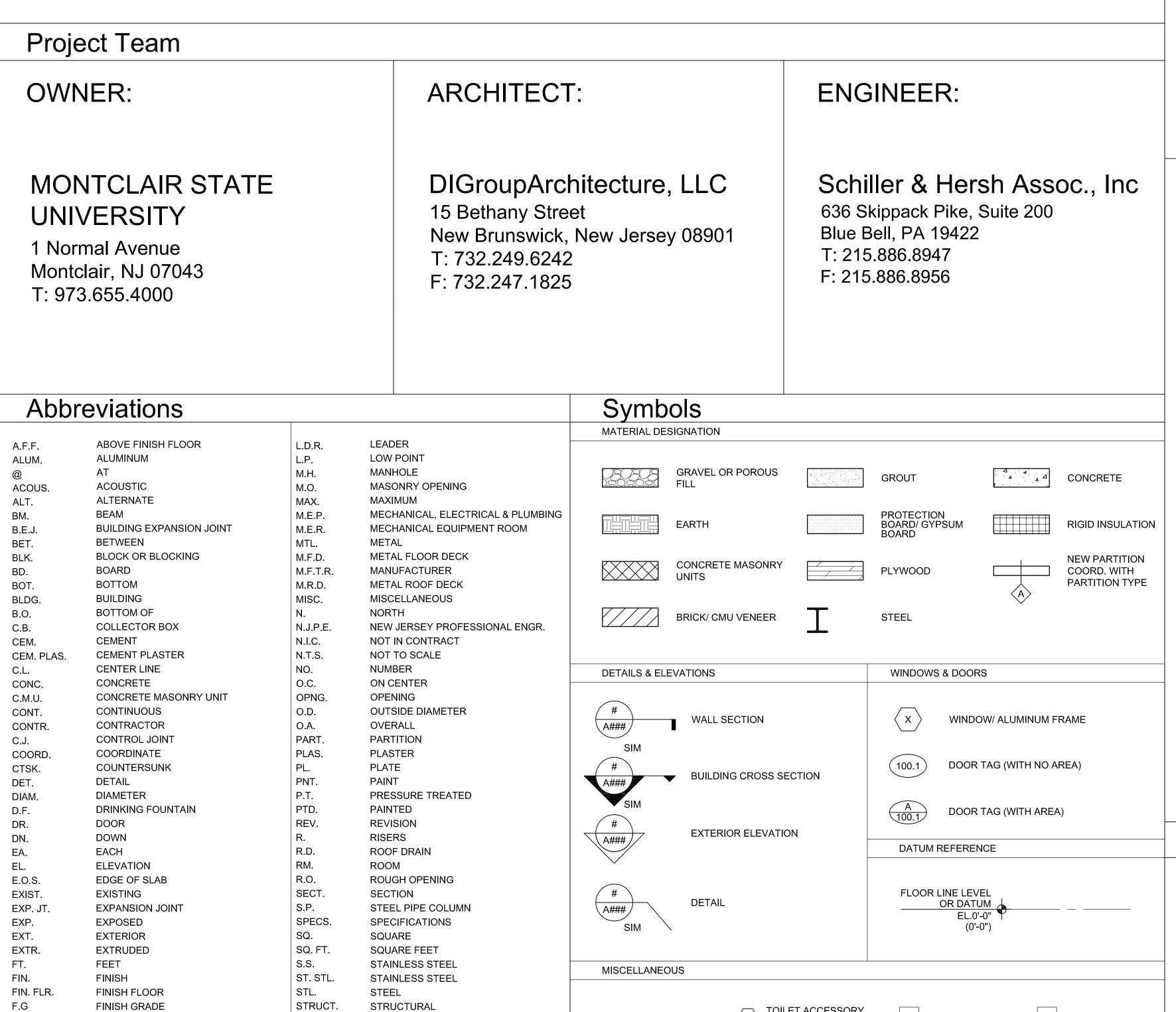
MONTCLAIR STATE UNIVERSITY COLE HALL PROVOST OFFICE RENOVATION

1 NORMAL AVENUE MONTCLAIR, NJ 07043



MATERIAL KEY NOTES

READABILITY OF DOCUMENTS. MATERIAL KEY NOTES

ARE IN CSI FORMAT AND REFER TO SPECIFICATION

SECTIONS IN WHICH SPECIFIC MATERIALS APPEAR.

REFERENCE NOTES

DIMENSIONS, AND/ OR DESCRIPTIONS OF WORK AS

THEY RELATE TO THE DRAWINGS ON WHICH THEY

COMPLIMENTARY TO EACH DRAWING AND ARE TO BE

CAREFULLY REVIEWED PRIOR TO CONSTRUCTION.

NOTES PERTAINING TO SPECIFIC MATERIALS,

APPEAR. ALL REFERENCE NOTES ARE

MATERIAL KEY NOTES ARE USED IN LIEU OF

STANDARD NOTES IN ORDER TO IMPROVE

DOCUMENT REVIEW

EACH CONTRACTOR IS RESPONSIBLE FOR REVIEWING

ALL ARCHITECTURAL, CIVIL, STRUCTURAL, HVAC, FIRE

PROTECTION, PLUMBING, ELECTRICAL & TECHNOLOGY

DRAWINGS. ALL DOCUMENTS CONTAIN INFORMATION

WHICH IS COMPLIMENTARY TO EACH TRADE AND MUST

BE REVIEWED & UNDERSTOOD PRIOR TO BIDDING THIS

WORK

WORK SHALL BE PERFORMED IN STRICT

ACCORDANCE WITH NATIONAL, LOCAL & ALL

AS DETERMINED BY AUTHORITIES HAVING

JURISDICTION.

OTHER APPLICABLE CODES & REQUIREMENTS

SUSPENDED

TOP OF SLAB

TOP OF STEEL

TOP OF WALL

TOP OF PARAPET

VERIFY IN FIELD

WATER CLOSET

WORK POINT

WITH

WOOD

WATERPROOFING

WELDED WIRE MESH

UNDERWRITERS LABORATORY

WIDE FLANGE BEAM OR COLUMN

UNLESS OTHERWISE NOTED

TOP OF

TREADS

TYPICAL

VERTICAL

T.O.S.

T.O.STL.

T.O.W.

VERT.

V.I.F.

W.F.

FIRE EXTINGUISHER **FIREPROOFING**

FLOOR

FLOOR DRAIN

FACE OF WALL

FOUNDATION

GALVANIZED

GENERAL CONTRACTOR

STEEL TUBE BEAM OR COLUMN

INTERMEDIATE DISTRIBUTION FRAME

GAUGE

HAND RAIL

HARDWARE

HIGH POINT

HOLLOW METAL

INSIDE DIAMETER

HORIZONTAL

INSULATION

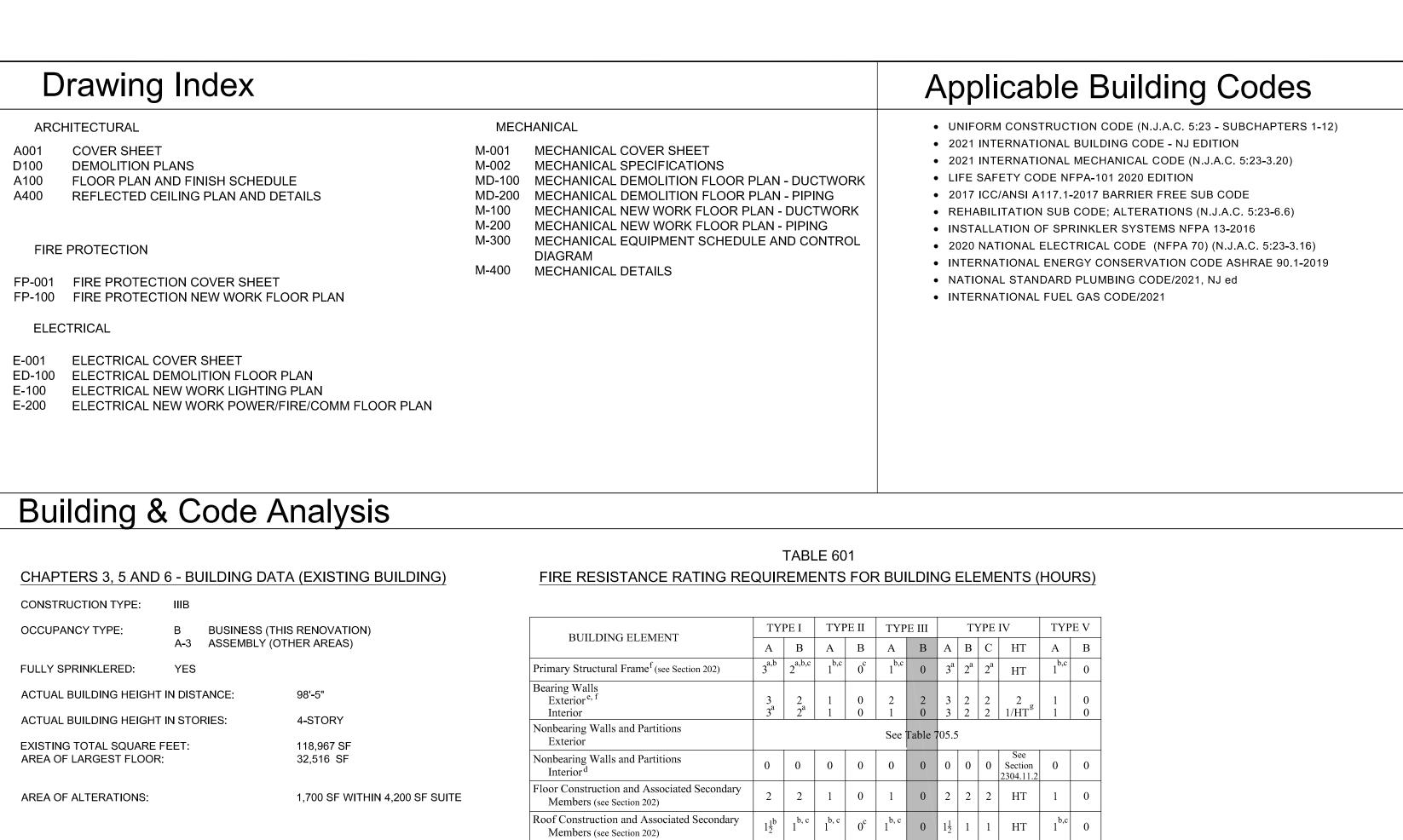
HEIGHT

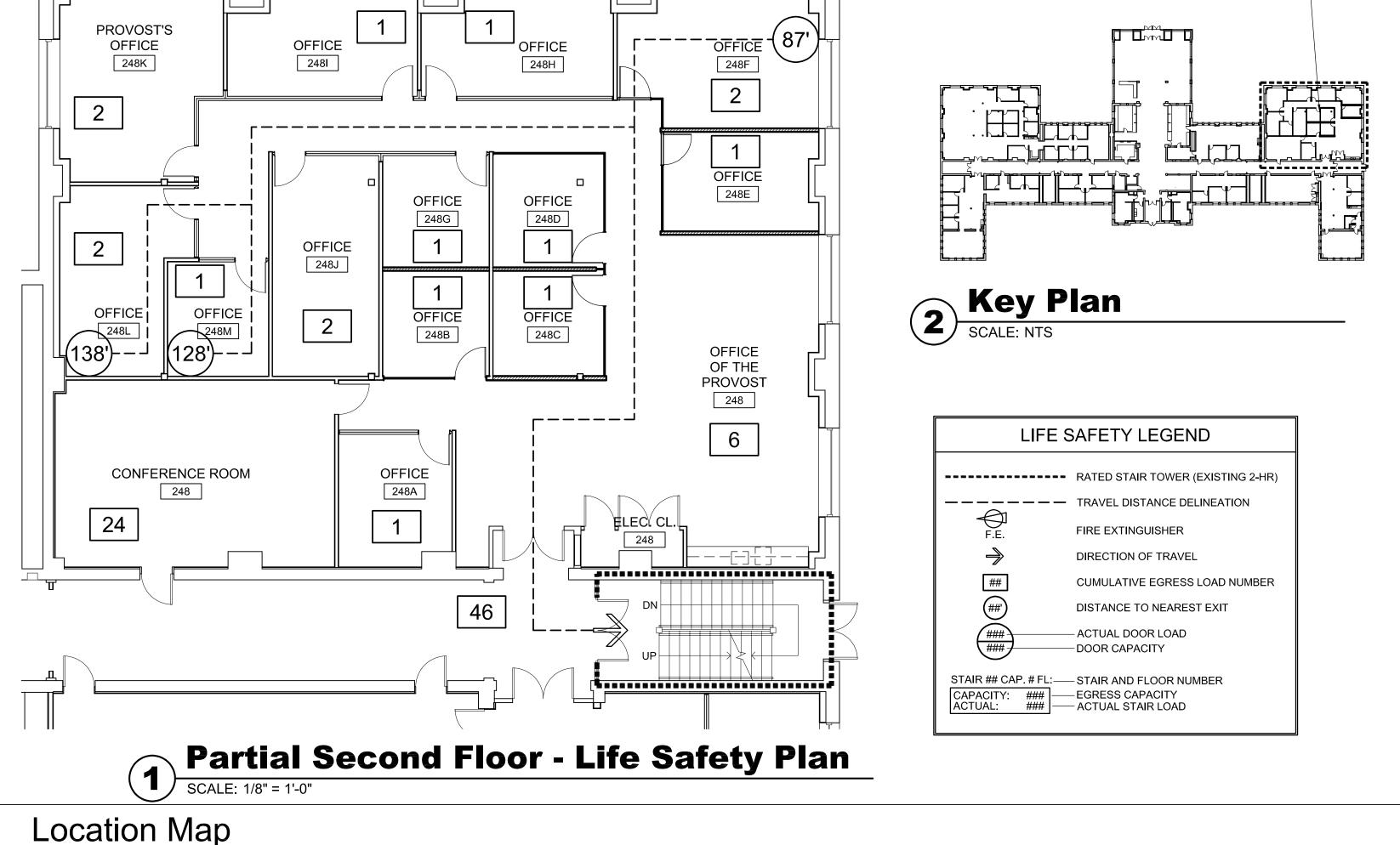
F.D.

FNDTN

H.S.S.

INSUL.





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ARCHITECTURE FOR CHANGE

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Jeffrey D. Venezia, AIA NJ RA AI 00827100

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Montclair State University Normal Avenue Montclair, NJ 07043

Project:

Renovation of Provost's Office at Cole Hall 1 Normal Avenue Montclair, NJ 07043

Drawing Information: Project No: 23.057 MSU Project No: PR 23C064

RICHARD L. DELP, PE NEW JERSEY PROFESSIONAL ENGINEER

SCHILLER AND HERSH ASSOCIATES, INC. **Consulting M/E/P Engineers** 636 Skippack Pike, Suite 200 Blue Bell, PA 19422 Certificate of Authorization: 24GA28014000 S&H JOB #2364A

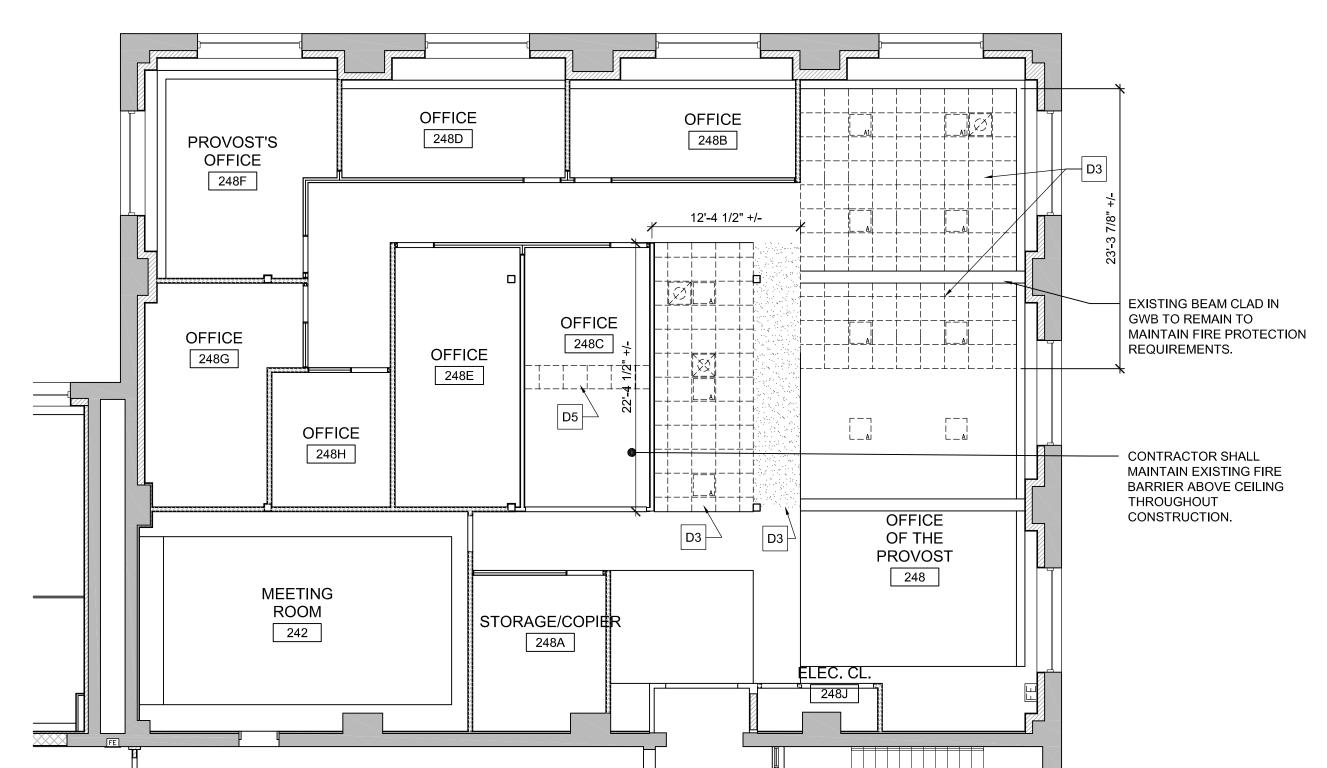
SCOPE OF WORK

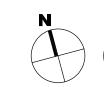
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> 08/01/23 **A-001**

Partial 1st Floor - Demolition Plan - Provost Office

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





Demolition Reflected Ceiling Plan

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

GENERAL DEMOLITION NOTES

- A. THE FOLLOWING ARE MEANT TO GENERALLY DESCRIBE THE SCOPE OF THE SELECTIVE DEMOLITION \mid ITEMS FOR THIS PROJECT. PRIOR TO BIDDING THIS PROJECT, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY QUANTITIES, MATERIALS, REQUIRED WORKING HEIGHTS (FOR REMOVALS SUCH AS CEILINGS), EXISTING FASTENING METHODS (FOR ACTUAL REMOVAL EFFORT REQUIRED), AND OTHER EXISTING CONSTRUCTION DETAILS RELEVANT TO THE EFFORT REQUIRED FOR THE DEMOLITION DESCRIBED HEREIN. THE CONTRACTOR IS RESPONSIBLE TO CAREFULLY REMOVE AND / OR RELOCATE ALL MATERIAL AND EQUIPMENT REQUIRED TO FACILITATE THE ALTERATIONS AND IMPROVEMENTS DESCRIBED IN THESE DOCUMENTS, WHETHER THE DEMOLITION ITEM OF WORK IS DESCRIBED IN THESE DOCUMENTS, OR NOT.
- B. DEMOLITION WORK, AS SPECIFIED HEREIN, IS TO BE PERFORMED COMPLETELY BY THE CONTRACTOR. "COMPLETELY" SHALL MEAN THE SPECIFIC OBJECT NAMED AND ANY ACCESSORY OR AUXILIARY ITEMS WHICH WOULD REASONABLY BE CONSIDERED AS PART OF THE ITEM NAMED SUCH AS FOUNDATIONS, FOOTINGS, RAILINGS, ELBOWS, BOLTS, NUTS, ETC. "COMPLETELY" SHALL ALSO MEAN ABOVE GRADE AND BELOW GRADE FOR ALL DEMOLITION REMOVAL AND DISPOSAL.
- . THE DEMOLITION CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGES RESULTING FROM THE CONTRACTORS FAILURE TO DO SO SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT THE CONTRACTORS EXPENSE. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES BY TEST PIT OR OTHER MEANS PRIOR TO DEMOLITION IN THE VICINITY OF THE
- D. THE EXTENT OF ITEMS TO BE REMOVED ON THE DEMOLITION PLAN ARE SHOWN BY BROKEN LINES. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO NOTIFY THE ARCHITECT OF ANY CONFLICTS PRIOR TO THE START OF DEMOLITION WORK.
- . PRIOR TO THE START OF WORK, IN EACH ROOM, THE CONTRACTOR SHALL VERIFY THAT ALL LOOSE FURNITURE, SHELVING, PICTURES, PROJECTION SCREENS, ARTWORK, VENDING MACHINES. TABLES, PLAQUES, DIRECTORIES, ROOM SIGNAGE, OFFICE EQUIPMENT, COMPUTERS, ETC. HAVE BEEN REMOVED FROM EACH ROOM. IF THIS HAS NOT BEEN DONE, NOTIFY THE OWNER IMMEDIATELY. DO NOT PROCEED WITH WORK UNTIL ROOM IS CLEAR AND EMPTY OF ANY/ALL ITEMS DESCRIBED HEREIN.
- DIMENSIONS GIVEN AND INFORMATION SHOWN REFLECT EXISTING CONDITIONS TAKEN FROM FORMER ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DOCUMENTS. ALL EXISTING CONDITIONS ARE TO BE FIELD VERIFIED PRIOR TO REMOVAL AND DEMOLITION WORK, FABRICATION AND INSTALLATION OF NEW PARTITIONS AND MECHANICAL/ELECTRICAL COMPONENTS.
- G. THE DEMOLITION CONTRACTOR SHALL BE RESPONSIBLE FOR THE OFFSITE DISPOSAL OF ANY AND ALL EXCESS MATERIAL AND OTHER UNSUITABLE MATERIAL UNABLE TO BE USED ON SITE.
- H. EXISTING FINISHES THAT HAVE BEEN PREVIOUSLY DAMAGED, OR ARE DAMAGED DURING CONSTRUCTION AND CONSTRUCTION WORK SHALL BE REPAIRED TO MATCH ADJACENT EXISTING CONSTRUCTION. ALL EXISTING FINISHES ARE TO BE ALTERED, REMOVED, AND REPAIRED AS REQUIRED TO PROVIDE NEW FINISHES AS SCHEDULED.
- ALL EXISTING WALLS, CEILINGS, TRIM, ETC. TO RECEIVE NEW PAINT FINISH SHALL BE REPAIRED, SCRAPED, SANDED, AND CLEANED AS REQUIRED PRIOR TO APPLICATION OF NEW PAINT.
- WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH NATIONAL, STATE, LOCAL, AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS AS DETERMINED BY AUTHORITIES HAVING JURISDICTION.
- . GENERAL CONTRACTOR SHALL COORDINATE REMOVAL OF ANY EXISTING MECHANICAL, PLUMBING, AND ELECTRICAL OUTLETS, DEVICES OR SWITCHING LOCATED ON WALLS SCHEDULED TO REMAIN AND SHALL BE REMOVE ALL CIRCUITING / WIRING BACK TO THE ELECTRIC PANEL(S) PROVIDING POWER. GENERAL CONTRACTOR TO COORDINATE THE REMOVAL OF ALL PLUMBING, MECHANICAL, AND ELECTRICAL ITEMS WITH RESPECTIVE CONTRACTORS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PATCHING AND REPAIR OF EXISTING WALL WHERE DEVICES ARE REMOVED AND SHALL PREPARE SURFACES AS REQUIRED TO RECEIVE NEW SCHEDULED FINISHES.
- THIS BUILDING IS OCCUPIED AND SHALL CONTINUE TO OPERATE THROUGHOUT CONSTRUCTION. ANY WORK REQUIRED THAT MAY REQUIRED 'OFF-HOURS' LABOR SHALL BE ACCOUNTED FOR IN THE PROJECT SCOPE.
- M. CONTRACTOR WILL INSTALL TEMPORARY PROTECTION AROUND PROJECT AREA TO SPREAD OF DUST AND OTHER CONSTRUCTION DEBRIS BEYOND WORK ZONE. PROVIDE WALK-OFF MATS AT ENTRY / EXIT POINTS INTO WORK SPACE. GENERAL CONTRACTOR SHALL PROTECT ALL SURROUNDING FLOORING AND ENTRY INTO SUITE WITH HARDBOARD AND/OR PLASTIC SHEETING.
- N. PROVIDE AND INSTALL ANY AND ALL REQUIRED TEMPORARY SUPPORT, SHORING, BRACING AND/OR NEEDLING TO STABILIZE AND SUPPORT EXISTING BUILDING FRAMING FOR ROOF, FLOORS AND ALL WALLS CONCERNING THE WORK DESCRIBED IN THESE DOCUMENTS.
- D. PROTECT ALL SMOKE DETECTORS, AIR INLETS, ETC., DURING CONSTRUCTION
- P. FIVE (5) DAY NOTICE REQUIRED FOR ALL UTILITY SHUTDOWNS. COORDINATE WITH MSU
- Q. CONTRACTOR WILL BE PERMITTED TWO PARKING SPACES IN LOT 10 TO THE EAST OF COLE HALL FOR UNLOADING AND A DUMPSTER. ALL OTHER VEHICLE PARKING WILL BE IN A COMMUTER LOT ON

