





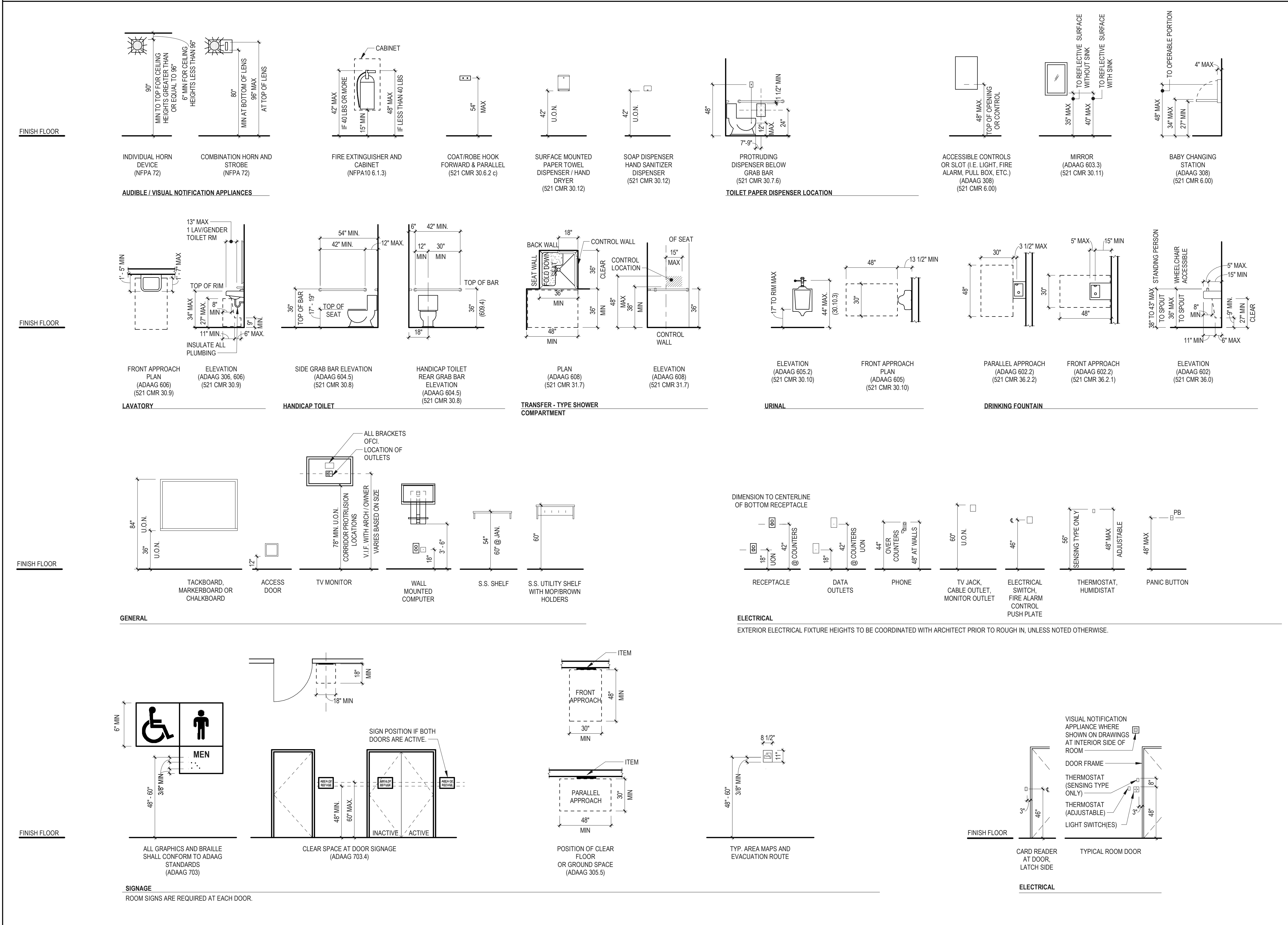




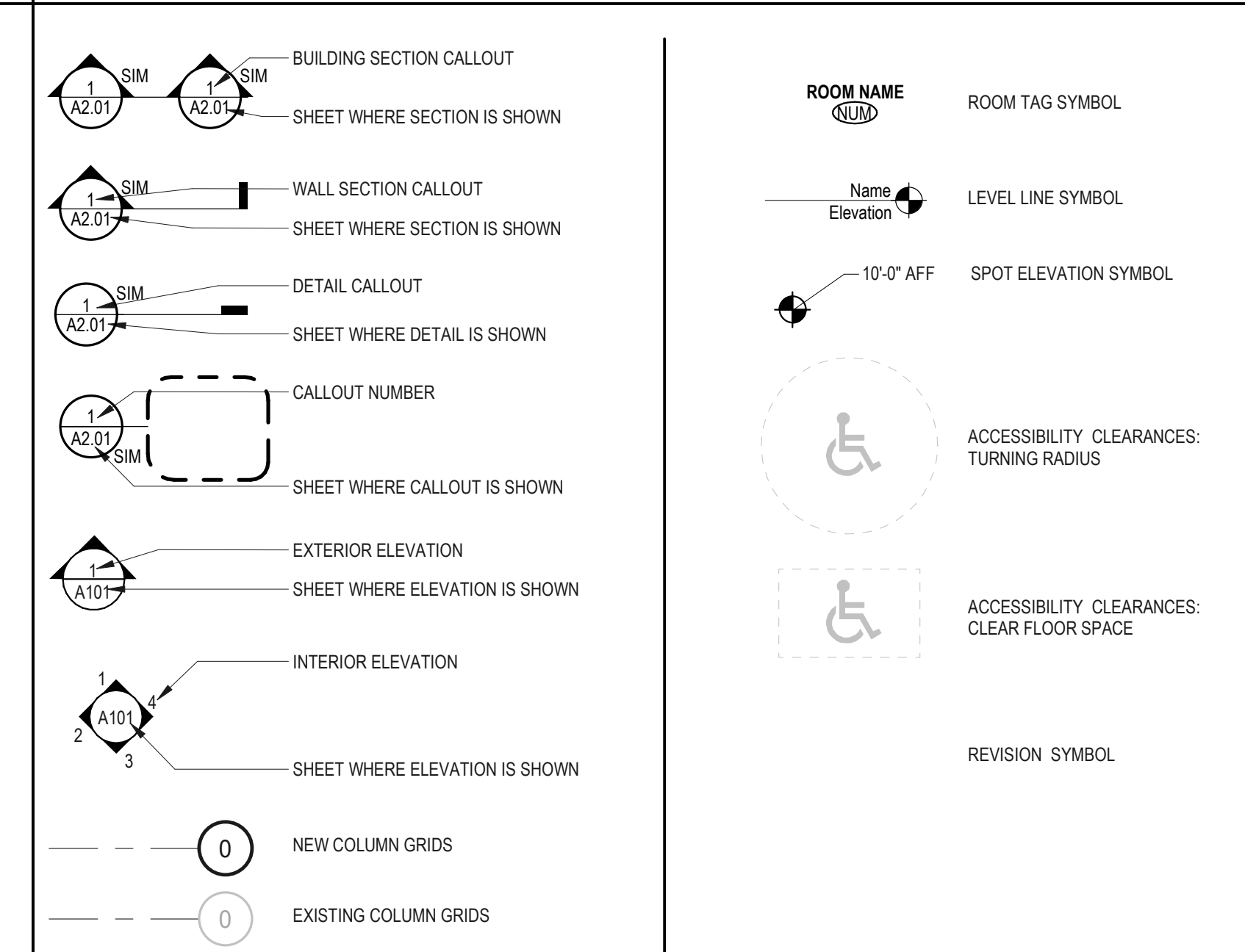




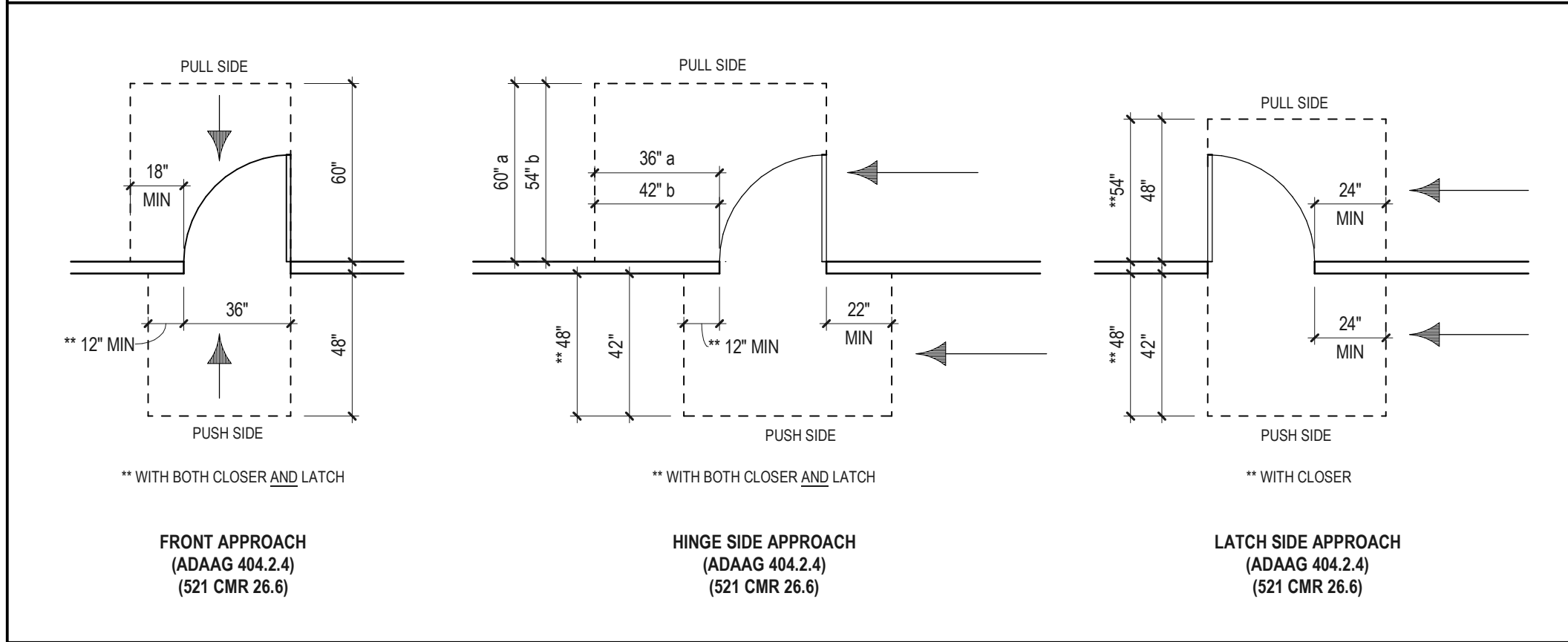
**FIXTURE HEIGHTS**



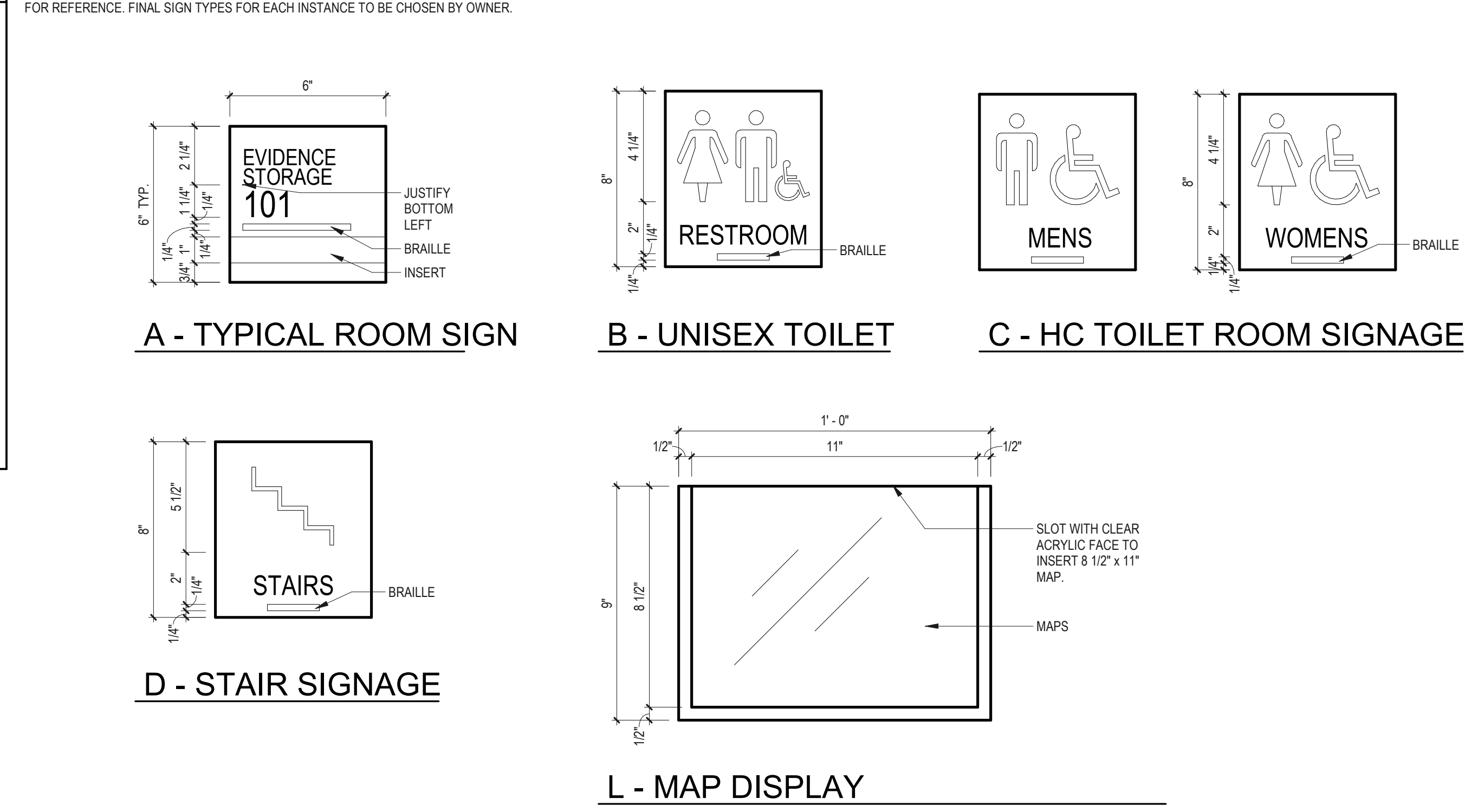
**GRAPHIC SYMBOLS**



**MANEUVERING CLEARANCES FOR ALL ACCESSIBLE DOORS**



**SIGN TYPES**



ROOM SIGNAGE SCHEDULE			
FINAL CONTENTS OF EACH ROOM SIGN TO BE COORDINATED WITH OWNER. PROVIDE A MINIMUM OF ONE ROOM SIGN FOR EACH ENTRANCE INTO EVERY ROOM.			
DOOR NUMBER	BUILDING SIGNAGE		
	CONSTRUCTION DRAWINGS (FOR REFERENCE)	ROOM NAME	SIGN TEXT
104A	APPARATUS BAY	104	APPARATUS BAY
104B	APPARATUS BAY	104	APPARATUS BAY
104C	APPARATUS BAY	104	APPARATUS BAY
104D	APPARATUS BAY	104	APPARATUS BAY
104E	APPARATUS BAY	104	APPARATUS BAY
104F	APPARATUS BAY	104	APPARATUS BAY
104G	APPARATUS BAY	104	APPARATUS BAY
105	SECONDARY APPARATUS BAY	105	SECONDARY APPARATUS BAY



