Second Floor Electrophysiology Lab Renovation For

LEWIS GALE MEDICAL CENTER

1900 Electric Road Salem, Virginia 24153

CODE INFORMATION

CODE	2021 VIRGINIA EXISTING BUILDING CODE 2021 NFPA 101, LIFE SAFETY CODE 2022 GUIDELINES FOR DESIGN AND CONSTRUCTION OF HOSPITALS
JURSIDICTION	SALEM, VIRGINIA
USE GROUP	I-2, EXISTING
CONSTRUCTION TYPE	TYPE IIB, EXISTING
FIRE SUPPRESSION	FULLY SPRINKLERED
SMOKE/FIRE ALARM	EXISTING THROUGHOUT
EXISTING SMOKE COMPARTMENT	6,605 SF
WORK AREA	869 SF, LEVEL 2 ALTERATION
BUILDING FLOOR AREA	32,781 SF WORK AREA= 3% OF FLOOR AREA
OCCUPANT LOAD	INPATIENT HOSPITAL 240 SF/OCC 4 OCCUPANTS
NUMBER OF EXITS REQUIRED	2
NUMBER OF EXITS EXISTING	2
MAX TRAVEL DISTANCE	300 FEET
ACTUAL MAX TRAVEL DISTANCE	131 FEET
FIRE RATINGS	EXISTING, REQUIRED TO REMAIN
STRUCTURAL FRAME	2 HOURS, NO CHANGE
FLOORS	0 HOURS, NO CHANGE
CORRIDORS	0 HOURS (SMOKE PARTITION), NO CHANGE
STORAGE ROOM	0 HOURS (SMOKE PARTITION) NO CHANGE

LEVEL 1 ALTERATIONS (SECTION 602)

BUILDING MATERIALS: INTERIOR WALL AND CEILING FINISHES SHALL COMPLY WITH CHAPTER 8 OF THE VCC.

FLOOR FINISH SHALL COMPLY WITH SECTION 804 OF THE VCC.

TRIM SHALL COMPLY WITH SECTION 806 OF THE VCC

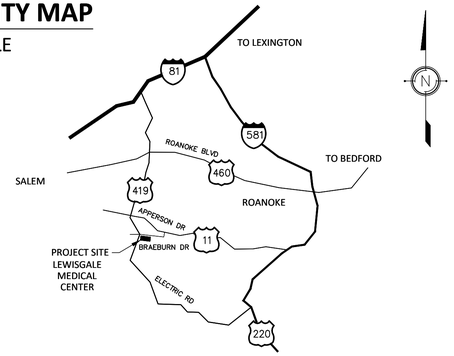
NEW WORK SHALL COMPLY WITH THE MATERIALS AND METHODS REQUIREMENTS IN THE VCC, IECC, IMC, IPC, AND INTERNATIONAL FUEL GAS CODE AS APPLICABLE.

LEVEL 2 ALTERATIONS (SECTION 603)

BUILDING MATERIALS:	ALL NEW WORK AREA MATERIALS SHALL COMPLY WITH CHAPTER 8 OF VUSBC. EXISTING SMOKE BARRIERS REMAIN IN PLACE.
FIRE PROTECTION:	MAINTAIN EXISTING LEVEL IN WORK AREAS, SINGLE TENANT. FIRE ALARM TO REMAIN.
MEANS OF EGRESS:	MAINTAIN EXISTING LEVEL AT WORK AREAS, SINGLE TENANT.
ACCESSIBILITY:	COMPLY WITH 705.1.1 - 705.1.14 AND CHAPTER 11 OF VUSBC IN WORK AREA
	ROUTE TO AREA OF PRIMARY FUNCTION SHALL REMAIN ACCESSIBLE
STRUCTURAL	NEW SHALL COMPLY WITH VUSBC.
ELECTRICAL	NEWLY INSTALLED IN THE WORK AREA SHALL COMPLY WITH VUSBC. EQUIPMENT AND WIRING IN NEW PARTITIONS AND CEILINGS IN THE WORK AREA SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF NFPA 70
MECHANICAL	NATURAL AND MECH VENTILATION IN THE WORK AREA IN ACCORDANCE WITH THE IMC
PLUMBING	OCCUPANT LOAD IS NOT INCREASED BY MORE THAN 20 PERCENT.
ENERGY CONSERVATION:	NEW CONSTRUCTION IN THE WORK AREA MUST MEET IECC

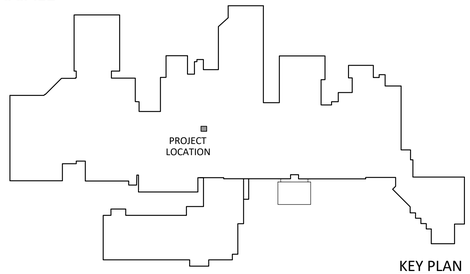
VICINITY MAP

NO SCALE



FACILITY MAP - SECOND FLOOR

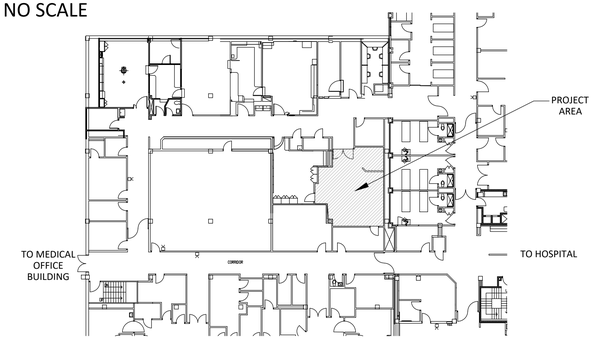
NO SCALE



KEY PLAN

PROJECT AREA

NO SCALE



SHEET LIST

PROJECT SCOPE

EXISTING BUILDING ALTERATION LEVEL 2 OF AN EXISTING 869 SF ELECTROPHYSIOLOGY LAB AND EQUIPMENT ROOM IN AN EXISTING HOSPITAL. NO CHANGE OF OCCUPANCY. BUILDING IS FULLY SPRINKLERED. DEMOLITION INCLUDES REMOVAL OF FINISHES CASEWORK AND SELECTIVE WALL REMOVAL. NEW WORK INCLUDES FINISHES, CASEWORK, WALL RELOCATION, AND NEW EQUIPMENT BY EQUIPMENT VENDORS.

ALLOWANCE NO. 1: CONTINGENCY OF 5% OF BID.

REFER TO OWNER PROVIDED HAZARDOUS MATERIALS REPORT. NO ACM FOUND.

1/16" LEAD SHIELDING WILL MEET THE REQUIREMENT FOR NEW WALLS IN THIS INSTALLATION.
1/16" LEAD SHIELDING IS PRESENT IN EXISTING WALLS.

OWNER

HCA / LEWIS GALE MEDICAL CENTER
JEREMY COPE
DIRECTOR OF OPERATIONS
P 540.776.4703

ARCHITECT & INTERIORS

HUGHES ASSOCIATES ARCHITECTS & ENGINEERS, PC
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CONSULTANTS

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EQUIPMENT VENDORS

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DATE JAN. 23, 2026

REVISIONS

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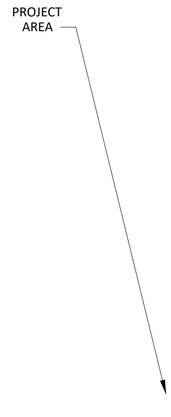
SECOND FLOOR RENOVATION FOR
LEWIS GALE MEDICAL CENTER
ELECTROPHYSIOLOGY LABORATORY
1900 ELECTRIC ROAD SALEM, VIRGINIA 24153

COMMONWEALTH OF VIRGINIA
09.16.25
ALAN J. DOWNIE
Lic. No. 12522
ARCHITECT

COMMISSION No.
25012

SHEET
COVER



DATE: SEP 16, 2025

REVISIONS
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PARTIAL
SECOND
FLOOR LIFE
SAFETY PLAN

COMMONWEALTH OF VIRGINIA
09.16.25
ALAN J. DOWNIE
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SHEET
LS-1

SECTION 01 1000
SUMMARY

PART 1 GENERAL

THE PROJECT CONSISTS OF INTERIOR RENOVATIONS.

1.01 DESCRIPTION OF ALTERATIONS WORK

A. SCOPE OF DEMOLITION AND REMOVAL WORK IS SHOWN ON DRAWINGS.
B. SCOPE OF ALTERATIONS WORK IS SHOWN ON DRAWINGS.
C. PLUMBING: ALTER THE EXISTING SYSTEM AND ADD NEW CONSTRUCTION KEEPING EXISTING IN OPERATION.
D. HVAC: RE-CONFIGURE THE EXISTING SYSTEM AND ADD NEW CONSTRUCTION KEEPING THE EXISTING IN OPERATION.
E. ELECTRICAL POWER AND LIGHTING: ALTER THE EXISTING SYSTEM, AND ADD NEW CONSTRUCTION KEEPING EXISTING IN ADJACENT AREAS IN OPERATION.
F. FIRE ALARM: ALTER EXISTING SYSTEM AND ADD NEW CONSTRUCTION, KEEPING EXISTING IN OPERATION.
G. FIRE SEPARATION: EXISTING TO REMAIN.
H. FIRE SUPRESSION: REPLACE HEADS ONLY

1.03 OWNER OCCUPANCY

A. OWNER INTENDS TO CONTINUE TO OCCUPY ADJACENT PORTIONS OF THE EXISTING BUILDING DURING THE ENTIRE CONSTRUCTION PERIOD.
B. CLIENT INTENDS TO OCCUPY THE PROJECT UPON SUBSTANTIAL COMPLETION.
C. COOPERATE WITH CLIENT TO MINIMIZE CONFLICT AND TO FACILITATE CLIENT'S OPERATIONS.

1.04 CONTRACTOR USE OF SITE AND PREMISES

A. CONSTRUCTION OPERATIONS: LIMITED TO AREAS NOTED ON DRAWINGS.
B. ARRANGE USE OF SITE AND PREMISES TO ALLOW:
1. OWNER OCCUPANCY.
2. WORK BY OTHERS.
3. USE OF SITE AND PREMISES BY THE PUBLIC.
C. PROVIDE ACCESS TO AND FROM SITE AS REQUIRED BY LAW AND BY OWNER:
1. EMERGENCY BUILDING EXITS DURING CONSTRUCTION: KEEP ALL EXITS REQUIRED BY CODE OPEN DURING CONSTRUCTION PERIOD; PROVIDE TEMPORARY EXIT SIGNS IF EXIT ROUTES ARE TEMPORARILY ALTERED.
2. DO NOT OBSTRUCT ROADWAYS, SIDEWALKS, OR OTHER PUBLIC WAYS WITHOUT PERMIT.
D. EXISTING BUILDING SPACES OUTSIDE THE PROJECT AREA MAY NOT BE USED FOR STORAGE.
E. UTILITY OUTAGES EXCEPT AS DESIGNATED:
1. LIMIT DISRUPTION OF UTILITY SERVICES TO WEEKEND HOURS.
2. DO NOT DISRUPT OR SHUT DOWN LIFE SAFETY SYSTEMS, INCLUDING BUT NOT LIMITED TO FIRE SPRINKLERS AND FIRE ALARM SYSTEM, WITHOUT 7 DAYS NOTICE TO OWNER AND AUTHORITIES HAVING JURISDICTION.
3. PREVENT ACCIDENTAL DISRUPTION OF UTILITY SERVICES TO OTHER FACILITIES.
4. ALLOWABLE WORKING HOURS ARE 8am-8pm DAILY, EXCEPT AS APPROVED BY OWNER.

1.05 WORK SEQUENCE

A. COORDINATE CONSTRUCTION SCHEDULE AND OPERATIONS WITH OWNER.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

SECTION 02 4100
DEMOLITION

PART 1 GENERAL

1.01 SUBMITTALS

A. PROJECT RECORD DOCUMENTS: ACCURATELY RECORD ACTUAL LOCATIONS OF CAPPED AND ACTIVE UTILITIES AND SUBSLAB CONSTRUCTION.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. COMPLY WITH APPLICABLE CODES AND REGULATIONS FOR DEMOLITION OPERATIONS AND SAFETY OF ADJACENT STRUCTURES AND THE PUBLIC.
1. OBTAIN REQUIRED PERMITS.
2. PROVIDE, ERECT, AND MAINTAIN TEMPORARY BARRIERS AND SECURITY DEVICES.
B. DO NOT BEGIN REMOVAL UNTIL BUILT ELEMENTS TO BE SALVAGED OR RELOCATED HAVE BEEN REMOVED.
C. IF HAZARDOUS MATERIALS ARE DISCOVERED DURING REMOVAL OPERATIONS, STOP WORK AND NOTIFY ARCHITECT AND OWNER; HAZARDOUS MATERIALS INCLUDE REGULATED ASBESTOS CONTAINING MATERIALS, LEAD, PCB'S, AND MERCURY.
D. COORDINATE WITH, AND OBTAIN APPROVAL FROM ICRA COORDINATOR FOR EACH AIR BARRIER PLAN.

3.02 EXISTING UTILITIES

A. COORDINATE WORK WITH UTILITY COMPANIES; NOTIFY BEFORE STARTING WORK AND COMPLY WITH THEIR REQUIREMENTS; OBTAIN REQUIRED PERMITS.
B. PROTECT EXISTING UTILITIES TO REMAIN FROM DAMAGE.

3.03 SELECTIVE DEMOLITION FOR ALTERATIONS

A. DRAWINGS SHOWING EXISTING CONSTRUCTION AND UTILITIES ARE BASED ON CASUAL FIELD OBSERVATION AND EXISTING RECORD DOCUMENTS ONLY.
B. REMOVE EXISTING WORK AS INDICATED AND AS REQUIRED TO ACCOMPLISH NEW WORK.
C. SERVICES (INCLUDING BUT NOT LIMITED TO HVAC, PLUMBING, FIRE ALARM, SPRINKLER AND ELECTRICAL): REMOVE EXISTING SYSTEMS AND EQUIPMENT ONLY AS INDICATED.
D. PROTECT EXISTING WORK TO REMAIN.

3.04 DEBRIS AND WASTE REMOVAL

A. REMOVE DEBRIS, JUNK, AND TRASH FROM SITE IN COVERED BINS.
B. COORDINATE REMOVAL ROUTE(S) WITH OWNER.
C. PROVIDE DUMPSTER AND HAULING SERVICES.

SECTION 05 4000
LIGHT GAUGE METAL FRAMING

PART 1 - GENERAL

1.01 PROVIDE LIGHT GAUGE METAL FRAMING AS INDICATED.
1.02 SUBMIT MANUFACTURER'S CATALOG INFORMATION.

PART 2 PRODUCTS

2.01 ALL BEARING METAL STUD WORK SHALL BE GA. NOTED ON DRAWINGS, SPACED AT 16" ON CENTERS UNLESS OTHERWISE NOTED. MATERIAL SHALL CONFORM TO ASTM A-446 OR A-570 AND HAVE A MIN. YIELD POINT OF 33,000 PSI. STRAPPING MATERIAL SHALL HAVE A MIN. YIELD POINT OF 50,000 PSI.

2.02 MATERIAL FOR ALL LIGHT GAUGE FRAMING SHALL BE HOT-DIPPED GALVANIZED COMPLYING WITH ASTM A-525 FOR A MIN. G60 FINISH.

2.03 METAL STUDS SPECIFIED ARE BASED ON THE PROPERTIES OF STUDS MANUFACTURED BY DIETRICH. ALL STUDS PROVIDED FOR CONSTRUCTION SHALL MEET OR EXCEED THOSE PROPERTIES.

PART 3 EXECUTION

3.01 METAL STUD BEARING WALL INSTALLER SHALL PROVIDE ALL STEEL TRACKS, BLOCKING, LINTELS, CLIP ANGLES, SHOES, STIFFENERS, FASTENERS AND ACCESSORIES AS INDICATED OR REQUIRED TO PROVIDE A COMPLETE FRAMING SYSTEM PER THE MANUFACTURER'S RECOMMENDATIONS.

SECTION 06 1000
ROUGH CARPENTRY

PART 1 GENERAL - NOT USED

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. ALL WOOD LUMBER PRODUCTS SHALL BE FIRE-RETARDANT-TREATED.
B. DIMENSION LUMBER: COMPLY WITH PS 20 AND REQUIREMENTS OF SPECIFIED GRADING AGENCIES.
1. SPECIES: SPRUCE-PINE-FIR (SOUTH), UNLESS OTHERWISE INDICATED.
2. LUMBER OF OTHER SPECIES OR GRADES IS ACCEPTABLE PROVIDED STRUCTURAL AND APPEARANCE CHARACTERISTICS ARE EQUIVALENT TO OR BETTER THAN PRODUCTS SPECIFIED.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. SIZES: NOMINAL SIZES AS INDICATED ON DRAWINGS, S4S.
B. MOISTURE CONTENT: S-DRY OR MC19.
C. MISCELLANEOUS FRAMING, BLOCKING, NAILERS, GROUNDS, AND FURRING:
1. LUMBER: S4S, NO. 2 OR STANDARD GRADE.
2. BOARDS: STANDARD OR NO. 3.

2.03 ACCESSORIES

A. FASTENERS AND ANCHORS:
1. METAL AND FINISH: HOT-DIPPED GALVANIZED STEEL PER ASTM A 153/A 153M FOR HIGH HUMIDITY AND PRESERVATIVE-TREATED WOOD LOCATIONS, UNFINISHED STEEL ELSEWHERE.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. SELECT MATERIAL SIZES TO MINIMIZE WASTE.
B. WHERE TREATED WOOD IS USED ON INTERIOR, PROVIDE TEMPORARY VENTILATION DURING AND IMMEDIATELY AFTER INSTALLATION SUFFICIENT TO REMOVE INDOOR AIR CONTAMINANTS.

SECTION 06 4000
ARCHITECTURAL WOODWORK

PART 1 GENERAL

1.01 SUBMIT SHOP DRAWINGS AND PRODUCT DATA.

PART 2 - PRODUCTS

2.01 CASEWORK SHALL BE A. W. I. PREMIUM GRADE. CONSTRUCTION DETAILS SHALL CONFORM TO FLUSH OVERLAY DESIGN. COUNTERTOPS SHALL BE SOLID SURFACE MATERIAL. EXTERIOR EXPOSED SURFACES AND RETURNS SHALL BE COVERED WITH NEMA GP50, .050" THICK PLASTIC LAMINATE UNLESS OTHERWISE INDICATED. INTERIOR SURFACES EXPOSED TO VIEW SHALL BE MELAMINE. HARDWARE SHALL BE AS AS APPROVED; CONCEALED HINGES ARE REQUIRED.

2.02 CASEWORK HARDWARE:
A. PROVIDE THE FOLLOWING ITEMS OF CASEWORK HARDWARE:
2. ADJUSTABLE SHELF STANDARDS AND SUPPORTS ADJUSTABLE ON 1/2" CENTERS.
3. HINGES: CONCEALED FOR OVERLAY DOORS, 125 DEGREE OPENING.

PULLS: BRAINERD NEWTON 5 $\frac{1}{16}$" CENTER TO CENTER SATIN NICKEL ARCH HANDLE CABINET DOOR PULL. MODEL: P40690W-SN-CP

PART 3 - EXECUTION

3.01 INSTALL FINISH CARPENTRY AND MILLWORK ITEMS, PLUMB, LEVEL AND TRUE, IN ACCORDANCE WITH INDUSTRY STANDARDS. BLIND NAIL WHERE POSSIBLE; SET FINISH NAILS FOR PUTTYING ON EXPOSED SURFACES. CAREFULLY FIT WOOD PLUGS IN COUNTERSUNK HOLES. TOOL MARKS OR ABRASIONS ON FINISH SURFACES ARE NOT ACCEPTABLE. WHERE ATTACHING TRIM TO DRYWALL SURFACES, USE PROPER FINISH HEAD DRYWALL SCREWS. DO NOT INSTALL TRIM UNTIL BACKS AND UNEXPOSED EDGES HAVE BEEN BACKPRIMED.

SECTION 07 2700
FIRESTOPPING

PART 1 GENERAL

1.01 PROVIDE FIRESTOPPING INSULATION AND CAULKING TO PREVENT PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION THROUGH CONCEALED SPACES, OPENINGS BETWEEN AND AROUND FLOORS, AND IN FIRE RATED ASSEMBLIES.
1.02 SUBMIT FOR APPROVAL PRODUCT DATA, SAMPLES AND WARRANTY.
1.03 APPLICATION SHALL COMPLY WITH ALL REQUIREMENTS OF DESIGNATED UL ASSEMBLIES.

PART 2 PRODUCTS

2.01 FIRESTOPPING INSULATION
A. BLANKET FIRESTOPPING MINERAL FIBER TYPE; THERMAFIBER SAFING INSULATION BY U.S.G.OR APPROVED EQ.
B. CERAMIC BLANKET; CERAMIC WOOL WITH 2300 DEGREE TEMPERATURE RATING
2.02 CAULKING:
A. FIRE SEPARATIONS: WF300 INTUMESCENT BY STI.
B. SMOKE SEPARATIONS: SMOKE BLOCK 136 BY STI.
C. CABLES WITHIN TRAYS: CS CABLE SPRAY BY STI.

PART 3 EXECUTION

3.01 REVIEW EXTENT OF WORK WITH AUTHORITIES HAVING JURISDICTION AND OBTAIN APPROVAL OF INSTALLATION THICKNESS AND METHODS.
3.02 SEQUENCE WORK TO AVOID NEED FOR REMOVAL OF FIRESTOPPING BY WORK OF OTHER TRADES.
3.03 COMPLY WITH MANUFACTURERS' INSTRUCTIONS AND RECOMMENDATIONS. SECURELY ANCHOR INSULATIONS WITH SAFING CLIPS. INSTALL FIRESTOPS WITHOUT GAPS OR VOIDS.
3.04 PROTECT, INSPECT AND REPAIR WORK UNTIL FINAL ACCEPTANCE.

SECTION 08 1423.16
HIGH-PRESSURE DECORATIVE LAMINATE-FACED DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. INTERIOR HIGH-PRESSURE DECORATIVE LAMINATE FACED DOORS:
1. FLUSH SOLID-CORE HIGH-PRESSURE DECORATIVE LAMINATE DOORS.

1.2 REFERENCES

A. ANSI A208.1 - PARTICLEBOARD.
B. ASTM E 90 - STANDARD TEST METHOD FOR LABORATORY MEASUREMENT OF AIRBORNE SOUND TRANSMISSION LOSS OF BUILDING PARTITIONS AND ELEMENTS.
C. ASTM E 413 - CLASSIFICATION FOR RATING SOUND INSULATION.
D. AWI/AWMAC/WI ARCHITECTURAL WOODWORK STANDARDS, EDITION 1, SECTION 9 - DOORS.
E. NFPA 80 - STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES.
F. UL 10C - POSITIVE PRESSURE FIRE TESTS OF DOOR ASSEMBLIES.
H. WDMA I.S. 1A-11 - ARCHITECTURAL WOOD FLUSH DOORS.

1.4 SUBMITTALS

A. PRODUCT DATA: SUBMIT MANUFACTURER'S PRODUCT DATA, INCLUDING DOOR CONSTRUCTION DESCRIPTION AND WDMA I.S.1-A AND AWS CLASSIFICATIONS.
B. SCHEDULES: SUBMIT MANUFACTURER'S SCHEDULES, INCLUDING DOOR DIMENSIONS, CUTOUTS, SPECIES, FINISH, AND HARDWARE. REFERENCE INDIVIDUAL DOOR NUMBERS AS INDICATED ON THE DRAWINGS.
C. SAMPLES: SUBMIT MANUFACTURER'S DOOR FINISH SAMPLES, SHOWING RANGE OF COLOR VARIATION.
D. CLEANING INSTRUCTIONS: SUBMIT MANUFACTURER'S CLEANING INSTRUCTIONS FOR DOORS.
E. WARRANTY: SUBMIT MANUFACTURER'S STANDARD WARRANTY.

1.5 QUALITY ASSURANCE

A. TOLERANCES FOR WARP, TELEGRAPHING, SQUARENESS, AND PREFITTING DIMENSIONS: WDMA I.S.1-A.
B. IDENTIFYING LABEL: EACH DOOR SHALL BEAR IDENTIFYING LABEL INDICATING:
1. DOOR MANUFACTURER.
2. ORDER NUMBER.
3. DOOR NUMBER.

1.6 DELIVERY, STORAGE, AND HANDLING

A. DELIVERY:
3. DELIVER DOORS TO SITE IN MANUFACTURER'S ORIGINAL, UNOPENED CONTAINERS AND PACKAGING, WITH LABELS CLEARLY IDENTIFYING PRODUCT NAME AND MANUFACTURER.
4. PACKAGE DOORS INDIVIDUALLY IN POLYBAGS.

B. STORAGE:
1. STORE DOORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. STORE DOORS IN CLEAN, DRY AREA INDOORS, PROTECTED FROM DAMAGE AND DIRECT SUNLIGHT.
3. STORE DOORS FLAT ON LEVEL SURFACE.
4. DO NOT STORE DOORS DIRECTLY ON CONCRETE.
5. KEEP DOORS COMPLETELY COVERED. USE COVERING WHICH ALLOWS AIR CIRCULATION AND DOES NOT PERMIT LIGHT TO PENETRATE.
6. STORE DOORS BETWEEN 50 AND 90 DEGREES F (10 AND 32 DEGREES C) AND 30 TO 50 PERCENT RELATIVE HUMIDITY.
C. HANDLING:
1. HANDLE DOORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. PROTECT DOORS AND FINISH DURING HANDLING AND INSTALLATION TO PREVENT DAMAGE.
3. HANDLE DOORS WITH CLEAN HANDS OR CLEAN GLOVES.
4. LIFT AND CARRY DOORS. DO NOT DRAG DOORS ACROSS OTHER DOORS OR SURFACES.

1.7 ENVIRONMENTAL REQUIREMENTS

A. DO NOT SUBJECT DOORS TO EXTREME CONDITIONS OR CHANGES IN TEMPERATURE OR RELATIVE HUMIDITY IN ACCORDANCE WITH WDMA I.S.1-A.

1.8 WARRANTY

A. WARRANT SOLID CORE, INTERIOR DOORS FOR LIFE OF INSTALLATION AGAINST WARPAGE, DELAMINATION, AND DEFECTS IN MATERIALS AND WORKMANSHIP.
B. DEFECTS NOTED DURING WARRANTY PERIOD SHALL BE CORRECTED AT NO COST TO OWNER. CORRECTIVE WORK SHALL INCLUDE LABOR AND MATERIAL FOR REPAIR, REPLACEMENT, REFINISHING, AND REHANGING AS REQUIRED.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. VT INDUSTRIES, INC., 1000 INDUSTRIAL PARK, PO BOX 490, HOLSTEIN, IOWA 51025. TOLL FREE (800) 827-1615. PHONE (712) 368-4381. FAX (712) 368-4111. WWW.VTINDUSTRIES.COM. DOOR_INFO@VTINDUSTRIES.COM.
B. VT INDUSTRIES, INC. 164 NORTH LAKE STREET, NEENAH, WI 54956. PHONE (920 722.6444. WWW.VTINDUSTRIES.COM. DOOR_INFO@VTINDUSTRIES.COM.

2.2 GENERAL

A. HIGH-PRESSURE DECORATIVE LAMINATES: NEMA LD3.
1. FACE LAMINATE DOORS WITH HIGH-PRESSURE DECORATIVE LAMINATES.
2. NOMINAL MINIMUM THICKNESS FOR FACES AND VERTICAL EDGES: 0.048 INCH.
3. LAMINATE SELECTION: STANDARD PRODUCTS OF WILSONART.
4. FINISH: MANUFACTURER'S STANDARD.
5. GRADE: GENERAL PURPOSE, HORIZONTAL GRADE.
6. COLOR: WILSONART COCOBALA 7942
B. VISION PANELS:
1. VT INDUSTRIES STEEL VISION FRAME.
2. STYLE: NO. 110.
3. FINISH: PAINT TO MATCH DOOR COLOR.
C. GLAZING: AS SPECIFIED ON PLANS.

2.3 FLUSH SOLID-CORE HIGH-PRESSURE DECORATIVE LAMINATE DOORS

A. FLUSH SOLID-CORE HIGH-PRESSURE DECORATIVE LAMINATE DOORS: HERITAGE COLLECTION.

1. MODEL:
A. 4P04H [PC-HPDL-5]
2. COMPLIANCE: WDMA I.S.1-A.
A. AESTHETIC GRADE: PREMIUM.
B. DUTY LEVEL: EXTRA HEAVY DUTY.
C. TYPE: PC-HPDL-5
3. SEVEN-PLY AND NON-BONDED CORE CONSTRUCTION: NOT ACCEPTABLE.
4. DOOR THICKNESS: 1-3/4 INCHES.
5. CORE:
A. MATERIAL: PARTICLEBOARD
B. PARTICLEBOARD AND AGRIFIBER COMPLIANCE: ANSI A208.1, GRADE 1-LD-2.
E. COMPOSITE CROSSBAND:
1) APPLY TO CORE IN HOT PRESS USING TYPE I, EXTERIOR, WATER-RESISTANT ADHESIVE BEFORE APPLICATION OF HARDWOOD EDGES.
6. LAMINATES:
A. APPLY TO CORE IN HOT PRESS USING TYPE I, EXTERIOR, WATER-RESISTANT ADHESIVE.
B. 5-PLYCONSTRUCTION.

2.5 FABRICATION

A. STILE EDGES: APPLY LAMINATE EDGES BEFORE APPLICATION OF FACE LAMINATES.
B. PREFIT DOORS:
1. PREFIT AND BEVEL DOORS AT FACTORY TO FIT OPENINGS.
2. PREFIT TOLERANCES: WDMA I.S.1-A.
C. FACTORY-MACHINE DOORS FOR MORTISED HARDWARE, INCLUDING PILOT HOLES FOR HINGE SCREWS AND LOCK FRONTS REQUIRED.
D. TOP AND BOTTOM RAILS: FACTORY SEALED.

PART 3 EXECUTION

3.1 EXAMINATION

A. EXAMINE LOCATIONS TO RECEIVE DOORS. NOTIFY ARCHITECT OF CONDITIONS THAT WOULD ADVERSELY AFFECT INSTALLATION OR SUBSEQUENT USE. DO NOT BEGIN INSTALLATION UNTIL UNACCEPTABLE CONDITIONS ARE CORRECTED.
B. ENSURE FRAMES ARE SOLIDLY ANCHORED, ALLOWING NO DEFLECTION WHEN DOORS ARE INSTALLED.
C. ENSURE FRAMES ARE PLUMB, LEVEL, SQUARE, AND WITHIN TOLERANCE.

3.2 PREPARATION

A. ALLOW DOORS TO BECOME ACCLIMATED TO BUILDING TEMPERATURE AND RELATIVE HUMIDITY FOR A MINIMUM OF 24 HOURS BEFORE INSTALLATION.

3.3 INSTALLATION

A. INSTALL DOORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. INSTALL DOORS AT LOCATIONS INDICATED ON THE DRAWINGS.
C. INSTALL DOORS PLUMB, LEVEL, AND SQUARE.
D. INSTALL DOOR HARDWARE AS SPECIFIED

3.4 ADJUSTING

A. ADJUST DOORS TO SWING FREELY, WITHOUT BINDING IN FRAME.
B. ADJUST HARDWARE TO OPERATE PROPERLY.
C. REPAIR MINOR DAMAGES TO FINISH IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND AS APPROVED BY ARCHITECT.
D. REMOVE AND REPLACE DAMAGED DOORS THAT CANNOT BE SUCCESSFULLY REPAIRED, AS DETERMINED BY ARCHITECT.

3.5 CLEANING

A. CLEAN DOORS PROMPTLY AFTER INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. DO NOT USE HARSH CLEANING MATERIALS OR METHODS THAT COULD DAMAGE FINISH.

3.6 PROTECTION

A. PROTECT INSTALLED DOORS FROM DAMAGE DURING CONSTRUCTION.

SECTION 08 7100
DOOR HARDWARE

PART 1 GENERAL

1.01 ADMINISTRATIVE REQUIREMENTS

A. FURNISH TEMPLATES FOR DOOR AND FRAME PREPARATION TO MANUFACTURERS AND FABRICATORS OF PRODUCTS REQUIRING INTERNAL REINFORCEMENT FOR DOOR HARDWARE.
B. CONVEY OWNER AND CLIENT KEYING REQUIREMENTS TO MANUFACTURERS.

1.02 SUBMITTALS

A. MAINTENANCE DATA: INCLUDE DATA ON OPERATING HARDWARE, LUBRICATION REQUIREMENTS, AND INSPECTION PROCEDURES RELATED TO PREVENTATIVE MAINTENANCE.

PART 2 PRODUCTS

2.01 DOOR HARDWARE - GENERAL

A. PROVIDE HARDWARE SPECIFIED OR REQUIRED TO MAKE DOORS FULLY FUNCTIONAL, COMPLIANT WITH APPLICABLE CODES, AND SECURE TO THE EXTENT INDICATED.
B. FUNCTION: LOCK AND LATCH FUNCTION NUMBERS AND DESCRIPTIONS OF MANUFACTURES SERIES AS AS SHOWN ON THE DRAWINGS.
C. FINISHES: FACILITY STANDARD.

2.02 LOCKS AND LATCHES

A. LOCKS: PROVIDE A LOCK FOR EVERY DOOR, UNLESS SPECIFICALLY INDICATED AS NOT REQUIRING LOCKING.
1. HARDWARE SETS INDICATE LOCKING FUNCTIONS REQUIRED FOR EACH DOOR.
2. IF NO HARDWARE SET IS INDICATED FOR A SWINGING DOOR PROVIDE AN OFFICE LOCKSET.
3. TRIM: PROVIDE LEVER HANDLE OR PULL TRIM ON OUTSIDE OF ALL LOCKS UNLESS SPECIFICALLY STATED TO HAVE NO OUTSIDE TRIM.
4. LOCK CYLINDERS: PROVIDE KEY ACCESS ON OUTSIDE OF ALL LOCKS UNLESS SPECIFICALLY STATED TO HAVE NO LOCKING OR NO OUTSIDE TRIM.
B. LOCK CYLINDERS: MANUFACTURER'S STANDARD TUMBLER TYPE, SIX-PIN STANDARD CORE.
C. KEYING: AS SPECIFIED BY OWNER AND CLIENT. CONTRACTOR SHALL COORDINATE.
D. LATCHES: PROVIDE A LATCH FOR EVERY DOOR THAT IS NOT REQUIRED TO LOCK, UNLESS SPECIFICALLY INDICATED "PUSH/PULL" OR "NOT REQUIRED TO LATCH".

2.03 HINGES

A. HINGES: PROVIDE HINGES ON EVERY SWINGING DOOR.
1. PROVIDE FIVE-KNUCKLE FULL MORTISE BUTT HINGES UNLESS OTHERWISE INDICATED.
2. PROVIDE BALL-BEARING HINGES AT ALL DOORS HAVING CLOSERS.
3. PROVIDE HINGES IN THE QUANTITIES INDICATED.

2.04 CYLINDRICAL LOCKSETS

1. LOCKING FUNCTIONS: AS DEFINED IN BHMA A156.2

2.05 STOPS AND HOLDERS

A. STOPS: COMPLYING WITH BHMA A156.8; PROVIDE A STOP FOR EVERY SWINGING DOOR, UNLESS OTHERWISE INDICATED.
1. PROVIDE WALL STOPS, UNLESS OTHERWISE INDICATED.
2. IF WALL STOPS ARE NOT PRACTICAL, DUE TO CONFIGURATION OF ROOM OR FURNISHINGS, PROVIDE OVERHEAD STOP.
3. STOP IS NOT REQUIRED IF POSITIVE STOP FEATURE IS SPECIFIED FOR DOOR CLOSER; POSITIVE STOP FEATURE OF DOOR CLOSER IS NOT AN ACCEPTABLE SUBSTITUTE FOR A STOP UNLESS SPECIFICALLY SO STATED.

PART 3 EXECUTION

3.01 INSTALLATION

A. INSTALL HARDWARE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPLICABLE CODES.
B. USE TEMPLATES PROVIDED BY HARDWARE ITEM MANUFACTURER.

3.02 ADJUSTING

AFTER HVAC SYSTEM AND TESTED AND BALANCED, ADJUST HARDWARE FOR SMOOTH OPERATION.

SECTION 09 0561
COMMON WORK RESULTS FOR FLOORING PREPARATION

PART 1 GENERAL

1.01 QUALITY ASSURANCE

A. CONTRACTOR MAY PERFORM ADHESIVE AND BOND TEST WITH HIS OWN PERSONNEL OR HIRE A TESTING AGENCY.

PART 2 PRODUCTS

2.01 MATERIALS

A. PATCHING COMPOUND: FLOOR COVERING MANUFACTURER'S RECOMMENDED PRODUCT, SUITABLE FOR CONDITIONS, AND COMPATIBLE WITH ADHESIVE AND FLOOR COVERING. IN THE ABSENCE OF ANY RECOMMENDATION FROM FLOORING MANUFACTURER, PROVIDE A PRODUCT WITH THE FOLLOWING CHARACTERISTICS:
1. CEMENTITIOUS MOISTURE-, MILDEW-, AND ALKALI-RESISTANT COMPOUND, COMPATIBLE WITH FLOOR, FLOOR COVERING, AND FLOOR COVERING ADHESIVE, AND CAPABLE OF BEING FEATHERED TO NOTHING AT EDGES.
2. COMPRESSIVE STRENGTH: 3000 PSI, MINIMUM, AFTER 28 DAYS, WHEN TESTED IN ACCORDANCE WITH ASTM C109/C109M OR ASTM C472, WHICHEVER IS APPROPRIATE.
B. REMEDIAL FLOOR COATING: SINGLE- OR MULTI-LAYER COATING OR COATING/OVERLAY COMBINATION INTENDED BY ITS MANUFACTURER TO RESIST WATER VAPOR TRANSMISSION TO DEGREE SUFFICIENT TO MEET FLOORING MANUFACTURER'S EMISSION LIMITS, RESISTANT TO THE LEVEL OF ALKALINITY (PH) FOUND, AND SUITABLE FOR ADHESION OF FLOORING WITHOUT FURTHER TREATMENT.

PART 3 EXECUTION

3.01 CONCRETE SLAB PREPARATION

A. PERFORM FOLLOWING OPERATIONS IN THE ORDER INDICATED:
1. EXISTING CONCRETE SLABS (ON-GRADE AND ELEVATED) WITH EXISTING FLOOR COVERINGS:
a. VISUAL OBSERVATION OF EXISTING FLOOR COVERING, FOR ADHESION, WATER DAMAGE, ALKALINE DEPOSITS, AND OTHER DEFECTS.
b. REMOVAL OF EXISTING FLOOR COVERING.
2. PRELIMINARY CLEANING.
3. INTERNAL RELATIVE HUMIDITY TESTS; IN SAME LOCATIONS AS MOISTURE VAPOR EMISSION TESTS, UNLESS OTHERWISE INDICATED.
4. SPECIFIED REMEDIATION, IF REQUIRED.
5. PATCHING, SMOOTHING, AND LEVELING, AS REQUIRED.
6. OTHER PREPARATION SPECIFIED.
7. ADHESIVE BOND AND COMPATIBILITY TEST.
8. PROTECTION.
B. REMEDIATIONS:
1. ACTIVE WATER LEAKS OR CONTINUING MOISTURE MIGRATION TO SURFACE OF SLAB: CORRECT THIS CONDITION BEFORE DOING ANY OTHER REMEDIATION; RE-TEST AFTER CORRECTION.
2. EXCESSIVE MOISTURE EMISSION OR RELATIVE HUMIDITY: IF AN ADHESIVE THAT IS RESISTANT TO THE LEVEL OF MOISTURE PRESENT IS AVAILABLE AND ACCEPTABLE TO FLOORING MANUFACTURER, USE THAT ADHESIVE FOR INSTALLATION OF THE FLOORING; IF NOT, APPLY REMEDIAL FLOOR COATING OVER ENTIRE SUSPECT FLOOR AREA.

3.02 ADHESIVE BOND AND COMPATIBILITY TESTING

A. COMPLY WITH REQUIREMENTS AND RECOMMENDATIONS OF FLOOR COVERING MANUFACTURER.

SECTION 09 2116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL - NOT USED

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. PROVIDE COMPLETED ASSEMBLIES COMPLYING WITH ASTM C840 AND GA-216.

2.02 METAL FRAMING MATERIALS

A. NON-LOADBEARING FRAMING SYSTEM COMPONENTS: ASTM C645; GALVANIZED SHEET STEEL, OF SIZE AND PROPERTIES NECESSARY TO COMPLY WITH ASTM C754 FOR THE SPACING INDICATED, WITH MAXIMUM DEFLECTION OF WALL FRAMING OF L/240 AT 5 PSF.
1. STUDS: "C" SHAPED WITH FLAT OR FORMED WEBS.
2. RUNNERS: "U" SHAPED, SIZED TO MATCH STUDS.

2.03 BOARD MATERIALS

A. GYPSUM WALLBOARD: PAPER-FACED GYPSUM PANELS AS DEFINED IN ASTM C1396/C1396M; SIZES TO MINIMIZE JOINTS IN PLACE; ENDS SQUARE CUT. IMPACT RESISTANT WHERE INDICATED.
1. APPLICATION: USE FOR VERTICAL SURFACES AND BULKHEADS, UNLESS OTHERWISE INDICATED.
2. THICKNESS:
a. VERTICAL SURFACES: 5/8 INCH.
3. FIRE RATED: AS INDICATED BY PARTITION TYPE.

2.04 ACCESSORIES

A. BEADS, JOINT ACCESSORIES, AND OTHER TRIM: ASTM C1047, GALVANIZED STEEL, UNLESS NOTED OTHERWISE.
1. RIGID CORNER BEADS: LOW PROFILE, FOR 90 DEGREE OUTSIDE CORNERS.
B. JOINT MATERIALS: ASTM C475.
1. TAPE: 2 INCH WIDE, COATED GLASS FIBER TAPE FOR JOINTS AND CORNERS.
2. READY-MIXED VINYL-BASED JOINT COMPOUND.
C. SCREWS FOR FASTENING OF GYPSUM PANEL PRODUCTS TO COLD-FORMED STEEL STUDS LESS THAN 0.033 INCH IN THICKNESS AND WOOD MEMBERS: ASTM C1002; SELF-PIERCING TAPPING SCREWS, CORROSION RESISTANT.
D. SCREWS FOR FASTENING OF GYPSUM PANEL PRODUCTS TO STEEL MEMBERS FROM 0.033 TO 0.112 INCH IN THICKNESS: ASTM C954; STEEL DRILL SCREWS, CORROSION RESISTANT.

PART 3 EXECUTION

3.01 FRAMING INSTALLATION

A. METAL FRAMING: INSTALL IN ACCORDANCE WITH ASTM C754 AND MANUFACTURER'S INSTRUCTIONS.

3.02 BOARD INSTALLATION

A. COMPLY WITH ASTM C 840, GA-216, AND MANUFACTURER'S INSTRUCTIONS. INSTALL TO MINIMIZE BUTT END JOINTS, ESPECIALLY IN HIGHLY VISIBLE LOCATIONS.

3.03 JOINT TREATMENT

A. PAPER FACED GYPSUM BOARD: USE FIBERGLASS JOINT TAPE, BEDDED WITH READY-MIXED VINYL-BASED JOINT COMPOUND AND FINISHED WITH READY-MIXED VINYL-BASED JOINT COMPOUND.
B. FINISH GYPSUM BOARD IN ACCORDANCE WITH LEVELS DEFINED IN ASTM C840, AS FOLLOWS:
1. LEVEL 4: WALLS AND CEILINGS TO RECEIVE PAINT FINISH OR WALL COVERINGS, UNLESS OTHERWISE INDICATED.
2. LEVEL 1: WALL AREAS ABOVE FINISHED CEILINGS, WHETHER OR NOT ACCESSIBLE IN THE COMPLETED CONSTRUCTION.

SECTION 09 5100
ACOUSTIC TILE CEILINGS

PART 1 - GENERAL

1.01 PROVIDE A COMPLETE SYSTEM OF ACOUSTICAL TILE CEILINGS WHERE INDICATED ON CONTRACT DOCUMENTS.
1.02 SUBMIT CATALOG DATA AND SAMPLE OF CHANNELS AND CEILING TILES.
1.03 AT COMPLETION OF JOB CONTRACTOR SHALL PROVIDE OWNER WITH A QUANTITY OF UNINSTALLED CEILING TILES EQUALING 2% OF TILE INSTALLED ON JOB.

