

Facility Plan

Town of Yacolt

Providing Input / Questions

- ▼ Please provide input and questions via email and comment cards; no Q&A tonight
- ▼ Next session -- March 26th: questions from tonight's presentation will be answered; and a live Q&A session will be held

Previous Public Outreach Efforts and Presentations to Council

- ▼ **FAQ #1: Should Yacolt Install a Sewer System? (Fall 2010)**
- ▼ **FAQ #2: General Sewer Plans and Facility Plans (Fall 2010)**
- ▼ **K/J Presentation to Council: General Sewer Plan (Nov. 2008)**

Types of Engineering Documents Associated with Construction of Sewer Systems

- ▼ **Engineering Study** (various studies have been conducted over previous decades)
- ▼ **General Sewer Plan**
- ▼ **Facilities Plan**
- ▼ **Contract Documents for Construction** (Bid documents, Plans and Specifications)

Engineering Documents, continued

▼ General Sewer Plan (GSP)

- Required by Washington Administrative Code (WAC) Chapter 173-240-050
- Yacolt GSP approved by Washington Dept. of Ecology (Ecology) January 2011

▼ Facility Plan

- Required by WAC Chapter 173-240-060

▼ Design Plans and Specifications

- Required by WAC Chapter 173-240-070

Overall Steps to Sewer System

*General Sewer Plan
(Ecology Approved)*

*Facility Plan
(Draft April 2012)*

*SERP Permitting
(include with Fac. Plan)*

Funding / Governance

Design

Construction

How Can a Community Benefit from a Sewer System?

There are several potential benefits to a community. These can include:

- ▼ If existing lots are too small for effective septic system operation in a community.
- ▼ Protection of groundwater sources, drinking water wells, and local streams.
- ▼ If community wants to grow and encourage economic development but is restricted by no sewer.
- ▼ If community wants to have industrial or certain commercial uses including medical clinics that are not allowed on septic systems.
- ▼ Sewers allow homeowners to use their entire lot by avoiding drainfields and drainfield reserve areas.

Potential Benefits from a Sewer System to Town of Yacolt

Development-related benefits could include:

- ▼ **Development of small existing or proposed lots.**
- ▼ **Growth and economic development.**
- ▼ **Industrial or certain commercial uses including medical clinics could be added.**
- ▼ **Greater lot flexibility.**

Environmental benefits could include:

- ▼ **Protection of groundwater sources, drinking water wells, and local streams.**

Proposed Collection, Treatment, and Discharge Systems

Facility Plan will recommend those alternatives which were recommended in the GSP and approved by Ecology.

**Ecology's GSP approval letter stated:
“we recommend that the [Town] focus its efforts on the preferred alternative(s)”**

Recommended Alternatives

- ▼ **Collection - Pipelines in the ground: Vacuum System**
- ▼ **Treatment: Biolac (lagoon)**
- ▼ **Discharge of treated water: into Ground** (via Rapid Infiltration)
- ▼ **Solids: Facultative Lagoon** (Class B)

Vacuum Collection System – Residences to Valve Pit

- ▼ **Valve pits are interface between gravity sewage collection lines (from residences) and vacuum collection system in the roadways.**



Vacuum Collection System - Piping



Vacuum Collection Station

- ▼ **Vacuum pumps** (collect sewage from valve pits, deliver to collection tank)
- ▼ **Collection tank**
- ▼ **Centrifugal pumps** (deliver sewage to treatment plant)
- ▼ **Odor Reduction Unit**
- ▼ **Emergency Generator**

Biolac Treatment System - WWTP



WWTP Auxiliary Treatment Facilities

- ▼ **Screens: remove grit, debris**
- ▼ **UV Disinfection**
- ▼ **Facultative Lagoon: Solids Handling**
(solids to be land-applied at permitted Class B site)

Rapid Infiltration Discharge System

- ▼ Land (subsurface) application of treated wastewater (effluent)
- ▼ Area wells monitor groundwater quality (new wells installed 11/11)
- ▼ WWTP will remove BOD, TSS, nitrogen, and phosphorus to very low levels

