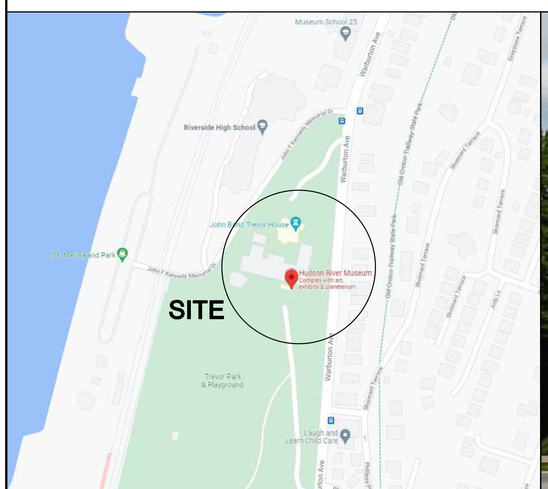
HUDSON RIVER MUSEUM
BOILER REPLACEMENT

511 WARBURTON AVE.,
YONKERS, NY 10701



NORTH

SITE LOCATION

SITE IMAGE

DRAWING LIST

DWG #	DRAWING TITLE
T0.1	COVER SHEET - BASE & ALTERNATE
H-100	GENERAL NOTES, SCOPE OF WORK TABLE & DETAILS - BASE & ALTERNATE
H-100A	ASBESTOS NOTES - BASE & ALTERNATE
H-101	BASEMENT ASBESTOS ABATEMENT PLAN - BASE & ALTERNATE
H-102	MIDDLE LEVEL ASBESTOS ABATEMENT PLAN - BASE & ALTERNATE
H-103	MIDDLE LEVEL MER ASBESTOS ABATEMENT PLAN - BASE & ALTERNATE
A-001	DEMOLITION PLAN
A-002	CONSTRUCTION PLAN
A-003	REFLECTED CEILING PLAN
A-004	SECTIONS AND ELEVATIONS
A-005	ELEVATIONS
A-006	DETAILS
F1.1	FIRE PROTECTION SPRINKLER PLAN - BASE
M0.1	MECHANICAL SYMBOLS, ABBREVIATIONS & NOTES - BASE & ALTERNATE
M1.1	MECHANICAL MIDDLE LEVEL PART PLANS - BASE
M1.2	MECHANICAL UPPER LEVEL PART PLANS - BASE
M2.1	MECHANICAL GLENVIEW BASEMENT DEMOLITION FLOOR PLAN - BASE
M2.2	MECHANICAL GLENVIEW BASEMENT NEW WORK FLOOR PLAN - BASE
M2.3	MECHANICAL GLENVIEW FIRST FLOOR PLAN - BASE & ALTERNATE
M2.4	MECHANICAL GLENVIEW SECOND FLOOR PLAN - BASE & ALTERNATE
M2.5	MECHANICAL GLENVIEW THIRD FLOOR PLAN - BASE & ALTERNATE
M2.6	MECHANICAL GLENVIEW BASEMENT DEMOLITION FLOOR PLAN - ALTERNATE
M2.7	MECHANICAL GLENVIEW BASEMENT NOW WORK FLOOR PLAN - ALTERNATE
M2.8	MECHANICAL MIDDLE LEVEL PART PLAN - ALTERNATE
M6.1	MECHANICAL SCHEDULES & EQUIPMENT NOTES - BASE
M6.2	MECHANICAL SCHEDULES & EQUIPMENT NOTES - ALTERNATE
M7.1	MECHANICAL DETAILS - BASE & ALTERNATE
M7.2	MECHANICAL DETAILS - BASE & ALTERNATE
M7.3	MECHANICAL DETAILS - BASE
M7.4	MECHANICAL DETAILS - ALTERNATE
M7.5	MECHANICAL DETAILS - ALTERNATE
E0.1	ELECTRICAL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES - BASE & ALTERNATE
E1.1	ELECTRICAL GLENVIEW BASEMENT DEMOLITION PLAN - BASE & ALTERNATE
E3.1	ELECTRICAL UPPER LEVEL MUSEUM NEW WORK PLANS - BASE
E3.2	ELECTRICAL GLENVIEW BASEMENT NEW WORK PLANS - BASE
E3.3	ELECTRICAL MIDDLE LEVEL DEMOLITION & NEW WORK PART PLANS - BASE & ALTERNATE
E3.4	ELECTRICAL GLENVIEW BASEMENT NEW WORK PLAN - ALTERNATE
E3.5	ELECTRICAL GLENVIEW ATTIC & ROOF NEW WORK PLAN - ALTERNATE
E6.1	ELECTRICAL ONE-LINE AND SCHEDULES - BASE
E6.2	ELECTRICAL SCHEDULES - BASE
E6.3	ELECTRICAL ONE-LINE DIAGRAM AND SCHEDULE- ALTERNATE
E6.4	ELECTRICAL SCHEDULES - ALTERNATE
E7.1	ELECTRICAL DETAILS - BASE & ALTERNATE
FA1.1	FIRE ALARM RISER DIAGRAM AND PART PLANS - BASE
FA1.2	FIRE ALARM RISER DIAGRAM AND PART PLANS - ALTERNATE

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THE HUDSON RIVER MUSEUM

511 WARBURTON AVENUE
YONKERS, NY 10701
914.963.4550

No.	ISSUE OR REVISION	DATE
1	BID ISSUE	09/16/22

PROJECT TITLE

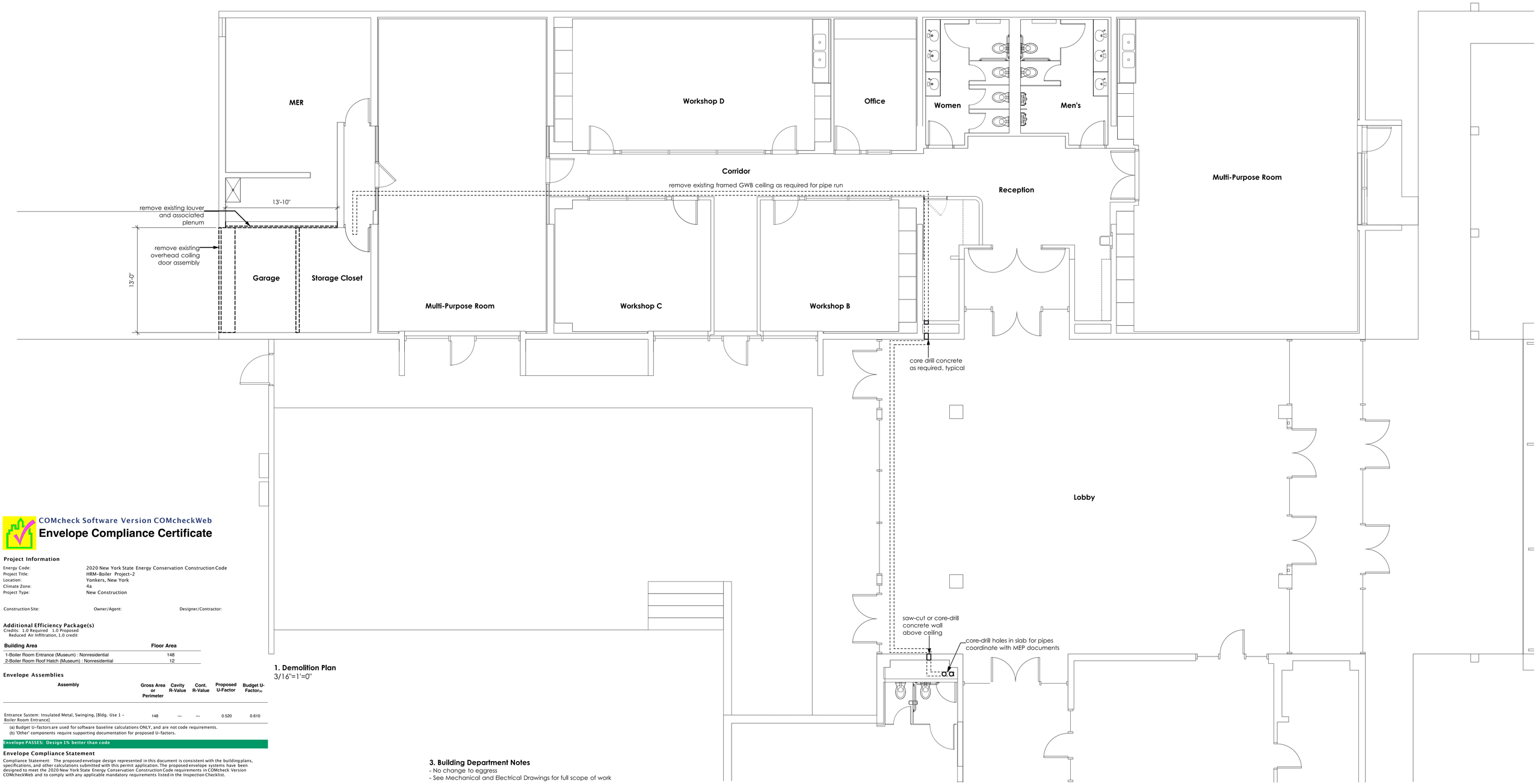
HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

COVER SHEET - BASE & ALTERNATE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: NW	DRAWING NO.
	CHECKED BY: RS	T0.1
	DATE: 01-17-2022	

FILE PATH: I:\Projects\COY\NCOY0006.00\Dwgs\T0.1 SAVE DATE:9/16/2022 11:41 AM SAVED BY: nwallingford



1. Demolition Plan
3/16"=1'=0"

3. Building Department Notes
- No change to egress
- See Mechanical and Electrical Drawings for full scope of work

COMcheck Software Version COMcheckWeb

Envelope Compliance Certificate

Project Information

Energy Code:	2020 New York State Energy Conservation Construction Code
Project Title:	HRM-Boiler Project-2
Location:	Yonkers, New York
Climate Zone:	4a
Project Type:	New Construction

Construction Site: Owner/Agent: Designer/Contractor:

Additional Efficiency Package(s)
Credits: 1.0 Required 1.0 Proposed
Reduced Air Infiltration, 1.0 credit

Building Area	Floor Area
1-Boiler Room Entrance (Museum) : Nonresidential	148
2-Boiler Room Roof Hatch (Museum) : Nonresidential	12

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Entrance System: Insulated Metal, Swinging, [Bldg. Use 1 - Boiler Room Entrance]	148	---	---	0.520	0.610

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) 'Other' components require supporting documentation for proposed U-factors.

Envelope PASSES: Design 1% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2020 New York State Energy Conservation Construction Code requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

Project Title: HRM-Boiler Project-2 Report date: 06/14/22
Data filename: Page 1 of 7

REGISTERED ARCHITECT BENJAMIN KRACAUER 19078 STATE OF NEW YORK

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09.16.2022 Bid Issue

Drawing Title
Demolition Plan
Building Department Notes
3/16"=1'-0"

Drawing Number
A-001.00

HUDSON RIVER MUSEUM
BOILER REPLACEMENT

Trevor Park
Block 2125 Lot 1
Zone M
Occ. Classification A-3 Museum
Construction Type 1-B

2015 NY IBC TABLE 601 Fire-Resistance Rating Requirements for Building Elements

Construction Type	Protection	
Element	**Type 1B**	**Proposed**
Structural frame	2	2*
Bearing Walls		
Exterior	2	2*
Interior	2	2
Nonbearing Walls		
Exterior	2	2
Interior	0	0
Floor construction	2	2
Roof construction including structure	1	1

*Roof supports: Fire-resistance ratings of structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

Exterior Walls and Fire Separation
The aggregate area and height comply with the limits of Section 5, as per Table 503.

West Wing Addition
Type 1B Construction, A-3 Occupancy
11 Stories, Unlimited Area Permitted

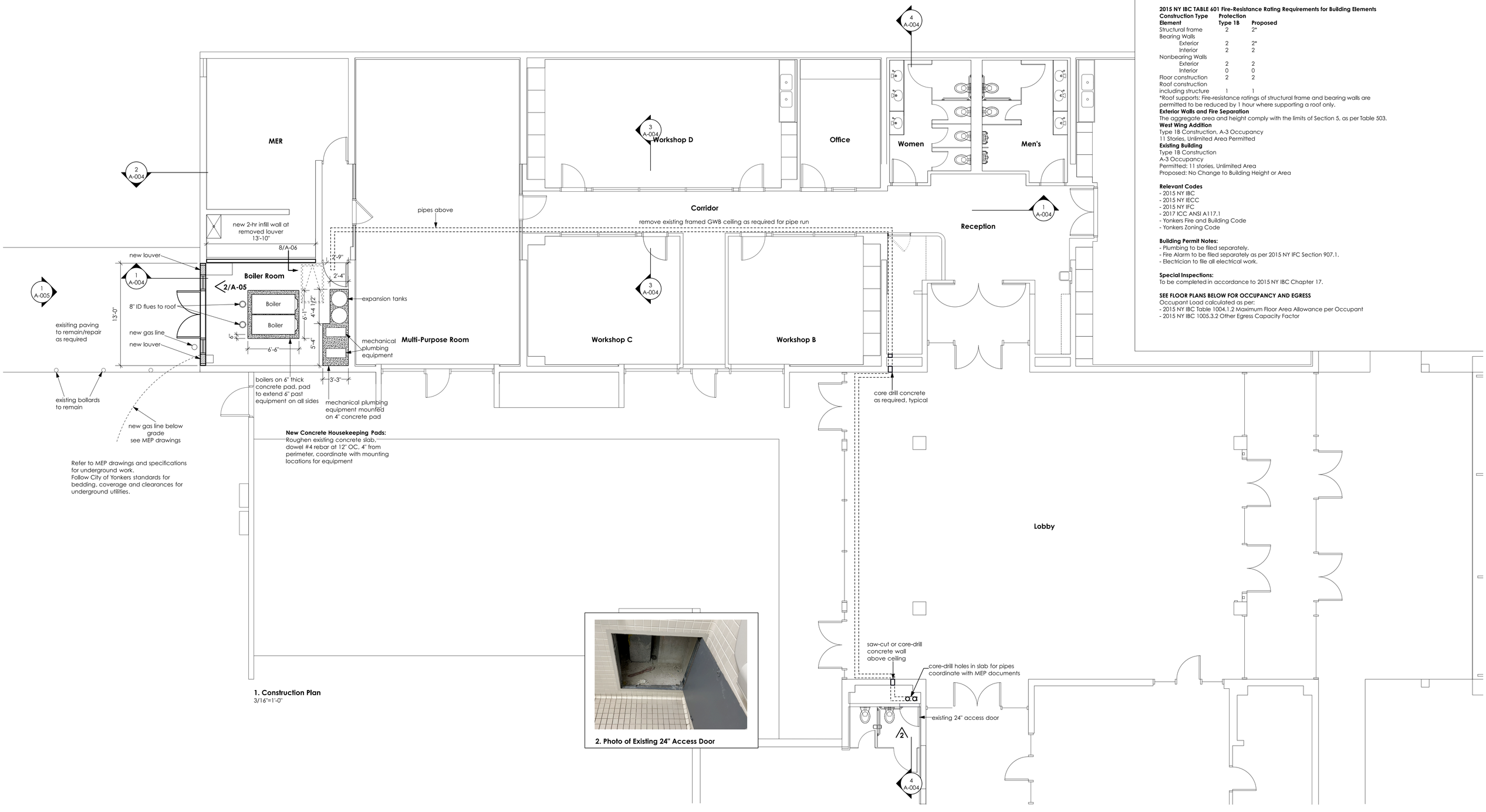
Existing Building
Type 1B Construction
A-3 Occupancy
Permitted: 11 stories, Unlimited Area
Proposed: No Change to Building Height or Area

Relevant Codes
- 2015 NY IBC
- 2015 NY IECC
- 2015 NY IFC
- 2017 ICC ANSI A117.1
- Yonkers Fire and Building Code
- Yonkers Zoning Code

Building Permit Notes:
- Plumbing to be filed separately.
- Fire Alarm to be filed separately as per 2015 NY IFC Section 907.1.
- Electrician to file all electrical work.

Special Inspections:
To be completed in accordance to 2015 NY IBC Chapter 17.

SEE FLOOR PLANS BELOW FOR OCCUPANCY AND EGRESS
Occupant Load calculated as per:
- 2015 NY IBC Table 1004.1.2 Maximum Floor Area Allowance per Occupant
- 2015 NY IBC 1005.3.2 Other Egress Capacity Factor



New Concrete Housekeeping Pads:
Roughen existing concrete slab, dowel #4 rebar at 12" OC, 4" from perimeter, coordinate with mounting locations for equipment

Refer to MEP drawings and specifications for underground work.
Follow City of Yonkers standards for bedding, coverage and clearances for underground utilities.

1. Construction Plan
3/16"=1'-0"

2. Photo of Existing 24" Access Door

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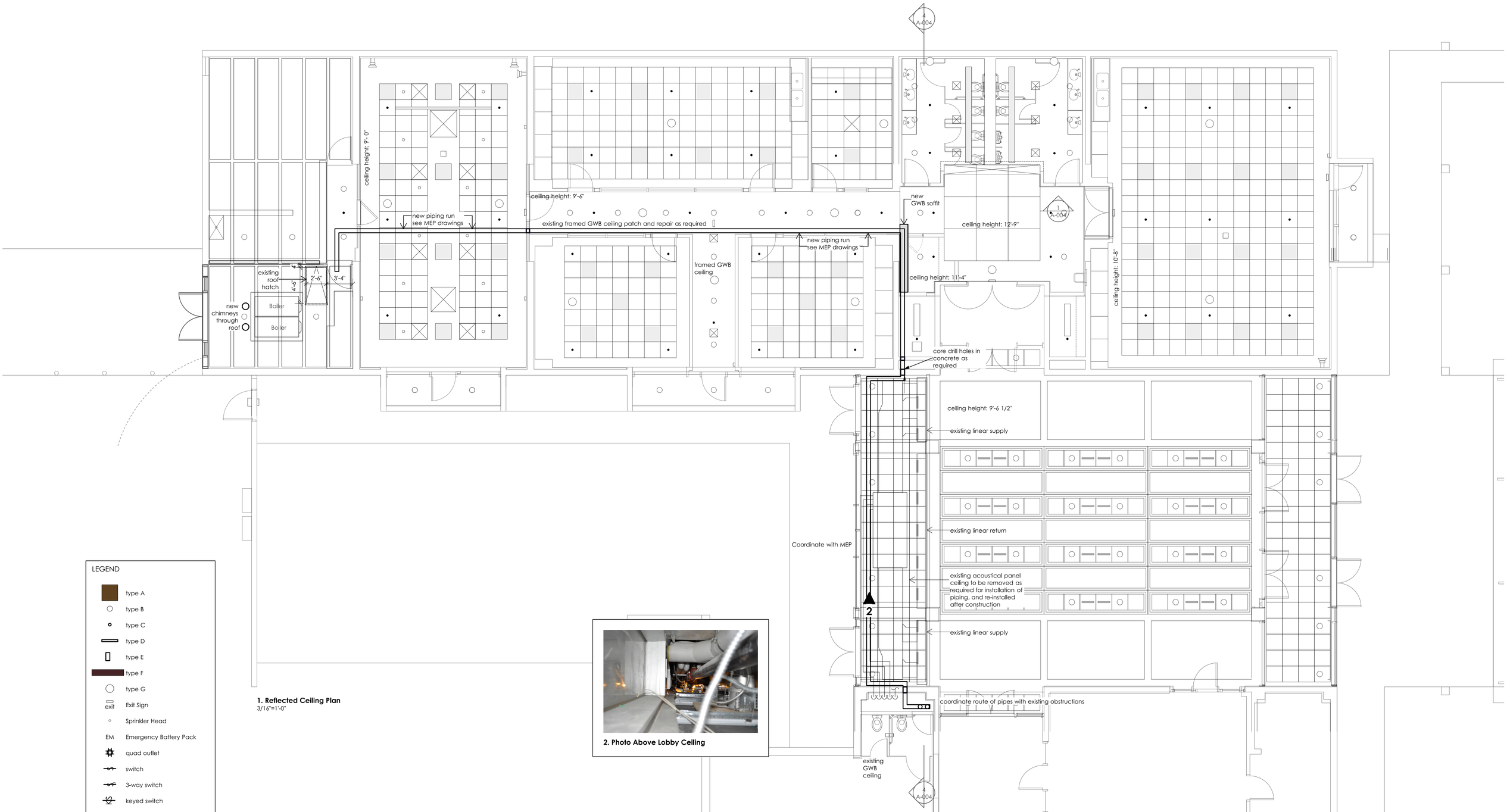
09.16.2022 Bid Issue

Drawing Title
Construction Plan
3/16"=1'-0"

Drawing Number
A-002.00



1. Reflected Ceiling Plan
3/16"=1'-0"

2. Photo Above Lobby Ceiling

LEGEND

- type A
- type B
- type C
- type D
- type E
- type F
- type G
- exit — Exit Sign
- Sprinkler Head
- EM — Emergency Battery Pack
- quad outlet
- switch
- 3-way switch
- keyed switch
- dimmer switch
- FP — fire pull
- S — strobe

Note: use 1" thick hilti firestopping foam 2 hr surround of pipes

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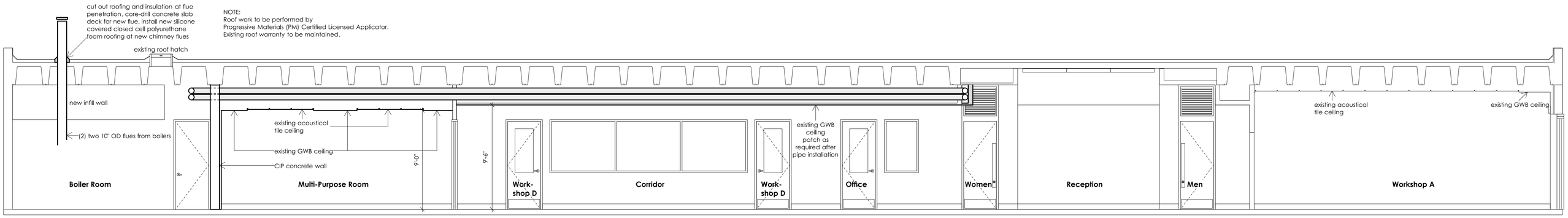
09.16.2022 Bid Issue

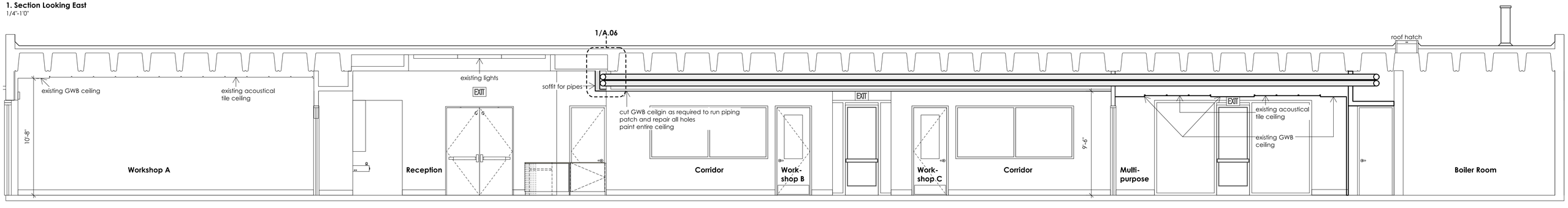
Drawing Title
Reflected Ceiling Plan

3/16"=1'-0"

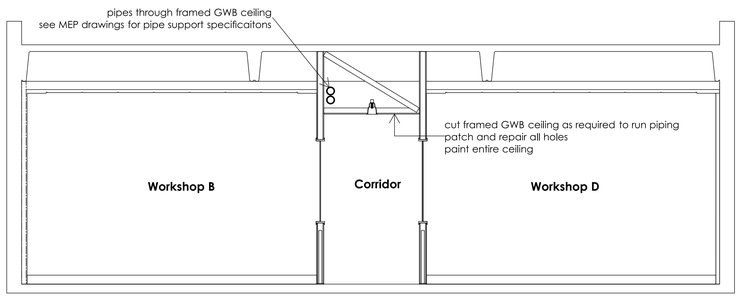
Drawing Number
A-003.00



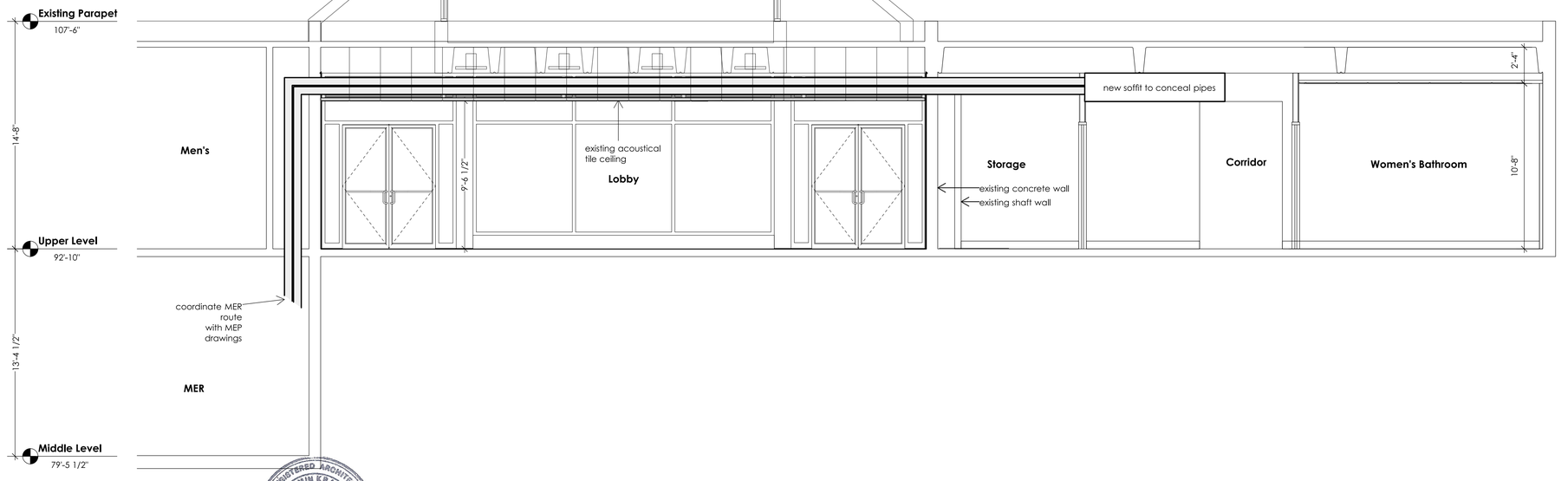
1. Section Looking East
1/4"-1'0"



2. Section Looking West
1/4"-1'0"



3. Section Looking North
1/4"-1'0"



4. Section Looking North
1/4"-1'0"

REGISTERED ARCHITECT
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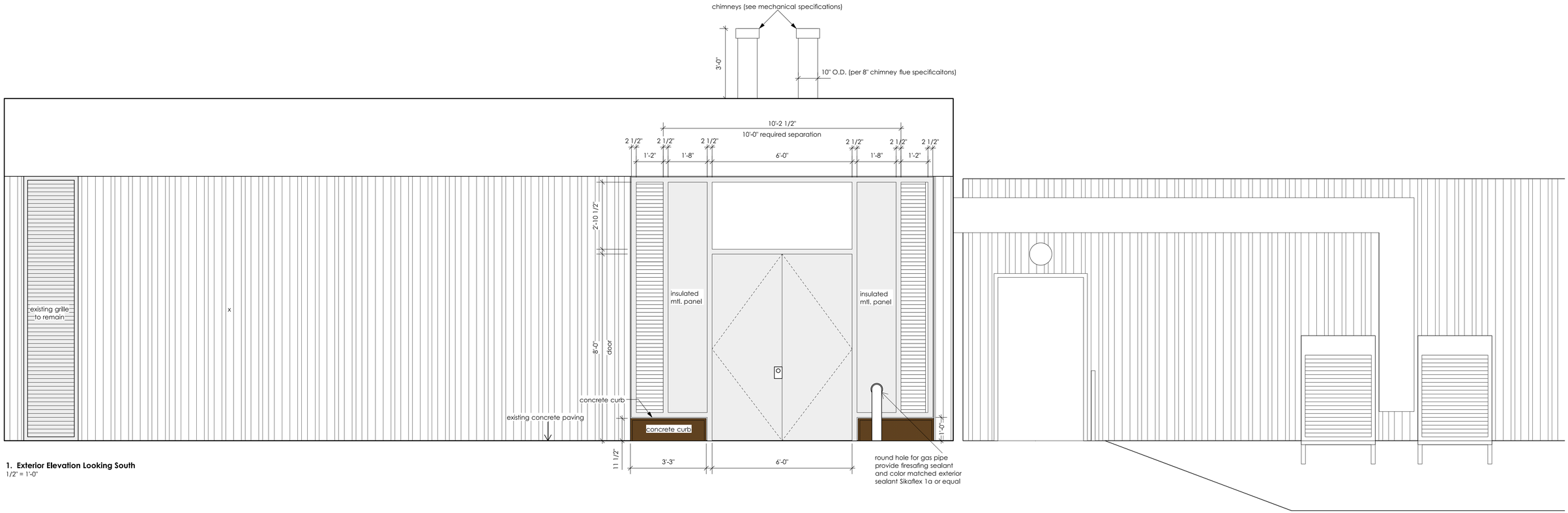
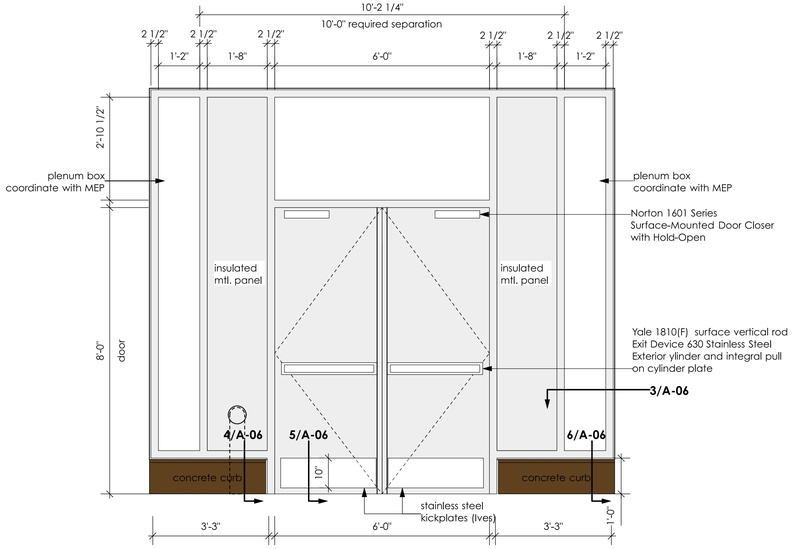
MEP Engineer	Architect	Client	Project	Date/Revision	Drawing Title	Drawing Number
OLA Consulting Engineers, PC 50 Broadway Hawthorne NY 10532 (914) 747-2800	Archimuse 139 Fulton Street, Suite 603 New York, NY 10038 (212) 566-7301 (212) 566-7305 Fax	Hudson River Museum 511 Warburton Avenue Yonkers, NY 10701 (914) 963-4550 (914) 963-8558 Fax	Boiler Project Hudson River Museum 511 Warburton Avenue Yonkers, NY 10701	09.16.2022 Bid Issue	**Sections and Elevations** 1/4" = 1'-0"	**A-004.00**



1. Exterior Elevation Looking South
1/2" = 1'-0"



2. Interior Elevation Looking North
1/2" = 1'-0"

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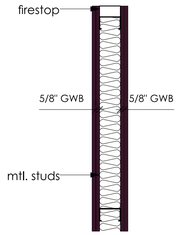
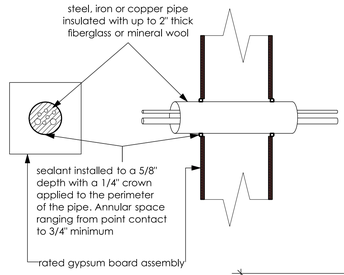
Drawing Title
Elevations

1/2" = 1'-0"

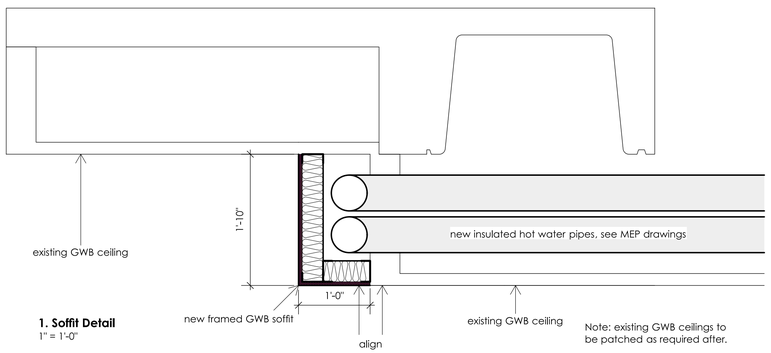
Drawing Number
A-005.00



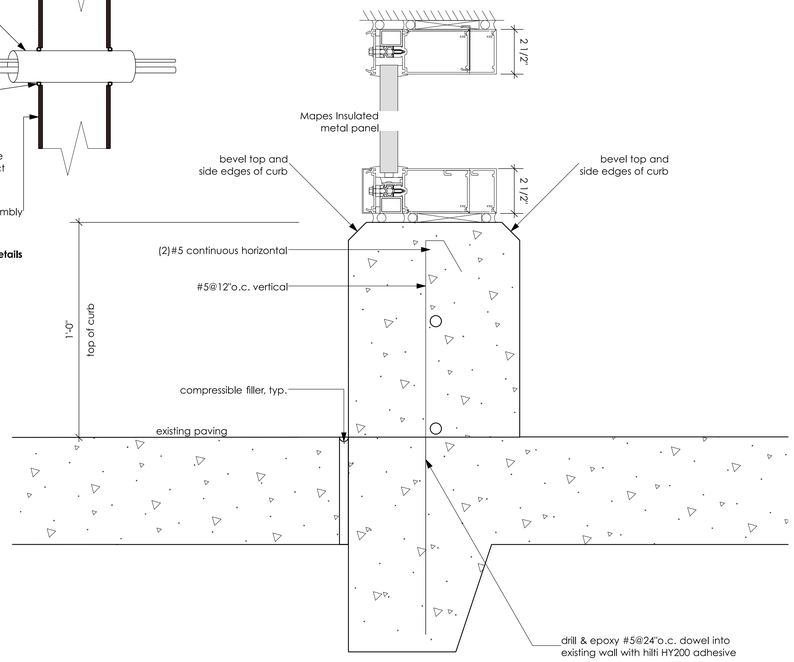
8. Wall Type A-Interior- For Infill
1" = 1'-0"
2 hour rated
UL U419



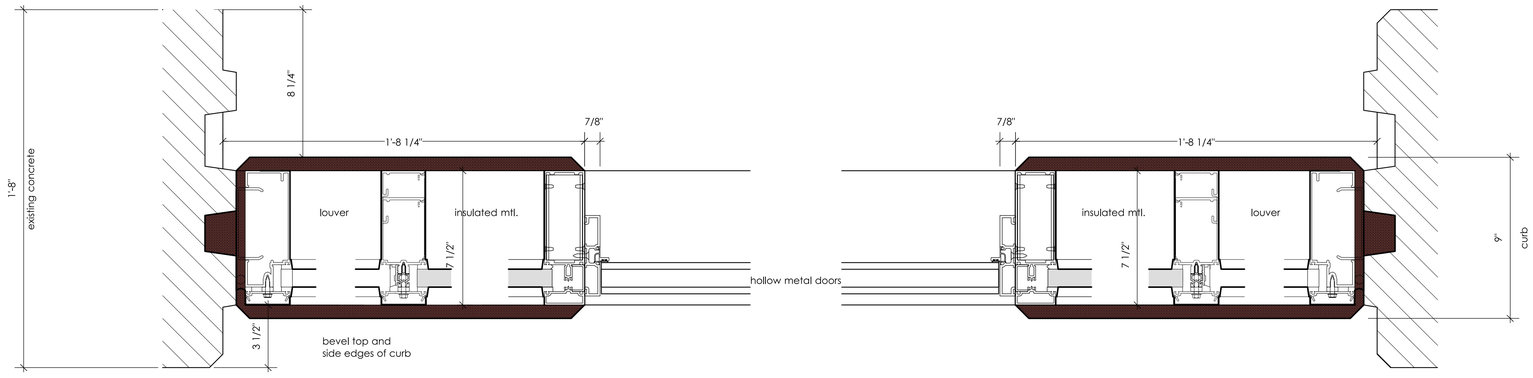
Typical Thru Wall Firestopping Details
UL System# W-L-3032



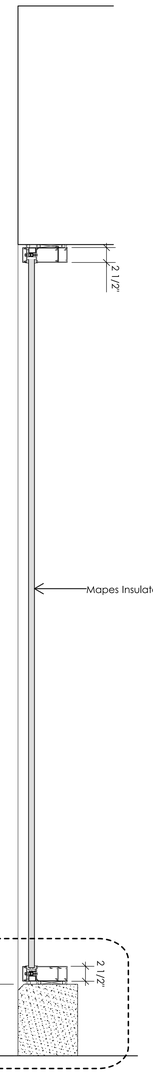
1. Soffit Detail
1" = 1'-0"



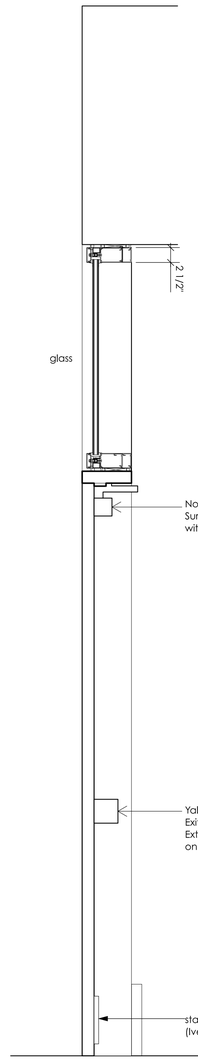
2. Insulated Metal Panel Detail
3" = 1'-0"



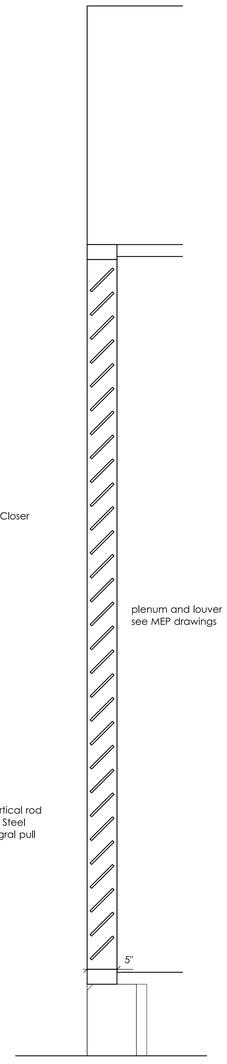
3. Curb Detail
Scale: 3" = 1'-0"



4. Section through Metal Panel
1" = 1'-0"



5. Section through door
1" = 1'-0"



6. Section through louver
1" = 1'-0"

7.Door Hardware/Number
- Hinges /8 each
- Door Seal/6 each
- Sweep/2 each
- Closer, parallel arms/2 each
- Kickplate/ 1 each
- Threshold/1 each

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Date/Revision
09.16.2022 Bid Issue

Drawing Title
Wall Types and Details

Scale as noted

Drawing Number
A-006.00

SYMBOLS AND ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
	EX.	EXISTING TO REMAIN
	NEW	NEW WORK
	DEM.	EXISTING TO BE REMOVED
	–	ELBOW UP
	–	ELBOW DOWN
	–	TEE DOWN
	–	TEE UP
	–	NEW UPRIGHT SPRINKLER
	AFF	ABOVE FINISHED FLOOR
	DN.	DOWN
	GPM	GALLONS PER MINUTE
	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
	PSI	POUNDS PER SQUARE INCH

NOTE: FOR REFERENCE ONLY. NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED IN THIS PROJECT.

