



Lewis County Department of Public Works

Josh S. Metcalf, PE, Director

Geoff Soderquist, PE, County Engineer

FAQ's Packwood Sewer System Project

Updated January 25, 2024

INTRODUCTION

The need for a sewer system in the Packwood community has been an on-going concern since the 1990's. It began with a Wastewater Working Group and grew over the years to include a wide range of participants including Lewis County, Economic Alliance, Lewis County Water District #3 and residents and business owners in Packwood. For a complete history of the project and additional information, please visit the project website at <https://lewiscountywa.gov/departments/public-works/current-projects/packwood-sewer-project/>.

In September 2021 Lewis County received \$8 million, obligated by the Washington State Legislature in the 2021-2023 Capital Budget, for the engineering, design, and construction of a new sewer system based on the 2013 Packwood LOSS Pre-Design report (more on funding in Question 8). This obligation utilized Coronavirus State and Local Fiscal Recovery Funds from the federal American Rescue Plan Act stimulus funds through the US Treasury. In 2023, Lewis County executed an agreement with HDR, an engineering consulting firm to provide those services, and on November 8 held a community meeting to discuss the 30% level of progress relevant to the project. Many questions were raised at the community meeting and this FAQ is intended to provide answers to those questions. Additional community meetings will be held at the 60% and 90% level of progress design completion stages of the project.

For more information, please reach out to Mark Burch, Project Manager, at mark.burch@lewiscountywa.gov or 360-740-2650.

Road Maintenance & Fleet Services

476 West Main St.
Chehalis, WA 98532
O 360.740.3380
F 360.740.2741

Administration, Engineering, Utilities, Real Estate Services & Traffic

57 West Main St.
Chehalis, WA 98532
O 360.740.1123
F 360.740.1479

Solid Waste Services

Post Office Box 180
Centralia, WA 98531
O 360.740.1451
F 360.330.7805

FREQUENTLY ASKED QUESTIONS

1. When was the project started and why?

The project was initiated in 2000 to determine the feasibility for a Packwood Wastewater facility to respond to Department of Health and Department of Ecology concerns that continued use of, and possible failure, of individual residential and commercial business on-site septic systems would have a detrimental effect on the drinking water aquifer in the Packwood community. The concerns due to the age of the onsite septic systems, the soil type in and around the Packwood area, and that residential and commercial lot sizes in Packwood do not provide the size of property necessary to replace an on-site septic system should such a system fail in the future per Department of Health and Ecology regulations. Please see the Packwood Overview Memo for a complete history of the project.

In 2021, the funding was provided by the state because of the need for a sewer to serve the downtown core businesses and surrounding residence. It is important to note that the purpose and need for the sewer system, and the funding, was established before the Packwood Subarea Plan began. This is unusual. Typically, a comprehensive land use plan would be completed first and then a plan for infrastructure would be developed. However, because the sewer system work started first, the funding did not account for the changes to the zoning and land uses that are prescribed in the subarea plan. This means additional funding will be needed in the future to complete the sewer to support the subarea plan. Please see Question 8 for more information about funding.

2. Why is the Packwood Sewer System Project necessary?

There are number of factors that contribute to a risk to the drinking water aquifer from septic systems. First, the soil types in the area are very porous, meaning water can move quickly through the substrate. Second, the septic systems in Packwood's downtown area are aging and as septic systems age, they have a higher risk of failure. When a septic system fails, it could contaminate the drinking water aquifer. In addition, the required size of replacement on-site drain fields has increased such that many of the lots in the area are not big enough to meet current regulations. This means, if a septic system fails it could not be replaced in the same space and would require much higher technological treatment or hooking up to a centralized sewer system. Also, the small lot sizes and drain field requirements make it difficult for commercial businesses to expand or change uses because it is difficult or impossible to increase the capacity of their septic system.

