. Edge moldings shall fit acoustical panel edge details and suspension-system indicated and match width and configuration of exposed runners unless otherwise indicated.
2. Baked-Enamel or Powder-Coat Finish: Minimum dry film thickness of 1.5 mils (0.04 mm). Comply with ASTM C 635/C 635M and coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.
3. 2" wall angle profile.

PART 3 - EXECUTION

3.1 PREPARATION
A. For Existing Ceilings, Clean existing grid thoroughly removing all rusted and damaged sections. Prepare existing grid as recommended by paint manufacturer. Remove and replace dented, bent, or kinked members.
B. For New Ceilings, measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders unless otherwise indicated, and comply with layout shown on reflected ceiling plans.
C. Layout openings for penetrations centered on the penetrating items.

3.2 REPAIR OF EXISTING GRID
A. Infill edge moldings and trim of type and size to matching the existing adjacent profile at perimeter of acoustical ceiling area, gaps and opening, and where necessary to conceal edges of acoustical panels.
1. Screw attach moldings to substrate at intervals not more than 16 inches (400 mm) o.c. and not more than 3 inches (75 mm) from ends. Miter corners accurately and connect securely.
2. Do not use exposed fasteners, including pop rivets, on moldings and trim.
B. Infill suspension-system runners of type and size to matching the existing adjacent profile to continue the existing grid system and so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
C. Suspend ceiling hangers from building's structural members or utilize existing hangers to complete installation of the system:
1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, counterspaying, or other equally effective means.

3.3 INSTALLATION OF NEW GRID
A. Install acoustical panel ceilings according to ASTM C 636/C 636M, seismic design requirements, and manufacturer's written instructions. Install all ceilings in compliance with seismic design category "D" for all remedial and new installation work.
B. Suspend ceiling hangers from building's structural members and as follows:
1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, counterspaying, or other equally effective means.
3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension-system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
4. Secure wire hangers to ceiling-suspension members and to supports above with a minimum of three tight turns. Connect hangers directly to structure or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
5. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both the structure to which hangers are attached and the type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
6. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
7. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
8. Do not attach hangers to steel deck tabs.
9. Do not attach hangers to steel roof deck. Attach hangers to structural members. Contractor shall supply additional light gage metal framing as required for hangers.
10. Space hangers not more than 48 inches (1200 mm) o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches (200 mm) from ends of each member.
11. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards. means.
C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.
D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels.
1. Screw attach moldings to substrate at intervals not more than 16 inches (400 mm) o.c. and not more than 3 inches (75 mm) from ends. Miter corners accurately and connect securely.
2. Do not use exposed fasteners, including pop rivets, on moldings and trim.
E. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
1. Suspension runners and cross tees shall sit on edge moldings in compliance with Seismic Site Class "D" installation methods with seismic clips at each location.
2. Secure clips on 2 adjacent walls in accordance with the manufacturer's standard installation method for Seismic Site Class "D".

3.5 INSTALLATION - GRID COVERS
A. Install grid covers in accordance with manufacturer's instructions.
1. Install grid covers after major above ceiling work is complete and prior to install ceiling panels.

3.6 INSTALLATION OF NEW CEILING PANELS
A. Install acoustical panel ceilings according to ASTM C 636/C 636M, seismic design requirements, and manufacturer's written instructions. Install all ceilings in compliance with seismic design category "D" for all remedial and new installation work.
B. Install acoustical panels with undamaged edges and fit accurately into suspension-system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide precise fit.
1. Arrange directionally patterned acoustical panels as follows:
a. Install panels with pattern running in one direction parallel to long axis of space.
2. For square-edged panels, install panels with edges fully hidden from view by flanges of suspension-system runners and moldings.
3. Install seismic clips in areas indicated; space according to panel manufacturer's written instructions unless otherwise indicated.
4. Install seismic separation joints in areas of ceiling over 2500 SF.

3.7 ERECTION TOLERANCES
A. Suspended Ceilings: Install main and cross runners level to a tolerance of 1/8 inch in 12 feet (3 mm in 3.6 m), non-cumulative.
B. Moldings and Trim: Install moldings and trim to substrate and level with ceiling suspension system to a tolerance of 1/8 inch in 12 feet (3 mm in 3.6 m), non-cumulative.

3.8 FIELD QUALITY CONTROL
A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:
1. Periodic inspection during the installation of suspended ceiling grids according to ASCE/SEI 7.
B. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
C. Perform the following tests and inspections of completed installations of acoustical panel ceiling hangers and anchors and fasteners in successive stages and when installation of ceiling suspension systems on each floor has reached 20 percent completion, but no panels have been installed. Do not proceed with installations of acoustical panel ceiling hangers for the next area until test results for previously completed installations of acoustical panel ceiling hangers show compliance with requirements.
1. Within each test area, testing agency will select one of every 10 power-actuated fasteners and postinstalled anchors used to attach hangers to concrete and will test them for 200 lbf (890 N) of tension; it will also select one of every two postinstalled anchors used to attach bracing wires to concrete and will test them for 440 lbf (1957 N) of tension.
2. When testing discovers fasteners and anchors that do not comply with requirements, testing agency will test those anchors not previously tested until 20 pass consecutively and then will resume initial testing frequency.
D. Acoustical panel ceiling hangers, anchors, and fasteners will be considered defective if they do not pass tests and inspections.
E. Prepare test and inspection reports.

3.9 CLEANING
A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension-system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage.
B. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 095113

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
A. Section Includes:
1. Resilient base.
2. Resilient stair accessories.

1.3 ACTION SUBMITTALS
A. Product Data: For each type of product.
B. Samples: For each exposed product and for each color and texture specified, not less than 12 inches (300 mm) long.
C. Samples for Initial Selection: For each type of product indicated.
D. Samples for Verification: For each type of product indicated and for each color, texture, and pattern required in manufacturer's standard-size Samples, but not less than 12 inches (300 mm) long.
E. Product Schedule: For resilient base and accessory products.

1.4 MAINTENANCE MATERIAL SUBMITTALS
A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Furnish not less than 10 linear feet (3 linear m) for every 500 linear feet (150 linear m) or fraction thereof, of each type, color, pattern, and size of resilient product installed.

1.5 DELIVERY, STORAGE, AND HANDLING
A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F (10 deg C) or more than 90 deg F (32 deg C).

1.6 FIELD CONDITIONS
A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F (21 deg C) or more than 95 deg F (35 deg C), in spaces to receive resilient products during the following time periods:
1. 48 hours before installation.
2. During installation.
3. 48 hours after installation.
B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F (13 deg C) or more than 95 deg F (35 deg C).
C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS
A. FloorScore Compliance: Resilient base and stair accessories shall comply with requirements of FloorScore certification.

2.2 RUBBER BASE
A. Manufacturers: Subject to compliance with requirements, provide rubber base by Johnsonite or, subject to compliance, products by one of the following:
1. Burke Mercer Flooring Products a division of Burke Industries Inc.
2. Flexco.
B. Product Standard: ASTM F 1861, Type TS (rubber, vulcanized thermoset), Group I (solid, homogeneous).
1. Style and Location:
a. Style B, Cove: Provide in all floor areas as scheduled, match existing profile.
C. Thickness: 0.125 inch (3.2 mm).
D. Height: 4 inches (102 mm), match existing height
E. Lengths: Coils in manufacturer's standard length.E. Outside Corners: Job formed.
F. Inside Corners: Job formed.
G. Colors: #63, Burnt Umber at all new locations
H. As selected by Architect from full range of industry colors for areas to match existing including infill and patch areas.

2.3 RUBBER STAIR ACCESSORIES
A. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
B. Manufacturers: Subject to compliance with requirements, provide rubber base by Johnsonite or, subject to compliance, products by one to the follow:
1. Burke Mercer Flooring Products; a division of Burke Industries Inc.
2. Flexco.
C. Stair Treads: ASTM F 2169.
1. Type: R29-I (SLN-32-B).
2. Class: 2., pattern; embossed.
3. Nosing Style: Slim Line Stair Nosing
4. Nosing Height: 2 inches (51 mm).
5. Thickness: 7/32" and tapered to back edge,
6. Integral Risers: Smooth, flat, in height that fully covers substrate.
B. Landing Tile: Resilient Sports Flooring as specified
C. Locations: Provide rubber stair accessories in areas indicated – stage stairs.
D. Colors and Patterns: #32 Pebble, As selected by Architect from full range of industry colors.

2.4 RUBBER MOLDING ACCESSORY
A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. Roppe Corporation, USA
2. VPI Corporation.
B. Description: Rubber carpet edge for glue-down applications, nosing for resilient flooring reducer strip for resilient flooring, joiner for epoxy floor and resilient floor, transition strips.
C. Profile and Dimensions: As indicated.
D. Locations: at all flooring material transitions.
E. Colors and Patterns: As selected by Architect from full range of industry colors.

2.5 INSTALLATION MATERIALS
A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.
B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.
1. Adhesives shall have a VOC content of 50 g/L or less except that adhesive for rubber stair treads shall have a VOC content of 60 g/L or less.
C. Stair-Tread Nose Filler: Two-part epoxy compound recommended by resilient stair-tread manufacturer to fill nosing substrates that do not conform to tread contours.
D. Reducer Strip: Extruded aluminum with mill finish of width shown, of height required to protect exposed edges of flooring, and in maximum available lengths to minimize running joints.
E. Floor Polish: Provide protective, liquid floor-polish products recommended by resilient stair-tread manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION
A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
B. Proceed with installation only after unsatisfactory conditions have been corrected.
1. Installation of resilient products indicates acceptance of surfaces and conditions.

3.2 PREPARATION
A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
B. Concrete Substrates for Resilient Stair Accessories: Prepare horizontal surfaces according to ASTM F 710.
1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9 pH.
4. Moisture Testing: Proceed with installation only after substrates pass testing according to manufacturer's written recommendations, but not less stringent than the following:
a. Perform relative humidity test using in situ probes according to ASTM F 2170. Proceed with installation only after substrates have relative humidity level acceptable to the manufacturer.
C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
D. Do not install resilient products until they are the same temperature as the space where they are to be installed.
1. At least 48 hours in advance of installation, move resilient products and installation materials into spaces where they will be installed.
E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.3 RESILIENT BASE INSTALLATION
A. Comply with manufacturer's written instructions for installing resilient base.
B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.
D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
E. Do not stretch resilient base during installation.
F. Job-Formed Corners:
1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 6 inches (152 mm) in length.
a. Form without producing discoloration (whitening) at bends.
2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches (76 mm) in length.
a. Miter or cope corners to minimize open joints.

3.4 RESILIENT ACCESSORY INSTALLATION
A. Comply with manufacturer's written instructions for installing resilient accessories.
B. Resilient Stair Accessories:
1. Use stair-tread-nose filler to fill nosing substrates that do not conform to tread contours.
2. Tightly adhere to substrates throughout length of each piece.
3. For treads installed as separate, equal-length units, install to produce a flush joint between units.
C. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.

3.5 CLEANING AND PROTECTION
A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.
B. Perform the following operations immediately after completing resilient-product installation:
1. Remove adhesive and other blemishes from exposed surfaces.
2. Sweep and vacuum horizontal surfaces thoroughly.
3. Damp-mop horizontal surfaces to remove marks and soil.
C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
D. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 096513

SECTION 096813 - TILE CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
A. Section includes modular, tufted carpet tile.
B. Related Requirements:
1. Section 096513 "Resilient Base and Accessories" for resilient wall base and accessories installed with carpet tile.

1.3 ACTION SUBMITTALS
A. Product Data: For each type of product.
1. Include manufacturer's written data on physical characteristics, durability, and fade resistance.
2. Include installation recommendations for each type of substrate.
B. Shop Drawings: Show the following:
1. Columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet tiles.
2. Carpet tile type, color, and dye lot.
3. Type of subfloor.
4. Type of installation.
5. Pattern of installation.
6. Pattern type, location, and direction.
7. Pile direction.
8. Type, color, and location of insets and borders.
9. Type, color, and location of edge, transition, and other accessory strips.
10. Transition details to other flooring materials.
C. Samples: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.
1. Carpet Tile: Full-size Sample.
2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch- (300-mm-) long Samples.
D. Product Schedule: For carpet tile. Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS
A. Qualification Data: For Installer.
B. Product Test Reports: For carpet tile, for tests performed by a qualified testing agency.
C. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS
A. Maintenance Data: For carpet tiles to include in maintenance manuals. Include the following:
1. Methods for maintaining carpet tile, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
2. Precautions for cleaning materials and methods that could be detrimental to carpet tile.

1.6 MAINTENANCE MATERIAL SUBMITTALS
A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd. (8.3 sq. m).

1.7 QUALITY ASSURANCE
A. Installer Qualifications: An experienced installer who is certified by the International Certified Floorcovering Installers Association at the Commercial II or Master II certification level.
B. Fire-Test-Response Ratings: Where indicated, provide carpet tile identical to those of assemblies tested for fire response according to NFPA 253 by a qualified testing agency.

1.8 DELIVERY, STORAGE, AND HANDLING
A. Comply with CRI 104.

1.9 FIELD CONDITIONS
A. Comply with CRI 104 for temperature, humidity, and ventilation limitations.

1.10 WARRANTY
A. Special Warranty for Carpet Tiles: Manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period.
1. Warranty does not include deterioration or failure of carpet tile due to unusual traffic, failure of substrate, vandalism, or abuse.
2. Failures include, but are not limited to, more than 10 percent edge raveling, snags, runs, dimensional stability, excess static discharge, loss of tuft bind strength, loss of face fiber, and delamination.
3. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CARPET TILE: CPT-1
A. Manufacturers: Subject to compliance with requirements, provide products by the following:
1. TBD
B. CPT-1:
1. Color: TBD
2. Pattern: TBD
C. Product Construction: Tufted Textured Loop
D. Yarn System: 100% Recycled Content Type 6 NylonPile Characteristic: Multi-level pattern loop.
E. Density: 6,345 oz./cu. yd. (g/cu. cm).
F. Pile Thickness: .088 inches (mm) for finished carpet tile according to ASTM D 6859.
G. Stitches: 8 stitches per inch.
H. Gage: 1/12" **inch (mm).**
I. Surface Pile Weight: 16 oz./sq. yd. (g/sq. m).
J. Primary Backing/Backcoating: Manufacturer's standard composite materials.
K. Size: 24cm x 1m.
L. Applied Soil-Resistance Treatment: Protekt
M. Antimicrobial Treatment: Manufacturer's standard material.

2.2 INSTALLATION ACCESSORIES
A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.
B. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for releasable installation.
1. Adhesives shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
C. Metal Edge/Transition Strips: Extruded aluminum with mill finish of profile and width shown, of height required to protect exposed edge of carpet, and of maximum lengths to minimize running joints.

PART 3 - EXECUTION

3.1 EXAMINATION
A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance. Examine carpet tile for type, color, pattern, and potential defects.
B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:
1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by carpet tile manufacturer.
2. Subfloor finishes comply with requirements specified in Section 033000 "Cast-in-Place Concrete" for slabs receiving carpet tile.
3. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.
C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION
A. General: Comply with CRI 104, Section 6.2, "Site Conditions; Floor Preparation," and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile installation.
B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch (3 mm) wide or wider and protrusions more than 1/32 inch (0.8 mm) unless more stringent requirements are required by manufacturer's written instructions.
C. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet tile manufacturer.
D. Clean metal substrates of grease, oil, soil and rust, and prime if directed by adhesive manufacturer. Rough sand painted metal surfaces and remove loose paint. Sand aluminum surfaces, to remove metal oxides, immediately before applying adhesive.
E. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

3.3 INSTALLATION
A. General: Comply with CRI 104, Section 14, "Carpet Modules," and with carpet tile manufacturer's written installation instructions.
B. Installation Method: Glue down; install every tile with full-spread, releasable, pressure-sensitive adhesive.
C. Maintain dye lot integrity. Do not mix dye lots in same area.
D. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.
E. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, nonstaining marking device.
G. Install pattern parallel to walls and borders.
H. Stagger joints of carpet tiles so carpet tile grid is offset from access flooring panel grid. Do not fill seams of access flooring panels with carpet adhesive; keep seams free of adhesive.

3.4 CLEANING AND PROTECTION
A. Perform the following operations immediately after installing carpet tile:
1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet tile manufacturer.
2. Remove yarns that protrude from carpet tile surface.
3. Vacuum carpet tile using commercial machine with face-beater element.
B. Protect installed carpet tile to comply with CRI 104, Section 16, "Protecting Indoor Installations."
C. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period.
D. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 096813

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
A. Section includes surface preparation and the application of paint systems on the following interior substrates:
1. Steel.
2. Gypsum board.

1.3 DEFINITIONS
A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
B. Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
E. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
F. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
G. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS
A. Product Data: For each type of product. Include preparation requirements and application instructions.
B. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.
1. Submit Samples on rigid backing, 8 inches (200 mm) square.
2. Step coats on Samples to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.
C. Product List: For each product indicated, include the following:
1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
2. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.
3. VOC content.

1.5 MAINTENANCE MATERIAL SUBMITTALS
A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Paint: 5 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

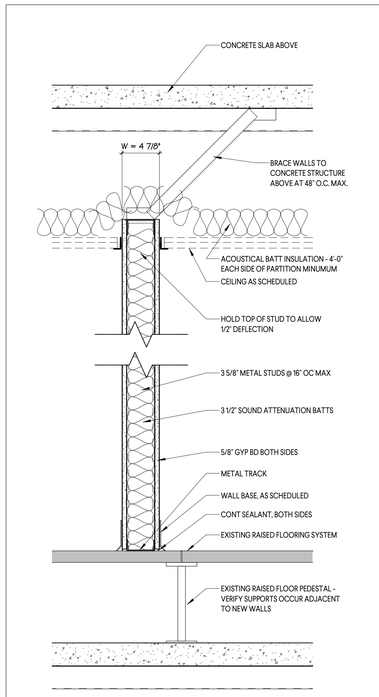
1.6 QUALITY ASSURANCE
A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
b. Other Items: Architect will designate items or areas required.
2. Final approval of color selections will be based on mockups.
a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING
A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

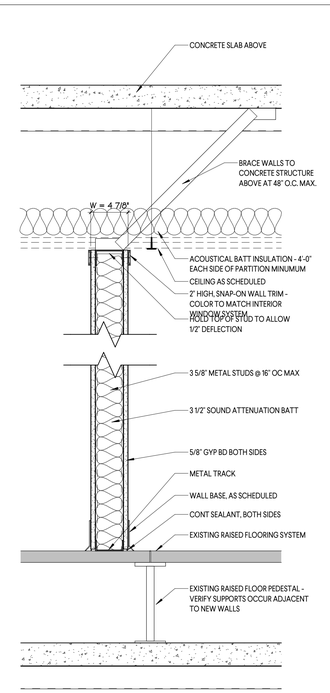
1.8 FIELD CONDITIONS
A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

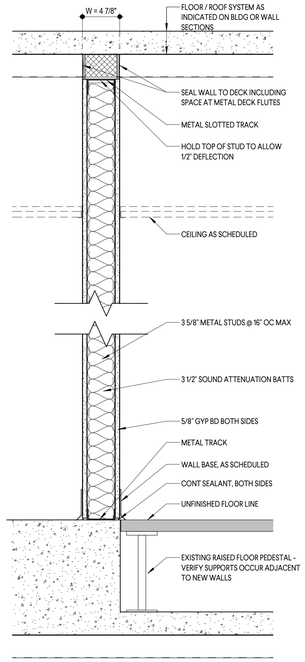
2.1 MANUFACTURERS
A. Manufacturers: Subject to compliance with requirements, provide products by Sherwin Williams Company (The) or, subject to compliance, products by one of the following:
1. Benjamin Moore & Co.
2.



