



Office of General Services

DESIGN & CONSTRUCTION GROUP
THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA
ALBANY, NY 12242

ADDENDUM NO. 1 TO PROJECT NO. M3202

HVAC WORK
PROVIDE DA TANK ACCESSORY REPAIRS, BUILDING NO. 52 – POWERHOUSE
SING SING CORRECTIONAL FACILITY
354 HUNTER STREET
OSSINING, NY

March 13, 2025

NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.

SPECIFICATIONS

1. SECTION 232201 STEAM SPECIALTIES: Discard the Section bound in the Project Manual and substitute the accompanying Section (pages 232201 – 1 thru 232201 – 10) noted “Revised 3/13/2025”

DRAWINGS

2. Revised Drawing:
 - a. Drawing No. M-001, noted “ADDENDUM-1 3/13/25”, accompanies this Addendum and supersedes the same numbered originally issued drawing.

END OF ADDENDUM

Brady M. Sherlock, P.E.
Director, Division of Design
Design & Construction

SECTION 232201

STEAM SPECIALTIES

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Pipe and Pipe Fittings: Section 232000 - HVAC Piping.
- B. Equipment Identification: Section 230554 - Duct and Equipment Identification.

1.02 SUBMITTALS

- A. Product Data: Manufacturer's catalog sheets, specifications and installation instructions for all items specified.
- B. Delegated Design Information for Condensate Receiver (Tank) to include existing conditions documentation, tank general arrangement drawing, connections to existing piping and rigging plans (See Part 1.05. C).
- C. Shop Drawings:
 - 1. Condensate Receiver (Tank):
 - a. Drawing showing arrangement of condensate receiver and miscellaneous connections including inlets, outlet, overflow, makeup, vents, drains, instrumentation ports and any associated valves, and accessories. Include dimensions of tank, wall thicknesses, and location, size, type, and rating of pipe connections and access openings. Include design features and fabrication details.
 - b. Weight of the entire assembly, empty and flooded.
 - c. Design and construction (including design pressure and temperature) of tank, valves, and all accessories.
 - d. Recommendations for anchorage to foundation.
 - e. Design data on capacity, overflow, retention time, surge volume, level gage, and all accessories.
 - f. Materials of construction.
 - 2. Condensate Receiver Flash Tank:
 - a. Drawing showing arrangement of flash tank and miscellaneous connections including inlets, outlet, vents, drains, instrumentation ports and any associated valves, and accessories. Include dimensions of tank, wall thicknesses, and location, size, type, and rating of pipe connections.
 - b. Weight of the entire assembly, empty and flooded.
 - c. Design and construction (including design pressure and temperature) of tank, valves, and all accessories.
 - d. Recommendations for anchorage to foundation.
 - e. Design data on capacity, flash volume and any accessories.
 - f. Materials of construction.

- D. Quality Assurance Submittals:
 - 1. Manufacturer's Qualifications: Firms experienced in manufacturing similar equipment to those indicated for this project and that have a record of successful in-service performance.
 - 2. Submit ASME Manufacturer's Data Report For Pressure Vessels, U1 or U-1A.

1.03 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms experienced in manufacturing similar equipment to those indicated for this project and that have a record of successful in-service performance.
- B. Regulatory Requirements: Fabricate and stamp all pressure vessels to comply with ASME Boiler and Pressure Vessel Code, Section VIII, unless otherwise noted. Submit ASME Manufacturer's Data Report For Pressure Vessels, U1 or U-1A.
- C. The Owner (State of New York) may perform an internal and/or external inspection of the equipment upon delivery, after installation and before start-up. The Owner's Authorized Inspector has jurisdiction over the equipment and vessel installation.

1.04 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this Specification to the extent referenced and otherwise applicable. The publications are referenced in the text by basic designation only.
- B. American Society for Testing and Materials (ASTM):
 - 1. A53: Welded and Seamless Steel Pipe
 - 2. A105: Forgings, Carbon Steel, For Piping Components
 - 3. A106: Seamless Carbon Steel Pipe for High Temperature Service
 - 4. A234: Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures
 - 5. A285: Pressure Vessel Plates, Carbon Steel, Low and Intermediate-Tensile Strength
 - 6. A515: Pressure Vessel Plates, Carbon Steel, for Intermediate-and-Higher-Temperature Service
 - 7. A516: Pressure Vessel Plates, Carbon Steel, for Moderate-and-Lower-Temperature Service
- C. American National Standard Institute (ANSI):
 - 1. B16.5: Pipe Flanges And Flanged Fittings
 - 2. B16.9: Factory Made Wrought Steel Butt Welding Fittings
 - 3. B16.34: Valves--Flanged, Threaded, and Welding End
- D. American Society of Mechanical Engineers (AMSE):

1. Boiler and Pressure Vessel Code Section VIII: Pressure Vessels, Division I and II.
 2. B31.1: Power Piping
- E. National Board of Boiler and Pressure Vessels Inspectors:
1. Inspection Code (Current Issue)