Client/ Contractor  
**TOWN OF NORTH BROOKFIELD**  
 215 NORTH MAIN STREET  
 NORTH BROOKFIELD, MA

Project  
**APPARATUS RENOVATION**  
 56 SCHOOL STREET  
 NORTH BROOKFIELD, MA 01535

Seals  
**PROGRESS SET**  
 NOT FOR CONSTRUCTION

Issues / Revisions		
No.	Date	Description
12/1/2023		50% CD DOCUMENTS

Drawing Title  
**GENERAL INFORMATION**

Project Manager: PM Project No: NBR02AR.01  
 Project Architect: PA Production Leader: PL  
 Project Designer: ID Peer Reviewer: PR  
 Drawing Number

**A0.10**

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**EXTERIOR ELEVATION LEGEND**

- A3-D PARTITION TAG
  - 11 WINDOW TAG
  - 101 DOOR TAG
  - 104H GLAZING TAG
  - C-J CONTROL JOINT
- MATERIALS**
- BRICK
  - GLASS
  - CMU BLOCK

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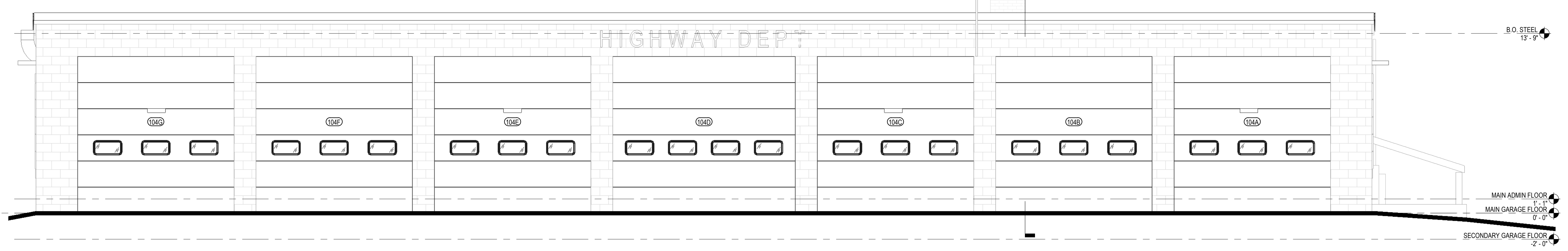
Issues / Revisions