PARTITION TYPE 1 | 0 HR - GYP EACH SIDE | U.L. #: NA | STC: 47



PARTITION TYPE 2 | 0 HR - GYP EACH SIDE | U.L. #: NA | STC: NA



PARTITION TYPE 3 | 1 HR - GYP EACH SIDE | U.L. #: U494 | STC: 49

GENERAL PARTITION TYPE NOTES

A) PARTITION TYPE DETAILS APPLY UNLESS INDICATED OTHERWISE ON WALL SECTIONS, SECTION DETAILS AND PLAN DETAILS.

B) PARTITION WALLS THAT ARE PARALLEL WITH COLUMN LINES SHALL BE CENTERED ON COLUMN LINES UNLESS NOTED OTHERWISE.

C) PARTITONS THAT INTERSECT THE EXTERIOR WINDOW SYSTEM ARE TO BE CENTERED O.NTHE EXISTING MULLION. PROVIDE CLOSURE BREAK METAL TRIM - COLOR TO MATCH THE EXISTING WINDOW SYSTEM.

D) AT PARTITIONS NOTED AT TYPE "4", WHERE EXISTING DOORS ARE REMOVED OR PORTIONS OF EXISTING WALLS ARE TO BE INFILLED, CONSTRUCT THE INFILL OF THE SAME FRAMING AND DRYWALL TO ALIGN FINISH SURFACES. TAPE AND MUD THE JOINT AND FEATHER SKIM COAT TO SMOOTH TRANSITION.

E) CONTROL JOINTS:
1. GYPSUM BOARD / METAL STUDS (C.J) SHALL BE AS SHOWN OR 25'-0" O.C. MAX. IF NOT SHOWN.

F) GENERAL CONTRACTOR OR BUILDING / FINISH CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL OPENINGS AND HOLES (INCLUDING THOSE REQUIRED FOR DUCTWORK AND LARGE SYSTEM PIPING, CONDUIT AND CABLE TRAY) IN WALLS INCLUDING SECTIONS, SIZE, LOCATION, AND DETAIL INFORMATION AS PART OF COORDINATION DRAWINGS.

G) LARGE HOLES FOR DUCTWORK, LARGE GROUPS OF PIPING OR CONDUIT, AND CABLE TRAY SHALL BE FRAMED AND SHALL INCLUDE HEADERS REQUIRED TO SPAN THE OPENING. HOLES FOR DUCTWORK MAY NOT BE CUT AFTER WALLS ARE CONSTRUCTED.

H) ALL PIPE AND CONDUIT PENETRATIONS THRU CMU WALLS SHALL BE SEALED. HOLES SHALL BE NO GREATER THAN 1" OVER THE PIPE OR CONDUIT SIZE WHERE PENETRATIONS ARE EXPOSED TO VIEW. ESCUTCHEON PLATE SHALL BE PROVIDED BY SUB-CONTRACTOR OR MULTI-PRIME CONTRACTOR. PLATE SHALL BE PAINTABLE AND PAINTED TO MATCH ADJACENT WALL.

I) REFER TO UL ASSEMBLIES OF ALL BUILDING SYSTEMS REQUIRED TO BE RATED. ALL PENETRATIONS THROUGH RATED WALL AND FLOOR ASSEMBLIES MUST COMPLY WITH UL DESIGNS FOR PENETRATIONS.

J) ALL FIRE RATED WALLS TO RECEIVE STENCILED TEXT ON CONTINUOUS PAINTED BAND ABOVE CEILING AS FOLLOWS: 2" HIGH STENCILED TEXT READING "X-HOUR FIRE AND SMOKE BARRIER - PROTECT ALL OPENINGS" TO BE PAINTED (RED) ON ALL FIRE RATED WALL ASSEMBLIES (ABOVE CEILINGS WHERE SUSPENDED CEILING OCCURS). TEXT IS TO BE PAINTED ON BOTH SIDES OF EACH FIRE WALL, 40'-0" O.C. WITH 1" WIDE LINE PAINTED (RED) BETWEEN TEXT.

SEE FLOOR PLANS FOR LOCATION AND RATING ON ALL FIRE RATED WALLS.

K) UTILIZE TYPE "X" GYPSUM BOARD AT ALL RATED WALLS TO COMPLY WITH UL TEST STANDARDS.

L)

M) AT ALL JOINTS AT THE TOP OF ALL FIRE RATED WALLS AND PARTITIONS AND AT CONTROL JOINTS, PROVIDE COMPLETE UL LISTED FIRE RESISTIVE JOINT SYSTEM TO MATCH FIRE RESISTANCE OF THE WALL ASSEMBLY AND THAT ARE COMPATIBLE WITH JOINT SUBSTRATES. SUBMIT COMPLETE JOINT SYSTEM PRODUCT INFORMATION FOR ALL CONDITIONS FOR THE ARCHITECTS REVIEW.

AT ALL PENETRATIONS AT RATED WALLS AND FLOOR / CEILING ASSEMBLIES, PROVIDE UL LISTED FIRE N) RESISTIVE SEALANT / FIRE STOP SYSTEM TO MATCH THE FIRE RESISTANCE OF WALL AND FLOOR / CEILING ASSEMBLY. SYSTEM SHALL BE COMPATIBLE WITH ADJACENT SUBSTRATES. SUBMIT PENETRATION ASSEMBLY INFORMATION AND PRODUCT INFORMATION FOR ALL CONDITIONS FOR THE ARCHITECTS REVIEW.

AT ALL WALLS NOTED TO EXTEND TO DECK, ALL PENETRATIONS SHALL BE SEALED (INCLUDING CONDUIT, PIPING, DUCTWORK, ETC.) WHERE JOISTS PENETRATE WALLS EXTENDING TO DECK, GYPSUM O) BOARD SHALL BE INFILLED AROUND JOISTS AND GAPS FILLED WITH INSULATION.

SEE INTERIOR ELEVATIONS AND DETAILS FOR REVEALS IN WALLS AND MAINTAIN ALL WALL RATINGS. ADD ADDITIONAL LAYER OF GYPSUM BOARD TO MAINTAIN RATING.

P)

REFER TO NOTE "D" FOR PARTITION TYPE #4

ANNOTATION SYMBOLS

Room name
101

ROOM REFERENCE SYMBOL:
-- ROOM NAME
1--: FLOOR NUMBER
-- 01: SPACE NUMBER
150 SF: NET SQUARE FOOTAGE

COLUMN LINES:
2 - CONSECUTIVE NUMBERS ARE USING FOR COLUMN LINES RUNNING NORTH & SOUTH
A - CONSECUTIVE LETTERS ARE USED FOR COLUMN LINES RUNNING EAST & WEST
NOTE: IF A COLUMN LINE IS ADDED, "SUB" NUMBERS/LETTERS ARE USED

2- FACE OF MASONRY OR FACE OF GIRDER

677.52 DATUM SYMBOL (ELEVATION MARK)
677.52 - ELEVATION (FT)

1 REVISION SYMBOL
USED TO INDICATE SCOPE OF CURRENT REVISION

DOOR SYMBOL: (101 / A)
-DOOR NUMBER 101
-DOOR TYPE A
SEE DOOR SCHEDULE AND FLOOR PLANS

WINDOW SYMBOL: (SF1)
-WINDOW TYPE A
SEE EXTERIOR ELEVATIONS AND WINDOW SCHEDULE

LOUVER SYMBOL: (L1)
-LOUVER TYPE L1
SEE LOUVER SCHEDULE

WALL SYMBOL: 0G
-WALL TYPE 0G
SEE PARTITION LEGEND

2 SPECIALTY EQUIPMENT TAG:
-SPECIALTY EQUIPMENT TYPE 2
SEE SPECIALTY EQUIPMENT SCHEDULE

A PLAN KEYNOTE TAG
- NOTE NUMBER A
SEE PLAN KEYNOTE SCHEDULE

BUILDING SECTION SYMBOL:
SECTION 1 ON SHEET A101

WALL SECTION SYMBOL:
SECTION 1 ON SHEET A101

ENLARGED DETAIL SYMBOL:
DETAIL 1 ON SHEET A101

1 / A101 EXTERIOR ELEVATION SYMBOL:
ELEVATION 1 ON SHEET A101

A101 / 3 INTERIOR ELEVATION SYMBOL:
INTERIOR ELEVATION 3 ON SHEET A101

NORTH ARROW

FF&E:

GENERAL THRU-PENETRATION NOTES

1. GENERAL
   A. ALL THROUGH-PENETRATION FIRESTOP WORK SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 07841 – THROUGH PENETRATION FIRESTOP SYSTEMS.
   B. THE DETAILS SHOWN HEREIN ILLUSTRATE FREQUENTLY ENCOUNTERED THROUGH-PENETRATION FIRESTOP CONDITIONS. THEY ARE GENERIC REPRESENTATIONS OF SYSTEMS AVAILABLE FROM SEVERAL MANUFACTURERS. SELECTION OF APPROPRIATE SYSTEMS SHALL BE THE RESPONSIBILITY OF THE FIRESTOP CONTRACTOR, AND MUST BE SUBMITTED FOR ARCHITECT'S APPROVAL. EACH SELECTION SHALL BE APPROPRIATE FOR THE PENETRATING ITEM AND SUBSTRATE, AND SHALL COMPLY WITH THE SPECIFIC REQUIREMENTS OF A UL LISTED SYSTEM DESIGN.
   C. WHERE NO APPLICABLE UL DESIGN IS AVAILABLE FOR A PARTICULAR FIRESTOP CONFIGURATION, SUBMIT AN ENGINEERING JUDGMENT (EJ), OR EQUIVALENT FIRE RESISTANCE RATED ASSEMBLY (EFRRA), PREPARED BY THE FIRESTOP MANUFACTURER.
   D.
2. APPLICABILITY
   A. PROVIDE THROUGH-PENETRATION FIRESTOP SYSTEMS FOR ALL PENETRATIONS (INCLUDING SINGLE-SIDED MEMBRANE PENETRATIONS) OF FIRE RESISTANCE RATED CONSTRUCTION, WHETHER OR NOT SPECIFICALLY DETAILED ON THE DRAWINGS (APPLICABLE TO BOTH EMPTY OPENINGS AND OPENINGS CONTAINING PENETRATING ITEMS).
   B. ALL PIPING AND DUCTWORK SUBJECT TO MOVEMENT SHALL BE FIRESTOPPED WITH FLEXIBLE FIRE RATED SEALANT.
   C. TO EXTENT THAT APPROPRIATE UL DESIGNS ARE AVAILABLE FOR SUBSTRATE REQUIRED, USE THE FOLLOWING APPROACH TO SELECTION OF SYSTEMS:
      a. FOR SIMPLE PENETRATIONS: ONE-PART FIRESTOP SEALANT
      b. FOR COMPLEX PENETRATIONS: FOAMED-IN-PLACE FIRESTOP SEALANT
      c. FOR INSULATED METAL PIPE: INTUMESCENT WRAP STRIP AND ONE-PART FIRESTOP SEALANT.
      d. FOR DUCTS OR VENTS:
      e. FOR CABLE TRAYS OR RACEWAYS:

3. SLEEVING
   A. THE FOLLOWING PENETRATIONS MUST BE SLEEVED:
      a. SINGLE ROUND PENETRATIONS IN RATED CMU WALLS
      b. INSULATED PIPE PENETRATIONS IN RATED GYPSUM BOARD WALLS
      c. BUNDLED CABLE PENETRATIONS IN RATED GYPSUM BOARD WALLS
      d. ALL PENETRATIONS IN ELEVATED CONCRETE SLABS.
   B. ALL SLEEVES SHALL BE METAL. PLASTIC IS NOT PERMITTED. THE JUNCTURE OF STEEL SLEEVES AND WALL SHALL BE SEALED WITH FLEXIBLE FIRE RATED SEALANT.
4. QUALITY ASSURANCE
   A. COMPLY WITH "INSTALLER QUALIFICATIONS" AND "ON-SITE RESPONSIBLE PARTY" PROVISIONS OF SPECIFICATION SECTION 07841 – THROUGH-PENETRATION FIRESTOP SYSTEMS.
   B. OBTAIN THROUGH-PENETRATION FIRESTOP SYSTEMS THROUGH ONE SOURCE FROM A SINGLE MANUFACTURER.
   C. COMMENCE FIRESTOPPING WORK ONLY AFTER SUBMITTALS (INCLUDING MOCKUPS WHERE APPLICABLE) ARE APPROVED, AND PRE-INSTALLATION CONFERENCE IS SUCCESSFULLY CONCLUDED.

5. INSTALLATION – GENERAL
   A. COMPLY WITH UL SYSTEM REQUIREMENTS AND FIRESTOPPING MANUFACTURERS' PRINTED INSTALLATION INSTRUCTIONS.
   B. INSTALL FORMING /DAMMING /BACKING MATERIALS AND OTHER ACCESSORIES OF TYPES REQUIRED TO SUPPORT FILL MATERIALS DURING THEIR APPLICATION AND IN THE POSITION NEEDED TO PRODUCE CROSS-SECTIONAL SHAPES AND DEPTHS REQUIRED TO ACHIEVE FIRE RATINGS INDICATED. INSTALL FILL MATERIALS BY PROVEN TECHNIQUES TO PRODUCE THE
   C. FOLLOWING RESULTS:
      a. FILL VOIDS AND CAVITIES FORMED BY OPENINGS, FORMING MATERIALS, ACCESSORIES, AND PENETRATING ITEMS AS REQUIRED TO ACHIEVE FIRE-RESISTANCE RATINGS INDICATED,
      b. APPLY MATERIALS SO THEY CONTACT AND ADHERE TO SUBSTRATES FORMED BY OPENINGS AND PENETRATING ITEMS,
      c. FOR FILL MATERIALS THAT WILL REMAIN EXPOSED AFTER COMPLETING WORK, FINISH TO PRODUCE SMOOTH UNIFORM SURFACES THAT ARE FLUSH WITH ADJOINING FINISHES.
   D. REMOVE COMBUSTIBLE FORMING MATERIALS, AND OTHER ACCESSORIES, THAT ARE NOT INDICATED AS PERMANENT COMPONENTS OF FIRESTOP SYSTEMS.
   E. REMOVE EXCESS SEALANT FROM ADJOINING SURFACES.
   F. IDENTIFY THROUGH PENETRATION FIRESTOP SYSTEMS WITH PERMANENTLY ATTACHED, PREPRINTED METAL OR PLASTIC LABELS, AS SPECIFIED. INSPECT FILL MATERIALS AFTER 48 HOURS FOR COMPLETE ADHESION AND
   G. SEAL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CORRECT DEFICIENCIES AND RE-INSPECT.

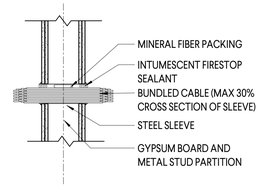
MOUNTING HEIGHT NOTES

01. TYPICAL HEIGHTS: MOUNTING HEIGHTS INDICATED HEREIN ARE TYPICAL MOUNTING HEIGHTS FOR DEVICE INDICATED. HOWEVER, MOUNTING HEIGHTS FOR PRODUCTS MAY VARY BY MANUFACTURER, AND THEREFORE THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT WHERE A DISCREPANCY EXISTS BETWEEN THE INDICATED MOUNTING HEIGHT AND THE MANUFACTURER RECOMMENDED MOUNTING HEIGHT, PRIOR TO INSTALLATION OF THE DEVICE

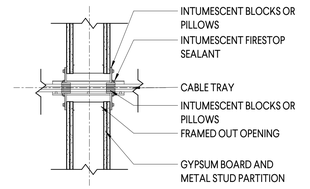
02. ADA DEVICES: ALL DEVICES AND FIXTURES NOTED AS "ADA" OR "ACCESSIBLE" SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND APPLICABLE CODE.

03. ELECTRICAL DEVICES: SEE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR REQUIRED MOUNTING HEIGHT OF ELECTRICAL DEVICES AND FIXTURES. WHERE CONFLICTS EXIST BETWEEN THESE MOUNTING HEIGHTS AND THE REQUIREMENTS OF THE ELECTRICAL ENGINEER, THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO ROUGH-IN.

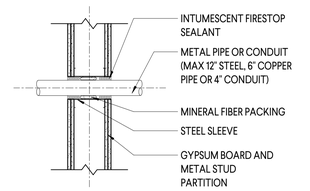
04. MECHANICAL/PLUMBING DEVICES: SEE MECHANICAL AND PLUMBING DRAWINGS AND SPECIFICATIONS FOR REQUIRED MOUNTING HEIGHT OF MECHANICAL AND PLUMBING DEVICES AND FIXTURES. WHERE CONFLICTS EXIST BETWEEN THESE MOUNTING HEIGHTS AND THE REQUIREMENTS OF THE MECHANICAL ENGINEER, THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO ROUGH-IN.



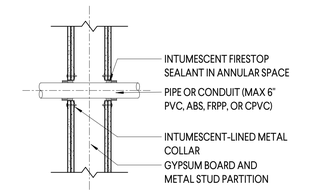
SINGLE OR BUNDLED CABLE THRU GYPSUM BOARD PARTITION	A	W-L-3031
	B	W-L-3065
	C	W-L-3133



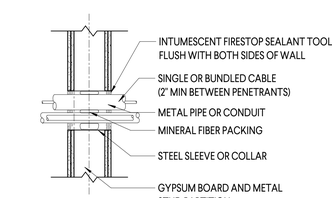
CABLE TRAY THRU GYPSUM PARTITION	A	W-L-4037
	B	W-L-4011
	C	W-L-4008



SINGLE UNINSULATED METAL PIPE THRU GYPSUM BOARD PARTITION	A	W-L-1001
	B	W-L-1054
	C	W-L-1088

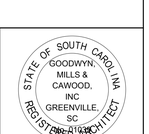


SINGLE NONMETALLIC METAL PIPE THRU GYPSUM BOARD PARTITION	A	W-L-2073
	B	W-L-2078
	C	W-L-2029



MULTIPLE PENETRATIONS THRU GYPSUM BOARD PARTITION	A	W-L-8010
	B	W-L-8079
	C	W-L-8026

FIRESTOPPING - THRU DETAILS



GOODWYN | MILLS | CAWOOD

ISSUE | DATE
5TH FLOOR | 04/26/19

drawn by: MWW
checked by: MWW

UNIVERSITY OF SOUTH CAROLINA
1244 BLOSSOM, COLUMBIA, SC
5TH FLOOR INTERIOR RENOVATION

GMC # ACOL170002

GENERAL INFORMATION

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GENERAL DEMOLITION NOTES

A. EXISTING CONDITIONS ILLUSTRATED AS OF FEBRUARY 2017. AFTER SURVEY AND PRIOR TO CONSTRUCTION, OWNER MAY REMOVE SOME ITEMS, SUCH AS FURNITURE, NOTED TO BE REMOVED AS A PART OF THIS CONTRACT. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS WITH EXISTING CONDITIONS FOR SIZES, QUANTITIES, AND LOCATIONS.

B. CONTRACTOR RESPONSIBLE FOR KNOWING AND COMPLYING WITH REGULATION REQUIREMENTS, INCLUDING BUT NOT LIMITED TO FEDERAL, STATE, AND LOCAL REQUIREMENTS, PERTAINING TO LEGAL DISPOSAL OF ALL CONSTRUCTION AND DEMOLITION WASTE MATERIALS.

C. PROVIDE A SAFE AVENUE FOR PASSAGE OF PERSONS AROUND AREA OF DEMOLITION. ERECT TEMPORARY PROTECTIVE, BARRIERS AND/OR COVERED WALKWAYS FOR PASSAGE OF INDIVIDUALS THROUGH OR ADJACENT TO WORK AREAS. COMPLY WITH REGULATIONS OF AUTHORITIES HAVING JURISDICTION. CONSTRUCT PARTITIONS USING SCAFFOLD OR SHORING FRAMING AND PLYWOOD. AT AREAS OF WORK, PROVIDE PLYWOOD, STUD WALL, 10 MIL POLY AND INSULATION TO PROTECT ADJACENT AREAS AND EQUIPMENT FROM DUST, DIRT, DAMAGE, AND NOISE. PROVIDE BARRICADES, WARNING SIGNS, EXIT SIGNS, TEMPORARY LIGHTS, AND SIMILAR PROVISIONS TO MAINTAIN CONTINUOUS UNOBSTRUCTED AND PROTECTED WALKWAY. REMOVE TRASH OR DEBRIS ON A DAILY BASIS.