PART 2 - PRODUCTS

2.01 SUSPENSION SYSTEM MATERIALS & COMPONENTS:
A. METAL CHANNEL RUNNERS: 1-1/2" 475 LBS. PER THOUSAND LINEAL FEET COLD ROLLED, ASPHALTUM PAINTED CHANNELS.
B. HANGER WIRE: GALVANIZED SOFT ANNEALED STEEL, SIZED SO THAT STRESS 3-TIMES HANGER DESIGN
LOAD (ASTM C-635, TABLE 1, DIRECT HUNG) WILL BE LESS THAN YIELD STRESS OF WIRE, BUT PROVIDE NOT LESS THAN 12 GAUGE (0.106") WIRE.
C. ACCESSORIES: AS REQUIRED TO COMPLETE INSTALLATION.
D. HANGERS: SCREW TYPE INSTALLED IN MANNER RECOMMENDED BY ACOUSTICAL MATERIALS ASSOCIATION.
E. HOLD DOWN CLIPS WHERE REQUIRED TO MEET U.L. CLASSIFICATION.
F. TEES - $\frac{9}{16}$"

2.02 SUSPENSION SYSTEMS:
PROVIDE INTERMEDIATE DUTY EXPOSED TEE SUSPENSION DX SYSTEM AS PRODUCED BY USG PER FINISH LEGEND.
INTERIORS OR EQUAL SYSTEMS BY ONE OF THE FOLLOWING:
1. CHICAGO METALLIC.
2. NATIONAL ROLLING MILLS.
2.03 ACOUSTIC CEILING MATERIALS:
A. PER FINISH LEGEND.

PART 3 - EXECUTION

3.01 ALL HANGER WIRE SUPPORTING SUSPENSION SYSTEM SHALL BE INSTALLED PLUMB. NO TRAPEZE TYING WILL BE PERMITTED. WHERE OBSTRUCTIONS PROHIBIT PLACING OF HANGER WIRES IN PLUMB POSITION, CONTRACTOR SHALL DIRECT HANG 1-1/2" BLACK STEEL RUNNER CHANNELS WITH 8 GAUGE WIRE. HANGER WIRE SPACING SHALL NOT EXCEED 6'-0" O.C. AND CHANNEL SPACING SHALL BE 4'-0" O.C.. MAIN RUNNERS SHALL THEN BE DIRECT HUNG PERPENDICULAR TO THE CHANNELS. LEVEL TO WITHIN 1/8" IN 10'-0" IN BOTH DIRECTIONS.

SECTION 09 6500
RESILIENT FLOORING

PART 1 - GENERAL

1.01 SUBMIT SHOP DRAWINGS & SAMPLES
1.02 REFER TO ALL PROVIDED EQUIPMENT VENDOR DOCUMENTS FOR TOLERANCES AND REQUIREMENTS.

PART 2 - PRODUCTS

2.01 SHEET VINYL: SEE INTERIOR DESIGN SHEETS FOR FINISHES PRODUCTS TO BE USED OR APPROVED EQUAL. WEAR SURFACE AND OVERALL THICKNESS SHALL BE .08" MINIMUM. WIDTH SHALL BE 6' MINIMUM. MEETING WEARLAYER GRADE 1, TYPE II. FIRE PROTECTION CLASS 1, SMOKE DEVELOPMENT < 450. SEAMS SHALL BE HEAT WELDED FOR A MONOLITHIC FLOOR.
2.02 ACCESSORIES: COLOR AS SELECTED BY THE ARCHITECT.
A. WALL BASE: RUBBER COVE BASE, REFER TO ID SHEETS.
B. THRESHOLD STRIPS: RUBBER, REFER TO ID SHEETS
2.03 MISCELLANEOUS:
A. ADHESIVE: WATERPROOF CEMENT AS RECOMMENDED BY THE MANUFACTURER FOR THE PRODUCT
AND THE SURFACE UPON WHICH IT IS TO BE INSTALLED.
FLOOR PATCH/UNDERLAYMENT: ARMSTRONG S-180
LATEX UNDERLAYMENT.

PART 3 - EXECUTION

3.01 GIVE WRITTEN NOTICE OF UNACCEPTABLE SUBSURFACE THAT CANNOT BE REPAIRED WITH LEVELING PATCH. BEGINNING WORK INDICATES ACCEPTANCE OF THE SUBSTRATE.
3.02 COMPLY WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. INSTALL IN PROPER RELATION TO ADJACENT WORK.
3.03 PREPARE SURFACES BY CLEANING AND PRIMING AS REQUIRED. TEST ADHESIVE FOR BOND BEFORE GENERAL INSTALLATION.
3.04 INSTALL BASE AND ACCESSORIES TO MINIMIZE JOINTS. INSTALL BASE WITH JOINTS AS FAR FROM CORNERS AS PRACTICAL.
3.05 CLEAN AND PROTECT AS RECOMMENDED BY THE MANUFACTURER.

SECTION 09 6510
FLOORING ACCESSORIES

PART 1 GENERAL

1.01 SUBMIT SHOP DRAWINGS & SAMPLES IN ACCORDANCE WITH SECTION 01300.

PART 2 PRODUCTS

2.03 ACCESSORIES: COLOR AS SELECTED BY THE ARCHITECT.
A. WALL BASE: MATCH EXISTING BY JOHNSONITE, ROPPE OR APPROVED EQUAL.
B. REDUCER STRIPS SHALL BE AS MANUFACTURED BY JOHNSONITE, ROPPE, OR APPROVED EQUAL.
C. ADHESIVE: WATERPROOF CEMENT AS RECOMMENDED BY THE MANUFACTURER FOR THE PRODUCT AND THE SURFACE UPON WHICH IT IS TO BE INSTALLED.
D. FLOOR PATCH/UNDERLAYMENT: ARMSTRONG S-180 LATEX UNDERLAYMENT.

PART 3 EXECUTION

3.01 GIVE WRITTEN NOTICE OF UNACCEPTABLE SUBSURFACE THAT CANNOT BE REPAIRED WITH LEVELING PATCH. BEGINNING WORK INDICATES ACCEPTANCE OF THE SUBSTRATE.
3.02 COMPLY WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. INSTALL IN PROPER RELATION TO ADJACENT WORK.
3.03 PREPARE SURFACES BY CLEANING AND PRIMING AS REQUIRED. TEST ADHESIVE FOR BOND BEFORE GENERAL INSTALLATION.
3.04 INSTALL BASE AND ACCESSORIES TO MINIMIZE JOINTS. INSTALL BASE WITH JOINTS AS FAR FROM CORNERS AS PRACTICAL.
3.05 CLEAN AND PROTECT AS RECOMMENDED BY THE MANUFACTURER.

SECTION 09 9000
PAINTING

PART 1 GENERAL

1.01 ALL WORK EXPOSED TO VIEW SHALL BE PAINTED EXCEPT PREFINISHED ITEMS, ETC.
1.02 ALL PAINTS SHALL BE APPROVED FIRST QUALITY PAINTS DELIVERED TO THE JOB IN LABELED, UNOPENED CONTAINERS.
1.03 FIRST COAT FOR ALL APPLICATIONS SHALL BE PRIMER SPECIFICALLY FOR THE MATERIAL AND TYPE OF PAINT TO BE USED.
1.04 PAINTING SHALL NOT PROCEED ON UNSUITABLE SURFACES. THE CONTRACTOR SHALL INSPECT ALL SURFACES AFTER APPLICATION OF PRIMERS. REMEDY ALL DEFECTS PRIOR TO PROCEEDING WITH FINAL PAINTING.

PART 2 PRODUCTS

2.01 PAINT MATERIALS USED ON THE WORK SHALL BE THE PRODUCTS OF PRATT & LAMBERT, SHERWIN-WILLIAMS, PPG INDUSTRIES, OR APPROVED EQUAL. PAINT SHALL HAVE A CLEANABLE, MEDICAL FACILITY GRADE FINISH.

PART 3 EXECUTION

A. ALL SURFACES SHALL BE CLEAN, DRY AND IN SUITABLE CONDITION TO RECEIVE THE FINISH. PERFORM ALL NECESSARY CLEANING, SANDING AND DUSTING OF SURFACES REQUIRED TO PUT IN PERFECT CONDITION TO RECEIVE THE FINISH.
B. THE APPLICATION OF PAINT TO ALL SURFACES INCLUDED IN THIS SPECIFICATION SHALL BE ACCOMPLISHED WITH QUALITY BRUSHES, SPRAY OR ROLLER AS RECOMMENDED BY THE PAINT MANUFACTURER, IN EVEN, THOROUGH COATS, WITHOUT RUNS, SAGS, CLOGGING, LAPS, OR OTHER BLEMISHES.
C. DO NO EXTERIOR PAINTING OR FINISHING WHEN SURFACES ARE WET OR DAMP OR DURING RAINY WEATHER. DO NO PAINTING OR FINISHING WHEN SURROUNDING TEMPERATURE IS BELOW 50 DF.
D. DO NO PAINTING OR FINISHING ON DRYWALL SURFACES WHEN THE MOISTURE CONTENT EXCEEDS 5.5 PERCENT.
E. ALL COATS, REGARDLESS OF MATERIALS USED, SHALL BE COMPLETELY DRY BEFORE APPLYING SUCCEEDING COATS.

3.03 PAINTING SCHEDULE:
A. INTERIOR:
GYPSUM WALL BOARD, LATEX:
1 COAT INTERIOR WATER BASED PRIMER
2 COATS LATEX INTERIOR WALL PAINT
EGGSHELL FINISH

END OF SPECIFICATIONS

DATE: SEP 16, 2025

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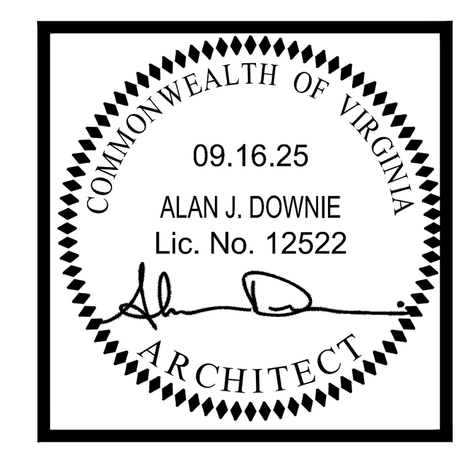
ARCHITECTRUAL SPECIFICATIONS



COMMISSION No.
25012
SHEET
SPC1

ABBREVIATIONS

A.B.	ANCHOR BOLT	LBS	POUNDS
ADDL	ADDITIONAL	LDG	LANDING
ADJ.	ADJACENT	LLH	LONG LEG HORIZONTAL
ADH.	ADHESIVE	LLV	LONG LEG VERTICAL
AFF	ABOVE FINISH FLOOR	LSH	LONG SIDE HORIZONTAL
ALT.	ALTERNATE	LSV	LONG SIDE VERTICAL
ARCH.	ARCHITECT	LT	LIGHT
		LVL	LEVEL
B.L.	BRICK LEDGE	LW	LIGHT WEIGHT
BLDG	BUILDING		
BM	BEAM	MAT.	MATERIAL
B.O.B.P.	BOTTOM OF BASE PLATE	MAX.	MAXIMUM
B.O.D.	BOTTOM OF DECK	MECH.	MECHANICAL
BOTT.	BOTTOM	MEZZ.	MEZZANINE
BRG	BEARING	MFR	MANUFACTURER
BTWN	BETWEEN	MID.	MIDDLE
		MIN.	MINIMUM
CANT.	CANTILEVER	MISC.	MISCELLANEOUS
CIP	CAST IN PLACE	M.L.	MATCH LINE
C.J.	CONSTRUCTION JOINT	MTL	METAL
C.L.	CENTERLINE		
CLR	CLEAR	(N)	NEW
CMU	CONCRETE MASONRY UNIT	NIC	NOT IN CONTRACT
C.O.	CUT OFF	NO.	NUMBER
COL.(S)	COLUMN(S)	N.S.	NEAR SIDE
COMP.	COMPOSITE	NSG	NON-SHRINK GROUT
CONC.	CONCRETE	NTS	NOT TO SCALE
CONNX	CONNECTION	NW	NORMAL WEIGHT
CONST.	CONSTRUCTION		
CONT.	CONTINUOUS	O.C.	ON CENTER
CONTR.	CONTRACTOR	O.D.	OUTSIDE DIAMETER
CTR	CENTER	O.F.	OUTSIDE FACE
		O.H.	OPPOSITE HAND
D.B.	DROPPED BEAM	OPNG	OPENING
D.B.A.	DEFORMED BAR ANCHOR		
DBL	DOUBLE	P.A.F.	POWDER ACTUATED FASTENERS
DTL/DTL	DETAIL	PARA.	PARALLEL
DEMO. OR (D)	DEMOLISH	PC	PRECAST
DFL	DOUGLAS FIR-LARCH	PCF	POUNDS PER CUBIC FOOT
DIA.	DIAMETER	PEMB	PRE-ENGINEERED METAL BUILDING
DIAG.	DIAGONAL	PERIM.	PERIMETER
DIM.	DIMENSIONAL	PERP.	PERPENDICULAR
DIR.	DIRECTION	PJ	PANEL JOINT
DISC.	DISCONTINUOUS	PL	PLATE
DWGS	DRAWINGS	PLY.	PLYWOOD
DWL(S)	DOWEL(S)	PREFAB.	PRE-FABRICATED
		PROJ.	PROJECTION
EA.	EACH	PSF	POUNDS PER SQUARE FOOT
E.F.	EACH FACE	PSI	POUNDS PER SQUARE INCH
E.J.	EXPANSION JOINT	PT	POST-TENSIONED
EL.	ELEVATION	PEN.	PENETRATION
ELEV.	ELEVATOR		
EMBED.	EMBEDMENT	R	REMAINDER OR RADIUS
ENGR	ENGINEER	REF.	REFER TO OR REFERENCE
EQ.	EQUAL	REINF.	REINFORCEMENT/REINFORCE
EQUIP.	EQUIPMENT	REQD	REQUIRED
E.W.	EACH WAY	RTU	ROOF TOP UNIT
EXIST. OR (E)	EXISTING		
EXP.	EXPANSION	S.A.	STUD ANCHOR
EXT.	EXTERIOR	S.B.	STRAP BEAM
		SCHED.	SCHEDULE
FDN	FOUNDATION	SECT.	SECTION
F.F.	FINISH FLOOR	SHT	SHEET
F.F.E.	FINISH FLOOR ELEVATION	SHR.	SHRINKAGE
FLR	FLOOR	SIM.	SIMILAR
FSTN	FASTEN	S.O.G.	SLAB-ON-GROUND
F.S.	FAR SIDE	SPA.	SPACING
FT	FEET	SPEC.	SPECIFICATION
FTG	FOOTING	SS	STAINLESS STEEL
F.V.	FIELD VERIFY	STD	STANDARD
		STIFF.	STIFFENER
GA.	GAUGE	STL.	STEEL
GALV.	GALVANIZE	SW	SHEAR WALL
GEOTECH.	GEOTECHNICAL	SYM.	SYMETRICAL
GR.	GRADE	SYP	SOUTHERN YELLOW PINE
G.T.	GIRDER TRUSS		
		T&B	TOP AND BOTTOM
HAS	HEADED ANCHOR STUD	TEMP.	TEMPERATURE
HDR	HEADER	TEN.	TENSION
HI	HIGH	TERM.	TERMINATE
HK	HOOK	THK.	THICKNESS
HORIZ.	HORIZONTAL	T.O.	TOP OF
HR	HARD ROCK	T.O.C.	TOP OF CONCRETE
HSS	HOLLOW STEEL SECTION	T.O.F.	TOP OF FOOTING
HT	HEIGHT	T.O.P.	TOP OF PIER
		T.O.S.	TOP OF STEEL / TOP OF SLAB
I.D.	INSIDE DIAMETER	TS	TUBE STEEL
I.F.	INSIDE FACE	TYP.	TYPICAL
IN.	INCH		
INFO.	INFORMATION	U.N.O.	UNLESS NOTED OTHERWISE
INT.	INTERIOR		
INTERM.	INTERMEDIATE	VAR.	VARIES
		VERT.	VERTICAL
JT	JOINT		
JST	JOIST	W/	WITH
		W/O	WITHOUT
K	KIPS	WP	WORK POINT
K.O.	KNOCK OUT	WT	WEIGHT
		WWF	WELDED WIRE FABRIC

STRUCTURAL DESIGN

1. STRUCTURAL DESIGN STANDARDS:

   2021 INTERNATIONAL BUILDING CODE
   LOCAL AMENDMENTS TO BUILDING CODE
   ASCE 7-16

SYMBOL KEY

SYMBOL	DESCRIPTION
A	GRIDLINE IDENTIFIER
EA	EXISTING GRIDLINE IDENTIFIER
DTL # 00 / SHEET # S0	DETAIL MARKER
DTL # 00 / SHEET # S0	ELEVATION MARKER
F.F. EL. XX'-X"	FINISH FLOOR ELEVATION MARKER
TOP OR BOTT. XX'-XX"	SPOT ELEVATION MARKER
WP	WORK POINT MARKER
Step Up / Step Down with Slope / Slope Down	ELEVATION CHANGE IN SLAB OR DECK
	DECK OR SLAB SPAN DIRECTION
COLUMN SIZE / BASE PL	STEEL COLUMN
BEAM SIZE; WXXxXX (X) C=X'; NO. OF HEADED STUDS; REACTION (SERVICE LOAD) R=XX; CAMBER	STEEL BEAM
BEAM SIZE; WXXxXX; MOMENT CONNX; MOMENT CONNX	STEEL BEAM MOMENT CONNX
	STEEL BEAM SPLICE
VERTICAL BRACE; FLOOR OR ROOF BEAM	VERTICAL STEEL BRACE - REF. ELEVATION

EXISTING CONDITIONS

1. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AT THE SITE AND REPORT ANY DISCREPANCIES FROM ASSUMED CONDITIONS SHOWN ON THE DRAWINGS TO THE ARCHITECT AND ENGINEER PRIOR TO THE FABRICATION AND ERECTION OF ANY MEMBER. DIFFERENCES SHALL BE CLOUDED IN THE SHOP DRAWINGS.
2. ANY MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS THAT ARE NECESSARY AS A RESULT OF FIELD VERIFICATIONS PERFORMED BY THE CONTRACTOR SHALL BE IMMEDIATELY SUBMITTED TO THE ENGINEER FOR APPROVAL. UPON APPROVAL, THE CONTRACTOR SHALL INCORPORATE THESE MODIFICATIONS INTO THE SHOP DRAWINGS PRIOR TO SUBMITTING THEM TO THE ENGINEER.
3. THE CONTRACTOR MUST BUILD APPROPRIATE CONTINGENCIES INTO THE PROJECT'S BUDGET AND SCHEDULE TO ACCOUNT FOR MODIFICATIONS TO STRUCTURAL FRAMING THAT MAY BE NECESSARY TO ACCOMMODATE EXISTING CONDITIONS THAT ARE DISCOVERED TO BE DIFFERENT FROM THOSE SHOWN ON THESE PLANS.

GENERAL NOTES

1. IT IS THE INTENT OF THESE STRUCTURAL DRAWINGS TO COMPLY WITH ALL BUILDING CODE REQUIREMENTS AND ASSOCIATED REFERENCED STANDARDS WITHIN THE BUILDING CODE OR SPECIFIED HEREIN. WHERE ANY DISCREPANCY EXISTS THE MORE STRINGENT SHALL GOVERN THE CONTRACTORS BID AND CONSTRUCTION/WORK, HOWEVER IN NO CASE SHALL WORK BE INSTALLED OR COMPLETED WHICH IS NOT IN CONFORMANCE WITH THE REQUIREMENTS OF ANY CODE SECTION OR REFERENCED STANDARD.
2. DIMENSIONS TO, OF, AND IN EXISTING STRUCTURE AND FOR SITE RELATED WORK SHALL BE VERIFIED IN FIELD BY CONTRACTOR PRIOR TO PERFORMANCE OF WORK AND PREPARATION OF SUBMITTALS.
3. DO NOT SCALE DRAWINGS. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES IN DIMENSIONS BETWEEN THE EXISTING CONDITIONS, SITE, ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS, AND THE STRUCTURAL DRAWINGS.
4. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS WITHOUT PRIOR APPROVAL OF ENGINEER.
5. THE NOTES, SECTIONS, AND DETAILS ON THESE DRAWINGS ARE TYPICAL UNLESS OTHERWISE INDICATED. SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS.
6. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES (INTERIOR AND EXTERIOR) BEFORE COMMENCING WORK. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR DAMAGES WHICH MIGHT BE OCCASIONED BY FAILURE TO EXACTLY LOCATE AND PRESERVE EXISTING UTILITIES AND FACILITY OPERATIONS TO REMAIN ACTIVE DURING PERFORMANCE OF WORK. CONTRACTOR SHALL NOT PERFORM UNDERGROUND EXCAVATIONS, BORINGS, OR RELATED SUBSURFACE WORK UNTIL AN EXISTING UNDERGROUND UTILITY VERIFICATION/INVESTIGATION PLAN HAS BEEN SUBMITTED AND APPROVED AND IMPLEMENTED FOR ANY WORK AREA. GROUND PENETRATING RADAR SHALL BE REQUIRED/UTILIZED IN ADDITION TO OTHER VERIFICATION METHODS FOR BOTH THE INTERIOR AND EXTERIOR OF THE BUILDING.
7. STRUCTURAL WORK SHOWN ON THESE DRAWINGS REQUIRES COORDINATION WITH REQUIRED/RELATED SITE DRAWINGS/CONDITIONS AND PLANNED ARCHITECTURAL AND MEP OR UTILITY WORK.
8. CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF PROPOSED DEVIATIONS OR SUBSTITUTIONS FROM DIMENSIONS, MATERIALS, OR COMPONENTS SHOWN ON THE DRAWINGS AND MAKE ONLY THOSE DEVIATIONS OR SUBSTITUTIONS ACCEPTED BY THE ENGINEER.
9. BRACE SUBSURFACE/SOILS, FORMS, STRUCTURE, AND INSTALLED COMPONENTS UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR PERMANENT COMPONENT OR BUILDING STABILITY ARE INSTALLED AND TESTED/INSPECTED WITH SATISFACTORY RESULTS. DO NOT ERECT STEEL OR ATTACH STRUCTURAL MEMBERS TO CONCRETE OR MASONRY UNTIL CURING PERIOD PASSES FOR CEMENTITIOUS MATERIALS. BRACE STEEL ELEMENTS UNTIL FIELDS HAVE ADEQUATELY COOLED.
10. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS, DETAILS, OR PROVISIONS FOR MEANS AND METHODS OR FOR CONSTRUCTION SAFETY. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS AND METHODS AND CONSTRUCTION SAFETY, INCLUDING BUT MOT LIMITED TO DESIGN AND IMPLEMENTATION OF ANY REQUIRED TEMPORARY CONDITIONS OR SHORING REQUIRED FOR IMPLEMENTATION/INSTALLATION OF WORK SPECIFIED.
11. CONTRACTOR SHALL COORDINATE LAYOUTS, DIMENSIONS, EQUIPMENT, STAIR/PLATFORM COMPONENTS, AND ALL GENERAL WORK CONDITIONS WITH CIVIL/SITE, ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND EQUIPMENT SPECIFICATIONS.
12. PRIOR TO FABRICATION OF STEEL, CONTRACTOR SHALL COORDINATE AND VERIFY ALL WORK WITH PREVIOUSLY INSTALLED WORK/SUPPORTS, EXISTING CONDITIONS, EQUIPMENT SPECIFICATIONS, AND ALL OTHER RELATED TRADES.
13. REFER TO ALL OTHER PROJECT DRAWINGS AND SPECIFICATIONS FOR RELATED WORK, DEMOLITION AND/OR REMOVAL REQUIREMENTS, AND FOR COORDINATION OF NEW WORK WITH EXISTING.
14. DO NOT ADD OR SUSPEND OR INCREASE LOADS TO EXISTING BUILDING ROOF JOISTS. DO NOT REMOVE EXISTING ROOF JOIST BRACING OR BRIDGING. DO NOT REMOVE ANY EXISTING BUILDING LATERAL BRACING COMPONENTS OR SYSTEMS.

SUBMITTALS

1. SHOP DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL COMPONENTS. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO MAKE CERTAIN THAT ALL CONSTRUCTION IS IN FULL AGREEMENT WITH THE LATEST CONSTRUCTION DOCUMENTS.
2. CONTRACTOR SHALL ALLOW TWO WEEKS FOR THE ENGINEER'S REVIEW OF EACH SUBMITTAL. SUBMITTALS WHICH DO NOT REFLECT THE CONTRACTOR'S APPROVAL, SIGNATURE AND DATE, OR DO NOT APPEAR TO HAVE BEEN REVIEWED BY THE CONTRACTOR WILL BE RETURNED WITHOUT REVIEW. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DELAYS CAUSED BY REJECTION OF INADEQUATE OR INCORRECT SHOP DRAWINGS.
3. OMISSION FROM THE SHOP DRAWINGS OF ANY REQUIREMENTS AND/OR CORRECTIONS/COMMENTS ON THE SHOP DRAWINGS DURING REVIEW SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS EVEN IF THE SHOP DRAWINGS HAVE BEEN REVIEWED AND RETURNED. APPROVAL IS FOR GENERAL COMPLIANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS ONLY. APPROVAL ASSUMES NO RESPONSIBILITY FOR DIMENSIONS, QUANTITIES AND CONDITIONS THAT PERTAIN TO FABRICATION AND INSTALLATION OR FOR PROCESSES AND TECHNIQUES OF CONSTRUCTION. APPROVAL OF A SPECIFIC ITEM SHALL NOT INCLUDE APPROVAL OF AN ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. CALCULATION REVIEW AND COMMENTS DO NOT INFER A DETAILED CHECK OF THE CALCULATIONS.
4. ALL ITEMS DEVIATING FROM THE STRUCTURAL DRAWINGS OR FROM PREVIOUSLY SUBMITTED SHOP DRAWINGS SHALL BE CLOUDED.
5. THE USE OF REPRODUCTIONS OR ELECTRONIC FILES OF THE STRUCTURAL DRAWINGS FOR THE PREPARATION OF SHOP DRAWINGS IS NOT ACCEPTABLE WITHOUT PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER OF RECORD. IF SUCH AUTHORIZATION IS OBTAINED, DO NOT SUBMIT SHOP DRAWINGS WITH THE CONTRACT DOCUMENTS TITLE BLOCK AND/OR THE SEAL OF THE REGISTERED ENGINEER OF RECORD AFFIXED. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE OF THE ENGINEERING PRACTICING ACT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DETAILED DESIGN OF CERTAIN ITEMS, REFERRED TO AS DEFERRED. DOCUMENTS FOR DEFERRED SHOP DRAWINGS, INCLUDING CALCULATIONS, SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW FOR GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS.
7. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE ENGINEER OF RECORD AND THE BUILDING OFFICIAL.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHAPES AND PLATES SHALL CONFORM TO THE FOLLOWING:

ITEM	ASTM SPECIFICATION
WIDE FLANGE	A992, GRADE 50
TUBE STEEL (HSS)	A500, GRADE C
STEEL PIPE	A53, GRADE B
CHANNEL	A36
ANGLES, PLATES, MISC. STL.	A36

2. ALL BOLTS FOR STRUCTURAL STEEL MEMBERS SHALL CONFORM TO THE FOLLOWING:

ITEM	ASTM SPECIFICATION
ANCHOR BOLTS	F1554, GRADE 55
CONNECTION BOLTS	ASTM F3125, GRADE A325
EXPANSION ANCHORS	ESR-1917 & ESR-3785 (HILTI KB-TZ) ESR-3037 & ER-240 (SIMPSON STRONG-BOLT 2)
ADHESIVE ANCHORS	ASTM F1554, GRADE 55

3. STEEL BEAMS SHALL BE ERECTED WITH NATURAL CAMBER UP.
4. WHERE CAMBER OF STEEL BEAMS IS SPECIFIED ON THE PLANS, CAMBER OF STEEL BEAMS MUST COMPLY WITHIN LIMITS SET BY AISC. SUPPORT CAMBERED STEEL MEMBERS IN A MANNER THAT WILL NOT RESULT IN ANY LOSS OF CAMBER DURING SHIPPING AND HANDLING. THE TESTING LAB SHALL VERIFY THE SPECIFIED BEAM CAMBERS AT THE JOBSITE WITH THE BEAMS LYING FLAT ON THE GROUND (WEBS PARALLEL TO THE GROUND). BEAMS WHOSE CAMBER FALLS OUTSIDE THE TOLERANCE SHALL BE RETURNED TO THE SHOP FOR CORRECTION.
5. STEEL MEMBERS SHALL NOT BE SPLICED EXCEPT WHERE INDICATED ON THE DRAWINGS UNLESS APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.
6. BOLTS FOR STEEL BEAM AND COLUMN CONNECTIONS SHALL BE ¾" DIAMETER ASTM F 3125, GRADE A325-N HIGH-STRENGTH WITH HARDENED WASHERS, UNLESS NOTED OTHERWISE. ALL BOLTED CONNECTIONS ARE BEARING TYPE. ALL BOLTS SHALL BE TIGHTENED SNUG TIGHT, UNLESS NOTED OTHERWISE.
7. THE DESIGN OF THE STRUCTURAL STEEL CONNECTIONS, WHICH ARE NOT FULLY DETAILED IN THESE DRAWINGS, IS THE RESPONSIBILITY OF THE CONTRACTOR AND THE STEEL FABRICATOR. THE DESIGN OF THE CONNECTIONS SHALL BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER WORKING FOR THE FABRICATOR IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE AISC 303 - CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.
8. REFER TO THE SIMPLE SHEAR STEEL BEAM CONNECTION DETAIL FOR ADDITIONAL CONNECTION REQUIREMENTS AND INFORMATION.
9. UNLESS NOTED OTHERWISE, ALL MOMENT CONNECTIONS SHALL BE MADE WITH FULL PENETRATION WELDS AND SHALL BE DESIGNED TO DEVELOP THE FULL CAPACITY OF THE MEMBER.
10. PROVIDE DOUBLE NUTS AND DOUBLE WASHERS FOR STEEL COLUMN ANCHOR BOLTS TO ALLOW FOR ADJUSTMENT IN BASE PLATE ELEVATION. PROVIDE HIGH STRENGTH, NON SHRINK, NON METALLIC GROUT BELOW BASE PLATES.
11. ALL STRUCTURAL STEEL, EXCEPT EMBEDDED ITEMS, SHALL BE PAINTED WITH ONE SHOP COAT OF RUST INHIBITIVE PAINT. DO NOT PAINT TOP FLANGE OF COMPOSITE STEEL BEAMS OR SURFACE OF COLUMNS TO WHICH SHEAR STUD CONNECTORS WILL BE WELDED.
12. ALL STRUCTURAL STEEL AND CONNECTIONS EXPOSED TO WEATHER SHALL BE HOT DIP GALVANIZED G-90 COATING. COOLING TOWER GRILLAGE SHALL BE GALVANIZED WITH G-135 COATING. ANY DAMAGE TO THE GALVANIC MATERIAL DURING WELDING SHALL BE TOUCHED UP WITH GALVANIZING REPAIR PAINT. HIGH-ZINC-DUST-CONTENT PAINT FOR REGALVANIZING WELDS AND REPAIR PAINTING GALVANIZED STEEL WITH DRY FILM CONSTRAINING NOT LESS THAN 93 PERCENT ZINC DUST BY WEIGHT, AND COMPLYING WITH DOD-P-21035A OR SSPC-PAINT 20.
13. ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS): WHERE NOTED ON PLANS OR BY THE ARCHITECT SHALL CONFORM TO AISC 303, SECTION 10.
14. LEDGER ANGLE FOR FASCIA BRICK SUPPORT SHALL BE INSTALLED SUCH THAT THE SWEEP OR CAMBER DOES NOT EXCEED 1/8 INCH DEVIATION FROM STRAIGHT LINE.

WELDING

1. WELDED CONSTRUCTION SHALL CONFORM TO THE FOLLOWING AMERICAN WELDING SOCIETY STANDARDS:

ITEM	SPECIFICATION
STRUCTURAL STEEL	AWS D1.1
METAL DECK	AWS D1.3
REINFORCING STEEL	AWS D1.4

2. ELECTRODES FOR FIELD AND SHOP WELDS SHALL BE E70XX, U.N.O.
3. ELECTRODES FOR WELDING OF REINFORCING STEEL SHALL BE E80XX.
4. ELECTRODES FOR WELDING OF METAL DECK SHALL CONFORM TO AWS D1.3.
5. WHEN WELDS ARE NOT CALLED OUT ON THE DRAWINGS, THEY ARE MINIMUM SIZE FILLET WELDS PER AWS D1.1. FILLET WELDS NOT SPECIFIED AS TO LENGTH ARE CONTINUOUS.
6. ALL GROOVE WELDS ARE FULL PENETRATION UNLESS NOTED OTHERWISE.

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DATE: 09/16/2025

REVISIONS

HUGHES ASSOCIATES
ARCHITECTS & ENGINEERS
3800 ELECTRIC ROAD | STE 300 | ROANOKE, VIRGINIA

SECOND FLOOR RENOVATION FOR
LEWIS GALE MEDICAL CENTER
ELECTROPHYSICAL LABORATORY
1900 ELECTRIC ROAD SALEM, VIRGINIA 24153

DRAWN BY: AJN
CHECKED BY: BC

STRUCTURAL INFORMATION

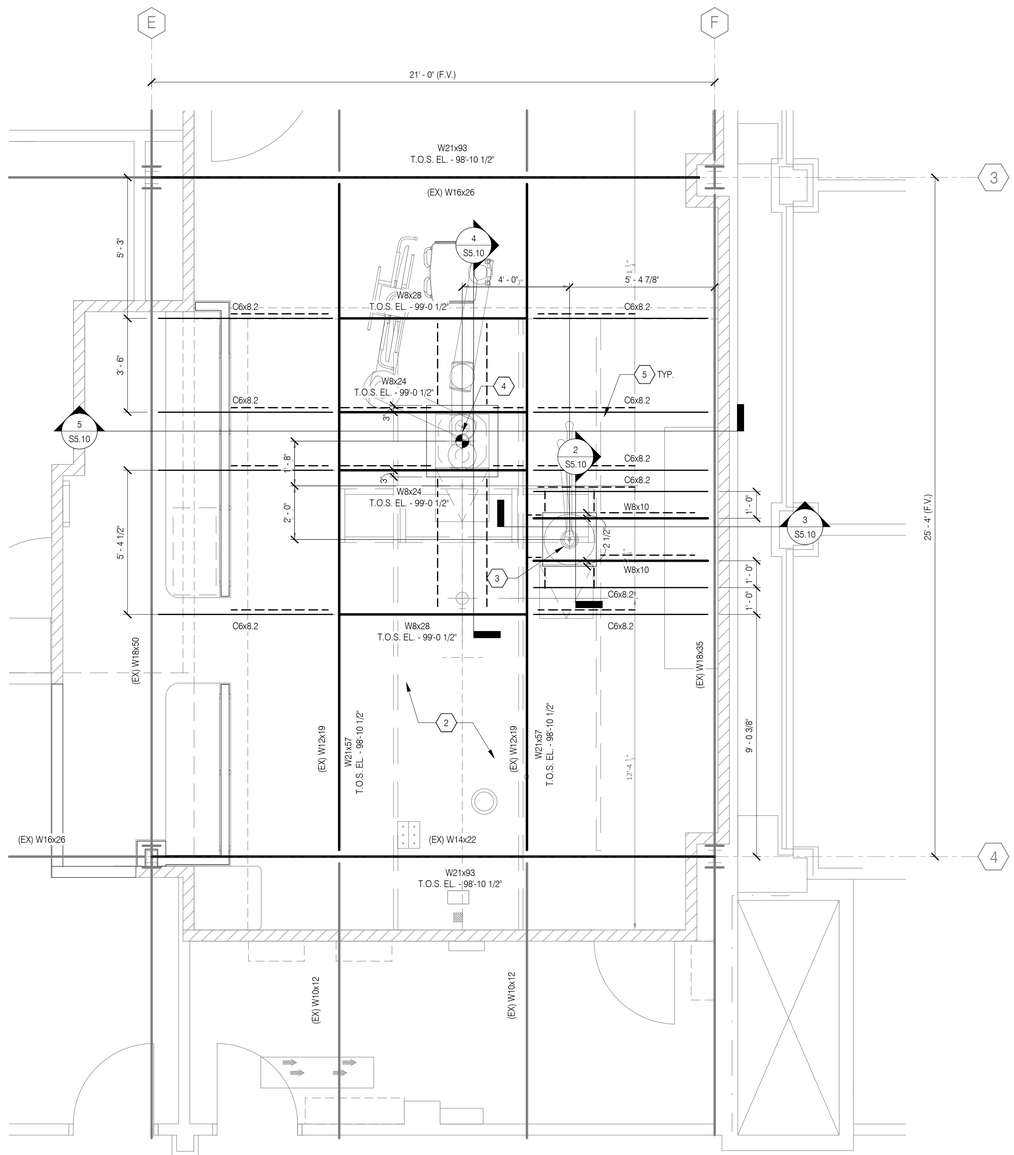
COMMONWEALTH OF VIRGINIA
09/16/2025
SCOTT R. ARMSTRONG
No. 042914
PROFESSIONAL ENGINEER

COMMISSION No. 25012
SHEET S1.10

EQUIPMENT LOADING			
UNIT	VERTICAL LOAD [LBS]	HORIZONTAL LOAD [LBS]	MOMENT [FT-LBS]
B1	297	N/A	871
C1	2020	2020	12850

ROOF FRAMING PLAN NOTES

1. (E) = EXISTING, FIELD VERIFY
2. EXISTING ROOF CONSISTS OF 1 1/2" TYPE 'B' 22 GA. METAL DECK.
3. 23 3/4"x23 3/4"x1" STL PL. MOUNT FOR 'B1' EQUIPMENT REF. **6/S5.10** FOR LAYOUT. REF. MECHANICAL DWGS FOR INFORMATION ON EQUIPMENT. BOTTOM OF STL PL. RECOMMENDED TO BE 8" ABOVE FINISHED CEILING. REFER TO EQUIPMENT SPECS FOR MIN. AND MAX. ALLOWABLE HEIGHT ABOVE FINISHED CEILING. PROVIDE A VERTICAL L4x4x3/8 AT EA. CORNER.
4. 28"x28"x1" STL PL. MOUNT FOR 'C1' EQUIPMENT REF. **7/S5.10** FOR LAYOUT. REF. MECHANICAL DWGS FOR INFORMATION ON EQUIPMENT. BOTTOM OF STL PL. TO BE A MIN. OF 9.64" ABOVE FINISHED CEILING AND A MAX. OF 17.19" ABOVE FINISHED CEILING PER EQUIPMENT MFR. PROVIDE A VERTICAL L4x4x3/8 AT EA. CORNER.
5. PROVIDE L4x4x3/8 KICKERS AT DASHED LINES.
6. T.O. STEEL TO BE 100'-0" U.N.O.
7. ALL SUPPLEMENTAL STEEL FRAMING MUST BE COORDINATED BY THE GC WITH THE APPROVED VENDOR DOCUMENTS. ANY DISCREPANCIES MUST BE CORRECTED PRIOR TO ISSUING STEEL SHOP DRAWINGS.



PLAN NORTH

1 / S2.10 ROOF FRAMING PLAN
3/8" = 1'-0"

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ROOF FRAMING PLAN

COMMONWEALTH OF VIRGINIA
09/16/2025
SCOTT R. ARMSTRONG
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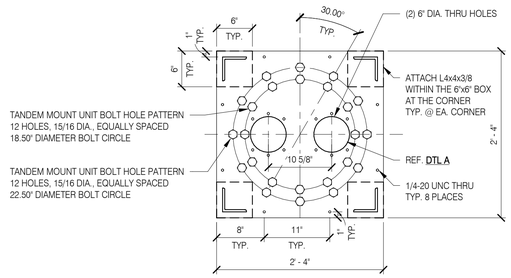
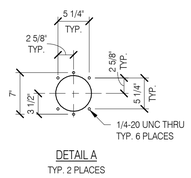
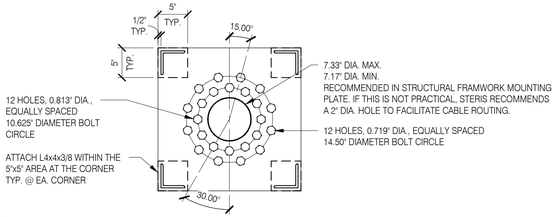
SHEET
S2.10



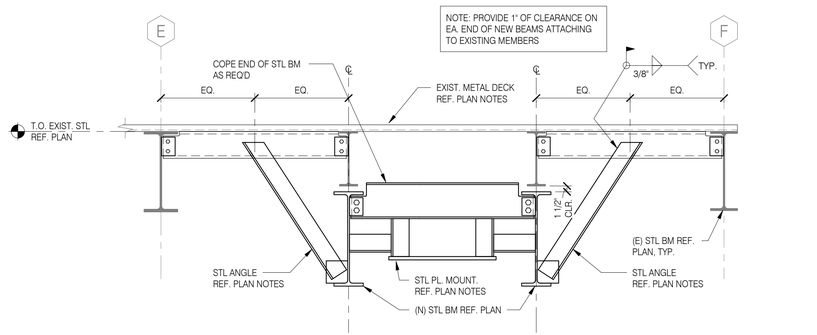


DETAIL A
TYP. 2 PLACES

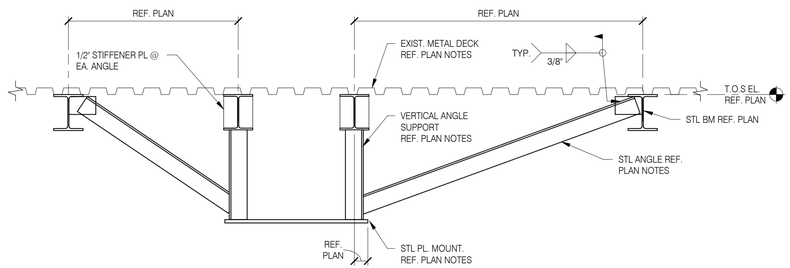
7 S5.10 "C1" STL PL. MOUNT LAYOUT
1" = 1'-0"



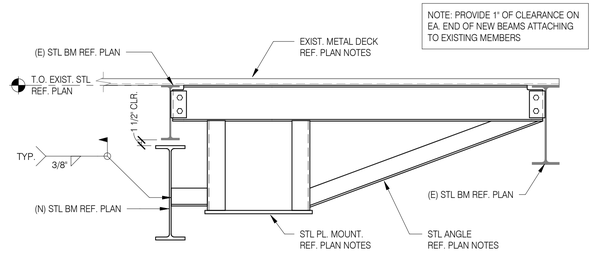
6 S5.10 "B1" STL PL. MOUNT LAYOUT
1" = 1'-0"



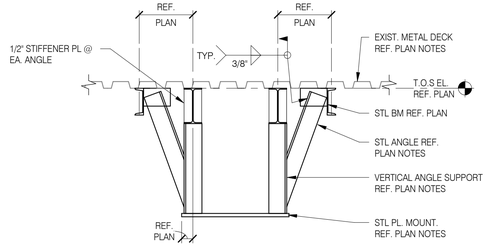
5 S5.10 SECTION 4 - DETAIL @ "C1" STL PL. MOUNT
NTS



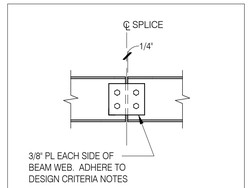
4 S5.10 SECTION 3 - DETAIL @ "C1" STL PL. MOUNT
3/4" = 1'-0"



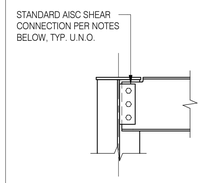
3 S5.10 SECTION 2 - DETAIL @ "B1" STL PL. MOUNT
3/4" = 1'-0"



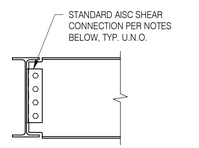
2 S5.10 SECTION 1 - DETAIL @ "B1" STL PL. MOUNT
3/4" = 1'-0"



SC3: BEAM TO BEAM SPLICE



SC1: BEAM TO COLUMN WEB



SC2: BEAM TO BEAM

SHEAR CONNECTION DESIGN CRITERIA

A. DESIGN FOR UNFACTORED REACTIONS NOTED ON PLANS.

B. IF REACTIONS ARE NOT NOTED ON PLANS: DESIGN NON-COMPOSITE BEAM CONNECTIONS FOR 1/2 THE TOTAL DESIGN UNIFORM LOAD FOR THE BEAM SPAN FROM THE AISC - UNIFORM LOAD TABLES; DESIGN COMPOSITE BEAM CONNECTIONS FOR 1.7 TIMES THE NON-COMPOSITE REACTION AS DESCRIBED ABOVE.

