		PIPING SYMBOLS	PIP
F	(E) -###	EXISTING PIPING TO REMAIN EXISTING PIPING TO BE REMOVED DOMESTIC COLD WATER (CW) DOMESTIC HOT WATER (HW) DOMESTIC HOT WATER CIRCULATING (HWC) SANITARY VENT (V) SANITARY DRAIN (SAN) COMPRESSED AIR (CA) CENTRAL VACUUM (CV)	
E			
D			T
С			
B			
А			

2

3

GATE VALVE GLOBE VALVE HOSE VALVE WITH CAP BUTTERFLY VALVE CHECK VALVE BALANCING VALVE BALL VALVE PLUG VALVE SOLENOID VALVE SAFETY OR PRESSURE RELIEF, ANGLE VALVE SAFETY OR PRESSURE RELIEF, STRAIGHT THRU VALVE PRESSURE REDUCING VALVE (PRV)	 A. SEE GENERAL SHEETS FOR ABBREVIATIONS AND GENERAL SYMBOLS. CHARACTER IDENTIFIERS MAY ALSO BE USED FOR PIPING DESCRIPTIONS. B. PLUMBING LAYOUTS ARE SCHEMATIC ONLY. CONTRACTOR TO PROVIDE ANY ADDITIONAL DROPS, RISES, OR OFFSETS REQUIRED FOR A COMPLETE INSTALLATION. COORDINATE EXACT ROUTING OF WORK WITH ALL OTHER TRADES AND OBSTRUCTIONS. C. UNLESS OTHERWISE INDICATED, ROUTE ALL PIPING ABOVE CEILING. ROUTE ALL PIPING AS HIGH AS POSSIBLE IN AREAS WITHOUT CEILINGS. D. LOCATE ALL TEMPERATURE, PRESSURE, AND FLOW MEASURING/CONTROL DEVICES IN ACCESSIBLE LOCATIONS WITH A STRAIGHT SECTION OF PIPE UPSTREAM AND DOWNSTREAM, AS RECOMMENDED BY THE DEVICE MANUFACTURER FOR ACCURACY. INSTALL THERMOMETER IN A VERTICAL AND TILTED POSITION TO ALLOW READING BY OBSERVER STANDING ON FLOOR. E. ALL WORK INDICATED IS NEW UNLESS NOTED AS EXISTING. F. VERIFY EXACT SIZES AND LOCATIONS OF EXISTING WORK PRIOR TO PROVIDING NEW WORK. G. SOME SYMBOLS INDICATED ON THIS LEGEND SHEET MAY NOT APPEAR ON THE DRAWINGS. H. DO NOT LOCATE PLUMBING WORK IN ELEVATOR, ELECTRICAL, OR COMMUNICATION ROOMS, EXCEPT FOR RUNQUTS SPECIFICALLY SERVING THE
THERMOSTATIC MIXING VALVE (TMV) BLIND FLANGE	
WYE CAP ELBOW, 90° ELBOW, 90° ELBOW, 40° TEE TEE, OUTLET TURNED UP TEE, OUTLET TURNED UP TEE, OUTLET TURNED DOWN UNION PLESIBLE PIPE CONNECTION PRESSURE GAUGE WITH SHUT OFF COCK AND SIPHON OR PULSATION DAMPENER. TEMPERATURE GAUGE THERMOMETER FLOOR DRAIN WITRAP TRENCH DRAIN FLOOR CLEAN OUT WATER HAMMER ARRESTER HOSE BIBB WALL HYDRANT REDUCED PRESSURE ZONE BACKFLOW PREVENTER Y-TYPE STRAINER WITH HOSE DRAIN VALVE WATER METER PUMP	 RESPECTIVE ROOM. 1. WATTER HAMMER ARRESTORS SHALL BE INSTALLED. SIZED. AND LOCATED PER DIVENZAL LOCATE PARE NAMES ARRESTORS SHALL BE INSTALLED. SIZED. AND LOCATED PER DIVENZAL AND REAL PER PER DIVENZAL AND REQUIRED ANALYSIN. 1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL A COMPLETE AND OPERABLE PLUMBING SYSTEMAS INDICATED ON THE DRAWINGS SPECIFICA AND AS REQUIRED BY CODE ALL MATERIALS AND EQUIPMENT AND ARREQUIRED BY CODE ALL MATERIALS AND EQUIPMENT AND AND AS REQUIRED BY CODE ALL MATERIALS AND EQUIPMENT AND AND AS REQUIRED BY CODE ALL MATERIALS AND CODERLY MANNER. 1. INSTALL ALL PLUMBING EQUIPMENT AND AND ARREQUIRED BY CODE ALL MATERIALS AND EQUIPMENT AND AND AS REQUIRED AT DOX. MATERIALS CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS. M. INSTALL ALL PLUMBING EQUIPMENT AND APPLICABLE CODES AND REGULATIONS. M. UNIONS AND/OR PLANCES STALL EE INSTALLED ON TECHNOLOGY OF PERUPMENT AND AND REQUIRES TO PERMIT DISASSEMBLY FOR ALTERATION AND REPARES. M. PROVIDE DIELECTRIC CONNECTIONS BETWEEN DISSIMLAR MATERIALS. M. TYPLICABLE CONDITIONS, EVEN IF NOT SPECIFICALLY SHOWN OR REFERENCED.