D. ALL SURFACES DISTURBED BY DEMOLITION AND / OR CONSTRUCTION ACTIVITIES ARE TO BE RESTORED TO MATCH SURROUNDING SURFACES.

E. PROTECT ALL EXISTING PIPING AND INSULATION AND CONDUIT TO REMAIN IN USE. REMOVE ALL ABANDONED CONDUIT AND PIPING ABOVE CEILING.

F. ALL OPENINGS CREATED BY DEMOLITION AND/OR CONSTRUCTION ACTIVITIES (INCLUDING BUT NOT LIMITED TO DOORS, WINDOWS, DUCTS, ELECTRIC PANELS, CONDUIT, PLUMBING FIXTURES, ETC.) ARE TO BE PATCHED WITH MATERIALS THAT MATCH SURROUNDING SURFACES. STEEL STUD WALLS ARE TO BE CLOSED WITH MATCHING STUD THICKNESS AND GAUGE AND MATCHING THICKNESS OF GYPSUM BOARD.

G. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR REMOVAL OF EXISTING ITEMS BEYOND THOSE ILLUSTRATED IN THE ARCHITECTURAL DOCUMENTS. CLOSE OPENINGS PER GENERAL DEMOLITION NOTES LISTED ABOVE.

H. OWNER WILL REMOVE ALL LOOSE FURNITURE FROM RENOVATION AREAS PRIOR TO WORK COMMENCING. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL FLOOR FINISHES, PAINTED WALLS, SURFACES, AND FURNITURE, FIXTURES, AND EQUIPMENT NOT REMOVED BY THE OWNER PRIOR TO DEMOLITION AND NEW WORK.

I. CONTRACTOR IS RESPONSIBLE FOR PROFESSIONAL CLEANING, REPAINTING AND/OR REPAIR OF ANY SURFACES OR ITEMS SOILED OR DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITY.

J. IN AREAS WHERE NEW WALL BASE IS SCHEDULED, REMOVE ALL EXISTING WALL BASE AND MASTIC IN ITS ENTIRETY AND PREPARE WALL TO RECEIVE NEW BASE.

K. IN AREAS WHERE FINISHES ARE REMOVED AND/OR NEW FINISHES ARE SCHEDULED, REMOVE ALL EXISTING FLOORING TRANSITION PIECES. SEE FINISH DRAWINGS FOR NEW FLOORING TRANSITION STRIPS.

L. WHERE NECESSARY FOR WORK TO OCCUR, REMOVE EXISTING TACK BOARDS, TACK STRIPS, MARKER BOARDS, PROJECTORS, SCREENS, ROOM SIGNS AND DISPLAY ELEMENTS IN THEIR ENTIRETY, INCLUDING ALL ASSOCIATED FASTENERS AND MASTIC IN AREAS OF WORK AND TURN OVER TO OWNER. PATCH EXISTING SURFACES SMOOTH AND FLUSH TO MATCH EXISTING AND PREPARE AS REQUIRED TO RECEIVE NEW FINISHES AS SCHEDULED AND REINSTALL SIGNS.

M. WHERE POSSIBLE SALVAGE ANY AND ALL WINDOWS, DOORS AND DOOR HARDWARE NOTED TO BE REMOVED FOR RESUSE ON THE PROJECT. UNUSED ITEMS ARE TO BE TURNED OVER TO THE OWNER.

N. UNLESS INDICATED OTHERWISE, EXISTING CEILING GRID SYSTEMS ARE TO REMAIN, INCLUDING ALL ASSOCIATED SUPPORTS, AND EXTENDED OR RECONFIGURED. PROVIDE NEW CEILING TILE IN ALL RENOVATION AREAS UNLESS NOTE OTHERWISE.

O. ALL EXIT SIGNS SHALL BE PROTECTED DURING CONSTRUCTION. SEE ELECTRICAL DRAWINGS FOR RELOCATED AND NEW EXIT SIGNS.

P. ALL SMOKE DETECTORS AND FIRE ALARM DEVICES SHALL BE PROTECTED AND REINSTALLED IN NEW CEILING AT SIMILAR LOCATIONS UNLESS NOTED OTHERWISE. SEE ELECTRICAL.

Q. ALL EXISTING CEILING MOUNTED CAMERAS, SPEAKERS, AND WIRELESS ACCESS POINTS WILL BE REMOVED BY USC UTS DEPARTMENT PRIOR TO DEMOLITION ULESS ANTICIPATED TO REMAIN. PROTECT REMAINING DEVICES INCLUDING ASSOCIATED CABLING DURING DEMOLITION AND RENOVATION.

DEMOLITION PLAN KEYNOTES

- D1 REMOVE EXISTING DRYWALL PARTITION FROM FLOOR TO CEILING / ABOVE CEILING
- D2 REMOVE PORTION OF DRYWALL PARTITION TO OPEN UP THE WALL TO RECEIVE A NEW DOOR OR WINDOW.
- D3 REMOVE EXISTING DRYWALL AND FRAMING IN FRONT OF EXISTING EXTERIOR STORE FRONT WINDOW SYSTEM - REMOVE FINISH FROM GALSS AND COVER SCREW HOLES
- D4 REMOVE EXISTING DOOR AND FRAME, SALVAGE AND REUSE AS APPLICABLE.
- D5 REMOVE EXISTING WINDOW FRAME AND GLAZING. SALVAGE AND REUSE AS APPLICABLE.
- D6 REMOVE EXISTING FLOORING AND BASE THIS ROOM.
- D7 REMOVE EXISTING CASEWORK. PATCH WALL TO LIKE NEW CONDITION AND REFINISH.
- D8 REMOVE EXISTING OPERABLE PARTITON COMPLETE WITH SUPPORT TRACK AND FRAMING ABOVE CEILING
- F1 EXISTING FLOORING AND BASE TO REMAIN – PROTECT DURING CONSTRUCTION - PATCH AS NECESSARY DUE TO SOILED OR STAINED TILES
- F2 PATCH EXISTING FLOORING AND BASE TO REMAIN, USE SALVAGED MATERIAL – PROTECT DURING CONSTRUCTION
- W1 REMOVE EXISTING RECEPTACLE AND/OR WALL SWITCH AND RELOCATE

GENERAL FLOOR PLAN NOTES

A. **COMPLETE CONTRACT DOCUMENTS:** THE COMPLETE DRAWINGS, SPECIFICATIONS, ADDENDA, AND CLARIFICATIONS ISSUED BY FIELD ORDER OF SIMILAR INSTRUMENTS CONSTITUTE THE CONTRACT DOCUMENTS AND SHALL REMAIN INTACT. THE GENERAL CONTRACTOR IS FULLY RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS INCLUDED, OR REASONABLE INFERRED THEREIN. THE CONSTRUCTION MANAGER OR GENERAL CONTRACTOR (AS APPLICABLE) MUST NOT ISSUE PARTIAL SETS OR OTHERWISE CAUSE INCOMPLETE CONTRACT INFORMATION TO BE PROVIDED TO PARTIES TO THE CONTRACT, INCLUDING ASSOCIATED SUB-CONTRACTORS, OR SUB-SUB-CONTRACTORS.

B. **MULTI-TRADE COORDINATION:** ALL WORK SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES TO AVOID INTERFERENCES AND CONFLICTS. SUB-CONTRACTORS SHALL WORK TOGETHER IN THE REVIEW OF WORK AND COORDINATION OF SYSTEMS IN PLENUM AREAS, AND OTHER LOCATIONS WHERE CAREFUL COORDINATION IS NECESSARY TO ERECT THE WORK IN LIMITED SPACES.

C. **VERIFICATION:** THE GENERAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, CONSTRUCTION, MATERIALS, METHODS OF CONSTRUCTION, GRADES AND ELEVATIONS; AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS WITHIN THE DOCUMENTS PRIOR TO BID, CONSTRUCTION, AND/OR INSTALLATION OF ASSOCIATED WORK. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE THAT THE EXISTING CONDITIONS ARE CONSISTENT WITH THOSE OF THE CONTRACT DOCUMENTS. ANY CHANGE ORDER REQUEST ASSOCIATED WITH AN IDENTIFIABLE EXISTING CONDITION, WHETHER IN CONFLICT OR COMPLIANCE WITH THE CONTRACT DOCUMENTS, WILL NOT BE ACCEPTED. THIS PROVISION SHALL NOT APPLY TO WORK PERFORMED UNDER UNIT PRICE OR ALLOWANCE FEE STRUCTURES.

D. **DISCREPANCIES:** THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT PROMPTLY UPON IDENTIFICATION OF ANY DISCREPANCIES OR CONFLICTS IN THE CONTRACT DOCUMENTS, WITH THE OBJECTIVE OF RESOLVING THE CONFLICT OR DISCREPANCY IN A TIMELY MANNER AND PRIOR TO ANY IMPACT TO THE CONTRACT TIME OR PRICE. THE GENERAL CONTRACTOR SHALL INCLUDE THE MORE EXPENSIVE, COMPLEX, AND TIME CONSUMING COMPONENTS OF ANY DISCREPANCIES IN THE BASE BID PRICE. FAILURE TO NOTIFY THE ARCHITECT PROMPTLY OF A KNOWN DISCREPANCY CONSTITUTES ACCEPTANCE OF FULL RESPONSIBILITY FOR THE ASSOCIATED COST AND SCHEDULE IMPACT.

E. **OWNER FURNISHED EQUIPMENT:** LOOSE FURNISHINGS, WORKSTATIONS, OFFICE EQUIPMENT, COPIERS, VENDING MACHINES, KITCHEN EQUIPMENT, AND SIMILAR ITEMS THAT ARE BOTH LABELED "OWNER FURNISHED" OR "OF/OI", AND SHOWN DASHED OR IN GRAY-TONE SHALL BE CONSIDERED OWNER FURNISHED EQUIPMENT. OWNER FURNISHED EQUIPMENT IS SHOWN FOR THE GENERAL CONTRACTOR'S KNOWLEDGE AND UNDERSTANDING TO FACILITATE COORDINATION WITH THE OWNER'S WORK. THE GENERAL CONTRACTOR SHALL CAREFULLY REVIEW THE SCOPE OF WORK, AND REQUEST CLARIFICATION FROM THE ARCHITECT IN THE EVENT OF ANY UNCERTAINTY ABOUT THE DEFINITION OF OWNER FURNISHED WORK.

F. **PARTITION DESIGNATION:** EXISTING PARTITIONS SCHEDULED TO BE REMOVED ARE ILLUSTRATED AS DASHED LINES ON THE PLANS LABELED "DEMOLITION PLANS)". EXISTING PARTITIONS TO REMAIN ARE ILLUSTRATED IN GRAY-TONE (SCREENED). NEW WORK IS ILLUSTRATED IN BLACK-LINE.

G. **CODE COMPLIANCE:** THE WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH ALL APPLICABLE LAWS, CODES, AND ORDINANCE. GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS SHALL CAREFULLY READ AND FAMILIARIZE THEMSELVES WITH THE CODE COMPLIANCE DATA INCLUDED IN THE DRAWINGS AND SPECIFICATIONS.

H. **NON-COMBUSTIBLE CONSTRUCTION TYPES:** THE PROPOSED BUILDING STRUCTURE IS NON-COMBUSTIBLE IN ACCORDANCE WITH APPLICABLE CODES, AND THEREFORE REQUIRES NON-COMBUSTIBLE CONSTRUCTION TECHNIQUES. ALL NEW CONSTRUCTION SHALL BE IN COMPLIANCE WITH APPLICABLE REQUIREMENTS, INCLUDING WOOD BLOCKING, FURRING, FRAMING, SHEATHING, BACK-BOARDS, AND RELATED WORK. FIRE RETARDANT TREATED (FRT) IS PERMITTED WHERE ALLOWED BY CODE. SEE CODE COMPLIANCE DRAWINGS FOR DETAILED INFORMATION AND REQUIREMENTS.

I **LIFE-SAFETY MEASURES DURING CONSTRUCTION:** THE GENERAL CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS REQUIRED BY OSHA, CODE, AND OTHER APPLICABLE REGULATORY AUTHORITIES.

J. **MEANS OF EGRESS:** THE GENERAL CONTRACTOR SHALL MAINTAIN CLEAR AND UNOBSTRUCTED MEANS OF EGRESS AT ALL TIMES DURING CONSTRUCTION, WITHOUT EXCEPTION.

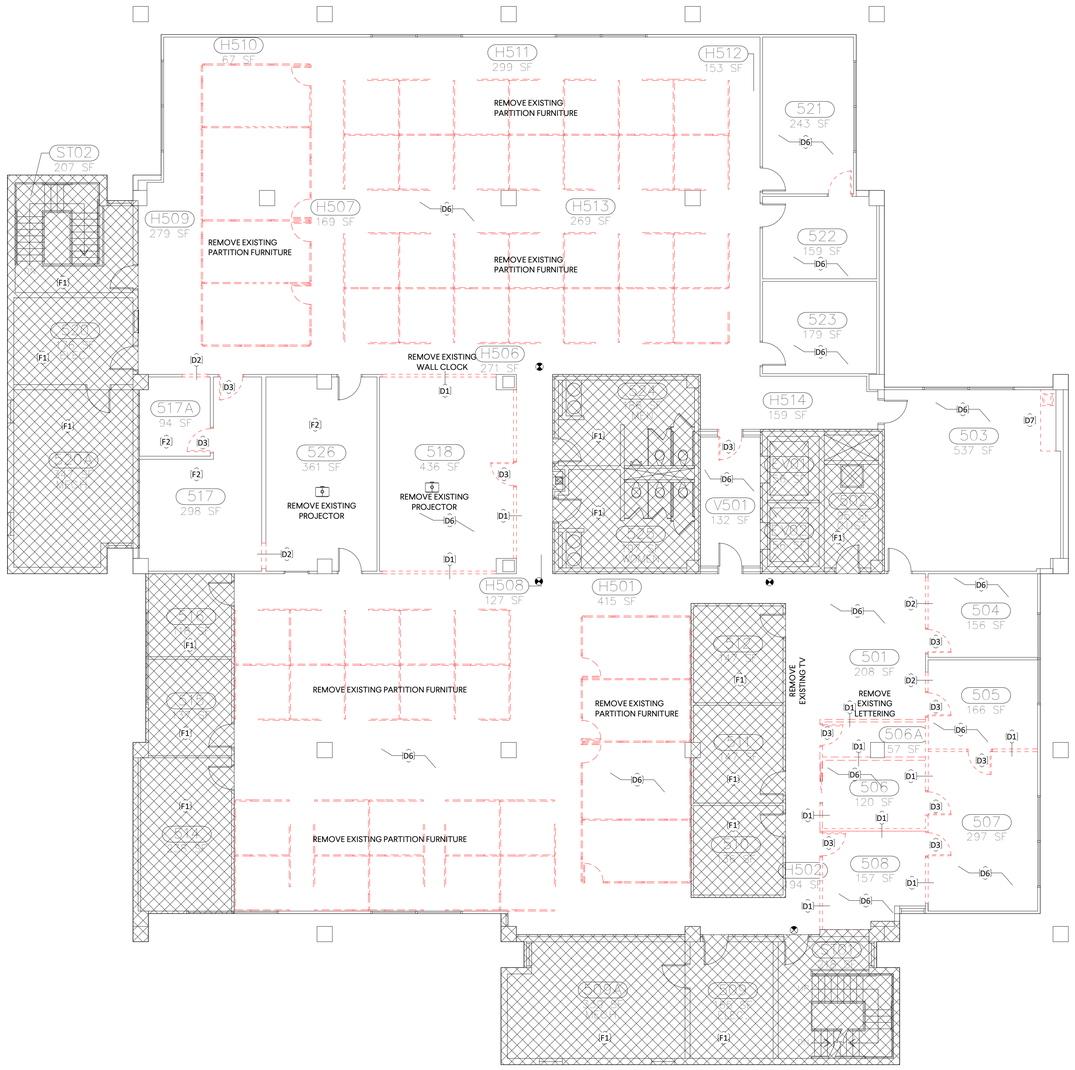
K. **GENERAL CLEAN-UP:** THE GENERAL CONTRACTOR SHALL INCLUDE ONGOING CLEAN-UP OF THE PROPERTY AND BUILDING, INCLUDING REMOVAL OF TRASH AND WASTE MATERIALS, ON A REGULAR BASIS DURING CONSTRUCTION. RECYCLING OF CONSTRUCTION WASTE IS ENCOURAGED.

L. **PROTECTION:** EXISTING OCCUPIED AREAS, AND WORK TO REMAIN AFTER CONSTRUCTION, SHALL BE PROTECTED DURING CONSTRUCTION ACTIVITIES. PROTECTION SHALL ENCOMPASS CONSTRUCTION OF TEMPORARY BARRIERS, MAINTENANCE OF EXISTING MECHANICAL, FIRE PROTECTION, AND ELECTRICAL SYSTEMS, AND PHYSICAL PROTECTION OF WORK TO REMAIN THAT IS SUBJECT TO DAMAGE FROM CONSTRUCTION ACTIVITIES. THE GENERAL CONTRACTOR SHALL REPAIR OR REPLACE EXISTING WORK SCHEDULED TO REMAIN, THAT IS DAMAGED DURING CONSTRUCTION DUE TO INSUFFICIENT PROTECTION.

FLOOR PLAN KEYNOTES AND FINISH NOTES

- F1 EXISTING CARPET TO REMAIN - REPLACE SOILED, STAINED OR DAMAGED FLOOR TILES WITH SALVAVAGED MATERIAL - PROTECT DURING RENOVATION
- F2 NEW CARPET AND BASE THROUGHOUT - LVT IN ROOMS INDICATED

1. AT ALL WORK AREAS, PATCH AND REPAIR ANY AND ALL DAMAGE TO EXISTING WALLS PRIOR TO STARTING FINAL PAINTING. PAINT NEW AND EXISTING WALLS UP TO TRANSITIONS BETWEEN EXISTING WORK AND NEW WORK. STOP AT INSIDE OR OUTSIDE CORNER. DO NOT STOP PAINTING AT ANYPOINT ALONG A WALL.
2. SEAL ALL PENETRATIONS ABOVE CEILING WHERE EXISTING AND/OR NEW WALLS EXTEND UP TO THE DECK OR STRUCTURE ABOVE.
3. **WALL LAYOUT:** CONTRACTOR SHALL REVIEW ALL WALL LOCATIONS PRIOR TO INSTALLATION. LINE UP NEW WALLS WITH EXISTING WALLS AND EXTERIOR WINDOW MULLIONS WHERE POSSIBLE.



5th FLOOR - DEMOLITION FLOOR PLAN

5th FLOOR - RENOVATION FLOOR PLAN

STATE OF SOUTH CAROLINA — MARC W. WARREN, COLUMBIA, SC 6088 — REGISTERED ARCHITECT — 4/16/19

STATE OF SOUTH CAROLINA — GOODWYN, MILLS & CAWOOD, INC GREENVILLE, SC — REGISTERED ARCHITECT

GOODWYN | MILLS | CAWOOD

ISSUE	DATE
5TH FLOOR	04/26/19

drawn by: MWW
checked by: MWW

UNIVERSITY OF SOUTH CAROLINA
1244 BLOSSOM, COLUMBIA, SC
5TH FLOOR INTERIOR RENOVATION

GMC # ACOL170002

LEVEL 5 FLOOR PLAN

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GENERAL CEILING DEMOLITION NOTES

A. EXISTING CONDITIONS ILLUSTRATED AS OF FEBRUARY 2017. AFTER SURVEY AND PRIOR TO CONSTRUCTION, OWNER MAY REMOVE SOME ITEMS, SUCH AS FURNITURE, NOTED TO BE REMOVED AS A PART OF THIS CONTRACT. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS CEILING HEIGHTS WITH EXISTING CONDITIONS.

