

Gallatin Canyon Water Resources Meeting

Notes

March 6, 2019

1-3 pm

Big Sky Water and Sewer District Meeting Room

561 Little Coyote Road

Notes: Karen Filipovich

Gallatin Canyon residents, landowners and interested individuals attended the meeting at the Big Sky Water and Sewer District meeting room.

Meeting objectives:

- Share information about options and considerations in forming a water and/or sewer district or a septic maintenance district.
- Discussion and opportunity for residents and business owners to identify opportunities and challenges, interest and next steps for exploring options

Candace Carr Strauss, CEO of the Big Sky Chamber of Commerce, expressed Chamber support for bringing forward an updated engineering report and supporting Gallatin Canyon decision-making. Kristin Gardner, executive director of the Gallatin River Task Force, also expressed her organization's support, both as host to support current meetings and help going with activities in the future.

Presentations:

Septic Maintenance District Formation: Beth Norberg, Registered Sanitarian, Lewis and Clark Health Department

The Septic Maintenance Program in Lewis and Clark County is the only program of its kind in Montana. In Lewis and Clark County, there are over 14,000 septic tanks and at least 6,000 septic tanks in the Helena Valley alone.

The Helena Valley has groundwater that flows to Lake Helena and the Missouri River. The challenge is that there is shallow groundwater, poor filtration due to coarse sands and gravels, and is a densely populated area with many systems that are over thirty years old. Illegally installed systems and unreported failed systems were also a concern.

Homeowner knowledge of septic systems was often low and many residents had relatively low incomes. 40% of systems were aging, existing inspection and maintenance was limited, and challenges existed for finding areas to site replacements or improve on poor siting. The Helena Valley was experiencing declining water quality trends.

Several community stakeholders began looking for a solution with the primary goal of identifying failed or malfunctioning septic systems. Fixing these would help water quality and public health. In 2007, Lewis

and Clark County was awarded an EPA Targeted Watershed Grant that helped start to moving toward these goals. As part of that, a low-income revolving loan program and Septic Maintenance District or program was started. \$385,000 of the award was administered through the Health Department. \$200,000 was for loans and the remainder for staff time.

In spring 2009, a working group of industry and environmental professionals was formed that met four times over four months to develop a proposal for a septic maintenance program. The meetings focused on public outreach and education, frequency of inspection, and cost issues. Then Health Department staff formally presented the proposal in December 2009 as additional regulations under the chapter on onsite wastewater treatment regulations.

After this draft was proposed, three public meetings were held in spring 2010 after an outreach and education campaign. Public feedback included comments that it was too expensive, too restrictive, that the problem wasn't big enough to require this solution, and support for it, but that the details needed changing. As a result of public feedback, the regulations were amended to reflect system owner choice, non-compliant systems and illegally installed system considerations.

In January, 2011 there was a final public hearing before the Lewis and Clark City-County Board of Health and after comments were considered, the Board of Health adopted the amendments to the regulation on January 27, 2011. On July 1, 2011, the new regulations went into effect.

As part of the process, many lessons were learned, including:

- Montanans see this as a new idea, even though operation and maintenance programs have existed in other states for many years.
- Public outreach and education are needed and time and effort are necessary.
- Do not let non-experts act as experts. In the process, several non-experts offered opinions on technical aspects that were not accurate
- Having the science ready
- Keep the message simple and consistent

Components of the Program:

The owner or occupant either fills out a self-assessment every three to five years, based on the system, self-reports and pumps or has an inspection every four years and pumps as indicated. The owner/occupant has 45 days after pumping and/or inspection to file the report form. A \$50 fee is also attached to the report. \$3 of the fee is used to maintain and update the Online RME system that tracks O&M inspections, self-assessments, accounting, and O&M providers. The rest of the fee covers the staff time to inspect and run the septic maintenance program.

To date, the program has reviewed 14,442 septic system and has sent out 6,481 notes, of which 4,651 (72%) involved responses. After eight years, work has started on improving the system to establish a more streamlined notification process, implement OnlineRME.com, work on improving rules tied to septic system permits to rectify permitting database problems, sorting out whether a system is truly illegal and to fix wrong address (old system in particular have wrong addresses or incomplete information). Staff availability and resources has also been a limit to how the well program can work, since Norberg has been the main staff and has other duties as well. The loan program continued to be available to help with repair, replacement, permit and pumping costs.

There was a question about what kind of enforcement exists with this program. Norberg responded that the regulation does have teeth since it is in the wastewater regulations and there are civil penalties that could be levied. However, capacity for enforcement is low and Norberg thinks that helping people correct problems is a better approach.