DEMOLITION LEGEND

- D1 REMOVE PORTION OF EXISTING GYPSUM PARTITION IN ITS ENTIRETY, INLCUDING BUT NOT LIMITED TO VISION PANELS, TRIM, WALL BASE, ETC. PATCH EXISTING ADJACENT AREAS AS REQUIRED THAT HAVE BEEN DISTURBED BY DEMOLITION AND PREPARE SURFACES AS REQUIRED TO RECEIVE NEW SCHEDULED FINISH (REFER TO FINISH SCHEDULE) OR MATCH ADJACENT SURFACES AS REQUIRED IF NOT INCLUDED IN FINISH SCHEDULE. WHERE WALL IS REMOVED FOR INSTALLATION OF NEW GLASS PARTITION SYSTEM, COORDINATE HEIGHT WITH EXISTING SOFFIT CONDITIONS IN SUITE. REVIEW PARTITION SYSTEM ELEVATIONS PRIOR TO REMOVAL. ANY EXISTING ELECTRICAL OUTLETS, DEVICES OR SWITCHING LOCATED IN PORTION OF WALLS SCHEDULED TO BE DEMOLISHED SHALL BE REMOVED AND RELOCATED TO ADJACENT WALL. GENERAL CONTRACTOR TO COORDINATE THE REMOVAL OF ALL PLUMBING, MECHANICAL, AND ELECTRICAL ITEMS WITH RESPECTIVE CONTRACTORS.
- D2 REMOVE EXISTING FLOORING FINISH (CARPETING AND VINYL BASE), BASE AND RELATED TRIM PIECES. PATCH, CLEAN AND PRÈPARE EXISTING SUB-FLOOR ÁS REQUIRED TO RECEIVE NEW SCHEDULED FINISH.
- D3 REMOVE ENTIRE EXISTING CEILING SYSTEM (SUSPENDED OR GYPSUM) INCLUDING BUT NOT LIMITED TO GRID SYSTEM, FRAMING, HVAC, ELECTRICAL OR FIRE PROTECTION DEVICES, FURRING, WIRE SUPPORTS, HANGERS, WOOD TRIM, COVE MOLDING, EDGE TRIM, SIGNAGE, ETC. TAKE SPECIAL CARE TO MAINTING EXISTING ABOVE CEILNG FIRE PROTECTION BARRIERS. THOROUGHLY REPAIR WALLS AT EDGE TRIM REMOVAL AND PREPARE ALL DISTURBED SURFACES TO RECEIVE NEW SCHEDULED FINISHES. LIGHTING FIXTURES, FIRE PROTECTIONS DEVICES, AND MECHANICAL REGISTERS SHALL BE SALVAGED FOR REUSE AND REINSTALLATION. GC TO STORE ON-SITE AND PROTECT FOR REUSE. REFER TO MEP/FP DOCUMENTS FOR EXTENT OF WORK.
- D4 FURNITURE AND EQUIPMENT TO BE REMOVED BY OWNER.
- REMOVE PORTION OF EXISTING CEILING SYSTEM TO THE EXTENT NECESSARY TO D5 ACCOMMODATE INSTALLATION OF NEW PARTITION. CUT BACK GRID TO THE NEXT FULL GRID igspace INTERSECTION, AND REINSTALL TO SUIT NEW OFFICE LAYOUT.

M/E/P Engineer:

10.20.23 FOR PERMIT & CONSTRUCTION Description No. Date Revisions / Issues

ARCHITECTURE FOR CHANGE

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Montclair State University

Montclair, NJ 07043

1 Normal Avenue

Montclair, NJ 07043

Project Renovation of Provost's Office at Cole Hall 1 Normal Avenue

Drawing Information: Project No: 23.057 MSU Project No: PR 23C064 Drawn By: SBT

Checked By: CHK Sheet Name:

Demolition Plans

Sheet No:

08/01/23

RICHARD L. DELP, PE NEW JERSEY PROFESSIONAL

SCHILLER AND HERSH ASSOCIATES, INC.

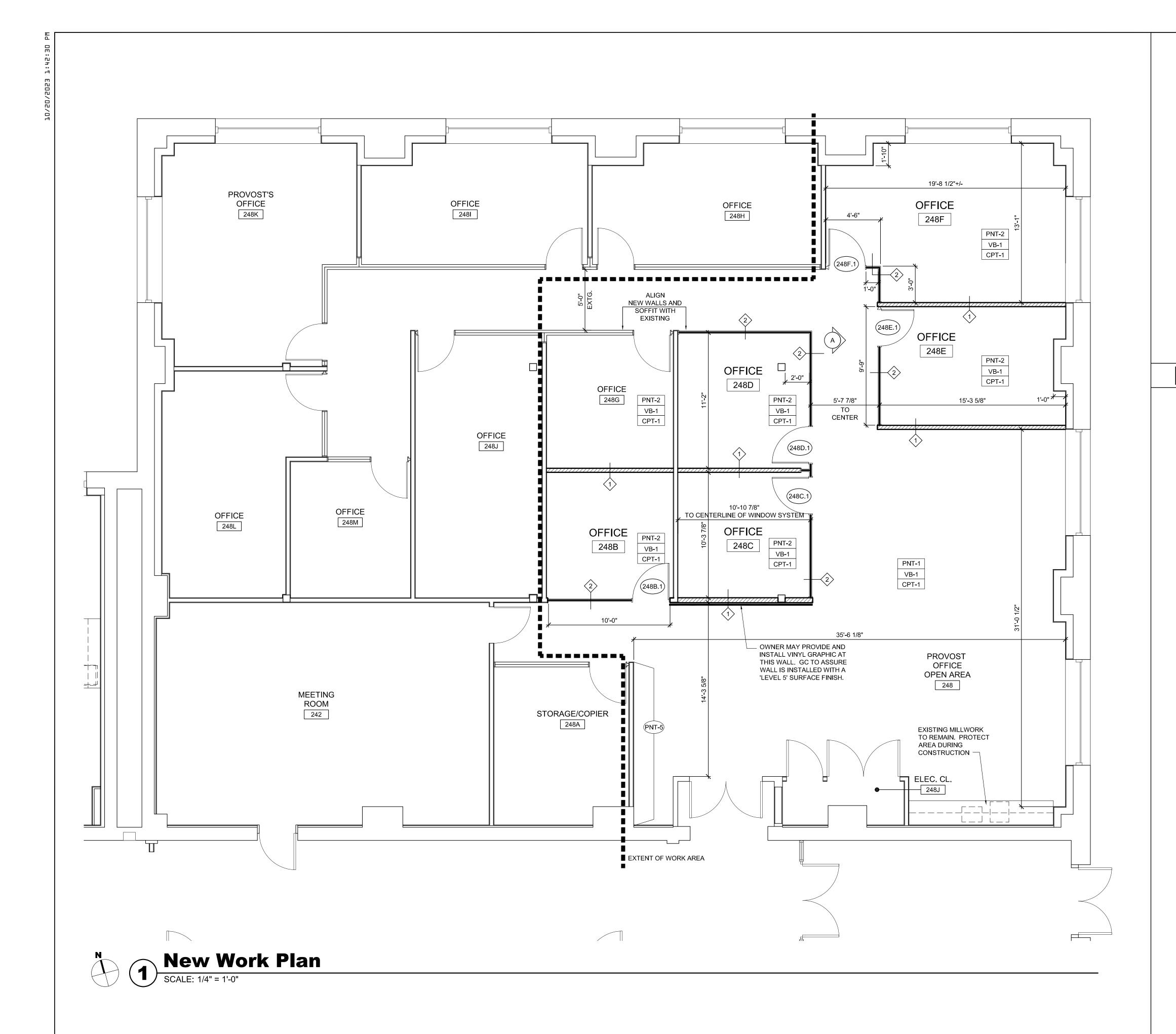
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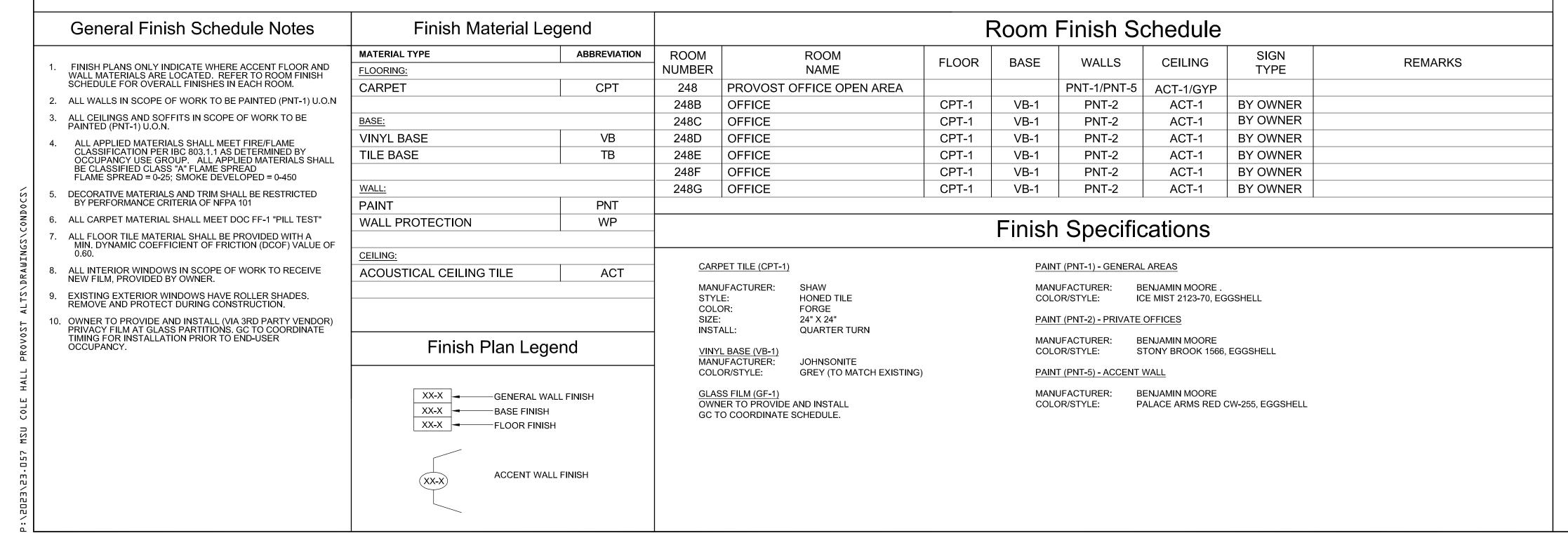
Consulting M/E/P Engineers

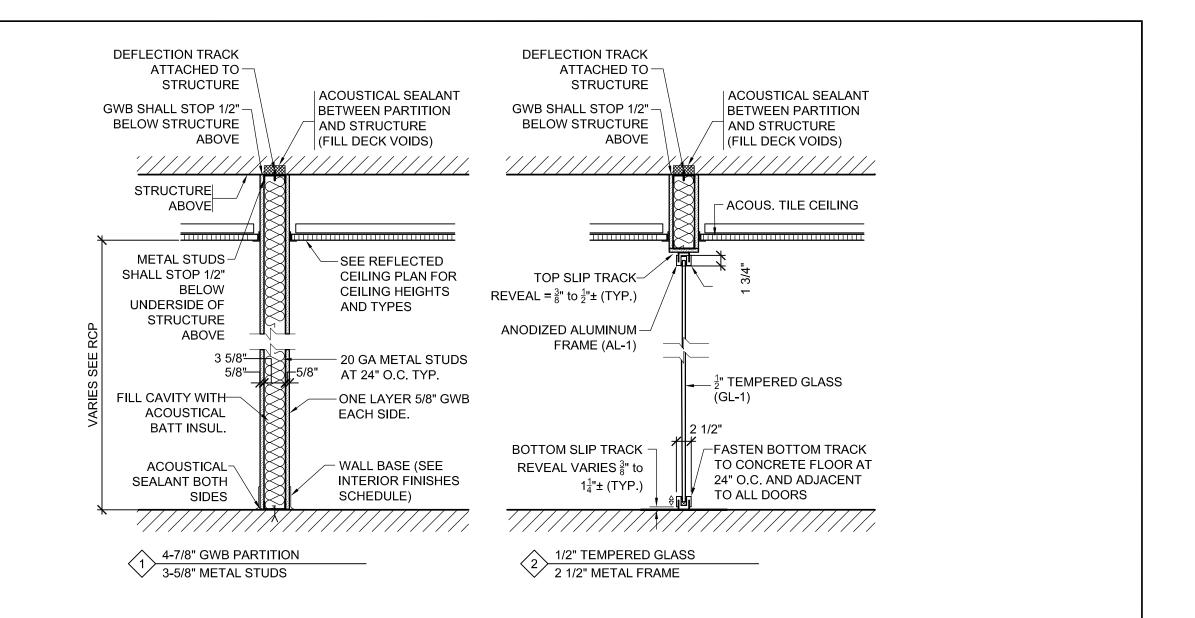
636 Skippack Pike, Suite 200

Blue Bell, PA 19422

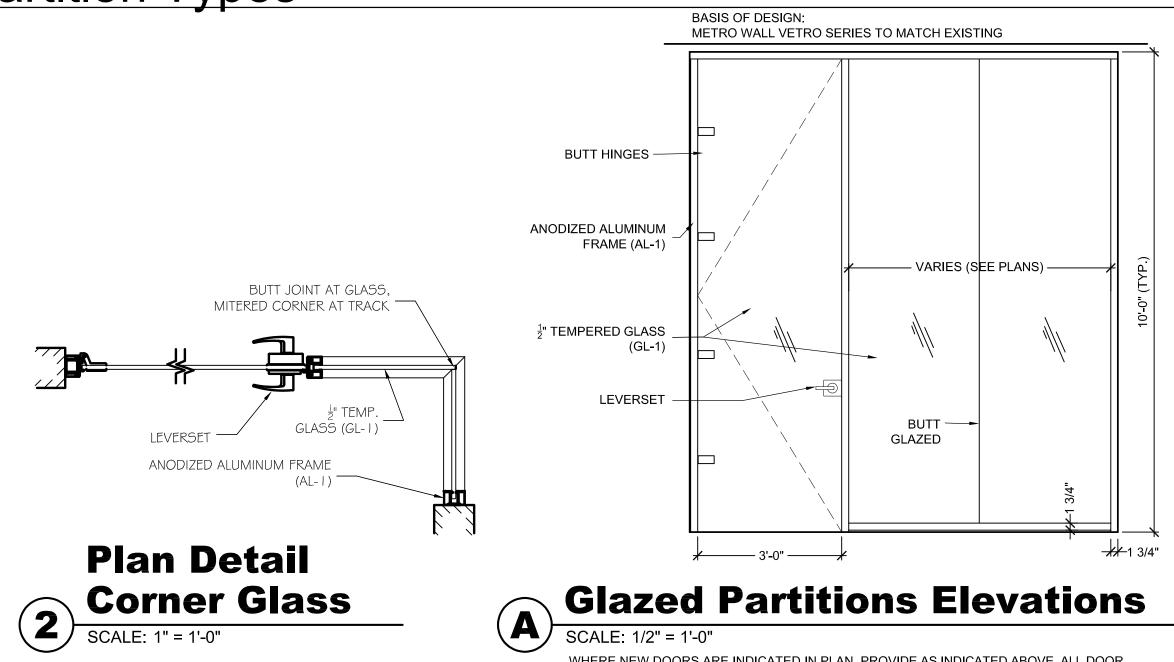
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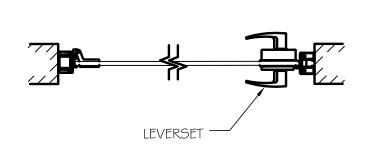
Partition Types



WHERE NEW DOORS ARE INDICATED IN PLAN, PROVIDE AS INDICATED ABOVE. ALL DOOR

HARDWARE TO MATCH EXISTING ADJACENT WITHIN THE SUITE FOR OFFICE USE.

PANELS SHALL BE 3'-0" - GLAZED PARTITIONS VARY BY LOCATION.



Plan Detail Door Jamb

10.20.23 FOR PERMIT & CONSTRUCTION No. Date Description Revisions / Issues

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Montclair, NJ 07043

Project: Renovation of Provost's Office at Cole Hall 1 Normal Avenue Montclair, NJ 07043

Drawing Information: Project No: 23.057 MSU Project No: PR 23C064 Drawn By: ST

Checked By: jmb Sheet Name:

Floor Plan

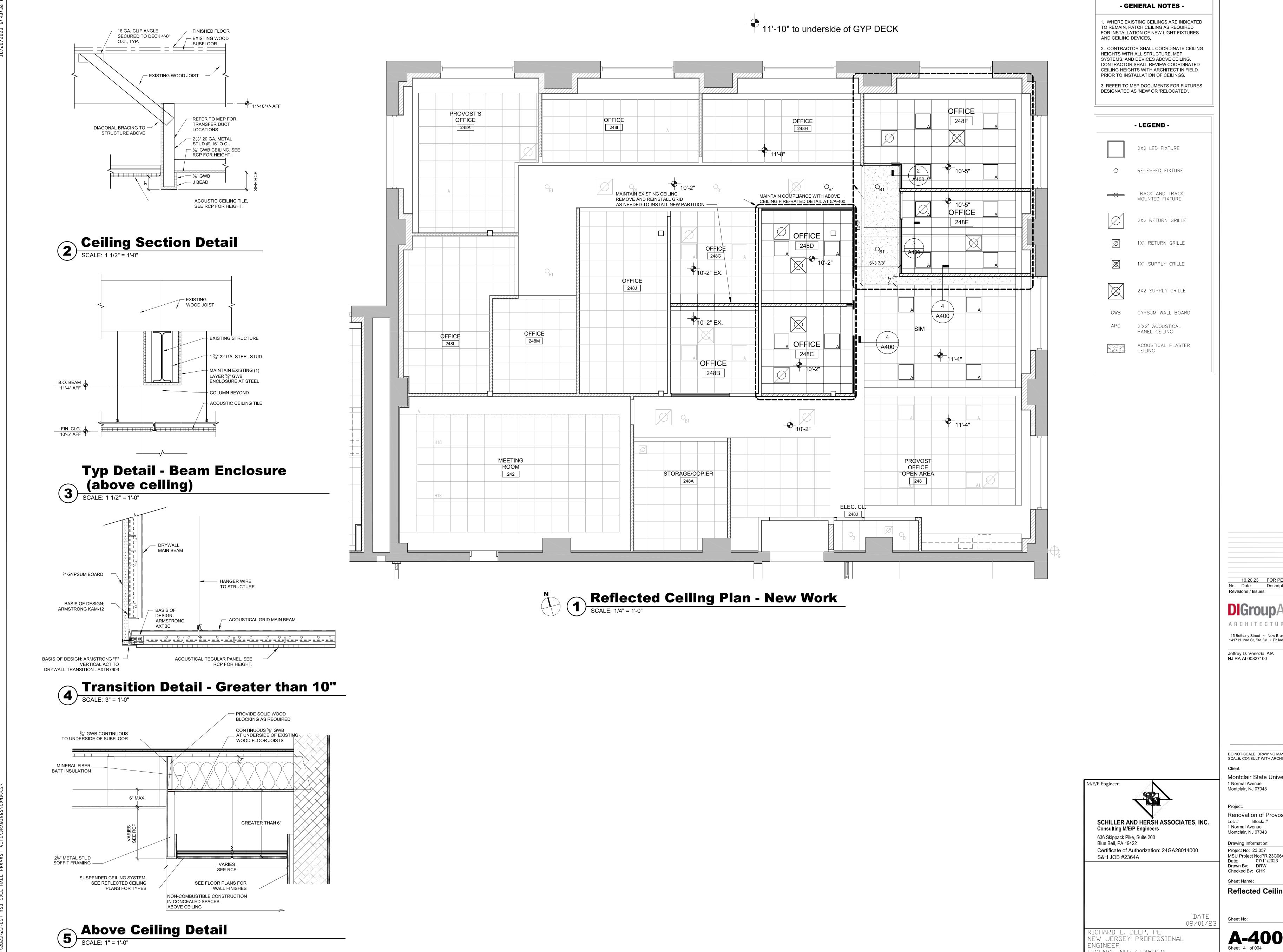
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08/01/23 RICHARD L. DELP, PE NEW JERSEY PROFESSIONAL ENGINEER

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Jeffrey D. Venezia, AIA

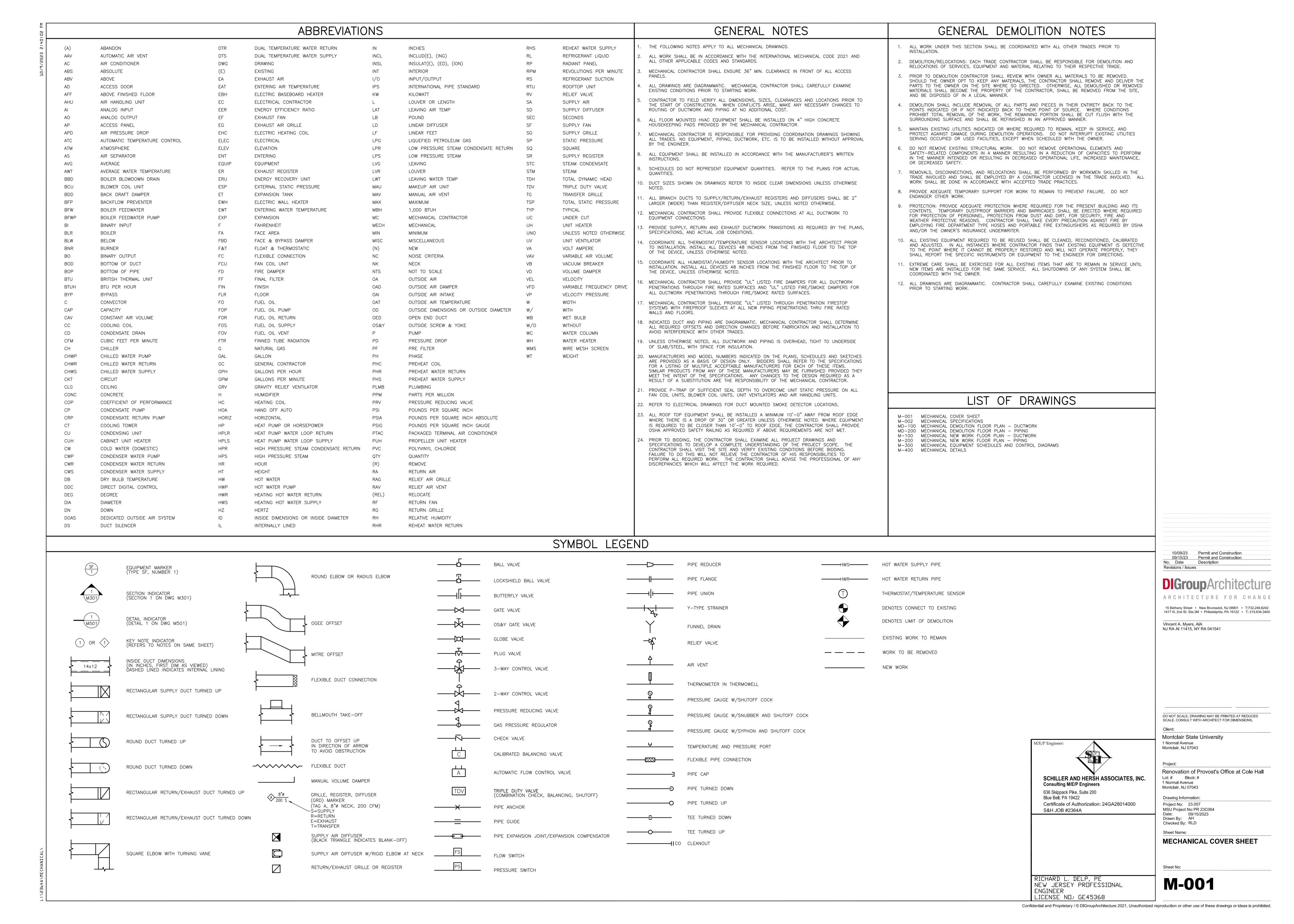
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Montclair State University