B. CONTRACTOR RESPONSIBLE FOR KNOWING AND COMPLYING WITH REGULATION REQUIREMENTS, INCLUDING BUT NOT LIMITED TO FEDERAL, STATE, AND LOCAL REQUIREMENTS, PERTAINING TO LEGAL DISPOSAL OF ALL CONSTRUCTION AND DEMOLITION WASTE MATERIALS.

C. IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED BY F&ME FOR THE USC STUDENT HEALTH CENTER, THE TEST RESULTS FOR THE HEALTH CENTER AND THOMAS COOPER LIBRARY APPROXIMATELY 1 BLOCK NORTH EAST OF 1244 BLOSSOM STREET WAS CLASSIFIED AS A SEISMIC SITE CLASSIFICATION "C". FOR THE PURPOSES OF THE RENOVATIONS AT 1244 BLOSSOM STREET, A SITE CLASSIFICATION OF A "C" IS ASSUMED. ALL EXISTING AND NEW CEILINGS SYSTEMS WITHIN THE WORK AREA ARE TO BE INSTALLED TO COMPLY A SITE CLASS "C" FOR NEW CONSTRUCTION. PROVIDE SUPPORTS FOR NEW AND EXISTING LIGHTS AND CEILING MOUNTED COMPONENTS IN COMPLIANCE AS WELL.

D. UNLESS INDICATED OTHERWISE, EXISTING CEILING GRID SYSTEMS ARE TO REMAIN, INCLUDING ALL ASSOCIATED SUPPORTS, AND EXTENDED OR RECONFIGURED. PROVIDE NEW CEILING TILE IN ALL RENOVATION AREAS UNLESS NOTE OTHERWISE.ALL EXISTING CEILING GRID MEMBERS THAT ARE NOTED TO REMAIN SHALL RECEIVE SNAP OF GRID COVERS, "GRID MAX;, BY ACOUSTIC CEILING PRODUCTS (ACP). PROVIDE GRID COVERS FOR MAINS, CROSS TEES AND WALL MOLDING IN THE SIZE AND LENGTH NECESSARY AND COMPATIBALE WITH THE EXISTING CEILING GRID SYSTEM.

E. PROTECT ALL EXISTING PIPING AND INSULATION AND CONDUIT TO REMAIN IN USE. REMOVE ALL ABANDONED CONDUIT AND PIPING ABOVE CEILING.

F. REMOVE ALL MISCELLANEOUS WOOD BLOCKING AND WOOD PRODUCTS FROM ABOVE CEILING. IF WOOD PRODUCTS ARE USED TO SUPPORT EXISTING COMPONENTS, REMOVE WOOD AND RESUPPORT WITH NON COMBUSTIBLE CONSTRUCTION.

G. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR REMOVAL OF EXISTING ITEMS BEYOND THOSE ILLUSTRATED IN THE ARCHITECTURAL DOCUMENTS. CLOSE OPENINGS PER GENERAL DEMOLITION NOTES LISTED ABOVE.

H. ALL EXISTING CEILING MOUNTED CAMERAS, SPEAKERS, AND WIRELESS ACCESS POINTS WILL BE REMOVED BY USC UTS DEPARTMENT PRIOR TO DEMOLITION ULESS ANTICIPATED TO REMAIN. PROTECT REMAINING DEVICES INCLUDING ASSOCIATED CABLING DURING DEMOLITION AND RENOVATION.

I. CONTRACTOR IS RESPONSIBLE FOR PROFESSIONAL CLEANING AND REPAIR OF ANY SURFACES OR ITEMS SOILED OR DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITY.

J. WHERE POSSIBLE SALVAGE ANY AND ALL LIGHTS, EXIT SIGNS, CEILING MOUNTED AV EQUIPMENT, PROJECTORS, SPEAKERS, ETC. NOTED TO BE REMOVED FOR RESUSE ON THE PROJECT. UNUSED ITEMS ARE TO BE TURNED OVER TO THE OWNER.

K. ALL EXIT SIGNS SHALL BE PROTECTED DURING CONSTRUCTION. SEE ELECTRICAL DRAWINGS FOR RELOCATED AND NEW EXIT SIGNS.

P. ALL SMOKE DETECTORS AND FIRE ALARM DEVICES SHALL BE PROTECTED AND REINSTALLED IN NEW CEILING AT SIMILAR LOCATIONS UNLESS NOTED OTHERWISE. SEE ELECTRICAL.

DEMOLITION RCP KEYNOTES / LEGEND

- EC — EXISTING CEILING - NO SCOPE OF WORK PLANNED
- D1 — REMOVE EXISTING CEILING GRID AND TILE COMPLETELY AT AREA INDICATED - INCLUDING ALL DEVICES LOCATED WITHIN THE EXISTING GRID
- D2 — EXISTING CEILING GRID TO REMAIN - REMOVE ALL CEILING TILE COMPLETELY - INCLUDING DEVICES AS NECESSARY
- D3 — REMOVE EXISTING CAN LIGHTS
- D4 — REMOVE EXISTING CEILING FAN
- D5 — REMOVE EXISTING CEILING SPEAKERS
- D6 — REMOVE EXISTING CEILING MOUNTED AV EQUIPMENT INCLUDING PROJECTOR AND SCREEN
- D7 — DUE TO EXTENT OF MECHANICAL WORK ABOVE CEILING, CONTRACTOR OPTION TO EITHER REMOVE OR LEAVE THE EXISTING GRID TO PERFORM WORK.
- REMOVE EXISTING LIGHT - SALVAGE AND TURN OVER TO THE OWNER
- REMOVE EXISTING RETURN AIR GRILLE - REFER TO MECHANICAL DRAWINGS
- REMOVE EXISTING SUPPLY AIR GRILLE AND RUNOUT - REFER TO MECHANICAL DRAWINGS

GENERAL CEILING PLAN NOTES

A. **COMPLETE CONTRACT DOCUMENTS:** THE COMPLETE DRAWINGS, SPECIFICATIONS, ADDENDA, AND LARIFICATIONS ISSUED BY FIELD ORDER OF SIMILAR INSTRUMENTS CONSTITUTE THE CONTRACT DOCUMENTS AND SHALL REMAIN INTACT. THE GENERAL CONTRACTOR IS FULLY RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS INCLUDED, OR REASONABLE INFERRED THEREIN. THE CONSTRUCTION MANAGER OR GENERAL CONTRACTOR (AS APPLICABLE) MUST NOT ISSUE PARTIAL SETS OR OTHERWISE CAUSE INCOMPLETE CONTRACT INFORMATION TO BE PROVIDED TO PARTIES TO THE CONTRACT, INCLUDING ASSOCIATED SUB-CONTRACTORS, OR SUB-SUB-CONTRACTORS.

B. **MULTI-TRADE COORDINATION:** ALL WORK SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES TO AVOID INTERFERENCES AND CONFLICTS. SUB-CONTRACTORS SHALL WORK TOGETHER IN THE REVIEW OF WORK AND COORDINATION OF SYSTEMS IN PLENUM AREAS, AND OTHER LOCATIONS WHERE CAREFUL COORDINATION IS NECESSARY TO ERECT THE WORK IN LIMITED SPACES.

C. **VERIFICATION:** THE GENERAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, CONSTRUCTION, MATERIALS, METHODS OF CONSTRUCTION, GRADES AND ELEVATIONS; AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS WITHIN THE DOCUMENTS PRIOR TO BID, CONSTRUCTION, AND/OR INSTALLATION OF ASSOCIATED WORK. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE THAT THE EXISTING CONDITIONS ARE CONSISTENT WITH THOSE OF THE CONTRACT DOCUMENTS. ANY CHANGE ORDER REQUEST ASSOCIATED WITH AN IDENTIFIABLE EXISTING CONDITION, WHETHER IN CONFLICT OR COMPLIANCE WITH THE CONTRACT DOCUMENTS, WILL NOT BE ACCEPTED. THIS PROVISION SHALL NOT APPLY TO WORK PERFORMED UNDER UNIT PRICE OR ALLOWANCE FEE STRUCTURES.

D. **DISCREPANCIES:** THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT PROMPTLY UPON IDENTIFICATION OF ANY DISCREPANCIES OR CONFLICTS IN THE CONTRACT DOCUMENTS, WITH THE OBJECTIVE OF RESOLVING THE CONFLICT OR DISCREPANCY IN A TIMELY MANNER AND PRIOR TO ANY IMPACT TO THE CONTRACT TIME OR PRICE. THE GENERAL CONTRACTOR SHALL INCLUDE THE MORE EXPENSIVE, COMPLEX, AND TIME CONSUMING COMPONENTS OF ANY DISCREPANCIES IN THE BASE BID PRICE. FAILURE TO NOTIFY THE ARCHITECT PROMPTLY OF A KNOWN DISCREPANCY CONSTITUTES ACCEPTANCE OF FULL RESPONSIBILITY FOR THE ASSOCIATED COST AND SCHEDULE IMPACT.

E. **OWNER FURNISHED EQUIPMENT:** LOOSE FURNISHINGS, WORKSTATIONS, OFFICE EQUIPMENT, COPIERS, VENDING MACHINES, KITCHEN EQUIPMENT, AND SIMILAR ITEMS THAT ARE BOTH LABELED "OWNER FURNISHED" OR "OFI/OI", AND SHOWN DASHED OR IN GRAY-TONE SHALL BE CONSIDERED OWNER FURNISHED EQUIPMENT. OWNER FURNISHED EQUIPMENT IS SHOWN FOR THE GENERAL CONTRACTOR'S KNOWLEDGE AND UNDERSTANDING TO FACILITATE COORDINATION WITH THE OWNER'S WORK. THE GENERAL CONTRACTOR SHALL CAREFULLY REVIEW THE SCOPE OF WORK, AND REQUEST CLARIFICATION FROM THE ARCHITECT IN THE EVENT OF ANY UNCERTAINTY ABOUT THE DEFINITION OF OWNER FURNISHED WORK.

F. **CODE COMPLIANCE:** THE WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH ALL APPLICABLE LAWS, CODES, AND ORDINANCE. GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS SHALL CAREFULLY READ AND FAMILIARIZE THEMSELVES WITH THE CODE COMPLIANCE DATA INCLUDED IN THE DRAWINGS AND SPECIFICATIONS.

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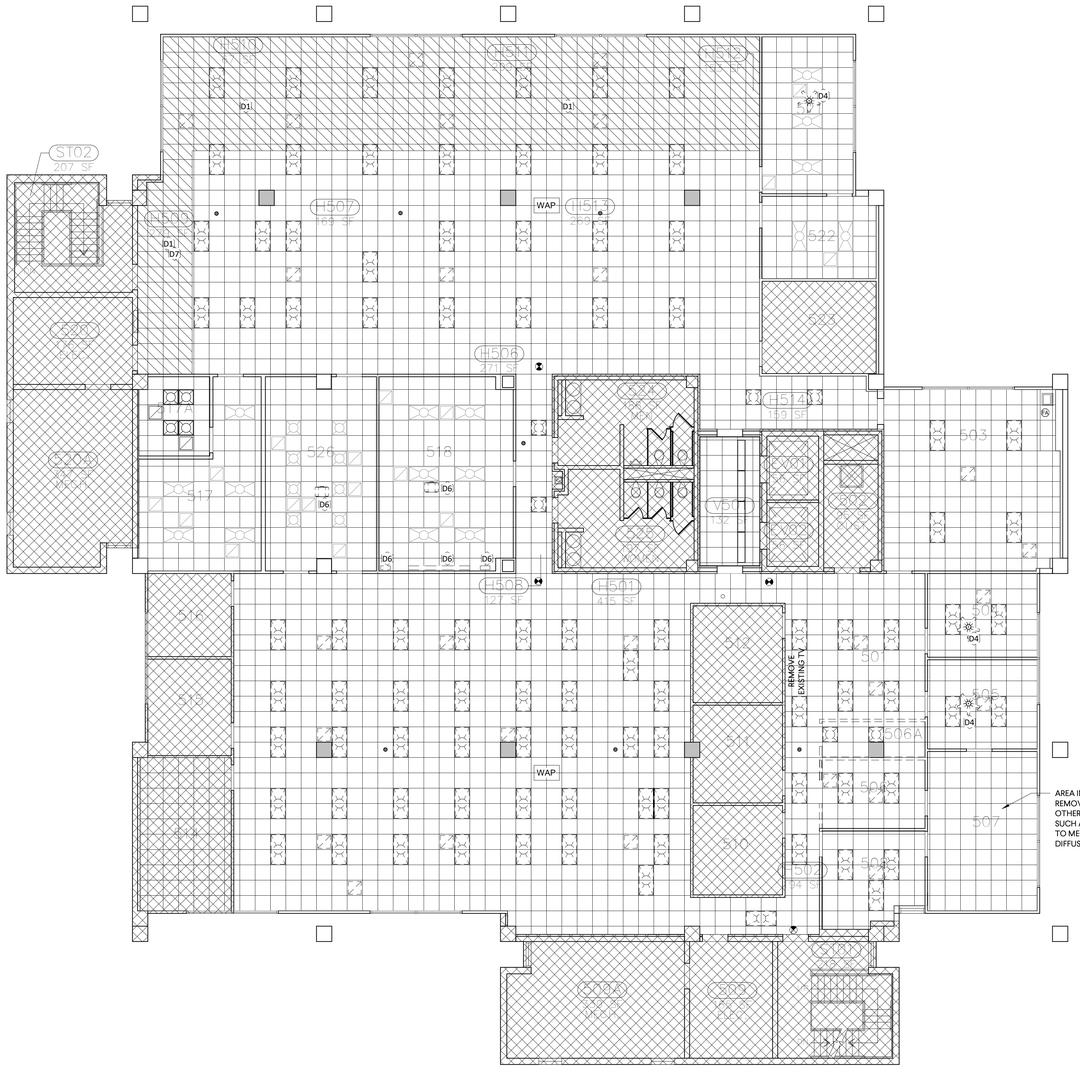
CEILING PLAN KEYNOTES AND FINISH NOTES

- C1 — EXISTING CEILING TO REMAIN - REPLACE SOILED, STAINED OR DAMAGED TILES WITH SALAVAGED MATERIAL - PROTECT DURING RENOVATION
- C2 — NEW CEILING SYSTEM / EXTEND THE EXISTING CEILING
- EXISTING FIXTURE TO REMAIN - RELAMP AND CLEAN
- REINSTALL SALVAGED LIGHT FIXTURE - RELAMP AND CLEAN
- NEW LIGHT FIXTURE - REFER TO ELECTRICAL DRAWINGS
- EXISTING SUPPLY AND RETURN AIR GRILLE TO REMAIN - CLEAN
- NEW SUPPLY AND RETURN AIR GRILL - REFER TO MECHANICAL DRAWINGS

1. INTERIOR CEILING HEIGHTS ARE TO MATCH THE EXISTING HEIGHT UNLESS NOTED OTHERWISE.
2. REFER TO CONSTRUCTION FLOOR PLANS FOR REQUIRED COMPOSITION OF WALL CONSTRUCTION.
3. LOCATION OF LIGHTS, DIFFUSERS, AND RETURN AIR GRILLES TO BE COORDINATED BETWEEN REFLECTED CEILING PLANS, LIGHTING PLANS, AND HVAC PLANS AND FINAL LOCATION TO BE APPROVED BY ARCHITECT.
4. ALL BULKHEADS TO BE 2' BELOW ADJACENT ACT CEILING UNLESS NOTED OTHERWISE
5. SEE SPECIFICATIONS FOR ADDITIONAL CEILING FINISH INFORMATION AND REQUIREMENTS. NOTIFY ARCHITECT WITH ANY DISCREPANCIES BETWEEN SPECIFICATION AND DRAWINGS.



5TH FLOOR DOOR SCHEDULE

Door Number	Door Elev	Door Width	Door Height	Door Thk	Door Mat'l	Door Finish	Frame Elev	Frame Mat'l	Frame Finish	Fire Rating	Hardware Head	Hardware Jamb	Hardware Sill	Hardware Set	Comments
504	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F1	ALUM	PREFIN	-	H2	J2	S2	1A	
505	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F2	ALUM	PREFIN	-	H2	J2	S2	1A	
506	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F2	ALUM	PREFIN	-	H2	J2	S2	1A	
507	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F2	ALUM	PREFIN	-	H2	J2	S2	1A	
513	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F5	ALUM	PREFIN	-	H2	J2	S2	1A	
513A	WD-2	3' - 0"	7' - 0"	1 3/4"	WOOD	STN	F1	HOLLOW METAL	PREFIN	-	H1	J1	S1	1	SALVAGE AND RE-USE EXISTING DOOR AND FRAME - PROVIDE NEW LEVER TYPE HARDWARE
515	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F2	ALUM	PREFIN	-	H2	J2	S2	1A	
516	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F1	ALUM	PREFIN	-	H2	J2	S2	1A	
517	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F1	ALUM	PREFIN	-	H2	J2	S2	1A	
521A	WD-1	3' - 0"	7' - 0"	1 3/4"	WOOD	STN	F1	HOLLOW METAL	PREFIN	-	H1	J1	S1	2	SALVAGE AND RE-USE EXISTING DOOR AND FRAME - PROVIDE NEW LEVER TYPE HARDWARE AND CLOSER
522	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F2	ALUM	PREFIN	-	H2	J2	S2	1A	
522A	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F2	ALUM	PREFIN	-	H2	J2	S2	1A	
524	WD-1	3' - 0"	7' - 0"	1 3/4"	WOOD	STN	F1	HOLLOW METAL	PREFIN	-	H1	J1	S1	1	SALVAGE AND RE-USE EXISTING DOOR AND FRAME - PROVIDE NEW LEVER TYPE HARDWARE
526	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F2	ALUM	PREFIN	-	H2	J2	S2	1A	
527	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F2	ALUM	PREFIN	-	H2	J2	S2	1A	
528	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F1	ALUM	PREFIN	-	H2	J2	S2	1A	
529	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F2	ALUM	PREFIN	-	H2	J2	S2	1A	
530	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F1	ALUM	PREFIN	-	H2	J2	S2	1A	
531	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F1	ALUM	PREFIN	-	H2	J2	S2	1A	
532	AL-1	3' - 0"	7' - 0"	1 3/4"	ALUM	PREFIN	5F1	ALUM	PREFIN	-	H2	J2	S2	1A	
V501	WD-2	3' - 0"	7' - 0"	1 3/4"	WOOD	STN	F1	HOLLOW METAL	PREFIN	MATCH EXISTING RATING	H1	J1	S1	2	SALVAGE AND RE-USE EXISTING FRAME - PROVIDE NEW GLASS LITE KIT - PROVIDE NEW LEVER TYPE HARDWARE AND CLOSER

DOOR HARDWARE LEGEND

1) OFFICE SET

1A) OFFICE SET - NEW INTERIOR ALUMINUM FRAMING SYSTEM

2) STORAGE ROOM SET

3) CLASSROOM FUNCTION SET

4) ELECTRIC STRIKE, LEVER SET - CARD READER

NOTES:

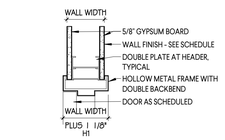
1. FOR EACH NEW DOOR AND FRAME, PROVIDE 3 HINGES SILENCERS AND DOOR STOPS. CLOSERS ARE NOT REQUIRED UNLESS NOTED IN THE COMMENTS.
2. CHANGE EXISTING KNOB TYPE HARDWARE TO LEVER SET AT ALL EXISTING CONDITIONS.
3. PROVIDE KEYING TO MATCH UNIVERSITY STANDARD AT THE DIRECTION OF THE USERS.

