NOTICE TO BIDDERS

BID NO. SC-1603

In accordance with Title §14-22-101 of the Arkansas Code, notice is hereby given that the Sebastian County Judge will receive sealed proposals at the Purchasing Department, 35 South 6th Street, Room 106, Fort Smith, Arkansas 72901, until 2 p.m. on the 11th day of March, 2016, at which time proposals will be publicly opened and read at the Purchasing Department. Proposals will be taken for an **Adult Detention Center (ADC) Shower Valves** for Sebastian County. Additional information can be obtained by contacting the Sebastian County Purchasing Department via email at purchasing@co.sebastian.ar.us, by mail at Purchasing Department, 35 South 6th Street, Room 106, Fort Smith, Arkansas 72901, or by visiting the County website at www.sebastiancountyar.gov. Proposals must, in all matters, comply with the laws of the State of Arkansas. Small businesses, as well as minority or women's businesses, are encouraged to participate in this process. The County Judge reserves the right to reject any or all proposals, waive any formalities, or to accept any proposal deemed most advantageous to the County.

Charity Gregory
Purchasing/Facilities Administrator
Sebastian County, Arkansas

For the Times Record:
Legal notice. Publish on February 21, 2016 and February 28, 2016

Return proof with statement no later than March 11, 2016
To:
David Hudson, County Judge
Purchasing Department
35 South 6th Street, Room 106
Fort Smith, Arkansas 72901

SEBASTIAN COUNTY JUDGE

Purchasing Department
35 South 6th Street, Room 106
Fort Smith, Arkansas 72901
(479) 784-1502 Fax (479) 784-1550

February 19, 2016

NOTICE TO: Qualified Bidders

SUBJECT: Request for Proposal, Bid Number SC-1603

Sebastian County is interested in receiving sealed written proposals for furnishing the products/services specified in the attached Request for Proposal (RFP). Complete details, regarding the products and/or services required by the County, and instructions for participating in the bid process are included in the attached bid package.

Bids must be received by the time and date indicated in the RFP. Bids received after the time and date set for opening will not be considered.

Bidders on our Bid List who do not wish to submit bids must submit a "No Bid" to continue to be eligible for retention on the Bid List. The Bid List is periodically reviewed and bidders who have not responded to proposal requests are deleted. Any vendor seeking to be added to the Bid List may complete a Bid Application, which may be obtained online at www.sebastiancountyar.gov under Top Requested Documents.

If you are interested in submitting a bid, please be sure that the requirements of the RFP are adhered to, since failure to meet the requirements could cause your bid to be rejected.

Any questions regarding the Bid Invitation should be directed to the Purchasing Department in writing via email purchasing@co.sebastian.ar.us or mail 35 S 6th Street Room 106, Fort Smith, AR 72901.

Charity Gregory
Purchasing/Facilities Administrator
Sebastian County

Attachment: RFP

REQUEST FOR PROPOSAL

Sebastian County, Arkansas

COVER SHEET **SECTION I**

Bid Number: **SC-1603**

Title: **Adult Detention Center (ADC) Shower Valves**

Opening:
DATE: March 11, 2016
TIME: 2:00 p.m.
PLACE: Purchasing Department
35 South 6th Street, Room 106
Fort Smith, Arkansas

Mail Sealed Proposals to:
Sebastian County Purchasing Department
35 South 6th Street, Room 106
Fort Smith, Arkansas 72901

On Outside of Proposal Show:
(1) Return Address
(2) Bid Opening Date
(3) Bid Number and Title

Bidder must complete the following information:

Name of Bidder: _____

Address: _____

City/State/Zip Code: _____

Telephone Number: _____ Fax Number: _____

E-Mail Address: _____

Instructions:

(1) Unit prices and extensions are required on proposal form
(2) Return *three* copies of entire Request for Proposal
(3) Proposals must be signed to be accepted
(4) Any trade discounts should be deducted and net prices shown
(5) Bidder must guarantee product(s) offered will meet or exceed specifications contained in this Request for Proposal
(6) Bidding procedures will be in compliance with Arkansas Laws
(7) **Quote:** F.O.B. destination
(8) **Terms:** Net 30 days

PROPOSAL FORM

BID NO. SC-1603 **SECTION II**

We, the undersigned, agree to furnish the products and/or services indicated below in accordance with the specifications and conditions contained herein, at the bid price shown.

It is expressly agreed and understood by and between the parties hereto, and is made a condition precedent to the entering into of any purchase agreement resulting from this invitation to bid, that the Sebastian County Judge shall determine any and all questions or disputes which may arise concerning conformity to the specifications, conditions, and proposals; the quantity, suitability, and acceptability of all items to be furnished hereunder; and his decision as to such matters shall be final, binding, and conclusive upon the parties hereto.

That this Request for Proposal and proposals submitted hereunder shall be governed by the laws of the State of Arkansas.

We, the undersigned, affirm that this proposal is made on behalf of the undersigned, and is made without collusion on the part of any person, firm, or corporation; and that the conditions and other provisions have been carefully examined and are agreed to.

Description	Number of Units	Price Per Unit	Total Price
Shower Valves	**32**	**$_____**	**$_____**
Taxes			**$_____**
Total Bid			**$_____**

Warranty: _____ **Installation Date:_____**

Amounts shall be in both written form and figures. In case of a discrepancy between the written amount and the figures, the written amount will govern.

