



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

ADDENDUM NO. 1 TO PROJECT NO. 44996

**HVAC WORK AND ELECTRICAL WORK
REPAIR/REPLACE UNDERGROUND HEATING LINE
DOWNSTATE CORRECTIONAL FACILITY
122 RED SCHOOLHOUSE ROAD
FISHKILL, NY**

March 3, 2016

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.

COMMON DIVISION 1 SECTIONS

1. Page 012100-1, Subparagraph 1.02 A.1.: Change "\$114,500" to read "\$190,000".

HVAC WORK SPECIFICATIONS

2. DOCUMENT 004113 BID FORM: Discard the Bid Form bound in the Project Manual and substitute the attached Document (pages 004113-1 thru 004113-2) noted "REVISED 03/03/2016".

NOTE: All bids should be submitted on the Revised Bid Form. Bids submitted on the original Bid Form will be disqualified.

3. Page 051200-1, Article 1.01 RELATED WORK SPECIFIED ELSEWHERE: Delete this Article in its entirety.
4. Page 051200-5, Paragraph 2.01 I.: Delete this Paragraph in its entirety.
5. Page 230923-27, Paragraph 3.04, A: Delete this Paragraph in its entirety and replace with the following:

"A. Building 1 through 5 Sequence of Operation

1. Heating Circulation Pumps P-1 and P-2 shall start when the outside air temperature drops below 60 degrees F (adjustable). The pumps shall turn off when the outside air temperature rises above 65 degrees F (adjustable).
 - a. One pump shall run at a time, the other pump shall be stand-by.
 - b. The lead/lag designation shall swap after a predetermined run-time (adjustable) so that each pump is utilized over time. A manual software

switch shall allow a DDC operator to manually swap the lead/lag pump designation.

- c. Monitor status with a current sensor and alarm at DDC if commanded on but unit is off. When the lead pump fails, alarm the DDC and automatically start the lag pump.
2. When the heating pumps above are operating, the DDC System shall modulate the MTW blending station 3-way mixing valve to maintain the the supply water temperature setpoint based on the following adjustable reset schedule:

OUTSIDE AIR TEMP	HOT WATER SUPPLY TEMP
0	220
60	180

- 3. Monitor the following values and calculate, trend, and totalize the energy usage in BTUs for the heat exchanger.
 - a. Medium Temperature Water Flowrate.
 - b. Medium Temperature Water Supply Temperature.
 - c. Medium Temperature Water Return Temperature.
- 4. Provide the following alarms at DDC:
 - a. Building hot water supply temperature is 10 degrees F (adjustable) lower than or greater than setpoint.
 - b. Domestic hot water supply temperature drops below 110 degrees F (adjustable) for more than 10 minutes (adjustable).
 - c. Lead heating pump failure.
- 5. Monitor, trend and display the following points in the DDC:
 - a. Building heating water supply temperature.
 - b. Building heating water return temperature.
 - c. Building MTW supply pressure.
 - d. Building MTW return pressure.
 - e. Building domestic hot water supply temperature.
 - f. Outdoor air temperature. Outdoor air temperature shall be monitored at each building such that each building’s reset schedule does not rely on a shared network outdoor air temperature.
 - g. Heating pump status.”

6. Page 230923-24, Paragraph 2.11, D: Add the following Subparagraph:

- “2. Current Sensor for Fan or Pump:
 - a. Unit Status: Solid-State Field-Adjustable Status Sensor.
 - 1) Output rating: 0.2 A at 30 Vdc.
 - 2) Input rating: 0 to 135 ampere continuous.
 - 3) Sensor supply current induced from monitored conductor. Minimum conductor current required 1A. Maximum rating 135.
 - 4) Isolation: 600 Vac RMS.
 - 5) Trip set-point: Adjustable to +1 percent.
 - 6) Temperature range: -15 degrees C to 85 degrees C.
 - 7) Humidity range: 0 to 95 percent non-condensing.”

7. Page 230923-24, Article 2.11 MISCELLANEOUS ELECTRIC/ELECTRONIC AND MECHANICAL DEVICES: Add the following Paragraphs:

“E. 3-way control valves for Building blending stations:

1. Single-seated globe valve.
2. Fully proportioning with modulating cage trim or V-port inner valves.
3. Flow characteristics shall be modified equal percentage at approximately 30% change per increment.
4. Rangeability shall be 100:1 or greater.
5. Body pressure rating and connection type construction shall conform to fitting and valve schedules. The ANSI rating of the valve shall match or exceed the ANSI rating of the piping in which the valve is installed.
6. Valves 2-1/2" and larger valves shall have a body pressure rating of ANSI class 125 or 250 or better and connection type construction shall conform to pipe, fitting and valve schedules for valves 2-1/2 inches or larger.
7. Stainless steel stems and trim.
8. Spring loaded Teflon packing
9. Fail-safe in normally closed position in the event of power failure.
10. Capable of operating at varying rates of speed to correspond to the exact dictates of the controller and variable load requirements.
11. Provide direct mount actuators specifically made for this valve. External valve linkages and damper actuators are more susceptible to binding and breaking and shall not be allowed.
12. Size valves as indicated on drawings M-701.

F. Actuators for 3-way control valves:

1. Actuator shall be electric motor driving, microprocessor signal controlled.
2. Modulating valves shall be positive positioning, responding to a 0-10VDC, 2-10VDC or 4-20mA signal. Floating modulating signals are acceptable for modulation on terminal units and radiation units. There shall be a visual valve position indicator.
3. Power: All actuators shall be 24VAC power and less than 100VA draw. Power shall be via Class 2 wiring. Actuators requiring more than 100VA shall have a dedicated conduit for power wiring, not mixed with the signal wiring.
4. Fail Safe: Valves actuators shall position the valve in a fail-safe position when the power supply is disrupted or the signal goes to 0. Fail-safe according to the following guidelines unless otherwise stated in the sequence of operations. Power fail safe shall be via spring loaded mechanical means
5. The actuator shall be designed with a current limiting motor protection. A release button (clutch) or handle on the actuator shall be provided to allow for manual override (except when actuator is spring return type).
6. Actuator shall provide minimum torque required for proper valve close-off. The close-off differential pressure rating of the valve shall exceed the highest possible head pressure available at the pump plus 10%, and still be rated for a Class IV leakage.
7. The actuator shall have the capability of adding auxiliary switches or feedback potentiometer if specified.
8. Actuators shall be UL and CSA listed."

8. Page 230523-3,PART 2 PRODUCTS: Add the following Article:

“2.07 MULTI-PURPOSE VALVES

- A. Multi-purpose valve shall incorporate the following three functions in one body:
 - 1. Tight shut-off
 - 2. Spring-closure type silent non-slam check
 - 3. Effective throttling design capability
- B. The valve body shall have (2) 1/4” NPT connections on each side of the valve seat. One connection on each size shall have brass pressure and temperature metering ports, with check valves and gasketed caps. The other connection on each side shall be supplied with brass drain plugs. Metering ports are to be interchangeable with drain plugs to allow for measurement flexibility when installed in tight locations. The valve disk shall be bronze plug & disc type with high impact engineered resin seat to ensure tight shut-off and silent check operation.
- C. The valve stem shall be stainless steel with flat surfaces provided for adjustment with open-end wrench.
- D. The valve body shall be Cast Iron with ANSI 125 (PN16) flanged ports.
- E. The valve shall be selected and installed in accordance with the manufacturer’s instructions and be suitable for the pressure and temperature specified.
- F. Each valve shall be furnished with a pre-formed removable PVC insulation jacket to meet ASTM D1784 Class 14253-C, MEA #7-87, ASTM-E-84 and ASTM136 with a flame spread rating of 25 or less and a smoke development rating of 50 or less. There will be provided sufficient mineral fiberglass insulation to meet ASHRAE 90.1-1989 specifications in operating conditions with maximum Fluid Design Operating Temperature Range of 141°F-200°F (60°C-93°C) and Mean Rating Temperature of 125°F (52°C).
- G. Multi-purpose valve shall be manufactured by the same manufacturer as the pump to which it is associated. The configuration shall be angle or straight pattern as indicated on the drawings.”

9. Page 230523-2, Article 2.03 GATE VALVES: Add the following Paragraph:

- “C. Type C: 125 psig WSP, 200 psig WOG up to 12 inch size, and 150 psig WOG for 14 inch and 16 inch sizes; IBBM OS&Y, bolted bonnet, solid wedge disc, and threaded or flanged ends depending on size. Acceptable Valves: Crane 464-1/2 & 465-1/2, Hammond IR1140, Milwaukee F2885, Nibco T6170 & F6170, and Stockham G620 & G623.”

10. Page 230523-4, Paragraph 3.04 A.: Add the following Subparagraph:

- “6. Building Hot Water (HS & HR):
a. 4 inches and Up: Flanged end, C gates.”

11. SECTION 331101 WATER UTILITY DISTRIBUTION PIPING: Add the attached Section (pages 331101-1 thru 331101-4) to the Project Manual.

12. SECTION 331300 DISINFECTION OF WATER UTILITY DISTRIBUTION: Add the attached Section (pages 331300-1 thru 331300-4) to the Project Manual.
13. SECTION 334104 CORRUGATED POLYETHYLENE STORM DRAIN PIPE: Add the attached Section (pages 334104-1 thru 334104-2) to the Project Manual.
14. Page 333913-2, Paragraph 2.01,D: Add the following Subparagraph:
 - “8. Acceptable Catch Basin Frames and Gratings: Pattern R-2557-A frame with Pattern R-2580-A, Type G grate by Neenah Foundry Company, P. O. Box 729, Neenah, WI 54957, (414) 729-3661; Pattern 1187A frame with grate by East Jordan Iron Works, P.O. Box 190, South Bay Rd., Cicero, NY 13039, (315) 699-2601. Corporate Headquarters, 301 Spring Street, East Jordan, MI 49727, (800) 874-4100.

HVAC WORK DRAWINGS

15. Drawing M-101, KEYED NOTES, Note 1: Add the following to the end of this Note; “Remove fiberglass insulation at 8” diameter elbows in existing piping and replace with cellular glass, typical (12) elbows.”
16. Addendum Drawings:
 - a. Drawing Nos. M-301, M-509, and M-510 noted “ADDENDUM DRAWING 03/02/16” accompany this Addendum and form part of the Contract Documents.
17. Revised Drawings:
 - a. Drawing Nos. A-001, M-103, M-104, M-402, M-403, M-404, M-701, S-402, S-501, and S-502 noted “REVISED DRAWING 03/02/16” accompany this Addendum and supersede the same numbered originally issued drawings.