Another question is whether there have been efforts to connect with the water quality data for the area. In Lewis and Clark County, the water quality district is part of the Health Department. The water quality department has collected a lot data, so there are plans to look more at connecting this to the septic maintenance in the future.

Norberg were also asked if there have been any conclusions about how the program has affected water quality. She responded that they have the best data on correcting septic failures. EPA says that about 10% of septic systems are failing nationwide. In Lewis and Clark County, they have found about a 10% failure rate too and think they are catching most problems. There is a need to connect the program better to the water quality data.

She was asked how the self-reporting worked and whether she thought they caught deficiencies. Norberg said that the pumping receipt is attached to the self-report. If there is a deficiency that isn't noted on the self-report, the pumping report often has a note that flags a potential problem. She can see those and get back to the resident to help.

Lori Christenson, Gallatin County Healthy Department, said that if people in Gallatin Canyon area interested in establishing a septic maintenance program, her program can help support local efforts to tailor it to what would be useful.

Water and Sewer District Formation Overview: Karen Filipovich, Gallatin River Task Force and Big Sky Headwaters Alliance

Filipovich summarized information from state law and from experts including, Matt Donnelly, General Manager of the Gallatin Gateway Water and Sewer District, Ron Edwards, General Manager of the Big Sky Water and Sewer District, Karen Sanchez, State Engineer, USDA Rural Development, and Erinn Zindt, Technical Assistance Program Manager, Midwest Assistance Program.

A Water and/or Sewer District (District) can be established under Montana State Law. (MCA 7-13-22) It is a local subdivision of government focuses on water and/or sewer. There is an elected Board and hold powers including the ability to enter into contracts, bound, assess taxes, manage and/or build infrastructure, employ staff and eminent domain. District can be formed, dissolved, annexed or change to a subdistrict within another district.

Benefits of operating a District include eligibility for grants and very low-cost loans, rise in property values, ability to meter, charge or use, collect late fees and shut off services if necessary, can end need to operate own system. For wastewater, it is a potential avenue to treat water to a high degree with potential for increasing density without damage to the water supply or the river. For a water district, it offers a potential opportunity to manage a limited supply across a community because it accesses more sources.

Constraints for a Water and Sewer District include the time, paperwork and understanding need to form and run a District. Board members do spend significant time and receive little or no compensation. Districts are also subdivisions of local government and must follow the rules and regulations pertaining to it. In the Gallatin Canyon, income eligibility requirements may be a barrier for some grant sources. Finally, water rights must be turned over to the District if a water supply District is formed.

Forming a District requires several steps:

1) Initial Interest:

Members of the community must decide if there is clear interest in forming a District. This typically happens through informal discussion, community meetings, and through talking to other Districts. An informal leadership team needs to form in order to organize support and an election.

2) Leadership Team:

A group of volunteers identified likely support, thinks through whether to form a water and/or sewer District, and determines boundaries. In Gallatin Canyon, there is a Down HKM study done on the are at and south of the spur (Hwy 64) completed in 2008 that looked some options. This study could be updated. Boundary decisions can be based on people who want to be in the District and/or cost and engineering constraints.

3) Determine boundaries:

Before a petition can be entered, boundaries must be determined. Interest in being in a District and potential constraints on tying the linear development from Karst to Cinnamon Lodge would be factors to consider. Once initial boundaries are established, a legal description must be created. This requires an engineering firm and modest outlay of funds.

4) Petition the County Commission

A petition requires the signatures of 10% of eligible voters, a legal description of the boundaries, and specifications on whether it is a water and/or sewer district. Once the petition is sent and accepted, an election must be held.

5) Hold Election:

It will be a mail in election. If the vote passes with at least 40% of qualified voters in favor (residents within the proposed area and landowners who file with the county), the District is established and a Board must be elected.

Once a District is formed, the elected Board must hold monthly public meetings. The District has latitude in how it conducts planning and decisions about management and infrastructure. There are a broad range of options a District can use to fulfill its mission to supply water and/or wastewater services within its District.

Costs and commitments vary significantly based on phase of District formation and implementation. Commitments are easier to reverse before debt and assets are acquired. Because a District has the ability to apply for grants, costs to the landowners and residents can be significantly less than the full cost of the project. The commitment levels remain the same, since grant obligation must be fulfilled.