Exceptions to specifications: NO _____ YES _____ (Attach itemized list)

From: _____ **Signature: _____**

Date: _____ **Title: _____**

General Conditions

1. Bids must be received no later than the date and time set for bid opening. **Bids must be sealed.** Bids may be withdrawn, modified or corrected by the bidder after it has been submitted, provided a written request to do so is filed with the County Judge prior to the time set for opening the bid. Telegrams or letters received prior to the time set for opening the bids will be accepted and attached to the unopened bid, and the bid will be considered withdrawn, modified, corrected, or otherwise changed accordingly. **No bid may be withdrawn, modified, corrected, or otherwise changed after the time set for opening the bids.**

2. Specifications are designed to describe the type and quality of the product/services desired by the County. They are not intended to restrict bidding on any like product/service of equal or higher quality. Any exceptions to the specifications must be noted on a separate sheet by reference to the item number in the specifications where the exception is taken. If no exceptions are submitted with the Proposal, and accepted by the County, bidders will be expected to comply with the specifications. Products and/or services will be inspected for compliance prior to acceptance.

3. Prices quoted will be considered net prices, unless otherwise stated by the bidder in the proposal. Bid prices must remain firm for 60 days, unless otherwise stated in the specifications.

4. It shall be understood and agreed that any material or product purchased under this bid shall be new and in first class condition unless otherwise stated in or required by the bid invitation.

5. Bid bonds are required; details are specified in Section IV, #17 of this packet.

6. **Bids must be signed to be accepted.** Signature must be that of the individual authorized to obligate the bidder whom is submitting the bid or proposal.

7. The County is exempt from Federal Excise Taxes and such taxes shall not be included in the bid price. An exemption certificate will be furnished where required.

8. State and Local Sales Taxes shall be stated as a separate item and shall not be included in the bid price of the product/services being proposed. If no taxes are so stated, the County will assume that any taxes due have been included in the price quoted and no additional taxes will subsequently be added to the bid price. The County is Sales Tax Exempt on motor vehicle purchases.

9. **Bids will be evaluated based upon compliance with the specifications, bid price, applicability, and suitability of the product/services being offered. Product and vendor reliability, warranty, delivery time, and such other factors deemed appropriate will be considered to assure the County receives a quality product most advantageous vendor to the county.** Assignment of any part or all of payments accruing under contracts or purchase agreements resulting from this Invitation to Bid will not be authorized. Payment shall only be made to the Contractor or vendor with whom the order is placed.

10. All questions or requests for clarification shall be submitted in writing via email at purchasing@co.sebastian.ar.us or mail at 35 South 6th Street Room 106, Fort Smith, AR 72901, ATTN: Purchasing Department.

11. The County reserves the right to accept part or all of any specific bid or bids and to accept any bid or bids with or without trade-in, whichever is most advantageous to the County.

12. The Sebastian County Judge reserves the right to reject any or all bids/proposals, to accept any deemed most advantageous to the County, and to waive any formalities.

Bid Specifications

1. Sebastian County (referred to as the "County") requests bids from qualified, experienced vendors (referred to as the "Company") that possess a current Arkansas Plumbing License.

2. The required services are to commence not later than a date to be agreed upon by and between Sebastian County and the Company.

3. The responding Company shall perform according to the terms and conditions as stated herein, and according to the highest standards and professional practices. Instances of poor performance by the Company will be documented and submitted to the Company for immediate review and corrective action. Continued poor performance will be deemed a breach of the specifications of the RFP and shall be grounds for immediate termination of the contract. A review meeting will be called between the Company and the County when documented instances of poor performance occur. A plan for corrective action, agreeable to both parties, will be drafted and implemented. Sebastian County retains the absolute right to assess whether and when performance is subsequently acceptable.

4. The contract awarded in response to the RFP (the "Contract") may be terminated without cause by Sebastian County, by giving the other party not less than 30 days written notice of intent to terminate as of the date specified. The Contract will not be assignable without prior written consent of both parties. Any attempted assignment without such consent shall be void and of no effect.

5. Inquiries related to the RFP should be directed to the attention of Charity Gregory, Sebastian County Purchasing. Any requests or clarifications shall submitted in writing via email at cgregory@co.sebastian.ar.us, by mail at 35 South 6th Street Room 106, Fort Smith, AR 72901, or by fax at (479) 784-1550. All clarifications given to a prospective bidder will be furnished in writing to all prospective bidders as an amendment, if such information modifies these specifications or is deemed to be necessary in responding to this RFP.

6. Sealed, written, competitive proposals will be accepted until 2:00 p.m. on March 11, 2016, in the Sebastian County Purchasing Department, Attn: Charity Gregory, 35 South 6th, Room 106, Fort Smith, AR 72901. Proposals shall be in a sealed envelope clearly marked with the RFP Number (SC-1603) on the outside or it will not be considered. All proposals must be signed by an authorized officer of the Company and must be held firm for acceptance for a minimum period of 60 days after the opening date.

7. The Company should submit a base proposal in the specified manner, but may also propose other financial options to the County either as additions or alternates to the base proposal. Such additional offerings should be clearly identified. The county prefers that the Company's response to the RFP be submitted in same item (paragraph) sequence as proposal – using the same item (paragraph) numbers for reference. Companies must submit one (1) original and three (3) copies of their proposals in order to be considered.

8. Proposals shall be submitted on 8 ½ x 11 inch paper, which shall be attached to this form. The proposal should follow the format laid out under Section 8. Submissions should be limited to a maximum of 15 pages, all required attachments included. Binders, brochures, and materials in this RFP are neither requested nor desired. Please do not submit these with your proposal. If additional information is required, the County will request it after review of the proposals.

9. Sebastian County reserves the right to reject any or all proposals, or any portion thereof, and re-advertise if deemed necessary. Award will be made to the Company whose proposal conforms to the RFP and, in the sole judgment of the County, will be most advantageous to Sebastian County.

10. The contents of the RFP will be incorporated into the final Contract documents. All terms and conditions stated herein shall constitute a complete and integrated document and the covenants contained herein shall not be altered or modified, unless such modifying term, conditions, or covenants are in writing and are signed by the Company and the agent of Sebastian County. Due to the anticipated complexities of this contract relationship, the County reserves the right to negotiate final terms and conditions with the Company(s) submitting proposals.

