

ADDENDUM NO. ONE
REQUEST FOR QUOTE
GOULDS PUMP REBUILD
PROJECT NO. 243-26
CITY OF THORNTON, CO

TO: Prospective Proposing Firms and all others concerned

DATE: August 27, 2026

PURPOSE: To provide additional information and clarification to the solicitation documents for the above-referenced Project.

1. The following information shall become part of the original Request for Quote (RFQ), for this Project.
2. The following questions and answers are provided for additional clarification to the RFQ. All answers from Thornton in response to Vendor submitted questions have been provided below.

Question No. 1: Do you have the specs on what exact type model of mechanical seal is currently being used? There is a very wide range of costs across John Crane seals.

Answer No. 1: See Appendix 1 for O&M documentation for reference.

Question No. 2: Do you know the size pumps and service they are in?

Answer No. 2: These pumps are on a routine maintenance schedule. The 3196 has been in service since 2005 with no major issues. The 3180XL was installed in 2019-2020 with routine service. Neither pump has had parts replaced or been opened up.

3. All other terms and conditions shall remain unchanged except as provided by this Addendum. Proposing firms must acknowledge receipt of this Addendum in their Quote .

END OF ADDENDUM NO. ONE

APPENDIX 1

Gould Pump 3196

		ZENON ENVIRONMENTAL INC. SUBMITTAL INFORMATION BLOCK 500262	
Project Name <u>Columbine WTP, The City of Thornton</u> Submittal No. <u>Z 11212-004 B</u> Date Submitted <u>March 19, 2002</u> Project Number <u>30735</u> Contract Title <u>Columbine Water Treatment Plant Improvements / Expansion- Membrane Equipment</u> Contract No. <u>02-309B</u> Spec. Sect. No. <u>11212</u> Art. No. <u>Part 2</u>		Engineer Record Stamp	
Contractor's Approval (See Contract Documents) Contractor _____ Approved By _____ Date _____			
Component Description: PUMP MFTR: GOULDS MODEL: 3196 4X6-13 MTX SERVICE WATER: PERMEATE PUMP SPECIFICATIONS: CASING: 316SS IMPELLER: 316SS OPEN IMPELLER O-RING: TEFLON TRIM: 11.6250" (MAX=13.00" MIN=9.00") CASING GASKET: ARAMID FIBRE WITH EPDM RUBBER BEARINGS: SKF 6309 (INBOARD BEARING) SKF 5309 A/C3 (OUTBOARD BEARING) COUPLING: REXNORD-OMEGA REX ELASTOMER-ES-6 SHAFT: SAE 4140 SLEEVE: 316SS MECHANICAL SEAL: JOHN CRANE - 1-X(1)F(50)1XO(58)1(316) FABRICATED STEEL BASEPLATE NPT OUTLETS FOR DRAINING CASING & DRAINING SEAL LEAKAGE SUCTION/DISCHARGE GAUGE CONNECTIONS. INTERNAL FLUSH PLAN NOT REQUIRED. IMPELLER ANTI-ROTATION DEVICE. 1200 RPM, 15 HP, 480V/3PH/60HZ TEFC PREMIUM EFFICIENCY, CONTINUOUS DUTY FRAME 284T DUTY POINT: 100 GPM @ 52' TDH			

APPENDIX 1 (cont.)

Gould Pump 3196

 Goulds Pumps  ITT Industries		
ZENON Environmental Inc.		
INQ NO: Project # 500262		
Proposal No: GU04012MK-UF Rev.#: 3		Apr 1, 2004
Item No: P-2907/2908 (Rev. 3)		Attn: Darren O'Neil
MODEL:3196	Size: 4x6-13 MTX	QTY: 2
Operating conditions		
SERVICE	CIP Pumps	
LIQUID	Water Temp. 70.0 deg F (Norm. 70.0 deg F), SP.GR 1.000, Viscosity 1.000 cp	
CAPACITY Norm./Rate	610.0 / 610.0 gpm	
HEAD	52.0 ft	
Performance at 1150 RPM		
PUBLISHED EFFY	76.5% (CDS)	
RATED EFFY	75.0% with contract seal	
RATED POWER	10.7 hp (incl. Mechanical seal drag 0.14). (Run out 12.4 hp)	
NPSHR	4.0 (available NPSH is 25.0) (ft)	
DISCH. PRESSURE	22.5 (27.1 @ Shut off) (psi g)	
PERF.CURVE	1784-5 (Rotation CW viewed from coupling end)	
SHUT OFF HEAD	62.5 ft	
MIN FLOW	134.1 (gpm)	
Materials		
CONSTRUCTION	316SS	
CASING	316SS max.casing.pres.@ rated temp, 275.0psi g	
ST.BOX COVER	316SS	
IMPELLER	316SS - Open (11.6250 rated (in) max=13,0000 min=9,0000)	
CASING GASKET	Aramid Fiber with EPDM Rubber	
IMPELLER O-RING	Teflon	
SHAFT	SAE 4140	
SHAFT SLEEVE	316SS	
LUBRICATION	Flood oil	
SEAL CHAMBER	Taper bore plus with VPE	
GLAND	316SS Flush high performance	
GLAND O-RING	Teflon jacketed O-ring gasket	
BEARINGS	SKF 6309 (Inboard Bearing) SKF 5309 A/C3 (Outboard Bearing)	
COUPLING	Rexnord-Omega Rex Elastomer- ES-5-	
COUPLING GUARD	Carbon steel	
BASEPLATE	Fabricated steel with SS drip pan to ANSI B73.1M 1991 D07091A	
Sealing Method		
MECHANICAL SEAL	John Crane - 1 - X(1)F(50)1XO(58)1 (316) (faces Carbon w/ SiC) - (Conventional-Single)	
Casing connections		
Discharge gauge only		
Casing drain tapped		
Flanges		
150# flat face		

APPENDIX 1 (cont.)