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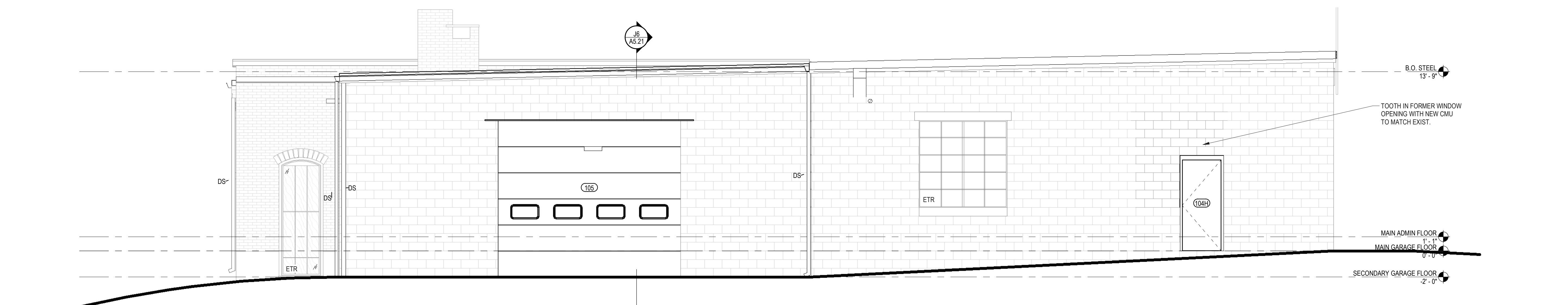
Drawing Title  
**EXTERIOR ELEVATIONS**

Project Manager: PM | Project No: NBR02AR.01  
Project Architect: PA | Production Leader: PL  
Project Designer: ID | Peer Reviewer: PR

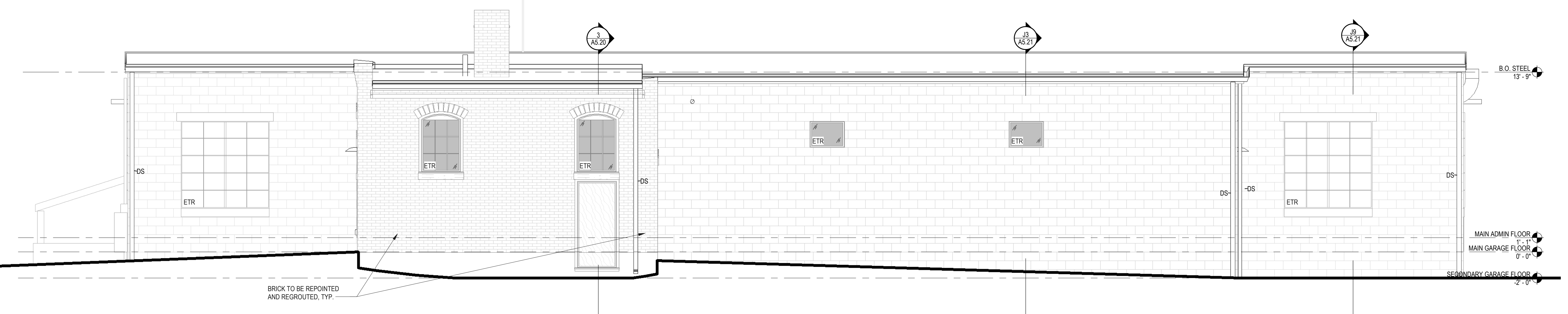
Drawing Number  
**A4.10**



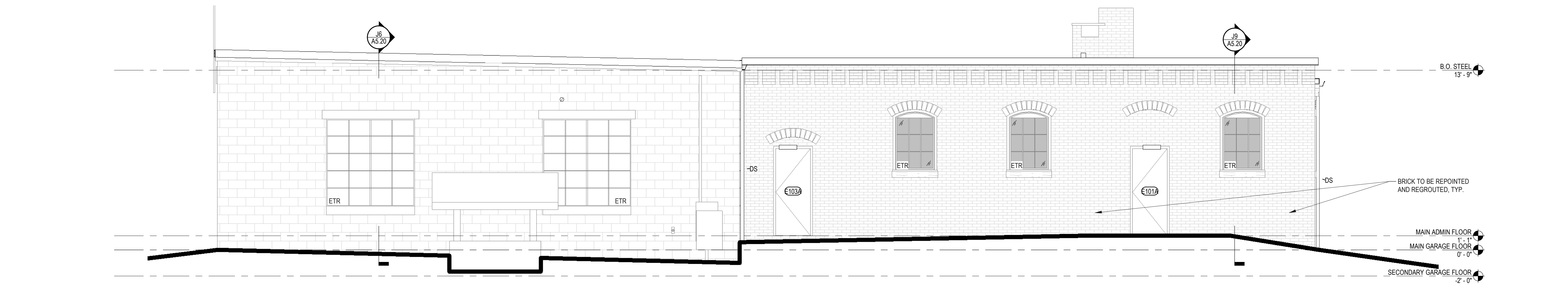
**C12 NORTH ELEVATION**  
1/4" = 1'-0"



**E12 EAST ELEVATION**  
1/4" = 1'-0"



**H12 SOUTH ELEVATION**  
1/4" = 1'-0"



**K12 WEST ELEVATION**  
1/4" = 1'-0"

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12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K

EQUIPMENT SCHEDULE					
TAG	DESCRIPTION	FURNISH / INSTALL			SPEC SECTION
		OWNER FURNISH	CONTRACTOR FURNISH	CONTRACTOR INSTALL	
FC-1	FLAMMABLE CABINET	•	•		
HD-1	HOSE DRYING CABINET	•	•		
LK-1	MOBILE TURN OUT GEAR LOCKERS	•	•		
PC-1	PHASE CONVERTER	•	•		
SCBA	SCBA BOTTLE FILL STATION	•	•		
SH-1	HEAVY DUTY METAL SHELVING	•	•		
WB-1	WORK BENCH	•	•		

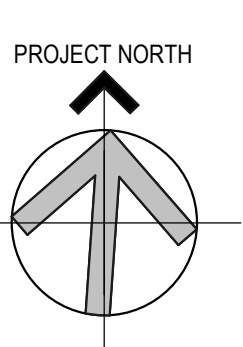
**Tecton**  
ARCHITECTS

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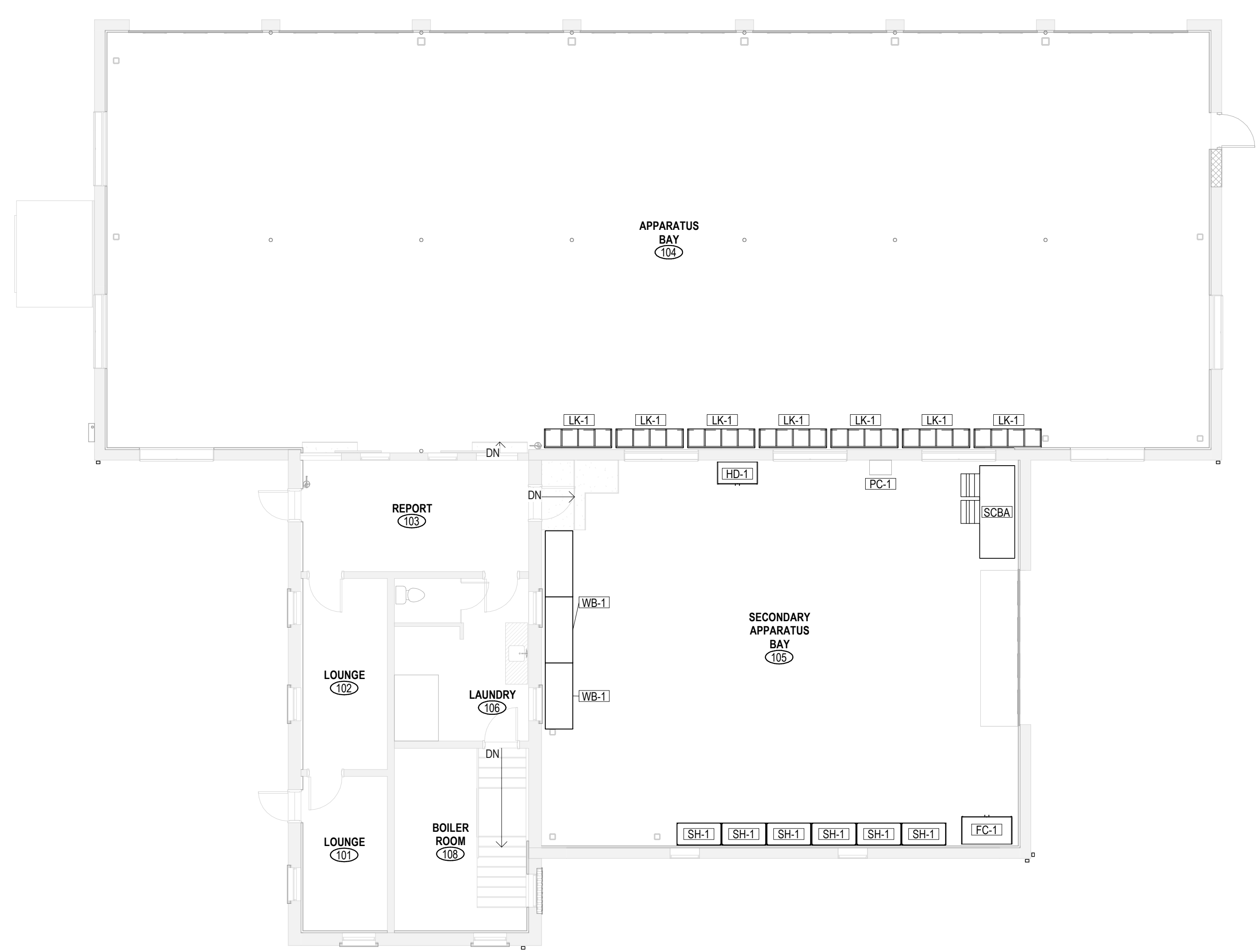
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**TOWN OF NORTH BROOKFIELD**  
215 NORTH MAIN STREET  
NORTH BROOKFIELD, MA

