CITY OF JOPLIN
ADDENDUM NUMBER 001

ISSUE DATE: 7/20/2026

Project: Tin Cup Parallel Force Main – Joplin, Missouri

This addendum forms a part of the contract described above. The original Contract Documents and any prior addenda remain in full force and effect as modified by the following that shall take precedence over any contrary provisions in the prior documents.

Information to Bidders The following is provided to Bidders for information only:

Bidding Requirements Changes

1. 00 40 00 – Bid Form
    a. Article 4 – Bid Price, Section 4.01-A Unit Price Schedule Item no. 12.0
        i. Delete: 4’ Cast-in-place Manholes
        ii. Replace with: 5’ Precast Manholes
    b. Article 4 – Bid Price, Section 4.01-A Unit Price Schedule Item no. 13.0
        i. Delete: 4’ Dia Outside Drop Precast Polymer Manhole
        ii. Replace with: 5’ Dia Outside Drop Precast Manhole
    c. Article 4 – Bid Price, Section 4.01-A Unit Price Schedule Item no. 14.0
        i. Delete: 6’ Dia Precast Polymer Manhole
        ii. Replace with: 6’Dia Precast Manhole
    d. Article 4 – Bid Price, Section 4.01-A Unit Price Schedule Item no. 15.0
        i. Delete: 3 – 4’ Dia Precast Polymer Manhole
        ii. Replace with: 2 – 4’ Dia Precast Manhole

Specification Changes

1. 33 11 00 – Pressure Pipe
    a. Added Section 2.03-A.2: For Sewer applications pipe shall be green color
2. 33 39 00 – Utility Structures
    a. Section 3.01
        i. Delete: Polymer Manholes
        ii. Replace with: Manholes shall conform to City Standard Specification Division 400 – Sewer, Section 4300 Concrete Manhole
3. 33 12 16 – Utility Valves and Accessories
    a. Section 2.02
        i. Delete: Ductile Iron material for body and cover
        ii. Replace with: fiberglass-reinforced nylon

Drawings Changes

1. C012 – Delete New and Extended Precast Sanitary Sewer Manhole Detail
2. C013 – Delete Drop Manhole Detail and General Notes
3. C015 – Revised Manhole sizes, and clarifying details for manholes
4. C016 – Update 8” PVC pipe invert and clarify details for manholes

Questions

Q1	Please confirm if polymer concrete is specified for the ARV manholes
A1	Polymer concrete is not required for the ARV manholes
Q2	Is flow data and temperature available for Shoal Creek to aid in design of the bypass flow
A2	Please refer to the USGS Monitoring Site for Shoal Creek (USGS-07187000) https://waterdata.usgs.gov/monitoring-location/USGS-07187000/#dataTypeId=continuous-00065-0&period=P7D&showFieldMeasurements=true

Bidding Requirements:

1. Delete and replace the following sections:
    a. Delete Document, Section 00 40 00 Bid Form and replace with the following Document Section 00 40 00 Bid Form

Specifications:

1. Delete and replace the following sections:
    a. Delete Document, Section 33 11 00 Pressure Pipe and replace with the Following Document Section 33 11 00 Pressure Pipe
    b. Delete Document, Section 33 12 16 Utility Valves and Accessories and replace with the Following Document Section 33 12 16 Utility Valves and Accessories
    c. Delete Document, Section 33 39 00 Utility Structures and replace with the Following Document Section 33 39 00 Utility Structures

Drawings:

1. Delete and replace the following drawings:
    a. Delete Drawing, C012 and Replace with the following Drawing, C012
    b. Delete Drawing, C013 and Replace with the following Drawing, C013
    c. Delete Drawing, C015 and Replace with the following Drawing, C015
    d. Delete Drawing, C016 and Replace with the following Drawing, C016

Daniel Johnson 7-20-26

Daniel Johnson, PE **Date**
Director of Public Works

Each bidder shall acknowledge receipt of this addendum by affixing their signature below by noting this addendum on the bid form, and by attaching this addendum to the bid.

ACKNOWLEDGEMENT
The undersigned acknowledges receipt of this addendum and the Bid submitted in accordance with the information, instructions, and stipulations set forth herein.

Bidder: _____

Signed By: _____

Date: _____

DOCUMENT 00 40 00 – BID FORM

Project Name: Tin Cup Parallel Force Main

BID TO:
Owner: City of Joplin, Missouri
Public Works Department
602 S. Main Street, 4th Floor
Joplin, Missouri 64801

BID FROM:
Bidder: _____
_____
_____
_____

ARTICLE 1 - BIDDER'S INTENT

1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with Owner in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Bid price and within the Bid time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.

ARTICLE 2 - TERMS AND CONDITIONS

2.01 Bidder accepts all of the terms and conditions of the Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the day of Bid opening. Bidder will sign and deliver the required number of counterparts of the Agreement with the Bonds and other documents required by the Bidding Requirements within 15 days after the date of Owner's Notice of Award.

ARTICLE 3 - BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents, as more fully set forth in the Agreement, that:

A. Bidder has examined and carefully studied the Bid Documents, and the following Addenda, receipt of all which is hereby acknowledged:

Number	Date
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, performance, and furnishing of the Work.

C. Bidder is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, performance, and furnishing of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site; and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site. Bidder acknowledges that such reports

and drawings are not Contract Documents and may not be complete for Bidder's purposes. Bidder acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Bid Documents with respect to Underground Facilities at or contiguous to the Site.

E. Bidder has obtained and carefully studied [or assumes responsibility for having done so] all such additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions [surface, subsurface, and Underground Facilities] at or contiguous to the Site or otherwise which may affect cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder and safety precautions and programs incident thereto.

F. Bidder does not consider that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performing and furnishing of the Work in accordance with the times, price, and other terms and conditions of the Contract Documents.

G. Bidder is aware of the general nature of Work to be performed by Owner and others at the Site that relates to Work for which this Bid is submitted as indicated in the Contract Documents.

H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports, and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

I. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.

K. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm, or a corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

L. Bidder will perform the Work in compliance with all applicable trench safety standards set forth in Occupational Safety and Health Administration (OSHA) Part 1926 - Subpart P - Excavations.

ARTICLE 4 - BID PRICE

4.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

A. UNIT PRICE SCHEDULE:

Item No.	Item Description	Estimated Quantity	Unit	Unit Cost	Total Cost
1.0	Mobilization/Demobilization	1	LS	NA	$_____
2.0	Bonds and Insurance	1	LS	NA	$_____

3.0	Construction Photo-graphs	1	LS	NA	$_____
4.0	Erosion Control, SWPPP	1	LS	NA	$_____
5.0	Install 24-inch PC 200 PVC (6.5'–12' Trench Depth)	3,191	LF	$_____	$_____
6.0	Install 24-inch PC 200 PVC (>12.1' Trench Depth)	1,010	LF	$_____	$_____
7.0	Install Pipes Under Shoal Creek	1	LS	NA	
8.0	Encasement Under Shoal Creek	1	LS	NA	$_____
9.0	Cutoff Wall Under Shoal Creek	1	LS	NA	$_____
10.0	Install 8-inch PVC Gravity Sewer (6.5' - 12' Trench Depth)	343	LF	$_____	$_____
11.0	Install 30-inch PVC Gravity Sewer (>12.1' Trench Depth)	677	LF	$_____	$_____
12.0	Install 5' Diameter Pre-cast Manhole	2	EA	$_____	$_____
13.0	Install 5' Diameter Out-side Drop Precast Manhole	1	EA	$_____	$_____
14.0	Install 6' Diameter Pre-cast Manhole	1	EA	$_____	$_____
15.0	Install 4' Diameter Pre-cast Manhole	2	EA	$_____	$_____
16.0	Install 3-inch Combina-tion Air Valve/Vault	3	EA	$_____	$_____
17.0	Pavement Repair and Trench Backfill (Coy-ote and Cougar Drive. McClelland Blvd.)	1,070	LF	$_____	$_____
18.0	Assure Continued Op-eration of the Sanitary Conveyance System	1	LS	NA	$_____
19.0	Removal and Disposal of Contaminated Mate-rial	900	CY	$_____	$_____

TOTAL BID OF –

_____

_____Dollars ($_____)

Bidder acknowledges that quantities are not guaranteed and final payment will be based on actual quantities determined as provided in the Contract Documents.

