

SECTION 00 91 11

ADDENDUM NUMBER 2

PARTICULARS

- 1.01 DATE: APRIL 23, 2021**
- 1.02 PROJECT: WILLIAM HOOPER COUNCILL MEMORIAL**
- 1.03 PROJECT NUMBER: B. C. NO. 2021152**
- 1.04 OWNER: ALABAMA A&M UNIVERSITY**
- 1.05 ARCHITECT: NOLA | VAN PEURSEM ARCHITECTS, PC**



TO PROSPECTIVE BIDDERS

- 2.01 THIS ADDENDUM FORMS A PART OF THE CONTRACT DOCUMENTS AND MODIFIES THE BIDDING DOCUMENTS DATED APRIL 9, 2021, WITH AMENDMENTS AND ADDITIONS NOTED BELOW.**
- 2.02 ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED IN THE PROPOSAL FORM. FAILURE TO DO SO MAY DISQUALIFY THE BIDDER.**
- 2.03 THIS ADDENDUM CONSISTS OF 11 PAGES.**

CHANGES TO THE PROJECT MANUAL

3.01 SECTION 01 21 00 – ALLOWANCES:

- A. Paragraph 1.05.E – Change paragraph to read as follows, “Include the stipulated sum of \$55,000.00 for tomb enclosure.”
- B. Add Paragraph 1.05.F to read as follows:
 - F. Include the stipulated sum of \$20,000.00 engraved donor plaques.
- C. Add Paragraph 1.05.G to read as follows:
 - G. Include the stipulated sum of \$5,000.00 eternal flame urn.

3.02 SECTION 23 11 30 – GAS PIPING SYSTEM:

- A. Add this section in its entirety.

CHANGES TO THE DRAWINGS

4.01 SHEET C601 – UTILITY PLAN:

- A. Replace this sheet in its entirety.

4.02 SHEET A-1.1 – PERGOLA PLAN & DETAILS:

- A. 2/A-1.1 – Roof Plan: Change note reading “STRUCTURAL PERGOLA SYSTEMS 4"x7.5" RAFTERS EQUALLY SPACED RADially” to read “STRUCTURAL PERGOLA SYSTEMS 4"x7.5" RAFTERS EQUALLY SPACED”.
- B. Add Memorial Plan - Electrical per attachment AD2-A1.1-01.

4.03 SHEET A-1.2 – PERGOLA DETAILS:

- A. 8/A-1.2 – Pergola Section: Remove Structural Pergola Systems Slats and associated hardware, per Attachment AD2-A1.2-01.

END OF ADDENDUM NUMBER 2



SECTION 23 11 30

GAS PIPING SYSTEM

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. The following described work, materials and equipment shall be furnished and installed as shown on the Drawings and as herein specified.
 - 1. Gas service, specialties and piping to all equipment.

1.02 REFERENCES

- A. All installation and fabrication shall be in accordance with applicable Local Gas Codes.

1.03 SUBMITTALS

- A. Submit catalog data and shop drawings for all materials listed under this section and per basic mechanical requirements.
- B. Materials, valves, hangers or equipment installed without review or after rejection shall be replaced by this contractor with acceptable items at the Engineer's direction.
- C. All materials, equipment and appliances shall be new, without defect, first line quality unless specifically noted or specified otherwise.
- D. The supplier, by submitting, certifies the materials and equipment to be satisfactory for the application involved.
- E. Contractor further agrees that if deviations, discrepancies or conflicts between submittals and specifications are discovered either prior to or after submittals are processed by the Engineer, the design drawings and specifications shall control and be followed.

PART 2 - PRODUCTS

2.01 GAS PIPING SYSTEM

- A. Above Grade:
 - 1. Steel pipe: ASTM A53, Type F, Grade A, Schedule 40 black. Fittings: ANSI/ASME B16.3, malleable iron, or ASTM A234, forged steel welding type. Joints: Screwed for pipe 2" and under; ANSI/AWS D1.1, welded, for pipe over 2".
- B. Below Grade:
 - 1. MDPE pipe conforming to ASTM D 2513. Pipe shall be marked "GAS" and "ASTM D 2513". PE Fittings: ASTM D 2683, socket-fusion type or ASTM D 3261, butt-fusion type with dimensions matching PE pipe. PE transition fittings aboveground portion: Factory-fabricated fittings with PE pipe complying with ASTM D 2513, SDR 11 and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B. Anodeless Service-Line Risers: Factory fabricated and leak tested. Casing: Steel pipe complying with ASTM A 53/A 53M, Schedule 40, black steel, Type E or S, Grade B, with corrosion-protective coating covering. Outlet shall be threaded or flanged or suitable for welded connection. Pipe shall be manufactured