Project  
**APPARATUS RENOVATION**  
56 SCHOOL STREET  
NORTH BROOKFIELD, MA 01535



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Issues / Revisions	
No.	Description
12/1/2023	50% CD DOCUMENTS



**K12** EQUIPMENT PLAN  
1/8" = 1'-0"

Drawing Title  
**EQUIPMENT PLAN & SCHEDULE**

Project Manager:	PM	Project No.:	NBR02AR.01
Project Architect:	PA	Production Leader:	PL
Project Designer:	ID	Peer Reviewer:	PR

Drawing Number  
**A10.10**

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12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1









KEYNOTES - PLUMBING

Key Value	Keynote Text
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Norwood MA 02062  
617.261.7161  
ceseng.com  
CES #2023447

Client/ Contractor

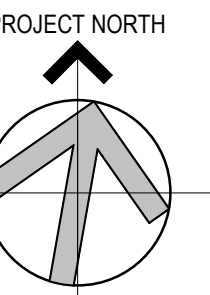
**TOWN OF NORTH  
BROOKFIELD**

215 NORTH MAIN STREET  
NORTH BROOKFIELD, MA

Project

**NORTH BROOKFIELD  
APPARATUS BAY**

56 SCHOOL STREET  
NORTH BROOKFIELD, MA 01535



Seals

**PROGRESS SET  
NOT FOR CONSTRUCTION**

Issues / Revisions

No.	Date	Description
1	12/01/2023	CONSTRUCTION DOCUMENTS

Drawing Title

**PLUMBING MAIN  
LEVEL FLOOR  
PLAN**

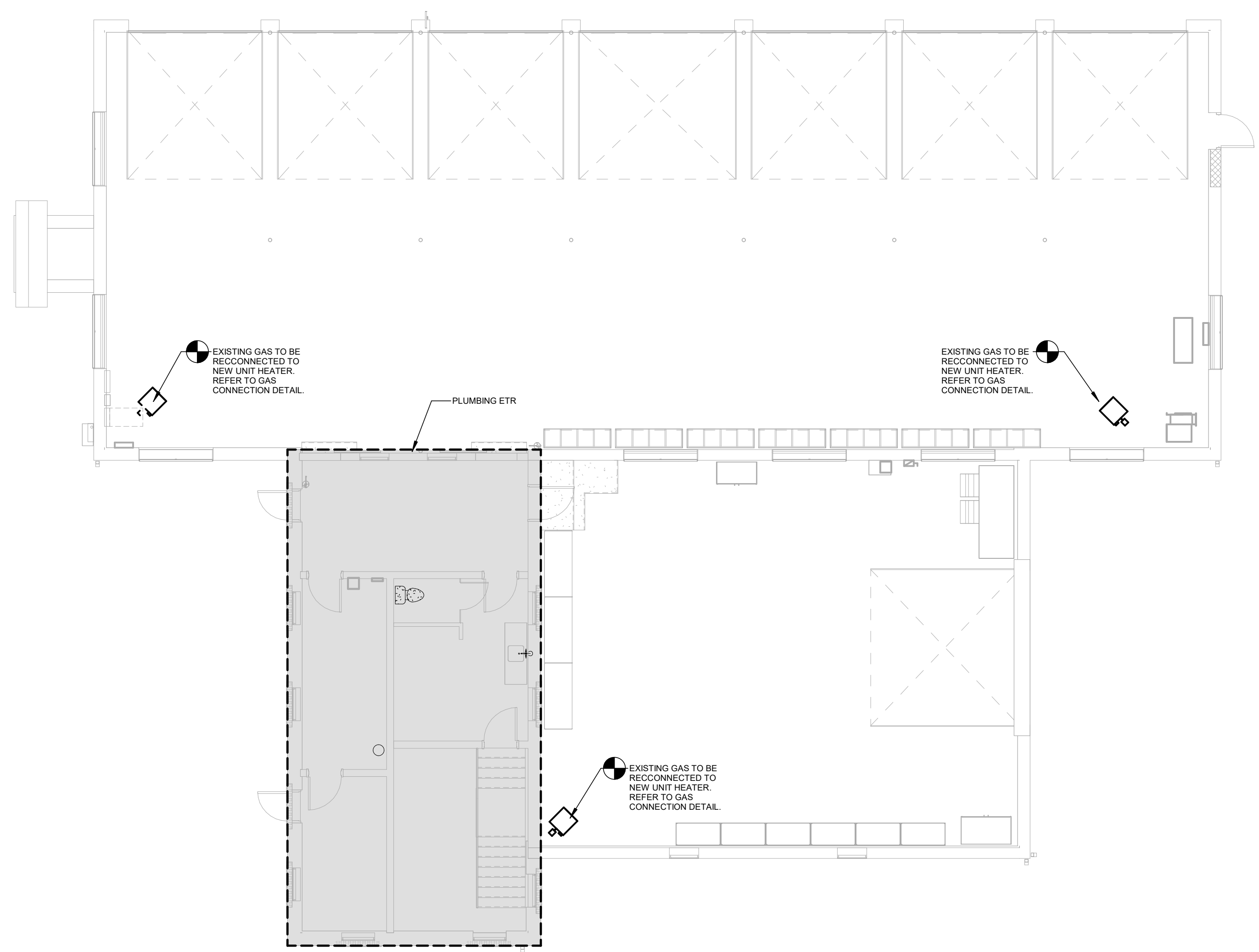
Project Manager: PM Project No: NBR02AR.01

Project Architect: PA Production Leader: PL

Project Designer: ID Peer Reviewer: PR

Drawing Number

**P2.10**



**1 PLUMBING MAIN GARAGE FLOOR PLAN**  
1/8" = 1'-0"

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DUCTWORK LEGEND	
SYMBOL	DESCRIPTION
	RECTANGULAR DUCTWORK
	ROUND DUCTWORK
	OVAL DUCTWORK
	DUCTWORK SHOWN SINGLE LINE
	ACOUSTICALLY LINED DUCTWORK
	ACOUSTICALLY LINED DUCTWORK (SINGLE LINE)
	RECTANGULAR SUPPLY DUCTWORK TOWARDS (UP IN PLAN)
	ROUND SUPPLY DUCTWORK TOWARDS (UP IN PLAN)
	RECTANGULAR SUPPLY DUCTWORK AWAY (DOWN IN PLAN)
	ROUND SUPPLY DUCTWORK AWAY (DOWN IN PLAN)
	RECTANGULAR RETURN DUCTWORK TOWARDS (UP IN PLAN)
	ROUND RETURN DUCTWORK TOWARDS (UP IN PLAN)
	RECTANGULAR RETURN DUCTWORK AWAY (DOWN IN PLAN)
	ROUND RETURN DUCTWORK AWAY (DOWN IN PLAN)
	RECTANGULAR EXHAUST DUCTWORK TOWARDS (UP IN PLAN)
	ROUND EXHAUST DUCTWORK TOWARDS (UP IN PLAN)
	RECTANGULAR EXHAUST DUCTWORK AWAY (DOWN IN PLAN)
	ROUND EXHAUST DUCTWORK AWAY (DOWN IN PLAN)
	FLEXIBLE DUCT
	OPEN ENDED DUCT WITH WIRE MESH SCREEN
	CAPPED DUCT
	DUCT TRANSITION

AIR DEVICE LEGEND	
SYMBOL	DESCRIPTION
	SUPPLY DIFFUSER
	RETURN GRILLE OR REGISTER
	EXHAUST GRILLE OR REGISTER
	SIDEWALL SUPPLY GRILLE
	SIDEWALL RETURN OR EXHAUST GRILLE OR REGISTER
	SUPPLY DIFFUSER (BLOW INDICATED)
	LINEAR DIFFUSER
	CHILLED BEAM

DAMPER LEGEND	
SYMBOL	DESCRIPTION
	MANUAL VOLUME DAMPER
	FIRE DAMPER W/ACCESS DOOR
	MOTORIZED CONTROL DAMPER W/ACCESS DOOR
	SMOKE DAMPER W/SMOKE DETECTOR AND ACCESS DOOR
	COMBINATION FIRE/SMOKE DAMPER W/SMOKE DETECTOR AND ACCESS DOOR
	RADIATION DAMPER
	BACKDRAFT DAMPER
	AUTOMATIC VOLUME DAMPER (PRESSURE INDEPENDENT)