B. SUPPLIERS/MANUFACTURERS: This Bid is based upon furnishing and installing major items of Equipment by the following Suppliers/manufacturers:

No.	Item	Supplier/Manufacturer
1	PVC Pipe	
2	Air Release Valves	
3	Manholes	

C. SUBCONTRACTORS: This Bid is based upon use of the following Subcontractors:

No.	Item	Subcontractor
1	Installing PVC Pipes Under Shoal Creek	
2	Encasement Under Shoal Creek	
3	Cutoff Wall Under Shoal Creek	

ARTICLE 5 - CONTRACT TIMES

5.01 Bidder agrees that the Work will be completed within the following time(s):

A. The Work will be Substantially Completed within 240 calendar days after the date when the Contract Times commence to run as provided in the GENERAL CONDITIONS, and completed and ready for final payment in accordance with the GENERAL CONDITIONS within 270 calendar days after the date when the Contract Times commence to run.

B. Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified in the Agreement.

ARTICLE 6 - BID CONTENT

6.01 The following documents are attached to and made a condition of this Bid:

A. Required Bid security in the form of a Bid Bond in the amount of 5% of the total Bid price.

B. A tabulation of Subcontractors and other persons and organizations required to be identified in this Bid.

ARTICLE 7 - COMMUNICATIONS

7.01 Communications concerning this Bid shall be addressed to the Bidder as follows:

_____

_____

_____

Phone No. _____

FAX No. _____

e-mail address _____

ARTICLE 8 - TERMINOLOGY

8.01 The terms used in this Bid which are defined in the GENERAL CONDITIONS or Instructions to Bidders will have the meanings assigned to them.

SUBMITTED on _____, 202_.

State Contractor License No. _____. (If applicable)

If Bidder is :

An Individual

Name (type or printed): _____

By: _____ (SEAL)
(Individual's Signature)

Doing business as: _____
Business address: _____
_____

Phone No.: _____
FAX No.: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner – attach evidence of authority to sign)

Name (type or printed): _____

Business address: _____
_____

Phone No.: _____
FAX No.: _____

A Corporation

Corporation Name: _____ (SEAL)
State of Incorporation: _____
Type (General Business, Professional, Service, Limited Liability): _____

_____

By: _____
(Signature – attach evidence of authority to sign)

Name (type or printed): _____

Title: _____

(CORPORATE SEAL)

Attest: _____
(Signature of Corporate Secretary)

Business address: _____
_____

Phone No.: _____
FAX No.: _____

END OF SECTION 00 40 00

SECTION 33 11 00 – PRESSURE PIPE

PART 1 - GENERAL

1.01 SUMMARY:

A. This Section includes all pressure pipe, fittings, specials, and appurtenances.

B. Related Work Specified Elsewhere:

1. Section 33 31 50 - Pipe Installation.
2. Section 33 12 16 – Utility Valves and Accessories.
3. Section 09 90 00 - Protective Coatings.

1.02 REFERENCE STANDARDS:

A. Applicable Standards:

1. American Association of State Highway and Transportation Officials (AASHTO).
2. American Water Works Association (AWWA):
   a. AWWA C110 - Ductile-Iron and Gray-Iron Fittings.
   b. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
   c. AWWA C150 - Thickness Design of Ductile-Iron Pipe.
   d. AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast, for Water.
   e. AWWA C153 - Ductile-Iron Compact Fittings.
   f. AWWA C219 - Bolted, Sleeve-Type Couplings for Plain-End Pipe.
   g. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 60 In. (100 mm Through 1,500 mm).
   h. AWWA M23 - PVC Pipe-Design and Installation.
   i. AWWA M41 - Ductile-Iron Pipe Fittings.
3. American National Standards Institute (ANSI):
   a. ANSI B16.1 - Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.
   b. ANSI B16.21 - Nonmetallic Flat Gaskets for Pipe Flanges.
4. American Society for Testing and Materials (ASTM):
   a. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60000 PSI Tensile Strength.
   b. ASTM D1248 - Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable.
   c. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
   d. ASTM G62 - Standard Test Methods for Holiday Detection in Pipeline Coatings.
5. National Sanitation Foundation (NSF):
   a. NSF 61 - Drinking Water System Components - Health Effects.
6. Society for Protective Coatings (SSPC):
   a. SP1 - Solvent Cleaning.
   b. SP3 - Power Tool Cleaning.
   c. SP7 - Brush-Off Blast Cleaning.
   d. SP10 - Near-White Blast Cleaning.

1.03 SUBMITTALS:

A. Submit as specified in Division 01.

B. Submit the following for acceptance prior to fabrication:

1. Pipe and joint details.
2. Special, fitting, and coupling details.
3. Laying and installation schedule.
4. Specifications, data sheets, and affidavits of compliance for protective shop coatings and linings.
5. Manufacturer's design calculations including, but not limited to, wall thickness and deflection under specified live and dead loads.

C. Certificates and Affidavits: Furnish the Following Prior to Shipment:
1. Affidavit of compliance with applicable standard.
2. Test certificates.

1.04 QUALITY ASSURANCE:

A. Manufacturers shall be experienced in the design and manufacture of pipe, fittings, specials, or appurtenances for a minimum period of 5 years.

1.05 DELIVERY, STORAGE AND HANDLING:

A. Conform to guidelines found in AWWA M23 - PVC Pipe-Design and Installation.

PART 2 - PRODUCTS

2.01 PIPE REQUIREMENTS:

A. Furnish pipe of materials, joint types, and sizes as indicated or specified.

B. Pipe shall be designed to withstand all stresses resulting from external loads and internal pressures listed in the following table plus applicable allowance for surge unless otherwise specified:

Nominal Pipe Size	Design Cover Depth	Live Load	Design Internal Working Pressure	Design Maximum Test Pressure
24	4-16 ft	H-20	60	120

C. Pipe Marking: All pipe and fittings shall be marked conforming to the applicable standard specification under which the pipe is manufactured and as otherwise specified.

2.02 DUCTILE-IRON PIPE:

A. Design and Manufacture of Pipe:
1. Ductile-iron pipe shall conform to AWWA C115, C150 and C151 except as otherwise specified.

B. Dimensions: The minimum thickness as defined by pressure class for mechanical or push-on-type joint ductile-iron pipe shall be as follows:

Nominal Pipe Size	Minimum Pressure Class
24	250

1. Minimum thickness for ductile-iron pipe threaded for screw-on flanges shall be in accordance with AWWA C115.
2. Pipe with grooved barrel for any type of restrained joint shall have wall thickness increased to provide a minimum wall thickness conforming to AWWA C606.

C. Joints:
   1. Mechanical and Push-On Type:
      a. Provide mechanical or push-on-type joints for all buried pipe less than 30 inches in diameter unless otherwise specified or indicated. Provide push-on-type joints for sizes 30 inches in diameter and greater.
      b. Joints shall conform to AWWA C111.
   2. Flanged:
      a. Provide flanged joints for all interior pipe where specified or indicated.
      b. Flanges for pipe shall be ductile iron and conform to the applicable provisions of AWWA C110 and C115 and shall be drilled ANSI B16.1 Class 125.
   3. Sleeved or Coupled:
      a. Provide for sleeves or couplings where indicated.
      b. Furnish pipe ends suitable for receiving style of sleeve or coupling indicated or specified.
      c. Provide anchored couplings where restraint is required to withstand specified operating or hydrostatic test pressure and where indicated.
   4. Restrained:
      a. Furnish for all fittings and where joint restraint is required to offset internal pipeline forces.
      b. Provide restrained joints of following approved types:
         (1) Restrained mechanical joint.
         (2) Restrained push-on joint.
         (3) Anchored couplings.
      c. Mechanical joint retainer glands shall be Megalug manufactured by EBAA Iron, Inc. or approved equal.

D. Fittings:
   1. Fittings shall conform to AWWA C110 or C153 and shall have a pressure rating of not less than that specified for pipe.
   2. All fittings shall be ductile iron.
   3. Fittings for pipe with mechanical joint shall have mechanical joints.
   4. Fittings for pipe with push-on joints shall be mechanical joint.

5. Include all specials, taps, plugs, flanges, and wall fittings as required.
6. Provide openings for air valve, drain, sampling, sensing, testing, and other connections with threaded bosses or flange outlets sized and located where indicated.

E. Lining:
1. Pipe and Fittings:
a. All piping and fittings shall be lined with an amine-cured novalac epoxy containing a minimum of 20% by volume of ceramic quartz pigment. The lining shall be Protecto 401 as manufactured by INDURON Protective Coatings, Birmingham, Alabama or NovoCoat SP-2000W as manufactured by NovoCoat Protective Coatings, Addison, Texas.
b. Surface preparation shall consist of grit-shot blasting or sandblasting surface to near-gray finish, comparable to SSPC-SP10.
c. Lining shall be applied within 8 hours of surface preparation. The number of coats of lining applied and the time between coats shall be as recommended by the lining manufacturer.
d. Total Thickness: A nominal 40 mils.
e. Joint surface coating shall be Protecto Joint Compound with Protecto 401 lining system or Novo Coat SP-2000W with Novo Coat lining system. Coal tar is prohibited. Total thickness shall be 6 mils nominal and 10 mils maximum.
f. Testing:
(1) Lining shall be tested over 100% of the pipe barrel and fitting surface with a nondestructive 4,000-volt test.
(2) All holidays shall be repaired per lining manufacturer's recommendation.
(3) A voltage confirmation test shall be performed for each production shift or change in detector operator.

