

Engineer's Test and Certification of Pump Station

The Engineer shall be responsible to conduct a pump station start up to verify the proper operation of each of the pumps and the pump station as a whole, and shall record such operating data as will define the operating characteristics of the pump system.

Project Name : _____

Project address: _____

Date of test : _____

1. Has the force main been previously passed the pressure tested. Yes _____ No _____
2. (For manifolded force main systems) other connected pumps connected to the force main are turned off Yes _____ No _____
3. At start of test the force main is full of water Yes _____ No _____
4. At start of test the water level is below the gravity sewer invert Yes _____ No _____
5. Little or no water is draining into the station Yes _____ No _____
6. Predicted gauge pressure reading _____ PSI
7. Test gauge pressure range _____ to _____ PSI.
8. Calibrated pressure gauge(s) Yes _____ No _____ Explain _____
9. Design operating conditions GPM _____ at _____ Ft TDH
10. Attached data sheet for actual pump down tests, signed by the engineer.
11. Attach pump vendors check list, signed by vender as functioning properly.
12. Describe any significant deviation in operation between design and actual operation and between pumps. Observation, reason & likely result of difference. _____

13. Inspection of the system:

- a. Is the system is clean, free of debris Yes _____ No _____
 - b. is the system is complete and per design Yes _____ No _____
 - c. are there any leaks Yes _____ No _____
 - d. is it obvious that during a heavy rain storm that storm flow will move from the station to the drainage system, thus preclude flooding the station. Yes _____ No _____
1. Whether the station is ready to certify and place into operation. Yes _____ No _____
 2. Comments _____

Engineer's certification: Engineer (printed) _____ PE # _____
Engineer's signature, seal _____
Date _____
Engineer's firm _____ Cert. # _____
Firms address _____

Engineer's Test and Certification of Pump Station Test & Reporting Requirements

The Engineer shall assure that the Pump Station and force main start up test and inspection shall be complete and thorough, such that :

1. The force main has (had) been previously pressure tested and has passed.
2. Arrangements have been made (for manifolded force main systems) to assure that other pumps connected to the force main are turned off (unless impractical) to avoid interfering with test results.
3. The force main pumping test can be performed with a full force main to yield actual operating pump head and pump flow rates. It may take a substantial amount of water (and time) to fill the force main.
4. On start of the pump down test, the water level is below the gravity sewer invert and that water (more than insignificant) is not draining from the gravity sewer.
5. That the pump test be performed using a calibrated pressure gauge of proper range to gauge the Total Dynamic Head (TDH) during operation. Proper range shall mean the pump shall operate between 25% and 75% of full gauge pressure range. The TDH shall be reported as pressure converted to Feet of Head, adjusted by adding the feet of water column between the elevation of the gauge and the water surface.
6. The test for each pump shall be for at least one minute, unless impractical, in which case the test shall be of an adequate period to obtain stable operation and accurate pump rate.
7. When pump operation results differ by more than 20% from design or between pumps, the reason for the deviation and what affect such deviation would likely have on the system performance (including line velocity) and needed capacity.
8. Inspection of the system:
 - a. whether the system is clean
 - b. whether the system is complete and per design
 - c. whether any leaks are apparent
 - d. whether from inspection it is obvious that storm runoff during a heavy rain storm would flow from the station to the drainage system, to preclude flooding the station.
1. Whether the station is ready to certify and place into operation upon DEP clearance.