GENERAL ABBREVIATIONS	
AD	ACCESS DOOR
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
AUJ	AUTHORITY HAVING JURISDICTION
AP	ACCESS PANEL
AP	CONVEYOR
APD	AIR PRESSURE DROP
AWT	AVERAGE WATER TEMPERATURE
BAS	BUILDING AUTOMATION SYSTEM
BF	BYPASS FEEDER
BHP	BREAK HORSEPOWER
BMS	BUILDING MANAGEMENT SYSTEM
BTU	BTU / HOUR
BTU/H	BTU / HOUR
BD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CRD	CEILING RADIATION DAMPER
CAP	CAPACITY
COP	COEFFICIENT OF PERFORMANCE
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
CFM	CUBIC FEET PER MINUTE
CFM	CUBIC FEET
dB	DECIBELS
DB	DRY BULB TEMPERATURE
DDC	DIRECT DIGITAL CONTROL
DA	DAMPER
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE (DRY BULB)
EDB	ENTERING DRY BULB
EER	ENERGY EFFICIENCY RATIO
EFC	ELECTRICAL CODE
ER	EXISTING TO BE RELOCATED
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EWB	ENTERING WET BULB
EW	ENTERING WATER TEMPERATURE
F	DEGREES FAHRENHEIT
FD	FIRE DAMPER
FT	FEET
FW	FEET WATER GAUGE
FL	FULL LOAD AMPS
FFM	FEET PER MINUTE
FS	COMBINATION FIRE SMOKE DAMPER
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRD	GRILLE, REGISTER, DIFFUSER
HD	HEAD
HP	HORSEPOWER
HSPF	HEATING SEASON PERFORMANCE FACTOR
HZ	HERTZ
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
IN	INCHES
IN WG	INCHES WATER GAUGE
IPLV	INTEGRATED PART LOAD VALUE
Q	QUANTITY
LAT	LEAVING AIR TEMPERATURE
LDB	LEAVING DRY BULB
LWB	LEAVING WET BULB
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MECH	MECHANICAL
MCA	THOUSANDS OF BTU / HOUR
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OAT	OUTSIDE AIR TEMPERATURE
OD	OUTER DIAMETER
OED	OPEN ENDED DUCT
PUMP	PUMP
PH	PHASE
PLBG	PLUMBING
PRV	PRESSURE REDUCING VALVE
PSIG	POUNDS PER SQUARE INCH GAUGE
QTY	QUANTITY
RA	RETURN AIR
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
RV	RADON VENT
SA	SUPPLY AIR
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SG	SIGHT GLASS
SP	STATIC PRESSURE
SPD	STATIC PRESSURE DROP
SS	STAINLESS STEEL
SSP	SATURATED SUCTION PRESSURE
SQFT	SQUARE FEET
TEMP	TEMPERATURE
TSP	TOTAL STATIC PRESSURE
TSAT	TYPICAL
TYP	TYPICAL
UOI	UNLESS OTHERWISE INDICED
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THRU ROOF
W	WITHOUT
WB	WET BULB
WC	WATER COLUMN
WG	WATER GAUGE
WS	WIRE MESH SCREEN
WPD	WATER PRESSURE DROP
X	DEMOLISH

EQUIPMENT ABBREVIATIONS	
AC	AIR CONDITIONING UNIT
ACCU	AIR COOLED CONDENSING UNIT
AH	AIR HANDLER
AHU	AIR HANDLING UNIT
AS	AIR SEPARATOR
ASHP	AIR SOURCE HEAT PUMP
B	BOILER
CUH	CABINET UNIT HEATER
CF	CHILLER
CH	CHILLER
CB	CHILLED WATER COIL
CHWC	CHILLED WATER COIL
CHWP	CHILLED WATER PUMP
CT	COOLING TOWER
CRAC	COMPUTER ROOM AC UNIT
CP	CONDENSATE PUMP
CWP	CONDENSER WATER PUMP
CU	CONDENSING UNIT
CV	CONVEYOR
DEF	DISHWASHER EXHAUST FAN
DAC	DUCTLESS AIR CONDITIONING UNIT
DH	DUCTLESS HEAT PUMP
DHP	DEDICATED OUTDOOR AIR SYSTEM
DOAS	DEDICATED OUTDOOR AIR SYSTEM
EB	ELECTRIC BASEBOARD
EUH	ELECTRIC UNIT HEATER
EW	ELECTRIC WALL HEATER
ERU	ENERGY RECOVERY UNIT
ERV	ENERGY RECOVERY VENTILATOR
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ET	EXPANSION TANK
F	FAN
FCU	FAN COIL UNIT
FOP	FUEL OIL PUMP
FRP	FUEL OIL RETURN PUMP
GMU	GLYCOL MAKE-UP UNIT
HX	HEAT EXCHANGER
HWC	HOT WATER COIL
H	HUMIDIFIER
HWP	HOT WATER PUMP
KEF	KITCHEN EXHAUST FAN
LB	LINEAR BAR GRILLE
LS	LINEAR SLOT DIFFUSER
MAU	MAKE UP AIR UNIT
PHX	PLATE AND FRAME HEAT EXCHANGER
P	PUMP
R	RADIATION
RHC	REHEAT COIL
RF	RETURN FAN OR RELIEF FAN
RA	RADIANT PANEL
RTU	ROOFTOP UNIT
SA	SOUND ATTENUATOR
SPF	STAR PRESSURIZATION FAN
SEF	SMOKE EXHAUST FAN
SD	SUPPLY DIFFUSER
SG	SUPPLY GRILLE
TEF	TOILET EXHAUST FAN
UH	UNIT HEATER
WSP	WATER SOURCE HEAT PUMP

FIRESTOPPING GENERAL NOTES	
1.	PROVIDE FIRE STOPPING AND SMOKE BARRIER SEALING OF PENETRATIONS THROUGH FIRE OR SMOKE WALLS, BARRIERS AND PARTITIONS AS REQUIRED TO MAINTAIN RATING. REFER TO ARCHITECTURAL FLOOR PLANS AND CODE SHEETS FOR WALL RATINGS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