Renovation of Provost's Office at Cole Hall

MSU Project No: PR 23C064

Reflected Ceiling Plan



GENERAL REQUIREMENTS:

- A. PROVIDE ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTALS, METHODS AND SERVICES REQUIRED TO INSTALL ALL WORK INDICATED COMPLETELY AND IN FULL OPERATION.
- B. UPON COMPLETION OF THE CONTRACT, THE CONTRACTOR SHALL PROVIDE THREE (3) COMPLETE SETS OF MANUFACTURERS' OPERATING, MAINTENANCE, AND PREVENTIVE MAINTENANCE INSTRUCTIONS (IN BOUND BOOK FORM) INCLUDING PARTS LISTS, AND COMPLETE PROCUREMENT INFORMATION INCLUDING EQUIPMENT NUMBERS AND DESCRIPTIONS. OPERATING STAFF PERSONS SHALL BE INSTRUCTED IN PROPER OPERATING AND SERVICE REQUIREMENTS OF THE SYSTEMS AND EQUIPMENT.
- C. EACH CONTRACTOR SHALL REVIEW "ALL" PROJECT DOCUMENTS OF "ALL" TRADES REVIEWING ALL OF THE PROJECT REQUIREMENTS PRIOR TO BIDDING. DISCREPANCIES BETWEEN DOCUMENTS SHALL BE REPORTED AT THE TIME OF BID.
- D. VERIFY ALL FIELD CONDITIONS, ACCESS WAYS, DIMENSIONS, AND DETAILS IN THE FIELD PRIOR TO BID AND PRIOR TO FABRICATION. INCLUDE IN BID ALL WORK NECESSARY TO COVER COSTS RESULTING FROM FIELD CONDITIONS AND COORDINATION WITH OTHER TRADES AND OTHER ONGOING WORK.
- E. ALL WORK SHALL BE IN CONFORMANCE THE 2006 INTERNATIONAL MECHANICAL CODE.
- F. CONTRACTOR SHALL APPLY FOR, SECURE, AND PAY FOR ALL PERMITS AND/OR CERTIFICATES OF INSPECTION REQUIRED IN THE PERFORMANCE OF THE WORK BY ALL AUTHORITIES HAVING JURISDICTION.
- G. THE CONTRACTOR SHALL GUARANTEE THE ENTIRE INSTALLATION FOR A PERIOD OF ONE YEAR (EXCEPT WHERE EXTENSIONS OF THIS ONE YEAR PERIOD ARE NOTED) FROM THE DATE OF ACCEPTANCE OF THE SYSTEM AS A WHOLE. ANY DEFECTS IN WORKMANSHIP, MATERIALS, MALFUNCTION OF EQUIPMENT OR UNSATISFACTORY PERFORMANCE, AND ALL OTHER WORK OR PARTS OF THE BUILDING DAMAGED THEREBY, SHALL BE REPAIRED, REPLACED OR OTHERWISE REMEDIED WITHOUT EXPENSE TO THE OWNER. SUCH REPAIRS OR REPLACEMENTS SHALL BE MADE IN A TIMELY MANNER AND AT THE CONVENIENCE OF THE OWNER.
- H. IN ADDITION TO SPECIFICS THAT ARE DEFINED HEREINAFTER, THE CONTRACTOR SHALL PROTECT THE WORK SITE AND ALL HIS OR HER WORK AGAINST DAMAGE FROM ANY SOURCE (INCLUDING BUT NOT LIMITED TO WATER, DUST, HEAT, FREEZING ETC.) UNTIL FINAL COMPLETION AND ACCEPTANCE BY THE AIRPORT.
- I. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL EQUIPMENT AND MATERIAL, INCLUDING SIX COPIES OF EACH SHOP DRAWING SHALL BE SUBMITTED FOR REVIEW. PURCHASE OF OR INSTALLATION OF MATERIALS OR SYSTEM PARTS SHALL NOT PROCEED UNTIL REVIEWED SHOP DRAWINGS ARE RETURNED TO THE SUBMITTING CONTRACTOR.
- J. WHERE PRODUCTS ARE SCHEDULED WITH A MANUFACTURER'S NAME AND MODEL NUMBER, IT IS TO ESTABLISH THE UNIT'S FEATURES AND STANDARD OF
- K. ACCESSORIES SCHEDULED SHALL BE PROVIDED BY THE UNIT MANUFACTURER OR, IF NOT A FACTORY STANDARD, BY THE CONTRACTOR.
- L. PRODUCTS SUBMITTED AND ACCEPTED FOR USE THAT NECESSITATE CHANGES TO THE WORK OF ANY OR ALL OTHER TRADES' WORK SHALL BE COORDINATED AND PAID FOR BY THE CONTRACTOR MAKING THE CHANGE.
- M. CONTRACTOR SHALL, UPON COMPLETION OF THE WORK, SUBMIT A SET OF RECORD DRAWINGS (ELECTRONIC AND PRINT) SHOWING ALL CHANGES FROM THE CONTRACT DRAWING MADE IN THE INSTALLATION, AND SHOWING DIMENSIONED LOCATIONS OF CONCEALED EQUIPMENT OR PARTS OF THE WORK. SUBMIT TO OWNER WITHIN 10 DAYS OF COMPLETION OF WORK.
- N. ALL EQUIPMENT SHALL HAVE ITS MANUFACTURER'S NAMEPLATE SECURELY ATTACHED, GIVING DESIGN AND OPERATING CHARACTERISTICS. NAMEPLATES SHALL NOT BE COVERED OR OBSTRUCTED FROM VIEW.
- O. EACH TRADE CONTRACTOR SHALL PROVIDE AND INSTALL AN APPROVED FIRE STOP SEALANT, TOTALLY ENCLOSING ALL PENETRATIONS THROUGH RATED CEILINGS, WALLS, ROOFS OR FLOORS.
- P. UNLESS OTHERWISE NOTED, ALL PARTS, EQUIPMENT, AND MATERIALS SHALL BE NEW AND SHALL BE ASME AND/OR UL APPROVED.
- Q. CONTRACTOR SHALL COMPLETE ALL CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF THE WORK. CUTTING AND PATCHING SHALL BE COMPLETED IN A NEAT AND WORKMANLIKE MANNER. PATCHING MATERIALS SHALL MATCH EXISTING MATERIALS TO THE GREATEST EXTENT POSSIBLE. PROVIDE TOUCH UP PAINT TO MATCH EXISTING SURROUNDING AREAS OF CUTTING AND PATCHING WORK.
- R. CONTRACTOR SHALL REMOVE AND REPLACE ALL CEILINGS AS REQUIRED FOR THE INSTALLATION OF THE NEW WORK.

<u>DUCTWORK</u>

- A. FITTINGS AND DUCTWORK FOR HVAC SYSTEMS SHALL COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE." GALVANIZED SHEET STEEL: COMPLY WITH ASTM A653. GALVANIZED COATING DESIGNATION G-90. PROVIDE SHEET METAL NOZING AT EACH JOINT ON UPSTREAM EDGE OF LINER DUCT SIZES SHOWN ON DRAWINGS ARE "FREE AREA" OR "AIR PASSAGE." INCREASE SHEET METAL DIMENSIONS TO ACCOMMODATE LINER.
- B. SELECT SEAM TYPES AND FABRICATE ACCORDING TO SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS -METAL AND FLEXIBLE," FIGURE 1-5, "LONGITUDINAL SEAMS - RECTANGULAR DUCTS," FOR THE APPROPRIATE STATIC PRESSURE CLASS. PRESSURE CLASS 2, MINIMUM WITH A VELOCITY NOT TO EXCEED 2500 FPM. SEAL CLASS C, MINIMUM.
- C. ELBOWS, TRANSITIONS, OFFSETS, BRANCH CONNECTIONS AND OTHER DUCT CONSTRUCTION: SELECT TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 2. FITTINGS AND OTHER CONSTRUCTION." FOR FOR THE APPROPRIATE PRESSURE CLASS FOR APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT SUPPORT INTERVALS AND OTHER PROVISIONS.
- D. TURING VANES SHALL BE INSTALLED IN ALL 90 DEGREE ELBOWS, EXCEPT TRANSFER DUCTWORK. TURNING VANES SHALL BE DOUBLE THICKNESS.
- E. MANUAL VOLUME DAMPERS GALVANIZED STEEL, MANUAL VOLUME DAMPERS.STANDARD LEAKAGE RATING WITH LINKAGE OUTSIDE AIR STREAM, SUITABLE FOR BOTH VERTICAL OR HORIZONTAL APPLICATIONS. FRAMES SHALL BE BE EITHER HAT-SHAPED, GALVANIZED STEEL

- CHANNELS, OR FLANGES FOR ATTACHING TO WALLS AND FLANGELESS FRAMES FOR INSTALLING IN DUCTS.
- 1. BASIS OF DESIGN: GREENHECK OR APPROVED
- 2. BLADES: MULTIPLE OR SINGLE BLADE, PARALLEL-OR OPPOSED-BLADE DESIGN, STIFFEN DAMPER BLADES FOR STABILITY, GALVANIZED-STEEL, 0.064 INCH THICK.
- 3. BLADE AXLES: GALVANIZED STEEL. 4. BEARINGS: OIL-IMPREGNATED BRONZE. DAMPERS IN DUCTS WITH PRESSURE CLASSES OF 3-INCH WG OR LESS SHALL HAVE AXLES FULL LENGTH OF DAMPER BLADES AND BEARINGS AT BOTH ENDS OF OPERATING SHAFT.
- F. FLEXIBLE DUCTWORK LIGHTWEIGHT DUCT, CORE OF CORROSION-RESISTANT WIRE HELIX PERMANENTLY BONDED WITHIN FABRIC, INSULATED WITH 1" THICK, 0.75 LBS/CU.FT. DENSITY FIBERGLASS FLEXIBLE INSULATION AND COVERED WITH A FIRE RETARDANT REINFORCED VAPOR BARRIER (HI-VINYL). DUCT SHALL MEET NFPA 90A REQUIREMENTS AND BE LISTED AS A CLASS 1 AIR DUCT MATERIAL UL LISTED STANDARD 181. DUCTWORK SHALL BE MANUFACTURED BY WIREMOLD COMPANY TYPE WCK, THERMAFLEX OR AN APPROVED EQUAL, RATED FOR 10" POSITIVE AND 2" NEGATIVE PRESSURE WG. PROVIDE A MAXIMUM OF 5 FEET OF FLEXIBLE DUCTWORK TO CONNECT FROM TAKEOFF FITTING TO AIR DISTRIBUTION DEVICE.

H. DUCT SEALANT AND GASKETS

- 1. GENERAL SURFACE-BURNING CHARACTERISTICS SHALL BE A MAXIMUM FLAME SPREAD OF 25 AND A MAXIMUM SMOKE DEVELOPED INDEX OF 50 WHEN TESTED IN ACCORDANCE WITH U.L. 723. CERTIFIED BY NRTL
- 2. SEALANT WATER BASED JOINT AND SEAM SEALANT. SEALANT SHALL HAVE THE FOLLOWING CHARACTERISTICS: MINIMUM 65% SOLIDS CONTENT MINIMUM SHORE A HARDNESS OF 20, WATER RESISTANT, MOLD AND MILDEW RESISTANT, VOC MAX OF 75 G/L (LESS WATER), MAXIMUM STATIC PRESSURE CLASS OF 10" WG (POSITIVE AND NEGATIVE), SUITABLE FOR INDOOR AND OUTDOOR USE AND COMPATIBLE WITH GALVANIZED SHEET
- 3. FLANGED GASKETS: BUTYLE RUBBER, NEOPRENE, OR EPDM POLYMER WITH POLYISOBUTYLENE PLASTIZER.

H. HANGERS AND SUPPORTS:

1. CADMIUM - PLATED STEEL RODS AND NUTS. 2. STRAP AND ROD SIZES SHALL COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," TABLE 4-1 "RECTANGULAR DUCT HANGER MINIMUM SIZE. TIE RODS SHALL BE GALVANIZED STEEL, 1/4"MINIMUM DIAMETER.

I. DUCT ATTACHMENTS:

1. SHEET METAL SCREWS, BLIND RIVETS, OR SELF TAPPING METAL SCREWS; COMPATIBLE WITH DUCT

J. INSTALLATION

- 1. DRAWING PLANS INDICATE GENERAL LOCATION AND ARRANGEMENT OF DUCT SYSTEMS. INSTALL DUCT SYSTEMS AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED.
- 2. INSTALL DUCTS WITH FEWEST POSSIBLE JOINTS. 3. INSTALL FACTORY- OR SHOP-FABRICATED FITTINGS FOR CHANGES IN DIRECTION, SIZE, AND SHAPE AND FOR BRANCH CONNECTIONS 4. UNLESS OTHERWISE INDICATED, INSTALL DUCTS VERTICALLY AND HORIZONTALLY, AND PARALLEL
- AND PERPENDICULAR TO BUILDING LINES. 5. INSTALL DUCTS CLOSE TO WALLS., OVERHEAD CONSTRUCTION, COLUMNS, AND OTHER STRUCTURAL AND PERMANENT ENCLOSURE ELEMENTS OF THE BUILDING. INSTALL DUCTS WITH A CLEARANCE OF 1" AROUND.
- 6. WHERE DUCTS PASS THROUGH NON-FIRE-RATED INTERIOR PARTITIONS, COVER THE OPENING BETWEEN THE PARTITION AND DUCT OR DUCT INSULATION WITH SHEET METAL FLANGES OF SAME METAL THICKNESS AS THE DUCT. OVERLAP OPENINGS ON FOUR SIDES BY AT LEAST 1-1/2" INCHES. 7. PROTECT DUCT INTERIORS FROM MOISTURE,

CONSTRUCTION DEBRIS AND DUST, AND OTHER

FOREIGN MATERIALS. PROVIDE FILTER GRILLS

OVER THE RETURN AIR INLETS.

K. BUILDING ATTACHMENTS:

- 1. INTERNALLY THREADED FLUSH MOUNTED EXPANSION ANCHOR: CARBON STEEL PLATED WITH ZINC, ASTM B633, SC1, TYPE III. BASIS OF DESIGN HILTI HDI DROP-IN ANCHOR. 2. INSTALL UPPER ATTACHMENTS TO STRUCTURES. SELECT AND SIZE UPPER ATTACHMENTS WITH PULL-OUT, TENSION, AND SHEAR CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED.
- L. DUCT INSULATION: FIBER GLASS INSULATION, 0.75 LB/CU.FT. DENSITY, MINIMUM R-VALUE = 4.3 AT 1-1/2" THICKNESS, BASIS OF DESIGN JOHNS MANVILLE MICROLITE OR APPROVED EQUAL. INSULATION SHALL BE MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN AND SHALL COMPLY WITH ASTM C 553 AND ASTM C 1290. INSULATION INSTALLED NDOORS: FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS.

M. INSULATION SCHEDULE:

1. SUPPLY DUCT INSULATION: 1-1/2" THICKNESS.

- N. FSK TAPE: FOIL-FACE, VAPOR-RETARDER TAPE MATCHING FACTORY-APPLIED JACKET WITH ACRYLIC ADHESIVE: COMPLYING WITH ASTM C 1136.
- O. PINS AND WASHERS COPPER HEAD, CAPACITOR-DISCHARGE-WELD PINS: COPPER OR ZINC-COATED STEEL PIN, FULLY ANNEALED FOR CAPACITOR DISCHARGE WELDING. LENGTH AND SHANK DIAMETER TO SUIT APPLICATION WITH INTEGRAL 1-1/2" GALVANIZED CARBON STEEL WASHER.

HYDRONIC PIPING

- A. HOT WATER PIPING SHALL BE ASTM B 88 TYPE L DRAWN-TEMPER COPPER TUBING, WROUGHT-COPPER FITTINGS, AND SOLDERED JOINTS.
- B. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.
- C. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.
- D. INSTALL PIPING TO PERMIT VALVE SERVICING.

- E. INSTALL PIPING AT INDICATED SLOPES.
- F. INSTALL PIPING FREE OF SAGS AND BENDS.
- G. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.
- H. INSTALL PIPING TO ALLOW APPLICATION OF INSULATION.
- I. SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE.
- J. INSTALL DRAINS, CONSISTING OF A TEE FITTING, NPS 3/4 BALL VALVE, AND SHORT NPS 3/4 THREADED NIPPLE WITH CAP, AT LOW POINTS IN PIPING SYSTEM MAINS AND ELSEWHERE AS REQUIRED FOR SYSTEM
- K. INSTALL STRAINERS ON INLET SIDE OF EACH COIL. MATCH SIZE OF STRAINER BLOWOFF CONNECTION FOR STRAINERS SMALLER THAN NPS 2.

L. INSTALL THE FOLLOWING PIPE ATTACHMENTS:

- 1. ADJUSTABLE STEEL CLEVIS HANGERS FOR INDIVIDUAL HORIZONTAL PIPING LESS THAN 20 FEET LONG.
- 2. ADJUSTABLE ROLLER HANGERS AND SPRING HANGERS FOR INDIVIDUAL HORIZONTAL PIPING 20 FEET OR LONGER. 3. PIPE ROLLER: MSS SP-58, TYPE 44 FOR
- MULTIPLE HORIZONTAL PIPING 20 FEET OR LONGER, SUPPORTED ON A TRAPEZE. 4. PROVIDE COPPER-CLAD HANGERS AND SUPPORTS FOR HANGERS AND SUPPORTS IN DIRECT CONTACT WITH COPPER PIPE.
- M. INSTALL HANGERS FOR DRAWN-TEMPER COPPER PIPING WITH THE FOLLOWING MAXIMUM SPACING AND MINIMUM ROD SIZES:
- 1. NPS 3/4: MAXIMUM SPAN, 5 FEET; MINIMUM ROD SIZE, 1/4 INCH.
- SIZE, 1/4 INCH. 3. NPS 1-1/2: MAXIMUM SPAN, 8 FEET; MINIMUM

2. NPS 1: MAXIMUM SPAN, 6 FEET; MINIMUM ROD

- ROD SIZE, 3/8 INCH. 4. NPS 2: MAXIMUM SPAN, 8 FEET; MINIMUM ROD SIZE, 3/8 INCH.
- 5. NPS 2-1/2: MAXIMUM SPAN, 9 FEET; MINIMUM ROD SIZE, 3/8 INCH. 6. SUPPORT VERTICAL RUNS AT ROOF, AT EACH
- FLOOR, AND AT 10-FOOT INTERVALS BETWEEN FLOORS.
- N. HYDRONIC SPECIALTIES INSTALLATION: INSTALL MANUAL AIR VENTS AT HIGH POINTS IN PIPING, AT HEAT-TRANSFER COILS, AND ELSEWHERE AS REQUIRED FOR SYSTEM AIR VENTING.
- O. PIPING INSULATION: MINERAL FIBER PREFORMED PIPE INSULATION, BASIS OF DESIGN JOHNS MANVILLE MICRO-LOK. INSULATION SHALL BE MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN AND SHALL COMPLY WITH ASTM C 547, TYPE I, GRADE A, WITH FACTORY APPLIED ASJ.

P. INSULATION SCHEDULE

1. HOT WATER SUPPLY AND RETURN PIPING: 1-1/2" THICKNESS.

GRILLES, REGISTERS AND DIFFUSERS

REFER TO MECHANICAL EQUIPMENT SCHEDULES ON DRAWINGS FOR GRILLES REGISTER AND DIFFUSER DETAILS.

<u>AIR TERMINAL UNITS</u>

- A. GENERAL: FURNISH AND INSTALL PRICE AIR TERMINAL UNIT AS INDICATED ON THE PLANS WITH CAPACITIES AND CHARACTERISTICS AS LISTED IN THE SCHEDULE AND THE SPECIFICATIONS THAT FOLLOW.
- B. BASIC CONSTRUCTION
 - 1. VOLUME DAMPER ASSEMBLY INSIDE UNIT CASING WITH CONTROL COMPONENTS INSIDE A PROTECTIVE METAL
 - 2. CASING: 0.040 INCH THICK GALVANIZED STEEL, SINGLE WALL WITH 1/2 INCH THICK FIBROUS-GLASS DUCT LINER COMPLYING WITH ASTM C 1071, NFPA 90A, OR NFPA 90B; AND WITH NAIMA AH124 "FIBROUS GLASS DUCT LINER STANDARD.
 - 3. VOLUME DAMPER: GALVANIZED STEEL WITH PERIPHERAL GASKET AND SELF-LUBRICATING BEARINGS. MAXIMUM DAMPER LEAKAGE: AHRI 880 RATED, 2 PERCENT OF NOMINAL AIRFLOW AT 3-INCH WG INLET STATIC PRESSURE. DAMPER POSITION: NORMALLY OPEN.
 - 4. HYDRONIC HEATING COIL: COPPER TUBE, WITH MECHANICALLY BONDED ALUMINUM FINS SPACED NO CLOSER THAN 0.1 INCH AND RATED FOR A MINIMUM WORKING PRESSURE OF 200 PSIG AND A MAXIMUM ENTERING WATER TEMPERATURE OF 200 DEG F. INCLUDE MANUAL AIR VENT AND DRAIN VALVE.

C. CONTROLS

1. 120V TO 24V CONTROL-VOLTAGE TRANSFORMER 2. SINGLE PACKAGE UNITARY CONTROLLER AND ACTUATOR SHALL BE FIELD SUPPLIED BY ATC CONTRACTOR AND FACTORY MOUNTED BY AIR TERMINAL UNIT MANUFACTURER. THE ELECTRONIC AIRFLOW TRANSDUCER WITH MULTIPOINT VELOCITY SENSOR AT AIR INLET, SHALL BE FACTORY CALIBRATED TO MINIMUM AND MAXIMUM AIR VOLUMES.

RADIANT CEILING PANELS

A. GENERAL DESCRIPTION:

- 1. EXTRUDED ALUMINUM PLANKS WITH PROFILE FACE DESIGN. BASIS OF DESIGN TO MATCH EXISTING RADIANT CEILING PANELS: TWA PANEL SYSTEMS, INC. LINEAR PANEL MODEL.
- 2. BACKING INSULATION: MINIMUM 1 INCH THICK. MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. COMPLY WITH ASTM 612, TYPE IA OR TYPE IB WITH FACTORY APPLIED JACKET. 3. FACTORY PIPING: ASTM B88. TYPE L COPPER TUBE
- WITH ASME B16.22 WROUGHT-COPPER FITTINGS AND BRAZED JOINTS. PIPING SHALL BE MECHANICALLY BONDED TO PANEL. 4. SUPPLY AND RETURN PIPING CONNECTIONS WITH FLEXIBLE STAINLESS STEEL BRAIDED HOSE WITH PUSH

INSTRUMENTATION AND CONTROL

TO CONNECT FITTINGS.

A. DESCRIPTION: THE CONTROL SYSTEM SHALL BE AN EXTENSION OF MONTCLAIR STATE UNIVERSITY'S EXISTING AUTOMATED LOGIC SYSTEM. ALL NEW POINT DATA SHALL BE ACCESSED THROUGH MONTCLAIR STATE UNIVERSITY'S EXISTING AUTOMATED LOGIC SERVER AND SOFTWARE. ALL NEW SYSTEMS AND GRAPHICS FURNISHED AS PART OF THIS PROJECT SHALL APPEAR AND FUNCTION IN A SIMILAR FASHION TO THE EXISTING SYSTEM AND SHALL BE ACCESSED THROUGH A NEW GRAPHIC ICON ON THE EXISTING GRAPHIC PAGE AND A NEW LINK ON THE NAVIGATION TREE.