3180XL

SECTION 33 12 20 – HORIZONTAL END SUCTION PUMPS: continued

- D. Pumps shall be easily removeable for inspection or service.
- 2.03 TRAIN 8 PERMEATE PUMP DESIGN REQUIREMENTS:
- A. Number of Pumps: One (1)
 - B. Model: 3180 16x16-19/5V XL
 - C. Pump Tags: P-2803
 - D. Provide electrically operated pumps capable of pumping treated water.
 - E. Design Capacity 5660 gpm
 - F. Design Heads:
 - Rated (at Design Capacity) 31.5 feet
 - Shutoff (maximum) 44.1 feet
 - G. Maximum Motor Speed 900 rpm
 - H. Minimum Efficiency at design point 82 percent
 - I. Maximum Motor Horsepower 60 hp
 - J. Motor shall be suitable for variable frequency drive operations as specified in DIVISION 46.
- 2.04 MATERIALS AND CONSTRUCTION:
- A. Construct motor housing, pump casing, and major pump components of cast iron conforming to ASTM A48.
 - B. Pump materials in contact with water shall meet the requirements of NSF 61.
 - C. Casing:
 - 1. Designed to withstand a hydrostatic pressure of 150% of the shutoff head.
 - 2. Provide with lugs or eyebolts for lifting.
 - 3. Drilled and tapped for venting, draining pressure on discharge side and other purposes as required.
 - 4. Provide flanged hand hole for inspection of casing interior.
 - a. Inside face contoured to match volute.
 - b. Bolted to casing.
 - 5. Provide renewable wear ring(s) for sealing between the volute and the impeller.
 - 6. Provide suction and discharge flanges to match the connecting pipe flanges.
 - 7. Provide with rigid mounting assembly to support motor weight, assure proper pump and motor alignment, and dampen vibration within the specific tolerance.
 - 8. Stuffing box shall be designed to receive the type of seal specified.
 - D. Impeller:
 - 1. 316 Stainless steel, enclosed design.
 - 2. Nonclog design.
 - 3. Secured to shaft with stainless steel key and self-locking device to prevent slipping in either direction.
 - 4. Balanced statically and dynamically to eliminate vibration and minimize hydraulic end thrust.
 - 5. Castings shall not have been repaired by plugging, welding, or other means.
 - 6. Provide renewable 316SS casing wearing ring for efficient sealing between volute and impeller.
 - E. Shaft:
 - 1. Ample diameter to assure first critical speed will occur at not less than 150% of rated pump speed.
 - 2. Shaft shall be machined steel 4340.
 - 3. Shaft sleeves shall be made of 316 stainless steel.
 - a. Fastened to prevent loosening and rotation.

APPENDIX 1 (cont.)

3180XL

SECTION 33 12 20 – HORIZONTAL END SUCTION PUMPS: continued

- 4. Proportioned to transmit all loads and torque without deflection or twisting.
 - F. Shaft Seal:
 - 1. Single mechanical seal.
 - a. Spring shall be made of stainless steel.
 - b. Lubricating liquid shall be water.
 - G. Bearings:
 - 1. Designed for a minimum L-10 life of 100,000 hrs as determined by ABMA.
 - 2. Inboard bearings shall be roller, while outboard bearings may be ball or roller.
 - 3. Permanently lubricated.
 - 4. Anti-friction type designed to withstand all radial and axial thrust loads.
 - H. Fittings:
 - 1. Furnished with each pump.
 - 2. Drainage and vent fittings and cocks.
 - I. Flexible couplings:
 - 1. Between pump and motor.
 - 2. Nonlubricated type.
 - 3. Statically balanced.
 - 4. Designed to transmit full torque of the motor.
 - 5. Accurately machined on all exposed surfaces.
 - 6. Coupling guards of a trim appearance.
 - J. Spare Parts:
 - 1. Include one set of shaft sleeves, mechanical seals, impeller rings, casing rings, and bearings for each pump.
 - 2. Packed in containers suitable for storage. Each container shall be labeled to show its contents and serial number of applicable pump.
- 2.05 ANCHOR BOLT ASSEMBLY:
- A. Complete anchor bolt assembly (studs, nuts, washers, etc.) to be designed and provided by the manufacturer. Anchor bolt assembly must meet the requirements of SECTION 05 05 19. Anchors shall be designed using the non-life safety anchors in 05 05 19 and calculations stamped by a Professional Engineer registered in Colorado. Anchor material shall be 316 SST. Anchor size and embedment shall be clearly shown on the equipment drawings.
- 2.06 PROTECTIVE COATINGS:
- A. Shop Painting:
 - 1. Manufacturer shall prepare surfaces and apply coating system as specified in SECTION 09 90 00.
 - 2. All nameplates, bronze or stainless steel surfaces shall not be painted.
 - 3. As much as possible, pump finish color shall be factory finished to match approved process identification color.
- 2.07 ELECTRICAL EQUIPMENT: Provide motors as specified in DIVISION 46.

PART 3 - EXECUTION

- 3.01 MANUFACTURER'S FIELD SERVICE: Provide installation, start-up, and testing services for all Equipment as specified in DIVISION 01.
- 3.02 INSTALLATION, START-UP AND TESTING:

7/3/2019

33 12 20 - 4 City of Thornton Project No. XX-XXX
Train 8 Modifications