GENERAL NOTES

1. THE REVISED SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED BY AN EXPERIENCED FIRE PROTECTION CONTRACTOR IN STRICT ACCORDANCE WITH NFPA-13, THE REQUIREMENTS OF THE LANDLORD, LANDLORD'S FIRE INSURANCE UNDERWRITER, AND ALL GOVERNMENTAL AGENCIES AND AUTHORITIES HAVING JURISDICTION OVER THE PREMESIS.
2. COORDINATE ALL WORK WITH OTHER TRADES TO MINIMIZE INTERFERENCES WITH NEW AND EXISTING FACILITIES, TO FACILITATE TIMELY COMPLETION AND AVOID NECESSITY FOR CUTTING AND PATCHING. FURNISH TO OTHER AFFECTED TRADES ALL NECESSARY INFORMATION, WORKING DRAWINGS OR MATERIALS REQUIRED FOR INSTALLATION AND COMPLETION OF ALL WORK. ALL CONFLICTS, OBSTRUCTIONS AND/OR MODIFICATIONS TO THE SPRINKLER DESIGN LAYOUT DUE TO FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO FABRICATION AND INSTALLATION.
3. SPRINKLER SHOP DRAWINGS SHALL BE SUBMITTED FULLY COORDINATED FOR REVIEW AND APPROVAL BY THE ENGINEER.
4. ALTER PIPING AS REQUIRED TO SUIT NEW AND EXISTING CEILING HEIGHTS, DUCTWORK, AND LIGHTS. PROVIDE AT NO EXTRA COST ALL ADDITIONAL PIPING AND FITTINGS REQUIRED TO OFFSET SYSTEM TO AVOID STRUCTURAL, ARCHITECTURAL, MECHANICAL, AND ELECTRICAL INTERFERENCES, WHETHER INDICATED OR NOT, BEFORE INSTALLING WORK.
5. PROVIDE TWO 2-1/2 GALLON PRESSURIZED WATER AND ONE 10 LB ABC DRY CHEMICAL EXTINGUISHERS FOR EMERGENCY USE DURING CONSTRUCTION.

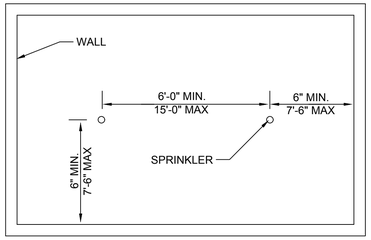
EQUIPMENT NOTES

1. SPRINKLER PIPING MATERIAL: SHALL BE STANDARD WEIGHT SCHEDULE 40 BLACK STEEL PIPE, SEAMLESS OR WELDED MILD STEEL, CONFORMING TO ASTM A-795/A-53. SCHEDULE 10 PIPING IS NOT PERMITTED FOR PIPING LESS THAN 2".

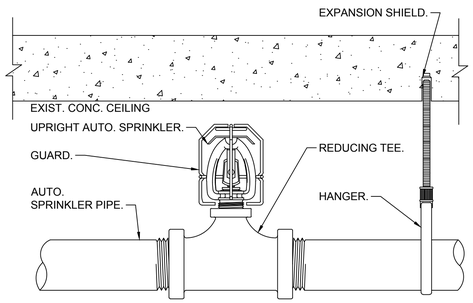
SPRINKLER HEAD SCHEDULE

SYM.	TYPE	FINISH	MANUF.	MODEL	HEAD TEMP.	MAX CEILING TEMP.	ORIFICE	K-FACTOR	MEA#
O	UPRIGHT	BRONZE	RELIABLE	GFR	212°F	150°F	½"	5.6	258-93-E

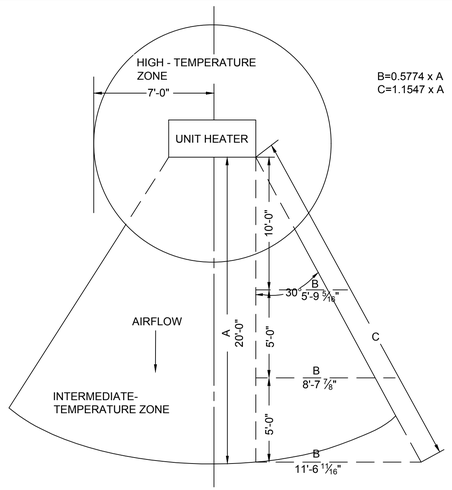
NOTES:
1. SPRINKLER HEADS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.



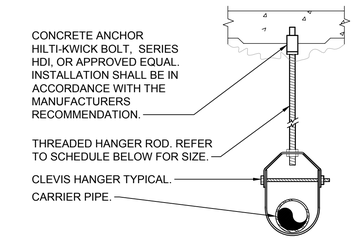
6 SPRINKLER HEAD SPACING CRITERIA
SCALE: NONE



4 UPRIGHT AUTO. SPRINKLER IN AREA WITHOUT CEILING
SCALE: NONE



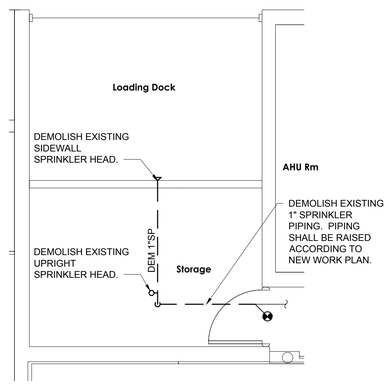
5 SPRINKLER TEMPERATURE ZONES AT UNIT HEATERS
SCALE: NONE



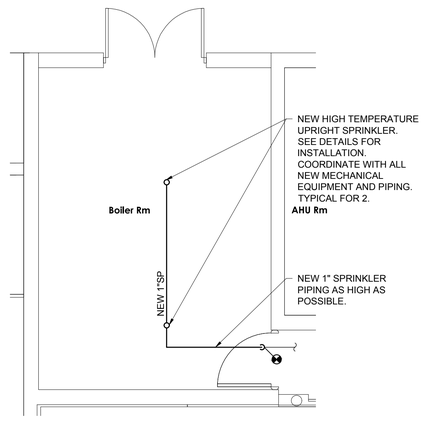
PIPE HANGER SCHEDULE					
PIPE DIA.	3/4"-2"	2-1/2"-3"	4"-5"	6"	8"-12"
HANGER DIA.	3/8"	1/2"	5/8"	3/4"	7/8"

NOTES:
1.) CLEVIS HANGERS WITH WELDED INSULATION SHIELDS SIMILAR TO RAUCH FIG. 100SH ON ALL PIPES LARGER THAN 1".
2.) ALL PIPE HANGERS SHALL BE GALVANIZED STEEL OR FACTORY PAINTED BLACK WITH ENAMEL.
3.) WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF HANGER INSTALLATION SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.

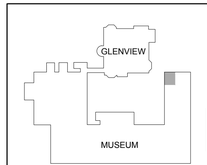
3 PIPE HANGER DETAIL
SCALE: NONE



1 FIRE PROTECTION STORAGE ROOM DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



2 FIRE PROTECTION BOILER ROOM NEW WORK PLAN
SCALE: 1/4" = 1'-0"



KEYPLAN
SCALE: NONE

ROOF	ROOF
	ATTIC
	THIRD
	SECOND
UPPER LEVEL	FIRST
MIDDLE LEVEL	BASEMENT
LOWER LEVEL	
MUSEUM	GLENVIEW

VERTICAL KEYPLAN
SCALE: NONE

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No.	ISSUE OR REVISION	DATE
1	BID ISSUE	09/16/22

PROJECT TITLE

HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

FIRE PROTECTION SPRINKLER PLAN - BASE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: NW	DRAWING NO.
	CHECKED BY: RS	F1.1
	DATE: 01-17-2022	

FILE PATH: I:\Projects\COY\NCOY0006.00\Drawings\ PLOT DATE:5/17/2022 7:32 AM SAVED BY: mwallingford

SYMBOL & ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
-	AD	ACCESS DOOR
-	AFF	ABOVE FINISHED FLOOR
-	AHC	ABOVE HUNG CEILING
-	AHU-	AIR HANDLING UNIT
-	AP	ACCESS PANEL
-	BDD	BACKDRAFT DAMPER
-	BHP	BRAKE HORSEPOWER
-	BTU	BRITISH THERMAL UNIT
-	CFM	CUBIC FEET PER MINUTE
-	CP-	CONDENSATE PUMP
-	DB	DRY BULB TEMPERATURE
-	DIA. OR Ø	DIAMETER
-	EA	EXHAUST AIR
-	EAT	ENTERING AIR TEMPERATURE
-	EC-	ENVIRONMENTAL CONTROL (AHU ON THIS PROJECT)
-	EF-	EXHAUST FAN
-	EL	ELEVATION
-	ER	EXHAUST REGISTER
-	ESP	EXTERNAL STATIC PRESSURE
-	EWT	ENTERING WATER TEMPERATURE
-	FCU-	FAN COIL UNIT
-	FPM	FEET PER MINUTE
-	FPS	FEET PER SECOND
-	GPM	GALLONS PER MINUTE
-	HP	HORSE POWER
-	LAT	LEAVING AIR TEMPERATURE
-	LF	LINEAR FEET
-	LWT	LEAVING WATER TEMPERATURE
-	MBH	1000 BRITISH THERMAL UNITS PER HOUR
-	MER	MECHANICAL EQUIPMENT ROOM
-	NC	NORMALLY CLOSED
-	NIC	NOT IN CONTRACT
-	NO	NORMALLY OPEN
-	OAI	OUTSIDE AIR INTAKE
-	PSI	POUNDS PER SQUARE INCH
-	RA	RETURN AIR
-	RF-	RETURN FAN
-	RPM	REVOLUTIONS PER MINUTE
-	SA	SUPPLY AIR
-	SP	STATIC PRESSURE
-	TDH	TOTAL DYNAMIC HEAD
-	TSP	TOTAL STATIC PRESSURE
-	TYP.	TYPICAL
-	U.O.N.	UNLESS OTHERWISE NOTED
-	WB	WET BULB TEMPERATURE
-	WG	INCHES OF WATER GAUGE
-	WMS	WIRE MESH SCREEN
	-	3-WAY VALVE
	-	FLEXIBLE CONNECTION
	-	2-WAY VALVE
	-	PLUG VALVE
	-	LOCK SHIELD VALVE
	-	GATE VALVE
	-	GLOBE VALVE
	-	TEE DOWN
	-	ELBOW DOWN
	-	TEE UP
	-	ELBOW UP
	-	CONCENTRIC REDUCER

SYMBOL	ABBREVIATION	DESCRIPTION
	-	ECCENTRIC REDUCER
	-	OS&Y GATE VALVE
	-	PIPE GUIDE
	-	PIPE ANCHOR
	-	STRAINER
	-	BASKET STRAINER
	-	PRESSURE REDUCING VALVE
	-	FLOW ARROW
	-	BUTTERFLY VALVE
	-	BALANCING VALVE
	-	MANUAL AIR VENT
S	-	SOLENOID VALVE
M	-	MOTORIZED VALVE
	-	T&P RELIEF VALVE
	-	FLOAT AND THERMOSTATIC TRAP
	-	BALL VALVE
	-	PRESSURE GAGE
	-	TERMOMETER
	-	CHECK VALVE
	-	UNION
	EX.	EXISTING TO REMAIN
	NEW	NEW WORK
	DEM.	EXISTING TO BE REMOVED
CHWS	-	CHILLED WATER SUPPLY
CHWR	-	CHILLED WATER RETURN
CD	-	CONDENSATE DRAIN
DTS	-	DUAL TEMPERATURE SUPPLY
DTR	-	DUAL TEMPERATURE RETURN
HWS	-	HOT WATER SUPPLY
HWR	-	HOT WATER RETURN
PD	-	PUMP DISCHARGE, CONDENSATE
LPS	-	LOW PRESSURE STEAM
LPR	-	LOW PRESSURE STEAM CONDENSATE RETURN
T	-	THERMOSTAT
H	-	HUMIDISTAT
M	-	MOTORIZED DAMPER
	-	AIR INTO REGISTER
	-	POINT OF CONNECTION DISCONNECTION
	TR	TOP REGISTER SUPPLY
	TR	TOP REGISTER RETURN
	UH	UNIT HEATER
	P-1	PUMP
	-	SUPPLY DUCT UP
	-	SUPPLY DUCT DOWN
	-	RETURN DUCT UP
	-	RETURN DUCT DOWN
D	–	DUCT DROP
R	–	DUCT RISE
	VD	VOLUME DAMPER
6x8	-	DUCT SIZE - 1ST FIGURE IS SIDE SHOWN
AHU X	-	EQUIPMENT TAG
A XXX	-	AIR OUTLET CFM TAG
A X	-	SECTION CALLOUT
M X	-	DETAIL CALLOUT

GENERAL NOTES

1. CONTRACT DRAWINGS, AS FAR AS THEY RELATE TO THE GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT, SHEET METAL, AND PIPING, SHALL BE UNDERSTOOD AS DIAGRAMMATIC. ANY CHANGES TO EQUIPMENT, SHEET METAL, AND PIPING LOCATIONS NECESSARY TO AVOID INTERFERENCE WITH OTHER TRADES SHALL BE MADE AT NO EXTRA COST, AND MUST BE APPROVED BY THE ENGINEER.
2. THE MECHANICAL CONTRACTOR SHALL INSTALL FIRE DAMPERS WITH ACCESS DOORS IN ALL DUCTS PENETRATING FIRE RATED WALLS, WHETHER SPECIFICALLY SHOWN ON THE DRAWINGS OR NOT.
3. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL VOLUME DAMPERS IN DUCTWORK AS REQUIRED TO BALANCE THE AIRFLOW AT ALL REGISTERS AND DIFFUSERS TO THE CFM'S INDICATED ON PLAN, WHETHER SPECIFICALLY SHOWN ON THE DRAWINGS OR NOT.
4. PROVIDE ALL PIPE OPENINGS THROUGH PARTITIONS WITH PIPE SLEEVES. FOR PIPES PENETRATING FIRE RATED PARTITIONS, THE SPACE BETWEEN THE PIPE AND THE SLEEVE SHALL BE SEALED WITH FIRESTOPPING MATERIAL. PENETRATIONS FOR PIPING SHALL BE MADE BY CORE DRILLING.
5. ALL MOTOR STARTERS AND DISCONNECT SWITCHES FOR HVAC EQUIPMENT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED. DISCONNECT SWITCHES FURNISHED BY THE MECHANICAL CONTRACTOR FOR HVAC EQUIPMENT SHALL BE HEAVY DUTY TYPE.
6. THE MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO THE BEGINNING OF WORK, AND SHALL COORDINATE ALL WORK WITH OTHER TRADES.
7. DUCT DIMENSIONS SHOWN ON MECHANICAL DRAWINGS REFER TO INSIDE CLEAR DUCT DIMENSIONS. WHERE DUCTWORK IS LINED, THE MECHANICAL CONTRACTOR SHALL INCREASE THE SIZE OF DUCT TO COMPENSATE FOR LINING.
8. LOCATE THERMOSTATS AND TEMPERATURE SENSORS 5'-6" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. COORDINATE LOCATION WITH FURNITURE, CABINETS, ETC. FURNISH LOCKING TAMPERPROOF COVER FOR ALL NEW THERMOSTATS IN PUBLIC AREAS.
9. THE MECHANICAL CONTRACTOR SHALL NOTE THAT, IN ADDITION TO THE SPECIFICATIONS AND DETAILS GIVEN IN THESE PLANS FOR PIPE HANGERS AND SUPPORTS, ALL HANGERS AND SUPPORTS SHALL BE DESIGNED AND INSTALLED IN COMPLIANCE WITH APPLICABLE SEISMIC CODES.
10. ALL HVAC EQUIPMENT SHALL HAVE 3" HIGH BLACK LAMACOID NAME PLATES WITH WHITE ENGRAVED LETTERS PERMANENTLY FASTENED TO EQUIPMENT.
11. THE MECHANICAL CONTRACTOR SHALL SUBMIT FOR REVIEW A COMPOSITE SHOP DRAWING, FULLY COORDINATED WITH ALL OTHER TRADES, INDICATING DUCTWORK, PLUMBING AND SPRINKLER PIPING, SMOKE DETECTORS, LIGHTS, CONDUITS, DIFFUSERS, GRILLES, ETC.
12. ALL WORK SHALL COMPLY WITH STATE BUILDING CODE, LOCAL BUILDING CODE, AND ENERGY CODE REQUIREMENTS. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE, THE MORE STRINGENT STANDARD SHALL APPLY.
13. THE OWNER'S PERMANENT HVAC EQUIPMENT (NEW AND EXISTING) SHALL NOT BE USED BY ANY CONTRACTOR DURING CONSTRUCTION FOR TEMPORARY HEATING, COOLING, OR VENTILATION. IF TEMPORARY HEATING, COOLING, OR VENTILATION IS REQUIRED AT ANY POINT DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE TEMPORARY HEATING, COOLING, OR VENTILATION EQUIPMENT, DUCTWORK, CONTROLS, AND POWER AT HIS OWN EXPENSE.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY VENTILATION AND EXHAUST AIR WHEN WELDING OR SOLDERING OPERATIONS ARE PERFORMED, AS REQUIRED BY OSHA.
15. WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF MECHANICAL WORK, INCLUDING THE INSTALLATION OF HANGERS FOR PIPING, DUCTWORK, OR EQUIPMENT, SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.
16. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL NECESSARY PERMITS AND FOR PAYING RELATED FEES.
17. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL CUTTING, PATCHING, CORE DRILLING, ACCESS PANELS, PAINTING, AND FINAL RESTORATION REQUIRED TO FACILITATE THE INSTALLATION OF HVAC DUCTWORK, CONTROL CONDUITS, AND PIPING, INCLUDING ABOVE CEILINGS AND IN SHAFTS THAT WILL NOT BE REPLACED OR OPENED UNDER ANY OTHER SCOPE OF WORK RELATED TO THIS PROJECT. CONTRACTOR TO REMOVE AND REPLACE CEILINGS, AND OPEN AND PATCH SHAFTS AND WALLS, AS REQUIRED TO EXECUTE THE MECHANICAL WORK.
18. WHERE THE DEMOLITION OF EXISTING PNEUMATIC CONTROL EQUIPMENT, THERMOSTATS, AND TUBING IS INDICATED IN THE PLANS, THE CONTRACTOR SHALL CAP THE ENDS OF ALL EXISTING TO REMAIN PNEUMATIC LINES AIRTIGHT.
19. THE EXISTING CHIMNEY SHALL BE BRUSHED CLEAN OF ALL SOOT, DIRT, AND DEBRIS. CLEAN OUT THE BASE AFTER CLEANING AND VACUUM CLEAN.

COMMISSIONING SCOPE NOTES

1. THE CONTRACTOR SHALL HIRE A THIRD PARTY COMMISSIONING AGENT.
2. PRIOR TO COMMISSIONING, THE CONTRACTOR SHALL PROVIDE A STATEMENT CONFIRMING THAT ALL SYSTEMS ARE FULLY OPERATIONAL AND ALL PRE-FUNCTIONAL TESTS AND CHECKS LISTED BELOW HAVE BEEN SUCCESSFULLY COMPLETED. SUBMIT A COPY OF ALL CHECK SHEETS FOR ENGINEER REVIEW AND APPROVAL.
3. PRE-FUNCTIONAL TESTS AND CHECKS (PREREQUISITES FOR COMMISSIONING):

   THE CONTRACTOR SHALL PERFORM THE FOLLOWING AT A MINIMUM -
   - ENSURE THAT ALL SUBMITTALS ARE COMPLETED AND APPROVED BY ENGINEER AND COMMISSIONING AGENT.
   - CERTIFY THAT ALL SYSTEMS TO BE COMMISSIONED, SUBSYSTEMS AND EQUIPMENT HAVE BEEN INSTALLED, CALIBRATED AND STARTED; ACCORDING TO THE CONTRACT DOCUMENTS COMPLETE. ALL MANUFACTURER STARTUP REQUIREMENTS.
   - CERTIFY THAT ALL RELEVANT INSTRUMENTATION AND CONTROL SYSTEMS HAVE BEEN COMPLETED AND CALIBRATED; ARE OPERATING ACCORDING TO CONTRACT DOCUMENTS; AND THAT PRETEST SET POINTS HAVE BEEN RECORDED.
   - CERTIFY THAT TESTING, ADJUSTING AND BALANCING (TAB) PROCEDURES HAVE BEEN COMPLETED AND THE TAB REPORT HAS BEEN SUBMITTED, DISCREPANCIES CORRECTED AND CORRECTIVE WORK APPROVED BY THE ENGINEER.
   - SET SYSTEMS, SUBSYSTEMS AND EQUIPMENT TO OPERATING MODE TO BE TESTED (E.G., NORMAL SHUT DOWN, NORMAL AUTO POSITION, NORMAL MANUAL POSITION, AND ALARM CONDITIONS).
   - VERIFY EACH OF THE SYSTEMS ONCE IT IS OPERATING IN A STEADY STATE CONDITION. REFER TO THE SEQUENCE OF OPERATIONS.
   - INSPECT AND VERIFY THE POSITION OF EACH DEVICE AND INTERLOCK IDENTIFIED ON CHECKLISTS. SIGN OFF EACH ITEM AS ACCEPTABLE OR FAILED. REPEAT THIS TEST FOR EACH OPERATING CYCLE THAT APPLIES TO SYSTEM BEING TESTED.
   - SIMULATE CONDITIONS REQUIRED IN ORDER TO TEST ALL SAFETY CUTOUTS, ALARMS AND INTERLOCKS WITH LIFE SAFETY SYSTEMS DURING EACH MODE OF OPERATION WHEN APPLICABLE.
   - ANNOTATE CHECKLIST OR DATA SHEET WHEN A DEFICIENCY IS OBSERVED.
   - VERIFY EQUIPMENT INTERFACE WITH MONITORING AND CONTROL SYSTEM.
3. AFTER PRE-AFUNCTIONAL TESTING IS COMPLETE, THE CONTRACTOR SHALL PERFORM FUNCTIONAL TESTING IN THE PRESENCE OF THE COMMISSIONING AGENT FOR THE SYSTEMS LISTED BELOW IN ACCORDANCE WITH THE COMMISSIONING SPECIFICATIONS:
   - BOILERS (HOT WATER AND STEAM)
   - BOILER PRIMARY PUMPS
   - HOT WATER SECONDARY PUMPS
   - HEAT EXCHANGER
   - DDC CONTROLS
   - COMBUSTION AIR FAN & HEATER
   - ALL VALVES AND DAMPERS
4. AFTER FUNCTIONAL TESTING, THE COMMISSIONING AGENT (CX) SHALL ISSUE A REPORT OF TEST RESULTS AND DOCUMENT ANY DEFICIENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ALL DEFICIENCIES. THE CONTRACTOR SHALL SEND A WRITTEN RESPONSE TO THE OWNER/ENGINEER/CX AGENT THAT AN OPEN ISSUE HAS BEEN RECTIFIED. THE DEFICIENCY SHALL NOT BE CONSIDERED RESOLVED UNTIL THE APPROPRIATE RETESTING IS PERFORMED WITH THE CX AGENT.
5. PRIOR TO TURNOVER (OWNER ACCEPTANCE), A COMPLETE AND SUCCESSFUL DEMONSTRATION OF ALL SYSTEM OPERATING FUNCTIONS AND ALARMS SHALL BE PERFORMED BY THIS CONTRACTOR IN THE PRESENCE OF THE OWNERS REPRESENTATIVE AND COMMISSIONING AGENT.
6. IN ADDITION TO THE ABOVE, THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:
   - PARTICIPATE IN MAINTENANCE ORIENTATION AND INSPECTION MEETING.
   - PARTICIPATE IN PROCEDURES MEETING FOR TESTING.
   - EXECUTE INSTALLATION PRE-FUNCTIONAL CHECK SHEETS.
   - SUPPORT FUNCTIONAL TESTING WITH QUALIFIED TECHNICIANS.
   - RESPOND TO CX DEFICIENCIES IN ACCORDANCE WITH OWNER SCHEDULE.
   - PARTICIPATE IN FINAL REVIEW AT ACCEPTANCE MEETING.
   - NOTIFY COMMISSIONING AGENT AT MINIMUM TWO WEEKS IN ADVANCE OF ANY TESTING.

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No.	ISSUE OR REVISION	DATE
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PROJECT TITLE

HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

MECHANICAL SYMBOLS, ABBREVIATIONS & NOTES - BASE & ALTERNATE

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	DRAWN BY: NW	DRAWING NO.
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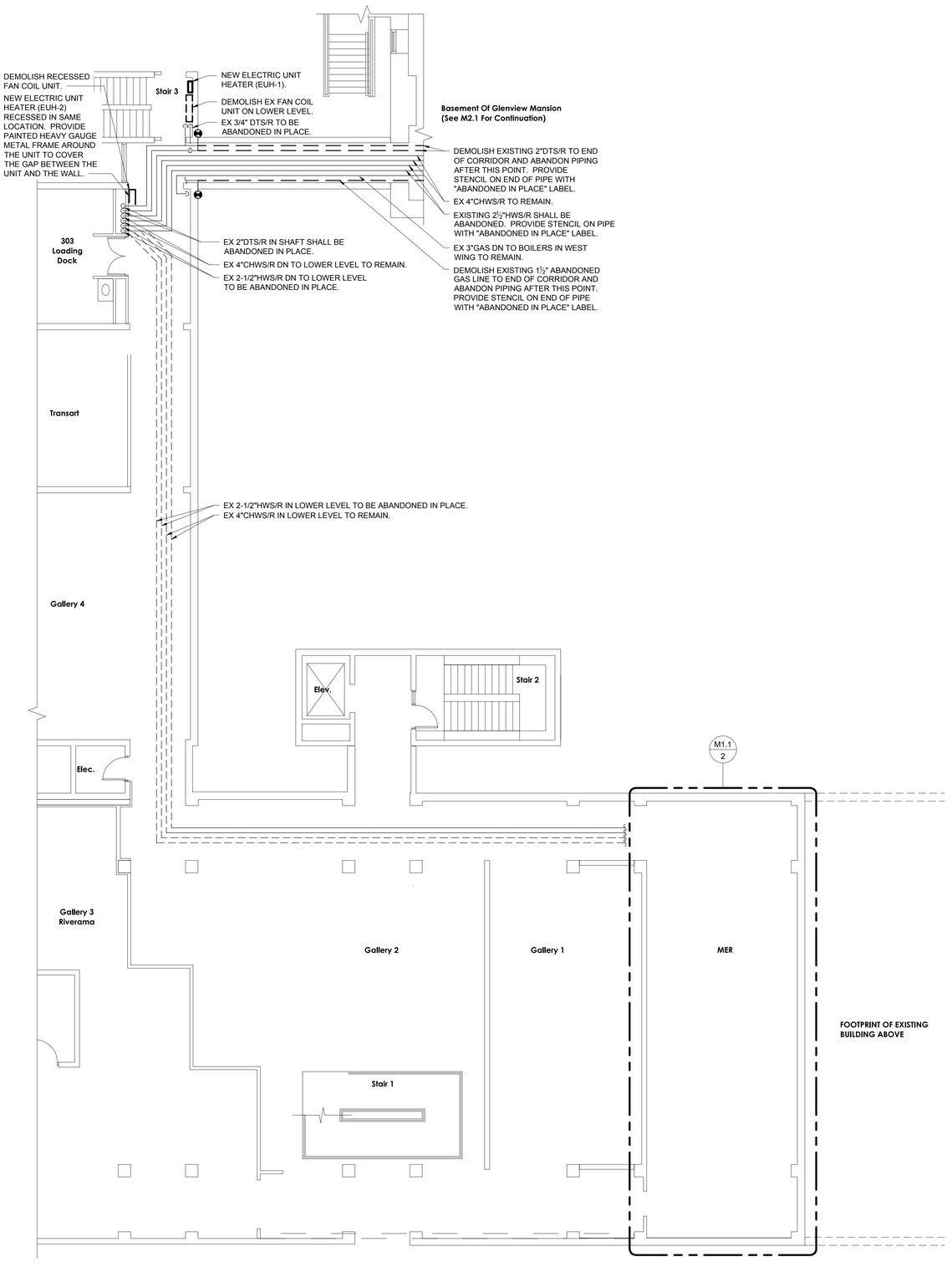
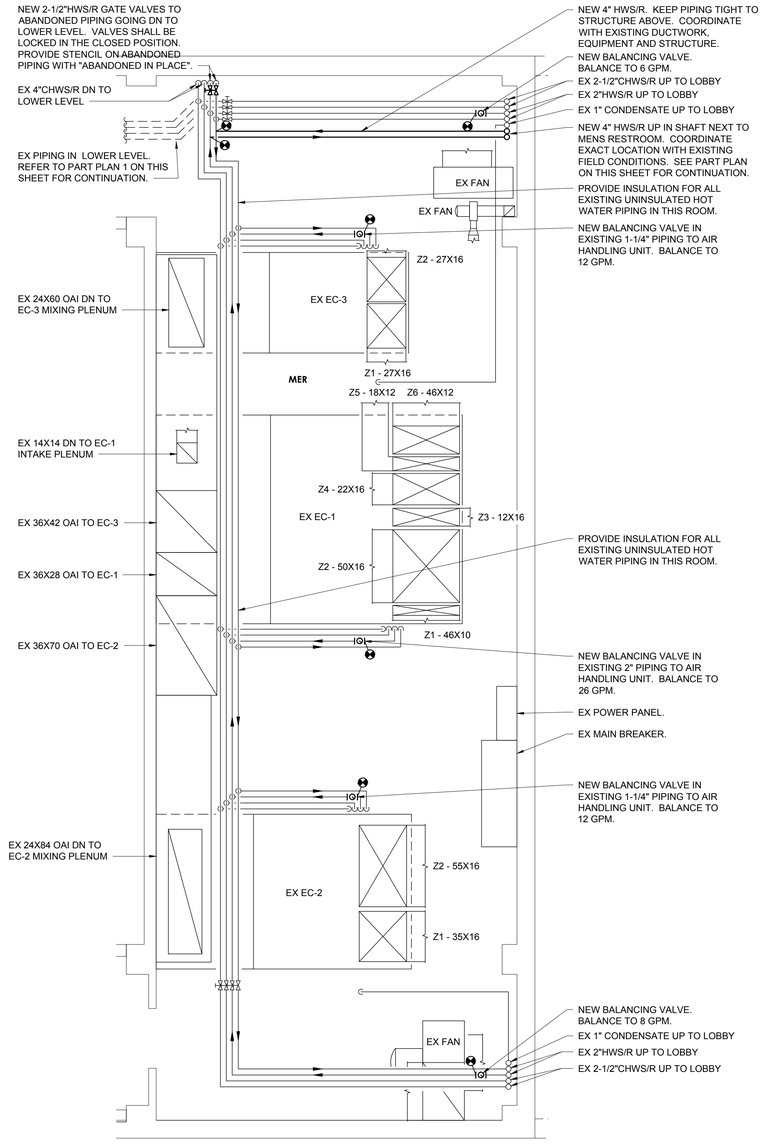
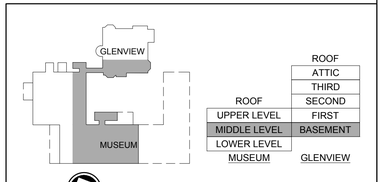


1 MECHANICAL MIDDLE LEVEL FLOOR PLAN
SCALE: 1/8" = 1'-0"



2 MECHANICAL MIDDLE LEVEL MER PART PLAN
SCALE: 1/4" = 1'-0"

NOTE: REFER TO THE HAZARDOUS MATERIAL REMOVAL PLANS H-100 THROUGH H-101 FOR ABATEMENT IN THE BASEMENT LEVEL INCLUDING THE BOILER ROOM, CHILLER ROOM, CARPENTRY SHOP AND PASSAGEWAY. FIELD SURVEY THE EXISTING PIPING AND INCLUDE REINSULATING ALL EXISTING STEAM, CONDENSATE, CHILLED WATER, AND DUAL TEMPERATURE WATER PIPING IN THE BASEMENT LEVEL ACCORDING TO SPECIFICATIONS.



KEYPLAN
SCALE: NONE

VERTICAL KEYPLAN
SCALE: NONE

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MECHANICAL MIDDLE LEVEL PART PLANS - BASE

SEAL

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PROJECT NO.	NCOY0006.00
DRAWN BY	NW
DRAWING NO.	M1.1
CHECKED BY	RS
DATE	01-17-2022

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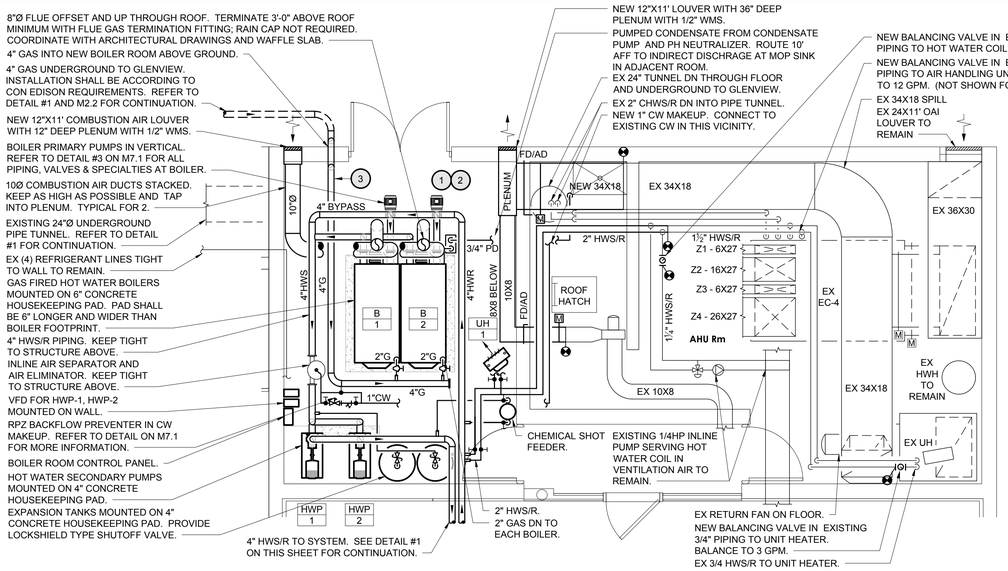
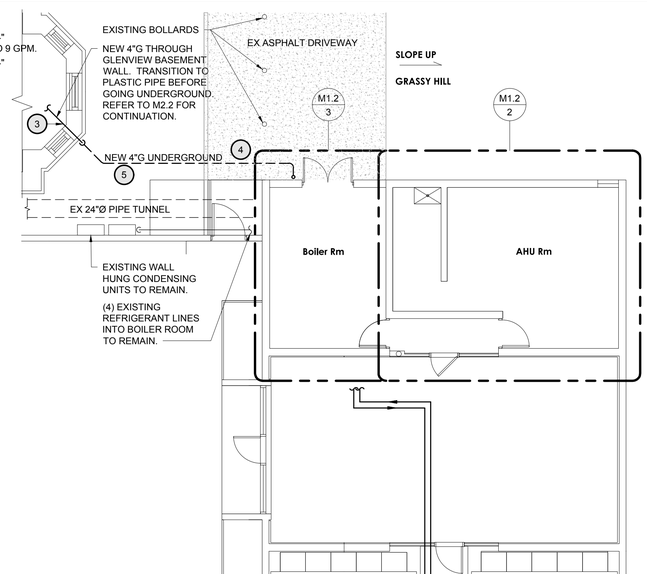


NORTH

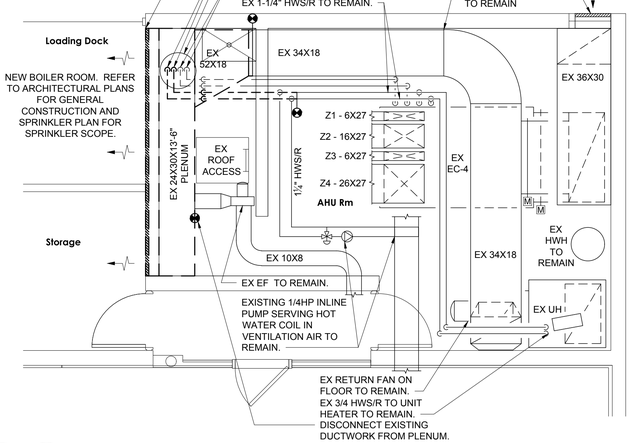
3 MECHANICAL UPPER LEVEL AHU ROOM & NEW BOILER ROOM NEW WORK PLAN

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



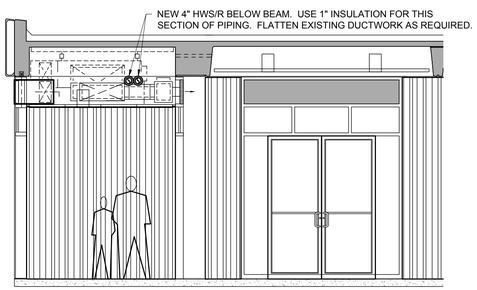
MECHANICAL NEW WORK NOTES (##)

1. LABEL ALL NEW HOT WATER, MAKEUP WATER, GAS, GAS VENT, COMBUSTION AIR, EXHAUST AIR IN THE BOILER IN ACCORDANCE WITH THE SPECIFICATIONS.
2. TAG ALL NEW MECHANICAL VALVES IN THE BOILER ROOM IN ACCORDANCE WITH SPECIFICATIONS. PROVIDE NEW VALVE TAG SCHEDULE AS PER SPECIFICATIONS.
3. PAINTING: PAINT ALL NEW ABOVEGROUND GAS PIPING WITH MACHINE ENAMEL PAINT. INDOOR SHALL BE YELLOW AND OUTDOOR SHALL BE GRAY.
4. CUT EXISTING ASPHALT DRIVEWAY AND CURB FOR INSTALLATION OF NEW UNDERGROUND GAS & ELECTRICAL. COORDINATE WITH ELECTRICAL PLANS. UNDERGROUND GAS PIPE SHALL BE INSTALLED AS PER UTILITY REQUIREMENTS. PROVIDE CLEAN BACKFILL. PROVIDE GRAVEL AND PATCH ASPHALT & CURB TO MATCH EXISTING.
5. TRENCH LAN FROM BOILER ROOM TO GLENVIEW FOR INSTALLATION OF UNDERGROUND GAS AND ELECTRIC. COORDINATE WITH ELECTRICAL PLANS. PROVIDE BEDDING AS PER UTILITY REQUIREMENTS. PROVIDE CLEAN BACKFILL AND TOP SOIL. REGRADE AND PLANT NEW GRASS IN AREA OF WORK. COORDINATE PIPE ROUTE WITH ARCHITECTURAL PLANS.