C. DETAIL CONNECTIONS PER AISC - ASD 15TH EDITION SPECIFICATION USING MIN. 5/16" THICK DOUBLE CLIP ANGLES OR MIN. 3/8" SHEAR PLATE. USE 3/4" Ø A 325-N BOLTS OR LARGER FOR ALL STRUCTURAL CONNECTIONS U.N.O.. SHEAR PLATE CONNECTIONS SHALL BE BOLTED @ BEAM AND WELDED @ SUPPORT. DOUBLE CLIP ANGLES CAN BE EITHER BOLTED OR WELDED PROVIDED THEY COMPLY WITH LOADING REQUIREMENTS AND AISC STANDARDS.

D. IN ADDITION TO SHEAR CONNECTION DESIGN CRITERIA PER NOTES A - C, PROVIDE A MINIMUM OF THE FOLLOWING NUMBER OF CONNECTION BOLTS AS FOLLOWS:

W8 - W12	2 BOLTS
W14 - W16	3 BOLTS
W18 - W21	4 BOLTS
W24	5 BOLTS

E. SUBMIT SEALED CALCULATIONS OF ALL NON-STANDARD CONNECTIONS FOR ENGINEER'S REVIEW .

F. SUBMIT SEALED CALCULATIONS OF BRACE CONNECTIONS FOR ENGINEERS REVIEW .

1 S5.10 TYPICAL SHEAR CONNECTIONS
3/4" = 1'-0"

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ELECTROPHYSICAL LABORATORY
1900 ELECTRIC ROAD SALEM, VIRGINIA 24153

DRAWN BY: AJN
CHECKED BY: BC

TYPICAL
STEEL
DETAILS

COMMONWEALTH OF VIRGINIA
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No. 042914
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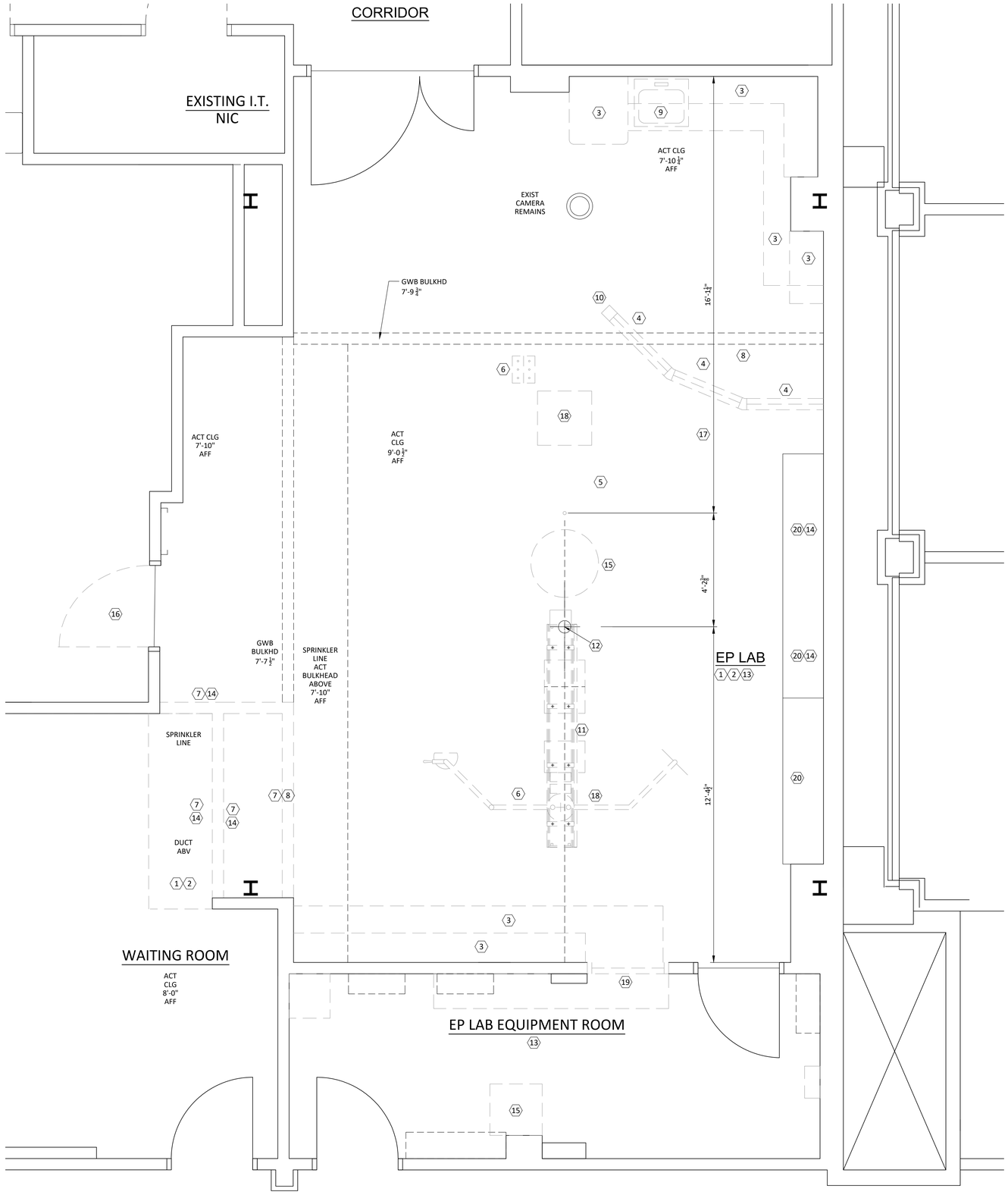


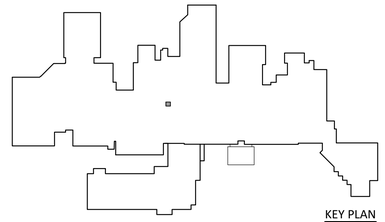
PARTIAL SECOND FLOOR DEMOLITION PLAN

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

0 1' 2' 4'

PLAN NORTH

TRUE NORTH



KEY PLAN
NO SCALE

GENERAL DEMOLITION NOTES

1. PROVIDE CLOSE COORDINATION OF ALL WORK AND SCHEDULING OF WORK WITH THE OWNER AND VARIOUS TRADES TO MAINTAIN CONTINUOUS FACILITY ACCESS/ EGRESS AND OPERATIONS DURING NORMAL BUSINESS HOURS.
2. VERIFY AND COORDINATE WITH THE OWNER PRIOR TO REMOVAL ALL SCHEDULED DEMOLITION ITEMS THE OWNER WISHES TO RETAIN.
3. COORDINATE WITH MECHANICAL, ELECTRICAL, STRUCTURAL AND VENDOR DEMOLITION PLANS AND SPECIFICATIONS.
4. COORDINATE DEMOLITION BIN ROUTE WITH OWNER.
5. PROTECT EXISTING ITEMS TO REMAIN.
6. THOROUGHLY REVIEW BID DOCUMENT ALLIA IGS 520/530/330 PULSE PRELIMINARY STUDY - LGMC EP IGS-M403605-PRE-00-A.PDF DATED 19/MAY/2025, UPON WHICH THE ARCHITECTURAL AND ENGINEERING PLANS ARE BASED. GC RESPONSIBLE FOR PROVIDING OR INSTALLING ALL ITEMS DENOTED "GC" AND "CONTRACTOR" PROVIDED AND/OR INSTALLED.
7. COORDINATE DELIVERIES AND ROUTE WITH OWNER.
8. VERIFY AND COORDINATE WITH GE ITEMS TO REMAIN PRIOR TO DEMOLITION.
9. CONTACT ABBOTT PRIOR TO COMMENCEMENT AND COORDINATE ABBOTT EQUIPMENT REMOVAL AND INSTALLATION. REFER TO COVER SHEET.
10. CONTACT JOHNSON & JOHNSON PRIOR TO COMMENCEMENT AND COORDINATE JOHNSON & JOHNSON EQUIPMENT REMOVAL AND INSTALLATION. REFER TO COVER SHEET.

ALLOWANCE NO. 1 CONTINGENCY OF 5% OF BID. COORDINATE INVESTIGATION OF EXISTING MECHANICAL RTU WITH OWNER.

DEMOLITION PLAN NOTES

1. PROTECT EXISTING FIRE SUPPRESSION HEADS AND REMOVE CEILING AND GRID. COORDINATE WITH STRUCTURAL AND GE FOR REMOVAL OF ANY REMAINING EQUIPMENT SUPPORT MEMBERS FROM THIS SPACE. REFER TO ELECTRICAL PLANS FOR LIGHTING.
2. REMOVE FLOORING AND BASE IN THIS SPACE. PREPARE WALLS AND FLOORS TO RECEIVE NEW FINISHES AS SPECIFIED.
3. REMOVE CASEWORK. PATCH WALL AND ANY BULKHEAD TO REMAIN.
4. SALVAGE EQUIPMENT AND DELIVER TO OWNER ON SITE TO DETERMINE RE-USE.
5. NEW CL TABLE PIVOT. REFER TO GE PLANS. 4"-9"Ø CABLE INLET THROUGH SLAB. 4 MOUNTING THROUGH BOLTS AND ANCHORS - GE PROVIDED, CONTRACTOR INSTALLED. CONTRACTOR IS RESPONSIBLE FOR ALL FLOOR PENETRATIONS.
6. RELOCATE CEILING MOUNTED MEDGAS OUTLETS, VALVES AND ALARM PANEL. EXTEND LINES AS INDICATED ON MECHANICAL AND BOOM VENDOR PLANS. INCLUDE COSTS OF MEDGAS INSPECTION AFTER GC WORK, AND ALSO INSPECTION AFTER GE WORK.
7. INVESTIGATE WALL DEMOLITION AREA FOR MEDGAS AND OTHER UTILITIES THAT MAY BE AFFECTED. NOTIFY ARCHITECT OF ANY CONFLICTS. REMOVE WALL TO DIMENSION INDICATED.
8. COORDINATE DEINSTALL AND REINSTALL OF GE MAC-LAB SYSTEM WITH OWNER REP AND VENDOR.
9. REMOVE SINK. CAP PIPES IN WALL AND PATCH FLUSH.
10. REMOVE POST AND PARTITION. REFER TO ELECTRICAL.
11. REMOVE STAINLESS STEEL FLOOR BOX WITH TWO QUAD OUTLETS. REFER TO ELECTRICAL.
12. NEW ISOCENTER.
13. CORE DRILL EXISTING SLAB AS REQUIRED FOR NEW CONDUITS ABOVE CEILING OF LAB BELOW. COORDINATE ACCESS WITH LEWIS GALE. REFER TO GE PLANS.
14. REMOVE ELECTRICAL RECEPTACLES. RETAIN CIRCUIT TO RELOCATE.
15. GEHC WILL REMOVE GE CABINETS, TABLE, GANTRY AND MONITOR. UPS AND MDP TO REMAIN.
16. REMOVE DOOR AND HARDWARE. FRAME TO REMAIN.
17. REMOVE CEILING MOUNTED MAVIG TRACK PER STERIS PLAN.
18. CONFIRM WITH STERIS AND GE BEFORE REMOVING IMAGE VENDOR CEILING MOUNTED EQUIPMENT PER STERIS PLAN.
19. REMOVE EXISTING SHIELDED WINDOW AND FRAME. RELOCATE USER COMPUTER TO NEW COUNTERTOP. REMOVE OBSOLETE SHELVES. COORDINATE WITH USER.
20. EXISTING CASEWORK TO REMAIN.

DEMOLITION LEGEND

WALLS AND ITEMS TO BE REMOVED

WALLS AND ITEMS TO REMAIN

DATE: SEP 16, 2025

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PARTIAL SECOND FLOOR DEMOLITION PLAN

COMMONWEALTH OF VIRGINIA
09.16.25
ALAN J. DOWNIE
Lic. No. 12522
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COMMISSION No.
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SHEET
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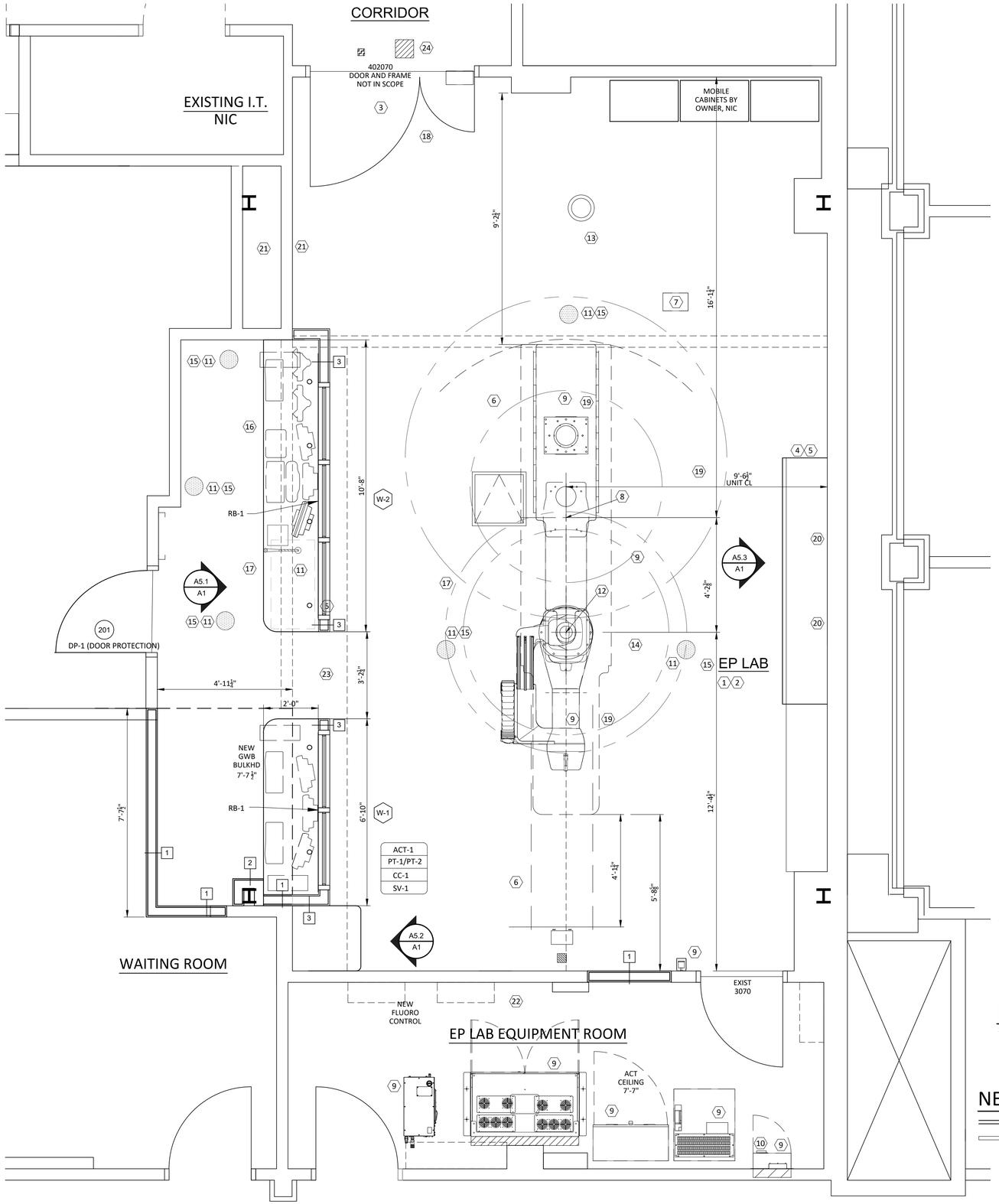

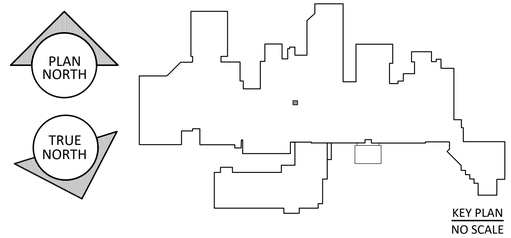

GENERAL NEW WORK NOTES

1. PROVIDE CLOSE COORDINATION OF ALL WORK AND SCHEDULING OF WORK WITH THE OWNER, OPERATORY EQUIPMENT VENDORS, AND VARIOUS TRADES TO MAINTAIN CONTINUOUS FACILITY ACCESS/ EGRESS AND OPERATIONS DURING NORMAL BUSINESS HOURS.
2. VERIFY AND COORDINATE WITH THE OWNER PRIOR TO REMOVAL ALL SCHEDULED DEMOLITION ITEMS THE OWNER WISHES TO RETAIN.
3. COORDINATE WITH MECHANICAL, ELECTRICAL, STRUCTURAL AND VENDOR PLANS AND SPECIFICATIONS.
4. PROTECT FINISHED FLOOR THROUGH CLOSE OUT.
5. THOROUGHLY REVIEW BID DOCUMENT ALLIA IGS 520/530/330 PULSE PRELIMINARY STUDY - LGMC EP IGS-M403605-PRE-00-A.PDF DATED 19/MAY/2025, UPON WHICH THE ARCHITECTURAL AND ENGINEERING PLANS ARE BASED. GC RESPONSIBLE FOR PROVIDING OR INSTALLING ALL ITEMS DENOTED "GC" AND "CONTRACTOR" PROVIDED AND/OR INSTALLED.
6. COORDINATE DELIVERIES AND ROUTE WITH OWNER.
7. CONTACT ABBOTT PRIOR TO COMMENCEMENT AND COORDINATE ABBOTT EQUIPMENT REMOVAL AND INSTALLATION. REFER TO COVER SHEET.
8. CONTACT JOHNSON & JOHNSON PRIOR TO COMMENCEMENT AND COORDINATE JOHNSON & JOHNSON EQUIPMENT REMOVAL AND INSTALLATION. REFER TO COVER SHEET.

ALLOWANCE NO. 1 CONTINGENCY OF 5% OF BID.

NEW WORK PLAN NOTES

1. INSTALL NEW CEILING GRID AND TILE AS SPECIFIED.
2. INSTALL NEW FLOORING AND BASE AS SPECIFIED.
3. INSTALL LIFE SAFETY EQUIPMENT AS INDICATED ON LIFE SAFETY AND ELECTRICAL PLANS. INSTALL CEILING MOUNTED EQUIPMENT ON FACILITY STANDARD MOUNTING PANEL.
4. PROVIDE FRT SUPPORT BLOCKING OF DIMENSIONS AND AT LOCATIONS INDICATED ON GE EQUIPMENT LAYOUT PLAN, STRUCTURAL LAYOUT PLAN AND SECTION, AND NEW CASEWORK.
5. NEW CASEWORK. REFER TO ELEVATIONS. COORDINATE WITH EXISTING BULKHEADS AS REQUIRED.
6. RELOCATE GAS PANEL AND EXTEND GAS LINES. REFER TO SHEET A2.
7. INSTALL GE PROVIDED LED LAMP TRANSFORMER. GE ITEM NO. 5.
8. NEW CL TABLE PIVOT POINT. REFER TO ALL GE PLANS.
9. NEW EQUIPMENT BY VENDOR. REFER TO ALL VENDOR SITE PREPARATION PLANS.
10. INSTALL GE PROVIDED MAIN DISCONNECT PANEL (MDP). GE ITEM NO. 7.
11. COORDINATE AND INSTALL GE PROVIDED VITA LINQ SYSTEM. GE ITEMS 14, 15, 16, 17.
12. STAINLESS STEEL FLOOR PEDESTAL 12"H X 14"W X LENGTH TBD, WITH 2 (TWO) QUAD OUTLETS, ONE ON LEFT, ONE ON RIGHT. CONDUIT STUB UP THROUGH SLAB. CONTRACTOR RESPONSIBLE FOR ALL FLOOR PENETRATIONS.
13. PROTECT EXISTING CAMERA TO REMAIN.
14. NEW EQUIPMENT ISOCENTER.
15. INSTALL GE SUPPLIED TOTAL OF SIX SPEAKERS.
16. INSTALL GE SUPPLIED MONITORING CONSOLE.
17. INSTALL GE SUPPLIED TOTAL OF TWO MICROPHONES.
18. CONFIRM EXISTING DOOR CLEAR OPENING OF 46" X 87".
19. PROVIDE STRUCTURAL SUPPORT AS INDICATED ON STRUCTURAL PLANS. REFER TO ATTACHED STERIS EQUIPMENT PLANS. INSTALL STERIS PROVIDED PLATE. STERIS SHALL SUPPLY AND INSTALL CEILING TRIM PLATE, THREADED ROD, BOOMS WITH STERIS RAD SHIELD, STERIS LIGHT, AND LARGE DISPLAY MONITOR (LDM) BRACKET. GC SHALL PROVIDE AND INSTALL ALL POWER AND DATA. GE SUPPLY AND INSTALL MONITORS. COORDINATE WITH STERIS AND GE DOCUMENTS.
20. NEW RECEPTACLES AT 42" AFF.
21. NEW STEAM HUMIDIFIER. REFER TO MECHANICAL.
22. RELOCATE USER COMPUTER TO NEW COUNTERTOP. COORDINATE WITH USER.
23. NO SHIELDING REQUIRED AT COUNTERTOP OPENING PER PHYSICS ASSOCIATES, LLC REPORT DATED OCTOBER 14, 2025. ALL OTHER WALLS, WINDOWS, DOORS $\frac{1}{16}$" LEAD OR EQUIVALENT TO 7'-0" AFF.
24. INSTALL LIGHT SIGNALING BOX PROVIDED BY GE. GE ITEM NO. 21.

PARTIAL SECOND FLOOR NEW WORK PLAN

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

0 1' 2' 4'

NEW WORK LEGEND

NEW WORK

EXISTING WALLS AND ITEMS

MATERIAL SCHEDULE

TYPE	MANUF.	DESCRIPTION
ACT-1 (CEILING)	ARMSTRONG CEILINGS	ULTIMA 1910 SQUARE LAY-IN, 24"x24"x$\frac{3}{4}$", PRELUDE XL 15/16" GRID, FLAT WHITE
PT-1 (WALL PAINT)	SHERWIN WILLIAMS	SW 7004 SNOWBOUND; EGGSHELL
PT-2 (TRIM PAINT)	SHERWIN WILLIAMS	SW 7017 DORIAN GRAY; SEMI-GLOSS
SV-1 (SHEET GOODS)	INTERFACE-NORA	ENVIRONCARE 3mm, 7036 CLAM BAKE
RB-1 (RUBBER BASE)	INTERFACE-NORA	PRE-FORMED BASE, 7036 CLAM BAKE
SS-1 (COUNTERTOPS)	WILSONART SOLID SURFACE	9250SS CANNON BEACH; EDGE: SQUARE EASED
P-LAM 1 (CASEWORK)	WILSONART PLASTIC LAMINATE	D504-60 FOSSIL SHALE, MATTE
DP-1 (DOOR PROTECTION)	INPRO CORP.	PALLADIUM RIGID VINYL HALF-DOOR KICKPLATE, 0546 COFFEE BEAN AND PALLADIUM RIGID VINYL L-SHAPE EDGE PROTECTOR, .040", 0546 COFFEE BEAN

DATE: SEP 16, 2025

REVISIONS

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PARTIAL SECOND FLOOR NEW WORK PLAN

COMMONWEALTH OF VIRGINIA
09.16.25
ALAN J. DOWNE
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ARCHITECT

COMMISSION No.
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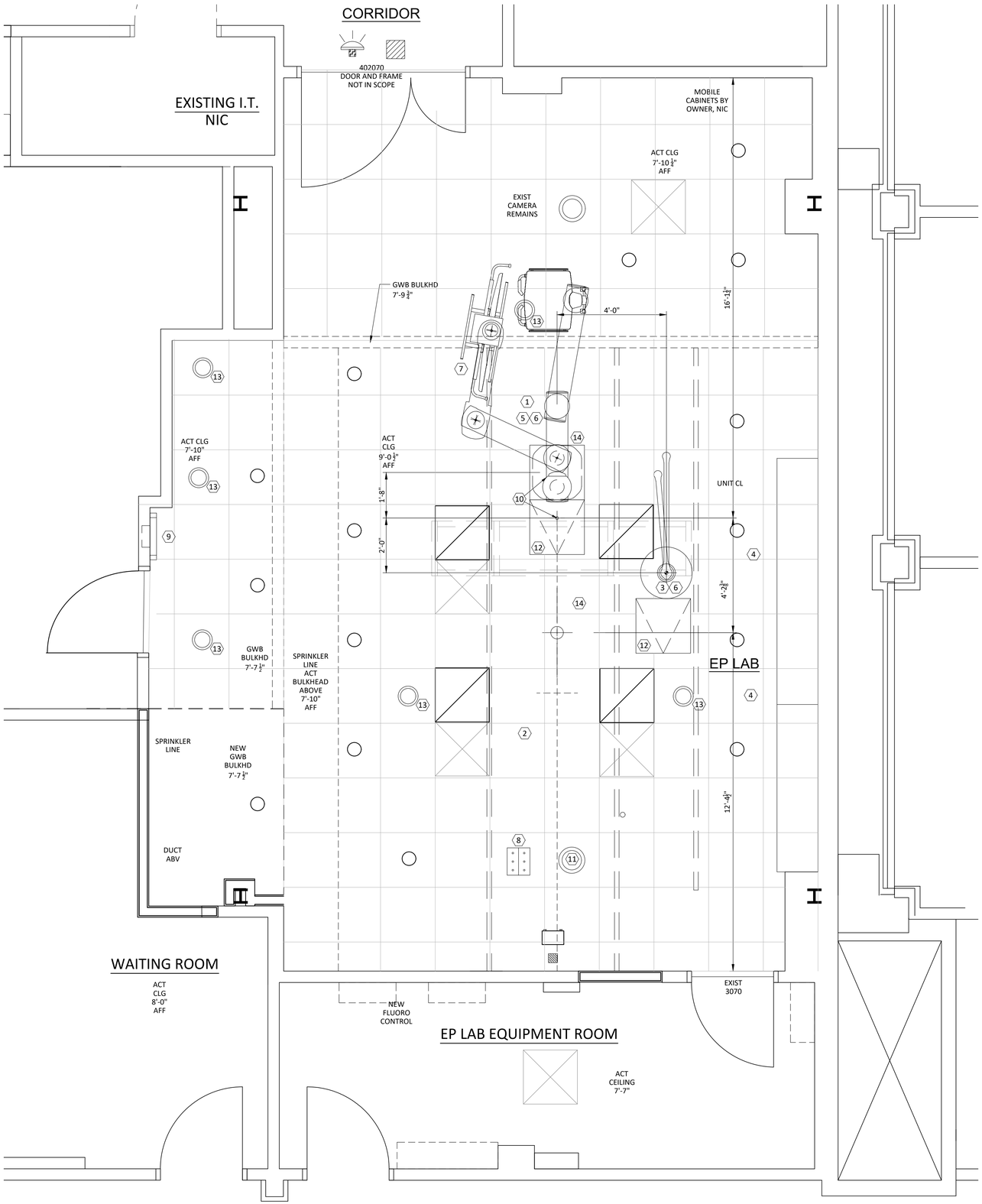
SHEET
A1



RCP PLAN GENERAL NOTES

1. PROVIDE CLOSE COORDINATION OF ALL WORK AND SCHEDULING OF WORK WITH THE OWNER, OPERATORY EQUIPMENT VENDORS, AND VARIOUS TRADES TO MAINTAIN CONTINUOUS FACILITY ACCESS/ EGRESS AND OPERATIONS DURING NORMAL BUSINESS HOURS.
2. VERIFY AND COORDINATE WITH THE OWNER PRIOR TO REMOVAL ALL SCHEDULED DEMOLITION ITEMS THE OWNER WISHES TO RETAIN.
3. COORDINATE WITH MECHANICAL, ELECTRICAL, STRUCTURAL AND VENDOR PLANS AND SPECIFICATIONS.
4. PROTECT FINISHED FLOOR THROUGH CLOSE OUT.
5. REFER TO BID DOCUMENT ALLIA IGS 520 /530/330 PULSE PRELIMINARY STUDY DATED 19/MAY/2025. GC RESPONSIBLE FOR PROVIDING OR INSTALLING ALL ITEMS DENOTED "GC" AND "CONTRACTOR" PROVIDED AND/OR INSTALLED.
6. COORDINATE WITH BID DOCUMENT "2964D7-OR" BY STERIS. PROVIDE ALL REQUIRED CIRCUITS, STRUCTURE, AND CONDUIT.
7. COORDINATE DELIVERIES AND ROUTE WITH OWNER.
8. REFER TO ED1 FOR LIGHTING TO REMAIN.

RCP PLAN NOTES

1. IMAGING VENDOR EQUIPMENT REMOVED PER STERIS PLAN.
2. MAVIG TRACK REMOVED PER STERIS PLAN. REFER TO DEMOLITION PLAN.
3. A SERIES-SURGICAL LIGHT & ACCESSORY ARM(S) "B1" PER STERIS PLAN.
4. MOUNT "B1" STOPS TO BE INSTALLED AT CASEWORK.
5. TANDEM HARMONYAIR ADJ ARM MONITOR CARRIER "C1" - HARMONYAIR FIXED-EQUIPMENT, MONITOR CARRIER
6. COORDINATE OTHER CEILING MOUNTED EQUIPMENT WITH STERIS EQUIPMENT PRIOR TO INSTALLATION.
7. GE TO MOUNT LDM MONITOR TO STERIS "C1".
8. RELOCATED MEDGAS PANEL LOCATION.
9. HARMONYAIR A-SERIES TOUCH PANEL CONTROL UNIT (TPCU) - INTEGRATED WALL CONTROL "K1". ¾" CONDUIT REQUIRED FROM STERIS ITEM KI TO STERIS ITEM B1 LIGHT. COORDINATE K1 LOCATION AND HEIGHT WITH STERIS.
10. STERIS EQUIPMENT LOCATED RELATIVE TO GE CL TABLE PIVOT.
11. INSTALL OWNER PROVIDED CAMERA.
12. PROVIDE 4X24 ACCESS PANEL FOR STERIS EQUIPMENT ACCESS. COORDINATE LOCATION WITH OTHER EQUIPMENT.
13. INSTALL VITALINQ SPEAKER PROVIDED BY GE.
14. SEE SHEET A1, NOTE 19.

REFLECTED CEILING PLAN LEGEND

- NEW 2'X2' EMERG. FIXTURE
- NEW 2'X2' FIXTURE
- NEW HVAC DIFF.
- NEW HVAC DIFF.
- (S) SMOKE DETECTOR
- O_2 OCCUPANCY SENSOR
- EXISTING EXIT SIGN

PARTIAL SECOND FLOOR REFLECTED CEILING PLAN

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

0 1' 2' 4'

DATE: SEP 16, 2025

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1 2 3 4 5

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PARTIAL SECOND FLOOR REFLECTED CEILING PLAN

COMMONWEALTH OF VIRGINIA
09.16.25
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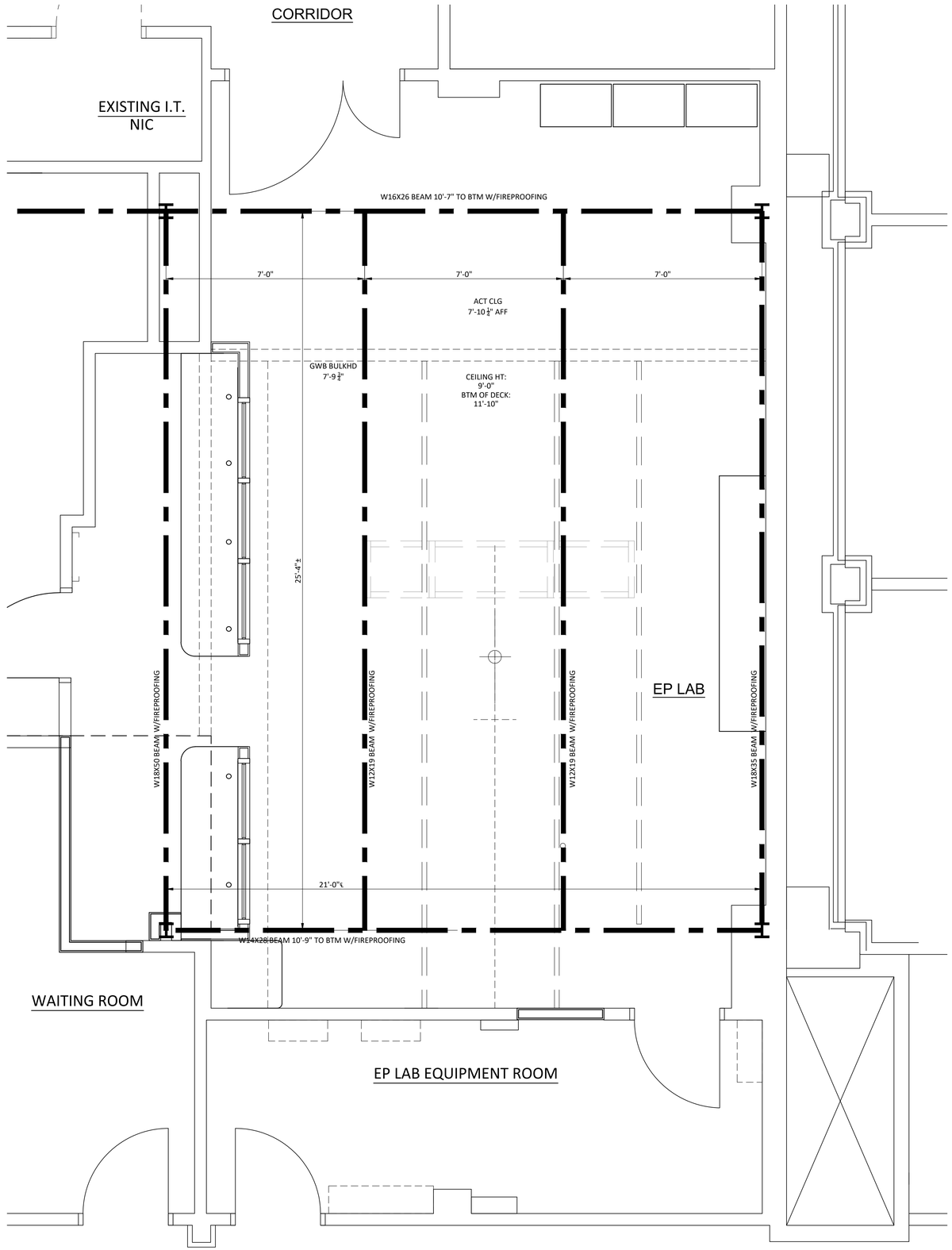
SHEET
A2



PARTIAL EXISTING THIRD FLOOR STRUCTURAL PLAN (ABOVE EP LAB)

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

0 1' 2' 4'

REFER TO STRUCTURAL PLANS.

PLAN BASED ON DATA FROM PLANS PROVIDED BY OWNER
GOULD TURNER GROUP, P.C. ARCHITECTS & PLANNERS
NASHVILLE, TN
NOV 5, 1997

DATE: SEP 16, 2025

REVISIONS
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PARTIAL EXISTING THIRD FLOOR STRUCTURAL PLAN

COMMONWEALTH OF VIRGINIA
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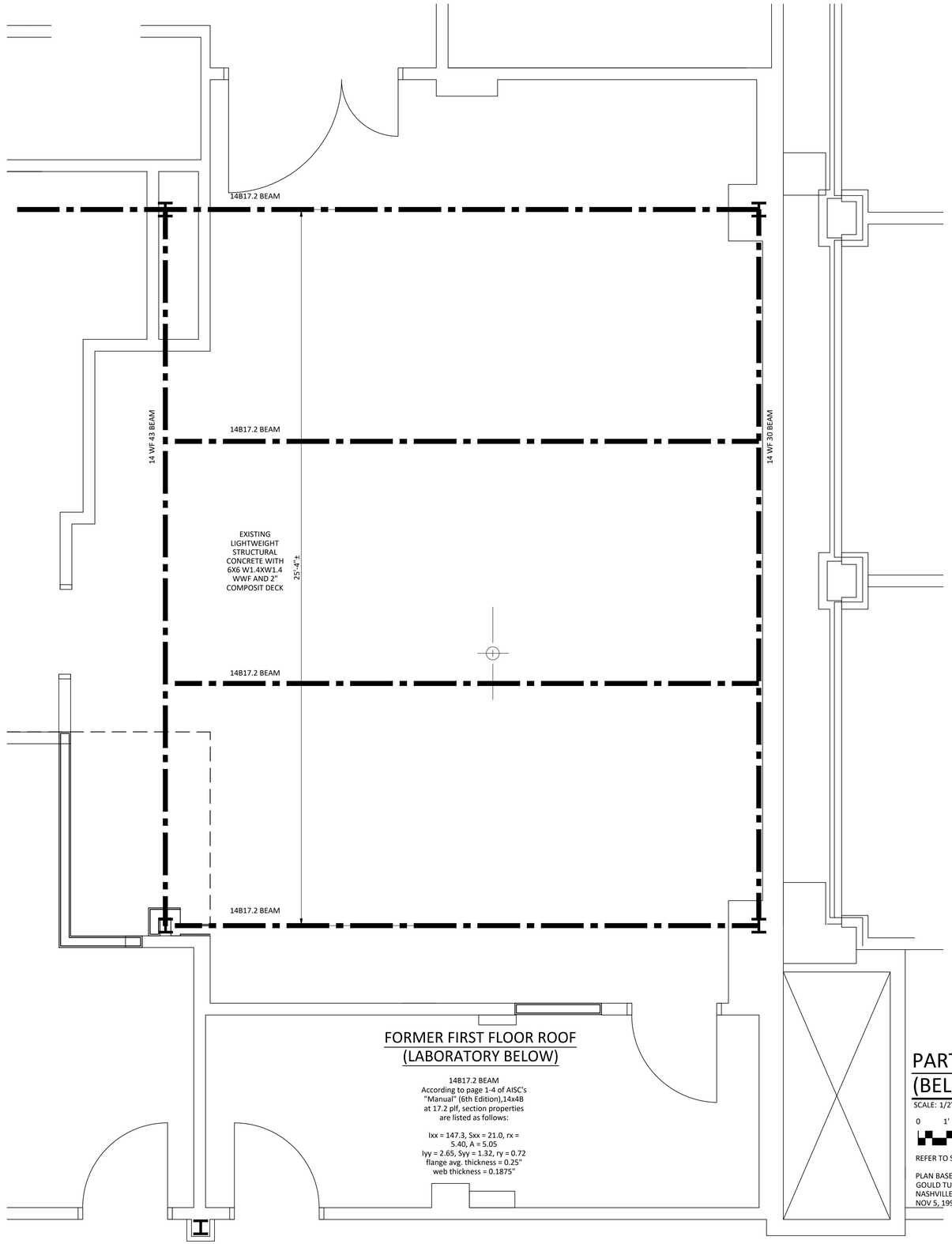
SHEET
A3



FORMER FIRST FLOOR ROOF
(LABORATORY BELOW)

14B17.2 BEAM
According to page 1-4 of AISC's "Manual" (6th Edition),14x4B at 17.2 plf, section properties are listed as follows:

Ixx = 147.3, Sxx = 21.0, rx = 5.40, A = 5.05
Iyy = 2.65, Syy = 1.32, ry = 0.72
flange avg. thickness = 0.25"
web thickness = 0.1875"

PARTIAL EXISTING FIRST FLOOR ROOF STRUCTURAL PLAN (BELOW EP LAB)

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

0 1' 2' 4'

REFER TO STRUCTURAL PLANS.

PLAN BASED ON DATA FROM PLANS PROVIDED BY OWNER
GOULD TURNER GROUP, P.C. ARCHITECTS & PLANNERS
NASHVILLE, TN
NOV 5, 1997

DATE: SEP 16, 2025

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PARTIAL EXISTING FIRST FLOOR ROOF STRUCTURAL PLAN

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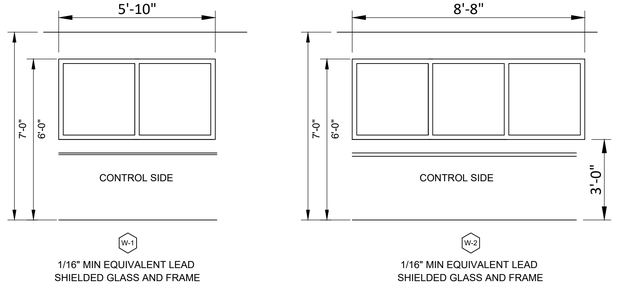
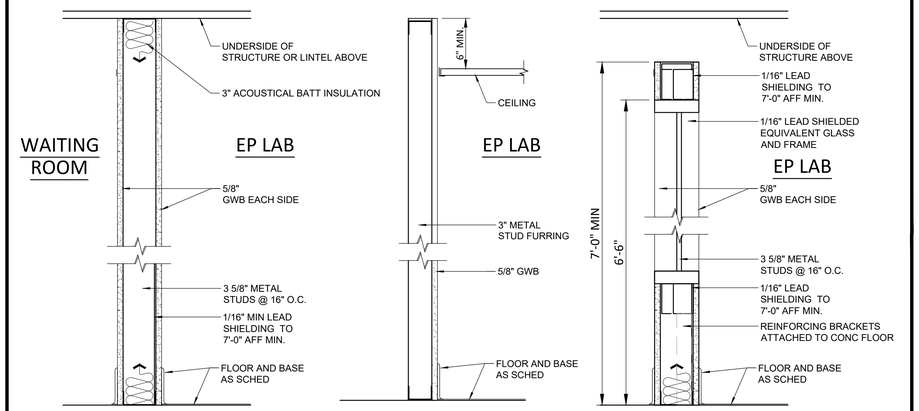
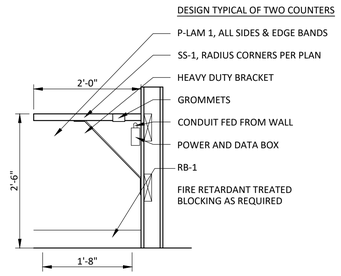
SHEET
A4

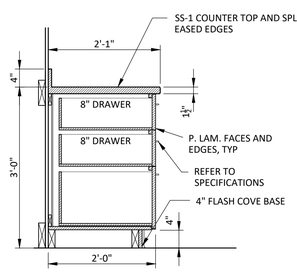
WINDOW TYPES

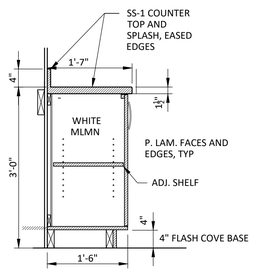


PARTITION TYPES



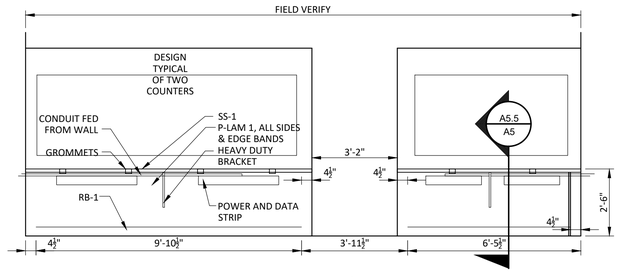


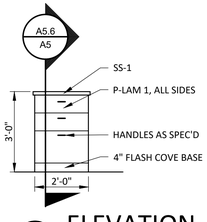


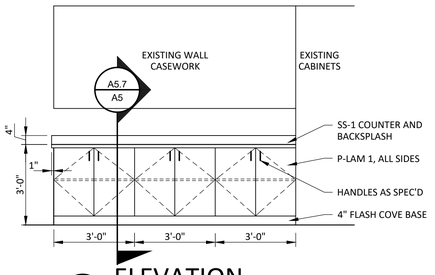


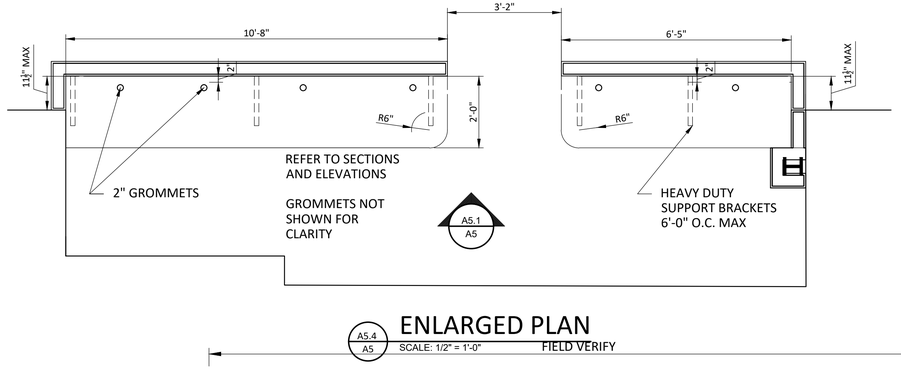
MATERIAL SCHEDULE

TYPE	MANUF.	DESCRIPTION
ACT-1 (CEILING)	ARMSTRONG CEILINGS	ULTIMA 1910 SQUARE LAY-IN, 24"x24"x¾", PRELUDE XL 15/16" GRID, FLAT WHITE
PT-1 (WALL PAINT)	SHERWIN WILLIAMS	SW 7004 SNOWBOUND; EGGSHELL
PT-2 (TRIM PAINT)	SHERWIN WILLIAMS	SW 7017 DORIAN GRAY; SEMI-GLOSS
SV-1 (SHEET GOODS)	INTERFACE-NORA	ENVIRONCARE 3mm, 7036 CLAM BAKE
RB-1 (RUBBER BASE)	INTERFACE-NORA	PREFORMED BASE, 7036 CLAM BAKE
SS-1 (COUNTERTOPS)	WILSONART SOLID SURFACE	9250SS CANNON BEACH; EDGE: SQUARE EASED
P-LAM 1 (CASEWORK)	WILSONART PLASTIC LAMINATE	D504-60 FOSSIL SHALE, MATTE
DP-1 (DOOR PROTECTION)	INPRO CORP.	PALLADIUM RIGID VINYL HALF-DOOR KICKPLATE, 0546 COFFEE BEAN AND PALLADIUM RIGID VINYL L-SHAPE EDGE PROTECTOR, .040", 0546 COFFEE BEAN

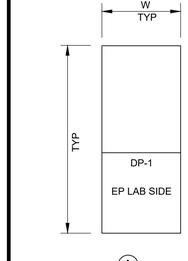








DOOR TYPE



DOOR HARDWARE SCHEDULE

MARK	DESCRIPTION	MANUF	MODEL	FINISH
SET NO. 1	1 PIVOT SET	IVES	7212 SET	US26D
	1 PASSAGE LATCH	SCHLAGE	L9010	626
	3 DOOR SILENCER		SR64	GRY
	1 EDGE PROTECTOR	INPRO PALLADIUM	0546 L-SHAPE VINYL 36"	COFFEE BEAN
	1 KICK PLATE	INPRO PALLADIUM	0546 .040" 36X36	COFFEE BEAN
	1/16" LEAD SHIELDING			
	1 OVERHEAD DOOR STOP			

DOOR SCHEDULE

1. ALL DOOR FRAMES SHALL BE PAINTED A DIFFERENT COLOR THAN THE ADJACENT WALL.
2. ALL HARDWARE SHALL MEET ADA REQUIREMENTS
3. EACH NEW DOOR SHALL AT A MINIMUM MATCH THE EXISTING DOOR FIRE RATING.

