

Specifications:

Contract Term – All goods and services shall be provided for 60 months from start date.

A.1. This contract shall be for the purchase, maintenance, and repair of multi-parameter water quality meters (sondes), an essential instrument required for water quality sampling to maintain compliance with the Department’s QSSOP (Quality System Standard Operating Procedure) for CHEMICAL AND BACTERIOLOGICAL SAMPLING OF SURFACE WATER protocols. • [\(tn.gov\)](https://www.tn.gov/content/dam/tn/environment/water/policy-and-guidance/dwr-wqp-p-01-qssop-chem-bact-082918.pdf)
(<https://www.tn.gov/content/dam/tn/environment/water/policy-and-guidance/dwr-wqp-p-01-qssop-chem-bact-082918.pdf>)

Proper meter maintenance is necessary for collecting valid data for permitting, compliance, enforcement and EPA 106 plan activities as required by the Clean Water Act.

A.2. Vendor shall provide sondes that include the following sensors and meet the minimum specifications below: Temperature, specific conductance, pH with reference electrode (reliable in low and high conductivity streams), and optical (Luminescent) dissolved oxygen. See minimum specification in chart below:

Water Quality Probe Minimum Specifications

Parameter	Range	Accuracy	Resolution
Temperature	-5 °C to 45 °C	+/- 0.20 °C	0.1 °C
Specific Conductivity	0 to 100,000*umhos/cm	+/- 1% of reading	4 digits
pH	2 to 12 units	+/- 0.2 units	0.01 units
Dissolved Oxygen	0 to 20 mg/L	+/- 0.2 mg/L	0.01 mg/L

* Areas of mining or other high conductivity/low pH may need a higher range.

Each sonde must also have sensors with compensation ability, sensor guards, calibration cup with calibration cable, at least a 10-meter cable for use with sondes and handheld dataloggers, an internal power source and have at least 4GB data storage and HDMI or USB ports with cables to transfer data. All handheld dataloggers must have **internal memory and** Bluetooth capability. **All** sondes must be compatible with Panasonic Toughbooks and current mobile technology used by the state (currently Apple products). The sondes shall have a charging cable for vehicle and GPS technology.

A.3. Vendor shall provide deployable models that include turbidity (with separate wiper), depth and chlorophyll sensors. **This includes adequate internal memory.**

Parameter	Range	Accuracy	Resolution
Chlorophyll a	0 - 500 µg/L	± 3%	0.01 µg/L
Turbidity	0 - 3000 NTU	± 5%	1 NTU
Depth	0 - 25 m	± 0.05 m	0.01 m

A.4. Vendor shall provide replacement parts for all sondes, including data loggers and sensor probes and provide a minimum 4-year warranty or a bench service plan.

A.5. Vendor shall complete maintenance and repair services within 10 days of receipt and provide a comparable piece of equipment as a temporary loaner until the maintenance and repair services are completed.

A.6. Vendor shall provide annual training for proper equipment use and routine maintenance to the Division of Water Resources staff in person or virtual and provide complimentary job aids for reference.

