



The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at wvOASIS.gov. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at WVPurchasing.gov with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Header 1

[List View](#)

General Information

[Contact](#)[Default Values](#)[Discount](#)[Document Information](#)

Procurement Folder: 636983

Procurement Type: Central Purchase Order

Vendor ID:

Legal Name: FONDRIEST ENVIRONMENTAL INC

Alias/DBA:

Total Bid: \$38,139.00

Response Date: Response Time:

SO Doc Code: CRFQ

SO Dept: 0313

SO Doc ID: DEP2000000012

Published Date: 10/28/19

Close Date: 11/8/19

Close Time: 13:30

Status: Closed

Solicitation Description:

Total of Header Attachments: 1

Total of All Attachments: 1



Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

**State of West Virginia
 Solicitation Response**

Proc Folder : 636983
Solicitation Description : Water Quality Sondes - Watershed Assesment Branch
Proc Type : Central Purchase Order

Date issued	Solicitation Closes	Solicitation Response	Version
	2019-11-08 13:30:00	SR 0313 ESR11041900000002782	1

VENDOR
000000174281 FONDRIEST ENVIRONMENTAL INC

Solicitation Number: CRFQ 0313 DEP2000000012

Total Bid : \$38,139.00 **Response Date:** 2019-11-04 **Response Time:** 11:21:12

Comments:

FOR INFORMATION CONTACT THE BUYER
 Brittany E Ingraham
 (304) 558-2157
 brittany.e.ingraham@wv.gov

Signature on File	FEIN #	DATE
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All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Multiparameter Water Sonde	3.00000	EA	\$6,224.000000	\$18,672.00

Comm Code	Manufacturer	Specification	Model #
41111965			

Extended Description : 4 or 5 port multiparameter water quality sonde with central wiper (such as EXO 3, Aquatroll 600, or equal) Must be capable of collecting, logging, and storing parameter data from multiple sensors via self contained battery power supply (battery type must be field replaceable), port/sensor status monitoring capability, & QC software to check and validate probe configuration and calibration. Sonde must include proper storage and calibration "cup".

Comments: EXO3 sonde and central wiper

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Sonde Guard	3.00000	EA	\$0.000000	\$0.00

Comm Code	Manufacturer	Specification	Model #
41111965			

Extended Description : Sonde guard to protect probes and guard weight to minimize drift/movement of unit in water column

Comments: Included with Line 1

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	Pushbutton handheld Display	2.00000	EA	\$2,765.000000	\$5,530.00

Comm Code	Manufacturer	Specification	Model #
41111965			

Extended Description : Pushbutton hand-held display for calibration & communication with sonde. Display must be at least IP67 waterproof. If communication software can be run on IOS device, then a hand-held display is not required.

Comments: EXO handheld display

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
4	Cable	2.00000	EA	\$565.000000	\$1,130.00

Comm Code	Manufacturer	Specification	Model #
41111965			

Extended Description : Approximately 10 foot or 3 meter field cable in length at minimum to connect display to sonde; or similar length cable and bluetooth communication transmitter.

Comments: EXO field cable, 4m

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
5	pH sensor	3.00000	EA	\$570.000000	\$1,710.00

Comm Code	Manufacturer	Specification	Model #
41111965			

Extended Description : pH sensor with a minimum accuracy of +/- 0.2 units. Display and/or software must be able to show pH millivolts, must be interchangeable in the field and wet-mateable for easy replacement

Comments: EXO unguarded pH sensor

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
6	Temperature sensor	3.00000	EA	\$0.000000	\$0.00

Comm Code	Manufacturer	Specification	Model #
41111965			

Extended Description : Temperature sensor with 2 decimal place resolution, must be interchangeable in the field and wet-mateable for easy replacement

Comments: Included with Line 7

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
7	Conductivity Sensor	3.00000	EA	\$1,700.000000	\$5,100.00

Comm Code	Manufacturer	Specification	Model #
41111965			

Extended Description : Conductivity sensor capable of displaying specific conductance and a range of at least 0 - 100 mS/cm. Hand-held display or display software must be able to report in uS/cm., must be interchangeable in the field and wet-mateable for easy replacement

Comments: EXO wiped conductivity & temperature sensor

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
8	Optical DO sensor	3.00000	EA	\$1,999.000000	\$5,997.00