with a UV stabilizer suitable for unprotected outdoor storage for at least four (4) years. All joints, connections and work shall be made with fusion procedures meeting the pipe manufacturer's and local governing authority's requirements. Verify pipe preference of local utility. Provide tracer wire connection. Provide yellow indicator tape with an insulated copper tracer wire the continuous pipe length. The wire shall terminate above ground at each end of nonmetallic piping. The tracer wire shall not be less than 18 AWG and the insulation type shall be suitable for direct burial. Provide casing spacers when MDPE piping is used.

2. Steel Pipe: Schedule 40, black, per ASTM A-53 TYPE F may be substituted for outside underground pending approval by the Engineer. Piping shall be factory coated with a fusion bonded epoxy coating equal to 3M Scotchkote 6233. Fittings: Malleable iron per ASTM A-105 or forged steel welding type per ASTM A 234. Joints: Welded per ANSI/AWS D1.1 for all pipe sizes. Fittings and joints shall be covered with multiple layers of black polyethylene backed tape with rubber adhesive to provide protection equal to factory applied coatings. Tape shall be Kendall Company "Polyken #900" or equal by Tapecoat, 3M or Steelcoat.
- C. High Pressure System (containing 1 psig or greater) pipe to meet specifications listed in 2.01 A and B (1) above. Fittings: Forged steel welding type per ASTM A234. Joints: ALL sizes shall be welded.
- D. Flexible Connectors: Flexible connectors for connecting gas utilizing equipment to building gas piping shall conform to ANSI Z21.45. Flexible connectors for movable food service equipment shall conform to ANSI Z21.69.
- E. All welded joints on above grade piping 2" and larger shall be butt welds. 1-1/2" piping and smaller may be socket welds. All below grade welds shall be butt welds.
- F. Pipe identification markers shall be as specified in 23 05 53.

2.02 GAS SPECIALTIES

- A. Pressure Regulators
 1. Pressure regulators for individual service shall be of iron or steel body, shall be suitable in all respects for the indicated conditions and shall be adjustable for changing the downstream pressure. The regulator shall be adjustable with automatic loading and shall have automatic pressure relief. The regulator shall be adjusted for an outlet pressure as scheduled on plans. The outlet pressure shall not vary more than 1/2 inch of the water column from the setting point at the connected-load capacity for the regulator. The pressure relief shall be diaphragm-operated, spring-loaded type with vent for relief of excess pressure on the low-pressure side of each main service regulator. Regulators shall be Equimeter, American, and Fisher or approved equal.
 3. Pressure regulators shall be configured where the vent is in the vertical down position.
 4. Pressure regulators installed inside mechanical rooms, boiler rooms or in any general area inside the building exceeding 7" WG pressure shall have the vents routed to atmosphere. Piping used shall be sized for the vent connection and conform to the listing of above grade gas piping.

5. Increases installed on the low pressure side of the pressure regulator shall be installed immediately after the regulator, and as detailed on the drawings.
6. Testing procedures shall not include testing thru or to a gas pressure regulator. The Mechanical Contractor shall install a short "spool piece" of piping with the same lay length in place of the regulator and removable with a union between the two isolating valves. The regulator shall be installed after the test is approved. The regulator shall be pressure tested with soap bubbles or approved electronic leak detector after installation.

B. Valves for Pressure Systems 2 psig Or Less:

1. Brass ball valves 1/4" through 2" shall be forged brass two piece body, full port, blow-out proof brass stem, forged brass chrome plated vented ball and PTFE ball seats. Valves shall be 150 WSP/ 600 WOG, 600 PSI non-shock, ASME B16.33 rated to 125 PSI and certified to CSA, UL & FM. Valves shall be Kitz code #58 (AKSZA) with threaded fittings.
2. Bronze ball valves 2-1/2" through 4" shall be cast bronze two piece body, full port, blow-out proof brass stem, forged/cast brass chrome plated vented ball and PTFE ball seats. Valves shall be 150 WSP/ 400 WOG, 400 PSI non-shock, ASME B16.33 rated to 125 PSI and certified to CSA, UL & FM. Valves shall be Kitz code #58 (AKSZA) with threaded fittings.
3. Cast iron ball valves 2" though 10" shall be cast iron body, full port, blow-out proof stainless steel stem, stainless steel vented ball and PTFE gasket and ball seats. Valves shall be Class 125 WSP/ 200 WOG, 200 PSI non-shock and conforming to MSS SP-72, ASME B16.1 & ASME B16.10. Valves shall be Kitz code #90 (FCTB) with flat face flanged fittings.