B. EXISTING CONTROLS VENDOR: AUTOMATED LOGIC BY ALC

- NY/NJ, PHONE NUMBER: 973-569-4700. C. PROVIDE ADVANCED APPLICATION CONTROLLER FOR PRESSURE INDEPENDENT VAV APPLICATIONS WITH ACTUATOR, (3) DIGITAL OUTPUTS, (4) UNIVERSAL INPUTS, AND (1)
 - ANALOG OUTPUT, AUTOMATED LOGIC MODEL ZN341A. D. CONTROL VALVES: PROVIDE 2-WAY CHARACTERIZED CONTROL BALL VALVE WITH MODULATING BELIMO ACTUATOR, NON-FAIL SAFE, NON-SPRING RETURN. E. DUCT TEMPERATURE SENSOR: SENSORS SHALL BE SINGLE
 - POINT OR AVERAGING AS SHOWN. AVERAGING SENSORS SHALL BE A MINIMUM OF 5 FEET IN LENGTH PER 10 SQ.FT. OF DUCT CROSS SECTION. F. SPACE SENSORS: SHALL MATCH EXISTING SPACE SENSORS, AUTOMATED LOGIC MODEL ZS2PL-C-ALC. SENSOR SHALL HAVE PUSH-BUTTON OCCUPANCY OVERRIDE, OCCUPANCY

TESTING, ADJUSTING, AND BALANCING FOR HVAC

STATUS INDICATOR AND SETPOINT ADJUSTMENT.

A. PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM ACCORDING TO THE PROCEDURES CONTAINED IN SMACNA'S "HVAC SYSTEMS - TESTING, ADJUSTING, AND BALANCING" AND IN THIS SECTION.

> 1. COMPLY WITH REQUIREMENTS IN ASHRAE 62.1, SECTION 7.2.2, "AIR BALANCING."

- B. CUT INSULATION, DUCTS, PIPES, AND EQUIPMENT CABINETS FOR INSTALLATION OF TEST PROBES TO THE MINIMUM EXTENT NECESSARY FOR TAB PROCEDURES.
- IN DUCTS WITH SAME MATERIAL AND THICKNESS AS USED TO CONSTRUCT DUCTS. 2. INSTALL AND JOIN NEW INSULATION THAT MATCHES REMOVED MATERIALS. RESTORE INSULATION, COVERINGS, VAPOR BARRIER, AND FINISH ACCORDING

1. AFTER TESTING AND BALANCING, PATCH PROBE HOLES

C. MARK EQUIPMENT AND BALANCING DEVICES, INCLUDING DAMPER-CONTROL POSITIONS, VALVE POSITION INDICATORS, FAN-SPEED-CONTROL LEVERS, AND SIMILAR CONTROLS AND DEVICES, WITH PAINT OR OTHER SUITABLE, PERMANENT

TO DIVISION 23 SECTION "DUCT INSULATION."

IDENTIFICATION MATERIAL TO SHOW FINAL SETTINGS. 1.2 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

- A. PREPARE TEST REPORTS FOR BOTH FANS AND OUTLETS. OBTAIN MANUFACTURER'S OUTLET FACTORS AND RECOMMENDED TESTING PROCEDURES. CROSSCHECK THE SUMMATION OF REQUIRED OUTLET VOLUMES WITH REQUIRED
- B. PREPARE SCHEMATIC DIAGRAMS OF SYSTEMS' "AS-BUILT" DUCT LAYOUTS.

FAN VOLUMES.

SECTION "METAL DUCTS."

- C. FOR VARIABLE AIR VOLUME SYSTEMS, DEVELOP A PLAN TO SIMULATE DIVERSITY. D. DETERMINE THE BEST LOCATIONS IN MAIN AND BRANCH DUCTS FOR ACCURATE DUCT-AIRFLOW MEASUREMENTS. E. CHECK AIRFLOW PATTERNS FROM THE OUTDOOR-AIR
- LOUVERS AND DAMPERS AND THE RETURN— AND EXHAUST-AIR DAMPERS THROUGH THE SUPPLY-FAN DISCHARGE AND MIXING DAMPERS. F. LOCATE START-STOP AND DISCONNECT SWITCHES, ELECTRICAL INTERLOCKS, AND MOTOR STARTERS.
- G. VERIFY THAT MOTOR STARTERS ARE EQUIPPED WITH PROPERLY SIZED THERMAL PROTECTION. H. CHECK DAMPERS FOR PROPER POSITION TO ACHIEVE DESIRED AIRFLOW PATH.
- I. CHECK FOR AIRFLOW BLOCKAGES. J. CHECK CONDENSATE DRAINS FOR PROPER CONNECTIONS AND FUNCTIONING. K. VERIFY THAT AIR DUCT SYSTEM IS SEALED AS SPECIFIED IN

1.3 PROCEDURES FOR VARIABLE-AIR-VOLUME AIR SYSTEMS

- A. ADJUST THE VARIABLE-AIR-VOLUME SYSTEM AS FOLLOWS:
- 1. VERIFY THAT THE SYSTEM STATIC PRESSURE SENSOR IS LOCATED TWO-THIRDS OF THE DISTANCE DOWN THE DUCT FROM THE FAN DISCHARGE.
- 2. VERIFY THAT THE SYSTEM IS UNDER STATIC PRESSURE CONTROL. 3. SELECT THE TERMINAL UNIT THAT IS MOST CRITICAL TO THE SUPPLY-FAN AIRFLOW. MEASURE INLET STATIC PRESSURE, AND ADJUST SYSTEM STATIC PRESSURE CONTROL SET POINT SO THE ENTERING STATIC PRESSURE FOR THE CRITICAL TERMINAL UNIT IS NOT LESS THAN THE SUM OF THE TERMINAL-UNIT
- MANUFACTURER'S RECOMMENDED MINIMUM INLET STATIC PRESSURE PLUS THE STATIC PRESSURE NEEDED TO OVERCOME TERMINAL-UNIT DISCHARGE SYSTEM LOSSES 4. CALIBRATE AND BALANCE EACH TERMINAL UNIT FOR
- MAXIMUM AND MINIMUM DESIGN AIRFLOW AS FOLLOWS: a. ADJUST CONTROLS SO THAT TERMINAL IS CALLING FOR MAXIMUM AIRFLOW. SOME CONTROLLERS REQUIRE STARTING WITH MINIMUM AIRFLOW. VERIFY CALIBRATION PROCEDURE FOR
- SPECIFIC PROJECT. b. MEASURE AIRFLOW AND ADJUST CALIBRATION FACTOR AS REQUIRED FOR DESIGN MAXIMUM AIRFLOW. RECORD CALIBRATION FACTOR. c. WHEN MAXIMUM AIRFLOW IS CORRECT, BALANCE
- THE AIR OUTLETS DOWNSTREAM FROM TERMINAL d. ADJUST CONTROLS SO THAT TERMINAL IS CALLING FOR MINIMUM AIRFLOW. e. MEASURE AIRFLOW AND ADJUST CALIBRATION FACTOR AS REQUIRED FOR DESIGN MINIMUM AIRFLOW. RECORD CALIBRATION FACTOR. IF NO MINIMUM CALIBRATION IS AVAILABLE, NOTE ANY DEVIATION FROM DESIGN AIRFLOW.

f.WHEN IN FULL COOLING OR FULL HEATING,

ENSURE THAT THERE IS NO MIXING OF

HOT-DECK AND COLD-DECK AIRSTREAMS

B. ADJUST AIR OUTLETS AND INLETS FOR EACH SPACE TO

UNLESS SO DESIGNED.

INDICATED AIRFLOWS.

- 1. SET AIRFLOW PATTERNS OF ADJUSTABLE OUTLETS FOR
- 2. MEASURE INLETS AND OUTLETS AIRFLOW. 3. ADJUST EACH INLET AND OUTLET FOR SPECIFIED

PROPER DISTRIBUTION WITHOUT DRAFTS.

- AIRFLOW. 4. RE-MEASURE EACH INLET AND OUTLET AFTER THEY HAVE BEEN ADJUSTED.
- 1.4 PROCEDURES FOR TESTING, ADJUSTING, AND BALANCING EXISTING SYSTEMS
- A. PERFORM A PRECONSTRUCTION INSPECTION OF EXISTING EQUIPMENT THAT IS TO REMAIN AND BE REUSED.
- 1. MEASURE AND RECORD THE OPERATING SPEED. AIRFLOW, AND STATIC PRESSURE OF EACH FAN.
- 2. MEASURE MOTOR VOLTAGE AND AMPERAGE. COMPARE THE VALUES TO MOTOR NAMEPLATE INFORMATION. 3. CHECK THE CONDITION OF FILTERS.
- 4. CHECK THE CONDITION OF COILS. 5. CHECK THE OPERATION OF THE DRAIN PAN AND
- CONDENSATE-DRAIN TRAP. 6. CHECK BEARINGS AND OTHER LUBRICATED PARTS FOR PROPER LUBRICATION.
- 7. REPORT ON THE OPERATING CONDITION OF THE EQUIPMENT AND THE RESULTS OF THE MEASUREMENTS TAKEN. REPORT DEFICIENCIES.

- B. BEFORE PERFORMING TESTING AND BALANCING OF EXISTING SYSTEMS, INSPECT EXISTING EQUIPMENT THAT IS TO REMAIN AND BE REUSED TO VERIFY THAT EXISTING EQUIPMENT HAS BEEN CLEANED AND REFURBISHED. VERIFY THE FOLLOWING:
 - 1. NEW FILTERS ARE INSTALLED. 2. COILS ARE CLEAN AND FINS COMBED.
 - 3. DRAIN PANS ARE CLEAN.
 - 4. FANS ARE CLEAN. 5. BEARINGS AND OTHER PARTS ARE PROPERLY
 - LUBRICATED. 6. DEFICIENCIES NOTED IN THE PRECONSTRUCTION REPORT ARE CORRECTED.
- C. PERFORM TESTING AND BALANCING OF EXISTING SYSTEMS TO THE EXTENT THAT EXISTING SYSTEMS ARE AFFECTED BY THE RENOVATION WORK.
 - 1. COMPARE THE INDICATED AIRFLOW OF THE RENOVATED

WORK TO THE MEASURED FAN AIRFLOWS, AND

- DETERMINE THE NEW FAN SPEED AND THE FACE VELOCITY OF FILTERS AND COILS. 2. VERIFY THAT THE INDICATED AIRFLOWS OF THE RENOVATED WORK RESULT IN FILTER AND COIL FACE VELOCITIES AND FAN SPEEDS THAT ARE WITHIN THE ACCEPTABLE LIMITS DEFINED BY EQUIPMENT
- 3. IF CALCULATIONS INCREASE OR DECREASE THE AIRFLOW RATES AND WATER FLOW RATES BY MORE THAN 5 PERCENT, MAKE EQUIPMENT ADJUSTMENTS TO ACHIEVE THE CALCULATED RATES. IF INCREASE OR DECREASE IS 5 PERCENT OR LESS, EQUIPMENT ADJUSTMENTS ARE NOT REQUIRED.
- 1.6 PROCEDURES FOR HEAT-TRANSFER COILS

4. BALANCE EACH AIR OUTLET.

MANUFACTURER.

A. MEASURE, ADJUST, AND RECORD THE FOLLOWING DATA FOR EACH WATER COIL:

- 1. ENTERING- AND LEAVING-WATER TEMPERATURE.
- 2. WATER FLOW RATE. 3. WATER PRESSURE DROP FOR MAJOR (MORE THAN 20 GPM) EQUIPMENT COILS, EXCLUDING UNITARY
- EQUIPMENT SUCH AS REHEAT COILS, UNIT HEATERS, AND FAN-COIL UNITS. 4. DRY-BULB TEMPERATURE OF ENTERING AND LEAVING
- 5. WET-BULB TEMPERATURE OF ENTERING AND LEAVING AIR FOR COOLING COILS. 6. AIRFLOW.

1.7 CONTROLS VERIFICATION

INDICATED.

A. IN CONJUNCTION WITH SYSTEM BALANCING, PERFORM THE

- 1. VERIFY TEMPERATURE CONTROL SYSTEM IS OPERATING WITHIN THE DESIGN LIMITATIONS.
- 2. CONFIRM THAT THE SEQUENCES OF OPERATION ARE IN COMPLIANCE WITH CONTRACT DOCUMENTS.
- 3. VERIFY THAT CONTROLLERS ARE CALIBRATED AND FUNCTION AS INTENDED. 4. VERIFY THAT CONTROLLER SET POINTS ARE AS
- 5. VERIFY THE OPERATION OF LOCKOUT OR INTERLOCK SYSTEMS.
- 6. VERIFY THE OPERATION OF VALVE AND DAMPER ACTUATORS. 7. VERIFY THAT CONTROLLED DEVICES ARE PROPERLY
- INSTALLED AND CONNECTED TO CORRECT CONTROLLER. 8. VERIFY THAT CONTROLLED DEVICES TRAVEL FREELY
- AND ARE IN POSITION INDICATED BY CONTROLLER: OPEN, CLOSED, OR MODULATING. 9. VERIFY LOCATION AND INSTALLATION OF SENSORS TO ENSURE THAT THEY SENSE ONLY INTENDED

1.8 TOLERANCES

- RATES WITHIN THE FOLLOWING TOLERANCES:
- 1. SUPPLY, RETURN, AND EXHAUST FANS AND EQUIPMENT WITH FANS: PLUS OR MINUS 10

TEMPERATURE, HUMIDITY, OR PRESSURE.

A. SET HVAC SYSTEM'S AIR FLOW RATES AND WATER FLOW

- 2. AIR OUTLETS AND INLETS: PLUS OR MINUS 10
- 3. HEATING-WATER FLOW RATE: PLUS OR MINUS 10 PERCENT.

4. COOLING-WATER FLOW RATE: PLUS OR MINUS 10 PERCENT

1.9 FINAL REPORT A. GENERAL: PREPARE A CERTIFIED WRITTEN REPORT

CERTIFIED TESTING AND BALANCING ENGINEER.

TABULATE AND DIVIDE THE REPORT INTO SEPARATE SECTIONS FOR TESTED SYSTEMS AND BALANCED SYSTEMS. 1. INCLUDE A CERTIFICATION SHEET AT THE FRONT OF

THE REPORT'S BINDER, SIGNED AND SEALED BY THE

- 2. INCLUDE A LIST OF INSTRUMENTS USED FOR PROCEDURES, ALONG WITH PROOF OF CALIBRATION.
- B. FINAL REPORT CONTENTS: IN ADDITION TO CERTIFIED FIELD-REPORT DATA, INCLUDE THE FOLLOWING:
- 1. FAN CURVES. 2. MANUFACTURERS' TEST DATA. 3. FIELD TEST REPORTS PREPARED BY SYSTEM AND
- PERFORMANCE; DO NOT INCLUDE SHOP DRAWINGS AND PRODUCT DATA.

4. OTHER INFORMATION RELATIVE TO EQUIPMENT

- C. GENERAL REPORT DATA: IN ADDITION TO FORM TITLES AND ENTRIES, INCLUDE THE FOLLOWING DATA:
- TITLE PAGE. 2. NAME AND ADDRESS OF THE TAB CONTRACTOR.

EQUIPMENT.

PROJECT NAME. 4. PROJECT LOCATION.

EQUIPMENT INSTALLERS.

5. ARCHITECT'S NAME AND ADDRESS. 6. ENGINEER'S NAME AND ADDRESS.

7. CONTRACTOR'S NAME AND ADDRESS.

NUMBER EACH PAGE IN THE REPORT.

8. REPORT DATE. 9. SIGNATURE OF TAB SUPERVISOR WHO CERTIFIES THE 10.TABLE OF CONTENTS WITH THE TOTAL NUMBER OF

PAGES DEFINED FOR EACH SECTION OF THE REPORT.

a. INDICATED VERSUS FINAL PERFORMANCE. b. NOTABLE CHARACTERISTICS OF SYSTEMS.

c. DESCRIPTION OF SYSTEM OPERATION SEQUENCE

IF IT VARIES FROM THE CONTRACT DOCUMENTS.

11.SUMMARY OF CONTENTS INCLUDING THE FOLLOWING:

- 12.NOMENCLATURE SHEETS FOR EACH ITEM OF
- 13.DATA FOR TERMINAL UNITS, INCLUDING MANUFACTURER'S NAME, TYPE, SIZE, AND FITTINGS.

- 14.NOTES TO EXPLAIN WHY CERTAIN FINAL DATA IN THE BODY OF REPORTS VARY FROM INDICATED VALUES. 15.TEST CONDITIONS FOR FANS AND PUMP PERFORMANCE FORMS INCLUDING THE FOLLOWING:
 - a. SETTINGS FOR OUTDOOR—, RETURN—, AND
 - EXHAUST-AIR DAMPERS. b. CONDITIONS OF FILTERS.
 - c. COOLING COIL, WET- AND DRY-BULB CONDITIONS.
 - d. FACE AND BYPASS DAMPER SETTINGS AT
 - e. FAN DRIVE SETTINGS INCLUDING SETTINGS AND PERCENTAGE OF MAXIMUM PITCH DIAMETER.
 - f.INLET VANE SETTINGS FOR VARIABLE-AIR-VOLUME SYSTEMS.
 - g. SETTINGS FOR SUPPLY-AIR, STATIC-PRESSURE CONTROLLER. h. OTHER SYSTEM OPERATING CONDITIONS THAT
- D. SYSTEM DIAGRAMS: INCLUDE SCHEMATIC LAYOUTS OF AIR DISTRIBUTION SYSTEMS. PRESENT EACH SYSTEM WITH

AFFECT PERFORMANCE.

- SINGLE-LINE DIAGRAM AND INCLUDE THE FOLLOWING:
- EXHAUST AIRFLOWS.
- 2. WATER FLOW RATES. 3. DUCT, OUTLET, AND INLET SIZES.
- 4. PIPE AND VALVE SIZES AND LOCATIONS. 5. TERMINAL UNITS.
- E. SYSTEM-COIL REPORTS: FOR WATER COILS OF TERMINAL

- a. SYSTEM AND AIR—HANDLING—UNIT IDENTIFICATION.
- c. ROOM OR RISER SERVED.
- 2. TEST DATA (INDICATED AND ACTUAL VALUES):
- a. AIRFLOW RATE IN CFM. b. ENTERING-WATER TEMPERATURE IN DEG F.
- e. WATER PRESSURE DROP IN FEET OF HEAD OR

f.ENTERING-AIR TEMPERATURE IN DEG F.

g. LEAVING-AIR TEMPERATURE IN DEG F.

- F. ROUND, FLAT-OVAL, AND RECTANGULAR DUCT TRAVERSE

 - a. SYSTEM AND AIR-HANDLING-UNIT NUMBER. b. LOCATION AND ZONE.
 - d. DUCT STATIC PRESSURE IN INCHES WG.
 - e. DUCT SIZE IN INCHES. f.DUCT AREA IN SQ. FT..
- j.ACTUAL AVERAGE VELOCITY IN FPM. k. BAROMETRIC PRESSURE IN PSIG.
- G. AIR-TERMINAL-DEVICE REPORTS:
 - 1. UNIT DATA:
 - IDENTIFICATION.
 - b. LOCATION AND ZONE. c. APPARATUS USED FOR TEST.
 - g. TYPE AND MODEL NUMBER.
 - 2. TEST DATA (INDICATED AND ACTUAL VALUES):
 - a. AIR FLOW RATE IN CFM.
 - d. PRELIMINARY VELOCITY AS NEEDED IN FPM.

g. SPACE TEMPERATURE IN DEG F.

- H. INSTRUMENT CALIBRATION REPORTS:
 - 1. REPORT DATA: a. INSTRUMENT TYPE AND MAKE.

b. SERIAL NUMBER.

c. APPLICATION.

M/E/P Engineer:

d. DATES OF USE.

e. DATES OF CALIBRATION.

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Blue Bell, PA 19422

S&H JOB #2364A

Certificate of Authorization: 24GA28014000

SCHILLER AND HERSH ASSOCIATES, INC. **Consulting M/E/P Engineers**

DO NOT SCALE. DRAWING MAY BE PRINTED AT REDUCED SCALE. CONSULT WITH ARCHITECT FOR DIMENSIONS.

Project Renovation of Provost's Office at Cole Hall Lot: # Block: #

Sheet Name:

Sheet No:

Revisions / Issues ARCHITECTURE FOR CHANGE

Montclair State University Normal Avenue Montclair, NJ 07043

Montclair, NJ 07043 **Drawing Information:** Project No. 23.057 MSU Project No: PR 23C064

09/15/2023

1 Normal Avenue

Drawn By: AH

Checked By: RLD

f.NUMBER FROM SYSTEM DIAGRAM. Permit and Construction 09/15/23 Permit and Construction No. Date Description

> 15 Bethany Street • New Brunswick, NJ 08901 • T:732.249.6242 1417 N. 2nd St, Ste.3M • Philadelphia, PA 19122 • T: 215.634.3400

MECHANICAL SPECIFICATIONS

M-002

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RICHARD L. DELP, PE NEW JERSEY PROFESSIONAL

1. QUANTITIES OF OUTDOOR, SUPPLY, RETURN, AND

6. BALANCING STATIONS. 7. POSITION OF BALANCING DEVICES.

UNITS, INCLUDE THE FOLLOWING:

- 1. UNIT DATA:
- b. LOCATION AND ZONE.
- d. COIL MAKE AND SIZE. e. FLOWMETER TYPE.
- c. LEAVING-WATER TEMPERATURE IN DEG F. d. WATER FLOW RATE IN GPM.
- REPORTS: INCLUDE A DIAGRAM WITH A GRID REPRESENTING THE DUCT CROSS—SECTION AND RECORD THE FOLLOWING
- 1. REPORT DATA:
- c. TRAVERSE AIR TEMPERATURE IN DEG F.
- g. INDICATED AIR FLOW RATE IN CFM. h. INDICATED VELOCITY IN FPM.

i. ACTUAL AIR FLOW RATE IN CFM.

- a. SYSTEM AND AIR-HANDLING UNIT
- d. AREA SERVED. e. MAKE.
- h. SIZE. i.EFFECTIVE AREA IN SQ. FT.
- b. AIR VELOCITY IN FPM. c. PRELIMINARY AIR FLOW RATE AS NEEDED IN
- e. FINAL AIR FLOW RATE IN CFM. Vincent A. Myers, AIA NJ RA AI 11415, NY RA 041541 f.FINAL VELOCITY IN FPM.

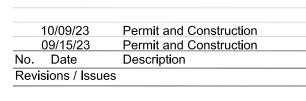
OFFICE (E)14x8 PROVOST OFFICE OPEN AREA STORAGE COPIER (E)24x12 MECHANICAL DEMOLITION FLOOR PLAN - DUCTWORK

SCALE: 1/4"=1'-0"

DEMOLITION KEY NOTES:

1) REMOVE AND CLEAN EXISTING RETURN GRILLE. REINSTALL IN NEW CEILING GRID.