Comm Code	Manufacturer	Specification	Model #
41111965			

Extended Description : Optical DO sensor outfitted with field replaceable DO cap, must be interchangeable in the field and wet-mateable for easy replacement

Comments: EXO optical dissolved oxygen sensor

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
9	Sonde specific software	1.00000	EA	\$0.000000	\$0.00

Comm Code	Manufacturer	Specification	Model #
43230000			

Extended Description : Sonde specific software to allow viewing of logged/collected data, graphic display, QA/QC, and basic analysis either via hand-held or via PC

Comments: Included with Line 1

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
10	Shipping/Handling	1.00000	EA	\$0.000000	\$0.00

Comm Code	Manufacturer	Specification	Model #
78121603			

Extended Description :	Shipping and Handling
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Comments: Included at no cost



EXO Sondes

BEST-IN-CLASS PLATFORM FOR THE HIGHEST-QUALITY DATA

EXO Sonde Brochure
E102-06 Rev. A



a xylem brand



YSI.com/EXO

When only the best will do.

EXO is the premium water quality monitoring platform in the world.

The unmatched benefits of **EXO** include:



Highest Data Quality

Onboard monitoring systems verify sensor operation



Industry-leading Anti-fouling

Best-in-class anti-fouling wiper technology



Smart QC™

SmartQC checks for errors and ensures proper calibrations



Titanium Components

The toughest grade parts guarantee operation well into the future



Digital Smart Sensors

Auto-recognition of any sensor in any port



EX02^S

EX03

EX01

EX02



CHINA DRINKING WATER MONITORING

AUSTRALIA WATER SUPPLY PROFILING BUOY

CORVETTE MUSEUM SINKHOLE

PACIFIC CORAL BLEACHING

A Smart, Field-Ready Water Monitoring Platform

Best-In-Class Sonde Platform



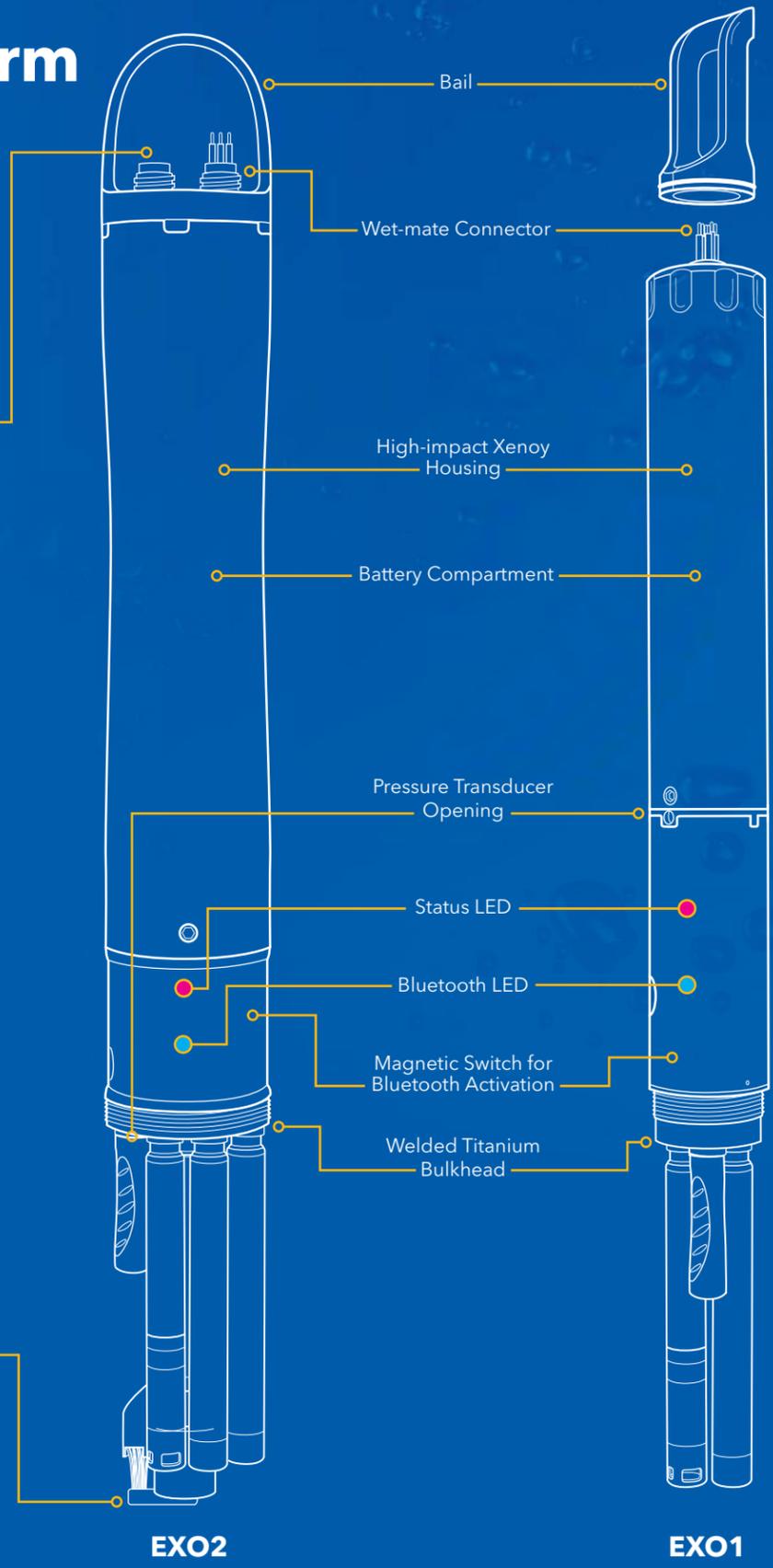
Cable connector, battery valve, and expansion port on EXO2