GLASS TYPE LEGEND

C	CLEAR FLOAT GLASS
T	TEMPERED GLASS
F	FIRE RATED AND TEMPERED GLASS

DOOR HEAD, JAMB, AND SILL TYPE

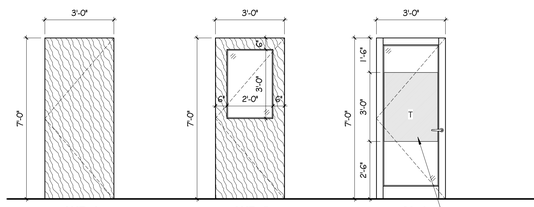
SCALE: 1 1/2" = 1'-0"



STOREFRONT HEAD, JAMB, AND SILL TYPE

DOOR TYPE

SCALE: 3/8" = 1'-0"



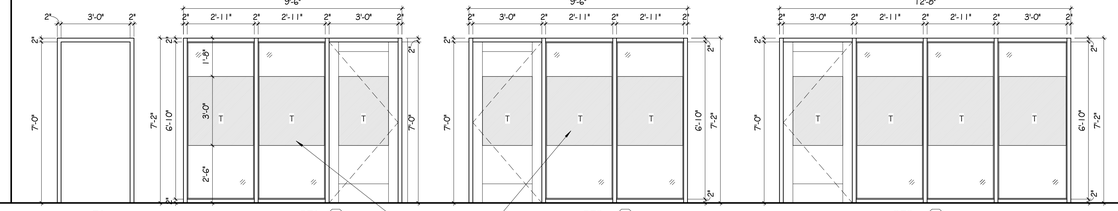
WD-1 — FLUSH SOLID CORE WOOD VENEER DOOR

WD-2 — FLUSH SOLID CORE WOOD VENEER DOOR W/ 24"x36" VISION LITE

AL-1 — ALUMINUM DOOR WITH 5/8" INSULATED GLASS DOOR

FRAME TYPE

SCALE: 3/8" = 1'-0"

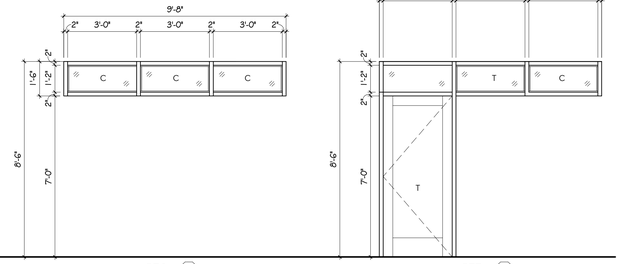


F1 — NEW HOLLOW METAL FRAME

SF1 (5F1) — WILSON 2", 487 SERIES, STOREFRONT SYSTEM

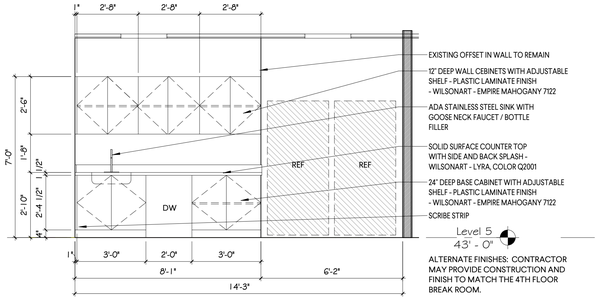
SF2 (5F2) — WILSON 2", 487 SERIES, STOREFRONT SYSTEM

SF3 (5F3) — WILSON 2", 487 SERIES, STOREFRONT SYSTEM

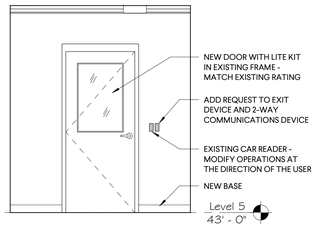


SF4 (5F4) — WILSON 2", 487 SERIES, STOREFRONT SYSTEM

SF5 (5F5) — WILSON 2", 487 SERIES, STOREFRONT SYSTEM



1 5th BREAKROOM ELEVATION
3/8" = 1'-0"



2 LOBBY ELEVATION
3/8" = 1'-0"

FINISH LEGEND

FLOOR NUMBER	FLOOR TYPE	FLOOR DETAIL DESCRIPTION	WALL NUMBER	WALL TYPE	WALL DETAIL DESCRIPTION	BASE NUMBER	BASE TYPE	BASE DETAIL DESCRIPTION	CEILING NUMBER	CEILING TYPE	CEILING DETAIL DESCRIPTION
CPT-01	CARPET	Manufacturer: Mannington Commercial Name: Raffia Style: Tile Color: Pulse 75458 Size: 24"x24" Backing: Infinity Installation: Horiz. Brick Ashlar	P1	MAIN WALL PAINT	Manufacturer: Sherwin-Williams Name: Panda White Style: EggShell Finish Color: SW 6147	B-1	RUBBER BASE	Manufacturer: Johnsonite Name: Thermoplastic Color: Burnt Umber B Size: 4"	GIRD COVER	EXISTING CEILING GRID	Manufacturer: ACOUSTIC CEILING PRODUCTS Name: GRIDMAX Style: 1" FOR 7/8" GRID Color: WHITE TYPE: WALL MOLD, MAIN, AND TEE COVERS
LVT-01	VINYL TILE	Manufacturer: Armstrong Flooring Name: Natural Creations Style: Luxury Vinyl Tile Color: TP776 Aria Gray Beige Size: 18"x18" Underlayment: S1841 Quiet Comfort Installation: Monolithic	P2	ACCENT WALL PAINT	Manufacturer: Sherwin-Williams Name: Fine Wine Style: Semi-Gloss Color: SW 6307	P-3	TRIM PAINT DOOR FRAMES	Manufacturer: Sherwin-Williams Name: Web Gray Style: Semi-Gloss Color: SW 7075	ACT-1	ACOUSTICAL CEILING TILE	Manufacturer: USG Grid Name: RADAR Style: SQUARE EDGE Color: WHITE Size: 2' x 2' x 5/8"

FINISH PLAN NOTES:

1. THE FINISH SCHEDULE KEY NOTES

EXISTING CARPET - PATCH: IN ROOMS OR SPACES THAT ARE BEING RECONFIGURED OR EXPANDED, EXAMINE CARPET AND PATTERN AND RECONFIGURE AND PATCH CARPET TO FILL THE EXISTING ROOM WITH A UNIFORM LOOK. IF NECESSARY, REMOVE ALL CARPET TILES AND REINSTALL FOR CONTINUOUS AND COMPLETE PATTERN. REPLACE ANY DAMAGED OR STAINED TILE IN THE EXISTING ROOM OR SPACE. PROTECT EXISTING CARPET DURING CONSTRUCTION.

EXISTING BASE - PATCH: THE EXISTING BASE IS TO REMAIN IN THE EXISTING ROOM OR SPACES. IN ROOMS OR SPACES THAT ARE BEING RECONFIGURED, PATCH THE EXISTING BASE WITH MATCHING SALVAGED MATERIAL OR NEW MATERIAL OF MATCHING SIZE AND COLOR. WHERE EXISTING BASE IS ON AN EXISTING WALL IN A ROOM OR SPACED CALLED FOR NEW BASE, REMOVE THE EXISTING BASE AND REPLACE WITH NEW BASE, B-1

EXISTING CEILING: IN AREAS NOTED TO HAVE EXISTING CEILING, THE CEILING GRID IS TO REMAIN AS IS. REMOVE THE EXISTING TILES AS NEEDED TO PERFORM THE WORK AND SALAVGE FOR REUSE. DISCARGE DAMAGED, CUT, STAINED, AND OR SOILED TILES. STOCKPILE EXISTING TILES AND REINSTALL. DO NOT MIX NEW AND EXISTING TILES IN THE SAME SPACE. PRIOR TO INSTALLING CEILING TILE, INSTALL SNAP ON GRID COVERS OR RE-PAINT THE EXISTING GRID.

EXTEND EXISTING CEILING GRID: IN ROOMS AND SPACES THAT ARE RECONFIGURED, REMOVE THE EXISTING TILES AND SALAVGE FOR REUSE AND EXTEND THE EXISTING CEILING GRID TO ALIGN WITH THE EXISTING GRID. DISCARGE DAMAGED, CUT, STAINED, AND OR SOILED TILES. STOCKPILE EXISTING TILES AND REINSTALL. DO NOT MIX NEW AND EXISTING TILES IN THE SAME SPACE. PRIOR TO INSTALLING CEILING TILE, INSTALL SNAP ON GRID COVERS OVER BOTH THE EXISTING AND NEW GRID MEMBERS.

TRIM PAINT: IN ALL AREAS, REPAINT EXISTING DOOR FRAMES AND TRIM TO COLOR P-3

ROOM FINISH SCHEDULE 5TH FLOOR

Room Number	Room Name	Flooring: Floor Finish	Flooring: Base Finish	Wall Finish	Ceiling Material	Comments
Level 5						
501	OPEN OFFICE	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	
502	CUST.	EXISTING FLOORING TO REMAIN	EXISTING BASE	P1	EXISTING CEILING	
503	STORAGE	EXISTING CARPET	EXISTING BASE - PATCH	P1	EXISTING CEILING	MATCH EXISTING BASE AT NEW WALL
504	OFFICE	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	
505	OFFICE	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	
506	OFFICE	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	
507	OFFICE	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	
509	ELECT.	EXISTING FLOORING TO REMAIN	EXISTING BASE	-	EXISTING CEILING	
509A	MECH.	EXISTING FLOORING TO REMAIN	EXISTING BASE	-	EXISTING CEILING	
510	OFFICE	EXISTING CARPET TO REMAIN	EXISTING BASE	P1	EXISTING CEILING	
511	OFFICE	EXISTING CARPET TO REMAIN	EXISTING BASE	P1	EXISTING CEILING	
512	OFFICE	EXISTING CARPET TO REMAIN	EXISTING BASE	P1	EXISTING CEILING	
513	CALL CENTER	CPT-01 - NEW CARPET	B-1	P1	EXISTING CEILING	REPLACE EXISTING BASE
514	OPEN OFFICE	CPT-01 - NEW CARPET	B-1	P1	EXISTING CEILING	
515	OFFICE	CPT-01 - NEW CARPET	B-1	P1	EXISTING CEILING	
516	OFFICE	CPT-01 - NEW CARPET	B-1	P1	EXISTING CEILING	
517	OFFICE	CPT-01 - NEW CARPET	B-1	P1	EXISTING CEILING	
518	OFFICE	EXISTING CARPET TO REMAIN	EXISTING BASE	P1	EXISTING CEILING	
519	OFFICE	EXISTING CARPET TO REMAIN	EXISTING BASE	P1	EXISTING CEILING	
520	OFFICE	EXISTING CARPET TO REMAIN	EXISTING BASE	P1	EXISTING CEILING	
521	MAILROOM / WORK ROOM	EXISTING CARPET TO REMAIN - PATCH AS REQUIRED	EXISTING BASE - PATCH	P1	EXISTING CEILING	
521A	STORAGE	EXISTING CARPET TO REMAIN - PATCH AS REQUIRED	EXISTING BASE - PATCH	P1	EXISTING CEILING	
522	TRAINING ROOM	CPT-01 - NEW CARPET	B-1	P1	EXISTING CEILING	REPLACE EXISTING BASE
523	OPEN OFFICE	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	
524	OFFICE	EXISTING CARPET TO REMAIN - PATCH AS REQUIRED	EXISTING BASE - PATCH	P1	EXISTING CEILING	
525	ELECT.	EXISTING FLOORING TO REMAIN	EXISTING BASE	-	EXISTING CEILING	
525A	MECH.	EXISTING FLOORING TO REMAIN	EXISTING BASE	-	EXISTING CEILING	
526	DIRECTOR	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	
527	OFFICE	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	
528	OFFICE	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	
529	OFFICE	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	
530	OFFICE	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	
531	OFFICE	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	
532	OFFICE	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	
533	DIRECTOR	CPT-01 - NEW CARPET	B-1	P1	PATCH AND REPAIR EXISTING CEILING	REPLACE EXISTING BASE
534	MEETING	CPT-01 - NEW CARPET	B-1	P1	EXISTING CEILING	REPLACE EXISTING BASE
535	MEETING	CPT-01 - NEW CARPET	B-1	P1	EXISTING CEILING	REPLACE EXISTING BASE
536	BREAK ROOM	LVT-01	B-1	P1	EXISTING CEILING	
537	MEN	EXISTING FLOORING TO REMAIN	EXISTING BASE	-	EXISTING CEILING	
538	WOMEN	EXISTING FLOORING TO REMAIN	B-1	-	EXISTING CEILING	
V501	LOBBY	CPT-01 - NEW CARPET	B-1	P-1	EXISTING CEILING - REPLACE ALL TILES	PROVIDE P-2 ACCENT WALL OPPOSITE ELEVATORS

STATE OF SOUTH CAROLINA — MARC W. WARREN, COLUMBIA, SC 6088 — REGISTERED ARCHITECT — 4/16/19

STATE OF SOUTH CAROLINA — GOODWYN, MILLS & CAWOOD, INC GREENVILLE, SC — REGISTERED ARCHITECT — 4/16/19

GOODWYN | MILLS | CAWOOD

ISSUE DATE
5TH FLOOR
drawn by: Author
checked by: Checker

UNIVERSITY OF SOUTH CAROLINA
1244 BLOSSOM, COLUMBIA, SC
5TH FLOOR INTERIOR RENOVATION

GMC # ACOL170002

DOOR AND FINISH SCHEDULE, DETAILS AND LEGENDS

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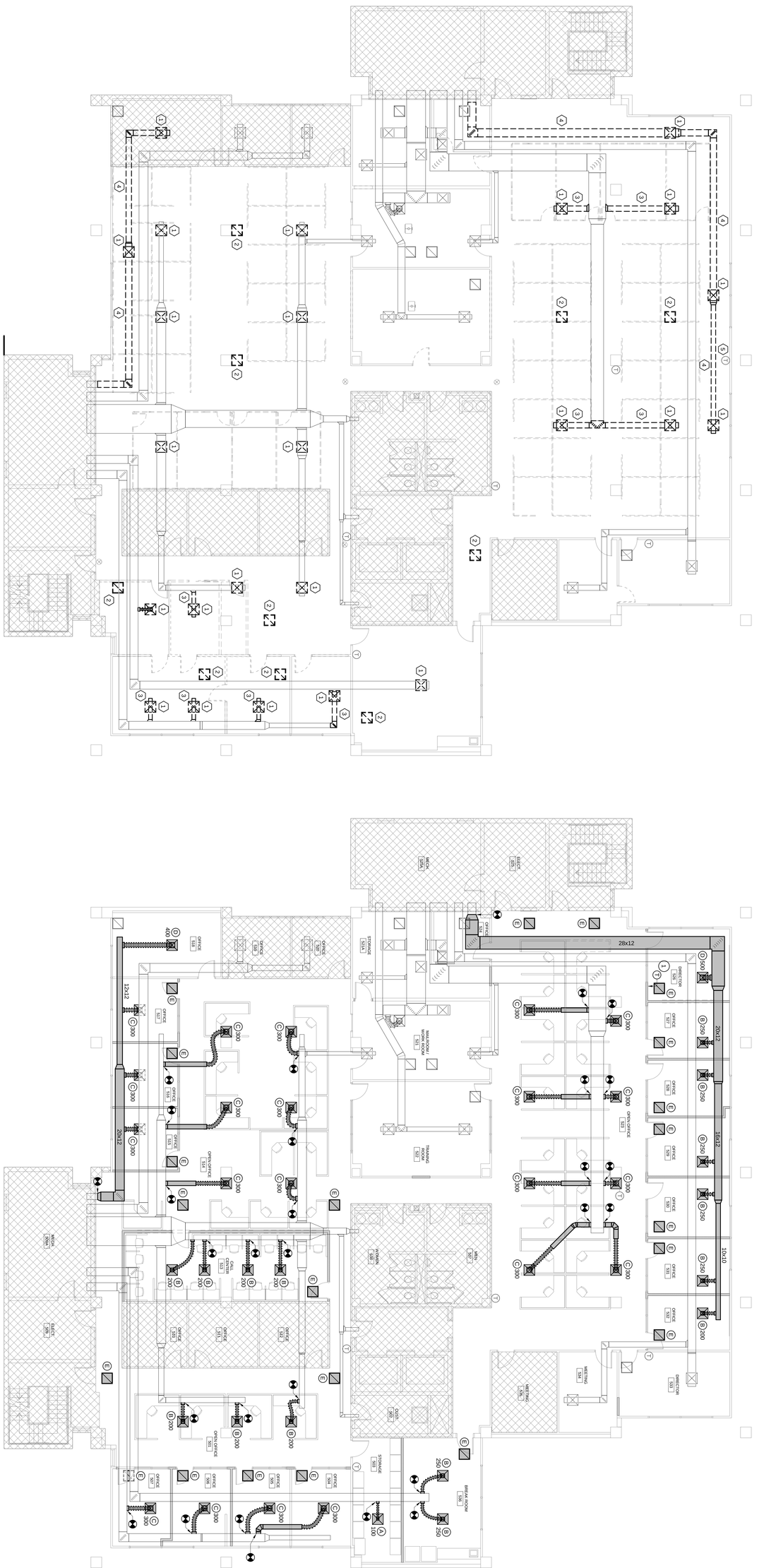

1 5th FLOOR - DEMOLITION PLAN
M1.01 1/8" = 1'-0"

2 5th FLOOR - RENOVATION PLAN
M1.01 1/8" = 1'-0"

DEMOLITION NOTES

1. REMOVE EXISTING CEILING DIFFUSER AND RUNOUT DUCT TO TRUNK LINE. PATCH EXISTING TRUNK DUCT WITH SHEET METAL AND SEAL WITH MASTIC. PATCH INSULATION WITH DUCT WRAP PER SPECIFICATIONS.
2. REMOVE EXISTING RETURN GRILLE.
3. REMOVE EXISTING BRANCH DUCT AS SHOWN.
4. REMOVE EXISTING DUCT AS SHOWN.
5. RELOCATE EXISTING THERMOSTAT AS SHOWN.

NOTES TO SHEET

1. LOCATED EXISTING THERMOSTAT TO THIS LOCATION.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
SWYGERT AND ASSOCIATES LTD
NO. 03027

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
Bradley S. Swygert
No. 17777

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LEVEL FIVE FLOOR PLANS

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UNIVERSITY OF SOUTH CAROLINA
1244 BLOSSOM INTERIOR REN.