F. Coating:
1. All iron pipe and fittings shall be coated with manufacturer's standard bituminous paint coating.

2.03 PVC PIPE:

A. Materials:
1. Materials shall conform to AWWA C900.
2. For Sewer application pipe shall be green in color.
3. Gaskets shall conform to ASTM F477 and be synthetic rubber.

B. Design of Pipe: Design shall conform to AWWA C900 and as specified:
1. Internal Loading:
a. Internal pressure specified plus allowance for surge pressure conforming to AWWA C900.
b. Hydrostatic test pressure as specified.
2. External Loading:
a. Earth dead load cover at 120 pcf plus AASHTO H-20 live loads.
b. 5% deflection limit.
c. Bedding condition as indicated.
3. Use E' of 700 and bedding angle of 90^{o}.

C. Dimensions: The minimum pressure class for PVC pipe shall be as follows:

Nominal Pipe Size	Minimum Pressure Class
24	200

D. Diameters: PVC pressure pipe shall have Cast-Iron-Pipe-Equivalent (CI) outside diameters.
E. Joints: Pipe shall be furnished with integral bell-type pipe ends designed for joint assembly using elastomeric gaskets.
F. Fittings:
   1. Fittings shall conform to AWWA C110 or C153 and be ductile iron. Fittings shall be mechanical joint or push-on-type joint.
G. Marking: Identification markings on pipe shall conform to AWWA C900.

2.04 SLEEVES AND COUPLINGS:

A. Sleeves:
   1. AWWA C110 mechanical joint ductile-iron solid sleeve type:
      a. Pipe end space shall not exceed one-third of the sleeve laying length.
      b. Interior, exposed, exterior, or buried service as indicated.
B. Couplings:
   1. Center sleeve and compression gland-type end ring conforming to AWWA C219.
   2. Center sleeve shall be without pipe stop.
   3. Couplings for joining direct buried, exposed exterior, vault or pit installations of iron, or PVC pipe up to 12-inch diameter shall be iron. Provide lined and coated steel couplings for larger pipe diameters.
   4. Fastener bolts shall be ductile iron or stainless steel for iron couplings and high-strength, low-alloy steel for steel couplings. Bolts for direct buried coupling installations shall be stainless steel.
   5. Center sleeve and end rings shall be:
      a. Ductile or malleable iron for iron couplings.
      b. Steel for steel couplings.
   6. Lining and Exterior Coating:
      a. Use for all steel couplings intended for direct bury, exposed exterior, vault or pit installations.
      b. Completely coat center sleeve and end rings.
      c. Two-part epoxy or nylon fuse-coated to a minimum 10 mils thickness.
      d. Line interior of all steel couplings intended for exposed-interior installations. Coat exterior with normal shop coating.
C. Flanged Coupling Adapters:
   1. Flanged end and body to be one unit conforming to AWWA C219. Coupling end to be compression gland type with follower ring.
   2. Adapters for joining direct buried, exposed exterior, vault or pit installations of iron pipe shall be iron.

3. Adapters for joining exposed interior iron pipe may be steel or iron.
4. Flanged end bolt circle, bolt size, and spacing shall conform to the applicable provisions of ANSI B16.1 and shall be drilled Class 125 for iron adapters. Flanges on steel adapters shall be AWWA C207, Class D, drilled ANSI B16.1 Class 125.
5. Bolts and nuts shall be ductile iron for iron adapters and high-strength, low-alloy steel for steel adapters.
6. Anchor studs shall not be used where joint restraint is required. Furnish adapters with tie rod harness assemblies where indicated.
7. Lining and Exterior Coating for Steel Adapters:
   a. Two-part epoxy or nylon fuse-coated to a minimum 10 mils thickness.
   b. Completely coat adapter sleeve and end follower gland plus line interior for adapters intended for exposed exterior, vault or pit installations.
   c. Line interior of all adapters intended for exposed interior installations. Coat exterior with normal shop coating.

D. Anchored Couplings:
1. Furnish where joint restraint required to offset internal pipeline forces.
2. Provide harnessed sleeve couplings and flanged coupling adapters with tie rod harnesses where indicated.
   a. Harnesses shall consist of lugs or clamps welded or otherwise securely fastened to opposite joint elements with tie bolts between opposing lugs. "Dog ear" lugs shall be fabricated as indicated.
   b. Design of harnesses for steel pipe shall conform with applicable provisions of AWWA M11.
3. Provide expansion couplings with limit rods.
4. Provide couplings for grooved and shouldered type joints conforming to AWWA C606.
   a. Furnish grooved ends on ductile-iron end pipe.
   b. Furnish shouldered ends on steel pipe.
5. Mechanical joint retainer glands shall not be used where joint restraint is required unless indicated. When indicated, retainer glands shall be Megalug manufactured by EBAA Iron, Inc.

E. Insulated Couplings:
1. Couplings shall be insulated to prevent electrical conductivity where indicated.
2. Insulated coupling design shall be otherwise conforming to the standard types and styles specified.

F. Dismantling Couplings: [Dismantling Joint]:
1. Consists of a mechanical joint fitting located between two pipe flanges with restraining rods across the mechanical joint section, providing a restrained system with integral space for removal of adjacent equipment.
2. Shall conform to AWWA C-219.
3. Materials shall be steel.
4. When connected to DIP system, install insulating flange kit.

2.05 GASKETS AND BOLTING MATERIALS:

A. Provide all gaskets, bolts, lubricant, and other accessories required to install pipe, fittings, and specials complete and ready for service.

B. Gaskets for flanged joints shall conform to ANSI B16.21, 1/8-inch thick full-face synthetic rubber or American Cast Iron Pipe Company Toruseal 1/8-inch thick full-face gasket or U.S. Pipe Company Flange-Type 1/8-inch thick ring gasket. Provide full-face gaskets for all pump and equipment connections.
C. Gaskets for ductile iron flanged pipe and fittings 12 inch and smaller shall have "nominal" inside diameters, not the larger inside diameters per ANSI B16.21.
D. Bolts for flanged joints shall conform to ASTM A307, Grade B. Nut and bolt heads shall be hexagonal.
E. Gaskets and bolts for other than flanged joints shall be as otherwise specified for pipe and pipe joints.

PART 3 - EXECUTION

3.01 INSTALLATION:
A. Specified in Section 33 31 50.

3.02 FIELD TESTING:
A. Specified in Section 33 31 50.

3.03 FIELD PROTECTIVE COATING:
A. Specified in Section 09 90 00.

END OF SECTION 33 11 00

SECTION 333900 - UTILITY STRUCTURES

PART 1 - GENERAL

1.01 SUMMARY:

A. This Section includes the following structures and related appurtenances:
   1. Manholes.
   2. Air valve vaults.
   3. Concrete anchor and thrust blocks.

B. Related Work Specified Elsewhere:
   1. Concrete: DIVISION 3.

C. Applicable Standards:
   1. American Society for Testing and Materials (ASTM):
      a. A48 - Gray Iron Castings.
      b. C76 - Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
      c. C443 - Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
      d. C478 - Precast Reinforced Concrete Manhole Sections.
      e. C497 - Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.
   2. Federal Specification (FS):
      a. SS-S-00210 - Sealing Compound, Preformed Plastic, for Expansion Joints and Pipe Joints.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Concrete: Reinforced, 4000 psi.

B. Castings:
   1. Manhole Steps:
      a. Manhole steps shall not be provided.
   2. Manhole Frames and Covers:
      a. As noted on Contract Drawings.
   3. Conform to Drawings in all essentials of design. Weight shall be within 10% of that listed for pattern.
   4. Machine-bearing surfaces to provide even seating.

PART 3 - EXECUTION

3.01 MANHOLES:

1. Manholes shall conform to City Standard Specification Division 400 – Sewer, Section 4300 Concrete Manhole.

3.02 AIR VALVE VAULT:

A. Design:
   1. Precast as indicated.
   2. Precast concrete footings.
   3. Riser of ASTM C478 pipe.
   4. Top slab shall be precast as indicated.

B. Installation:
   1. Install at station indicated.

2. Set top of footing at center of pipe. Include fiberglass batt to prevent transmission of loads to pipe barrel.

C. Manhole Frame and Cover:
   1. Manhole frames and covers shall be as noted on Contract Drawings.

D. Insulation Fill:
   1. Insulate all air-valve vaults equipped with surface vent piping. Insulate inside of vault around piping and air valve to prevent freezing.
   2. Use water-repellent granular form of vermiculite known as masonry fill insulation.
   3. Fill to depth to cover top of air valve. Do not block air valve's vent-piping outlet.
   4. Install by pouring; do not rod or tamp.

