

SPECIFICATIONS FOR SMARTVEND BULK WATER STATION

PART 1 - GENERAL

1.1 Work Included

- 1.1.1 This section covers the design, manufacture, supply, and placing in operation the -----Bulk Water Truck Fill.

1.2 Manufacturer

- 1.2.1 The Bulk Water Truck Fill System shall be as supplied by Johlin Measurement Ltd. 1-888-933-8979 or approved equal.

1.3 Submittals

- 1.3.1 The contractor shall submit two (2) hard copies of shop drawings and information of the proposed system as follows:
- 1.3.1.1 General arrangement drawing
 - 1.3.1.2 Component specification sheets
 - 1.3.1.3 Installation details
- 1.3.2 Submit two (2) copies of operation and maintenance manuals.

1.4 Quality Assurance

- 1.4.1 Manufacturer – The Bulk Water Truck Fill system shall be supplied by one manufacturer that shall assume total responsibility for the parts operating as a whole and shall be manufactured by Johlin Measurements Ltd.
- 1.4.2 Experience – The Bulk Water Truck Fill system shall be a standard product of the manufacturer who is actively engaged in the business of providing these systems. Upon request, the manufacturer shall provide the Utility with a list of previous installations.

PART 2 – PRODUCTS

2.1 SmartKit Console Reload Hand Held

- 2.1.1 SmartKit Console shall utilize Smart Card Technology and program a dollar value onto the card.
- 2.1.2 Console will be password protected from factory and may be changed by administration.
- 2.1.3 SmartKit Console will utilize a SmartKey Card to allow the utility to program individual Smart Cards. This prevent unauthorized usage in event programmer is stolen.
- 2.1.4 Balance limits may be set in SmartKit Console which cannot be exceeded on any card. Balance Limit is set by utility.
- 2.1.5 SmartKit Console may be utilized to debit a value on an existing card.
- 2.1.6 Display will provide beginning and ending balance after transaction.
- 2.1.7 SmartKit Console will store up to 780 transactions which may be downloaded in a text format to a PC. Connection cables to PC are provided with Hand Held.

- 2.1.8 SmartKit Console has a “Blacklist” card function to prevent specific cards from being re-used.

2.2 SmartVend Smart Card Terminal

- 2.2.1 SmartVend terminal shall be complete and functional, ready for field connection to devices, to provide the necessary control of components as specified.
- 2.2.2 Terminal to be housed in a steel enclosure suitable for mounting on exterior or exposed to elements. SmartVend terminal dimensions shall be 14" high x 12" wide x 10" deep.
- 2.2.3 A single lockable hinged door will be provided with Industrial ABLOY key lock. It shall be drill resistant.
- 2.2.4 Card reader shall be cast stainless steel. Plastic will not be allowed.**
- 2.2.5 Key pad to be durable and suited to exterior operation. It is recommended a rain cap or shield be placed over top the unit.
- 2.2.6 Stop Button provided for emergency. Button shall be red in color and be approximately 1.5" x 1.5"
- 2.2.7 Start Button provided to start the transaction. Start button shall be green.
- 2.2.8 SmartVend terminal shall have an internal heater suitable for winter operation.
- 2.2.9 SmartVend Terminal shall be password protected. Password may be changed.
- 2.2.10 SmartVend Terminal will allow for the field setting of pulses values from the meter in pulses per 10 liters or 10 gallons.
- 2.2.11 Price per pulse will be field programmable. Price can be entered as cents per 100 gallons or liters.
- 2.2.12 SmartVend will allow for field programming of a pre-shut down on the volume selected to account for slow closing valves. User is charges for exact volume taken
- 2.2.13 SmartVend will be field programmable for a pre- start volume to account for large tower or pipe fills prior to deliver
- 2.2.14 Terminal shall prompt the user to enter a volume to be delivered. It will shut off automatically on delivery.
- 2.2.15 Terminal must adjust for water taken if system is shutdown prior to pre-selected volume being delivered. SmartCard will be refunded for volume not taken if early shutdown is done.
- 2.2.16 As an option, SmartVend will store transactions to a USB or SD memory device. Smart Card can be down loaded and exported into Excel and sorted.
- 2.2.17 SmartVend may be ordered with optional communication device for downloading the transactions.
- 2.2.18 SmartVend Terminal will be able to “Blacklist” SmartCards that are reported stolen or lost.
- 2.2.19 SmartVend terminal shall be programmed with 16 digits I.D. Number for reports and downloading memory.