END OF ADDENDUM

Margaret F. Larkin
Executive Director
Design and Construction

JRC;jc

DETACH AND USE THIS FORM

BID FORM FOR: 44996-H

**HVAC WORK
REPAIR REPLACE UNDERGROUND HEATING LINE
DOWNSTATE CORRECTIONAL FACILITY
122 RED SCHOOLHOUSE ROAD
FISHKILL, NY**

State of New York
Office of General Services
Design and Construction Group
Division of Contract Administration
35th Floor, Corning Tower
The Gov. Nelson A. Rockefeller
Empire State Plaza
Albany, NY 12242

THIS IS A 2 PAGE BID FORM. ALL PAGES MUST BE COMPLETED.

THE STATE RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS. EACH BID FORM SHALL BE ACCOMPANIED BY BID SECURITY (AS DESCRIBED IN THE INSTRUCTIONS TO BIDDERS) IN THE AMOUNT STATED IN THE ADVERTISEMENT FOR BIDS.

The Undersigned agrees to complete the Work within the time stated in Section 011000 of the Specifications.

The Undersigned acknowledges his/her understanding of the social policy concerning minority and women business participation in the State building construction program, and pledges to cooperate with the State in the implementation of this policy, and further pledges to exert good faith efforts to achieve participation of minority and female employees.

The Undersigned certifies, as to each of the occupations listed in the Prevailing Rate Schedule applicable to this Project, the ability and willingness to exert good faith efforts to achieve the goal for minority and women workforce participation set forth in the Supplementary Conditions.

The Undersigned certifies the ability and willingness to exert good faith efforts to achieve the goal for Minority and Women-Owned Business Enterprise participation set forth in the Supplementary Conditions.

The Undersigned declares that the Bidding and Contract Documents have been carefully examined and that all things necessary for the completion of the Work shall be provided.

The Undersigned agrees that the bid security shall become the property of the State if this bid is accepted by the State and he/she does not submit executed copies of the Agreement within 10 days of receipt of a written request. A Performance Bond and a Labor and Material Bond, each in an amount equal to the contract sum, shall be supplied with the executed Agreement and shall be the statutory form of public bonds required by Sections 136 and 137 of the State Finance Law.

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his/her knowledge and belief:

(1) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor;

(3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

(4) This contract shall not cause or result in a violation of Section 73(4) of the Public Officers Law which states: "No officer or employee of a state agency, member of the legislature or legislative employee or firm or association of which such person is a member, or corporation, ten per centum or more of the stock of which is owned or controlled directly or indirectly by such person, shall sell any goods or services having a value in excess of twenty-five dollars to any state agency unless pursuant to an award or contract let after public notice and competitive bidding."

(5) This contract shall not cause or result in a violation of Section 74(3)(e) of the Public Officers Law which states: "No officer or employee of a state agency, member of the legislature or legislative employee should engage in any transaction as representative or agent of the State with any business entity in which he has a direct or indirect financial interest that might reasonably tend to conflict with the proper discharge of his official duties."

(6) The bidder recognizes New York State Finance Law §139-j and §139-k and understands and agrees to comply with all of its requirements and procedures.

(7) The bidder is not on the list created pursuant to paragraph (b) of subdivision 3 of section 165-a of the state finance law

(NYS Iran Divestment Act of 2012). The list can be viewed at the following link: <http://www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf>.

(8) Will New York State Businesses be used in the performance of this contract? _____ (refer to Document 007324)
Yes No

Addenda to the Contract Documents are available at: <https://online.ogs.ny.gov/dnc/contractorConsultant/esb/ESBPlansAvailableIndex.asp>.

The Undersigned acknowledges receipt and review of all Addenda to the Contract Documents on the above website, listed by number in the space below:

The Undersigned proposes to perform the Work required for this project in accordance with the Contract Documents for the following amount:

BID AMOUNT

- 1. All Work except Allowance(s) \$ _____ .00
- 2. Allowance(s) (As described in Section 012100) \$ 190,000.00
- Total Bid Amount (Sum of 1. & 2.)** \$ _____ .00

SIGN BID HERE _____
Authorized Signature

PRINT NAME OF SIGNER _____

TITLE OF SIGNER _____

OFFICIAL COMPANY NAME _____

MAILING ADDRESS _____
Street

_____ City State Zip

TELEPHONE NO. _____ FAX NO. _____
Area Code Area Code

E-MAIL ADDRESS _____

SECTION 331101

WATER UTILITY DISTRIBUTION PIPING

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Concrete For Thrust Blocks: Section 033001.
- B. Earthwork: Section 310000.
- C. Disinfection: Section 331300.

1.02 SUBMITTALS

- A. Product Data: Manufacturer's specifications including dimensions and coatings.
- B. Quality Control Submittals: Statement of compliance with ANSI/AWWA Specifications.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. U.S. Pipe
1101 East Pearl Street
Burlington, New Jersey 08016
(609)387-6122
- B. American Pipe
1614-0 Union Valley Road, Suite 304
West Milford, New Jersey 07480
(973)853-4288
- C. EBAA Iron Sales, Inc.
P.O. Box 857
Eastland, TX 76448
(800) 433-1716
www.ebaa.com

2.02 DUCTILE IRON PIPE

- A. Centrifugally cast, in accordance with ANSI/AWWA C151/A21.51.
 - 1. Working Pressure: 100 psi.
 - 2. Thickness Class: Under 6 inch - 51; 6 inch and larger - 50.

3. Restrained joints: Boltless integral restraining system rated for a working pressure of 350 psi in accordance with the performance requirements of ANSI/AWWA C111/A21.1.
 - a. Field LOK 350 by U.S. Pipe
 - b. Flex-Ring by American Pipe
 4. Laying Lengths: 18 or 20 feet.
- B. Coating and Lining:
1. Outside Coating: Bituminous enamel, minimum thickness 1 mil.
 2. Inside Lining: Cement mortar; ANSI/AWWA C104/A21.4.

2.03 FITTINGS

- A. Ductile Iron (3 Inch – 48 Inches): ANSI/AWWA C110/A21.10.
- B. Joints: Match pipe furnished.
- C. Coating and Lining:
 1. Outside Coating: Bituminous enamel, minimum thickness 1 mil.
 2. Inside Lining: Cement mortar; ANSI/AWWA C104/A21.4.

PART 3 EXECUTION

3.01 INSPECTION

- A. Inspect pipe and fittings prior to installation to preclude installation of defective materials.

3.02 INSTALLATION

- A. General: Unless otherwise shown, or specified, install the Work of this Section in accordance with ANSI/AWWA Standard C600 and the manufacturer's printed instructions.
- B. Laying Pipe:
 1. Lay pipe to line and grade with joints close and even. Excavate adequate bell holes to facilitate joint assembly and to permit a uniform bearing on undisturbed earth for the pipe barrel. Unless otherwise noted minimum depth of pipe shall be 4'-6" measured from the top of the pipe to the finished or existing grade, whichever is lower.
 2. Keep the trench free from water. Do not lay or test pipe in a wet trench.
 3. Lay water pipe on a continuously rising grade from low points to high points at service lines, hydrants or air valves.
 4. Construct concrete thrust blocks behind bends, tees, caps and plugs, as shown on the drawings. Cast concrete against undisturbed earth and place support so it will not interfere with making joints.
 5. Use clamps, tie-rods, lugged pipe, etc., for anchorage when required and as approved.

- C. Push-on Joints: Make joints with a rubber ring and sterile lubricant. The materials used shall be free of water, oil, tar, grease or other foreign substances.
- D. Mechanical Joints: Conform strictly to the manufacturer's instructions with particular reference to gland alignment and the tightening of the bolts.
- E. Cutting: Cut pipe at right angles to the axis with sharp tools. Prepare ends for proper connections. Do not lay cut pipe within three lengths of a bend or the end of a line without written approval.
- F. Protecting Pipe:
 - 1. Keep pipe clean from all sediment, debris, packing material and other foreign material.
 - 2. Close all open ends of pipes and fittings securely with removable plugs at end of each work day, during storms, and when the Work is left at any time.

3.03 PRESSURE AND LEAKAGE TESTS

- A. Before backfilling, fill pipe with water to expel all air. Conduct as directed concurrent pressure and leakage tests for two hours at 1-1/2 times the specified working pressure (100 psi). Maximum variation in test pressures shall not exceed plus or minus 5 psi.
 - 1. Test Procedures: ANSI/AWWA C600, Section 5.
- B. Pipe installations will be rejected when the additional water required to maintain pressure during the test period, exceeds the allowable leakage in the following formula.

$$L = \frac{SD \times \text{the square root of } P}{148,000}$$

in which:

L = allowable leakage in gallons per hour

S = length of pipe line tested, in feet

D = nominal diameter of pipe, in inches

P = average test pressure during the leakage test, psi (gage)

- C. All pressure and leakage tests shall be conducted in the presence of the Director's Representative.
- D. Locate and repair or replace all pipe and fittings showing visible leaks. Repeat Pressure and Leakage Tests as specified.

3.04 DISINFECTION

- A. Disinfect pipe and fittings in accordance with Section 331300 after completion of pressure and leakage tests.

3.05 CONNECTIONS

- A. When other connecting pipe or other connecting structures have not yet been installed, lay pipe to a point where directed and plug or cap the end. Identify the terminal point with a stake extending above ground, marked to indicate size and service. Provide temporary thrust restraint as directed.

END OF SECTION

SECTION 331300

DISINFECTION OF WATER UTILITY DISTRIBUTION

PART 1 GENERAL

1.01 QUALITY ASSURANCE

- A. Conform to provisions of AWWA C-651 for water line disinfection. Do not use Tablet Method therein.
- B. Comply with all requirements of the New York State Department of Health for disinfection of potable water lines, valves, hydrants, storage tanks, and appurtenances.

1.02 SUBMITTALS

- A. Contract Closeout Submittals:
 - 1. Test Results.

PART 2 PRODUCTS

2.01 DISINFECTANT

- A. Chlorine Gas meeting AWWA B301.
- B. Hypochlorites meeting AWWA B300.

2.02 TEST KITS

- A. High range test kit for chlorine residual (0-200 mg/l) Hach Chemical Co. Model CN-21P.
- B. DPD chlorine residual test kit (0-3.5 mg/l) Hach Chemical Co. Model CN-66.
- C. Test kits to remain property of the Contractor.

PART 3 EXECUTION

3.01 DISINFECTION - WATER MAINS

- A. Flush mains with clear water at a minimum rate of 2.5 fps prior to disinfection. See Table 1.