3.03 CONCRETE ANCHOR AND THRUST BLOCKS:

A. Install at tees, elbows, bends, and dead ends where indicated.
B. Place against undisturbed earth or rock.
C. Of design as indicated on Contract Drawings:
   1. Removable thrust blocks shall be constructed by using a sheet of 3/8-inch plywood to prevent concrete adherence to pipe, fittings, or accessories.
   2. Apply two coats of coal-tar coating to minimum 20-mil dry-film thickness on anchor bars, straps, and hardware.

END OF SECTION 333900

SECTION 331216 - UTILITY VALVES AND ACCESSORIES

PART 1 - GENERAL

1.01 SUMMARY:

A. This Section includes all valves and accessories.

B. Related Work Specified Elsewhere:

1. Pipe Installation: SECTION 333150.
2. Protective Coatings: SECTION 099000.

1.02 REFERENCES:

A. Applicable Standards:

1. American National Standards Institute (ANSI):
   a. B16.1 - Cast-Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250 and 800.
2. American Society for Testing and Materials (ASTM):
   a. A126 - Gray Iron Castings for Valves, Flanges and Pipe Fittings.
   b. A536 - Ductile Iron Castings.
3. American Water Works Association (AWWA):
   a. C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
   b. C512 - Air-Release, Air/Vacuum, and Combination Air Valves for Waterworks Service.
   c. C517 – Resilient-Seated Cast-Iron Eccentric Plug Valves.
   d. C550 - Protective Epoxy Interior Coatings for Valves and Hydrants.
   e. C600 - Installation of Ductile-Iron Water Mains and Their Appurtenances.

1.03 SUBMITTALS:

A. Submit as specified in DIVISION 1.

B. Include, but not limited to, the following:

1. Catalog data or illustrations showing principal dimensions, parts, and materials.
2. Spare parts list referenced to illustration of parts.
3. Assembly and disassembly or repair instructions.

C. Certificates and Affidavits: Furnish prior to shipment. Include the following:

1. Test certificates.
2. Affidavit of compliance with applicable AWWA Standard.

1.04 QUALITY ASSURANCE:

A. Manufacturers shall be experienced in the design and manufacture of specific valves and accessories for a minimum period of 5 years.

1.05 DELIVERY, STORAGE, AND HANDLING:

A. Ship all valves with suitable end covers to prevent entrance of foreign material into valve body.

B. Protect valve threads, flanges, stems, and operators from damage.

C. Ship valves to the Project Site tagged with the valve type and size.

1.06 RESPONSIBILITY:

A. Actuators, their controls, and accessories shall be the responsibility of the valve manufacturer for sizing, assembly, certification, field testing, and any adjustments necessary to operate the valve as specified.

PART 2 - PRODUCTS

2.01 ECCENTRIC PLUG VALVES:

A. Acceptable Manufacturers:
   1. DeZurik, a unit of General Signal Corporation.
   2. Henry Pratt Company.
   3. Milliken Valve Company, Inc.
   4. Val-Matic Valve and Manufacturing Corporation.
   5. Victaulic Company of America

B. Design:
   1. Quarter-turn nonlubricated eccentric type with resilient faced plug. Valves with vane type seat rings are not acceptable. Shutoff up to scheduled rating with pressure in reverse direction where scheduled.
   2. Conform to criteria indicated in Valve Schedule table.
   3. Flanged valve ends shall be faced and drilled to conform to ANSI B16.1, Class 125 for thickness and drilling.
   4. Port areas for valves 24-inch and larger valves shall be at least 70% of full pipe area.
   5. Plugs shall be eccentric type with no backing ring or frame.
   6. Valve body cavity shall be smooth without protrusions or baffles.

C. Materials and Construction:
   1. Bodies shall be of ASTM A126, Class B cast iron.
   2. Valve plug shall be ASTM A126, Class B cast iron or ASTM A536 ductile iron. Resilient plug facing or replaceable style body seats shall be synthetic rubber, neoprene, or Buna N compound suitable for use with wastewater applications.
   3. Seat rings shall be threaded, or welded of corrosion-resistant 18-8 stainless steel, nickel, or Monel conforming to AWWA C504. Sprayed or plated mating seat surfaces are not acceptable.
   4. Bearings shall be replaceable. Sleeve type and thrust bearings in the upper and lower journals shall be corrosion-resistant stainless steel or bronze.
   5. Shaft seals shall be multiple O-ring, self-adjusting U-cup or chevron type packing conforming to AWWA C504. Pull-down packing is not acceptable.
   6. Shaft seals shall be field adjustable or replaceable without valve disassembly.
   7. All exposed fastening hardware shall be zinc plated or stainless steel.

D. Actuators:
   1. Manual Actuators:
      a. All valves shall open counterclockwise.
      b. Provide indicators to show position of plug.
      c. Nut operators shall be AWWA 2-inch size for operation by valve key, wrench head lever, or a chain lever.
      d. Worm gear actuators shall be totally enclosed, grease sealed, gear type furnished with AWWA nut, crank, handwheel, or chainwheel. All valves with reverse pressure capacity requirement shall be provided with worm gear actuators. Worm gear actuators shall be self-locking at all variable opening positions and sized to meet the torque ratings of AWWA C504. The shaft in a worm gear actuator shall have a nonmetallic or bronze sleeve type bearing. Submit manufacturer's parts and materials drawings.
      e. Handwheels shall be located in positions indicated or as otherwise determined when manufacturer's drawings are submitted.

E. Valve Controls:
   1. Operate valve actuator to perform control function required.

a. Open or close valve.
b. Maintain metered flow rate.
c. Pump stop-check service with functions indicated and specified.

2. Include all pilot valves, needle valves, strainers, interconnecting piping, fittings, positioners, solenoid valves, limit switches, and other accessories essential to valve function factory-assembled on valve body or operator.
   a. Small control valves shall be bronze or brass; piping shall be copper.
   b. Provide solenoid valves, limit switches, positioners, and other accessories as specified.

F. Testing: Furnish certified copies of results of tests prior to shipment. All valves shall be subjected to an AWWA C504 procedure cycle life and pressure leak test at 150 psi and a body hydrostatic test at 300 psi. Valves shall be capable of providing drip-tight shutoff up to the full leak test rating. Certify reverse pressure capacity.

G. Valve Schedule:

Size	Location	Installation	Body Type	Valve Ends	Shaft Position	Actuator Type
24-inch	Connection VV	Exposed	C.I.	Flg.	Horizontal	Worm Gear/HW
14-inch	Connection VV	Exposed	C.I.	Flg.	Horizontal	Worm Gear/HW
3-inch	All ARV Vaults	Exposed	C.I.	Flg.	Horizontal	Worm Gear/LV

H. Shop Painting: Apply interior coating conforming to AWWA C550 to exposed ferrous metal surfaces. Provide affidavit or certificate of compliance per AWWA C550.

2.02 AIR VALVES:

A. Acceptable Manufacturers:
   1. A.R.I. D-26
   2. Approved equal.

B. Design: Conform to AWWA C512 and as specified.
   1. Size: 3-inch
   2. Valve shall be heavy-duty combination air release, sewage style.
   3. Body and cover shall be fiberglass-reinforced nylon or stainless steel
   4. Float shall be stainless steel
   5. All internal parts shall be stainless steel or composed of non-corrosive materials.

C. Operation:
   1. Release air when filling line.
   2. Admit air when emptying line.
   3. Release accumulated air while pipeline is full and operating under pressure.

D. Connection:
   1. Connect air valves through flanged outlets.
   2. Connecting fittings and pipe shall be bronze, brass, or copper rated for 150 psi service.
   3. Isolation valves shall be provided for all air valves and shall be plug valves.
   4. Couplings or unions indicated between pipeline and air valve piping shall be insulated style.

E. Valve Schedule:
   1. As provided on Contract Drawings.

2.03 SHOP PAINTING:

A. Prepare surfaces and paint or coat all valves, floor stands, valve boxes, corporation stops, and all related accessories standard of the manufacturer unless otherwise specified herein.
B. Paint and coatings shall be suitable for the service intended.
C. Submit type of paint or coating proposed with drawings and data for Engineer approval prior to fabrication.