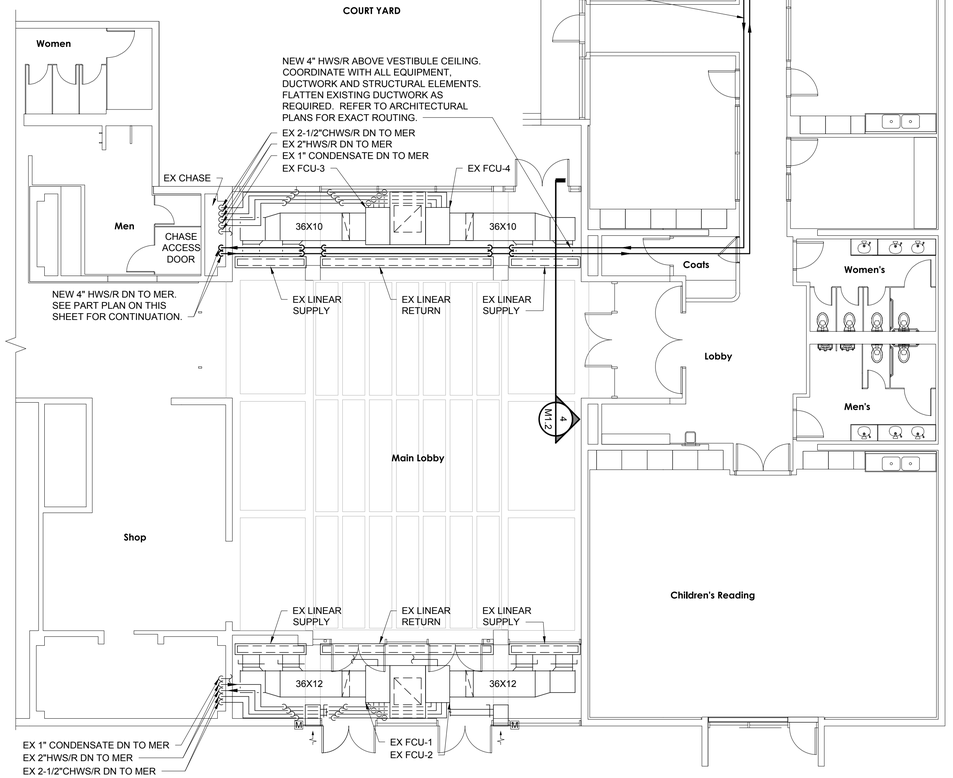
2 MECHANICAL UPPER LEVEL AHU ROOM DEMOLITION PLAN

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



4 MECHANICAL SECTION

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



NORTH

1 MECHANICAL UPPER LEVEL NEW WORK PLAN

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

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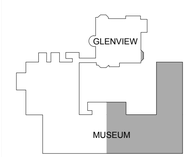
DRAWING TITLE

MECHANICAL UPPER LEVEL PART PLANS - BASE



ROOF	ROOF
	ATTIC
	THIRD
UPPER LEVEL	SECOND
MIDDLE LEVEL	FIRST
LOWER LEVEL	BASEMENT
MUSEUM	GLENVIEW

NORTH KEYPLAN SCALE: NONE

VERTICAL KEYPLAN SCALE: NONE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: NW	DRAWING NO.
	CHECKED BY: RS	M1.2
	DATE: 01-17-2022	

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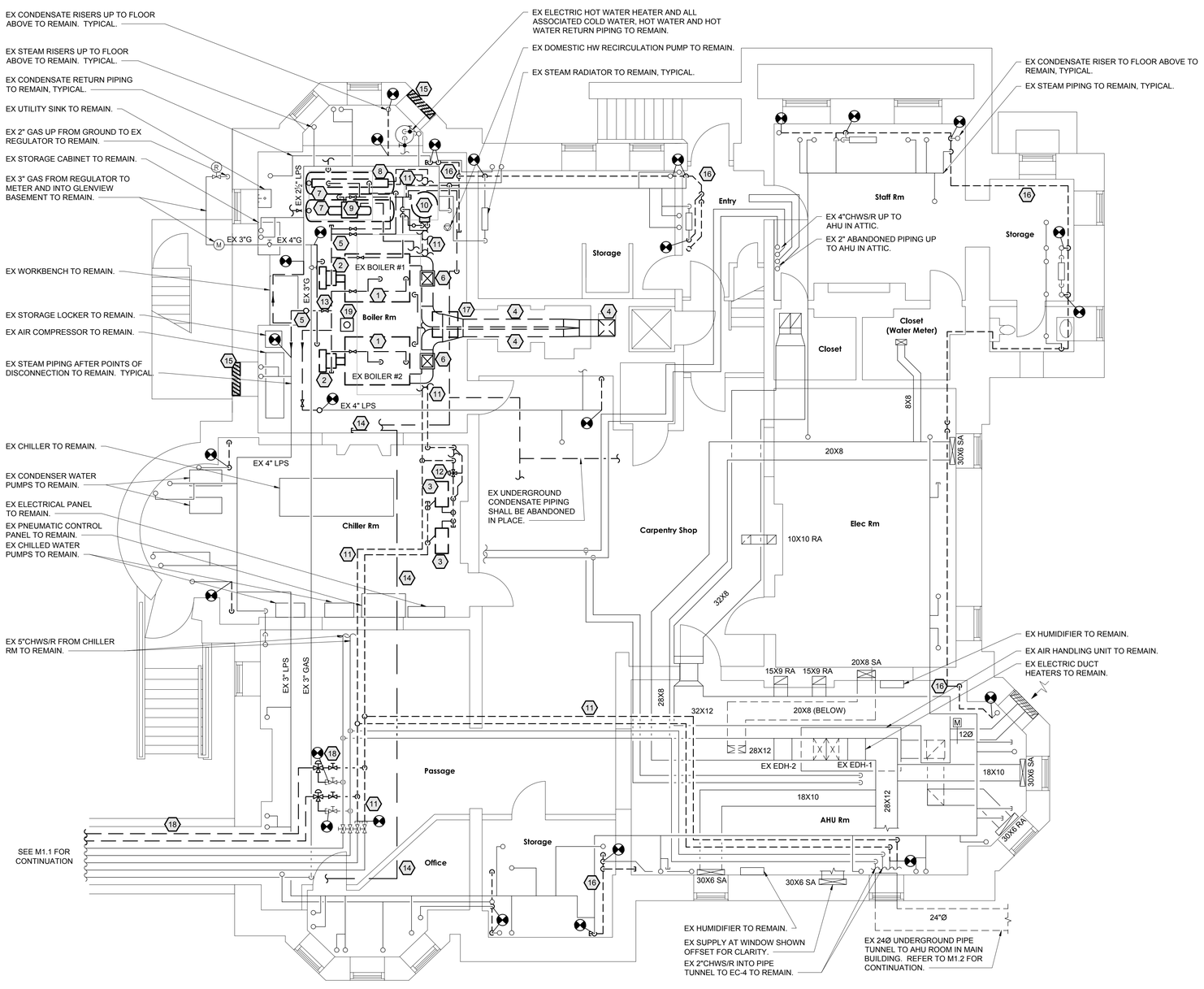
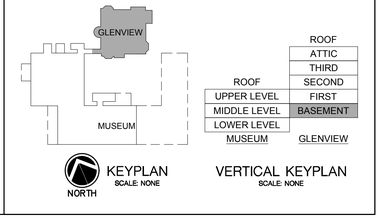


1 MECHANICAL GLENVIEW BASEMENT DEMOLITION FLOOR PLAN
SCALE: 3/16" = 1'-0"

MECHANICAL DEMOLITION NOTES (##)

1. DEMOLISH EXISTING BOILERS INCLUDING ALL ASSOCIATED PIPING & WIRING. DEMOLISH CONCRETE PAD FOR NEW BOILER LAYOUT. COORDINATE WITH NEW LAYOUT AND KEEP PORTION OF PAD SUCH THAT IT IS 6" LONGER AND WIDER THAN BOILER FOOTPRINT.
2. DEMOLISH EXISTING BURNER, BURNER CONTROLS, CONTROL CABINETS, CONDUITS AND WIRING.
3. DEMOLISH EXISTING HW PUMPS #1&2 INCLUDING ALL PUMP CONTROLS, CONTROL CABINETS, CONDUITS, WIRING, PIPING, VALVES, & CONCRETE PADS.
4. DEMOLISH EXISTING BOILER BREECHING ALL THE WAY UP THROUGH CHIMNEY. CHIMNEY SHALL BE BRUSHED CLEAN AND ALL SOOT AND DEBRIS REMOVED.
5. DEMOLISH ALL EXISTING STEAM & CONDENSATE PIPING AT THE BOILERS TO APPROXIMATE LOCATIONS INDICATED INCLUDING ALL VALVES, CONTROL VALVES, AND ASSOCIATED PNEUMATIC PIPING.
6. DEMOLISH EXISTING FORCED DRAFT FANS AT THE BACK OF THE BOILERS INCLUDING ALL ASSOCIATED MOUNTING, FRAMING, AND WIRING.
7. DEMOLISH EXPANSION TANKS AND ASSOCIATED PIPING AT THE CEILING.
8. DEMOLISH STEAM TO HOT WATER HEAT EXCHANGER AND ALL ASSOCIATED PIPING, CONTROLS, AND STRUCTURAL SUPPORTS. CONCRETE PAD SHALL ALSO BE DEMOLISHED.
9. DEMOLISH EXISTING CONDENSATE RECEIVER TANK AND ALL ASSOCIATED PIPING, CONTROLS, AND WIRING.
10. DEMOLISH EXISTING ABANDONED DOMESTIC HOT WATER TANK AND ASSOCIATED HEAT EXCHANGER AND ALL ASSOCIATED PIPING, VALVES AND CONTROLS. DEMOLISH CONCRETE PAD.
11. DEMOLISH ALL EXISTING HEATING HOT WATER SUPPLY AND RETURN PIPING IN GLENVIEW MANSION BASEMENT.
12. DEMOLISH MAIN 3-WAY HEATING CONTROL VALVE AND ALL ASSOCIATED PIPING AND CONTROL WIRING.
13. DEMOLISH EXISTING 3" GAS AND GAS BRANCHES TO EXISTING STEAM BOILERS INCLUDING ALL VALVES, HANGERS ETC. EXISTING 4" GAS PIPING TO REMAIN.
14. DEMOLISH EXISTING 1-1/2" ABANDONED GAS PIPE AND ALL ASSOCIATED HANGERS AND SUPPORTS THROUGH BASEMENT OF MANSION AND ALL THE WAY DOWN THE RAMP TO THE MUSEUM. PROVIDE LABEL AT MUSEUM WALL THAT PIPE IS ABANDONED IN PLACE. NOT SHOWN ON M1.1 FOR CLARITY.
15. DEMOLISH EXISTING 36X24 LOUVER.
16. DEMOLISH EXISTING CONDENSATE PIPING INCLUDING ALL STEAM TRAPS AND RISERS TO MAINS AT CEILING OF BASEMENT. ALL PIPING UNDERFLOOR SHALL BE ABANDONED IN PLACE.
17. DEMOLISH EXISTING BELOW FLOOR ACCESS PANEL.
18. DEMOLISH EXISTING DUEL TEMPERATURE PIPING AND ASSOCIATED PNEUMATIC CONTROL VALVES. DEMOLISH PNEUMATIC PIPING AND CAP AT MAIN. DEMOLISH EXISTING CHILLED WATER PIPING TO VALVE AND CAP.
19. DEMOLISH EXISTING FLOOR DRAIN GRATING.



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No.	ISSUE OR REVISION	DATE
1	BID ISSUE	09/16/22

PROJECT TITLE

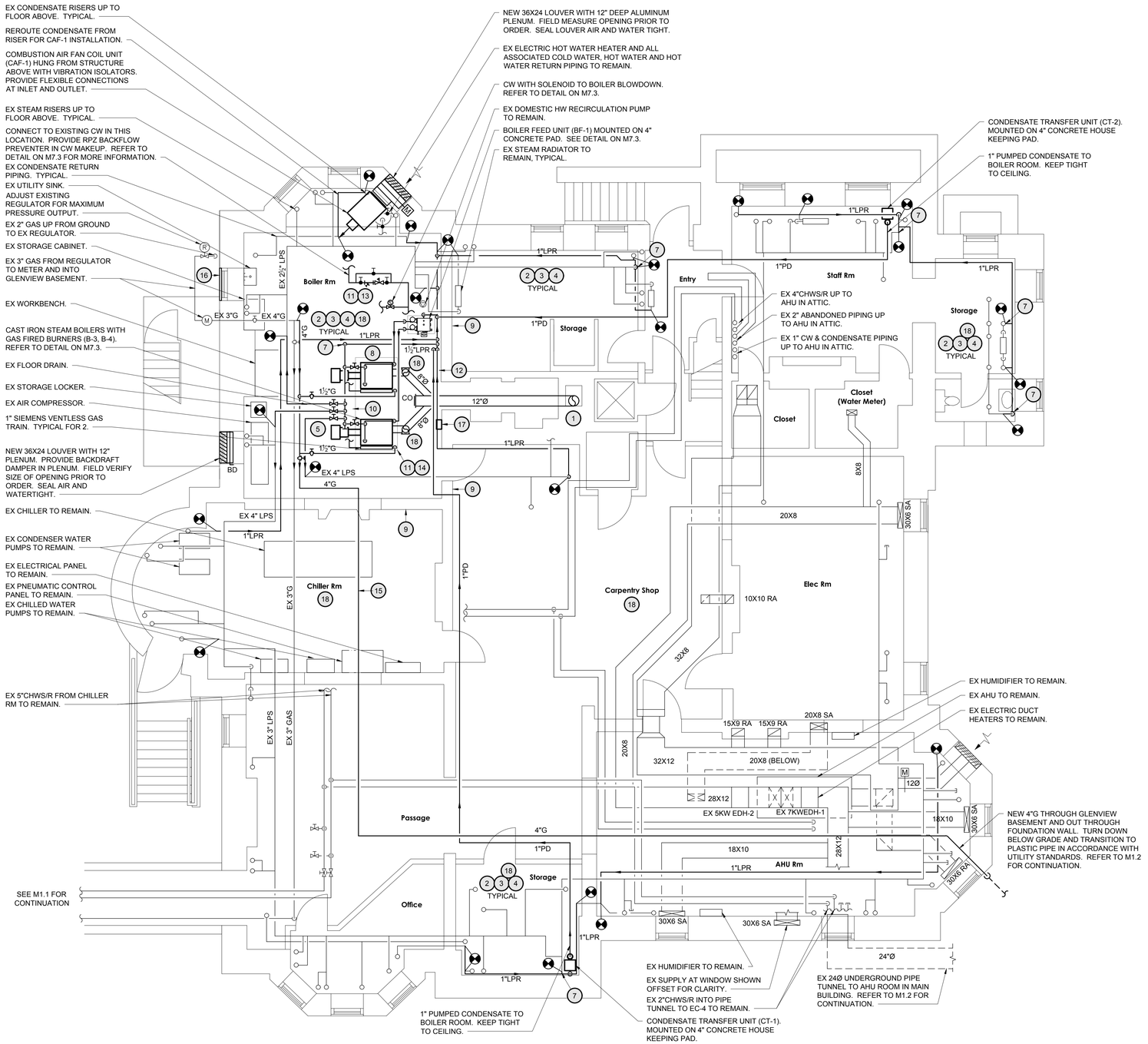
HUDSON RIVER MUSEUM BOILER REPLACEMENT

HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

MECHANICAL GLENVIEW BASEMENT DEMOLITION FLOOR PLAN - BASE

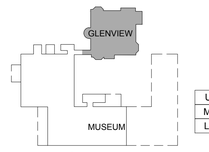
SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: NW	DRAWING NO.
	CHECKED BY: RS	M2.1
	DATE: 01-17-2022	



1 MECHANICAL GLENVIEW BASEMENT FLOOR PLAN
SCALE: 3/16" = 1'-0"

MECHANICAL NEW WORK NOTES (##)

1. THE EXISTING CHIMNEY SHALL BE BRUSHED CLEAN OF ALL SOOT, DIRT, AND DEBRIS. CLEAN OUT THE BASE OF THE CHIMNEY AFTER CLEANING AND VACUUM CLEAN. NEW WELDED CHIMNEY LINER SHALL BE INSTALLED. REFER TO DETAIL ON M7.3.
2. INSULATE ALL NEW LPS, LPR AND BOILER FEED PIPING IN THE BASEMENT IN ACCORDANCE WITH THE SPECIFICATIONS.
3. REINSULATE ALL EXISTING LPS, LPR AND BOILER FEED PIPING IN THE BASEMENT WHERE INSULATION IS MISSING OR DAMAGED.
4. LABEL ALL NEW & EXISTING LPS, LPR, BOILER FEED PIPING AND GAS IN THE BASEMENT IN ACCORDANCE WITH THE SPECIFICATIONS.
5. TAG ALL NEW MECHANICAL VALVES IN THE BOILER ROOM IN ACCORDANCE WITH SPECIFICATIONS. TYPICAL FOR LPS, LPR, BOILER FEED AND GAS. PROVIDE NEW VALVE TAG SCHEDULE AS PER SPECIFICATIONS. UPDATE WITH NEW & EXISTING VALVES. # NEW VALVES IN SEQUENCE.
6. PROVIDE BAROMETRIC DAMPER IN EACH BOILER BREECHING BEFORE COMMON BREECHING.
7. PROVIDE NEW STEAM TRAP AT THE END OF ALL STEAM DISTRIBUTION MAINS WHETHER SPECIFICALLY CALLED OUT ON THE DRAWING OR NOT.
8. PROVIDE TEMPERATURE SENSORS IN BOILER BLOWDOWN LINES ARRANGED TO OPEN CW SOLENOID VALVE IN CW LINE UPON SENSING CONDENSATE.
9. PATCH ALL HOLES IN WALLS AND CEILING IN BOILER ROOM AND FIRE PROOF ALL PIPING PENETRATIONS WITH CEMENTITIOUS PRODUCT SIMILAR TO GCP MONOKOTE Z-106/HY.
10. EXISTING FLOOR DRAIN IN APPROXIMATE LOCATION INDICATED BELOW STEAM PIPING. SNAKE OUT ALL PIPING AND ENSURE THAT IT IS DRAINING PROPERLY. PROVIDE NEW CAST IRON COVER AND STRAINER FOR THE FLOOR DRAIN APPROXIMATELY 12X12. MEASURE EXACT DIMENSIONS IN FIELD. ALL BOILER BLOWDOWNS SHALL BE ROUTED TO THIS DRAIN.
11. POWERWASH AND CLEAN THE BOILER ROOM FLOOR AND BOILER PAD IN PREPARATION FOR PAINTING.
12. FILL ALL HOLES IN BOILER ROOM FLOOR WITH CONCRETE WHERE UNDERGROUND CONDENSATE PIPING IS NO LONGER USED.
13. PAINT BOILER ROOM FLOOR WITH GRAY ENAMEL PAINT.
14. PAINT BOILER PAD WITH YELLOW ENAMEL PAINT.
15. PAINT ALL NEW GAS PIPING AND EXISTING GAS PIPING IN THE BASEMENT AND OUTSIDE WITH MACHINE ENAMEL PAINT. INDOOR SHALL BE YELLOW AND OUTDOOR SHALL BE GRAY.
16. REPLACE BOARD AT WINDOW WITH SHEETMETAL PANEL. PANEL SHALL HAVE (2) GALVANIZED SHEETS WITH 1" INSULATION BETWEEN.
17. BOILER ROOM CONTROL PANEL BY DDC CONTRACTOR.
18. REFER TO THE HAZARDOUS MATERIAL REMOVAL PLANS H-100 THROUGH H-101 FOR ABATEMENT IN THE BASEMENT LEVEL INCLUDING THE BOILER ROOM, CHILLER ROOM, CARPENTRY SHOP AND PASSAGEWAY. FIELD SURVEY THE EXISTING PIPING AND INCLUDE REINSULATING ALL EXISTING STEAM, CONDENSATE, CHILLED WATER, AND DUAL TEMPERATURE WATER PIPING IN THE BASEMENT LEVEL ACCORDING TO SPECIFICATIONS.



KEYPLAN
SCALE: NONE

ROOF
UPPER LEVEL
MIDDLE LEVEL
LOWER LEVEL
MUSEUM

ROOF
ATTIC
THIRD
SECOND
FIRST
BASEMENT
GLENVIEW

VERTICAL KEYPLAN
SCALE: NONE

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No.	ISSUE OR REVISION	DATE
1	BID ISSUE	09/16/22

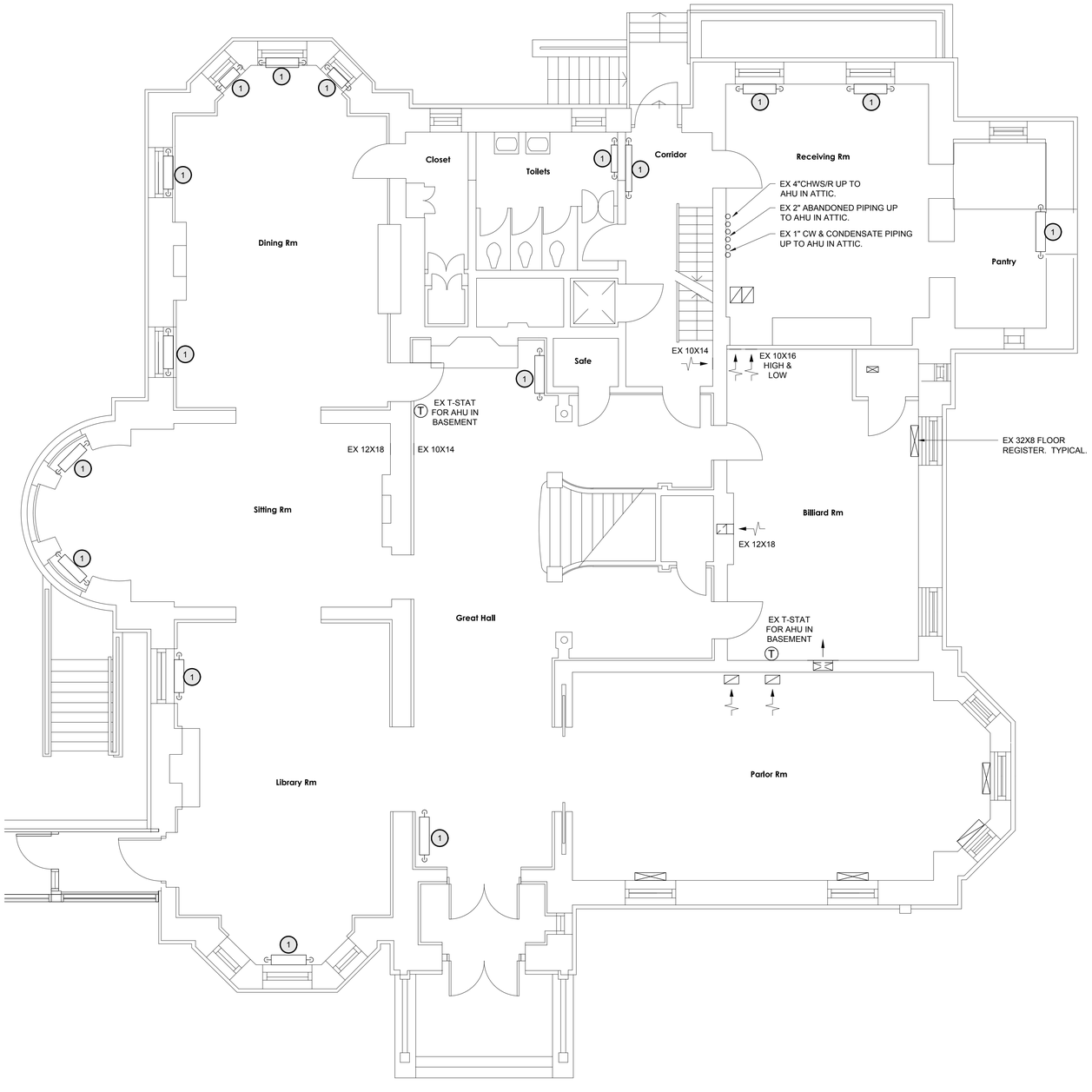
PROJECT TITLE

HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

MECHANICAL GLENVIEW BASEMENT NEW WORK FLOOR PLAN - BASE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: NW	DRAWING NO.
	CHECKED BY: RS	M2.2
	DATE: 01-17-2022	

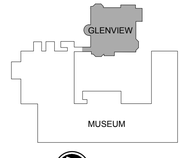


1 MECHANICAL GLENVIEW FIRST FLOOR PLAN
SCALE: 3/16" = 1'-0"

NORTH

MECHANICAL NEW WORK NOTES (##)

1. DISCONNECT EXISTING BRANCH LPS & LPR TO EACH RADIATOR. PROVIDE NEW ANGLE SHUT OFF VALVE, AIR VENT, AND THERMOSTATIC TRAP. REPIPE AS REQUIRED TO ALLOW INSTALLATION OF VALVES.



ROOF
UPPER LEVEL
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LOWER LEVEL
MUSEUM

ROOF
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FIRST
BASEMENT
GLENVIEW

KEYPLAN
SCALE: NONE
NORTH

VERTICAL KEYPLAN
SCALE: NONE

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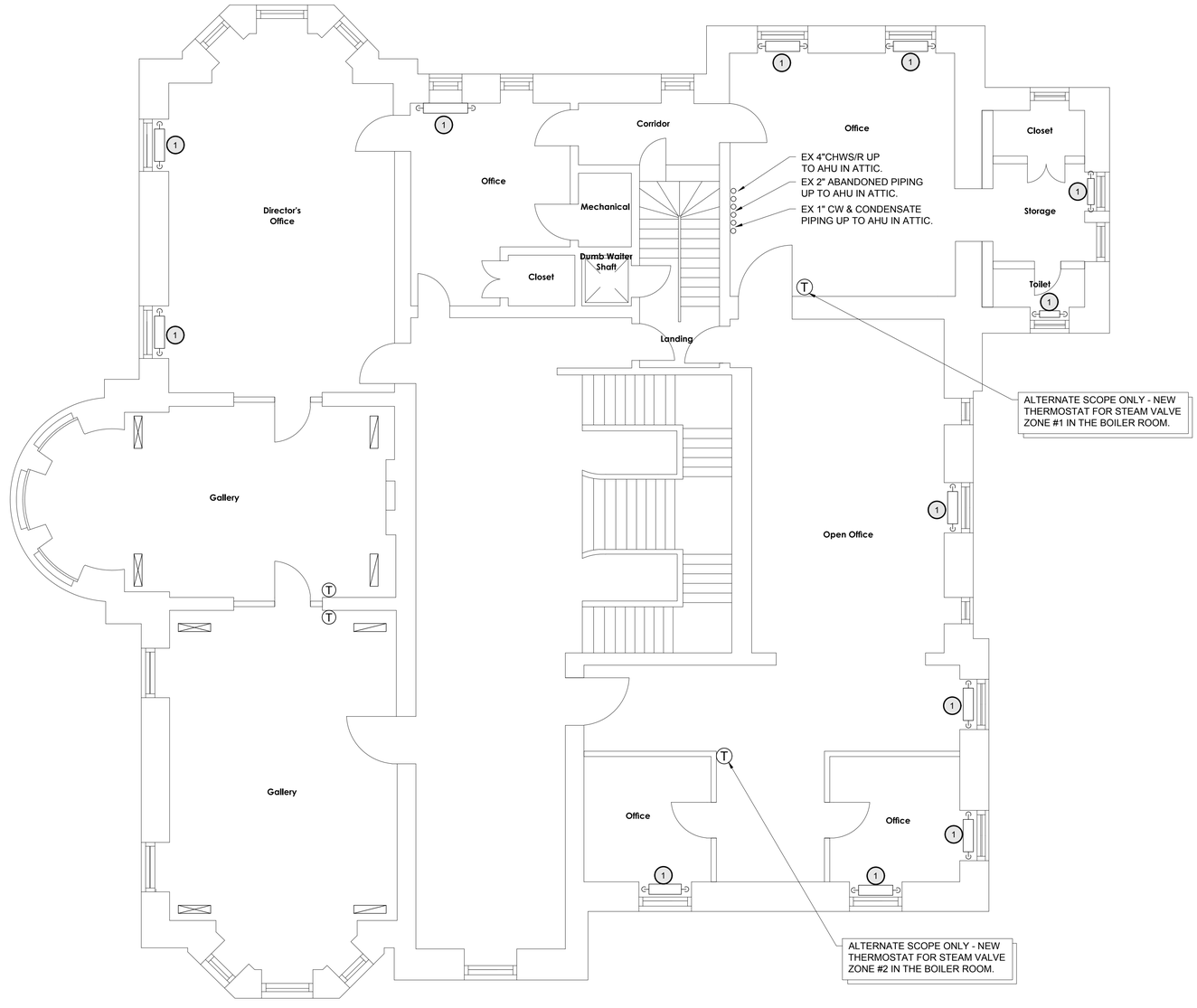
HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

MECHANICAL GLENVIEW FIRST FLOOR PLAN - BASE & ALTERNATE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: NW	DRAWING NO.
	CHECKED BY: RS	M2.3
	DATE: 01-17-2022	



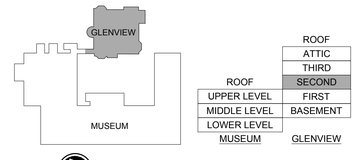
NORTH

1 MECHANICAL GLENVIEW SECOND FLOOR PLAN

SCALE: 3/16" = 1'-0"

MECHANICAL NEW WORK NOTES (##)

1. DISCONNECT EXISTING BRANCH LPS & LPR TO EACH RADIATOR. PROVIDE NEW ANGLE SHUT OFF VALVE, AIR VENT, AND THERMOSTATIC TRAP. REPIPE AS REQUIRED TO ALLOW INSTALLATION OF VALVES.



ROOF
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BASEMENT
GLENVIEW

ROOF
UPPER LEVEL
MIDDLE LEVEL
LOWER LEVEL
MUSEUM

NORTH KEYPLAN SCALE: NONE

VERTICAL KEYPLAN SCALE: NONE

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PROJECT TITLE

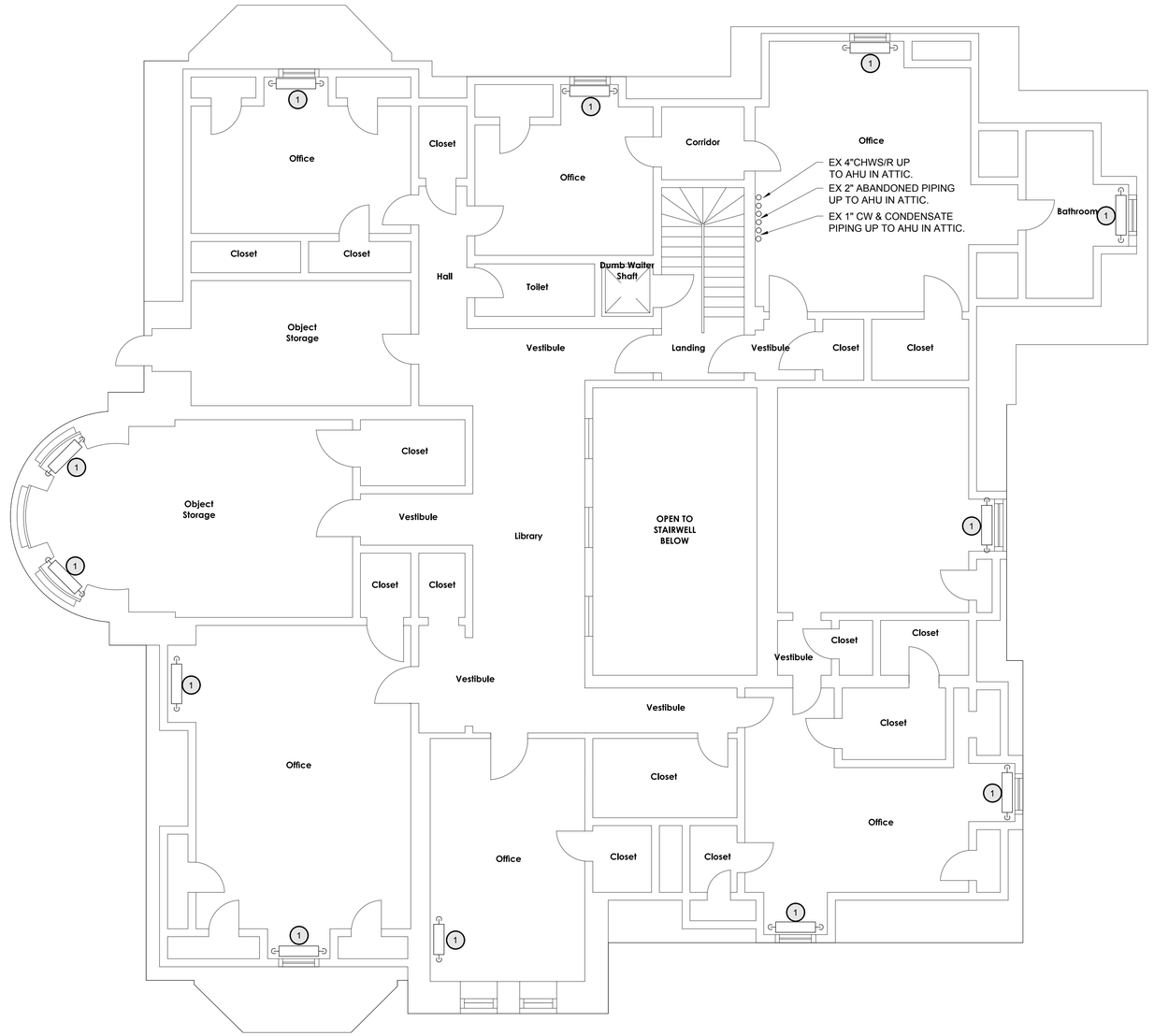
HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

MECHANICAL GLENVIEW SECOND FLOOR PLAN - BASE & ALTERNATE

SEAL

SCALE	AS SHOWN
PROJECT NO.	NCOY0006.00
DRAWN BY	NW
DRAWING NO.	M2.4
CHECKED BY	RS
DATE	01-17-2022

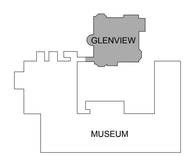


1 MECHANICAL GLENVIEW THIRD FLOOR PLAN
SCALE: 3/16" = 1'-0"

NORTH

MECHANICAL NEW WORK NOTES (##)

1. DISCONNECT EXISTING BRANCH LPS & LPR TO EACH RADIATOR. PROVIDE NEW ANGLE SHUT OFF VALVE, AIR VENT, AND THERMOSTATIC TRAP. REPIPE AS REQUIRED TO ALLOW INSTALLATION OF VALVES.



KEYPLAN
SCALE: NONE

NORTH

ROOF
UPPER LEVEL
MIDDLE LEVEL
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MUSEUM

ROOF
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VERTICAL KEYPLAN
SCALE: NONE

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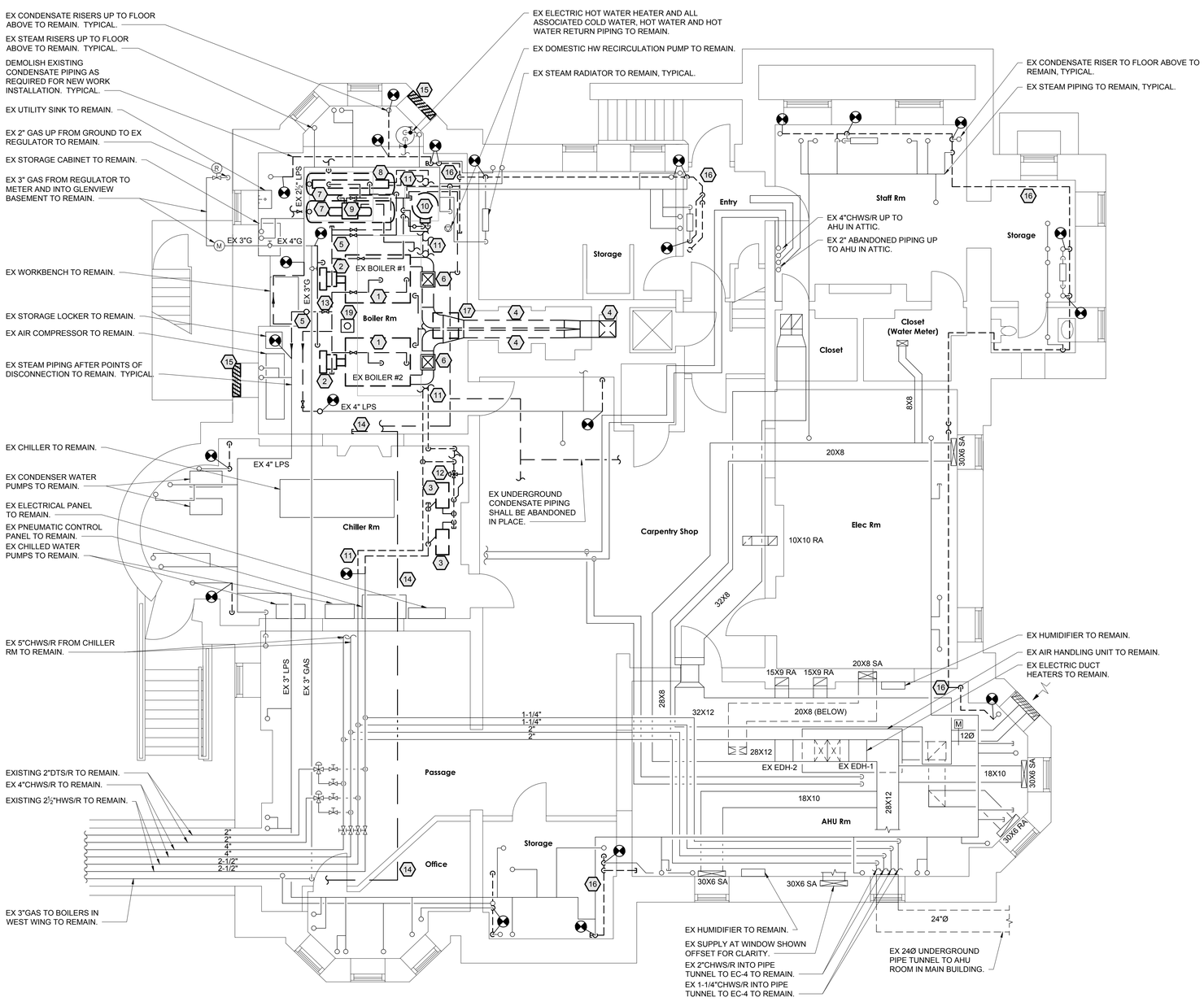
HUDSON RIVER MUSEUM BOILER REPLACEMENT

HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

MECHANICAL GLENVIEW THIRD FLOOR PLAN - BASE & ALTERNATE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: NW	DRAWING NO.
	CHECKED BY: RS	M2.5
	DATE: 01-17-2022	

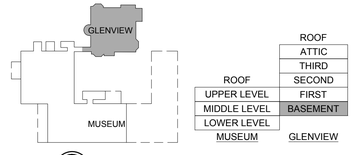


1 MECHANICAL GLENVIEW BASEMENT DEMOLITION FLOOR PLAN
SCALE: 3/16" = 1'-0"

NORTH

MECHANICAL DEMOLITION NOTES (##)

1. DEMOLISH EXISTING BOILERS INCLUDING ALL ASSOCIATED PIPING & WIRING. DEMOLISH CONCRETE PAD FOR NEW BOILER LAYOUT. COORDINATE WITH NEW LAYOUT AND KEEP PORTION OF PAD SUCH THAT IT IS 6" LONGER AND WIDER THAN BOILER FOOTPRINT.
2. DEMOLISH EXISTING BURNER, BURNER CONTROLS, CONTROL CABINETS, CONDUITS AND WIRING.
3. DEMOLISH EXISTING HW PUMPS #1&2 INCLUDING ALL PUMP CONTROLS, CONTROL CABINETS, CONDUITS, WIRING, PIPING, VALVES, & CONCRETE PADS.
4. DEMOLISH EXISTING BOILER BREECHING ALL THE WAY UP THROUGH CHIMNEY. CHIMNEY SHALL BE BRUSHED CLEAN AND ALL SOOT AND DEBRIS REMOVED.
5. DEMOLISH ALL EXISTING STEAM & CONDENSATE PIPING AT THE BOILERS TO APPROXIMATE LOCATIONS INDICATED INCLUDING ALL VALVES, CONTROL VALVES, AND ASSOCIATED PNEUMATIC PIPING.
6. DEMOLISH EXISTING FORCED DRAFT FANS AT THE BACK OF THE BOILERS INCLUDING ALL ASSOCIATED MOUNTING, FRAMING, AND WIRING.
7. DEMOLISH EXPANSION TANKS AND ASSOCIATED PIPING AT THE CEILING.
8. DEMOLISH STEAM TO HOT WATER HEAT EXCHANGER AND ALL ASSOCIATED PIPING, CONTROLS, AND STRUCTURAL SUPPORTS. CONCRETE PAD SHALL ALSO BE DEMOLISHED.
9. DEMOLISH EXISTING CONDENSATE RECEIVER TANK AND ALL ASSOCIATED PIPING, CONTROLS, AND WIRING.
10. DEMOLISH EXISTING ABANDONED DOMESTIC HOT WATER TANK AND ASSOCIATED HEAT EXCHANGER AND ALL ASSOCIATED PIPING, VALVES AND CONTROLS. DEMOLISH CONCRETE PAD.
11. DEMOLISH ALL EXISTING HEATING HOT WATER SUPPLY AND RETURN PIPING IN BOILER ROOM AND CHILLER ROOM.
12. DEMOLISH MAIN 3-WAY HEATING CONTROL VALVE AND ALL ASSOCIATED PIPING AND CONTROL WIRING.
13. DEMOLISH EXISTING 3" GAS AND GAS BRANCHES TO EXISTING STEAM BOILERS INCLUDING ALL VALVES, HANGERS ETC. EXISTING 4" GAS PIPING TO REMAIN.
14. DEMOLISH EXISTING 1-1/2" ABANDONED GAS PIPE AND ALL ASSOCIATED HANGERS AND SUPPORTS THROUGH BASEMENT OF MANSION AND ALL THE WAY DOWN THE RAMP TO THE MUSEUM. PROVIDE LABEL AT MUSEUM WALL THAT PIPE IS ABANDONED IN PLACE.
15. DEMOLISH EXISTING 36X24 LOUVER.
16. DEMOLISH EXISTING CONDENSATE PIPING INCLUDING ALL STEAM TRAPS AND RISERS TO MAINS AT CEILING OF BASEMENT. ALL PIPING UNDERFLOOR SHALL BE ABANDONED IN PLACE.
17. DEMOLISH EXISTING BELOW FLOOR ACCESS PANEL.
18. DEMOLISH EXISTING FLOOR DRAIN GRATING.