Smart ports accept any sensor, or central port may be used for anti-fouling wiper



Anti-fouling wiper cleans sensor faces, minimizing maintenance and maximizing length of deployment



EXO2

EXO1



Selection Guide



	EXO1	EXO2	EXO2 ^s	EXO3
Smart Ports	4	7	7	5
Battery Type	2 D-cell	4 D-cell	External Power	2 D-cell
Battery Life	90 days*	90 days*	N/A	60 days*
Dimensions	Length: 64.77 cm Diameter: 4.70 cm	Length: 71.10 cm Diameter: 7.62 cm	Length: 47.00 cm Diameter: 7.62 cm	Length: 58.67 cm Diameter: 7.62 cm
Weight (fully loaded)	1.42 kg	3.60 kg	1.10 kg	2.00 kg
SDI-12	with Adapter	with Adapter	with Adapter	Integral
Vented Level	✓	✓		
Wiper		✓	✓	✓
Auxiliary Port		✓	✓	

*Battery life will depend on the type of sensors and measurement frequency. Specifications indicate typical performance and are subject to change. Please check EXOwater.com for up-to-date information.

Sonde Specifications

Sondes	
Operating Temperature	-5 to 50°C
Storage Temperature	-20 to 80°C (may differ for sensors)
Depth Rating	0 to 250 m
Communications	Computer Interface: Bluetooth wireless technology, RS-485, USB Output Options: USB with signal output adapter (SOA); RS-232 & SDI-12 with DCP-SOA; Modbus & RS-485 with Modbus-SOA
Sample Rate	Up to 4 Hz
Data Memory	512 MB total memory; >1,000,000 logged readings
Warranty	2 years

EXO Sondes are perfect for long-term deployments. Daisy-chain multiple sondes for measurements at various depths.



Monitoring Made Mobile



EXO GO

EXO GO uses Bluetooth to connect any Windows OS device to a submerged EXO Sonde.

Pair with a tablet or laptop and leverage the full power of KorEXO Software for your monitoring applications.

Choose **EXO GO** for the flexibility of monitoring with any Windows OS device and access to the full features of KorEXO Software. EXO GO cuts out the middleman and delivers data directly to your PC!