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GENERAL DEMOLITION NOTES

6

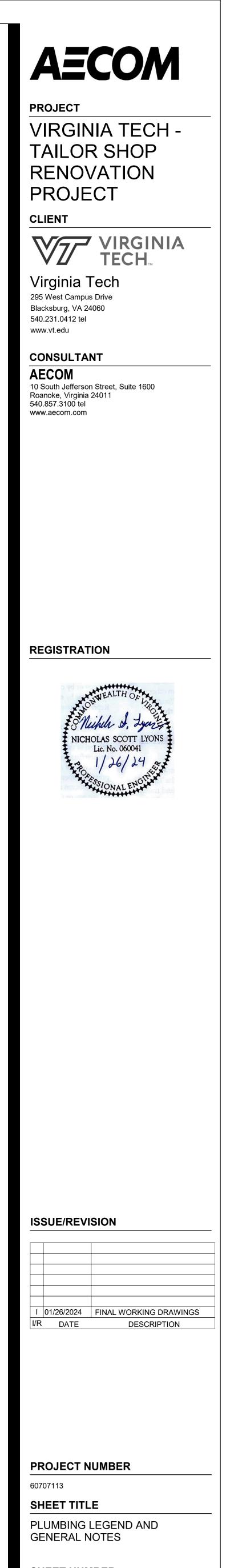
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- A. DEMOLISH ALL PLUMBING FIXTURES, ASSOCIATED COMPONENTS, AND PIPING THAT WILL BE RENDERED OBSOLETE DUE TO CHANGES TO THE BUILDING. COORDINATE THE EXTENT OF DEMOLITION AND COMPONENTS TO REMAIN WITH THE NEW WORK SHEETS. FIELD VERIFY ACTUAL PIPE ROUTING.
- B. REMOVE ALL APPLICABLE PIPING TO WHERE IT CONNECTS TO ACTIVE MAINS THAT WILL NOT BE DEMOLISHED. AFTER THE DEMOLITION IS COMPLETE NO DEAD-END PIPING SHALL REMAIN. UNDER SLAB PIPING THAT IS RENDERED OBSOLETE BY CHANGES TO THE BUILDING CAN BE ABANDONED IN PLACE IF THE FOLLOWING CONDITIONS ARE MET: 1) INACTIVE PIPING SHALL BE DISCONNECTED AND CAPPED AS CLOSE AS POSSÍBLE TO THE ACTIVE MAIN AND NO MORE THAN 2 TIME THE PIPE DIAMETER. 2) REMOVE PIPE STUB-OUTS THROUGH THE SLAB AND REPAIR SLAB TO MATCH EXISTING.
- C. BEFORE WORK HAS BEGUN, CONTRACTOR SHALL MAKE A THOROUGH SURVEY OF THE BUILDING AND NOTIFY THE OWNER OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THOSE SHOWN ON THE DRAWINGS. FAILURE BY THE CONTRACTOR TO HAVE ACQUAINTED HIMSELF WITH AVAILABLE INFORMATION CONCERNING EXISTING CONDITIONS SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITIES OF PERFORMANCE OF WORK IN ACCORDANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS.

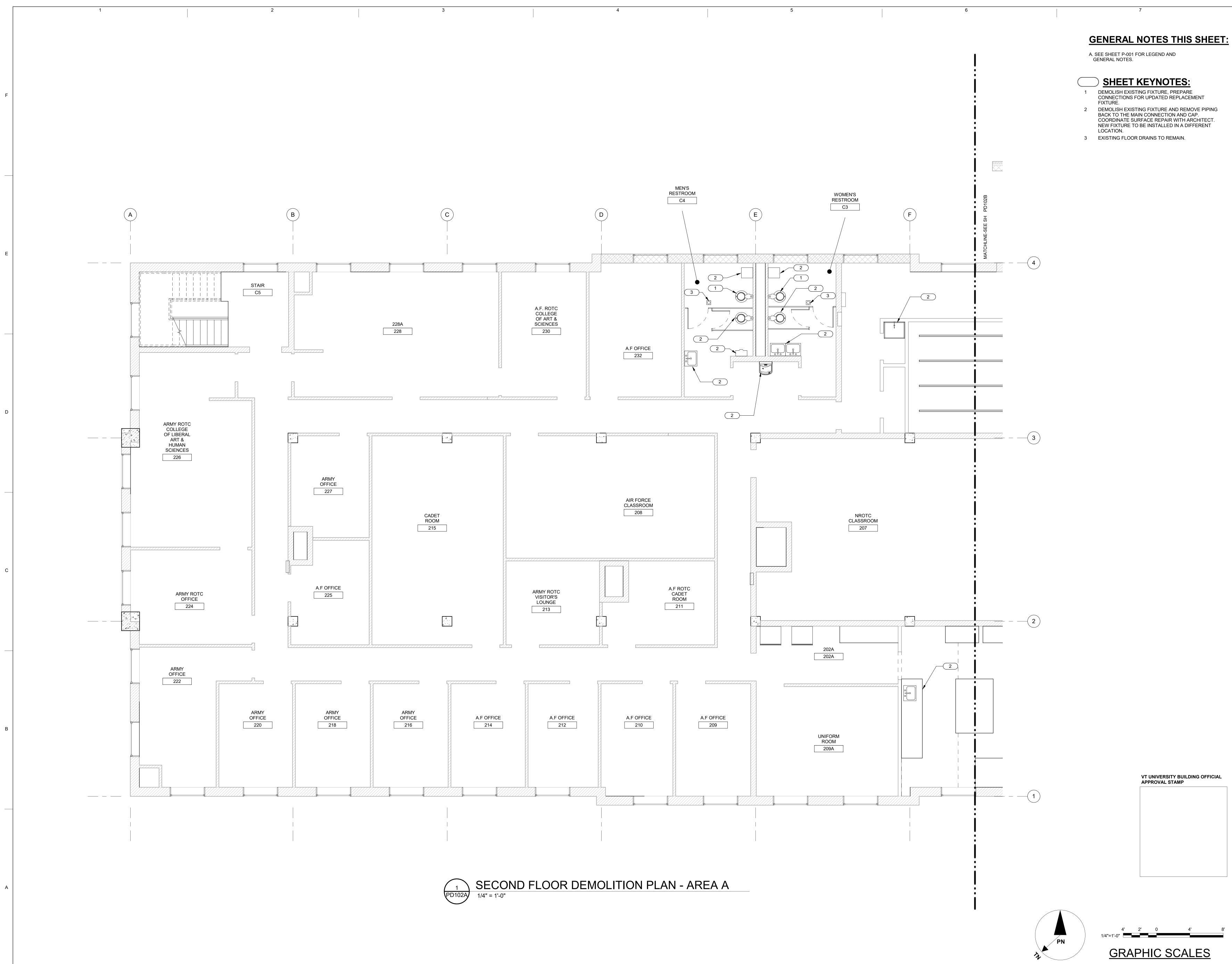
3) DOES NOT CONFLICT WITH OTHER TRADES.

- D. DRAWINGS SHOWING EXISTING CONSTRUCTION AND UTILITIES ARE FOR REFERENCE ONLY AND HAVE BEEN DEVELOPED FROM EXISTING DRAWINGS AND MAY NOT REFLECT ACTUAL FIELD CONDITIONS. THE CONTRACTOR SHALL OBTAIN COPIES OF EXISTING DRAWINGS AND VERIFY ACTUAL FIELD CONDITIONS PRIOR TO STARTING WORK. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING OF ANY WORK DESCRIBED IN THE CONTRACT DOCUMENTS WHICH CANNOT BE PREFORMED DUE TO EXISTING CONDITIONS.
- E. DURING THE PLUMBING DEMOLITION PROCESS ANY DAMAGE THAT IS DONE TO THE BUILDING AREAS THAT ARE TO REMAIN SHALL BE REPAIRED TO MATCH EXISTING.
- F. IF HAZARDOUS MATERIALS ARE DISCOVERED DURING REMOVAL OPERATIONS, STOP WORK AND NOTIFY THE OWNER; HAZARDOUS MATERIALS INCLUDE BUT ARE NOT LIMITED TO REGULATED ASBESTOS CONTAINING MATERIALS, LEAD, PCB'S AND MERCURY.