11. The County will not reimburse the Company's costs incurred in the preparation and submission of proposals. All proposals shall become the property of The County upon submission. The County reserves the right to negotiate commission rates from the selected qualified companies, subsequent to the submission of proposals, in accordance with the established contractual guidelines of Sebastian County, Arkansas.

12. Telegraphic, fax, or email proposals sent directly to Sebastian County offices will not be considered.

13. The Company(s) must acknowledge receipt of amendments by letter, telegram, or fax within 48 hours of receipt. Failure to provide such acknowledgment may be grounds for disqualification.

14. Companies are cautioned that the County is not obligated to ask for or accept data that is essential for a complete and thorough evaluation of the proposal after the opening date. The County may award a contract based on initial submissions without any further discussion of such proposals. Accordingly, each proposal should be submitted on the most favorable and complete price and technical terms possible. Any ambiguity in any proposal, as the result of omission, error, lack of clarity or noncompliance by the Company with specification, instructions, and all conditions of the Request for Proposal, shall be construed in the light most favorable to the County.

15. After the award of the Contract, all proposals will be open for public inspection. Financial data, trade secrets, test data, and similar proprietary information will, to the extent permitted by law, remain confidential, provided such material is clearly marked by the Company prior to submission of the RFP; however, net cost information may not be confidential.

16. <u>All proposals must contain a letter of intent from an insurance company authorized to do business in the State of Arkansas stating its willingness to insure the Company pursuant to the terms of any contract resulting from the RFP</u>. The Company shall procure and maintain, at the Company's expense, the following insurance coverage for the period of the Contract. Certificates evidencing the effective dates and amounts of such insurance(s) must be provided to the County.

    a. Workers Compensation, as required by the State of Arkansas.
    b. Comprehensive General Liability (Broad Form) coverage in amounts specified under the contract for work at the facility prior to the signing of the contract.
    c. Commercial Blanket Bond Coverage (theft/fraud by employees) in amounts specified under the contract for work at the facility prior to the signing of the contract.
    d. Minimum shall be in the total amount of the contract.

17. <u>The Company will be required to furnish, for the life of the Contract, a Performance Bond in a form satisfactory to the County and issued by a surety company authorized to do business in the State of Arkansas, in the amount of the contract. An original and one (1) copy of the bond must be furnished at the time of Contract execution.</u>

18. The Company shall indemnify and hold harmless Sebastian County, its officers and employees, from all claims, suits, actions, damages and costs of every nature and description arising out of or resulting from the Contract or the provision of services under the Contract.

19. The Company agrees that Sebastian County or any of its duly authorized representatives shall, at any time during the term of this Contract, have access to and the right to audit and examine any pertinent records of the Company related to this Contract. Company shall keep such records for a period of not less than five (5) years from the date the records are made, unless the County authorizes their earlier disposition. Company agrees to refund to the County any underpayments or overcharges disclosed by any such audit, or to take other corrective action as may be required.

20. The Company will obtain and maintain, at its expense and in its name, all necessary licenses and permits required to perform the services described herein.

21. The Company will assume full responsibility for any damage to the County's equipment or premises caused by the negligent or intentional acts of omissions for the Company's employees, agents, or officers, exempt ordinary wear and tear.

22. The name, mailing address, and telephone number of the Company's authorized agent, with authority to bind the firm with respect to questions concerning the Company's proposal, must be clearly stated in the proposal. An authorized officer of the Company must sign the proposal and/or the letter, which transmits the proposal to the County.

23. The Company will be responsible for collection and payment of all required taxes (local, state, federal) relating to its operation. Sebastian County is prohibited by ordinance from awarding contracts to companies that are delinquent in paying Sebastian County property taxes. If the Company business address is within Sebastian County, proof of payment of real and personal property taxes due in 2014 must submitted with the proposal or it can be disqualified.

24. The County is committed to Equal Opportunity. Therefore, the Company employment policies shall meet the requirements of the Fair Labor Standards Act and all other regulations required by Federal or State law. The Company must pledge to comply with Equal Opportunity Laws and that it will not discriminate against any employees or applicant for employment because of race, color, creed, religion, national origin, sex, age, disability, marital status, or participation of a legally protected activity.

TABLE OF CONTENTS

DIVISION 22 - PLUMBING

22 07 19	PIPING INSULATION
22 10 05	PLUMBING PIPING
22 40 00	PLUMBING FIXTURES

SECTION 22 07 19

PIPING INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Piping insulation.

B. Jackets and accessories.

1.2 RELATED REQUIREMENTS

A. Section 22 10 05 - Plumbing Piping: Placement of hangers and hanger inserts.

1.3 REFERENCE STANDARDS

A. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2010.

B. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate [Metric]; 2010.

C. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded Hot Plate Apparatus; 2013.

D. ASTM C195 - Standard Specification for Mineral Fiber Thermal Insulating Cement; 2007 (Reapproved 2013).

E. ASTM C449 - Standard Specification for Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement; 2007 (Reapproved 2013).

F. ASTM C795 - Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel; 2008 (Reapproved 2013).

G. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2014.

H. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2013.

I. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials; National Fire Protection Association; 2006.

J. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.

1.4 SUBMITTALS

A. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.

B. Manufacturer's Instructions: Indicate installation procedures that ensure acceptable workmanship and installation standards will be achieved.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with not less than five years of documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified in this section with minimum five years of documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Accept materials on site, labeled with manufacturer's identification, product density, and thickness.

B. Deliver material to job site in original non-broken factory packaging, labeled with manufacturer's density and thickness.

