

DISTRICT OF LANTZVILLE

Water Master Plan Backgrounder

PLANNING OUR TOMORROW



The Water Master Plan will set directions for managing and enhancing Lantzville’s water infrastructure and water use in ways that allows the District to provide water that is affordable for the community and sustainable for the environment.

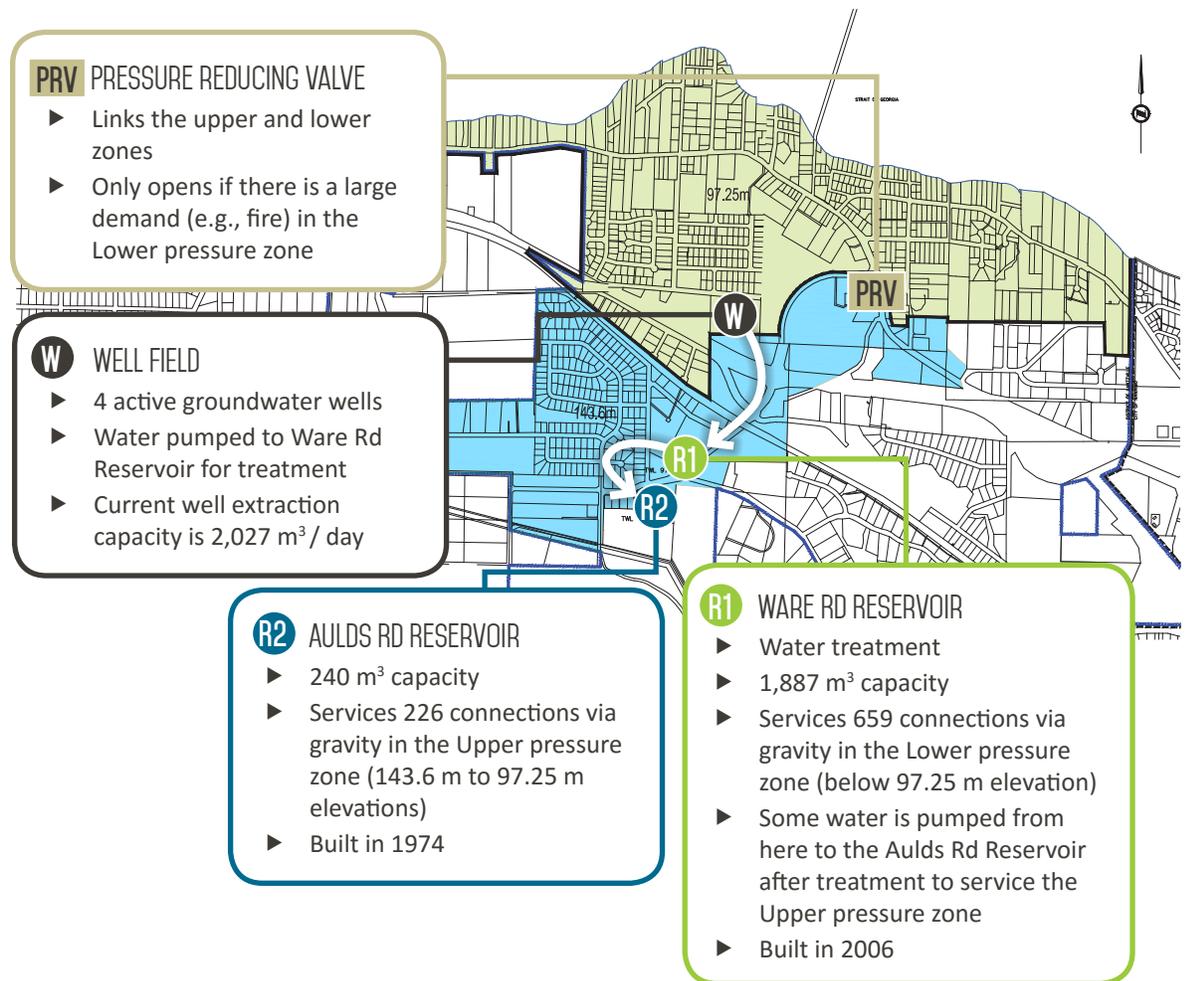
What will the Water Master Plan study?