1.05 DESIGN REQUIREMENTS

- A. Materials: The fabricator shall ensure that all materials specifications are adhered to. All materials shall be marked with either manufacturer's stamp or fabricator's identification based on mill analysis for permanent identification.
- B. Pressure Vessels
1. Construction Details
 - a. The following provisions shall apply, in addition to the other requirements of these specifications:
 - i. In all cases, the specific gravity used for design shall be considered not less than 1.0.
 - ii. Thermal stresses and localized stresses at supports shall be provided for in the design of the vessel.
 - iii. Any loading or design conditions noted on the Contract Drawings.
 - iv. The tanks shall be designed for seismic loading in accordance with ANSI A58.1 as specified under the Saddles paragraph.
 - v. Tank supports shall be designed and fabricated in accordance with the AISC "Specifications for Design, Fabrication, and Erection of Structural Steel for Building", latest edition. Tank supports shall be designed to accommodate discharge piping size specified on the Contract Documents. Adequate clearance shall be provided to install and remove piping and insulation.
 - vi. Tanks shall be all welded construction unless otherwise noted.
 - vii. The ASME Code stamp shall be required where specified herein.
 - b. If requested, the Contractor shall submit calculations for the design of the vessel.
 - c. The design of the vessel shall be wholly the responsibility of the Contractor and the Contractor shall guarantee that the vessel is designed and fabricated in strict compliance with the ASME Section VIII Code.
 2. Fabrication
 - a. The fabrication and workmanship of the tanks shall be in accordance with the ASME Boiler and Pressure Vessel Code for Unfired Pressure Vessels, latest edition.
 - b. The finished tanks shall be guaranteed to pass any inspection requirements of local and state codes of the locality in which the tanks are to be used.

- c. All notes and dimensions on the Contract Drawings are part of the specifications and shall be adhered to.
 - d. Alignment and out of roundness shall meet the requirements of the ASME Boiler and Pressure Vessel Code.
 - e. The welding shall be metallic arc fusion welding in accordance with the ASME Boiler and Pressure Vessel Code. The qualifications of the welding procedures and welding operators shall comply with the requirements of Section IX of the ASME Code. Qualification records shall be produced if requested.
3. Inspection and Test
- a. The inspection and testing of vessel shall be performed in compliance with the ASME Boiler and Pressure Vessel Code, Section VIII, Unfired Pressure Vessels. All vessels shall be registered with the National Board of Boiler and Pressure Vessel Inspectors.
 - b. The Engineer shall have free access to all parts of the Contractor's facilities concerned with this work and shall be notified in advance when tanks will be ready for inspection and test.
 - c. Mill test reports on plates shall be furnished to the Engineer, if requested.
 - d. All hydrostatic tests shall be made with the type of gasket specified, but new gaskets shall be furnished with the vessel when shipped.
 - e. Vessels may be straightened after heat treatment only by consent of and in the presence of the Engineer.
4. Seismic Design Parameters: Design supports for seismic conditions per the following:

Seismic Design Parameters from ASCE 7-16

Seismic Design Values

Latitude	41.14
Longitude	-73.86
Elevation (NAVD 88)	69.59 Ft.
Seismic Design Category	B
Seismic Risk Category	III
Site Class	C
Spectral Acceleration for Short Periods (S _s)	0.294g
Spectral Accelerations for 1-Second Periods (S ₁)	0.062g
Design Spectral Response Acceleration at Short Periods (SDS)	0.255
Design Spectral Response Acceleration at 1-Second Period (SD ₁)	0.062

- C. The intent is to replace the existing condensate receiver (tank) in kind in accordance with this construction specification. The replacement condensate receiver general arrangement and location shall match the existing. To facilitate minimal disruption to operations, reuse of existing in place piping with minimal rework is desired. Instrumentation and controls schemes for the new condensate receiver shall match the existing schemes. The project requires primary connections to the new tank to be located at the same general location as the

existing tank being removed. Additionally, installation of the tank is restricted and confined and may require either minor deviations in the tank shape, temporary relocation of existing building elements and systems and / or partial field fabrication. The final design arrangement of the condensate tank is delegated to the Installer and Fabricator. The Installer / Fabricator shall field verify the existing field conditions to confirm the condensate receiver tank dimensions, connections locations and sizes, existing piping and instrumentation locations. The Installer shall verify the tank installation and rigging requirements and make necessary modifications to the replacement tank design and /or temporary relocation of existing building elements and systems to install the tank. Submit condensate receiver general arrangement shop drawings and rigging plans.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver all steam plant mechanical equipment as complete as possible.
- B. Inspect equipment immediately upon arrival and any irregularities or damage shall be reported to the Manufacturer/Supplier and Owner immediately.
- C. The equipment shall be protected from debris and dirt. All penetrations and flanges shall be completely covered during storage. Ensure that moisture is removed prior to shipping and is kept out until it is piped up.

1.07 EXTRA MATERIALS / SPARE PARTS

- A. Provide one set of spare gaskets and seals for all flanged and bolted connections for piping, access and inspection ports.