MARK	DOOR							FRAME						
	SIZE			MATR'L	TYPE	FINISH	GLASS	TYPE	MATR'L	DTL.	FIRE RAT'G	T'HOLD	HW	REMARKS
	WIDTH	HEIGHT	THICK.											
PHASE 1														
201	3'-0"	7'-0"	1 3/4"	WD	A	P-LAM	--	EXIST	HM	--	--	T-1	1	NEW 1/16" LEAD SHIELDED DOOR & HARDWARE IN EXISTING FRAME

DATE: SEP 16, 2025

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1 2 3 4 5

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CASEWORK, DOOR SCHEDULE, AND PARTITION TYPES

COMMONWEALTH OF VIRGINIA
09.16.25
ALAN J. DOWNIE
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ARCHITECT

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Salas O'Brien
salasobrien.com 540-952-9651
Project No: 2550-00965-00
119 Norfolk Ave SW, Suite 310
Roanoke, Virginia 24011

DATE: JAN. 23, 2026

REVISIONS

PLUMBING PIPING LEGEND

SYMBOLS	DESCRIPTION
	SANITARY OR WASTE PIPING ABOVE GRADE (SAN)
	SANITARY OR WASTE PIPING BELOW GRADE (SAN)
GW	GREASE WASTE PIPING (GW)
GW	GREASE WASTE PIPING BELOW GRADE (GW)
SD	STORM DRAIN PIPING (SD)
SSD	SUB-SOIL DRAIN OR FOOTING DRAIN (SSD)
AW	ACID WASTE PIPING (AW)
AW	ACID WASTE PIPING BELOW GRADE (AW)
PW	PUMPED WASTE (PW)
CD	CONDENSATE DRAIN PIPING (CD)
D	CONDENSATE - INDIRECT DRAIN PIPING (D)
	VENT PIPING (V)
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
	HOT WATER RETURN PIPING (HWR)
FW	FILTERED WATER PIPING (FW)
TW	TEPID WATER PIPING (TW)
SCW	SOFT COLD WATER PIPING (SCW)
CDW	CHILLED DRINKING WATER PIPING (CDW)
TP	TRAP PRIMER LINE (TP)
F	FIRE PROTECTION PIPING (F)
AS	AUTOMATIC SPRINKLER PIPING (AS)
G	NATURAL GAS PIPING (G)
GV	GAS VENT PIPING (GV)
A	COMPRESSED AIR PIPING (A)
	FLOW DIRECTIONAL ARROW
	SHUT-OFF VALVE
	BALANCING VALVE (BV)
SV	SOLENOID VALVE (SV)
	BALL VALVE
	BUTTERFLY VALVE
PC	LUBRICATED PACKED PLUG STOP STOP COCK (PC)
	HORIZONTAL SWING CHECK
	UNION
	STRAINER
	REDUCER OR INCREASER
	ECCENTRIC REDUCER
	REDUCED PRESSURE BACKFLOW PREVENTER (RPBFP)
	WATER HAMMER ARRESTOR (WHA)
	PIPING DOWN
	RISE OR DROP PIPING
	PIPING UP -OR- PIPING UP & DOWN
	CAP ON END OF PIPE
CO	CLEANOUT (WALL OR CEILING) (CO)
	FLOOR CLEANOUT (FCO)
ECO	EXTERIOR CLEANOUT WITH 18"x18"x4" CONCRETE PAD (ECO)
	TWO-WAY CLEANOUT (PROVIDE 18"x24"x4" CONCRETE PAD OUTSIDE)
	FIRE DEPARTMENT VALVE AT RISER
	FIRE HYDRANT
	FIRE DEPARTMENT CONNECTION

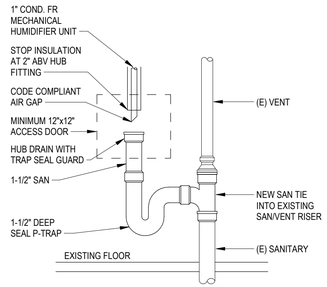
SYMBOLS	DESCRIPTION
PRV	PRESSURE REDUCING VALVE (PRV)
	BRANCH CONNECTION OUT OF TOP
	BRANCH CONNECTION OUT OF BOTTOM
	BRANCH CONNECTION OUT OF SIDE
	WYE & 1/8TH BEND BRANCH CONNECTION
	WYE BRANCH CONNECTION
	HOSE BIBB
	PRESSURE GAUGE WITH COCK
	THERMOMETER
	GAS PRESSURE REGULATOR
	TEST COCK
	GAS METER
M	FLOW METER
	WALL HYDRANT
	VALVE IN RISE
	ASME TEMPERATURE & PRESSURE RELIEF VALVE
	VACUUM RELIEF VALVE
	ANGLE VALVE
	OS&Y VALVE
	ROOF DRAIN
0	REFER TO DEMOLITION NOTE
0	REFER TO KEYED NOTE
FS	FLOW SWITCH
FS	FLOOR SINK (FS)
FD	FLOOR DRAIN (FD)
FD	FLOOR DRAIN WITH P-TRAP (FD)
	FLOOR DRAIN WITH P-TRAP AT 45° ANGLE (FD)
HD	HUB DRAIN (HD)
	ACCESS PANEL FOR TRAP PRIMER OR SHOCK ABSORBER
AP	ACCESS PANEL LOCATION SYMBOL
A	SHOCK ABSORBER
	AIR CHAMBER
(E)	EXISTING
(N)	NEW
VTR	VENT THRU ROOF
B.F.F.	BELOW FINISHED FLOOR
A.F.F.	ABOVE FINISHED FLOOR
	DEMOLISH TO THIS POINT
	NEW CONNECTION
IE=100.00'	INVERT ELEVATION
1	DELTA CHANGE SYMBOL
P / 1	4" VTR — RISER FLAG

PLUMBING FIXTURE CONNECTION SCHEDULE

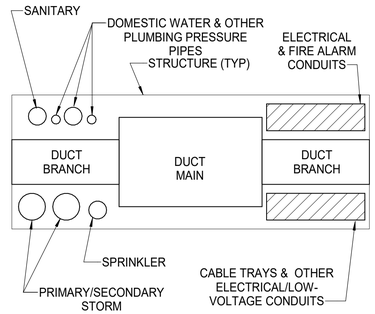
MARK	DESCRIPTION	BASIS OF DESIGN		CONNECTION SIZE				REMARKS
		MANUFACTURER	MODEL NO.	CW (IN)	HW (IN)	SS (IN)	V (IN)	
DRAINAGE FIXTURE (FD, FS, HD, TD)								
HD-1	HUB DRAIN	ZURN	Z1870	---	---	1-1/2	1-1/2	HUB DRAIN, TYPE 304 STAINLESS STEEL. TRAP SEAL: PROVIDE PRO-SET SYSTEMS, INC. TRAP GUARD FACTORY FITTED TO MATCH EACH FLOOR DRAIN BY SIZE, MODEL, AND MANUFACTURER. SERVICE: HUMIDIFIER OPEN SANITARY DRAIN NOTE: CONTRACTOR TO PROVIDE 12" X 12" ACCESS DOOR.

PLUMBING GENERAL NOTES

1. ALL WORK, METHODS AND INSTALLATIONS INVOLVED IN THE PLUMBING DESIGN SHALL BE IN ACCORDANCE WITH THE CITY BUILDING CODE, INSPECTION REGULATIONS AND ALL OTHER OFFICIALS HAVING JURISDICTION.
2. ALL SANITARY PIPING 3" AND LARGER ROUTED AT 1/8" SLOPE PER FOOT UNLESS OTHERWISE NOTED. ALL PIPE LESS THAN 3" SHALL BE ROUTED AT 1/4" SLOPE PER FOOT.
3. EACH VENT SHALL TERMINATE VERTICALLY NOT LESS THAN 6" ABOVE ROOF, MAINTAIN MINIMUM 10'-0" DISTANCE BETWEEN VENT TERMINALS THROUGH ROOF AND ALL FRESH AIR INTAKES, AND A MINIMUM 5'-0" FROM ANY EXTERIOR WALL.
4. CONTRACTOR TO FIELD VERIFY AS NECESSARY THE EXACT ROUTING AND SIZES OF ALL PIPING.
5. PROVIDE A TWO-WAY CLEANOUT AT CIVIL'S POINT OF CONNECTION.
6. CONTRACTOR SHALL COORDINATE ROUTING OF PIPING BELOW SLAB WITH COLUMN FOOTINGS, GRADE BEAMS, UNDERGROUND PLUMBING AND ELECTRICAL UTILITIES, AND OTHER SUB-SURFACE BUILDING ELEMENTS.
7. CONTRACTOR SHALL COORDINATE ROUTING OF PIPING IN CEILING SPACES WITH MECHANICAL AND ELECTRICAL EQUIPMENT, DUCTWORK AND CONDUIT. SHOULD A CONFLICT OCCUR THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO INSTALLING AN ALTERNATE PIPING PLAN.
8. COORDINATE ALL FIXTURE AND EQUIPMENT LOCATIONS AND CONNECTION REQUIREMENTS WITH LATEST ARCHITECTURAL DRAWINGS AND SPECIFICATIONS PRIOR TO ANY ROUGH-INS.
9. DO NOT ROUGH-IN FROM THESE DRAWINGS. REFER TO LATEST ARCHITECTURAL DRAWINGS FOR DIMENSIONED LOCATIONS.
10. CONTRACTOR SHALL COORDINATE ALL WORK WITH FINAL GE EQUIPMENT DRAWING SET.
11. PRIOR TO BEGINNING CONSTRUCTION, COORDINATE BUILDING BACKFLOW PREVENTION REQUIREMENTS WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PROVIDE AS DIRECTED.
12. WITHIN THE EXISTING BUILDING, EXISTING WATER, WASTE AND VENT SERVICES ARE TO BE MODIFIED AS REQUIRED AND REUSED FOR THE INSTALLATION OF NEW AND/OR RELOCATED PLUMBING FIXTURES. REFER TO PLUMBING FLOOR PLANS FOR POINTS OF CONNECTION.
13. WITHIN THE EXISTING BUILDING, SAWCUT AND REMOVE EXISTING FLOOR SLAB AS REQUIRED TO PROVIDE NEW AND/OR RELOCATED PLUMBING FIXTURES, CLEANOUTS, AND UNDERSLAB WASTE AND VENT PIPING. PATCH AND REFINISH FLOOR TO MATCH EXISTING.
14. IN AREAS WHERE THE FLOOR SLAB IS REMOVED, CONTRACTOR SHALL ALSO REMOVE UNDERSLAB WASTE AND VENT PIPING WHICH SERVES FIXTURES DESIGNATED FOR REMOVAL. PRIOR TO ANY REMOVAL, FIELD VERIFY THAT LINES TO BE REMOVED DO NOT SERVE ANY EXISTING FIXTURES TO REMAIN OR NEW FIXTURES TO BE INSTALLED.
15. IN AREAS WHERE THE FLOOR SLAB IS NOT REMOVED, CONTRACTOR SHALL ABANDON IN PLACE ANY UNDERSLAB WASTE AND VENT PIPING NO LONGER NEEDED, UNLESS THE PIPING MUST BE REMOVED TO ACCOMMODATE NEW CONSTRUCTION. IF NEW WORK DOES NOT NECESSITATE THEIR REMOVAL, CUT AND PLUG SUCH LINES BELOW SLAB, AND PATCH FLOOR TO MATCH EXISTING.
16. FIELD VERIFY EXACT LOCATION, SIZE, DEPTH, DIRECTION OF FLOW, CAPACITY, PIPE MATERIAL AND CONDITION OF EXISTING WASTE PIPING PRIOR TO BEGINNING CONSTRUCTION. ENSURE THAT PROPER CONNECTIONS TO AND EXTENSION OF SUCH UTILITIES CAN BE MADE.
17. WASTE LINES TO BE RE-USED OR RECONNECTED TO SHALL BE THOROUGHLY RODDED OUT AND FLUSHED TO ENSURE THEY ARE FREE FROM BLOCKAGES.
18. CONTRACTOR TO COORDINATE ALL REMODEL WORK WITH THE WORK OF OTHER TRADES TO AVOID CONFLICTS AND TO MINIMIZE INTERRUPTION OF SERVICES.
19. THE PROPER INSTALLATION OF NEW FIXTURES AND THE PROPER CONTINUED OPERATION OF EXISTING FIXTURES TO REMAIN SHALL DETERMINE THE EXTENT AND NATURE OF PLUMBING REMODEL WORK.
20. RESTORE FIXTURES TO MANUFACTURER'S ORIGINAL CONDITION. THIS SHALL INCLUDE RESTORATION OF ALL FIXTURES PARTS READILY AND NON-READILY ACCESSIBLE COMPONENTS, INCLUDING ALL HARDWARE AND SEALS AS REQUIRED FOR SATISFACTORY OPERATION AND COMPLETENESS. THIS ALSO SHALL INCLUDE CLEANING THE EXTERIOR OF ALL EXPOSED PIPING TO LIKE NEW CONDITION AND PAINTING OF VITREOUS CHINA EXPOSED SURFACES AS NEEDED TO RESTORE TO ORIGINAL MANUFACTURERS CONDITION. THE CONTRACTOR MAY OPT TO REPLACE ANY FIXTURE OR PIPING WITH A LIKE APPROVED/SUBMITTED ITEM.

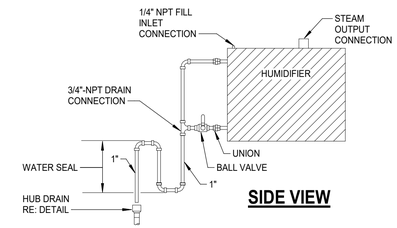


1 **HUB DRAIN**
Scale: NONE



NOTE:
AT THE CONTRACTOR'S DISCRETION, SYSTEMS SHOWN IN THIS DETAIL MAY BE REARRANGED TO FACILITATE CONSTRUCTION. SYSTEMS NOT SHOWN SHALL BE COORDINATED IN THE FIELD BETWEEN TRADES. ABOVE CEILING COORDINATION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND ANY CONFLICTS SHALL BE COORDINATED IN THE FILED BETWEEN TRADES. FOR EXISTING CONDITIONS, CONTRACTOR SHALL VERIFY AND COORDINATE WITH EXISTING STRUCTURE PRIOR TO FABRICATION OF DUCTWORK.

2 **MEP CEILING COORDINATION**
Scale: NONE



SIDE VIEW

NOTE: CONTRACTOR TO COORDINATE DRAIN AND SUPPLY CONNECTIONS PER MANUFACTURER'S REQUIREMENTS.

3 **HUMIDIFIER DRAIN PIPING**
Scale: NONE

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DRAWN BY: JER
CHECKED BY: JDW

PLUMBING LEGEND, GENERAL NOTES, SCHEDULES & DETAILS

COMMONWEALTH OF VIRGINIA
09/16/2025
THOMAS S. WARD IV
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PLUMBING SPECIFICATIONS

GENERAL

A. PERFORM WORK IN ACCORDANCE WITH APPLICABLE STATUTES, ORDINANCES, CODES AND REGULATIONS OF GOVERNMENTAL AUTHORITIES HAVING JURISDICTION.

B. OBTAIN ALL PERMITS REQUIRED.

C. CONTRACT DRAWINGS ARE DIAGRAMMATIC ONLY AND DO NOT GIVE FULLY DIMENSIONED LOCATIONS OF VARIOUS ELEMENTS OF WORK. DETERMINE EXACT LOCATIONS FROM FIELD MEASUREMENTS.

D. GUARANTEE WORK FOR 1 YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT. DURING THAT PERIOD MAKE GOOD ANY FAULTS OR IMPERFECTIONS THAT MAY ARISE DUE TO DEFECTS OR OMISSIONS IN MATERIAL, EQUIPMENT OR WORKMANSHIP. AT THE OWNER'S OPTION, REPLACEMENT OF FAILED PARTS OR EQUIPMENT SHALL BE PROVIDED.

E. PROVIDE FINISHES TO MATCH APPROVED SAMPLES. ALL EXPOSED FINISHES SHALL BE APPROVED BY THE ARCHITECT. SUBMIT COLOR SAMPLES AS REQUIRED.

F. PROVIDE EQUIPMENT HOUSEKEEPING PADS UNDER ALL FLOOR MOUNTED AND GROUND MOUNTED PLUMBING EQUIPMENT, AND AS SHOWN ON THE DRAWINGS. CONCRETE PADS ARE TO BE 4" THICK UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

G. PROVIDE NAMEPLATES WITH 1/2" HIGH LETTERS AND FASTENED WITH EPOXY OR SCREWS.

H. MAINTAIN QUALITY CONTROL OVER SUPERVISION, SUBCONTRACTORS, SUPPLIERS, MANUFACTURERS, PRODUCTS, SERVICES, SITE CONDITIONS AND WORKMANSHIP TO PRODUCE WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS.

I. COMPLY WITH INDUSTRY STANDARDS EXCEPT WHEN MORE RESTRICTIVE TOLERANCES OR SPECIFIED REQUIREMENTS INDICATE MORE RIGID STANDARDS OR MORE PRECISE WORKMANSHIP.

J. PERFORM WORK BY PERSONS QUALIFIED TO PRODUCE WORKMANSHIP OF SPECIFIED QUALITY.

K. SECURE PRODUCTS IN PLACE WITH POSITIVE ANCHORAGE DEVICES DESIGNED AND SIZED TO WITHSTAND STRESSES, VIBRATION, AND RACKING. UNDER NO CONDITIONS SHALL MATERIAL OR EQUIPMENT BE SUSPENDED FROM STRUCTURAL BRIDGING

L. COMPLY WITH INSTRUCTIONS IN FULL DETAIL, INCLUDING EACH STEP IN SEQUENCE. SHOULD INSTRUCTION CONFLICT WITH CONTRACT DOCUMENTS, REQUEST CLARIFICATION FROM ARCHITECT/ENGINEER BEFORE PROCESSING.

PLUMBING ALTERATIONS

A. INSPECT AND SERVICE EXISTING EQUIPMENT, FIXTURES AND MATERIALS THAT ARE TO REMAIN OR TO BE REUSED.

B. DISPOSAL OF EQUIPMENT, FIXTURES, MATERIALS, OR HOUSEKEEPING PADS TO BE ABANDONED. PRIOR TO DISPOSAL, THE CONTRACTOR SHALL VERIFY WITH THE OWNER WHAT IS TO BE SALVAGED BY THE OWNER AND WHAT IS TO BECOME THE PROPERTY OF THE CONTRACTOR.

C. HANDLING OF EQUIPMENT AND MATERIALS TO BE REMOVED.

D. INSPECTION: EXISTING MATERIALS AND EQUIPMENT INDICATED ON THE DRAWINGS OR IN THE SPECIFICATIONS TO BE REUSED SHALL BE INSPECTED FOR DAMAGE OR MISSING PARTS. CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER, IN WRITING ACCORDINGLY. IF USING MATERIALS SPECIFIED OR SHOWN ON THE DRAWING VOIDS OR DIMINISHES THE WARRANTY OR OPERATION OF REMAINING EQUIPMENT OR SYSTEMS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER, IN WRITING. DEMOLITION DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION, AND WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING EXISTING INSTALLATION, AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED.

E. APPLICATION: EXISTING MATERIALS AND EQUIPMENT INDICATED ON THE DRAWINGS OR IN THE SPECIFICATIONS TO BE REUSED SHALL BE CLEANED AND RECONDITIONED, INCLUDING CLEANING OF PIPING SYSTEMS AND HVAC COILS PRIOR TO INSTALLATION AND REUSE. MATERIAL AND EQUIPMENT REMOVED THAT IS NOT TO BE SALVAGED FOR OWNER'S USE OR FOR REUSE ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE REMOVED FROM THE SITE. MATERIAL OR EQUIPMENT SALVAGED FOR OWNER'S USE SHALL BE CAREFULLY HANDLED AND STORED WHERE DIRECTED BY THE OWNER OR THE ARCHITECT/ENGINEER. RELOCATE MATERIAL AND / OR EQUIPMENT AS DIRECTED BY OWNER. MATERIALS AND EQUIPMENT NOT INDICATED TO BE REMOVED OR ABANDONED SHALL BE RECONNECTED TO THE NEW SYSTEM. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL WALK AREAS TO BE RENOVATED WITH OWNER TO IDENTIFY AND DOCUMENT ITEMS TO BE SALVAGED FOR OWNER'S USE.

F. SEQUENCE AND SCHEDULE: COORDINATE UTILITY SERVICE OUTAGES WITH UTILITY COMPANY, ARCHITECT AND OWNER. REMOVE CONCRETE HOUSEKEEPING PAD WHERE MATERIALS OR EQUIPMENT HAVE BEEN REMOVED.

PLUMBING FIXTURES AND FIXTURES CARRIERS:

A. ACCEPTABLE MANUFACTURERS:
   A. SUPPLIES, STOPS AND CHROME PLATED TUBULAR BRASS: MCGUIRE, KOHLER, CHICAGO, ZURN, BRASSCRAFT
   B. FLOOR/HUB DRAINS: ZURN J.R. SMITH, JOSAM, WADE, WATTS/ANCON, SIOUX CHIEF, MIFAB
   C. CLEANOUTS: ZURN, J.R. SMITH, JOSAM, WADE, WATTS/ANCON, MIFAB

B. INSTALLATION:
   1. INSTALLATION SHALL BE ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
   2. PROVIDE NECESSARY STOPS, VALVE, TRAPS, UNIONS, VENTS, COLD WATER, HOT WATER, SANITARY, ETC. FOR A COMPLETE INSTALLATION.
   3. REMOVE PIPING AND SERVICES ROUGHED-IN INCORRECTLY AND INSTALL CORRECTLY, WITHOUT COST.
   4. EXPOSED PIPING, FITTINGS AND APPURTENANCES SHALL BE CHROME-PLATED BRASS.
   5. PROVIDE ISOLATION VALVES IN DOMESTIC WATER LINES TO ISOLATE ALL EQUIPMENT, RESTROOMS, HOSEBIBS, AND WHERE SHOWN ON DRAWINGS.

DOMESTIC WATER PIPING AND APPURTENANCES

A. FURNISH AND INSTALL DOMESTIC HOT AND COLD WATER PIPING.

B. BELOW SLAB ON GRADE PIPING. FURNISH ASTM B 88 AND ANSI/NSF STANDARD 61 COLD DRAWN, TYPE K COPPER WATER TUBE. RUN CONTINUOUS WITH NO JOINTS UNDER THE FLOOR SLAB. PROVIDE COPPER PIPE CORROSION PROTECTION AS SPECIFIED IN THIS SECTION.

C. ABOVE SLAB PIPING. PROVIDE SEAMLESS ASTM B 88 AND ANSI/NSF STANDARD 61 TYPE L COPPER WATER TUBE WITH WROUGHT COPPER AND BRONZE SOLDER-JOINT, ANSI B16.22. SOLDER MATERIAL SHALL BE 95-5 (LEAD FREE) (TIN-ANTIMONY-GRADE 95TA) ASTM 32.

D. WATER HAMMER ARRESTORS: PROVIDE PISTON TYPE HYDRAULIC ENGINEERED/MANUFACTURED WATER HAMMER ARRESTORS IN COLD AND HOT WATER SUPPLY LINES IN CHASES OR WALLS TO EACH FIXTURE BRANCH OR BATTERY OF FIXTURES SERVING QUICK CLOSING VALVES OF ELECTRICAL, PNEUMATIC, SPRING LOADED TYPE, OR QUICK HAND CLOSURE VALVES ON FIXTURE TRIM. PROVIDE WATER HAMMER ARRESTORS AT THE END OF THE BRANCH LINE BETWEEN THE LAST TWO FIXTURES SERVED. PROVIDE PRECISION PLUMBING PRODUCTS, INC., OR EQUAL. SIZE UNITS ACCORDING TO WATER HAMMER ARRESTOR'S STANDARD PDI WH-201; REFER TO SCHEDULE ON DRAWINGS.

E. AIR CHAMBERS: PROVIDE A MINIMUM 18-INCH LONG AIR CHAMBER, OF THE SAME SIZE AND CONNECTING PIPE MATERIAL AT EACH SINGLE LAVATORY, SINK, DRINKING FOUNTAIN OR FIXTURE THAT DOES NOT HAVE A QUICK-CLOSING VALVE OR ELECTRICAL, PNEUMATIC, SPRING LOADED TYPE, OR FLUSH VALVE. AIR CHAMBERS TO BE USED FOR REMOTE FIXTURES AND NOT MIXED WITH WATER HAMMER ARRESTORS AT GROUP TOILETS.

F. TESTING: TEST UNDER A COLD WATER HYDROSTATIC PRESSURE OF NOT LESS THAN 50 PSI. THIS PRESSURE SHALL BE HELD FOR NOT LESS THAN 15 MINUTES AND CAREFULLY CHECK FOR LEAKS. REPAIR LEAKS AND RETEST SYSTEM UNTIL PROVEN WATERTIGHT. USE ONLY POTABLE WATER FOR THE TEST. PERFORM THE TEST BEFORE FIXTURES, FAUCETS, TRIM OR FINAL CONNECTIONS ARE MADE TO EQUIPMENT.

G. COPPER PIPE CORROSION PROTECTION: CORROSION PROTECT COPPER TUBE PIPING SYSTEMS: IN THE BUILDING SLAB.

H. COVER COPPER TUBING PIPING SYSTEM WITH: "TAPECOAT" TC PRIMER. EXTEND THE CORROSION PROTECTION 2 INCHES ABOVE CONCRETE SLAB ON GRADE.

I. STERILIZE THE WATER SYSTEM WITH SOLUTION CONTAINING NOT LESS THAN 50PPM AVAILABLE CHLORINE. ALLOW CHLORINATING SOLUTION TO REMAIN IN SYSTEM FOR PERIOD OF 8 HOURS (MINIMUM). HAVE VALVES AND FAUCETS OPENED AND CLOSED SEVERAL TIMES DURING THE PERIOD. AFTER STERILIZATION, FLUSH THE SOLUTION FROM THE SYSTEM WITH CLEAN WATER UNTIL RESIDUAL CHLORINE CONTENT IS LESS THAN 0.2 PARTS PER MILLION.

SOIL, WASTE AND SANITARY DRAIN PIPING, VENT PIPING AND APPURTENANCES

A. CELLULAR CORE PVC PIPE IS NOT PERMITTED.

B. ABOVE SLAB PIPING: SCHEDULE 40 PVC PLASTIC PIPE AND DWV FITTINGS WITH SOLVENT WELDED JOINTS. PIPE AND FITTINGS SHALL CONFORM TO ASTM D 1784-82.

C. BELOW SLAB ON GRADE PIPING: SCHEDULE 40 PVC PLASTIC PIPE AND DWV FITTINGS. SOLVENT WELDED DWV JOINTS SHALL CONFORM TO IAPMO INSTALLATION STANDARD IS-9. PIPE AND FITTINGS SHALL CONFORM TO ASTM D 1784, ASTM D 1785, ASTM D 2665, ASTM D 3311 AND NPS STANDARD 14 & 61.

D. BELOW SLAB ON GRADE PIPING FOR GREASY WASTE: SCHEDULE 40 PVC PLASTIC PIPE AND DWV FITTINGS WITH SOLVENT WELDED DWV JOINTS SHALL CONFORM TO ASTM D3311 AND BE PRODUCED TO DIMENSIONS SPECIFIED IN ASTM F2818, NSF INTERNATIONAL, UPC, IAPMO IGS 210 AND INTERNATIONAL PLUMBING CODE. SOLVENT CEMENT, HEAVY BODY; MUSTARD YELLOW COLOR, AS TESTED BY ASTM F2618/ASTM F493. MANUFACTURER - SPEARS.

E. VENT PIPE AND FITTINGS: ABOVE SLAB PIPING. PROVIDE SCHEDULE 40 PVC PLASTIC PIPE AND DWV FITTINGS WITH SOLVENT WELDED JOINTS. PIPE AND FITTINGS SHALL CONFORM TO ASTM D 1784-82.

F. BELOW SLAB ON GRADE PIPING: SAME AS DRAIN PIPE AND FITTINGS LISTED ABOVE.

G. TESTING: BELOW SLAB ON GRADE AND ALL FLOORS IN MULTI-STORY BUILDINGS: TEST PIPE BELOW SLAB ON GRADE BEFORE BACKFILLING AND CONNECTING TO CITY SEWERS. MAINTAIN NOT LESS THAN 10 FOOT OF HYDROSTATIC HEAD FOR 1 HOUR WITHOUT A LEAK.

H. RODDING SEWERS: ALL SANITARY SOIL AND WASTE LINES, BOTH IN THE BUILDING AND OUT, SHALL BE RODDED OUT AND FLUSHED OUT AFTER COMPLETION OF CONSTRUCTION AND PRIOR TO FINISH FLOOR BEING INSTALLED. ALL WORK MUST BE COMPLETED PRIOR TO SUBSTANTIAL COMPLETION. ALL FLOOR DRAINS AND CLEANOUT LOCATIONS MUST BE INCLUDED IN THIS WORK.

I. PIPING TO BE INSULATED:
   a. MAKE-UP WATER
   b. HORIZONTAL SANITARY DRAIN PIPING THAT RECEIVES CONDENSATE.
   c. EXPOSED TO VIEW STORM DRAINAGE SYSTEM INCLUDING ROOF AND OVERFLOW DRAIN BODIES, VERTICAL PIPING FROM DRAIN BODY AND ALL HORIZONTAL RAIN LEADERS TO FIRST ELBOW TURNING.

DOMESTIC WATER INSULATION

A. ELASTOMERIC INSULATION: INSULATION MATERIAL SHALL BE 1" FLEXIBLE, CLOSED-CELL ELASTIC INSULATION IN TUBULAR OR SHEET FORM. MATERIAL SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM E84, LATEST REVISION.

B. FIBERGLASS INSULATION: 1" THICK HEAVY DENSITY, DUAL TEMPERATURE FIBERGLASS INSULATION WITH FACTORY APPLIED, ALL SERVICE, REINFORCED VAPOR BARRIER JACKET HAVING INTEGRAL LAMINATED VAPOR BARRIER. PROVIDE WITH A FACTORY APPLIED PRESSURE SENSITIVE TAPE CLOSURE SYSTEM AND MATCHING BUTT STRIPS.

C. COVER ALL HOT & COLD WATER PIPING WITH INSULATION BY SLITTING TUBULAR SECTIONS OR SLIDING UN-SLIT SECTIONS OVER THE OPEN ENDS OF PIPING OR TUBING. SEAMS AND BUTT JOINTS SHALL BE ADHERED AND SEALED USING ADHESIVE.

D. ALL FITTINGS SHALL BE INSULATED WITH THE SAME INSULATION THICKNESS AS THE ADJACENT PIPING. ALL SEAMS AND MITERED JOINTS SHALL BE ADHERED WITH ADHESIVE.

E. INSULATION APPLICATIONS:
   a. INDOOR CONCEALED: ELASTOMERIC
   b. INDOOR EXPOSED: FIBERGLASS
   c. OUTDOOR: ELASTIMERIC WITH TWO COATS OF EITHER WB OR SB ARMAFLEX FINISH OR FOSTER 30-64 ELASTOMER FOAM COATING. ALL SEAMS SHALL BE LOCATED ON THE LOWER HALF OF THE PIPE.

SECOND FLOOR RENOVATION FOR
LEWIS GALE MEDICAL CENTER
ELECTROPHYSIOLOGY LAB
1900 ELECTRIC ROAD SALEM, VIRGINIA 24153

DRAWN BY: JER
CHECKED BY: JDW

PLUMBING SPECIFICATIONS

COMMONWEALTH OF VIRGINIA
09/16/2025
THOMAS S. WARD IV
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PROFESSIONAL ENGINEER

COMMISSION No.
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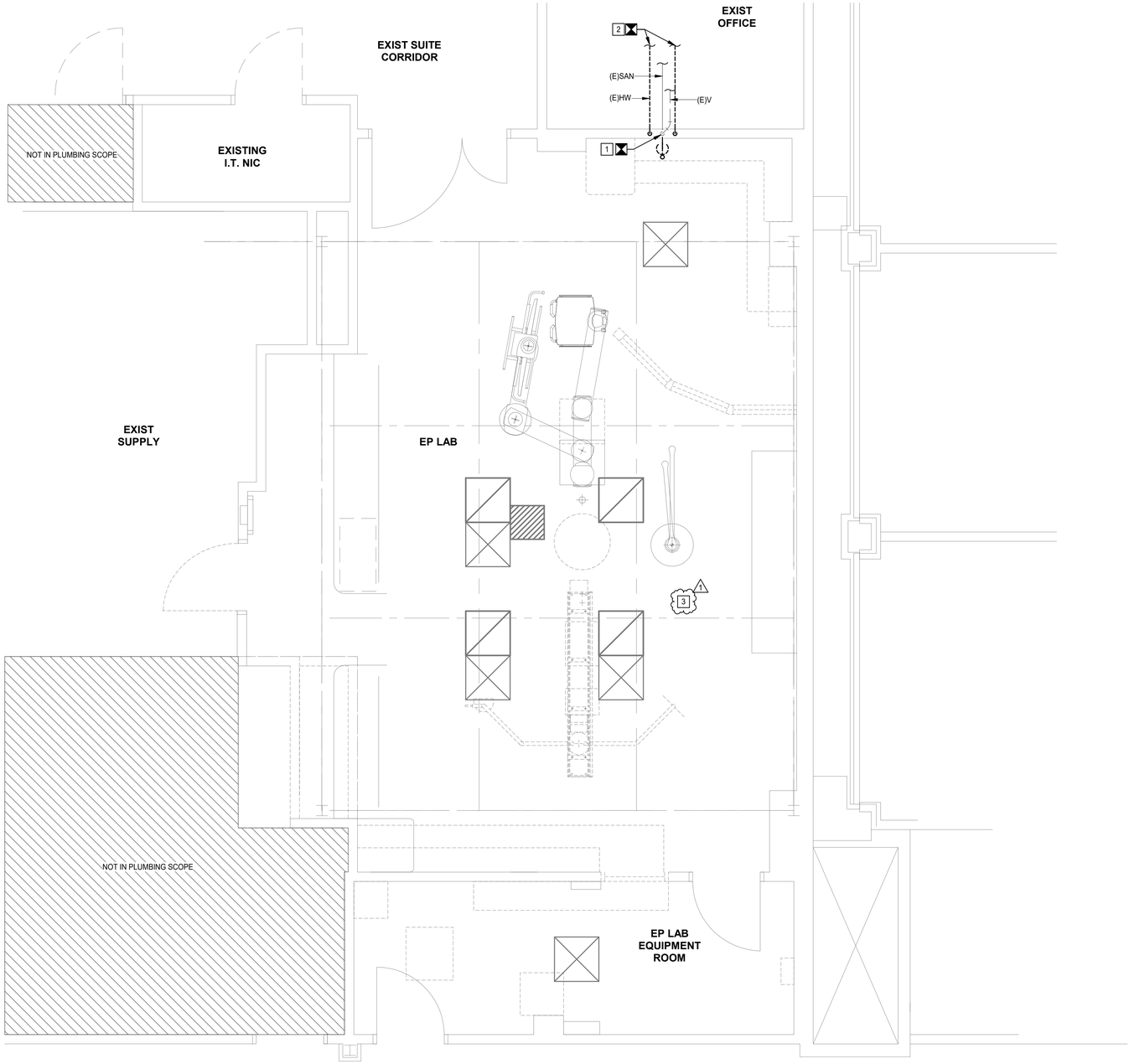

1 PARTIAL SECOND FLOOR DEMOLITION PLAN - PLUMBING

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

Salas O'Brien
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DATE: JAN. 23, 2026

REVISIONS

1 REVISION 1

GENERAL SHEET NOTES:

1. CONTRACTOR SHALL COORDINATE ALL WORK WITH FINAL GE EQUIPMENT DRAWING SET.

DEMOLITION KEYNOTES:

1. CONTRACTOR SHALL REMOVE EXISTING PLUMBING FIXTURE AND P-TRAP CONNECTION AND PREPARE SANITARY AND VENT PIPE FOR NEW CONNECTION IN THE NEW WORK PHASE. FIELD VERIFY EXACT LOCATION OF EXISTING SINK AND SANITARY/VENT PIPING PRIOR TO DEMOLITION.
2. CONTRACTOR SHALL REMOVE ALL HOT AND COLD WATER PIPING BACK TO MAIN BRANCH AND CAP. PATCH WALL, FLOOR AND CEILING TO MATCH EXISTING CONDITIONS.
3. REMOVE THE EXISTING WASTE ANESTHESIA 2-WAY SPLITTER AT MOBILE CART AND PREPARE SYSTEM FOR NEW CONNECTION IN THE NEW CONSTRUCTION PHASE. CONTRACTOR TO FIELD VERIFY EXACT LOCATION PRIOR TO NEW CONSTRUCTION.

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CHECKED BY: JDW

PARTIAL SECOND FLOOR DEMOLITION PLAN - PLUMBING

COMMONWEALTH OF VIRGINIA
09/16/2025
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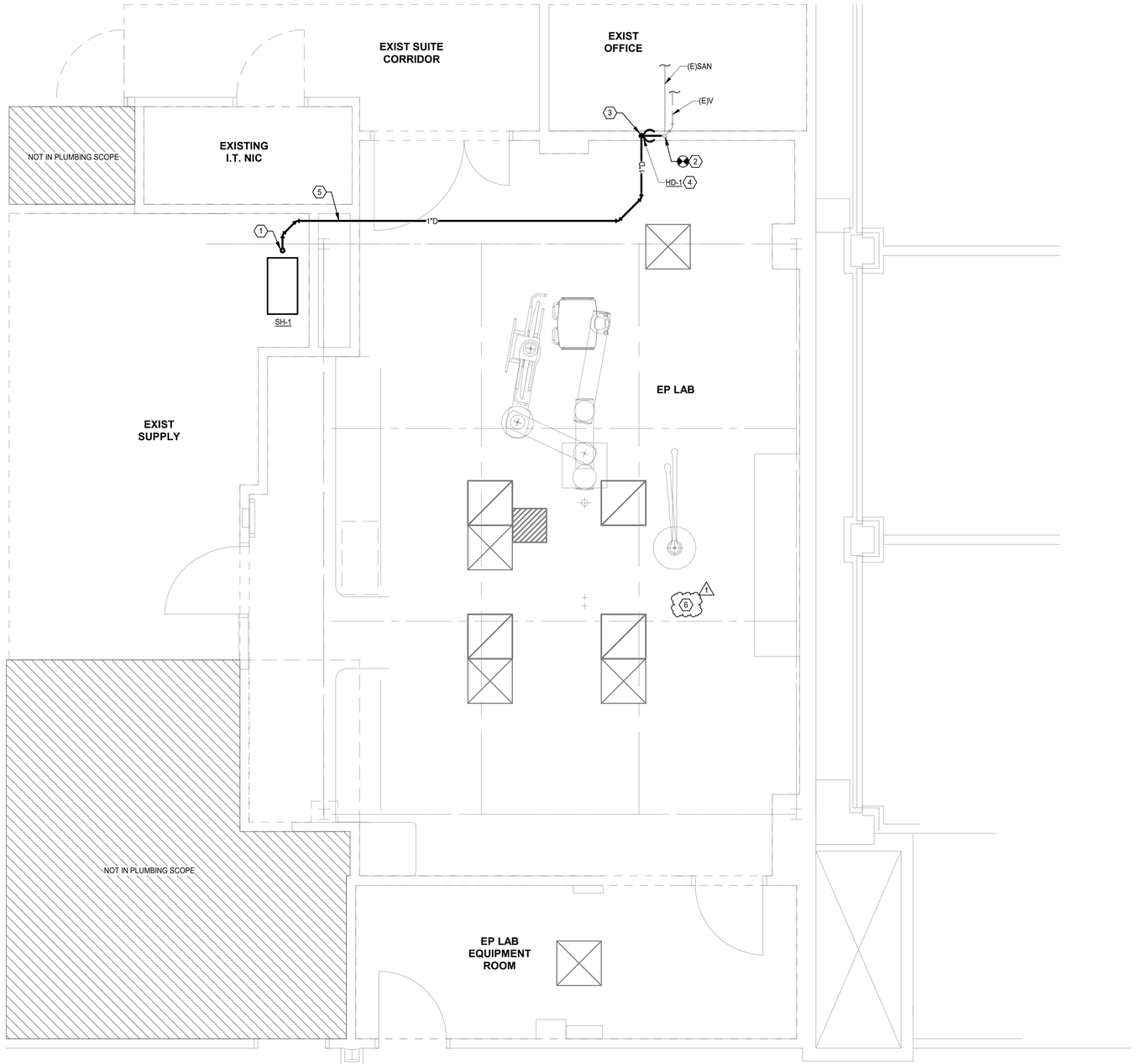
SHEET
PD1



1 PARTIAL SECOND FLOOR NEW WORK PLAN - WASTE

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

Salas O'Brien
salasobrien.com 540-952-9651
Project No: 2550-00965-00

119 Norfolk Ave SW, Suite 310
Roanoke, Virginia 24011

DATE: JAN. 23, 2026

REVISIONS

1 REVISION 1

GENERAL SHEET NOTES:

1. CONTRACTOR SHALL COORDINATE ALL WORK WITH FINAL GE EQUIPMENT DRAWING SET.
2. REFER TO MECHANICAL EQUIPMENT SCHEDULES FOR HUMIDIFIER (SH-1) INFORMATION.

SHEET KEYNOTES:

1. 1" CONDENSATE FROM MECHANICAL HUMIDIFIER ROUTED ABOVE CEILING AND DISCHARGED TO HUB DRAIN (HD-1) LOCATED AT WALL, SEE DETAIL AND FIELD VERIFY EXACT LOCATION.
2. EXTEND AND CONNECT NEW 1-1/2" SANITARY PIPING TO EXISTING SANITARY WASTE/VENT STACK. CONTRACTOR TO FIELD VERIFY EXACT LOCATION.
3. 1" CONDENSATE PIPING SHALL DISCHARGE INTO HUB DRAIN (HD-1) WITH CODE COMPLIANT AIR GAP. REFER TO PLUMBING DETAILS FOR HUB DRAIN DETAIL.
4. CONTRACTOR TO PROVIDE A 12" X 12" ACCESS DOOR FOR HUB DRAIN (HD-1) ON THE EP LAB SIDE OF THE WALL. CONTRACTOR TO COORDINATE FINAL LOCATION OF HUB DRAIN AND ACCESS DOOR WITH ARCHITECTURAL PLANS. REFER TO PLUMBING DETAILS FOR HUB DRAIN WITH ACCESS DOOR DETAIL.
5. CONTRACTOR TO COORDINATE CONDENSATE PIPE ROUTING IN CHASE WITH ANY EXISTING STRUCTURE OR PIPING. FIELD VERIFY PRIOR TO NEW CONSTUCTION.
6. CONTRACTOR TO PROVIDE NEW WASTE ANESTHESIA CONNECTION SEPARATE FROM THE EXISTING WASTE CONNECTION ON MOBILE CART. NEW WASTE ANESTHESIA CONNECTION FITTING SHALL MATCH ALL EXISTING CONNECTIONS AND SHALL BE COMPLIANT WITH CODE. FIELD VERIFY EXACT LOCATION PRIOR TO NEW CONSTRUCTION. RECONNECT EXISTING VACUUM CONNECTION TO ORIGINAL CONFIGURATION.