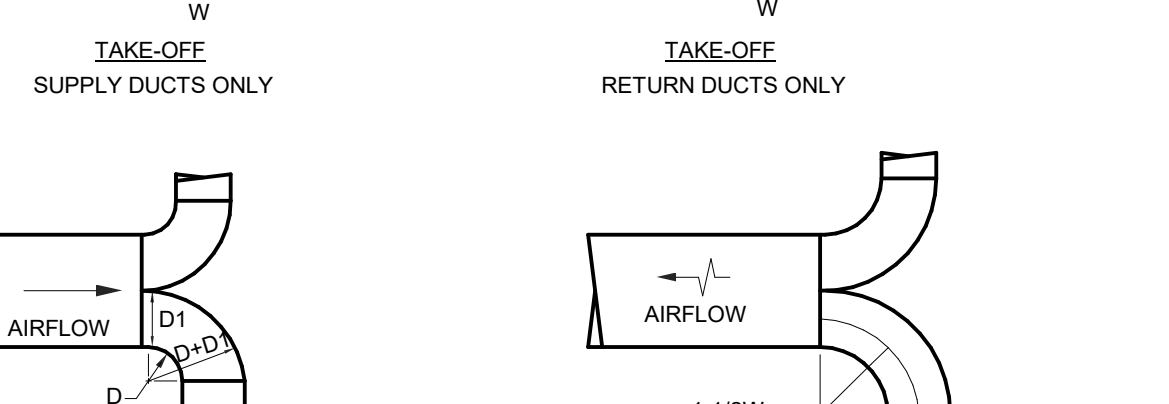
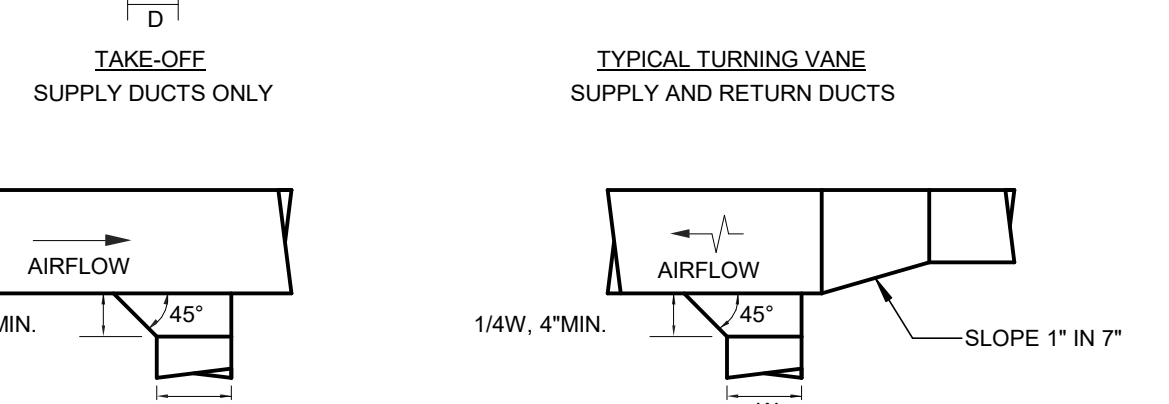
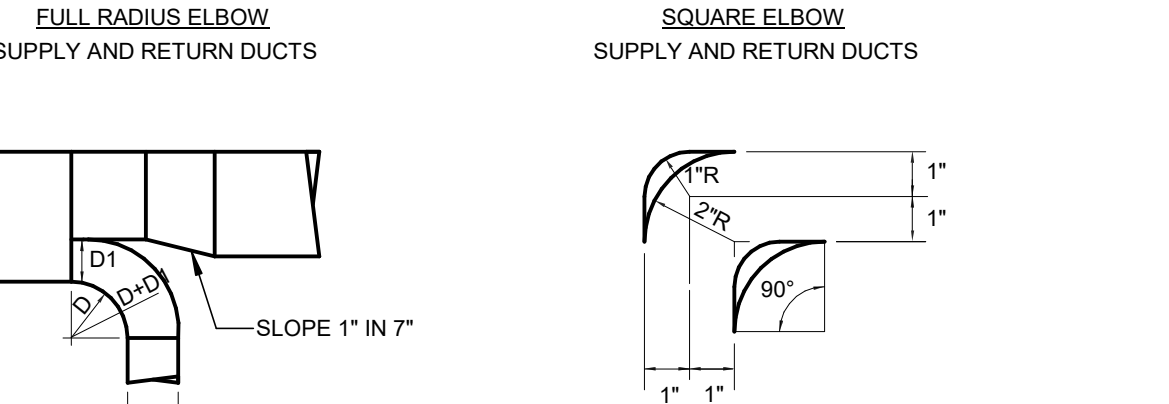
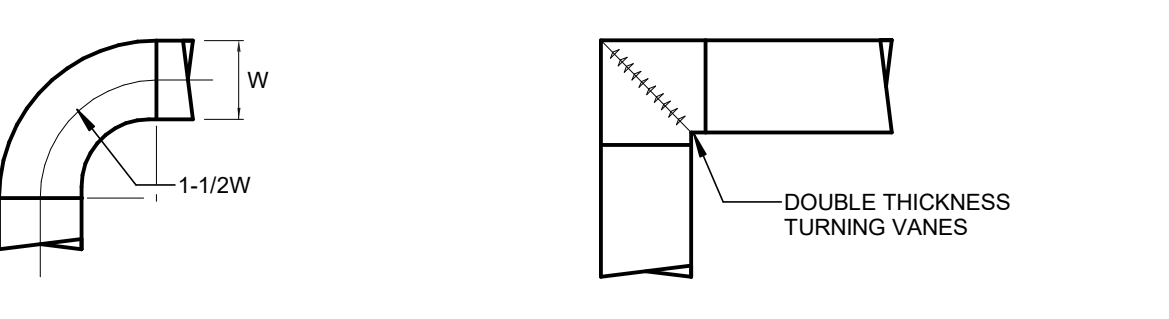
DEMOLITION NOTES	
1.	SITE VISIT: THIS PROJECT INVOLVES CONSTRUCTION INSIDE AN EXISTING STRUCTURE BEFORE SUBMITTING BID, VISIT AND CAREFULLY EXAMINE SITE TO IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK OF THIS SECTION. NO EXTRA PAYMENT WILL BE ALLOWED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY CONSTRUED BY EXPERIENCED OBSERVER.
2.	PREPARATORY WORK BEFORE STARTING WORK IN A PARTICULAR AREA OF THE PROJECT, VISIT SITE AND EXAMINE CONDITIONS UNDER WHICH WORK MUST BE PERFORMED INCLUDING PREPARATORY WORK DONE UNDER OTHER SECTIONS OR CONTRACTS BY OWNERS. REPORT CONDITIONS THAT MIGHT AFFECT WORK ADVERSELY IN WRITING TO ARCHITECT AND OWNER. DO NOT PROCEED WITH WORK UNTIL DEFECTS HAVE BEEN CORRECTED AND CONDITIONS ARE SATISFACTORY. COMMENCEMENT OF WORK SHALL BE CONSTRUED AS COMPLETE ACCEPTANCE OF EXISTING CONDITIONS AND PREPARATORY WORK.
3.	PHASING: DEMOLITION WORK SHALL COMPLY WITH THE PHASING REQUIREMENTS OF THE PROJECT AND BE COORDINATED WITH THE OWNER, ARCHITECT, CM AND ENGINEER. NO REMOVALS SHALL BE IMPLEMENTED WITHOUT A THOROUGH UNDERSTANDING OF THE PHASING REQUIREMENTS.
4.	ABANDONING OF DUCTWORK, PIPING OR EQUIPMENT IN PLACE WITHIN SCOPE AREA IS PROHIBITED.
5.	PROVIDE 2 WEEKS NOTICE TO OWNER FOR SHUT DOWN OF ANY SERVICES AND/OR SYSTEMS.
6.	COORDINATE EXISTING EQUIPMENT AND MATERIALS THAT SHALL REMAIN THE PROPERTY OF THE OWNER. ITEMS OF VALUE WHICH ARE NOT DIRECTED TO BE RETURNED TO THE OWNER, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM SITE AND LEGALLY DISPOSED OF. STORAGE OR SALE OF ITEMS ON THE PROJECT SITE IS PROHIBITED.
7.	PROTECTION: ENSURE THE SAFE PASSAGE OF PERSONS IN AND AROUND THE BUILDING DURING DEMOLITION. PREVENT INJURY TO PERSONS AND DAMAGE TO PROPERTY. PROVIDE ADEQUATE SHORING AND BRACING TO PREVENT COLLAPSE. IMMEDIATELY REPAIR DAMAGED PROPERTY TO THE CONDITION BEFORE BEING DAMAGED. TAKE EFFECTIVE MEASURES TO PREVENT WINDBLOWN DUST.
8.	UTILITIES: MAINTAIN ALL UTILITIES EXCEPT THOSE REQUIRING REMOVAL OR RELOCATION. KEEP UTILITIES IN SERVICE AND PROTECT FROM DAMAGE. DO NOT INTERRUPT UTILITIES SERVING OCCUPIED AREAS WITHOUT FIRST OBTAINING PERMISSION FROM THE OWNER IN WRITING. PROVIDE TEMPORARY SERVICES AS REQUIRED.
9.	INFORMATION CONTAINED ON THESE DRAWINGS WAS OBTAINED FROM ARCHIVED DRAWINGS AND SITE VISITS. DRAWINGS ARE DIAGRAMMATIC ONLY AND REFLECT OVERALL SYSTEM REMOVAL, NOT EVERY ITEM OR COMPONENT OF A SYSTEM IS SHOWN. PROVIDE COMPLETE REMOVAL OF ASSOCIATED ANCHORAGE, PIPES, HANGERS, VALVES AND ACCESSORIES SERVING SYSTEM SHOWN.
10.	DEMOLITION WORK SHALL COMPLY WITH OSHA, EPA AND APPLICABLE STATE AND LOCAL CODES. COMPLY WITH HAULING AND DISPOSAL REGULATIONS.
11.	REFER TO SPECIFICATIONS FOR ADDITIONAL DEMOLITION REQUIREMENTS AND PROCEDURES.

PRE-DEMO TESTING, ADJUSTING AND BALANCING (TAB)	
1.	CONFIRM SUPPLY, RETURN AND EXHAUST SYSTEM AIRFLOW CAPACITY THROUGH PRE-CONSTRUCTION TESTING AND BALANCING OF SYSTEMS AFFECTED BY THE WORK. REPORTS SHALL INCLUDE COMPLETE FAN INFORMATION, CFM, ESP, TRP, RPM, VOLTS, AMPS AND VFD SPEEDS.
2.	CONFIRM HYDROIC SYSTEM CAPACITY THROUGH PRE-CONSTRUCTION TESTING AND BALANCING REPORTS OF SYSTEMS AFFECTED BY THE WORK. REPORTS SHALL INCLUDE PIPE SIZE, FLOW RATE, SUPPLY PRESSURE AND RETURN PRESSURE.
3.	CONFIRM STEAM PIPING CAPACITY THROUGH PRE-CONSTRUCTION TESTING AND BALANCING REPORTS OF SYSTEMS AFFECTED BY THE WORK. REPORTS SHALL INCLUDE PIPE SIZE AND STEAM PRESSURE (PSIG).

