



Town of Ridgeland

One Town Square · Post Office Box 1119 · Ridgeland, SC 29936

Proposed Water and Sewer Design Review Approval Process

Submittal Requirements

The purpose of the design approval process is to verify that the developer, through his/her consulting engineer, is presenting a project that meets SCDHEC regulations and Town of Ridgeland water and sewer standards. Once the design package is approved by the Town of Ridgeland, SCDHEC will issue a project-specific construction permit. The following submittal requirements have been compiled in an effort to streamline the review process.

Design Drawings

At a minimum, the following elements are required on the respective sheets for proper review of a standard design submittal

- Survey prepared by SC licensed professional land surveyor
- Design drawings signed/sealed by a SC licensed professional engineer
- Design based on Town of Ridgeland water/sewer standards
- Water and Sewer Utility Sheets
 - Utility Plan Sheets
 - Existing and/or proposed layout of the development, in sufficient detail to show roads, streets, lot layouts and phasing limits, as well as water bodies and wetlands
 - All existing roads, including streets of record (recorded but not constructed) on or abutting the tract shall be shown, including the names and right-of-way widths
 - Site plans drawn to scale no greater than 1" = 20'-0" and no less than 1" = 40'-0", with north arrow orientation in the same direction on all sheets
 - A minimum of 1" plan overlap is required beyond the sheet match lines, with care taken to avoid splitting a lot, street intersection, pump station site or other physical feature that can be shown in total
 - All existing (in gray scale) and proposed (in bold) water and sewer infrastructure
 - Pump Stations assigned with a Town of Ridgeland ID number and labeled for any view shown
 - Other utilities in proximity to the water and sewer systems, including storm drains as well as electrical, communications, and natural gas lines, shown in plan and section views
 - All existing and proposed rights-of-way and utility easements.
 - Utility Profile Sheet
 - Where applicable, the profile should be shown below the utility site plan on the same drawing sheet
 - The following profile elements must be represented:

- Constructed grade
- Stationing to match the plan view
- Clearly identify the proposed connection location and method of connection to any Town of Ridgeland Water or Sewer Infrastructure
- Manholes with the following information
 - Survey stations
 - Manhole types (standard, drop, cut-in)
 - Existing and proposed rim and invert elevations (upstream and downstream)
- Pipelines with the following information
 - Tangent length
 - Pipe diameter
 - Pipe type and class (PVC, DIP, etc)
 - Pipe slope (%)
- Any known conflicting utilities
- Separation of all storm drainage crossing water/sewer pipelines
- Stream crossings identified
- Ariel crossings identified
- Fittings, air release valves, restrained joint/thrust blocks, and any other necessary information for forcemains
- Pump Station Plans and Details
 - Plans and details shall show horizontal (plan) and vertical (section) representation of the various mechanical, electrical, civil and structural elements that comprise a wastewater pump station which would be deeded to the Town of Ridgeland.
 - Site plan shall show the actual layout of the pump station to scale with respect to the proposed project site
 - Provide the following information on this sheet where applicable:
 - Pump Station ID number (as assigned by the Town of Ridgeland)
 - Location and details of all visible features, including wet well, control panel, receiving manhole, generator and fuel tank, etc.
 - All weather access road from the closes paved road to the pump station gates
 - Contour lines showing storm drainage within 20-ft of the site
 - Pump station data and wet well elevations
 - For developments with multiple pump stations, a diagram sowing the operational relationship of the pump stations
 - Water and Sewer Detail Sheets

- Engineering Calculations/Basis of Design
 - Appropriate water and sewer design criteria, including number of services, the corresponding usage designations (residential, multi-family, commercial), and unit contributory loadings in accordance with SCDHEC regulations, must be provided with supporting hydraulic design calculations stamped and signed by the professional engineer of record. The calculations are needed to determine the technical basis of design derived from the requirements of the proposed project at the availability of sufficient water and sewer capacity to meet or exceed those requirements. At a minimum the following elements are required for review and approval of the project design calculations and basis of design:
 - Project Water System Calculations
 - Project Summary (with the total number of parcels and associated usage designations)
 - Average daily water demand
 - Peak hourly and instantaneous flow demands
 - Fire Flow Requirements
 - Proposed hours of operation (for commercial, industrial, or institutional uses)
 - Proposed point of connection to Town of Ridgeland Water System
 - Fire hydrant flow/pressure test
 - Provides and instantaneous measurement of flows based on the static and residual pressure in the pipelines throughout Town of Ridgeland's water distribution system
 - Supplies fire flow and pressure information as well as baseline values for hydraulic modeling/calculations
 - Single or dual flow test can be performed depending on the application
 - Hydrant tests can be performed by contacting the Town of Ridgeland Water and Sewer Department at 843-726-7501 (telephone)
 - Model Analysis/Hydraulic Calculations of Proposed Water Distribution System for
 - Peak Instantaneous Demand Analysis
 - Fire Flow Analysis
 - Conclusions and Recommendations
 - Project Wastewater System Calculations
 - Project Summary (with the total number of parcels and associated usage designations)
 - Average Daily and Peak Design Flows
 - Collection System Considerations
 - Proposed Pump Station (if required) Considerations
 - Pump System Curve
 - Forcemain Sizing
 - Pump Cycle Times
 - Wetwell Flotation

