



SAN ANTONIO WATER SYSTEM
I.H. 10 Ground Storage Tank
Rehabilitation and Painting Project
SAWS Job No. 13-0118
Solicitation No. B-16-014-GC

ADDENDUM NO. 3

September 1, 2016

TO BIDDER OF RECORD:

The following changes, additions, and/or deletions are hereby made as part of the Contract Documents for the I.H. 10 Ground Storage Tank Rehabilitation and Painting Project, for the San Antonio Water System, San Antonio, Texas, dated August 2016, as fully and completely as if the same were set forth therein.

PART 1 – BIDDING AND CONTRACT DOCUMENTS (NOT USED)

PART 2 – TECHNICAL SPECIFICATIONS

1. SECTION 15117, AIR RELEASE VALVES:

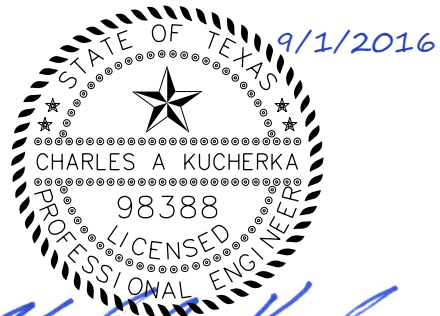
REPLACE this specification in its entirety with the attached specification.

PART 3 – DRAWINGS (NOT USED)

ALL BIDDERS SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM NO. 3 IN THE BID FORM AND BY HIS/HER SIGNATURE AFFIXED HERETO AND TO FILE SAME AS AN ATTCHMENT TO HIS/HER BID. BID FORMS SUBMITTED WITHOUT THIS ACKNOWLEDGEMENT WILL BE CONSIDERED INFORMAL.

Charles A. Kucherka, P.E.

Freese and Nichols, Inc.



FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144

ACKNOWLEDGEMENT BY BIDDER

THE UNDERSIGNED ACKNOWLEDGES RECEIPT OF THIS ADDENDUM NO. 3 AND THE BID SUBMITTED HEREWITH IS IN ACCORDANCE WITH THE INFORMATION AND STIPULATION SET FORTH.

Date

Signature of bidder

Appended hereto and part of Addendum No. 3 is:

1. SECTION 15117, AIR RELEASE VALVES
2. CONTRACTOR QUESTIONS AND ANSWERS DOCUMENT

15117 AIR RELEASE VALVES

1.00 GENERAL

1.01 WORK INCLUDED

- A. Furnish labor, materials, equipment and incidentals necessary to install air release and air and vacuum valves of the sizes and types indicated. Furnish the necessary isolating valves and piping as indicated on the plans.
- B. Provide and install combination air and vacuum valves on pump discharge piping as indicated on the plans and specified herein.

1.02 QUALITY ASSURANCE

- A. The manufacturers shall provide certification that products furnished under this specification are manufactured in an ISO 9001 certified facility or documentation from an accredited facility that ISO 9001 certification is in process.
- B. Approved Manufacturers and Models:

1. Air Release Valves (Inlet x Orifice)

Manufacturer	1" NPT x 3/16"	2" NPT x 3/16"
Apco Valve Company	200A	200A
G.A. Industries, Inc. (Empire)	920	920
Multiplex Mfg. Co. (Crispin)	P1-10	PL-10A
Val-Matic Mfg. Co.	38	38
PowerSeal Corporation	5401-D	5401-E
ARI Flow Control	S-050 1T	D-040 2T

2. Air & Vacuum Valves (Inlet x Orifice)

Manufacturer	2" NPT x 3/16"	4" flg. With cowl
Apco Valve Company	144	152
G.A. Industries, Inc. (Empire)	930	930-C
Multiplex Mfg. Co. (Crispin)	AL20	AL41
Val-Matic Mfg. Co.	102	104
PowerSeal Corporation	5402-B	5402-D
ARI Flow Control	D-040 2T	K060 C-HF

3. Combination Air Valves (Inlet x Orifice)

Manufacturer	1" NPT x 5/64"	2" NPT x 3/32"	4" flg. X 3/32" w/ cowl
Apco Valve Company	143C	145C	149C
G.A. Industries, Inc. (Empire)	945 (1" NPT)	945	960C
Multiplex Mfg. Co. (Crispin)	U10	UL20 (1/4")	UL41 (1/4")
Val-Matic Mfg. Co.	201C	202C	204C

ADDENDUM NO. 3

Air Release Valves

I.H. 10 Ground Storage Tank Rehabilitation and Painting Project

15117-1

PowerSeal Corporation	5403-A	5403-B	5403-D
ARI Flow Control	D-040 2T	D-040 D-060 C-HF	D-060 C-HF

1.03 SUBMITTALS

Submittals shall be in accordance with Section 01300 “Submittal Procedures” and shall include:

- A. Manufacturer’s data sheets, including, dimensions and materials specification for each valve proposed.
- B. Operation and Maintenance Manual.