ROOF
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MIDDLE LEVEL
LOWER LEVEL
MUSEUM

ROOF
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BASEMENT
GLENVIEW

KEYPLAN
SCALE: NONE
NORTH

VERTICAL KEYPLAN
SCALE: NONE

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No.	ISSUE OR REVISION	DATE
1	BID ISSUE	09/16/22

PROJECT TITLE

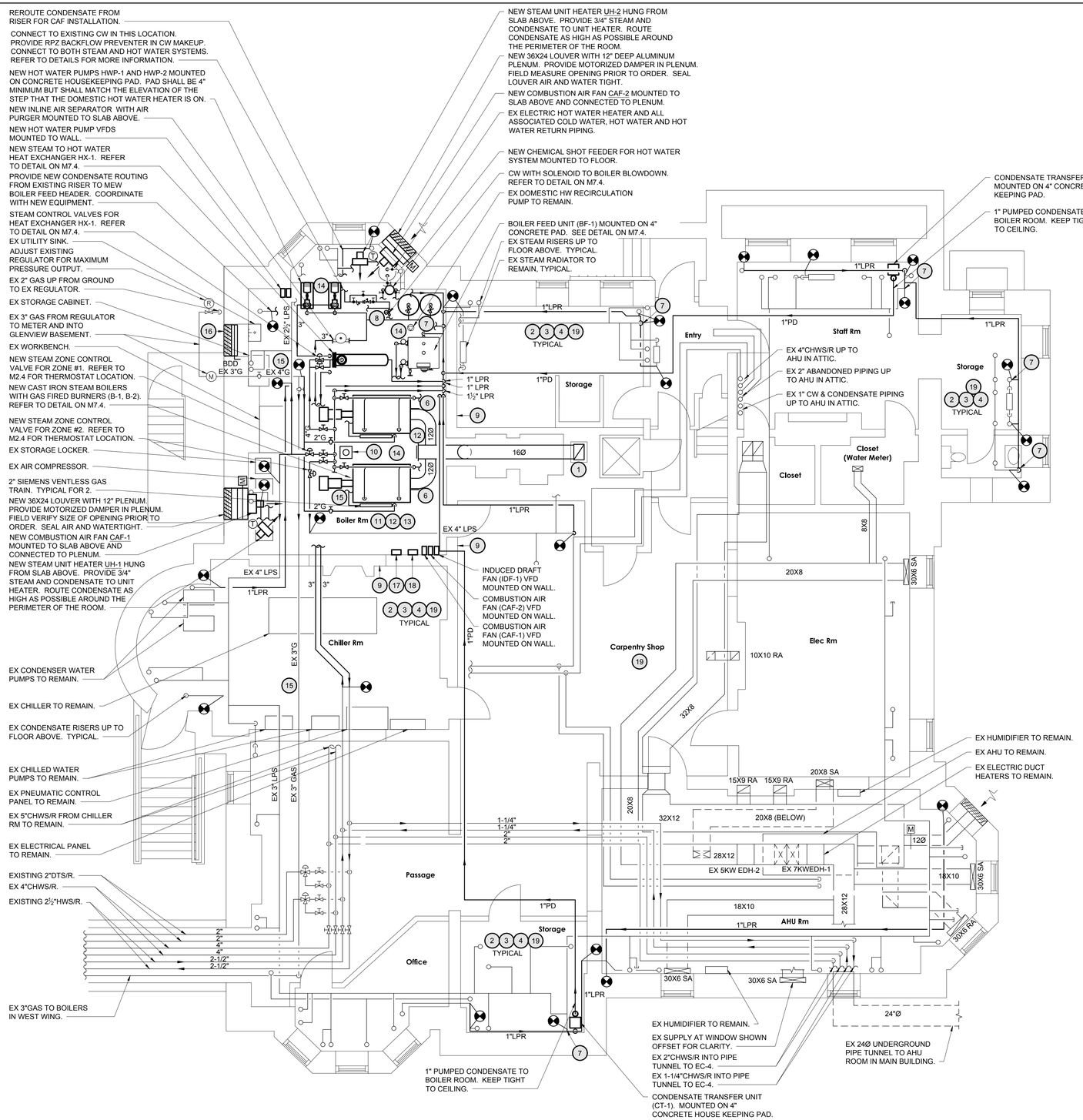
HUDSON RIVER MUSEUM BOILER REPLACEMENT

HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

MECHANICAL GLENVIEW BASEMENT DEMOLITION FLOOR PLAN - ALTERNATE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: NW	DRAWING NO.
	CHECKED BY: RS	M2.6
	DATE: 01-17-2022	

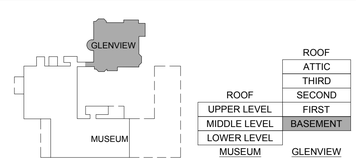


1 MECHANICAL GLENVIEW BASEMENT FLOOR PLAN

SCALE: 3/16" = 1'-0"

MECHANICAL NEW WORK NOTES (##)

1. THE EXISTING CHIMNEY SHALL BE BRUSHED CLEAN OF ALL SOOT, DIRT, AND DEBRIS. CLEAN OUT THE BASE OF THE CHIMNEY AFTER CLEANING AND VACUUM CLEAN. NEW WELDED CHIMNEY LINER SHALL BE INSTALLED WITH INDUCED DRAFT FAN (IDF-1) AT THE TOP OF THE CHIMNEY. REFER TO DETAIL ON M7.4.
2. INSULATE ALL NEW LPS, LPR BOILER FEED AND HWS&R PIPING IN THE BASEMENT IN ACCORDANCE WITH THE SPECIFICATIONS.
3. REINSULATE ALL EXISTING LPS, LPR AND BOILER FEED PIPING IN THE BASEMENT WHERE INSULATION IS MISSING OR DAMAGED.
4. LABEL ALL NEW & EXISTING LPS, LPR, BOILER FEED, HWS&R AND GAS PIPING IN THE BASEMENT IN ACCORDANCE WITH THE SPECIFICATIONS.
5. TAG ALL NEW MECHANICAL VALVES IN THE BOILER ROOM IN ACCORDANCE WITH SPECIFICATIONS. TYPICAL FOR LPS, LPR, BOILER FEED, GAS AND HWS&R. PROVIDE NEW VALVE TAG SCHEDULE AS PER SPECIFICATIONS. UPDATE WITH NEW & EXISTING VALVES. # NEW VALVES IN SEQUENCE.
6. PROVIDE BAROMETRIC DAMPER IN EACH BOILER BREECHING BEFORE COMMON BREECHING.
7. PROVIDE NEW STEAM TRAP AT THE END OF ALL STEAM DISTRIBUTION MAINS IN THE BASEMENT WHETHER SPECIFICALLY CALLED OUT ON THE DRAWING OR NOT.
8. PROVIDE TEMPERATURE SENSORS IN BOILER BLOWDOWN LINES ARRANGED TO OPEN CW SOLENOID VALVE IN CW LINE UPON SENSING CONDENSATE.
9. PATCH ALL HOLES IN WALLS AND CEILING IN BOILER ROOM AND FIRE PROOF ALL PIPING PENETRATIONS WITH CEMENTITIOUS PRODUCT SIMILAR TO GCP MONOKOTE Z-106/HY.
10. EXISTING FLOOR DRAIN IN APPROXIMATE LOCATION INDICATED BELOW STEAM PIPING. SNAKE OUT ALL PIPING AND ENSURE THAT IT IS DRAINING PROPERLY. PROVIDE NEW CAST IRON COVER AND STRAINER FOR THE FLOOR DRAIN APPROXIMATELY 12X12. MEASURE EXACT DIMENSIONS IN FIELD. ALL BOILER BLOWDOWNS SHALL BE ROUTED TO THIS DRAIN.
11. POWERWASH AND CLEAN THE BOILER ROOM FLOOR AND BOILER PAD IN PREPARATION FOR PAINTING.
12. FILL ALL HOLES IN BOILER ROOM FLOOR WITH CONCRETE WHERE UNDERGROUND CONDENSATE PIPING IS NO LONGER USED.
13. PAINT BOILER ROOM FLOOR WITH GRAY ENAMEL PAINT.
14. PAINT NEW EQUIPMENT PADS WITH YELLOW ENAMEL PAINT.
15. PAINT ALL NEW GAS PIPING AND EXISTING GAS PIPING IN THE BASEMENT WITH MACHINE ENAMEL YELLOW PAINT.
16. NEW 36X24 LOUVER WITH BACKDRAFT DAMPER FOR PRESSURE RELIEF.
17. BOILER ROOM CONTROL PANEL BY DDC CONTRACTOR.
18. BOILER DRAFT SYSTEM PRESSURE CONTROL PANEL(PCP) MOUNTED ON WALL.
19. REFER TO THE HAZARDOUS MATERIAL REMOVAL PLANS H-100 THROUGH H-101 FOR ABATEMENT IN THE BASEMENT LEVEL INCLUDING THE BOILER ROOM, CHILLER ROOM, CARPENTRY SHOP AND PASSAGEWAY. FIELD SURVEY THE EXISTING PIPING AND INCLUDE REINSULATING ALL EXISTING STEAM, CONDENSATE, CHILLED WATER, AND DUAL TEMPERATURE WATER PIPING IN THE BASEMENT LEVEL ACCORDING TO SPECIFICATIONS.



KEYPLAN
SCALE: NONE

ROOF
UPPER LEVEL
MIDDLE LEVEL
LOWER LEVEL
MUSEUM

ROOF
ATTIC
THIRD
SECOND
FIRST
BASEMENT
GLENVIEW

VERTICAL KEYPLAN
SCALE: NONE

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No.	ISSUE OR REVISION	DATE
1	BID ISSUE	09/16/22

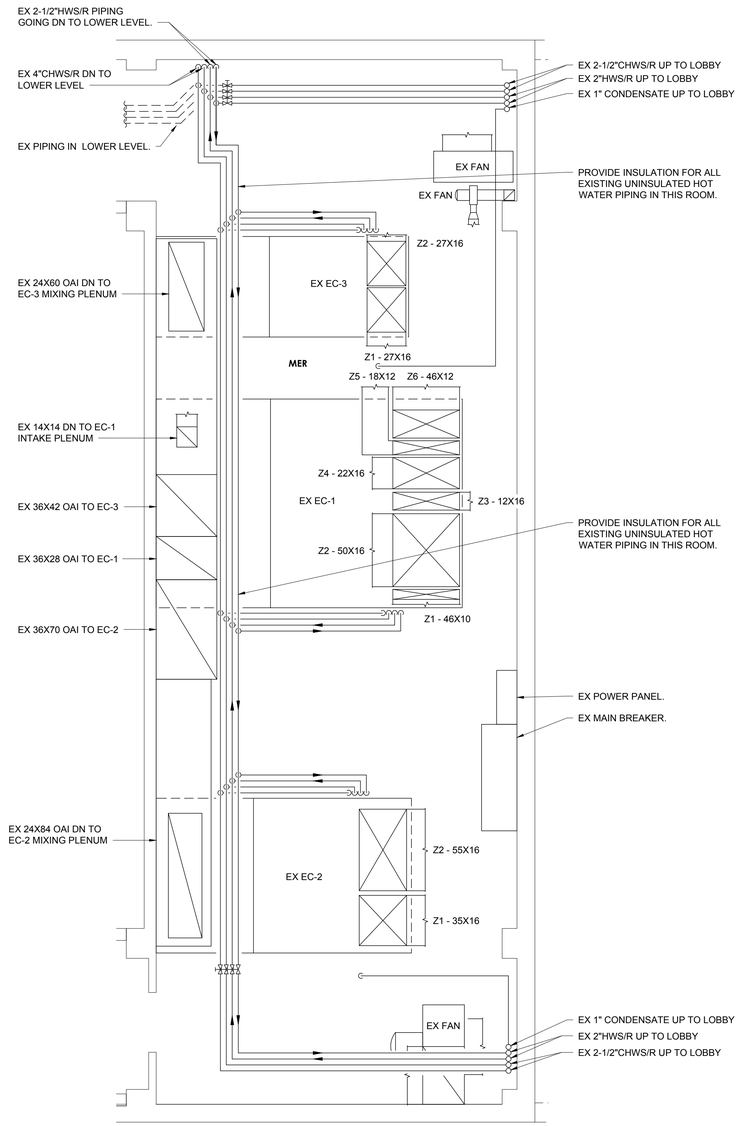
PROJECT TITLE

HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

MECHANICAL GLENVIEW BASEMENT NEW WORK FLOOR PLAN - ALTERNATE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: NW	DRAWING NO.
	CHECKED BY: RS	M2.7
	DATE: 01-17-2022	

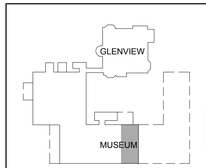


NORTH

1 MECHANICAL MIDDLE LEVEL MER PART PLAN

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

NOTE: REFER TO THE HAZARDOUS MATERIAL REMOVAL PLANS H-100 THROUGH H-101 FOR ABATEMENT IN THE BASEMENT LEVEL INCLUDING THE BOILER ROOM, CHILLER ROOM, CARPENTRY SHOP AND PASSAGEWAY. FIELD SURVEY THE EXISTING PIPING AND INCLUDE REINSULATING ALL EXISTING STEAM, CONDENSATE, CHILLED WATER, AND DUAL TEMPERATURE WATER PIPING IN THE BASEMENT LEVEL ACCORDING TO SPECIFICATIONS.



	ROOF
	ATTIC
	THIRD
ROOF	SECOND
UPPER LEVEL	FIRST
MIDDLE LEVEL	BASEMENT
LOWER LEVEL	
MUSEUM	GLENVIEW

NORTH KEYPLAN SCALE: NONE

VERTICAL KEYPLAN SCALE: NONE

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HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

MECHANICAL MIDDLE LEVEL PART PLAN - ALTERNATE

SEAL	SCALE: AS SHOWN	PROJECT NO.: NCOY0006.00
	DRAWN BY: NW	DRAWING NO.: M2.8
	CHECKED BY: RS	
	DATE: 01-17-2022	

HOT WATER BOILER SCHEDULE

UNIT ID	MFG	MODEL #	LOCATION	AREA SERVED	WEIGHT (lbs)	INTERLOCK	GAS					HOT WATER								ELECTRICAL			
							IN (MBH)	OUT (MBH)	EFF %	PRESSURE	SIZE (IN)	VOL (GAL)	MIN (GPM)	MAX (GPM)	(PSI)	DESIGN (GPM)	EWT (F^0)	LWT (F^0)	SIZE (IN)	(V/Ph/Hz)	FLA	MCA	MOCP (A)
B-1,2	FULTON	EDR+2500	BOILER ROOM	MUSEUM	3267	BP-1,2	2500	2420	96%	4"-14"	1-1/2	80	25	350	1.8	-	140	180	4	208/3/60	23	29	-

NOTES:
1. PROVIDE THE FOLLOWING OPTIONS FOR EACH UNIT:
   PURE CONTROL™ CAPABILITIES
   BACNET PROTONODE WITH REMOTE CLOUD ACCESS
   PH NEUTRALIZATION KIT
   DISCONNECT SWITCH
   MULTIPLE BOILER CONDENSATE DRAIN TRAP
   SECONDARY (AUXILIARY) LOW WATER CUTOFF KIT
2. BOILER CONTROLS SHALL BE INTEGRATED WITH THE NEW DDC CONTROLLER.
3. CONTRACTOR SHALL HIRE THE FULTON AUTHORIZED START UP CONTRACTOR TO START AND ADJUST BOILER. SUBMIT FULL START UP REPORT TO ENGINEER FOR APPROVAL.

PUMP SCHEDULE

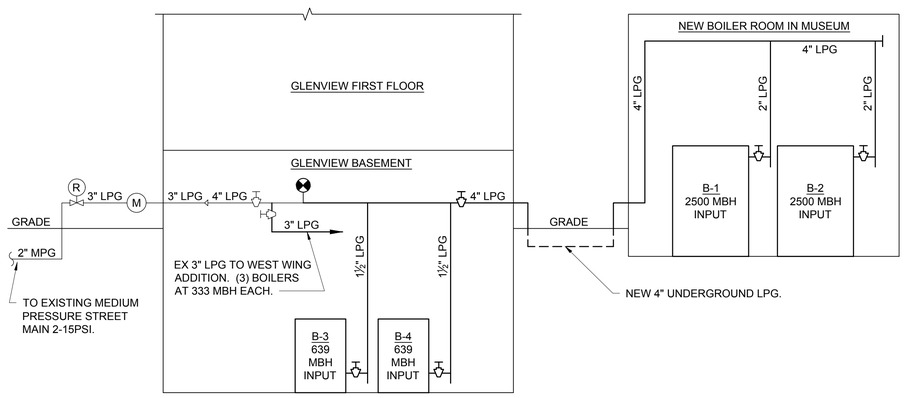
UNIT ID	MFG	MODEL #	LOCATION	TYPE	INTERLOCK	CURRENT SETPOINT		FUTURE SETPOINT		MOTOR	ELECTRICAL	STARTER	LOCATION
						FLOW (GPM)	HEAD (FT)	FLOW (GPM)	HEAD (FT)	(HP)	V / Ø / HZ		
HWP-1	ARMSTRONG	4030 - 3X2X8 1800 RPM	BOILER ROOM	BASE MOUNT END SUCTION	DDC CONTROLLER	90	45	150	60	5.0	208 / 3 / 60	VFD	HEATER ROOM
HWP-2	ARMSTRONG	4030 - 3X2X8 1800 RPM	BOILER ROOM	BASE MOUNT END SUCTION	DDC CONTROLLER	90	45	150	60	5.0	208 / 3 / 60	VFD	HEATER ROOM
BP-1	ARMSTRONG	4380 - 2X2X4 3300 RPM	HEATER ROOM	CLOSE COUPLED INLINE	B-1	75	10	125	15	1.5	208 / 3 / 60	INTEGRAL	HEATER ROOM
BP-2	ARMSTRONG	4380 - 2X2X4 3300 RPM	HEATER ROOM	CLOSE COUPLED INLINE	B-2	75	10	125	15	1.5	208 / 3 / 60	INTEGRAL	HEATER ROOM

NOTES:
1. ALL PUMPS SHALL BE CAST IRON BODY, BRONZE FITTED, BRONZE IMPELLER. REFER TO SPECIFICATION FOR PUMP CONSTRUCTION.
2. ALL MOTORS SHALL BE INVERTER DUTY AND SHALL BE PROVIDED WITH CONTROLS FOR VARIABLE SPEED APPLICATIONS.
3. VARIABLE FREQUENCY DRIVES AND DISCONNECT SWITCHES SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

EQUIPMENT NOTES

1. OUTSIDE AIR INTAKE: FOR ALL GAS FIRED DIRECT VENTING CONDENSING & NON-CONDENSING APPLIANCES SHALL BE SINGLE-WALL SPIRAL GALVANIZED STEEL BY SHEET METAL CONNECTORS, INC. ALL DUCTWORK IS 4-PLY SPIRAL LOCKSEAM MEETING ASTM A-653. ALL DUCT CONNECTIONS SHALL BE MADE WITH A DOUBLE LEGGED EPDM GASKET CREATING AN AIR-TIGHT CONNECTION MEETING ASTM A-653. SINGLE-WALL DUCT GUAGE SHALL BE SELECTED FOR POSITIVE, NEUTRAL, AND NEGATIVE DRAFT UP TO 15"WC WITH A MINIMUM GAUGE OF 24. PRODUCT IS RATED FOR ZERO CLEARANCE TO COMBUSTIBLES. PROVIDE STRAIGHT SECTIONS, ELBOWS, OFFSETS, CONNECTION ADAPTERS, WALL SLEEVES, AND SCREENED TERMINATIONS.
2. AUTOMATIC AIR ELIMINATOR: ARMSTRONG HIGH CAPACITY AUTOMATIC AIR VENT MODEL AAE-750, WITH 250°F MAXIMUM OPERATING TEMPERATURE, 133 PSIG MAX AIR PRESSURE, 3/4" NPT SYSTEM CONNECTION.
3. HOT WATER INLINE AIR PURGER: ARMSTRONG IN-LINE AIR SEPARATOR MODEL VAS-4, 350°F MAXIMUM WORKING TEMPERATURE, 150 PSIG MAXIMUM WORKING PRESSURE, 4" INLET & OUTLET CONNECTIONS WITH FLANGES, 1½" NPT AIR OUTLET, 1" NPT DRAIN.
4. HOT WATER EXPANSION TANK: SHALL BE ARMSTRONG MODEL A500-L, 24" DIAMETER, 80" HIGH, 132 GALLONS, WITH 1-1/2" NPT SYSTEM CONNECTION, 1-1/2" NPT CHARGING VALVE, 3/4" DRAIN PLUG, 240°F MAX OPERATING TEMPERATURE, 125 PSI MAX WORKING PRESSURE, FACTORY PRE-CHARGED TO 12 PSIG. UNIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ASME SECTION VIII.
5. FUSIBLE LINK GAS SAFETY VALVE: SHALL BE BY PREFERRED UTILITIES SIZE 2" AND RATED FOR 150 PSI GAS PRESSURE.
6. CHEMICAL SHOT FEEDER (HOT WATER SYSTEM): SHALL BE NEPTUNE VERTICAL 5-GALLON MODEL DBF-5HP. THE FEEDER SHELL SHALL BE CONSTRUCTED OF 10 GAUGE STEEL. TANK HEADS SHALL BE 9 GAUGE STEEL FOR 5 GALLON UNITS. THE BYPASS FEEDER SHALL BE RATED AT 300 PSI AND TO 2000F. TANK SHALL HAVE A WIDE MOUTH, 3-1/2" WITH CAST IRON CAP AND CLOSURE GASKET. TANK & ALL ACCESSORIES SHALL BE EPOXY COATED. PROVIDE OPTIONAL LEGS & 5 MICRON FILTER.
7. DDC CONTROLS: PROVIDE SCHNEIDER ELECTRIC STANDALONE UNITARY MP-C SMARTX IP CONTROLLER WITH ADVANCED DISPLAY V3 FOR LOCAL OPERATION AND MAINTENANCE. PROVIDE AS-P DEVICES AS REQUIRED FOR CONTROL LOGIC, TREND LOGGING, ALARM SUPERVISION AND GENERAL COMMUNICATION BETWEEN THE FIELD EQUIPMENT AND STANDALONE CONTROLLER. REFER TO SPECIFICATION SECTION.
8. HORIZONTAL DISCHARGE HOT WATER UNIT HEATER (UH-1): SHALL BE VULCAN MODEL HV-118A, HORIZONTAL DISCHARGE CONFIGURATION, RATED AT 16.1 MBH, 1.9 GPM, 180°F EWT, 160°F LWT, 2.2' WPD (FT H_2O), 500 CFM. MOTOR SHALL BE RATED AT 16 WATTS, 1550 RPM, 0.8 AMPS, 1.0 MCA, 15 MOCP, 115V/1ϕ/60HZ. PROVIDE WALL THERMOSTAT, FAN GUARD, AND AIR DEFLECTION LOUVER. HANG UNIT FROM BUILDING STRUCTURE WITH VIBRATION ISOLATORS. FURNISH DISCONNECT SWITCH.
9. BOILER FEED UNIT (BF-1): SHALL BE STERLCO 4600 SERIES DUPLEX 3/4HP CONDENSATE PUMPS MODEL #4632-KDF WITH 30 GALLON STEEL TANK AND DUPLEX NEMA 12 CONTROL PANEL. PUMPS SHALL BE CAPABLLE OF 2.75 GPM @ 28 PSI AND UP TO 300°F. PROVIDE THE FOLLOWING OPTIONS: THERMOMETER, ISOLATION VALVES, SOLENOID OPERATED MAKE-UP WATER VALVE WITH REVERSE ACTING FLOAT SWITCH, NEMA 12 CONTROL PANEL. PROVIDE PUMP FAILURE ALARM AT BMS. ELECTRICAL SHALL BE 208V/1PH/60HZ.
10. CONDENSATE TRANSFER PUMPS (CT-1, CT-2): SHALL BE STERLCO 4100 SERIES SIMPLEX 1/3HP CONDENSATE PUMPS MODEL #4122-G WITH 15 GALLON STEEL TANK. PUMPS SHALL BE CAPABLE OF 3 GPM @ 20 PSI AND UP TO 250°F. PROVIDE STARTER WITH H-O-A SELECTOR. PROVIDE PUMP FAILURE ALARM AT BMS. ELECTRICAL SHALL BE 120V/1PH/60HZ. FURNISH DISCONNECT SWITCH.
11. COMBUSTION AIR FAN COIL UNIT (CAF-1): SHALL BE CARRIER MODEL #42DHA06 CAPABLE OF 450 CFM @ 0.3 W.C. SP. ELECTRICAL SHALL BE 19.9MCA @ 208V/3PH/60HZ. PROVIDE DUCT STAT AND AIR FLOW SWITCH. UNIT SHALL MAINTAIN 50F DISCHARGE AIR TEMPERATURE AND BE INTERLOCKED WITH BOILER OPERATION. PROVIDE ALL CONTROLS REQUIRED FOR INTEGRATION INTO BMS. FURNISH DISCONNECT SWITCH.
12. MOTORIZED DAMPERS: SHALL BE RUSKIN MODEL CD40, 4" DEEP EXTRUDED ALUMINUM AIRFOIL DAMPER. DAMPER SHALL HAVE OPPOSED BLADES, MOTOR AND LINKAGE. DAMPERS SHALL BE 120V/1ϕ/60Hz, 3 AMPS MAX. FURNISH DISCONNECT SWITCH.
13. LOUVERS: SHALL BE RUSKIN MODEL ELF375DX, 4" DEEP, WITH 54% FREE AREA, 6063T5 EXTRUDED ALUMINUM DRAINABLE BLADES AT 37.5° AND 5-3/32" SPACING, 4" DEEP 6063T5 EXTRUDED ALUMINUM FRAME. AND 1/2" GALVANIZED STEEL BIRD SCREEN. SUBMIT COLOR CHART FOR REVIEW AND SELECTION.
14. TEMPERATURE ACTUATED WATER REGULATING VALVE: SHALL BE STERLING 56-T SERIES SELF MODULATING THERMOSTATIC COOLING CONTROL VALVE WITH PRECISE CONTROL FROM 40F TO 275F. STURDY, BRASS ALLOY CONSTRUCTION, HEAVY DUTY, DIRECT ACTING BELLOWS, BUNA-N SEAT DISC, REPLACEABLE SEAT BEADS, BRASS TEMPERATURE SENSING BULB, PROTECTED BY HEAVY DUTY ARMOR.
15. BACKFLOW PREVENTER: SIMILAR TO WATTS MODEL LF009 REDUCED PRESSURE ZONE BACKFLOW PREVENTER. SIZE SHALL BE 3/4".
16. ELECTRIC UNIT HEATER (EUH-1): SHALL BE SIMILAR TO QMARK SSHO4008 WALL MOUNTED UNIT HEATER WITH SURFACE MOUNTING FRAME CAPABLE OF 13,650 BTU/H. UNIT SHALL BE CONTROLLED BY THE INTERNAL THERMOSTAT. ELECTRICAL SHALL BE 19.2A AT 208V/3PH/60HZ. FURNISH DISCONNECT SWITCH.
17. ELECTRIC UNIT HEATER (EUH-2): SHALL BE SIMILAR TO QMARK CU94504201FF1B20SSP00 WITH RECESSED MOUNTING KIT CAPABLE OF 13,650 BTU/H. UNIT SHALL BE CONTROLLED BY THE INTERNAL THERMOSTAT. ELECTRICAL SHALL BE 20A AT 208V/3PH/60HZ. FURNISH DISCONNECT SWITCH.
18. CONDENSATE PUMP (CP-1): SHALL BE LITTLE GIANT VCCA-20ULS LOW PROFILE, 1/30HP CAPABLE OF 40GPH AT 12FT OF HEAD. CONDENSATE PUMP SHALL BE MOUNTED IN STAINLESS STEEL PAN WITH LEAK DETECTION ARRANGED TO SHUT OFF THE BOILERS AND SEND AN ALARM TO THE BMS IN THE EVENT OF A LEAK. ELECTRICAL SHALL BE 120V/1PH/60HZ. FURNISH DISCONNECT SWITCH.
19. LOW PRESSURE STEAM BOILERS (B-3, B-4): SHALL BE WEIL-MCLAIN MODEL 580, HIGH EFFICIENCY, CAST IRON, SECTIONAL STEAM BOILER, RATED AS FOLLOWS:
    - 639 MBH GAS INPUT.
    - 515 MBH GROSS OUTPUT.
    - GAS 80% EFFICIENT
    - FACTORY TESTED SECTIONS.
    - INSULATED STEEL JACKET.
    - BURNER MOUNTING PLATE WITH REFRACTORY.
    - CAST IRON FLUE COLLAR WITH BUILT-IN BREACHING DAMPER.
    - OBSERVATION PORTS ON FRONT AND BACK SECTIONS.
    - CLEANOUT PLATES WITH REUSABLE GASKETS.
    - FLUE BRUSH.
    - HXT BARS.
    - 3" OF INSULATION.
    - 15 PSI ASME SAFETY VALVE SIDE OUTLET.
    - LOW LIMIT AND HIGH LIMIT PRESSURE CONTROLS.
    - STEAM PRESSURE GAUGE SIPHON.
    - GAUGE COCKS, GLASS AND GUARDS.
    - FURNISH THE FOLLOWING FEATURES & OPTIONS:
    - CERAMIC FIBER ROPE SEAL BETWEEN SECTIONS.
    - WATER LEVEL CONTROLS.
    - BURNER CONTROLS.
    - (2) LOW WATER CUT-OFF SWITCHES WITH MANUAL RESET OPERATING CONTROL - (1) FLOAT TYPE & (1) PROBE TYPE.
    - DRAFT CONTROL DAMPERS.
    - SIDE INSPECTION TAPPINGS WITH PLUGS - 2 PER SECTION.
    - DUAL-RANGE MANOMETER.
15. FORCED DRAFT GAS BURNERS: SHALL BE POWER FLAME MODEL C1-G-10 GAS BURNER, 812 MBH GAS. PROVIDE THE FOLLOWING FEATURES & OPTIONS:
    - SINGLE POINT EXTERNAL POWER CONNECTION AT THE BURNER SHALL BE 208V/1ϕ/60HZ, WITH SINGLE POINT FACTORY DISCONNECT SWITCH.
    - 1/3 HP 208V/1ϕ/60 BLOWER MOTOR.
    - 120V CONTROL TRANSFORMER.
    - POWER FLAME DIRECTOR SCS GRAPHIC DISPLAY & ANNUNCIATION SYSTEM WITH INDICATING LAMP PACKAGE AND OPTIONAL WATER LEVEL SET POINT, ACTUAL LEVEL AND % OUTPUT OF FEED WATER VALVE, STEAM FLOW, GAS FLOW, FEED WATER FLOW, TOTAL DISSOLVED SOLIDS (TDS).
    - 5.6 - 14" WC GAS INLET PRESSURE.
    - FLAME SAFEGUARD WITH UV AND PREPURGE WITH INTERRUPTED PILOT.
    - GAS SAFETY VALVE.
    - MAN/AUTO SWITCH - MANUAL POTENTIOMETER - MODULATION ONLY.
    - FULL MODULATION WITH AUTOMATIC AIR CONTROL.
    - HIGH AND LOW GAS PRESSURE SWITCHES.
    - SPARK IGNITED GAS PILOT WITH PILOT GAS TRAIN & MAIN GAS COCKS.
    - PROVEN COMBUSTION AIR.
    - AIR SAFETY SWITCH & LEAKAGE TEST COCK.
    - OPERATION, PROVEN LOW FIRE START, & AUTOMATIC AIR CONTROLS.
    - THE BURNER SHALL BE IN COMPLIANCE WITH CSD-1 AND IRT.
    - SIEMANS 1" VENTLESS GAS TRAIN, DUAL SSO GAS VALVES, PRESSURE REGULATOR AND (2) MANUAL SHUT OFF BALL VALVES.
    - SIEMENS LMV3 LINKAGE-LESS BURNER MANAGEMENT SYSTEM WITH PARALLEL POSITIONING ACTUATOR, FSG AND AZL DISPLAY. FULL MODULATION.
    - MODBUS MODULE WITH BACNET - CONNECT TO NEW ANDOVER SYSTEM.
    - FOUR RELAYS: BOILER ON, FA DAMPER, COMMON ALARM, BG STATION.

CONTRACTOR SHALL HIRE THE POWERFLAME AUTHORIZED START UP CONTRACTOR TO START AND ADJUST BURNERS. SUBMIT FULL START UP REPORT TO ENGINEER FOR APPROVAL.



1 GAS RISER DIAGRAM
SCALE: NONE

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1	BID ISSUE	09/16/22

PROJECT TITLE
HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE
MECHANICAL SCHEDULES & EQUIPMENT NOTES - BASE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: NW	DRAWING NO.
	CHECKED BY: RS	M6.1
	DATE: 01-17-2022	

PUMP SCHEDULE

UNIT ID	MFG	MODEL #	LOCATION	TYPE	INTERLOCK	CURRENT SETPOINT		MOTOR	ELECTRICAL	STARTER	LOCATION
						FLOW (GPM)	HEAD (FT)	(HP)	V / Ø / HZ		
HWP-1	ARMSTRONG	4030 - 3X1.5X10 1800 RPM	BOILER ROOM	BASE MOUNT END SUCTION	DDC CONTROLLER	90	75	5.0	208 / 3 / 60	VFD	CHILLER ROOM
HWP-2	ARMSTRONG	4280 - 3X1.5X10 1800 RPM	BOILER ROOM	BASE MOUNT END SUCTION	DDC CONTROLLER	90	75	5.0	208 / 3 / 60	VFD	CHILLER ROOM

NOTES:
1. ALL PUMPS SHALL BE CAST IRON BODY, BRONZE FITTED, BRONZE IMPELLER. REFER TO SPECIFICATION FOR PUMP CONSTRUCTION.
2. ALL MOTORS SHALL BE INVERTER DUTY AND SHALL BE PROVIDED WITH CONTROLS FOR VARIABLE SPEED APPLICATIONS.
3. VARIABLE FREQUENCY DRIVES AND DISCONNECT SWITCHES SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

EQUIPMENT NOTES

1. AUTOMATIC AIR ELIMINATOR: ARMSTRONG HIGH CAPACITY AUTOMATIC AIR VENT MODEL AAE-750, WITH 250°F MAXIMUM OPERATING TEMPERATURE, 133 PSIG MAX AIR PRESSURE, 3/4" NPT SYSTEM CONNECTION.

2. HOT WATER INLINE AIR PURGER: ARMSTRONG IN-LINE AIR SEPARATOR MODEL VAS-4, 350°F MAXIMUM WORKING TEMPERATURE, 150 PSIG MAXIMUM WORKING PRESSURE, 4" INLET & OUTLET CONNECTIONS WITH FLANGES, 1½" NPT AIR OUTLET, 1" NPT DRAIN.

3. HOT WATER EXPANSION TANK: SHALL BE ARMSTRONG MODEL A500-L, 24" DIAMETER, 80" HIGH, 132 GALLONS, WITH 1-1/2" NPT SYSTEM CONNECTION, 1-1/2" NPT CHARGING VALVE, 3/4" DRAIN PLUG, 240°F MAX OPERATING TEMPERATURE, 125 PSI MAX WORKING PRESSURE, FACTORY PRE-CHARGED TO 12 PSIG. UNIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ASME SECTION VIII.

4. CHEMICAL SHOT FEEDER (HOT WATER SYSTEM): SHALL BE NEPTUNE VERTICAL 5-GALLON MODEL DBF-5HP. THE FEEDER SHELL SHALL BE CONSTRUCTED OF 10 GAUGE STEEL. TANK HEADS SHALL BE 9 GAUGE STEEL FOR 5 GALLON UNITS. THE BYPASS FEEDER SHALL BE RATED AT 300 PSI AND TO 2000F. TANK SHALL HAVE A WIDE MOUTH, 3-1/2" WITH CAST IRON CAP AND CLOSURE GASKET. TANK & ALL ACCESSORIES SHALL BE EPOXY COATED. PROVIDE OPTIONAL LEGS & 5 MICRON FILTER.

5. DDC CONTROLS: PROVIDE SCHNEIDER ELECTRIC STANDALONE UNITARY MP-C SMARTX IP CONTROLLER WITH ADVANCED DISPLAY V3 FOR LOCAL OPERATION AND MAINTENANCE. PROVIDE AS-P DEVICES AS REQUIRED FOR CONTROL LOGIC, TREND LOGGING, ALARM SUPERVISION AND GENERAL COMMUNICATION BETWEEN THE FIELD EQUIPMENT AND STANDALONE CONTROLLER. REFER TO SPECIFICATION SECTION.

6. BOILER FEED UNIT (BF-1): SHALL BE STERLCO 4600 SERIES DUPLEX 1HP CONDENSATE PUMPS MODEL #46320-KDF WITH 120 GALLON STEEL TANK AND DUPLEX NEMA 12 CONTROL PANEL. PUMPS SHALL BE CAPABLLE OF 30 GPM @ 30 PSI AND UP TO 300°F. PROVIDE THE FOLLOWING OPTIONS: THERMOMETER, ISOLATION VALVES, SOLENOID OPERATED MAKE-UP WATER VALVE WITH REVERSE ACTING FLOAT SWITCH, NEMA 12 CONTROL PANEL. PROVIDE PUMP FAILURE ALARM AT BMS. ELECTRICAL SHALL BE 208V/1PH/60HZ.

7. CONDENSATE TRANSFER PUMPS (CT-1, CT-2): SHALL BE STERLCO 4100 SERIES SIMPLEX 1/3HP CONDENSATE PUMPS MODEL #4122-G WITH 15 GALLON STEEL TANK. PUMPS SHALL BE CAPABLE OF 3 GPM @ 20 PSI AND UP TO 250°F. PROVIDE STARTER WITH H-O-A SELECTOR. PROVIDE PUMP FAILURE ALARM AT BMS. ELECTRICAL SHALL BE 120V/1PH/60HZ. FURNISH DISCONNECT SWITCH.

8. UNIT HEATER (UH-1,2): SHALL BE MODINE MODEL #HSB-33 CAPABLE OF 33MBH WITH 60F ENTERING AIR TEMP AND 2PSI STEAM. 630 CFM WITH 1/25HP MOTOR. ELECTRICAL SHALL BE 115V/1PH/60HZ. PROVIDE REMOTE WALL MOUNTED THERMOSTAT ON EXTERIOR AS INDICATED ON PLAN. FURNISH DISCONNECT SWITCH FOR EACH UNIT.

9. MOTORIZED DAMPERS: SHALL BE RUSKIN MODEL CD40, 4" DEEP EXTRUDED ALUMINUM AIRFOIL DAMPER. DAMPER SHALL HAVE OPPOSED BLADES, MOTOR AND LINKAGE. DAMPERS SHALL BE 120V/1ϕ/60Hz, 3 AMPS MAX. FURNISH DISCONNECT SWITCH.

10. LOUVERS: SHALL BE RUSKIN MODEL ELF375DX, 4" DEEP, WITH 54% FREE AREA, 6063T5 EXTRUDED ALUMINUM DRAINABLE BLADES AT 37.5° AND 5-3/32" SPACING, 4" DEEP 6063T5 EXTRUDED ALUMINUM FRAME. AND 1/2" GALVANIZED STEEL BIRD SCREEN. SUBMIT COLOR CHART FOR REVIEW AND SELECTION.

11. TEMPERATURE ACTUATED WATER REGULATING VALVE: SHALL BE STERLING 56-T SERIES SELF MODULATING THERMOSTATIC COOLING CONTROL VALVE WITH PRECISE CONTROL FROM 40F TO 275F. STURDY, BRASS ALLOY CONSTRUCTION, HEAVY DUTY, DIRECT ACTING BELLOWS, BUNA-N SEAT DISC, REPLACEABLE SEAT BEADS, BRASS TEMPERATURE SENSING BULB, PROTECTED BY HEAVY DUTY ARMOR.

12. BACKFLOW PREVENTER: SIMILAR TO WATTS MODEL LF009 REDUCED PRESSURE ZONE BACKFLOW PREVENTER. SIZE SHALL BE 3/4".

13. LOW PRESSURE STEAM BOILERS (B-1, B-2): SHALL BE WEIL-MCLAIN MODEL 888, HIGH EFFICIENCY, CAST IRON, SECTIONAL STEAM BOILER, RATED AS FOLLOWS:
    - 2,382 MBH GAS INPUT.
    - 1,987 MBH GROSS OUTPUT.
    - GAS 83% EFFICIENT
    - FACTORY TESTED SECTIONS.
    - INSULATED STEEL JACKET.
    - BURNER MOUNTING PLATE WITH REFRACTORY.
    - CAST IRON FLUE COLLAR WITH BUILT-IN BREACHING DAMPER.
    - OBSERVATION PORTS ON FRONT AND BACK SECTIONS.
    - CLEANOUT PLATES WITH REUSABLE GASKETS.
    - FLUE BRUSH.
    - HXT BARS.
    - 3" OF INSULATION.
    - 15 PSI ASME SAFETY VALVE SIDE OUTLET.
    - LOW LIMIT AND HIGH LIMIT PRESSURE CONTROLS.
    - STEAM PRESSURE GAUGE SIPHON.
    - GAUGE COCKS, GLASS AND GUARDS.
    - FURNISH THE FOLLOWING FEATURES & OPTIONS:
    - CERAMIC FIBER ROPE SEAL BETWEEN SECTIONS.
    - WATER LEVEL CONTROLS.
    - BURNER CONTROLS.
    - (2) LOW WATER CUT-OFF SWITCHES WITH MANUAL RESET OPERATING CONTROL - (1) FLOAT TYPE & (1) PROBE TYPE.
    - DRAFT CONTROL DAMPERS.
    - SIDE INSPECTION TAPPINGS WITH PLUGS - 2 PER SECTION.
    - DUAL-RANGE MANOMETER.