TABLE 1 - WATER MAIN FLUSHING DATA

PIPE DIAMETER (INCHES)	FLUSHING RATE GPM @ 2.5 fps	HYDRANT OPENINGS @ 40 psi
2	25	one - 2-1/2
4	100	one - 2-1/2
6	220	one - 2-1/2
8	390	one - 2-1/2
10	610	one - 2-1/2
12	880	one - 2-1/2
14	1200	two - 2-1/2
16	1570	two - 2-1/2
18	1985	two - 2-1/2
24	3525	one - 4-1/2 and one - 2-1/2

- B. Chlorine Gas: Apply with a solution-feed chlorinator in combination with a booster pump for injecting the chlorine gas-water mixture into the main. Do not use direct feed chlorinators.
- C. Hypochlorites: Apply solutions to water mains with a gasoline or electrically powered chemical feed pump designed for feeding chlorine solutions.
- D. Application (Continuous Feed Method).
1. Connect chlorinator or force pump to water main upstream from point of repair or replacement, or new lines.
 2. Proportion application rate of chlorine solution to obtain a minimum concentration of 50 mg/l of available chlorine. Use high range test kit to determine concentration. See Table 2.

TABLE 2 - QUANTITY OF DISINFECTANT REQUIRED FOR 50 mg/l OF AVAILABLE CHLORINE PER 100 FT. OF PIPE							
PIPE DIAMETER (INCHES)	POUNDS		OUNCES			QUARTS	
	Cl GAS	SOLUTION 70%	HYPOCHLORITE				
			70%	14.7%	5.25%	14.7%	5.25%
2	0.1	0.1	0.2	0.8	2.1	0.1	0.1
4	0.1	0.1	0.6	3.0	8.3	0.1	0.3
6	0.1	0.1	1.4	6.7	18.7	0.2	0.6
8	0.1	0.2	2.5	11.9	33.2	0.4	1.1
10	0.2	0.3	3.9	18.5	51.9	0.6	1.6
12	0.3	0.4	5.6	26.7	74.7	0.9	2.4
14	0.4	0.5	7.6	36.3	102.0	1.2	3.2
16	0.5	0.7	10.1	47.5	133.0	1.5	4.2
18	0.6	0.8	12.6	60.0	168.0	1.9	5.3
24	1.0	1.4	22.4	107.0	298.0	3.4	9.4

3. In the absence of a meter, determine rate either by placing a pitot gage at discharge or by measuring the time to fill a container of known volume. See Table 3.

TABLE 3 - TIME FOR DISINFECTANT TO FLOW THROUGH 100 FT. OF PIPE - MINUTES			
PIPE DIAMETER (INCHES)	@ 25 GPM	@ 100 GPM	@ 500 GPM
2	0.7	0.2	0.04
4	2.6	0.7	0.13
6	5.9	1.5	0.3
8	10.5	2.6	0.5
10	16.3	4.1	0.8
12	23.5	5.9	1.2
14	32.0	8.0	1.6
16	41.8	10.5	2.1
18	52.9	13.2	2.7
24	94.0	23.5	4.7

4. Continue to apply chlorine solution until it reaches discharge. Check for the presence of chlorine at discharge by adding an orthotolidine reagent. In the presence of chlorine the reagent will turn red.
 5. Maintain chlorinated water in the main for a minimum of 24 hours. At the end of this period chlorine concentration shall be at least 25 mg/l. Use high range test kit to determine concentration.
 6. Operate all valves and hydrants to insure their proper disinfection.
 7. Prevent back flow of super chlorinated water into existing distribution system.
- E. Final Flushing:
1. After a 24-hour retention period, flush main until maximum chlorine concentration is 1.0 mg/l. Use DPD chlorine residual test kit.
 2. Discharge super chlorinated water in a manner that will not adversely affect plants and animals. Comply with applicable State regulations for waste discharge.
- F. Bacteriological Tests: Contact local health units for sampling criteria and procedures. Local health units may have more stringent criteria.
1. Test water main for bacteriological quality before putting pipe into service. A minimum of two successive sets of samples shall be taken at 24-hour intervals. Both sets of samples shall indicate bacteriological safe water before putting the facility in operation. Pay all expenses incurred for testing.
 2. Tests shall be conducted by a laboratory approved by the New York State Health Dept.
- G. Give all test results to Director's Representative.
1. Should test results prove any part of the system bacteriologically unsafe, repeat disinfection procedures until satisfactory results are obtained.

END OF SECTION

SECTION 334104

CORRUGATED POLYETHYLENE STORM DRAIN PIPE

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Earthwork: Section 310000.

1.02 SUBMITTALS

- A. Product Data: Manufacturer’s specifications (AASHTO M-252 or AASHTO M-294), including dimensions, allowable height of cover information, and installation instructions.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Advanced Drainage Systems, Inc., 3300 Riverside Dr., Columbus, OH 43221; (614) 457-3051.
- B. Hancor, Inc., 401 Olive St., Findlay, OH 45840; (800) 847-5880.

2.02 MATERIALS

- A. Corrugated Polyethylene Pipe (Smooth Interior): Conform to AASHTO M-294 (12 to 36-inch diameter).
 - 1. Coefficient of Roughness (interior pipe surface): 0.012 maximum (Manning formula).
 - 2. Classification: Type S.
 - 3. Minimum Pipe Stiffness Values:

DIAMETER	PIPE STIFFNESS (PER ASTM D 2412)
4”, 6”, 8”, 10”, 12”	50 psi
15”	42 psi
18”	40 psi
24”	34 psi
30”	28 psi
36”	22 psi

- 4. Joint Couplings: Polyethylene Couplers; snap-on type or split collar through 24-inch diameter, screw-on type where applicable.
 - a. Corrugated to match pipe corrugations, width not less than one half pipe diameter.

- b. Split couplings shall engage an equal number of corrugations on each side of the joint.
- C. Fittings:
 - 1. High density polyethylene meeting the properties specified for the pipe.
 - 2. Either molded or fabricated.
 - 3. Designed specifically for the pipe furnished and manufactured by the pipe manufacturer.
- D. Headwalls and End Sections: Galvanized steel manufactured from material meeting the requirements of AASHTO M-218.
 - 1. Conform to shape, dimensions, and thickness shown on the drawings.
 - 2. Use only extra length rod and lug-type, galvanized coupling band connectors.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Laying: Lay pipe to indicated line and grade with a firm uniform bearing for the entire length of the pipe. Fill excess excavation with suitable materials and tamp.
- B. Joints: Install coupling and fasten per manufacturer's instructions.
- C. Connections:
 - 1. Make connections to existing pipe by using a galvanized steel "dimple"-type coupling. Remake damaged existing joints.
 - 2. Make connections to existing manholes and drainage structures by cutting into the floor or bench of the manhole or drainage structure and forming a new channel.
 - 3. If the pipe, manholes or other structures with which connections are to be made have not yet been installed, install the pipe to a point directed by the Director's Representative and plug or cap the end in a satisfactory manner.

END OF SECTION

GENERAL LIST OF ABBREVIATIONS:

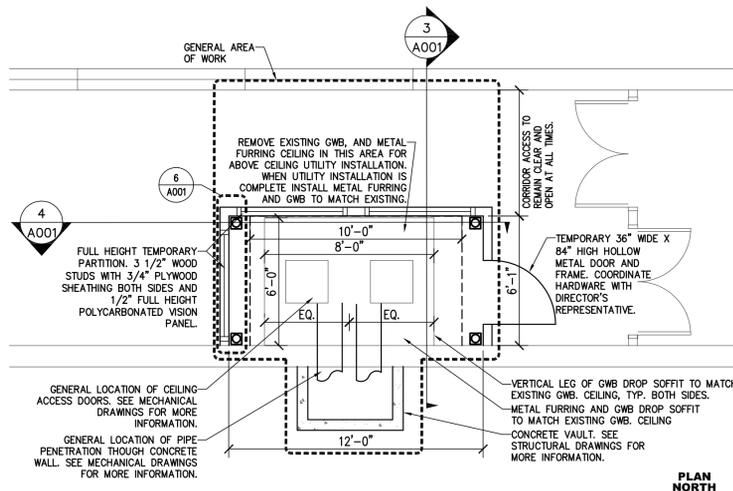
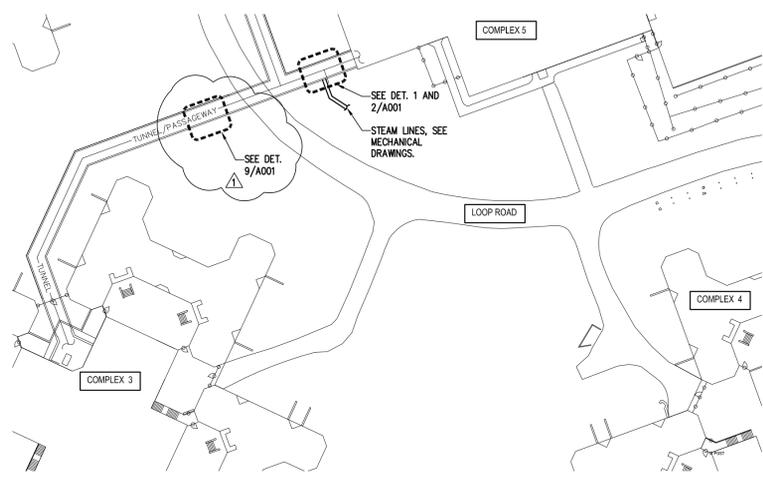
A.C.	ACOUSTICAL CEILING
A.C.P.	ALUMINUM COMPOSITE PANEL
ACT	ACOUSTICAL CEILING TILE
A.F.F.	ABOVE FINISHED FLOOR
AL	ALUMINUM
ALUM.	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASB	ALUMINUM
BTM	BOTTOM
C.	CARPET
CAB.	CABINET
C.B.	COVE BASE
CCB	CEMENTITIOUS BACKER BOARD
CDT.	CONDUIT
C.J.	CONTROL JOINT
CL.	CLOSET
CLG.	CEILING
C.L.R.	CLEAR
C.G.	CORNER GUARD
C.O.	CLEAN OUT
CT.	CERAMIC TILE
C.T.C.	CENTER TO CENTER
C.M.U.	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONF.	CONFERENCE
CONSTR.	CONSTRUCTION
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
CORR.	CORRIDOR
CAS.	CASEWORK
DEPT.	DEPARTMENT
DET.	DETAIL
DIA.	DIAMETER
D.L.O.	DAY LIGHT OPENING
DN.	DOWN
DP	DEMOUNTABLE PARTITION
DR.	DOOR
DWG.	DRAWING
E.I.F.S.	EXT. INSULATED FIN. SYSTEM
ELEC.	ELECTRIC OR ELECTRICAL
ELEV.	ELEVATION
E.M.	ENTRANCE MATTING
E.O.C.	EVERY OTHER COURSE
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.W.	EACH WAY
EX.	EXISTING
EXIST.	EXISTING
EXT.	EXTERIOR
F.	FACE OF
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.F.	FRESHO MTD. FIRE EXTINGUISHER CABINET
F.E.C.	FIRE EXTINGUISHER CABINET
F.G.	FULL GLASS
FIN.	FINISH (FD)
FLR.	FLOOR
F.N.D.	FEMININE NAPKIN DISPENSER
FNON.	FOUNDATION
F.R.	FIRE RESISTANCE RATING
F.S.	FLOOR STOP
FT.	FOOT OR FEET
GA.	GAUGE
GALV.	GALVANIZED
G.B.	GRAB BAR
GL.	GLASS
G.W.B.	GYPSON WALLBOARD
H.	HEIGHT
H.C.P.	HANDICAP (PED)
H.C.W.	HOLLOW CORE WOOD
H.D.	HEAT DETECTOR
HDWRE.	HARDWARE
H.M.	HOLLOW METAL
HR.	HORIZONTAL
HR.	HOUR
INSUL.	INSULATED OR INSULATION
INT.	INTERIOR
IS.	INTERIOR SIGN
L.L.V.	LONG LEG VERTICAL
M.	MIRROR
M.S.	MASONRY
MAX.	MAXIMUM
MECH.	MECHANICAL
M.E.P.	MECHANICAL, ELECTRICAL, PLUMBING
MIN.	MINIMUM
MOD.	MODIFICATION
M.O.	MASONRY OPENING
M.T.	METAL
MTD.	MOUNTED
N.F.P.A.	NATIONAL FIRE PROTECTION ASSOCIATION
NO.	NUMBER
N.T.S.	NOT TO SCALE
N.Y.S.	NEW YORK STATE
OCCP.	OCCUPANCY
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.A.	OVERHEAD
O/O	OUT TO OUT
OPP.	OPPOSITE
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
P.	PAINT
P.E.B.	PRE-ENGINEERED BUILDING
PF.	PRE-FINISHED
PL.	PLASTIC LAMINATE
P.T.	PRESSURE TREATED
P.T.D.&W.	PAPER TOWEL DISPENSER & WASTE
P.V.C.	POLYVINYLCHLORIDE
R.D.	ROOF DRAIN
REF.	REFRIGERATOR
REQ.	REQUIRED
RM.	ROOM
R.O.	ROUGH OPENING
R.P.T.D.&W.	RECESSED PAPER TOWEL DISPENSER & WASTE
R.R.	REST ROOM
RSF.	RESILIENT SHEET FLOORING
S.A.T.	SUSPENDED ACOUSTICAL TILE
SCHED.	SCHEDULE
S.C.W.	SOLID CORE WOOD
S.D.	SOAP DISPENSER
S.F.	SQUARE FOOT
S.R.F.E.C.	SEMI-RECESSED FIRE EXTINGUISHER CABINET
SM.	SIMILAR
STG.	STORAGE
STL.	STEEL
T.	TOP
T. or T/	TO BE REMOVED
T.B.R.	TEMPERED
TEMP.	TEMPERED
THK.	THICK (NESS)
T.P.	TOILET PAPER DISPENSER
T.R.	TO REMAIN
T.S.	FLOOR TRANSITION STRIP
TYP.	TYPICAL
U.L.	UNDERWRITERS LABORATORIES INC
U.O.	UNLESS NOTED OTHERWISE
U.O.N.	UNLESS OTHERWISE NOTED
V.B.	VINYL COVE BASE
VCT.	VINYL COMPOSITION TILE
VERT.	VERTICAL
VEST.	VESTIBULE
VP	VERIFY IN FIELD
W.	WIDTH
W/B.	WITH
W.C.	WALL BUMPER
W.D.	WATER CLOSET
W.O.	WOOD
W.H.	WATER HEATER
W.H.M.	WELDED HOLLOW METAL
W.L.	WALL
W.M.	WATER METER

CHAPTER	REF. NO.	TITLE	EXISTING	DESIGNED FOR	REQUIRED/MAX/MIN	NOTES
3	308.4	GROUP 1-3	EXISTING GROUP 1-3	EXISTING GROUP 1-3	EXISTING GROUP 1-3	
6	602.2	TYPES I AND II (CONSTRUCTION)	EXISTING TYPE II B CONSTRUCTION	TYPE II B	TYPE II B	EXISTING CORRIDOR IS CONSTRUCTED OF CONCRETE AND CMU.
8	780.5	INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY	EXISTING CLASS A	CLASS A FINISH	CLASS A FINISH	EXISTING CORRIDOR CEILING IS A CLASS A FINISH GWB ON METAL STUD FURRING.
4	403.1	SCOPE (OF ALTERATION)	EXISTING CEILING TO BE REMOVED AND REPLACED IN KIND	LEVEL 1 ALTERATION	LEVEL 1 ALTERATION	

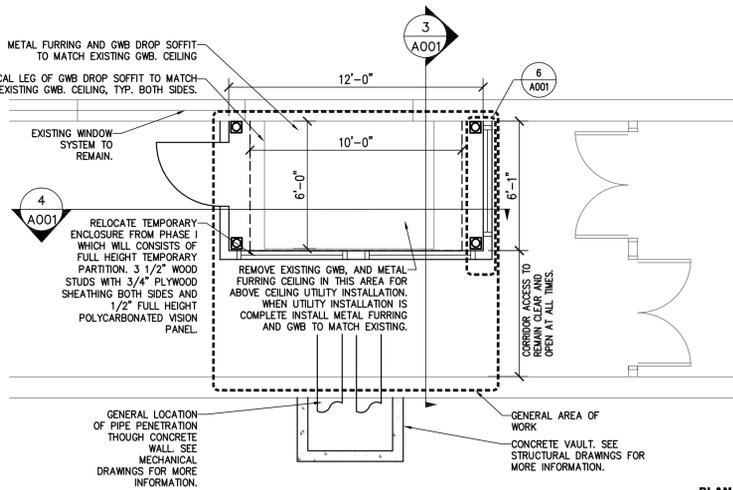
- GENERAL NOTES:**
- THE CONTRACTOR SHALL INSTALL ALL MATERIAL IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS.
 - DIMENSIONS AND DETAILS ARE BASED ON THE BEST AVAILABLE INFORMATION AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING FIELD DIMENSIONS BEFORE ORDERING MATERIALS AND PREFABRICATED ITEMS.
 - ALL WORK SHALL BE PERFORMED IN THE BEST AND MOST PROFESSIONAL MANNER BY CONTRACTORS SKILLED IN THEIR RESPECTIVE TRADES.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTING AND CORRECTING THEIR OWN WORKMANSHIP TO THE EXTENT THAT SATISFIES THE DIRECTOR'S REPRESENTATIVE.
 - THE CONTRACTOR, AND OWNER SHALL BE RESPONSIBLE FOR SPECIFICATIONS OF ALL MATERIALS NOT SPECIFIED ON THE DRAWINGS OR IN THE SPECIFICATIONS. THE CONTRACTOR SHALL COORDINATE THE SELECTION OF ALL COMPONENT COLORS, MODEL NUMBERS, SIZES, ETC. OF ALL BUILDING ELEMENTS WITH THE DIRECTOR'S REPRESENTATIVE BEFORE ORDERING MATERIALS.
 - ALL WORKMANSHIP AND MATERIALS, UNLESS CARRYING A GUARANTEE BY A MANUFACTURER FOR A LONGER PERIOD OF TIME SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL PAYMENT TO THE CONTRACTOR.
 - THE CONTRACTOR SHALL PROVIDE THE DIRECTOR'S REPRESENTATIVE A COMPLETE MAINTENANCE & OPERATIONAL INSTRUCTIONS IN BOTH WRITTEN FORM FOR ALL CONTRACTOR PROVIDED ITEMS.
 - THE CONTRACTOR SHALL REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTIFY THE DIRECTOR'S REPRESENTATIVE OF ANY INACCURACIES OR DISCREPANCIES IN THE DOCUMENTS AND IN FIELD CONDITIONS SHOWN ON THE DRAWINGS IN A TIMELY MANNER.
 - THE CONTRACTOR SHALL PERFORM ALL WORK IN STRICT ACCORDANCE WITH ALL FEDERAL AND STATE CODES, RULES, REGULATIONS AND ORDINANCES INCLUDING, BUT NOT LIMITED TO, THE BUILDING CODE OF NEW YORK STATE, AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND THE NEW YORK STATE LABOR DEPARTMENT, WHETHER OR NOT INFORMATION AND/OR WORK IS SPECIFICALLY SHOWN ON THE DRAWINGS.
 - THE CONTRACTOR SHALL PAINT ANY DISTURBED CEILING AND ANY NEW CEILING WORK TO MATCH THE EXISTING CEILING.

GENERAL DESCRIPTION OF WORK:

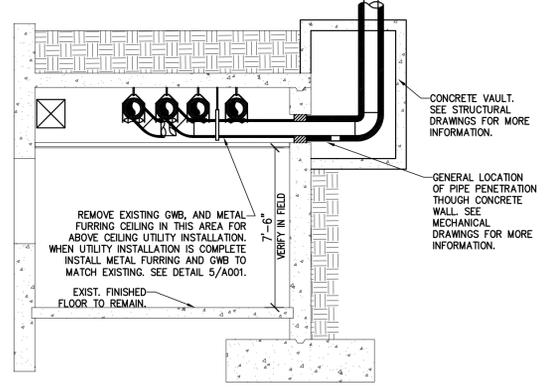
- THE STATEMENT OF WORK FOR THE ARCHITECTURAL PORTION OF THIS PROJECT INCLUDES BUT IS NOT LIMITED TO THE REMOVAL OF THE EXISTING GWB CEILING IN THE AREA WHERE NEW UTILITIES WILL BE ENTERING THE EXISTING TUNNEL AND REINSTALLATION OF THE CEILING TO MATCH THE EXISTING.