GENERAL NOTES	
1.	GENERAL NOTES, SYMBOLS AND DETAILS ARE APPLICABLE TO DRAWINGS WITHIN DIVISION 23.
2.	PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED, AND AS REQUIRED BY CODES.
3.	DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO INDICATE CAPACITY, SIZE, APPROXIMATE LOCATION AND GENERAL ARRANGEMENT. COORDINATE LOCATIONS OF SYSTEMS AND COMPONENTS.
4.	COORDINATE ROOF AND WALL PENETRATIONS WITH WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS. COORDINATE SLAB PENETRATIONS WITH WORK OF OTHER SECTIONS.
5.	RUN DUCTS AND PIPING CONCEALED, UNLESS SPECIFIED OTHERWISE NOTED.
6.	INSTALL SENSORS (TEMPERATURE, HUMIDITY, CO2, THERMOSTATS) AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY ARCHITECT. MOUNTING HEIGHT AFF SHALL COMPLY WITH ADA AND SHALL BE MOUNTED LEVEL WITH ADJACENT SWITCHES (IE LIGHT SWITCHES).
7.	COORDINATE WORK OF THIS SECTION WITH THAT OF OTHER SECTIONS AND WITH ALL TRADES INVOLVED. PROVIDE OFFSETS IN PIPING AND DUCTS (INCLUDING DIVIDED DUCTS) AND TRANSITION AND OBSTRUCTIONS.
8.	NOT ALL ACCESS DOORS HAVE BEEN SHOWN ON THE PLANS. PROVIDE ACCESS PANELS THROUGH BUILDING ASSEMBLIES TO SERVICE AND MAINTAIN EQUIPMENT UNLESS SUCH EQUIPMENT IS INSTALLED IN EXPOSED LOCATIONS OR ABOVE LAY-IN CEILING. COORDINATE THE LOCATION OF ACCESS DOORS AND PANELS AND VERIFY THE QUANTITY, SIZE, AND LOCATIONS AFTER THE SYSTEMS AND EQUIPMENT REQUIRING ACCESS HAVE BEEN INSTALLED AND PRIOR TO THE CLOSURE OF THE AFFECTED CEILING AND BUILDING ASSEMBLIES. SUBMIT ACCESS PANEL LOCATIONS FOR REVIEW.
9.	AT SUBSTANTIAL COMPLETION, THE FOLLOWING ITEMS, NEW OR EXISTING, SHALL BE FULLY AND REASONABLY ACCESSIBLE: HVAC CONTROL BOXES, JUNCTION BOXES, VALVES, BDC CONTROL BOXES, ELECTRICAL PANELS, FILTERS, BELTS, WATER COILS, DISCONNECT SWITCHES AND ELEMENTS OF EQUIPMENT REQUIRING MAINTENANCE. "FULLY AND REASONABLY ACCESSIBLE" SHALL MEAN ELECTRIC CODE REQUIRED CLEARANCE FOR POWERED EQUIPMENT AND CAPABLE OF BEING ACCESSED OR SERVICED WITHOUT REMOVING, MODIFYING OR DISASSEMBLING COMPONENTS OF THE WORK. PROVIDE MANUFACTURER'S RECOMMENDED CLEARANCE FOR ALL EQUIPMENT.
10.	SUPPORT EQUIPMENT, PIPING, AND DUCTWORK FROM BUILDING STRUCTURE OR WITH STEEL SUPPORTS AND PLATFORMS AS REQUIRED. PROVIDE VIBRATION ISOLATION FOR ROTATING EQUIPMENT, DUCTWORK, AND PIPING IN ACCORDANCE WITH THE SPECIFICATIONS.
11.	CONTROL WIRING METHODS SHALL COMPLY WITH NEC, AND DIVISION 26 SPECIFICATIONS.
12.	VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S DRAWINGS. VERIFY AND PROVIDE FITTINGS TO TRANSITION TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE DIMENSIONS BEFORE FABRICATION.
13.	PERFORM PRESSURE AND LEAKAGE TESTS BEFORE INSULATING DUCTWORK AND PIPING.
14.	COORDINATE AND PROVIDE HOUSEKEEPING PADS FOR FLOOR-MOUNTED MECHANICAL EQUIPMENT. HOUSEKEEPING PADS SHALL BE REINFORCED CONCRETE WITH 1" CHAMFERED EDGES, 6" THICK, WITH MINIMUM CLEARANCE OF 6" FROM EQUIPMENT BASE TO EDGE OF PAD. INCREASE DEPTH WHERE REQUIRED FOR PROPER INSTALLATION OF EQUIPMENT INCLUDING BUT NOT LIMITED TO CONDENSING BOILERS (TO ALLOW PROPER INSTALLATION OF NEUTRALIZATION EQUIPMENT AND GRAVITY DISCHARGE TO FLOOR DRAIN OR CONDENSATE PUMP) AND HAH (TO ALLOW INSTALLATION OF CONDENSATE TRAP).
15.	MAINTAIN 6'-0" CLEARANCE TO THE UNDERSIDE OF PIPES, DUCTS, CONDUTS, SUSPENDED EQUIPMENT, ETC., THROUGHOUT ROUTES IN MECHANICAL ROOMS. MAINTAIN 3'-0" WIDE MEANS OF EGRESS IN MECHANICAL ROOMS.
16.	MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND, AS SHOWN IN THE DETAILS FOR PIPING, DUCTWORK, AND EQUIPMENT, SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR.
17.	AIR CONDITIONING CONDENSATE DRAIN LINES FROM EACH AIR HANDLING UNIT AND ROOFTOP UNIT SHALL BE PIPED FULL SIZE OF THE UNIT DRAIN OUTLET WITH P-TRAP, P TRAP ARRANGEMENT SHALL BE AS SHOWN ON THE UNIT (NEGATIVE OR POSITIVE PRESSURE).
18.	INSTALL UNITS WITH CLEARANCE FOR SERVICE AS REQUIRED BY THE MANUFACTURER.

AIR SYSTEM GENERAL NOTES	
1.	REFER TO SPECIFICATIONS FOR DUCTWORK CONSTRUCTION CLASSES, SEAL, AND LEAKAGE CLASSES.
2.	EXTERIOR DOWNS ARE INDICATED FOR LOCATION ONLY. DETAILED DESCRIPTIONS ARE PROVIDED IN ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
3.	DUCT SMOKE DETECTORS SHALL BE FURNISHED AND WIRED TO THE FIRE ALARM SYSTEM BY THE ELECTRICAL CONTRACTOR AND MOUNTED WITHIN THE DUCTWORK BY THE MECHANICAL CONTRACTOR. ASSOCIATED FAN SYSTEM SHALL SHUT DOWN UPON DETECTION OF SMOKE.
4.	PROVIDE UL FIRE DAMPERS OR SMOKE/FIRE DAMPERS AND ASSOCIATED ACCESS PANELS WHERE SHOWN ON DRAWINGS IN COMPLIANCE WITH NFPA 99A. FOR DUCTS THAT PENETRATE FIRE WALLS, FLOORS AND PARTITIONS PROVIDE SLEEVES WHERE PENETRATIONS ARE NOT PERPENDICULAR TO SURFACE PENETRATED.
5.	REFER TO REFLECTED CEILING PLANS FOR LOCATIONS OF AIR TERMINAL DEVICES.
6.	INTERNAL AIR FLOW DIMENSIONS ARE SHOWN FOR DUCTS. INCREASE SHEETMETAL SIZE FOR LINER IF APPLICABLE.
7.	DIFFUSER SIZES SHOWN ARE NECK SIZES; REGISTER AND GRILLE SIZE ARE NOMINAL. ROUND RUN OUTS TO DIFFUSERS SHALL BE THE SAME NOMINAL SIZE AS THE SCHEDULED NECK SIZE, UNLESS NOTED AS LARGER. DUCT TRANSITIONS SHALL BE PROVIDED AS NECESSARY AT INLET TO DIFFUSER.
8.	PROVIDE FLEXIBLE CONNECTIONS ON DUCTS CONNECTING TO FANS AND AIR HANDLING UNITS UNLESS INTERNALLY ISOLATED.
9.	THE INSIDE OF DUCTWORK VISIBLE THROUGH A GRILLE OR DIFFUSER SHALL BE PAINTED FLAT BLACK.
10.	OPEN ENDED DUCTS SHALL BE PROVIDED WITH A 1/4" MESH ALUMINUM OR GALVANIZED SCREEN (80% FREE AREA MINIMUM).
11.	ELBOWS IN DUCT SYSTEMS SHALL BE FULL RADIUS (CENTERLINE RADIUS = 1.5 DUCT WIDTH) WHERE LIMITED CLEARANCE OCCURS. PROVIDE SHORT RADIUS ELBOW WITH FULL LENGTH SPLITTER VANES PER SMACNA, OR MITERED ELBOW WITH TURNING VANES PER SMACNA.
12.	PROVIDE CLEANOUTS IN KITCHEN EXHAUST DUCTS AT CHANGES IN DIRECTION AND BASES OF RISERS, AND EVERY 10 FEET IN STRAIGHT RUNS.
13.	NOT ALL MANUAL DAMPERS ARE SHOWN ON THE DRAWINGS. PROVIDE MANUAL ADJUSTABLE DAMPERS ON EACH LOW PRESSURE SUPPLY, RETURN, AND EXHAUST DUCT TAKE OFF, AND AT TAKE OFFS TO REGISTERS, GRILLES, DIFFUSERS, AND OED AS REQUIRED FOR DAMPER BALANCE OF SYSTEMS. PROVIDE CABLE OPERATED DAMPERS WHERE MANUAL DAMPER IS INACCESSIBLE.
14.	WHERE DUCTS PENETRATE WALLS WITH SOUND ISOLATION PERFORMANCE RATINGS, PROVIDE DUCT SLEEVE SIZED TO PROVIDE 1/4" GAP BETWEEN THE SLEEVE AND DUCT. FILL THE GAP WITH FIBEROUS MATERIAL AND SEAL AIRTIGHT WITH NON-HARDENING ACOUSTIC SEALANT.
15.	KITCHEN: COORDINATE REQUIREMENTS WITH KITCHEN EQUIPMENT VENDOR AND FOOD SERVICE DRAWINGS. PROVIDE DUCTWORK AND ACCESSORIES FOR DISHWASHER HOOD AND GREASE HOOD. GREASE DUCT AND DISHWASHER EXHAUST SHALL PITCH BACK TO HOOD.