3. What is the current drinking water quality?

The drinking water standard for nitrate is 10 mg/L. In 2012, private wells in area to be served by sewer tested at 0.2 - 0.3 mg/L for nitrate. In 2023, the Lewis County Water District #3 testing for nitrate was 0.1 mg/L. These are below the nitrate level standard

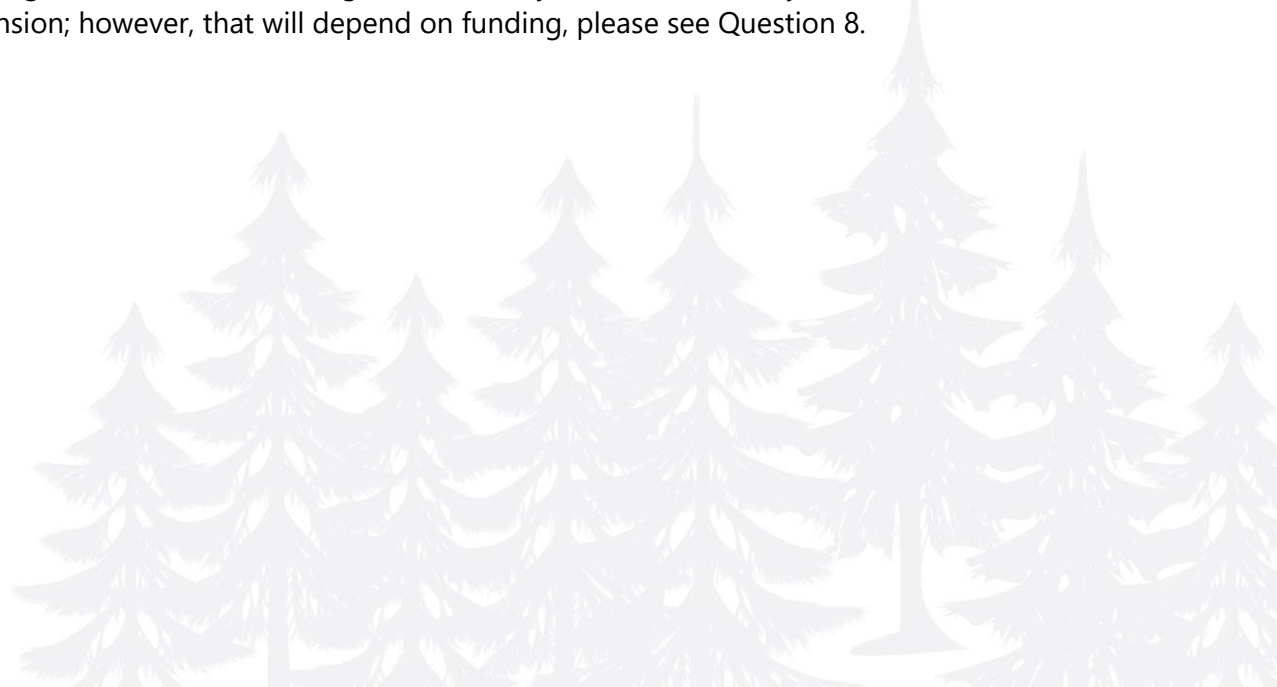
for drinking water. However, businesses and homes in the draft sewer service area have older, aging septic systems and as the systems age, they have a high likelihood of failure. This puts the drinking water source for Packwood at risk. Mitigation of a failing septic system resulting in contamination of the drinking water source will be difficult and costly. Building a centralized sewer system now will remove the risk to the drinking water from septic system failures.

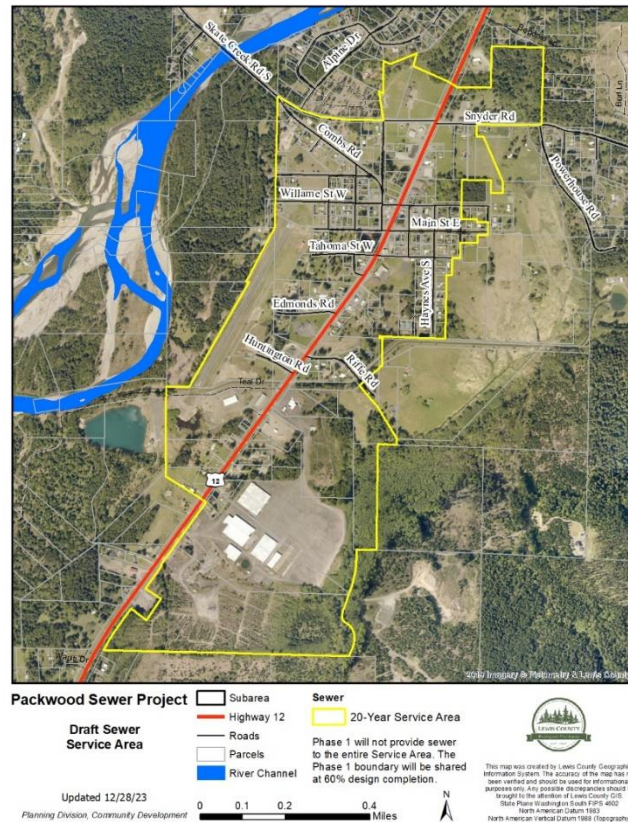
4. What is the service area of the project?