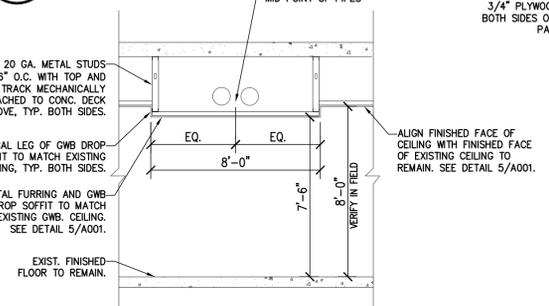
1 GENERAL CORRIDOR PLAN - PHASE I
A-001 SCALE: 1/4"=1'-0"



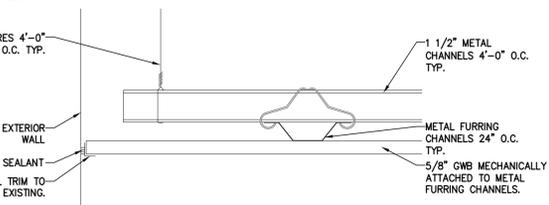
2 GENERAL CORRIDOR PLAN - PHASE II
A-001 SCALE: 1/4"=1'-0"



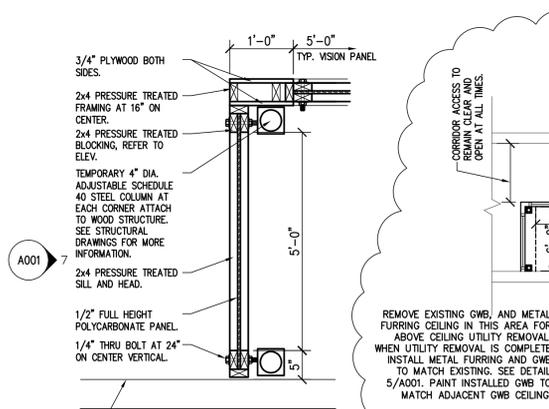
3 GENERAL CORRIDOR SECTION
A-001 SCALE: 1/4"=1'-0"



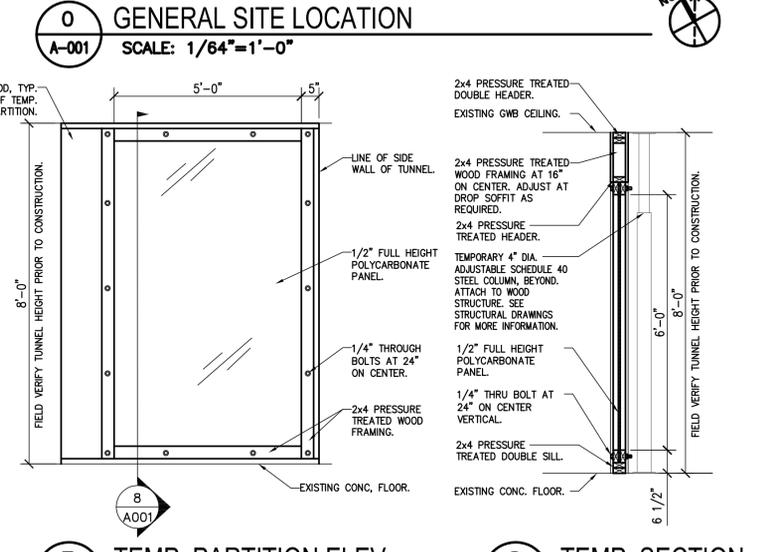
4 GENERAL CORRIDOR SECTION
A-001 SCALE: 1/4"=1'-0"



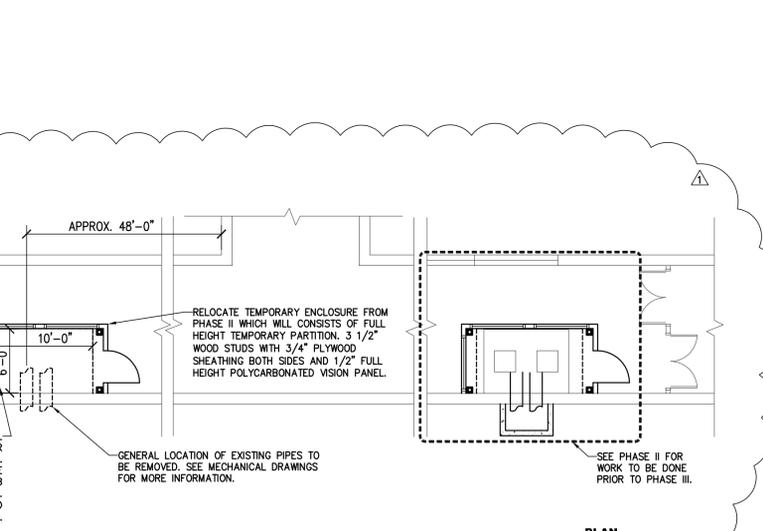
5 CEILING DETAIL - TYP.
A-001 SCALE: 3/8"=1'-0"



6 TEMP. PARTITION PLAN
A-001 SCALE: 3/4"=1'-0"



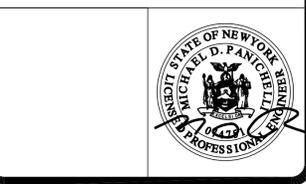
7 TEMP. PARTITION ELEV.
A-001 SCALE: 1/2"=1'-0"



9 GENERAL CORRIDOR PLAN - PHASE III
A-001 SCALE: 1/8"=1'-0"



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CONTRACT: HVAC
TITLE: REPAIR/REPLACE UNDERGROUND HEATING LINE
LOCATION: DOWNSTATE CORRECTIONAL FACILITY 122 RED SCHOOLHOUSE ROAD FISHKILL, NY
CLIENT: DEPARTMENT OF CORRECTIONS AND COMMUNITY SUPERVISION

MARK	DATE	DESCRIPTION
△	03/02/2016	REVISED DRAWING
	02/05/2016	BID DOCUMENTS
PROJECT NUMBER:	44996 - H	
DESIGNED BY:	MM	
DRAWN BY:	MM	
FIELD CHECK:	---	
APPROVED:	---	
SHEET TITLE:	CORRIDOR CEILING DETAILS	
DRAWING NUMBER:	A-001	
SHEET	OF	---



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CONTRACT: HVAC
TITLE: REPAIR/REPLACE UNDERGROUND HEATING LINE
LOCATION: DOWNSTATE CORRECTIONAL FACILITY
122 RED SCHOOLHOUSE ROAD
FISHKILL, NY
CLIENT: DEPARTMENT OF CORRECTIONS AND COMMUNITY SUPERVISION

MARK	DATE	DESCRIPTION
△	03/02/2016	REVISED DRAWING
	02/05/2016	BID DOCUMENTS
PROJECT NUMBER:		44996 - H
DESIGNED BY:		
DRAWN BY:		
FIELD CHECK:		
APPROVED:		
SHEET TITLE:		

EROSION & SEDIMENT CONTROL & SITE RESTORATION PLAN WEST

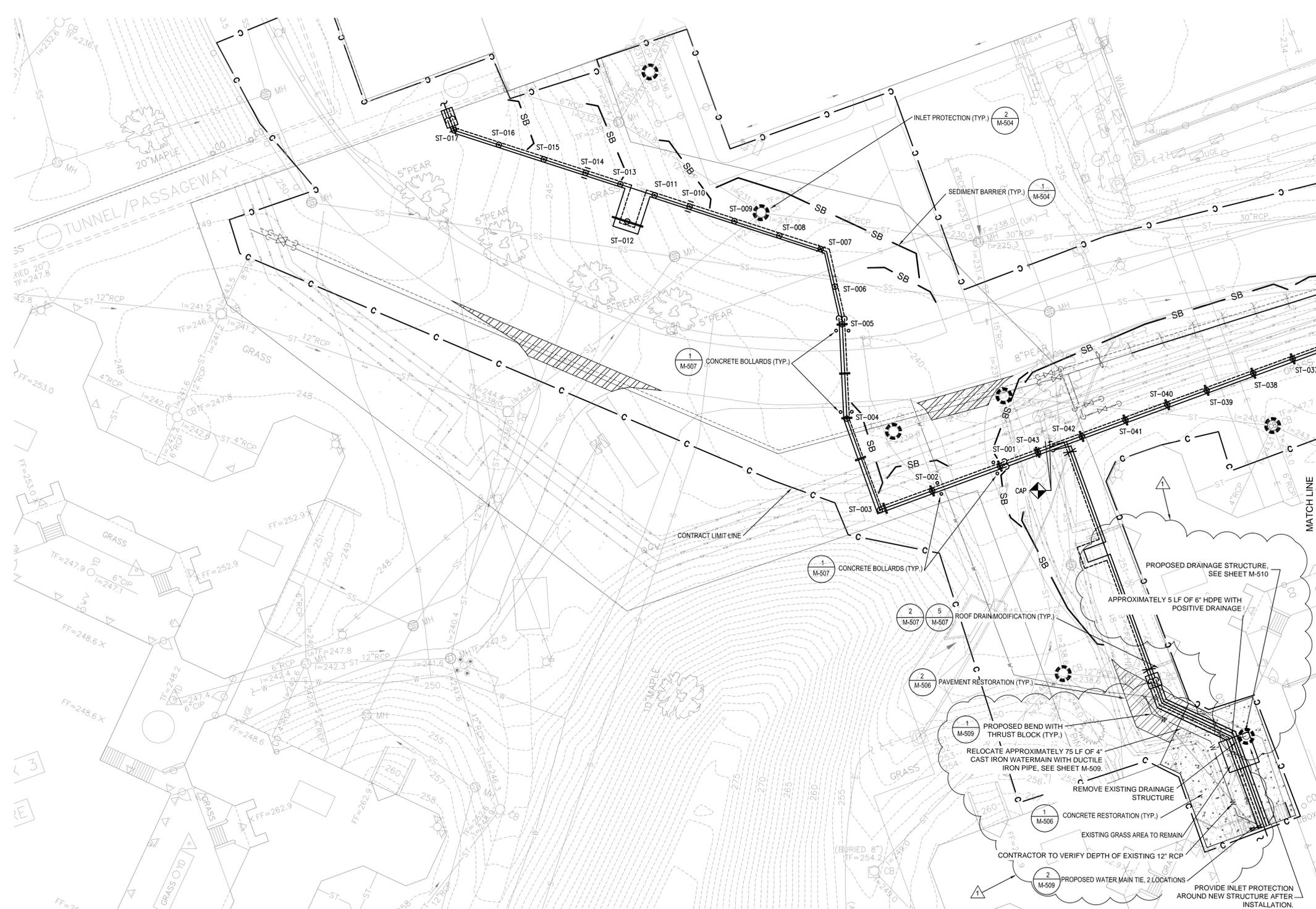
DRAWING NUMBER: M-104

SHEET OF

GENERAL NOTES:

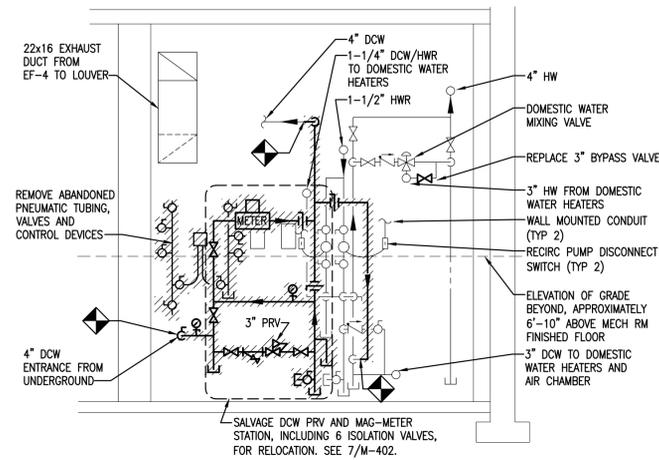
- ALL DISTURBED AREAS TO BE RETURNED TO THEIR EXISTING COVER TYPES UPON CONSTRUCTION COMPLETION.