PART 2 PRODUCTS

2.01 CONDENSATE TANK

- A. General: Provide one condensate receiving tank to receive condensate from campus condensate returns considering a 90% condensate return rate at a peak (generated) steam load of 80,600 PPH with a retention time of 20 minutes, and approximately 3,000 gallons of condensate storage.
- B. Manufacturers:
 - 1. Cemline Corporation
808 Freeport Rd
Cheswick, PA 15024
Phone: 800.245.6268
 - 2. Highland Tank
One Highland Rd
Stoystown, PA 15563
Phone: 814.893.5701
 - 3. Modern Welding Company
2880 New Hartford Rd
Owensboro, KY 42303

- Phone: 800.922.1932
4. Midwest Tank
17368 197th Ave, NW
Big Lake, MN 55309
Phone: 763-263-0747
 5. Approved Equal

C. Volume and Dimensions:

1. Designation: CDT- 1
2. Minimum Tank Volume (Each): 425 CU FT (approximately)
3. Tank Diameter: 6 Ft. - 6 In. (approximately)
4. Tank Height (Side Shell): 12 Ft. - 6 In. (approximately)
5. Operating Pressure: Atmospheric

D. Type and Construction:

1. Provide one vertical condensate tank with a design pressure of 0 PSIG (atmospheric) at 212 degrees F. The tank shall have a dished head on the top and bottom. Provide ¼ inch corrosion allowance. The condensate tanks shall be designed and constructed in accordance with the requirements of Section VIII, Division 1, Pressure Vessels, of the ASME Code and Section II, Material Specifications. ASME U stamp is required. The condensate tank shall be constructed of ASME SA 516-70, carbon steel.
2. Weld Inspection: Weld Examinations: Examine all welds in compliance with ASME BPVC as if the vessel were stamped. All weld examinations shall be performed by qualified personnel per the code paid for by the Owner. The tank fabricator shall state in the submittal what weld examination is required by code.
3. Hydrostatic Test: Hydrostatically test vessel by filling tank completely with water to the overflow. Blank all nozzles. Inspect all surfaces and confirm no leaks.

E. Connections: The condensate tank shall have the connections listed below. Refer to the Contract Drawings for nozzle locations. Refer to Contract Drawings for locations and orientations of tank connections. The tanks shall have the following connections:

	Service Size (NPS)	Quantity	Construction
EXH – Tank Vent	4 Inch	1	150# RFSO Flanged
LPR (From Facility)	4 Inch	1	150# RFSO Flanged
LPC (HPC flash tnk.dr.)	2 Inch	1	FNPT Half Coupling
SW – Softwater Inlet	3 Inch	1	150# RFSO Flanged
LPR (spare)	2 Inch	1	FNPT Half Coupling
CR (Recirc)	2 Inch	1	FNPT Half Coupling
OF–Overflow from DA	3 Inch	1	150# R.F.S.O. Flanged
OF - Overflow Outlet	4 Inch	1	150# R.F.S.O. Flanged
ED - Drain	1-1/2 Inch	1	FNPT Half Coupling
CO – Cond. Outlet	6 Inch	1	150# R.F.S.O. Flange
Thermowell	3/4 Inch	2	FNPT Half Coupling *
Instrumentation Ports:	3/4 Inch	3	FNPT Half Coupling *
Instrumentation Ports:	1 Inch	3	FNPT Half Coupling *
Water Colum Conn.	2 Inch	2	FNPT Half Coupling *
Inspection Hand Holes	6 Inch	2	150# R.F.S.O. Flange *

Access -Inspect. Ports See Below 1 See Below

- Provide with Companion Blind Flange or Plug

- F. The tank connections shall be provided with the following accessories and features:
1. Overflow: Shall have a water seal incorporated into its design with the vertical leg of the water seal extended to within 6 inches of the bottom of the tank. The top of the water seal shall have a 1/2 inch connection to the vent to serve as a vacuum breaker. The centerline of the outlet connection shall be located 6 inches from the top of the tank.
 2. Condensate Outlet: Shall extend a minimum of 3 inches into the tank. Provide vortex plate consisting of 6" tall strips of 3/8" carbon steel plate welded at 90 degrees to each other inside the suction (Condensate Outlet) pipe.
 3. Instrumentation connections and ports, size 2 inches and smaller shall be constructed of 316L Stainless steel.
- G. Access - Inspection Ports: Provide an inspection opening(s) in accordance with Section VIII, Division I, Paragraph UG-46 of the ASME Boiler and Pressure Vessel Code. The manway can either be a 24" diameter bolted and flanged piece with a davit arm or an elliptical manway 14" x 18". The opening shall be low on the tank so an Inspector more readily access the opening with a short ladder.
- H. Nameplate: Attach to bracket permanently attached to tank. Nameplate shall be visible beyond field-applied insulation. This nameplate must include all ASME pressure vessel nameplate information that would be required by the Code. Include shell and head thickness so an Inspector can compare.
- I. Support:
1. Provide a base mounted rigid steel support frame to raise the bottom of the tank 6"-0" (approximately) above a floor concrete pad. The steel frame shall consist of four legs with base plates, be braced and secured to the tank. The support legs baseplates shall be anchored to a concrete pad.
 2. Design supports for seismic conditions as stated above.
 3. These existing condensate tank concrete pad and steel support frame may be reused to facilitate new tank installation provided they are determined to meet the specifications construction and performance requirements including seismic design.
- J. Insulation: Field-applied. Refer to Section 230719 - Insulation.
- K. Accessory Piping and Valves: Provide all piping, fittings, and isolation valves to properly connect accessories to tank.
- L. Level Control and Gage Glass: Water column constructed of threaded 2- inch heavy wall 316L stainless steel pipe and fittings. Include heavy wall 316L stainless-steel 1- inch and 3/4" pipe and threaded fittings for connection of float operated pump controller and High and Low level switches and gage glasses. Include the following:

1. Combination Float Operated Cut-off and Pump Controller with (2) SPST Switch. Provide products by McDonnell & Miller or approved equal.
2. Low Level Switch. Provide products by McDonnell & Miller or approved equal.
3. High Level Switch. Provide products by McDonnell & Miller or approved equal.
4. 3/4" Stainless Steel Liquid Level Gage Glass (24" L) and Valve Sets (Quantity 3). Provide products by Conbraco or approved equal.
5. Column Drain Valve. Provide products by Conbraco or approved equal.
6. Level Gauge / Differential Pressure – Stainless Steel with 4-20mA output -HART protocol and LCD display. Sensor suited for up to 250 inches of water column at 210 F. Provide Rosemount 3051S Series coplanar pressure transmitter with integral manifold or approved equal.