1244 BLOSSOM STREET

GMC # ACOL170002

ISSUE	DATE
5TH FLOOR	04/26/19
drawn by:	DEM
checked by:	WCL

GOODWYN | MILLS | CAWOOD

AIR DISTRIBUTION SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL	FRAME	CFM	NECK SIZE	FACE SIZE	MAX NC	REMARKS
A	UNI-FLOW SUPPLY	PRICE	ASPD	LAY-IN	0-125	6"ø	24"x24"	30	1, 2
B	UNI-FLOW SUPPLY	PRICE	ASPD	LAY-IN	126-250	8"ø	24"x24"	30	1, 2
C	UNI-FLOW SUPPLY	PRICE	ASPD	LAY-IN	251-350	10"ø	24"x24"	30	1, 2
D	UNI-FLOW SUPPLY	PRICE	ASPD	LAY-IN	351-500	12"ø	24"x24"	30	1, 2
E	PERFORATED RETURN	PRICE	APDDR	LAY-IN	0-1,000	22"x22"	24"x24"	30	1, 2

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

LEGEND

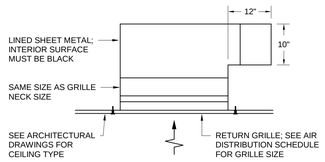
SYMBOL	DESCRIPTION
A 100	TYPE "A" DIFFUSER, 100 CFM
T	THERMOSTAT
	RECTANGULAR SUPPLY DUCTWORK
	RETURN AND FRESH AIR DUCTWORK
48x24	48"x24" RECTANGULAR DUCT
	CONNECTION POINT OF NEW TO EXISTING

GENERAL NOTES

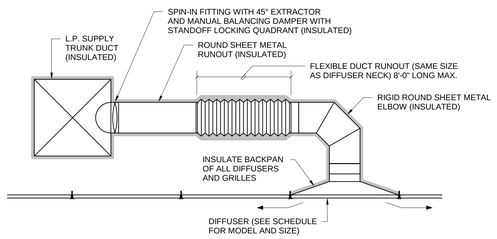
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL MECHANICAL CODE, 2015 INTERNATIONAL FUEL GAS CODE, 2009 INTERNATIONAL ENERGY CONSERVATION CODE, AND 2005 SMACNA HVAC DUCT CONSTRUCTION STANDARD. ALL LOCAL CODES OR REQUIREMENTS STILL APPLY.
2. VISIT SITE PRIOR TO BIDDING. THIS CONTRACTOR SHALL DETERMINE DIFFICULTY OF INSTALLATION AND REFLECT THIS IN HIS BIDDING.
3. DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DOORS, WINDOWS, AIR DISTRIBUTION, ETC.
4. DO NOT SCALE DRAWINGS. THIS CONTRACTOR SHALL VERIFY ALL EXISTING ITEMS AND LOCATIONS IN THE FIELD.
5. ALL DUCTWORK LOCATIONS SHALL BE COORDINATED WITH WORK UNDER OTHER DIVISIONS OF THE SPECIFICATIONS TO AVOID INTERFERENCE.
6. 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.
7. ALL DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH FLOORS, ROOFS AND PARTITIONS.
8. TURNING VANES SHALL BE PROVIDED AT ALL DUCTWORK ELBOWS AND CHANGES OF DIRECTION TO PROVIDE EVEN FLOW THROUGH DUCT SYSTEM.
9. SPACE ABOVE CEILING TO BE USED AS RETURN AIR PLENUM WHERE DUCT IS NOT INDICATED ABOVE RETURN AIR GRILLES.
10. ALL OPEN END DUCTS SHALL HAVE 1/4-INCH MESH GALVANIZED SCREEN IN REMOVABLE FRAME.
11. WHERE 2'X2' LAY IN GRILLES ARE SPECIFIED IN HARD CEILINGS, A PLASTER FRAME SHALL BE PROVIDED SO THE GRILLE CAN LAY IN THE CEILING.
12. THIS CONTRACTOR SHALL PROVIDE ALL ITEMS OF MISCELLANEOUS STEEL AS REQUIRED FOR INSTALLATION OF ALL MECHANICAL ITEMS.
13. REMOVAL AND REPLACEMENT OF CEILING, AS REQUIRED FOR INSTALLATION OF NEW WORK, SHALL BE DONE BY GENERAL CONTRACTOR.
14. THIS CONTRACTOR SHALL DO ALL CONTROL WIRING.
15. LOCATE ALL SPACE CONTROL INSTRUMENTS 4'-0" ABOVE FINISHED FLOOR.
16. CAP PNEUMATIC LINES AS REQUIRED DURING DEMOLITION TO MAINTAIN OPERABLE SYSTEM.
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 DISPOSED OF PROPERLY.
20. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING HVAC SYSTEMS FROM CONSTRUCTION DEBRIS, DUST AND DIRT FOR THE ENTIRE CONSTRUCTION DURATION. DUCT CLEANING AND UNITICOIL CLEANING SHALL BE PERFORMED AS REQUIRED. PROTECTION SHALL INCLUDE FILTER MEDIA OVER ALL RETURN GRILLES AND RETURN DUCT OPENINGS TO PROTECT DUCTS AND EQUIPMENT.

SPECIFICATIONS

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL MECHANICAL CODE, 2009 INTERNATIONAL ENERGY CONSERVATION CODE, AND 2005 SMACNA HVAC DUCT CONSTRUCTION STANDARD. ALL LOCAL CODES OR REQUIREMENTS STILL APPLY.
2. ALL RECTANGULAR DUCT SHALL BE TYPE G-60 GALVANIZED SHEET METAL, SEALED WITH LOW PRESSURE DUCT MASTIC. ROUND DUCTS SHALL BE GALVANIZED SHEET METAL SEALED WITH LOW PRESSURE DUCT MASTIC. LOCKING QUADRANT BALANCING DAMPERS SHALL BE INSTALLED IN EACH BRANCH TAKEOFF AT THE MAIN TRUNK DUCT. FLEXIBLE DUCT SHALL NOT EXCEED 5' IN LENGTH AND SHALL BE EQUAL TO FLEXMASTER TYPE 1M.
3. SUPPLY AND RETURN DUCTS SHALL BE INSULATED WITH 2" THICK, 3/4# DENSITY DUCT WRAP. DUCT WRAP SHALL BE SEALED WITH FIBERGLASS REINFORCING MESH, STAPLES AND MASTIC AT THE JOINTS.
4. CONTROL WIRING SHALL BE RUN IN EMT CONDUIT IN WALLS AND SHALL BE COLOR CODED 18 GAUGE SOLID WIRE, IN A PROTECTIVE COVER.
5. SUBMIT ALL EQUIPMENT AND PRODUCTS PROPOSED TO BE USED FOR THIS PROJECT PRIOR TO ORDERING. SUBMIT SIX COPIES OF DATA SHEETS TO THE ENGINEER, BOUND IN A SINGLE VOLUME FOR APPROVAL.
6. SUBMIT A CERTIFIED ABB OR NEBB TEST AND BALANCE REPORT AT PROJECT COMPLETION PRIOR TO FINAL ACCEPTANCE. BALANCE FAN AIR VOLUMES TO WITHIN 5% OF DESIGN AND DIFFUSER AIR VOLUMES TO WITHIN 10% OF DESIGN.
7. ALL EQUIPMENT, PRODUCTS AND WORK SHALL BE GUARANTEED TO BE FREE OF DEFECTS IN MANUFACTURE AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. ALL REPAIRS WILL BE MADE AT NO COST TO THE OWNER.



PLENUM RETURN GRILLE DETAIL
NO SCALE



CEILING DIFFUSER DETAIL
NO SCALE

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

SOUTH CAROLINA
Bradley S. Swygert
No. 23877
4-19-19
REGISTERED PROFESSIONAL ENGINEER

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

GOODWYN | MILLS | CAWOOD

ISSUE	DATE
5TH FLOOR	04/26/19
drawn by:	DEM
checked by:	WCL

UNIVERSITY OF SOUTH CAROLINA
1244 BLOSSOM INTERIOR REN.
1244 BLOSSOM STREET

GMC # ACOL170002

DETAILS, NOTES, SCHEDULE, AND LEGEND

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GENERAL "ELECTRICAL" 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 PRIOR TO ROUGH-IN, COORDINATE THE LOCATION AND MOUNTING HEIGHT OF ALL WALL AND CEILING MOUNTED DEVICES WITH THE ARCHITECTURAL ELEVATIONS, MILLWORK SHOP DRAWINGS, AND EXISTING CONDITIONS. IN THE EVENT OF A CONFLICT, NOTIFY THE ARCHITECT. MINOR ADJUSTMENTS IN DEVICE LOCATION, I.E. 5'-0" IN ANY DIRECTION SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.

4 COORDINATE THE LOCATION OF ALL FLOOR-MOUNTED OUTLETS WITH THE ARCHITECT PRIOR TO ROUGH-IN.

5 OUTLET BOXES FOR SWITCHES, RECEPTACLES, ETC MOUNTED ON OPPOSITE SIDES OF FIRE RATED PARTITIONS SHALL NOT BE MOUNTED IN THE SAME WALL CAVITY. SEPARATE WALL PENETRATIONS BY MOUNTING ON OPPOSITE SIDES OF WALL STUDS OR OTHER VERTICAL STRUCTURAL MEMBER IN THE WALL.

6 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.

7 FEEDER CONDUITS AND BRANCH CIRCUITS ROUTING SHALL COMPLY WITH DETAILS ON DRAWINGS AND SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES BEFORE AND DURING CONSTRUCTION.

8 WHERE LIGHT SWITCH AND ABOVE COUNTER RECEPTACLES ARE INDICATED TO BE MOUNTED ADJACENT TO EACH OTHER, THE DEVICES SHALL BE MOUNTED AT THE SAME HEIGHT UNDER A COMMON DEVICE PLATE.

9 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, AND THE FOLLOWING:

10.1 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.

10.2 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.

10.3 BRANCH CIRCUIT, FEEDER & COMMUNICATION CIRCUITS SHALL BE ROUTED OVERHEAD UNLESS PRIOR APPROVAL HAS BEEN GRANTED BY THE ARCHITECT AND ENGINEER.

10.4 A GROUND CONDUCTOR SHALL BE PROVIDED IN ALL RACEWAYS UNLESS NOTED OTHERWISE.

11 THE USE OF MC CABLE IS NOT ALLOWED.

12 SEAL ALL EXISTING AND NEW FIRE RATED WALL AND FLOOR PENETRATIONS IN THE CONSTRUCTION AREA

13 SEE THE ARCHITECTURAL DRAWINGS FOR ALL LOCATIONS OF FIRE RATED WALLS.

14 WHEREVER ON THE ELECTRICAL DRAWINGS THE WORD "PROVIDE" IS USED, IT SHALL BE INFERRED TO MEAN "FURNISH AND INSTALL".

GENERAL EXISTING CONDITION NOTES

1 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.

2 IN AREAS WHERE THE EXISTING CEILINGS ARE NOT SLATED TO BE REMOVED, THE CONTRACTOR SHALL WORK THRU THE EXISTING CEILINGS (SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR AREA OF WORK). THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED TILE OR GRID THAT IS A RESULT OF THEIR WORK.

4 THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A FIRESTOP SYSTEM IN ALL PENETRATIONS OF FIRE-RATED WALLS CREATED BY THE REMOVAL OF EXISTING ELECTRICAL CONDUIT OR CABLES, AS WELL AS THOSE CREATED BY NEWLY INSTALLED CONDUITS AND SLEEVES.

6 SUPPORT ALL EXISTING CONDUITS AND JUNCTION BOXES ABOVE THE CEILING PER NEC IN THE CONSTRUCTION AREA.

7 REMOVE ALL ABANDONED CONDUIT, WIRE, AND COMMUNICATION CABLES ABOVE THE CEILING IN THE CONSTRUCTION AREA.

8 PROVIDE JUNCTION BOX COVER PLATES ON ALL EXISTING JUNCTION BOXES ABOVE THE CEILING IN THE CONSTRUCTION AREA.

9 SUPPORT ALL EXISTING COMMUNICATION CABLES ABOVE THE CEILING IN THE CONSTRUCTION AREA

10 WHERE INFORMATION SHOWN ON THESE DRAWINGS CONFLICTS WITH VERIFIED FIELD CONDITIONS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER

GENERAL "LIGHTING" NOTES

1 SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR THE EXACT LOCATION OF ALL CEILING MOUNTED LIGHTING FIXTURES.

2 EXACT LOCATIONS OF LIGHTING FIXTURES IN MECHANICAL SPACES SHALL BE DETERMINED IN THE FIELD. DO NOT SUPPORT FIXTURES FROM DUCT OR PIPING. PROVIDE CHAIN OR TRAPEZE-TYPE HANGERS WHERE FIXTURES CAN NOT BE MOUNTED DIRECTLY TO CEILING.

3 LIGHTING FIXTURE CATALOG NUMBERS ARE INDICATIVE OF THE STYLE OF FIXTURE REQUIRED. CONTRACTOR SHALL PROVIDE FIXTURES WITH THE PROPER TRIM, VOLTAGE AND OPTIONS NECESSARY FOR INSTALLATION.

4 DOUBLE-FACED EXIT FIXTURES SHALL BE OF THE SAME MANUFACTURER & SERIES AS THE SINGLE TYPE SPECIFIED.

5 ALL EXIT SIGNS SHALL BE CONNECTED TO LOCAL LIFE SAFETY LIGHTING CIRCUIT AHEAD OF ALL SWITCHING.

6 REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS OF LIGHT FIXTURE TO ACOUSTICAL CEILING SYSTEM AND STRUCTURE.

GENERAL "SIGNAL" NOTES

1 EXTEND A 1" CONDUIT WITH PULL WIRE FROM EACH COMMUNICATIONS OUTLET TO THE COMMUNICATION BACKBOARD) (ABOVE THE LAY IN CEILING IN THE CORRIDOR). TURN CONDUIT 12" INTO CEILING CAVITY A MINIMUM OF 6" ABOVE THE CEILING AND TERMINATE WITH AN INSULATED PROTECTIVE BUSHING. COMMUNICATION OUTLET BOX SHALL BE 4" SQUARE WITH SINGLE GANG RING.

2 THESE DOCUMENTS MAY NOT INCLUDE ENTIRE ELECTRICAL INFRASTRUCTURE REQUIRED TO SUPPORT THE BUILDING AUTOMATION SYSTEM. COORDINATE WITH BAS PROVIDER ON ALL NECESSARY INFRASTRUCTURE FOR A COMPLETE AND WORKING SYSTEM.

3 ALL COMMUNICATIONS OUTLET BOXES SHALL BE 2-1/2" DEEP.

4 REMOVE ALL EXPOSED ABANDONED COMMUNICATION CABLE FOUND DURING THE CONSTRUCTION PROCESS. SUPPORT ALL EXISTING REMAINING CABLE PER THE NEC.

5 CABLE SHALL BE CONCEALED IN ALL FINISHED AREAS AND ROUTED PARALLEL OR PERPENDICULAR TO THE BUILDING STRUCTURE.

6 ALL FIRE ALARM CABLE SHALL BE INSTALLED IN METALLIC CONDUIT. COORDINATES WITH FIRE ALARM SYSTEM MANUFACTURER FOR CABLE ROUTING AND QUANTITIES.

7 SUPPORT CABLES WITH J-HOOKS AND D-RINGS. J-HOOKS SHALL BE PROVIDED AT INTERVALS LESS THAN 5 FEET. PROVIDE METAL SLEEVES FOR ALL WALL PENETRATIONS. DO NOT SUPPORT CABLES FROM STRUCTURE. SEAL ALL FIRE RATED WALL PENETRATIONS. SEE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS FOR LOCATIONS AND REQUIREMENTS.

8 ALL COMMUNICATION CABLING SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND EIA/TIA STANDARDS.

GENERAL "DEMOLITION" NOTES

1 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.

2 ELECTRICAL DEVICES NOT SHOWN ON WALLS TO BE DEMOLISHED SHALL BE DEMOLISHED AT NO ADDITIONAL COST TO OWNER.

3 ELECTRICAL DEVICES NOT SHOWN ON CEILINGS OR WALLS TO REMAIN SHALL REMAIN IN PLACE. PROTECT FROM DAMAGE DURING CONSTRUCTION

4 ELECTRICAL DEVICES NOT SHOWN ON CEILINGS TO BE REMOVED SHALL BE TEMPORARILY DISCONNECTED AND REMOVED DURING DEMOLITION AND RE-INSTALLED ON NEW CEILING IN SAME LOCATION.

GENERAL "POWER" NOTES

1 ALL BRANCH CIRCUITS INDICATED ON THESE PLANS TO BE LARGER THAN NO. 12 AWG SHALL BE SIZED AS INDICATED FOR THE ENTIRE LENGTH OF THE CIRCUIT.

2 PROVIDE NEMA CONFIGURATION RECEPTACLES TO MATCH PLUGS ON EQUIPMENT FURNISHED.

3 WHERE SPEED CONTROLLER IS INDICATED TO BE PROVIDED WITH FANS, IT SHALL BE PROVIDED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.

4 PROVIDE LABEL ON INSIDE FACE OF COVER PLATE OF ALL RECEPTACLES, SWITCHES & WALL MOUNTED DEVICES INDICATING PANEL AND BRANCH CIRCUIT TO WHICH EACH DEVICE IS CONNECTED.

LIGHT FIXTURE SCHEDULE

SYMBOL	TYPE	FIXTURE DESCRIPTION	MANUFACTURER	CAT. #	NO.	LAMP TYPE	ELECTRICAL FIXT. LOAD	ELECTRICAL VOLTS	MOUNTING REMARKS	NOTES
▭	A	2X4 LED FLAT PANEL	COLUMBIA LIGHTING	CFP24-5535	–	LED, 835, 5447LM	49	120V	RECESS MTD IN GRID	1,2,3,4
			HE WILLIAMS	LP-24-L50/835-DIM-UNV		LED, 835, 5000LM	48			
▭	AE	2X4 LED FLAT PANEL WITH GTD	COLUMBIA LIGHTING	CFP24-5535-PLD10M	–	LED, 835, 5447LM	49	120V	RECESS MTD IN GRID	1,2,3,4
			HE WILLIAMS	LP-24-L50/835-DIM-UNV		LED, 835, 5000LM	48			
○	D	DOWNLIGHT	CONTECH LIGHTING	R6NC335K12D	–	LED, 835, 2000LM	20	120V	RECESS MTD IN GRID	1,2,3,4
			HE WILLIAMS	6DR-TL-L20/835-DIM-UNV-LW-OF-WH-N-F1		LED, 835, 2000LM	20			
◐	DE	DOWNLIGHT WITH GTD	CONTECH LIGHTING	R6NC335K12D-ER	–	LED, 835, 2000LM	20	120V	RECESS MTD IN GRID	1,2,3,4
			HE WILLIAMS	6DR-TL-L20/835-DIM-UNV-LW-OF-WH-N-F1		LED, 835, 2000LM	20			
⊗⊗	X1/X2	SINGLE/DOUBLE-FACE EXIT SIGN	CONTECH LIGHTING	XREM-P	–	LED	2	120V	SURFACE MTD	3,4
			HE WILLIAMS	EXITREMWHTSDTD			4			

LIGHT FIXTURE SCHEDULE NOTES

1 LUMENS LISTED IN SCHEDULE REPRESENT DELIVERED LUMENS OF FIXTURES.

2 THREE DIGIT NUMBERS LISTED IN LAMP COLUMN REPRESENT CRI AND COLOR TEMPERATURE. FIRST DIGIT INDICATES MINIMUM CRI AND LAST TWO DIGITS INDICATE COLOR TEMPERATURE. EXAMPLE: 830 INDICATES MINIMUM CRI OF 80 AND A COLOR TEMPERATURE OF 3000K.

3 SEE ARCHITECTURAL RCP AND ELEVATIONS FOR EXACT LOCATION AND MOUNTING HEIGHTS.

4 CONFIRM QUANTITIES OF FIXTURES SHOWN IN RCP MATCH QUANTITIES SHOWN ON ELECTRICAL PLANS PRIOR TO BID. IF NO DISCREPANCIES ARE NOTED PRIOR TO BID THE HIGHEST QUANTITY OF EACH FIXTURE TYPE SHOWN SHALL BE PROVIDED.

LIGHTING CONTROL SCHEME LEGEND

MARK	MANUAL / WALL STATION(S)	MULTI-LEVEL SWITCHED/ZONED	OCCUPANCY SENSOR	NOTES
1	Yes	No	Yes	1
2	Yes	Yes	Yes	1

LIGHTING CONTROL SCHEME NOTES

1 SET DELAYS FOR ALL OCCUPANCY SENSORS TO 20-MINS.

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE (WALL MOUNTED @ 18"AFF)	F	FIRE ALARM PULL STATION (WALL MOUNTED @ 48" AFF TOP OF BOX)
	DUPLEX RECEPTACLE (@ 6" ABOVE COUNTER)	A	FIRE ALARM AUDIBLE DEVICE (WALL MOUNTED @ 7'-6" AFF)
	DUPLEX RECEPTACLE (GFI TYPE @ 6" ABOVE COUNTER)	V	FIRE ALARM VISUAL DEVICE (WALL MOUNTED @ 7'-6" AFF)
	DUPLEX RECEPTACLE (CEILING MOUNTED)	A/V	FIRE ALARM AUDIBLE/VISUAL DEVICE (WALL MOUNTED @ 7'-6" AFF)
	DUPLEX RECEPTACLE (FLOOR MOUNTED)	V	FIRE ALARM VISUAL DEVICE (CEILING MOUNTED)
	DUPLEX REC/DATA COMBINATION (FLOOR MOUNTED)	A/V	FIRE ALARM AUDIBLE/VISUAL DEVICE (CEILING MOUNTED)
	JUNCTION BOX (WALL MTD)	S	SMOKE DETECTOR (CEILING MOUNTED)
	PHONE OR DATA OUTLET (WALL MOUNTED @ 18"AFF)	H	HEAT DETECTOR (CEILING MOUNTED)
	PHONE OR DATA OUTLET (MTD ABOVE COUNTER)	▬	PANELBOARD (SURFACE MOUNTED)
S	LIGHT SWITCH, SINGLE POLE	GTD	GENERATOR TRANSFER DEVICE
S^3	LIGHT SWITCH, 3 WAY TYPE	EVO	EVOLUTION SERIES WALLBOX
S^D	LIGHT SWITCH, DIMMER TYPE	#	KEY NOTE CALLOUT (REFER TO KEY NOTES ON SHEET)
S^a	LOWER CASE SUBSCRIPT INDICATES SWITCH-LEG	#	LIGHTING CONTROL CALLOUT (REFER TO SCHEDULE)

DEMOLITION/RENOVATION NOTATION

IF NO ANNOTATION IS SHOWN ASSUME EXISTING TO REMAIN IN PLACE FOR SOLID LINES AND DEMOLISH FOR DASHED LINES. DEVICES AND EQUIPMENT NOT SHOWN SHALL BE ASSUMED TO BE EXISTING TO REMAIN IN PLACE.