The goal of the Packwood Sewer Project is to serve the area shown in Map 1 over the next 20-years. The area shown in the map has evolved from the original sewer evaluations completed in 2002 through updated studies in 2010 and 2013, and most recently to account for the Future Land Use Map in the Packwood Subarea Plan.

Funding for the project is being provided through the Washington State Legislature using Coronavirus State Fiscal Recovery funds through the federal American rescue Plan Act (ARPA), though the funds granted for the project is not sufficient to construct a sewer system for this entire 20-year service area at this time; therefore, construction of a full sewer system for Packwood will be done in phases.

Phase 1 is being designed and engineered now and will be constructed in 2026. The MBR treatment facility and Large On-Site Septic (LOSS) facility will be sized based on available funds and will include land acquisition and construction of the MBR, LOSS (drain field), and as much sewer pipe infrastructure as is possible. The service area for Phase 1 will be based on funding available for construction and land available for a drain field. After the facility is designed, the project team will determine which properties within the service area can be served during Phase 1 based on the capacity of the facility and drain field. All commercial properties within the Phase 1 service area will be included and other properties that pose a significant risk to the drinking water aquifer will be considered for inclusion in Phase 1 depending on facility capacity and funding. The project team anticipates having a map of the Phase 1 area when design has reached 60% design stage. At that time, another Community Meeting will be scheduled. Design of the facility includes the ability for future expansion; however, that will depend on funding, please see Question 8.





Map 1: Packwood Sewer Draft 20-Year Service Area

5. What type of treatment facility will it be?

The treatment facility will be comprised of a Membrane Bioreactor (MBR) with Large On-Site Septic (LOSS) drain field. This [link](#) provides an overview of the MBR process. MBR Process Introduction provides an overview of the MBR process. The advantages of this treatment types are:

- The MBR treatment facility is fully enclosed, eliminating odors.
- The collected wastewater is treated in the modular chamber components of the MBR and will allow for the system to be expanded to include more modular chambers.
- The resultant discharge from the MBR is a highly treated liquid suitable for non-potable water usage, such as for flushing toilets or irrigation for landscaping.

The treated liquid discharge will then be disposed of through a Large Onsite Septic System (LOSS). This is an acceptable method by the Washington State Department of Health and Department of Ecology for directly discharging the treated liquid into the ground. No additional treatment of the liquid is required outside of the MBR facility. Below are images taken during a December 7, 2023, tour of the Bonney Lake MBR treatment facility. The Packwood MBR facility will use the same technology and be of a similar size.