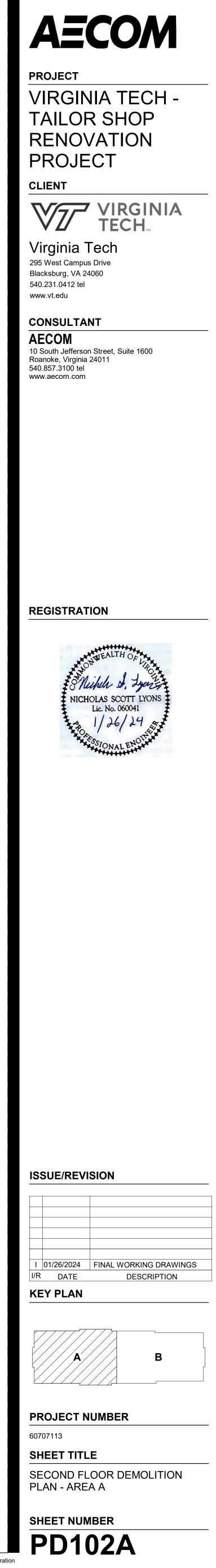
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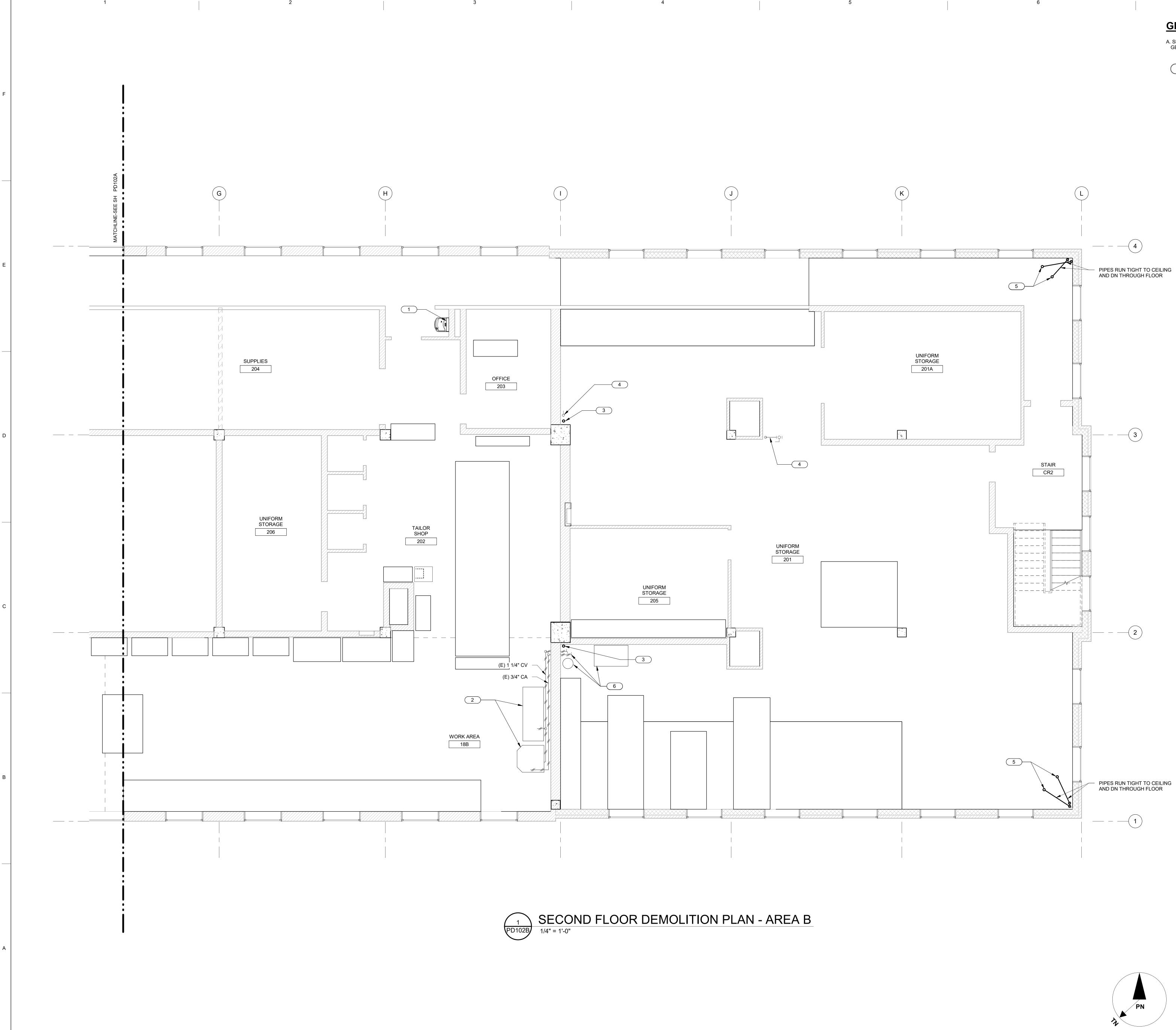
SHEET NUMBER



- NEW FIXTURE TO BE INSTALLED IN A DIFFERENT



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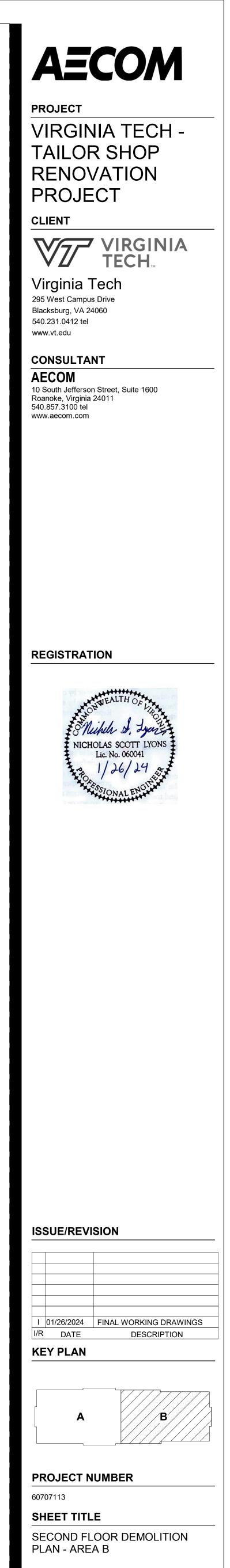
GENERAL NOTES THIS SHEET:

A. SEE SHEET P-001 FOR LEGEND AND GENERAL NOTES.

) SHEET KEYNOTES:

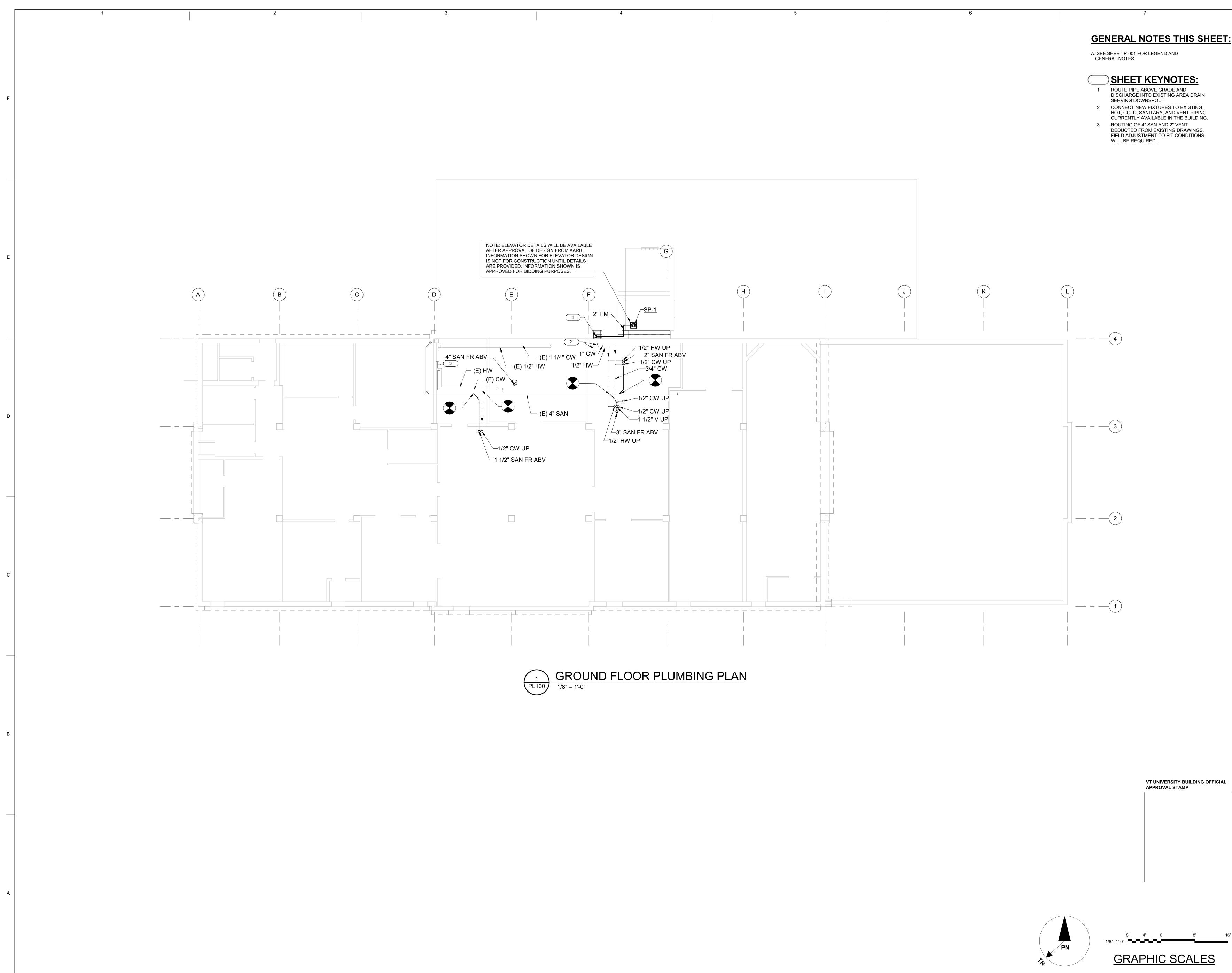
- 1 DEMOLISH EXISTING FIXTURE AND REMOVE PIPING BACK TO THE MAIN CONNECTION AND CAP. COORDINATE SURFACE REPAIR WITH ARCHITECT. NEW FIXTURE TO BE INSTALLED IN A DIFFERENT LOCATION.
- 2 STEAM PRESS EQUIPMENT TO BE RELOCATED BY OTHERS. DEMOLISH VACUUM AND COMPRESSED AIR PIPING BACK TO SOURCE. COORDINATE WALL REPAIR WITH ARCHITECT.
- 3 EXISTING PLUMBING VENT TO REMAIN. 4 EXISTING CAPPED COLD WATER LINE. REMOVE BACK TO MAIN CONNECTION AND CAP. COORDINATE SURFACE REPLACEMENT WITH ARCHITECT.
- 5 EXISTING 5" ROOF DRAIN AND 4" SECONDARY DRAINS TO REMAIN.
- 6 DEMOLISH EXISTING AIR COMPRESSOR AND VACUUM PUMP PIPING TO STEAM PRESS EQUIPMENT. ALL EQUIPMENT TO BE RELOCATED BY OTHERS.

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SHEET NUMBER

PD102B



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SHEET NUMBER

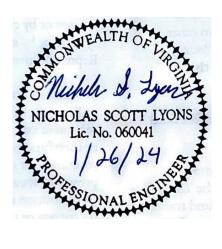
SHEET TITLE GROUND FLOOR PLUMBING PLAN

PROJECT NUMBER 60707113

KEY PLAN

01/26/2024 FINAL WORKING DRAWINGS I/R DATE DESCRIPTION

ISSUE/REVISION



REGISTRATION



Virginia Tech 295 West Campus Drive Blacksburg, VA 24060 540.231.0412 tel www.vt.edu