- » Current Water Policies
- » Water System Issues
- » Needs and Wants of the Community
- » Future Influences on Water Demands
- » Potential Water Sources
- » Water Distribution
- » Community Water Service Expansion Options & Phasing
- » Cost Estimates for Expansion and Improvements
- » Life Cycle

A SNAPSHOT OF EXISTING WATER SERVICE

The following description and map summarizes where Lantzville’s community water supply comes from today and how it is distributed through the water system.

- ▶ The current water supply is from 4 groundwater wells along Harby Rd East (see W: Well Field)
- ▶ From the Well Field, water is pumped to the District’s main reservoir – Ware Rd Reservoir for treatment (see R1)
- ▶ Some of this water is distributed via gravity to water connections in the Lower pressure zone (green area)
- ▶ Some of the water is pumped to the Aulds Rd Reservoir to be distributed via gravity to the Upper pressure zone (blue area)



885

Number of properties currently connected to District water

1,330

Approximate number of properties in the District of Lantzville

The map below provides an overview of Lantzville’s existing Water Service Area and the OCP land use designations within it. It also defines preliminary “Infrastructure Neighbourhoods” that will be used as a basis for developing and analyzing options for the Water Master Plan.

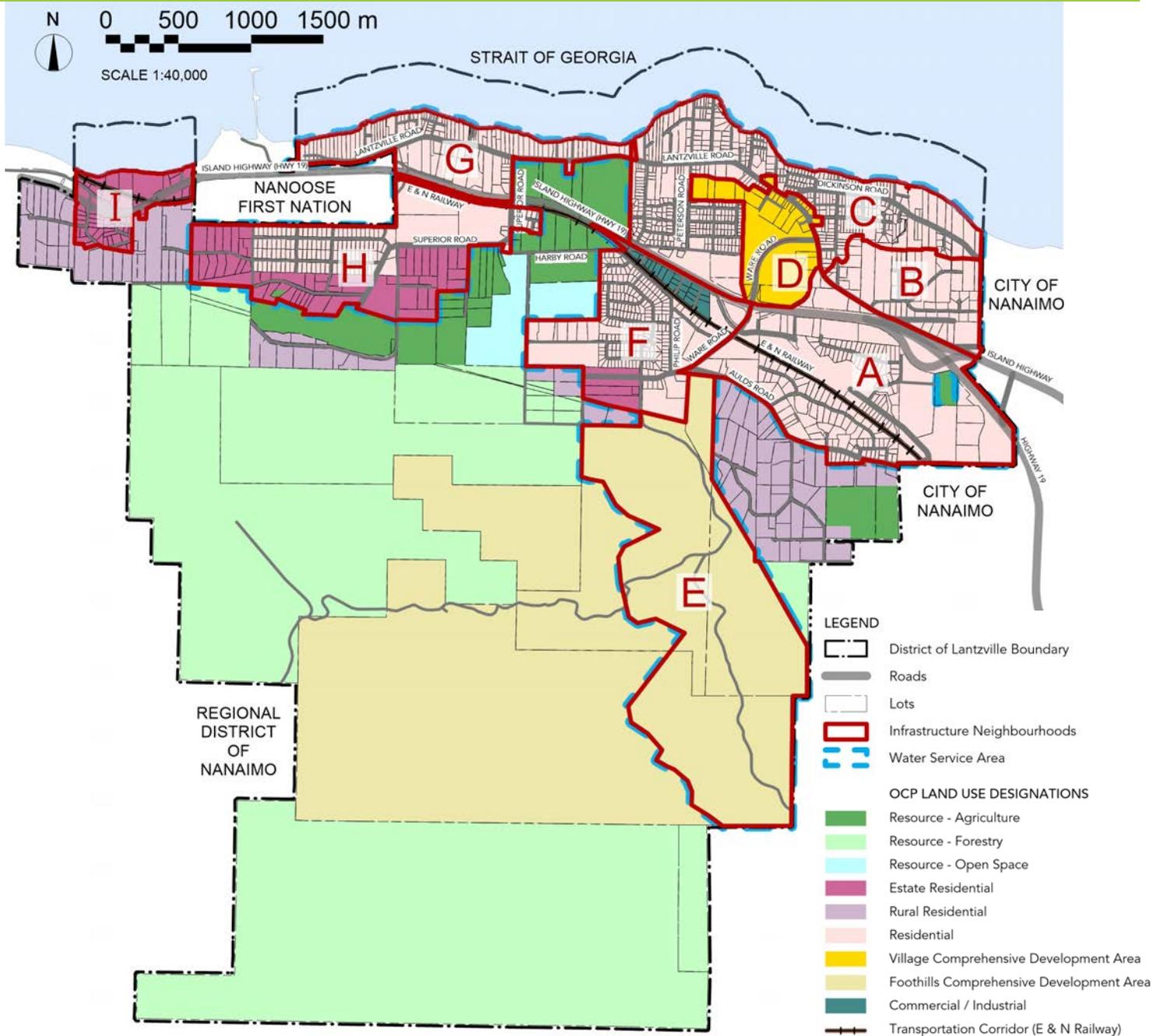
About the Water Service Area

- » The District’s Water Service Area is outlined in **blue** on the map
- » The Water Service Area defines the boundary to which Lantzville’s water distribution infrastructure will be extended
- » It is defined based on OCP land use designations

About the “Infrastructure Neighbourhoods”

- » The “infrastructure neighbourhoods,” are outlined **red** in on the map
- » The Water Master Plan will develop options for water service in different areas of the community. To do this, the process will use these “infrastructure neighbourhoods” to identify areas with similar characteristics such as land use, servicing, or geographical features.
- » This fall, we will be asking residents to participate in Kitchen Table Meetings to discuss issues and options that are important to their neighbourhood. The “infrastructure neighbourhoods” define study areas for these meetings.