Proposed Locations for Treatment Plant and Discharge Basins

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KennedyJenks Consultants

TOWN OF YACOLT
YACOLT, WASHINGTON

PROPOSED LOCATIONS OF WWTP
AND DISCHARGE BASINS

0991020.00

FIGURE 2

Estimated Range of Sewer Rates

- ▼ **Monthly rates for most favorable case considered (\$5.5 M grant): rates vary, approximately \$80 - \$95**
[new SDCs = \$7,500]
- ▼ **Monthly rates for least favorable case considered (no grant, no SDCs): rates vary, approx. \$125 - \$150**
 - ▼ *In this case, Town most likely would not proceed*

Estimated Range of Sewer Rates: Considerations

- ▼ Rates could decrease significantly after 20 years (due to loan payoff)
- ▼ Could potentially decrease cost of collection system (70% of capital cost) by increasing competition (via bid documents).
- ▼ Estimated capital cost = \$13.0M
- ▼ Contingency = 25% (\$10.4M → 13.0M)
- ▼ Rates assume 1 additional employee (WWTP)

Estimated Range of Sewer Rates: Contingency

- ▼ **25% - 35% contingency is appropriate for planning phase in order to account for costs which are not defined because they are unknown at this time**
- ▼ **As progress from planning to final design phases, contingency is lowered because project gains definition (i.e. fewer unknowns)**
- ▼ **Final project cost will be influenced greatly by various factors, including:**
 - Inflation, particularly inflation of labor and prices of materials (steel & concrete)
 - Economic conditions (are contractors “hungry”?)
 - Lag time (years) until project construction commences (rates assume WWTP starts up in 2019)

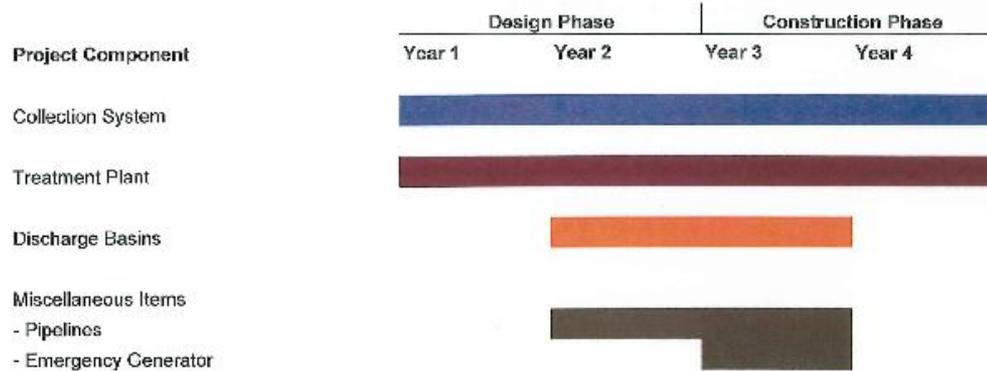
Current Rates for Small Communities which Constructed Sewer Systems

▼ **Tenino, WA: \$135**

▼ **Carnation, WA: \$102**

▼ **Belfair, WA: \$96**

Timeline for Design & Construction



Fallback Options?

▼ **If no sewer...**

- Do nothing -- maintain current size, uses, and layout

and/or

- Wait until forced to put in sewer due to water quality concerns / public health concerns or community desire and support for growth

and/or

- Town could require nitrogen removal systems on all individual septic systems

Involving the Public – Next Steps

▼ Public input - What are Yacolt's plans/need for the future?

