

Pine Mountain POA (Drinking Water Summary)

Facility Information:

Water System: PWS# NC0112133

Connelly Springs, Burke County, NC

~100 Service connections

Assets: Three groundwater well, one ground storage tank, well house building, Master water meter, Chemical feed controllers & system, SCADA system and Distribution System

Description of need:

Pine Mountain POA Water System is a groundwater system located in Burke County and it provides water to Pine Mountain subdivision. There are two water treatment facilities, which houses the chemical disinfection systems. There are no records for inspections for the ground storage tank and hydropneumatics tank. The system was constructed 44 years ago, and no remote monitoring system in the wells on this site. Well rehabilitation are needed to verify the well operational status and performance. Pump Station buildings required interior and exterior repairs, due to structural interior concerns. Gauges, piping, and control panels show evidence of rust and surface corrosion. Due to the age of the system, the meter vault needs to be inspected in order to determine if any equipment is due for replacement.

Proposed Improvements:

In order to ensure the longevity and performance of the Pine Mountain POA System, Red Bird Water Utility Operating Company plans to make improvements to the system. In order to ensure that operations can be effectively to abnormal operating conditions and ensure proper operations, the well will need to be inspected and rehabilitated. The ground storage tank will need to be inspected, cleaned, repainted and new valve will be added. The well treatment plants will need repairs and foundation will be inspected for structural integrity. Mission monitoring unit will need to be installed for remote monitoring. These improvements will ensure the system can provide safe and reliable service to customers and will bring the facilities into a maintainable condition moving forward.

Pine Mountain (Water) 5-year Improvements Plan					
Water Production System					
No.	Description	QTY	Unit	Unit Price	Cost
1	Install SCADA System	3	EA	\$10,000	\$30,000
2	Replace Existing Pump Controller with Reduced Voltage Solid State Starter & Associated Controls in PML Well No. 1, 7 and NR Well	3	EA	\$15,000	\$45,000
3	Replace Distribution Panelboards in Wellhouse No. 1 & 7	2	EA	\$15,000	\$30,000
4	Repairs to Wellhouse No. 7 Exterior	1	LS	\$5,000	\$5,000
5	Paint all Valves, Pipe Fittings & Pipes in Both Systems	1	LS	\$10,000	\$10,000
6	Replace NR Water Meter	1	LS	\$2,200	\$2,200
Subtotal					\$122,200

Water Distribution System					
No.	Description	QTY	Unit	Unit Price	Cost
1	Install SCADA System	6	EA	\$10,000	\$60,000
2	Replace Existing Pump Motor Controllers & Associated in All Pump Stations	5	EA	\$20,000	\$100,000
3	Install Security Fencing at all Wells, Pump Stations & Tanks	1500	LF	\$30	\$45,000
4	Paint all Valves, Pipe Fittings & Pipes of Both Systems	2	EA	\$10,000	\$20,000
5	Replace Distribution Panelboard of PML Pump Station No. 1 & 2	2	EA	\$15,000	\$30,000
6	Install New Roof on Pump Stations No. 1, 2 & 3	3	EA	\$5,500	\$16,500
7	Install New Vertical Multistage Centrifugal Pumps with New Piping in all Pump Stations	3	EA	\$25,000	\$75,000
8	Move Electrical Equipment of Pump Station No. 1 to Exterior of Building	1	LS	\$5,000	\$5,000
9	Install New 3,000-gal Storage Tank at Nutbush Site	1	LS	\$80,000	\$80,000
10	Add Overflow Pipe to 30,000-gal Tank off Holly Road	1	LS	\$5,000	\$5,000
11	Recoat Interior & Exterior of 30,000-gal Tank off Holly Road	1	LS	\$25,000	\$25,000
12	Repair Concrete Structure Supporting Motor in NR Pump Station No. 1	1	LS	\$250	\$250
13	Install Redundant Pump in NR Pump Stations	2	EA	\$10,000	\$20,000
14	Replace Surge Valve in NR Pump Station No. 1	1	EA	\$7,500	\$7,500
15	Install New Valves in NR Pump Station No. 1	2	EA	\$2,500	\$5,000
16	Install 120V / 240V, Single-Phase, 3 Wire Service at NR 30,000-gal Tank Site with Surge Protective Device	1	LS	\$20,000	\$20,000
17	Install Safety Cage Around Exterior Ladder of NR 30,000-gal Tank	1	LS	\$5,000	\$5,000
18	Repair Access Road to NR Pump Station & 10,000-gal Tank	5000	SF	\$10	\$50,000
19	Recoat Interior & Exterior NR 30,000-gal Storage Tank	1	LS	\$25,000	\$25,000
20	Install Tank Level Sensor at NR 30,000-gal Tank	1	EA	\$7,500	\$7,500
21	Install Chlorine Booster Station at Each NR Pump Station	2	EA	\$15,000	\$30,000
Subtotal					\$631,750

Pine Mountain (Water) 10-year Improvements Plan					
Water Production System					
No.	Description	QTY	Unit	Unit Price	Cost
1	Replace Chemical Feed Pump Controls for PML Well No. 1 & NR Well	2	EA	\$10,000	\$20,000
2	Replace Electrical Distribution Equipment in NR Well	1	LS	\$20,000	\$20,000
Subtotal					\$40,000

Water Distribution System					
No.	Description	QTY	Unit	Unit Price	Cost
1	Recoat Interior & Exterior of 79,000-gal Tank off Holly Road	1	LS	\$60,000	\$60,000
2	Recoat Hydropneumatic Tank on Holly Road	1	LS	\$10,000	\$10,000
3	Replace Electrical Distribution Equipment in NR Pump Stations	2	EA	\$15,000	\$30,000
Subtotal					\$100,000

Pine Mountain (Water)		
No.	Description	Cost
1	Water Production System (5-year Plan)	\$122,200
2	Water Distribution System (5-year Plan)	\$631,750
3	Water Production System (10-year Plan)	\$40,000
4	Water Distribution System (10-year Plan)	\$100,000
Total		\$893,950