1.7 FIELD CONDITIONS

A. Maintain ambient conditions required by manufacturers of each product.

B. Maintain temperature before, during, and after installation for minimum of 24 hours.

C. Perform work at ambient and equipment temperature as recommended by the adhesive manufacturer.

PART 2 PRODUCTS

2.1 REQUIREMENTS FOR ALL PRODUCTS OF THIS SECTION

A. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84, NFPA 255, or UL 723.

2.2 GLASS FIBER

A. Manufacturers:
   1. Knauf Insulation.
   2. Johns Manville Corporation.
   3. Owens Corning Corp.
   4. CertainTeed Corporation.
   5. Armstrong World Industries, Inc.
   6. Rubatex Corp.
   7. Substitutions: See Section 22 01 00 - General Plumbing Provisions.

B. Insulation: ASTM C547 ; semi-rigid, noncombustible, end grain adhered to jacket.
   1. 'K' value: ASTM C177, 0.24 at 75 degrees F.
   2. Maximum service temperature: 650 degrees F.
   3. Maximum moisture absorption: 0.2 percent by volume.

C. Vapor Barrier Jacket: White Kraft paper with glass fiber yarn, bonded to aluminized film; moisture vapor transmission when tested in accordance with ASTM E96/E96M of 0.02 perm-inches.

D. Tie Wire: 0.048 inch stainless steel with twisted ends on maximum 12 inch centers.

E. Vapor Barrier Lap Adhesive:
   1. Compatible with insulation.

F. Insulating Cement/Mastic:
   1. ASTM C195; hydraulic setting on mineral wool.

G. Fibrous Glass Fabric:

1. Cloth: Untreated; 9 oz/sq yd weight.
2. Blanket: 1.0 lb/cu ft density.
3. Weave: 5x5.

H. Indoor Vapor Barrier Finish:
1. Cloth: Untreated; 9 oz/sq yd weight.
2. Vinyl emulsion type acrylic, compatible with insulation, white color.

I. Outdoor Vapor Barrier Mastic:
1. Vinyl emulsion type acrylic or mastic, compatible with insulation, black color.

J. Outdoor Breather Mastic:
1. Vinyl emulsion type acrylic or mastic, compatible with insulation, black color.

K. Insulating Cement:
1. ASTM C449/C449M.

2.3 JACKETS

A. PVC Plastic.
1. Manufacturers:
a. Johns Manville Corporation.
b. Substitutions: See Section 22 01 00 - General Plumbing Provisions.
2. Jacket: One piece molded type fitting covers and sheet material, off-white color.
a. Minimum Service Temperature: 0 degrees F.
b. Maximum Service Temperature: 150 degrees F.
c. Moisture Vapor Permeability: 0.002 perm inch, maximum, when tested in accordance with ASTM E96/E96M.
d. Thickness: 15 mil.
e. Connections: Pressure sensitive color matching vinyl tape.
3. Covering Adhesive Mastic:
a. Compatible with insulation.

B. Canvas Jacket: UL listed 6 oz/sq yd plain weave cotton fabric treated with dilute fire retardant lagging adhesive.
1. Lagging Adhesive:
a. Compatible with insulation.

C. Aluminum Jacket: ASTM B209 (ASTM B209M) formed aluminum sheet.
1. Thickness: 0.016 inch sheet.
2. Finish: Embossed.
3. Joining: Longitudinal slip joints and 2 inch laps.
4. Fittings: 0.016 inch thick die shaped fitting covers with factory attached protective liner.
5. Metal Jacket Bands: 3/8 inch wide; 0.015 inch thick aluminum.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that piping has been tested before applying insulation materials.

B. Verify that surfaces are clean and dry, with foreign material removed.

C. Repair all insulation that is damaged during construction using the same materials.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install in accordance with NAIMA National Insulation Standards.

C. Exposed Piping: Locate insulation and cover seams in least visible locations.

D. Insulated pipes conveying fluids below ambient temperature: Insulate entire system including fittings, valves, unions, flanges, strainers, flexible connections, and expansion joints.

E. Glass fiber insulated pipes conveying fluids below ambient temperature:
   1. Provide vapor barrier jackets, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure sensitive adhesive. Secure with outward clinch expanding staples and vapor barrier mastic.
   2. Insulate fittings, joints, and valves with molded insulation of like material and thickness as adjacent pipe. Finish with glass cloth and vapor barrier adhesive or PVC fitting covers.

F. For hot piping conveying fluids 140 degrees F or less, do not insulate flanges and unions at equipment, but bevel and seal ends of insulation.

G. For hot piping conveying fluids over 140 degrees F, insulate flanges and unions at equipment.

H. Glass fiber insulated pipes conveying fluids above ambient temperature:
   1. Provide standard jackets, with or without vapor barrier, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure sensitive adhesive. Secure with outward clinch expanding staples.
   2. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Finish with glass cloth and adhesive or PVC fitting covers.

I. Inserts and Shields:
   1. Application: Piping 1 inch diameter or larger.
   2. Shields: Galvanized steel between pipe hangers or pipe hanger rolls and inserts.
   3. Insert location: Between support shield and piping and under the finish jacket.
   4. Insert configuration: Minimum 6 inches long, of same thickness and contour as adjoining insulation; may be factory fabricated.
   5. Insert material: Hydrous calcium silicate insulation or other heavy density insulating material suitable for the planned temperature range.

J. Continue insulation through walls, sleeves, pipe hangers, and other pipe penetrations. Finish at supports, protrusions, and interruptions.

3.3 SCHEDULES

A. Plumbing Systems:
   1. Domestic Hot Water Supply:
      a. Glass Fiber Insulation:
         1) Pipe Size Range: 2 inch and under: 1 inch thickness.
         2) Pipe Size Range: 2-1/2 inch and larger: 1-1/2 inch thickness.
         3) Thickness: 1/2 inch (in interior walls).
   2. Domestic Cold Water Supply:
      a. Glass Fiber Insulation:
         1) Pipe Size Range: 2 inch and under: 1 inch thickness.