Note: Valves installed in publically accessible areas shall be cast iron or plug valves, wrench operated only.

C. Valves For Pressure Systems Greater Than 2 psig:

1. Lubricated Plug Valves
 - a. Threaded valves 1/2" through 2" shall be ANSI Class 125 cast iron body, steel check valve, disk and spring, full port, cylindrical plug, wrench operated, 200 lb. WOG, 150 lb. SWP. Equal to Homestead 601. Valves shall be CSA & FM Approved. Equal valve by Mueller will be considered.
 - b. Flanged valves 2-1.2" through 4" shall be ANSI Class 125 cast iron body, steel check valve, disk and spring, full port, cylindrical plug, wrench operated, 200 lb. WOG, 150 lb. SWP. Equal to Homestead 602. Valves shall be CSA & FM Approved.
2. Cast iron ball valves 2" though 10" shall be cast iron body, full port, blow-out proof stainless steel stem, stainless steel vented ball and PTFE gasket and ball seats. Valves shall be Class 125 WSP/ 200 WOG, 200 PSI non-shock and conforming to MSS SP-72, ASME B16.1 & ASME B16.10. Valves shall be Kitz code #90 (FCTB) with flat face flanged fittings.

Note: Valves installed in publically accessible areas shall be cast iron or plug valves, wrench operated only

- D. Mass Flow Gas Meter (In Addition To Meter by Utilities):
 - 1. Gas flow meter shall be Onicon Incorporated F-5000 series thermal mass flow meter with D-100 display and Bacnet, LonWorks, Modbus, Johnson Controls, Siemens interface panel with pulse outputs. Provide Accessory Item 17352 100 ft of additional remote mount cable based on meter location. Field coordinate prior to order. Install per manufacturer requirements.
- E. Solenoid Gas Valve (Lab/Gas System Quick Closing Valve):
 - 1. Solenoid valve shall be Honeywell model V4295A for 120 volt systems and V8295A for 24 volt systems. Valve sizes and power requirements shall be as indicated on the drawings. Valves shall be die-cast aluminum straight through body with the operator mounted 90 degrees from the body. Valves shall be UL Listed and CSA approved. Screw terminals shall be provided for electrical connections. Opening and closing time shall be less than 1 second. Valve shall be normally closed when de-energized. Provide pipe reducer & increaser for connection to the gas main where necessary. Solenoid valve shall be installed with a union, entering and leaving service valves and as detailed on the drawings. Valve shall be energized thru a wall switch.
- F. Roof Mounted Gas Pipe Supports:
 - 1. Roof supports shall be Miro Industries model 3-RAH-12, adjustable assembly with stainless steel vertically adjustable rods on a stainless steel bolted base, self-lubricating polycarbonate roller and polycarbonate base. Maximum support spacing intervals shall be a distance of 10' and with a weight bearing not to exceed 186 lbs. Additional supports shall be at all elbows and tees. Coordinate with the Roofing Contractor for the installation of additional roofing material below all pipe supports bases

PART 3 - EXECUTION

3.01 GENERAL

- A. Work shall be roughed-in so that all exposed piping will be straight and true without bends or off-sets.

3.02 GAS PIPING SYSTEM

- A. Provide a complete system of gas piping including interior and exterior work as indicated on the drawings.
- B. Pressure testing procedure:
 - 1. High pressure piping (1 psig and greater): Gas pipe shall be tested with 50 psig nitrogen pressure for 24 hours and measured with a pressure measuring device designed and calibrated to read, record and indicate a pressure loss due to pipe leakage during the pressure test period. Any reduction of test pressure as indicated by the device shall be deemed to indicate the presence of a leak. Any leaks shall be located by means of a spray liquid & soap solution, or an equivalent nonflammable solution. Since some leak solutions, including soap and water may cause corrosion or stress cracking, the piping shall be rinsed with water after testing unless it has been determined the leak solution is non-corrosive. Any leaks shall be repaired by this contractor and the system re-tested in the prescribed manner. The 24 hour

chart readout shall be submitted to the Engineer with a verification of the project name, time, date and witness of the testing procedures.