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SECOND FLOOR RENOVATION FOR
LEWIS GALE MEDICAL CENTER
ELECTROPHYSIOLOGY LAB
1900 ELECTRIC ROAD SALEM, VIRGINIA 24153

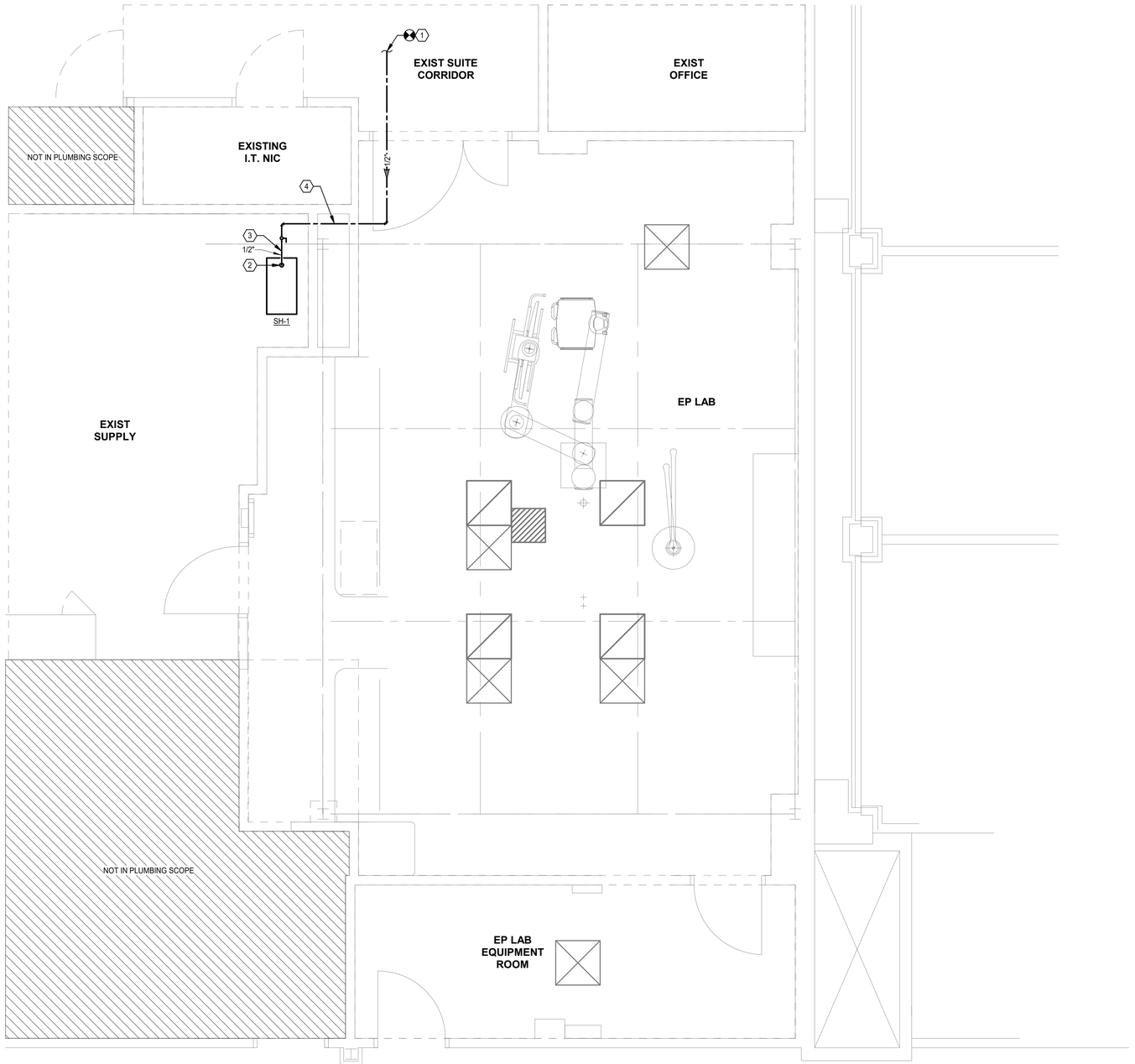
DRAWN BY: JER
CHECKED BY: JDW

PARTIAL SECOND FLOOR NEW WORK PLAN - WASTE

COMMONWEALTH OF VIRGINIA
09/16/2025
THOMAS S. WARD IV
Lic. No. 058606
PROFESSIONAL ENGINEER

COMMISSION No.
25024

SHEET
PW1



1 **PARTIAL SECOND FLOOR NEW WORK PLAN - SUPPLY**
Scale: 3/8" = 1'-0"

Salas O'Brien
salasobrien.com 540-952-9651
Project No: 2550-00965-00

119 Norfolk Ave SW, Suite 310
Roanoke, Virginia 24011

DATE: JAN. 23, 2026

REVISIONS

GENERAL SHEET NOTES:

1. CONTRACTOR SHALL COORDINATE ALL WORK WITH FINAL GE EQUIPMENT DRAWING SET.
2. REFER TO MECHANICAL EQUIPMENT SCHEDULES FOR HUMIDIFIER (SH-1) INFORMATION.

SHEET KEYNOTES:

1. CONTRACTOR SHALL EXTEND AND CONNECT NEW 1/2" COLD WATER PIPING TO EXISTING 1/2" OR LARGER COLD WATER PIPE MAIN IN CORRIDOR. FIELD VERIFY EXACT LOCATION OF 1/2" OR LARGER COLD WATER MAIN PRIOR TO CONSTRUCTION.
2. CONNECT 1/2" COLD WATER TO MECHANICAL HUMIDIFIER UNIT.
3. CONTRACTOR TO PROVIDE MANUFACTURER RECOMMENDED WATER FILTRATION IN CEILING SPACE DOWNSTREAM OF SHUT-OFF VALVE AND BACKFLOW PREVENTER. FIELD COORDINATE FINAL LOCATION WITH THE MECHANICAL FLOOR PLANS. PROVIDE SHUT-OFF VALVE AND BACKFLOW PREVENTER. WATTS "LF288A" OR EQUAL.
4. CONTRACTOR TO COORDINATE COLD WATER PIPE ROUTING IN CHASE WITH ANY EXISTING STRUCTURE OR PIPING. FIELD VERIFY PRIOR TO NEW CONSTUCTION.

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PARTIAL SECOND FLOOR NEW WORK PLAN - SUPPLY

COMMONWEALTH OF VIRGINIA
09/16/2025
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ELECTRICAL SYMBOL SCHEDULE

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
LIGHTING FIXTURES (LETTER DENOTES TYPE - SEE LIGHT FIXTURE SCHEDULE)	
	LIGHTING FIXTURE, SYMBOL SIZE VARIES WITH FIXTURE TYPE.
	LIGHTING FIXTURE WITH INTEGRAL BATTERY BACKUP, SYMBOL SIZE VARIES WITH FIXTURE TYPE.
	DOWNLIGHT FIXTURE
	LIGHTING FIXTURE, WALL MOUNTED.
	DOWNLIGHT FIXTURE WITH INTEGRAL BATTERY BACKUP
	LIGHTING FIXTURE, WALL MOUNTED, WITH INTEGRAL BATTERY BACKUP.
	EXIT SIGN WITH DIRECTIONAL ARROWS AS INDICATED
	EMERGENCY LIGHTING UNIT WITH INTEGRAL BATTERY BACKUP
LIGHTING CONTROL DEVICES	
$	SINGLE-POLE TOGGLE SWITCH
$2	2-POLE SWITCH
$3	3-WAY SWITCH
$K	KEYED SWITCH
$D	WALL DIMMER SWITCH
$P	TOGGLE SWITCH WITH PILOT LIGHT
$MC	MOMENTARY CONTACT SWITCH
$O1	SWITCH WITH INTEGRAL OCCUPANCY SENSOR. SUBSCRIPT INDICATES TYPE AS SCHEDULED.
$V1	SWITCH WITH INTEGRAL VACANCY SENSOR. SUBSCRIPT INDICATES TYPE AS SCHEDULED.
$L1	LOW-VOLTAGE SWITCH. SUBSCRIPT INDICATES TYPE AS SCHEDULED.
O1	CEILING MOUNTED OCCUPANCY SENSOR. SUBSCRIPT INDICATES TYPE AS SCHEDULED.
O3	WALL MOUNTED OCCUPANCY SENSOR. SUBSCRIPT INDICATES TYPE AS SCHEDULED.
V1	CEILING MOUNTED VACANCY SENSOR. SUBSCRIPT INDICATES TYPE AS SCHEDULED.
V3	WALL MOUNTED VACANCY SENSOR. SUBSCRIPT INDICATES TYPE AS SCHEDULED.
	PUSH BUTTON SWITCH
TS	TIME SWITCH
RECEPTACLES AND OUTLETS	
	SIMPLEX RECEPTACLE
	DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE, HORIZONTALLY MOUNTED
USB	DUPLEX RECEPTACLE WITH TWO (2) USB PORTS
	DUPLEX RECEPTACLE, FLUSH CEILING MOUNTED
	SPECIAL PURPOSE RECEPTACLE, NEMA TYPE AS NOTED
	DOUBLE DUPLEX RECEPTACLE IN 2-GANG BOX WITH SINGLE COVER PLATE
	ISOLATED GROUND DOUBLE DUPLEX RECEPTACLE IN 2-GANG BOX WITH SINGLE COVER PLATE
	ISOLATED GROUND DUPLEX RECEPTACLE
	ISOLATED GROUND SIMPLEX RECEPTACLE
	SPECIAL PURPOSE OUTLET, NEMA TYPE AS NOTED. A - NEMA 5-20 C - NEMA L6-30P B - NEMA 5-15P D - NEMA 6-20
J	JUNCTION BOX
GFCI	FLUSH FLOOR MOUNTED DUPLEX RECEPTACLE
	DUPLEX GFCI RECEPTACLE
	DOUBLE DUPLEX GFCI RECEPTACLE IN A 2-GANG OUTLET BOX WITH SINGLE COVER PLATE
J	FLUSH FLOOR MOUNTED JUNCTION BOX
	EMERGENCY POWER OFF (EPO) PUSH BUTTON
COMMUNICATIONS AND FIRE ALARM DEVICES	
	SINGLE-GANG OUTLET BOX AND TWO-PORT COVER PLATE WITH BLANKS. PROVIDE ONE (1) 1" EMPTY CONDUIT WITH PULL STRING STUBBED AND BUSHED ABOVE THE NEAREST ACCESSIBLE CEILING SPACE OR CABLE TRAY.
	DOUBLE-GANG OUTLET BOX AND FOUR-PORT COVER PLATE WITH BLANKS. PROVIDE ONE (1) 1" EMPTY CONDUIT WITH PULL STRING STUBBED AND BUSHED ABOVE THE NEAREST ACCESSIBLE CEILING SPACE OR CABLE TRAY.
LS	CEILING MOUNTED LOCAL SOUND SYSTEM SPEAKER
M	MICROPHONE OUTLET
CS	CEILING MOUNTED RECESSED COMMUNICATIONS SYSTEM SPEAKER
S	SMOKE DETECTOR
H	HEAT DETECTOR
S_D	DUCT MOUNTED SMOKE DETECTOR, COORDINATE LOCATION WITH MECHANICAL DRAWINGS.

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
MOTOR CONTROLLERS AND EQUIPMENT	
	MOTOR, MAKE FINAL ELECTRICAL CONNECTIONS
	3-PHASE MOTOR, MAKE FINAL ELECTRICAL CONNECTIONS
3P 60 NF	DISCONNECT SWITCH, 3P INDICATED # OF POLES, 60 INDICATED FRAME SIZE, NF INDICATES FUSE RATING OR NON-FUSED
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH
	MOTOR STARTER
	MOTOR CONTROLLER, PUSH BUTTON CONTROL, P = PILOT LIGHT
M	MANUAL MOTOR TOGGLE SWITCH, HORSEPOWER RATED, SINGLE POLE U.N.O.
	PRE-WIRED DEVICE OR EQUIPMENT, MAKE FINAL ELECTRICAL CONNECTIONS
VFD	VARIABLE FREQUENCY DRIVE (FURNISHED BY DIVISION 23)
ELECTRICAL EQUIPMENT	
	ELECTRICAL BRANCH OR DISTRIBUTION PANELBOARD - SEE RISER FOR ADDITIONAL INFORMATION
	TELEPHONE CABINET
	PLYWOOD TELEPHONE BACKBOARD
	DRY-TYPE TRANSFORMER - SEE RISER FOR ADDITIONAL INFORMATION
ONE-LINE SYMBOLS	
Y	ONE-LINE CIRCUIT BREAKER Y INDICATES TRIP RATING
	ONE-LINE TRANSFORMER
XX	ONE-LINE PANELBOARD / LOAD
SUBSCRIPTS AND ABBREVIATIONS	
AC	ABOVE COUTER, CONTRACTOR TO COORDINATE WITH COUNTER LOCATIONS
AFF	ABOVE FINISHED FLOOR
DISP	GARBAGE DISPOSAL OUTLET WITH TOGGLE SWITCH
ED	EXISTING TO BE DEMOLISHED
ER	EXISTING TO REMAIN
ERL	EXISTING TO BE RELOCATED
ERN	EXISTING TO BE REMOVED AND NEW INSTALLED
EX	EXISTING
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
MW	MICROWAVE OUTLET*
NL	NIGHT LIGHT
PNL	PANEL OR PANELBOARD
REC	RECEPTACLE
REFRIG	REFRIGERATOR
SIGN	BUILDING SIGNAGE*
TL	TWIST LOCK TYPE RECEPTACLE
TR	TAMPER RESISTANT
TV	TELEVISION OUTLET*
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
WG	WIREGUARD
WP	WEATHERPROOF
•	DOT SHOWN NEXT TO ANY SYMBOL INDICATES FINAL ROUGH-IN TO BE FIELD COORDINATED BY CONTRACTOR WITH ARCHITECTURAL MILLWORK DRAWINGS AND OTHER TRADES.

GENERAL NOTES:

1. ALL EXTERIOR ELECTRICAL EQUIPMENT SHALL BE WEATHERPROOF (NEMA-3R MINIMUM).
2. ASTERISK (*) INDICATES THAT MOUNTING ELEVATION AND/OR LOCATION SHALL BE COORDINATED WITH THE ARCHITECT/OWNER PRIOR TO ROUGH-IN.
3. ALL SYMBOLS SHOWN MAY NOT BE USED. REFER TO PLAN SHEETS FOR SYMBOLS USED IN THIS PROJECT.

GENERAL DEMOLITION NOTES:

1. SCOPE: THE SCOPE OF ELECTRICAL DEMOLITION IS DEFINED IN THE FOLLOWING NOTES AND IN LIMITED FASHION ON THE DRAWINGS; THE DRAWINGS ARE ONLY INTENDED TO BE A PARTIAL REPRESENTATION OF THE ACTUAL DEMOLITION WORK REQUIRED. THESE NOTES ONLY APPLY TO THE AREAS OF RENOVATION. IN GENERAL, THE DEMOLITION SCOPE IS THE REMOVAL OF ALL EXISTING ELECTRICAL SYSTEMS IN THE AREAS OF RENOVATION, EXCEPT AS NOTED OTHERWISE IN THESE NOTES AND ON THE DRAWINGS.
2. RECEPTACLES AND SWITCHES: EXCEPT WHERE INDICATED OTHERWISE, EXISTING RECEPTACLES, SWITCHES AND CIRCUITS LOCATED WITHIN THE AREAS OF RENOVATION SHALL BE REMOVED (INCLUDING POWER POLES). WHERE FLUSH MOUNTED RECEPTACLES AND SWITCHES TO BE REMOVED (NOT REPLACED IN PLACE) OCCUR IN EXISTING WALLS TO REMAIN, REMOVE DEVICE AND COVER PLATE, REMOVE WIRES, AND PROVIDE BLANK COVER PLATE. COVER PLATE SHALL MATCH COVER PLATES FOR NEW WORK. WHERE SURFACE MOUNTED SWITCHES AND RECEPTACLES TO BE REMOVED OCCUR ON EXISTING WALLS TO REMAIN, ALSO REMOVE ASSOCIATED EXPOSED BOXES, CONDUIT AND SURFACE RACEWAY. FOR FLOOR OUTLETS, REMOVE DEVICE AND CUT WIRES, FILL WITH GROUT AND FINISH TO MATCH FLOOR SURFACE.
3. MECHANICAL EQUIPMENT: DISCONNECT EXISTING MECHANICAL EQUIPMENT THAT IS BEING REMOVED, AND REMOVE ALL ASSOCIATED STARTERS, DISCONNECTS, ETC. ABANDON CONDUITS AND CONDUCTORS CONCEALED IN EXISTING WALLS TO REMAIN. WHERE CONDUIT COMES UP FROM FLOOR, CUT CONDUIT FLUSH WITH FLOOR, FILL IT WITH GROUT, AND FINISH TO MATCH FLOOR SURFACE. REMOVE CONDUITS AND CONDUCTORS EXPOSED, CONCEALED ABOVE CEILING, AND EXTERIOR EXPOSED. CONDUIT AND CONDUCTORS TO REMOVED MECHANICAL EQUIPMENT SHALL BE REUSED ONLY WHERE SPECIFICALLY INDICATED. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION. UNLESS SPECIFICALLY INDICATED OTHERWISE, EXISTING WIRING TO EXISTING-TO-REMAIN EQUIPMENT SHALL REMAIN.
4. ELECTRICAL SERVICE: THE EXISTING ELECTRICAL SERVICE SHALL BE RE-USED, BUT SOME DOWNTIME WILL LIKELY STILL BE REQUIRED. ALL ELECTRICAL SERVICE DOWNTIME REQUIRED SHALL BE COORDINATED WITH OWNER AND SHALL BE AT THE OWNER'S CONVENIENCE. DOWNTIME SHALL BE KEPT TO THE MINIMUM. ALL EXTENDED DOWNTIME REQUIRED SHALL BE COORDINATED WITH OWNER.
5. INTERIOR LIGHTING: REMOVE ALL EXISTING INTERIOR LIGHTING FIXTURES AND CONTROLS, EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE.
6. CONDUIT: WHERE EXISTING CONDUIT IS EXPOSED DUE TO DEMOLITION OF WALLS, CONDUIT SHALL BE REMOVED, UNLESS INDICATED TO REMAIN OR NECESSARY TO MAINTAIN SERVICE TO EXISTING ITEMS TO REMAIN. WHERE CONDUIT RISES FROM FLOOR TO FEED REMOVED ITEMS, CUT CONDUIT FLUSH WITH FLOOR AND FILL IT WITH GROUT. FINISH TO MATCH FLOOR SURFACE. ALL ACCESSIBLE UNUSED CONDUIT SHALL BE REMOVED; ALL INACCESSIBLE UNUSED CONDUIT SHALL BE ABANDONED. ALL CONDUIT TO NEW DEVICES AND EQUIPMENT SHALL BE NEW, UNLESS NOTED OTHERWISE.
7. WIRING: ALL WIRING TO DEMOLISHED DEVICES AND EQUIPMENT SHALL BE REMOVED, UNLESS NOTED OTHERWISE. ALL EXISTING WIRING TO EXISTING-TO-REMAIN DEVICES AND EQUIPMENT SHALL REMAIN, UNLESS NOTED OTHERWISE. ALL ACCESSIBLE UNUSED WIRING SHALL BE REMOVED; ALL INACCESSIBLE UNUSED WIRING SHALL BE ABANDONED. ALL WIRING TO NEW DEVICES AND EQUIPMENT SHALL BE NEW, UNLESS NOTED OTHERWISE.
8. MAINTAIN CIRCUIT CONTINUITY AS NECESSARY IN ALL DEMOLITION WORK.
9. THE CONTRACTOR SHALL INFORM THE OWNER'S REPRESENTATIVE OF ELECTRICAL EQUIPMENT REMOVED FROM THE BUILDING. IF THE OWNER DESIRES TO RETAIN EQUIPMENT, HE WILL REMOVE IT FROM THE SITE. ALL EQUIPMENT NOT RETAINED BY THE OWNER SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE. DISPOSAL OF ALL EQUIPMENT CONTAINING HAZARDOUS MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND THE COST OF DISPOSAL SHALL BE INCLUDED.
10. INFORMATION ON DEMOLITION DRAWINGS DOES NOT INDICATE ALL EXISTING EQUIPMENT AND DEVICES. REFER TO ARCHITECTURAL AND MECHANICAL DEMOLITION DRAWINGS FOR ADDITIONAL INFORMATION.
11. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID AND SHALL VERIFY ALL DEMOLITION REQUIRED. ADDITIONAL COMPENSATION WILL NOT BE ALLOWED FOR DEMOLITION DUE TO CONTRACTOR NOT VISITING SITE AND DETERMINING FULL SCOPE OF DEMOLITION REQUIRED.
12. SEE THE DEMOLITION FLOOR PLANS FOR ADDITIONAL DEMOLITION REQUIREMENTS. ON THE DEMOLITION FLOOR PLANS AND RISERS, ALL DASHED ITEMS SHALL BE REMOVED AND ALL SOLID ITEMS SHALL REMAIN, UNLESS NOTED OTHERWISE. SOME DEMOLITION ITEMS ARE AFFECTED BY ADD ALTERNATES, AS INDICATED IN THE FLOOR PLANS. NEW WORK FLOOR PLANS MAY CONTAIN ADDITIONAL DEMOLITION INFORMATION IN SOME LOCATIONS.

ELECTRICAL GENERAL NOTES:

1. ALL CONDUCTORS SHALL BE COPPER, UNLESS OTHERWISE INDICATED.
2. MOUNT ALL RECEPTACLES AT 18" ABOVE FINISHED FLOOR TO THE TOP OF THE COVER PLATE, UNLESS OTHERWISE INDICATED.
3. FOR RECEPTACLES REQUIRING GFCI PROTECTION AND WHERE THE RECEPTACLE IS CONCEALED (I.E. IN THE CASE OF A WATER FOUNTAIN OR VENDING MACHINE INSTALLATION), THE CONTRACTOR SHALL PROVIDE A STANDARD RECEPTACLE WITH A GFCI CIRCUIT BREAKER IN THE ASSOCIATED PANEL. BLANK FACE GFCI TEST/RESET BUTTONS ARE NOT PERMITTED UNLESS EXPLICITLY NOTED ON THESE DRAWINGS.
4. VERIFY DOOR SWINGS PRIOR TO INSTALLING LIGHT SWITCHES.
5. GANG ALL SWITCHES SHOWN TO BE INSTALLED AT THE SAME LOCATION UNDER A SINGLE COVER PLATE, UNLESS OTHERWISE INDICATED.
6. SEE ARCHITECTURAL DRAWINGS FOR RATED WALL, FLOOR AND CEILING CONSTRUCTION, AND PROVIDE REQUIRED RATED DEVICES AND FIRE SEALANT FOR PENETRATIONS. WHERE NEW DEVICES ARE SHOWN RECESSED IN RATED PARTITIONS, CAREFULLY COORDINATE LOCATIONS AND OFFSETS.
7. COORDINATE WITH OTHER DISCIPLINES IN THE FIELD TO ENSURE THAT THE INTEGRITY OF FIRE RATED CONSTRUCTION IS PRESERVED WHERE PENETRATING RATED WALLS, FLOORS AND CEILINGS.
8. EXPOSED CONDUIT AND BOXES MAY BE USED IN UNFINISHED AREAS (MECHANICAL ROOMS, ELECTRICAL ROOMS, TELECOMMUNICATIONS ROOMS, ETC.).
9. THE CONTRACTOR SHALL ROUTE ALL EXPOSED CONDUIT NEATLY AND TIGHT TO SUPPORTING SURFACES. IN THE EVENT THAT THE OWNER IS NOT SATISFIED WITH WORKMANSHIP, THE CONTRACTOR SHALL MAKE CORRECTIONS AT NO ADDITIONAL COST TO THE OWNER. MC CABLE IS NOT PERMITTED IN EXPOSED AREAS.
10. FOR ALL CONDUIT RUNS SHOWN ON ELECTRICAL DRAWINGS, THE ROUTING IS APPROXIMATE. THE CONTRACTOR SHALL MAKE ROUTING ADJUSTMENTS AS REQUIRED BASED ON FIELD CONDITIONS AND COORDINATION WITH OTHER DISCIPLINES.
11. IN THE EVENT THAT THERE IS A DISCREPANCY IN THE MINIMUM CIRCUIT AMPACITY (MCA) AND/OR THE MAXIMUM OVERCURRENT PROTECTION (MOCP) BETWEEN THE DIVISION 26 AND DIVISION 22/23 SCHEDULES, THE CONTRACTOR SHALL BID ACCORDING TO THE MORE STRINGENT REQUIREMENTS.
12. MECHANICAL, PLUMBING, AND OTHER EQUIPMENT FURNISHED AND INSTALLED BY OTHER DIVISIONS IS SHOWN ON THE ELECTRICAL DRAWINGS FOR CIRCUITING PURPOSES ONLY. THE CONTRACTOR SHALL REFER TO THE OTHER DISCIPLINES' CONSTRUCTION DOCUMENTS FOR EXACT LOCATIONS OF EQUIPMENT PRIOR TO ROUGH-IN OF THE ASSOCIATED ELECTRICAL CIRCUITS, DISCONNECTING MEANS, RECEPTACLES, ETC. AND ADJUST ROUTING AND LOCATIONS ACCORDINGLY.
13. LOAD SIDE CONDUCTOR AND CONDUIT SIZES FROM DISCONNECT SWITCHES, STARTERS AND VFDS TO EQUIPMENT SHALL BE THE SAME AS LINE SIDE CONDUCTORS AND CONDUIT.
14. CAREFULLY COORDINATE ALL ELECTRICAL EQUIPMENT LOCATIONS WITH DUCTWORK, PIPING AND MECHANICAL EQUIPMENT. MAINTAIN ALL CLEARANCES AND SPACES REQUIRED BY THE NEC.
15. WHERE MULTIPLE CIRCUITS ARE COMBINED IN A SINGLE CONDUIT, DERATE CONDUCTORS PER THE NEC.
16. SEE ON-DRAWING SPECIFICATIONS FOR REQUIREMENTS REGARDING OVERSIZING CONDUCTORS FOR 1-POLE, 15- AND 20-AMP CIRCUITS TO REDUCE VOLTAGE DROP. THESE OVERSIZING REQUIREMENTS TAKE PRECEDENCE OVER THE WIRE AND CONDUIT SIZES SHOWN IN THE PANEL SCHEDULES. OVERSIZED CONDUCTORS FOR VOLTAGE DROP ON OTHER CIRCUITS ARE INDICATED IN THE PANEL SCHEDULES.
17. UNLESS INDICATED OTHERWISE, ALL EXIT SIGNS AND THE VOLTAGE SENSING TERMINALS OF ALL EMERGENCY BATTERY PACKS SHALL BE CONNECTED AHEAD OF ALL SWITCHES, RELAYS, SENSORS AND POWER PACKS WITH 2-#12 AND 1-#12 GROUND IN 3/4" CONDUIT.
18. ALL EMERGENCY LIGHTING FIXTURES SHALL BE MARKED SO AS TO BE IDENTIFIED BY VISUAL INSPECTION FOR TESTING PURPOSES. IDENTIFICATION SHALL BE BY ONE 1/2" RED SELF-STICK DOT ON THE VERTICAL PORTION OF THE LOUVER OR ON THE TOP OF THE LENS.
19. CAREFULLY COORDINATE THE LOCATIONS OF ALL LIGHTING FIXTURES, LIGHTING CONTROL SENSORS, SMOKE AND HEAT DETECTORS, FIRE ALARM NOTIFICATION APPLIANCES, AND OTHER ELECTRICAL CEILING DEVICES WITH SPRINKLER HEADS AND HVAC CEILING DEVICES. COORDINATE SURFACE MOUNTED LIGHTING FIXTURES, LIGHTING CONTROL SENSORS, SMOKE AND HEAT DETECTORS, FIRE ALARM NOTIFICATION APPLIANCES, AND OTHER ELECTRICAL CEILING DEVICES WITH SPRINKLER HEADS SO THAT THEY DO NOT INTERFERE WITH OR BLOCK THE WATER FLOW FROM THE SPRINKLER HEAD AND REDUCE COVERAGE AREA.
20. PROVIDE SHALLOW BOXES FOR NEW DEVICES IN FURRED WALLS. COORDINATE DEPTH WITH ARCHITECTURAL.
21. WHERE OUTLETS ARE SHOWN ABOVE A COUNTERTOP OR SIMILAR SURFACE WITH A SPECIFIC MOUNTING HEIGHT, COORDINATE THE MOUNTING HEIGHT WITH BOTH THE SURFACE BELOW AND WITH ALL WALL MOUNTED ARCHITECTURAL ITEMS ABOVE PRIOR TO ROUGH-IN.
22. FOR WALL DEVICES MOUNTED ABOVE ARCHITECTURAL ITEMS, COORDINATE THE MOUNTING HEIGHTS OF THE WALL MOUNTED DEVICES SUCH THAT THEY DO NOT INTERFERE WITH THE ARCHITECTURAL ITEMS.
23. PROVIDE ALL 120V POWER REQUIRED BY THE BUILDING AUTOMATION SYSTEM (BAS). COORDINATE WITH THE CONTROLS SPECIFICATIONS AND CONTRACTOR.
24. "HOMERUN" CONDUITS SHALL BE RUN DOWN CORRIDORS FROM THE RESPECTIVE ELECTRICAL ROOM AND NOT THROUGH EXAM ROOMS, OFFICES, OR OTHER SIMILAR SPACES.
25. PROVIDE TYPED AS-BUILT PANEL SCHEDULES. HANDWRITTEN PANEL SCHEDULES WILL NOT BE ACCEPTED.
26. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING THEIR BID IN ORDER TO VERIFY ALL EXISTING CONDITIONS, TO DETERMINE THE FULL EXTENT OF DEMOLITION WORK REQUIRED, AND TO DETERMINE THE FULL EXTENT OF RELOCATION AND MODIFICATION WORK REQUIRED. THE CONTRACTOR IS FULLY RESPONSIBLE FOR COORDINATING ALL ELECTRICAL WORK WITH NEW AND EXISTING PIPING, DUCTWORK, CONDUIT, ETC. NO CHANGE ORDERS WILL BE APPROVED FOR ADDITIONAL WORK DUE TO THE CONTRACTOR NEGLECTING TO VISIT THE SITE AND GATHER ALL NECESSARY INFORMATION.
27. ALL RECEPTACLE AND TOGGLE SWITCH WALL PLATES SHALL BE LABELED WITH THE PANEL AND CIRCUIT NUMBER FROM WHICH THEY ARE FED.

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DRAWN BY: ALQ
CHECKED BY: SRL

ELECTRICAL LEGEND, DEMOLITION NOTES, AND GENERAL NOTES

COMMONWEALTH OF VIRGINIA
09/16/2025
THOMAS S. WARD IV
Lic. No. 058606
PROFESSIONAL ENGINEER

COMMISSION No.
25024

SHEET
E1

ELECTRICAL SPECIFICATIONS:

1. SCOPE OF WORK: THE CONTRACTOR SHALL PROVIDE SUPERVISION, LABOR, MATERIAL, EQUIPMENT, MACHINERY, PLANT AND OTHER ITEMS NECESSARY FOR A COMPLETE AND OPERABLE ELECTRICAL SYSTEM. WHERE VARIANCES OCCUR BETWEEN DRAWINGS AND SPECIFICATIONS OR WITHIN EITHER DOCUMENT ITSELF, INCLUDE IN THE CONTRACT PRICE THE ITEM OR ARRANGEMENT OF BETTER QUALITY, GREATER QUANTITY, OR HIGHER COST.

2. GENERAL REQUIREMENTS: VERIFY ALL JOB SITE AND ARCHITECTURAL PLAN DIMENSIONS PRIOR TO INSTALLATION OF ELECTRICAL DEVICES AND EQUIPMENT. REPORT ANY DISCREPANCIES TO THE ARCHITECT AND ENGINEER IMMEDIATELY. CUTTING AND PATCHING OF WALLS, CEILINGS, ROOFS AND FLOORS SHALL BE COMPLETED BY OR CLOSELY COORDINATED WITH THE GENERAL CONTRACTOR.

3. STANDARDS AND CODES: ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW, AND SHALL BE LISTED BY UNDERWRITERS LABORATORIES, INC. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE 2021 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (USBC); THE 2021 VIRGINIA CONSTRUCTION CODE (VCC); THE 2021 VIRGINIA ENERGY CONSERVATION CODE (VECC); THE 2020 NFPA-70 (NATIONAL ELECTRICAL CODE, OR NEC); THE 2019 NFPA-72 (NATIONAL FIRE ALARM AND SIGNALING CODE); AND OTHER RELATED CODES AND STANDARDS. THE COMPLETED INSTALLATION SHALL COMPLY WITH THE ADAAG *"AMERICAN WITH DISABILITIES ACT GUIDELINES FOR BUILDINGS AND FACILITIES"*, WORKMANSHIP SHALL MEET THE "STANDARDS OF INSTALLATION" AS PUBLISHED BY THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (NECA).

4. PERMITS AND FEES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING PERMITS, BONDS, LICENSES AND INSPECTION CERTIFICATES. THE CONTRACTOR SHALL ALSO PAY INSPECTION FEES AND TAXES AND SHALL FILE PLANS AND PREPARE DOCUMENTS AS REQUIRED TO OBTAIN APPROVALS OF GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.

5. CONDUIT: ALL CONDUCTORS SHALL BE INSTALLED IN CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS OR IN THE SPECIFICATIONS. CONDUIT FILL SHALL NOT EXCEED 40% PER NEC. PROVIDE ELECTRICAL METALLIC TUBING (EMT) FOR EMPTY CONDUIT RUNS AND STUB-UPS, BRANCH CIRCUITS AND EQUIPMENT FEEDERS; ALL CONDUIT STUBS SHALL HAVE BUSHINGS. CONDUIT SHALL BE MINIMUM 3/4". CONDUIT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE, FRAMING, JOISTS, ETC. PROVIDE HANGERS, SUPPORTS, FASTNERS, SLEEVES AND SEALS AS REQUIRED BY THE NEC. DO NOT SUPPORT CONDUIT FROM THE ROOF DECK OR SUSPENDED CEILING SYSTEMS. CONDUIT SHALL NOT BE INSTALLED WITHIN SIX (6) INCHES OF ROOF DECK. EXPANSION / DEFLECTION FITTINGS SHALL BE PROVIDED WHERE REQUIRED PER NEC 300.4(H). ALL CONDUIT FITTINGS SHALL BE STEEL, SET SCREW OR COMPRESSION TYPE, AND SHALL BE U.L. LISTED.

   ALL CONDUITS PASSING THROUGH RATED WALLS OR CEILINGS SHALL BE SLEEVED AND PACKED WITH U.L. LISTED SEALANT TO MAINTAIN RATING.

   TYPE AC, MC AND NMC CABLE ARE NOT ALLOWED, EXCEPT TYPE MC CABLE IS PERMITTED FOR LIGHTING FIXTURE WHIPS LESS THAN FIVE (5) FEET IN LENGTH.

   PROVIDE ALUMINUM CONDUIT AND OUTLET BOXES OR OTHER APPROVED NON-FERROUS MATERIALS IN THE PROCEDURE ROOM, EQUIPMENT ROOM AND CONTROL ROOM AS REQUIRED BY GE. ALL HARDWARE SHALL BE ALUMINUM OR STAINLESS STEEL. FERROUS MATERIALS SHALL NOT BE USED IN PROCEDURE ROOM APPLICATIONS. COORDINATE COMPLETE ELECTRICAL INSTALLATION REQUIREMENTS WITH THE GE DRAWINGS PRIOR TO ROUGH-IN.

6. JUNCTION, OUTLET AND PULL BOXES: PROVIDE JUNCTION, OUTLET AND PULL BOXES FOR WIRING DEVICES, FIXTURES, CONNECTIONS TO EQUIPMENT AND AS REQUIRED BY THE NEC. FOR INTERIOR APPLICATIONS, PROVIDE GALVANIZED STEEL WIRING BOXES, OF THE TYPE, SHAPE, AND SIZE, INCLUDING DEPTH OF BOX, TO SUIT RESPECTIVE LOCATIONS AND INSTALLATION. BOXES SHALL HAVE STAMPED KNOCKOUTS IN BACK AND SIDES. PROVIDE APPROPRIATE PLASTER RINGS AND COVERS AS REQUIRED. PROVIDE GANG BOXES WHERE DEVICES ARE SHOWN GROUPED. FOR EXTERIOR OUTLET BOXES, PROVIDE OUTLET BOX FLUSH WITH EXTERIOR WALL AND PROVIDE APPROPRIATE WEATHERPROOF COVER. EXTERIOR SURFACE MOUNT BOXES SHALL BE NEMA 3R CAST ALUMINUM TYPE WITH THREADED CONDUIT HUBS. INGROUND PULL/SPLICE BOXES SHALL BE CONSTRUCTED OF COMPOSITE POLYMER CONCRETE REINFORCED WITH FIBERGLASS. PROVIDE OPEN BOTTOM BOX COMPLETE WITH COVER AND APPROPRIATE LOGO. MINIMUM BOX DIMENSIONS, COVER TYPE AND USE SHALL BE AS NOTED ON DRAWINGS. INSTALL ELECTRICAL BOXES AND FITTINGS AS SHOWN AND AS REQUIRED IN COMPLIANCE WITH NEC AND MANUFACTURER'S RECOMMENDATIONS. ALL JUNCTION/PULL BOX OPENINGS SHALL BE SIDE OR BOTTOM ACCESSIBLE. PROVIDE EACH OUTLET/SPLICE BOX WITH A GROUNDING PIGTAIL. FACTORY MANUFACTURED PIGTAILS SHALL HAVE BOLTED CONNECTIONS TO BOXES. UNLESS NOTED OR DIRECTED OTHERWISE AT INSTALLATION, PLACE OUTLET BOXES AS INDICATED ON ARCHITECTURAL ELEVATIONS AND AS REQUIRED BY LOCAL CODES. FOR OUTLETS INSTALLED ABOVE COUNTERS, MOUNT LONG DIMENSION HORIZONTALLY. REFER TO ARCHITECTURAL ELEVATIONS AND COORDINATE INSTALLATION TO AVOID CONFLICTS WITH BACKSPLASH AND MILLWORK. DO NOT SECURE BOXES TO SUSPENDED CEILING SYSTEM, HVAC DUCTWORK OR PIPING SYSTEMS. ALIGN ADJACENT WALL MOUNTED OUTLET BOXES, UNLESS NOTED OTHERWISE ON THE DRAWINGS. ALL BOXES SHALL BE ACCESSIBLE PER THE NEC. IF A BOX IS REQUIRED ABOVE AN INACCESSIBLE CEILING, COORDINATE WITH THE ARCHITECT AND PROVIDE AN ACCESS PANEL PRIOR TO INSTALLATION. OUTLET BOXES SHALL UTILIZE MOUNTING BRACKETS FOR INSTALLATION IN STUD WALLS AND WHERE FLUSH WITH CEILINGS. BRACKETS SHALL FASTEN ON EACH END.

   PROVIDE ALUMINUM CONDUIT AND OUTLET BOXES OR OTHER APPROVED NON-FERROUS MATERIALS IN THE PROCEDURE ROOM, EQUIPMENT ROOM AND CONTROL ROOM AS REQUIRED BY GE. ALL HARDWARE SHALL BE ALUMINUM OR STAINLESS STEEL. FERROUS MATERIALS SHALL NOT BE USED IN PROCEDURE ROOM APPLICATIONS. COORDINATE COMPLETE ELECTRICAL INSTALLATION REQUIREMENTS WITH THE GE DRAWINGS PRIOR TO ROUGH-IN.

7. WIRING: PROVIDE COPPER CONDUCTORS, XHHW OR XHHW-2 OR THHN OR THWN-2, 600 VOLT, 90 DEGREE C RATED. WIRING SHALL BE COLOR-CODED TO IDENTIFY PHASES, NEUTRAL AND GROUND. MATCH EXISTING BUILDING WIRING COLOR-CODING. MINIMUM WIRE SIZE, EXCEPT FOR CONTROL WIRING, SHALL BE #12 AWG. FOR 120-VOLT 15 AMP AND 20 AMP BRANCH CIRCUITS, USE MINIMUM 12 AWG UP TO 60 FEET, 10 AWG FOR 61-95 FEET, 8 AWG FOR 96-155 FEET AND 6 AWG FOR BRANCH CIRCUITS LONGER THAN 155 FEET; CONDUCTORS SHALL BE SAME SIZE FOR ENTIRE LENGTH OF RUN. FOR 277-VOLT 15 AMP AND 20 AMP BRANCH CIRCUITS, USE MINIMUM 12 AWG UP TO 140 FEET, 10 AWG FOR 141-220 FEET AND 8 AWG FOR BRANCH CIRCUITS LONGER THAN 220 FEET; CONDUCTORS SHALL BE SAME SIZE FOR ENTIRE LENGTH OF RUN. CONDUCTORS 8 AWG AND LARGER SHALL BE STRANDED; CONDUCTORS 10 AWG AND SMALLER SHALL BE SOLID. FOR WIRING APPLICATIONS WHERE MORE THAN SIX (6) CURRENT CARRYING CONDUCTORS ARE RUN IN A SINGLE RACEWAY, DERATE PER NEC 310.15(B)(3)(A). WIRING SHALL BE RUN CONCEALED UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS. DO NOT INSTALL A SHARED NEUTRAL ON ANY CIRCUIT. FOR LIGHT SWITCHES, INSTALL NEUTRAL CONDUCTOR WHERE REQUIRED BY NEC 404.2(C). ALL TERMINATIONS SHALL BE 75 DEGREES C.

   PROVIDE ALUMINUM CONDUIT AND OUTLET BOXES OR OTHER APPROVED NON-FERROUS MATERIALS IN THE PROCEDURE ROOM, EQUIPMENT ROOM AND CONTROL ROOM AS REQUIRED BY GE. ALL HARDWARE SHALL BE ALUMINUM OR STAINLESS STEEL. FERROUS MATERIALS SHALL NOT BE USED IN PROCEDURE ROOM APPLICATIONS. COORDINATE COMPLETE ELECTRICAL INSTALLATION REQUIREMENTS WITH THE GE DRAWINGS PRIOR TO ROUGH-IN.

8. GROUNDING AND BONDING: ALL BRANCH AND FEEDER CIRCUITS SHALL INCLUDE A GREEN EQUIPMENT GROUNDING CONDUCTOR (EGC). PROVIDE A COPPER GROUND BUS IN ALL PANELBOARDS. CONNECT TO EXISTING SYSTEM GROUND IN ACCORDANCE WITH NEC ARTICLE 250, INCLUDING SERVICE BONDING AS REQUIRED IN NEC 250.92. PARTICULAR ATTENTION IS CALLED TO BONDING REQUIREMENTS IN NEC 250.97, 250.98 AND 250.104. GROUND CORD-AND-PLUG EQUIPMENT PER THE REQUIREMENTS OF NEC 250.114. IN HEALTH CARE FACILITY CRITICAL CARE AREAS, COMPLY WITH NEC 517.19(D).

   PROVIDE ALUMINUM CONDUIT AND OUTLET BOXES OR OTHER APPROVED NON-FERROUS MATERIALS IN THE PROCEDURE ROOM, EQUIPMENT ROOM AND CONTROL ROOM AS REQUIRED BY GE. ALL HARDWARE SHALL BE ALUMINUM OR STAINLESS STEEL. FERROUS MATERIALS SHALL NOT BE USED IN PROCEDURE ROOM APPLICATIONS. COORDINATE COMPLETE ELECTRICAL INSTALLATION REQUIREMENTS WITH THE GE DRAWINGS PRIOR TO ROUGH-IN.