LANTZVILLE WATER SERVICE AREA & INFRASTRUCTURE NEIGHBOURHOODS



About Lantzville’s Water Source

- » *Lantzville’s water source is groundwater from an aquifer*
- » *Groundwater levels in the aquifer fluctuate throughout the year, lowering up to 3 m (10’) during hot, dry summer months.*
- » *Ongoing provision of water relies on the aquifer’s ability to “recharge” – refilling from upland snow and rain and from groundwater flowing through underlying bedrock.*
- » *Changes in upland land uses could theoretically affect the aquifer’s recharge capability.*

Well field testing in 2014 & 2015 showed:

- » *Drilling additional wells would not increase the overall yield from the aquifer as new wells would affect the capacity of existing wells.*
- » *Improving operating efficiency by upgrading or replacing existing wells has potential to increase Lantzville’s available water supply by about 20%.*



The Vision for Water

The 2005 OCP identifies a long-term goal of providing clean, potable water for domestic use and water for fire-fighting purposes to all developed parts of the District.

The Nanaimo Water Agreement and Water Master Plan are key steps towards this goal.

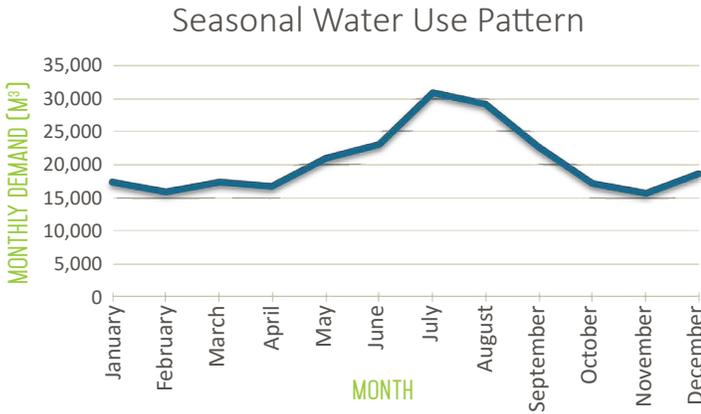
WATER + DEVELOPMENT

- ▶ Since incorporation in 2003, Lantzville’s population growth has been 0%. Over the same period, Nanaimo has grown by 15% and Parksville by 17%.
- ▶ The District’s policies on water services, along with the limited extents of the municipal sanitary sewer collection system, have been identified as factors in the limited growth.
- ▶ Based on capacity limitations of Lantzville’s existing water supply, the 2005 OCP stated that, “Until adequate water supply for the community is developed, the District will limit new development to existing lots currently serviced with water system connections, and will require new subdivision proposals to develop a new water source...”
- ▶ This is further clarified in Council Policy 3007-3, established in 2006, which states, “No new water connections or extensions to the municipal system are permitted until adequate water supply for the District is developed.”
- ▶ These policies have limited development mainly to redevelopment of existing serviced properties. The exception is the Foothills development which has identified a separate groundwater source to service up to 112 new lots.