2. Low pressure piping (less than 1 psig): Gas pipe shall be tested with 10 psig nitrogen pressure for 24 hours and measured with a pressure measuring device designed and calibrated to read, record and indicate a pressure loss due to pipe leakage during the pressure test period. Any reduction of test pressure as indicated by the device shall be deemed to indicate the presence of a leak. Any leaks shall be located by means of a spray liquid & soap solution, or an equivalent nonflammable solution. Since some leak solutions, including soap and water may cause corrosion or stress cracking, the piping shall be rinsed with water after testing unless it has been determined the leak solution is non-corrosive. Any leaks shall be repaired by this contractor and the system re-tested in the prescribed manner. The 24 hour chart readout shall be submitted to the Engineer with a verification of the project name, time, date and witness of the testing procedures.
- C. This Contractor shall make final connections to each piece of equipment furnished by him or by others unless noted otherwise. Provide a shut-off valve, union and 8" dirt leg at each individual equipment connection. Any reduction in gas pipe size for equipment connection shall be made within 6" of the factory connection. Regulators shall be installed at each piece of equipment or at branch intervals where required and indicated on the drawings.
- D. Coordinate with the Food Service drawings where applicable for the location of the solenoid gas valve provided by that service for kitchen equipment. When the gas valve is shipped loose from the UDS system, it shall be the responsibility of the Mechanical Contractor to install the gas valve in the gas pipe prior to connection to the UDS. See Solenoid Gas Valve in Gas Specialties for the installation requirements with valves and unions.
- E. Gas piping shall not be installed in any inaccessible concealed and unventilated space.
- F. Install piping with a minimum 48" clearance from other buried metallic piping or equipment.
- G. Unless other specified herein, final connections shall be made with rigid metallic pipe and fittings. Final connection to kitchen ranges, (and other equipment where moving for cleaning purposes is required) shall be made using flexible connectors not less than 40" long and not more than 72" long and shall comply with ANSI Z21.69. In addition to cautions listed in instruction required by ANSI Standards for flexible connectors, insure that flexible connectors do not pass through equipment cabinets. Provide accessible gas shutoff valve and coupling for each gas equipment connection.
- H. Exterior piping above grade and concealed from normal view shall be coated with a rust inhibiting primer and two coats of exterior grade yellow paint. Exposed gas piping shall be primed as previously listed and painted with a color similar to nearest structure or as directed by the Architect.
- I. Whenever gas pipe transitions from below grade to above grade, the transition shall be made with an isolating union to electrically isolate the gas distribution systems. A DC voltage reading shall be made to test the effectiveness of the isolating unions. A minimum reading of 0.2 volts (measured across the union) shall be required. Repair or replace unions until this voltage can be obtained.
- J. Provide 17 pound magnesium anodes for steel piping below grade. Locate as indicated in an augured hole five feet from the pipe. The electrode shall be brazed or thermite welded to the pipe and then coated with approved mastic and tape.

