

**SAN ANTONIO WATER SYSTEM PURCHASING DEPARTMENT**

Issued By: **D. Anthony Rubin**  
**BID NO.: 18-0017**

Date Issued: **May 25, 2018**

**FORMAL INVITATION FOR BIDS**  
**ANNUAL CONTRACT FOR JOINT RESTRAINTS**  
**ADDENDUM NO. 1**

Sealed bids addressed to the Purchasing Director, San Antonio Water System, 2800 US Hwy 281 North, Administration Bldg., 5<sup>th</sup> Floor, San Antonio, TX 78212 will be received until **3:00 p.m., June 5, 2018** and then publicly opened and read aloud for furnishing materials or services as described herein below,

The San Antonio Water System Purchasing Department is willing to assist any bidder(s) in the interpretation of bid provisions or explanation of how bid forms are to be completed. Assistance may be received by visiting the Purchasing Office in the SAWS Main Office, 2800 US Hwy 281 North, San Antonio, TX 78212, or by calling (210) 233-3819.

This invitation includes the following:

Invitation for Bids  
Terms and Conditions of Invitation for Bids

Specifications and General Requirements  
Price Schedule

The undersigned, by his/her signature, represents that he/she is authorized to bind the Bidder to fully comply with the Specifications and General Requirements for the amount(s) shown on the accompanying bid sheet(s). By signing below, Bidder has read the entire document and agreed to the terms therein.

Signer's Name: \_\_\_\_\_ Firm Name: \_\_\_\_\_  
(Please Print or Type)

Address: \_\_\_\_\_

Signature of Person Authorized to Sign Bid \_\_\_\_\_ City, State, Zip Code: \_\_\_\_\_

Email Address: \_\_\_\_\_ Telephone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

Please complete the following:

Prompt Payment Discount: \_\_\_\_\_% \_\_\_\_\_days. (If no discount is offered, Net 30 will apply.)

Please check the following blanks which apply to your company:

Ownership of firm (51% or more):

\_\_\_ Non-minority \_\_\_ Hispanic \_\_\_ African-American \_\_\_ Other Minority (specify) \_\_\_\_\_

\_\_\_ Female Owned \_\_\_ Handicapped Owned \_\_\_ Small Business (less than \$1 million annual receipts or 100 employees)

Indicate Status: \_\_\_ Partnership \_\_\_ Corporation \_\_\_ Sole Proprietorship \_\_\_ Other (specify) \_\_\_\_\_

Tax Identification Number: \_\_\_\_\_

**To report suspected ethics violations impacting the San Antonio Water System, please call 1-800-687-1918.**

This **Addendum no. 1** is being issued to Joint Restraints bid no. 18-0017 to provide for a revised bid specification.

**IT IS NOT NECESSARY TO RETURN THIS ADDENDUM.**

**San Antonio Water System Material Standard Specifications**  
**SPECIFICATIONS FOR PIPE JOINT RESTRAINT SYSTEMS**

**REVISED MAY 2018**

1. **SCOPE**

This specification covers pipe joint restraint systems to be used on domestic water mains for PVC C-900 pipe sizes 4-inch through 24- inch diameter. And for Ductile Iron pipe sizes from 3-inch through 48-inch diameter. Joint restraint systems are classified as “compression, “mechanical joint” for the specific type of pipe joint to be restrained.

2. **GENERAL REQUIREMENTS**

- a) Underwriter Laboratories (U.L) and Factory Mutual (FM) certifications are required on all restraint systems.
- b) Unless otherwise noted, restraint systems to be used on PVC C-900 pipe shall meet or exceed A.S.T.M. Standard F1674-96, “Standard Test Methods for Joint Restraint Products for Use with PVC Pipe,” or the latest revision thereof. Restraint systems used on ductile pipe shall meet or exceed U.L. Standard 194
- c) Each restraint system shall be packaged individually and include installation instructions.

3. **SPECIFIC REQUIREMENTS**

A. **Restrainer for PVC C-900 & Ductile Iron Push-on Type Connections:**

1. Pipe restraints shall be utilized to prevent movement for push-on D.I. or PVC (C900) (compression type) bell and spigot pipe connections or where a flexible coupling has been used to join two sections of plain- end pipe D.I. or PVC (C900). The restrainer may be adapted to connect a plain end D.I. or PVC pipe to a ductile iron mechanical joint (MJ) bell fitting. The restrainer must not be directionally sensitive.

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2. The pipe shall be restrained by a split retainer band. The band shall be cast ductile iron, meeting or exceeding ASTM A536-80, Grade 65-45-12. The inside face or contact surface of the band shall be of sufficient width to incorporate cast or machined non-directionally sensitive serration to grip the outside circumference of the pipe. The serration shall provide full (360 degrees) contact and maintain pipe roundness and avoid any localized points of stress. The split band casting shall be designed to “bottom-out” before clamping bolt forces (110ft-lb minimum torque) can over-stress the pipe, but will provide full non-directionally sensitive restraint at the rated pressures.
3. All restraint glands shall be coated with a minimum thickness of 3 mils electrostatically applied and heat cured coating. The coating shall be a polyester based powder to provide corrosion, impact and UV protection. The wedge assemblies and related parts shall be coated with a liquid thermoset epoxy coating with a fluoropolymer additive, fastener grade epoxy.
4. T-bolts and nuts shall be Cor-Blue a heat cured fluoropolymer coating. Conforming to ANSI/AWWA C111/A21.11 requirements.
5. The split ring type non-directionally sensitive restrainer system shall be capable of a test pressure twice the maximum sustained working pressure listed in section D and be for both D.I. and/or PVC C900.
6. Restraint systems sizes six through twelve inches shall be capable of use for both ductile iron and/or PVC C900.
7. The restraint system may consist of two types: the two split retainer rings and for new construction use only the one split and one solid cast backup ring.