E EXISTING FIXTURE OR DEVICE TO REMAIN IN PLACE. REPLACE ANY BROKEN DEVICES OR PLATES; COLOR TO MATCH EXISTING.

R EXISTING FIXTURE OR DEVICE TO BE REMOVED BY THE ELECTRICAL CONTRACTOR. MAINTAIN CONTINUITY OF REMAINING PORTIONS OF BRANCH CIRCUIT.

RE EXISTING DEVICE TO BE REMOVED BY THE ELECTRICAL CONTRACTOR. EXISTING CIRCUIT SHALL BE RETAINED. PROVIDE NEW DEVICE AS SHOWN ON RENOVATION PLANS.

RN RELOCATED DEVICE (NEW LOCATION).

RR EXISTING FIXTURE TO BE RELOCATED BY THE ELECTRICAL CONTRACTOR TO NEW LOCATION SHOWN ON RENOVATION PLAN.

ABBREVIATIONS

ABR	DESCRIPTION
(E)	EXISTING
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
BAS	BUILDING AUTOMATION SYSTEM
BFC	BELOW FINISHED CEILING
BOD	BOTTOM OF DEVICE
CBB	COMMUNICATIONS BACK BOARD
cd	CANDELA
CLG	CEILING
ECB	ENCLOSED CIRCUIT BREAKER
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FDS	FUSED DISCONNECT SWITCH
FSD	FIRE/SMOKE DAMPER
GBB	GROUND BUSS BAR
GFCI	GROUND-FAULT CIRCUIT-INTERRUPTING
GFI	GROUND-FAULT INTERRUPTING
GP	GENERAL PURPOSE
J-BOX	JUNCTION BOX
NEC	NATIONAL ELECTRIC CODE
NFDS	NON-FUSED DISCONNECT SWITCH
OC	ON CENTER
RFAP	REMOTE FIRE ALARM ANNUNCIATOR PANEL
SD	SMOKE DETECTOR
UNO	UNLESS OTHERWISE NOTED
W/	WITH

LIGHT FIXTURE PLAN KEY

SHADING INDICATES EMERGENCY FIXTURE BACKED BY GENERATOR

AE d
A-9
A-2

AE = UPPERCASE LETTER / LETTERS INDICATE FIXTURE TYPE
d = LOWERCASE LETTER INDICATES SWITCH IDENTIFICATION
A-9 = DESIGNATES PANEL NAME; CIRCUIT NUMBER

NOTE:
ALL "EM" FIXTURES INDICATED IN PLAN CONTAIN CONNECTION TO GENERATOR. CONDUCTOR MUST NOT BE CONTROLLED BY ANY LIGHTING SYSTEM OR HAVE POWER INTERRUPTED AT ANY TIME. WHERE UTILITY POWER SHOULD FAIL, FIXTURES SHALL REMAIN OPERATIONAL FOR A MINIMUM 90 MINUTES

LIGHT CONTROL SCHEME

LIGHTING CONTROL SYMBOL CORRELATES WITH DESIRED CONTROL SCHEME AS INDICATED IN THE LIGHTING CONTROL SCHEME SCHEDULE

ELECTRICAL DRAWING INDEX

#	SHEET NAME
E0.1	LEVEL 5 NOTES & LEGENDS
E0.2	LEVEL 5 ELECTRICAL PANEL SCHEDULES
E1.05	LEVEL 5 LIGHTING PLAN
E1.15	LEVEL 5 POWER & SYSTEMS PLAN

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ISSUE | DATE
5TH FLOOR | 03/15/2019
drawn by: SMG
checked by: SG

UNIVERSITY OF SOUTH CAROLINA
1244 BLOSSOM INTERIOR REN.
1244 BLOSSOM STREET

GMC # ACOL170002

LEVEL 5 NOTES & LEGENDS

E0.1
sheet 1 of 4

120/208V, 3 PH., 4W, 60 HZ
125 AMP M.C.B.
SURFACE MOUNTED
10,000 A.I.C. SYM. (MINIMUM)

EXISTING PANEL "5PP2a"

LOADS SERVED	BKR. AMP	LOAD KVA	CKT. NO.	(S / N)	CKT. NO.	LOAD KVA	BKR. AMP	LOADS SERVED
EXISTING LOAD	20	–	1		2	–	–	EXISTING SPACE
EXISTING LOAD	20	–	3		4	–	–	EXISTING SPACE
EXISTING LOAD	20	–	5		6	–	–	EXISTING SPACE
EXISTING LOAD	20	–	7		8	–	20	EXISTING LOAD
EXISTING LOAD	20	–	9		10	–	20	EXISTING LOAD
EXISTING LOAD	20	–	11		12	–	20	EXISTING LOAD
EXISTING LOAD	20	–	13		14	–	20	EXISTING LOAD
EXISTING LOAD	20	–	15		16	–	20	EXISTING LOAD
EXISTING LOAD	20	–	17		18	–	20	EXISTING LOAD
EXISTING LOAD	20	–	19		20	–	20	EXISTING LOAD
EXISTING LOAD	20	–	21		22	–	20	EXISTING LOAD
EXISTING LOAD	20	–	23		24	–	20	EXISTING LOAD
EXISTING LOAD	20	–	25		26	–	20	EXISTING LOAD
EXISTING LOAD	20	–	27		28	–	20	EXISTING LOAD
EXISTING LOAD	20	–	29		30	–	20	EXISTING LOAD
EXISTING SPACE	–	–	31		32	–	–	EXISTING SPACE
EXISTING SPACE	–	–	33		34	–	–	EXISTING SPACE
EXISTING SPACE	–	–	35		36	–	–	EXISTING SPACE
EXISTING SPACE	–	–	37		38	–	–	EXISTING SPACE
EXISTING SPACE	–	–	39		40	–	–	EXISTING SPACE
EXISTING SPACE	–	–	41		42	–	–	EXISTING SPACE
EXISTING SPACE	–		37		38		–	EXISTING SPACE
EXISTING SPACE	–		39		40		–	EXISTING SPACE
EXISTING SPACE	–		41		42		–	EXISTING SPACE

CONNECTED LOADS (KVA)
øA 0.0 øB 0.0 øC 0.0

TOTAL LOADS (KVA)
0.0

120/208V, 3 PH., 4W, 60 HZ
125 AMP M.C.B.
SURFACE MOUNTED
10,000 A.I.C. SYM. (MINIMUM)

EXISTING PANEL "5PP1a"

LOADS SERVED	BKR. AMP	LOAD KVA	CKT. NO.	(S / N)	CKT. NO.	LOAD KVA	BKR. AMP	LOADS SERVED
EXISTING LOAD	20	–	1		2	–	–	EXISTING SPACE
EXISTING LOAD	20	–	3		4	–	–	EXISTING SPACE
EXISTING LOAD	20	–	5		6	–	–	EXISTING SPACE
EXISTING LOAD	20	–	7		8	–	20	EXISTING LOAD
EXISTING LOAD	20	–	9		10	–	20	EXISTING LOAD
EXISTING LOAD	20	–	11		12	–	20	EXISTING LOAD
EXISTING LOAD	20	–	13		14	–	20	EXISTING LOAD
EXISTING LOAD	20	–	15		16	–	20	EXISTING LOAD
EXISTING LOAD	20	–	17		18	–	20	EXISTING LOAD
EXISTING LOAD	20	–	19		20	–	20	EXISTING LOAD
EXISTING LOAD	20	–	21		22	–	20	EXISTING LOAD
EXISTING LOAD	20	–	23		24	–	20	EXISTING LOAD
EXISTING LOAD	20	–	25		26	–	20	EXISTING LOAD
EXISTING LOAD	20	–	27		28	–	20	EXISTING LOAD
EXISTING LOAD	20	–	29		30	–	20	EXISTING LOAD
EXISTING LOAD	20	–	31		32	–	20	EXISTING LOAD
EXISTING LOAD	20	–	33		34	–	20	EXISTING LOAD
EXISTING LOAD	20	–	35		36	–	20	EXISTING LOAD
EXISTING SPACE	–	–	37		38	–	–	EXISTING SPACE
EXISTING SPACE	–	–	39		40	–	–	EXISTING SPACE
EXISTING SPACE	–	–	41		42	–	–	EXISTING SPACE

CONNECTED LOADS (KVA)
øA 0.0 øB 0.0 øC 0.0

TOTAL LOADS (KVA)
0.0

120/208V, 3 PH., 4W, 60 HZ
225 AMP M.B.
SURFACE MOUNTED
10,000 A.I.C. SYM. (MINIMUM)

EXISTING PANEL "5RP2b"

LOADS SERVED	BKR. AMP	LOAD KVA	CKT. NO.	(S / N)	CKT. NO.	LOAD KVA	BKR. AMP	LOADS SERVED
* RECEPT – RM 526–532	20	1.3	1		2	1.3	20	* RECEPT RM 526–532
* RECEPT – RM 523	20	0.7	3		4	0.7	20	* RECEPT – RM 523
* RECEPT – RM 523	20	0.7	5		6	0.7	20	* RECEPT – RM 523
* RECEPT – RM 523	20	0.7	7		8	0.7	20	* RECEPT – RM 523
* RECEPT – RM 534–535	20	0.6	9		10	1.2	20	* RECEPT – RM 536 FRIDGE
* RECEPT – RM 536	20	0.7	11		12	1.0	20	* RECEPT – RM 521 COPIER
* RECEPT – RM 521 PRINTER	20	0.8	13		14	1.0	20	* RECEPT – RM 521 COPIER
* RECEPT – RM 521 PRINTER	20	0.8	15		16	0.7	20	* RECEPT – RM 522
* RECEPT – 522 & ELEV LOBBY	20	0.6	17		18	–	20	EXISTING LOAD
EXISTING LOAD	20	–	19		20	–	20	EXISTING LOAD
EXISTING LOAD	20	–	21		22	–	20	EXISTING LOAD
EXISTING LOAD	20	–	23		24	–	20	EXISTING LOAD
EXISTING LOAD	20	–	25		26	–	20	EXISTING LOAD
EXISTING LOAD	20	–	27		28	–	20	EXISTING SPARE
EXISTING LOAD	20	–	29		30	–	20	EXISTING SPARE
EXISTING LOAD	20	–	31		32	–	20	EXISTING SPARE
EXISTING LOAD	20	–	33		34	–	20	EXISTING SPARE
EXISTING SPARE	20	–	35		36	–	20	EXISTING SPARE
EXISTING SPACE	–	–	37		38	–	20	EXISTING LOAD
EXISTING SPACE	–	–	39		40	–	20	EXISTING LOAD
EXISTING SPACE	–	–	41		42	–	–	EXISTING SPACE

CONNECTED LOADS (KVA)
øA 5.8 øB 4.7 øC 3.7

TOTAL LOADS (KVA)
14.2

* CIRCUITS SHOWN ARE DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING EXISTING DEVICES/LOADS TO REMAIN AND SHALL BE RESPONSIBLE FOR EXTENDING BRANCH CIRCUITS SHOWN IN PLAN TO NEW LOCATION. PROVIDE NEW TYPED PANELBOARD CARD CIRCUIT BREAK–DOWN UPON COMPLETION OF RENOVATION PHASE.

120/208V, 3 PH., 4W, 60 HZ
200 AMP M.B.
SURFACE MOUNTED
10,000 A.I.C. SYM. (MINIMUM)

EXISTING PANEL "5RP1b"

LOADS SERVED	BKR. AMP	LOAD KVA	CKT. NO.	(S / N)	CKT. NO.	LOAD KVA	BKR. AMP	LOADS SERVED
* RECEPT – RM 514	20	0.7	1		2	0.7	20	* RECEPT – RM 514
* RECEPT – RM 514	20	0.7	3		4	1.1	20	* RECEPT – 513, 515–517
* RECEPT – RM 513	20	0.7	5		6	0.7	20	* RECEPT – RM 513
* RECEPT – RM 501, 504–505	20	0.7	7		8	0.7	20	* RECEPT – RM 506–507
* RECEPT – RM 501	20	0.6	9		10	–	20	EXISTING LOAD
EXISTING LOAD	20	–	11		12	–	20	EXISTING LOAD
EXISTING LOAD	20	–	13		14	–	20	EXISTING LOAD
EXISTING LOAD	20	–	15		16	–	20	EXISTING LOAD
EXISTING LOAD	20	–	17		18	–	20	EXISTING LOAD
EXISTING LOAD	20	–	19		20	–	20	EXISTING LOAD
EXISTING LOAD	20	–	21		22	–	20	EXISTING LOAD
EXISTING LOAD	20	–	23		24	–	20	EXISTING LOAD
EXISTING SPARE	20	–	25		26	–	20	EXISTING SPARE
EXISTING SPARE	20	–	27		28	–	20	EXISTING SPARE
EXISTING SPARE	20	–	29		30	–	20	EXISTING SPARE
EXISTING SPARE	20	–	31		32	–	20	EXISTING SPARE
EXISTING SPARE	20	–	33		34	–	20	EXISTING SPARE
EXISTING SPARE	20	–	35		36	–	20	EXISTING SPARE
EXISTING SPACE	–	–	37		38	–	–	EXISTING SPACE
EXISTING SPACE	–	–	39		40	–	–	EXISTING SPACE
EXISTING SPACE	–	–	41		42	–	–	EXISTING SPACE

CONNECTED LOADS (KVA)
øA 2.8 øB 2.4 øC 1.4

TOTAL LOADS (KVA)
6.6

* CIRCUITS SHOWN ARE DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING EXISTING DEVICES/LOADS TO REMAIN AND SHALL BE RESPONSIBLE FOR EXTENDING BRANCH CIRCUITS SHOWN IN PLAN TO NEW LOCATION. PROVIDE NEW TYPED PANELBOARD CARD CIRCUIT BREAK–DOWN UPON COMPLETION OF RENOVATION PHASE.

120/208V, 1 P., 3W, 60 HZ
100 AMP M.B.
SURFACE MOUNTED
10,000 A.I.C. SYM. (MINIMUM)

EXISTING PANEL "EPP5"

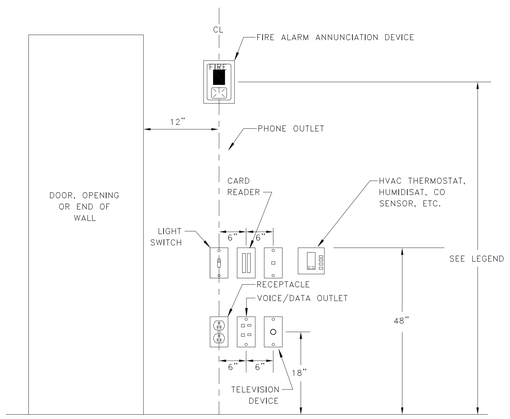
LOADS SERVED	BKR. AMP	LOAD KVA	CKT. NO.	(S / N)	CKT. NO.	LOAD KVA	BKR. AMP	LOADS SERVED
EXISTING LOAD	20	–	1		2	–	20	EXISTING LOAD
EXISTING LOAD	20	–	3		4	–	20	EXISTING SPARE
EXISTING SPARE	20	–	5		6	–	20	EXISTING SPARE
EXISTING SPARE	20	–	7		8	–	20	EXISTING SPARE
EXISTING SPACE	20	–	9		10	–	20	EXISTING SPACE
EXISTING SPACE	20	–	11		12	–	20	EXISTING SPACE
EXISTING SPACE	20	–	13		14	–	20	EXISTING SPACE
EXISTING SPACE	20	–	15		16	–	20	EXISTING SPACE
EXISTING SPACE	20	–	17		18	–	20	EXISTING SPACE

CONNECTED LOADS (KVA)
øA 0.0 øB 0.0 øC 0.0

TOTAL LOADS (KVA)
0.0

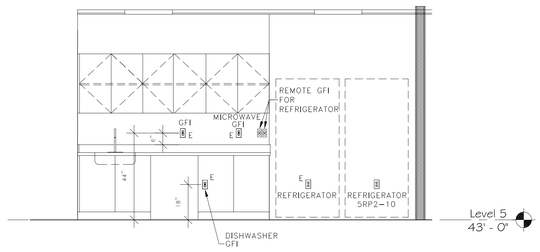
GENERAL PANEL SCHEDULE NOTES

1. FIELD VERIFY EXISTING LOAD SERVED BY EACH BRANCH AND CLEARLY LABEL IN PANELBOARD SCHEDULES.
2. CIRCUITS INDICATED TO FEED NEW LIGHTING AND ELECTRICAL DEVICES ARE DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MOVING EXISTING BREAKERS WHERE ADDITIONAL SPACE IS NEEDED BUT AVAILABLE.
3. EXISTING BREAKERS SHOWN IN PANEL SCHEDULES ARE FOR REFERENCE ONLY.

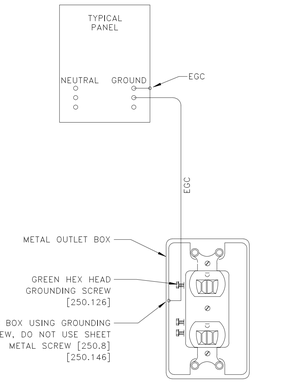


NOTE:
DEVICES SHOWN WITHIN 48" OF EACH OTHER ON ALL ELECTRICAL PLANS SHALL BE ALIGNED PER THIS DETAIL. IF DEVICES ARE SHOWN IN MIDDLE OF WALL, THEN CENTER DEVICES ON WALL.