2 RELOCATE EXISTING THERMOSTAT AND EXTEND WIRING AS REQUIRED. REFER TO NEW WORK PLANS FOR NEW LOCATION.



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Montclair State University 1 Normal Avenue

Montclair, NJ 07043

Renovation of Provost's Office at Cole Hall Lot: # Block: # 1 Normal Avenue Montclair, NJ 07043

Drawing Information: Project No: 23.057
MSU Project No: PR 23C064
Date: 09/15/2023
Drawn By: AH
Checked By: RLD

Sheet Name:

MECHANICAL DEMOLITION FLOOR PLAN - DUCTWORK

Sheet No: **MD-100**

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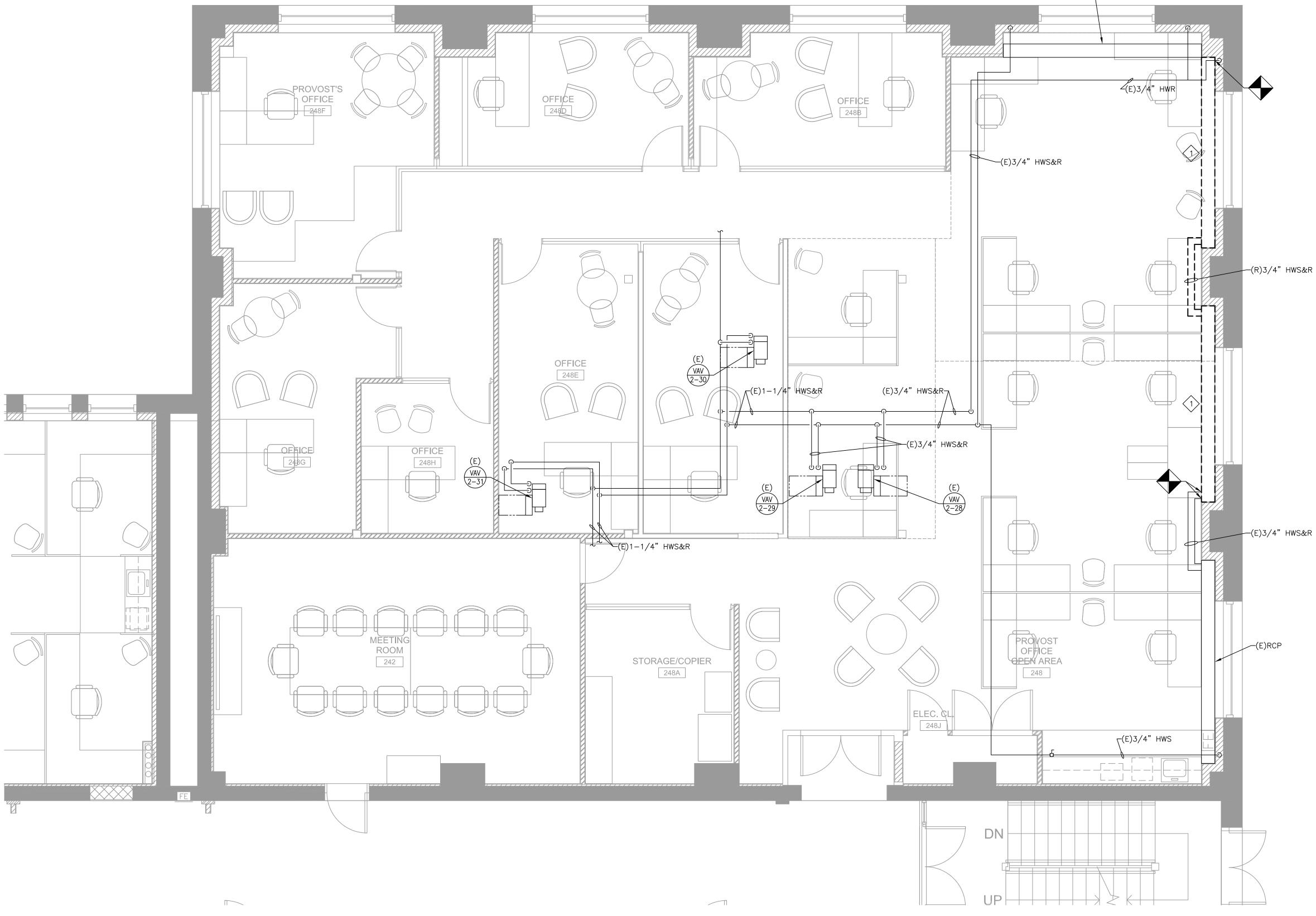
S&H JOB #2364A

RICHARD L. DELP, PE NEW JERSEY PROFESSIONAL ENGINEER

SCHILLER AND HERSH ASSOCIATES, INC. Consulting M/E/P Engineers

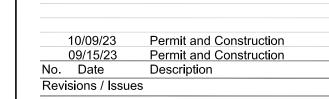
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DEMOLITION KEY NOTES: 1 REMOVE RADIANT CEILING PANEL IN ITS ENTIRETY, INCLUDING BUT NOT LIMITED TO, UNIT, 3/4" HOT WATER SUPPLY AND RETURN PIPING TO POINTS INDICATED, INSULATION, CONTROLS, HANGERS AND SUPPORTS.



MECHANICAL DEMOLITION FLOOR PLAN - PIPING

SCALE: 1/4"=1'-0"



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Renovation of Provost's Office at Cole Hall

Lot: # Block: # 1 Normal Avenue Montclair, NJ 07043

Drawing Information: Project No: 23.057
MSU Project No: PR 23C064
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MECHANICAL DEMOLITION FLOOR PLAN - PIPING

Sheet No: **MD-200**

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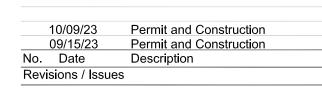
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OFFICE 248K OFFICE 248I 248H (3)(E)SD, 100 CFM OFFICE 248L (E)14x8— (E)8"ø— MEETING ROOM PROVOST OFFICE OPEN AREA (E)24x12 MECHANICAL NEW WORK FLOOR PLAN - DUCTWORK

SCALE: 1/4"=1'-0"

NEW WORK KEY NOTES:

- 1) REINSTALL EXISTING RETURN GRILLE IN NEW CEILING GRID.
- 2 RELOCATED THERMOSTAT, EXTEND WIRING AS REQUIRED.
- 3 REBALANCE EXISTING AIR TERMINAL DEVICE TO CFM INDICATED.



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Drawing Information:

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MECHANICAL NEW WORK FLOOR PLAN - DUCTWORK

Sheet No: **M-100**

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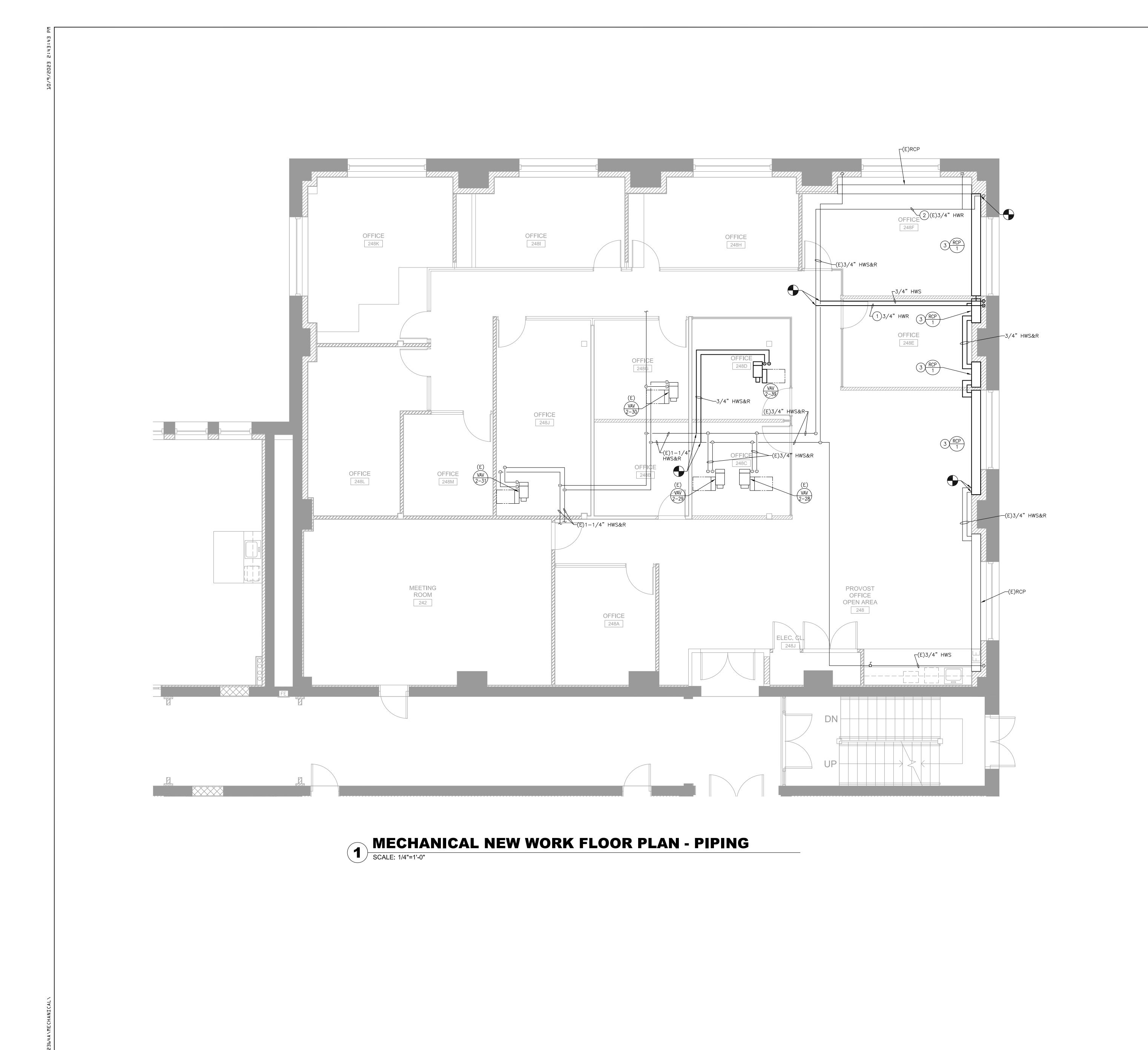
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NEW WORK KEY NOTES:

- 1) INTERLOCK RCP CONTROL VALVE WITH (E)VAV-2-28.
- 2 INTERLOCK RCP CONTROL VALVE WITH VAV-2-39.
- 3 INSTALL RADIANT CEILING PANELS FROM WALL TO WALL. FIELD VERIFY DIMENSIONS PRIOR TO ORDERING.

10/09/23 Permit and Construction
09/15/23 Permit and Construction
No. Date Description
Revisions / Issues

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S&H JOB #2364A

Project No: 23.057
MSU Project No: PR 23C064
Date: 09/15/2023
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MECHANICAL NEW WORK FLOOR PLAN - PIPING

Sheet No:

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M-200

								VARIABLE	AIR VO	LUME TERMINAL U	INIT SCHEDULE								
									HOT	WATER REHEAT CO	OIL								
UNIT TAG	INLET SIZE (IN)	MAXIMUM PRIMARY AIR CFM	MINIMUM PRIMARY AIR CFM	NC AT	MAX DISCHARGE NC AT	A	IR	REHEAT	ROWS	COIL	CAPACITY		W	/ATER		CONTROLS AND COIL CONNECTION	MAXIMUM DIMENSIONS LxWxH, IN.	WEIGHT LBS.	BASIS OF DESIGN MANUFACTURER AND MODEL NO.
	(111)	7 III OI W	74114 01 141	1.0" Ps	1.0" Ps	ENT °F	LVG °F	CFM	ROWS	TYPE	МВН	ENT °F	LVG *F	GPM	WPD FT. H20	SIDE			MODEL NO.
VAV-2-39	5"ø	250	90	20	28	55	94.6	120	1	STD CAPACITY	5.2	180	158.4	0.5	0.2	RIGHT	27x12x8	20	PRICE SDV5-5

PROVIDE ALL UNITS COMPLETE WITH 120V-24V CONTROL POWER TRANSFORMERS. PROVIDE ALL UNITS WITH FIELD SUPPLIED FACTORY MOUNTED CONTROLS.

CONTRACTOR TO FIELD VERIFY VAV CONTROLS AND COIL HAND CONNECTION PRIOR TO ORDERING.

		HYDRO	NIC RADIANT	CEILING PANEL SCH	EDULE
UNIT TAG	BTUH/FT	AVERAGE WATER TEMP °F	NO. OF PASSES	PANEL WIDTH, IN.	BASIS OF DESIGN MANUFACTURER AND MODEL NO.
RCP-1	190	160	2	12	TWA LINEAR PANEL
	TAG	TAG BTUH/FT	UNIT BTUH/FT TEMP	UNIT TAG BTUH/FT TEMP PASSES	UNIT TAG BTUH/FT WATER NO. OF PANEL WIDTH, PASSES IN.

1. REFER TO PLANS FOR QUANTITIES. 2. PERFORMANCE BASED ON 70°F ROOM TEMPERATURE.

3. PROVIDE WITH FACTORY PROVIDED PIPING INTERCONNECTORS AS REQUIRED.
4. INTERLOCK PANEL CONTROL VALVES WITH ASSOCIATED VAV BOX CONTROLS. 5. COORDINATE MOUNTING AND INSTALLATION WITH CEILING TYPE.

6. PROVIDE ALL UNITS WITH FIELD PROVIDED AND INSTALLED 1" THICK FOIL BACKED FIBERGLASS BLANKET INSULATION ON TOP OF PANELS.

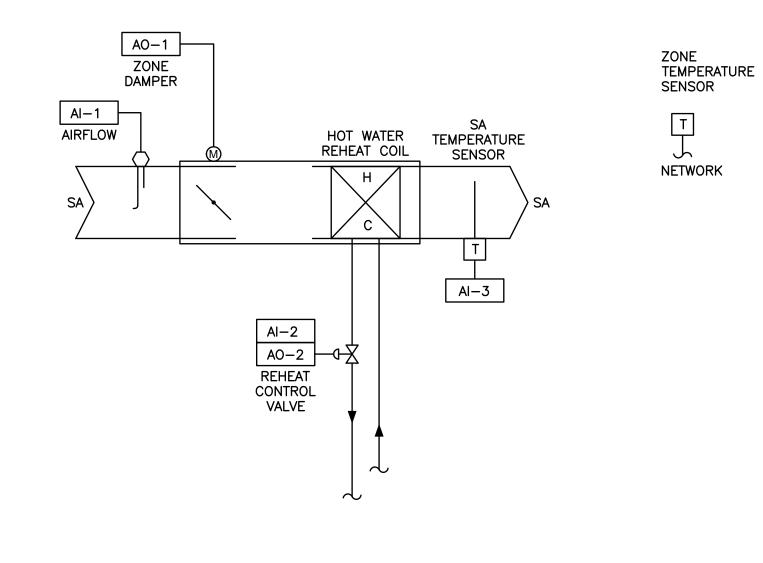
7. PANEL MANUFACTURER IS A REPLACEMENT IN KIND TO MATCH EXISTING PANEL LOOK AND FINISH.

		GF	RILLES, REGISTE	ERS AND DIFFUSERS SCHEDULE			
TAC	STYLE	CFM	MOUNT	FACE	MAX NC	BASIS OF DESIGN MANUFACTURER AND MODEL NO.	REMARKS
А	SQUARE, PLAQUE DIFFUSER - SUPPLY	VARIES	AS REQ'D	24x24	21	PRICE SPD	1
В	SQUARE, PLAQUE DIFFUSER — RETURN	VARIES	AS REQ'D	24x24	18	PRICE SPD	1

1. REFER TO PLANS FOR QUANTITIES, NECK SIZE, CFM, AND PATTERN.

							VEN	ITILATION	SCHEDU	_E										
		ZONE				DNAL MECHANI		E 2021 TA IDE AIR	1	.1.1 XHAUST /	AIR	BREATHING	REQUIRED ZONE	ZONE	ZONE AIR	ACTUAL	ACTUAL EA			
ROOM NAME	ROOM TYPE	AREA (ft²), A _z	NO. of FIXTURES	PEOPLE/ 1000 SQ.FT.		ZONE POPULATION, P _z	CFM/PE RSON, R _p	1 CEN1/tt ²	CFM/fixt	CFM/ft ²	TOTAL EXHAUST	ZONE OUTSIDE AIR, V _{bz}	OUTSIDE	SUPPLY AIRFLOW, V _{pz} or V _{dz}	DISTRIBUTION EFFECTIVENESS, E _z	PROVIDED	CFM TAKEN DIRECTLY FROM SPACE	SYSTEM	SYSTEM	REMARKS
248G OFFICE	Office Space	1 4 0	N/A	5	1	1	5	0.06	N/A	N/A	N/A	15	20	100	0.8	20	N/A	(E)AHU-5	N/A	1
248D OFFICE	Office Space	1 4 0	N/A	5	1	1	5	0.06	N/A	N/A	N/A	15	20	100	0.8	20	N/A	(E)AHU-5	N/A	1
248C OFFICE	Office Space	1 4 0	N/A	5	1	1	5	0.06	N/A	N/A	N/A	15	20	100	0.8	20	N/A	(E)AHU-5	N/A	1
248D OFFICE	Office Space	120	N/A	5	1	1	5	0.06	N/A	N/A	N/A	15	20	100	0.8	20	N/A	(E)AHU-5	N/A	1
248F OFFICE	Office Space	230	N/A	5	1	1	5	0.06	N/A	N/A	N/A	25	35	250	0.8	50	N/A	(E)AHU-5	N/A	1
248E OFFICE	Office Space	140	N/A	5	1	1	5	0.06	N/A	N/A	N/A	15	20	150	0.8	30	N/A	(E)AHU-5	N/A	1

1. ACTUAL VENTILATION AIR SUPPLIED TO SPACES SERVED BY COMMON SYSTEM CALCULATED IN ACCORDANCE WITH IMC-2021 SECTION 403.3.1, EQUATION 4-8.



VAV BOX 2-39

DO-1 - 0-X

RCP
CONTROL
VALVE

RADIANT CEILING PANEL CONTROL VALVE

	VAV BOX (VAV 2	2–3	9) F	POIN	TS	LIST										
			ı	NPU	TS					OU	TPU	TS		Ī.,,	NCTI	ON	
		DI	GITA	\L	,	ANAL	LOG		DIG	ITAL	Al	NALC)G	1 0	NCII	ON	
POINT TAG	POINT DESCRIPTION	SAFETY SHUT DOWN	STATUS	OCC OVERRIDE	POSITION	TEMPERATURE	SETPOINT	CFM	OPEN/CLOSED	ON/OFF	VALVE ACTUATOR	MODULATE	SPEED	ALARM			REMARKS
AO-2	VAV REHEAT COIL VALVE										Х						
Al-2	VAV REHEAT COIL VALVE FEEDBACK				Х												
AI-1	VAV BOX AIRFLOW							Χ									
AO-1	VAV DAMPER ACTUATOR											Х		X			
AI-3	VAV BOX SUPPLY AIR TEMPERATURE					Χ								X			
DO-1	RADIANT CEILING PANEL VALVE								X								
СОМ	SETPOINT ADJUSTMENT						Χ										
СОМ	ZONE TEMPERATURE					Χ									Х		

VAV BOX SEQUENCE OF OPERATION:

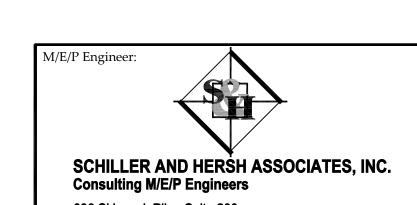
SEAMLESSLY INTEGRATE NEW VAV BOX INTO EXISTING AUTOMATED LOGIC CONTROL SYSTEM. EXISTING VAV BOXES SHALL OPERATE VIA EXISTING SEQUENCE.

A.VAV BOX WITH REHEAT CONTROL: VAV BOXES WILL BE CONTROLLED BY LOCAL DDC CONTROLLERS. ON A RISE IN TEMPERATURE ABOVE THE CONTROLLER'S SETPOINT (ADJUSTABLE VIA WALL SENSOR), THE VAV BOXES WILL MODULATE THE AIRFLOW BETWEEN MINIMUM AND MAXIMUM SETPOINTS. ON A DROP IN TEMPERATURE BELOW SETPOINT, THE VAV BOX WILL MODULATE ITS DAMPER TO MINIMUM POSITION. ON A FURTHER DROP IN TEMPERATURE, THE VAV BOX WILL MODULATE ITS DAMPER TO THE REHEAT AIRFLOW POSITION AND THE HOT WATER REHEAT COIL CONTROL VALVE WILL MODULATE TO MAINTAIN SPACE TEMPERATURE. THE BMS WILL PLACE EACH VAV BOX IN EITHER THE OCCUPIED OR UNOCCUPIED MODE BASED ON AN OPERATOR ADJUSTABLE TIME SCHEDULE. THE HOT WATER REHEAT COIL CONTROL VALVE SHALL FAIL IN PLACE.

B.SPACE TEMPERATURE ADJUSTMENT: THE SPACE TEMPERATURE SENSOR WILL HAVE AN ADJUSTMENT CAPABILITY THAT WILL ALLOW THE SPACE TEMPERATURE SETPOINT TO BE ADJUSTED $\pm 1/2$ DEGREES F.

C.RADIANT CEILING PANEL: IF THE VAV BOX IS IN HEATING MODE AND UPON A FURTHER DROP IN SPACE TEMPERATURE BELOW SETPOINT, THE RADIANT PANEL CONTROL VALVE SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE. UPON A RISE IN SPACE TEMPERATURE ABOVE SETPOINT, THE CONTROL VALVE SHALL CLOSE.