15. FORCED DRAFT GAS BURNERS: SHALL BE POWER FLAME MODEL C2-G-20A GAS BURNER, 2500 MBH GAS. PROVIDE THE FOLLOWING FEATURES & OPTIONS:
    - SINGLE POINT EXTERNAL POWER CONNECTION AT THE BURNER SHALL BE 208V/1ϕ/60HZ, WITH SINGLE POINT FACTORY DISCONNECT SWITCH.
    - 3/4 HP 208V/1ϕ/60 BLOWER MOTOR.
    - 120V CONTROL TRANSFORMER.
    - POWER FLAME DIRECTOR SCS GRAPHIC DISPLAY & ANNUNCIATION SYSTEM WITH INDICATING LAMP PACKAGE AND OPTIONAL WATER LEVEL SET POINT, ACTUAL LEVEL AND % OUTPUT OF FEED WATER VALVE, STEAM FLOW, GAS FLOW, FEED WATER FLOW, TOTAL DISSOLVED SOLIDS (TDS).
    - 4.8 - 14" WC GAS INLET PRESSURE.
    - FLAME SAFEGUARD WITH UV AND PREPURGE WITH INTERRUPTED PILOT.
    - GAS SAFETY VALVE.
    - MAN/AUTO SWITCH - MANUAL POTENTIOMETER - MODULATION ONLY.
    - FULL MODULATION WITH AUTOMATIC AIR CONTROL.
    - HIGH AND LOW GAS PRESSURE SWITCHES.
    - SPARK IGNITED GAS PILOT WITH PILOT GAS TRAIN & MAIN GAS COCKS.
    - PROVEN COMBUSTION AIR.
    - AIR SAFETY SWITCH & LEAKAGE TEST COCK.
    - OPERATION, PROVEN LOW FIRE START, & AUTOMATIC AIR CONTROLS.
    - THE BURNER SHALL BE IN COMPLIANCE WITH CSD-1 AND IRT.
    - SIEMANS 1" VENTLESS GAS TRAIN, DUAL SSO GAS VALVES, PRESSURE REGULATOR AND (2) MANUAL SHUT OFF BALL VALVES.
    - SIEMENS LMV3 LINKAGE-LESS BURNER MANAGEMENT SYSTEM WITH PARALLEL POSITIONING ACTUATOR, FSG AND AZL DISPLAY. FULL MODULATION.
    - MODBUS MODULE WITH BACNET - CONNECT TO NEW ANDOVER SYSTEM.
    - FOUR RELAYS: BOILER ON, FA DAMPER, COMMON ALARM, BG STATION.

CONTRACTOR SHALL HIRE THE POWERFLAME AUTHORIZED START UP CONTRACTOR TO START AND ADJUST BURNERS. SUBMIT FULL START UP REPORT TO ENGINEER FOR APPROVAL.

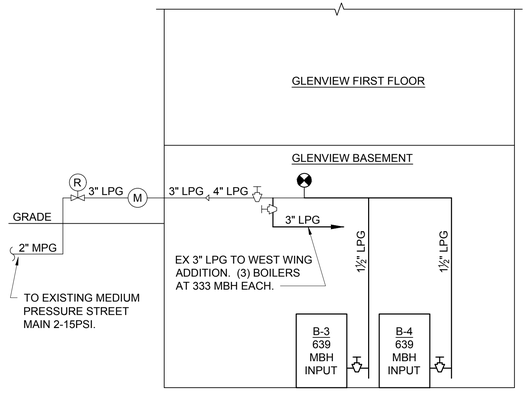
16. STEAM-TO-WATER HEAT EXCHANGER (HX-1): SHALL BE BASED ON BELL AND GOSSETT MODEL SU-125-4 AND SHALL BE OF SHELL AND U-TUBE DESIGN WITH REMOVABLE TUBE BUNDLE, STEAM IN SHELL AND WATER IN TUBES. THE UNIT SHALL BE CAPABLE OF HEATING 90 GPM OF WATER FROM 120°F TO 180°F WITH 1 PSIG STEAM. WATER VELOCITY OF 3 FPS AND PRESSURE DROP OF 2 FEET. THE TOTAL HEATING SURFACE SHALL BE 101.6 SQUARE FEET. THE HEAT EXCHANGER SHALL BE CONSTRUCTED AND STAMPED IN ACCORDANCE WITH SECTION VIII, DIVISION 1 OF THE ASME BOILER AND PRESSURE VESSEL CODE. PROVIDE SADDLES FOR SUPPORT. HEAT CAPACITY OF 2,700 MBH, 0.0005 FOULING FACTOR, AND 2,823 LB/HR STEAM LOAD. TUBE CONNECTIONS SHALL BE 4" NPT, STEAM CONNECTION SHALL BE 6" FLANGE, CONDENSATE CONNECTION SHALL BE 1.5" NPT. MINIMUM 125 PSI PRESSURE RATING.

17. INDUCED DRAFT FAN (IDF-1): SHALL BE CHIMNEY MOUNTED ENERVEX MODEL RSV400, 1HP, 208V/3PH/60HZ. TOTALLY ENCLOSED TEFC MOTOR, CLASS H INSULATED. SEALED BALL BEARINGS. VARIABLE SPEED. THERMAL OVERLOAD PROTECTION. THE FAN HOUSING IS 3/16" CAST ALUMINUM. ONE COAT OF GREY HAMMERPAINT IS APPLIED FOR ADDED CORROSION RESISTANCE. THE BACKWARDS CURVED IMPELLER IS CAST ALUMINUM. THE IMPELLER IS DYNAMICALLY AND STATICALLY BALANCED WITH PERMANENTLY ATTACHED BALANCING WEIGHTS. WALL MOUNTED VFD AND SPEED CONTROLLER SHALL BE PROVIDED BY MANUFACTURER AND INTERLOCK TO PRESSURE CONTROL PANEL. PROVIDE NEMA 3 WEATHERPROOF LOCAL DISCONNECT. SEE FLOOR PLAN FOR LOCATION, DETAIL ON M7.5 FOR SEQUENCE OF OPERATION AND MORE INFORMATION.

18. COMBUSTION AIR FANS (CAF-1, CAF-2): SHALL BE ENERVEX MODEL #BEF315x BOX VENTILATOR CAPABLE OF 850 CFM @ 0.1 W.C. SP WITH 1HP MOTOR. ELECTRICAL SHALL BE 208V/3PH/60HZ. PROVIDE ALL CONTROLS REQUIRED FOR INTEGRATION INTO BMS. FURNISH DISCONNECT SWITCH FOR EACH FAN. SEE FLOOR PLAN FOR LOCATION, DETAIL ON M7.5 FOR SEQUENCE OF OPERATION AND MORE INFORMATION.

19. PRESSURE CONTROL PANEL (PCP): SHALL BE US DRAFT V250-VP WALL MOUNTED, 115V/1PH/60HZ, 0.4 AMPS, WITH ALL ACCESSORIES CAPABLE TO PROVIDE FULL CONTROL OF THE CAF-1, CAF-2 & IDF-1 ACCORDING TO THE CONTROL DIAGRAM ON M7.5. PROVIDE GATEWAY PROTOCOL CONVERTER FROM MODBUS TO THE NEW ANDOVER BMS SYSTEM. SEE FLOOR PLAN FOR LOCATION, DETAIL ON M7.5 FOR SEQUENCE OF OPERATION AND MORE INFORMATION.

20. STEAM CONTROL VALVE: SHALL BE 4"Ø FLANGED GLOBE VALVE SIMILAR TO BELIMO MODEL C6, 2-WAY MODULATING, CAST IRON BODY WITH STAINLESS STEEL TRIM, ANSI 250 PSI STEAM RATING. ACTUATOR SHALL BE SPRING RETURN, NORMALLY CLOSED (FAIL CLOSED) MODULATING 2-10V MODEL AF-SR.



1 GAS RISER DIAGRAM
SCALE: NONE

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No.	ISSUE OR REVISION	DATE
1	BID ISSUE	09/16/22

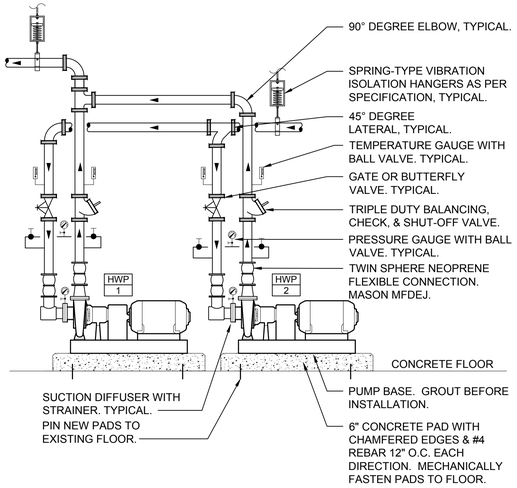
PROJECT TITLE

HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

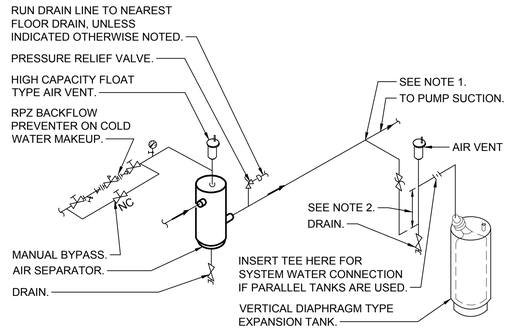
MECHANICAL SCHEDULES & EQUIPMENT NOTES - ALTERNATE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: NW	DRAWING NO.
	CHECKED BY: RS	M6.2
	DATE: 01-17-2022	



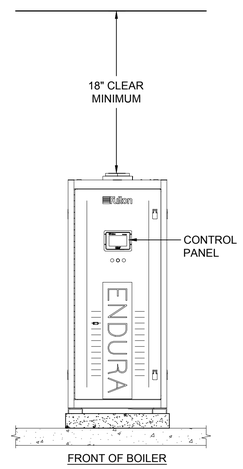
NOTES:
1.) VERTICAL RISERS FROM PUMPS SHALL CONNECT TO HORIZONTAL MAINS WITH 45° LATERAL FITTINGS. 90° TEE FITTINGS SHALL NOT BE USED.
2.) REFER TO PLANS FOR PIPE SIZES.
3.) VFD SHALL BE USED FOR BALANCING, NOT TRIPLE DUTY VALVES.
4.) REFER TO SPECIFICATIONS FOR VIBRATION ISOLATION REQUIREMENTS.

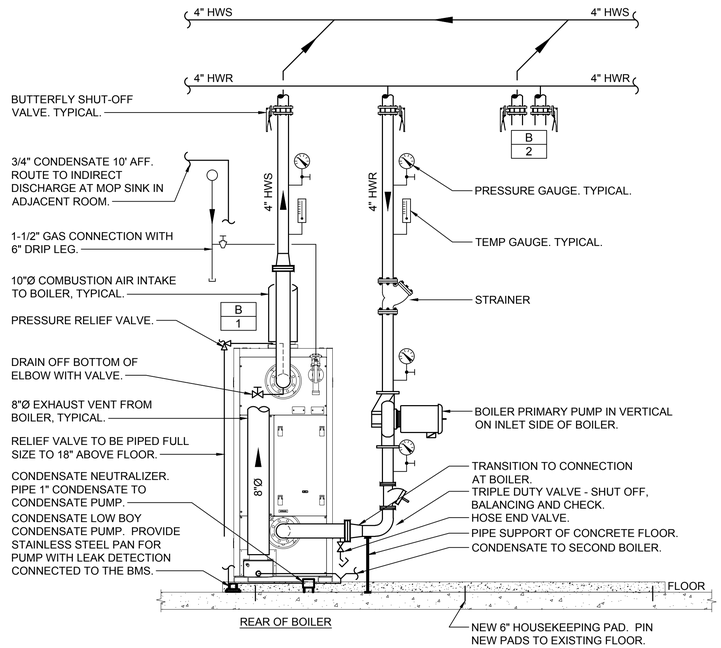
9 BASE MOUNTED PUMP DETAIL
SCALE: NONE



NOTES:
1.) CONNECT TO SIDE OF MAIN TO PREVENT AIR OR DEBRIS FROM ENTERING PIPE TO TANK, TOP OR BOTTOM CONNECTION NOT PERMITTED.
2.) PROVIDE 12" MINIMUM DROP ANTI-THERMOSYPHON LOOP TO PREVENT GRAVITY HEATING OF TANK.
3.) PROVIDE STRAINER IN AIR SEPARATOR WHEN INDICATED IN THE EXPANSION TANK EQUIPMENT NOTE.
4.) SET THE PRESSURE REDUCING VALVE SO THAT THE PRESSURE AT HIGHEST POINT IN THE SYSTEM IS 4 PSIG.

7 EXPANSION TANK PIPING SCHEMATIC
SCALE: NONE



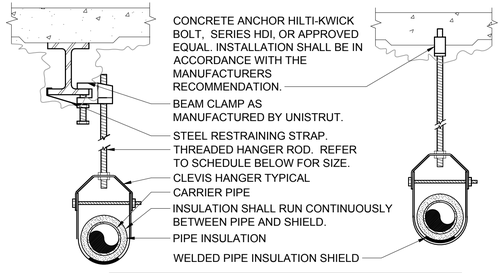


3 HEATING HOT WATER PIPING SCHEMATIC
SCALE: NONE

CHILLED WATER PIPING	HOT WATER PIPING	
SHIELD / SADDLE		CLEVIS HANGERS
SHIELD / SADDLE		ROLLER HANGERS
SHIELD / SADDLE		STRUT & CHANNEL HANGERS

NOTES:
1. INSULATION ON ALL COLD SURFACES SHALL BE APPLIED WITH A CONTINUOUS, UNBROKEN VAPOR SEAL. HANGERS, SUPPORTS, ANCHORS, ETC., THAT ARE SECURED DIRECTLY TO COLD SURFACES SHALL BE ADEQUATELY INSULATED AND VAPOR SEALED TO PREVENT CONDENSATION.
2. GALVANIZED METAL SHIELDS SHALL BE APPLIED BETWEEN HANGERS OR SUPPORTS AND THE PIPE INSULATION AS SHOWN ABOVE. SHIELDS SHALL BE FORMED TO FIT THE INSULATION AND SHALL EXTEND UP TO THE CENTERLINE OF THE PIPE.
3. RIGID INSULATION INSERTS SHALL BE INSTALLED ON PIPE SIZES 1½" (38 MM) OR LARGER AS SHOWN ABOVE. INSERTS SHALL BE OF EQUAL THICKNESS TO THE ADJOINING INSULATION AND SHALL BE PROVIDED WITH VAPOR RETARDER SEALS.

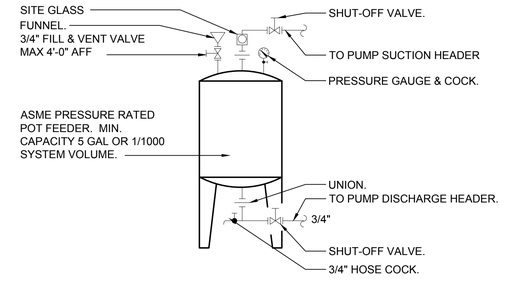
8 PIPE INSULATION HANGER SCHEDULE
SCALE: NONE



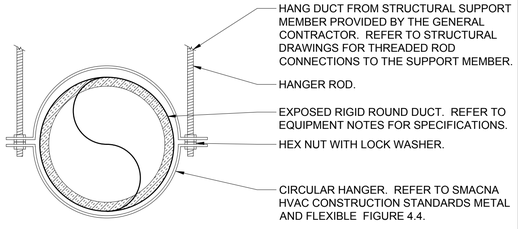
PIPE HANGER SCHEDULE					
PIPE DIA.	3/4"-2"	2 1/2"-3"	4"-5"	6"	8"-12"
HANGER DIA.	3/8"	1/2"	5/8"	3/4"	7/8"

NOTES:
1.) CLEVIS HANGERS WITH WELDED INSULATION SHIELDS SIMILAR TO RAUCH FIG. 100SH ON ALL PIPES LARGER THAN 1".
2.) FOR PIPES 1" OR SMALLER, A BAND HANGER WITH INSULATION SHIELD MAY BE USED SIMILAR TO RAUCH FIG. NO. 1ASH.
3.) FOR NON-INSULATED PIPE, INSULATION SHIELDS MAY BE OMITTED.
4.) ALL PIPE HANGERS SHALL BE GALVANIZED STEEL OR FACTORY PAINTED BLACK WITH ENAMEL.
5.) FOR NON FERROUS PIPING WITHOUT INSULATION, ALL HANGERS SHALL BE COPPER PLATED OR FURNISHED WITH A DI-ELECTRIC BETWEEN PIPE AND HANGERS.
6.) WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF HANGER INSTALLATION SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.
7.) ANY AREA WITH A CEILING WHICH IS DISTURBED OR DAMAGED AS A RESULT OF HANGER INSTALLATION SHALL BE PATCHED. REPLACE WIRE LATH AND RE-CEMENT IF REQUIRED.

6 PIPE HANGER DETAIL
SCALE: NONE

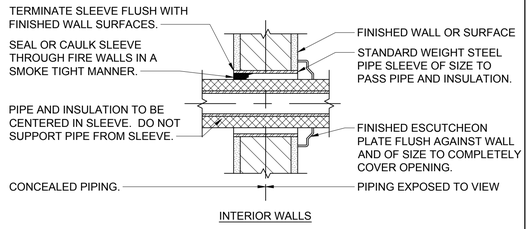


CHEMICAL POT FEEDER PIPING SCHEMATIC
5
SCALE: NONE

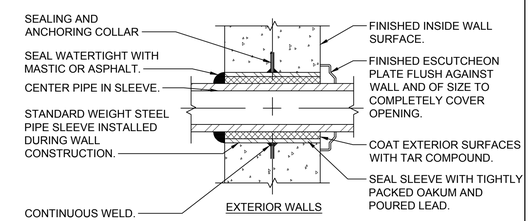


HANGER ROD SCHEDULE		
DUCT SIZE	HANGER DIA	MAXIMUM SPACING
UP TO 2 SQ. FT.	16 GAUGE - ¾"	8'-0"
2 SQ FT TO 4 SQ FT	11 GAUGE - ½"	8'-0"

4 ROUND DUCT HANGER DETAIL
SCALE: NONE



PIPE WALL SLEEVE DETAIL FOR INTERIOR WALLS
2
SCALE: NONE



NOTES:
1.) PIPE SLEEVE FOR EXTERIOR WALL ABOVE GRADE.
2.) FOR GAS SERVICE EXTEND SLEEVE 1" PAST INSIDE FACE OF WALL & 4" PAST OUTSIDE FACE OF WALL.

PIPE WALL SLEEVE DETAIL FOR EXTERIOR WALLS ABOVE GRADE
1
SCALE: NONE

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PROJECT TITLE

HUDSON RIVER MUSEUM
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HUDSON RIVER MUSEUM
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YONKERS, NY 10701

DRAWING TITLE

MECHANICAL DETAILS - BASE & ALTERNATE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: NW	DRAWING NO.
	CHECKED BY: RS	M7.1
	DATE: 01-17-2022	

1. FLOOR OR WALL ASSEMBLY - MIN 4-1/2 IN. (114 MM) THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF OR 1600-2400 KG/M³) CONCRETE. FLOOR ASSEMBLY MAY ALSO BE CONSTRUCTED OF ANY MIN 6 IN. (152 MM) THICK UL CLASSIFIED HOLLOW-CORE PRECAST CONCRETE UNITS*. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. DIAM OF OPENING TO BE NOM 2 IN. (51 MM) LARGER THAN OUTSIDE DIAM OF PIPE COVERING MATERIAL (ITEM 3). MAX DIAM OF OPENING 12 IN. (305 MM). MAX DIAM OF OPENING IN FLOORS CONSTRUCTED OF HOLLOW-CORE CONCRETE IS 7 IN. (178 MM).

SEE CONCRETE BLOCKS (CAZT) AND PRECAST CONCRETE UNITS (CFTV) CATEGORIES IN FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

2. THROUGH PENETRANTS - ONE METALLIC PIPE OR TUBING TO BE INSTALLED CONCENTRICALLY OR ECCENTRICALLY WITHIN OPENING. PENETRANT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR TUBES MAY BE USED:

A. STEEL PIPE - NOM 4 IN. (102 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

B. IRON PIPE - NOM 4 IN. (102 MM) DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.

C. COPPER TUBING - NOM 4 IN. (102 MM) DIAM (OR SMALLER) TYPE M (OR HEAVIER) COPPER TUBE.

D. COPPER PIPE - NOM 4 IN. (102 MM) DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

3. PIPE COVERING - NOM 3 IN. (76 MM) THICK (OR LESS) HOLLOW CYLINDRICAL HEAVY DENSITY GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT TAPE SUPPLIED WITH PRODUCT. ANNULAR SPACE BETWEEN THE PIPE COVERING AND PERIPHERY OF OPENING OR SLEEVE SHALL BE MIN 3/8 IN. (10 MM) TO MAX 1-1/2 IN. (38 MM). WHEN PIPE COVERING MATERIAL THICKNESS IS LESS THAN 3 IN. (76 MM), T RATING IS 0 HR.

SEE PIPE AND EQUIPMENT COVERING - MATERIALS (BRGU) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

4. FIRESTOP SYSTEM - THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS:

A. PACKING MATERIAL - (OPTIONAL, NOT SHOWN) - POLYETHYLENE BACKER ROD OR NOM 1 IN. (25 MM) THICKNESS OF TIGHTLY-PACKED MINERAL WOOL BATT OR GLASS FIBER INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL. IN FLOORS CONSTRUCTED OF HOLLOW-CORE CONCRETE, PACKING MATERIAL TO BE RECESSED FROM TOP AND BOTTOM SURFACES OF FLOOR OR SLEEVE AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

A1. FORMING MATERIAL* - AS AN ALTERNATE TO THE PACKING MATERIAL IN ITEM 5A, NOM 4 IN. (102 MM) WIDE STRIPS OF MIN 1/2 IN (13 MM) THICK COMPRESSIBLE MAT FOLDED IN HALF LENGTHWISE AND STACKED TO A THICKNESS GREATER THAN THE WIDTH OF THE ANNULAR SPACE AND COMPRESSIONFITTED, EDGE-FIRST, TO FILL THE ANNULAR SPACE TO A MIN 2 IN. (51 MM) DEPTH. TOP OF FORMING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS NECESSARY TO ACCOMMODATE THE REQUIRED THICKNESS OF CAULK FILL MATERIAL. IN FLOORS CONSTRUCTED OF HOLLOW-CORE CONCRETE, FORMING MATERIAL TO BE RECESSED FROM TOP AND BOTTOM SURFACES OF FLOOR OR SLEEVE AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

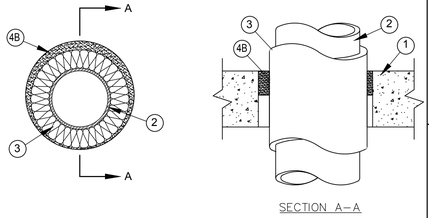
3M COMPANY - FIRE BARRIER PACKING MATERIAL

B. FILL, VOID OR CAVITY MATERIALS* - SEALANT - MIN 2 IN. (51 MM) THICKNESS OF SEALANT APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR WITH BOTH SURFACES OF WALL. IN FLOORS CONSTRUCTED OF HOLLOW-CORE CONCRETE, MIN 2 IN. (51 MM) THICKNESS OF SEALANT APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP AND BOTTOM SURFACES OF FLOOR OR SLEEVE.

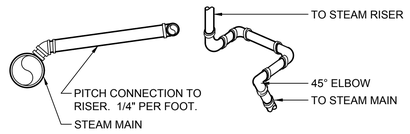
3M COMPANY - FB-3000 WT

*BEARING THE UL CLASSIFICATION MARK

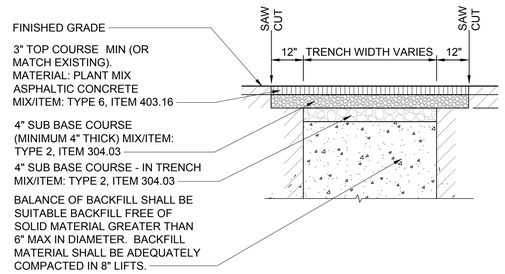
SYSTEM NO. C-AJ-5310
JUNE 14, 2007
T RATING - 0 AND 1 HR (SEE ITEM 3)
F RATING - 2 HR



8 INSULATED PIPE FIRE STOPPING DETAIL
SCALE: NONE

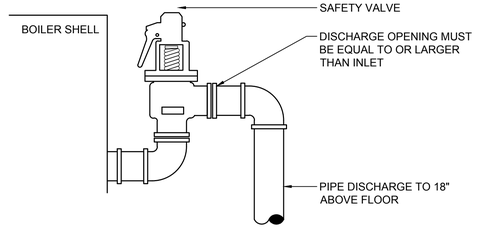


6 STEAM PIPE CONNECTION SCHEMATIC
SCALE: NONE

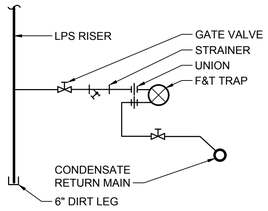


NOTES:
1. THICKNESS INDICATED REFERS TO COMPACTED MEASURE.
2. ITEM NUMBERS REFER TO NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

5 PAVEMENT REPLACEMENT DETAIL
SCALE: NONE



3 LOW PRESSURE STEAM RELIEF VALVE PIPING SCHEMATIC
SCALE: NONE



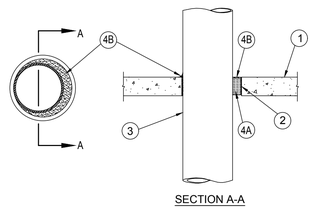
2 LOW PRESSURE STEAM RISER DRIP SCHEMATIC
SCALE: NONE

NOTES:
1. FLOOR OR WALL ASSEMBLY - MIN 4-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAM OF OPENING IS 26 IN.
   - SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
2. STEEL SLEEVE (OPTIONAL) - NOM 14 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL SLEEVE CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY.
3. THROUGH PENETRANTS - ONE METALLIC PIPE, CONDUIT OR TUBING INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND PERIPHERY OF OPENING OR SLEEVE SHALL BE MIN 0 IN. (POINT CONTACT) TO MAX 2 IN. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
   A. STEEL PIPE - NOM 24 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
   B. IRON PIPE - NOM 24 IN. DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 24 IN DIAM (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE.
   C. CONDUIT - NOM 6 IN. DIAM (OR SMALLER) STEEL CONDUIT OR NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.
   D. COPPER TUBING - NOM 6 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
   E. COPPER PIPE - NOM 6 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
4. FIRESTOP SYSTEM - THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS:
   A. PACKING MATERIAL - MIN 4 IN. THICKNESS OF MIN 4 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.
   B. FILL,VOID OR CAVITY MATERIALS* - CAULK OR SEALANT - MIN 1/4 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR WITH BOTH SURFACES OF WALL. MIN 1/4 IN. DIAM BEAD OF CAULK APPLIED TO THE PENETRANT/CONCRETE OR PENETRANT/SLEEVE INTERFACE AT THE POINT CONTACT LOCATION ON THE TOP SURFACE OF FLOOR OR BOTH SURFACES OF WALL.

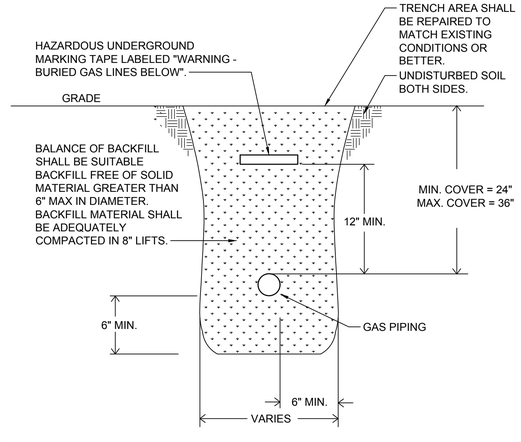
3M COMPANY - CP 25WB+ CAULK OR FB-3000 WT SEALANT.
(THE W RATING APPLIES ONLY WHEN FB-3000 WT IS USED.)

*BEARING THE UL CLASSIFICATION MARKING

SYSTEM NO. C-AJ-1274
AUGUST 23, 2004
F RATING - 3 HR
T RATING - 0 HR
W RATING - CLASS I (SEE ITEM 4)

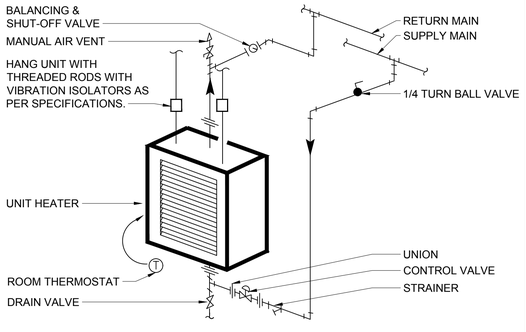


7 UNINSULATED PIPE AND CONDUIT FIRE STOPPING DETAIL
SCALE: NONE



NOTES:
1. PRIOR TO BACKFILLING ALL FIELD COATINGS SHALL BE MADE IN ACCORDANCE WITH UTILITY COMPANY SPECIFICATIONS.
2. BACKFILL SHALL BE SAND OR CLEAN EARTH, FREE OF STONES, CINDERS, VEGETATION AND OTHER DEBRIS IN ACCORDANCE WITH CON EDISON SPECIFICATIONS.

4 TRENCHING DETAIL FOR GAS PIPING
SCALE: NONE



PIPE SIZE SCHEDULE										
PIPE SIZE	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6
MAX. GPM	2	3.5	7	13	22	45	70	130	260	480	750

1 VERTICAL UNIT HEATER PIPING SCHEMATIC
SCALE: NONE

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No.	ISSUE OR REVISION	DATE
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BOILER REPLACEMENT
HUDSON RIVER MUSEUM
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YONKERS, NY 10701

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MECHANICAL DETAILS - BASE & ALTERNATE

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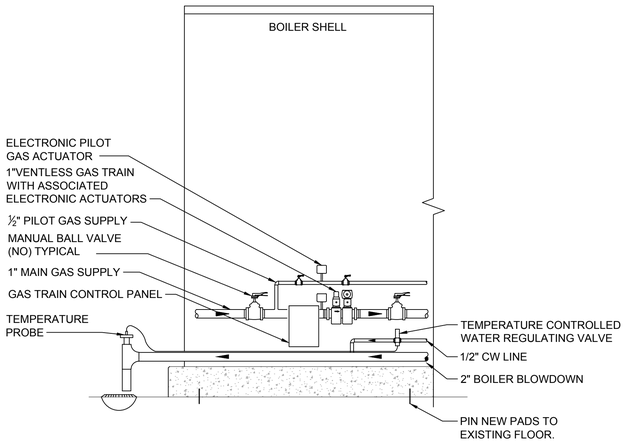
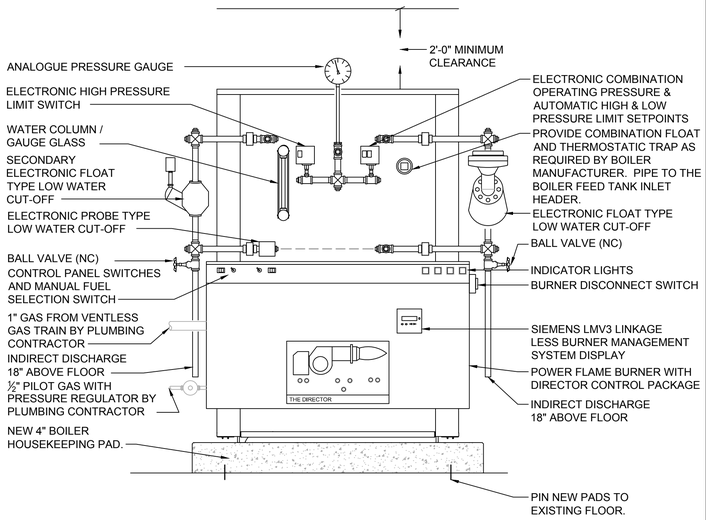
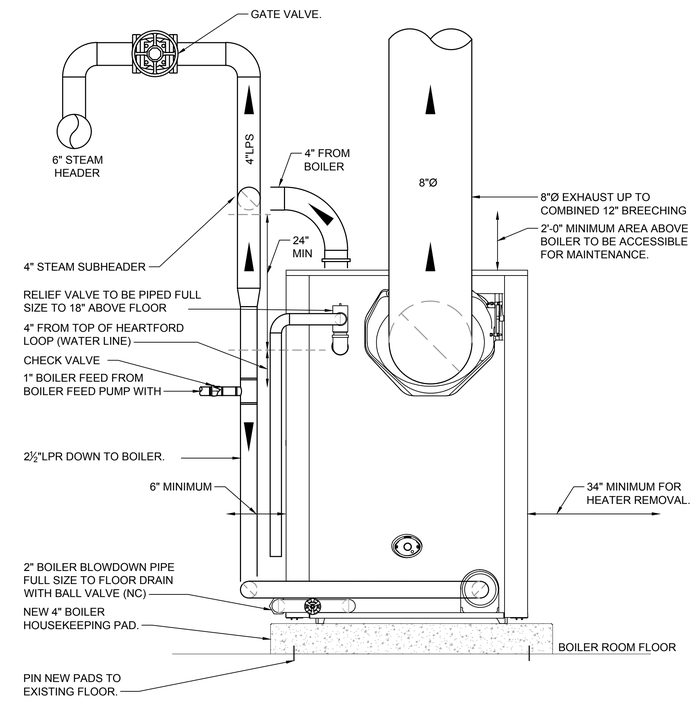


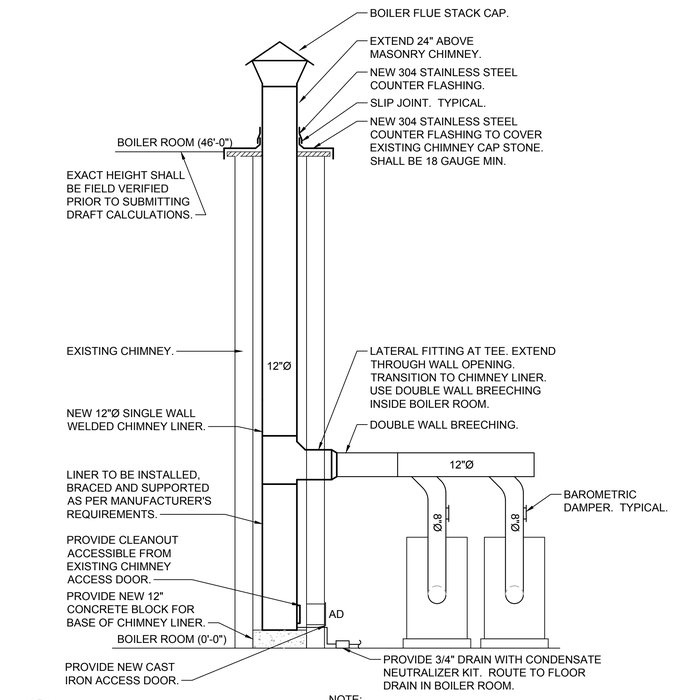
5 STEAM BOILER SCHEMATIC (RIGHT SIDE)
SCALE: NONE



4 STEAM BOILER SCHEMATIC (FRONT)
SCALE: NONE

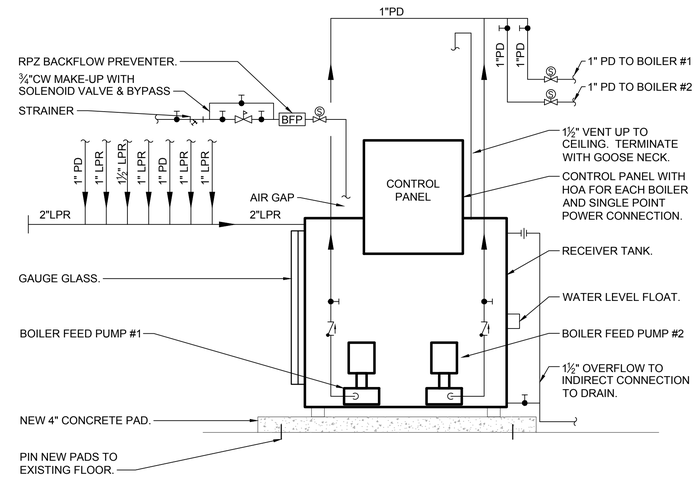


2 STEAM BOILER SCHEMATIC (REAR)
SCALE: NONE



3 CHIMNEY LINER DETAIL
SCALE: NONE

NOTE:
1. THE EXISTING CHIMNEY SHALL BE BRUSHED CLEAN OF ALL SOOT, DIRT, AND DEBRIS. CLEAN OUT THE BASE OF THE CHIMNEY AFTER CLEANING AND VACUUM CLEAN.



1 CONDENSATE RECEIVER & BOILER FEED PUMP SCHEMATIC
SCALE: NONE

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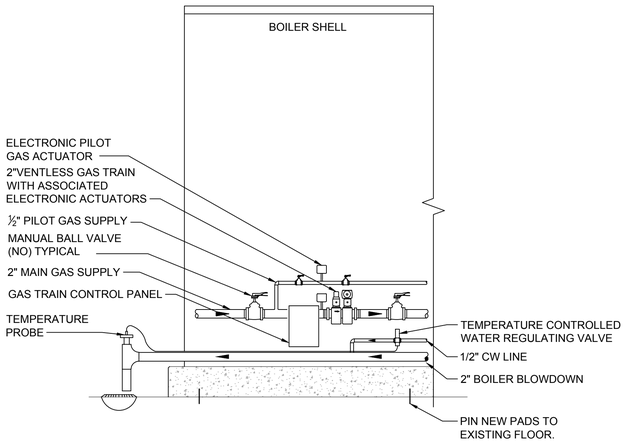
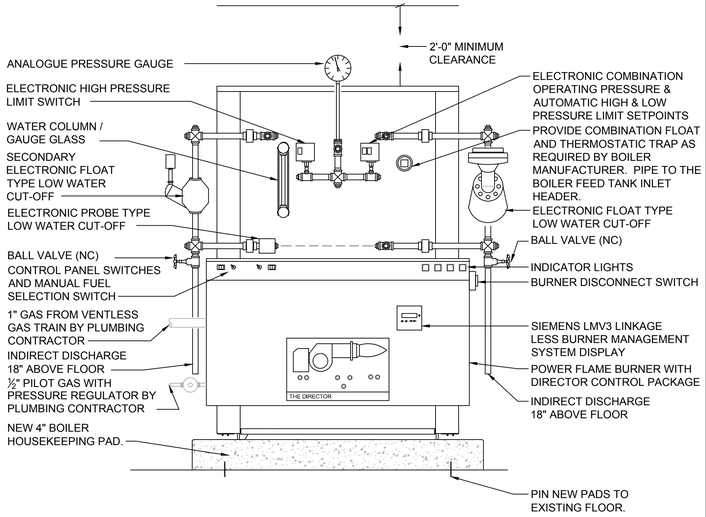
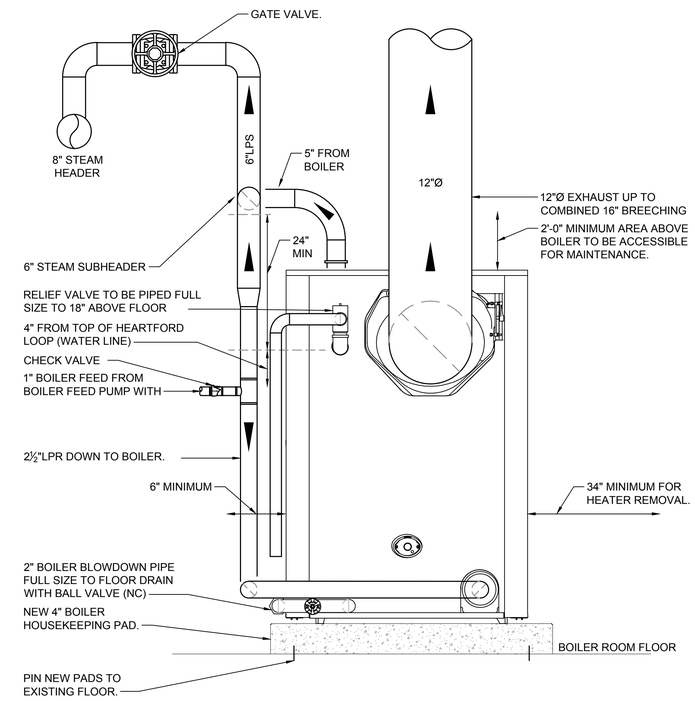


6 STEAM BOILER SCHEMATIC (RIGHT SIDE)
SCALE: NONE



4 STEAM BOILER SCHEMATIC (FRONT)
SCALE: NONE



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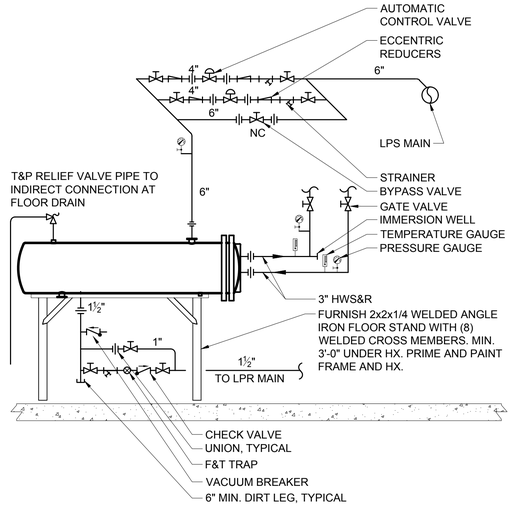
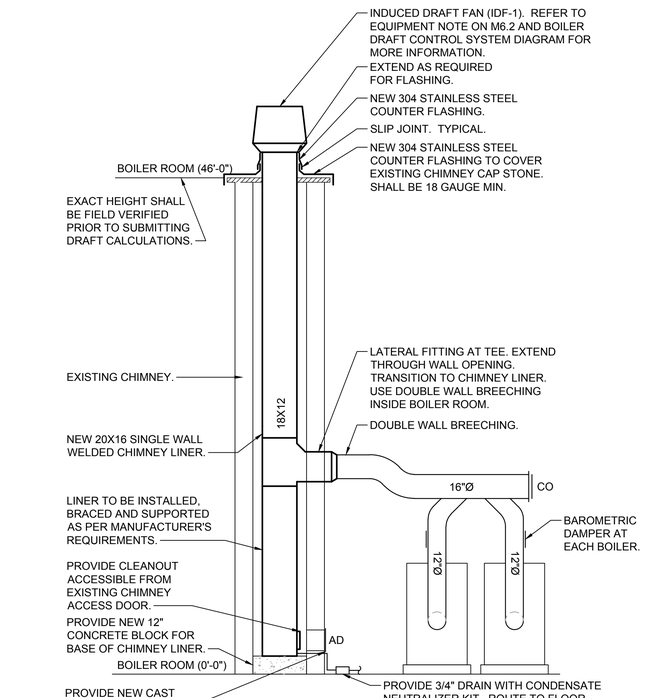
SCALE: NONE



NOTES:
1. MAX AUTOMATIC CONTROL VALVE SIZE 2-1/2 INCHES. FOR STEAM FLOW RATE GREATER THAN 2-1/2 INCHES VALVE CAPACITY, FURNISH TWO CONTROL VALVES IN PARALLEL AS INDICATED. CONTROL VALVES TO BE ACTUATED BY NEW TEMPERATURE CONTROL BULB.
2. BY-PASS PIPING AROUND F&T TRAP LEG SHALL BE SAME SIZE AS TRAP.
3. PROVIDE PIPE UNIONS, FLANGES & ARRANGE WATER PIPING TO FACILITATE TUBE BUNDEL REMOVAL WITH MINIMUM DISTURBANCE TO PIPING.
4. PRESSURE RELIEF VALVE SET AT 20% OVER WORKING PRESSURE.