STANCHION #	Northing	Eastings
1	81926.3664	53488.4494
2	81925.5816	53486.2931
3	81924.9757	53484.6312
4	81927.8687	53483.5770
5	81930.8605	53483.4262
6	81932.0527	53483.1957
7	81933.2426	53482.7454
8	81933.6659	53481.4288
9	81934.1279	53480.0002
10	81934.5871	53478.5709
11	81934.9475	53477.4601
12	81934.1154	53476.5915
13	81935.2986	53476.3706
14	81935.6547	53475.2647
15	81936.0849	53473.9313
16	81936.5459	53472.5064
17	81937.0062	53471.0787
18	81923.1118	53517.5345
19	81923.2360	53516.1354
20	81923.3452	53514.9702
21	81923.4471	53513.8078
22	81923.5458	53512.6488
22A	81923.6595	53511.4636
23	81923.7649	53510.3599
24	81924.9472	53509.7116
25	81926.1001	53509.2347
26	81927.2545	53508.7536
27	81928.4066	53508.2738
28	81929.7984	53508.5048
29	81930.0710	53507.6095
30	81930.3949	53506.4931
30A	81930.7544	53505.3129
31	81931.0718	53504.2380
32	81931.4022	53503.1088
33	81931.7289	53502.0007
34	81931.7612	53501.0772
35	81930.7116	53500.3804
36	81930.2194	53499.0171
37	81929.7570	53497.7535
38	81929.3064	53496.5146
39	81928.7682	53495.0230
40	81928.3102	53493.7725
41	81927.8275	53492.4428
42	81927.3108	53491.0497
43	81926.7987	53489.6505

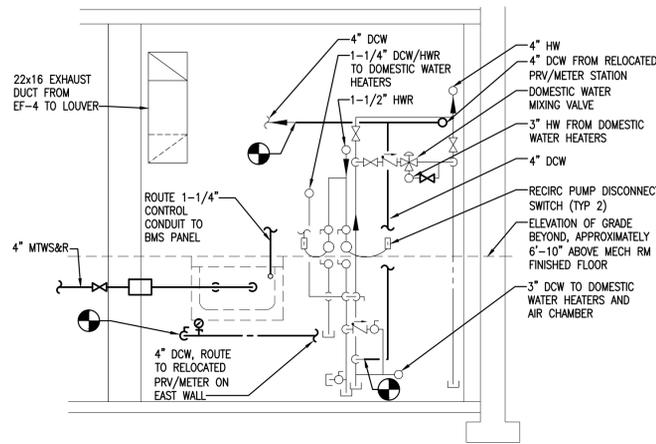


1 EROSION SEDIMENT CONTROL & SITE RESTORATION PLAN WEST
SCALE: 1"=20'-0"





6 REMOVALS SECTION
M-402 SCALE: 1/4"=1'-0"



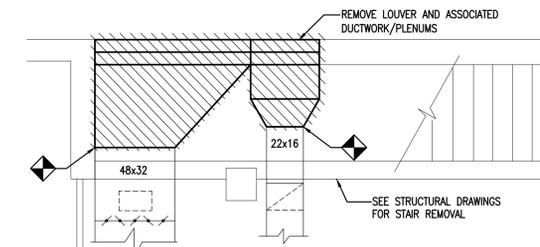
7 INSTALLATION SECTION
M-402 SCALE: 1/4"=1'-0"

GENERAL NOTES

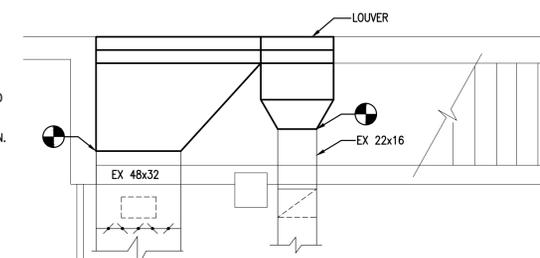
1. PROVIDE NUTS, BOLTS, WASHERS AND GASKETS FOR ALL RELOCATED COMPONENTS. DO NOT RE-USE EXISTING.

KEYED NOTES:

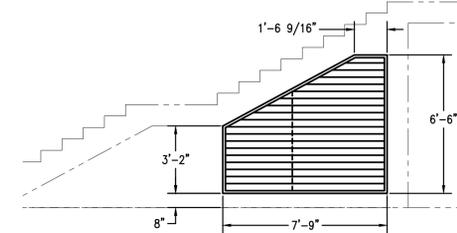
- 1 REMOVE ANGLE PATTERN MULTIPURPOSE VALVE.
- 2 REMOVE SECTION OF PIPE IN RISE TO INSTALL ISOLATION VALVE.
- 3 PROVIDE 4" ANGLE PATTERN MULTIPURPOSE VALVE.
- 4 PROVIDE 4" ISOLATION VALVE IN RISE.
- 5 LOCATION OF MOTOR CONTROLLER FOR P-1 AND P-2.
- 6 REMOVE BLENDING STATION 3-WAY CONTROL VALVE, SEE DETAIL 1/M-301.
- 7 PROVIDE REPLACEMENT ELECTRONIC 3-WAY CONTROL VALVE, SEE DETAIL 2/M-301.



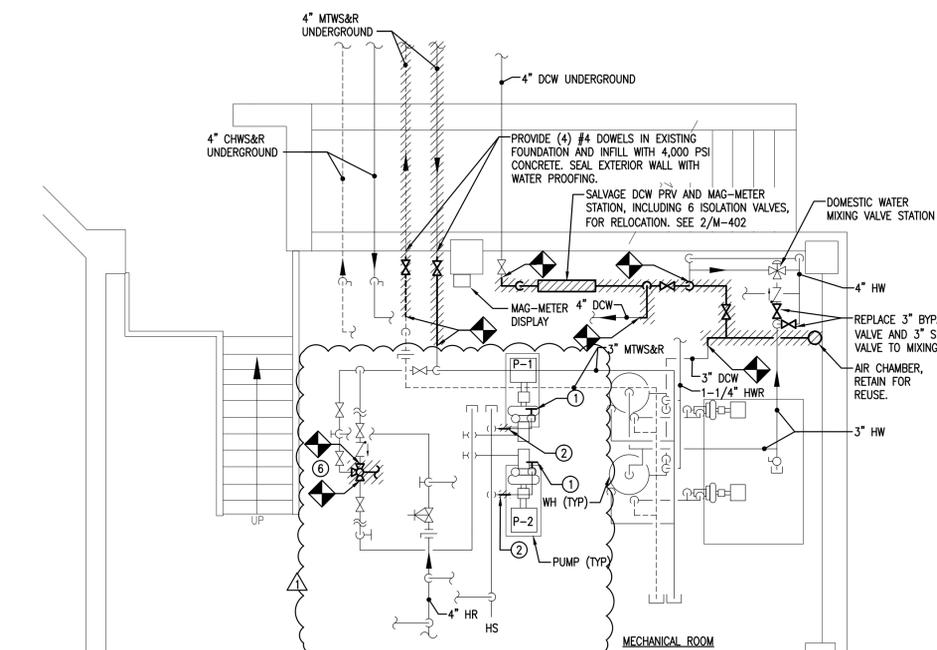
3 LOUVER REMOVAL PLAN
M-402 SCALE: 1/4"=1'-0"



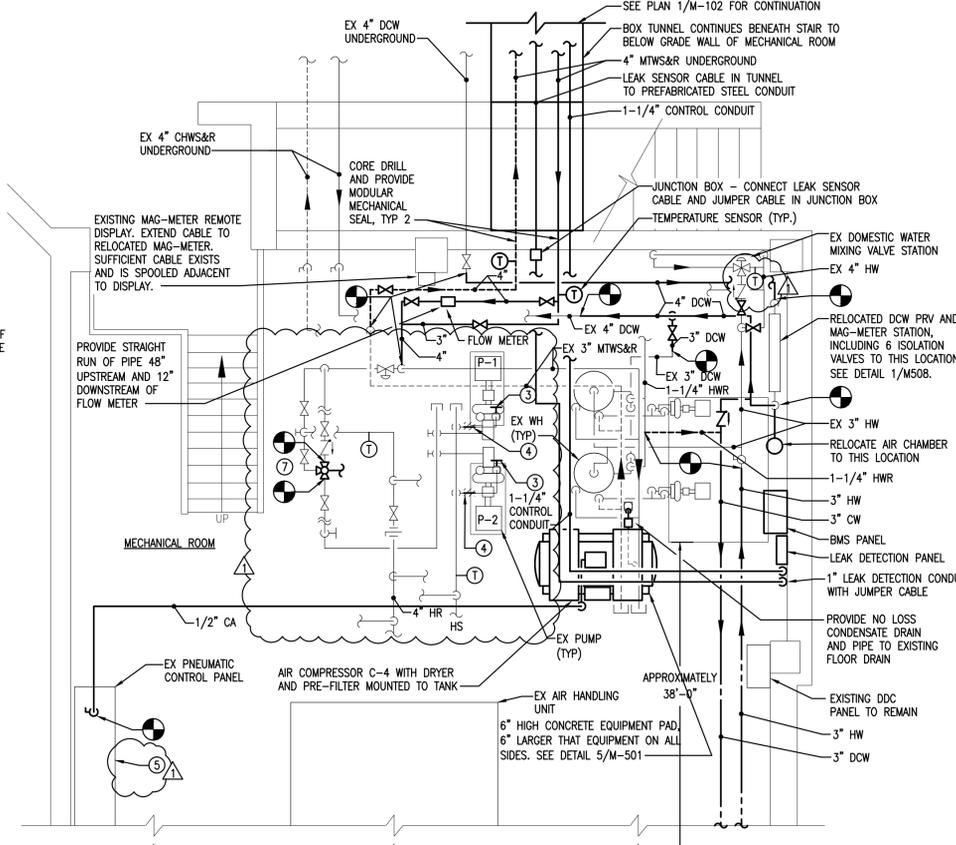
4 LOUVER INSTALLATION PLAN
M-402 SCALE: 1/4"=1'-0"