KorEXO Software

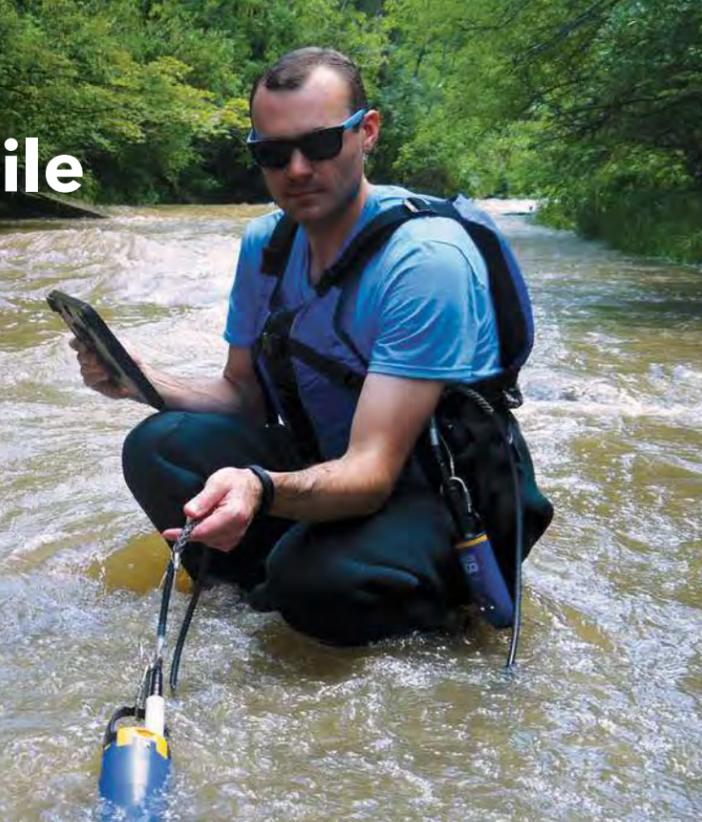
Bring the full power of KorEXO to your site with any Windows OS portable device

Bluetooth Communication

Keep your sonde in the water while you view data in real time, download files, or adjust deployment settings on the GO

GPS Tagging

Georeference data sets using GPS



	EXO GO	EXO Handheld
USB Connectivity	✓	✓
Bluetooth Connectivity	✓	
IP-67 Rating	✓	
Display		✓
Onboard Memory		✓
Operating Temperature	-5 to 50°C	0 to 50°C
Storage Temperature	0 to 45°C	0 to 45°C
Dimensions	17.4 x 5.2 x 3.5 cm	8.3 x 21.6 x 5.6 cm
Weight	240 g	567 g
Warranty	1 year	3 year meter, 1 year battery

	Common Features
GPS	Accuracy: 2.5 m CEP (dependent on site conditions)
Barometer	Range: 375 to 825 mmHg Accuracy: +/-1.5 mmHg Resolution 0.1 mmHg
Battery	Operating Time: >15 hours Charging Time: 9 hours



EXO Handheld

The EXO Handheld offers a dedicated, streamlined interface to EXO Sondes.

Convenient monitoring is achieved with a backlit color display, ergonomic design, and simple operation.

Choose the **EXO Handheld** for an easy-to-use, purpose-built interface with a tactile keypad and full color display. Keep it simple and collect data in the most challenging environments with the EXO Handheld!

Simplified Interface

Lower the learning curve of collecting high-quality data with a simplified user interface and integrated help screens

Transfer Data

Quickly transfer collected data sets and calibration records to a USB flash drive with the push of a button

Lithium-Ion Battery

Collect more samples with the long-lasting, rechargeable battery

Smart Sensor Suite

A dynamic range of sensors for multiparameter applications



CENTRAL WIPER



DEPTH



EXO sondes feature universal smart ports for sensor installation

Sensors Not Shown

CONDUCTIVITY / TEMPERATURE (NON-WIPED)

TOTAL ALGAE-PE

AMMONIUM ISE

CHLORIDE ISE

NITRATE ISE

pH

Sensor Specifications

Sensor	Range	Resolution ¹	Accuracy ²
Conductivity (Non-Wiped)	0 to 200 mS/cm	0.0001 to 0.01 mS/cm	±0.5% of reading or 0.001 mS/cm, w.i.g. (0-100 mS/cm) ±1% of reading (100-200 mS/cm)
	-5 to 50°C	0.001°C	±0.01°C (-5 to 35°C) ±0.05°C (35 to 50°C)
Conductivity (Wiped)	0 to 100 mS/cm	0.0001 to 0.01 mS/cm	±1% of reading or 2 µS/cm, w.i.g.
	-5 to 50°C	0.001°C	±0.2°C
Depth or Vented Level	0 to 10, 100 or 250 m	0.001 m	±0.04% Full Scale
	0 to 10 m	0.001 m	±0.03% Full Scale
Dissolved Oxygen	0 to 500% air sat.	0.1% air sat.	±1% of reading or 1% sat., w.i.g., (0 to 200%) ±5% of reading (200 to 500%)
	0 to 50 mg/L	0.01 mg/L	±1% of reading or 0.1 mg/L, w.i.g., (0 to 20 mg/L) ±5% of reading (20 to 50 mg/L)
fDOM	0 to 300 ppb QSE	0.01 ppb QSE	Linearity: $r^2 \geq 0.999$ for 0 to 300 ppb QSE, MDL of 0.016 ppb QSE
pH	0-14 pH units	0.01 pH unit	±0.1 within ±10°C of cal temp ±0.2 for all other temps
ORP	-999 to 999 mV	0.1 mV	±20 mV
TAL-Chlorophyll	0 to 100 RFU or 0 to 400 µg/L chl	0.01 RFU or 0.01 µg/L of pigment	Linearity: $r^2 \geq 0.999$ for Rhodamine WT across full range
TAL-Phycocyanin or TAL-Phycoerythrin	0 to 100 RFU or 0 to 100 µg/L PC		
	0 to 100 RFU or 0 to 280 µg/L PE		
Turbidity	0 to 4000 FNU	0.01 FNU to 0.1 FNU	0.3 FNU or ±3% of reading, (0 to 999 FNU) ±5% of reading (1000 to 4000 FNU)