5 STEAM TO HOT WATER HEAT EXCHANGER PIPING SCHEMATIC
SCALE: NONE



3 CHIMNEY DETAIL
SCALE: NONE

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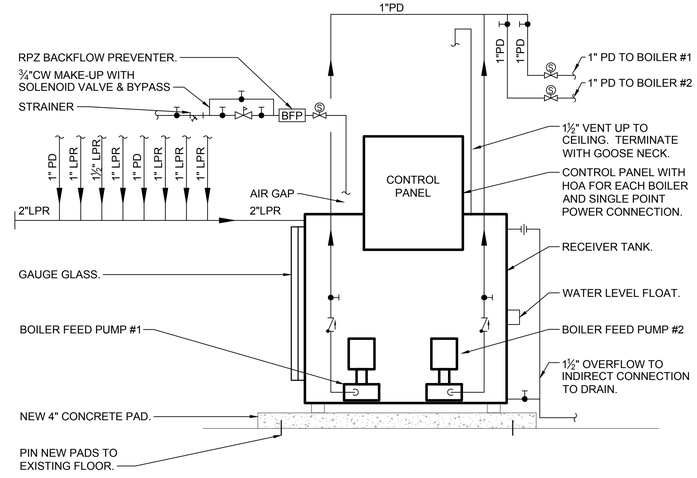

1 CONDENSATE RECEIVER & BOILER FEED PUMP SCHEMATIC
SCALE: NONE

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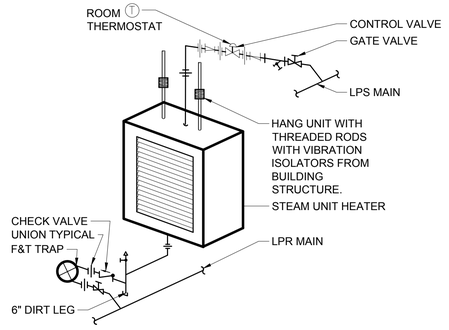
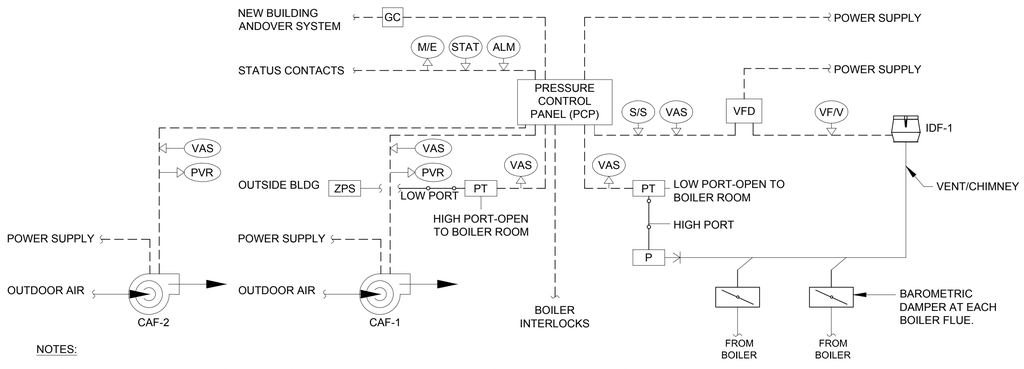


NOTES:

1. HANG UNIT WITH THREADED RODS CONTAINING SPRING TYPE VIBRATION ISOLATORS FROM BUILDING STRUCTURAL MEMBERS.
2. SUSPEND UNIT HEATERS SECURELY WITH PROVISIONS FOR EASY REMOVAL AND REPAIR.
3. INSTALL UNITS SO THAT THEY HANG LEVEL IN THE VERTICAL AND HORIZONTAL.
4. PROVIDE FOR EXPANSION IN SUPPLY PIPING, SWING JOINT IN SUGGESTED PIPING ARRANGEMENT.
5. PROVIDE UNIONS ADJACENT TO UNIT HEATER IN BOTH THE SUPPLY AND RETURN LATERALS. PROVIDE SHUT-OFF VALVE IN ALL SUPPLY LATERALS.
6. USE 45 DEGREE ANGLE RUN OFFS FROM ALL SUPPLY AND RETURN MAINS.
7. PROVIDE A ROOM THERMOSTAT ARRANGED TO OPEN CONTROL VALVE AND CYCLE THE FAN ON A CALL FOR HEAT.

2 VERTICAL STEAM UNIT HEATER PIPING DETAIL

SCALE: NONE



CONTROLLER OUTPUT	CONTROLLER INPUT
– – –	FIELD POWER WIRING BY ELECTRICAL CONTRACTOR
———	CONTROL WIRING BY CONTROLS CONTRACTOR
—o—	PNEUMATIC TUBING FOR PRESSURE REFERENCE
———	VENT OR DUCT
ALM	ALARM OUTPUT
M/E	MASTER ENABLE: INPUT OF CONTROLLER
P	STACK PRESSURE PROBE
PT	PRESSURE TRANSDUCER -1 TO 1 IN WC
PVR	SUPPLY FAN PROVING DEVICE OUTPUT: CURRENT SWITCH OR DIFFERENTIAL PRESSURE SWITCH
S/S	START/STOP: VFD RUN COMMAND
STAT	SYSTEM RUN STATUS
VAS	VARIABLE ANALOG SIGNAL 0-10 VDC
VFD	VARIABLE FREQUENCY DRIVE
VF/V	VARIABLE FREQUENCY VOLTAGE OUTPUT
ZPS	OUTDOOR AIR STATIC PRESSURE PICKUP PORT

NOTES:

1.) US DRAFT COMPANY SHALL PROVIDE ALL EQUIPMENT, PARTS, AND ACCESSORIES LISTED IN THE CONTROL DIAGRAM ABOVE TO INSTALL AND OPERATE A COMPLETE SYSTEM. CONTROLS CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING, INSTALLATION AND COMMISSIONING.

FAN CONTROL SEQUENCE:

1. EACH HEATING APPLIANCE SHALL BE INTERLOCKED WITH THE PRESSURE CONTROL PANEL. UPON A CALL FOR HEAT, THE CONTROL PANEL SHALL ACTIVATE THE INDUCED DRAFT FAN (IDF-1) TO ESTABLISH DRAFT IN THE CHIMNEY SYSTEM. THE COMBUSTION AIR FANS SHALL START TO ESTABLISH THE REQUIRED PRESSURE IN THE BOILER ROOM. ALL EXTERNAL MECHANICAL LIMITS ARE MONITORED FOR STATUS. ONCE ALL THESE CONDITIONS ARE MET THE CONTROL SYSTEM WILL RELEASE THE FLAME PROGRAMMER OR GAS VALVE OF THE APPLIANCE CALLING FOR HEAT. THE SEQUENCE IS REPEATED EVERY TIME AN INITIAL APPLIANCE CALLS FOR HEAT. EACH ADDITIONAL CALL FOR HEAT THE CONTROL WILL NOT DELAY THE SEQUENCING OF THE ADDITIONAL HEATING APPLIANCES.
2. WHEN APPLIANCES SHUT DOWN BOTH THE IDF-1 AND THE CAF FANS (CAF-1 AND CAF-2) WILL WILL CONTINUE TO RUN IN POST-PURGE MODE FOR A SET PERIOD OF TIME TO REMOVE RESIDUAL FLUE GASES.
3. ONCE THE POST-PURGE CYCLE IS COMPLETED THE SYSTEM SECURES AND THE CONTROL PANEL ENTERS STAND-BY MODE.
4. IF PROPER DRAFT CANNOT BE MAINTAINED OR AN EXTERNAL MECHANICAL LIMIT OPENS BECAUSE OF MECHANICAL OR ELECTRICAL FAILURE, THE CONTROL WILL GO IN ALARM MODE AND THE INTEGRATED PROVEN DRAFT FUNCTION WILL SHUT DOWN ALL THE APPLIANCES WITHIN 15 SECONDS. WHILE IN ALARM MODE, THE CONTROL CONSTANTLY MONITORS THE DRAFT AND LIMIT INPUTS. IF THE FAILURE CORRECTS ITSELF OR IS CORRECTED VIA INTERVENTION, THE SYSTEM WILL RESTART AUTOMATICALLY. IF THE FAILURE IS NOT CORRECTED BEFORE THE ADJUSTABLE SYSTEM RELEASE FAULT TIMER EXPIRES, THE CONTROL WILL DISABLE AND LOCKOUT THE SYSTEM FOR FREEZE PROTECTION.
5. WHEN THE FAN TEST IS ENABLED, THE PRESSURE CONTROL PANEL WILL RUN A SELF DIAGNOSTIC ON THE STATUS OF THE VENT SYSTEM EACH HEATING CYCLE TO VERIFY THAT THE SYSTEM IS FUNCTIONING PROPERLY. IF THE FAN TEST FAILS, THE PRESSURE CONTROL PANEL WILL ALARM, LOCKOUT THE SYSTEM AND ANNUNCIATE THE TEST FAILURE.

MANUFACTURER'S STARTUP

CHIMNEY DESIGN SOLUTIONS (800-685-7077) SHALL BE CONTRACTED TO PERFORM A FULL STARTUP OF THE NEW DRAFT CONTROL SYSTEM AND PROVIDE AN ASSOCIATED STARTUP REPORT FOR THE ENGINEER / OWNER. PROVIDE DRAFT CONTROL COMPONENTS INCLUDING ROOM PRESSURE SENSORS AND ALL RELATED CONTROLS. MAINTAIN DRAFT SET POINT AS PER BOILER MANUFACTURER RECOMMENDATION.

1 BOILER DRAFT CONTROL SCHEMATIC

SCALE: NONE

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SYMBOLS AND ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
	-	CONDUIT AND WIRING
	-	CONDUIT & WIRING TO BE REMOVED UON
	-	HOMERUN TO PANEL, ARROWS INDICATE # 1P
	-	MULTI-POLE HOMERUN
	-	ELECTRICAL EQUIPMENT AS INDICATED
	-	ELECTRICAL EQUIPMENT TO BE REMOVED UON
M	-	ELECTRIC METER
J	-	JUNCTION BOX
	-	FUSED DISCONNECT SWITCH
	-	UNFUSED DISCONNECT SWITCH
	-	COMBINATION MOTOR STARTER/FUSED DISC.
	-	MOTOR STARTER
	-	MOTOR
	-	BATTERY PACK EMERGENCY LIGHT FIXTURE
	-	EXIT LIGHT, FACES-SHADED, CHEVRON-ARROW
S_x	-	SINGLE POLE SWITCH (x - INDICATES FIXTURE BEING CONTROLLED)
S_x^3	-	THREE WAY SWITCH (x - INDICATES FIXTURE BEING CONTROLLED)
S_M	-	MOTOR RATED TOGGLE SWITCH
	-	WALL MOUNTED OCCUPANCY SENSOR
OC	-	CEILING MOUNTED OCCUPANCY SENSOR
	-	DUPLEX RECEPTACLE
	-	DOUBLE DUPLEX RECEPTACLE
	-	SPECIAL RECEPTACLE
EPO	EPO	EMERGENCY POWER OFF SWITCH
	CB	CIRCUIT BREAKER
	-	ENCLOSED CIRCUIT BREAKER
200AS 150AF	-	FUSED SWITCH
OR	GND	GROUND AS PER LOCAL CODE
	-	GROUND BAR
OR	-	GROUND ROD
OR T	XFMR	TRANSFORMER
	CT	CURRENT TRANSFORMER
WM	WM	WATER MAIN
B	-	BOILER BREAK GLASS STATION
	NC	NORMALLY CLOSED CONTACTS
	NO	NORMALLY OPEN CONTACTS
M	MD	MOTORIZED DAMPER
	SD OR CFSD	SMOKE DAMPER
UH	UH	UNIT HEATER

ABBREVIATION	DESCRIPTION
A	AMPERE(S)
AFF	ABOVE FINISHED FLOOR
AF	AMPERAGE OF FUSE
AGL	ABOVE GRADE LEVEL
AHU	AIR HANDLING UNIT
AS	AMPERAGE OF SWITCH
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CD	CANDELA
CKT	CIRCUIT
CLG	CEILING
COL	COLUMN
CU	COPPER
DEM.	DEMOLISH AND REMOVE
DISC	DISCONNECT
DWG	DRAWING
EMT	ELECTRICAL METALLIC TUBING
EM	EMERGENCY
EX.	EXISTING TO REMAIN
F	FLOOR
FBO	FURNISHED BY OTHERS
GFI	GROUND FAULT INTERRUPTER
HP	HORSEPOWER
IMC	INTERMEDIATE METAL CONDUIT
KVA	KILO-VOLT-AMPERE
KW	KILO-WATT
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MIN	MINIMUM
MLO	MAIN LUG ONLY
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PBO	PROVIDED BY OTHERS
PNL	PANEL
PVC	POLY VINYL CHLORIDE
REL.	REMOVE AND RELOCATE
RGS	RIGID GALVANIZED STEEL
SCH	SCHEDULE
SPD	SURGE PROTECTION DEVICE
SW	SWITCH(ES)
TELCO	TELEPHONE COMPANY
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UV	UNIT VENTILATOR
VIF	VERIFY IN FIELD
V	VOLT(S)
VSD	VARIABLE SPEED DRIVE
WG	WIRE GUARD
WH	WATER HEATER
WP	WEATHERPROOF

NOTES:
1.) ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE APPLICABLE FOR THIS PROJECT.
2.) SEE LIGHTING FIXTURE SCHEDULE FOR LIGHT FIXTURE SYMBOLS.

GENERAL NOTES

1. ALL WORK SHOWN IS NEW UNLESS OTHERWISE NOTED (UON) EXISTING TO REMAIN (EX.).
2. THE DRAWINGS ARE TO BE CONSIDERED SCHEMATIC ONLY AND DO NOT NECESSARILY SHOW THE EXACT LOCATIONS AND DETAILS OF THE WORK TO BE INSTALLED.
3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND PAYING ALL FEES ASSOCIATED WITH THIS WORK INCLUDING FILING WITH THE UTILITY COMPANY (AS REQUIRED), AND WITH LOCAL AUTHORITY HAVING JURISDICTION.
4. ALL WORK INVOLVING THE ELECTRIC SERVICE SHALL BE COORDINATED AND APPROVED BY THE UTILITY COMPANY.
5. ALL CONDUCTORS SHALL BE COPPER UON "ON DRAWINGS".
6. ELECTRONIC FILES OF THE MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS ARE AVAILABLE TO THE CONTRACTOR. THE ENGINEER MAY GRANT THE CONTRACTOR A LIMITED LICENSE TO MAKE A DERIVATIVE WORK OF THE DATABASE FOR THE PURPOSE OF SHOP DRAWINGS, SUBMITTALS AND AS-BUILT DRAWINGS. UPON REQUEST, THE ENGINEER SHALL PROVIDE A RELEASE FORM THAT MUST BE SIGNED AND RETURNED BY THE CONTRACTOR PRIOR TO RELEASE OF THE ELECTRONIC FILES.
7. CIRCUIT NUMBERS ARE FOR INFORMATION PURPOSES ONLY. ACTUAL CIRCUIT NUMBERS SHALL BE DETERMINED IN THE FIELD.
8. CORE DRILLING OR TRENCHING THROUGH AN EXISTING FLOOR SLAB, WHEN REQUIRED, SHALL BE COORDINATED WITH THE OWNER. FLOOR SLABS SHALL BE RADAR SCANNED PRIOR TO CORE DRILLING OR TRENCHING. ALL WORK, INCLUDING CORE DRILLING, RADAR SCAN, INSTALLATION OF FIRE STOPPING, & CONDUIT/CABLE INSTALLATION SHALL BE PERFORMED DURING NON-BUSINESS HOURS AND INCLUDED IN BASE BID. USE EXTREME CAUTION DURING ANY CUTTING OPERATION TO AVOID DAMAGE TO EXISTING EQUIPMENT/SYSTEMS. ANY ITEMS DAMAGED AS A RESULT OF CORE DRILLING SHALL BE REPAIRED AT NO COST TO THE CLIENT. ALL CORES SHALL BE FIRE SEALED.
9. WHERE GFI RECEPTACLES ARE CIRCUITED WITH GENERAL CONVENIENCE RECEPTACLES, THE GFI RECEPTACLE SHALL BE THE LAST DEVICE ON THE CIRCUIT.
10. INSTALL CONDUIT EXPANSION FITTINGS AT ALL LOCATIONS WHERE CONDUITS CROSS BUILDING OR STRUCTURE EXPANSION JOINTS.
11. UNLESS OTHERWISE NOTED, DISCONNECT SWITCHES, STARTERS, HOAS AND MOTOR RATED TOGGLE SWITCHES FOR MECHANICAL PUMPS, RETURN FANS, COMPRESSORS, FAN COIL UNITS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE ALL WORK WITH THE MECHANICAL CONTRACTOR.
12. DISCONNECT SWITCHES FOR MOTORIZED DAMPERS SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR. SWITCHES NOT SHOWN ON PLANS.
13. ALL CO ALARMS TO BE 120V, MULTI STATION HEADS WITH NON-REMOVABLE, NON-REPLACEABLE, 10 YEAR MINIMUM BATTERY BACKUP, U.O.N. PROVIDE WIRING AS REQUIRED BETWEEN HEADS.
14. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CUTTING, PATCHING, PAINTING, AND FINAL RESTORATION REQUIRED TO FACILITATE THE DEMOLITION AND INSTALLATION OF ALL ELECTRICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO PANELBOARDS, CONDUITS, WIRING, DEVICES, FIXTURES, ETC. INCLUDING ABOVE CEILINGS. CONTRACTOR TO REMOVE AND REPLACE CEILINGS, AND OPEN AND PATCH WALLS, AS REQUIRED TO EXECUTE THE ELECTRICAL WORK.

DEMOLITION NOTES

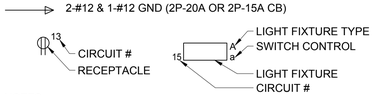
1. ALL EQUIPMENT SHALL BE DISCONNECTED AND REMOVED BACK TO POWER SOURCE ORIGINATION UNLESS OTHERWISE NOTED (UON) EXISTING TO REMAIN (EX.).
2. CONTRACTOR SHALL VERIFY EXTENT OF DEMOLITION WORK IN THE FIELD PRIOR TO BID AND SHALL INCLUDE ALL LABOR AND MATERIALS IN BASE BID INCLUDING ALL TEMPORARY CONNECTIONS, CONDUIT AND WIRE IN ORDER TO ACCOMMODATE CONSTRUCTION AND PROVIDE CONTINUOUS SERVICE TO DEVICES AND SYSTEMS TO REMAIN, TEMPORARY AND PERMANENTLY. WORK REQUIRING THE SHUT-DOWN OF THE BUILDING POWER SHALL BE PERFORMED DURING OVERTIME AND SHALL BE INCLUDED IN BASE BID.
3. CIRCUIT BREAKER, CONDUIT AND CONDUCTOR SIZES INDICATED SHALL BE FIELD VERIFIED PRIOR TO BID.
4. ALL EXISTING ELECTRICAL EQUIPMENT NO LONGER IN USE, SUCH AS DISCONNECT SWITCHES, MOTOR CONTROLLERS, MOTOR STARTER PANELS, ETC. SHALL BE REMOVED UON.
5. ALL DISCONNECTED & REMOVED EXISTING ELECTRICAL ITEMS THAT ARE NOT BEING REUSED SHALL BE RETURNED TO THE OWNER OR DISPOSED OF AS DIRECTED.
6. THE CONTRACTOR SHALL INCLUDE IN THE BASE BID FOR ALL MATERIAL & LABOR REQUIRED FOR THE EXTENSIONS, REROUTING & RELOCATION OF EXISTING SYSTEM COMPONENTS, EQUIPMENT, WIRING, CONDUITS & CABLING SO AS TO MAINTAIN OPERATION OF ALL SYSTEMS THROUGHOUT THE BUILDING DURING DEMOLITION & CONSTRUCTION PHASES.

TYPICAL BRANCH CIRCUIT WIRING LEGEND

2-#12 & 1-#12 GND (1-1P-20A OR 1-1P-15A CB)

3-#12 & 1-#12 GND (3P-20A OR 3P-15A CB)

2-#12 & 1-#12 GND (2P-20A OR 2P-15A CB)



NOTES:
1. EACH 120V AND 277V CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR. SHARED NEUTRAL HOMERUNS ARE NOT PERMITTED.
2. CONDUCTORS SHALL BE INCREASED FOR VOLTAGE DROP AND DERATING AS PER APPLICABLE ELECTRICAL CODE. FOR CIRCUITS THAT ARE BETWEEN 100' AND 150' IN LENGTH, PHASE AND NEUTRAL CONDUCTORS SHALL BE #10 AWG. FOR CIRCUITS THAT ARE BETWEEN 150' AND 225' IN LENGTH, PHASE AND NEUTRAL CONDUCTORS SHALL BE #8 AWG. FOR LENGTHS GREATER THAN 225' IN LENGTH, VERIFY CONDUCTOR SIZES WITH ENGINEER.

DEFINITION OF TERMS

1. WHEREVER IN THE CONTRACT DOCUMENTS THE WORD "CLIENT" IS USED, IT MUST BE UNDERSTOOD THAT "CITY OF YONKERS" IS INTENDED.
2. WHEREVER IN THE CONTRACT DOCUMENTS THE WORD "ENGINEER" IS USED, IT MUST BE UNDERSTOOD THAT "OLA CONSULTING ENGINEERS" IS INTENDED.
3. WHEREVER IN THE CONTRACT DOCUMENTS THE WORDS "ELECTRICAL UTILITY" OR "POWER COMPANY" ARE USED, IT MUST BE UNDERSTOOD THAT "CONSOLIDATED EDISON" IS INTENDED.
4. WHEREVER IN THE CONTRACT DOCUMENTS THE WORDS "FIRE ALARM SYSTEM" OR "FIRE ALARM VENDOR" ARE USED, IT MUST BE UNDERSTOOD THAT "ADT" IS INTENDED.
5. "WORK" MUST BE DEEMED TO CONSIST OF ALL LABOR AND OPERATIONS, TRANSPORTATION, HOISTING, MATERIALS, TOOLS, EQUIPMENT, SERVICES, INSPECTIONS, INVESTIGATIONS, COORDINATION AND SUPERVISION REQUIRED AND / OR REASONABLY NECESSARY TO PRODUCE THE CONSTRUCTION REQUIRED BY THE CONTRACT DOCUMENTS.
6. "FURNISH" MEANS THE DESIGN, FABRICATION, PURCHASE AND DELIVERY TO THE JOB SITE.
7. "INSTALL OR INSTALLATION" MEANS THE ACT OF PHYSICALLY PLACING, APPLYING, SETTING, ERECTING, ANCHORING, SECURING, ETC., CONSTRUCTION MATERIALS, EQUIPMENT, FURNISHINGS, APPLIANCES, AND SIMILAR ITEMS SPECIFIED AND FURNISHED AT THE JOB SITE. INSTALLATION OF SPECIFIED ITEMS MUST BE COMPLETE IN ALL RESPECTS.
8. "PROVIDE" MEANS TO FURNISH AND INSTALL CONSTRUCTION MATERIAL, EQUIPMENT, ETC. AS DEFINED ABOVE.
9. THE FOLLOWING ARE DEFINITIONS OF SHOP DRAWING STAMP ACTIONS:

A. "NO EXCEPTIONS TAKEN" MEANS THAT THE SHOP DRAWING IS CORRECT AS TO PERFORMANCE, CAPACITY, ETC. AND SUBSTANTIAL CONFORMANCE TO THE CONTRACT DRAWINGS AND SPECIFICATIONS. FABRICATION AND/OR PURCHASE MAY COMMENCE.

B. "MAKE CORRECTIONS NOTED" MEANS THAT THE SHOP DRAWING IS CORRECT AS TO PERFORMANCE, CAPACITY, ETC. AND SUBSTANTIAL CONFORMANCE TO THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS, SUBJECT TO AND IN COMPLIANCE WITH THE ANNOTATIONS AND/OR CORRECTIONS INDICATED ON THE SHOP DRAWING. FABRICATION AND/OR PURCHASE MAY COMMENCE.

C. "AMEND AND RESUBMIT" MEANS THAT THE COMMENTS AND/OR CORRECTION ARE SO EXTENSIVE AND IMPORTANT THAT THE REVIEWER WANTS TO SEE HOW THE COMMENTS AND/OR CORRECTIONS ARE RESOLVED PRIOR TO RELEASE FOR FABRICATION AND/OR PURCHASE. FABRICATIONS AND/OR PURCHASE MAY NOT COMMENCE.

D. "REJECTED" MEANS THAT THE SHOP DRAWING DOES NOT COMPLY OR CONFORM TO THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS. FABRICATION AND/OR PURCHASE MAY NOT COMMENCE.

TRENCHING NOTES

1. CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITIES THAT ARE NOT PART OF N.Y. STATE "CODE 753" PRIOR TO DIGGING.
2. ALL EXCAVATING IN THE AREA OF THE EXISTING UNDERGROUND EQUIPMENT, PIPES AND CONDUITS SHALL BE PERFORMED BY HAND.
3. ANY AREA/PLANTS OR LANDSCAPING OR PAVEMENTS DISTURBED DURING THE EXCAVATION SHALL BE RESTORED OR REPLACED TO MATCH EXISTING CONDITIONS BY THE CONTRACTOR AT NO COST TO THE OWNER.
4. ANY EXISTING BURIED CONDUITS, DRAINAGE, SPRINKLER PIPING, ETC. THAT IS DISTURBED AND/OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
5. THE PLANS SHOW SOME KNOWN SUBSURFACE STRUCTURES, ABOVE GROUND STRUCTURES AND/OR UTILITIES BELIEVED TO EXIST IN THE WORKING AREA, EXACT LOCATION OF WHICH MAY VARY FROM THE LOCATIONS INDICATED. IN PARTICULAR, THE CONTRACTOR IS WARNED THAT THE EXACT OR EVEN APPROXIMATE LOCATION OF SUCH PIPELINES, SUBSURFACE STRUCTURES AND/OR UTILITIES IN THE AREA MAY OR MAY NOT BE SHOWN; AND IT SHALL BE HIS RESPONSIBILITY TO PROCEED WITH GREAT CARE IN EXECUTING ANY WORK. 48 HOURS BEFORE YOU DIG, DRILL OR BLAST, CALL 1-800-962-7962 (NY STATE).

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YONKERS, NY 10701
914.963.4550

No.	ISSUE OR REVISION	DATE
1	BID ISSUE	09/16/22

PROJECT TITLE

HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
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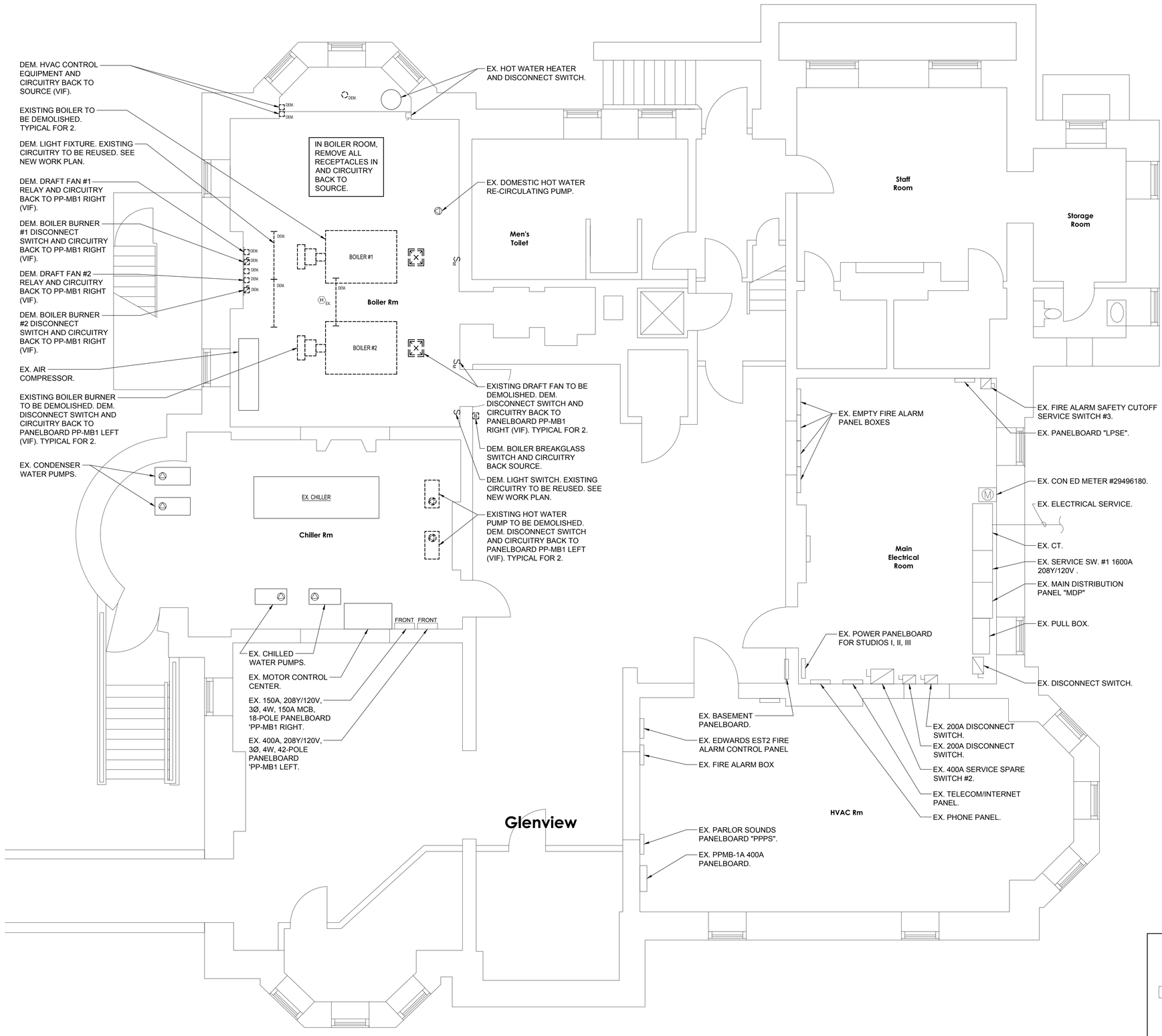
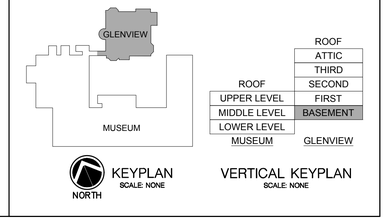
DRAWING TITLE

ELECTRICAL SYMBOLS, ABBREVIATIONS & NOTES - BASE & ALTERNATE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: CT	DRAWING NO.
	CHECKED BY: DS	E0.1
	DATE: 01-17-2022	



1 ELECTRICAL GLENVIEW BASEMENT DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



KEYPLAN
SCALE: NONE

VERTICAL KEYPLAN
SCALE: NONE

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YONKERS, NY 10701

DRAWING TITLE

ELECTRICAL GLENVIEW BASEMENT DEMOLITION PLAN - BASE & ALTERNATE

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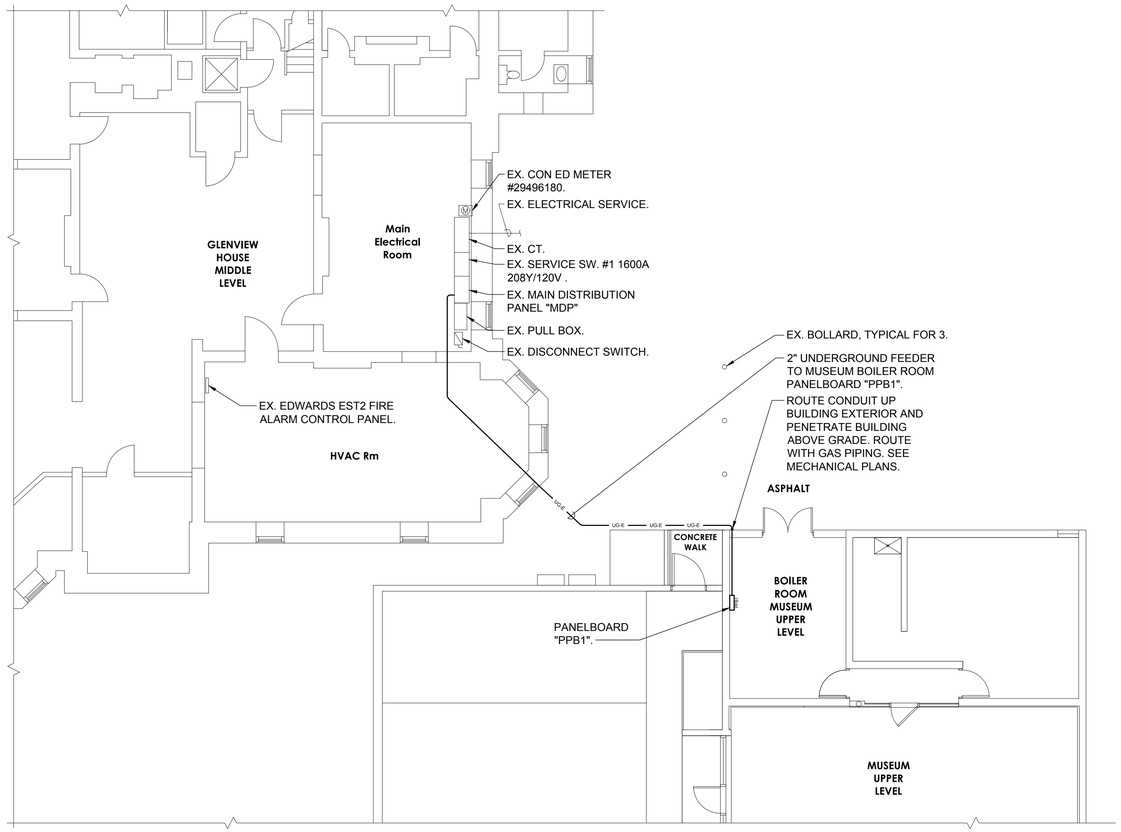
	CHECKED BY: DS	
	DATE: 01-17-2022	



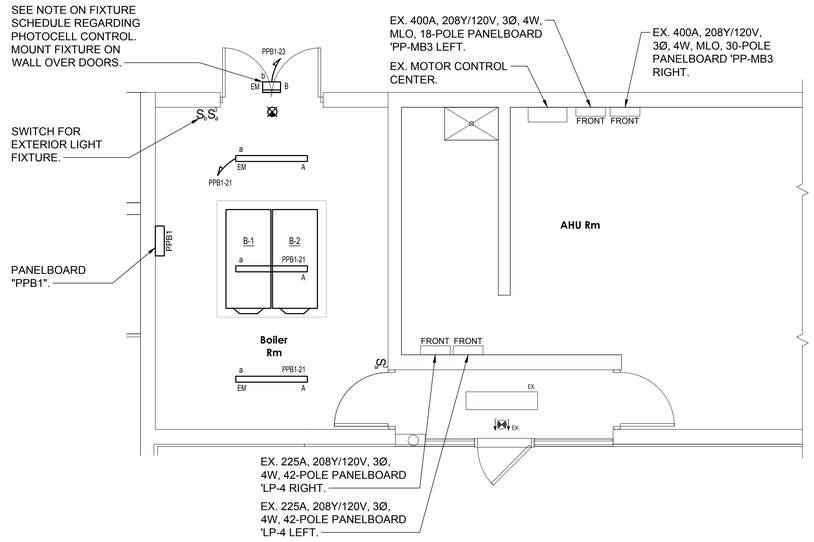
4 ELECTRICAL PARTIAL SITE NEW WORK PLAN

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

NORTH

NOTES:

1. ALL CABLE BETWEEN THE VFD'S AND MOTORS SHALL BE TYPE TC-ER, VFD CABLE. CABLE SHALL COMPLY WITH NEMA WC70/ICEA S-95-658, UL 1277 AND NFPA 70 FOR TYPE TC-ER CABLE. VFD CABLE SHALL BE: TYPE TC-ER WITH OVERSIZED CROSSLINKED POLYETHYLENE INSULATION, SPIRAL-WRAPPED FOIL PLUS 85 PERCENT COVERAGE BRAIDED SHIELDS AND INSULATED FULL-SIZE GROUND WIRE, AND SUNLIGHT AND OIL-RESISTANT OUTER PVC JACKET.



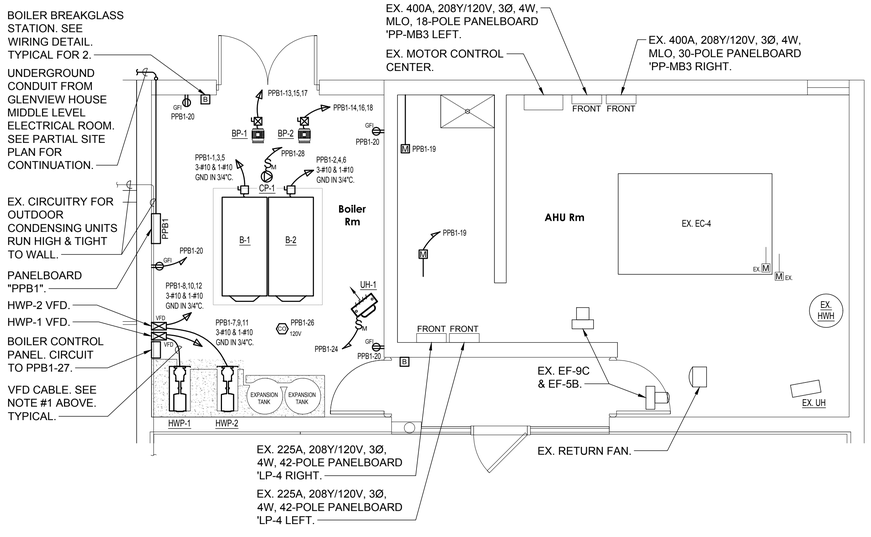
2 ELECTRICAL UPPER LEVEL BOILER ROOM LIGHTING PLAN

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

NORTH

NOTE:

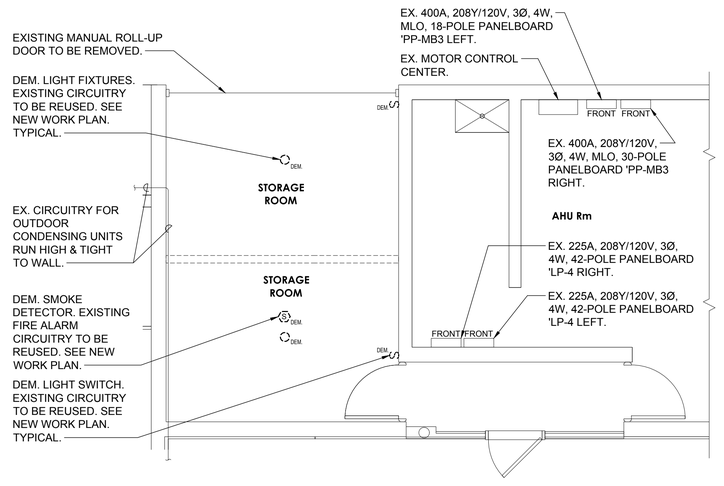
1. COORDINATE EXACT LOCATION OF LIGHT FIXTURES IN FIELD WITH MECHANICAL EQUIPMENT.