9. IDENTIFICATION: IDENTIFY CABLES/CONDUCTORS, INCLUDING VOLTAGE, PHASE AND FEEDER OR CIRCUIT NUMBER, ON EACH CABLE/CONDUCTOR IN EACH BOX/ENCLOSURE/CABINET WHERE WIRES OF MORE THAN ONE CIRCUIT OR COMMUNICATION/SIGNAL SYSTEM ARE PRESENT. WHEREVER REASONABLY REQUIRED FOR SAFETY, MAINTENANCE AND/OR OPERATIONAL PURPOSES, PROVIDE SELF-ADHESIVE PLASTIC SIGNS FOR IDENTIFICATION, INSTRUCTION OR WARNING ON SWITCHES AND OUTLETS, AS WELL AS OTHER CONTROLS, DEVICES AND ENCLOSURE COVERS. PROVIDE A DANGER SIGN WHEREVER IT IS POSSIBLE FOR PERSONS TO COME INTO CONTACT WITH A VOLTAGE HIGHER THAN 120 VOLTS, AS WELL AS ON CRITICAL SWITCHES AND CONTROLS WHERE UNTIMELY OPERATION COULD BE A SAFETY HAZARD. PROVIDE AN ENGRAVED PLASTIC-LAMINATE LABEL ON EACH MAJOR UNIT OF ELECTRICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO: PANELBOARDS, CONTROL PANELS, ENCLOSURES, POWER TRANSFER EQUIPMENT, DISCONNECT SWITCHES AND ENCLOSED CIRCUIT BREAKERS. EQUIPMENT LABELS SHALL INCLUDE WHAT IS REQUIRED IN NEC 408.4(B). PROVIDE IDENTIFICATION, LABELING AND SIGNS FOR EMERGENCY AND STANDBY SYSTEMS AS REQUIRED BY NEC 700.7, 700.10, 701.7 AND 702.7. PROVIDE FAULT CURRENT LABELING ON SERVICE EQUIPMENT PER NEC 110.24(A). ENCLOSURE TYPES SHALL BE MARKED PER NEC 110.28. WIRING COLOR-CODE KEY SHALL BE READILY AVAILABLE OR PERMANENTLY POSTED PER NEC 200.6(D) AND 210.5. PROVIDE SERVICE ENTRANCE LABEL ON SERVICE EQUIPMENT.

10. CONNECTIONS TO EQUIPMENT: MAKE FINAL ELECTRICAL CONNECTIONS TO MECHANICAL, SPECIALTY, AND LABORATORY EQUIPMENT. PROVIDE CONDUITS, OUTLET BOXES AND POWER WIRING FROM THE POWER SOURCE TO THE MOTOR OR EQUIPMENT JUNCTION BOX, INCLUDING WIRING THROUGH STARTERS OR SAFETY SWITCHES, IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

    PROVIDE ALUMINUM CONDUIT AND OUTLET BOXES OR OTHER APPROVED NON-FERROUS MATERIALS IN THE PROCEDURE ROOM, EQUIPMENT ROOM AND CONTROL ROOM AS REQUIRED BY GE. ALL HARDWARE SHALL BE ALUMINUM OR STAINLESS STEEL. FERROUS MATERIALS SHALL NOT BE USED IN PROCEDURE ROOM APPLICATIONS. COORDINATE COMPLETE ELECTRICAL INSTALLATION REQUIREMENTS WITH THE GE DRAWINGS PRIOR TO ROUGH-IN.

11. WIRING DEVICES: WIRING DEVICES SHALL BE HEAVY DUTY SPECIFICATION GRADE. BACK WIRING IS NOT ALLOWED. ALL WIRING DEVICE AND WALL PLATE FINISHES SHALL BE SELECTED BY THE ARCHITECT OR OWNER. TOGGLE SWITCHES SHALL BE TUMBLER TYPE, 20 AMP, GROUNDED, RATED 120/277 VOLT. WHERE MORE THAN ONE SWITCH IS INDICATED IN THE SAME LOCATION, INSTALL THE SWITCHES IN A MULTI-GANG BOX WITH A SINGLE COVERPLATE. EXCEPT WHERE NOTED OTHERWISE ON THE DRAWINGS, RECEPTACLES SHALL BE NEMA 5-20R, GROUNDED, SPECIAL PURPOSE, SAFETY TYPE AND GROUND FAULT RECEPTACLES SHALL BE BY SAME MANUFACTURER AS DUPLEX RECEPTACLES. DO NOT UTILIZE FEED THROUGH WIRING FOR ANY RECEPTACLES OR DEVICES REQUIRING GFCI PROTECTION. WIRING DEVICE WALLPLATES SHALL BE SATIN STAINLESS STEEL/HIGH IMPACT NYLON/PLASTIC, COLOR TO MATCH DEVICE COLOR, ND SHALL BE BY SAME MANUFACTURER AS WIRING DEVICES. WIRING DEVICE WALLPLATES SHALL BE OF COLOR AND MATERIAL TO MATCH EXISTING. WEATHERPROOF COVERS SHALL HINGE FROM TOP, SHALL BE LISTED AS WEATHERPROOF WHEN IN USE AND SHALL BE "EXTRA DUTY" WHERE REQUIRED BY NEC 406.9(B)(1), AND RECEPTACLES IN THESE COVERS SHALL BE LISTED AS WEATHER-RESISTANT TYPE.

    MOUNTING HEIGHTS OF ALL WIRING DEVICES SHALL COMPLY WITH CURRENT ACCESSIBILITY STANDARDS AND LOCAL CODES WHERE APPLICABLE. REFER TO ARCHITECTURAL ELEVATIONS FOR COORDINATION OF WIRING DEVICE LOCATIONS. COORDINATE WITH DIMENSIONS OF SPECIALTY ITEMS, EQUIPMENT AND MILLWORK, AND COORDINATE WITH ALL OTHER TRADES TO AVOID INSTALLATION CONFLICTS PRIOR TO ROUGH-IN.

    IN HEALTH CARE FACILITIES, RECEPTACLES WITH INSULATED GROUNDING TERMINALS ARE NOT ACCEPTABLE.

    WIRING DEVICE MANUFACTURER SHALL BE BRYANT, EATON ARROW/HART, HUBBELL, LEVITON OR PASS & SEYMOUR; EXCEPT SLIDE DIMMERS SHALL BE BY LUTRON, LEVITON OR PHILIPS.

    PROVIDE ALUMINUM CONDUIT AND OUTLET BOXES OR OTHER APPROVED NON-FERROUS MATERIALS IN THE PROCEDURE ROOM, EQUIPMENT ROOM AND CONTROL ROOM AS REQUIRED BY GE. ALL HARDWARE SHALL BE ALUMINUM OR STAINLESS STEEL. FERROUS MATERIALS SHALL NOT BE USED IN PROCEDURE ROOM APPLICATIONS. COORDINATE COMPLETE ELECTRICAL INSTALLATION REQUIREMENTS WITH THE GE DRAWINGS PRIOR TO ROUGH-IN.

12. DISCONNECT SWITCHES: PROVIDE SURFACE-MOUNTED, HEAVY-DUTY, HORSEPOWER-RATED, FUSIBLE OR NON-FUSIBLE AS INDICATED, SAFETY SWITCHES WITH LUGS SUITABLE FOR COPPER OR ALUMINUM CONDUCTORS AND ELECTRO-SILVER PLATED CURRENT CARRYING PARTS, AND WITH EQUIPMENT GROUND BUS WITH APPROPRIATE LUGS. SWITCHES SHALL BE RATED FOR THE VOLTAGE OF THE ASSOCIATED CIRCUIT BEING SERVED. PROVIDE SOLID NEUTRAL CONNECTION VIA INSULATED LUG WHERE APPLICABLE. SWITCHES SHALL HAVE HINGED DOOR WITH DEFEATABLE INTERLOCK TO PREVENT DOOR FROM BEING OPENED IN "ON" POSITION; OPERATING LEVER ARRANGED FOR PADLOCKING IN THE "OFF" POSITION; ARC QUENCHERS; CAPACITY AND CHARACTERISTICS AS REQUIRED; NON-TEASABLE QUICK-MAKE AND QUICK-BREAK MECHANISM; DEAD FRONT; LINE SIDE SHIELD. PROVIDE A SET OF AUXILIARY CONTACTS FOR DISCONNECTS SERVING VFD'S, TO SEND A "DISABLE" SIGNAL TO THE VFD WHEN THE DISCONNECT IS OPENED. MANUFACTURER SHALL BE SQUARE D, GENERAL ELECTRIC, EATON OR SIEMENS.

13. LIGHTING: PROVIDE LIGHTING FIXTURE WORK AS SHOWN, SCHEDULED AND SPECIFIED. MANUFACTURERS SHALL BE AS INDICATED ON THE DRAWINGS OR EQUAL. FIXTURES SHALL BE COMPLETE WITH REQUIRED SOCKETS, WIRING, GLASSWARE, REFLECTORS, HANGERS, FITTINGS AND MOUNTING TRIM. FIXTURES SHALL BE CLEANED AND COMPLETELY LAMPED. PROVIDE PROPER TRIM, FRAMES, MOUNTING DEVICES, CONFIGURATION AND ACCESSORIES REQUIRED TO PROPERLY INSTALL FIXTURES IN THE BUILDING CONSTRUCTION. LIGHTING FIXTURES SHALL CONFORM TO APPLICABLE U.L. STANDARDS AND SHALL BE U.L. OR ETL LISTED. EMERGENCY LIGHTING FIXTURES SHALL CONFORM TO THE REQUIREMENTS OF NFPA 101, NFPA 70 (NEC) AND SHALL BE UL924 COMPLIANT.

    CATALOG NUMBERS OF FIXTURES SCHEDULED ARE TO ESTABLISH A TYPE OF FIXTURE, NOT TO DETERMINE A METHOD OF MOUNTING. VERIFY CEILING CONSTRUCTION BEFORE ORDERING FIXTURES, AND PROVIDE MOUNTING TRIM AND HARDWARE SUITABLE FOR THE CEILING FINISH IN WHICH FIXTURE IS INSTALLED. SUPPORT RECESSED DOWNLIGHT FIXTURES INSTALLED IN LAY-IN CEILINGS BY MEANS OF HANGER BARS EXTENDING ACROSS THE MAIN CEILING SUPPORT MEMBERS. SUPPORT ALL CEILING MOUNTED LUMINAIRES THAT MATCH THE SIZE OF THE LAYOUT OF THE CEILING GRID FROM THE BUILDING STRUCTURAL FRAMING MEMBERS OR THE CEILING FRAMING SYSTEM UTILIZING CONDUIT STEMS, FIXTURE STUDS, SUPPORT CLIPS, STEEL RODS OR BAR HANGERS. IF THE CEILING FRAMING SYSTEM IS USED FOR SUPPORT, INSTALL A MINIMUM OF TWO CEILING SUPPORT SYSTEM RODS OR WIRES FOR EACH LUMINAIRE (ON DIAGONALLY OPPOSITE CORNERS OF THE FIXTURE) LOCATE NOT MORE THAN 6 INCHES FROM FIXTURE CORNERS. INSTALL RECESSED LAY-IN TYPE FIXTURES SO THAT THE LENS HOUSING MAY BE EASILY OPENED AND SO THAT THE FIXTURES MAY BE REMOVED AND RELOCATED WITHOUT FORCING THE FIXTURES. COORDINATE LIGHTING LAYOUT WITH CEILING LAYOUT AND FINISH BEFORE CEILING GRID IS INSTALLED. LENS TYPE RECESSED 2X4 FIXTURES SHALL HAVE A MINIMUM 0.125" THICK ACRYLIC LENS WITH 7.8 OZ./SQ. FT. MINIMUM WEIGHT.

    ADDITIONAL REQUIREMENTS FOR LED LUMINAIRES:
    A. PROVIDE LED LIGHTING FIXTURES THAT COMPLY WITH THE DESIGN LIGHTS CONSORTIUM (DLC) STANDARDS AND ARE DLC LISTED.
    B. COLOR TEMPERATURE SHALL BE 4000K WITH MINIMUM CRI OF 80, UNLESS INDICATED OTHERWISE.
    C. LED'S SHALL BE BINNED WITHIN A MAXIMUM THREE-STEP MACADAM ELLIPSE TO ENSURE COLOR CONSISTENCY AMONGST LUMINAIRES OF THE SAME TYPE.
    D. MERCURY-FREE, LEAD-FREE, ROHS COMPLIANT.
    E. COMPLIANT WITH FCC 47 CFR PART 15 NON-CONSUMER RFI/EMI STANDARDS.
    F. LIGHT OUTPUT SHALL BE MEASURED USING THE ABSOLUTE PHOTOMETRY METHOD FOLLOWING IES LM-79 AND LM-80 REQUIREMENTS AND GUIDELINES.
    G. LUMINAIRES SHALL MAINTAIN AT LEAST 70% LUMEN OUTPUT (L70) FOR A MINIMUM OF 50,000 HOURS.
    H. LUMEN OUTPUT SHALL NOT DEPRECIATE MORE THAN 20% AFTER 20,000 HOURS OF USE.
    I. THERMALLY DESIGNED TO NOT EXCEED THE MAXIMUM JUNCTION TEMPERATURE OF THE LED FOR THE AMBIENT TEMPERATURE OF THE LOCATION IN WHICH THE LUMINAIRE IS TO BE INSTALLED. RATED CASE TEMPERATURE SHALL BE SUITABLE FOR OPERATION IN THE AMBIENT TEMPERATURES TYPICALLY FOUND IN THE INTENDED INSTALLATION. EXTERIOR LUMINAIRES SHALL BE CAPABLE OF OPERATING IN AMBIENT TEMPERATURES TYPICALLY FOUND IN THE INTENDED INSTALLATION. EXTERIOR LUMINAIRES SHALL BE CAPABLE OF OPERATING IN AMBIENT TEMPERATURES OF -20 DEG. F TO 122 DEG F (-29 DEG. C TO 50 DEG. C).
    J. LUMINAIRES SHALL OPERATE NORMALLY FOR INPUT VOLTAGE FLUCTUATIONS OF PLUS OR MINUS 10%.
    K. MAXIMUM TOTAL HARMONIC DISTORTION (THD) OF 10% AT FULL INPUT POWER AND ACROSS SPECIFIED VOLTAGE RANGE.
    L. ALL CONNECTIONS TO LUMINAIRES SHALL BE REVERSE-POLARITY PROTECTED AND PROVIDE HIGH VOLTAGE PROTECTION IN THE EVENT THAT CONNECTIONS ARE REVERSED OR SHORTED DURING INSTALLATION.
    M. THE FAILURE OF ONE INDIVIDUAL LED SHALL NOT AFFECT THE OPERATION OF THE REMAINING LED'S IN THE LUMINAIRE.

    ALL LIGHTING DRIVERS SHALL COMPLY WITH NEMA 410 FOR INRUSH CURRENT.

    REQUIREMENTS FOR LED DRIVERS:
    A. UNLESS SPECIFICALLY INDICATED OTHERWISE, SHALL BE OF THE 0-10V DIMMING TYPE DOWN TO 10% LIGHT LEVEL. THE PERFORMANCE CURVES FOR THE 0-10V CONTROL AND THE 0-10V DRIVERS SHALL NOT BOTH BE LOGARITHMIC. DIMMING SHALL OCCUR DOWN TO THE MINIMUM LEVEL WITH NO VISIBLE FLICKER OR "POPCORN EFFECT". "POPCORN EFFECT" IS WHEN THE LUMINAIRE IS ON A PRESET DIMMED LEVEL, AND THE LED'S GO TO 100% PRIOR TO RETURNING TO THE PRESET LEVEL WHEN POWER IS RETURNED TO THE FIXTURE.
    B. SHALL HAVE RATED LIFE OF MINIMUM 50,000 HOURS.
    C. SHALL HAVE MINIMUM POWER FACTOR OF 0.9 AND MAXIMUM CREST FACTOR OF 1.5 AT FULL INPUT POWER AND ACROSS SPECIFIED VOLTAGE RANGE.
    D. SHALL OPERATE NORMALLY FOR INPUT VOLTAGE FLUCTUATIONS OF PLUS OR MINUS 10%.
    E. SHALL HAVE MAXIMUM TOTAL HARMONIC DISTORTION (THD) OF 10% AT FULL INPUT POWER AND ACROSS SPECIFIED VOLTAGE RANGE.
    F. SHALL HAVE POLARIZED QUICK-DISCONNECTS FOR WIRING CONNECTIONS FOR FIELD MAINTENANCE.
    G. SHALL HAVE BUILT-IN FUSE PROTECTION, WITH ALL POWER SUPPLY OUTPUTS EITHER FUSE PROTECTED OR POLYMERIC POSITIVE TEMPERATURE COEFFICIENT (PTC)-PROTECTED PER CLASS 2 UL LISTING.
    H. SHALL DEMONSTRATE NO VISIBLE CHANGE IN LIGHT OUTPUT WITH A VARIATION OF PLUS OR MINUS 10% CHANGE IN LINE-VOLTAGE INPUT.
    I. ALL DIMMABLE LED DRIVERS OF THE SAME MANUFACTURER FAMILY/SERIES SHALL TRACK EVENLY ACROSS MULTIPLE LIGHT FIXTURES AT ALL LIGHT LEVELS.

    0-10V DIMMING DRIVERS SHALL COMPLY WITH IEC 60929. FOR 0-10V DIMMING CONTROLS, THE PERFORMANCE CURVES FOR THE 0-10V CONTROL AND THE 0-10V DRIVERS SHALL NOT BOTH BE LOGARITHMIC. ALL DRIVERS SHALL HAVE TOTAL HARMONIC DISTORTION OF LESS THAN 10% AT FULL OUTPUT.

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ELECTRICAL SPECIFICATIONS

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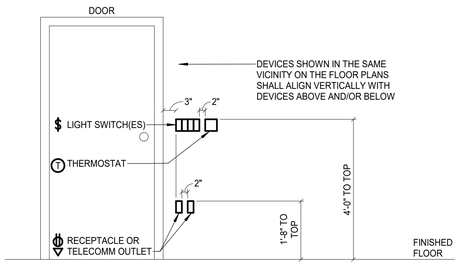
SHEET
E2

LIGHTING FIXTURE SCHEDULE

Type Mark	CATALOG NUMBER MANUFACTURER	CATALOG NUMBER MODEL	MOUNTING	DELIVERED LUMENS	CCT	CRI	VOLTAGE	LOAD	REMARKS
A	KENALL LIGHTING	MRIGT-24-G-FA-45L-40K9-DIM1-24V	RECESSED	4500L LED	4000 K	80	277	56 W	2'X4' LED CENTER BASKET TROFFER
B	KENALL LIGHTING	MRIGT-22-G-FA-45L-40K9-DIM1-24V	RECESSED	4200L LED	4000 K	80	277	56 W	2'X2' LED CENTER BASKET TROFFER
C	KENALL LIGHTING	MRIDL6-FF-PAFW-31L-40K8-M-CSS-T-RIMRI6-24V-DIM1	RECESSED	2000L LED	4000 K	80	277	37 W	6-INCH MEDIUM BEAM OPEN DOWNLIGHT.

LIGHTING FIXTURE SCHEDULE NOTES:

1. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS NOT INDICATED IN THE LIGHTING FIXTURE SCHEDULE. WHERE THERE IS AN INCONSISTENCY BETWEEN THE LIGHTING FIXTURE SCHEDULE AND THE SPECIFICATIONS, THE GREATER QUANTITY OR HIGHER QUALITY OF WORK SHALL BE INCLUDED IN THE PROPOSAL.
2. UNLESS OTHERWISE INDICATED ON THE SCHEDULE ABOVE, THE ARCHITECT/OWNER SHALL SELECT ALL FINISHES, COLORS, AND TRIMS, INCLUDING FINISHES OF POLES, HOUSINGS, ETC.
3. ALL LED FIXTURE BOARDS AND DRIVERS SHALL BE OF THE LATEST GENERATION, BASED UPON THE INDIVIDUAL MANUFACTURER'S STATED LITERATURE. IF A "GEN 5" IS AVAILABLE, "GEN 4" FIXTURES ARE NOT ACCEPTABLE.
4. LIGHTING FIXTURE MANUFACTURERS OTHER THAN THOSE LISTED IN THE LIGHTING FIXTURE SCHEDULE AND DESIRING TO BID THIS PROJECT SHALL REQUEST PRIOR APPROVAL OF THE FIXTURES THEY WISH TO SUBSTITUTE. PRIOR APPROVAL REQUEST SHALL INCLUDE FIXTURE CUT SHEETS.
5. PRIOR APPROVAL IS NOT REQUIRED FOR THIS PROJECT AND SUBSTITUTIONS WILL BE REVIEWED DURING THE SUBMITTAL PHASE OF CONSTRUCTION. THE CONTRACTOR ACCEPTS ALL RESPONSIBILITY FOR ENSURING THAT ANY SUBSTITUTIONS ARE ACCEPTABLE TO THE OWNER, AND MEET THE AESTHETICS, INTENT, AND BASIS OF DESIGN OF THE SPECIFIED FIXTURES AS DETERMINED BY THE ENGINEER/ARCHITECT.
6. ALL LIGHTING SPECIFIED SHALL BE 4000K INTERIOR & 4000K EXTERIOR UNLESS NOTED OTHERWISE. CONFIRM COLOR TEMPERATURES WITH ARCHITECT AND OWNER PRIOR TO ORDERING LIGHT FIXTURES.
7. ALL LIGHTING SPECIFIED SHALL HAVE 80CRI MINIMUM UNLESS NOTED OTHERWISE.
8. THE CONTRACTOR SHALL PROVIDE ALL HARDWARE AND ACCESSORIES AS REQUIRED TO INSTALL FIXTURES IN LOCATIONS AS ILLUSTRATED WITH MOUNTING METHODS DESIRED.
9. WHEN A UNIVERSAL (120-277V) VOLTAGE OPTION IS AVAILABLE, IT SHALL BE PROVIDED. OTHERWISE PROVIDE AS INDICATED IN SCHEDULE.



DETAIL NOTES:

1. NOT ALL DEVICES SHOWN ARE USED IN ALL LOCATIONS. REFER TO THE ELECTRICAL FLOOR PLANS FOR DEVICE LOCATIONS.
2. DEVICE HEIGHTS INDICATED ON THE FLOOR PLANS SHALL TAKE PRECEDENCE OVER THE HEIGHTS INDICATED ON THIS DETAIL.
3. DEVICES THAT ARE SHOWN SIDE BY SIDE ON THE FLOOR PLANS, BUT NOT GANGED TOGETHER, SHALL BE INSTALLED WITH 2" OF SEPARATION BETWEEN THE FACEPLATES UNLESS NOTED OTHERWISE, OR UNLESS MORE SEPARATION IS REQUIRED TO MAINTAIN FIRE RATING OF WALL.

1 **TYPICAL WALL DEVICE LOCATION DETAIL**
Scale: NO SCALE

WIRED LIGHTING SENSOR AND SWITCH SCHEDULE

TYPE	MOUNTING	WIRED OR WIRELESS	SENSOR MODEL NUMBER	TIME DELAY SETTING	NOTES
D1	WALL (46" AFF TO CENTER)	WIRED	QSWS2-2BRLI-XX-NST	-	THIS LOW-VOLTAGE WIRED SWITCH SHALL PROVIDE 'ON/OFF/RAISE/LOWER' CONTROL FOR ONE ZONE OF LIGHT FIXTURES. COLOR OF DEVICE SHALL BE AS SELECTED BY THE ARCHITECT. TOP BUTTON SHALL BE ENGRAVED "ON". BOTTOM BUTTON SHALL BE ENGRAVED "OFF".

LIGHTING SENSOR AND SWITCH SCHEDULE NOTES:

1. DEVICE FINISHES SHALL BE AS OUTLINED IN THE SPECIFICATIONS.
2. IF ONE OF THE "OTHER ACCEPTABLE PRODUCT" SENSORS ARE USED, CONTRACTOR SHALL PROVIDE ADDITIONAL SENSORS AS NEEDED TO COMPLETELY COVER THE SPACE SERVED. QUANTITIES ON DRAWINGS ARE BASED ON THE COVERAGE OF THE BASIS-OF-DESIGN SENSORS. EXACT LOCATIONS OF ALL SENSORS SHALL BE AS RECOMMENDED BY MANUFACTURER.
3. ALL OCCUPANCY/VACANCY SENSOR TIME DELAYS SHALL BE 15 MINUTES, UNLESS NOTED OTHERWISE.
4. PROVIDE ALL LOW-VOLTAGE WIRING NEEDED FOR A FULLY OPERATIONAL SYSTEM (CAT 5E, 0-10V VIOLET-AND-GRAY, ANY OTHER MANUFACTURER-RECOMMENDED CABLING, PLENUM-RATED WHERE IN AIR HANDLING SPACES, IN DEDICATED CONDUIT SYSTEM WHERE NOT ABOVE ACCESSIBLE CEILINGS, IN DEDICATED SLEEVES WHERE PENETRATING PARTITIONS).
5. FOR CAT5E "PLUG-AND-PLAY" SYSTEMS, AT LEAST ONE WALL SWITCH IN EACH ROOM SHALL HAVE AN OPEN CAT5E PORT.
6. PROVIDE ALL PROGRAMMING NEEDED TO SET UP SENSORS, POWER PACKS AND LOW-VOLTAGE SWITCHES PRIOR TO SUBSTANTIAL COMPLETION. LOW-VOLTAGE CONTROLS (SENSORS, SCENES AND SWITCHES) SHALL BE USER-CONFIGURABLE EITHER VIA A MOBILE APP OR HANDHELD REMOTE CONTROLS - PROVIDE ONE OF EACH DEVICE REQUIRED FOR USER-CONFIGURATION AFTER INITIAL SETUP.
7. ALL MANUAL CONTROL MOUNTING HEIGHTS SHALL BE 48" AFF TO THE TOP. LOAD CONTROLLERS SHALL BE LOCATED ABOVE THE NEAREST ACCESSIBLE CEILING (PLENUM-RATED WHERE IN AIR HANDLING SPACES).
8. PROVIDE LOAD CONTROLLERS IN QUANTITIES NEEDED TO SERVE THE NUMBER OF ZONES INDICATED ON THE DRAWINGS. ROOMS MAY SHARE LOAD CONTROLLERS IF THERE ARE SUFFICIENT OUTPUTS AND IF ROOMS CAN STILL OPERATE INDEPENDENTLY OF ONE ANOTHER. LOAD CONTROLLERS SHALL BE THE DIMMING TYPE WITH 0-10V WIRING IN ROOMS WHERE SWITCHES ARE THE DIMMING TYPE OR WHERE PHOTOSENSORS ARE PRESENT.
9. LOW-VOLTAGE CONTROL WIRING (INCLUDING 0-10V) MUST BE INSTALLED AS CLASS 2 CIRCUITS, IN FULL COMPLIANCE WITH NEC 725.136. LOW-VOLTAGE WIRING CANNOT SHARE THE SAME RACEWAY WITH LINE-VOLTAGE WIRING EXCEPT UNDER THE CONDITIONS LISTED IN NEC 725.136(I).
10. SEE SPECIFICATIONS FOR MORE DETAILS. SUBMIT SHOP DRAWINGS OF ALL LIGHTING CONTROL DEVICES.

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DATE: JAN. 23, 2026

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SECOND FLOOR RENOVATION FOR
LEWIS GALE MEDICAL CENTER
ELECTROPHYSIOLOGY LAB
1900 ELECTRIC ROAD SALEM, VIRGINIA 24153

DRAWN BY: ALQ
CHECKED BY: SRL

LIGHTING FIXTURE SCHEDULE AND DETAILS

COMMONWEALTH OF VIRGINIA
09/16/2025
THOMAS S. WARD IV
Lic. No. 058606
PROFESSIONAL ENGINEER

COMMISSION No.
25024

SHEET
E3

EX Branch Panel: 2CH1

Location: MECHANICAL ROOM M3-2 | **Volts:** 277/480 Wye | **A.I.C. Rating:** EX
Supply From: 2CLDP VIA XFMR | **Phases:** 3 | **Enclosure:** Type 1
Mounting: Surface | **Wires:** 4 | **Mains:** 250A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	GND	Conduit	Breaker		A	B	C	Breaker		Conduit	GND	Wire	Circuit Description	CKT	Note
	1							0.0 / 0.0			1	--	--	--	--	SPACE	2	--
	3								0.0 / 0.0		1	--	--	--	--	SPACE	4	--
--	5	SPACE	--	--	--	--	1			0.0 / 0.0	1	--	--	--	--	SPACE	6	--
--	7	SPACE	--	--	--	--	1	0.0 / 0.0			1	--	--	--	--	SPACE	8	--
--	9	SPACE	--	--	--	--	1		0.0 / 0.0		1	--	--	--	--	SPACE	10	--
--	11	SPACE	--	--	--	--	1			0.0 / 0.0	1	--	--	--	--	SPACE	12	--
	13							5.5 / 0.0			1	--	--	--	--	SPACE	14	--
2	15	**NEW SH-1**	**3#10**	**#10**	**3/4"**	**30**	3		5.5 / 0.0		1	--	--	--	--	SPACE	16	--
	17									5.5 / 0.0	1	--	--	--	--	SPACE	18	--
	19							0.0 / 0.0									20	
--	21	EXISTING CATH LAB A	--	--	--	125	3		0.0 / 0.0		3	30	--	--	--	EXISTING RO SYSTEM	22	--
	23									0.0 / 0.0							24	
	25							0.0 / 0.0									26	
--	27	EXISTING SPARE	--	--	--	125	3		0.0 / 0.0		3	125	--	--	--	EXISTING SPARE	28	--
	29									0.0 / 0.0							30	
	31							0.0 / 5.0									32	
--	33	THIS SPACE DOES NOT EXIST	--	--	--	--	3		0.0 / 5.0		3	150	EX	EX	EX	**NEW MDP (EP LAB)**	34	1
	35									0.0 / 5.0							36	
						Total Load:		10.5 kVA	10.5 kVA	10.5 kVA								
						Total Amps:		38 A	38 A	38 A								

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	16.5 kVA	100.00%	16.5 kVA		
EQUIPMENT	15.0 kVA	100.00%	15.0 kVA	**Total Conn. Load:**	31.5 kVA
				Total Est. Demand:	31.5 kVA
				Total Conn. Current:	38 A
				Total Est. Demand Current:	38 A

Notes:
NEW WORK SHOWN IN BOLD.
1. EXISTING WIRE, CONDUIT, AND BREAKER TO BE REUSED. PROVIDE NEW LABEL.
2. PROVIDE NEW BREAKER, CONDUIT, AND CIRCUITRY. PROVIDE NEW LABEL.

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE
M - PROVIDE METERING DEVICE

EX Branch Panel: 2NL1

Location: CORRIDOR | **Volts:** 120/208 Wye | **A.I.C. Rating:** EX
Supply From: 3EL VIA XFMR | **Phases:** 3 | **Enclosure:** Type 1
Mounting: Surface | **Wires:** 4 | **Mains:** 100A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	GND	Conduit	Breaker		A	B	C	Breaker		Conduit	GND	Wire	Circuit Description	CKT	Note
--	1	EX GENERAL LIGHTING	--	--	--	20	1	0.0 / 0.0			1	20	--	--	--	EX BATHROOM REC	2	--
--	3	EX LIGHTS	--	--	--	20	1		0.0 / 0.0		1	20	--	--	--	EX REC / LIGHTS	4	--
--	5	EX OFFICE REC	--	--	--	20	1			0.0 / 0.0	1	20	--	--	--	EX REC / LIGHTS	6	--
--	7	EX WAITING ROOM REC	--	--	--	20	1	0.0 / 0.0			1	20	--	--	--	EX REC EP LAB	8	--
--	9	EX REC UPS ROOM	--	--	--	20	1		0.0 / 0.0		1	20	--	--	--	EX VIEWING / EP LAB REC	10	--
--	11	EX REC EP LAB	--	--	--	20	1			0.0 / 0.0	1	20	--	--	--	EX BREAKROOM REC	12	--
--	13	EX WAITING / EP LAB REC	--	--	--	20	1	0.0 / 0.0			1	20	--	--	--	EX MENS LOCKER REC	14	--
--	15	EX UNKNOWN	--	--	--	20	1		0.0 / 2.4		1	**30**	**1/2"**	**#10**	**2#10**	**NEW EP LAB BOOM CONTROLS**	**16**	**1**
--	17	EX CATH LAB REC	--	--	--	20	1			0.0 / 0.7	1	**20**	**3/4"**	**#12**	**2#12**	**NEW EP LAB BOOM MONITOR**	**18**	**1**
--	19	EX NURSE STATION CATH LAB	--	--	--	20	1	0.0 / 0.0									20	
--	21	EX UNKNOWN	--	--	--	20	1		0.0 / 0.0		2	40	--	--	--	EX AC UNIT	22	--
--	23	EX CATH LAB HOLDING REC	--	--	--	20	1			0.0 / 0.0	1	20	--	--	--	EX CATH LAB / NURSE REC	24	--
--	25	EX CATH LAB HOLDING REC	--	--	--	20	1	0.0 / 0.0			1	20	--	--	--	EX COFFEE MAKER...	26	--
--	27	EX UNKNOWN	--	--	--	20	1		0.0 / 0.0		1	20	--	--	--	EX UNKNOWN	28	--
--	29	EX SPACE	--	--	--	--	1			0.0 / 0.0	1	--	--	--	--	EX SPACE	30	--
						Total Load:		0.0 kVA	2.4 kVA	0.7 kVA								
						Total Amps:		0 A	21 A	7 A								

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
EQUIPMENT	3.1 kVA	100.00%	3.1 kVA		
				Total Conn. Load:	3.1 kVA
				Total Est. Demand:	3.1 kVA
				Total Conn. Current:	9 A
				Total Est. Demand Current:	9 A

Notes:
NEW WORK SHOWN IN BOLD.
1. PROVIDE NEW BREAKER, CONDUIT, AND CIRCUITRY.

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE
M - PROVIDE METERING DEVICE

ELECTRICAL DEMAND CALCULATIONS

PEAK DEMAND * 1.25 + ADDED LOAD <= PANEL / FEEDER RATING

PANEL '2CH1' FEEDER:
- CAPACITY OF PANEL '2CH1': 250A @480V - 3 PHASE
- NEW LOADS: 38A DEMAND @480V - 3 PHASE
- (PANEL RATING - ADDED LOAD) / 1.25 = 169.6A @480V - 3 PHASE
- NOTIFY THE ENGINEER OF RECORD IF THE METERED DEMAND ON PANEL '2CH1' EXCEEDS 150A.

ELECTRICAL DEMAND CALCULATIONS

PEAK DEMAND * 1.25 + ADDED LOAD <= PANEL / FEEDER RATING

PANEL '2NL1' FEEDER:
- CAPACITY OF PANEL '2NL1': 83.3A @208V - 3 PHASE
- NEW LOADS: 9A DEMAND @208V - 3 PHASE
- (PANEL RATING - ADDED LOAD) / 1.25 = 59.44A @208V - 3 PHASE
- NOTIFY THE ENGINEER OF RECORD IF THE METERED DEMAND ON PANEL '2NL1' EXCEEDS 55A.

ELECTRICAL DEMAND CALCULATIONS NOTES:

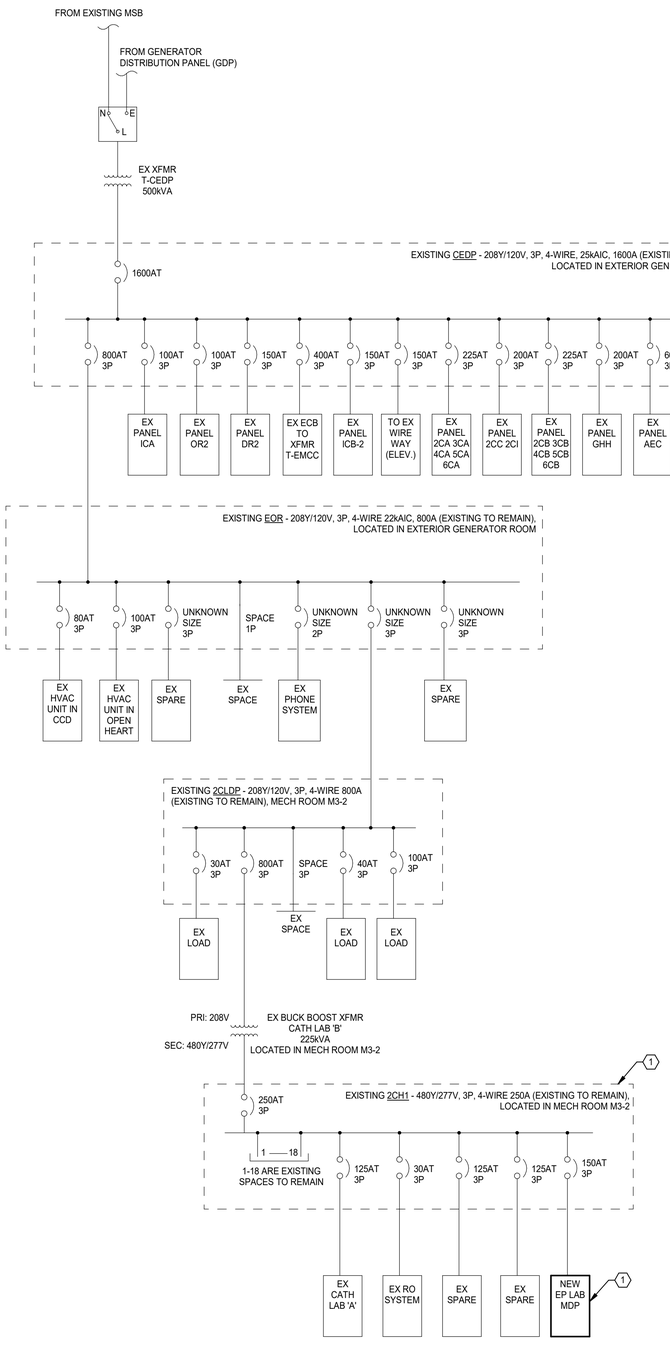
1. PER 2020 NEC 220.87, THE CALCULATION OF A FEEDER OR SERVICE LOAD FOR EXISTING INSTALLATIONS SHALL BE PERMITTED TO USE ACTUAL MAXIMUM DEMAND TO DETERMINE THE EXISTING LOAD UNDER ALL OF THE CONDITIONS LISTED IN 220.87(1), (2) AND (3).

   A. THE MAXIMUM DEMAND DATA OVER THE PREVIOUS 12 MONTHS FOR THE EXISTING FEEDERS IS NOT AVAILABLE, PER NEC 220.87 (1).

   B. PER THE EXCEPTION TO 220.87 (1), THE CALCULATED LOAD SHALL BE PERMITTED TO BE BASED ON THE MAXIMUM DEMAND (THE HIGHEST AVERAGE KILOWATTS REACHED AND MAINTAINED FOR A 15-MINUTE INTERVAL) CONTINUOUSLY RECORDED OVER A MINIMUM 30-DAY PERIOD USING A RECORDING AMMETER OR POWER METER CONNECTED TO THE HIGHEST LOADED PHASE OF THE FEEDER OR SERVICE, BASED ON THE INITIAL LOADING AT THE START OF THE RECORDING. THE RECORDING SHALL REFLECT THE MAXIMUM DEMAND OF THE FEEDER OR SERVICE BY BEING TAKEN WHEN THE SPACE IN OCCUPIED AND SHALL INCLUDE BY MEASUREMENT OR CALCULATION THE LARGER OF THE HEATING OR COOLING EQUIPMENT LOAD, AND OTHER LOADS THAT MAY BE PERIODIC IN NATURE DUE TO SEASONAL OR SIMILAR CONDITIONS.

   C. PER NEC 220.87 (2), THE MAXIMUM DEMAND AT 125 PERCENT PLUS THE NEW LOAD SHALL NOT EXCEED THE AMPACITY OF THE FEEDER OR RATING OF THE SERVICE.

2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE METERING DESCRIBED IN 1.B ABOVE FOR EXISTING PANELS '2CH1' AND '2NL1' AND SHALL SUBMIT THE RESULTS TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL.



1 ELECTRICAL PARTIAL ONE-LINE DIAGRAM

Scale: NO SCALE

ONE-LINE KEYNOTES:

1. EXISTING PANEL '2CH1' CONTAINS A 150A BREAKER THAT CURRENTLY FEEDS CATH LAB B (LABEL NUMBER 32). REUSE THE EXISTING BREAKER, FEEDERS, AND CONDUITS TO SERVE THE NEW UNIT IN EP LAB 'B' EQUIPMENT ROOM.

GENERAL SHEET NOTES:

1. SEE SHEET E1 FOR ELECTRICAL LEGEND, GENERAL NOTES AND DEMOLITION NOTES.
2. SEE SHEET E2 FOR SPECIFICATIONS.

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DATE: JAN. 23, 2026

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SECOND FLOOR RENOVATION FOR
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ELECTROPHYSIOLOGY LAB
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DRAWN BY: ALQ
CHECKED BY: SRL

ELECTRICAL ONE-LINE DIAGRAM AND PANEL SCHEDULES

COMMONWEALTH OF VIRGINIA
09/16/2025
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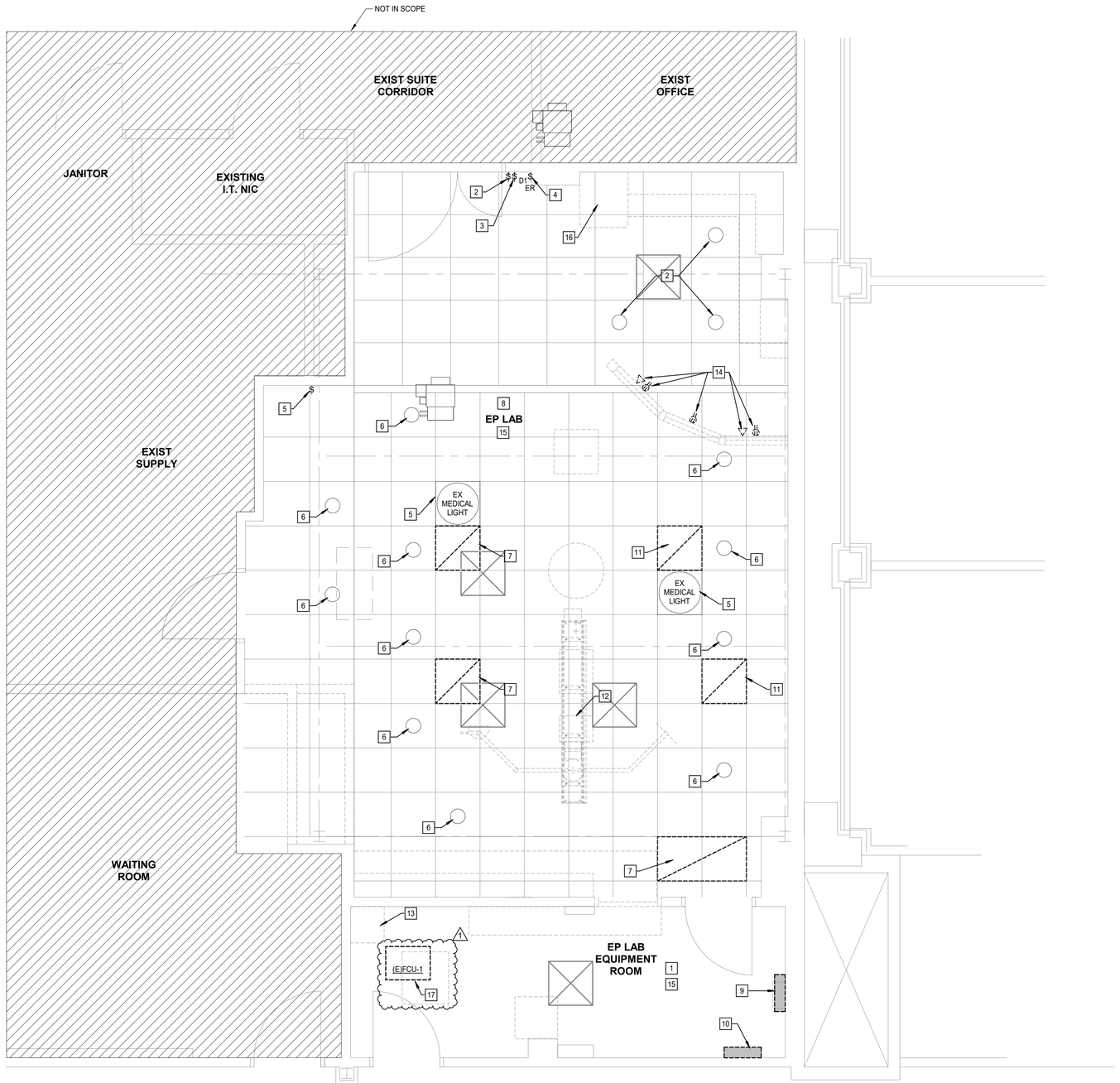
COMMISSION No.
25024

SHEET
E6



1 PARTIAL SECOND FLOOR DEMOLITION PLAN - ELECTRICAL

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

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Roanoke, Virginia 24011

DATE: JAN. 23, 2026

REVISIONS
1 REVISION 1

GENERAL SHEET NOTES:

1. SEE SHEET E1 FOR ELECTRICAL LEGEND, GENERAL NOTES AND DEMOLITION NOTES.
2. SEE SHEET E2 FOR SPECIFICATIONS.
3. SEE SHEET EL1 FOR NEW WORK LIGHTING PLAN AND SHEET EP1 FOR NEW WORK POWER PLAN.