1.04 STANDARDS

The applicable provisions of the following standards shall apply as if written here in their entirety:

ANSI/NSF Standard 61	Drinking Water System Components
AWWA C512	Standard for Air-Release, Air/Vacuum, and Combination Air Valves for Waterworks Service

1.05 GENERAL OPERATION REQUIREMENTS

- A. The air release valve shall be designed to vent accumulated air automatically. The outlet orifice shall be properly sized to facilitate valve operation at pressures up to 150 psi. The air release valve shall be simple-lever, compound-lever, ball and orifice or rolling seal depending upon volume requirements and the design of the valve.
- B. The air and vacuum valve shall be designed with the inlet and outlet of equal cross-sectional area where applicable. The valve shall be capable or automatically allowing large quantities of air to be exhausted during the filling cycle an also capable of automatically allowing air to re-enter the system to prevent a negative pressure at water column separation or during the draining cycle. The float shall be guided to minimize premature closure by air and to provide proper alignment for normal closure by floating on the water surface.
- C. Combination air and vacuum relief valves shall provide for both automatic air release under system pressure and to allow air movement during filling or draining operations or water column separation. The combination valve may be housed in a single casting. The housing shall be designed to incorporate conventional or kinetic flow principles to properly vent the air without premature closure. Flanged sized (4 inch and larger) may be furnished in a dual housing. When dual casings are used a bronze manual isolation valve shall be installed if indicated by the manufacturer. This will allow the air release valve to be serviced when the system is under pressure. Field service of the valve may also be performed by closing the isolation valve between the air valve and the pipe connection.

1.06 DELIVERY AND STORAGE

Store valves per the manufacturer’s written direction.

ADDENDUM NO. 3

Air Release Valves

I.H. 10 Ground Storage Tank Rehabilitation and Painting Project

2.00 PRODUCTS

2.01 AIR RELEASE VALVES, VACUUM & COMBINATION AIR VALVES

- A. Valves furnished under this specification shall conform to ANSI/NSF Standard 60 for direct additives and ANSI/NSF Standard 61 for indirect additives.
- B. Cast Iron Valve Body and cover shall be in accordance with ASTM A48-35 or ASTM A126 class B. Non-Metallic Valve Body shall be fabricated from fiberglass reinforced nylon. Inlet sizes through 2 inches shall be screwed (NPT). Pipe sizes 3" and above shall have flanged inlets (125# ASNSI B 16.1). A protective hood or cowl shall be installed on the outlet of flange-bodied valves.
- C. Each air valve shall have a cast iron body, bronze, or stainless steel trim and stainless steel float. Float shall be baffled to prevent air from blowing valve closed until air is exhausted.
- D. Metallic Internal seat trim float arm and pivot pin shall be stainless steel type 303, 304 or 316. Metallic Floats shall be stainless steel ASTM A 240. Other stainless steel metal internal parts shall be stainless steel ASTM A240 or ASTM A276.
- E. Non-metallic floats shall be foamed polyethylene with stainless steel type 316 fasteners.
- F. Valves requiring Internal seats or orifice buttons shall be Buna-N rubber compounded for water service. For valves requiring cover gaskets, the cover gasket shall be composition type, equal to Armstrong CS-231, Garlock 3000, or Lexide NK-511. If an O-Ring is used to seal the cover, it shall be on NSF 61 certified rubber. Cover bolts shall be alloy steel. Rolling seals shall be furnished for non-metallic valves 2" and below.

3.00 EXECUTION

3.01 INSTALLATION

- A. Carefully handle and install valves vertically in such a manner as to prevent damage to any part of the valves. Installation shall be in accordance with the Manufacturer's instructions. Provide nuts, bolts, and gaskets where applicable.
- B. Valves shall be permanently tagged with an engraved brass tag indicated the valve model number, working pressure rating and station location.

3.02 FIELD QUALITY CONTROL

Upon completion of installation of the valves an acceptance test shall be conducted to verify the satisfactory operation of the valves. The valves must perform in a manner acceptable to the Engineer before final acceptance will be made by the Owner.

END OF SECTION

ADDENDUM NO. 3

Air Release Valves

I.H. 10 Ground Storage Tank Rehabilitation and Painting Project

15117-3

QUESTIONS AND ANSWERS

1. **Question:** Pump Discharge Piping C-9/5

Plans read Air Release Valves and Spec states series 920 Air Release only 2" x 3/16; but Detail C-21 shows Combination Air Vac. Which is correct?

1. **Answer:** Refer to Addendum No. 3, Part 2, Item No. 1.

END OF ADDENDUM NO. 3