5 LOUVER INSTALLATION ELEVATION
M-402 SCALE: 1/4"=1'-0"

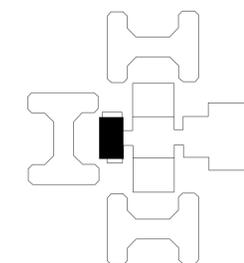


1 ENLARGED REMOVALS PLAN AT BUILDING 4
M-402 SCALE: 1/4"=1'-0"



2 ENLARGED INSTALLATION PLAN AT BUILDING 4
M-402 SCALE: 1/4"=1'-0"

COMPLEX 4 KEY PLAN



REVISED DRAWING 03/02/2016

CONSULTANT



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CONTRACT:

HVAC

TITLE:
REPAIR/REPLACE UNDERGROUND HEATING LINE

LOCATION:
**DOWNSTATE CORRECTIONAL FACILITY
122 RED SCHOOLHOUSE ROAD
FISHKILL, NY**

CLIENT:
**DEPARTMENT OF CORRECTIONS
AND COMMUNITY SUPERVISION**

MARK	DATE	DESCRIPTION

	03/02/2016	REVISED DRAWING
	02/05/2016	BID DOCUMENTS

PROJECT NUMBER: **44996 - H**

DESIGNED BY: DPL

DRAWN BY: AGC

FIELD CHECK: --

APPROVED: DPL

SHEET TITLE:

**BUILDING 4
ENLARGED PLANS
AND SECTIONS**

DRAWING NUMBER:
M-402

SHEET OF

CONSULTANT



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CONTRACT: HVAC
TITLE: REPAIR/REPLACE UNDERGROUND HEATING LINE
LOCATION: DOWNSTATE CORRECTIONAL FACILITY
122 RED SCHOOLHOUSE ROAD
FISHKILL, NY
CLIENT: DEPARTMENT OF CORRECTIONS AND COMMUNITY SUPERVISION

MARK	DATE	DESCRIPTION
△	03/02/2016	REVISED DRAWING
	02/05/2016	BID DOCUMENTS

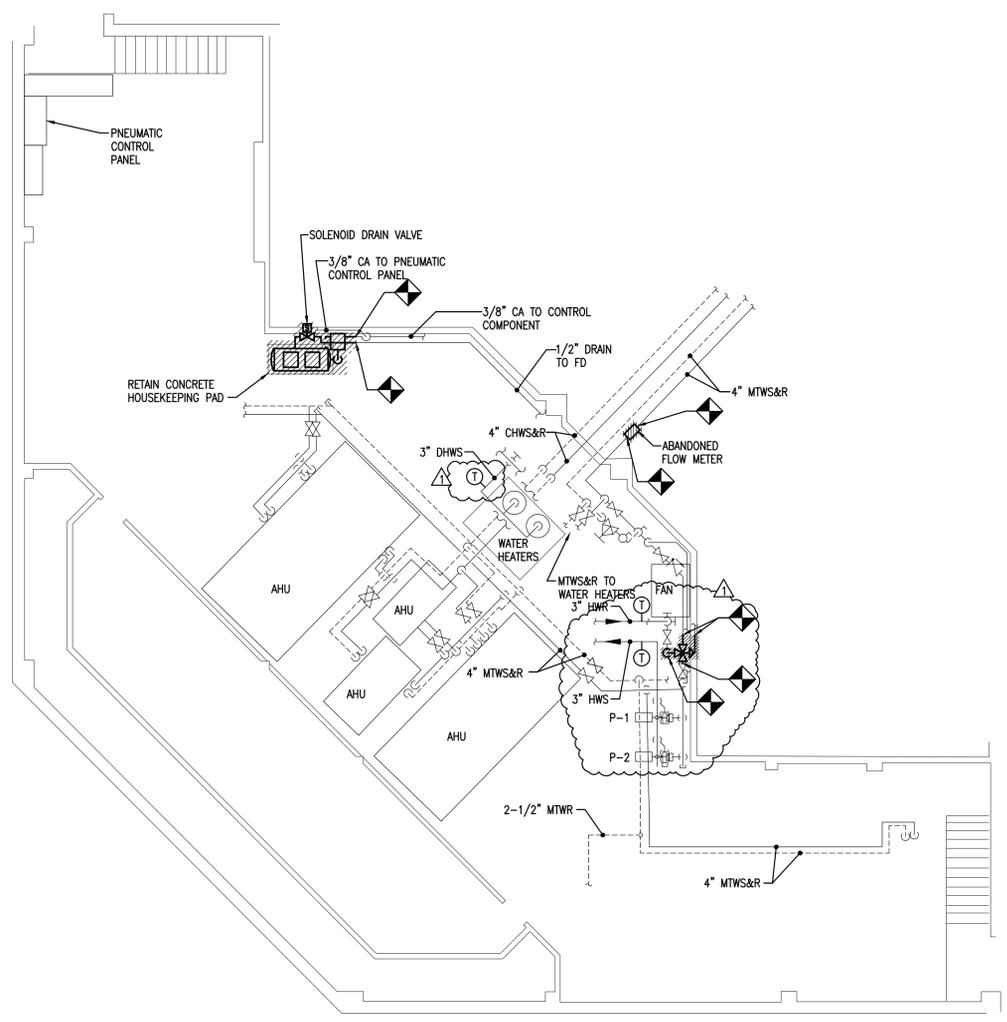
PROJECT NUMBER: **44996 - H**
DESIGNED BY: DPL
DRAWN BY: AGC
FIELD CHECK: --
APPROVED: DPL

SHEET TITLE:
BUILDINGS 1, 2, AND 3 ENLARGED PLANS AND SECTIONS

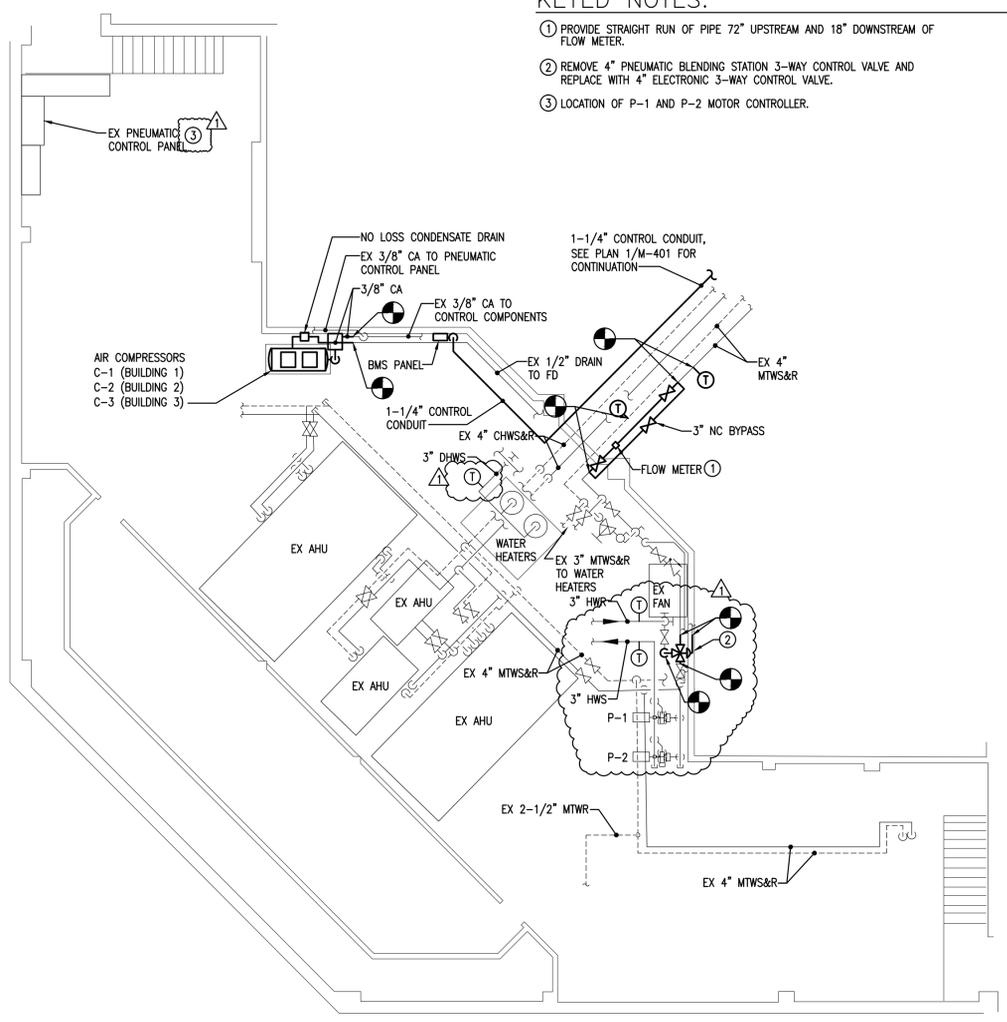
DRAWING NUMBER:
M-404
SHEET OF

KEYED NOTES:

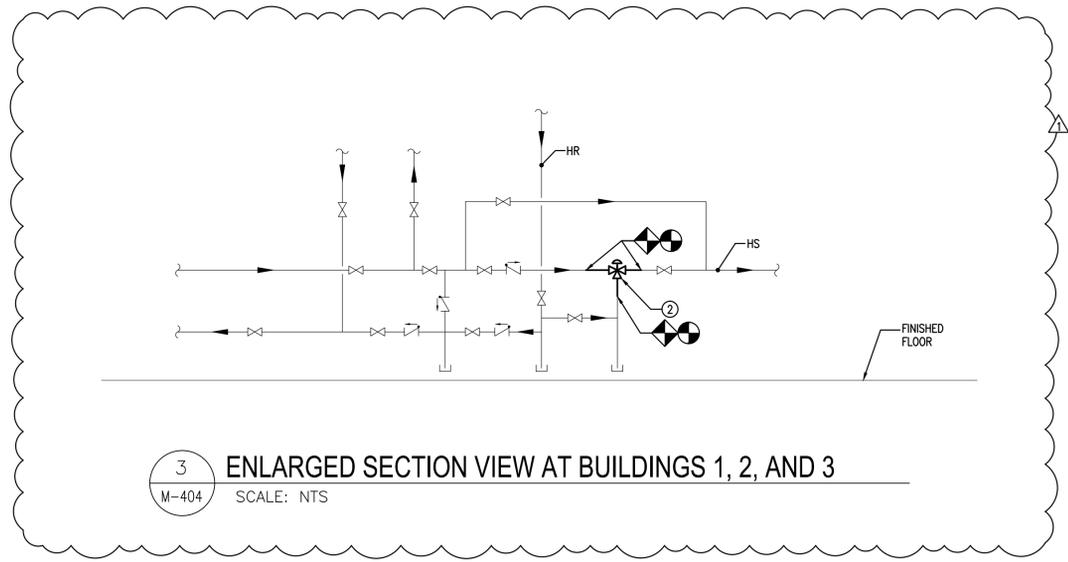
- ① PROVIDE STRAIGHT RUN OF PIPE 72" UPSTREAM AND 18" DOWNSTREAM OF FLOW METER.
- ② REMOVE 4" PNEUMATIC BLENDING STATION 3-WAY CONTROL VALVE AND REPLACE WITH 4" ELECTRONIC 3-WAY CONTROL VALVE.
- ③ LOCATION OF P-1 AND P-2 MOTOR CONTROLLER.