- Citizens
- Business Owners
- Developers



▼ Next Meeting: Facilitated Question & Answer

▼ Citizen Advisory Committee (CAC)

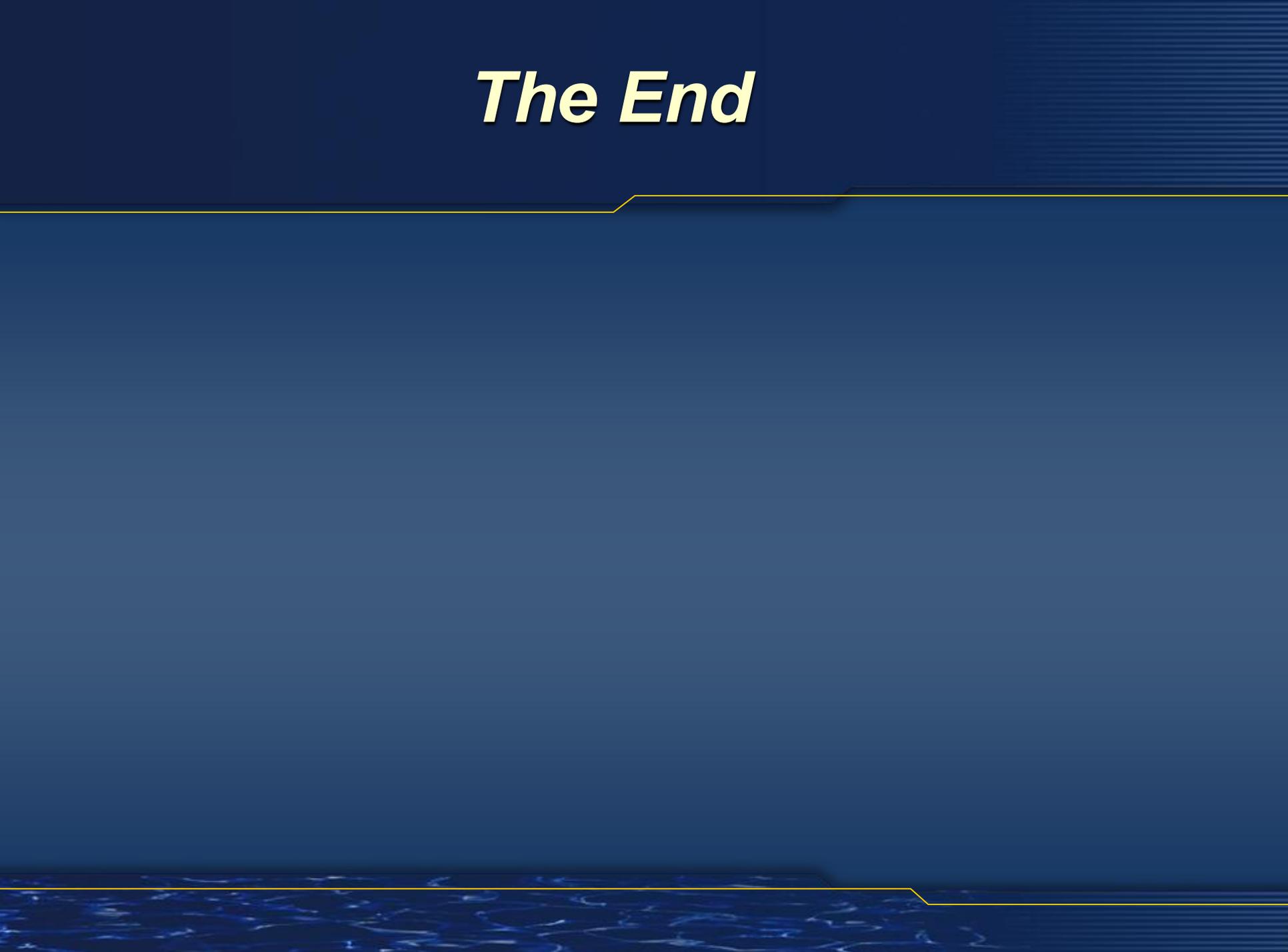
Comments?

- ▼ Email:

townofyacolt@centurytel.net

- ▼ Comment cards

The End

The background is a solid blue gradient. A thin yellow line runs horizontally across the middle, with a small step-down on the left and a small step-up on the right. At the bottom, there is a decorative border with a blue and white water ripple texture.