Image 1: View of MBR Treatment Facility



Image 2: View of Holding Tank Areas and Back-Up Generator

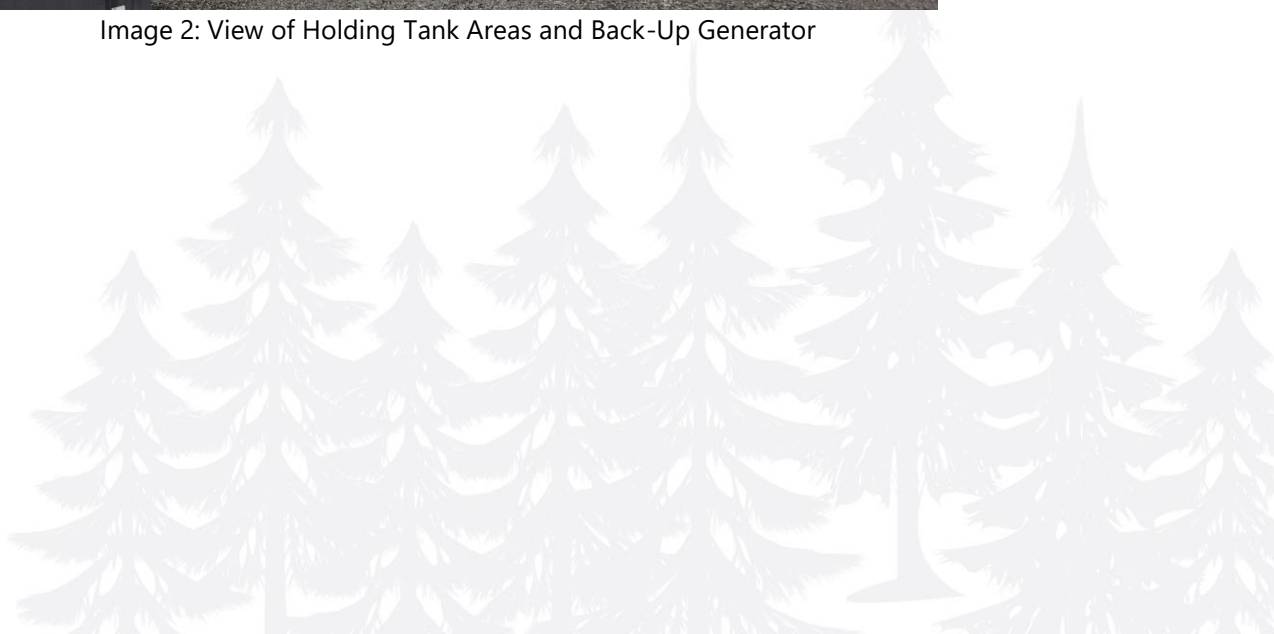


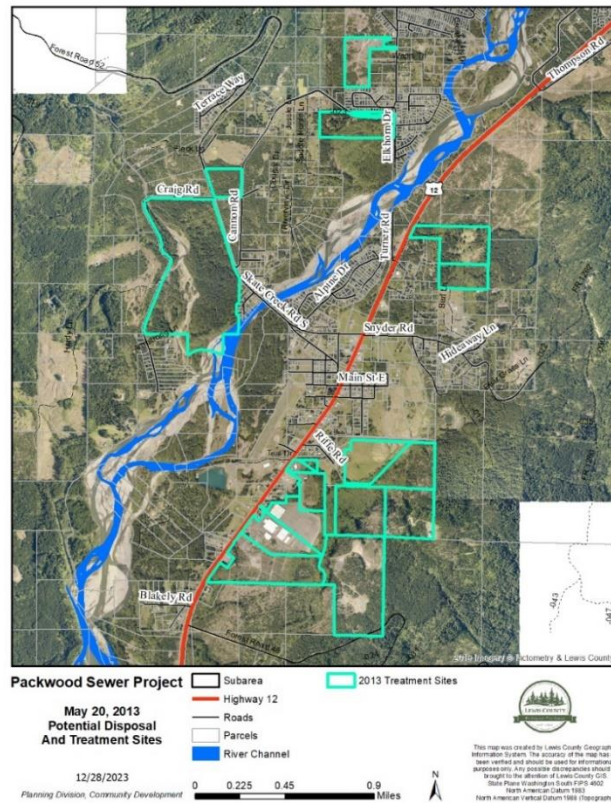


Image 3: MBR Processing Tanks within Treatment Facility

6. Where will the treatment facility be located?

At this time, a final location for the treatment facility has not been determined. In the May 20, 2013 study, potential disposal and treatment sites were identified and are shown on Map 2. These were based primarily on soil type suitable for a drain field. The properties west of the Cowlitz River were eliminated from consideration based on the treatment needs specific to downtown Packwood. Staff contacted property owners to gauge interest in potentially using land for a treatment facility. At the November 8, 2023 Community Meeting, the owners of the historic mill property had responded with interest and therefore, that location was presented as a potential site for housing the MBR - LOSS facility.





Map 2: 2013 Potential Disposal and Treatment Sites

Staff are still considering other possible locations for the MBR - LOSS treatment facility and discharge point. At the 60% Design Community Meeting a final decision for Phase 1 treatment and disposal will be confirmed.

If the final location of the treatment facility is at the historic mill, in the location shown at the November 8, 2023 Community Meeting, the structure will be located behind the existing Auction building. The treatment facility would also have to meet standards for buffering from the Tail Race and will include screening to reduce any visual impacts. The capped drain field will be vegetated and could be used as outdoor recreational space, such as a soft-surface walking trail, soccer field or dog park (Image 4).