3 ELECTRICAL UPPER LEVEL AHU ROOM & NEW BOILER ROOM NEW WORK PLAN

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

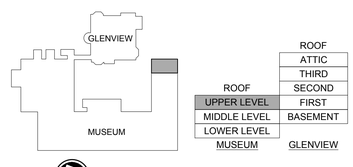
NORTH



1 ELECTRICAL UPPER LEVEL DEMOLITION PART PLAN

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

NORTH



KEYPLAN
SCALE: NONE

NORTH

VERTICAL KEYPLAN
SCALE: NONE

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DRAWING TITLE

ELECTRICAL UPPER LEVEL MUSEUM NEW WORK PLANS - BASE

SEAL

SCALE: AS SHOWN	PROJECT NO.: NCOY0006.00
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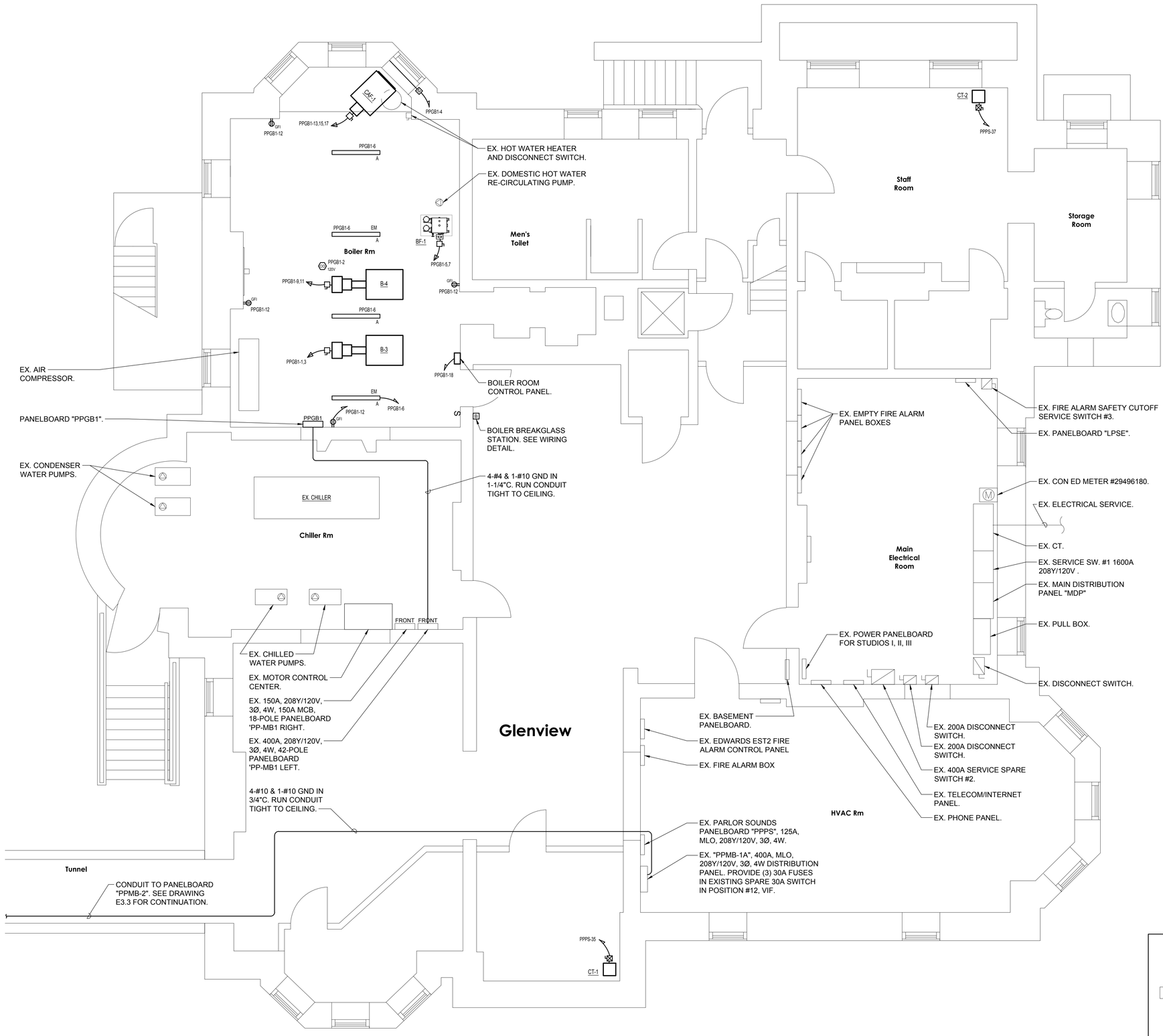
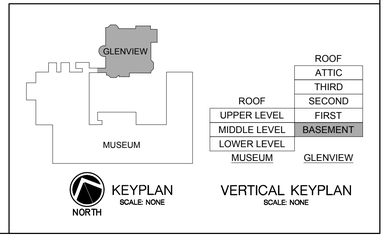
CHECKED BY: DS	
DATE: 01-17-2022	



NORTH

1 ELECTRICAL GLENVIEW BASEMENT NEW WORK PLAN
SCALE: 1/4" = 1'-0"



ROOF
UPPER LEVEL
MIDDLE LEVEL
LOWER LEVEL
MUSEUM

ROOF
ATTIC
THIRD
SECOND
FIRST
BASEMENT
GLENVIEW

KEYPLAN
SCALE: NONE
NORTH

VERTICAL KEYPLAN
SCALE: NONE

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DRAWING TITLE

ELECTRICAI GLENVIEW BASEMENT NEW WORK PLAN - BASE

SEAL	SCALE	PROJECT NO.
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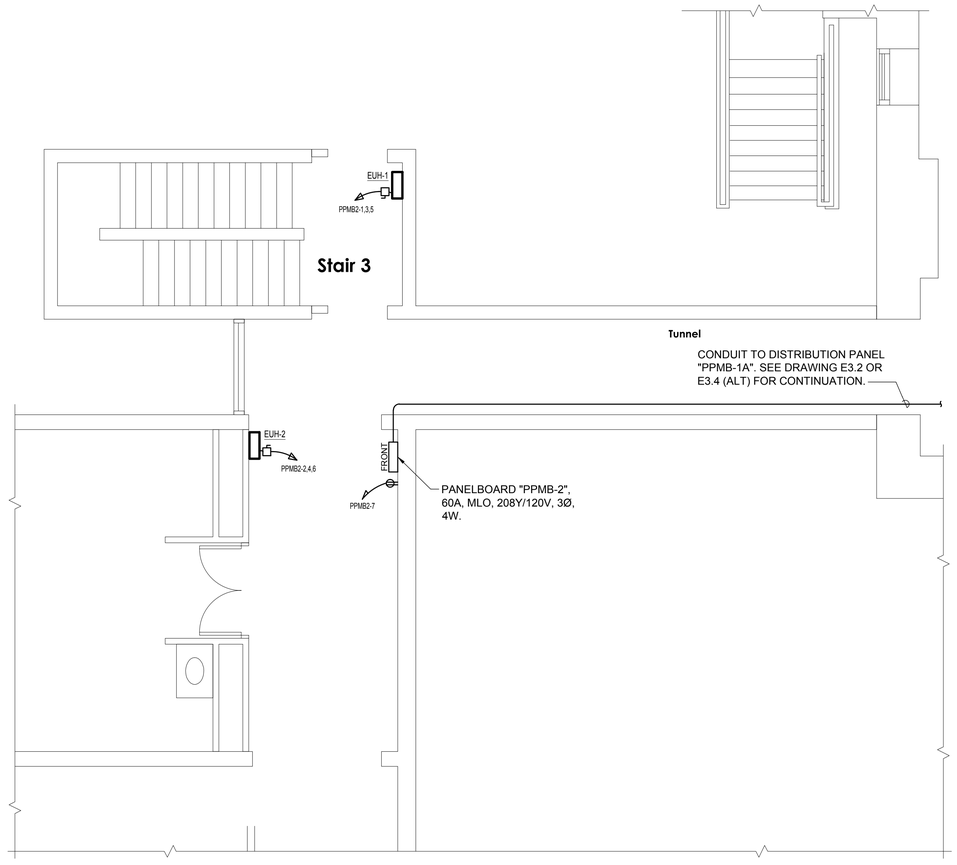
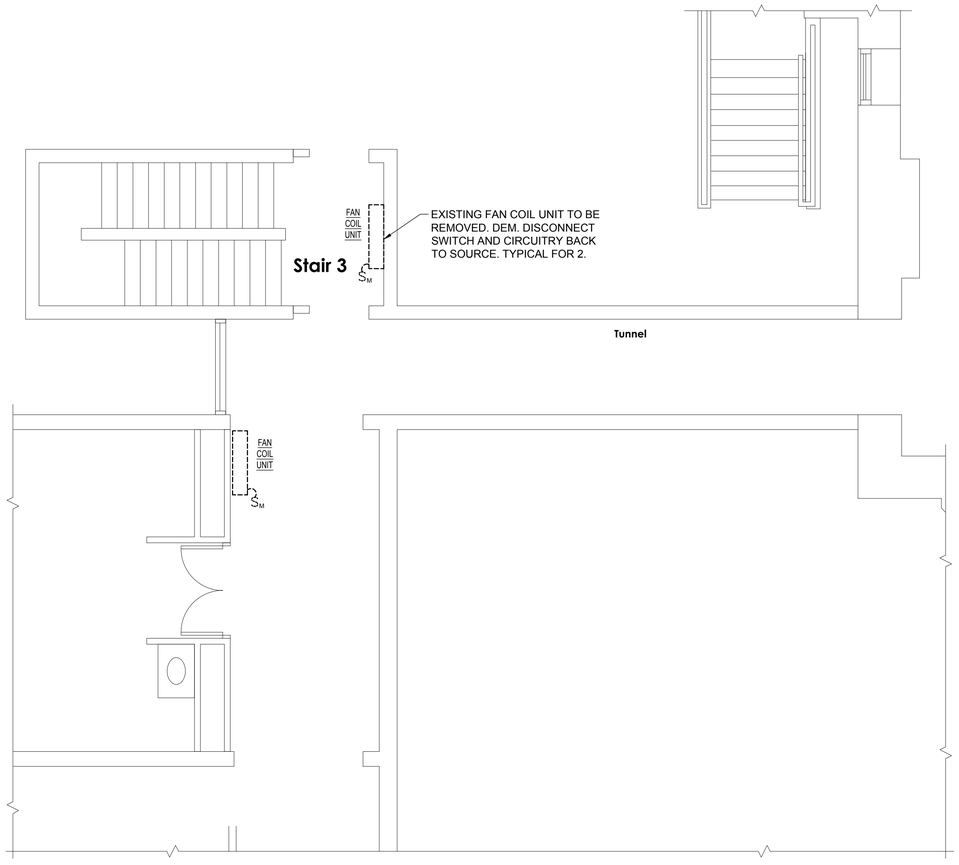
	DRAWN BY: CT	DRAWING NO.
	CHECKED BY: DS	E3.2
	DATE: 01-17-2022	



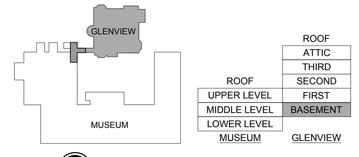
2 ELECTRICAL MIDDLE LEVEL NEW WORK PART PLAN
SCALE: 1/4" = 1'-0"

NORTH



1 ELECTRICAL MIDDLE LEVEL NEW WORK DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

NORTH



KEYPLAN
SCALE: NONE

NORTH

ROOF
UPPER LEVEL
MIDDLE LEVEL
LOWER LEVEL
MUSEUM

ROOF
ATTIC
THIRD
SECOND
FIRST
BASEMENT
GLENVIEW

VERTICAL KEYPLAN
SCALE: NONE

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DRAWING TITLE

ELECTRICAL MIDDLE LEVEL DEMO & NEW WORK PART PLANS - BASE & ALT

SEAL	SCALE	PROJECT NO.
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	DRAWN BY: CT	DRAWING NO.
	CHECKED BY: DS	E3.3
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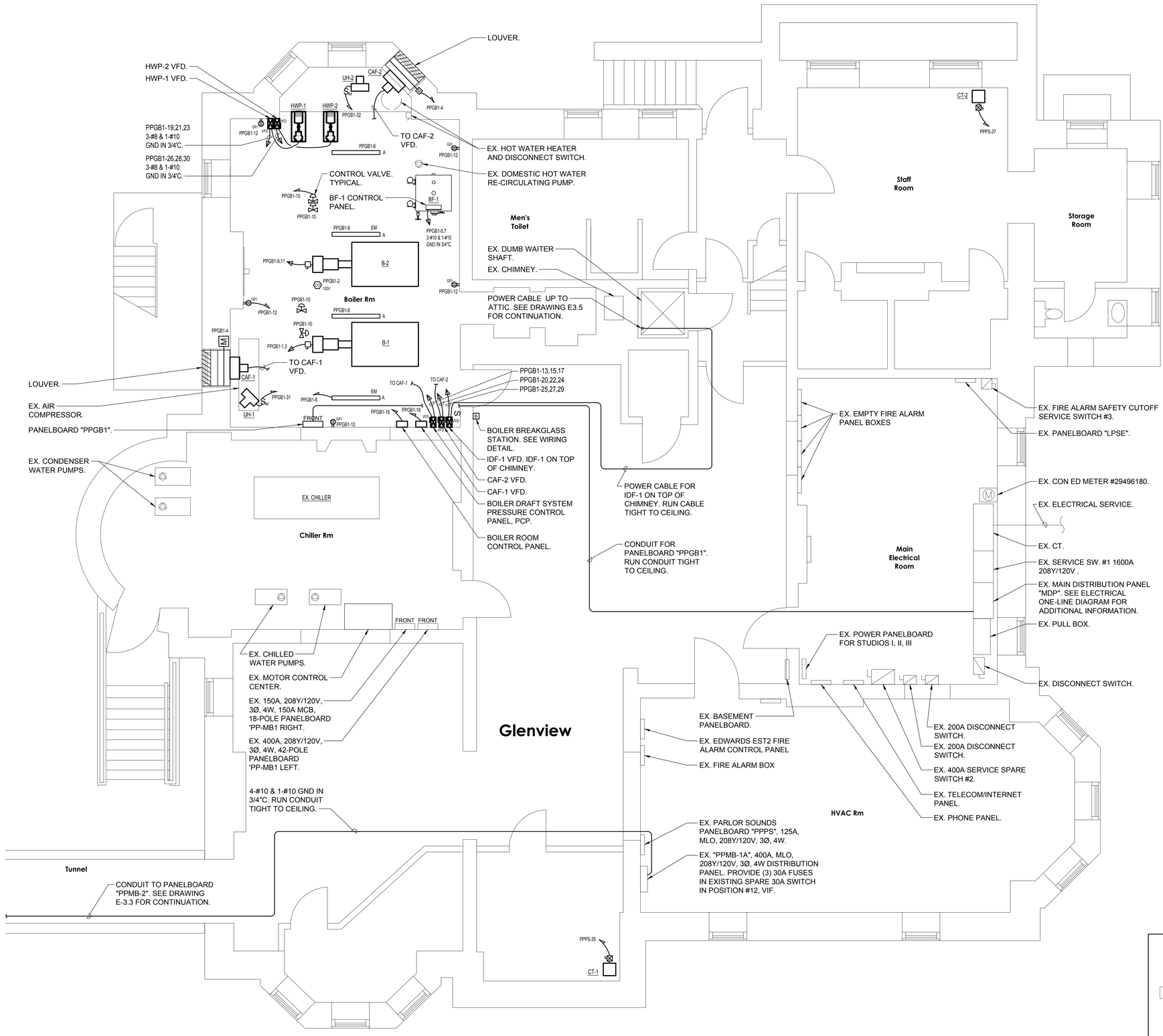

1 ELECTRICAL GLENVIEW BASEMENT NEW WORK PLAN

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

NOTES:

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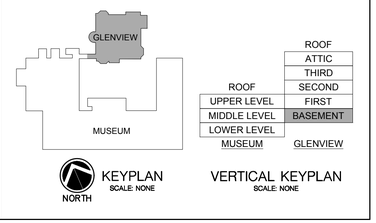

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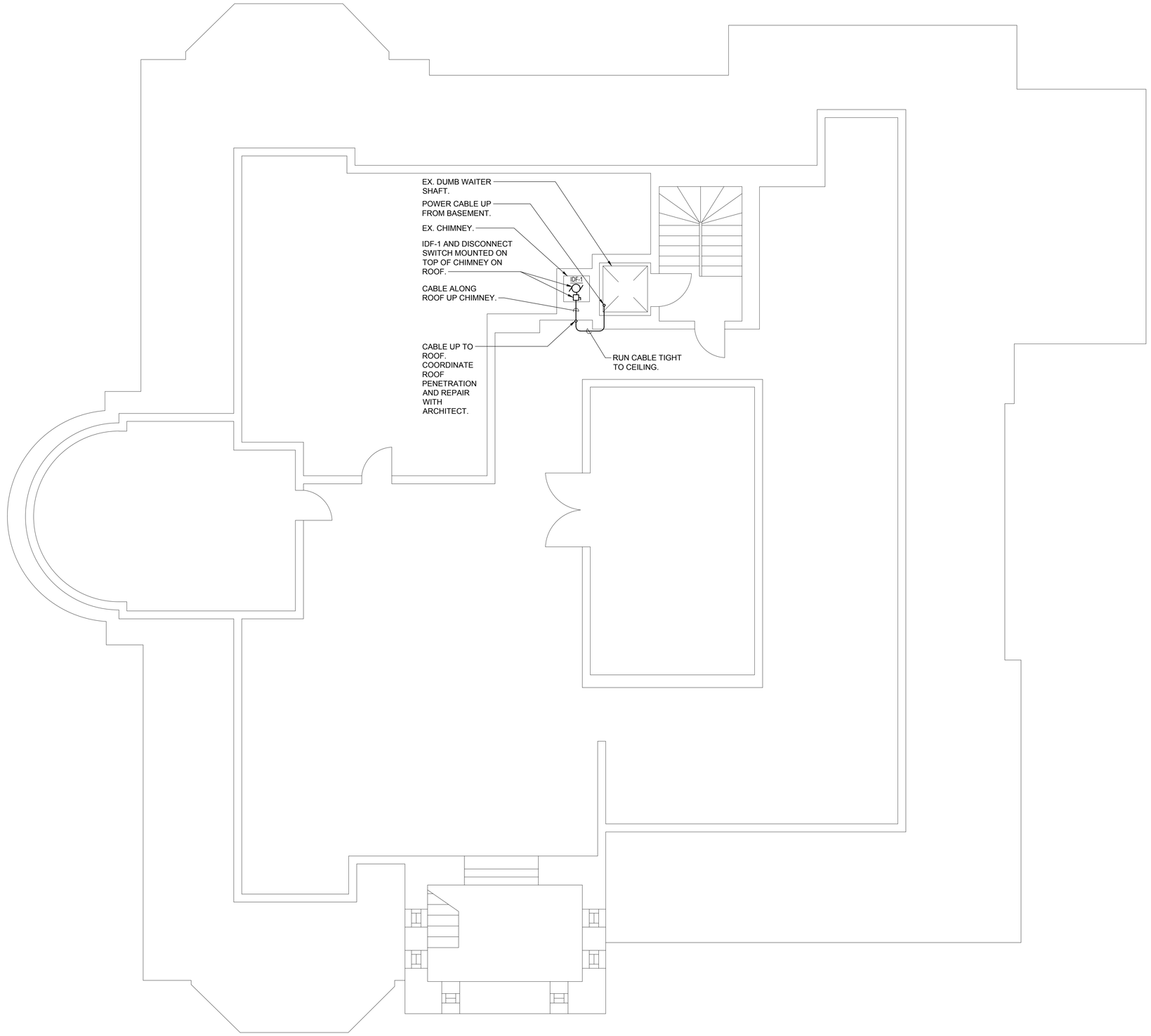
DRAWING TITLE

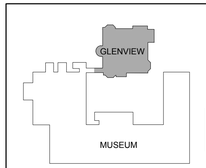
ELECTRICAI GLENVIEW BASEMENT NEW WORK PLAN - ALTERNATE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: CT	DRAWING NO. E3.4
	CHECKED BY: DS	
	DATE: 01-17-2022	



NORTH

1 ELECTRICAL GLENVIEW ATTIC/ROOF NEW WORK PLAN
SCALE: 1/4" = 1'-0"



KEYPLAN
SCALE: NONE

ROOF
UPPER LEVEL
MIDDLE LEVEL
LOWER LEVEL
MUSEUM

ROOF
ATTIC
THIRD
SECOND
FIRST
BASEMENT
GLENVIEW

VERTICAL KEYPLAN
SCALE: NONE

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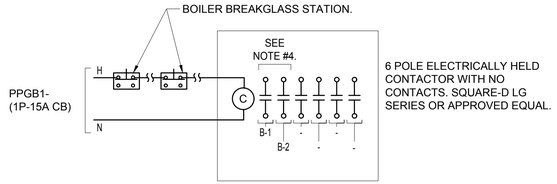
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

ELECTRICAL GLENVIEW ATTIC & ROOF NEW WORK PLAN - ALTERNATE

SEAL

SCALE: AS SHOWN	PROJECT NO.: NCOY0006.00
DRAWN BY: CT	DRAWING NO.: E3.5
CHECKED BY: DS	
DATE: 01-17-2022	



2 UPPER LEVEL MUSEUM BOILER EMERGENCY SHUTDOWN WIRING DIAGRAM

SCALE: NONE

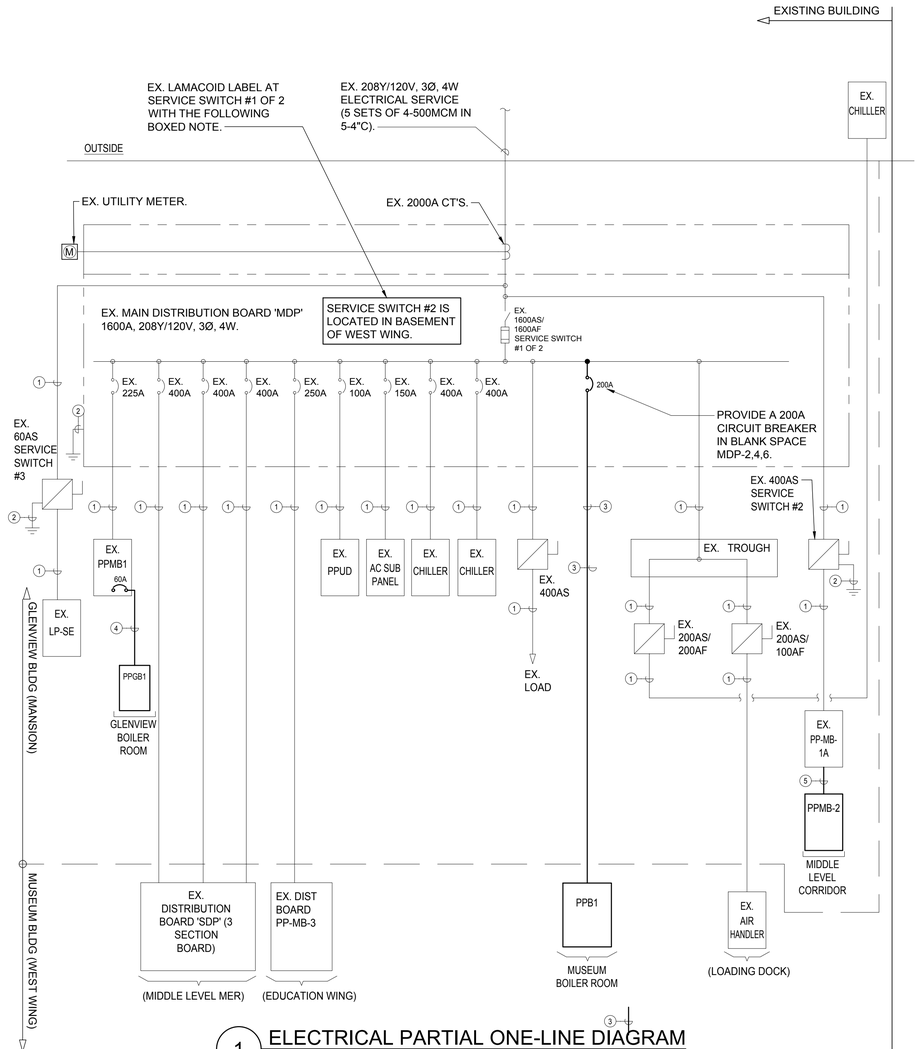
NOTES:
1. ALL EQUIPMENT AND WIRING ASSOCIATED WITH THIS DIAGRAM SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR UON.
2. CONTACTOR SHALL BE INSTALLED IN A NEMA-1 ENCLOSURE EQUIPPED WITH A LOCKABLE HINGED COVER.
3. BOILER BREAKGLASS STATIONS SHALL BE AS MANUFACTURED BY SQUARE-D, TYPE 9001KYK117 OR APPROVED EQUAL..
4. INTERCEPT SOURCE OF POWER TO EACH MOTOR CONTROL CIRCUIT AND ROUTE CIRCUIT THRU CONTACTOR. ALL WIRING TO BE 2-#12 UON. COORDINATE WITH MECHANICAL CONTRACTOR.

LIGHTING FIXTURE SCHEDULE

FIXTURE DESIGNATION	MANUFACTURER	CATALOG NUMBER	LAMPS	VOLTS	MOUNTING	REMARKS
A	MERCURY LIGHTING	LW14-4-3800-30K -HTA-1%-UNI-EM7	(1) 29W LED	120V	PENDANT	ARCHITECTURAL LINEAR AMBIENT LED LIGHT FIXTURE. PROVIDE EM OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, MINIMUM.
B	LITHONIA LIGHTING	WDGE2LED-P2-30K -80CRI-TM2-MVOLT-SRM -E20WC-PE-PIR-DDBXD	(1) 19W LED	120V	SURFACE	ARCHITECTURAL EXTERIOR WALL SCONCE WITH BI-LEVEL (100/35%) MOTION SENSOR AND PHOTOCELL. PROVIDE COLD WEATHER EM OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, MINIMUM.
	SURE-LITES	APX7R	LED	120V	SURFACE	EXIT SIGN WITH 90 MINUTES OF BATTERY BACKUP TIME, MIN., RED LETTERING ON WHITE BACKGROUND, WHITE THERMO PLASTIC HOUSING, SEALED LEAD CADMIUM BATTERY. PROVIDE CHEVRONS AS INDICATED ON DRAWINGS.

NOTES:

1.) VERIFY ALL FIXTURE CATALOG NUMBERS FOR INTENDED APPLICATIONS WITH REQUIRED ACCESSORIES.
2.) ALL BALLASTS AND DRIVERS IN FIXTURES LOCATED OUTDOORS SHALL BE ZERO DEGREE RATED STARTING TEMPERATURE. REFER TO DRAWINGS FOR LOCATION OF FIXTURES.
3.) LIGHT FIXTURES INDICATED AS EMERGENCY (EM) ON DRAWINGS SHALL CONTAIN AN EMERGENCY BACK-UP BATTERY WHERE POSSIBLE THE SHALL BE INTERNAL TO FIXTURE WITH A VISUAL INDICATING CHARGE LAMP AND TEST SWITCH. IF IT IS NOT POSSIBLE TO INSTALL THE EMERGENCY BATTERY IN THE FIXTURE, THE CONTRACTOR SHALL FURNISH & INSTALL A REMOTE EMERGENCY BATTERY. EACH BATTERY PACK SHALL BE CONNECTED SO THAT THE FIXTURE CAN BE SWITCHED UNDER NORMAL CONDITIONS AND IN THE EVENT OF A POWER OUTAGE, THE FIXTURE SHALL AUTOMATICALLY ILLUMINATE FOR 90 MINUTES WITH A 1200 LUMEN OUTPUT (TOTAL FROM FIXTURE), MINIMUM.
4.) ALL EXIT AND EMERGENCY FIXTURES SHALL BE FED FROM UNSWITCHED LEG OF ASSOCIATED LOCAL LIGHTING CIRCUITS.
5.) IN THE EVENT THE CONTRACTOR CHOOSES TO SUBSTITUTE LIGHT FIXTURES FOR THOSE THAT ARE SPECIFIED ON THE LIGHT FIXTURE SCHEDULE, THE CONTRACTOR SHALL SUBMIT POINT-TO-POINT PHOTOMETRIC CALCULATIONS FOR ALL AREAS WHERE THE SUBSTITUTED FIXTURES ARE INDICATED TO BE INSTALLED ON THE DRAWINGS. THESE CALCULATIONS SHALL BE SUBMITTED ALONG WITH THE LIGHT FIXTURE SHOP DRAWINGS.



1 ELECTRICAL PARTIAL ONE-LINE DIAGRAM

SCALE: NONE

PPB1 PANEL SCHEDULE

MAIN RATING: 225A MAIN C.B.: 200A KAIC RATING: 22KAIC
VOLTAGE: 208Y/120V PHASE: 3 WIRE: 4 MOUNTING: SURFACE

CIRC. NO.	LOAD DESCRIPTION	BKR. AMPS	NO. OF POLES	NO. OF POLES	BKR. AMPS	LOAD DESCRIPTION	CIRC. NO.
1							2
3	B-1	50	3	3	50	B-2	4
5							6
7							8
9	HWP-1	40	3	3	40	HWP-2	10
11							12
13							14
15	BP-1	20	3	3	20	BP-2	16
17							18
19	MOTORIZED DAMPERS	20	1	1	20	RECP GFI BOILER ROOM	20
21	LTS BOILER ROOM	20	1	1	15	BOILER BREAKGLASS STATION	22
23	LTS EXTERIOR BOILER ROOM	20	1	1	15	UH-1 BOILER ROOM	24
25	FA BOOSTER POWER SUPPLY	20LK	1	1	15	120V CO ALARM BOILER ROOM	26
27	BOILER CONTROL PANEL	20	1	1	15	CONDENSATE PUMP	28
29	-	-	-	-	-	-	30
31	-	-	-	-	-	-	32
33	-	-	-	-	-	-	34
35	SPARE	20	1	1	20	SPARE	36
37	SPARE	20	1	1	20	SPARE	38
39	SPARE	20	1	1	20	SPARE	40
41	SPARE	20	1	1	20	SPARE	42

LK - PROVIDE LOCKING TABS ON C.B.; GF - GFI TYPE C.B.; GP - GFP TYPE C.B.;
AF - ARC FAULT TYPE C.B.; ST - SHUNT TRIP C.B.

NOTES:

WIRING/CONDUIT LEGEND:

1. EX. FEEDER.
2. EX. GROUND.
3. 4-#3/0 & 1-#6 GND IN 2"C.
4. 4-#4 & 1-#10 GND IN 1-1/4"C.
5. 4-#10 & 1-#10 GND IN 3/4"C.

NOTES:

1. ALL CIRCUIT BREAKERS AND SWITCHES ARE 3 POLE, U.O.N.
2. EXISTING BRANCH CIRCUIT BREAKERS NOT SHOWN.
3. MDP IS MANUFACTURED BY METROPOLITAN PANELBOARD WITH WESTINGHOUSE ELECTRIC CORPORATION CIRCUIT BREAKERS.

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THE HUDSON RIVER MUSEUM

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914.963.4550

No.	ISSUE OR REVISION	DATE
1	BID ISSUE	09/16/22

PROJECT TITLE

HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

ELECTRICAL ONE-LINE AND SCHEDULES - BASE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: CT	DRAWING NO.
	CHECKED BY: DS	E6.1
	DATE: 01-17-2022	

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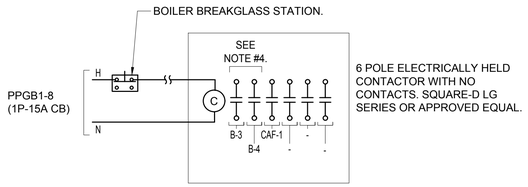

1 GLENVIEW BOILER EMERGENCY SHUTDOWN WIRING DIAGRAM

SCALE: NONE

NOTES:
1. ALL EQUIPMENT AND WIRING ASSOCIATED WITH THIS DIAGRAM SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR UON.
2. CONTACTOR SHALL BE INSTALLED IN A NEMA-1 ENCLOSURE EQUIPPED WITH A LOCKABLE HINGED COVER.
3. BOILER BREAKGLASS STATIONS SHALL BE AS MANUFACTURED BY SQUARE-D, TYPE 9001KYK117 OR APPROVED EQUAL.
4. INTERCEPT SOURCE OF POWER TO EACH MOTOR CONTROL CIRCUIT AND ROUTE CIRCUIT THRU CONTACTOR. ALL WIRING TO BE 2-#12 UON. COORDINATE WITH MECHANICAL CONTRACTOR.

EX. PARLOR SOUNDS PANEL SCHEDULE

MAIN RATING: 125A MAIN C.B.: MLO
VOLTAGE: 208Y/120V PHASE: 3 WIRE: 4 MOUNTING: SURFACE

CIRC. NO.	LOAD DESCRIPTION	BKR. AMPS	NO. OF POLES	NO. OF POLES	BKR. AMPS	LOAD DESCRIPTION	CIRC. NO.
1	EX. LOAD	20	1	1	20	EX. LOAD	2
3	EX. LOAD	20	1	1	20	EX. LOAD	4
5	EX. LOAD	20	1	1	20	EX. LOAD	6
7	EX. LOAD	20	1	1	20	EX. LOAD	8
9	EX. LOAD	20	1	1	20	EX. LOAD	10
11	EX. LOAD	20	1	1	20	EX. LOAD	12
13	EX. LOAD	20	1	1	20	EX. LOAD	14
15	EX. LOAD	20	1	1	20	EX. LOAD	16
17	EX. LOAD	20	1	1	20	EX. LOAD	18
19	EX. LOAD	20	1	2	50	EX. LOAD	20
21	EX. LOAD	20	1				22
23	EX. LOAD	20	1	1	20	EX. LOAD	24
25	EX. LOAD	20	1	1	20	EX. LOAD	26
27	EX. LOAD	20	1	1	20	EX. LOAD	28
29	EX. LOAD	20	1	1	20	EX. LOAD	30
31	EX. LOAD	20	1	1	20	EX. LOAD	32
33	EX. LOAD	20	1	1	20	EX. LOAD	34
35	CT-1	20*	1	1	20	EX. LOAD	36
37	CT-2	20*	1	-	-	BLANK	38
39	BLANK	-	-	-	-	BLANK	40
41	BLANK	-	-	-	-	BLANK	42

LK - PROVIDE LOCKING TABS ON C.B.; GF - GFI TYPE C.B.; GP - GFP TYPE C.B.

NOTES:
1. * - PROVIDE A 1P-20A CB IN LOCATION INDICATED.

EX. PPMB1 LEFT PANEL SCHEDULE

MAIN RATING: 400A MAIN C.B.: MLO
VOLTAGE: 208Y/120V PHASE: 3 WIRE: 4 MOUNTING: SURFACE

CIRC. NO.	LOAD DESCRIPTION	BKR. AMPS	NO. OF POLES	NO. OF POLES	BKR. AMPS	LOAD DESCRIPTION	CIRC. NO.
1	EX. LOAD	20	1	1	20	EX. LOAD	2
3	EX. LOAD	20	1	1	20	EX. LOAD	4
5	EX. LOAD	60	2	1	20	EX. LOAD	6
7				1	20	EX. LOAD	8
9	BLANK	-	-	1	20	EX. LOAD	10
11	BLANK	-	-	-	-	BLANK	12
13	EX. LOAD	15	3	3	60*	PANELBOARD PPGB1	14
15							16
17							18
19	EX. LOAD	15	3	3	30	EX. LOAD	20
21							22
23							24
25	EX. LOAD	30	3	3	30	EX. LOAD	26
27							28
29							30
31	EX. LOAD	15	3	50	3	EX. LOAD	32
33							34
35							36
37	BLANK	-	-	2	30	EX. LOAD	38
39	EX. LOAD	60	2				40
41				-	-	BLANK	42

LK - PROVIDE LOCKING TABS ON C.B.; GF - GFI TYPE C.B.; GP - GFP TYPE C.B.

NOTES:
1. * - REPLACE EXISTING 3P-15A CB IN POSITIONS 14,16,18 AND PROVIDE A 3P-60A CB IN LOCATION INDICATED.

PPMB-2 PANEL SCHEDULE

MAIN RATING: 125A MAIN C.B.: MLO KAIC RATING: 22KAIC
VOLTAGE: 208Y/120V PHASE: 3 WIRE: 4 MOUNTING: SURFACE

CIRC. NO.	LOAD DESCRIPTION	BKR. AMPS	NO. OF POLES	NO. OF POLES	BKR. AMPS	LOAD DESCRIPTION	CIRC. NO.
1	EUH-1	15	3	3	15	EUH-2	2
3							4
5							6
7	RECP CORR	20	1	-	-	-	8
9	-	-	-	-	-	-	10
11	SPARE	20	1	1	20	SPARE	12

LK - PROVIDE LOCKING TABS ON C.B.; GF - GFI TYPE C.B.

NOTES:

PPGB1 PANEL SCHEDULE

MAIN RATING: 125A MAIN C.B.: MLO KAIC RATING: 22KAIC
VOLTAGE: 208Y/120V PHASE: 3 WIRE: 4 MOUNTING: SURFACE

CIRC. NO.	LOAD DESCRIPTION	BKR. AMPS	NO. OF POLES	NO. OF POLES	BKR. AMPS	LOAD DESCRIPTION	CIRC. NO.
1	B-3	15	2	1	15	120V CO ALARM BOILER ROOM	2
3				1	15	MOTORIZED DAMPER	4
5	BF-1	30	2	1	20	LTS	6
7				1	15	BOILER BREAKGLASS STATION	8
9	B-4	15	2	-	-	-	10
11				1	20	RECP GFI	12
13	CAF-1	20	3	1	20LK	FA BOOSTER POWER SUPPLY	14
15				-	-	-	16
17				1	20	BOILER ROOM CONTROL PANEL	18
19	-	-	-	-	-	-	20
21	-	-	-	-	-	-	22
23	-	-	-	-	-	-	24
25	SPARE	20	1	1	20	SPARE	26
27	SPARE	20	1	1	20	SPARE	28
29	SPARE	20	1	1	20	SPARE	30

LK - PROVIDE LOCKING TABS ON C.B.; GF - GFI TYPE C.B.; GP - GFP TYPE C.B.