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MECHANICAL EQUIPMENT SCHEDULES AND CONTROL **DIAGRAMS**

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Renovation of Provost's Office at Cole Hall

Montclair State University

1 Normal Avenue Montclair, NJ 07043

Lot: # Block: #

1 Normal Avenue

Montclair, NJ 07043

Project:

10/09/23 Permit and Construction 09/15/23 Permit and Construction

Description

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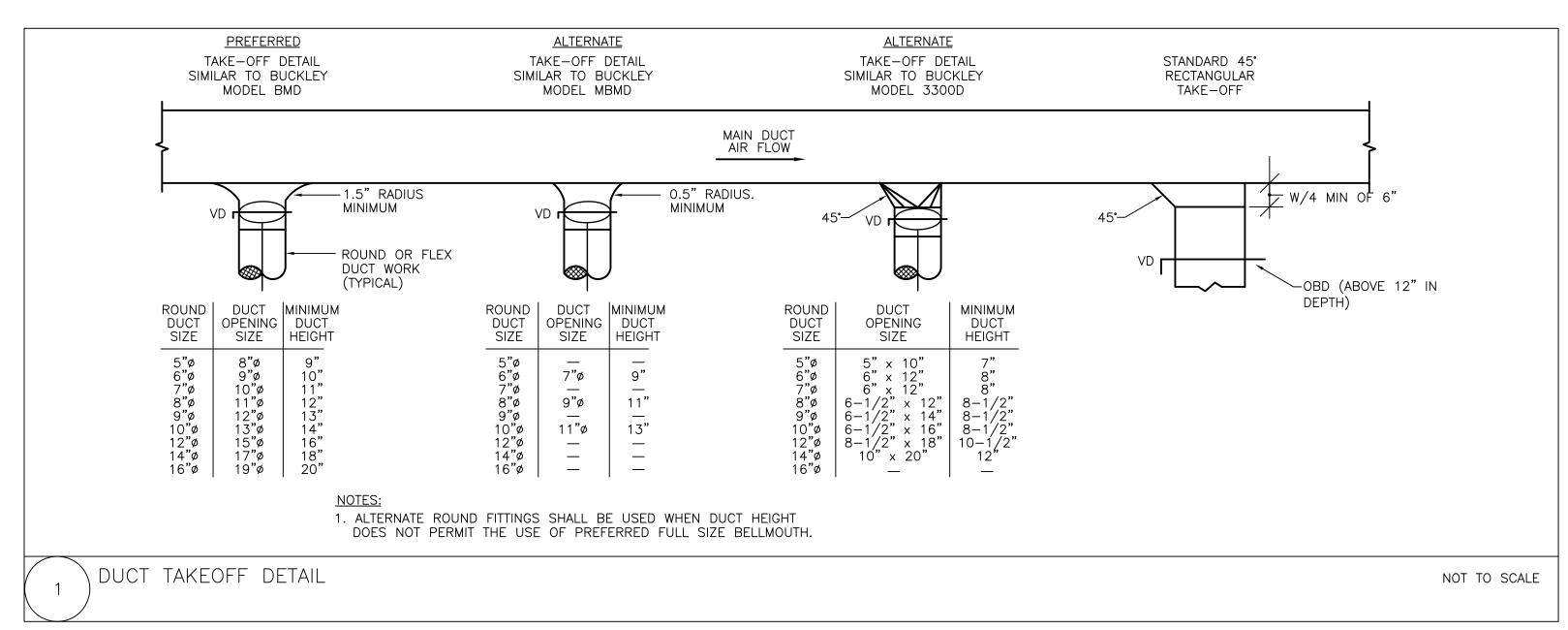
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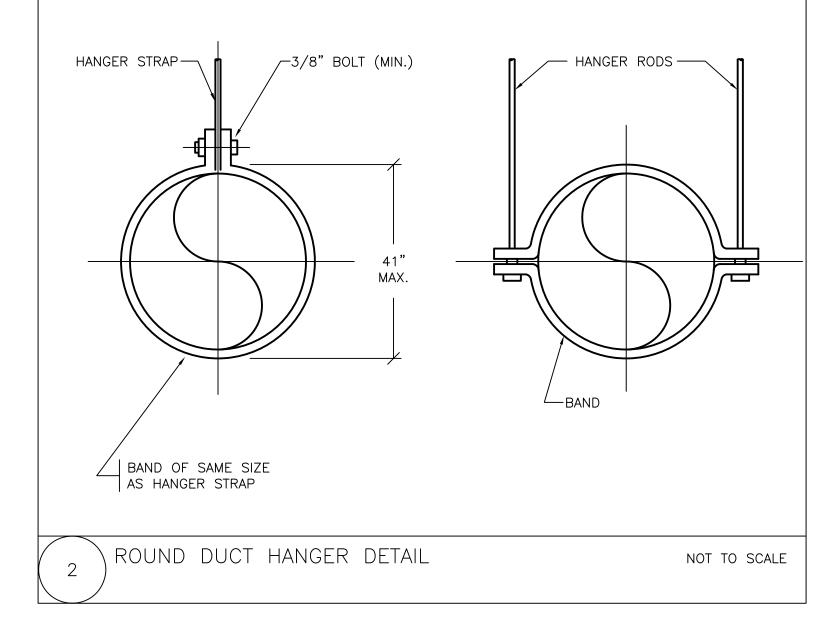
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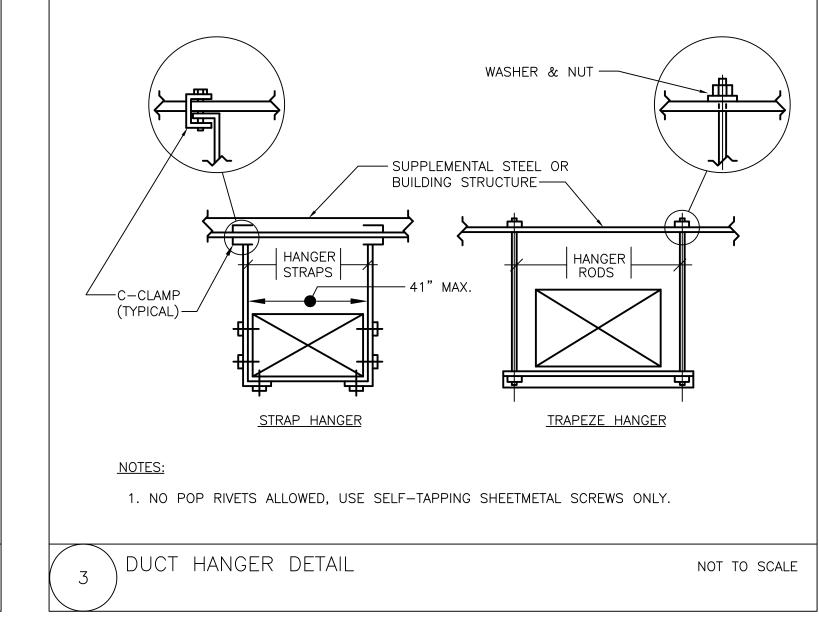
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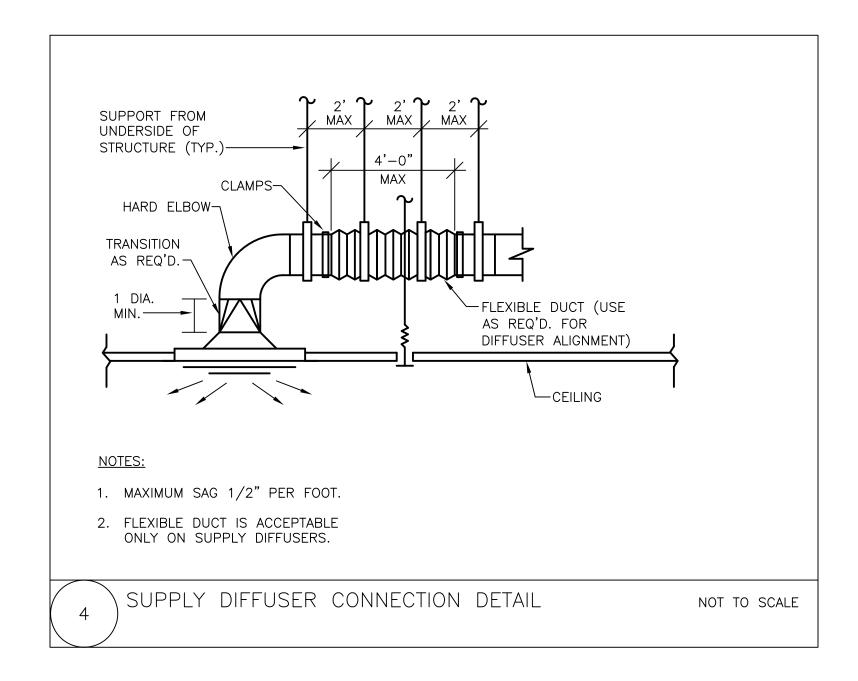
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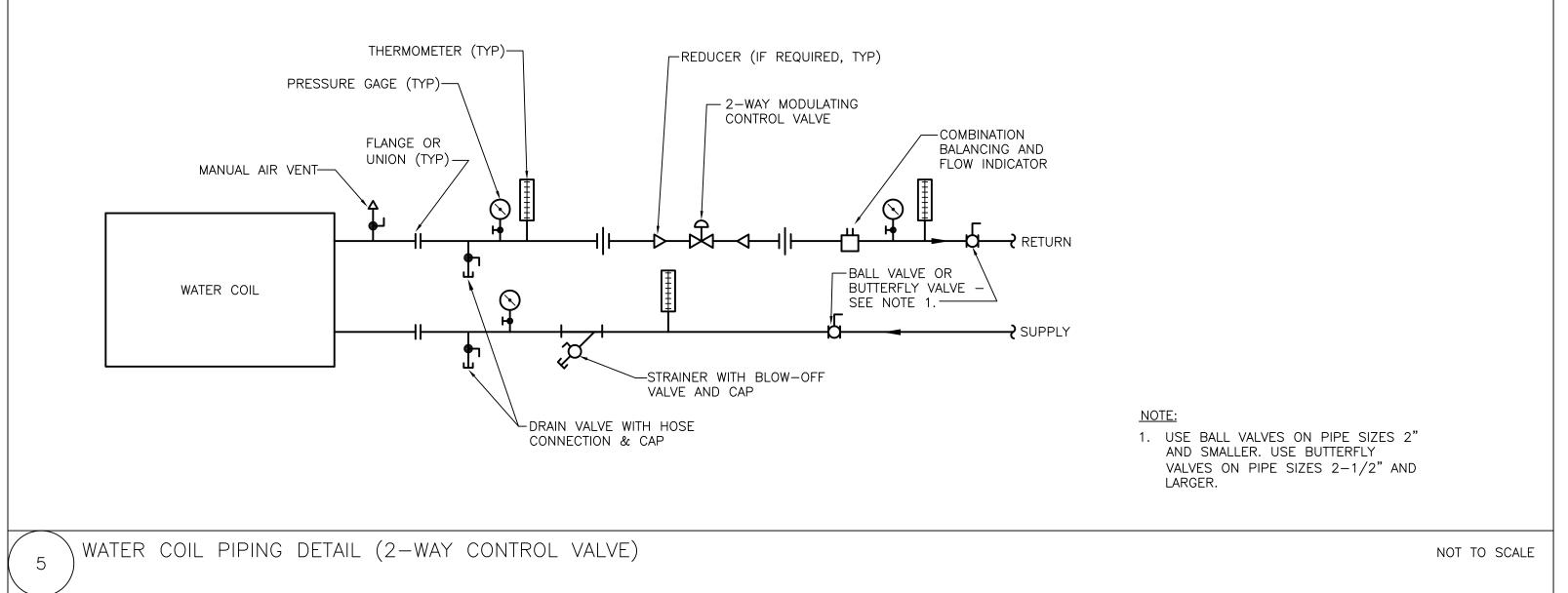
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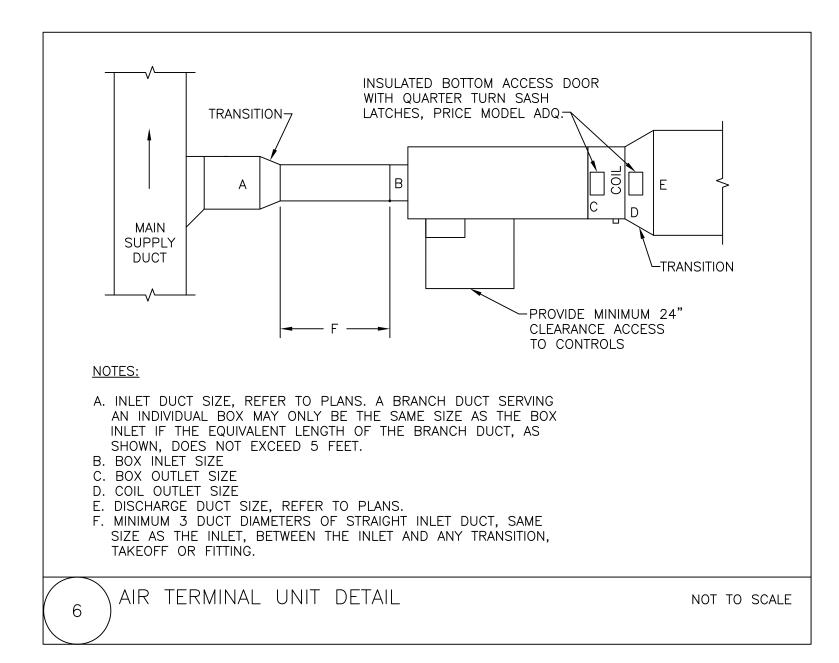


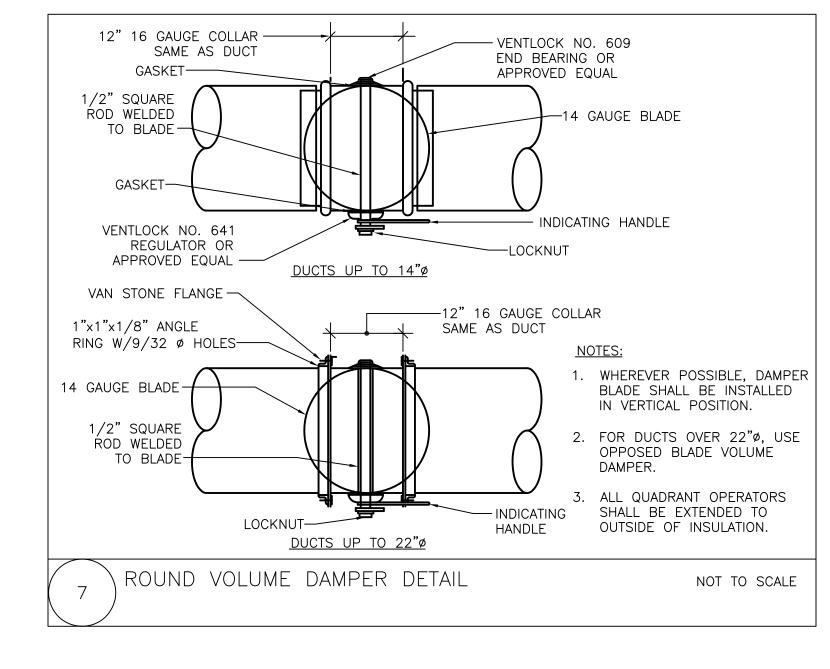


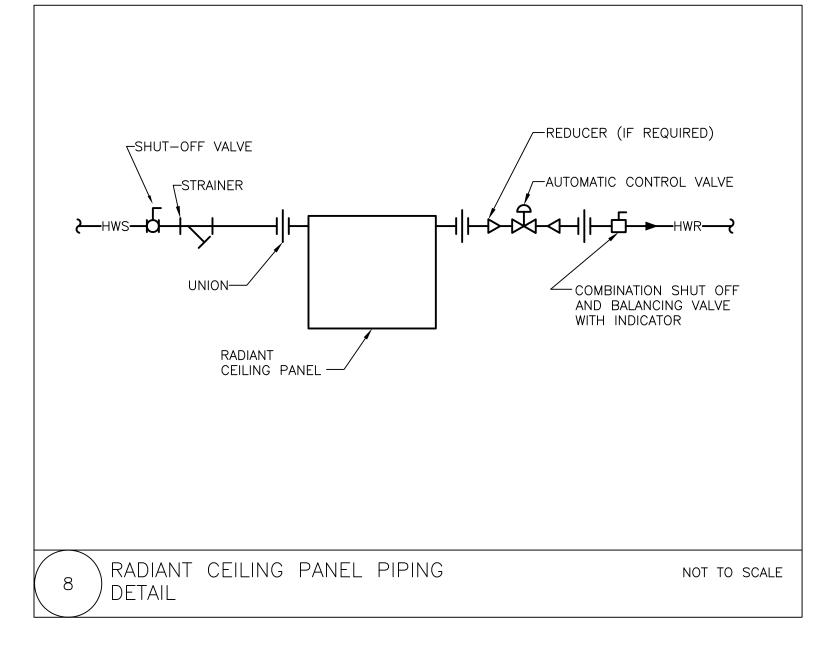


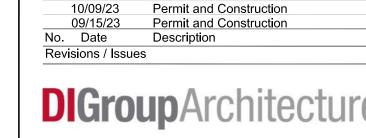






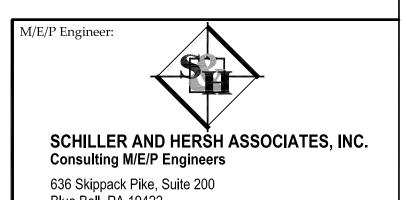






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ENGINEER

Project: Renovation of Provost's Office at Cole Hall 1 Normal Avenue

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Montclair State University

1 Normal Avenue

Montclair, NJ 07043

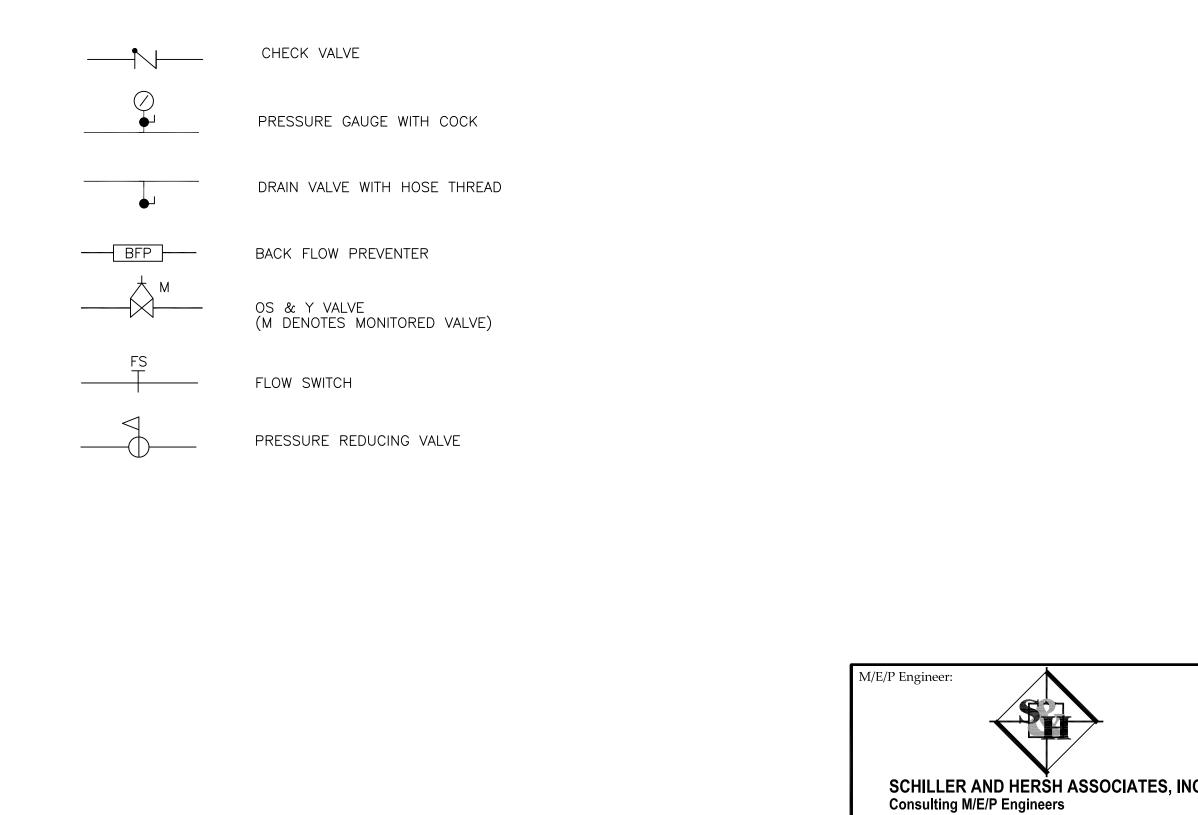
Sheet Name: **MECHANICAL DETAILS**

Sheet No:

M-400

GENERAL DEMOLITION NOTES 1. ALL WORK UNDER THIS SECTION SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. DEMOLITION/RELOCATIONS: EACH TRADE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND RELOCATIONS OF SERVICES, EQUIPMENT AND MATERIAL RELATING TO THEIR RESPECTIVE TRADE. PRIOR TO DEMOLITION CONTRACTOR SHALL REVIEW WITH OWNER ALL MATERIALS TO BE REMOVED. SHOULD THE OWNER OPT TO KEEP ANY MATERIALS, THE CONTRACTOR SHALL REMOVE AND DELIVER THE PARTS TO THE OWNER ON THE SITE WHERE SO DIRECTED. OTHERWISE, ALL DEMOLISHED OR REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, SHALL BE REMOVED FROM THE SITE, AND BE DISPOSED OF IN A LEGAL MANNER. 4. DEMOLITION SHALL INCLUDE REMOVAL OF ALL PARTS AND PIECES IN THEIR ENTIRETY BACK TO THE POINTS INDICATED OR IF NOT INDICATED BACK TO THEIR POINT OF SOURCE. WHERE CONDITIONS PROHIBIT TOTAL REMOVAL OF THE WORK, THE REMAINING PORTION SHALL BE CUT FLUSH WITH THE SURROUNDING SURFACE SHALL BE REFINISHED IN AN APPROVED MANNER. MAINTAIN EXISTING UTILITIES INDICATED OR WHERE REQUIRED TO REMAIN, KEEP IN SERVICE, AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS. DO NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN SCHEDULED WITH THE OWNER. DO NOT REMOVE EXISTING STRUCTURAL WORK. DO NOT REMOVE OPERATIONAL ELEMENTS AND SAFETY-RELATED COMPONENTS IN A MANNER RESULTING IN A REDUCTION OF CAPACITIES TO PERFORM IN THE MANNER INTENDED OR RESULTING IN DECREASED OPERATIONAL LIFE, INCREASED MAINTENANCE, OR DECREASED SAFETY. 7. REMOVALS, DISCONNECTIONS, AND RELOCATIONS SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE INVOLVED AND SHALL BE EMPLOYED BY A CONTRACTOR LICENSED IN THE TRADE INVOLVED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ACCEPTED TRADE PRACTICES. 8. PROVIDE ADEQUATE TEMPORARY SUPPORT FOR WORK TO REMAIN TO PREVENT FAILURE. DO NOT ENDANGER OTHER WORK. PROTECTION: PROVIDE ADEQUATE PROTECTION WHERE REQUIRED FOR THE PRESENT BUILDING AND ITS CONTENTS. TEMPORARY DUSTPROOF BARRIERS AND BARRICADES SHALL BE ERECTED WHERE REQUIRED FOR PROTECTION OF PERSONNEL, PROTECTION FROM DUST AND DIRT, FOR SECURITY, FIRE AND WEATHER PROTECTIVE REASONS. CONTRACTOR SHALL TAKE EVERY PRECAUTION AGAINST FIRE BY EMPLOYING FIRE DEPARTMENT TYPE HOSES AND PORTABLE FIRE EXTINGUISHERS AS REQUIRED BY OSHA AND/OR THE OWNER'S INSURANCE UNDERWRITER. 10. ALL EXISTING EQUIPMENT REQUIRED TO BE REUSED SHALL BE CLEANED, RECONDITIONED, CALIBRATED AND ADJUSTED. IN ALL INSTANCES WHERE CONTRACTOR FINDS THAT EXISTING EQUIPMENT IS DEFECTIVE TO THE POINT WHERE IT CANNOT BE PROPERLY RESTORED AND WILL NOT OPERATE PROPERLY, THEY SHALL REPORT THE SPECIFIC INSTRUMENTS OR EQUIPMENT TO THE ENGINEER FOR DIRECTIONS. 11. EXTREME CARE SHALL BE EXERCISED FOR ALL EXISTING ITEMS THAT ARE TO REMAIN IN SERVICE UNTIL NEW ITEMS ARE INSTALLED FOR THE SAME SERVICE. ALL SHUTDOWNS OF ANY SYSTEM SHALL BE COORDINATED WITH THE OWNER. 12. ALL DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL CAREFULLY EXAMINE EXISTING CONDITIONS PRIOR TO STARTING WORK LIST OF DRAWINGS FP-001 FIRE PROTECTION COVER SHEET FP-100 FIRE PROTECTION NEW WORK FLOOR PLAN

SYMBOL AND ABBREVIATION LEGEND



Montclair State University Normal Avenue Montclair, NJ 07043 Project SCHILLER AND HERSH ASSOCIATES, INC. 1 Normal Avenue 636 Skippack Pike, Suite 200

Blue Bell, PA 19422

S&H JOB #2364A

RICHARD L. DELP. PE

ENGINEER

NEW JERSEY PROFESSIONAL

Certificate of Authorization: 24GA28014000

Renovation of Provost's Office at Cole Hall Montclair, NJ 07043

Drawing Information: Project No: 23.057 MSU Project No: PR 23C064 Date 09/15/2023 Drawn By: AH Checked By: RLD

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FIRE PROTECTION COVER SHEET

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Description

09/15/23

Revisions / Issues

Vincent A. Myers, AIA

NJ RA AI 11415, NY RA 041541

No. Date

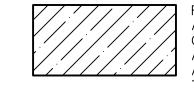
Sheet No:

FP-001

SPRINKLER NOTES:

- 1. PIPING 2" AND SMALLER SHALL BE THREADED BLACK STEEL SCH. 40. 2-1/2" AND LARGER SHALL BE SCH. 40 GROOVED BLACK STEEL WITH VICTAULIC FITTINGS.
- 2. CONTRACTOR TO REMOVE SPRINKLER HEADS AND REMOVE, EXTEND AND MODIFY SPRINKLER MAIN AND BRANCH PIPING AS REQUIRED TO ACCOMMODATE NEW CEILING GRID, WALL LAYOUTS, AND DUCTWORK IN AREA INDICATED.
- 3. COORDINATE LOCATION OF PIPING AND SPRINKLER HEADS WITH ALL LIGHTING, EQUIPMENT DUCTWORK, STRUCTURAL, ETC.
- 4. SPRINKLER HEADS TO BE CONCEALED PENDENT QUICK RESPONSE TYPE.
- 5. ALL SPRINKLER HEADS INSTALLED IN CEILING TILES ARE TO BE CENTERED.
- 6. CONTRACTOR SHALL COMPLETE SPRINKLER REPLACEMENT IN ALL AREAS SHOWN AS HATCHED ON THE DRAWINGS. THE UNIVERSITY WILL NOT PROVIDE A FIRE WATCH FOR THIS PROJECT. THE EXISTING AND NEW SPRINKLER SYSTEMS SHALL REMAIN ACTIVE DURING CONSTRUCTION. THE SPRINKLER SYSTEM SHALL BE DRAINED ON A DAILY BASIS TO PERFORM THE DEMOLITION AND NEW SPRINKLER WORK, AS REQUIRED AND THE SPRINKLER SYSTEM SHALL BE RE-FILLED EACH NIGHT, PRIOR TO THE CONTRACTOR LEAVING THE SITE, SO THE SYSTEM IS ACTIVE OVERNIGHT.