THE NANAIMO WATER AGREEMENT

- ▶ In the 1990s, Lantzville investigated the capacity of the existing water supply. Findings cautioned that increased draw could affect groundwater recharge. Lantzville studied options to increase water supply, determining the most viable option to be an agreement with its neighbour, City of Nanaimo.
- ▶ In 2005, the District and the City formed a Memorandum of Understanding to work towards providing water from the City to the District.
- ▶ After several years of negotiation, in 2014, the Lantzville/Nanaimo Water Agreement was successfully completed.
- ▶ For the agreement to commence, Lantzville must build the required water main pipe and connection infrastructure (estimated at \$800,000).
- ▶ Once the infrastructure is in place, Lantzville can commence the agreement which will be in place for 20 years, with an option to renew for a second 20-year term.
- ▶ The agreement permits servicing to Lantzville’s Upper pressure zone (blue area on the map on p.1) as well as future development connecting to this zone. Properties in the Lower pressure zone (green area on the map on p.1) would continue to be supplied via the District’s existing wells.
- ▶ Lantzville will pay a one-time connection fee of \$5,912.56 for each existing service in the Upper pressure zone that is connected to Nanaimo water. New connections will be required to pay the same one-time connection fee (updated from time-to-time) as they connect to the system.
- ▶ Once connected, Lantzville will pay the City for all water supplied, which will be collected through the District’s water rates.
- ▶ The agreement provides enough water to service 436 premises within the existing Upper pressure zone and allows up to 50 new connections to be made each year (up to 1,000 new connections during the 20-year term).

HOW MUCH WATER DO WE USE TODAY?

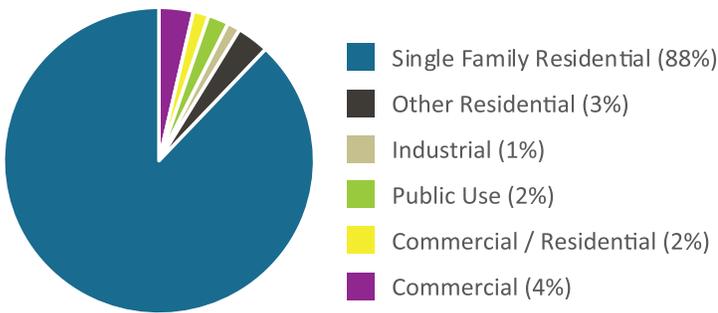


- ▶ In a typical year, approximately 250,000 m³ of water is provided by the water service.
- ▶ Lantzville residents use almost twice as much water in the month of July than in the month of February. This is typical for hot, dry Vancouver Island summers when water is used for outdoor activities like irrigation and car washing.



HOW DOES LAND USE AFFECT WATER CONSUMPTION?

Total Water Consumption by Land Use

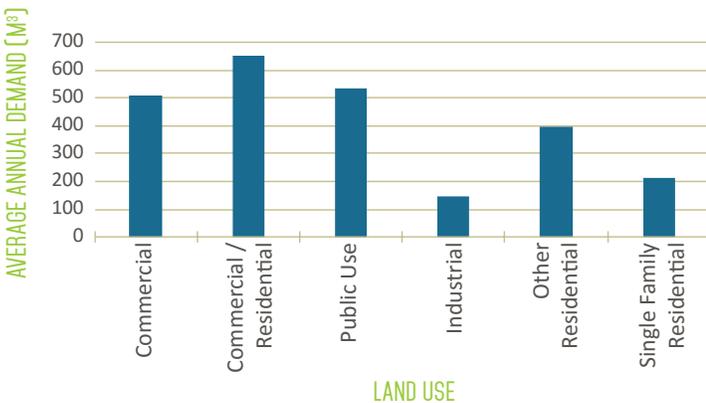


Total Water Consumption: Residential land uses in Lantzville consume the majority of Lantzville’s water because residential is the community’s primary land use.

Demand Per Service Connection by Land Use: Residential land uses have the second lowest demand per service connection; industrial land uses have the lowest demand. Commercial and public uses have the highest demand.

- ▶ The large number of residential users makes water conservation efforts among individual home-owners key to managing the community’s water resources.

Average Demand Per Service Connection by Land Use



Well Done Lantzville! You have been conserving water.

An average Lantzville water user consumes approximately 320 litres per day, which is at the low end of consumption rates reported by Vancouver Island Communities. The average is around 700 litres per person per day. Given Lantzville’s water supply limitations, conservation efforts will continue to be important. The Water Master Plan will look at water conservation methods used today and recommend future approaches.

MORE INFORMATION?

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