DEMOLITION KEYNOTES:

1. LIGHTING FIXTURES AND CONTROLS IN THIS SPACE ARE TO REMAIN AS IS UON.
2. EXISTING LIGHT SWITCH TO CONTROL THESE (3) CAN LIGHT FIXTURES. DEMOLISH EXISTING LIGHT SWITCH. RETAIN CONDUIT AND CIRCUITRY FOR INSTALLATION OF NEW DIMMER SWITCH.
3. EXISTING LIGHT SWITCH TO CONTROL 2'X2' FIXTURES AND 2'X4' FIXTURE. DEMOLISH EXISTING LIGHT SWITCH. RETAIN CONDUIT AND CIRCUITRY FOR INSTALLATION OF NEW DIMMER SWITCH.
4. EXISTING DIMMER SWITCH FOR EXISTING CAN LIGHTS IN THIS SPACE.
5. EXISTING LIGHT SWITCH TO CONTROL EXISTING MEDICAL LIGHT. LIGHTING SWITCH TO REMAIN AS IS. EXISTING MEDICAL LIGHTS ARE TO REMAIN AS IS.
6. EXISTING CAN LIGHTS ARE TO REMAIN AS IS.
7. DEMOLISH EXISTING LIGHT FIXTURE. RETAIN EXISTING CONDUIT AND CIRCUITRY FOR INSTALLATION OF NEW FIXTURE IN THE SAME PLACE.
8. ALL ELECTRICAL EQUIPMENT AND DEVICES NOT SHOWN IN THIS SPACE ARE TO REMAIN AS IS UON.
9. EXISTING POWER LINE FILTER TO BE DEMOLISHED. RETAIN CONDUIT AND CIRCUITRY FOR INSTALLATION OF NEW POWER LINE FILTER.
10. EXISTING EQUIPMENT MAIN DISCONNECT PANEL TO BE DEMOLISHED. RETAIN CONDUIT AND CIRCUITRY FOR INSTALLATION OF NEW MAIN DISCONNECT PANEL.
11. DEMOLISH EXISTING LIGHT FIXTURE. RETAIN EXISTING CONDUIT AND CIRCUITRY FOR INSTALLATION OF NEW FIXTURE IN NEW LOCATION.
12. EXISTING STAINLESS STEEL FLOOR BOX WITH OUTLETS IS TO BE DEMOLISHED. DEMOLISH ASSOCIATED CONDUIT AND CIRCUITRY.
13. EXISTING 20kVA UPS TO BE DEMOLISHED. RETAIN CONDUIT AND CIRCUITRY FOR INSTALLATION OF NEW UPS AT NEW LOCATION. EXTEND CONDUIT AND CIRCUITRY AS NEEDED TO NEW LOCATION. SEE SHEET EP1, KEYNOTE 1, FOR NEW LOCATION.
14. ALL DEVICES, INCLUDING RECEPTACLES AND DATA COMMUNICATIONS OUTLETS, ON THIS WALL ARE TO DEMOLISHED WITH THE REMOVAL OF THE WALL. EXISTING CONDUIT AND CIRCUITRY IS TO BE RETAINED AND EXTENDED AS NEEDED FOR CONNECTION OF NEW DEVICES AT NEW LOCATION. EXISTING CIRCUIT IS UNKNOWN. SEE SHEET EP1, KEYNOTE 3, FOR NEW LOCATION. EXISTING CONDUIT AND CIRCUITRY IS TO BE EXTENDED TO NEW JUNCTION BOXES FOR CONNECTION TO NEW POWER AND DATA STRIP UNDER COUNTER.
15. ALL EXISTING RECEPTACLES, SWITCHES, AND WALL PLATES IN THIS ROOM SHALL BE REPLACED IN KIND WITH NEW DEVICES. THE EXISTING CIRCUITS SHALL REMAIN AS IS AND BE REUSED. NOTE THAT NOT ALL EXISTING DEVICE LOCATIONS ARE SHOWN.
16. EXISTING PYXIS MACHINE SHALL BE RELOCATED. DEMOLISH AND RETAIN ASSOCIATED POWER DEVICE, DATA DEVICE, CONDUIT, AND CIRCUITRY FOR REINSTALLATION AT NEW LOCATION. SEE SHEET EP1, KEYNOTE 8, FOR NEW LOCATION.
17. EXISTING INDOOR MECHANICAL UNIT AND ASSOCIATED EXTERIOR UNIT TO BE DEMOLISHED AND REPLACED. DEMOLISH ALL ASSOCIATED CONDUIT AND CIRCUITRY BACK TO SOURCE. EXISTING CIRCUIT IS UNKNOWN.

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DRAWN BY: ALQ
CHECKED BY: SRL

PARTIAL SECOND FLOOR DEMOLITION PLAN - ELECTRICAL

COMMONWEALTH OF VIRGINIA
09/16/2025
THOMAS S. WARD IV
Lic. No. 058606
PROFESSIONAL ENGINEER

COMMISSION No.
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SHEET
ED1

1 PARTIAL SECOND FLOOR NEW WORK PLAN - LIGHTING

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

Salas O'Brien
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Project No: 2550-00965-00

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DATE: JAN. 23, 2026

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GENERAL SHEET NOTES:

1. SEE SHEET E1 FOR ELECTRICAL LEGEND, GENERAL NOTES AND DEMOLITION NOTES.
2. SEE SHEET E2 FOR SPECIFICATIONS.
3. SEE SHEET E3 FOR LIGHTING FIXTURE SCHEDULE AND DETAILS.
4. SEE SHEET E6 FOR ONE-LINE DIAGRAM AND PANEL SCHEDULES.
5. REFER TO THE GE HEALTHCARE ALLIA IGS INSTALLATION DRAWINGS FOR COMPLETE ELECTRICAL REQUIREMENTS. ADDITIONAL CONNECTIONS, RACEWAYS, ETC. ARE REQUIRED TO SUPPORT THE NEW ALLIA IGS MACHINE. ALL ELECTRICAL WORK SHOWN ON THE GE DRAWINGS SHALL BE PROVIDED.
6. LOCATION OF EXISTING CEILING GRID IS APPROXIMATE. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND COORDINATE LOCATION OF ALL ELEMENTS IN CEILING.

SHEET KEYNOTES:

1. NEW DIMMER SWITCH FOR (3) EXISTING CAN LIGHT FIXTURES. CONNECT WITH EXISTING CONDUIT AND CIRCUITRY RETAINED DURING DEMOLITION.
2. NEW DIMMER SWITCH TO CONTROL ALL 2'X2' AND 2'X4' LIGHT FIXTURES IN THIS SPACE. CONNECT NEW LIGHT FIXTURES TO EXISTING CIRCUITRY RETAINED DURING DEMOLITION.
3. EXISTING LIGHT SWITCH FOR EXISTING MEDICAL LIGHT.
4. INSTALL NEW LIGHT FIXTURE IN SAME PLACE AS DEMOLISHED FIXTURE. CONNECT TO EXISTING CONDUIT AND CIRCUITRY RETAINED DURING DEMOLITION.
5. INSTALL NEW LIGHT FIXTURE IN NEW LOCATION. CONNECT TO EXISTING CONDUIT AND CIRCUITRY RETAINED DURING DEMOLITION AND EXTEND AS NEEDED.
6. PROVIDE NEW DIMMING FOOT PEDAL FOR OVERRIDE LIGHTING CONTROL OF ALL 2'X2' AND 2'X4' LIGHT FIXTURES IN THIS ROOM. COORDINATE FINAL LOCATION WITH OWNER. COORDINATE LOCATION OF LIGHTING CONTROLLER WITH OWNER. COORDINATE WIRING REQUIREMENTS WITH FINAL FOOT PEDAL SELECTION.
7. INSTALL NEW LIGHT FIXTURE IN NEW GWB BULKHEAD CEILING. CONNECT LIGHT FIXTURE TO EXISTING LIGHTING CIRCUIT AND CONTROLS IN THIS SPACE.

SECOND FLOOR RENOVATION FOR
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ELECTROPHYSIOLOGY LAB
1900 ELECTRIC ROAD SALEM, VIRGINIA 24153

DRAWN BY: ALQ
CHECKED BY: SRL

PARTIAL SECOND FLOOR NEW WORK PLAN - LIGHTING

COMMONWEALTH OF VIRGINIA
09/16/2025
THOMAS S. WARD IV
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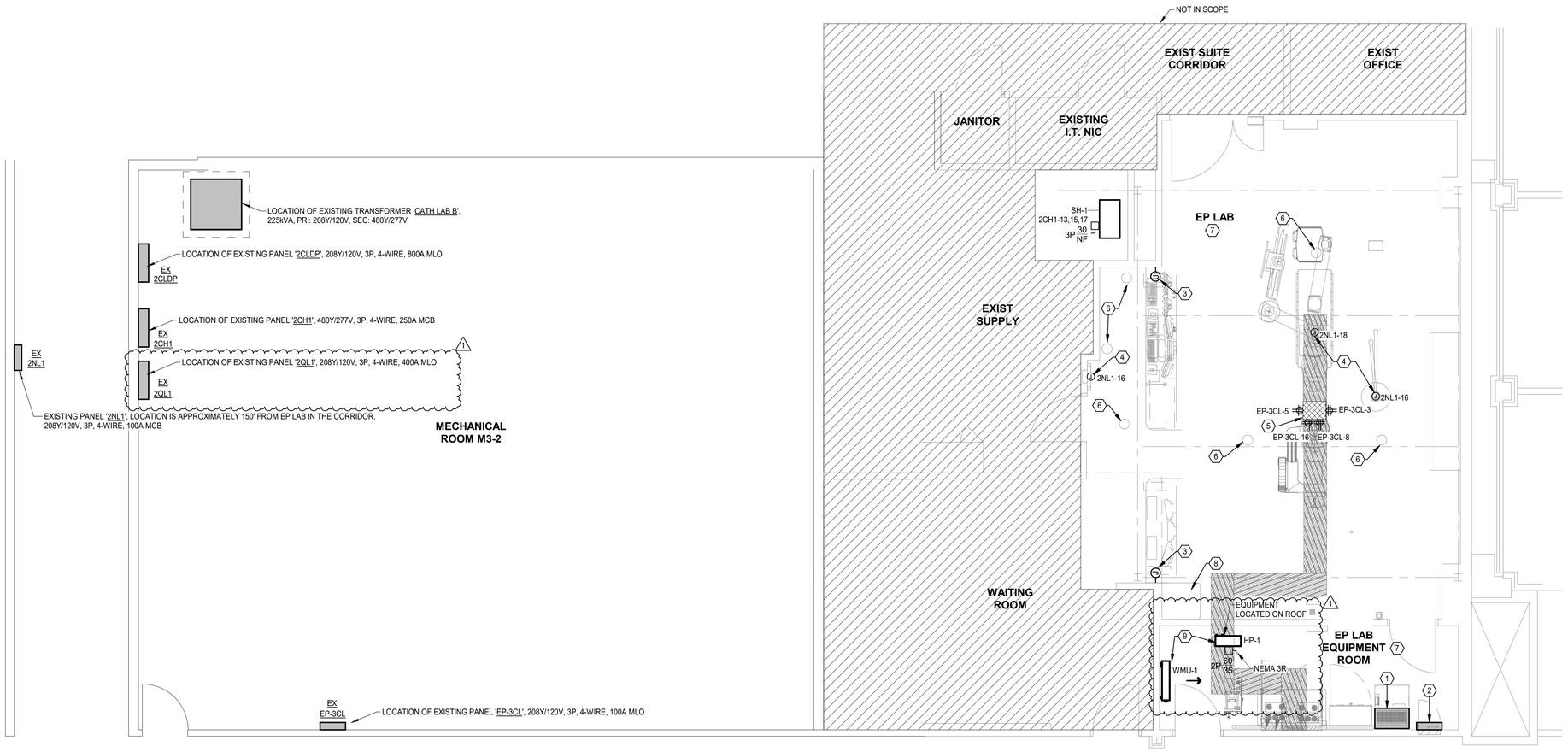
COMMISSION No.
25024

SHEET
EL1



1 PARTIAL SECOND FLOOR NEW WORK PLAN - POWER

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

GENERAL SHEET NOTES:

1. SEE SHEET E1 FOR ELECTRICAL LEGEND, GENERAL NOTES AND DEMOLITION NOTES.
2. SEE SHEET E2 FOR SPECIFICATIONS.
3. SEE SHEET E3 FOR LIGHTING FIXTURE SCHEDULE AND DETAILS.
4. SEE SHEET E6 FOR ONE-LINE DIAGRAM AND PANEL SCHEDULES.
5. CONTRACTOR TO REPLACE ALLIA IGS EXISTING GE RELATED EQUIPMENT TO BE REUSED THAT IS DEEMED INADEQUATE.
6. UTILIZE EXISTING CONDUITS AND RACEWAYS WHERE FEASIBLE. PROVIDE NEW CONDUIT OR DUCT RUNS AS REQUIRED IF EXISTING PATHWAYS ARE INADEQUATE OR DO NOT ALIGN WITH THE NEW SYSTEM LAYOUT. VERIFY ALL EXISTING CONDITIONS AND RACEWAY CONTINUITY IN THE FIELD PRIOR TO INSTALLATION.
7. REFER TO THE GE HEALTHCARE ALLIA IGS INSTALLATION DRAWINGS FOR COMPLETE ELECTRICAL REQUIREMENTS. ADDITIONAL CONNECTIONS, RACEWAYS, ETC. ARE REQUIRED TO SUPPORT THE NEW ALLIA IGS MACHINE. ALL ELECTRICAL WORK SHOWN ON THE GE DRAWINGS SHALL BE PROVIDED.
8. CONTRACTOR SHALL PROVIDE ALL POWER AND SIGNAL CONDUIT ROUTING, PULL STRINGS, BOXES, AND RELATED INFRASTRUCTURE FOR THE GE ALLIA IGS IMAGING SYSTEM PER THE FINAL EQUIPMENT VENDOR DRAWINGS. THIS INCLUDES ALL CONDUIT RUNS BETWEEN THE CONTROL EQUIPMENT ROOM, EP LAB, GANTRY, SYSTEM INTERFACE CABINET, TABLE, MONITORS, PATIENT MONITORING, AND ASSOCIATED DEVICES AS INDICATED IN THE GE LAYOUT. CONDUIT SIZES, QUANTITIES, AND ROUTING SHALL BE FIELD-VERIFIED AND COORDINATED WITH GE EQUIPMENT SUPPLIER REQUIREMENTS PRIOR TO ROUGH-IN. REUSE OF EXISTING CONDUITS AND BOXES SHALL BE PERMITTED ONLY WHERE THEY ARE CONFIRMED TO BE ADEQUATELY SIZED, CORRECTLY LOCATED, AND APPROVED BY THE GE FIELD ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL CONDUITS AND RACEWAYS AS REQUIRED TO MEET GE'S FINAL EQUIPMENT INTERCONNECT AND CABLE ROUTING PLAN. REFER TO CONDUIT RUN TABLES IN THE FINAL GE DRAWING PACKAGE FOR COORDINATION.

SHEET KEYNOTES:

1. NEW 20kVA UPS IS GE PROVIDED AND GE INSTALLED. CONTRACTOR TO EXTEND CONDUIT AND CIRCUITRY RETAINED DURING DEMOLITION AS NEEDED.
2. NEW MAIN DISCONNECT PANEL (MDP) IS GE PROVIDED. CONTRACTOR INSTALLED. CONNECT NEW MDP TO EXISTING CONDUIT AND CIRCUITRY RETAINED DURING DEMOLITION. MDP IS FED FROM EXISTING AN EXISTING PANEL LOCATED IN MECHANICAL ROOM. CONNECT NEW MDP TO PANEL 2CH1 CIRCUIT 32 WITH EXISTING 150A BREAKER RETAINED DURING DEMOLITION.
3. CONTRACTOR TO CONNECT TO NEW POWER AND DATA STRIP USING EXISTING CONDUIT AND CIRCUITRY RETAINED DURING DEMOLITION. EXTEND AS NEEDED FOR RECONNECTION TO NEW POWER AND DATA STRIP UNDER COUNTER. COORDINATE LOCATION WITH ARCHITECTURAL DRAWINGS.
4. PROVIDE NEW JUNCTION BOX AND CIRCUITS FOR NEW BOOM SYSTEM. COORDINATE WITH STERIS FINAL SPECIFICATIONS ON BOOM SYSTEM AND FINAL LOCATION OF SYSTEM.
5. PROVIDE NEW 18" X 14" X 6" JUNCTION BOX WITH FOUR (4) DEDICATED QUADPLEXES INTEGRAL TO BOX. CONNECT RECEPTACLES TO EXISTING SPARE BREAKERS IN THE PANEL INDICATED.
6. NEW VITALINQ SPEAKERS ARE GE PROVIDED, CONTRACTOR INSTALLED. INSTALL NEW SPEAKERS IN CEILING GRID. COORDINATE LOCATION WITH GRID LAYOUT AND GE. POWER TO SPEAKERS SHALL BE COORDINATED WITH GE CONTRACTOR FROM FINAL GE DRAWINGS.
7. ALL EXISTING RECEPTACLES, SWITCHES, AND WALL PLATES IN THIS ROOM SHALL BE REPLACED IN KIND WITH NEW DEVICES. THE EXISTING CIRCUITS SHALL REMAIN AS IS AND BE REUSED. NOTE THAT NOT ALL EXISTING DEVICE LOCATIONS ARE SHOWN.
8. RELOCATED PYXIS MACHINE. INSTALL POWER DEVICE, DATA DEVICE, CONDUIT, AND CIRCUITRY REATINED DURING DEMOLITION FOR CONNECTION AT THIS NEW LOCATION. EXISTING CIRCUIT IS UNKNOWN.

1
9. CONNECT NEW MECHANICAL INDOOR AND OUTDOOR UNIT TO NEW CIRCUIT ON EXISTING PANEL 2QL1 LOCATED IN THE MECHANICAL ROOM. PROVIDE A NEW 2-POLE 35A BREAKER IN SPACE 8 WITH 3#10 AWG + 1#10 GROUND IN 3/4" CONDUIT. CONTRACTOR TO COORDINATE CONNECTION REQUIREMENTS WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE A NEW NEMA 3R 60A DISCONNECT SWITCH WITH 35A FUSE FOR OUTDOOR UNIT. OUTDOOR UNIT POWERS INDOOR UNIT.

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DATE: JAN. 23, 2026

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1 REVISION 1

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DRAWN BY: ALQ
CHECKED BY: SRL

PARTIAL SECOND FLOOR NEW WORK PLAN - POWER

COMMONWEALTH OF VIRGINIA
09/16/2025
THOMAS S. WARD IV
Lic. No. 058606
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COMMISSION No.
25024

SHEET
EP1

BASIS OF DESIGN

THE MANUFACTURER AND MODEL NUMBER LISTED IN THE DRAWINGS OR SPECIFICATIONS ARE THE BASIS OF DESIGN. WHEN PROVIDING EQUIPMENT THAT IS NOT THE BASIS OF DESIGN, THE CONTRACTOR SHALL PROVIDE AN ITEMIZED LIST OF ALL DEVIATIONS FROM THE INFORMATION DETAILED IN BOTH THE SPECIFICATION SECTION AND SCHEDULE. ADDITIONALLY, THE EQUIPMENT MUST MEET THE PHYSICAL CONSTRAINTS OF ROOM INCLUDING COORDINATION WITH OTHER TRADES AND ALL EQUIPMENT CLEARANCES, INCLUDING OTHER TRADES. FINALLY, THE CONTRACTOR SHALL PROVIDE AT THE CONTRACTOR'S COST ANY SCOPE INCREASE AND DEDUCTIONS BASED ON THE NON-BASIS OF DESIGN EQUIPMENT FOR THE FOLLOWING MINIMUM ITEMS:

- ELECTRICAL MODIFICATIONS, INCLUDING WIRING, CONDUIT, DISCONNECTS, OVERCURRENT PROTECTION, PANELS, ETC.
- STRUCTURAL MODIFICATIONS.
- CIVIL MODIFICATIONS.
- PLUMBING MODIFICATIONS.
- DUCT AND PIPE CONNECTIONS OR ARRANGEMENTS.
- SPACE HEATING AND COOLING REQUIREMENTS.
- EXHAUST OR VENTILATION MODIFICATIONS.
- VIBRATION ISOLATION REQUIREMENTS.
- **CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE EQUIPMENT MANUFACTURER FOR ANY CHANGES TO THE REFRIGERANTS REQUIRED PER NEW EPA GUIDELINES. CONTRACTOR SHALL COORDINATE WITH OTHER DISCIPLINES FOR CHANGES IN EQUIPMENT SIZE OR ELECTRICAL REQUIREMENTS.**

HVAC EQUIPMENT SIZES ARE BASED UPON ASHRAE 2021 WEATHER DATA AS LISTED BELOW.
HEATING AND COOLING DESIGN CONDITION LOCATION: ***ROANOKE-BLACKSBURG, VA***
SUMMER:
- OUTDOOR CONDITIONS: ***92.2°F DB, 72.7 WB***
- INDOOR SETPOINTS: ***68°F DB 50% RH***

WINTER:
- OUTDOOR CONDITIONS: ***16.8°F DB***
- INDOOR SETPOINTS: ***68°F DB 35% RH***

GENERAL DEMOLITION NOTES:

1. THESE DRAWINGS HAVE BEEN DEVELOPED FROM EXISTING DRAWINGS AND LIMITED FIELD MEASUREMENTS AND MAY NOT FULLY REFLECT ACTUAL FIELD CONDITIONS. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AND NOTIFY THE ARCHITECT IN WRITING OF ANY WORK DESCRIBED IN THE CONTRACT DOCUMENTS WHICH CANNOT BE PERFORMED DUE TO EXISTING CONDITIONS.
2. THE CONTRACTOR SHALL REMOVE OR ALTER AS NECESSARY ALL EXISTING PIPING, EQUIPMENT, EQUIPMENT FOUNDATIONS, AND APPURTENANCES THAT ARE NOT REQUIRED FOR THE EXISTING SYSTEMS TO REMAIN. CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE SCOPE OF THIS WORK AND VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS.
3. EXISTING EQUIPMENT SHALL BE TURNED OVER TO THE OWNER, UNLESS DIRECTED OTHERWISE AND LOCATED AS DIRECTED BY THE OWNER. ALL OTHER ITEMS TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PREMISES.
4. REMOVAL OF EXISTING FIXTURES AND EQUIPMENT MAY AFFECT ADJACENT SPACES NOT IN SCOPE. THE CONTRACTOR SHALL COORDINATE POTENTIAL SPACE INTERRUPTIONS WITH THE OWNER AND ARCHITECT PRIOR TO DEMOLITION.
5. DEMOLITION WORK INCLUDES, BUT IS NOT NECESSARILY LIMITED TO, THOSE ITEMS NOTED. OTHER ITEMS OF A MINOR NATURE MAY EXIST WHICH ARE NOT SPECIFICALLY NOTED ON THE DRAWINGS ARE TO BE REMOVED AS REQUIRED, TO PROVIDE ACCESS AND ALLOW ALTERATION OR NEW WORK TO PROCEED.
6. INSULATION ON EXISTING PIPING OR DUCTWORK THAT IS DAMAGED OR REMOVED DUE TO DEMOLITION WORK SHALL BE REPLACED AND SEALED AS REQUIRED TO PROVIDE CONTINUOUS COVERAGE.
7. FIRE-RATED ASSEMBLIES SHALL BE MAINTAINED IN ACCORDANCE WITH AN APPROVED AND TESTED UL THROUGH PENETRATION FIRESTOP SYSTEM AS SPECIFIED IN THE FIRE RESISTANCE DIRECTORY.
8. DEMOLITION WORK CREATING NOISE WHICH CAN BE HEARD OUTSIDE OF THE EXISTING SPACE MUST BE COORDINATED WITH THE OWNER SO AS NOT TO DISRUPT THE ADJOINING SPACES.
9. PORTIONS OF THE BUILDING MAY BE OCCUPIED DURING THIS RENOVATION, THE GENERAL CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO PROVIDE FOR THE PROTECTION AND SAFETY OF THE BUILDING OCCUPANTS.

GENERAL NOTES:

1. INSTRUCT THE OWNER IN THE PROPER OPERATION AND MAINTENANCE OF THE MECHANICAL SYSTEMS UNTIL THE OWNER IS FULLY PREPARED TO OPERATE AND MAINTAIN THE MECHANICAL SYSTEM. HOWEVER, LENGTH OF INSTRUCTION TIME SHALL BE LIMITED TO ONE DAY.
2. EQUIPMENT, MATERIALS AND LABOR REQUIRED BY THESE CONTRACT DRAWINGS SHALL BE GUARANTEED TO BE FREE FROM DEFECTIVE MATERIALS OR WORKMANSHIP FOR ONE YEAR AFTER FINAL ACCEPTANCE OF THE PROJECT UNLESS SPECIFIED OTHERWISE. DEFECTIVE MATERIALS OR WORKMANSHIP OCCURRING DURING THIS PERIOD SHALL BE CORRECTED AT NO ADDITIONAL COST.
3. GENERAL CONTRACTOR TO VERIFY THE FINAL LOCATION OF ALL THERMOSTATS, TEMPERATURE SENSORS, PANELS AND CONTROL INSTRUMENTS WITH THE ARCHITECT AND OWNER PRIOR TO ROUGH-IN.
4. GENERAL CONTRACTOR TO VERIFY WALL OPENINGS WITH STRUCTURE, LOCATIONS OF NEW AND EXISTING EQUIPMENT AND ROUTE OF DUCTWORK WITH EXISTING CONDITIONS PRIOR TO ROUGH-IN.
5. REFER TO ARCHITECTURAL, STRUCTURAL AND ELECTRICAL DRAWINGS TO COORDINATE THE EXACT LOCATIONS OF DIFFUSERS, REGISTERS, GRILLES, PIPING AND OTHER MECHANICAL EQUIPMENT WITH CEILING GRID, LIGHTS, BEAMS AND OTHER BUILDING COMPONENTS.
6. CEILING GRID AND OTHER ITEMS SHALL NOT BE SUPPORTED FROM OR IN CONTACT WITH MECHANICAL EQUIPMENT. CONDUIT, WIRING, PIPING AND SUPPORTS SHALL NOT BE LOCATED IN FRONT OF FAN COIL ACCESS PANELS.
7. DUCTWORK AND PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL PANELS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING WITH ELECTRICAL PANELS WHEN SHOWN NEAR PANELS OR OVER ELECTRICAL ROOMS.
8. MATERIAL AND INSTALLATION SHALL COMPLY WITH LOCAL CODES, APPLICABLE PROVISIONS OF LATEST EDITION OF NATIONAL FIRE PROTECTION ASSOCIATION, LOCAL UTILITY REGULATIONS AND GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.
9. MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL SUPPORTS REQUIRED TO MOUNT MECHANICAL EQUIPMENT, PIPING AND DUCTWORK. EQUIPMENT SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
10. ALL DUCTWORK TRANSITIONS AND PIPING INCREASERS/REDUCERS SHALL BE PROVIDED AS REQUIRED FOR EQUIPMENT CONNECTIONS. SEE MANUFACTURERS DATA FOR ACTUAL DUCTWORK AND PIPING CONNECTION SIZES AND LOCATIONS.
11. PROVIDE AIR DEFLECTORS IN ALL SUPPLY AIR DUCTWORK SQUARE ELBOWS.
12. DUCTWORK AND PIPING LAYOUTS ARE FOR DIAGRAMMATICAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEASURING AND COORDINATING ALL DUCTWORK AND PIPING PRIOR TO INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL OFFSETS AS REQUIRED TO MEET THE INTENT OF THE DESIGN DOCUMENTS AT NO ADDITIONAL COST TO THE OWNER.
13. THE GENERAL CONTRACTOR SHALL SEAL AND FLASH ALL WALL, ROOF, AND FLOOR PENETRATIONS AIRTIGHT AND WATERTIGHT AT EACH PIPE, DUCTWORK, AND CONDUIT PENETRATION. PROVIDE AIRTIGHT SEAL BETWEEN AT ALL FIRE PARTITION AND OR WALL PENETRATIONS WITH UL APPROVED FIRE-RESISTANT MATERIAL MATCHING OR EXCEEDING THE PENETRATED FIRE PARTITION AND OR WALLS RATING.
14. ALL CUTTING AND PATCHING FOR THE INSTALLATION OF NEW WORK IN EXISTING BUILDING SHALL BE DONE BY THE GENERAL CONTRACTOR.
15. PROVIDE FLEXIBLE DUCT CONNECTIONS BETWEEN THE SUPPLY AND RETURN DUCTS FROM ALL AIR UNITS AND AT BUILDING EXPANSION JOINTS. FLEXIBLE CONNECTIONS SHALL BE WEATHERTIGHT WHEN EXPOSED.

SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
(#)	KEY NOTE TAG
A	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
T	TEMPERATURE SENSOR
H	HUMIDITY SENSOR
AIR DEVICES	
-	GRILLE SIZE TAG (REFER TO GRILLE SIZE LEGEND)
	SUPPLY AIR GRILLE WITH FOUR-WAY THROW
	RETURN AIR GRILLE
	EXHAUST AIR GRILLE
PIPING	
—CHWS—	CHILLED WATER SUPPLY
—CHWR—	CHILLED WATER RETURN
— D —	CONDENSATE DRAIN LINE
— R —	REFRIGERANT LIQUID & GAS RECIRCULATION LINE (TOTAL OF TWO PIPES, ONLY ONE PIPE SHOWN FOR DRAWING CLARITY)
	90° ELBOW
RENOVATIONS	
	POINT OF CONNECTION FROM NEW TO EXISTING
	ITEM TO REMAIN
	ITEM TO BE REMOVED

SUBSCRIPTS AND ABBREVIATIONS	
AC	AIR CONDITIONING
AFF	ABOVE FINISHED FLOOR
APD	AIR PRESSURE DROP
ATM	ATMOSPHERE
CFM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
D	DRAIN
DIM	DIMENSION
DP	DIFFERENTIAL PRESSURE
F	FAHRENHEIT
FA	FREE AREA
FC	FLEXIBLE CONNECTION
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH
FT	FEET
GA	GAUGE
GAL	GALLONS
GPM	GALLONS PER MINUTE
GR	GRADE
HD	HEAD
HP	HORSEPOWER
HR	HOUR
HZ	HERTZ (CYCLES PER SECOND)
IN	INCHES
KW	KILOWATT
MCA	MINIMUM CIRCUIT AMPS
MOD	MOTORIZED OPERATED DAMPER
NC	NOISE CRITERIA
NOM	NOMINAL
PD	PRESSURE DROP
PH	PHASE
R	RADIUS
RA	RETURN AIR
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SEN	SENSIBLE
SP	STATIC PRESSURE
SUP	SUPPLY
TON	12,000 BTUH (COOLING CAPACITY)
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TYP	TYPICAL
V	VOLTS
VAV	VARIABLE AIR VOLUME
MD	MANUAL DAMPER
VEL	VELOCITY
WB	WET BULB TEMPERATURE
WPD	WATER PRESSURE DROP

1

DUCTLESS MINI-SPLIT - INDOOR UNIT

MARK	SUPPLY AIR CFM	ELECTRICAL CONNECTION			RATED COOLING CAPACITY (BTU/H)	RATED HEATING CAPACITY AT 47° (BTU/H)	MANUFACTURER	MODEL	REMARKS
		V	P	F					
WMU-1	920	208	1	60	33,400	40,000	MITSUBISHI	PKA-AK36NL	ALL

REMARKS:
1. UNIT TO BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE UNIT WITH WALL MOUNTED TEMPERATURE SENSOR CAPABLE OF TYING INTO THE EXISTING BAS SYSTEM.
3. REFRIGERANT LINES TO BE SIZED PER MANUFACTURER'S REQUIREMENTS.
4. COOLING CAPACITY BASED ON AHRI CONDITIONS.
5. PROVIDE UNIT WITH CONDENSATE OVER FLOW SWITCH.
6. PROVIDE UNIT WITH BLUE DIAMOND MAXIBLUE ADVANCED MINI CONDENSATE PUMP W RESERVOIR SENSOR.

HEAT PUMP

MARK	COOLING PERFORMANCE		HEATING PERFORMANCE		ELECTRICAL CONNECTION					RELATED UNIT MARK	MANUFACTURER	MODEL	REMARKS
	RATED TOTAL COOLING CAPACITY (BTU/H)	MINIMUM EER2 / SEER2	RATED TOTAL HEATING CAPACITY AT 47° (BTU/H)	MINIMUM HSPF2	V	PH	F	MCA	MOCP				
HP-1	33,400	12.0 / 20.3	40,000	9.4	208	1	60	34.0	35.0	WMU-1	MITSUBISHI	PUZ-AK36NL	ALL

GENERAL NOTES:
1. MINIMUM RECOMMENDED CLEARANCE AROUND ROOFTOP UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE FOR CONDENSER AIR FLOW AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. PROVIDE WITH LOW AMBIENT CONTROL DOWN TO 20°F.
2. REFRIGERANT LINES TO BE SIZED PER MANUFACTURER'S REQUIREMENTS.
3. PROVIDE WITH COIL GUARD.
4. PROVIDE UNITS WITH NAME PLATES TO REFERENCE CORRESPONDING WALL MOUNTED UNIT.

HUMIDIFIER

MARK	SUPPLY AIR CFM	ELECTRICAL CONNECTION						SPACE DESIGN DB TEMP °F	SPACE DESIGN RH %	ENTERING AIR RELATIVE HUMIDITY %	LEAVING AIR RELATIVE HUMIDITY %	TOTAL HUMIDIFICATION LBS/HR	DUCT SIZE	MANUFACTURER	MODEL	REMARKS
		V	P	F	MCA	MOCP	KW									
SH-1	1,565	480	3	60	19.8	30.0	16.5	70	35	1.3	14.1	33.1	18X12	PURE HUMIDIFIER	ES-16.5	ALL

GENERAL NOTES:
1. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. PROVIDE UNIT WITH (2) WALL MOUNTED HUMIDITY SENSORS CAPABLE OF TYING INTO THE EXISTING BAS SYSTEM.
2. PROVIDE UNIT WITH PROPER ACCESSORIES TO MOUNT ABOVE CEILING.
3. PROVIDE UNIT WITH PROPER ACCESSORIES TO MAINTAIN SCHEDULED RELATIVE HUMIDITY.
4. COORDINATE NEW STAINLESS STEEL DUCT SIZE WITH MANUFACTURER PRIOR TO ORDERING OF EQUIPMENT.
5. PROVIDE UNIT WITH MANUFACTURER RECOMMENDED SELF-ACTUATED TEMPERING KIT.
6. PROVIDE WITH MANUFACTURER RECOMMENDED MULTI-TUBE ASSEMBLY.
7. PROVIDE WITH STAINLESS STEEL DRAIN TEE NEAR DUCT.
8. PROVIDE WITH MANUFACTURER RECOMMENDED CONDENSATE PUMP.
9. PROVIDE PLUMBED UNIT. 1

GRILLES, REGISTERS AND DIFFUSERS

MARK	DESCRIPTION	MOUNTING TYPE	FACE WIDTH	FACE LENGTH	NECK SIZE	MAX AIRFLOW (CFM)	MAX AIR P.D., IN. H2O	MAX N.C.	MANUFACTURER	MODEL	REMARKS
A	SQUARE PLAQUE DIFFUSER	LAY-IN DIFFUSER	24.0	24.0	8"ø	230	0.1	25	PRICE	ASPD	1,2
B	SQUARE PLAQUE DIFFUSER	LAY-IN DIFFUSER	24.0	24.0	10"ø	415	0.1	25	PRICE	ASPD	1,2
Z	PERFORATED RETURN DIFFUSER	LAY-IN DIFFUSER	24.0	24.0	12/12	500	0.05	20	PRICE	PDDR	1,2

GENERAL NOTES:
1. COORDINATE EXACT GRILLE AND DIFFUSER LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS.
2. WHERE MULTIPLE WALL MOUNTED REGISTERS ARE INSTALLED IN A ROOM, THE REGISTERS SHALL BE ALIGNED ON THE CENTER POINT OF EACH REGISTER.
3. ALL CEILING DIFFUSERS SHALL BE 4-WAY THROW TYPE UNLESS NOTED OTHERWISE.

REMARKS:
1. DUCT MOUNTED BALANCING DAMPERS SHALL BE FURNISHED AND INSTALLED WHERE RUNOUT IS ABOVE AN ACCESSIBLE CEILING. IN LOCATIONS ABOVE HARD CEILINGS, DIFFUSERS SHALL BE FURNISHED WITH OPPOSED BLADE DAMPER OPERABLE THRU DIFFUSER FACE.
2. THE HARD DUCT TAP FITTING AND FLEXIBLE DUCT CONNECTION SHALL BE SIZED TO EQUAL THE DIAMETER FOR THE DIFFUSER CONNECTION.

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DRAWN BY: MDA
CHECKED BY: SSL

MECHANICAL GENERAL NOTES, SYMBOLS, AND SCHEDULES

COMMONWEALTH OF VIRGINIA
09/16/2025
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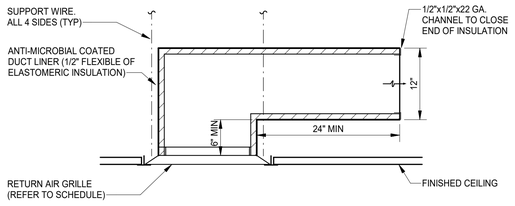
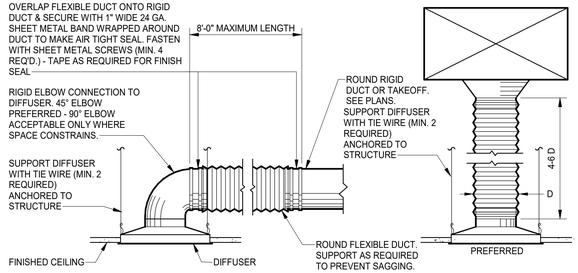
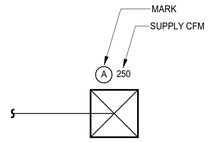
SHEET
M1



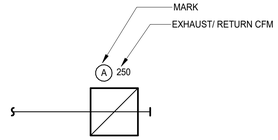
1 RETURN/RELIEF AIR SOUND TRAP DETAIL
Scale: NONE



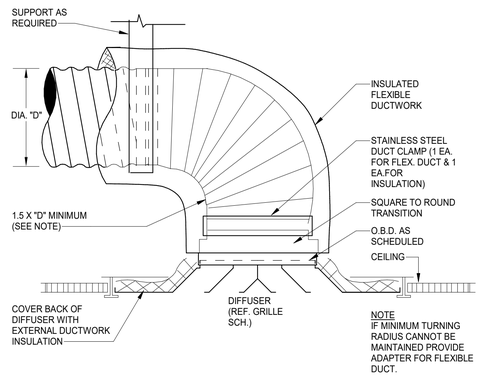
2 CEILING DIFFUSER INSTALLATION
Scale: NONE



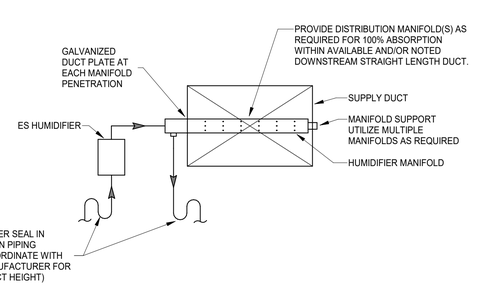
3 DIFFUSER SIZING
Scale: NONE



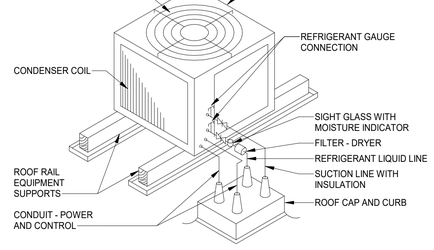
4 REGISTER SIZING
Scale: NONE



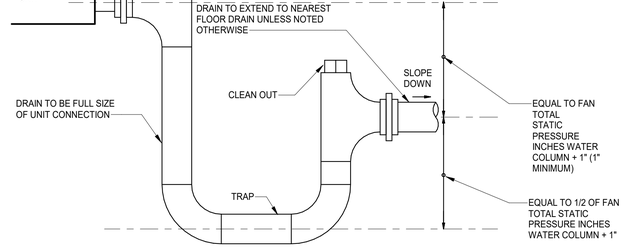
5 FLEX DUCT CONNECTION AT SUPPLY AIR DIFFUSER
Scale: NONE



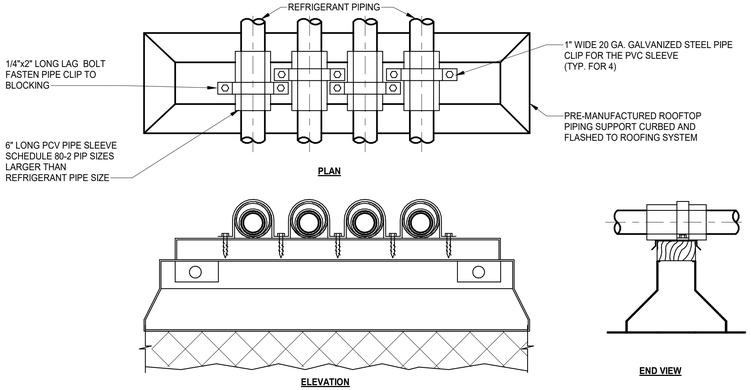
6 STEAM HUMIDIFIER INSTALLATION
Scale: NONE



7 AIR COOLED HEAT PUMP UNIT
Scale: NONE

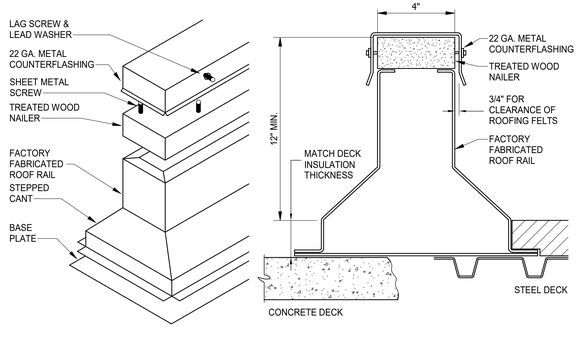


11 COOLING COIL CONDENSATE DRAIN
Scale: NONE



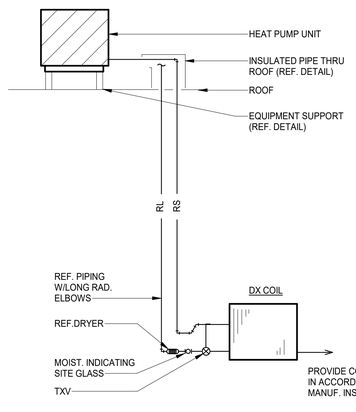
NOTES:
1. SUPPORT REQUIRED AT ALL CHANGES IN DIRECTION & AS SHOWN ON DRAWINGS.
2. INCREASE HEIGHT AS REQUIRED FOR ROUTING ABOVE ROOF MOUNTED ACCESSORIES SUCH AS EXPANSION JOINTS.

8 REFRIGERANT PIPING ROOF SUPPORT
Scale: NONE



NOTE:
PROVIDE 8" WIDE DRAIN OPENING ("RAIN SCUPPER") AT 60" O.C. IF RAILING EXCEEDS 10'-0" IN LENGTH.