COVERAGE LEGEND



REMOVE SPRINKLER HEADS AND PIPING AND REPLACE WITH NEW LIGHT HAZARD COVERAGE AS REQUIRED TO ACCOMMODATE NEW LAYOUT IN THIS AREA. ALL NEW PIPING AND HEADS ARE TO BE PROVIDED AND INSTALLED IN ACCORDANCE WITH NFPA 13-2019.

> Permit and Construction 09/15/23 Permit and Construction
>
> No. Date Description No. Date

ARCHITECTURE FOR CHANGE

15 Bethany Street • New Brunswick, NJ 08901 • T:732.249.6242 1417 N. 2nd St, Ste.3M • Philadelphia, PA 19122 • T: 215.634.3400 Vincent A. Myers, AIA NJ RA AI 11415, NY RA 041541

DO NOT SCALE. DRAWING MAY BE PRINTED AT REDUCED SCALE. CONSULT WITH ARCHITECT FOR DIMENSIONS.

Montclair State University

1 Normal Avenue

Montclair, NJ 07043 Project

Renovation of Provost's Office at Cole Hall Lot: # Block: # 1 Normal Avenue Montclair, NJ 07043

Drawing Information:

Project No: 23.057

MSU Project No: PR 23C064

Date: 09/15/2023

Drawn By: AH

Checked By: RLD

Sheet Name: FIRE PROTECTION DEMOLITION AND NEW WORK FLOOR PLAN

Sheet No:

RICHARD L. DELP, PE NEW JERSEY PROFESSIONAL

SCHILLER AND HERSH ASSOCIATES, INC. Consulting M/E/P Engineers

Certificate of Authorization: 24GA28014000

ENGINEER LICENSE ND. GE45368

636 Skippack Pike, Suite 200 Blue Bell, PA 19422

S&H JOB #2364A

SYMBOL LEGEND

- LIGHTING CIRCUITING INFORMATION. IN THIS EXAMPLE, FIXTURE SHALL BE CONTROLLED BY CONTROL LEG "e". ALL FIXTURES SHALL BE WIRED WITH 2#16AWG WIRING FOR 0-10V DIMMING WITH BRANCH CIRCUIT CONDUCTORS, OR USE OF METAL-CLAD LUMINARY CABLE MAY BE USED WHERE WIRING
- LUMINAIRE PROVIDING NORMAL/EMERGENCY ILLUMINATION, WIRED TO EMERGENCY GENERATOR BACKED POWER, VIA UL924 RELAY WHERE SHOWN TO BE CONTROLLED BY LIGHTING CONTROLS. THREE BUTTON DIGITAL DIMMER SWITCH, CONTROLLING SWITCH LEG "a" WITH ON/OFF AND RAISE/LOWER FUNCTIONS.
- igoplus igoplus
- CEILING MOUNTED VACANCY/OCCUPANCY SENSOR AND ASSOCIATED DIGITAL ROOM CONTROLLER. IN THIS EXAMPLE, SENSOR SHALL CONTROL FIXTURES ON CONTROL LEG "a", "b" AND "c".
- EXISTING ELECTRICAL PANEL
- DD1;12 ELECTRICAL CIRCUITING INFORMATION. IN THIS EXAMPLE, EC SHALL WIRE DEVICE TO CIRCUIT #12 IN PANEL "DD1".
- STANDARD 20A DUPLEX CONVENIENCE RECEPTACLE WALL MOUNTED AT 18" AFF, UNLESS OTHERWISE NOTED. RECEPTACLE TO BE INSTALLED IN NEW OR EXISTING DRYWALL SHALL HAVE RECESSED SINGLE GANG BACKBOX WITH SINGLE GANG FACEPLATE MC-CABLE CONCEALED/FISHED IN DRYWALL.
- STANDARD 20A QUAD CONVENIENCE RECEPTACLE WALL MOUNTED AT 18" AFF, UNLESS OTHERWISE NOTED. RECEPTACLE TO BE INSTALLED IN NEW OR EXISTING DRYWALL SHALL HAVE RECESSED DOUBLE GANG BACKBOX WITH MC-CABLE CONCEALED/FISHED IN DRYWALL.
- (J) CEILING MOUNTED JUNCTION BOX
- WALL MOUNTED JUNCTION BOX
- FI FIRE ALARM HORN AND STROBE. WALL MOUNT AT MIN 80" AFF TO BOTTOM OF STROBE LENS OR MAX 96"AFF TO TOP OF STROBE LENS OF DEVICE.
- FIRE ALARM STROBE. WALL MOUNT AT MIN 80" AFF TO BOTTOM OF STROBE LENS OR MAX 96"AFF TO TOP OF STROBE LENS OF DEVICE.
- FIRE ALARM MANUAL PULL STATION. WALL MOUNT AT 48" AFF TO TOP OF DEVICE.
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM HEAT DETECTOR
- M FIRE ALARM MULTI-CRITERIA DETECTOR (SMOKE, HEAT, CARBON MONOXIDE) WITH SOUNDER BASE AND MONITOR MODULE WIRED TO FIRE ALARM PANEL.
- WIRELESS ACCESS POINT LOCATION. DATA CABLING AND JACKS TO BE FURNISHED AND INSTALLED BY OTHERS.
- POWER FURNITURE WHIP TO WIRED OFFICE FURNITURE. INSTALL 3/4" FLEXIBLE NON-METALLIC CONDUIT TO FURNITURE FROM WALL JUNCTION BOX. FOR NEW WALLS, INSTALL RECESSED 2-GANG BACKBOX AT 18" AFF WITH BLANK PLATE WITH 3/4" 90° CONDUIT FITTING CONNECTION AND 3/4" CONDUIT FROM JUNCTION BOX TO ABOVE FINISHED CEILING.
- DATA FURNITURE WHIP TO WIRED OFFICE FURNITURE. INSTALL 1-1/2" FLEXIBLE NON-METALLIC CONDUIT TO FURNITURE FROM WALL JUNCTION BOX. FOR NEW WALLS, INSTALL RECESSED 2-GANG BACKBOX AT 18" AFF WITH BLANK PLATE WITH 1-1/2" 90° CONDUIT FITTING CONNECTION AND INSTALL 1-1/4" CONDUIT FROM JUNCTION BOX TO ABOVE FINISHED CEILING. DATA CABLING AND JACKS TO BE FURNISHED AND INSTALLED BY OTHERS.
- XD EXISTING (X) DATA JACKS.
- RECESSED EMPTY DOUBLE GANG BACKBOX WITH 1" CONDUIT TO ABOVE CEILING, FOR LOW-VOLTAGE WIRING BY OTHERS. INSTALL BACKBOX AT 18"AFF. UNLESS OTHERWISE NOTED ON DRAWINGS. PROVIDE FIBER BUSHINGS ON BOTH ENDS OF CONDUITS. PROVIDE WITH SINGLE-GANG MUD-RING, FACEPLATE
- DENOTES LIMIT OF DEMOLITION
- DENOTES CONNECT TO EXISTING

SPECIFICATIONS

SPECIFICATIONS:

- A. BASIC ELECTRICAL MATERIALS AND METHODS
- 1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2020 NATIONAL ELECTRICAL CODE AS ADOPTED BY THE NJUCC, ANY
- 2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE BEFORE PROCEEDING WITH THE WORK.
- 3. ALL ELECTRICAL COMPONENTS SHALL BE UL LISTED.

B. CONDUCTORS AND CABLE

- 1. ALL WIRING SHALL BE A MINIMUM 2#12 \pm 1#12GND. ALL CONDUIT SHALL BE IN MINIMUM 3/4" EMT OR RIGID.
- 2. PROVIDE THHN/THWN-2 WITH COPPER CONDUCTORS FOR ALL WIRING UNLESS OTHERWISE NOTED.

APPLICABLE LOCAL CODES, IBC, NFPA AND ALL LOCAL AUTHORITIES HAVING JURISDICTION.

- 3. MULTICONDUCTOR (MC) CABLE: COMPLY WITH NEMA WC 70 FOR ALUMINUM METAL—CLAD CABLE, TYPE MC WITH GROUND WIRE. INSTALL LUMINARY CABLE WITH INTEGRAL 2#16AWG 0-10V DIMMING CONDUCTORS FOR LIGHTING FIXTURES.
- 4. ALL WIRING SHALL BE CONCEALED IN THE WALLS INCLUDING FISHING IN EXISTING WALLS. EXPOSED WIRING ON WALLS IS NOT ACCEPTABLE.

C. RACEWAYS

- 1. MC CABLE SHALL BE USED FOR CONCEALED WIRING. FOR CONNECTIONS TO VIBRATING EQUIPMENT CONDUIT SHALL BE LIQUIDTIGHT FLEXIBLE NONMETALLIC TYPE.
- 2. ELECTRICAL METALLIC TUBING: ANSI C80.3. ONLY COMPRESSION FITTINGS ARE ALLOWED WITH EMT CONDUIT.
- FLEXIBLE METALLIC CONDUIT (STEEL) CONDUIT SHALL CONFORM TO THE LATEST REVISION OF FEDERAL SPECIFICATION WWC-566C. FLEXIBLE METAL CONDUIT: UL 1, ZINC-COATED STEEL. FLEXIBLE METAL CONDUIT: UL 1, ALUMINUM.
- 4. LIQUIDTIGHT FLEXIBLE NONMETALLIC TUBING: UL 1660.
- FITTINGS FOR CONDUIT (INCLUDING ALL TYPES AND FLEXIBLE AND LIQUIDTIGHT), EMT. AND CABLE: NEMA FB 1: LISTED FOR TYPE AND SIZE RACEWAY WITH WHICH USED, AND FOR APPLICATION AND ENVIRONMENT IN WHICH INSTALLED.
- a. FITTINGS FOR EMT: DIE-CAST, COMPRESSION TYPE.
- 6. JOINT COMPOUND FOR RIGID STEEL CONDUIT OR IMC: LISTED FOR USE IN CABLE CONNECTOR ASSEMBLIES, AND COMPOUNDED FOR USE TO LUBRICATE AND PROTECT THREADED RACEWAY JOINTS FROM CORROSION AND ENHANCE THEIR CONDUCTIVITY.
- 7. FIRE-STOP ALL WALL PENETRATIONS IN EXISTING OR NEW FIRE-RATED WALLS..

RECEPTACLE OUTLETS: 18" FROM FLOOR TO CENTERLINE

D. CABINETS, BOXES AND FITTINGS

- 1. JUNCTION BOXES SHALL BE INSTALLED IN CONFORMANCE WITH THE NEC AND SHALL MEET THE REQUIREMENTS OF THE NEC AND UL 50.
- PROVIDE NEMA ENCLOSURES AS FOLLOWS, INDOOR DRY LOCATIONS NEMA TYPE 1 SHEET STEEL, LOCATIONS EXPOSED TO WEATHER OR
- DAMPNESS NEMA TYPE 3R AND WET LOCATIONS NEMA TYPE 4. 3. MOUNTING HEIGHT OF INSTALLED EQUIPMENT SHALL BE AS FOLLOWS, EXCEPT AS OTHERWISE NOTED ON THE DRAWINGS: SWITCH OUTLETS: 48" TO TOP OF BOX

E. ELECTRICAL IDENTIFICATION

- IDENTIFICATION LABELING FOR RACEWAYS, CABLES, CONNECTORS, AND JUNCTION BOXES.
- SIGNS FOR OPERATIONAL INSTRUCTION, WARNING AND CAUTION, EQUIPMENT LABELS.
- 3. ALL RECEPTACLES AND SWITCHES SHALL BE LABELED ON A CLEAR SELF ADHESIVE LABEL WITH PANEL SOURCE AND CIRCUIT NUMBER IN 1/8"
- 4. ALL EQUIPMENT SHALL BE LABELED WITH PANEL SOURCE AND CIRCUIT NUMBER(S).

F. GROUNDING

1. ALL EQUIPMENT, WIRING, CONDUIT, ETC SHALL BE BONDED TO THE BUILDING GROUNDING SYSTEM ELECTRODE AND SHALL CONFORM TO NEC

G. WIRING DEVICES

- GENERAL: PROVIDE WIRING DEVICES, IN TYPES, CHARACTERISTICS, GRADES, COLORS, AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED WHICH ARE UL LISTED AND WHICH COMPLY WITH NEMA WD 1 AND OTHER APPLICABLE UL AND NEMA STANDARDS. PROVIDE IVORY COLOR DEVICES EXCEPT AS OTHERWISE INDICATED. VERIFY COLOR SELECTIONS WITH ARCHITECT.
- RECEPTACLES: PROVIDE 20A HEAVY-DUTY RECEPTACLES EQUAL TO HUBBELL WIRING DEVICES 5362. VERIFY COLOR SELECTIONS WITH ARCHITECT.
- GROUND-FAULT INTERRUPTER (GFI) RECEPTACLES: PROVIDE WEATHER-RESISTANT, TAMPER-RESISTANT, "FEED-THRU" TYPE GROUND-FAULT CIRCUIT INTERRUPTER, WITH INTEGRAL COMMERCIAL HEAVY-DUTY NEMA 5-20R DUPLEX RECEPTACLES ARRANGED TO PROTECT CONNECTED DOWNSTREAM RECEPTACLES ON SAME CIRCUIT. PROVIDE UNIT DESIGNED FOR INSTALLATION IN A 2-3/4 INCH DEEP OUTLET BOX WITHOUT ADAPTER, GROUNDING TYPE, CLASS A, GROUP 1, PER UL STANDARD 943. PROVIDE RECEPTACLES EQUAL TO HUBBELL WIRING DEVICES GFTWRST20 SERIES, WHICH COMPLY WITH 2015 UL 943 FOR SELF-TESTING REQUIREMENTS. VERIFY COLOR SELECTIONS WITH ARCHITECT.
- 4. TOGGLE SWITCHES: QUITE TYPE AC SWITCHES RATED FOR 20A (COLOR AS SELECTED BY ARCHITECT).
- WALL PLATES: SINGLE AND COMBINATION, OF TYPES, SIZES, AND WITH GANGING AND CUTOUTS AS INDICATED. PROVIDE PLATES WHICH MATE AND MATCH WITH WIRING DEVICES TO WHICH ATTACHED. PROVIDE METAL SCREWS FOR SECURING PLATES TO DEVICES WITH SCREW HEADS COLORED TO MATCH FINISH OF PLATES. PROVIDE WALL PLATE COLOR TO MATCH WIRING DEVICES EXCEPT AS OTHERWISE INDICATED. PROVIDE WALL PLATES WITH ENGRAVED LEGEND WHERE INDICATED. CONFORM TO REQUIREMENTS OF SECTION "ELECTRICAL IDENTIFICATION." PROVIDE PLATES POSSESSING THE FOLLOWING ADDITIONAL CONSTRUCTION FEATURES:
- MATERIAL AND FINISH: PLASTIC, WHITE DEVICE PLATES TO MATCH EXISTING IN SPACE.

H. LIGHTING FIXTURES

1. REFER TO LIGHTING FIXTURE SCHEDULE ON DWG E-100 FOR LIGHTING SPECIFICATIONS.

I. LIGHTING CONTROL SYSTEMS

EXPAND EXISTING ACUITY n-LIGHT SYSTEM IN SPACE. REFER TO DRAWING E-100 FOR INFORMATION ON THE LIGHTING CONTROL SYSTEM.

J. DATA AND STRUCTURED CABLING SYSTEM:

1. WIRING AND DEVICES TO BE FURNISHED AND INSTALLED BY OTHERS.

K. FIRE ALARM

- CONTRACTOR SHALL HIRE UNIVERSITY'S FIRE ALARM VENDOR, AUTOMATIC SUPPRESSION & ALARM SYSTEMS FOR PRICING RELATED TO NEW FIRE ALARM DEVICES, PROGRAMMING, AND TESTING OF THE EXISTING NOTIFIER FIRE ALARM SYSTEM. CONTACT BRIAN ZIEMBA AT 201-825-8855.
- NEW FIRE ALARM DEVICE SHALL BE FULLY COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM AND MATCH EXISTING FIRE ALARM DEVICES IN THE SPACE.
- WIRE ALL NEW NOTIFICATION APPLIANCES WITH METALCLAD MC-FPLP FIRE ALARM CABLE, SIZING AS DETERMINED BY FIRE ALARM MANUFACTURER. 4. ALL NEW AND RELOCATED DEVICES SHALL BE TESTED PER NFPA 72 AT COMPLETION OF PROJECT.

GENERAL NOTES WORK NOTES

- PRIOR TO BIDDING, THE CONTRACTOR SHALL EXAMINE ALL PROJECT DRAWINGS AND SPECIFICATIONS TO DEVELOP A COMPLETE UNDERSTANDING OF THE PROJECT SCOPE. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY EXISTING CONDITIONS BEFORE BIDDING. FAILURE TO DO THIS WILL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES TO PERFORM ALL REQUIRED WORK. THE CONTRACTOR SHALL ADVISE THE PROFESSIONAL OF ANY DISCREPANCIES WHICH WILL AFFECT THE WORK REQUIRED.
- FOR LOCATIONS OF ALL MECHANICAL EQUIPMENT REFER TO THE RESPECTIVE MECHANICAL DRAWINGS. REFER TO POWER WIRING SCHEDULE FOR MECHANICAL EQUIPMENT.
- ALL DEVICE LOCATIONS SUCH AS RECEPTACLE, DATA JACK, TV JACK, AND FLOOR OUTLETS, ETC., ARE APPROXIMATE. FINAL LOCATIONS AND MOUNTING HEIGHTS SHALL BE FIELD LOCATED BY THE ARCHITECT. THE CONTRACTOR SHALL INSTALL ALL DEVICES AT LOCATIONS AS DIRECTED BY THE ARCHITECT WITHOUT ADDITIONAL COMPENSATION.
- EXACT LOCATIONS OF ALL ELECTRICAL EQUIPMENT SHALL BE COORDINATED IN THE FIELD WITH THE MECHANICAL CONTRACTOR. ALL CLEARANCES AS REQUIRED BY ARTICLE 110 OF THE NEC SHALL BE MAINTAINED.
- RECEPTACLES, DATA JACKS AND OTHER FLUSH MOUNTED DEVICES MOUNTED ON OPPOSITE SIDE OF SAME WALL MUST BE STAGGERED IN SEPARATE JOISTS FOR ACOUSTICS. USE OF BACK TO BACK BOXES IS NOT ACCEPTABLE.
- DEVICES LOCATED IN FIRE RATED WALLS THAT ARE GREATER THAN 16 SQ/IN SHALL BE PROVIDED WITH SPECSEAL SSP PUTTY PADS OR EQUAL ON EACH BACKBOX.
- COORDINATE SPEAKER, OCCUPANCY SENSOR, AND FIRE ALARM DEVICE LOCATIONS WITH LIGHTING FIXTURES, SPRINKLERS, AIR DIFFUSERS, AND OTHER CEILING MOUNTED EQUIPMENT. COORDINATE WITH THE REFLECTED CEILING PLAN.
- ALL EQUIPMENT ON FIRE ALARM DRAWINGS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECT. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT SHOWN, AT LOCATIONS AS DIRECTED BY THE ARCHITECT WITHOUT ADDITIONAL COMPENSATION.
- 9. FOLLOW DIMENSIONS, WHERE INDICATED ON DRAWINGS, DO NOT SCALE DRAWINGS.
- 10. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2020 NATIONAL ELECTRICAL CODE AND OTHER APPLICABLE CODES AND STANDARDS.
- 11. FIRE STOPPING: WHERE CONDUITS PENETRATE FIRE AND SMOKE BARRIERS INCLUDING WALLS. PARTITIONS. FLOORS. AND CEILINGS, INSTALL FIRE-STOPPING AT PENETRATIONS AFTER CABLES ARE INSTALLED.
- 12. MATERIALS FOR FIRE STOPPING SHALL BE UL LISTED AND LABELED AND FM APPROVED FOR FIRE RATINGS CONSISTENT WITH PENETRATED BARRIERS. SLEEVES SHALL BE SCHEDULE 40, WELDED. BLACK STEEL PIPE SLEEVES. SIZES AS REQUIRED FOR EQUIVALENT AREA AS THE WIREWAYS. SEALING FITTINGS SHALL BE SUITABLE FOR SEALING CABLES IN SLEEVES OR CORE DRILLED HOLES. TWO-PART SEALANT: FORMED-IN-PLACE SEALANT FIRE-RESISTANT JOINT SEALERS.
- 13. ELECTRICAL CONTRACTOR SHALL EXAMINE THE DRAWINGS OF ALL TRADES AND COORDINATE THEIR WORK TO AVOID INTERFERENCE WITH STRUCTURE, AND ALL EQUIPMENT ABOVE AND BELOW THE CEILING.
- 14. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE BEFORE PROCEEDING WITH THE
- 15. WIRE ALL FIRE ALARM AUXILIARY PANELS TO A 1P-20A C/B AS INDICATED ON THE PANEL SCHEDULES, INSTALL BREAKER LOCK ON FIRE ALARM CIRCUIT BREAKER.
- 16. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE MOUNTINGS AND NUMBER OF FACES FOR THE EXIT SIGNS. THE LIGHTING FIXTURE SHOP DRAWING SUBMISSION SHALL REFLECT THIS COORDINATION.
- 17. CONTRACTOR MUST COORDINATE ROOMS NAMES ON THE PANEL SCHEDULES WITH THE FINAL ROOM NAMES, IN THE FIELD. ALL PANELS SHALL BE PROVIDED WITH TYPED PANEL SCHEDULE.
- 18. PROVIDE FIBER BUSHINGS ON THE ENDS OF ALL CONDUIT STUBS. 19. ALL SWITCHES, RECEPTACLES, PANELBOARDS, FIRE ALARM PANELS, POWER SUPPLIES AND DISCONNECTS SHALL BE LABELED
- WITH SOURCE PANEL AND CIRCUIT.
- 20. ALL SPARE CONDUITS SHALL BE PROVIDED WITH A PULL STRING.

