

March 10, 2022

ADDENDUM NO.1

9.0 WASTEWATER COLLECTIONS

This addendum forms a part of the Engineering Criteria Design Manual for the City of Broken Arrow and modifies the document as detailed below.

Please note the following changes in **Section 9.6 Construction Parameters**. Delete Section 9.6.6 in its entirety and replace with the following:

- 9.6.6 Lift Stations (DEQ approval required – must comply with section 252-656-7-3 Submersible pump stations). Suction lift pump stations are not allowed. Pumps must be in parallel. Pumps in series are not allowed.
- A. Wet Well – Submersible pumps must be installed with a back-up generator and adequate ventilation may be either continuous or intermittent.
 - B. Style – Duplex System with one pump serving as a back-up pump;
 - C. Firm Capacity – Provide at least two pumps. With any pump out of service the remaining pump(s) must have the capacity to handle maximum sewage flows.
 - D. Minimum Suction Opening – 4 inches in diameter;
 - E. Clog Protection – Pump intake must have screening devices to protect against clogging;
 - F. Controls – Provide control system that alternates operation of each individual pump;
 - G. Wet Well Volume – Effective wet well volume shall be sized based on the design average flow in order to adequately fill in 30 minutes or less (maximum hold time is 3 hours);
 - H. Pump Start Frequency – Each pump shall be sized adequately to start and stop less than 6 times per hour as a maximum. The longest duration between any pump stopping to the next pump starting must be 30 minutes or less;
 - I. Security – Provide secure site around lift station;
 - J. Alarm System – Provide an automatic alarm system capable of alerting appropriate personnel of an equipment failure before an overflow occurs;
 - K. Emergency Operations – One of the following must be met:
 - 1. On-site standby generator or engine-driven pump that has automatic means of activation during equipment or power failure – one hour of minimum storage at design flow above the alarm level is required;

2. Portable engine-driven pump with a quick connect to the force main – four hours of minimum storage at design flow above the alarm level is required;
 3. 24 hours of storage at design flow above the alarm level with visual/audio alarm system as a minimum.
 4. On-site engine-driven pump with one hour of emergency storage at design flow above the alarm level and an automatic means of activation; or
 5. A portable engine-driven generator with four (4) hours of emergency storage at the design flow above the alarm level, a telemetry alarm system that communicates to the person in charge of the lift station, and a transfer switch with electrical system components that comply with the National Electrical Code requirements that is pre-wired to allow for a ready connection between the lift station and the portable generator.
- L. No emergency overflow basin shall be permitted within the City, unless approved by the Director of Engineering and Construction.
- M. Flood Protection – Pumps, mechanical and electrical equipment shall be protected from physical damage by the 1% chance (100-year return event) storm. Access to the station shall be maintained up to and including the 4% chance (25-year return event) storm;
- N. Buoyancy – Lift station shall remain stable against buoyancy for extreme groundwater and flood conditions.
- O. The SCADA system shall be integrated with BAMA’s city-wide SCADA system.

THIS ADDENDUM IS MADE PART OF THE ENGINEERING DESIGN CRITERIA MANUAL, AND SHALL BE ACKNOWLEDGED.

Respectfully,

CITY OF BROKEN ARROW



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