Image 4: City of Lacey LOSS Drain Field

7. Will there be odors from the facility?

The treatment facility will be entirely enclosed within the MBR building and include odor abatement measures. There will be no outside treatment of wastewater. Therefore, there will be no odors from the treatment facility. The results will be treated solids that will be trucked off-site for disposal and treated effluent that will be discharged via a capped drain field. The effluent will be treated to the Department of Health's standards for groundwater discharge. Therefore, there will be no odors from the disposal of the treated effluent.

8. How will this project be funded?

The Project is partially funded through a Department of Commerce ARPA State and Local Fiscal Recovery Funds Grant in the amount of \$8M. The funding obligated by the Legislature was based on the 2013 study area and was intended to cover engineering design, environmental permitting, property acquisition(s), and construction of the Packwood Sewer system consisting of sewer piping, MBR, and LOSS infrastructure based on the 2013 service area. However, due to increasing material and construction costs and new technologies there is a \$15M shortfall to complete construction. The County is currently pursuing additional funding to close the gap. Additional funding would be needed in order to expand the service area based on the Packwood Subarea Plan.

Lewis County has requested additional funding through Representative Marie Gluesenkamp-Pereze and she included it in her FY2024 budget request. The federal budget has not been approved yet. The County will continue to request and apply for sources of funding and will keep the community apprised of the progress.

9. Will people be required to hook up?

Phase 1 will include the commercial businesses located in downtown Packwood and those businesses will be required to hook up. It is not yet determined how much of the residential areas surrounding the downtown core will be included in Phase 1. Once Phase 1 service area is finalized, expected at 60% design stage, it will be determined which residential structures will be required to hook up to the sewer system. There have been concerns about the cost of hooking up, and if property owners have recently upgraded their on-site septic systems will they be required to hook up anyway. The project team does not have an answer for these concerns at this time, but staff will strive to have answers at the 60% Design Community Meeting tentatively scheduled for Summer 2024. This will be dependent on available funding and will be part of the evaluation and development of the operating plan and rate study.

10. How much will it cost?

Until the service area, facility type and location, and decisions about who will be required to hook up are answered, it is not possible to determine how much it will cost an individual home to hook up to the sewer system nor can staff yet determine what sewer rates will be. Staff are also researching subsidies for people on low and fixed incomes. More information about costs will be provided at the 60% Design Community Meeting.

11. What happens if my current septic system fails before the new sewer system is operational?

If a property owner's septic system fails or stops operating correctly, it is the property owner's responsibility to get it repaired or replaced in accordance with the regulations set by the Lewis County Department of Public Health & Social Services, in accordance with state requirements. This can be very costly and, in some situations, not plausible due to the small lot sizes in downtown Packwood and the increased requirements associated with new septic systems. It is the goal of the Packwood Sewer Project to include the most at-risk properties in Phase 1.

12. Will this project have any environmental impacts?

The environmental resources in the area include the drinking water aquifer, streams and associated floodplains, and wetlands. The primary goal of the Packwood Sewer Project is to protect the drinking water aquifer, as discussed above, by developing a centralized sewer system. The centralized sewer system will dispose of treated effluent to a drain field. Treated effluent will be required to meet the Department of Health's standards for discharge.

Treatment standards are determined by the Department of Health. For the Packwood Sewer LOSS the treatment standards are established in WAC 246-272B-06250. The

current treatment target is Level B, which is summarized in the table below.

| | BOD (mg/L) | TSS (mg/L) | Fecal Coliform (#/100 mL) | Total Nitrogen (mg/L) |
|----------------|-------------------|-------------------|----------------------------------|------------------------------|
| Level B | 15 | 15 | 1,000 | - |
| N10 | - | - | - | 10 |

The final location of the treatment facility and disposal will consider the location of streams, streams buffers, floodplains and wetlands. The County's Critical Areas Ordinance and Shoreline Management Program requirements will be implemented both during siting and construction. SEPA will also be required during development permitting to identify environmental impacts as well as the cultural and social impacts. As needed, staff will implement mitigation strategies to prevent, reduce, or compensate for any unintended effects.

13. Will this project disrupt local services and roads?

During the construction phase, there will be some temporary disruptions to local businesses and the transportation system. Every effort will be made to minimize these inconveniences by using non-working day closures during specific Packwood Community events, limiting open trench excavation where possible, and implementing the use of electronic message signs informing the community of pending disruption to services in the community. Information about construction schedules and any potential disruptions will be shared by posting in the local newspapers, at local businesses, and on the Project Website well in advance of the pending work or disruption to traffic.