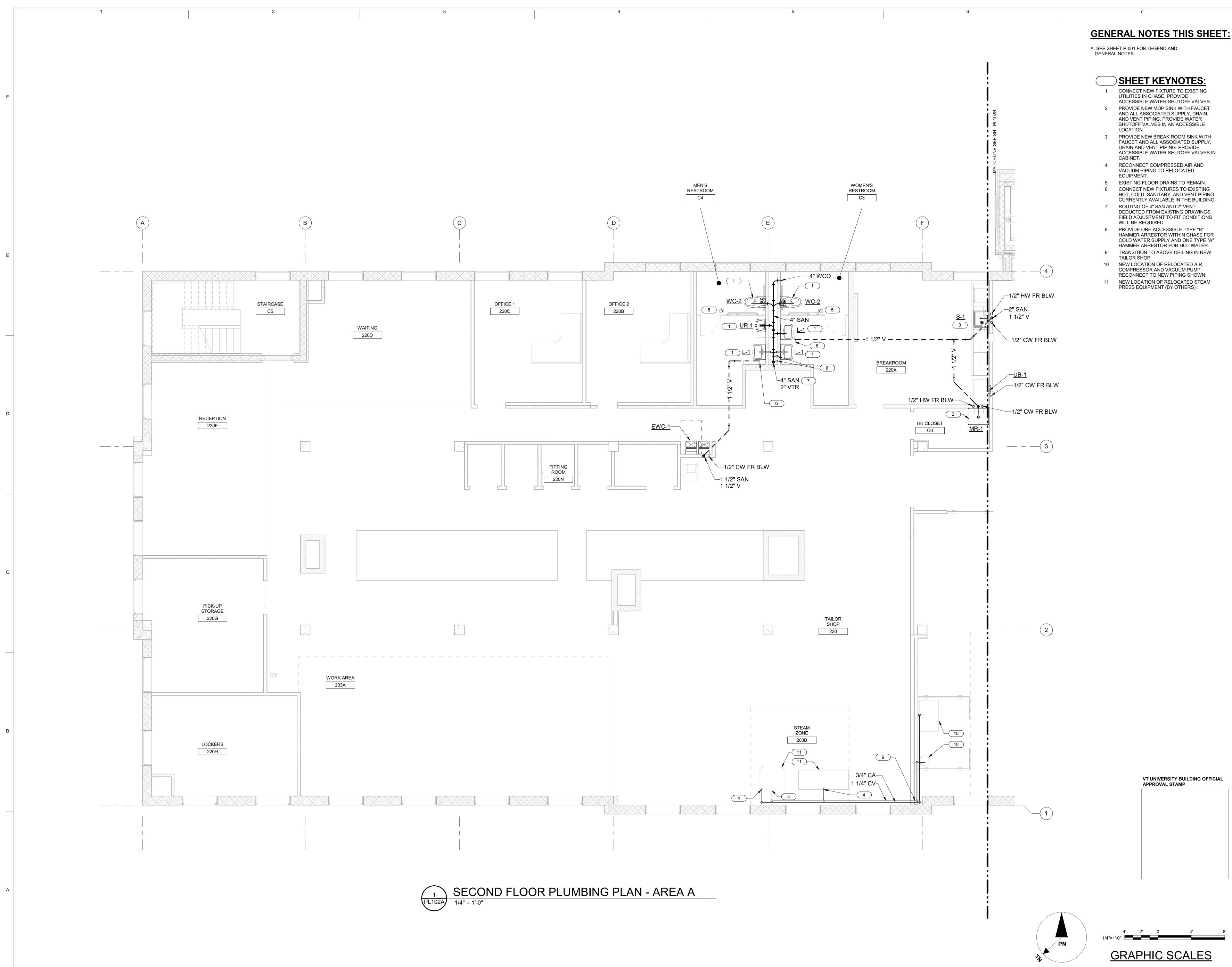
RENOVATION PROJECT CLIENT VIRGINIA TECH.