1 ENLARGED REMOVALS PLAN AT BUILDINGS 1, 2, AND 3
M-404 SCALE: 1/8"=1'-0"

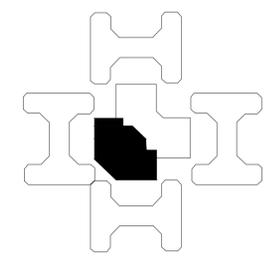


2 ENLARGED INSTALLATION PLAN AT BUILDINGS 1, 2, AND 3
M-404 SCALE: 1/8"=1'-0"

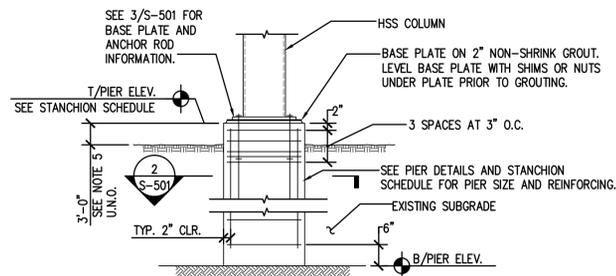


3 ENLARGED SECTION VIEW AT BUILDINGS 1, 2, AND 3
M-404 SCALE: NTS

COMPLEX 1, 2, & 3 KEY PLAN



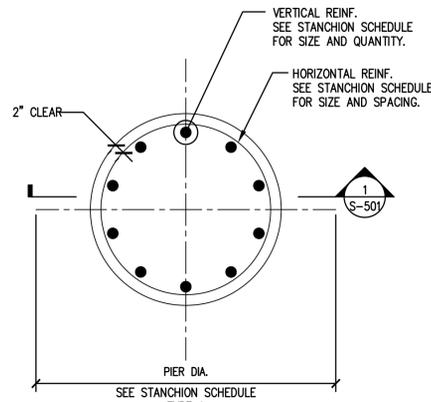
REVISED DRAWING 03/02/2016



NOTES:

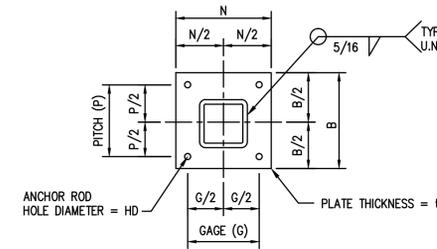
1. PIER INSTALLATION METHODS, EQUIPMENT AND MATERIALS SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
2. ADVANCE PIER SHAFTS TO REQUIRED DEPTH UTILIZING ROTARY DRILLING TECHNIQUES OR VACUUM EXCAVATION TECHNIQUES.
3. PIER SHALL BE REINFORCED AS INDICATED IN THE STANCHION SCHEDULE. UTILIZE CENTRALIZERS TO PROVIDE A MINIMUM OF 2" OF CONCRETE COVER.
4. PROVIDE A CLEAR, WATER-BASED, 40% SILANE PENETRATING SEALER TO ALL EXPOSED CONCRETE SURFACES AND TO CONCRETE SURFACES 6" BELOW FINISHED GRADE.
5. CONTRACTOR TO VERIFY EXISTING GRADE PRIOR TO PLACEMENT OF CONCRETE AND FABRICATION OF STEEL.

1 **TYPICAL SECTION AT STANCHION PIER**
S-501 SCALE: NOT TO SCALE

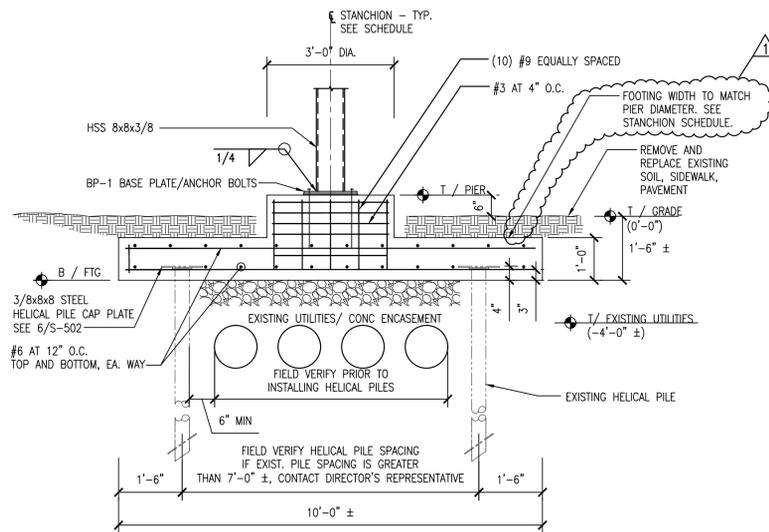


2 **STANCHION FOUNDATION PIER DETAIL**
S-501 SCALE: NOT TO SCALE

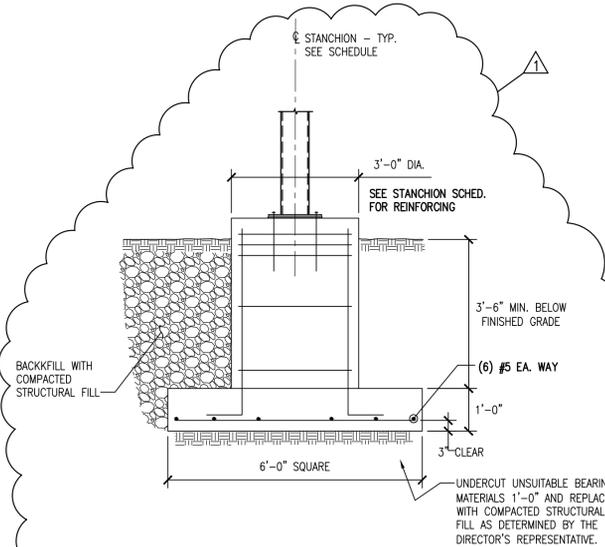
BASE PLATE TYPE	BASE PLATE SIZE					ANCHOR RODS					
	B	t	N	HD	PITCH	GRADE	QUANTITY	DIAMETER	EMBEDMENT	MIN. WASHER SIZE, IN.	MIN. WASHER THICKNESS, IN.
BP-1	16"	1"	16"	1 1/2"	12"	36	4	1"	18"	3	3/8
BP-2	18"	1 1/4"	18"	2 1/16"	14"	36	4	1 1/4"	18"	3	1/2
BP-3	20"	1 1/2"	20"	2 1/16"	16"	36	4	1 1/4"	24"	3	1/2



3 **COLUMN BASE PLATE SCHEDULE**
S-501 SCALE: NOT TO SCALE



4 **TYPICAL SECTION**
S-501 SCALE: NOT TO SCALE



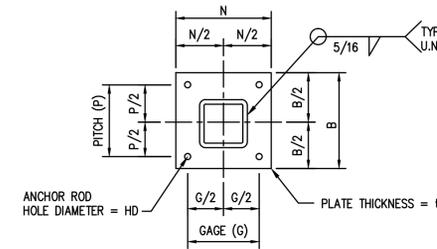
5 **TYPICAL PIER/FOOTING SECTION**
S-501 SCALE: NOT TO SCALE

NOTES:

1. PIER SHALL BE REINFORCED AS INDICATED IN THE STANCHION SCHEDULE. UTILIZE CENTRALIZERS TO PROVIDE A MINIMUM OF 2" OF CONCRETE COVER.
2. PROVIDE A CLEAR, WATER-BASED, 40% SILANE PENETRATING SEALER TO ALL EXPOSED CONCRETE SURFACES AND TO CONCRETE SURFACES 6" BELOW FINISHED GRADE.
3. CONTRACTOR TO VERIFY EXISTING GRADE PRIOR TO PLACEMENT OF CONCRETE AND FABRICATION OF STEEL.
4. PROVIDE 10 PIER/FOOTING STANCHION FOUNDATIONS (THIS DETAIL) IN LIEU OF TYPICAL STANCHION PIER FOUNDATIONS (1/S-501) AT LOCATIONS DETERMINED BY THE DIRECTOR'S REPRESENTATIVE.

COLUMN BASE PLATE AND ANCHOR ROD SCHEDULE

BASE PLATE TYPE	BASE PLATE SIZE					ANCHOR RODS					
	B	t	N	HD	PITCH	GRADE	QUANTITY	DIAMETER	EMBEDMENT	MIN. WASHER SIZE, IN.	MIN. WASHER THICKNESS, IN.
BP-1	16"	1"	16"	1 1/2"	12"	36	4	1"	18"	3	3/8
BP-2	18"	1 1/4"	18"	2 1/16"	14"	36	4	1 1/4"	18"	3	1/2
BP-3	20"	1 1/2"	20"	2 1/16"	16"	36	4	1 1/4"	24"	3	1/2



3 **COLUMN BASE PLATE SCHEDULE**
S-501 SCALE: NOT TO SCALE

CONSULTANT



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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.



CONTRACT:

HVAC

TITLE:
REPAIR/REPLACE UNDERGROUND HEATING LINE

LOCATION:
**DOWNSTATE CORRECTIONAL FACILITY
122 RED SCHOOLHOUSE ROAD
FISHKILL, NY**

CLIENT:
**DEPARTMENT OF CORRECTIONS
AND COMMUNITY SUPERVISION**

MARK DATE DESCRIPTION

03/02/2016 REVISED DRAWING
02/05/2016 BID DOCUMENTS

PROJECT NUMBER: **44996 - H**

DESIGNED BY:

DRAWN BY:

FIELD CHECK:

APPROVED:

SHEET TITLE:

TYPICAL STANCHION SECTIONS AND DETAILS

DRAWING NUMBER:

S-501

SHEET OF