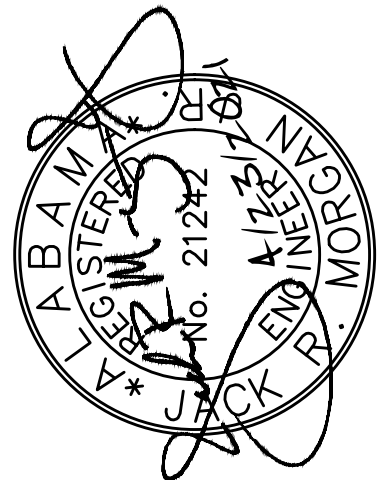
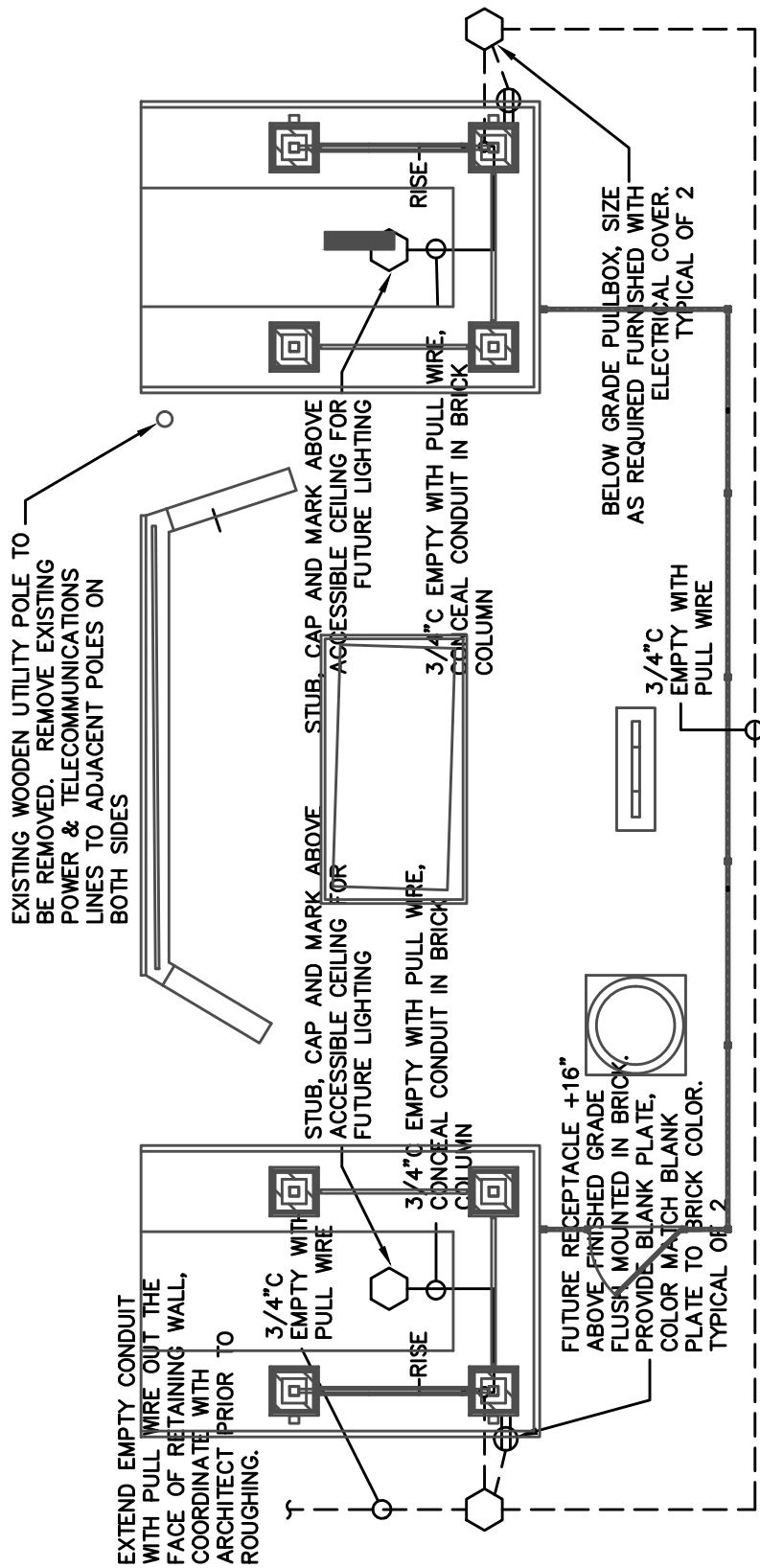
- K. The condition of the pipe coating, the effectiveness of the isolation and other tests shall be approved by the Engineer.

- L. All underground piping shall be buried a minimum of 24 inches, have a yellow pipe marker with copper tracer wire located 6 inches below final finish grade, and shall be laid in a minimum of 4 inches of sand with sand extending to 6 inches above pipe. Provide PVC sleeves below all concrete sidewalks, roadways or concrete pads. Sleeve shall be a minimum of 2 pipe sizes larger than gas line. Sleeves shall be sealed and vented. Vents shall be routed as detailed and shown on the drawings.