3 / E0.50 DEVICE ALIGNMENT DETAIL
NOT TO SCALE



4 / E0.50 5TH FLOOR BREAKROOM ELEVATION
3/8" = 1'–0"

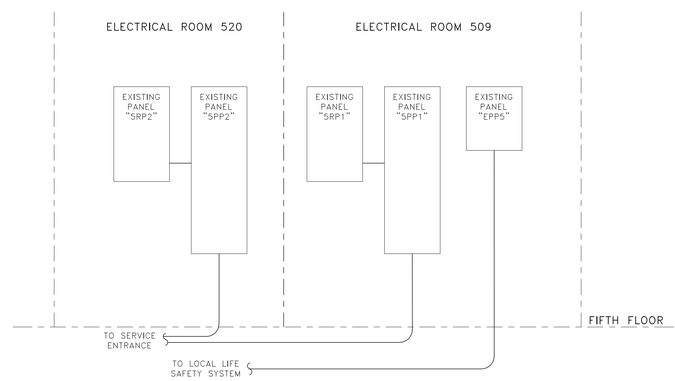


GROUNDING NOTES:

1. NUMBERS IN BRACKETS REFER TO SPECIFIC SECTIONS OF THE NATIONAL ELECTRICAL CODE.
2. GROUND ELECTRODE FOR SEPARATELY DERIVED SYSTEMS SHALL BE THE NEAREST METAL WATER PIPE OR STRUCTURAL METAL. IF EITHER IS NOT AVAILABLE, PROVIDE GROUNDING CONDUCTOR BACK TO MAIN GROUND BUS AT SERVICE ENTRANCE.
3. PROVIDE A GROUND WIRE IN ALL CONDUITS.
4. EARTH SHALL NOT BE USED AS THE SOLE GROUND RETURN PATH FOR ANY EQUIPMENT POWERED UNDER THIS PROJECT.
5. NO ALUMINUM SHALL BE USED FOR GROUNDING WORK WITHOUT THE SPECIFIC WRITTEN PERMISSION OF THE ENGINEER. EXCEPTION: ALUMINUM BUILDING STRUCTURAL MATERIALS SHALL BE BONDED WITH LISTED ALUMINUM EQUIPMENT WITH ALUMINUM TO COPPER CONNECTORS FOR ROUTING COPPER EGC'S.
6. PROVIDE GROUNDING BUSHING ON BOTH ENDS OF ALL SERVICE ENTRANCE RACEWAYS, SIZE AS A GEC [250.80]. THIS INCLUDES RIGID STEEL ELBOWS ON PVC CONDUIT.
7. ALL METAL ENCLOSURES AND RACEWAYS SHALL BE BONDED TO GROUND [250.86]. FOR CIRCUITS OVER 250V PROVIDE BOND PER [250.97], STANDARD LOCKNUTS ARE NOT ACCEPTABLE.
8. PROVIDE EGC CONNECTED TO ANY JUNCTION BOX WHERE SPLICE IS MADE [250.148] OR WHERE A DEVICE IS INSTALLED.
9. PROVIDE BOND TO EXPOSED METAL ON ALL MOTORS, PUMPS, AND LIGHTING FIXTURES PER [250.112].
10. DRIVE A GROUND ROD AT GENERATOR AND BOND TO THE GENERATOR FRAME. REMOVE STRAP (SYSTEM BONDING JUMPER) BETWEEN GENERATOR NEUTRAL BUS AND GENERATOR FRAME. NEUTRAL BUS AND CONDUCTORS SHALL BE ISOLATED FROM THE GENERATOR FRAME.

GROUNDING LEGEND		
ABBR.	DESCRIPTION	SIZE
EGC	EQUIPMENT GROUNDING CONDUCTOR	SIZE PER TABLE 250.122.

1 / E0.50 GROUNDING DETAIL
NOT TO SCALE



2 / E0.50 PARTIAL ONE–LINE DIAGRAM
NOT TO SCALE

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GOODWYN | MILLS | CAWOOD

ISSUE | DATE
5TH FLOOR | 03/15/2019
drawn by: SMG
checked by: SG

UNIVERSITY OF SOUTH CAROLINA
1244 BLOSSOM INTERIOR REN.
1244 BLOSSOM STREET
GMC # ACOL170002

LEVEL 5 ELECTRICAL PANEL SCHEDULES

E0.2
sheet 2 of 4

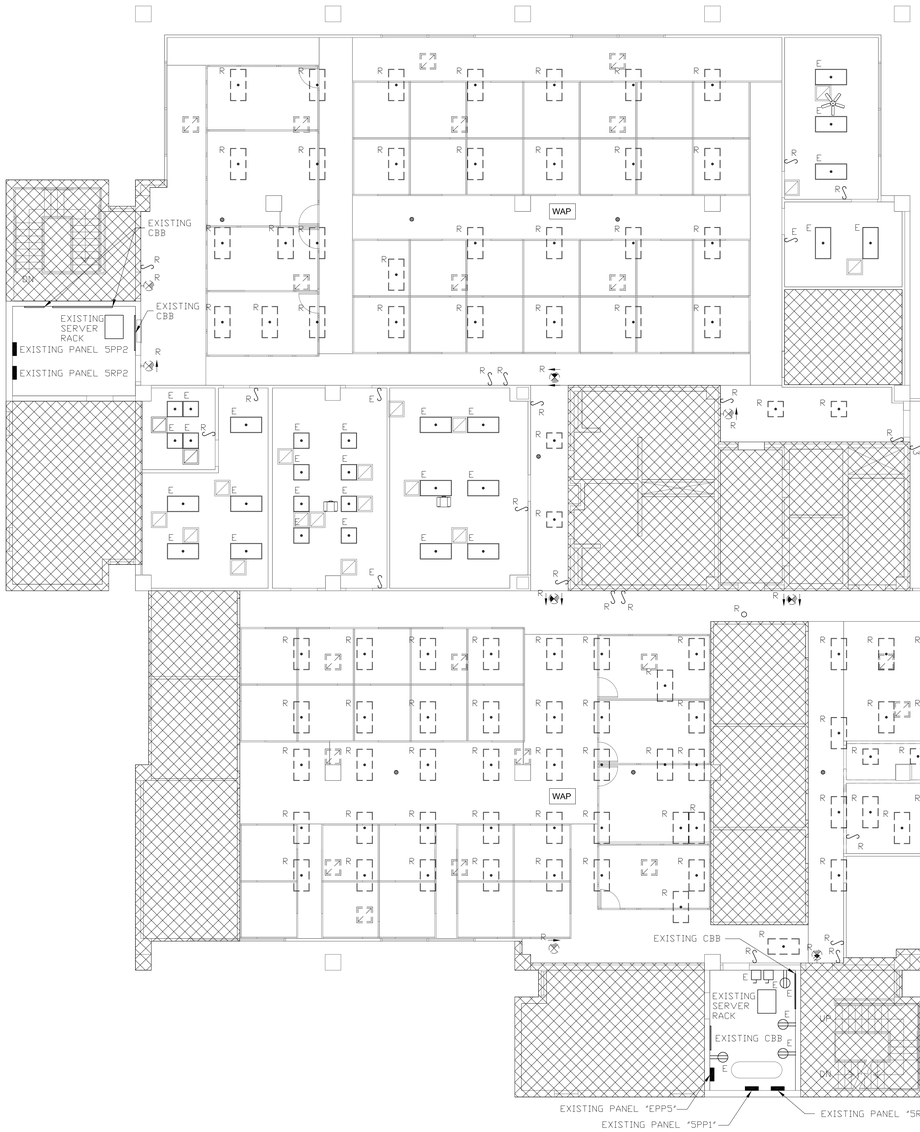
GENERAL DEMOLITION NOTES

DEMOLITION PLAN KEYNOTES

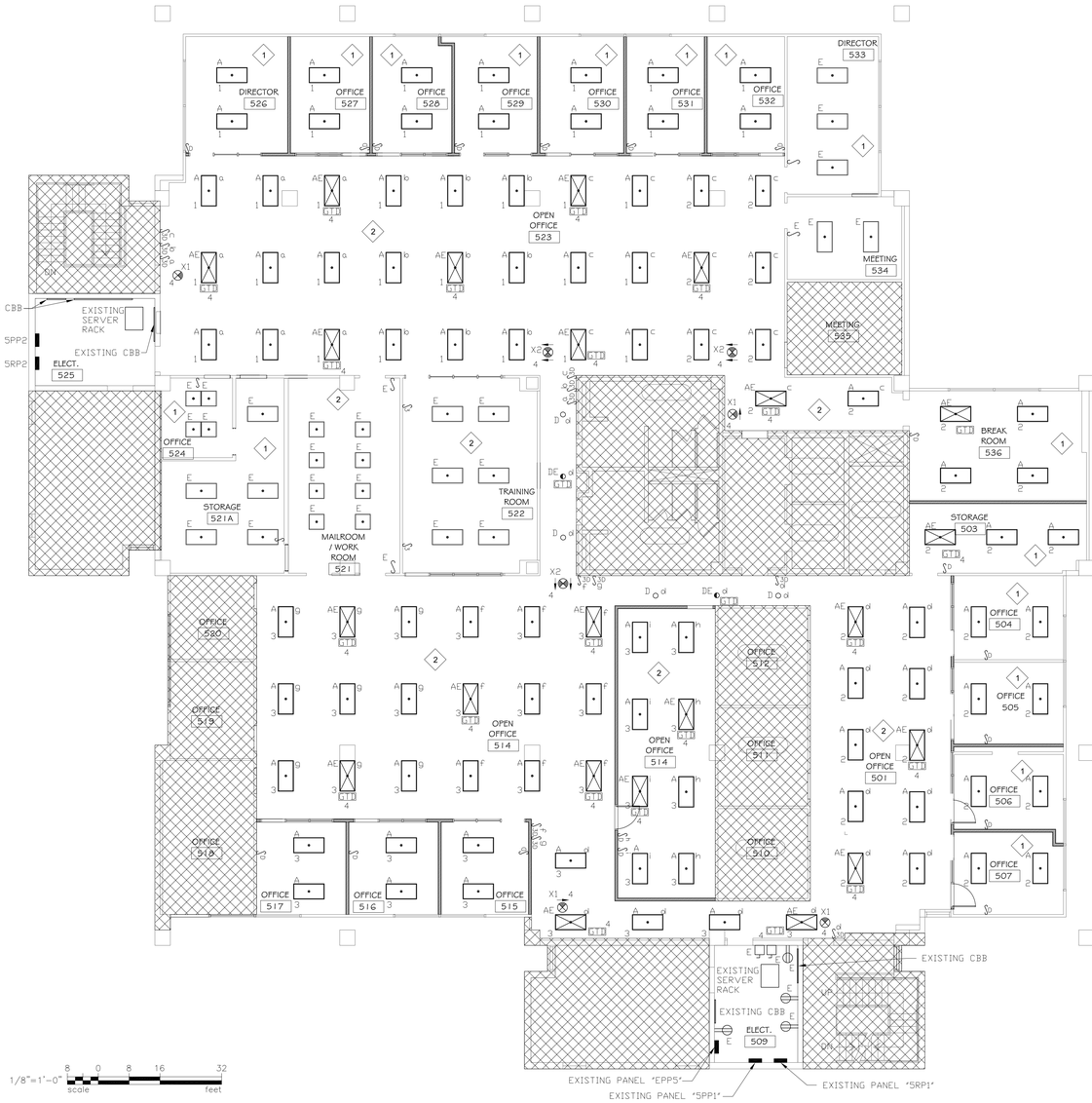
GENERAL RENOVATION NOTES

1. CIRCUIT NUMBERS SHOWN ARE FOR LOADING PURPOSES ONLY. CONTRACTOR SHALL FIELD VERIFY AVAILABLE CIRCUITS. CIRCUITS SHALL ORIGINATE FROM PANEL SERVING AREA WHEN POSSIBLE.
2. GTD'S & EXIT SIGNS SHALL BE CIRCUITED FROM FLOOR GENERATOR BACKED EMERGENCY PANEL "EPP5".

RENOVATION PLAN KEYNOTES



1 E1.05 5TH FLOOR – DEMOLITION LIGHTING PLAN
SCALE: 1/8" = 1'-0"



1/8"=1'-0" scale 8 0 8 16 32 feet

2 E1.05 5TH FLOOR – RENOVATION LIGHTING PLAN
SCALE: 1/8" = 1'-0"

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LEVEL 5 LIGHTING PLAN

E1.05

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GENERAL DEMOLITION NOTES

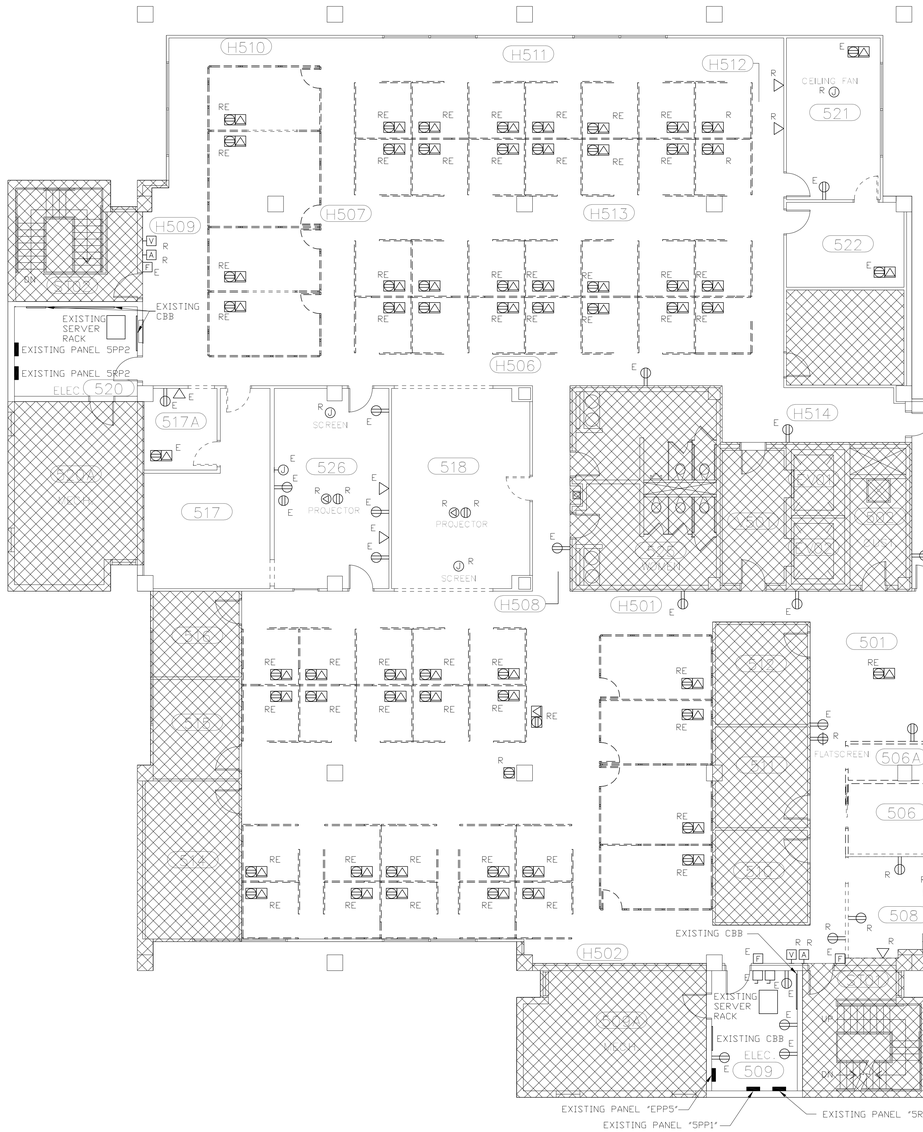
DEMOLITION PLAN KEYNOTES

GENERAL RENOVATION NOTES

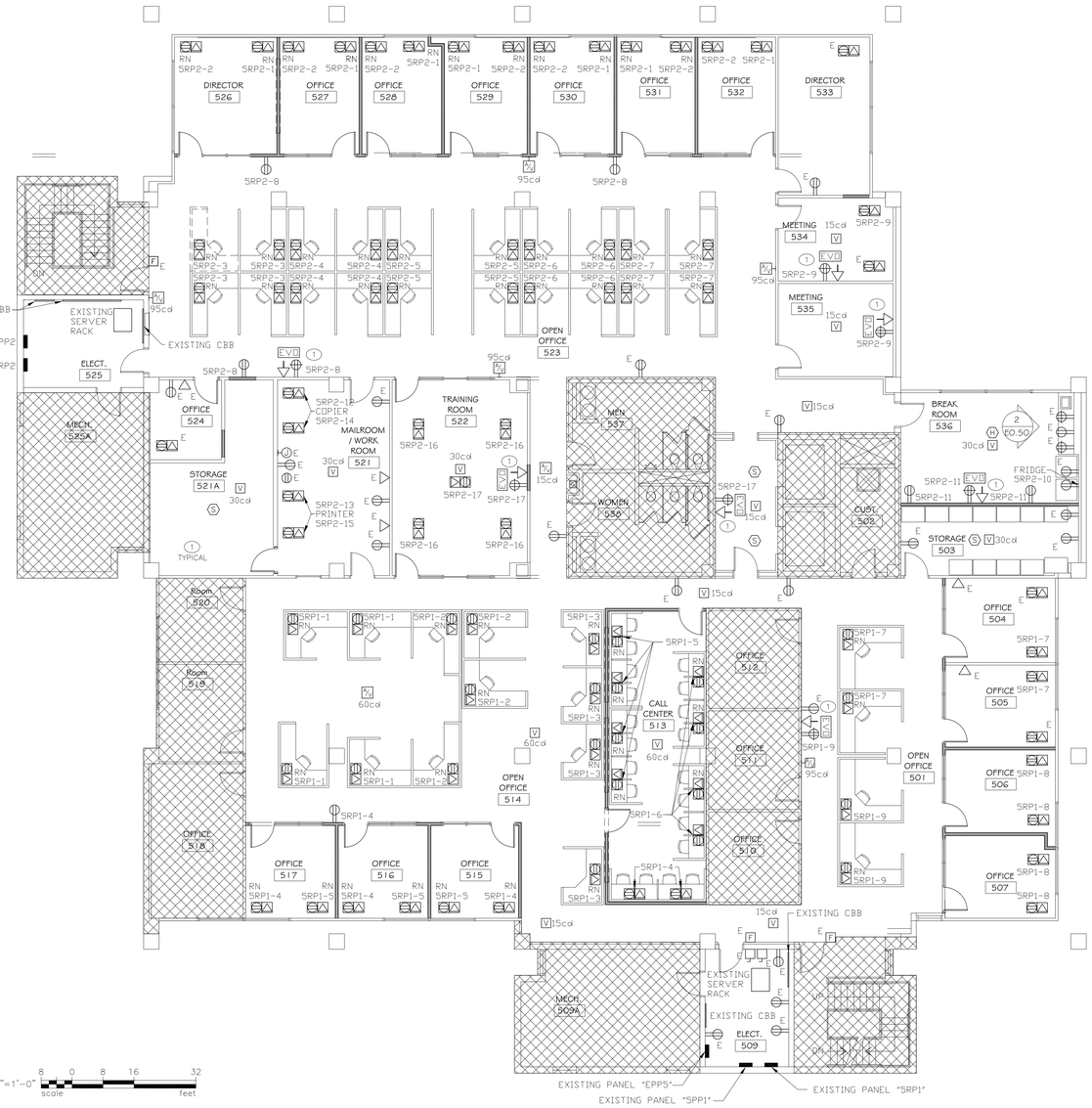
1. ELECTRICAL CONTRACTOR SHALL FULLY SYNCHRONIZE ALL FIRE ALARM DEVICES SHOWN IN PLAN WITH THE BUILDING EXISTING FIRE ALARM SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY PROVIDING ANY BATTERIES, EXPANSION CARDS OR ADDITIONAL EQUIPMENT SO AS TO ACCOMPLISH THIS REMODEL. WHERE EXISTING ERROR CODES ARE FOUND IN THE CURRENT FIRE ALARM SYSTEM, CONTRACTOR SHALL RESOLVE COMPLETELY SO AS TO PROVIDE OWNER WITH A FULLY FUNCTIONING FIRE ALARM SYSTEM DEVOID OF ERRORS.
2. CONTRACTOR SHALL REPLACE RECEPTACLES AND COVER PLATES OF DEVICES SHOWN AS TO REMAIN.

RENOVATION PLAN KEYNOTES

1. EVOLUTION SERIES WALL BOX, RECEPTACLE AND DATA TO BE MOUNTED AT 6' AFF FOR WALL MOUNTED FLATSCREEN PROVIDED BY OWNER. CONTRACTOR TO PROVIDE 1 1/4" CONDUIT FOR DATA AND 3/4" CONDUIT FOR POWER. DATA REQUIREMENTS TO BE COORDINATED THROUGH A/V CONSULTANT AND ARCHITECTURAL DRAWINGS.



1 / E1.15 5TH FLOOR – DEMOLITION POWER & SYSTEMS PLAN
SCALE: 1/8" = 1'-0"



1/8"=1'-0" scale 8 0 8 16 32 feet

2 / E1.15 5TH FLOOR – RENOVATION POWER & SYSTEMS PLAN
SCALE: 1/8" = 1'-0"

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LEVEL 5 POWER & SYSTEMS PLAN

E1.15

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