



SANITARY SEWER SPECIFICATIONS

I. General requirements:

1. New public infrastructure:

Sanitary Sewers MUST MEET SD DENR design standards, Sturgis ordinance 11.05 and the approval of the Public Works Director.

A scoping meeting with the PW director is recommended. The developer should bring sketches and anticipated layout. Anticipated wastewater loads will need to be determined. The City's first concern is ensuring that the current users are serviced adequately. Thus, the City reserves the right to have more restrictive requirements. The city must consider the city as a whole before approving new additions.

2. Service connections:

Service connections shall meet state plumbing code and **Sturgis ordinance 11:05**. Services shall be no less than 4 inches in diameter for homes. City requires a tapping permit.

<https://www2.citizenserve.com/Portal/PortalController>

The installer must be a licensed plumber and licensed by the City.

3. Private Wastewater Systems:

Private wastewater systems are covered by titles 11.05.06 through 11.05.13 of the City ordinance. The owner will need to meet both SD DENR requirements as well as City requirements. The City supplied application form must be filled out and signed by a registered Professional Engineer. The building permit will not be issued until the private wastewater permit application is accepted. The system must be installed by a licensed installer. The engineer must inspect the system and provide a letter indicating whether they approved the system as constructed.

The Meade County Wastewater Ordinance is tied to SD Administrative Law Article 74.53.01 – (74:53:01:01 to 74:53:01:40).

For example, design minimums must meet the quantities below for their design.

<https://sdlegislature.gov/Rules/Administrative/28569>

II. Public Sanitary Sewer Line Specifications:

1. SDDENR regulations are accepted with the following more restrictive exceptions.

<https://denr.sd.gov/documents/designnumber.pdf>

Chapter II

Section F. Gravity Sewer Design and Construction

1. Minimum Size will be based on projected design flows. Absolute minimum is 8 inches or to match the downstream size. Public Works Director may require a larger size to allow for future expansion. Pressurized systems are not allowed without the Public Works Director permission.
2. Collector Sewers shall have a minimum depth as follows:
 - a) Five feet (5') over the top of the pipe or below frost line whichever is more.
 - b) As necessary to have top of the main one foot (1') below the invert of the service line at the main.
 - c) Sanitary sewer lines must be below water lines in the same street.
3. d. Sewers slopes of more than 8 percent will only be allowed in limited circumstances and require prior approval of the Public Works Director. It is desirable to maintain a constant slope on sewer mains of the same diameter over long segments containing multiple manholes. It is also desirable to minimize having steeper slopes segments upstream from segments with flatter slopes. Additional burial depth of sewer main is not sufficient justification to disregard these recommendations.
4. Alignment - Sewers 24 inches or less shall be laid with straight alignment between manholes. Exceptions may only be granted by the Public Works Director.
7. Materials, Trenching and Installation – In general, SDR 35 pipe may be used. In depths of more than 14 feet or unusual bedding conditions, the City may require an analysis and harder material. The City will camera the lines after installation. The contractor will be responsible to fix any problems.
8. Joints and Infiltration – City personnel are required to be in attendance to verify tests. The City may reject any section that it was not in attendance for the test. The City will camera the lines after installation. The contractor will be responsible to fix any problems.
9. Calculations - Computations should be presented, in a tabular form, to indicate depths and velocities at minimum, design average and peak hourly waste flow for the different sizes of sewers proposed.

G. Manholes –

1. Manholes will not be allowed in a FEMA floodway without the Engineer's permission. In general, manholes should be no more than 300 feet apart, but must meet SDDENR minimum spacing. Preliminary layout should be given to the Public Works Director for comments before preliminary design is done. Sewer systems shall terminate at the nearest upstream manhole located in adjacent and subsequent phases; if the sewer has the potential to be extended, a two foot (2') stub shall be provided on the upstream side of the last manhole. All changes in pipe diameter shall be made at manholes. Changes in pipe diameter, at a minimum, shall be accomplished by matching the crown of the outlet pipe with the crown of the lowest inlet pipe crown. Manholes located outside of paved surfaces shall be designed such that positive drainage will be maintained away from the manhole.

2. Cleanouts – Sanitary sewer main cleanouts are only allowed with Public Works Director prior approval.

3. Drop manholes should be avoided whenever reasonably possible and will only be allowed with written permission of the Public Works director or his designee. Internal drop manholes will not be allowed under any circumstances.

I. Stream Crossings – Lines that cross FEMA floodways will require the Engineer’s permission.

J. Aerial Crossings will require the Public Works director approval.

III. Service lines

Service lines, including any required interceptors, are covered under Sturgis Ordinance 11.05

Sewer Services

- 1) Service lines shall be designed in accordance with the currently adopted Plumbing Code.
- 2) Private service lines may not cross adjoining properties even if located within private easements.
- 3) Taps on sewer mains shall not exceed six inches (6”) in diameter. Service lines greater than six (6) inches in diameter shall be connected to the main with a manhole.
- 4) Services four inches (4”) and six inches (6”) in diameter shall be tapped directly to the main and not connected to manholes.
- 5) Foundation drains, roof drains, area drains, storm drains, and other sources of surface or ground water shall not be connected to sanitary sewers.

Individual Pumping Stations

- 1) A privately owned pumping station may serve no more than one parcel of property.
- 2) Individual pumping stations, except those serving a single family residence or duplex, shall be designed by a Professional Engineer.
- 3) Review and approval: Plans and specifications for individual pumping stations shall be submitted to the Public Works Director for review and acceptance.
- 4) Individual pumping stations shall be of the grinder pump type. Septic Tank Effluent Pumps (STEP) shall not be permitted due to the anaerobic quality of septic tank effluent, and solids handling pumps shall not be permitted due to the need to minimize pressure service line diameters in order to provide velocities equal to or greater than three (3.0) fps.
- 5) Pump cycle: Individual pumping stations shall be designed to provide pump cycle times no greater than three (3) hours at average daily flow rates based on one hundred (100) gal / per capita / day.

Pressure service lines are only allowed with permission of Public Works Director.

Abandoning Services

- 1) Water or sewer services shall be abandoned if they meet one or more of the following conditions:
 - a) They are replaced or reconstructed;
 - b) They serve structures which are removed from their foundations, vacated, or demolished.
 - c) They are a service stub-out to an undeveloped lot or on which a structure was constructed and served by another service line; or

d) They are extra service line(s) resulting from re-platting two (2) or more lots into a single lot or from combining two (2) or more lots into a developmental lot.

2) Services shall be abandoned by disconnecting them from the main.

3) Abandoned sewer service lines permanently removed from service, or constructed of materials not complying with SDDENR requirements shall be abandoned at the sewer main by disconnecting the service line from the main by removing the service pipe from the tap and plugging the tap. All plugs and caps shall be inspected by Public Works prior to any trench being filled and compacted.