2) Pipe Size Range: 2-1/2 inch and larger: 1 inch thickness.
3) Thickness: 1/2 inch (in interior walls).

3. Domestic Hot Water Recirculation:
   a. Glass Fiber Insulation:
      1) Pipe Size Range: All sizes.
      2) Thickness: 1 inch.

END OF SECTION

SECTION 22 10 05

PLUMBING PIPING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Pipe, pipe fittings, valves, and connections for piping systems.
   1. Domestic water.
   2. Valves.

1.2 RELATED REQUIREMENTS

A. Section 22 07 19 - Piping Insulation.

1.3 REFERENCE STANDARDS

A. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings; The American Society of Mechanical Engineers; 2012 (ANSI B16.18).

B. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings; The American Society of Mechanical Engineers; 2013.

C. ASME B31.9 - Building Services Piping; The American Society of Mechanical Engineers; 2014 (ANSI/ASME B31.9).

D. ASME BPVC-IX - Boiler and Pressure Vessel Code, Section IX - Welding, Brazing, and Fusing Qualifications; The American Society of Mechanical Engineers; 2013.

E. ASTM B32 - Standard Specification for Solder Metal; 2008 (Reapproved 2014).

F. ASTM B88 - Standard Specification for Seamless Copper Water Tube; 2009.

G. ASTM B88M - Standard Specification for Seamless Copper Water Tube (Metric); 2013.

H. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications; latest accepted edition.

I. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers; 1992 (Reapproved 2008).

J. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation; Manufacturers Standardization Society of the Valve and Fittings Industry, Inc.; 2009.

K. MSS SP-71 - Cast Iron Swing Check Valves, Flanged and Threaded Ends; Manufacturers Standardization Society of the Valve and Fittings Industry, Inc.; 2011.

L. MSS SP-80 - Bronze Gate, Globe, Angle and Check Valves; Manufacturers Standardization Society of the Valve and Fittings Industry, Inc.; 2013.

M. MSS SP-110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends; Manufacturers Standardization Society of the Valve and Fittings Industry, Inc.; 2010.

1.4 SUBMITTALS

A. Product Data: Provide data on pipe materials, pipe fittings, valves, and accessories. Provide manufacturers catalog information. Indicate valve data and ratings.

B. Project Record Documents: Record actual locations of valves.

1.5 QUALITY ASSURANCE

A. Perform work in accordance with applicable codes.

B. Perform Work in accordance with Arkansas, city of Sebastian County, Arkansas standards.

C. Valves: Manufacturer's name and pressure rating marked on valve body.

D. Welding Materials and Procedures: Conform to ASME (BPV IX) .

E. Welder Qualifications: Certified in accordance with ASME (BPV IX).

F. Identify pipe with marking including size, ASTM material classification, ASTM specification, potable water certification, water pressure rating.

1.6 REGULATORY REQUIREMENTS

A. Perform Work in accordance with State of Arkansas, and city of Sebastian County, Arkansas plumbing code.

B. Conform to city of Sebastian County, Arkansas code for installation of backflow prevention devices.

C. Provide certificate of compliance from authority having jurisdiction indicating approval of installation of backflow prevention devices.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.

B. Provide temporary protective coating on cast iron and steel valves.

C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

PART 2 PRODUCTS

2.1 WATER PIPING, ABOVE GRADE

A. Copper Tube: ASTM B88 (ASTM B88M), Type L (B), Drawn (H).
   1. Fittings: ASME B16.18, cast copper alloy or ASME B16.22, wrought copper and bronze.
   2. Joints: ASTM B32, alloy Sn95 solder or mechanical press-fit couplings.

2.2 FLANGES, UNIONS, AND COUPLINGS

A. Unions for Pipe Sizes 3 Inches and Under:
   1. Ferrous pipe: Class 150 malleable iron threaded unions.
   2. Copper tube and pipe: Class 150 bronze unions with soldered joints.

B. Flanges for Pipe Size Over 1 Inch:
   1. Ferrous pipe: Class 150 malleable iron threaded or forged steel slip-on flanges; preformed neoprene gaskets.
   2. Copper tube and pipe: Class 150 slip-on bronze flanges; preformed neoprene gaskets.

C. Grooved and Shouldered Pipe End Couplings:
   1. Housing: Malleable iron clamps to engage and lock, designed to permit some angular deflection, contraction, and expansion; steel bolts, nuts, and washers; galvanized for galvanized pipe.
   2. Sealing gasket: "C" shape composition sealing gasket.

D. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

E. Victaulic Devices:
   1. Couplings shall consist of a one or more piece ductile or malleable iron cast housing, a synthetic rubber gasket of a central cavity pressure-responsive design, with nuts, bolts, locking toggle or luggs to secure unit together.
      a. Coupling housings shall be cast of ductile iron conforming to ASTM A-536 (Grade 65-45-12) or malleable iron conforming to ASTM A-47 (Grade 32510), hot dip galvanized to ASTM A-153, or zinc electroplated to ASTM B-633, as manufactured by Victaulic Company of America. Refer to Victaulic product specifications for other materials.
      b. Coatings shall consist of an alkyd enamel paint, or hot-dip galvanizing to ASTM A-153, or zinc electroplating to ASTM B-633, as specified.
   2. Couplings for grooved end steel pipe shall be Victaulic couplings for grooved end steel pipe.
      a. Line, fittings and valve joints shall be Victaulic flexible (styles 75, 77, 78, or 791) or rigid (styles 005, 07 or HP-70).
      b. Rigid joints shall be Victaulic style 07 "Zero-Flex", style HP-70 or style 005 "FireLock" couplings.
      c. Pin assembled joints shall be Victaulic style 791 "Vic-Boltless" couplings.
      d. Reducing joints shall be Victaulic style 750 Reducing Couplings for pipe to pipe joints or to create reducing fittings using straight fitting configurations.
      e. Outlets: All joints designated Outlet Couplings, or where feasible to replace reducing outlet tees, shall be Victaulic style 72 Outlet Couplings (specify grooved, female or male threaded outlet).
      f. Flanged Connections shall be Victaulic style 741 (2-24") "Vic-Flange" adapters, engaging directly into grooved pipe and bolting directly to ANSI Class 125 cast iron and Class 150 steel flanged components or style 743 (2-12") for ANSI Class 300 flanged components; installer to supply standard flange bolts.
      g. Quick disconnects shall be Victaulic style 78 "Snap-Joint" Couplings or style 780/781 for double grooved pipe.
   3. Gasket shall be molded of synthetic rubber in a central cavity, pressure-responsive configuration conforming to the pipe outside diameter and coupling housing, of elastomers having properties as designated in ASTM D-2000. Reference shall always be made to the latest published Selection Guide for Victaulic Gaskets for proper gasket selection for the intended service.
      a. Water service: Gasket supplied for water services from -30 degrees F to +230 degrees F, shall be a Grade "E" EPDM compound, with green color code, molded of materials conforming to ASTM D-2000, designation 2CA615A25B24F17Z, recommended for hot water service within the specified temperature range, plus a variety of dilute acids, oil-free air, and many chemical services. Not recommended for petroleum services.

4. Bolts and nuts shall be heat treated carbon steel, track head, conforming to physical properties of ASTM A-183 minimum tensile 110,000 psi, black, or zinc electroplated to ASTM B-633, as supplied or specified.
5. Fittings shall be Victaulic full flow cast fittings, steel fittings or segmentally welded fittings with grooves or shoulders designed to accept Victaulic grooved end couplings.
   a. Standard fittings shall be cast of ductile iron conforming to ASTM A-536 (Grade 65-45-12), or malleable iron conforming to ASTM A-47, Grade 32510, painted with alkyd enamel or hot-dip galvanized to ASTM A-153 or zinc electroplated to ASTM B-633 or cadmium plated to ASTM A-165 as required.
   b. Standard steel fittings including large size elbows (16-24") shall be forged steel conforming to ASTM A-234 Grade WPB (0.375" wall), painted with alkyd enamel or hot-dip galvanized to ASTM A-153.
6. Branch outlets for hole cut steel pipe shall be Victaulic hole cut products.
7. Branch outlets shall be made with Victaulic style 920, 921 or 929 "Mechanical-T" branch connections with locating collar or foot engaging into hole. (Specify outlet/branch connection type - grooved, female threaded or FIT, as available.)
8. Sprinkler head connections: Branch connections, direct sprinkler head connections, drop nipples and sprigs shall be made with Victaulic style 922 "Hooker" outlet connections with locating collar engaging into hole, assembled with standard plated breakaway head bolt (specify 1/2, 3/4 or 1" female threaded outlet).
9. Gauge, meter outlets for hole cut steel pipe shall be Victaulic strapless mechanical outlet products style 923 "Vic-Let" or 924 "Vic-O-Well" and shall provide a pipe outlet without a need for a strap or lower housing to wrap around the pipe.
10. Flow indicators for hole cut steel pipe shall be Victaulic style 736 Waterflow Indicators for wet sprinkler systems, to sense water flow to 10 GPM or greater.
11. Fittings for plain end steel pipe shall be Victaulic FIT fittings (sizes 1", 1 1/4", 1 1/2" and 2") with internal pipe stop for uniform takeout dimensions, 1/4-turn positive locking lugs of heat treated carbon steel conforming to AISI C-1022, cadmium plated, with externally locked-position indicator for inspection or connection of plain end steel pipe. FIT fittings shall have self-contained, pressure responsive gaskets: for water service (-30 degrees to +230 degrees F) Grade "E"; FIT silicone Grade "L" (-30 degrees to +160 degrees F) are recommended for fire protection dry systems, all systems operating below 0 degrees F, plus dry heat, air without hydrocarbons, certain chemical services and water to +160 degrees F. FIT Nitrile gaskets Grade "T" (0 degrees to +180 degrees F) are recommended for petroleum products, hydrocarbons, air without hydrocarbons, except hot dry air over +140 degrees F, vegetable and mineral oils within the specified temperature range. Not recommended for hot water services.
12. Reducing outlet tees shall be Victaulic FIT style 96 with female threaded outlet (specify 1/2, 3/4 or 1" outlet) for direct sprinkler head, sprig or drop nipple connections.
13. 90 degree elbows shall be Victaulic FIT style 969.
14. FIT Outlet/Mechanical-T shall be Victaulic FIT style 929 with FIT locking lug branch outlet (specify 1 1/4, 1 1/2 or 2" outlet) for direct branch connections.
15. Straight tees shall be Victaulic FIT style 963.
16. Straight couplings shall be Victaulic FIT style 960.
17. Reducing elbows shall be Victaulic FIT style 966 with female threaded outlet (specify 1/2, 3/4, or 1" outlet) for direct sprinkler head, sprig or drop nipple connections.

2.3 MECHANICALLY FORMED TEE FITTINGS

A. Mechanically extracted outlets shall have a height not less than three times the thickness of the branch tube wall.

B. Branch tubes shall not restrict the flow in the main tube. Mechanical Contractor shall insure the branch tube penetration into the collar is of the correct depth.