2.02 FLASH TANK

- A. Shop or factory fabricated of welded steel in accordance with ASME Boiler and Pressure Vessel Code: Section VIII, Division 1 for 150 psig (1035 kPa) rating and bearing ASME label. Fabricate with taps for low-pressure steam and condensate outlets, high-pressure condensate inlet, air vent, safety valve, and wall mounting bracket.
- B. General: Provide vertical condensate receiver flash tank and all other components and accessories as shown per Contract Drawings to provide a complete installation. The system shall be designed for high pressure condensate service from steam condensing within the plant (if the condensate needs to by-pass the Deaerator).
- C. Volume and Dimensions
 1. Designation: Flash Tank CDTFT- 1
 2. Normal Inlet Pressure: 100 PSIG
 3. Maximum Inlet Pressure (Safety Set Point): 150 PSIG
 4. Tank Diameter: 8 Inches
 5. Tank Length (Straight Shell): 36 Inches
 6. Operating Pressure: Vented to atmosphere
 7. Capacity: 5000 Lb./Hr. Condensate and 1000 Lb./ Hr. Flash steam
- D. Type and Construction: Provide one flash tank designed for flashing off high pressure condensate return before falling by gravity into the condensate receiver below. The flash tank shall have a design pressure of 150 PSIG at 450 degrees F. The tank shall be designed and constructed in accordance with the requirements of Section VIII, Division 1, Pressure Vessels, of the ASME Code and Section II, Material Specifications. The flash tank shall be constructed of SA516 Grade 70 Carbon Steel. Provide elliptical heads. Hydrostatically test vessel at 1-1/3 times design pressure. Provide tangential wear plate for inlet connections.
- E. The tank shall be provided with connections listed below. Coordinate connection locations with the Contract Drawings:

	Service Size	Quantity	Construction
Inlet HPC	3 Inch Tangential	1	150# RFSO Flanged
Vent Outlet	4 Inch	1	150# RFSO Flanged
Drain Outlet	1-1/2 Inch	1	FNPT Half Coupling

Safety Valve	1 Inch	1	FNPT Half Coupling
Pressure Gauge:	1/2 Inch	1	FNPT Half Coupling

- F. Support: Provide Wall mounting brackets.
- G. Cleaning and Painting: Remove all foreign material to bare metal. Coat exterior of tank with rust-preventative primer. Do not coat interior of tank.
- H. Insulation: Provide insulation per Refer to Section 230719 - Insulation
- I. Manufacturers:
 1. Spirax Sarco
 2. Armstrong
 3. Shippensburg
 4. Approved Equal

PART 3 EXECUTION

3.01 INSTALLATION - General

- A. Install specialties at locations indicated on drawings or specified.
- B. Provide commissioning as per Section 019113 – General Commissioning Requirements.
- C. Clean interior of equipment before placing in shipping. Remove burrs, dirt, and construction debris. Repair damaged finishes including chips, scratches, and abrasions.
- D. All accessories shall be mounted in accordance with manufacturer’s recommendations.
- E. Provide nameplates for all equipment per 230554 - Duct and Equipment Identification.
- F. Flash Tanks: Provide complete with steel supporting brackets, with tank welded to brackets.

3.02 CONDENSATE RECIEVER

- A. Verify operation of level controls and lead/lag pump controls, performance, and alarm points.
- B. Insulation: Provide insulation per Refer to Section 230719.
- C. Install Condensate receiver on six-inch reinforced concrete pad. Level the tank with the bottom approximately six feet above the pad top provide non-shrink grout beneath support leg baseplates and anchor the baseplates to the pad with anchor bolts (4 per plate – 5/8” dia. w/ 4” embedment – minimum requirement).

3.03 CONDENSATE RECEIVER FLASH TANK

- A. Install condensate receiver flash tank in accordance with manufacturer's recommendations.
- B. Insulation: Provide insulation per Refer to Section 230719 - Insulation.