PART 3 - EXECUTION

3.01 INSTALLATION:

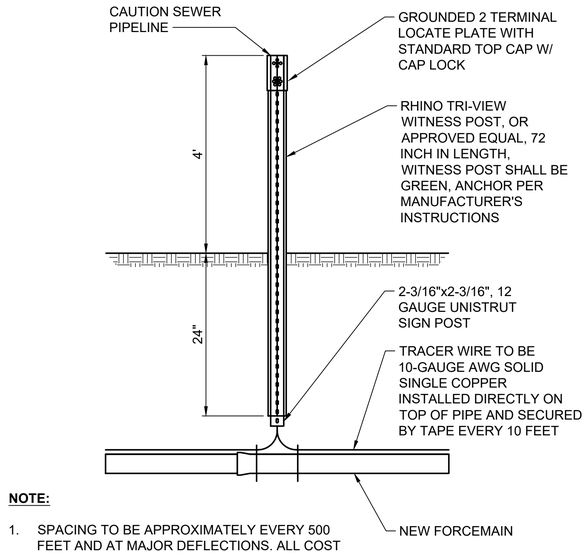
A. Comply with provisions of AWWA C600 and as specified.
B. Thoroughly clean and remove all shipping materials prior to setting. Operate all valves from fully opened to totally closed.
C. Install eccentric plug valves in reverse position, flow and pressure against the plug face when closed, in lines with solids or stringy materials. When installed horizontally with shaft in the horizontal, the plug shall rotate open to the top recess of the valve body.
D. Equip with anchorage where indicated.

3.02 FIELD PAINTING: Surface preparation and finish painting are specified in SECTION 099000.

3.03 FIELD TESTING:

A. Perform on piping and valves as specified in SECTION 333150 and for the following:
    1. Eccentric plug valves.
    2. Air and air/vacuum valves.

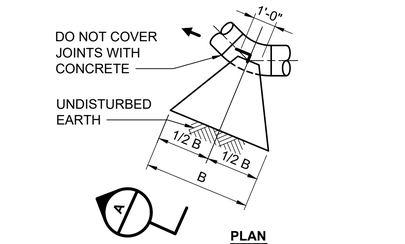
END OF SECTION 331216



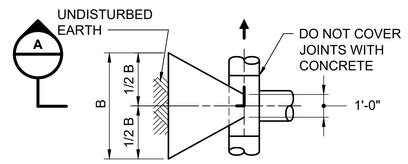
NOTE:

1. SPACING TO BE APPROXIMATELY EVERY 500 FEET AND AT MAJOR DEFLECTIONS. ALL COST ASSOCIATED WITH WITNESS POSTS SHALL BE INCIDENTAL TO FORCE MAINS.

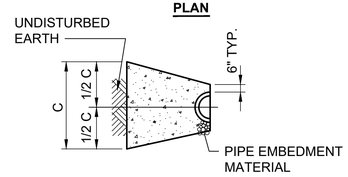
WITNESS POST WITH TRACER WIRE ACCESS BOX DETAIL 1
NOT TO SCALE



PLAN



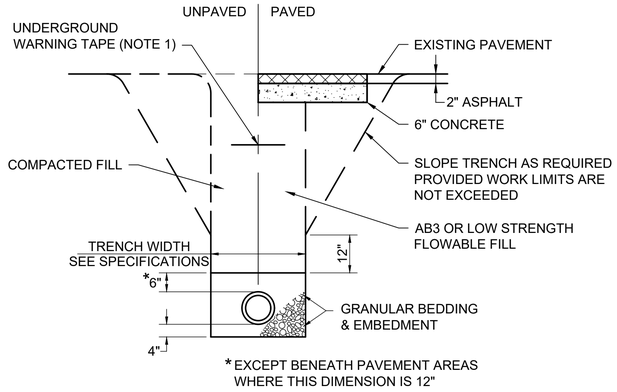
PLAN



SECTION A

HORIZONTAL THRUST BLOCK SCHEDULE			
SIZE	FITTING	"B"	"C"
24"	45°	9'	4.5'
24"	22.50°	6.5'	3.5'
24"	11.25°	4.5'	2.5'
24"	DEAD END	10.5'	5'

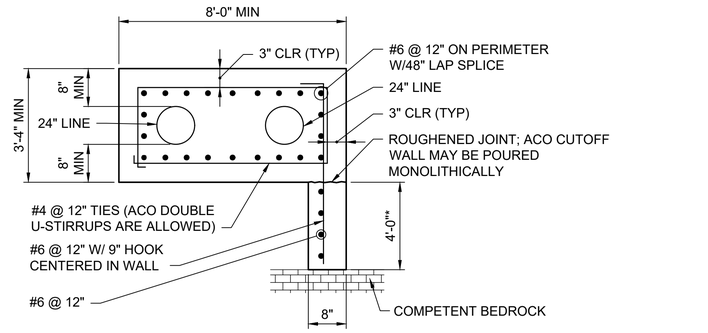
HORIZONTAL THRUST BLOCK DETAIL 2
NOT TO SCALE



NOTE:

1. PROVIDE 3" WIDE APWA COMPLIANT WARNING TAPE. TAPE SHALL READ "CAUTION BURIED SEWER LINE BELOW." INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATION.

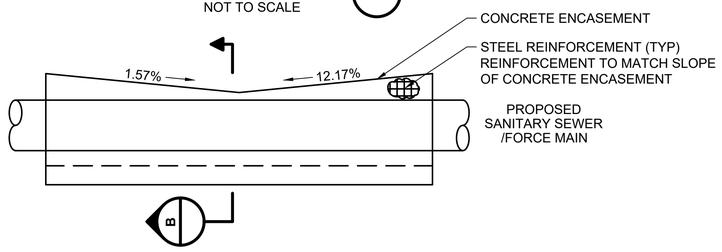
TRENCH DETAIL 3
NOT TO SCALE



NOTE:

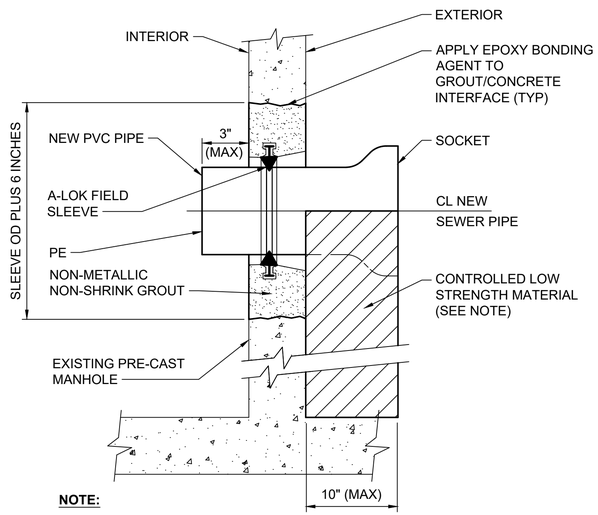
1. LENGTH USED FOR ESTIMATING CUTOFF WALL DEPTH IN CONSTRUCTION.LENGTH WILL DEPEND ON DEPTH OF BEDROCK DURING EXCAVATION.

SECTION B
NOT TO SCALE



ELEVATION
NOT TO SCALE

REINFORCED SPECIAL GRADE CONTROL CONCRETE ENCASEMENT DETAIL 4
NOT TO SCALE



NOTE:

1. CRADLE WALL PENETRATION FROM PRE-CAST MANHOLE EXTERIOR TO FIRST PIPE JOINT WITH CONTROLLED LOW STRENGTH MATERIAL.

TYPICAL EXISTING PRECAST MANHOLE WALL PENETRATION DETAIL 5
NOT TO SCALE

no.	date	by	ckd	description
0	06/11/26	RLL	-	ISSUED FOR BID
1	07/17/26	RLL	-	ADDENDUM 1