C. Mechanically formed tee fittings shall be cleaned and brazed with filler material conforming to AWS A5.8.

2.4 PRESS FITTINGS

A. Fittings shall comply with NSF 61, CSA, UPC and be approved by the local jurisdiction. Wrot copper press fittings shall be made from commercially pure copper mill products per ASTM B 75 Alloy C12200. Cast copper alloy press fittings shall be made from materials with a minimum of 78% copper and a maximum of 15% zinc. The press fittings connections shall be compatible with seamless K, L or M copper tube made to ASTM B 88. Fittings shall have a maximum non-shock working pressure of 200 PSI between the temperatures of -20°F and +250°F. Elastomeric seals shall be made of EPDM material, and the fittings shall be manufactured with an inboard bead design. All fittings shall be installed in accordance with the manufacturer's installation instructions and according to local plumbing and mechanical codes. The press-to-connect joint shall be made with pressing tools and jaw sets recommended and authorized by press fitting manufacturer.

2.5 PIPE HANGERS AND SUPPORTS

A. Provide hangers and supports that comply with MSS SP-58.
   1. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.
   2. Overhead Supports: Individual steel rod hangers attached to structure or to trapeze hangers.
   3. Trapeze Hangers: Welded steel channel frames attached to structure.
   4. Vertical Pipe Support: Steel riser clamp.

B. Plumbing Piping - Drain, Waste, and Vent:
   1. Conform to ASME B31.9.
   2. Hangers for Pipe Sizes 1/2 Inch to 1-1/2 Inches: Carbon steel, adjustable swivel, split ring.
   3. Hangers for Pipe Sizes 2 Inches and Over: Carbon steel, adjustable, clevis.
   4. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
   5. Wall Support for Pipe Sizes to 3 Inches: Cast iron hook.
   6. Wall Support for Pipe Sizes 4 Inches and Over: Welded steel bracket and wrought steel clamp.
   7. Vertical Support: Steel riser clamp.
   8. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
   9. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.

C. Plumbing Piping - Water:
   1. Conform to ASME B31.9.

2. Hangers for Pipe Sizes 1/2 Inch to 1-1/2 Inches: Carbon steel, adjustable swivel, split ring.
3. Hangers for Cold Pipe Sizes 2 Inches and Over: Carbon steel, adjustable, clevis.
4. Hangers for Hot Pipe Sizes 2 Inches to 4 Inches: Carbon steel, adjustable, clevis.
5. Hangers for Hot Pipe Sizes 6 Inches and Over: Adjustable steel yoke, cast iron pipe roll, double hanger.
6. Multiple or Trapeze Hangers: Steel channels with welded supports or spacers and hanger rods.
7. Multiple or Trapeze Hangers for Hot Pipe Sizes 6 Inches and Over: Steel channels with welded supports or spacers and hanger rods, cast iron roll.
8. Wall Support for Pipe Sizes to 3 Inches: Cast iron hook.
9. Wall Support for Pipe Sizes 4 Inches and Over: Welded steel bracket and wrought steel clamp.
10. Vertical Support: Steel riser clamp.
11. Floor Support for Cold Pipe: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
12. Floor Support for Hot Pipe Sizes to 4 Inches: Cast iron adjustable pipe saddle, locknut, nipple, floor flange, and concrete pier or steel support.
13. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.

2.6 GATE VALVES

A. Manufacturers:
1. Conbraco Industries.
2. Nibco, Inc.
3. Milwaukee Valve Company.
4. Crane Co.
5. Substitutions: See Section 22 01 00 - General Plumbing Provisions.

B. Up To and Including 2 1/2 Inches:
1. MSS SP-80, Class 125, bronze body, bronze trim, rising stem, handwheel, inside screw, solid wedge disc, solder or threaded ends.

C. 3 Inches and Larger:
1. MSS SP-70, Class 125, iron body, bronze trim, outside screw and yoke, handwheel, solid wedge disc, flanged ends. Provide chain wheel operators for valves 6 inches and larger mounted over 8 feet above floor.

2.7 BALL VALVES

A. Manufacturers:
1. Conbraco Industries.
2. Nibco, Inc.
3. Milwaukee Valve Company.
4. Crane Co.

B. Construction, 4 Inches and Smaller: MSS SP-110, Class 150, 400 psi CWP, bronze, two piece body, chrome plated brass ball, regular port, teflon seats and stuffing box ring, blow-out proof stem, lever handle, threaded ends with union.

2.8 SWING CHECK VALVES

A. Manufacturers:

1. Hammond Valve.
2. Nibco, Inc.
3. Milwaukee Valve Company.
4. Crane Co.
5. Substitutions: See Section 22 01 00 - General Plumbing Provisions.

B. Up to 2 Inches:
1. MSS SP-80, Class 125, bronze body and cap, bronze swing disc with rubber seat, solder or threaded ends.

C. Over 2 Inches:
1. MSS SP-71, Class 125, iron body, bronze swing disc, flanged or grooved ends.

2.9 SPRING LOADED CHECK VALVES

A. Manufacturers:
1. Hammond Valve.
2. Crane Co.
3. Milwaukee Valve Company.
4. Stockham.
5. Substitutions: See Section 22 01 00 - General Plumbing Provisions.

B. Class 125, iron body, bronze trim, stainless steel springs, bronze disc, Buna N seals, wafer style ends.

PART 3 EXECUTION

3.1 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.

B. Remove scale and dirt, on inside and outside, before assembly.

C. Prepare piping connections to equipment with flanges or unions.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Provide non-conducting dielectric connections wherever jointing dissimilar metals.

C. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.

D. Install piping to maintain headroom, conserve space, and not interfere with use of space.

E. Group piping whenever practical at common elevations.

F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

G. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings. Refer to Section 22 07 19.