END OF SECTION

GENERAL NOTES:

- UNIONS, BUSHINGS, AND/OR REDUCING INSERTS, ETC. NOT SHOWN ON DRAWINGS BUT ARE REQUIRED FOR INSTALLATION SHALL BE PROVIDED BY THE CONTRACTOR.
- PLANNING AND CHECKING HAS BEEN DONE BY THE DESIGNER TO MINIMIZE AS FAR AS POSSIBLE, INTERFERENCES BETWEEN PIPING AND EXISTING CONSTRUCTION. HOWEVER, PRIOR TO BEGINNING THE ERECTION OF EACH LINE, THE CONTRACTOR SHALL ASCERTAIN THAT NO INTERFERENCES WILL BE ENCOUNTERED, THEREBY PRECLUDING THE DISASSEMBLING OF PARTIALLY OR COMPLETELY ERECTED SYSTEMS FOR RE-ROUTING TO CLEAR OBSTRUCTIONS WHICH MAY EXIST. WHERE AN INTERFERENCE IS ENCOUNTERED THE CONTRACTOR SHALL OBTAIN THE APPROVAL OF THE DESIGNER AND/OR DIRECTOR'S REPRESENTATIVE FOR A ROUTING TO CLEAR THE INTERFERENCE. AFTER SUCH APPROVAL HAS BEEN OBTAINED, THE CONTRACTOR SHALL PROCEED WITH ERECTION. IN NO CASE SHALL THE CONTRACTOR BE ENTITLED TO EXTRA COMPENSATION FOR TAKING DOWN OR DISMANTLING WORK WHICH HAS BEEN ERECTED OR PREFABRICATED EXCEPT SUCH PREFABRICATION THAT HAS BEEN CALLED FOR IN THE SPECIFICATIONS OR ON THE DRAWINGS, OR UNLESS SPECIFICALLY AUTHORIZED BY THE DESIGNER.
- IF UTILITY SHUTDOWN IS NEEDED FOR THE PROJECT, REQUEST PERMISSION FROM ALL RELATED AUTHORITY. PROVIDE SPECIFIED NOTICE AND REQUEST APPROVAL FOR ALL SHUTDOWNS TO THE DIRECTOR'S REPRESENTATIVE AT LEAST TWO WEEKS IN ADVANCE AND PRIOR TO ANY UTILITY INTERRUPTIONS, ENSURING COORDINATION WITH THE FACILITY AND THE DIRECTOR'S REPRESENTATIVE.
- WHEN WORKING IN AND AROUND EXISTING BUILDINGS, EXTREME CARE SHALL BE EXERCISED WITH REGARD TO PROTECTION OF THE EXISTING STRUCTURES AND MECHANICAL AND ELECTRICAL SERVICES WHICH WILL REMAIN, REPAIR, REPLACE, OR RESTORE TO THE SATISFACTION OF THE DIRECTOR'S REPRESENTATIVE ALL EXISTING WORK DAMAGED IN THE PERFORMANCE OF REMOVALS AND/OR CONSTRUCTION WORK.
- ALL EXISTING MATERIALS AND EQUIPMENT WHICH ARE REMOVED AND ARE DESIRED BY THE DIRECTOR'S REPRESENTATIVE, OR ARE INDICATED TO REMAIN THE PROPERTY OF THE OWNER SHALL BE TURNED OVER TO THE OWNER AT THE JOBSITE. ALL OTHER MATERIALS AND EQUIPMENT WHICH ARE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY THE CONTRACTOR FROM THE PREMISES.
- EXISTING CONDITIONS, I.E., PRESENCE AND LOCATION OF PIPING, EQUIPMENT, AND MATERIALS, INDICATED ARE BASED ON INFORMATION OBTAINED FROM AVAILABLE RECORD DRAWINGS AND FIELD SURVEYS AND ARE NOT WARRANTED TO BE COMPLETE OR CORRECT. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL PIPING, EQUIPMENT, AND MATERIALS IN THE FIELD PRIOR TO STARTING ALL WORK.
- EXISTING PIPE AND EQUIPMENT SIZES NOTED ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY AND ARE NOT WARRANTED TO BE CORRECT. CONTRACTOR SHALL VERIFY ALL SIZES IN THE FIELD IF THEY AFFECT THE WORK.
- EXISTING PIPING NO LONGER REQUIRED TO REMAIN IN SERVICE (SHOWN OR OTHERWISE) SHALL BE DISCONNECTED AND REMOVED BACK TO SERVICE MAINS UNLESS OTHERWISE INDICATED OR NOTED ON THE PLANS. REMOVE EXISTING PIPE HANGERS, SUPPORTS, VALVES, ETC. UNDERGROUND PIPING TO BE REMOVED SHALL BE LIMITED TO PIPING IN THE AREAS OCCUPIED BY THE CONSTRUCTION AND FIVE FEET (5') BEYOND THE CONSTRUCTION. EXISTING PIPING INDICATED OR REQUIRED TO REMAIN IN SERVICE OR IN PLACE SHALL BE CAPPED, PLUGGED, OR OTHERWISE SEALED. NO EXISTING ABANDONED PIPING SHALL BE LEFT OPEN ENDED.
- EXISTING MECHANICAL AND ELECTRICAL EQUIPMENT, PIPING, AND MATERIALS AFFECTED BY REMOVALS OR WORK INSTALLATION AND REQUIRED TO REMAIN IN SERVICE SHALL BE REINSTALLED OR SUPPORTED AS REQUIRED IN ACCORDANCE WITH THE PROJECT MANUAL.
- ALL OPENINGS AND WALLS, CEILINGS, ROOF, AND FLOOR SURFACES DAMAGED OR CREATED BY REMOVAL WORK SHALL BE PATCHED TO MATCH EXISTING IN ALL RESPECTS. PATCHING WHERE POSSIBLE SHALL MATCH EXISTING ADJACENT SURFACES AS TO THICKNESS, TEXTURES, MATERIALS, AND COLOR. ALL PATCHING SHALL BE PERFORMED TO THE SATISFACTION OF THE DIRECTOR'S REPRESENTATIVE AND AT NO ADDITIONAL CONTRACT COST. ALL EXISTING INSULATION DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER.
- EXISTING BUILDINGS AND IN GENERAL ALL PIPING, EQUIPMENT, AND MATERIALS SHOWN "LIGHT" ARE EXISTING TO REMAIN. ALL PIPING, CONDUITS, EQUIPMENT, AND MATERIALS SHOWN "HEAVY OR DASHED" ON REMOVAL DRAWINGS ARE EXISTING AND SHALL BE REMOVED. ALL PIPING, CONDUITS, EQUIPMENT, AND MATERIALS SHOWN "HEAVY AND SOLID" ON DRAWINGS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.
- REMOVE ALL ASSOCIATED ACCESSORIES, CONTROLS, ENCLOSURES, SUPPORTS, HANGERS, PADS, ETC. WITH ALL EQUIPMENT SHOWN TO BE REMOVED. CONTRACTOR SHALL REPAIR AND PAINT ALL DAMAGED SURFACES AND ALL SURFACES BEHIND ALL EQUIPMENT SHOWN TO BE REMOVED TO MATCH EXISTING ADJACENT SURFACES.
- REMOVE ALL FLUIDS CONTAINED WITHIN ALL PIPING, EQUIPMENT AND TANKS. NO FLUIDS WILL BE ALLOWED TO BE DISCHARGED TO SANITARY OR STORM WATER LINES WITHOUT WRITTEN APPROVAL FROM THE DIRECTOR'S REPRESENTATIVE. CONTRACTOR SHALL BE RESPONSIBLE TO CONTAIN, HAUL, AND PROPERLY, AND LEGALLY DISPOSE OF ALL REMOVED FLUIDS OFFSITE.
- PROVIDE LOW POINT DRAINS AS REQUIRED TO COMPLETELY DRAIN ALL SYSTEMS, AND SHALL ALSO PROVIDE MANUAL AIR VENTS AT ALL SYSTEM HIGH POINTS. DRAINS AND VENTS SHALL BE REQUIRED IN EACH SUPPLY AND RETURN MAIN.
- NO MATERIAL CONTAINING ASBESTOS IN ANY FORM SHALL BE UTILIZED FOR THIS PROJECT.
- ALL PIPE PENETRATIONS THRU FIRE-RATED ASSEMBLIES SHALL BE SEALED WITH FIREPROOFING MATERIAL AND PATCHED TO MATCH SURFACES AND RATING.
- ORIENT VALVES AND PIPING SPECIALTIES IN PROPER DIRECTION WITH RESPECT TO FLOW.