END OF SECTION

MEMORIAL PLAN - ELECTRICAL

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



NOLA VANPEURSEM
ARCHITECTS, PC

MEMBERS OF THE ALABAMA INSTITUTE OF ARCHITECTS

200 NORTH 1ST STREET
NORMAN, AL 36061-1000

PHONE 256-833-2222
FAX 256-833-2223

ALABAMA A&M UNIVERSITY

WILLIAM HOOPER COUNCILL MEMORIAL

NORMAL, ALABAMA

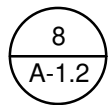
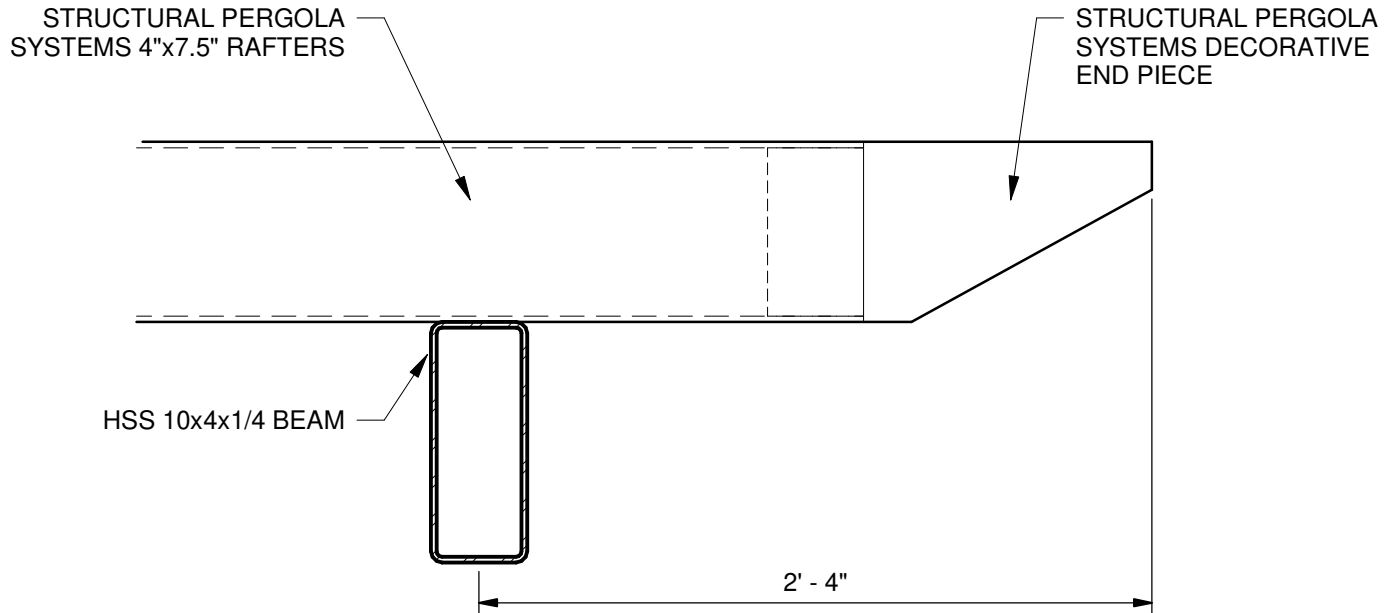
AD2-A1.1-01

DATE: 04-23-21

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DECORATIVE END PIECE NOTES:

1. APPLY 1/4" BEAD OF "3M 550 POLYURETHANE ADHESIVE SEALANT FAST CURE" PROVIDED BY STRUCTURAL PERGOLA SYSTEMS TO ENTIRE INNER CORNER OF INSERT AND PUSH INTO BEAM ALLOWING BEAD TO FLOW OUT OF JOINT.
2. LET ADHESIVE SET FOR 24 HOURS BEFORE STRIKING OFF WITH RAZOR BLADE.
3. TOUCH UP ALL TRIMMED LOACTIONS WITH PROPER MATCH PAINT SPECIFIED. SEE SPECS.



PERGOLA SECTION

1 1/2" = 1'-0"