H. Provide access where valves and fittings are not exposed. Coordinate size and location of access doors.

I. Install valves with stems upright or horizontal, not inverted.

J. Pipe Hangers and Supports:
   1. Install in accordance with ASME B31.9.
   2. Support horizontal piping as scheduled.
   3. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
   4. Place hangers within 12 inches of each horizontal elbow.
   5. Use hangers with 1-1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
   6. Support vertical piping at every floor. Support riser piping independently of connected horizontal piping.
   7. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
   8. Provide copper plated hangers and supports for copper piping.

3.3 APPLICATION

A. Install unions downstream of valves and at equipment or apparatus connections.

B. Install brass male adapters each side of valves in copper piped system. Solder adapters to pipe.

C. Install gate valves for shut-off and to isolate equipment, part of systems, or vertical risers.

3.4 SCHEDULES

A. Pipe Hanger Spacing:
   1. Metal Piping:
      a. Pipe size: 1/2 inches to 1-1/4 inches:
         1) Maximum hanger spacing: 8 ft.
         2) Hanger rod diameter: 1/4 inch.
      b. Pipe size: 1-1/2 inches to 2 inches:
         1) Maximum hanger spacing: 8 ft.
         2) Hanger rod diameter: 1/4 inch.
      c. Pipe size: 2-1/2 inches to 3 inches:
         1) Maximum hanger spacing: 8 ft.
         2) Hanger rod diameter: 3/8 inch.
      d. Pipe size: 4 inches to 6 inches:
         1) Maximum hanger spacing: 8 ft.
         2) Hanger rod diameter: 3/8 inch.
      e. Pipe size: 8 inches to 12 inches:
         1) Maximum hanger spacing: 10 ft.
         2) Hanger rod diameter: 1/2 inch.
      f. Pipe size: 14 inches and Over:
         1) Maximum hanger spacing: 10 ft.
         2) Hanger rod diameter: 7/8 inch..

END OF SECTION

SECTION 22 40 00

PLUMBING FIXTURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Showers.

1.2 RELATED REQUIREMENTS

A. Section 22 07 19 - Piping Insulation.

B. Section 22 10 06 - Plumbing Specialties.

1.3 REFERENCE STANDARDS

A. Comply with State of Arkansas adopted ADA Accessible Guidelines in regard to accessible or handicapped features.

1.4 SUBMITTALS

A. Product Data: Provide catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.

B. Manufacturer's Instructions: Indicate installation methods and procedures.

C. Maintenance Data: Include fixture trim exploded view and replacement parts lists.

D. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum five years of documented experience.

1.6 REGULATORY REQUIREMENTS

A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Accept fixtures on site in factory packaging. Inspect for damage.

B. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.8 WARRANTY

A. All warranties to begin at Date of Substantial Completion as accepted by the Owner.

PART 2 PRODUCTS

2.1 **SHOWERS - PENAL SURFACE MOUNT SHOWERS**

A. Shower Manufacturers:
   1. Acorn.
   2. Bradley Corporation.

3. Willoughby.
4. Substitutions: Contact Sebastian County Charity Gregory at 479-784-1502 for substitution request.

B. Housing is 18 gauge, type 304 stainless steel with satin finish.

C. Control Valve type if temperature - pressure balancing. Valves with removable cartridges contain all wearing parts and are serviced from the face of the shower for easy leverage handle to protect the operating parts from excessive torque. Valves have flexible hose supply connectors.

D. Shower Head is solid brass, triple chrome-plated and include built-in 2.2 GPM flow restrictor. Shower head design provides self-cleaning with every use, and has an adjustable spray pattern from a coarse stream to a fine mist.

E. Fasteners: Furnish all exposed tamper-resistant fasteners necessary to complete the on-site shower assembly; however, concealed wall fasteners or anchor shields are not furnished.

F. Guide Specification: Provide and install Acorn Apex Surface-Mounted Showers (Model 458-W-RP or equal. Housing shall be 18 gage, type 304 stainless steel with satin finish. Valve shall have flexible hose supply connectors. Shower head shall have an adjustable spray from a coarse stream to a fine mist. Installation shall be made in accordance with manufacturer's recommendations and details.

G. Accessories:
1. Provide 6 foot shower head discharge. Verify height with Owner prior to ordering.
2. Provide temperature - Pressure Balancing Mixing Valve with tamper resistant handle.
3. Provide ligature resistant pressure balance shower valve handle and head.
4. Supply shall be wall mounted.
5. Provide recessed soap dish.
6. Shower head shall be penal type.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that walls and floor finishes are prepared and ready for installation of fixtures.

3.2 INSTALLATION

A. Install components level and plumb.

B. Seal fixtures to wall and floor surfaces with sealant. _____

C. Install handicap valve handles to the accessible side.

D. Provide and install stainless steel shop fabricated tamper proof wall mounted anchoring brackets. Provide Sebastian County bracket and anchoring example for approval prior to installation. Contact Mr. Justin Dewitt with the Sebastian County Detention Center at 479-784-1502 for required bracket quantity and tamper proof attachment.

3.3 ADJUSTING

A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.4 CLEANING

A. Clean plumbing fixtures and equipment.

3.5 PROTECTION

A. Protect installed products from damage due to subsequent construction operations.

B. Repair or replace damaged products before Date of Substantial Completion.

3.6 SCHEDULES

A. Fixture Heights: Install fixtures to heights above finished floor as indicated.
   1. Shower Heads:
      a. Adult Male: 69.5 inches to bottom of head.
      b. Adult Female: 64.5 inches to bottom of head.
      c. ADA: Shower head to be hand held on metal clad hose with slide bar. Control shall be installed minimum of 38 inches above shower floor to bottom of control and 48 inches maximum above shower floor to top of control.

B. Minimum fixture rough-in sizes or as required for particular fixtures.
   1. Shower:
      a. Hot Water: 1/2 Inch.
      b. Cold Water: 1/2 Inch.
      c. Waste: 2 Inch.
      d. Vent: 2 Inch.

END OF SECTION