14. How will this project affect my property values?

Generally, properties connected to municipal sewer systems have higher market values compared to those with individual septic systems. This project could potentially increase property values in the Packwood community. The extent to which there is an increase is unknown, particularly because Packwood's market has been changing with the increase in tourism.

15. What about private septic system impacts in other neighborhoods?

There are areas around Packwood, such as the High Valley, Goat Rocks, and Timberline neighborhoods, with a high density of residential development and older septic systems. These areas are situated in the same aquifer as Packwood and upstream of the Packwood Sewer Project area. Because funding for the sewer is

constrained, funds are not available to include High Valley, Goat Rocks, Timberline or other neighborhoods at this time. Because of the location of these neighborhoods, it is also possible to tie those areas into the treatment facility that is currently being designed. Lewis County will continue to monitor reports related to water quality in the Packwood vicinity to determine if and when future action is needed for implementation of an additional sewer systems.

16. What is the timeline for this project?

While the exact timeline will depend on several factors, including funding, permitting, and construction schedules, staff anticipates Phase 1 improvements to take between two and five years to complete design and construction of the project. Funding for future phased sewer improvements for the whole service area in the Packwood Community will need to be evaluated and obtained through various grant opportunities.

Phase 1 Schedule

2023

| | |
|--------|--|
| Winter | Evaluate existing conditions / Commence with Design |
| Spring | Commence with project survey, property analysis, initiate Cultural / Archeological Investigations |
| Summer | Submit DOH Application for MBR - LOSS facility. |
| Fall | 1 st Community Meeting, 30% Preliminary Design; Facilitated MBR/LOSS facility Site Visit per Packwood Resident request. |

2024

| | |
|--------|---|
| Winter | 60% Design/Plan Development; Confirm MBR / LOSS Site Selection |
| Spring | 2 nd Community Meeting, 60% Design Plans, Specifications, and Engineer's Estimate of Probable Construction Cost (PS&E) development; MBR / LOSS and Pump Station property acquisitions. |
| Fall | 3 rd Community Meeting, 90% Design - Plans, Specifications, and Engineer's Estimate of Probable Construction Cost (PS&E); Finalize Design. |

2025 - 2026

| | |
|-----------|--|
| 2025 | Contract Advertisement, Contractor Selection |
| 2025-2026 | Construction |

17. What is the relationship to the Packwood Subarea Plan?

The Packwood Subarea Plan process was initiated after funding was secured to complete the engineering and construct Phase 1 of the sewer system. Therefore, Phase 1 will not address the subarea plan. However, the full 20-year Sewer Service area has been redrawn to reflect the Packwood Subarea Plan, see Map 1. It will take additional phases of design, engineering and construction to sever the entire 20-year Sewer Service Area. These phases are not yet planned and are not funded at this time.

One important relationship between sewer and the Packwood Subarea Plan is housing. Affordable housing has been identified in the Lewis County Comprehensive Plan, Lewis County Strategic Plan and Packwood Subarea Plan as a high priority. Businesses in Packwood noted lack of affordable housing as one of the primary concerns. The subarea plan has identified the downtown core and nearby areas for higher density, multifamily housing, which is more affordable than traditional single family housing. Multifamily housing includes triplexes, rowhouses, tiny home villages and cottage-style apartments. However, per the Lewis County Code, multifamily in Packwood is not allowed without a centralized sewer system. This requirement is based on the state's Growth Management Act, which directs multifamily housing to Urban Growth Areas and prohibits centralized sewer system outside of Urban Growth Areas, unless there is a risk to public health, or the environment and a sewer system can address that risk. Please see Questions 1 – 3 for additional information about the public health risk associated with on-site septic systems in downtown Packwood.

18. How can I stay informed about the project's progress?

First, please sign up to receive email notifications by sending your contact information Mark Burch at mark.burch@lewiscountywa.gov. Second, the County will conduct a minimum of three (3) community meetings at key project milestones (30%, 60%, and 90% design stages) during the project to keep the Packwood community updated and engaged in the development and implementation process of the project. Community meeting invites will be mailed to the Packwood community, posted to the project website, and notifications sent out via email and on social media. The first community meeting was held on November 8, 2023, at the Packwood Community Hall. Third, you may contact Mark Burch, Project Manager, at 360-740-2650 to ask questions or provide comments on the project. All materials associated with the project can be found on the [Packwood Sewer Project webpage](#).

Packwood Sewer System Project QR Code