NOTES:

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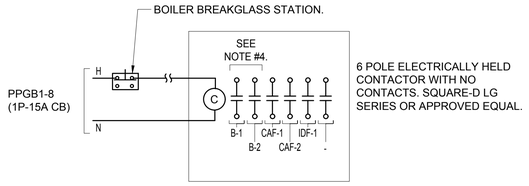
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

ELECTRICAL SCHEDULES - BASE

SEAL

SCALE	AS SHOWN
PROJECT NO.	NCOY0006.00
DRAWN BY	CT
DRAWING NO.	E6.2
CHECKED BY	DS
DATE	01-17-2022



PPGB1-8
(1P-15A CB)

6 POLE ELECTRICALLY HELD CONTACTOR WITH NO CONTACTS. SQUARE-D LG SERIES OR APPROVED EQUAL.

2 GLENVIEW BOILER EMERGENCY SHUTDOWN WIRING DIAGRAM

SCALE: NONE

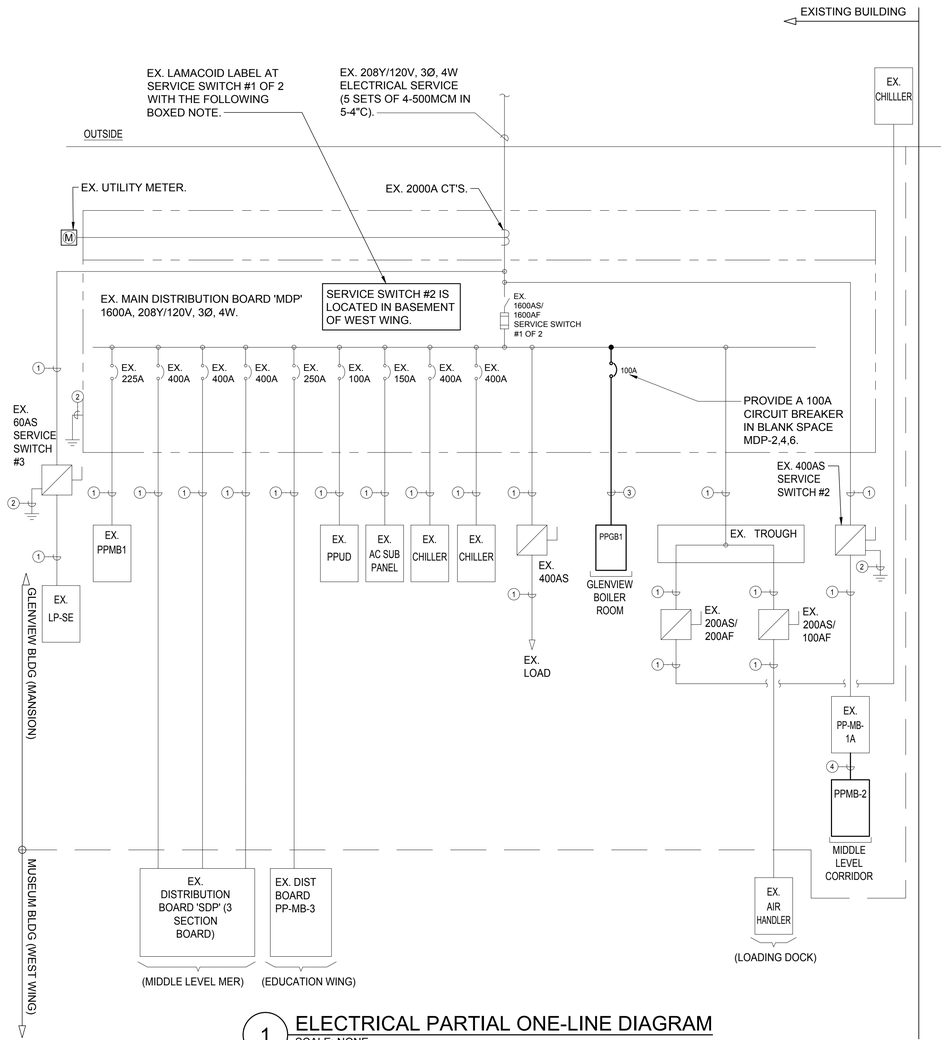
NOTES:
1. ALL EQUIPMENT AND WIRING ASSOCIATED WITH THIS DIAGRAM SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR UON.
2. CONTACTOR SHALL BE INSTALLED IN A NEMA-1 ENCLOSURE EQUIPPED WITH A LOCKABLE HINGED COVER.
3. BOILER BREAKGLASS STATIONS SHALL BE AS MANUFACTURED BY SQUARE-D, TYPE 9001KYK117 OR APPROVED EQUAL.
4. INTERCEPT SOURCE OF POWER TO EACH MOTOR CONTROL CIRCUIT AND ROUTE CIRCUIT THRU CONTACTOR. ALL WIRING TO BE 2-#12 UON. COORDINATE WITH MECHANICAL CONTRACTOR.

LIGHTING FIXTURE SCHEDULE

FIXTURE DESIGNATION	MANUFACTURER	CATALOG NUMBER	LAMPS	VOLTS	MOUNTING	REMARKS
A	MERCURY LIGHTING	LW14-4-3800-30K -HTA-1%-UNI-EM7	(1) 29W LED	120V	PENDANT	ARCHITECTURAL LINEAR AMBIENT LED LIGHT FIXTURE. PROVIDE EM OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, MINIMUM.

NOTES:

1.) VERIFY ALL FIXTURE CATALOG NUMBERS FOR INTENDED APPLICATIONS WITH REQUIRED ACCESSORIES.
2.) ALL BALLASTS AND DRIVERS IN FIXTURES LOCATED OUTDOORS SHALL BE ZERO DEGREE RATED STARTING TEMPERATURE. REFER TO DRAWINGS FOR LOCATION OF FIXTURES.
3.) LIGHT FIXTURES INDICATED AS EMERGENCY (EM) ON DRAWINGS SHALL CONTAIN AN EMERGENCY BACK-UP BATTERY WHERE POSSIBLE THE SHALL BE INTERNAL TO FIXTURE WITH A VISUAL INDICATING CHARGE LAMP AND TEST SWITCH. IF IT IS NOT POSSIBLE TO INSTALL THE EMERGENCY BATTERY IN THE FIXTURE, THE CONTRACTOR SHALL FURNISH & INSTALL A REMOTE EMERGENCY BATTERY. EACH BATTERY PACK SHALL BE CONNECTED SO THAT THE FIXTURE CAN BE SWITCHED UNDER NORMAL CONDITIONS AND IN THE EVENT OF A POWER OUTAGE, THE FIXTURE SHALL AUTOMATICALLY ILLUMINATE FOR 90 MINUTES WITH A 1200 LUMEN OUTPUT (TOTAL FROM FIXTURE), MINIMUM.
4.) ALL EXIT AND EMERGENCY FIXTURES SHALL BE FED FROM UNSWITCHED LEG OF ASSOCIATED LOCAL LIGHTING CIRCUITS.
5.) IN THE EVENT THE CONTRACTOR CHOOSES TO SUBSTITUTE LIGHT FIXTURES FOR THOSE THAT ARE SPECIFIED ON THE LIGHT FIXTURE SCHEDULE, THE CONTRACTOR SHALL SUBMIT POINT-TO-POINT PHOTOMETRIC CALCULATIONS FOR ALL AREAS WHERE THE SUBSTITUTED FIXTURES ARE INDICATED TO BE INSTALLED ON THE DRAWINGS. THESE CALCULATIONS SHALL BE SUBMITTED ALONG WITH THE LIGHT FIXTURE SHOP DRAWINGS.



1 ELECTRICAL PARTIAL ONE-LINE DIAGRAM

SCALE: NONE

WIRING/CONDUIT LEGEND:

1. EX. FEEDER.
2. EX. GROUND.
3. 4-#2 & 1-#8 GND IN 1-1/4"C.
4. 4-#10 & 1-#10 GND IN 3/4"C.

NOTES:

1. ALL CIRCUIT BREAKERS AND SWITCHES ARE 3 POLE, U.O.N.
2. EXISTING BRANCH CIRCUIT BREAKERS NOT SHOWN.
3. MDP IS MANUFACTURED BY METROPOLITAN PANELBOARD WITH WESTINGHOUSE ELECTRIC CORPORATION CIRCUIT BREAKERS.

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HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

ELECTRICAL ONE-LINE DIAGRAM AND SCHEDULE - ALTERNATE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: CT	DRAWING NO.
	CHECKED BY: DS	E6.3
	DATE: 01-17-2022	

EX. PARLOR SOUNDS PANEL SCHEDULE

MAIN RATING: 125A MAIN C.B.: MLO

VOLTAGE: 208Y/120V PHASE: 3 WIRE: 4 MOUNTING: SURFACE

CIRC. NO.	LOAD DESCRIPTION	BKR. AMPS	NO. OF POLES	NO. OF POLES	BKR. AMPS	LOAD DESCRIPTION	CIRC. NO.
1	EX. LOAD	20	1	1	20	EX. LOAD	2
3	EX. LOAD	20	1	1	20	EX. LOAD	4
5	EX. LOAD	20	1	1	20	EX. LOAD	6
7	EX. LOAD	20	1	1	20	EX. LOAD	8
9	EX. LOAD	20	1	1	20	EX. LOAD	10
11	EX. LOAD	20	1	1	20	EX. LOAD	12
13	EX. LOAD	20	1	1	20	EX. LOAD	14
15	EX. LOAD	20	1	1	20	EX. LOAD	16
17	EX. LOAD	20	1	1	20	EX. LOAD	18
19	EX. LOAD	20	1	2	50	EX. LOAD	20
21	EX. LOAD	20	1				22
23	EX. LOAD	20	1	1	20	EX. LOAD	24
25	EX. LOAD	20	1	1	20	EX. LOAD	26
27	EX. LOAD	20	1	1	20	EX. LOAD	28
29	EX. LOAD	20	1	1	20	EX. LOAD	30
31	EX. LOAD	20	1	1	20	EX. LOAD	32
33	EX. LOAD	20	1	1	20	EX. LOAD	34
35	CT-1	20*	1	1	20	EX. LOAD	36
37	CT-2	20*	1	-	-	BLANK	38
39	BLANK	-	-	-	-	BLANK	40
41	BLANK	-	-	-	-	BLANK	42

LK - PROVIDE LOCKING TABS ON C.B.; GF - GFI TYPE C.B.; GP - GFP TYPE C.B.

NOTES:
1. * - PROVIDE A 1P-20A CB IN LOCATION INDICATED.

PPGB1 PANEL SCHEDULE

MAIN RATING: 125A MAIN C.B.: 100A KAIC RATING: 22KAIC

VOLTAGE: 208Y/120V PHASE: 3 WIRE: 4 MOUNTING: SURFACE

CIRC. NO.	LOAD DESCRIPTION	BKR. AMPS	NO. OF POLES	NO. OF POLES	BKR. AMPS	LOAD DESCRIPTION	CIRC. NO.
1	B-1	20	2	1	15	120V CO ALARM BOILER ROOM	2
3				1	15	MOTORIZED DAMPERS	4
5	BF-1	30	2	1	20	LTS	6
7				1	15	BOILER BREAKGLASS STATION	8
9	B-2	20	2	1	15	CONTROL VALVES	10
11				1	20	RECP GFI	12
13	CAF-1	15	3	1	20LK	FA BOOSTER POWER SUPPLY	14
15				1	20	PCP PANEL	16
17				1	20	BOILER ROOM CONTROL PANEL	18
19	HWP-1	45	3	3	15	CAF-2	20
21							22
23							24
25	IDF-1 ON CHIMNEY	15	3	3	45	HWP-2	26
27							28
29							30
31	UH-1	15	1	1	15	UH-2	32
33	-	-	-	-	-	-	34
35	-	-	-	-	-	-	36
37	SPARE	20	1	1	20	SPARE	38
39	SPARE	20	1	1	20	SPARE	40
41	SPARE	20	1	1	20	SPARE	42

LK - PROVIDE LOCKING TABS ON C.B.; GF - GFI TYPE C.B.; GP - GFP TYPE C.B.

NOTES:

PPMB-2 PANEL SCHEDULE

MAIN RATING: 125A MAIN C.B.: MLO KAIC RATING: 22KAIC

VOLTAGE: 208Y/120V PHASE: 3 WIRE: 4 MOUNTING: SURFACE

CIRC. NO.	LOAD DESCRIPTION	BKR. AMPS	NO. OF POLES	NO. OF POLES	BKR. AMPS	LOAD DESCRIPTION	CIRC. NO.
1	EUH-1	15	3	3	15	EUH-2	2
3							4
5							6
7	RECP CORR	20	1	-	-	-	8
9	-	-	-	-	-	-	10
11	SPARE	20	1	1	20	SPARE	12

LK - PROVIDE LOCKING TABS ON C.B.; GF - GFI TYPE C.B.

NOTES:

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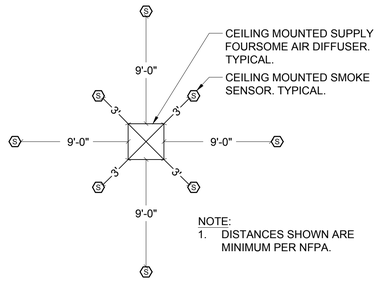
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

ELECTRICAL SCHEDULES - ALTERNATE

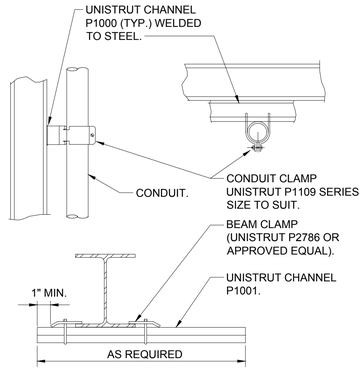
SEAL

SCALE	AS SHOWN
PROJECT NO.	NCOY0006.00
DRAWN BY	CT
DRAWING NO.	E6.4
CHECKED BY	DS
DATE	01-17-2022



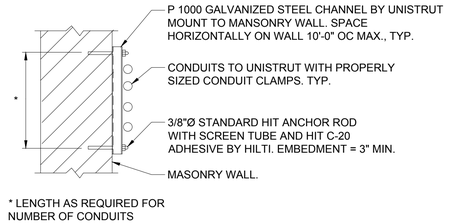
11 CEILING MOUNTED SMOKE DETECTOR LOCATION WITH RESPECT TO AIR DIFFUSER

SCALE: NONE



9 CONDUIT SUPPORTED FROM STRUCTURAL STEEL DETAIL

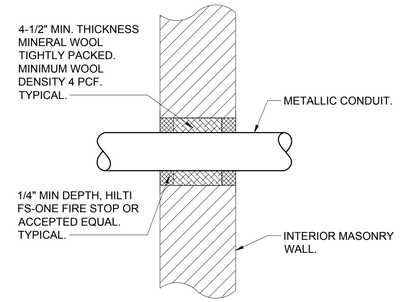
SCALE: NONE



* LENGTH AS REQUIRED FOR NUMBER OF CONDUITS

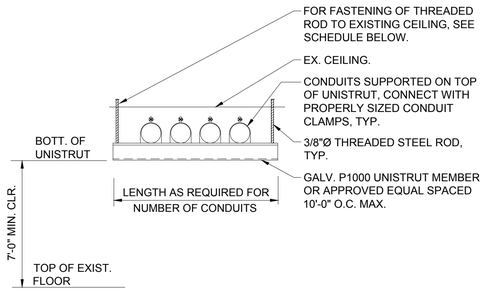
6 TYPICAL CONDUIT SUPPORT ON MASONRY DETAIL

SCALE: NONE



3 TYPICAL INTERIOR MASONRY WALL CONDUIT PENETRATION DETAIL

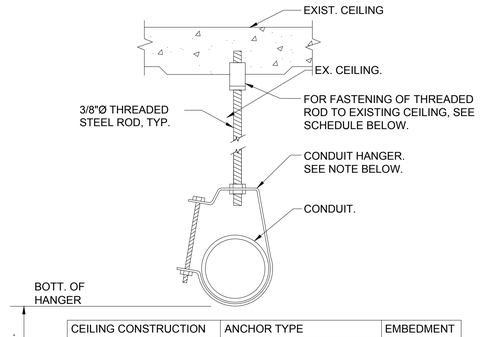
SCALE: NONE



CEILING CONSTRUCTION	ANCHOR TYPE	EMBEDMENT
NORMAL WT. CONC	HILTI HDI DROP-IN ANCHOR	1" MIN.
CINDER CONCRETE	HILTI KWIK BOLT II	3" MIN.
HOLLOW CONSTRUCTION	TOGGLE BOLTS	NA

10 TRAPESE SUPPORT DETAIL

SCALE: NONE

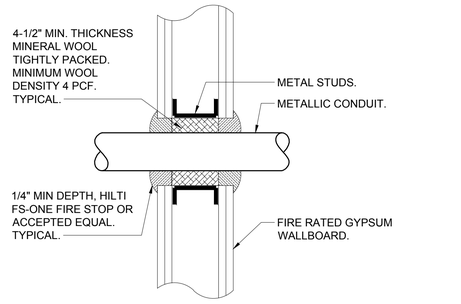


CEILING CONSTRUCTION	ANCHOR TYPE	EMBEDMENT
NORMAL WT. CONC	HILTI HDI DROP-IN ANCHOR	1" MIN.
CINDER CONCRETE	HILTI KWIK BOLT II	3" MIN.
HOLLOW CONSTRUCTION	TOGGLE BOLTS	NA

NOTE: CLEVIS HANGERS REQUIRED ON PIPING LARGER THAN 1". GENERAL PURPOSE HANGERS MAY BE USED ON PIPING 1" OR SMALLER.

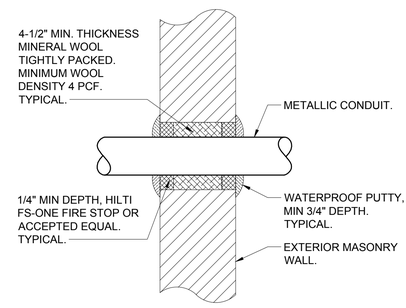
8 SINGLE CONDUIT HANGER DETAIL

SCALE: NONE



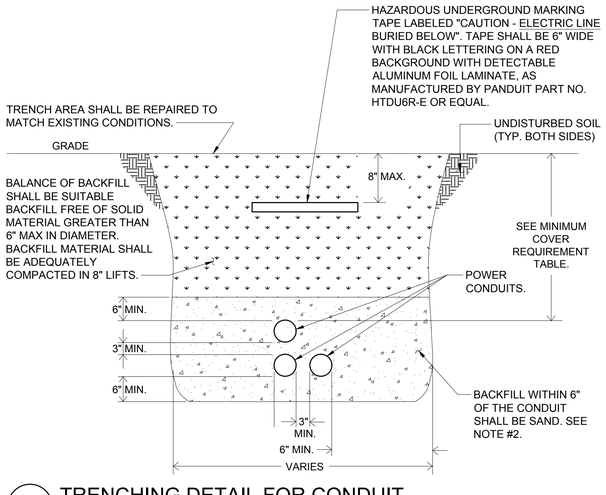
5 TYPICAL FIRE RATED GYPSUM WALL CONDUIT PENETRATION DETAIL

SCALE: NONE



2 TYPICAL EXTERIOR MASONRY WALL ABOVE GRADE CONDUIT PENETRATION DETAIL

SCALE: NONE



7 TRENCHING DETAIL FOR CONDUIT

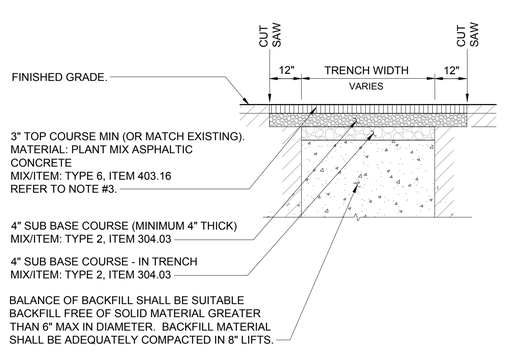
SCALE: NONE

MINIMUM COVER REQUIREMENT TABLE	
LOCATION	NONMETALLIC RACEWAYS LISTED FOR DIRECT BURIAL WITHOUT CONCRETE ENCASEMENT OR OTHER APPROVED RACEWAYS
ALL LOCATION NOT SPECIFIED BELOW.	18"
IN TRENCH BELOW 2-IN. THICK CONCRETE OR EQUIVALENT.	12"
UNDER MINIMUM OF 4-IN. THICK CONCRETE EXTERIOR SLAB WITH NO VEHICULAR TRAFFIC AND THE SLAB EXTENDING NOT LESS THAN 6 IN. BEYOND THE UNDERGROUND INSTALLATION.	4" SEE NOTE #2.
UNDER STREETS, HIGHWAYS, ROADS, ALLEYS, DRIVEWAYS, AND PARKING LOTS.	24"

NOTES:
1.) DETAIL SHOWN FOR INFORMATION PURPOSES. SAME CONCEPT SHALL ALSO APPLY FOR SINGLE CONDUITS.

2.) SAND MAY BE OMITTED FOR INSTALLATIONS WHERE COVER REQUIREMENTS ARE 6" OR LESS.

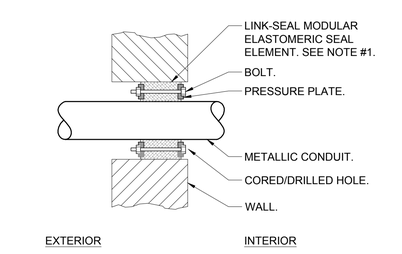
3.) ELECTRICAL CONDUITS TO BE INSTALLED 14" MINIMUM AWAY FROM GAS PIPING.



NOTES:
1.) THICKNESS INDICATED REFERS TO COMPACTED MEASURE.
2.) ITEM NUMBERS REFER TO NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
3.) REFER TO TRENCHING DETAIL FOR TRENCH INFORMATION.

4 BITUMINOUS PAVEMENT REPLACEMENT DETAIL

SCALE: NONE



NOTES:
1. SEAL ASSEMBLY BASED ON MODEL "C" LINK-SEAL MODULAR SEAL, WITH EPDM SEAL ELEMENT, REINFORCED NYLON POLYMER PRESSURE PLATES, STEEL WITH 2-PART ZINC DICHROMATE & CORROSION INHIBITING COATING NUTS AND BOLTS AND WITH A OPERATING TEMPERATURE RANGE OF -40°F TO +250°F.
2. PROVIDE AND INSTALL TWO SEALS WHEN PENETRATED WALL THICKNESS IS GREATER THAN 12".
3. PROVIDE SCHEDULE 80 WALL SLEEVE FOR NEW WALL CONSTRUCTION PER MANUFACTURER'S REQUIREMENTS.

1 TYPICAL EXTERIOR MASONRY WALL BELOW GRADE CONDUIT PENETRATION DETAIL

SCALE: NONE

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No.	ISSUE OR REVISION	DATE
1	BID ISSUE	09/16/22

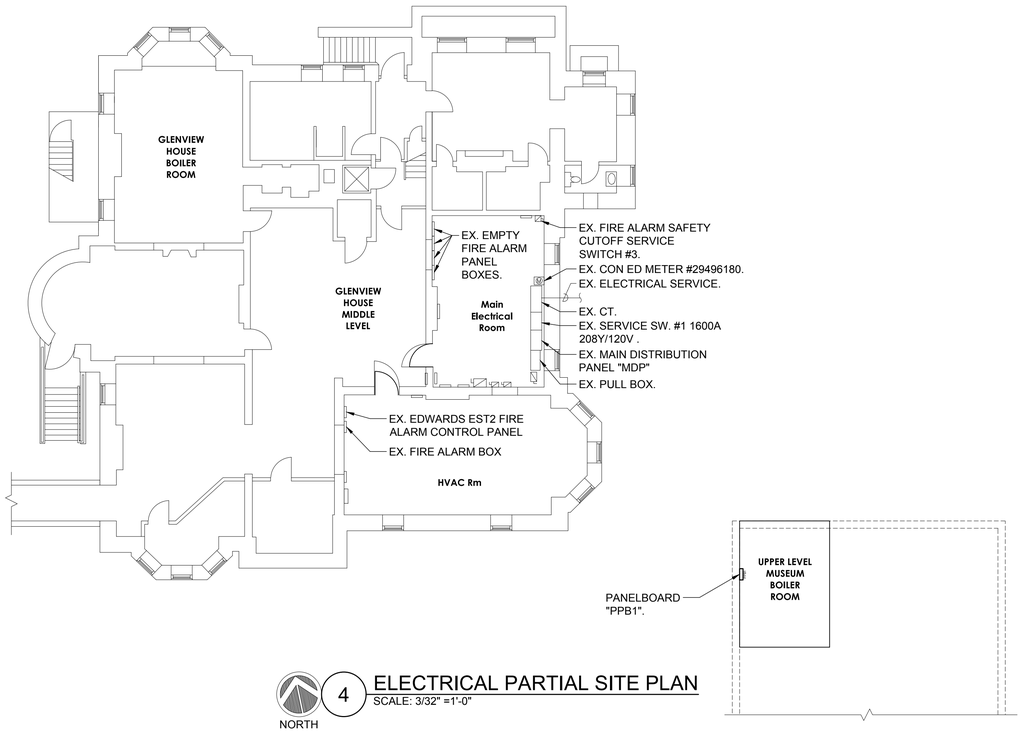
PROJECT TITLE

HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

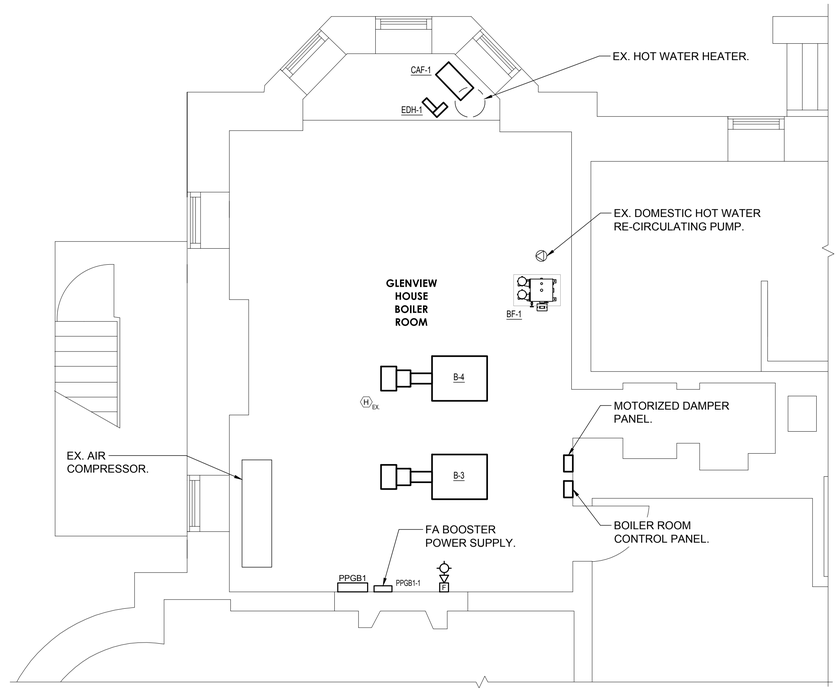
ELECTRICAL DETAILS - BASE & ALTERNATE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: CT	DRAWING NO.
	CHECKED BY: DS	E7.1
	DATE: 01-17-2022	



NORTH

4 ELECTRICAL PARTIAL SITE PLAN
SCALE: 3/32" =1'-0"

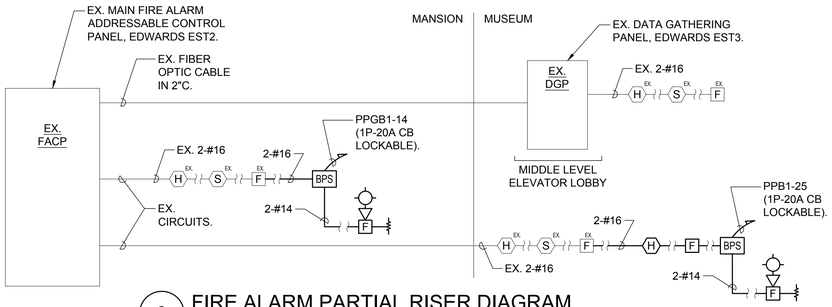


NORTH

2 ELECTRICAL GLENVIEW BOILER ROOM PLAN
SCALE: 1/4" =1'-0"

NOTES:

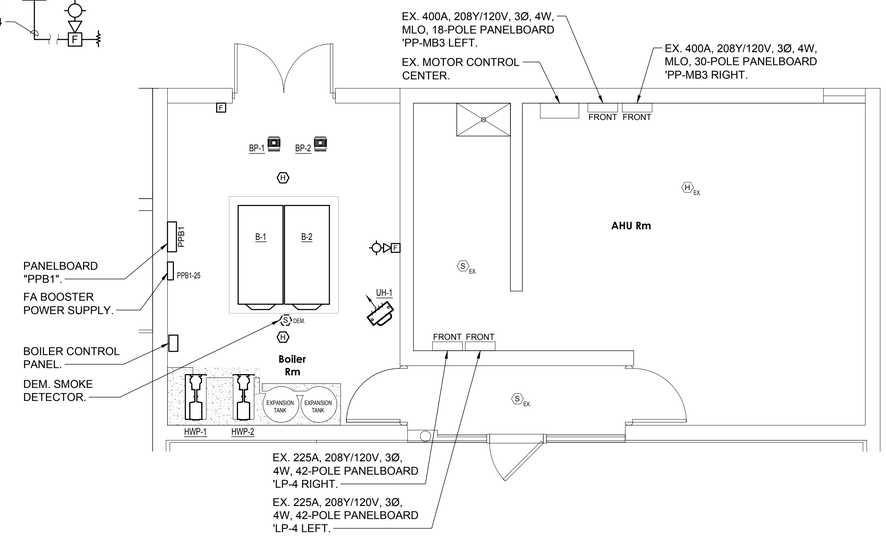
1. SEE DRAWING E3.2 FOR 120V CARBON MONOXIDE ALARM IN BOILER ROOM.



3 FIRE ALARM PARTIAL RISER DIAGRAM
SCALE: NONE

RISER NOTES:

1. THIS IS NOT A POINT-TO-POINT WIRING DIAGRAM. PRIOR TO STARTING ANY WORK, A WORKING POINT-TO-POINT WIRING DIAGRAM SHALL BE OBTAINED FROM FIRE ALARM SYSTEM VENDOR AND PERFORM ALL WORK IN ACCORDANCE WITH THAT DIAGRAM.
2. ELECTRICAL CONTRACTOR SHALL INCLUDE IN THE BASE BID ALL 120V CIRCUITS THAT ARE REQUIRED TO SUPPORT THE OPERATION OF THE FIRE ALARM SYSTEM. COORDINATE REQUIREMENTS WITH THE FIRE ALARM VENDOR.
3. QUANTITY OF STROBE BOOSTER POWER SUPPLY PANELS AND ASSOCIATED 120V CIRCUITS SHALL BE COORDINATED WITH SELECTED FIRE ALARM SYSTEM MANUFACTURER AND/OR FIRE ALARM VENDOR.
4. PROVIDE ALL NECESSARY WIRING, MODULES, COMPONENTS, EXTENDER CABINET, AND PROGRAMMING REQUIRED TO CONNECT NEW DEVICES TO EXISTING SYSTEM.
5. PROVIDE ALL NECESSARY HARDWARE AND PROGRAMMING TO PROVIDE THE CLIENT WITH 20% SPARE CAPACITY ON ALL INITIATING AND INDICATING CIRCUITS.
6. PROVIDE AS PART OF THE BASE CONTRACT ALL LABOR AND MATERIALS TO INSTALL TWO (2) ADDITIONAL FIRE ALARM DEVICES DURING CONSTRUCTION. THE ADDITIONAL FIRE ALARM DEVICES CAN BE BUT NOT LIMITED TO SMOKE DETECTOR, HEAT DETECTOR, DOOR HOLDER, DUCT DETECTOR, FAN SHUTDOWN, TAMPER SWITCHES, FLOW SWITCHES, ETC. INCLUDE ALL LABOR AND MATERIALS INCLUDING WIRE, BOXES, CONDUIT, TERMINATIONS, HARDWARE, SOFTWARE, PROGRAMMING AND TESTING.
7. ALL VISUAL ALARM DEVICES SHALL BE ADA COMPLIANT.
8. PROVIDE REMOTE LED INDICATORS FOR ALL CONCEALED FIRE ALARM DEVICES SUCH AS DUCT SMOKE DETECTORS, ABOVE CEILING SMOKE DETECTORS, ELEVATOR SHAFT DETECTORS, MONITORING AND CONTROL MODULES, ETC. LED INDICATORS FOR DEVICES MOUNTED ABOVE DROP CEILINGS SHALL BE MOUNTED BELOW ASSOCIATED DEVICES. LABEL INDICATORS TO INDICATE DEVICE SERVED.
9. CONTRACTOR TO PROVIDE SMOKE DETECTOR(S) IN ALL LOCATIONS CONTAINING FIRE ALARM CONTROL PANELS, DATA GATHERING PANELS, BOOSTER POWER SUPPLIES, OR ANY OTHER FIRE ALARM SYSTEM PANEL, WHETHER SHOWN ON PLANS OR NOT.
10. CONTROL MODULES USED TO INITIATE EMERGENCY CONTROL FUNCTIONS THAT DO NOT FAIL IN A SAFE POSITION SHALL BE LOCATED WITHIN 3 FEET OF THE COMPONENT CONTROLLING THE EMERGENCY CONTROL FUNCTION PER NFPA 72. THIS INCLUDES, BUT IS NOT LIMITED TO, CONTROL MODULES CONNECTED TO FAN MOTOR CONTROLLERS, ELEVATOR CONTROLLERS, ETC.
11. BATTERY BACKUP FOR FACP SHALL PROVIDE A MINIMUM OF 24 HOURS OF STAND BY POWER FOLLOWED BY 45 MINUTES OF ALARM.
12. ALL FIRE ALARM PANELS, JUNCTION BOX COVERS, ETC SHALL BE PAINTED "FIRE DEPARTMENT RED".
13. EXISTING DEVICES NOT SHOWN ON RISER.



NORTH

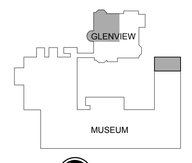
1 FIRE ALARM UPPER LEVEL MUSEUM BOILER ROOM PLAN
SCALE: 1/4" =1'-0"

NOTES:

1. SEE DRAWING E3.1 FOR 120V CARBON MONOXIDE ALARM IN BOILER ROOM.

FIRE ALARM SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
F	-	FIRE ALARM MANUAL PULL STATION
F	-	FIRE ALARM COMBINATION AUDIO/VISUAL DEVICE (15/75 CD - STROBE)
S	-	SMOKE DETECTOR
S AC	-	DUCT MOUNTED SMOKE DETECTOR
H	-	HEAT DETECTOR
CO	-	CARBON MONOXIDE DETECTOR
ANN	-	FIRE ALARM ANNUNCIATOR PANEL
CM	CM	FIRE ALARM CONTROL MODULE
MM	MM	FIRE ALARM MONITORING MODULE
FACP	FACP	FIRE ALARM CONTROL PANEL
BPS	BPS	BOOSTER POWER SUPPLY
R	-	FIRE ALARM RELAY
~W~	EOL	END OF LINE RESISTOR
— - —	SD OR CFSD	SMOKE DAMPER



NORTH

KEYPLAN
SCALE: NONE

ROOF
ATTIC
THIRD
SECOND
UPPER LEVEL
FIRST
MIDDLE LEVEL
BASEMENT
LOWER LEVEL

MUSEUM GLENVIEW

VERTICAL KEYPLAN
SCALE: NONE

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No.	ISSUE OR REVISION	DATE
1	BID ISSUE	09/16/22

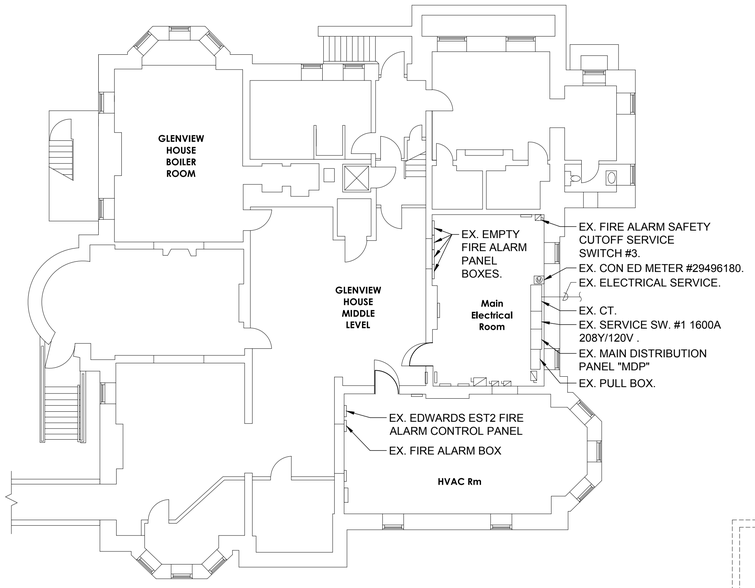
PROJECT TITLE

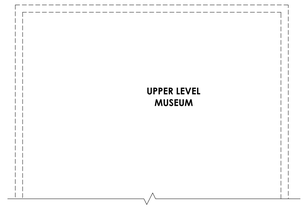
HUDSON RIVER MUSEUM
BOILER REPLACEMENT
HUDSON RIVER MUSEUM
511 WARBURTON AVENUE
YONKERS, NY 10701

DRAWING TITLE

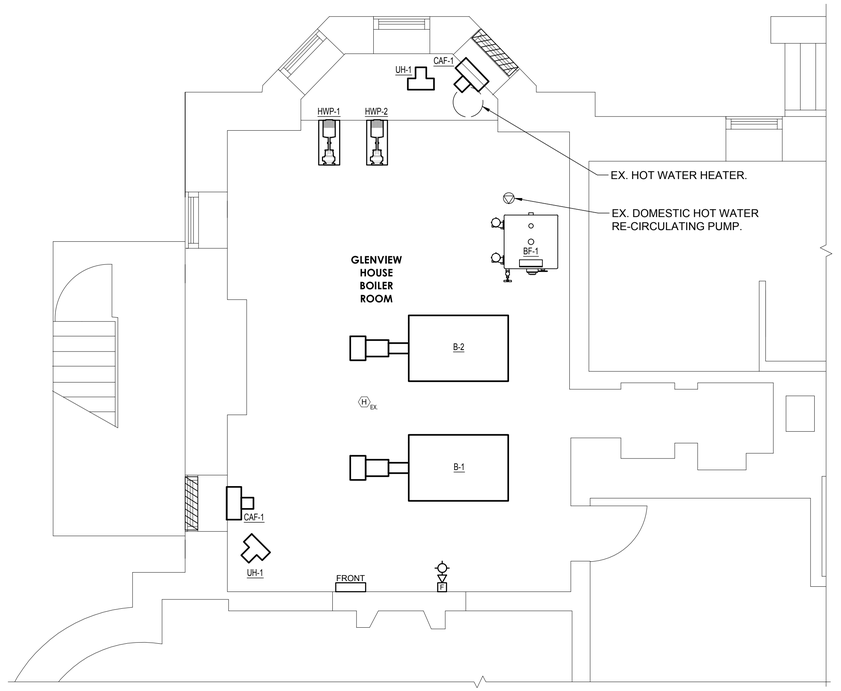
FIRE ALARM RISER DIAGRAM AND PART PLANS - BASE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: CT	DRAWING NO.
	CHECKED BY: DS	FA1.1
	DATE: 01-17-2022	





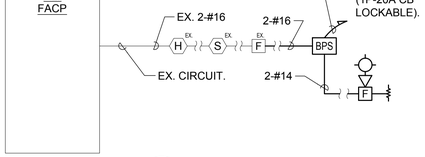
3 ELECTRICAL PARTIAL SITE PLAN
SCALE: 3/32" =1'-0"
NORTH



1 ELECTRICAL GLENVIEW BOILER ROOM PLAN
SCALE: 1/4" =1'-0"
NORTH

NOTES:

1. SEE DRAWING E3.4 FOR 120V CARBON MONOXIDE ALARM IN BOILER ROOM.



2 FIRE ALARM PARTIAL RISER DIAGRAM
SCALE: NONE

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13. EXISTING DEVICES NOT SHOWN ON RISER.

FIRE ALARM SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
F	-	FIRE ALARM MANUAL PULL STATION
F	-	FIRE ALARM COMBINATION AUDIO/VISUAL DEVICE (15/75 CD - STROBE)
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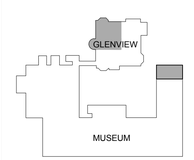
S AC-	-	DUCT MOUNTED SMOKE DETECTOR
H	-	HEAT DETECTOR
CO	-	CARBON MONOXIDE DETECTOR
ANN	-	FIRE ALARM ANNUNCIATOR PANEL
CM	CM	FIRE ALARM CONTROL MODULE
MM	MM	FIRE ALARM MONITORING MODULE
FACP	FACP	FIRE ALARM CONTROL PANEL
BPS	BPS	BOOSTER POWER SUPPLY
R	-	FIRE ALARM RELAY
-WW-	EOL	END OF LINE RESISTOR
— - —	SD OR CFSD	SMOKE DAMPER



KEYPLAN
SCALE: NONE
NORTH

ROOF	ROOF
	ATTIC
	THIRD
	SECOND
UPPER LEVEL	FIRST
MIDDLE LEVEL	BASEMENT
LOWER LEVEL	
MUSEUM	GLENVIEW

VERTICAL KEYPLAN
SCALE: NONE

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BOILER REPLACEMENT
HUDSON RIVER MUSEUM
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DRAWING TITLE

FIRE ALARM RISER DIAGRAM AND PART PLANS - ALTERNATE

SEAL	SCALE	PROJECT NO.
	AS SHOWN	NCOY0006.00
	DRAWN BY: CT	DRAWING NO.
	CHECKED BY: DS	FA1.2
	DATE: 01-17-2022	

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