1 TYPICAL DUCT DETAILS NTS

FAN SCHEDULE																					
GENERAL					PHYSICAL		PERFORMANCE					ACOUSTICAL DATA			ELECTRICAL		REMARKS				
TAG	MANUFACTURER	MODEL	LOCATION	SERVICE	WEIGHT (LBS)	DRIVE	CFM	ESP (IN WG)	RPM	DRIVE LOSS (%)	BHP	INLET SONES	OUTLET SONES	WATTS	HP	VOLTAGE	PHASE	TYPE	RATINGS	FEATURES	INSTALL
VEF-1	PLYMOVENT	TEV-585-60	APP BAY	APP BAY - VEHICLE EXHAUST SYSTEM	185	DIRECT	2727	8.5	3450	-	-	71	-	5995	7.5	208	3	1	1,2,3	1	-
REMARKS - TYPE					REMARKS - RATINGS					REMARKS - FEATURES					REMARKS - INSTALL						
1. CENTRIFUGAL BLOWER, CLOCKWISE TOP VERTICAL ALL ALUMINUM CONSTRUCTION.					1. ALUMINUM FAN, NEMA RATED MOTOR ENCLOSURE, FOR USE WITH PRE-ENGINEERED VEHICLE EXHAUST SYSTEM.					1. -											

GAS FIRED UNIT HEATER SCHEDULE																			
GENERAL				PHYS.		PERFORMANCE					FAN			ELECTRICAL		REMARKS			
TAG	MANUFACTURER	MODEL	LOCATION	WEIGHT (LBS)	INFLT (MBH)	OUTPUT (MBH)	EFFIC. (%)	LAT (°F)	STAGES	CFM	RPM	SPEED	HP	VOLTAGE	PHASE	TYPE	RATINGS	FEATURES	INSTALL
UHA	MODINE	PDP150AE01	REFER TO FLOOR PLANS	185	15000	124500	83	51	1	2180	1625	931	1/8	240	1	1	1,2	1-6	-
REMARKS - TYPE				REMARKS - RATINGS					REMARKS - FEATURES					REMARKS - INSTALL					
1. NATURAL GAS FIRED, POWER VENTED, PROPELLER FAN TYPE				1. ETL CERTIFIED 2. RATED AT 65°F WITH 55°F TEMPERATURE RISE					1. ADJUSTABLE DEFLECTOR BLADES 2. DIRECT SPARK IGNITION 3. CONTROL TRANSFORMER AND LOW VOLTAGE RELAY 4. PRESSURE SWITCH FOR VENTING 5. HIGH LIMIT SAFETY 6. PROGRAMMABLE THERMOSTAT WITH AUTO/OFF SYSTEM SWITCH AND AUTO/FAN SWITCH										

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Issues / Revisions  
No. Date Description  
1 12/01/2023 CONSTRUCTION DOCUMENTS

Seals  
**PROGRESS SET**  
NOT FOR CONSTRUCTION

Drawing Title  
**MECHANICAL ABBREVIATIONS, NOTES AND SYMBOLS**

Project Manager: PM Project No: NBR02AR.01  
Project Architect: PA Production Leader: PL  
Project Designer: ID Peer Reviewer: PR

Drawing Number  
**MO.10**

KEYNOTES - MECHANICAL DEMOLITION	
Key Value	Keynote Text
MD1	REMOVE EXISTING GAS-FIRED UNIT HEATER. DISCONNECT EXISTING BREACHING AND RETAIN FOR CONNECTION TO NEW UNIT HEATER. REFER TO M2.10.
MD2	REMOVE ABANDONED STEAM UNIT HEATER AND ASSOCIATED PIPING.
MD3	REMOVE EXISTING THERMOSTAT AND ASSOCIATED WIRING.

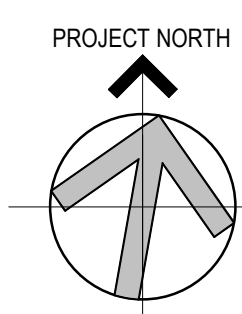
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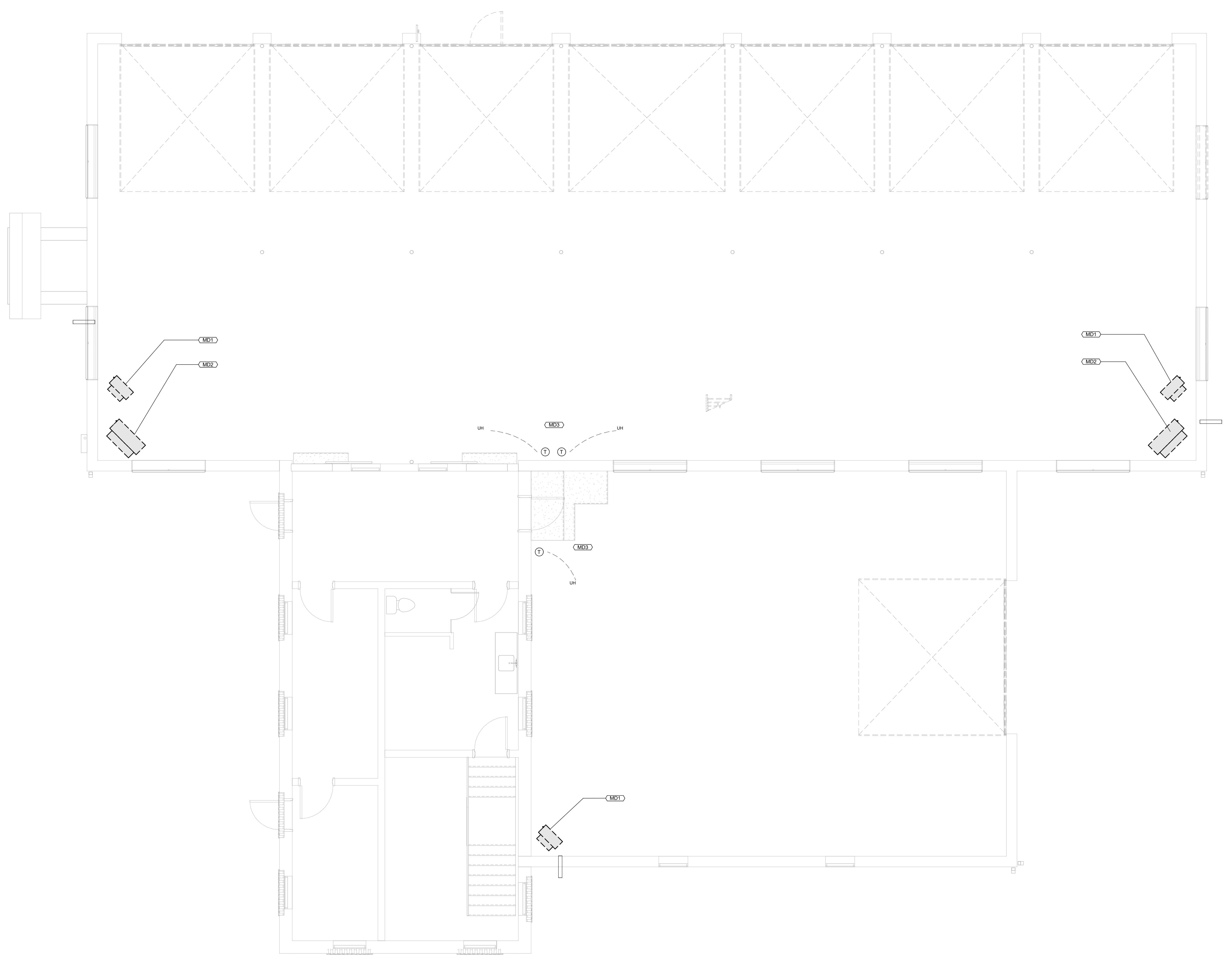
Seals  
**PROGRESS SET**  
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Issues / Revisions		
No.	Date	Description
1	12/01/2023	CONSTRUCTION DOCUMENTS

Drawing Title  
**MECHANICAL MAIN LEVEL DEMOLITION FLOOR PLAN**

Project Manager: PM    Project No: NBR02AR.01  
Project Architect: PA    Production Leader: PL  
Project Designer: ID    Peer Reviewer: PR

Drawing Number  
**MD1.10**



1 MECHANICAL MAIN GARAGE FLOOR DEMOLITION PLAN  
1/4" = 1'-0"

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