

EPB 415 - Buffer Zone Criteria for Developments in Proximity to Sewage Treatment Facilities in Saskatchewan

What is a Buffer Zone?

Sewage treatment facilities emit odours that can persist at some distance from the source. A buffer zone is the physical distance between (or setback from) the nearest liquid surface within a sewage treatment facility to the corner of the nearest occupied building within a development.

In Saskatchewan, a buffer zone is required between residential, commercial or institutional developments and a sewage treatment facility. This buffer zone helps to foster a living and work environment that is generally free of sewage odours and minimizes health concerns. The setback distances set in *The Waterworks and Sewage Works Regulations* have been found to reasonably limit the number of complaints received from the public about sewage odour, indicating that the odour was unable to persist regularly at such distances from the source.

Who regulates the Buffer Zone requirements in Saskatchewan?

Both the Water Security Agency (WSA) and the Saskatchewan Ministry of Government Relations have setback requirements for residential development from a sewage treatment facility. Outside of the cities with planning approval authority, the authority to approve or refuse subdivision proposals lies with the Saskatchewan Ministry of Government Relations.

WSA has legislative authority on the construction of water and wastewater infrastructure in the Province. The buffer zone required by WSA, as set out in Table 1 of *The Waterworks and Sewage Works Regulations*, needs to be met in order for approval to be granted for the construction of wastewater treatment facilities.

At this time, WSA's buffer zone requirements are larger for sewage lagoons than the setback requirements set by Government Relations. Communities planning for development should verify that proposals meet WSA's buffer zone requirements. If there is any confusion on this issue, communities should speak with WSA during its planning phases to ensure that buffer zone requirements are met. In terms of consideration for growth in the more distant future available plans should be referred to WSA early on in order to address potential land use conflicts.

What is the required Buffer Zone in *The Waterworks and Sewage Works Regulations*?

The buffer zone requirements for Mechanical Treatment Facilities are different than the requirements for Facultative Lagoons, as set out in *The Waterworks and Sewage Works Regulations*. Mechanical Treatment Facilities tend to abate odour more effectively than a lagoon; therefore, a smaller buffer is required. WSA's buffer zone requirements are shown in the table below:

	Facultative Lagoon Buffer Zone (Metres)	Mechanical Treatment Facility Buffer Zone (Metres)
Single Isolated Residence	300	300 ¹
Built-up Residential Area	550 ¹	300 ¹
Institutional Area	550 ¹	300 ¹
Commercial Area (with no built-up residential area)	300	300 ¹

¹WSA may approve a reduced buffer zone subject to certain terms and conditions

Please note that, under the *Subdivision Regulations, 2014*, Government Relations requires a 457 metre setback from land used or authorized for use as a wastewater treatment facility or wastewater lagoon; however, this set back distance does not apply to commercial, industrial or institutional development.

Are there any other factors that should be considered when siting a sewage treatment facility?

In addition to the buffer zone requirements set out in the previous table, siting considerations should include:

- Present and planned land use compatibility;
- Direction of prevailing winds;
- Year round accessibility for vehicular traffic;
- Protection from flooding;
- Suitability for expansion;
- Effluent discharge arrangements; and
- Topography, soil conditions and groundwater regime.

In general, sewage treatment facilities should be located to avoid local objections and as far as possible from existing or pending development. Applicable isolation distances required by road, highway and railway authorities should also be considered.

Facultative lagoons near recreational lakes should be sited as far as practically possible from the lake and recreational areas and should consider applicable shoreline regulations that may be in effect.

Can the Buffer Zone distances be reduced?

Siting a sewage treatment facility downwind from a residential development lessens the ability of the odour to spread toward the development, as does the installation of enhanced vegetative surround around the sewage treatment facility. The applicability of either of these factors (or others proven to do the same), coupled with a history of no odour complaints and, in the case of a facultative lagoon system, an understanding of the loading of the facility, would serve to make a case for reducing the buffer zone requirement on a case by case basis.

Our sewage treatment facility is very close to our community and any subdivision development would fall within the Buffer Zone, what can be done?

WSA will recommend against development in areas where sewage odours will present an unsafe environment for those who must reside or work in the area. Persistent sewage odours can be quite inhospitable. If your community is unable to obtain a reduction in the buffer zone, or the reduction is not enough, you may have to consider alternatives locations for development. Some options that could be considered include:

- Relocation of the proposed subdivision,
- Relocation of the sewage treatment facility, or
- Alternative land uses in the affected area, such as zoning the area for recreational or industrial use.

Will an exception be granted if our community was planned prior to these Buffer Zone requirements coming into force?

Compliance with the buffer zones will not be exempted, but it may be reduced as mentioned above. Existing developments within the buffer zone can remain, it is the new developments that must comply with the requirements. However, if an existing development within a buffer zone is subject to persistent odour complaints, the community will be required to take measures to rectify the odour issues.

Who can I contact for more information on buffer zone requirements?

To talk to the Water Security Agency, you can contact an Approvals Engineer within the WSA's Environmental and Municipal Management Services Division. Approvals Engineers are headquartered in Regina and may be contacted at:

Engineering and Approvals
Environmental and Municipal Management Services Division
Water Security Agency
420 - 2365 Albert Street
Regina SK S4P 4K1
(306) 787-0726

To talk to the Saskatchewan Ministry of Government Relations' Community Planning Branch, you can contact either their Regina or Saskatoon offices at:

#978, 122 3rd Avenue N
Saskatoon SK S7K 2H6
(306) 933-5740

420 - 1855 Victoria Avenue
Regina SK S4P 3T2
(306) 787-2725