21. ALL PANELS THAT HAVE NEW CIRCUITS OR REMOVED CIRCUITS SHALL HAVE NEW TYPED UPDATED PANEL SCHEDULES.

23. ALL OF THE NOTES UNDER THE "GENERAL NOTES" SHALL APPLY TO ALL OF THE ELECTRICAL DRAWINGS.

22. ALL SWITCHES, RECEPTACLES, PANELBOARDS, DISCONNECTS AND EQUIPMENT SHALL BE LABELED WITH SOURCE PANEL AND

DEMOLITION NOTES

- 1. ALL WORK UNDER THIS SECTION SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO DEMOLITION.
- 2. DEMOLITION/RELOCATIONS: EACH TRADE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND RELOCATIONS OF SERVICES, EQUIPMENT AND MATERIAL RELATING TO THEIR RESPECTIVE TRADE.
- 3. PRIOR TO DEMOLITION CONTRACTOR SHALL REVIEW WITH OWNER ALL MATERIALS TO BE REMOVED. SHOULD THE OWNER OPT TO KEEP ANY MATERIALS, THE CONTRACTOR SHALL REMOVE AND DELIVER THE PARTS TO THE OWNER ON THE SITE WHERE SO DIRECTED. OTHERWISE, ALL DEMOLISHED OR REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, SHALL BE REMOVED FROM THE SITE, AND BE DISPOSED OF IN A LEGAL MANNER.
- 4. DEMOLITION SHALL INCLUDE REMOVAL OF ALL PARTS AND PIECES IN THEIR ENTIRETY BACK TO THE POINTS INDICATED OR IF NOT INDICATED BACK TO THEIR POINT OF SOURCE. WHERE CONDITIONS PROHIBIT TOTAL REMOVAL OF THE WORK, THE REMAINING PORTION SHALL BE CUT FLUSH WITH THE SURROUNDING SURFACE SHALL BE REFINISHED IN AN APPROVED
- MAINTAIN EXISTING UTILITIES INDICATED OR WHERE REQUIRED TO REMAIN, KEEP IN SERVICE, AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS. DO NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN SCHEDULED WITH THE OWNER.
- 6. DO NOT REMOVE EXISTING STRUCTURAL WORK. DO NOT REMOVE OPERATIONAL ELEMENTS AND SAFETY-RELATED COMPONENTS IN A MANNER RESULTING IN A REDUCTION OF CAPACITIES TO PERFORM IN THE MANNER INTENDED OR RESULTING IN DECREASED OPERATIONAL LIFE, INCREASED MAINTENANCE, OR DECREASED SAFETY.
- REMOVALS, DISCONNECTIONS, AND RELOCATIONS SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE INVOLVED AND SHALL BE EMPLOYED BY A CONTRACTOR LICENSED IN THE TRADE INVOLVED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ACCEPTED TRADE PRACTICES.
- 8. PROVIDE ADEQUATE TEMPORARY SUPPORT FOR WORK TO REMAIN TO PREVENT FAILURE. DO NOT ENDANGER OTHER WORK.
- CONTRACTOR SHALL TAKE EVERY PRECAUTION AGAINST FIRE BY EMPLOYING FIRE DEPARTMENT TYPE HOSES AND PORTABLE FIRE EXTINGUISHERS AS REQUIRED BY OSHA AND/OR THE OWNER'S INSURANCE UNDERWRITER. 10. ALL EXISTING EQUIPMENT REQUIRED TO BE REUSED SHALL BE CLEANED, RECONDITIONED, CALIBRATED AND ADJUSTED. IN

9. PROTECTION: PROVIDE ADEQUATE PROTECTION WHERE REQUIRED FOR THE PRESENT BUILDING AND ITS CONTENTS.

- ALL INSTANCES WHERE CONTRACTOR FINDS THAT EXISTING EQUIPMENT IS DEFECTIVE TO THE POINT WHERE IT CANNOT BE PROPERLY RESTORED AND WILL NOT OPERATE PROPERLY, THEY SHALL REPORT THE SPECIFIC INSTRUMENTS OR EQUIPMENT TO THE ENGINEER FOR DIRECTIONS.
- 11. ALL DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL CAREFULLY EXAMINE EXISTING CONDITIONS PRIOR TO STARTING
- 12. DEMOLITION SHALL INCLUDE REMOVAL OF ALL PARTS AND PIECES IN THEIR ENTIRETY BACK TO THE POINTS INDICATED OR IF NOT INDICATED BACK TO THEIR POINT OF SOURCE. MAINTAIN (E) CIRCUIT INTEGRITY.

M/E/P Engineer: SCHILLER AND HERSH ASSOCIATES, INC. Consulting M/E/P Engineers 636 Skippack Pike, Suite 200 Blue Bell, PA 19422

Certificate of Authorization: 24GA28014000

S&H JOB #2364A

RICHARD L. DELP, PE

ENGINEER

NEW JERSEY PROFESSIONAL

LIST OF DRAWINGS

ELECTRICAL COVER SHEET ELECTRICAL DEMOLITION FLOOR PLAN ELECTRICAL NEW WORK LIGHTING FLOOR PLAN E - 100ELECTRICAL NEW WORK POWER/FIRE/COMM FLOOR PLAN SCALE. CONSULT WITH ARCHITECT FOR DIMENSIONS. Montclair State University

DO NOT SCALE. DRAWING MAY BE PRINTED AT REDUCED

Permit and Construction

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ARCHITECTURE FOR CHANGE

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Description

09/15/23

Revisions / Issues

Vincent A. Myers, AIA NJ RA AI 11415, NY RA 041541

No. Date

Project Renovation of Provost's Office at Cole Hall Lot: # Block: #

Montclair, NJ 07043 Drawing Information: Project No: 23.057 MSU Project No: PR 23C064 Date 09/15/2023 Drawn By: JDB

1 Normal Avenue

Montclair, NJ 07043

1 Normal Avenue

Checked By: RLD

Sheet Name: **ELECTRICAL COVER SHEET**

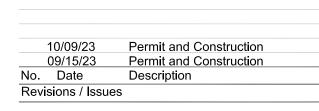
Sheet No:

E-001



- 1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, REFER TO DRAWINGS E-001 & E-002.
- 2. ALL WORK SHOWN ON THIS DRAWING IS TO BE DEMOLISHED, UNLESS OTHERWISE NOTED AS EXISTING (E), REMOVE AND REINSTALL (RAR), OR RELOCATED (REL).
- 3. ALL DEVICES SHOWN TO BE REMOVED AND REINSTALLED (RAR) OR TO BE RELOCATED (REL), SHALL BE PROTECTED AND STORED BY THE CONTRACTOR DURING CONSTRUCTION, AND THEN SHALL BE REINSTALLED AFTER CEILING OR ABOVE CEILING WORK IS COMPLETED.
- 4. ALL DEVICES SHOWN TO BE DEMOLISHED SHALL HAVE ASSOCIATED WIRING REMOVED BACK TO SOURCE PANEL, UNLESS CONNECTED TO EXISTING-TO-REMAIN DEVICES/EQUIPMENT (NOT ALL DEVICES ARE SHOWN). AS NEEDED, MAINTAIN CIRCUIT INTEGRITY BY RE-WIRING OR MAINTAINING EXISTING WIRING TO KEEP EXISTING DEVICE(S) ACTIVE.
- 5. CONTRACTOR IS RESPONSIBLE TO REPLACE ANY WIRING NOTED ABOVE, THAT IS DAMAGED OR REMOVED BY THE CONTRACTOR.
- 6. CONTRACTOR IS RESPONSIBLE TO PATCH ALL HOLES OR OPENINGS IN EXISTING WALLS AFTER DEMOLITION, INCLUDING EXISTING FIRE RATED WALLS, ABOVE AND BELOW CEILING, TO MAINTAIN INTEGRITY OF THE FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED WALLS.





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Montclair State University 1 Normal Avenue Montclair, NJ 07043

Renovation of Provost's Office at Cole Hall Lot: # Block: # 1 Normal Avenue

Montclair, NJ 07043 Drawing Information: Project No: 23.057

MSU Project No: PR 23C064
Date: 09/15/2023
Drawn By: JDB
Checked By: RLD

Sheet Name: **ELECTRICAL DEMOLITION FLOOR PLAN**

Sheet No: **ED-100**

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

ENGINEER LICENSE NO. GE45368

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S&H JOB #2364A

SCHILLER AND HERSH ASSOCIATES, INC. Consulting M/E/P Engineers

Certificate of Authorization: 24GA28014000

									LIG	HTING FIXTU	JRE SCHEDULE
FIXTURE TYPE	MANUFACTURER	CATALOG NUMBER	ALTERNATE MANUFACTURERS VOL		LIGHT EN	T) TYPE	DRIVER	MOUNTING	WARRANTY	REMARKS
A1	FINELITE	HPR LED 2X2 DCO B 835 277 SC 1% ELDOLED ECODRIVE 96 LG C2 NLIGHT AIR SENSOR - RES7 G2	NO SUBSTITUTIONS TO MATCH EXISTING FIXTURES 277	/ 4367	37.1 35K	100,000	LED	0-10V	RECESSED	10 YEAR	2'x2' ARCHITECTURAL TROFFER WITH CENTER CHANNEL LENS AND DOOR FRAME WITH INTEGRAL INCIGHT AIR OCCUPANCY SENSOR.
B1	H.E. WILLIAMS	6DR-TL-L15/835-DIM-UNV-O-W-OF-CS	OR APPROVED EQUAL 277	/ 1497	13.8 35K	60,000	LED	0-10V	RECESSED	5 YEAR	6" RECESSED LED DOWNLIGHT. MATCH FIXTURE DIAMETER AND FIINISH WITH EXISTING RECESSED DOWNLIGHTS IN SPACE.

LIGHTING FIXTURE SCHEDULE NO SCALE

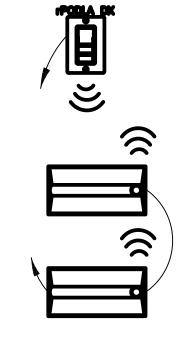
NOTES:

- 1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, REFER TO DRAWINGS E-001 & E-002.
- 2. ALL WORK SHOWN ON THIS DRAWING IS TO BE NEW WORK, UNLESS OTHERWISE NOTED AS EXISTING (E), REMOVE AND REINSTALL (RAR), OR RELOCATED (REL).
- RE-WIRE NEW AND RELOCATED (REL) LIGHTING TO EXISTING LIGHTING CIRCUITS VIA NEW LIGHTING CONTROLS.
- 4. CONTRACTOR SHALL BE RESPONSIBLE TO REPROGRAM ALL EXISTING ACUITY LIGHTING CONTROLS, RELOCATION OF FIXTURES, AND NEW WALL PARTITIONS.

KEY NOTES:

- EXISTING NLIGHT ENABLED FIXTURE TO BE WIRED TO EXISTING n-LIGHT LIGHTING CONTROL SYSTEMS IN OPEN OFFICE AREA.
- $\stackrel{\textstyle 2}{ } \text{ EXISTING nLIGHT ENABLED FIXTURE TO BE WIRED TO NEW } \\ \text{$n-$LIGHT LIGHTING CONTROL SYSTEM IN PRIVATE OFFICE.}$

Aculty Controls. nLIGHT AIR



SEQUENCE OF OPERATION:

LIGHTS — ALL LIGHTS ARE DIMMABLE — ALL FIXTURES ARE CONTROLLED TOGETHER OCCUPANCY

- LIGHTS MUST BE TURNED ON MANUALLY

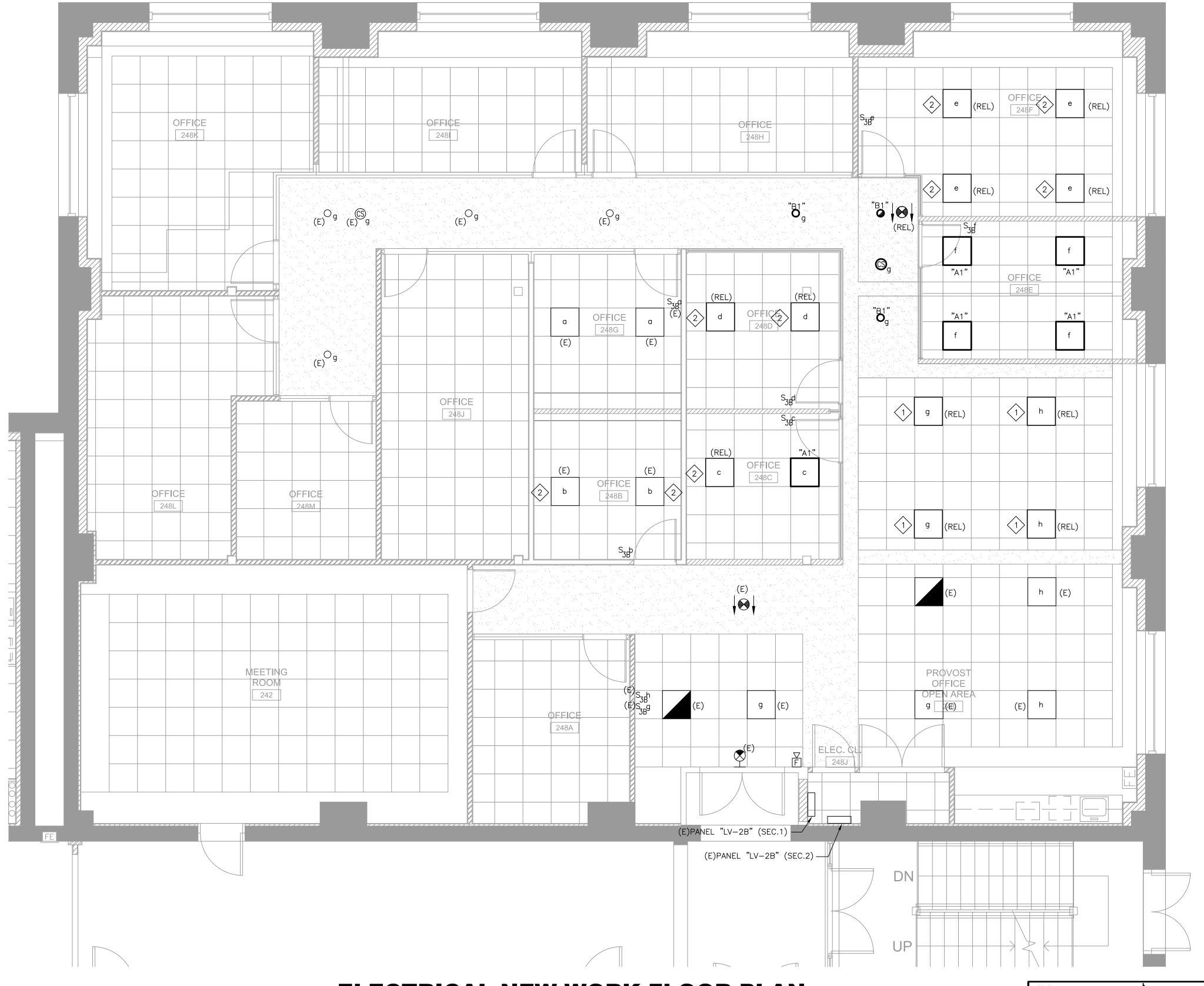
- LIGHTS AUTOMATICALLY TURN OFF WHEN
ROOM BECOMES VACANT

- ON/OFF & RAISE/LOWER CONTROL OF LIGHTS

DIAGRAM LEGEND	
LINE VOLTAGE WIRES	
LINE POWER	

	BILL	OF MATERIAL
QTY	PRODUCT#	DESCRIPTION
AS PER FLOOR PLANS	SEE LIGHTING FIXTURE SCHEDULE	nLIGHT AIR ENABLED TROFFER w/ SENSOR OPTION
AS PER	rPODLA DX G2	ON/OFF & RAISE/LOWER LINE VOLTAGE

TYPICAL LIGHTING CONTROL DIAGRAM NO SCALE



ELECTRICAL NEW WORK FLOOR PLAN



SCHILLER AND HERSH ASSOCIATES, INC. Consulting M/E/P Engineers 636 Skippack Pike, Suite 200 Blue Bell, PA 19422

Certificate of Authorization: 24GA28014000 S&H JOB #2364A

Drawing Information: Project No: 23.057

Montclair State University

1 Normal Avenue Montclair, NJ 07043

Lot: # Block: # 1 Normal Avenue

Montclair, NJ 07043

Project:

MSU Project No: PR 23C064
Date: 09/15/2023
Drawn By: JDB
Checked By: RLD Sheet Name:

10/09/23 Permit and Construction
09/15/23 Permit and Construction
No. Date Description
Revisions / Issues

Vincent A. Myers, AIA NJ RA AI 11415, NY RA 041541

ARCHITECTURE FOR CHANGE

15 Bethany Street • New Brunswick, NJ 08901 • T:732.249.6242 1417 N. 2nd St, Ste.3M • Philadelphia, PA 19122 • T: 215.634.3400

ELECTRICAL NEW WORK LIGHTING **FLOOR PLAN**

DO NOT SCALE. DRAWING MAY BE PRINTED AT REDUCED SCALE. CONSULT WITH ARCHITECT FOR DIMENSIONS.

Renovation of Provost's Office at Cole Hall

Sheet No: **E-100**

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RICHARD L. DELP, PE NEW JERSEY PROFESSIONAL

ENGINEER LICENSE ND. GE45368

)"	SUF	RFACE MOU	NTED						
CKT NO	CIRCUIT POLE	AMP	REMARKS	А	В	С	А	В	С	REMARKS	AMP	CIRCUIT POLE	CKT NO
43	1	20	(E)COPIER-ROOM 223	1000			0			SPARE	20	1	44
45	1	20	SPARE		0			1200		(E)HAND DRYER-ROOM 2801	20	1	46
47	1	20	(E)HAND DRYER ROOM 225			1200			1200	(E)HAND DRYER-ROOM 2R03	20	1	48
49	1	20	(E)COPIER-2R01	1000			1200			(E)HAND DRYER-ROOM 2R03	20	1	50
51	1	20	(E)HAND DRYER ROOM 2R02		1200			1000		(E)RECEPTACLE-ROOM 241	20	1	52
53	1	20	(E)RECEPTACLES-ROOM 241			1000			1200	(E)VIDEO DISPLAY RECEPTACLES 241	20	1	54
55	1	20	(E)VIDEO DISPLAY RECEPTACLES-ROOM 2C01	1000			1000			(E)RECEPACLES-ROOM 242	20	1	56
57	1	20	(E)VIDEO DISPLAY RECEPTACLES 242		1200			1000		(E)VIDEO DISPLAY RECEPTACLES-ROOM 242	20	1	58
59	1	20	(E)VIDEO RECEPTACLES 242			1000			1000	(E)VIDEO DISPLAY RECEPTACLES-ROOM 242	20	1	60
61	1	20	(E)KITCHEN RECEPTACLES 249D	800			800			(E)COPIER	20	1	62
63	1	20	(E)RECEPTACLES 224B		600			800		(E)COPIER	20	1	64
65	1	20	(E)EXTERIOR RECEPTACLES (E-STAIR)			400			500	(E)MOTORIZED DOORS-ROOM 224	20	1	66
67	1	20	(E)VIDEO DISPLAY RECEPTACLE 249B	1000			800			UNKNOWN	20	1	68
69	1	20	(E)FLOOR BOXES 224		1000			0		SPARE	20	1	70
71	1	20	(E) RECEPTACLES 224			800			800	UNKNOWN	20	1	72
73	1	20	(E)VAV-2-25 THRU VAV-2-32	800			1200			(E)COPY MACHINE #1	20	1	74
75	1	20	(E)VAV-2-33 THRU VAV-2-38 & VAV-2-39		600			1200		(E)COPY MACHINE #2	20	1	76
77	1	20	SPARE			0			0	SPARE	20	1	78
79	2	20	(E)DANCE (LOCKADLE TYPE)	1000			1620			RECEPTACLES, OFFICE 248N AND 248M	20	1	80
81] -	20	(E)RANGE (LOCKABLE TYPE)		1000			1080		RECEPTACLES, OFFICE 248L AND 248K	20	1	82
RE	1	20	(E) ATM RECEPTACLE			800			180	RECEPTACLES, OFFICE 248C AND 248I	20	1	84
				6600	5600	5200	6620	6280	4880				
										PHASE A:	13.22	kVA	
										PHASE B:	11.88	kVA	
										PHASE C:	10.08	kVA	
										TOTAL CONNECTED (SECTION 2):	35.18	kVA	

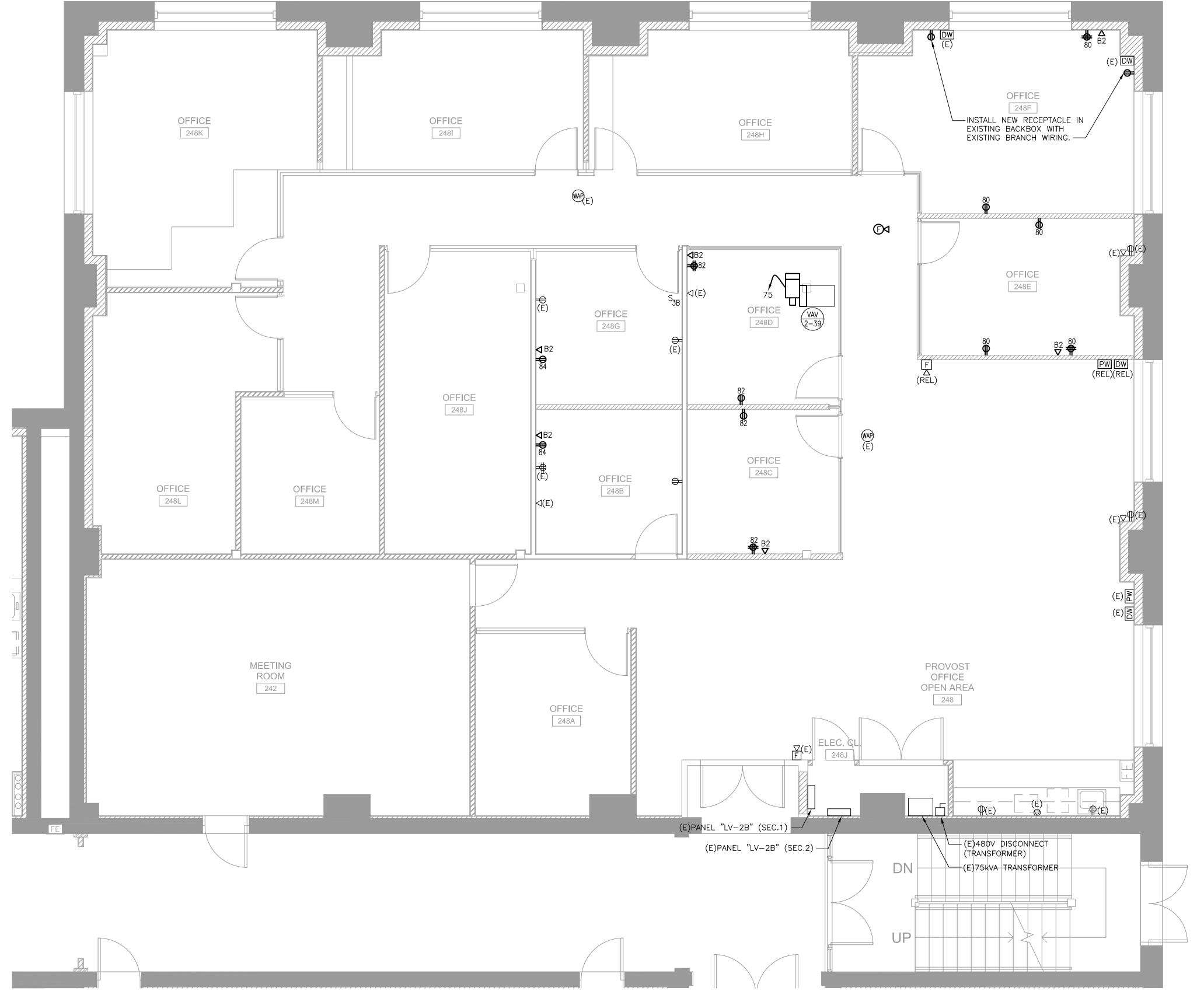
TOTAL CONNECTED (SECTION 1): 42.00 kVA

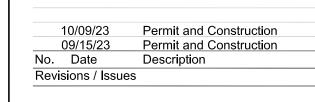
NEC DEMAND CALCULATION PER NEC 220.47 43.59 kVA

NOTES:

- 1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, REFER TO DRAWINGS E-001 & E-002.
 - 2. ALL WORK SHOWN ON THIS DRAWING IS TO BE NEW WORK, UNLESS OTHERWISE NOTED AS EXISTING (E), REMOVE AND REINSTALL (RAR), OR RELOCATED (REL).
 - 3. CONTRACTOR SHALL UNIVERSITY'S FIRE ALARM VENDOR TO PROVIDE ALL DEVICES, PROGRAMMING, AND TESTING OF EXISTING NOTIFIER FIRE ALARM PANEL. ALL NEW AND RELOCATED DEVICES SHALL BE TESTED PER NFPA 72 AT COMPLETION OF PROJECT. WIRE ALL NEW NOTIFICATION APPLIANCES WITH METALCLAD MC-FPLP FIRE ALARM CABLE, SIZING AS DETERMINED BY FIRE ALARM MANUFACTURER.







DIGroup Architecture ARCHITECTURE FOR CHANGE

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Client:
Montclair State University
1 Normal Avenue

Montclair, NJ 07043

Project:

Renovation of Provost's Office at Cole

Renovation of Provost's Office at Cole Hall
Lot: # Block: #
1 Normal Avenue
Montclair, NJ 07043

Drawing Information:
Project No: 23.057
MSU Project No: PR 23C064
Date: 09/15/2023
Drawn By: JDB
Checked By: RLD

Sheet Name:

ELECTRICAL NEW WORK

POWER/FIRE/COMM

FLOOR PLAN

Sheet No: **E-200**

ELECTRICAL NEW WORK FLOOR PLAN

SCALE: 1/4"=1'-0"

\2364A\ELECTRICAL

RICHARD L. DELP, PE NEW JERSEY PROFESSIONAL ENGINEER

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S&H JOB #2364A

SCHILLER AND HERSH ASSOCIATES, INC. Consulting M/E/P Engineers

Certificate of Authorization: 24GA28014000

ENGINEER
LICENSE NO.: GE45368