

Distribution-Major Construction

Hardin Co Water District 1

Facility Requirements

Activity ID No.:APE20220001

Page 1 of 4

PORT000000089 (Brizendine BPS Improvements) Booster Pump Station capable of 150 gpm @ 205 ft. of TDH each:

Narrative Requirements:

Condition No.	Condition
T-1	Construction of this project shall not result in the water system's inability to supply consistent water service in compliance with 401 KAR 8:010 through 8:600. [401 KAR 8:100 Section 5]
T-2	The public water system shall not implement a change to the approved plans without the prior written approval of the cabinet. [401 KAR 8:100 Section 4(3)]
T-3	A proposed change to the approved plans affecting sanitary features of design shall be submitted to the cabinet for approval in accordance with Section 2 of this administrative regulation. [401 KAR 8:100 Section 4(2)]
T-4	During construction, a set of approved plans and specifications shall be available at the job site. Construction shall be performed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 3(1)]
T-5	Unless construction begins within two (2) years from the date of approval of the final plans and specifications, the approval shall expire. [401 KAR 8:100 Section 3(3)]
T-6	Upon completion of construction, a professional engineer shall certify in writing that the project has been completed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 4(1)]
T-7	The system shall be designed to maintain a minimum pressure of 20 psi at ground level at all points in the distribution system under all conditions of flow. [Recommended Standards for Water Works 8.2.1, Drinking Water General Design Criteria IV.1.a]
T-8	Pumping facilities shall be elevated to a minimum of three feet above the 100-year flood elevation, or three feet above the highest recorded flood elevation, whichever is higher, or protected to such elevations, [Recommended Standards for Water Works 6.1.1.a]
T-9	Pumping facilities shall be readily accessible at all times. [Recommended Standards for Water Works 6.1.1.b]
T-10	Pumping facilities shall be graded around the station so as to lead surface drainage away from the station. [Recommended Standards for Water Works 6.1.1.c]
T-11	Pumping facilities shall be protected to prevent vandalism and entrance by animals or unauthorized persons. [Recommended Standards for Water Works 6.1.1.d]
T-12	Raw and finished pump stations shall have adequate space for the installation of additional units if needed, and for the safe servicing of all equipment. [Recommended Standards for Water Works 6.2.a]
T-13	Raw and finished pump stations shall have floors that slope to a suitable drain. [Recommended Standards for Water Works 6.2.e]

Distribution-Major Construction

Hardin Co Water District 1

Facility Requirements

Activity ID No.:APE20220001

Page 2 of 4

PORT000000089 (Brizendine BPS Improvements) Booster Pump Station capable of 150 gpm @ 205 ft. of TDH each:

Narrative Requirements:

Condition No.	Condition
T-14	Raw and finished pump stations shall provide a suitable outlet for drainage from pump glands without discharging onto the floor. [Recommended Standards for Water Works 6.2.f]
T-15	At least two pumping units shall be provided. With any pump out of service, the remaining pump or pumps shall be capable of providing the maximum pumping demand of the system. [Recommended Standards for Water Works 6.3]
T-16	Pumps shall have ample capacity to supply the peak demand against the required distribution system pressure without dangerous overloading, [Recommended Standards for Water Works 6.3.a]
T-17	Pumps shall be driven by prime movers able to meet the maximum horsepower condition of the pumps. [Recommended Standards for Water Works 6.3.b]
T-18	Pumps shall be provided with readily available spare parts and tools. [Recommended Standards for Water Works 6.3.c]
T-19	Pump stations shall have indicating, totalizing, and recording metering of the total water pumped. [Recommended Standards for Water Works 6.6.3]
T-20	Each pump shall have a standard pressure gauge on its discharge line. [Recommended Standards for Water Works 6.6.3.a]
T-21	Each pump shall have a compound gauge on its suction line. [Recommended Standards for Water Works 6.6.3.b]
T-22	Where two or more pumps are installed, provision shall be made for alternation. [Recommended Standards for Water Works 6.6.5]
T-23	Provisions shall be made to prevent energizing the pump motor in the event of a backspin cycle. [Recommended Standards for Water Works 6.6.5]
T-24	Electrical controls shall be located above grade. [Recommended Standards for Water Works 6.6.5]
T-25	Equipment shall be provided or other arrangements made to prevent surge pressures from activating controls which switch on pumps or activate other equipment outside the normal design cycle of operation. [Recommended Standards for Water Works 6.6.5]
T-26	Pump stations shall have a power supply provided from at least two independent sources or a standby or an auxiliary source. [Recommended Standards for Water Works 6.6.6]

Distribution-Major Construction

Hardin Co Water District 1

Facility Requirements

Activity ID No.:APE20220001

Page 3 of 4

PORT000000089 (Brizendine BPS Improvements) Booster Pump Station capable of 150 gpm @ 205 ft. of TDH each:

Narrative Requirements:

Condition No.	Condition
T-27	If standby power is provided by onsite generators or engines, the fuel storage and fuel line must be designed to protect the water supply from contamination. [Recommended Standards for Water Works 6.6.6]
T-28	All lubricants which come into contact with the potable water shall be certified for conformance to ANSI/NSF Standard 60. [Recommended Standards for Water Works 6.6.8]
T-29	Booster pumps stations shall have a bypass available. [Recommended Standards for Water Works 6.4.e]
T-30	Each booster pumping station shall contain not less than two pumps with capacities such that peak demand can be satisfied with the largest pump out of service. [Recommended Standards for Water Works 6.4.1]
T-31	All booster pumping stations shall be fitted with a flow rate indicating and totalizer meter. [Recommended Standards for Water Works 6.4.2]
T-32	Inline booster pumps shall be accessible for servicing and repairs. [Recommended Standards for Water Works 6.4.3]
T-33	Each pump must have an isolation valve on the intake and discharge side of the pump to permit satisfactory operation, maintenance and repair of the equipment. [Recommended Standards for Water Works 6.6.1]
T-34	Each pump shall have a positive?acting check valve on the discharge side between the pump and the shut?off valve. [Recommended Standards for Water Works 6.6.1]
T-35	Pump station piping shall be designed so that the friction losses will be minimized, not be subject to contamination, have watertight joints, be protected against surge or water hammer with suitable restraints when necessary, and be such that each pump has an individual suction line or the lines shall be manifolded that they will insure similar hydraulic and operating conditions. [Recommended Standards for Water Works 6.6.2]
T-36	Booster pumps taking suction from storage tanks shall be provided adequate net positive suction head. [Recommended Standards for Water Works 6.4.b]
T-37	Booster pumps shall controlled so that automatic shutoff or low pressure controllers maintain at least 20 psi in the suction line under all operating conditions. [Recommended Standards for Water Works 6.4.c]
T-38	Booster pumps taking suction from ground storage tanks shall be equipped with automatic shutoffs or low pressure controllers. [Recommended Standards for Water Works 6.4.c]

Distribution-Major Construction

Hardin Co Water District 1

Facility Requirements

Activity ID No.:APE20220001

Page 4 of 4

PORT000000089 (Brizendine BPS Improvements) Booster Pump Station capable of 150 gpm @ 205 ft. of TDH each:

Narrative Requirements:

Condition No.	Condition
T-39	All automatic pump stations should be provided with automatic signaling apparatus which will report when the station is out of service. [Recommended Standards for Water Works 6.5]
T-40	All remote controlled stations shall be electrically operated and controlled and shall have signaling apparatus of proven performance. [Recommended Standards for Water Works 6.5]
T-41	Raw and finished pump stations shall have underground structure waterproofed. [Recommended Standards for Water Works 6.2.d]