

Memo



Date: June 2, 2010
File: 1380-02
To: City Manager
From: Fred Schaad, Utilities Technologist
Subject: Private Waste-water Treatment Systems

Recommendation:

THAT Council re-affirm existing OCP Sanitary Sewer Policies and Sanitary Sewer/Storm Drain Regulation Bylaw No. 6618

Purpose:

This memo is in response to Council Resolution from the March 23, 2010 regular meeting requesting staff to report back to Council with respect to the current policy regarding private wastewater treatment systems, septic field systems, or any other technology, on lands where sanitary sewer service is available; and that staff provide Council with any recommended changes to the policy.

Background:

Recently Council approved the use of a stand-alone residential package sewer plant in an area serviced by the municipal sewer system. This is inconsistent with current Policy and Legislation as explained below.

Over time, advancements in science and technology can allow for greater flexibility in the consideration of innovative methods for the treatment and disposal of wastewater. These advancements can occur in the design and construction of both public and private systems. In recent years, greater emphasis is now placed on the impacts of manufacturing, transportation, and construction of the products we use and the overall ecological footprint each design or construction method places on our planet's limited resources.

Public health and environmental protection expectations, especially in urban areas, are increasing. When consideration is given to regulatory requirements and the various risks, public systems provide a more reliable service:

- The public health authority provides more stringent monitoring, reporting, and enforcement for the performance of public systems than it does for private systems. This affords a higher degree of protection for human health, as well as against pollution of source waters.
- The City maintains the financial capacity to replace wastewater treatment infrastructure at the end of its service life. It also administers maintenance programs to ensure that systems operate within legislated performance requirements. Private owners often take neither of these precautions. Over a relatively short period these systems can fail to operate as designed (e.g., Country Rhodes) to the potential risk of both public health and the environment.

Although private systems may have a smaller local impact, the cumulative effect of many failed private systems is harder to detect, more difficult to repair, and may create a larger public liability. When neighborhoods of septic systems fail, the municipality is likely to be drawn in to address the problem with a long-term solution that would include permanent connection to the municipal system.

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Infrastructure replacement planning is also standard practice of the public system. The City of Kelowna's *20-year Servicing Plan and Financing Strategy* is but one example of the kind of planning our public system considers. There is no such replacement planning required or undertaken with the private on-site systems. All too often, the private system ages, is poorly maintained, and Pollution generally occurs first, often going undetected for an extended period, followed by the identification of a public "health hazard." The owners of these systems are often little prepared for the replacement costs and then look to government for assistance.

Legal/Statutory Authority:

There are three regulating authorities with respect to the establishment of on-site wastewater treatment systems in Kelowna. The Interior Health Authority, under the *Public Health Act* and the *Sewerage System Regulations* regulates smaller systems on single parcels of land (i.e., systems with a daily domestic flow of less than 22,700 litres). Larger systems and systems that treat wastewater from multiple parcels are regulated by the BC Ministry of Environment, under the *Environmental Management Act* and the *Municipal Sewage Regulation*. The third regulating authority is the City of Kelowna under the *Official Community Plan (Sec 13.2.1)*, *Wastewater Master Plan* (often referred to as the *Liquid Waste Management Plan*), and the *Sanitary Sewer/Storm Drain Regulation Bylaw No. 6618 (Sec 1.3.1)*.

Legal/Statutory Procedural Requirements:

There are a number of common objectives and important relationships between the three regulating authorities. First and foremost is the objective of protecting the environment and public health. There is also a clear link between land-use planning required of local government in the *Municipal Act* and waste management plans in the *Environmental Management Act*. The OCP land-use plan is a statement of objectives and policies regarding future land-use patterns. The OCP provides a clear statement to the public and the Province about local government's growth management objectives and provides the rationale for subsequent land-use regulations. Where official land use plans are in place, the City's planning statement (bylaw) will form the basis of waste management plans. The *Liquid Waste Management Plan* minimizes the adverse environmental impact of the OCP and ensures that development is consistent with Ministry of Environment waste management standards and objectives. Local government land use planning is essentially a process of anticipating changes in land use and determining how to manage or influence these changes for the benefit of the community or region. In their official land use plans, local governments:

- identify rural/urban development areas
- assess settlement suitability
- identify the expected sequence of urban/rural land development, including the proposed timing, location and phasing of trunk sewer services; and
- choose between generic treatment alternatives (communal and non-communal).

Where OCPs have been completed and adopted by bylaw, they are used as a foundation for a *Liquid Waste Management Plan*.

With regard to public health protection, the Sewerage System Regulation allows "professionals" to design, construct and supervise the installation of on-site wastewater treatment systems, so long as the system does not cause or contribute to a health hazard. "Registered practitioners" may also design and construct on-site wastewater systems, provided the treatment method is classified as only Type 1 or Type 2, and is not designed for an estimated minimum daily domestic sewage flow of more than 9,100 litres, at which point supervision by a "professional" is required. Maintenance of the sewerage system is limited to the system's maintenance plan and some record keeping of actions taken over the life of the system. Any alteration to the system must be filed with Interior Health.

Historically, the Health Authority insisted that new on-site wastewater treatments systems and systems that have failed or are in need of replacement, and which are located within areas serviced by a municipal system must connect to that public system.

Existing Policy:

The OCP policy on this matter is listed in Sanitary Sewer Policies under "Considerations for Future Civic Action - Civic Investments" and states:

“Expand the Sewer Service Area: Initiate and promote the installation of sanitary sewer service to all existing urban development where practical and economically feasible, and require that all properties connect to the service when available.”

The Sanitary Sewer/Storm Drain Regulation bylaw re-enforces this policy in bylaw:

“The owner of every parcel of real property within a Sanitary Sewer Specified Area, for which a service connection to the sanitary sewer system can be, or has been made, and upon which a building or structure containing a plumbing fixture is situate, shall connect such building or structure to the service connection.”

With regard to the creation of additional parcels of land at time of Subdivision application, the OCP provides the following:

“Minimum Lot Size for Septic Systems. Require that any lot created and serviced by an approved septic disposal system shall be a minimum of 1.0 ha (2.5 acres) in size, except where such lot is created with the approval of the appropriate provincial ministry or agency as a home-site severance or a lot in lieu of a home-site severance.”

Existing parcels of land that are in excess of 1.0 ha or are outside the City of Kelowna sanitary sewer service area would be regulated by the Health Authority’s *Sewerage System Regulation* when constructing on-site wastewater treatment systems.

These policies are consistent with the City of Kelowna *Wastewater Master Plan* and with senior agency standards and objectives for the protection of the environment and public health.

External Agency/Public Comments:

Ministry of Environment, Environmental Protection, Assistant Regional Manager.
Interior Health, Registered Environmental Health Officer

Considerations not applicable to this report:

Internal Circulation:
Financial/Budgetary Considerations:
Personnel Implications:
Community & Media Relations Comments:
Alternate Recommendation:

Submitted by:



F.Schaad, Utilities Technologist

Approved for inclusion:



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cc: General Manager, Community Sustainability
General Manager, Community Services
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