¹Range dependent.

²Specifications indicate typical performance and are subject to change. Please check EXOwater.com for up-to-date information.

EXO Smart Sensor Anatomy



Calculated Parameters

The following parameters are calculated from one or more sensors listed above. More information about the methods and calculations may be found in the EXO User Manual.

- Absolute Pressure
- Ammonia
- DO% Local
- DO% LocalB
- Gauge Pressure
- nLF Conductivity
- Resistivity
- Salinity
- Specific Conductivity
- Total Algae cells/mL
- Total Dissolved Solids
- Total Suspended Solids
- Vertical Position
- Water Density

KorEXO Software

KorEXO is an accessible, feature-rich software platform for managing EXO instrumentation and water quality data. The software allows you to calibrate sensors, setup long-term deployments, and ensure equipment is operating at peak performance. Designed to run on Windows OS computers and tablets, the interface is optimized for touchscreens and streamlined for operation in the field, lab, or office.

Graph view makes it easy to visualize live or recorded data and spot trends.

Complete calibrations faster than ever! Redo or add calibration points on the fly with tips to ensure accuracy.

Sonde status is always on display so users know whether or not the sonde is deployed. New data are automatically downloaded when the sonde is connected.

The 'Provide Feedback' button allows users to share their thoughts and make suggestions to continuously enhance the experience.

KorEXO Software assigns a QC Score after every calibration. Notifications are displayed for calibration errors or if sensors are not performing properly.

Support and Protection for Your Peace of Mind

Protect your investment with the EXO Factory Service Plan

With an **EXO Factory Service Plan**, you can minimize down-time and unexpected maintenance costs by keeping your equipment in top working order.

What does the Service Plan include?

Plans cover standard replacement parts, firmware updates, seal restoration, cleaning, comprehensive evaluation, testing, and calibration of all sensors.

What equipment is covered?

Each plan covers a single EXO sonde, field cable, handheld, and sensors purchased with the sonde.

How long does coverage last?

Plans are available for coverage up to 3 years from the time the EXO Sonde is purchased.

Industry-Leading Technical Support

Our expert **Technical Support Team** is available to provide assistance and answer any questions that may come up in the field or lab.

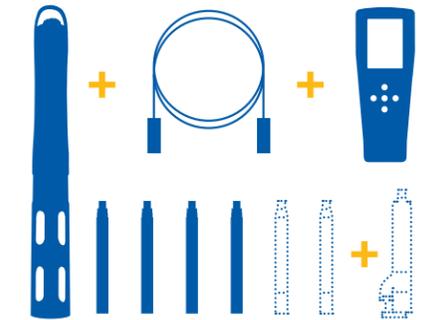
Call +1 (937) 767-2762 to speak with our knowledgeable staff

Email info@ysi.com for questions regarding your EXO equipment

Live Chat at [YSI.com](https://www.ysi.com) for immediate response from technical experts



Factory Service Center located in Yellow Springs, Ohio



Technicians are available for in-house or on-site training events



Xylem |'zilem|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xylem.com.

xylem

Let's Solve Water

"I'm very proud of the great work our customers do using our best-in-class sonde platform."



Dr. Stephanie A. Smith
EXO Product Manager



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Yellow Springs, OH 45387

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YSI.com/EXO

Who's
Minding
the Planet?®



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