STATE OF MISSOURI
RACHELLE LYNN LOWE
NUMBER PE-2010019568
PROFESSIONAL ENGINEER

RACHELLE L. LOWE
CIVIL
2010019568

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. 000165

date	detailed
JUNE 24, 2020	C. DONNICI
designed	checked
R. LOWE	-

CITY OF JOPLIN MISSOURI

JASPER COUNTY, MISSOURI

TIN CUP FORCE MAIN

CIVIL DETAILS - SHEET 1

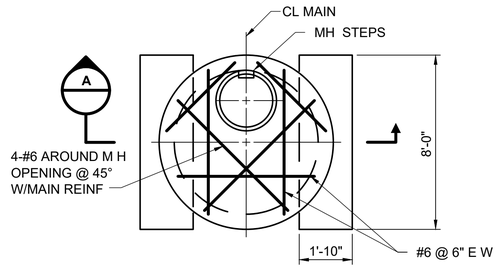
project	contract
119978	

drawing C012 – rev. 1

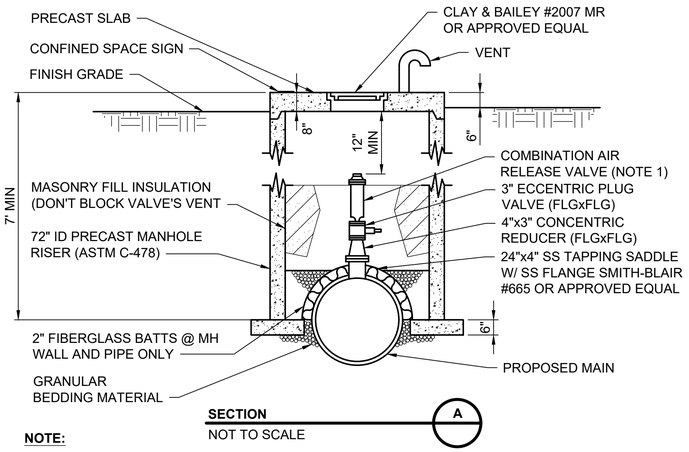
sheet 17 of 22 sheets

file 119978_C017-CIVIL DETAILS SHT 1.dwg

Scale For Microfilming
Millimeters
Inches



PLAN
NOT TO SCALE

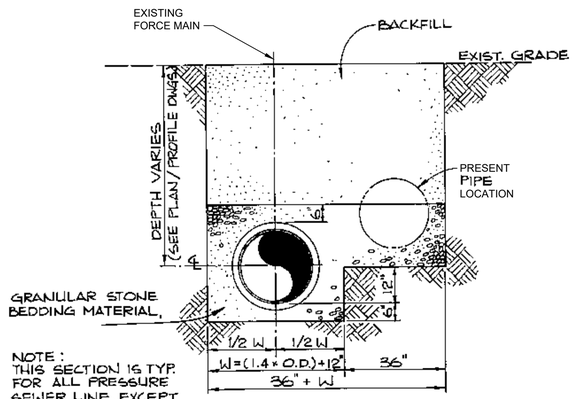


SECTION A
NOT TO SCALE

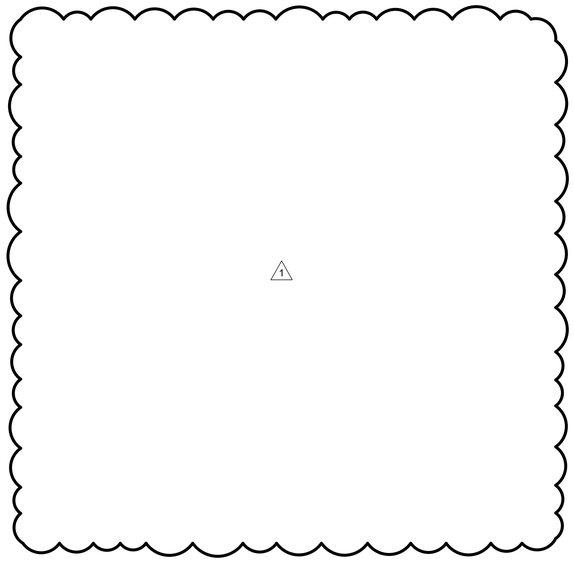
NOTE:

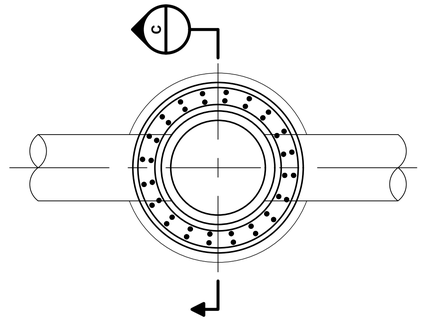
1. PROVIDE 3" ARI MODEL D-26, FLANGED WASTEWATER COMBINATION AIR VALVE OR APPROVED EQUAL.

AIR RELEASE VALVE DETAIL 7
NOT TO SCALE

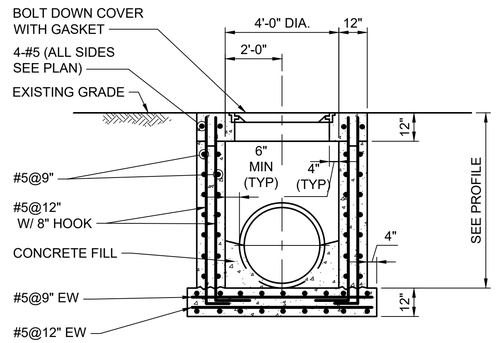


EXISTING
PRESSURE SEWER PIPE TRENCH AND BEDDING DETAIL 10
NOT TO SCALE



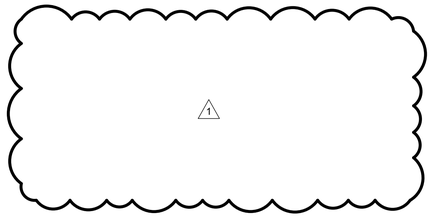


PLAN



SECTION C
NOT TO SCALE

MANHOLE CAST IN PLACE DETAIL 9
NOT TO SCALE



no.	date	by	ckd	description
0	06/11/26	RLL	-	ISSUED FOR BID
1	07/17/26	RLL	-	ADDENDUM 1

