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http://www.vbgov.com/government/departments/planning/DSC/Pages/default.aspx

City of Virginia Beach Planning Development Services

Submittal Form

Private Sanitary Sewer Pump Station Plan

Used for a privately owned and maintained sanitary sewer pump station, including individual or shared sewage systems.

DSC Received Date Stamp

Date: _____

Design Professional Name: _____
Email Address: _____ Phone #: _____
Business Name: _____
Mailing Address: _____

Developer Name (Company): _____Point-of-Contact: _____
Email Address: _____Phone #: _____

Current Property Owner Name: _____
Email Address: _____ Phone #: _____

Plan Title: _____

The following items are required to be submitted for review. Please note that the plan submittal will be checked for completeness prior to acceptance for review. Incomplete submittals will not be accepted for review.

- Review fee payment must be made prior to acceptance of the plan for review. Please reference the DSC Fee Chart
- Development Plan - Electronic document submittal thru ACCELA or on a CD, PLUS 1 paper copy (no larger than 24" x 36"; stapled and folded accordion style to 9"x12")
- Supporting project narrative, calculations and reports. Each item below must be an electronic document submittal thru ACCELA or on a CD, PLUS 1 paper copy bound by staple, ring or comb binder and containing a signed and dated professional seal on the cover.
  - Project Narrative
  - Private Pump Station Design Review Checklist (see next page)
  - Soil Boring and Geotechnical Report (if applicable)
  - Phase I Environmental Site Assessment

Which city staff has been informed of this plan through meetings, phone conversations or emails?

_____

What issues were discussed?

_____

- ☐ Engineer's Cost Estimate
- ☐ Service Area Map
- ☐ Emergency Power Narrative
- ☐ HRSD Letter indicating Head at Connection Point
- ☐ Request for HRSD flow acceptance letter
- ☐ Request for City's flow acceptance letter
- ☐ Planning & Analysis capacity assurance
- ☐ Method of Continuous Operation:
  - ☐ on-site emergency generator with an automatic switchover feature
  - ☐ signed maintenance agreement
  - ☐ other _____
- ☐ Verification Letter from Dominion Virginia Power for Adequate Electrical Service
- ☐ Encroachment Agreement
- ☐ Maintenance Agreement (unless the station has an on-site generator with automatic switchover)

Pump Station Design Calculations:

- ☐ Design Flow (Q) Calculations – include average GPD, peak gpm, and the peak factor
- ☐ Hours of Operation
- ☐ Current and Future Flows (if applicable)
- ☐ Wet Well Sizing Calculations
- ☐ Cycle Time Calculations
- ☐ Force Main Sizing Calculations
- ☐ NPSH Calculations
- ☐ System Head Calculations for C=100 and C=120
- ☐ Pump Curve with System Curves for C=100 and C=120
- ☐ Air Exchange/Ventilation Calculations (if applicable)
- ☐ Overflow Calculations at Peak Flow
- ☐ Structural Calculations
- ☐ Buoyancy Calculations

Plans and Specification must include:

- ☐ Adequate Title and Legible Plans
- ☐ GPIN Number
- ☐ Original P.E. seal, signature, and date on each cover sheet of the plans and specifications
- ☐ Facsimile P.E. seal, signature, and date on each subsequent sheet of the plans
- ☐ Date on the plans and specifications
- ☐ Owner's name, address, and phone number
- ☐ Engineer's name, address, and phone number
- ☐ Project location (1:2000 map)
- ☐ Site plans with topography
- ☐ Adequate Buffer around the pump station (best location possible)
- ☐ 100-year flood elevation (NAVD 1988)
- ☐ All weather access road
- ☐ Grease interceptor if applicable
- ☐ Pump Selection Catalog Cut
- ☐ Pump Selection (gpm vs. TDH) – three points
- ☐ Pumps can pass a 3-inch solid, or are grinder pumps
- ☐ Motor Selection (HP)
- ☐ Automatic alternating controls
- ☐ Control Panel above flood elevation and NEMA rating: _____
- ☐ NO junction box in the wet well or subject to flooding
- ☐ Float controls a minimum of 6-inches apart
- ☐ Gate valve and check valve on each discharge line

- ☐ Adequate provisions for lighting around the station
- ☐ Adequate ventilation (30 air changes/hour or screened vent)
- ☐ Adequate access to wet well and valve vault for maintenance
- ☐ Lifting chains and guide rails easily accessible
- ☐ Adequate protection of potable water lines
- ☐ Details of the alarm system:

Monitors:
- ☐ main power supply
- ☐ auxiliary power supply
- ☐ failure of each pump to discharge
- ☐ high liquid level in wet/dry wells

Be Equipped With:
- ☐ a test function
- ☐ back-up power supply for alarm
- ☐ On-site audio-visual alarm
- ☐ Sign with notification procedures
- ☐ telemetry to site manned 24 hours per day

- ☐ Electrical specifications
- ☐ City's or HRPDC's standard specifications referenced

Pump Station Information:

FLOWS (VDH)	gpd	gpm	FLOWS (RTS)	gpd	gpm
AVG			AVG		
PEAK	N/A		PEAK	N/A	

Peak Factor =

Peak Factor =

Description of Project:

- ☐ The project has been designed for an average daily flow of _____ gpd. This project is located _____ and consists of the installation of a pump station and a force main to serve _____. The pump station will be equipped with (duplex/simplex) (submersible/grinder/suction lift) pumps, each rated at _____ gpm vs. _____ feet TDH, powered by a _____ HP motor. Sewage from the pump station will flow through approximately _____ feet of _____-inch diameter force main to an existing (manhole/force main). The receiving pump station is _____