CONTROL INSTRUMENTATION LEGEND	
SYMBOL	DESCRIPTION
	FUNCTIONAL INSTRUMENT DESCRIPTION (SEE INSTRUMENT DESCRIPTION TABLE)
	INSTRUMENT NUMBER
	INSTRUMENT SYMBOL - FIELD DEVICE
	INSTRUMENT SYMBOL - LOCATED ON MAIN PANEL OF ASC
	OUTPUT SIGNAL FROM ASC TO PLC CONTROLLER

INSTRUMENT DESCRIPTION TABLE					
FIRST LETTER			SUCCEEDING LETTER		
	MEASURED OR INITIATED VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE			CONTROL	CLOSE
D	USER'S CHOICE	DIFFERENCE, DIFFERENTIAL			DEVIATION
E	VOLTAGE (EMF)		SENSOR, PRIMARY ELEMENT		
F	FLOW, FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS, GAUGE, VIEWING DEVICE		
H	HAND (MANUALLY INITIATED)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	USER'S CHOICE				MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM	POINT (TEST CONNECTION)			
Q	QUANTITY, EVENT	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD, PRINT		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL, PROBE		
X	UNCLASSIFIED	X-AXIS	ACCESSORY DEVICES, UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, PRESENCE	Y-AXIS		AUXILIARY DEVICES	
Z	POSITION, DIMENSION	Z-AXIS, SAFETY, INSTRUMENTED SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

CODE CONFORMANCE	
THE WORK PROVIDED UNDER THE PRODUCT SHALL COMPLY WITH THE FOLLOWING CODES AND STANDARDS:	
2020 NYS UNIFORM CODE	ASHRAE 90.1 2022
2020 MECHANICAL CODE OF NEW YORK STATE	ASME BOILER & PRESSURE VESSEL CODE SECTION VIII (2023)
2020 EXISTING BUILDING CODE OF NEW YORK STATE	ASME B31.1 POWER PIPING (2022)
2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE	2020 NFPA 70 - NATIONAL ELECTRIC CODE
2020 PLUMBING CODE OF NEW YORK STATE	OSHA

HAZARDOUS MATERIALS WARNING
 HAZARDOUS MATERIALS INCLUDING ASBESTOS CONTAINING MATERIALS (ACM) AND LEAD PAINT MAY EXIST IN THE BUILDING CONSTRUCTION. IF THE CONTRACTOR ENCOUNTERS OR SUSPECTS UNIDENTIFIED HAZARDOUS MATERIALS DURING THE REMOVAL AND CONSTRUCTION WORK, DO NOT DISTURB THE MATERIALS AND CONTACT THE DIRECTOR'S REPRESENTATIVE IMMEDIATELY.