STATE OF MISSOURI
RACHELLE LYNN LOWE
NUMBER PE-2010019568
PROFESSIONAL ENGINEER

RACHELLE L. LOWE
CIVIL
2010019568

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. 000165

date	detailed
JUNE 24, 2020	C. DONNICI
designed	checked
R. LOWE	-

CITY OF JOPLIN MISSOURI
JASPER COUNTY, MISSOURI

TIN CUP FORCE MAIN

CIVIL DETAILS - SHEET 2

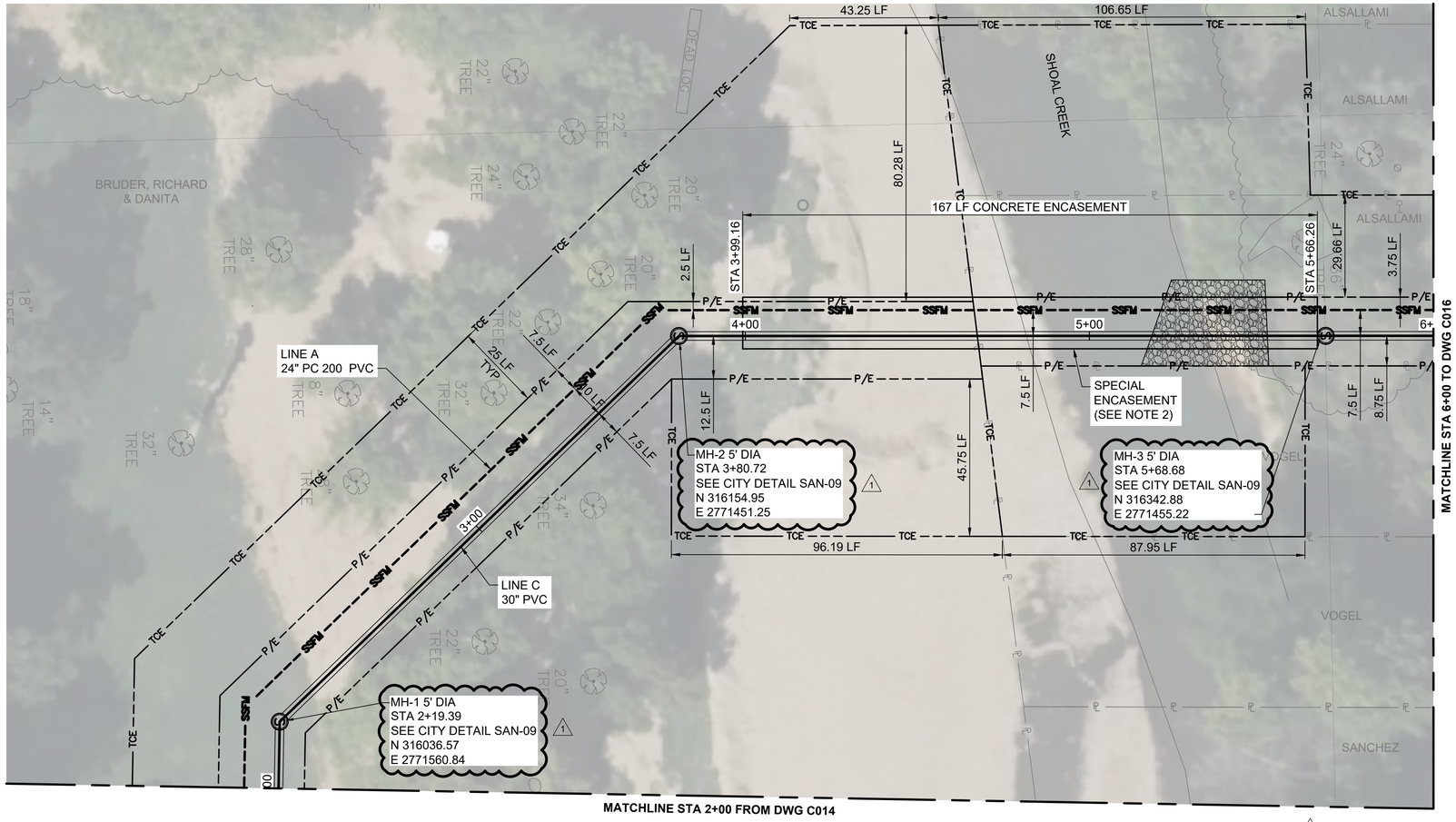
project	contract
119978	

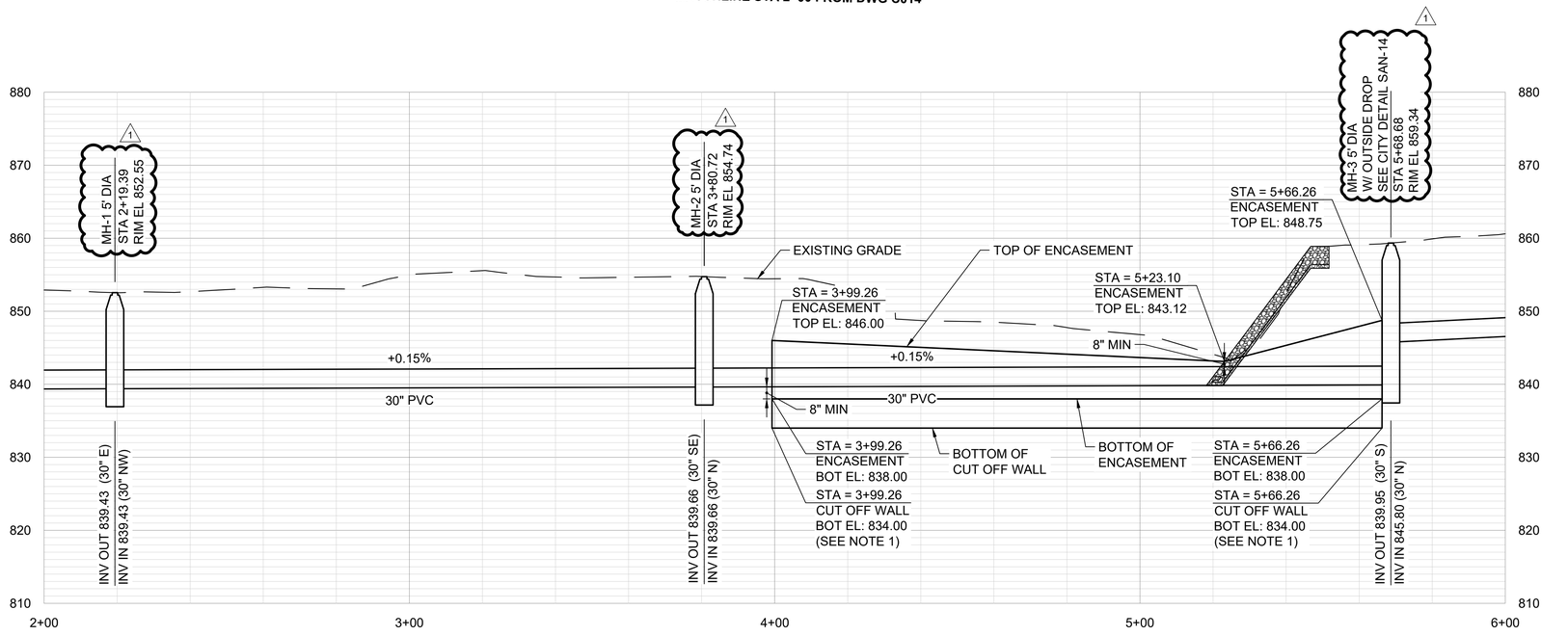
drawing **C013 – 1**

sheet 18 of 22 sheets
file 119978_C018-CIVIL DETAILS SHT 2.dwg

Scale For Microfilming
Millimeters
Inches

Z:\Clients\WTR\JoplinMO\119978_TinCupFM\Design\Cadd\Civil\Prod_Dwgs\119978_C018-CIVIL DETAILS SHT 2.dwg Jul 17, 2026 - 1:17pm srshields





NOTE:

1. CONTRACTOR SHALL INCLUDE COSTS FOR CUT OFF WALL IF CONCRETE ENCASEMENT IS NOT EMBEDDED IN ROCK AND SHALL BE AS SHOWN IN THE DETAIL. IF CONCRETE ENCASEMENT IS EMBEDDED IN ROCK, CUT OFF WALL WILL NOT BE NEEDED. CUT OFF WALL IS INCLUDED AS SEPARATE PAY ITEM IN QUANTITIES.
2. SEE SHEET C012 FOR REINFORCED SPECIAL GRADE CONTROL ENCASEMENT DETAIL.
3. ALL TREES ON BRUDER, RICHARD & DANITA CAMPGROUND PROPERTY MUST BE PROTECTED AND REMAIN IN PLACE. TREES WITHIN THE PERMANENT EASEMENT AND THE TEMPORARY CONSTRUCTION EASEMENT MUST BE PROTECTED AND REMAIN IN PLACE WITHIN THE PROPERTY LIMITS.
4. IF CONTRACTOR DISTURBS EXISTING STREAM BANK OUTSIDE OF THE RIP RAP LIMITS SHOWN ON THE DRAWING, THE EXTENTS OF THE RIP RAP SHALL BE EXTENDED TO FIVE (5') FEET PAST THE AREA OF DISTURBANCE IN ACCORDANCE WITH THE DETAIL SHOWN ON SHEET C001.

no.	date	by	ckd	description
0	06/11/26	RLL	-	ISSUED FOR BID
1	07/17/26	RLL	-	ADDENDUM 1