- Proposed Wetwell Design
- Permits Required for Installation of Water/Wastewater Utilities
 - LCOG 208 Certification – LCOG must certify that a project is consistent with the state and regional plans developed pursuant to Section 208 of the Federal Clean Water Act.
 - OCRM Water/Wastewater Supply Certification – SCDHEC’s Office of Ocean and Coastal Resource Management must certify that the project is consistent with the SC Coastal Zone Management Program regarding land disturbance activities which result in changes in the natural topography that cause erosion, contribute to sedimentation, affect the quality and quantity of stormwater runoff from the site, or result in disturbance of fresh water wetlands
 - SCDHEC Water and Wastewater Permits to Construct – SCDHEC will issue separate water and wastewater permits for construction of pipelines and associated infrastructure. The Town of Ridgeland has approved delegated review (DRP) granted by SCDHEC.
 - SCDOT Encroachment Permit – The SCDOT requires an encroachment permit from the developer for water or sewer utility construction performed in the SCDOT right-of-way. Encroachment permits may also be required from other agencies such as municipalities, counties, power companies and railroads for work in their rights-of-way.
 - SCDHEC Water and Wastewater Permits to Operate – SCDHEC, after receipt of Town of Ridgeland’s service authorization, will issue separate water and wastewater permits to place constructed systems into operation.
- Other Documentation Required for Design Approval of Proposed Water and Sewer Systems
 - Cover letter, including project description, number of units and number of pump stations.
 - Electronic AutoCAD file of the project boundary survey plat using State Plane Coordinates
 - All onsite and offsite easements required to serve the proposed project
 - Letter from the Fire Marshall stating fire flow requirements, spacing and number of hydrants required based on the available water distribution system flow
 - Electrical utility letter confirming voltage and phase available to pump station sites

Town of Ridgeland Response and Approval of Design Package

The Town of Ridgeland will review and respond to the design package within two (2) weeks of receipt. The review will confirm that the design is in compliance with the Town of Ridgeland’s water and sewer standards and will return the submittal package with the following notation:

- 1) Approved – all elements are in compliance and may be submitted for SCDHEC DRP
- 2) Approved with Comments – Although the package is generally in compliance, red-line comments are provided that must be addressed in the SCDHEC DRP submittal
- 3) Revise and Resubmit – The review has determined that the design package is non-compliant and must be redesigned or additional information provided before the engineer is allowed to submit the SCDHEC DRP submittal.

After approval of the design package, the developer and/or engineer will be notified in writing. The approval letter will include the following information:

- Permission to submit the project for SCDHEC DRP submittal. DRP Submittal package shall be as noted in the attached documentation.
- Confirmation that the Town of Ridgeland will own, operate, and maintain the constructed water and sewer infrastructure once completion is completed and approved
- Estimation of the capacity fees and project fees corresponding to the water and sewer loadings provided in the engineering calculations which must be paid to the Town of Ridgeland.



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Delegated Review Process (DRP) Submittal- Water/Wastewater

The Town of Ridgeland is an approved DRP agency for water and wastewater construction. Upon approval of the Design Package and upon the request of the Town of Ridgeland Engineering Department or Representative, the Engineer shall submit the following to the Town of Ridgeland for SCDHEC DRP submission:

1. A transmittal letter, signed by the professional engineer of record, noting that the project is a DRP submittal. The letter should state the project has been reviewed by Town of Ridgeland and complies with DHEC Regulations R.61-58 and/or R.61-67.
2. DHEC application to construct the water and wastewater facilities with two (2) copies and a check payable to SCDHEC for fees based upon the delegated review program.
3. Four (4) sets of construction plans and a letter referring to the use of Town of Ridgeland or other approved specifications. The plans must be sealed, certified and signed by the design engineer in blue ink.
4. Four (4) sets of design calculations for the water and wastewater systems. The calculations must be sealed, certified and signed by the design engineer in blue ink.
5. OCRM certification for water and wastewater.
6. Four (4) 8" x 11" copies of a detailed location map separate from the plans.
7. Two (2) copies of an overall layout sheet of the wastewater and water system separate from the plans, showing the proposed sewer and water lines and sizes and including existing streets and water and sewer lines. The proposed water and sewer lines must be highlighted for easy identification and different colors.
8. Two (2) copies of easements unless the project owner has the right of eminent domain.
9. Lowcountry Council of Governments (LCOG) 208 Certification Fee, to be obtained by the Town (Check made to LCOG).
10. SC DHEC Water Construction Permit Fee (Check made to SC DHEC).
11. SC DHEC Sewer Construction Permit Fee (Check made to SC DHEC).

The Town of Ridgeland will send the DRP submittal for the DHEC Construction Permit. The Town will submit the application package to DHEC on the next business day after receipt of all required documentation. Upon issuance of the SCDHEC Construction Permit, the developer or engineer will be responsible for providing copies of the approval letter and the construction permit to the Town.