

ENGINEERING REPORT

For
County of Henrico
Department of Public Utilities

Project Title

PROJECT CHECKLIST AND CERTIFICATION

- | Yes | No | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Virginia professional engineer's stamp, signature, and date properly affixed and signed. |
| <input type="checkbox"/> | <input type="checkbox"/> | Plan and profile sheets are on 24" x 36" paper, unless otherwise approved. Drawing organization and format comply with Section 5 of the Standards. |
| <input type="checkbox"/> | <input type="checkbox"/> | A Cover Sheet is provided which includes the Owner/Developer name and address, a project vicinity map with a north arrow. "Utility" has been included in the project title (if applicable). |
| <input type="checkbox"/> | <input type="checkbox"/> | The sewer plans include stationing, pipe size, material, bearings, the direction of flow, deflection angles, grade and distance between centerline of manholes. Benchmarks are shown every 500 feet. |
| <input type="checkbox"/> | <input type="checkbox"/> | All sanitary sewers are profiled. Crossings with other utilities are shown and conflicts resolved. |
| <input type="checkbox"/> | <input type="checkbox"/> | All water mains 8-inches and larger are profiled. Where water mains of any size cross other utilities, these crossings are profiled, and the means for crossing and resolving any conflicts are clearly shown. |
| <input type="checkbox"/> | <input type="checkbox"/> | Domestic water meter calculations are shown on plans, where applicable. |
| <input type="checkbox"/> | <input type="checkbox"/> | I.S.O. Fire Flow computations are shown on plans, where applicable. |
| <input type="checkbox"/> | <input type="checkbox"/> | All proposed water and sewer lines connect to existing water and sewer lines which have been previously accepted by the County for operations and maintenance. |
| <input type="checkbox"/> | <input type="checkbox"/> | <u>Approximate Material Quantities</u> and <u>Water and Sewer Notes</u> are shown on the plans. |
| <input type="checkbox"/> | <input type="checkbox"/> | A Backflow Prevention Device is provided on domestic and fire service connections in accordance with Part II, Article 3 of the Commonwealth of Virginia, State Board of Health Waterworks Regulations and the Utility Standards. |
| <input type="checkbox"/> | <input type="checkbox"/> | Plans comply with all applicable Local, State, and Federal regulations required for water and/or sewer facilities. Application has been made for all required permits |

Required documents that are included with this Engineering Report include:

- | Yes | No | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | System Layout Plan |
| <input type="checkbox"/> | <input type="checkbox"/> | Water and Sewer Design Calculations |
| <input type="checkbox"/> | <input type="checkbox"/> | Sewer Design Form |
| <input type="checkbox"/> | <input type="checkbox"/> | Water Local Review Program |
| <input type="checkbox"/> | <input type="checkbox"/> | Notification of Intent to Discharge Sanitary Sewer |
| <input type="checkbox"/> | <input type="checkbox"/> | Information Sheet for Legal Agreement (Information Sheet may be submitted separately) |

I have reviewed this Checklist for accuracy and hereby certify that the water and/or sewer plans submitted have been designed in accordance with the latest County Standards, VDH Waterworks Regulations, and SCAT Regulations (whichever is more restrictive). The plans have been reviewed for completeness and accuracy and are herewith submitted for approval.

_____ Signature	_____ P.E.	_____ Certificate Number
_____ Name, Typed or Printed		_____ Date

WATER AND SEWER DESIGN CALCULATIONS

LOCATION _____ SPS (BASIN) _____

USE _____ ACREAGE _____

EQUIVALENT POPULATION _____ POPULATION DENSITY _____

IS PROJECT PHASED YES NO (circle one)

IF YES, THEN OVERALL PLAN IS REQUIRED AND SHOULD BE ATTACHED.

SANITARY SEWER DESIGN:

DESIGN BASIS _____ SOURCE _____

EQUIVALENT RESIDENTIAL UNITS _____

AVERAGE DESIGN FLOW, MGD (ON-SITE) _____

OFF-SITE FLOW CONTRIBUTION, MGD (AVERAGE) _____

AVERAGE DESIGN FLOW, MGD (TOTAL) _____

PEAK FLOW, MGD _____ PEAKING FACTOR _____

DOWNSTREAM MANHOLE NUMBER _____

ATTACH SEWER DESIGN FORM (FORM F-4)

WATER SYSTEM DESIGN:

DESIGN BASIS _____ SOURCE _____

NUMBER OF UNITS _____

AVERAGE DESIGN FLOW, GPM (ON-SITE) _____

PEAK HOUR FLOW, GPM _____

DESIGN FIRE FLOW, GPM _____

TOTAL DESIGN PEAK FLOW, GPM _____

LOWEST RESIDUAL PRESSURE IN SYSTEM AT TOTAL DESIGN PEAK FLOW, PSI _____

ATTACH HYDRAULIC CALCULATIONS

SEWAGE PUMPING STATIONS AND FORCE MAINS

A MEETING WITH THE DPU DESIGN DIVISION IS REQUIRED TO DETERMINE THE REQUIREMENTS FOR ASSESSMENT OF THE SERVICE AREA AND SCOPE OF THESE ENGINEERING CALCULATIONS.