STATE OF MISSOURI
RACHELLE LYNN LOWE
NUMBER PE-2010019568
PROFESSIONAL ENGINEER

RACHELLE L. LOWE
CIVIL
2010019568

NORTH

HORIZ: 0 10' 20' 40' SCALE IN FEET

VERT: 0 10' 20' SCALE IN FEET

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. 000165

date	detailed
JUNE 24, 2020	C. DONNICI
designed	checked
R. LOWE	-

CITY OF JOPLIN MISSOURI
JASPER COUNTY, MISSOURI

TIN CUP FORCE MAIN
LINE C
PLAN AND PROFILE
STA 2+00.00 TO STA 6+00.00

project	contract
119978	

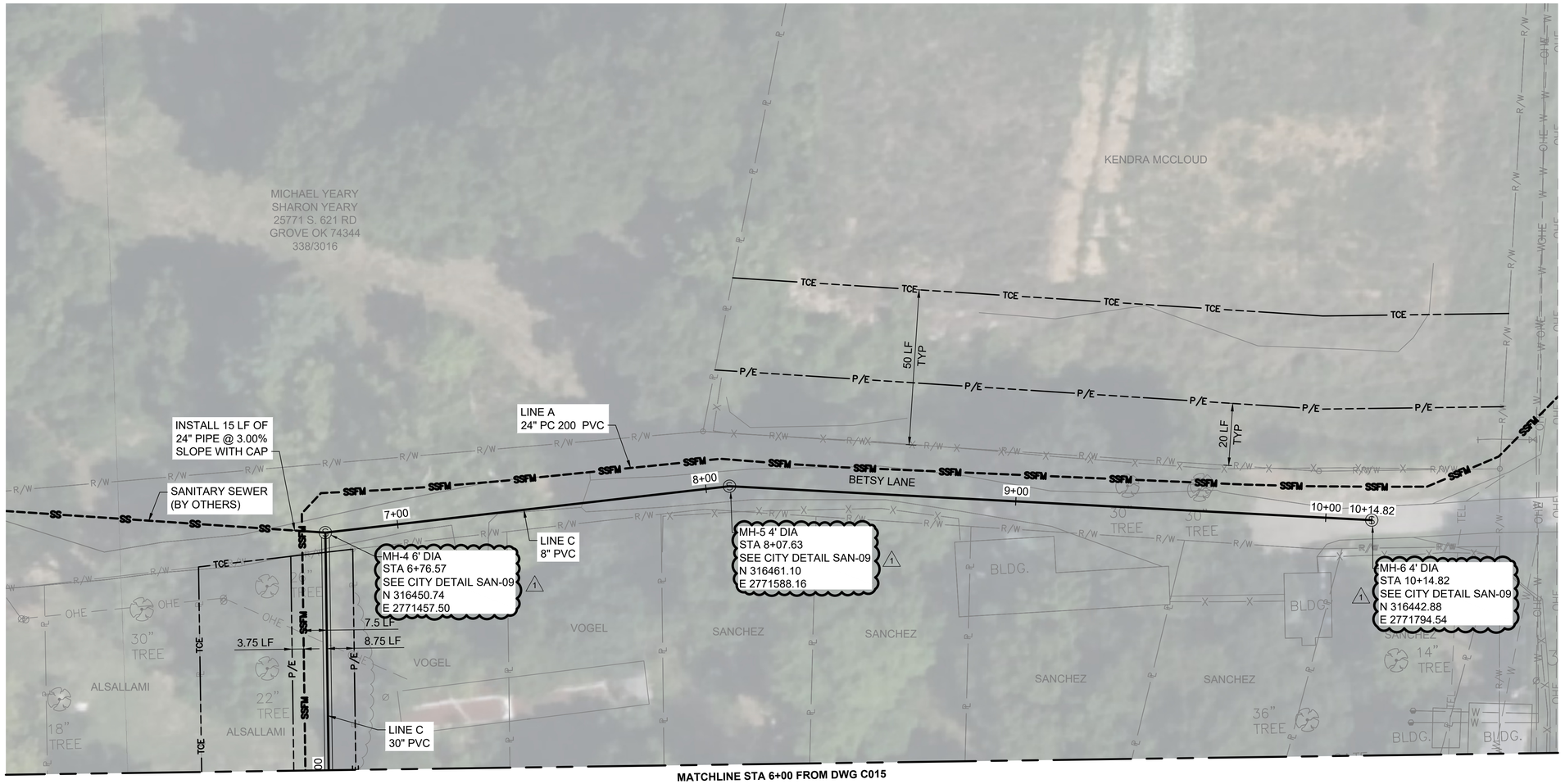
drawing **C015** rev. **1**

sheet 20 of 22 sheets

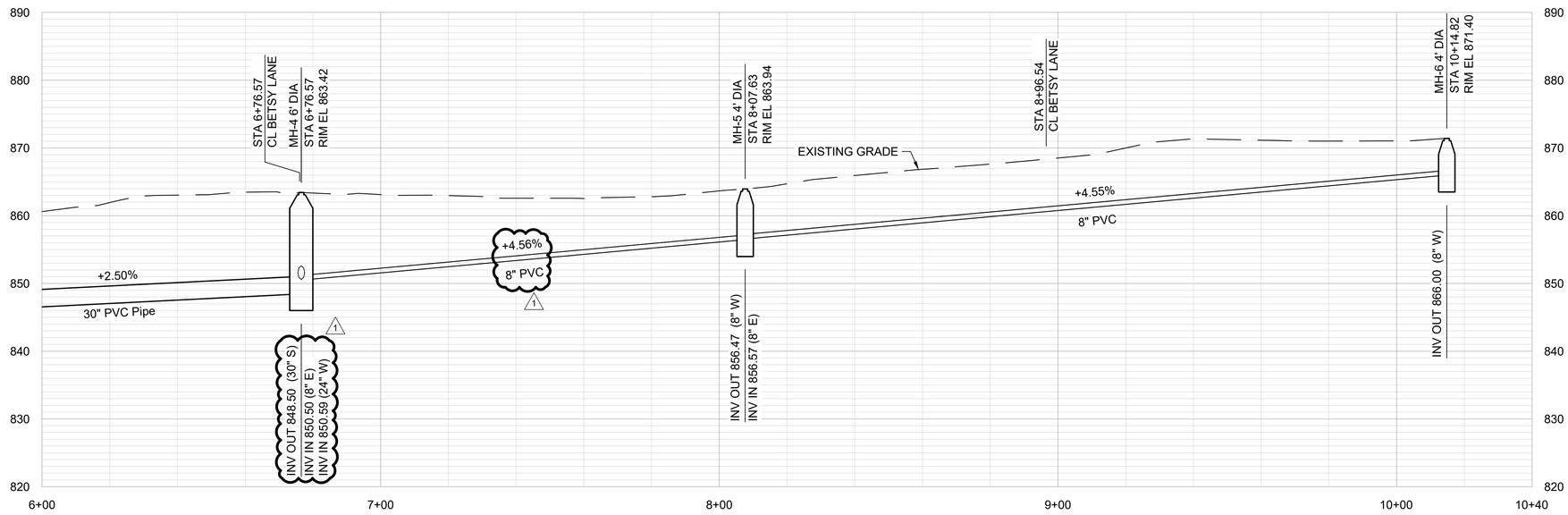
file 119978_TIN CUP_SEWER.dwg

Scale For Microfilming: Millimeters / Inches

Z:\Clients\WTR\JoplinMO\119978_TinCupFM\Design\Cadd\Civil\Prod_Dwgs\119978_TIN CUP_SEWER.dwg Jul 17, 2026 - 1:34pm srshields



MATCHLINE STA 6+00 FROM DWG C015



no.	date	by	ckd	description
0	06/11/26	RLL	-	ISSUED FOR BID
1	07/17/26	RLL	-	ADDENDUM 1

STATE OF MISSOURI
RACHELLE LYNN LOWE
NUMBER PE-2010019568
PROFESSIONAL ENGINEER

RACHELLE L. LOWE
CIVIL
2010019568

NORTH

HORIZ: 0 10' 20' 40' SCALE IN FEET

VERT: 0 10' 20' SCALE IN FEET

BURNS McDONNELL

9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. 000165

date	detailed
JUNE 24, 2020	C. DONNICI
designed	checked
R. LOWE	-

CITY OF JOPLIN MISSOURI

JASPER COUNTY, MISSOURI

TIN CUP FORCE MAIN
LINE C
PLAN AND PROFILE
STA 6+00.00 TO EOL STA 10+14.82

project	contract
119978	

drawing **C016** – rev. **1**

sheet 21 of 22 sheets

file 119978_TIN CUP_SEWER.dwg

Scale For Microfilming: Millimeters / Inches

Z:\Clients\WTR\JoplinMO\119978_TinCupFM\Design\Cadd\Civil\Prod_Dwgs\119978_TIN CUP_SEWER.dwg Jul 17, 2026 - 1:20pm srshields

BURNS McDONNELL

Meeting Attendance

Meeting Subject	Pre-Bid Meeting
Meeting Date	13 July 2026
Start Time	11 AM
Project Name	Tin Cup Force Main

Name / Title	Organization Name	Phone Number	E-Mail Address
DUSTIN BILLINGS	GOINS ENTERPRISES	(417)321 0970	CONTACT@GOINSENT.COM
RAY WHITT	UNITED RENTALS	409-299-1669	RWHITT1@UR.COM
Clay Cole	Clay Cole Excavation LLC	417-317-6619	claycoletrucking llc@gmail.com
Cade Gollier	Armorock	785-248-6366	cgollier@armorock.com,
Ron Bennett	Bennett Inc	417 682-6826	office@bennettinc.org
ERIC MCCALL	ELEMENTS CONST	417-044-4085	eric.mccall@elementsccc.com
CHRIS MATSON	SCHLOCK INDUSTRIES	417-862-5088	cmatson@schlockindustries.com
Caleb Haynes	Hamilton & Dad Inc.	417-860-3672	Caleb@hamiltonanddad.com
Roger Grimes	Southard Const Co	417-623-5528	Southardconst@gmail.com
Tucker Haynes	COJ	417-624-0820	THaynes@Joplinmo.org

BURNS McDONNELL

Meeting Attendance

Meeting Subject	Pre-Bid Meeting
Meeting Date	13 July 2026
Start Time	11 AM
Project Name	Tin Cup Force Main

Name / Title	Organization Name	Phone Number	E-Mail Address
Matt Arnold	Goins	417-622-3996	Contact@goinsent.com
Luke Alexander	Goins Ent.	417-439-2313	Contact@goinent.com
Jonathan Lyle	BMcD		jglyle@burnsmcd.com
Lester Southard	Southard Constr.	4174381926	SouthardConst@gmail.com
Johnathon Grimes	Southard Const	4174381926	—
Kynsey Collins	KJ Dirtworks	417 955 0728	Kynscy2@gmail.com
Richard McGowan	JD Wallace Contracting	417 2995766	Rmcgowan@jdwallace.co
Gavin Lux	Emery Sapp + Sons	417-546-0802	gavin.lux@emerysapp.com
Garrett Wagner	AMA	417-680-7287	Garrett.Wagner@amce.com
Dexter Holland	Ehrsam Construction LLC	417-434-3783	EhrsamConstructionLLC@outlook.com
Steve Eoff	D+E Plumbing	4177255300	DEPLBG@1@Yahoo.Com
JOHN CRUZ	CCI	417 624 0820 ext 1682	jcruz@jcplumb.org
Rachelle Lowe	BMcD	816-838-8399	rllowe@burnsmcd.com