9 ROOF RAIL EQUIPMENT SUPPORT
Scale: NONE



10 REFRIGERANT PIPING DIAGRAM
Scale: NONE

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LEWIS GALE MEDICAL CENTER
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1900 ELECTRIC ROAD SALEM, VIRGINIA 24153

DRAWN BY: MDA
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MECHANICAL DETAILS

COMMONWEALTH OF VIRGINIA
09/16/2025
SAMUEL S. LOTT
Lic. No. 061900
PROFESSIONAL ENGINEER

COMMISSION No.
25024

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DATE: JAN. 23, 2026

REVISIONS
1 REVISION 1

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SECOND FLOOR RENOVATION FOR
LEWIS GALE MEDICAL CENTER
ELECTROPHYSIOLOGY LAB
1900 ELECTRIC ROAD SALEM, VIRGINIA 24153

MECHANICAL SPECIFICATIONS

GENERAL

1. PERFORM WORK IN ACCORDANCE WITH APPLICABLE STATUTES, ORDINANCES, CODES AND REGULATIONS OF GOVERNMENTAL AUTHORITIES HAVING JURISDICTION.
2. OBTAIN ALL PERMITS REQUIRED.
3. CONTRACT DRAWINGS ARE DIAGRAMMATIC ONLY AND DO NOT GIVE FULLY DIMENSIONED LOCATIONS OF VARIOUS ELEMENTS OF WORK. DETERMINE EXACT LOCATIONS FROM FIELD MEASUREMENTS.
4. GUARANTEE WORK FOR 1 YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF HE PROJECT. DURING THAT PERIOD MAKE GOOD ANY FAULTS OR IMPERFECTIONS THAT MAY ARISE DUE TO DEFECTS OR OMISSIONS IN MATERIAL, EQUIPMENT OR WORKMANSHIP. AT THE OWNER'S OPTION, REPLACEMENT OF FAILED PARTS OR EQUIPMENT SHALL BE PROVIDED.
5. IMMEDIATELY PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT, REPLACE AIR FILTERS.
6. PROVIDE EQUIPMENT HOUSEKEEPING PADS UNDER ALL FLOOR MOUNTED AND GROUND MOUNTED HVAC EQUIPMENT, AND AS SHOWN ON THE DRAWINGS. CONCRETE PADS ARE TO BE 4" THICK UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
7. PROVIDE NAMEPLATES WITH 1/2" HIGH LETTERS AND FASTENED WITH EPOXY OR SCREWS.
8. MAINTAIN QUALITY CONTROL OVER SUPERVISION, SUBCONTRACTORS, SUPPLIERS, MANUFACTURERS, PRODUCTS, SERVICES, SITE CONDITIONS AND WORKMANSHIP TO PRODUCE WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS.
9. COMPLY WITH INDUSTRY STANDARDS EXCEPT WHEN MORE RESTRICTIVE TOLERANCES OR SPECIFIED REQUIREMENTS INDICATE MORE RIGID STANDARDS OR MORE PRECISE WORKMANSHIP.
10. PERFORM WORK BY PERSONS QUALIFIED TO PRODUCE WORKMANSHIP OF SPECIFIED QUALITY.
11. SECURE PRODUCTS IN PLACE WITH POSITIVE ANCHORAGE DEVICES DESIGNED AND SIZED TO WITHSTAND STRESSES, VIBRATION, AND RACKING. UNDER NO CONDITIONS SHALL MATERIAL OR EQUIPMENT BE SUSPENDED FROM STRUCTURAL BRIDGING.
12. PROVIDE FINISHES TO MATCH APPROVED SAMPLES. ALL EXPOSED FINISHES SHALL BE APPROVED BY THE ARCHITECT. SUBMIT COLOR SAMPLES AS REQUIRED.
13. COMPLY WITH INSTRUCTIONS IN FULL DETAIL, INCLUDING EACH STEP IN SEQUENCE. SHOULD INSTRUCTION CONFLICT WITH CONTRACT DOCUMENTS, REQUEST CLARIFICATION FROM ARCHITECT / ENGINEER BEFORE PROCEEDING.

MECHANICAL ALTERATIONS

1. INSPECT AND SERVICE EXISTING EQUIPMENT AND MATERIALS THAT ARE TO REMAIN OR TO BE REUSED.
2. DISPOSAL OF EQUIPMENT, MATERIALS, OR HOUSEKEEPING PADS TO BE ABANDONED. PRIOR TO DISPOSAL, THE CONTRACTOR SHALL VERIFY WITH THE OWNER WHAT IS TO BE SALVAGED BY THE OWNER AND WHAT IS TO BECOME THE PROPERTY OF THE CONTRACTOR.
3. HANDLING OF EQUIPMENT AND MATERIALS TO BE REMOVED.
4. INSPECTION: EXISTING MATERIALS AND EQUIPMENT INDICATED ON THE DRAWINGS OR IN THE SPECIFICATIONS TO BE REUSED SHALL BE INSPECTED FOR DAMAGED OR MISSING PARTS. CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER, IN WRITING, ACCORDINGLY. IF USING MATERIALS SPECIFIED OR SHOWN ON THE DRAWING VOIDS OR DIMINISHES THE WARRANTY OR OPERATION OF REMAINING EQUIPMENT OR SYSTEMS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER, IN WRITING. DEMOLITION DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION, AND WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING EXISTING INSTALLATION, AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED.
5. APPLICATION: EXISTING MATERIALS AND EQUIPMENT INDICATED ON THE DRAWINGS OR IN THE SPECIFICATIONS TO BE REUSED SHALL BE CLEANED AND RECONDITIONED, INCLUDING CLEANING OF PIPING SYSTEMS AND HVAC COILS PRIOR TO INSTALLATION AND REUSE. MATERIAL AND EQUIPMENT REMOVED THAT IS NOT TO BE SALVAGED FOR OWNER'S USE OR FOR REUSE ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE REMOVED FROM THE SITE. MATERIAL OR EQUIPMENT SALVAGED FOR OWNER'S USE SHALL BE CAREFULLY HANDLED AND STORED WHERE DIRECTED BY THE OWNER OR THE ARCHITECT/ENGINEER. RELOCATE MATERIAL AND / OR EQUIPMENT AS DIRECTED BY OWNER. MATERIALS AND EQUIPMENT NOT INDICATED TO BE REMOVED OR ABANDONED SHALL BE RECONNECTED TO THE NEW SYSTEM. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL WALK AREAS TO BE RENOVATED WITH OWNER TO IDENTIFY AND DOCUMENT ITEMS TO BE SALVAGED FOR OWNER'S USE.
6. SEQUENCE AND SCHEDULE: COORDINATE UTILITY SERVICE OUTAGES WITH UTILITY COMPANY, ARCHITECT AND OWNER. REMOVE CONCRETE HOUSEKEEPING PAD WHERE MATERIALS OR EQUIPMENT HAVE BEEN REMOVED.

EQUIPMENT SUBSTITUTIONS

1. A SUBSTITUTION IS UNDERSTOOD TO MEAN THAT THE CONTRACTOR HAS PERSONALLY EVALUATED THE PROPOSED PRODUCT AND CONFIRMS IT IS EQUAL OR SUPERIOR TO THE SPECIFIED ITEM.
2. WILL PROVIDE THE SAME WARRANTY AS FOR THE SPECIFIED PRODUCT.
3. CERTIFIES THAT ALL COST DATA IS COMPLETE, INCLUDING RELATED COSTS, AND WAIVES ANY CLAIMS FOR ADDITIONAL EXPENSES.
4. HAS COORDINATED ALL DESIGN MODIFICATIONS NECESSARY FOR PROPER INSTALLATION.
5. HAS COORDINATED WITH THE GENERAL CONTRACTOR AND ALL TRADES TO ENSURE THE SUBSTITUTION IS FULLY INTEGRATED WITHOUT ADDITIONAL COST TO THE OWNER.
6. ARCHITECT/ENGINEER ACCEPTANCE OF A SUBSTITUTION LIST DOES NOT IMPLY APPROVAL. IT ONLY PERMITS THE CONTRACTOR TO SUBMIT DETAILED SHOP DRAWINGS FOR REVIEW. INCOMPLETE SUBMITTALS WILL BE RETURNED WITHOUT REVIEW. IF, AFTER TWO SUBMITTALS, THE SUBSTITUTION IS NOT APPROVED, THE ORIGINALLY SPECIFIED PRODUCT MUST BE USED.

SHOP DRAWINGS

1. SHOP DRAWINGS ARE REQUIRED FOR ALL MATERIALS AND EQUIPMENT SPECIFIED BY MANUFACTURER NAME OR AS INDICATED IN THE TECHNICAL SPECIFICATIONS.
2. SUBMITTALS FOR RELATED EQUIPMENT MUST BE SUBMITTED TOGETHER.
3. SUBSTITUTIONS INCLUDED IN SHOP DRAWINGS WILL BE REJECTED IF:
   A. THEY ARE NOT SUBMITTED IN ACCORDANCE WITH THE FORMAL SUBSTITUTION PROCESS.
   B. THEY REQUIRE SUBSTANTIAL REVISIONS TO THE CONTRACT DOCUMENTS.

CONDENSATE PIPING

1. TYPE "L" COPPER WITH DRAINAGE PATTERN FITTINGS IN RETURN PLENUM AREAS, PVC WITH DRAINAGE PATTERN FITTINGS IN NON-PLENUM AREAS.
2. INSTALL THE SYSTEM TO FACILITATE EASY REMOVAL, USE THREADED PLUGGED TEE AT EACH CHANGE OF DIRECTION TO PERMIT CLEANING, INSTALL A CLEANOUT EVERY 50 FEET OF STRAIGHT RUN PIPING, MAINTAIN A POSITIVE SLOPE ON ALL PIPING.
3. INSTALL A WATER SEAL TRAP LEG BASED ON THE FAN PRESSURE. SIZE OTHER LENGTH OF THE TRAP LEG 1 INCH LARGER THAN THE ACTUAL SYSTEM PRESSURE.
4. DO NOT INSTALL PIPING SIZED SMALLER THAN THE UNIT DRAIN CONNECTION SIZE.
5. INSULATE PIPING WITH 3/4" ELASTOMERIC INSULATION FOR ALL PIPE BELOW ROOF.
6. INSULATION TO BE 25/50 FLAME AND SMOKE RATING.

DUCTWORK

1. DUCT MATERIAL AND CONSTRUCTION: USE LOCK FORMING QUALITY PRIME GALVANIZED STEEL SHEETS OR COILS UP TO 60" WIDE. STENCIL EACH SHEET WITH GAUGE AND MANUFACTURER'S NAME. STENCIL COILS OF SHEET STEEL THROUGHOUT ON 10' CENTERS WITH GAUGE AND MANUFACTURER'S NAME. PROVIDE CERTIFICATION OF DUCT GAUGE AND MANUFACTURER FOR EACH SIZE DUCT.
2. RECTANGULAR LOW PRESSURE DUCT CONSTRUCTED OF SHEET METAL IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
3. LOW PRESSURE ROUND DUCTS SHALL BE SHOP FABRICATED WITH SNAP LOCK LONGITUDINAL SEAMS. DUCTS SHALL BE CONSTRUCTED FOR A MINIMUM OF 2" W.G. STATIC PRESSURE.
4. FLEXIBLE DUCT LOW PRESSURE SHALL BE A CONTINUOUS GALVANIZED SPRING STEEL WIRE HELIX, WITH REINFORCED METALIZED COVER, REINFORCED VAPOR BARRIER JACKET RATED FOR USE AT SYSTEM PRESSURE (6" WC MINIMUM). THERMAL CHARACTERISTICS OF R-6 BTU/HR/SQ. FT./°F AND 2" WALL THICKNESS INSULATION WITH 1" OVERLAP. ACCEPTABLE MANUFACTURERS: FLEXMASTER, HART & COOLEY, OMNIAIR
5. ACCEPTABLE MANUFACTURERS: FLEXMASTER, THERMOFLEX, OMNIAIR.
6. VOLUME DAMPERS: MANUAL BALANCING DAMPERS THAT MEET OR EXCEED THE FOLLOWING MINIMUM CONSTRUCTION STANDARDS: FRAME 16-GAUGE, BLADES 16-GAUGE, BEARINGS CORROSION RESISTANT, OPPOSED BLADE DAMPERS.
7. INSTALLATION: USE CONSTRUCTION METHODS AND REQUIREMENTS AS OUTLINED IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS AS WELL AS SMACNA BALANCING AND ADJUSTING PUBLICATIONS, UNLESS INDICATED OTHERWISE IN THE SPECIFICATIONS. REFER TO DETAILS ON THE DRAWINGS FOR ADDITIONAL INFORMATION. REINFORCE DUCTS IN ACCORDANCE WITH RECOMMENDED CONSTRUCTION PRACTICE OF SMACNA. PROVIDE ADDITIONAL REINFORCEMENT OF LARGE PLENUMS AS REQUIRED TO PREVENT EXCESSIVE FLEXING AND OR VIBRATION.
8. STAINLESS STEEL: ALL MATERIAL AND FITTINGS SHALL BE 304 STAINLESS STEEL, WELDED JOINTS, WATERTIGHT CONSTRUCTION.

DUCTWORK INSULATION

1. FURNISH AND INSTALL EXTERNAL INSULATION ON SUPPLY, RETURN, EXHAUST AND FRESH AIR DUCTWORK.
2. ALL DUCT INSULATION USED ON THE PROJECT INSIDE THE BUILDING MUST HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50 AS DETERMINED BY TEST PROCEDURES ASTM E84, NFPA 255 AND UL 723.
3. CONDENSATION ON ANY INSULATED SYSTEM IS NOT APPROVED.
4. WHERE EXISTING INSULATED DUCTWORK OR OTHER SERVICES ARE TAPPED, REMOVE EXISTING INSULATION BACK TO UNDAMAGED SECTIONS AND REPLACE WITH NEW INSULATION OF THE SAME TYPE AND THICKNESS AS EXISTING INSULATION.
5. INSULATION: GLASS FIBER BLANKET DUCT INSULATION. ACCEPTABLE MANUFACTURERS ARE: MANVILLE R-SERIES MICROLITE FSKL, OWENS-CORNING ED100 RKF, KNAUF 1.0 PCF FSK.
6. REINFORCED FOIL TAPE: ACCEPTABLE MANUFACTURERS ARE: VENTURE 1525CW, 3" FSK.

AIR DEVICES

1. FURNISH AND INSTALL AIR DISTRIBUTION DEVICES, INCLUDING GRILLES, DIFFUSERS, REGISTERS, DAMPERS, AND EXTRACTORS.
2. ACCEPTABLE MANUFACTURERS: TUTTLE AND BAILEY, TITUS, KRUEGER, METAL-AIRE, NAILOR INDUSTRIES, PRICE

DUCTLESS MINI-SPLIT SYSTEM HEAT PUMP

1. GENERAL - EQUIPMENT AND MATERIAL SPECIFIED UNDER THIS HEADING SHALL BE MITSUBISHI OR EQUAL FURNISHED AND INSTALLED BY A CERTIFIED REPRESENTATIVE OF THE UNIT MANUFACTURER. SYSTEM SHALL CONSIST OF CONDENSING UNIT, AIR UNIT, REFRIGERANT PIPING, AND SYSTEM CONTROLS. EACH SYSTEM SHALL BE FITTED AND RATED IN ACCORDANCE WITH ARI STANDARD 210.
2. CONDENSING (OUTDOOR) UNIT SHALL BE SINGLE-ZONE COMMERCIAL TYPE COMPLETE WITH COMPRESSOR-MOTOR UNIT, DIRECT EXPANSION CONDENSER COIL, CONDENSER FANS, STARTERS, CONTROLS, AND PIPING ENCLOSED IN A GALVANIZED STEEL, BONDERIZED AND COATED PAINT FINISH CABINET RECOMMENDED FOR OUTSIDE INSTALLATION. CONDENSER FANS SHALL BE HORIZONTAL OR VERTICAL DISCHARGE. INTAKE AND DISCHARGE OPENING SHALL BE SAFELY GUARDED. CONDENSING UNIT CONTROLS AND ACCESSORIES SHALL PROVIDE AUTOMATIC CAPACITY MODULATION AND CONDENSER AND EVAPORATOR PRESSURE CONTROL FOR OPERATION DOWN TO 0°F OUTSIDE AIR TEMPERATURE. CRANKCASE HEATER SHALL BE PROVIDED. UNIT SHALL BE SUPPORTED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTION.
3. (WALL MOUNTED) FAN-COIL (INDOOR) UNIT SHALL BE WALL-MOUNTED TYPE COMPLETE WITH DIRECT EXPANSION COOLING COIL, ELECTRONIC EXPANSION VALVE, FAN, FAN MOTOR, PIPING CONNECTORS, ELECTRICAL CONTROLS, CONDENSATE DRAIN PAN, AND WALL MOUNTING BRACKETS. UNIT SHALL OPERATE WITH CODE-COMPLIANT REFRIGERANT AND UTILIZE PID CONTROL FOR SUPERHEAT REGULATION AND TEMPERATURE STABILITY. CABINET SHALL BE CONSTRUCTED WITH SOUND-ABSORBING POLYSTYRENE AND POLYETHYLENE INSULATION. FILTERS SHALL BE WASHABLE, MILDEW-PROOF, AND LONG-LIFE TYPE. FAN SHALL BE DIRECT-DRIVE CROSS-FLOW TYPE WITH HIGH AND LOW SPEED SETTINGS, THERMALLY PROTECTED MOTOR, AND AUTOMATIC SWING LOUVER FOR AIR DISTRIBUTION. COOLING COIL SHALL BE COPPER TUBE WITH ALUMINUM FINS, 2-ROW CROSS-FIN DESIGN, FACTORY TESTED, AND EQUIPPED WITH FLARE CONNECTIONS. UNIT SHALL INCLUDE RETURN AIR THERMISTOR, AUTO-RESTART, SELF-DIAGNOSTICS, AND BE POWERED BY 208–230V/1-PHASE/60HZ. ACCESSORIES SHALL INCLUDE A REPLACEMENT FILTER, REMOTE IN-ROOM SENSOR KIT, AND CONDENSATE PUMP.
4. SPECIAL FEATURES, OPTIONS, & ACCESSORIES. IN ADDITION TO THE ABOVE, PROVIDE: COMPRESSOR CYCLE DELAY, HIGH CONDENSING TEMPERATURE PROTECTION, OVERLOAD PROTECTION, HIGH PRESSURE RELIEF, LIQUID SOLENOID VALVE, CRANKCASE HEATER, CONDENSATE PUMP ALARM, LOW AMBIENT COOLING.
5. REFRIGERANT LINES SHALL BE HARD-DRAWN, DEHYDRATED, AND SEALED COPPER TUBING, SIZED AND CONNECTED AS RECOMMENDED BY THE UNIT MANUFACTURER. SUCTION LINE SHALL BE INSULATED AND EFFECTIVELY VAPOR SEALED. REFRIGERANT CIRCUIT ACCESS PORTS SHALL BE FITTED WITH LOCKING TYPE TAMPER RESISTANT CAPS IN STRICT ACCORDANCE WITH THE IMC.
6. CONTROLS FOR SAFE AUTOMATIC CONTROLLED OPERATION OF THE SYSTEM SHALL BE PROVIDED. UNITS SHALL BE PROVIDED WITH LOW-AMBIENT CONTROLS FOR OPERATION DOWN TO 0 DEG. F. THE THERMOSTAT SHALL BE WALL MOUNTED WITH 3 SPEED FAN SELECTOR SWITCH, AND AN AUTO/MANUAL SWITCH. PROVIDE THERMOSTAT TO LIMIT COOLING COIL DISCHARGE AIR TO 45F OR ABOVE.
7. THE SYSTEM SHALL BE COMPLETELY CHARGED WITH REFRIGERANT AND OIL AND SHALL BE GUARANTEED TO BE FREE OF LEAKAGE FOR ONE (1) YEAR.
8. THE SYSTEM SHALL BE TESTED AND CHECKED OUT FOR SAFE, CONTROLLED OPERATION. ONE WEEK BEFORE FINAL INSPECTION, A LETTER FROM THE UNIT MANUFACTURER'S REPRESENTATIVE SHALL BE SUBMITTED TO THE ENGINEER CERTIFYING THAT THE SYSTEM IS PERFORMING SAFELY AND SATISFACTORILY. COMPRESSORS SHALL BE GUARANTEED TO BE FREE FROM DEFECTIVE MATERIALS OR WORKMANSHIP FOR FIVE (5) YEARS AFTER FINAL ACCEPTANCE OF THE PROJECT.

TESTING, BALANCING, AND ADJUSTING

1. SECTION INCLUDES BALANCE, ADJUST AND TEST THE AIR DISTRIBUTION SYSTEM INCLUDING THE EXHAUST SYSTEM. BALANCE, ADJUST AND TEST RELATED HYDRONIC SYSTEM.
2. TAB TOLERANCES THE WATER, OUTSIDE AIR, SUPPLY AIR, RETURN AIR, AND EXHAUST AIR FOR EACH SYSTEM SHALL BE ADJUSTED TO WITHIN +/- 10% OF THE VALUE SCHEDULED ON THE DRAWINGS.
3. TESTING THE SYSTEM THE TAB AGENCY SHALL VERIFY THAT ALL DUCTWORK, DAMPERS, GRILLES, REGISTERS, AND DIFFUSERS HAVE BEEN INSTALLED PER DESIGN.
   1. SUPPLY FANS:
      A. FAN SPEEDS: TEST AND ADJUST FAN RPM TO ACHIEVE DESIGN CFM REQUIREMENTS.
      B. CURRENT AND VOLTAGE: TEST AND RECORD MOTOR VOLTAGE AND AMPERAGE AND COMPARE DATA WITH THE NAMEPLATE LIMITS TO ENSURE FAN MOTOR IS NOT IN OR ABOVE THE SERVICE FACTOR.
      C. PITOT-TUBE TRAVERSE: PERFORM A PITOT-TUBE TRAVERSE OF THE MAIN SUPPLY AND RETURN DUCTS, AS APPLICABLE, TO OBTAIN TOTAL CFM. MEASUREMENTS MUST BE RECORDED WITH AN INCLINED MANOMETER OR AN INCLINED/VERTICAL MANOMETER.
      D. OUTSIDE AIR: TEST AND ADJUST THE OUTSIDE AIR ON APPLICABLE EQUIPMENT USING A PITOT-TUBE TRAVERSE.
      E. STATIC PRESSURE: TEST AND RECORD SYSTEM STATIC PRESSURE, INCLUDING THE STATIC PRESSURE PROFILE OF EACH SUPPLY FAN.
   2. HYDRONIC COILS:
      A. TOLERANCES: TEST, ADJUST, AND BALANCE WATER COILS WITHIN 5% OF DESIGN FLOW REQUIREMENTS.
      B. VERIFICATION: VERIFY THE TYPE, LOCATION, FINAL PRESSURE DROP AND WATER QUANTITY (GPM) OF EACH COIL. CALCULATE THE ACTUAL CAPACITY OF ALL COILS.
   3. REVIEW THE RETURN AIR PATH FOR EACH AREA SERVED BY AIR HANDLING UNITS TO ENSURE A CORRECT OPERATING SYSTEM.
4. EQUIPMENT POWER READINGS (RECORD THE FOLLOWING INFORMATION FOR EACH MOTOR)
   1. EQUIPMENT DESIGNATION.
   2. MANUFACTURER.
   3. UNIT MODEL NUMBER AND SERIAL NUMBER AND FRAME.
   4. MOTOR NAMEPLATE HORSEPOWER; NAMEPLATE VOLTAGE; PHASE AND FULL LOAD AMPERES.
   5. HEATER COIL IN STARTER.
      A. RATING IN AMPERES.
      B. MANUFACTURER'S RECOMMENDATION.
   6. MOTOR RPM/DRIVEN EQUIPMENT RPM.
   7. POWER READING (VOLTAGE, AMPERES OF ALL LEGS AT MOTOR TERMINALS).
5. TAB REPORT
   1. THE ACTIVITIES DESCRIBED IN THIS SPECIFICATION SHALL BE RECORDED IN A REPORT FORM. NEATLY TYPE AND ARRANGE DATA. INCLUDE WITH THE DATA THE DATE TESTED, PERSONNEL PRESENT, WEATHER CONDITIONS, NAMEPLATE RECORD OF THE TEST INSTRUMENTS USED AND LIST ALL MEASUREMENTS TAKEN AFTER ALL CORRECTIONS ARE MADE TO THE SYSTEM. PROVIDE A "PREFACE" WHICH SHALL INCLUDE A GENERAL DISCUSSION OF THE SYSTEM AND ANY ABNORMALITIES OR PROBLEMS ENCOUNTERED. SUBMIT PDF ELECTRONIC COPY TO THE ARCHITECT AND ENGINEER.
   2. ALL MEASUREMENTS AND RECORDED READINGS (OF AIR, WATER, ELECTRICITY, ETC.) THAT APPEAR IN THE REPORT MUST HAVE BEEN RECORDED ON SITE BY THE PERMANENTLY EMPLOYED TECHNICIANS OR ENGINEERS OF THE TAB FIRM.
   3. SUBMIT REPORTS ON FORMS APPROVED BY THE ENGINEER THAT WILL INCLUDE THE FOLLOWING DATA AS A MINIMUM: TITLE PAGE: COMPANY NAME, COMPANY ADDRESS, COMPANY TELEPHONE NUMBER, PROJECT NAME, PROJECT LOCATION, PROJECT MANAGER, PROJECT ENGINEER, PROJECT CONTRACTOR, SUMMARY OF THE TAB REPORT DATA, INDEX
   4. FAN DATA: LOCATION, MANUFACTURER, MODEL, AIR FLOW, SPECIFIED AND ACTUAL, TOTAL STATIC PRESSURE (TOTAL EXTERNAL) SPECIFIED AND ACTUAL, INLET PRESSURE, DISCHARGE PRESSURE, FAN RPM
   5. RETURN AIR/OUTSIDE AIR DATA: IDENTIFICATION/LOCATION, DESIGN RETURN AIRFLOW, ACTUAL RETURN AIRFLOW, DESIGN OUTSIDE AIRFLOW, ACTUAL OUTSIDE AIR FLOW, RETURN AIR TEMPERATURE, OUTSIDE AIR TEMPERATURE, REQUIRED MIXED AIR TEMPERATURE, ACTUAL MIXED AIR TEMPERATURE
   6. ELECTRIC MOTORS: MANUFACTURER, HP/BHP, PHASE, VOLTAGE, AMPERAGE, NAMEPLATE, ACTUAL, RPM, SERVICE FACTOR, STARTER SIZE, HEATER ELEMENTS, RATING.
   7. V-BELT DRIVE: IDENTIFICATION/LOCATION, REQUIRED DRIVEN RPM, DRIVE SHEAVE, DIAMETER AND RPM, BELT, SIZE AND QUANTITY, MOTOR SHEAVE, DIAMETER AND RPM, CENTER-TO-CENTER DISTANCE, MAXIMUM, MINIMUM AND ACTUAL
   8. DUCT TRAVERSE: SYSTEM ZONE/BRANCH, DUCT SIZE, AREA, DESIGN VELOCITY, DESIGN AIRFLOW, TEST VELOCITY, TEST AIRFLOW, DUCT STATIC PRESSURE, AIR CORRECTION FACTOR.
   9. COIL DATA: IDENTIFICATION/NUMBER, LOCATION, SERVICE, MANUFACTURER, ENTERING AIR DB TEMPERATURE, DESIGN AND ACTUAL, LEAVING AIR DB TEMPERATURE, DESIGN AND ACTUAL, WATER PRESSURE FLOW, DESIGN AND ACTUAL, WATER PRESSURE DROP, DESIGN AND ACTUAL, ENTERING WATER TEMPERATURE, DESIGN AND ACTUAL, J. LEAVING WATER TEMPERATURE, DESIGN AND ACTUAL, AIR PRESSURE DROP, DESIGN AND ACTUAL, CAPACITY

SEQUENCE OF OPERATIONS

DUCT MOUNTED STEAM HUMIDIFIER (SH-1)

1. HUMIDIFICATION CONTROL: SPACE HUMIDITY SHALL BE CONTROLLED AND MONITORED BY THE EXISTING BAS THROUGH SPACE MOUNTED HUMIDITY SENSORS. UPON A CALL FOR HUMIDIFICATION ~35%RH (ADJUSTABLE), THE BAS SHALL VERIFY THAT THE EXISTING VAV SUPPLY FAN IS ENERGIZED AND SH-1 SHALL BE ENERGIZED VIA THE EXISTING BAS AND OPERATE CONTINUOUSLY. ONCE SPACE HUMIDITIES ARE SATISFIED SH-1 SHALL DE-ENERGIZE AND (E)VAV-1 SHALL RETURN TO NORMAL OPERATION.
2. SAFETIES: EACH SAFETY SHALL BE PROVIDED IN ASSOCIATED HUMIDIFIER AS NOTED ON THE DRAWINGS.
   A. A CONDENSATE OVERFLOW SWITCH IN THE UNIT DRAIN PAN SHALL SHUT OFF THE SYSTEM AND ALARM THE BAS IF A HIGH CONDENSATE LEVEL TRIPS THE SWITCH.

EXISTING VARIABLE AIR VOLUME BOX [(E)VAV-1]

1. THE UNIT SHALL MAINTAIN EXISTING SEQUENCE OF OPERATIONS AS PROGRAMMED IN THE BAS.

SPLIT SYSTEM HEAT PUMP (WMU/HP-1)

A. CONTROLLER: SPACE TEMPERATURE SHALL BE CONTROLLED AND MONITORED BY THE EXISTING BAS THROUGH A SPACE MOUNTED TEMPERATURE SENSOR.
B. MORNING WARM-UP/COOL DOWN MODE: AS SCHEDULED THROUGH THE EXISTING BAS, THE SUPPLY AIR FAN SHALL OPERATE CONTINUOUSLY. ON A CALL FOR COOLING OR HEATING THE DX COIL SHALL SEQUENCE TO MAINTAIN SPACE TEMPERATURE SETPOINT.
C. OCCUPIED MODE: AS SCHEDULED THROUGH THE EXISTING BAS, THE SUPPLY AIR FAN SHALL OPERATE CONTINUOUSLY. ON A CALL FOR COOLING OR HEATING THE DX COIL SHALL SEQUENCE TO MAINTAIN SPACE TEMPERATURE SETPOINT.
D. UNOCCUPIED MODE: ON A SIGNAL FROM THE SPACE-MOUNTED TEMPERATURE SENSOR, THE SUPPLY AIR FAN SHALL CYCLE AND THE DX COIL SHALL MODULATE AS REQUIRED TO MAINTAIN SETBACK TEMPERATURE.
E. SAFETIES:
   a. CONDENSATE OVERFLOW SWITCH.

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CHECKED BY: SSL

MECHANICAL SPECIFICATIONS

COMMONWEALTH OF VIRGINIA
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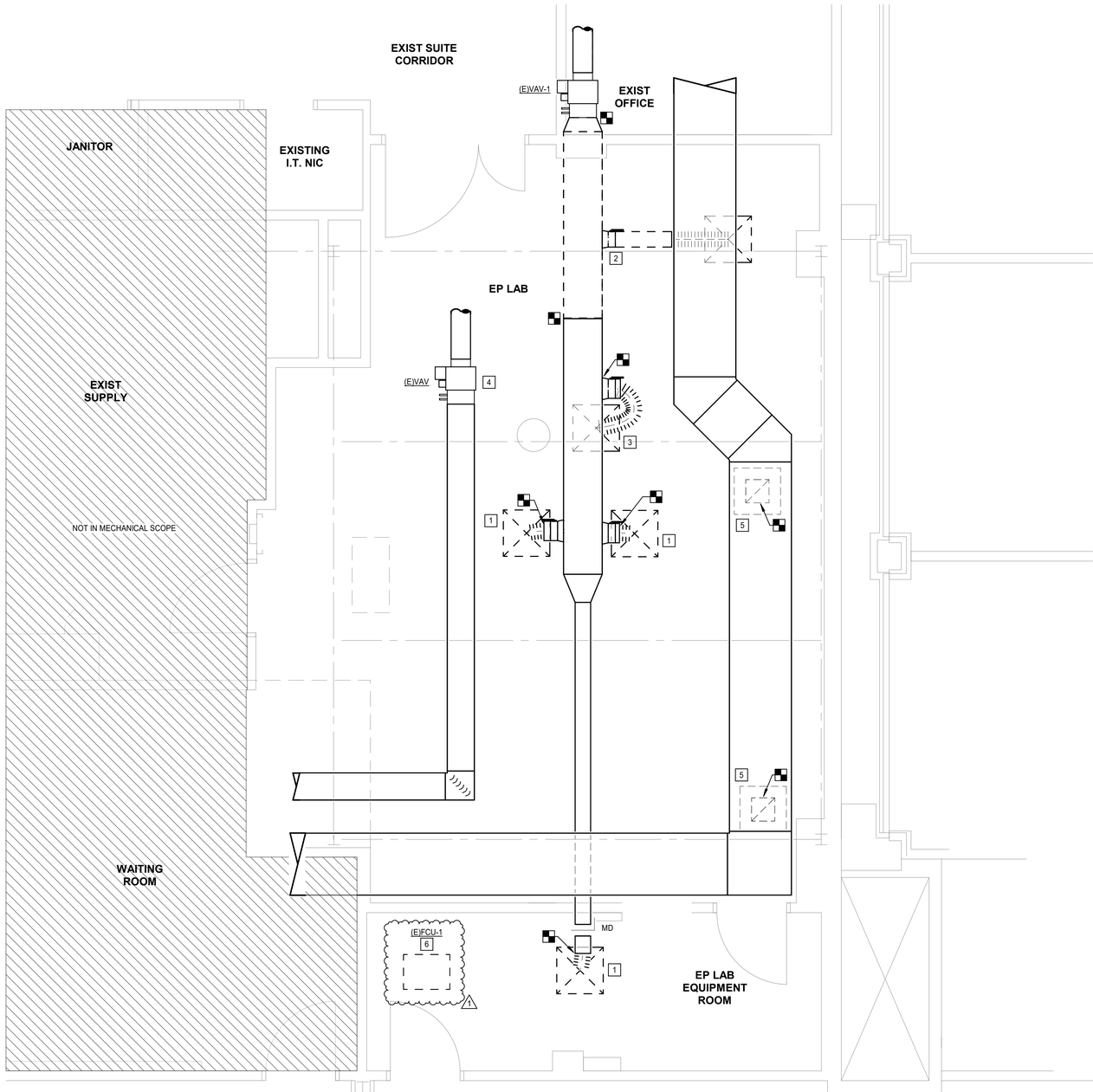
SAMUEL S. LOTT
Lic. No. 061900
PROFESSIONAL ENGINEER

COMMISSION No.
25024

SHEET
M3



1 **PARTIAL SECOND FLOOR DEMOLITION PLAN - MECHANICAL**
Scale: 3/8" = 1'-0"

Salas O'Brien
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Project No: 2550-00965-00

119 Norfolk Ave SW, Suite 310
Roanoke, Virginia 24011

DATE: JAN. 23, 2026

REVISIONS
1 REVISION 1

GENERAL SHEET NOTES:

1. ALL MECHANICAL EQUIPMENT, DUCTWORK, AND ASSOCIATED PIPING SHALL BE EXISTING TO REMAIN, UNLESS SPECIFIED OTHERWISE.

DEMOLITION KEYNOTES:

1. DEMOLISH EXISTING AIR TERMINAL AND ASSOCIATED FLEX DUCT BACK TO END OF HARD BRANCH DUCTWORK.
2. DEMOLISH EXISTING TRUNK DUCT AND BRANCH DUCT AS SHOWN. VERIFY AND RECORD EXISTING MAIN DUCT SIZE PRIOR TO DEMOLITION.
3. DEMOLISH EXISTING DIFFUSER ALONG WITH ASSOCIATED FLEX AND BRANCH DUCT BACK TO MAIN. CAP AND INSULATE TO MATCH EXISTING.
4. EXISTING VAV BOX SERVING ADJACENT SPACE TO REMAIN ALONG WITH ALL ASSOCIATED DUCTWORK.
5. DISCONNECT EXISTING AIR TERMINAL FROM BRANCH DUCT. REMOVE AIR TERMINAL AND PREPARE DUCT FOR REATTACHMENT DURING NEW CONSTRUCTION.
6. DEMOLISH EXISTING DX SPLIT FAN COIL UNIT AND RELATED OUTDOOR HEAT PUMP UNIT ALONG WITH ALL ASSOCIATED WIRING, PIPING, AND RELATED APPURTENANCES. PRIOR TO CONSTRUCTION, VERIFY EXACT LOCATION OF OUTDOOR HEAT PUMP UNIT AND REFRIGERANT LINE ROUTING. 1

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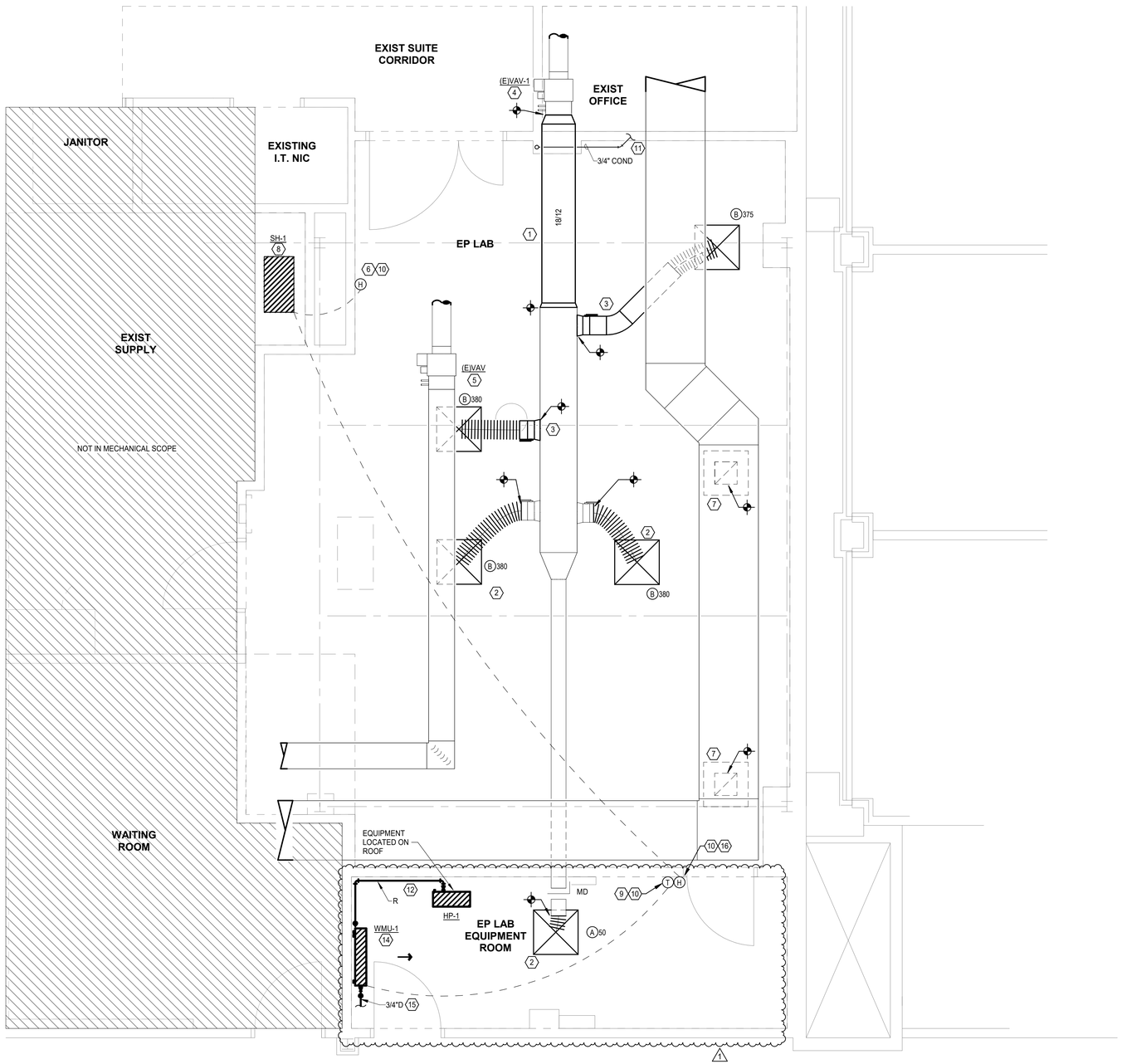
SHEET
MD1



1 PARTIAL SECOND FLOOR NEW WORK PLAN - MECHANICAL

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

GENERAL SHEET NOTES:

1. ALL MECHANICAL EQUIPMENT, DUCTWORK, AND ASSOCIATED PIPING SHALL BE EXISTING TO REMAIN, UNLESS SPECIFIED OTHERWISE.
2. SPACE ABOVE CEILING IS EXTREMELY CONGESTED. CONTRACTOR SHALL FIELD MEASURE AND COORDINATE PRIOR TO FABRICATING ANY DUCTWORK FOR INSTALLATION.
3. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND COORDINATE LOCATION OF ALL ELEMENTS IN CEILING WITH EXISTING CEILING GRID.

SHEET KEYNOTES: ⬡

1. ROUTE 6'-0" OF STAINLESS STEEL DUCTWORK FROM STEAM HUMIDIFIER AND CONNECT TO EXISTING MAIN SUPPLY DUCT AS SHOWN. NEW DUCT SHALL BE SAME SIZE AS PREVIOUSLY RECORDED EXISTING.
2. ROUTE NEW FLEX DUCT FROM SUPPLY DIFFUSER AND ATTACH TO EXISTING BRANCH DUCT.
3. ROUTE NEW 10" Ø FLEX DUCT AND SUPPLY BRANCH DUCTWORK FROM SUPPLY DIFFUSER AND TAP INTO MAIN AS SHOWN. TAP SHALL BE MIN. 6'-0" FROM STEAM HUMIDIFIER.
4. EXISTING VAV SHALL BE SERVICED. CLEAN ALL ASSOCIATED LOW PRESSURE SUPPLY MAIN DUCTWORK.
5. EXISTING VAV BOX SERVING ADJACENT SPACE TO REMAIN ALONG WITH ALL ASSOCIATED DUCTWORK.
6. FIELD ROUTE CONTROL WIRE FROM STEAM HUMIDIFIER TO HUMIDITY SENSOR. MOUNT NEW HUMIDITY SENSOR NEXT TO EXISTING TEMPERATURE SENSOR SERVING THE SPACE. VERIFY EXACT LOCATION OF EXISTING TEMPERATURE SENSOR PRIOR TO CONSTRUCTION.
7. EXTEND DUCTWORK FROM END OF EXISTING BRANCH DUCT AND CONNECT TO NEW RETURN AIR TERMINAL BELOW. TRANSITION/OFFSET DUCTWORK TO ACHIEVE CONNECTION. RE: 1/M2
8. MOUNT NEW STEAM HUMIDIFIER ABOVE CEILING IN EXISTING SUPPLY ROOM. COORDINATE WITH MANUFACTURER FOR INSTALLATION INSTRUCTIONS PRIOR TO CONSTRUCTION.
9. FIELD ROUTE CONTROL WIRE FROM WMU-1 TO TEMPERATURE SENSOR. MOUNT TEMPERATURE SENSOR NEXT TO OR ABOVE HUMIDITY SENSOR.
10. PROVIDE LOCK BOX FOR WALL MOUNTED SENSOR.
11. FIELD ROUTE INSULATED 3/4" CONDENSATE LINE FROM STAINLESS STEEL DRAIN TEE TO HUB DRAIN IN WALL. CONDENSATE SHALL SLOPE TOWARDS DRAIN AT 1/8" PER 12". COORDINATE WITH PLUMBING DRAWINGS FOR EXACT LOCATION OF HUB DRAIN.
12. MOUNT NEW OUTDOOR HEAT PUMP UNIT IN EXACT LOCATION AS PREVIOUSLY DEMOLISHED. MAINTAIN MANUFACTURER RECOMMENDED CLEARANCES.
13. SIZE REFRIGERANT LINES PER MANUFACTURER RECOMMENDATIONS. ROUTE REFRIGERANT PIPING DOWN TROUGH THE ROOF AND CONNECT TO ASSOCIATED INDOOR UNIT BELOW. REUSE EXISTING ROOF PENETRATION AND FOLLOW PREVIOUS ROUTING AS MUCH AS POSSIBLE. COORDINATE WITH MANUFACTURER FOR MAXIMUM REFRIGERANT PIPING LENGTH PRIOR TO CONSTRUCTION.
14. MOUNT WMU-1 SUCH THAT THE TOP OF THE UNIT IS APPROXIMATELY 7'-1" ABOVE FINISHED FLOOR.
15. FIELD ROUTE INSULATED 3/4" CONDENSATE LINE FROM WMU-1 AND TIE INTO EXISTING CONDENSATE MAIN. VERIFY EXACT LOCATION OF EXISTING CONDENSATE MAIN PRIOR TO CONSTRUCTION. CONDENSATE SHALL SLOPE TOWARDS DRAIN AT 1/8" PER 12".
16. FIELD ROUTE CONTROL WIRE FROM STEAM HUMIDIFIER TO HUMIDITY SENSOR. COORDINATE WITH ARCHITECT FOR EXACT MOUNTING HEIGHT PRIOR TO CONSTRUCTION.

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DATE: JAN. 23, 2026

REVISIONS
1 REVISION 1

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PARTIAL SECOND FLOOR NEW WORK PLAN - MECHANICAL

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SHEET
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