NOLA  VANPEURSEM
ARCHITECTS, PC
MEMBER OF THE AMERICAN INSTITUTE OF ARCHITECTS

301 JEFFERSON STREET
HUNTSVILLE, ALABAMA 35801 (256) 533-6617
NVPARCHITECTS.COM

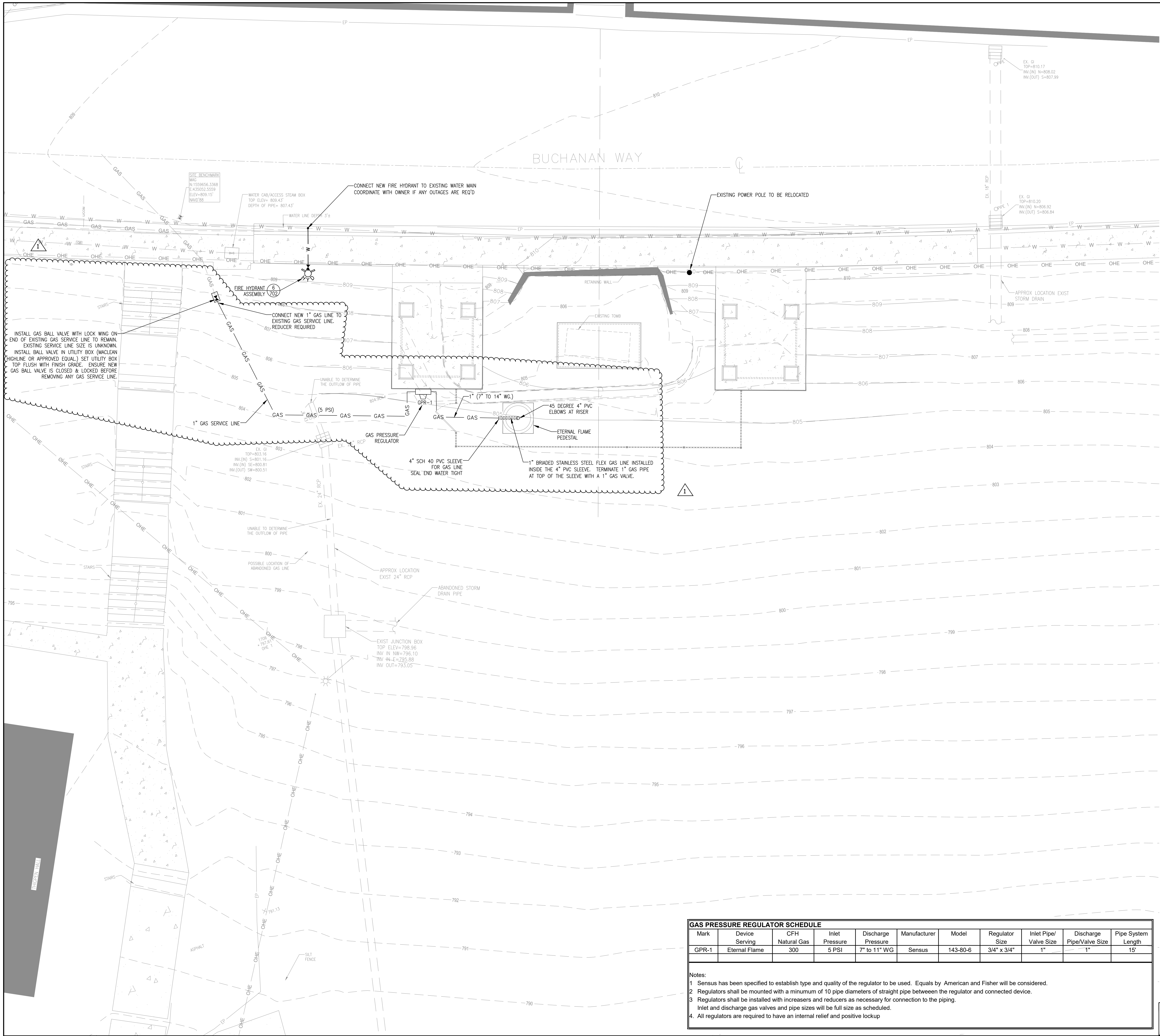
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WILLIAM HOOPER COUNCILL MEMORIAL