CODE COMPLIANCE STATEMENTS:

ENERGY CODE STATEMENT:
 TO THE BEST OF THE REGISTERED DESIGN PROFESSIONAL'S KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THESE PLANS AND/OR SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE.

UNIFORM CODE STATEMENT:
 TO THE BEST OF THE REGISTERED DESIGN PROFESSIONAL'S KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THESE PLANS AND/OR SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 UNIFORM BUILDING CODE OF NEW YORK STATE.

ASCE - 7-16 HAZARDS INFORMATION - SEISMIC LOAD DATA

BUILDING RISK CATEGORY: GROUP III
 SEISMIC SITE CLASS: C
 SEISMIC DESIGN CATEGORY: B

LATITUDE: 41.14
 LONGITUDE: -73.86
 ELEVATION: 69.59 FT
 SEISMIC DATA:

TYPE	VALUE	DESCRIPTION
S _s	0.294	MCER GROUND MOTION (FOR 0.2 SECOND PERIOD)
S _i	0.062	MCER GROUND MOTION (FOR 1.0 SECOND PERIOD)
S _{MS}	0.46	SITE-MODIFIED SPECTRAL ACCELERATION VALUE
S _{M1}	0.148	SITE-MODIFIED SPECTRAL ACCELERATION VALUE
S _S	0.255	NUMERIC SEISMIC DESIGN VALUE AT 0.2 SECOND SA
S ₁	0.062	NUMERIC SEISMIC DESIGN VALUE AT 1.0 SECOND SA

ABBREVIATIONS			
ASC	ADJUSTABLE SPEED CONTROLLER	HPR	HIGH PRESSURE RETURN
BAS	BUILDING AUTOMATION SYSTEM	LPR	LOW PRESSURE RETURN
BFW	BOILER FEEDWATER (DISCHARGE)	LPS	LOW PRESSURE STEAM
BFW(RECIRC)	BOILER FEEDWATER (RECIRCULATION)	LSAMP	LIQUID SAMPLE
BFWSUCT	BOILER FEEDWATER SUCTION	OF	OVERFLOW
CF	CHEMICAL FEED	PC	PUMPED CONDENSATE
CFP	CHEMICAL FEED PUMP	PCSS	PUMPED CONDENSATE STAINLESS STEEL
COND	CONDENSATE	RX	REMOVE EXISTING
CONT	CONTINUATION	SAN	SANITARY
DA	DEAERATOR	SW	SOFTENED WATER
DN	DOWN	TYP	TYPICAL
EA	EXHAUST AIR	V	VENT
ED	EQUIPMENT DRAIN	VTR	VENT THROUGH ROOF
EIC	ENGINEER IN CHARGE		
ETR	EXISTING TO REMAIN		
EX	EXISTING		

EXISTING BUILDING CODE SUMMARY:

OCCUPANCY CLASSIFICATION: F-1
 CONSTRUCTION CLASS: TYPE II (A)
 COMPLIANCE METHOD: CHAPTER 6-12 WORK AREA COMPLIANCE METHOD
 CLASSIFICATION OF WORK: CHAPTER 8 ALTERATION LEVEL 2

MECHANICAL LEGEND		
SYMBOL	ABBREV.	DESCRIPTION
	EX	EXISTING WORK
	RX	REMOVE EXISTING (SHOWN SOLID & HEAVY ON REMOVALS DWGS.)
	-	NEW WORK (SHOWN SOLID & HEAVY ON NEW WORK DWGS.)
	-	FUTURE WORK (NOT IN CONTRACT)
	-	ELECTRONIC INSTRUMENT SIGNAL
	-	DISCONNECT FROM EXISTING
	-	CONNECT TO EXISTING
	-	GATE VALVE (NORMALLY OPEN)
	-	GATE VALVE (NORMALLY CLOSED)
	-	CONTROL VALVE
	-	STRAINER
	-	STRAINER WITH BLOWDOWN VALVE
	-	STRAINER WITH BALL VALVE
	-	CHECK VALVE
	-	SOLENOID VALVE, SAFETY SHUT-OFF VALVE
	-	OUTSIDE STEM & YOKE GATE VALVE
	-	BUTTERFLY VALVE
	-	BALL VALVE
	-	PIPE UNION
	-	PIPE FLANGE
	DN,	PIPE DROP
	UP	PIPE RISE
	-	CONCENTRIC PIPE REDUCER
	-	ECCENTRIC PIPE REDUCER (FLAT ON BOTTOM)
	-	ECCENTRIC PIPE REDUCER (FLAT ON TOP)
	-	PRESSURE GAUGE
	-	TEMPERATURE GAUGE (THERMOMETER)
	-	PIPE CAP
	CL	CENTER LINE
	-	COLUMN LINE DESIGNATION
	-	DRAWING NOTE CALL-OUT
	CONC.	CONCRETE
	EL	ELEVATION
	DIA.	DIAMETER
	%	PERCENT
	-	SECTION DESIGNATION DRAWING SHOWING CUT FROM (LEFT) AND DRAWING WHERE SECTION IS LOCATED (RIGHT)
	-	PHOTO, EXISTING CONDITIONS, & DESIGNATION VIEW
	-	PRESSURE RELIEF VALVE
	-	PUMP

WORK PHASING

REFER TO THE SUBSTANTIAL COMPLETION REQUIREMENTS AND RESTRICTED WORK PERIOD IN THE PROJECT MANUAL SECTION 011000 - SUMMARY OF WORK, PROVIDE WORK PHASING PLAN AND SCHEDULE FOR REVIEW AND ACCEPTANCE BY THE DIRECTOR'S REPRESENTATIVE. PHASING SHALL CONSIDER MINIMUM OUTAGE POSSIBLE FOR THE BOILER FEEDWATER SYSTEM AND CONDENSATE SYSTEM WITH OUTAGES PRIMARILY OCCURRING DURING THE RESTRICTED WORK PERIOD BETWEEN MAY 1ST AND OCTOBER 15TH.