AECOM

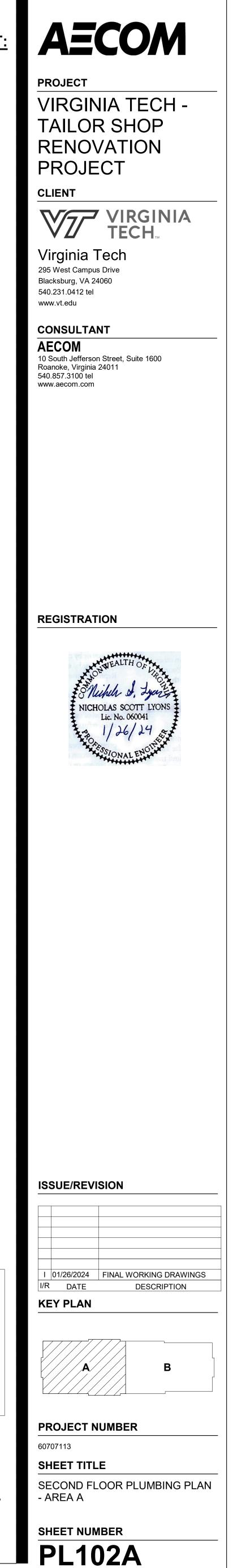
VIRGINIA TECH -

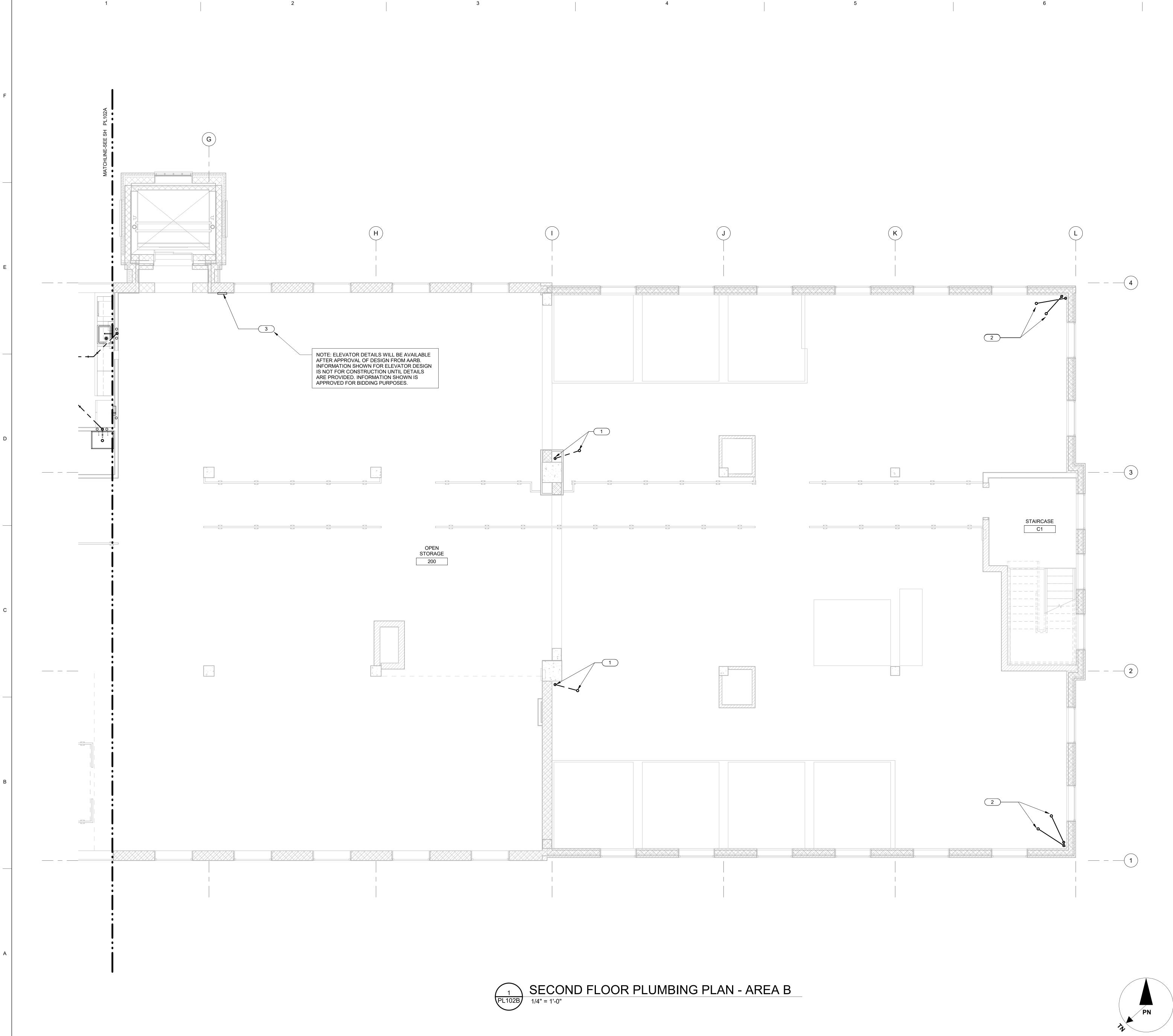
TAILOR SHOP

PROJECT



- ACCESSIBLE WATER SHUTOFF VALVES IN
- HOT, COLD, SANITARY, AND VENT PIPING
- FIELD ADJUSTMENT TO FIT CONDITIONS
- HAMMER ARRESTOR WITHIN CHASE FOR COLD WATER SUPPLY AND ONE TYPE "A"





GENERAL NOTES THIS SHEET:

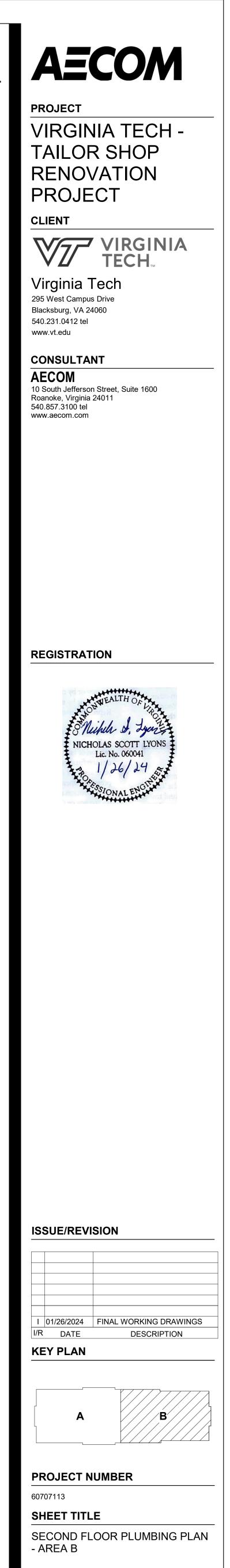
A. SEE SHEET P-001 FOR LEGEND AND GENERAL NOTES.

SHEET KEYNOTES:

- EXISTING PLUMBING VENT TO REMAIN.
 EXISTING 5" ROOF DRAIN AND 4" SECONDARY DRAINS TO REMAIN.
- 3 ELEVATOR SUMP PUMP CONTROL PANEL.

