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PROJECT MANUAL
FOR THE CONSTRUCTION OF AN
AUTOMATIC PUMPING SYSTEM
FOR
DEER RUN COURSE
SUN 'N LAKE GOLF CLUB

SEBRING, FLORIDA

DECEMBER 2018

PREPARED BY

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**AUTOMATIC PUMPING SYSTEM
DEER RUN GOLF COURSE**

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BID

DOCUMENTS

**ITEMIZED PRICE LIST
AUTOMATIC PUMP STATION INSTALLATION
SUN 'N LAKE GOLF CLUB**

Estimates shall include tasks listed herein, preparation, materials, installation, clean-up, and related work. The total of the Itemized Price List shall equal the Lump Sum Total.

PUMP STATION SYSTEM

The proposal shall be broken down as follows:

ITEM	COSTS
1. Pump Station Supply and Installation	
A. Mobilization	\$ _____
B. Pump Station Supply and Installation	\$ _____
C. Removal of Existing Pump Station Equipment	\$ _____
D. Electrical	\$ _____
LUMP SUM TOTAL	\$ _____

It is the intent that the total of item 1 equals the total maximum guaranteed construction costs for all the work shown in the drawings and the project manual complete installation of a new pumping station.

Total base bid for all labor, materials, services, and equipment necessary for completion of the Work shown on the drawings and the Project Manual.

The above prices are based upon the bid item descriptions in the immediately following pages and reflect consideration given to provision of labor and materials to perform the work therein referred to or described.

By: _____ Title: _____

Company: _____ Date: _____

**SUBCONTRACTORS AND PRODUCT LIST
AUTOMATIC PUMP STATION INSTALLATION**

<u>Item of Work</u>	<u>Subcontractor and/or Supplier</u>	<u>Product or Manufacturer</u>
Pump Station	_____	_____
Electrical	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

By: _____

Title: _____

Company: _____

Date: _____

END

TECHNICAL

SPECIFICATIONS

Technical Specifications

Project: Provide all materials and labor needed to completely install a new main pump station control panel, pressure relief valve, new main 125 hp well pump and pump station discharge piping that will be connected to the existing main drop pipe and existing 40 HP well piping.

New pump station control panel specified or approved equal:
MCI UL Listed QCZJ Packaged Pump Station Control Panel

THIS PROJECT WILL REUSE THE EXISTING 40 HP DEEP WELL JOCKEY PUMP / MOTOR, 125 HP MOTOR AND THE EXISTING MAIN POWER DISCONNECT

Standard MPC controls with single VFD drive per pump. Built under ISO9001:2008 certification.

MPC Standard Controls

- UL 508a Listed Control Panel
- Short Circuit Current Rating 100 ka
- NEMA 3R Enclosure w/3 Point Latch
- UL Listed heat exchanger for control system cooling
- 400 amp Main Fused Disconnect
- Type 1 Surge Protection w/status indicators
- Incoming Line Phase Monitor w/primary fusing
- Dedicated 40 HP & 125 HP Danfoss Aqua Drives
 - high speed JKS fuse protection
 - 3 ½% DC Input Link Reactor
 - Extended Heat Sink through the back of the enclosure
 - 40 HP & 125 HP 6 Year Warranty on Danfoss VFDs which includes coverage against damages from momentary line or load anomalies such as lightning strikes.
- AB compactlogix PLC Platform
- AB 10" Panelview +6 Color HMI
- AB 5 Port Ethernet Switches
- AB DC Power Supply
- AB "Full Size" 30 mm N4 Door Devices
 - Green Illuminated Switch per pump
 - Manual Speed Pot per pump
 - System Switches: System Control, Low Discharge, VSD Bypass, PLC Bypass, and Red Illuminated Fault Push Button
- GFCI Outlet
- Control Power Transformer w/primary/secondary fusing
- Flow Signal Input: 4-20mA
- Lake Level Controls
- Safeties:
 - Low level shutdown
 - Low discharge pressure shutdown
 - High discharge pressure shutdown w/auto restart
 - VSD fault with auto restart
 - Solid State Overload shutdown per motor
 - Phase Failure, Imbalance and low voltage protection
- Operation Features
 - Lamp Test Function
 - Automatic alternation of pumps based on least run time
 - Intelligent Slow Ramp feature for automatic line fill
 - VFD Bypass
- 10" Color Touch screen interface

3 Year Flow Total Logging Year/Month/Day
Pump Run Times
Event Log
Flow and Station Trending
Assignable I/O

- **MPC Remote Cell Monitoring w/1 Year Activation 250 MB Data Plan Limit per month**
- **nSite, MCI's Cloud Based Solution NO SUBSCRIPTION FEE**
 - Scheduled monthly email with flow report in Excel format
 - Access to one full year of pressure, flow, alarms and event data
- **nAlert**
 - Manage maintenance due dates for all aspects of maintenance on your pumping station.
 - Warning light, display message and email alert when due.
 - Monitor and report irregular operation of irrigation system , pump system and filter system.

Instrumentation or approved equal

SS Wika Pressure Transmitter 0-250 PSIG
8" Siemens 5100W Magnetic Flowmeter with local display, flanged connections, ebonite liner
Durachoice 4" Pressure Gauge w/isolation ball valve

Main discharge pipe

Fabricated schedule 40 steel main discharge pipe section that will connect the existing 40 HP jockey pump and the new 125 HP main pump to the existing main discharge drop pipe. This new main pipe should also be complete with all pressure sensing ports and relief valve flange connection point.

Pressure relief valve or approved equal

90G-01ABPSKC 4" Hytrol Pressure Relief Valve, Straight, Flanged, 30-300 psi

Main 125 HP line shaft vertical turbine well pump or approved equal

Goulds 12CC/O, 5 Stage vertical turbine pump set at 150' overall depth using 10' long - 8" steel column pipe sections, stainless steel line shafting, stainless steel inlet strainer, 8" cast iron discharge head with new 8" wafer style check valve. Pump should provide 1200 GPM @ 260' TDH Main. 125 HP deep well pump pricing will be based on the reported depth of the existing jockey pump. If the existing main 125 HP is set deeper or if the existing well has problems that require additional labor to complete the work listed, it would be billed additional based on the time, materials and equipment needed.

Warranty items

6 year warranty on Variable frequency drive (Includes lightning damage coverage and labor to replace or repair)

6 Year Warranty on ALL COMPONENTS IN ELECTRICAL PANEL, Inclusive of power related damage such as lightning. Includes parts only labor would be billable after 1 YR.

1 year warranty on structural / mechanical portion of pump station including pumps, motors, piping, valves and flow meter. Does not include crane if applicable.

Contractor will provide:

- *Provide all equipment and labor to provide a complete installation.
- *Disassembly and removal of the specified existing pump station components to be replaced
- *Complete new pump station control panel installation, new main well pump installation, new discharge pipe installation and final assembly.
- *All electrical materials and labor needed to run new main wire and conduit from the existing 400 amp, disconnect to the new pump station control panel.
- *Reconnect any electrical components in use that are disconnected during construction.
- *New main 125 HP motor wiring / conduit
- *Complete station startup, test, tune and training with the customer to ensure proper operation.

Customer will provide tax exempt certificate