THE CONDENSATE TANK REPLACEMENT OUTAGE SHALL OCCUR BETWEEN THE MONTHS OF JULY AND SEPTEMBER. DUE TO THE COMPLEXITY OF THIS PROJECT, PROVIDE A DETAILED PHASING PLAN FOR EACH PORTION OF THE WORK. THE PLAN SHALL INCLUDE A VERY DETAILED SCHEDULE OF REQUIRED OUTAGES AND DURATIONS. REVIEW THE CONDITION OF EXISTING ITEMS (INCLUDING VALVES, PIPING, CONTROLS, ELECTRICAL, INSTRUMENTATION, ETC.) REQUIRED TO EXECUTE THE WORK PHASING AND SHUTDOWNS. THE PLAN SHALL BE REVIEWED WITH THE DIRECTOR'S REPRESENTATIVE TO DEMONSTRATE AN UNDERSTANDING OF THE SYSTEMS, OPERATIONAL REQUIREMENTS AND HOW THE WORK IS TO BE PHASED. NO REMOVALS OR CONSTRUCTION WORK SHALL BEGIN UNTIL A PHASING PLAN IS COMPLETE, SUBMITTED AND DEEMED ACCEPTABLE BY THE DIRECTOR'S REPRESENTATIVE. IN ADDITION, PLAN ACCEPTANCE IN FINAL, WILL NOT BE GRANTED UNTIL ALL RELATED SUBMITTALS ARE APPROVED AND THERE IS ASSURANCE THAT ALL MATERIALS WILL BE ON-SITE WHEN IT IS TIME FOR INSTALLATION. UNDER NO CIRCUMSTANCE SHOULD WORK BE PHASED SUCH THAT A SYSTEM IS TAKEN OUT OF SERVICE WITH NO WORK BEING PERFORMED WITHOUT A PLANNED REASON. IT IS EXTREMELY IMPORTANT THAT THE PLAN AND THE CRITICAL PATH IS CONTINUALLY UPDATED, PRIOR TO BEGINNING ANY MAJOR WORK REQUIRING AN OUTAGE. OBTAIN WRITTEN APPROVAL FROM THE DIRECTOR'S REPRESENTATIVE. NOTIFY THE FACILITY THROUGH THE DIRECTOR'S REPRESENTATIVE WHENEVER A PIECE OF EQUIPMENT MUST BE SHUT DOWN OR REMOVED AND FOLLOW THE HEATING PLANT'S LOCK-OUT TAG-OUT PROCEDURES. THE ACTUAL SHUT DOWN OF EQUIPMENT WILL BE PERFORMED BY THE FACILITY'S PERSONNEL. PROVIDE ISOLATION VALVES TO FACILITATE SHUTDOWNS AND PHASING (NOT SHOWN). HOT TAPPING (ALSO KNOWN AS WET TAPPING) MAY BE USED TO FACILITATE PHASING OF THE WORK, HOWEVER IT MUST BE IDENTIFIED IN THE PHASING PLAN AND APPROVED BY THE DIRECTOR'S REPRESENTATIVE. ALL HOT TAP METHODS AND PROCEDURES SHALL BE SUBMITTED FOR APPROVAL.



DESIGN & CONSTRUCTION

CONSULTANT

CERTIFICATE OF AUTHORIZATION #: 021037

RMF ENGINEERING, INC., P.C.
 3 PINE WEST PLAZA
 SUITE 308
 ALBANY, NEW YORK 12205

BUILDING CODE COMPLIANCE:
 COMPLIANCE STATEMENT: TO THE BEST OF THE REGISTERED DESIGN PROFESSIONAL'S KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THESE DRAWINGS AND / OR SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 UNIFORM CODE.

ENERGY CODE COMPLIANCE:
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WARNING:
 THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS 'A' MISDEMEANOR.



REGISTRATION EXPIRES: 11/30/2027

CONTRACT: HVAC

TITLE:
 PROVIDE DA TANK ACCESSORY REPAIRS BUILDING NO. 52 - POWERHOUSE

LOCATION:
 SING SING CORRECTIONAL FACILITY
 354 HUNTER ST, OSSINGING, NY

CLIENT:
 NYS DEPARTMENT OF CORRECTIONS AND COMMUNITY SUPERVISION

PROJECT NUMBER:	M3202-H	
DESIGNED BY:	JFR	
DRAWN BY:	JFR	
FIELD CHECK:		
APPROVED:		
SHEET TITLE:	MECHANICAL LEGENDS, ABBREVIATIONS AND NOTES	
DRAWING NUMBER:	M-001	
REVISION:		
DATE:		
DESCRIPTION:		
DATE:	3/13/2025	ADDENDUM-1
DATE:	1/17/2025	FINAL SUBMISSION
MARK:		
DATE:		
DESCRIPTION:		

SHEET 4 OF 23