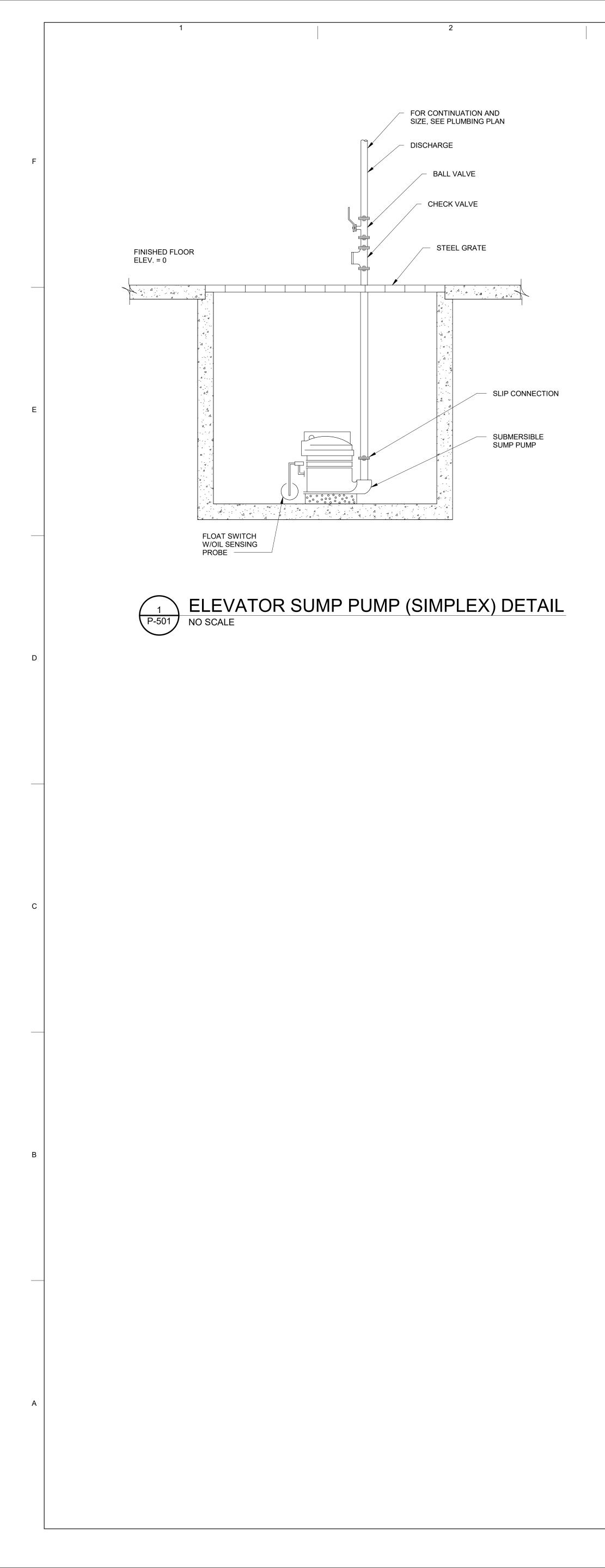
GRAPHIC SCALES

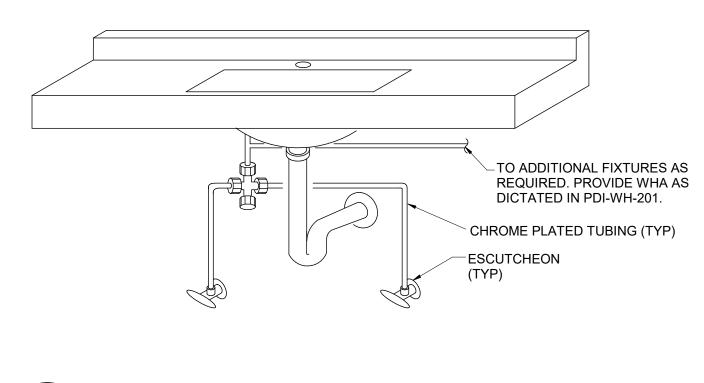
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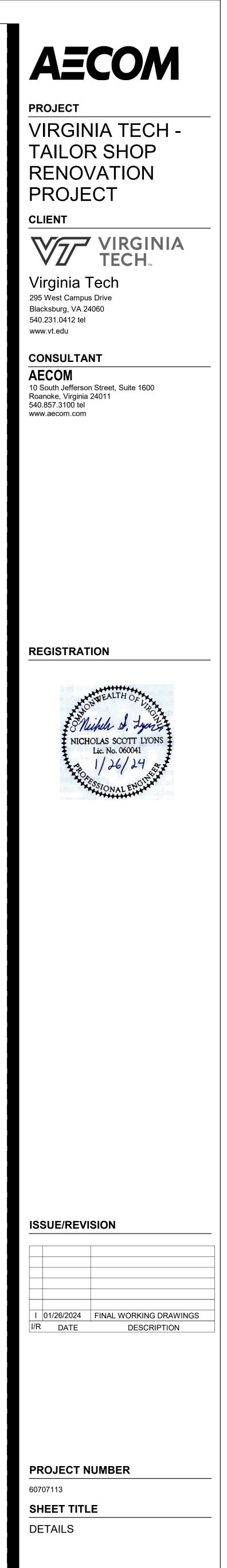
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POINT OF USE MIXING VALVE DETAIL P-501 POINI NO SCALE

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7



SHEET NUMBER

						SCHEDULE			
MARK	FIXTURE DESCRIPTION	MOUNTING HEIGHT	COLD WATER SIZE	HOT WATER SIZE	TEMPERED WATER SIZE	TRAP SIZE	DRAIN SIZE	VENT SIZE	NOTES
EWC-1	BI-LEVEL WATER COOLER W/ BOTTLE FILLER	PER ADA	1/2"	-	-	1 1/4"	1 1/2"	1 1/2"	-
L-1	WALL-HUNG LAVATORY, 0.5 GPM	34"	1/2"	1/2"	3/8"	1 1/4"	1 1/2"	1 1/2"	PROVIDE ASSE 1070 POINT OF USE MIXING VALVE UNDER FIXTURE OR GROUP OF FIXTURES AND SET AT 105° F. VALVE SHALL BE CAP OF FIXTURE(S) BEING SERVED. FOR GROUP BATHROOMS, PROVIDE ONE HB-1 UNDER ONE LAVATORY FOR MAINTENANCE.
MR-1	PRECAST TERRAZZO BASIN WITH WALL MOUNTED FAUCET	FLOOR	1/2"	1/2"	-	3"	3"	1 1/2"	-
S-1	UNDERMOUNT SINK, 1.5 GPM	COUNTERTOP	1/2"	1/2"	1/2"	1 1/2"	1 1/2"	1 1/2"	PROVIDE ASSE 1070 POINT OF USE MIXING VALVE UNDER FIXTURE AND SET AT 105° F.
UB-1	UTILITY BOX, COLD ONLY	VARIES	1/2"	-	-	-	-	-	PROVIDE WHA-AA FOR CW CONNECTION. MOUNT UTILTY BOXES FOR COFFEE BELOW COUNTERTOP. MOUNT UTILTY BOXES FOR REFI
UR-1	URINAL, 0.125 GPF BATTERY FLUSH VALVE	24" TO FLOOD RIM LEVEL	3/4"	-	-	INTEGRAL	2"	1 1/2"	FOR ADA COMPLIANT FIXTURES, FLUSH VALVE CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE FIXTURE.
WC-2	WALL HUNG WATER CLOSET, BATTERY FLUSH VALVE, ADA, 1.28 GPF	17" TO FLOOD RIM LEVEL	1"	-	-	INTEGRAL	4"	2"	FOR ADA COMPLIANT FIXTURES, FLUSH VALVE CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE FIXTURE. COORDINATE INS GRAB BAR FOR WATER CLOSETS. REFER TO ARCHITECTURAL DRAWINGS.

	PUMP SCHEDULE							
MARK	DESCRIPTION	CAPACITY (GPM)	TOTAL HEAD (FT OF WC)	MIN. MOTOR HP	RPM	VOLTAGE/ PHASE		
SP-1	SIMPLEX SUMP PUMP	50	8	0.5	3600	120/1	PROVIDE CONTR CAPABLE OF AC ALARM TO THE R	

1

NOTES TROL PANEL AS SHOWN ON PLANS. SENSORS SHALL BE ACTIVATING AN ALARM WHEN OIL IS DETECTED. CONNECT BMS.

PLUMBING SPECIFICATIONS

<u>GENERAL:</u>

4

PROVIDE AND TEST COMPONENTS IN ACCORDANCE WITH THE VIRGINIA PLUMBING CODE (2018), MANUFACTURERS INSTRUCTIONS, AND APPROVED PRODUCT DATA SUBMITTALS. PIPING MATERIALS, PLUMBING FIXTURES, AND EQUIPMENT SHALL BEAR WARNING SIGNS, LABELS, STAMPS, OR OTHER MARKINGS OF SPECIFIED TESTING AGENCY. CLEAN INTERIOR OF PIPING. REMOVE DIRT AND DEBRIS AS WORK PROGRESSES. PROTECT PIPING DURING REMAINDER OF CONSTRUCTION PERIOD TO AVOID CLOGGING WITH DIRT AND DEBRIS AND TO PREVENT DAMAGE FROM TRAFFIC AND CONSTRUCTION WORK. DRAWINGS INDICATE ONLY A GENERAL ARRANGEMENT OF PIPING, FITTINGS, AND SPECIALTIES. CONTRACTOR SHALL PROVIDE CUT SHEETS OF ALL EQUIPMENT, FIXTURES, AND PIPING FOR ENGINEER REVIEW. CUT SHEETS SHALL SHOW MARKINGS OF SPECIFIED TESTING AGENCY AND CLEARLY INDICATE THE SELECTED MODEL.