NORMAL, ALABAMA

AD2-A1.2-01

DATE: 04-23-21



- GENERAL SITE UTILITY NOTES:
1. CONTRACTOR TO COORDINATE WITH HUNTSVILLE UTILITIES AND THE CITY OF HUNTSVILLE ENGINEER FOR ALL ELECTRIC, WATER, AND SEWER INSPECTION REQUIREMENTS, STANDARDS AND GUIDELINES.
 2. CONTRACTOR TO VERIFY ALL PROPOSED UTILITY LOCATIONS AT THE BUILDING WITH THE BUILDING PLANS.
 3. THRUST BLOCKING IS REQUIRED AT ALL CHANGES IN DIRECTION FOR NEW WATER LINES.
 4. SITE CONTRACTOR SHALL SECURE COPIES OF ALL PROJECT MECHANICAL & ELECTRICAL DRAWINGS.
 5. ALL WATER LINE WORK SHALL COMPLY WITH HUNTSVILLE UTILITIES STANDARD SPECIFICATIONS AND DETAILS.
 6. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATION OF EXISTING UTILITIES AND WATER CONNECTIONS PRIOR TO BID.
 7. PRIOR TO THE BEGINNING OF CONSTRUCTION, IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO CONTACT THE CITY OF HUNTSVILLE ENGINEER AND HUNTSVILLE UTILITIES TO SCHEDULE A PRE-CONSTRUCTION MEETING. THE PURPOSE OF THIS MEETING WILL BE TO ENSURE ALL REQUIRED PLANS HAVE BEEN SUBMITTED AND APPROVED BEFORE CONSTRUCTION BEGINS.
 8. ALL UNDERGROUND FIRE MAINS REQUIRE A PRESSURE TEST AND INSPECTION BY THE LOCAL FIRE MARSHALL BEFORE BEING COVERED. IF CONTRACTOR COVERS FIRE MAIN BEFORE INSPECTION THEY WILL BE REQUIRED TO UNCOVER PIPING. CALL 256.464.8425 TO SET UP INSPECTION.
 9. THIS STAMPED SET OF DRAWINGS SHALL BE ON SITE AT ALL TIMES DURING CONSTRUCTION AS WELL AS UPON FINAL INSPECTION.
 10. SITE FIRE LINES OUTSIDE THE BUILDING SHALL NOT BE CONSTRUCTED UNTIL THE FIRE PROTECTION CONTRACTOR HAS COMPLETED THE BUILDING FIRE PROTECTION DESIGN AND THE REQUIRED FIRE LINE SIZE TO THE BUILDING HAS BEEN CONFIRMED WITH THE ENGINEER.

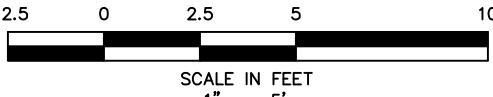
LEGEND

- W — EXISTING WATER MAIN
- W — PROPOSED WATER MAIN
- F — EXISTING FIRE HYDRANT
- F — PROPOSED FIRE HYDRANT
- G — PROPOSED GATE VALVE
- T — TEE
- W — WATER SERVICE LINE
- F — FLUSHING VALVE ASSEMBLY
- R — REDUCER
- GAS — PROPOSED GAS SERVICE LINE
- S — EXISTING SANITARY SEWER MANHOLE
- SS — PROPOSED SANITARY SEWER LINE
- C.O. — CLEAN-OUT
- C — PROPOSED COMMUNICATIONS LINE
- E — PROPOSED ELECTRIC LINE
- GW — GREY WATER LINE
- P.I.V. — POST INDICATOR VALVE (P.I.V.)

GAS PRESSURE REGULATOR SCHEDULE									
Mark	Device Serving	CFH Natural Gas	Inlet Pressure	Discharge Pressure	Manufacturer	Model	Regulator Size	Inlet Pipe/Valve Size	Pipe System Length
GPR-1	Eternal Flame	300	5 PSI	7" to 11" WG	Sensus	143-80-6	3/4" x 3/4"	1"	15'

- Notes:
- 1 Sensus has been specified to establish type and quality of the regulator to be used. Equals by American and Fisher will be considered.
 - 2 Regulators shall be mounted with a minimum of 10 pipe diameters of straight pipe between the regulator and connected device.
 - 3 Regulators shall be installed with increasers and reducers as necessary for connection to the piping. Inlet and discharge gas valves and pipe sizes will be full size as scheduled.
 4. All regulators are required to have an internal relief and positive lockup

SITE BENCHMARK
NAG NAIL IN BUCHANAN PAVEMENT
APPROX. 58' WEST OF E MEMORIAL
ELEVATION=719.21'
NAVD'88



NOLA VANPURSEUM
ARCHITECTS, PC
MEMBER OF THE AMERICAN INSTITUTE OF ARCHITECTS
301 JEFFERSON STREET
HUNTSVILLE, ALABAMA 35801
(256) 533-6817
NVPARCHITECTS.COM

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ALS / ALS / 04/08/2021
DRAWN - CHECKED - DATE

REVISIONS
No. Description Date
1 ADDENDUM 2 04/23/21

SHEET TITLE
UTILITY PLAN

SHEET NUMBER
C601
6 OF 8