2.3 Automatic Reload Station

- 2.3.1 Station shall be fabricated from a rugged steel housing suitable for mounting in an exterior wall.

- 2.3.2 A single lockable hinged door will be provided with Industrial ABLOY key lock. It shall be drill proof.
- 2.3.3 Approximate dimensions will be 22" high x 14" wide x 10 ½"
- 2.3.4 Backup battery for operation in event of power loss.
- 2.3.5 Card dispenser shall hold 250 cards for sale
- 2.3.6 Reload station shall be capable of selling new cards and programming a dollar value onto the card.
- 2.3.7 Reload station shall be capable of reloading old SmartCards.
- 2.3.8 Reload station will accept all US Bills. No change will be given.
- 2.3.9 Reload station shall be suitable for -40F to 140F, 20 – 90% humid

2.4 Bulk Water Meter

- 2.4.1 Meter shall be a 3" Wafer Style Electromagnetic Flow Meter with direct mount Display Converter.
- 2.4.2 Mechanical meters may also be used.
- 2.4.3 Meter shall have a polypropylene liner and 316 SS Electrodes and ground electrode, rated to 225 PSI.
- 2.4.4 Display will count in Gallons or liters and flow rate in gpm or lpm
- 2.4.5 Passive or dry contact will be in 1 or 10 gallon or liter increment.
- 2.4.6 Power supply will be 110Vac.
- 2.4.7 Meter shall be a Flomotion MS1000 and ML 110 Converter.
- 2.4.8 Meter shall be tested with SmartVend terminal or approved by vendor prior to installation.
- 2.4.9 Other size meters may be used.

2.5 Hydraulic Solenoid Valves

- 2.5.1 Main Valves shall be 3" Flanged Hydraulic Valve. Valves will be normally closed, energize to open. Valves will be supplied with speed closing needle valves.
- 2.5.2 Valve solenoids shall be 110V ac.
- 2.5.3 Hydraulic shall be Tyco Raphael Valves Model RF 31.
- 2.5.4 Other size valves may be used.

2.6 Drain Valves

- 2.6.1 Discharge Lines shall have a ½" Solenoid Valve to drain water to prevent freezing.
- 2.6.2 Valves shall be normally open, energize to close, 110Vac, NPT threaded female ends.
- 2.6.3 Valves will be piped to the drain.
- 2.6.4 Valves shall be ASCO Solenoid Valves or equivalent.

2.7 Backflow Prevention

- 2.7.1 Backflow device shall be a 3" or 2" Reduced Pressure Back flow or Double Check with NRS Gate Valves.
- 2.7.2 RF Backflow shall be provided with air gap and piped to drain.

2.7.3 Backflow shall meet all local approvals for local cross connection control.

2.8 Pressure Reducing Valve

2.8.1 PRV shall be a 3" and Flanged.

2.8.2 Pilot Valve will be 2 way brass.

2.8.3 PRV shall have a self cleaning screen filter, needle valve and 60mm pressure gauge

2.8.4 PRV shall be Tyco Raphael Model RAF 60

PART 3 – EXECUTION

3.1 Product Handling, Storage and Delivery

3.1.1 Equipment shall be suitably packaged to avoid damage during handling and shipment.

3.1.2 Should it be necessary to store products prior to installation, the Utility shall place and store all products in storage areas protected from the elements, and in a manner to protect the equipment from moisture, dust, extreme temperatures, and impact.

3.2 Installation

3.2.1 The Utility shall install the Bulk Water Truck Fill System in strict accordance with: (1) the manufacturer's written instructions and recommendations and the manufacturer's installation drawings; (2) the oral and written directions provided by the manufacturer's technical representative; and (3) any additional requirements specified herein.

3.2.2 The Utility shall take all precautions to ensure that the Terminals and other equipment are kept clean and free of any debris, dirt, or other foreign materials, such as iron filings, that may damage the equipment.

3.3 Start-up Services

3.3.1 The manufacturer shall provide installation assistance as per contract arrangement.

3.3.2 On-site training of the hardware shall be provided to the Owner's representatives at the time of the Start-up Services. Training and start up provisions shall be specified by utility as per contract.