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**B. Compression Ring Fitting Restrainer for Ductile Iron Pipe & PVC C-900.**

1. Compression ring with follower gland type of restrainer may be utilized in conjunction with Mechanical Joint (MJ) bell end ductile iron pipe fittings for restraining PVC C-900 and ductile iron pipe.
2. The system shall utilize a standard MJ gasket with a color-coded compression ring and replacement gland conforming to ASTM A 536-80, Grade 65-45-12.

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3. All restraint glands shall be coated with a minimum thickness of 3 mils electrostatically applied and heat cured coating. The coating shall be a polyester based powder to provide corrosion, impact and UV protection. The wedge assemblies and related parts shall be coated with a liquid thermoset epoxy coating with a fluoropolymer additive, fastener grade epoxy.
  4. T-bolts and nuts shall be Cor-Blue a heat cured fluoropolymer coating. Conforming to ANSI/AWWA C111/A21.11 requirements.
  5. Standard MJ gasket shall be virgin SBR meeting ASTM D-2000 3 BA 715 or 3 BA 515.
  6. The restraint system shall be capable of a test pressure twice the maximum sustained working pressure listed in section D.
- C. Fitting Restraint for Ductile Iron Pipe (Only):
1. Radial bolt type restrainer systems shall be limited to ductile iron pipe in conjunction with Mechanical Joint (MJ) bell end pipe of fittings. The system shall utilize a standard MJ gasket with a ductile iron replacement gland conforming to ASTM A 536-80. The gland dimensions shall conform to Standard MJ bolt circle criteria.
  2. Individual wedge restrainers shall be ductile iron heat treated to a minimum hardness of 370 BHN. The wedge screws shall be compressed to the outside wall of the pipe using a shoulder bolt and twist-off nuts to insure proper actuating of the restraining system.
  3. All restraint glands shall be coated with a minimum thickness of 3 mils electrostatically applied and heat cured coating. The coating shall be a polyester based powder to provide corrosion, impact and UV protection. The wedge assemblies and related parts shall be coated with a liquid thermoset epoxy coating with a fluoropolymer additive, fastener grade epoxy.
  4. T-bolts and nuts shall be Cor-Blue a heat cured fluoropolymer coating. Conforming to ANSI/AWWA C111/A21.11 requirements.
  5. Standard MJ gasket shall be virgin SBR meeting ASTM D-2000 3 BA 715 or 3 BA 515.

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**D. Maximum Sustained Working Pressure Requirements:**

<b><u>Nominal Diameter</u></b>	<b><u>PVC C-900</u></b>	<b><u>Ductile Iron</u></b>
4 & 6 inch	200 psi	350 psi
8 inch	200 psi	200 psi
10 & 12 inch	200 psi	200 psi
14 & 16 inch	200 psi	200 psi
20 & 24 inch	200 psi	
32 & 48 inch		150 psi

4. **TESTS:**

The San Antonio Water System may, at no cost to the manufacturer, subject random joint restraint system products to testing by an independent laboratory for compliance with these standards. Any visible defect of failure to meet the quality standards herein will be ground for rejecting the entire order.

5. **PRODUCT LIST:**

The attached qualified product list identifies specified manufacturers models approved for installation in SAWS water distribution systems.

**Approved Manufacturers and Models:**

<b><u>A. Slip on Joint System</u></b>	<b><u>PVC C-900/</u></b>	<b><u>Ductile Iron</u></b>	<b><u>D.I. 16" Above</u></b>
Ford/Uni-Flange	1390C	1390C	1390C
EBBA Iron Sales, Inc	1500	1700	1700
Romac Industries, Inc. 4-8-inch	Model 611	Model 611	470SJ Star
Pipe Products	1100	1100	1100
Sigma Corporation	PV-LOK	PV-LOK	SLDH
	(PVP)/PTP	(PVP)/PTP/	
		SLDH	

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**B. Compression Ring Systems: PVC C-900 Ductile Iron**

Romac Industries, Inc.	GripRing-D1	GripRing-D1
Tyler Corporation	MJR Gland	MJR Gland
Star Pipe Products	Ring Lock 3500 Series	

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**C. Fitting Restraint (M.J.): PVC C-900 Ductile Iron**

EBBA Iron Sales, Inc.	2000 PV	Megalug1100
Romac Industries, Inc.	Not Approved	Not Approved
Ford/Uni-Flange	UFR-1500-C 4"- 24"	Series 1400
StarPipe Products	Stargrip 4000	Stargrip 4000
Sigma Corporation	One Lok SLC	One Lok SLD

**D. Restrained Flange Adapters PVC C-900 Ductile Iron**

EBBA Iron Sales, Inc	2100 Megaflange	2100 Megaflange
Ford/Uni-Flange	900	200,400,420

**Previous Specification Date:**

JANRUARY 1998  
APRIL 2002  
FEBRUARY 2004  
APRIL 2004  
AUGUST 2004  
MARCH 2005  
OCTOBER 2005  
OCTOBER 2006  
DECEMBER 2011  
MAY 2018