A. MATERIAL: HUBLESS CAST IRON B. PIPE: ASTM A 888, CISPI STD 301 C. FITTINGS: CISPI STD 310

D. COUPLINGS: ASTM C 1277

SANITARY FORCE MAIN PIPING:

A. MATERIAL: COPPER TYPE K. B. PIPE: ASTM B88 SOFT WROUGHT-COPPER. C. FITTINGS: CAST COPPER, SOLDER JOINT ASME B32, LEAD-FREE ALLOYS. D. JOINTS: BRAZED

DOMESTIC WATER PIPING:

ABOVE GROUND A. MATERIAL: COPPER TYPE L. B. PIPE: ASTM B88. CAST- OR WROUGHT- COPPER C. FITTINGS: CAST COPPER, SOLDER JOINT ASME B32, LEAD-FREE ALLOYS. D. JOINTS: BRAZED OR SOLDERED

COMPRESSED AIR PIPING:

A. MATERIAL: GALVANIZED STEEL B. PIPE: ASTM A53/A53M, TYPE S, GRADE B SEAMLESS C. FITTINGS:ASME B16.3 D. JOINTS:THREADED

VACUUM PIPING:

A. MATERIAL: COPPER B. PIPE: SEAMLESS, TYPE L. ASTM B88 C. FITTINGS: WROUGHT COPPER AND BRONZE, ASME B16.22 OR CAST COPPER ASME B16.18 D. JOINTS: SOLDER

PIPING INSULATION:

A. COLD WATER PIPE 1 INCH AND SMALLER: FLEXIBLE ELASTOMERIC OR GLASS-FIBER, TYPE 1 - 1/2 INCH THICK B. COLD WATER PIPE 1-1/4 INCHES AND LARGER: FLEXIBLE ELASTOMERIC OR GLASS-FIBER, TYPE 1 -1/2 INCH THICK C. HOT WATER PIPE 4 INCH AND SMALLER: FLEXIBLE ELASTOMERIC - 3/4 INCH THICK OR GLASS-FIBER, TYPE 1 - 1/2 INCH THICK.

VALVES:

ALL VALVES SHALL BE RATED FOR THEIR WORKING FLUID/GAS TEMPERATURE AND PRESSURE. BALL VALVES 2 INCHES AND SMALLER SHALL BE BRASS OR BRONZE WITH THREADED BODIES FOR PIPE AND SOLDER-TYPE CONNECTIONS FOR TUBING.

Y-TYPE STRAINERS SHALL HAVE CAST IRON BODY IN ACCORDANCE WITH ASTM A 126.

VALVE TAGS SHALL BE BRASS AND STAMPED OR ENGRAVED WITH 1/2 INCH LETTERS FOR PIPING SYSTEM ABBREVIATION AND 1/2 INCH NUMBERS FOR PIPE SIZE. TAGS SHALL BE ATTACHED BY BRASSWIRE-LINK CHAIN.

CAPABLE OF SUPPLYING REQUIRED FLOW
REFRIGERATOR 12 "AFF.
INSTALLATION OF FLUSH VALVE WITH

5

SANITARY WASTE AND VENT PIPING (ABOVE GROUND):

METERS AND GAGES

6

PRESSURE GAGES SHALL BE DIRECT-MOUNTED, METAL-CASE, DIAL-TYPE WITH GLASS WINDOW, METAL RING, AND GRADE A ACCURACY.

THERMOMETERS SHALL BE METAL-CASE, COMPACT-STYLE, LIQUID-IN-GLASS TYPE.

WATER CLOSETS (WC-2) A. STANDARD: ASME A112.19.2 B. TYPE: WALL MOUNTED, BACK OUTLET WITH ELECTRONIC BATTERY-POWERED FLUSH VALVE C. BOWL MATERIAL: VITREOUS CHINA

D. HEIGHT: 17 INCHES E. COLOR: WHITE F. TOILET SEAT: COMMERCIAL (HEAVY DUTY), WHITE PLASTIC OPEN FRONT <u>URINALS (UR-1):</u> A. STANDARD: ASME A112.19.2

B. TYPE: ABA WALL MOUNT WITH ELECTRONIC BATTERY-POWERED FLUSH VALVE C. MATERIAL: VITREOUS CHINA D. HEIGHT: 17" FOR ADA; 24" REGULAR HEIGHT TO FLOOD RIM

E. COLOR: WHITE LAVATORIES (L-1): A. STANDARD: ASME A112.19.2 B. TYPE: VITREOUS CHINA, WALL MOUNTED, WHITE

C. NOMINAL SIZE: RECTANGULAR, 20-1/2 X 18-1/4 INCHES D. HEIGHT: 34 INCHES E. FAUCET: TOP THREE-HOLE PUNCH WITH MANUALLY OPERATED FAUCET, CHROME FINISH

<u>SINKS (S-1):</u> A. STANDARD: ASME A112.19.1 B. TYPE: ENAMALED CAST IRON, WHITE C. NOMINAL SIZE: 25 X 22 INCHES D. HEIGHT: CABINET UNDERMOUNT

E. FAUCET: SINGLE HOLE, 3 FUNCTION PULL-DOWN SPRAY HEAD, CHROME FINISH

WATER COOLER (EWC-1): A. STANDARD: ASME A112.18.1 B. TYPE: STAINLESS STEEL, BI-LEVEL, BOTTLE FILLER C. NOMINAL SIZE: 34-1/8 X 18-3/4 INCHES D. HEIGHT: 33 INCHES

MOP SINK (MR-1):

A. STANDARD: ASME A112.18.2 B. TYPE: MOLDED STONE, FLOOR MOUNTED, RECTANGULAR C. NOMINAL SIZE: 30 BY 30 INCHES

D. HEIGHT: 6 INCHES E. FAUCET: WALL MOUNT TYPE WITH ROUGH CHROME FINISH, WALL BRACE, VACUUM BREAKER, PAIL HOOK, LEVER HANDLES, AND STOPS.

CONNECTIONS: CONNECT DOMESTIC WATER, WASTE, AND VENT PIPING TO WATER-SERVICE PIPING AS INDICATED, BUT NOT SMALLER THAN REQUIRED BY EQUIPMENT AND FIXTURES.

ESCUTCHEONS AND FLOOR PLATES: INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS. ESCUTCHEONS SHALL BE ONE-PIECE, STEEL TYPE WITH POLISHED, CHROME-PLATED FINISH AND SETSCREW FASTENER.

INSTALL FLOOR PLATES FOR PIPING PENETRATIONS OF EQUIPMENT-ROOM FLOORS. SPLIT FLOOR PLATES SHALL BE OF CAST BRASS WITH CONCEALED HINGE. **IDENTIFICATION AND LABELS:**

PROVIDE AND INSTALL LABELS ON EQUIPMENT. LABELS SHALL BE BLACK WITH WHITE LETTERING. LABELS SHALL BE CLEARLY READABLE FROM A DISTANCE OF 5 FEET.

PROVIDE AND INSTALL LABELS INDICATING LOCATION AND MARK OF EQUIPMENT LOCATED ABOVE CEILING REQUIRING ROUTINE MAINTENANCE. LABELS SHALL BE WHITE WITH BLACK LETTERING AND SHALL BE CLEARLY READABLE FROM A DISTANCE OF 5 FEET.

PROVIDE PRE-PRINTED SELF-ADHESIVE PIPE LABELS WITH LABELS INDICATING SERVICE, AND SHOWING FLOW DIRECTION IN ACCORDANCE WITH ASME A13.1. PIPE SUPPORT:

PROVIDE PIPE SUPPORT IN ACCORDANCE WITH ANSI/MSS SP-58.

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