If there is interest in exploring this option further, several next steps could be considered including:

- Visit Gateway and Four-corners Water and Sewer Districts
- Visit with Big Sky Water and Sewer District
- Talk with neighbors, conduct outreach, and potentially conduct a survey
- Self-identify any leaders
- Pursue and update of 2008 Dowl HKM study to look at options

If there is not sufficient interest at this time, then status quo remains until a decision or a crisis triggers formation. Potential triggers include when nitrate levels in drinking water rise to a level that triggers more oversight, pressure for higher density housing pushes toward more centralized, higher treatment level wastewater options, or there are water supply impacts or negative impacts to the Gallatin River.

Overview of Community Wastewater Systems: Ashley Kroon, P.E., Department of Environmental Quality

Public systems have 15 or more connections or are used by 25 or more people 60 or more days per year. Kroon said to think about the example of church. If a church with 100 members meets only on Sundays, they would not need a public water system, but if they started holding weddings or funerals on other days, there would likely be more than 60 days of use annually and it would be a public system. Public systems are reviewed by DEQ.

Two DEQ design circulars govern design. DEQ-2 is design standards for public sewage systems and DEQ-4 are Montana standard for subsurface wastewater treatment systems. Discharge permits are required for industrial waste or a system that releases more than 5,000 gallons of effluent per day.

Many technologies exist to treat wastewater. Septic systems consist of a septic tank and drain field. The septic tank is a buried, water-tight container and its job is to hold wastewater long enough to allow solids to settle to the bottom as sludge while the oil and grease floats to the top as scum. She showed a picture of a rusted metal tank that had been excavated after failure; better materials are concrete, fiberglass or polyethylene. Soil-based systems discharge the liquid from the septic tank and slowly release the effluent into the soil. Standard septic systems release effluent that has about 50 mg/L nitrates. Level 2 systems release about 24 mg/L nitrate. There are proprietary systems that can treat to a higher standard including the Septic Net that releases at 7.5 Mg/L nitrate and has no mixing zone. A mixing zone is a typically required between the end of a treatment system and the receiving water so that the nutrients can be further diluted.

There are many larger system technology systems including trickling filers, activated sludge, wastewater treatment ponds, rotating biological contactors, biological nutrient removal (BNF), sequencing batch reactor (SBR) [technology in current use at the Big Sky Water and Sewer District], membrane bioreactor (MBR), and treatments wetlands [Bridger Bowl currently uses this system]. Kroon showed several examples of different plants from around the state. Glasgow uses an advanced aerated lagoon for ammonia treatment. Deer Lodge uses a small community BNR wastewater treatment plan for nutrient removal. Bozeman spent 57 million on a water reclamation facility. This plant actually returns water to the system with less phosphorus than when it leaves the water treatment plant off Sourdough. The Bozeman plant will conduct tours and she suggested that those interested do so. Joliet and Moonlight both have floating islands for treatment in lagoons. The Ennis Fish Hatchery employs vertical wetlands

for treatment. There are communities in Texas that use direct potable reuse, but there are no systems in Montana. Communities have many options in how they approach wastewater treatment.

There was a question about how many acres would be needed for a wastewater treatment plant. Kroon said it depends on amount of discharge, soils, and disposal method. Engineers attending the meeting suggested that 3-5 acres would be needed for a centralized plant in the Canyon. Using pods could fill in dead spaces.

Water Rights Considerations: Kerri Strasheim, Department of Natural Resources and Conservation

Gallatin Canyon and Big Sky are in closed basins for water rights. All surface water rights have been allocated. Part of the canyon area also lies within the Yellowstone Controlled Groundwater Area. In the Canyon area, there are many plots that are less than 20 acres and many might qualify for an exempt well. Lazy J South has a mitigation agreement that does not have wiggle room. Ramshorn has not fully developed, so it has unused water in its water right. In answer to a question, Strasheim explained that water rights are only perfected once all water uses for that right have been completed and it is clear how much water is needed. For example, River Rock can still perfect its volume because they have not fully developed that plan. Strasheim also pointed to some further resources to think about the water rights.

There was a question about direct potable reuse and how that would be viewed in terms of water rights. Strasheim said it depends on what the initial water right was and method of reuse. For instance, if the municipal wastewater disposal was 100% consumed, it is possible that another method would be used for mitigation.

Discussion:

Update the 2008 Dowl HKM Study:

There was significant interest in pursuing this since it is difficult to identify actions without information about options. The 2008 study focused primarily on centralized wastewater treatment for the Canyon. There was discussion on sequencing, with a view expressed that the District should be formed first as a show of support. Others felt that it was very important to get good data so that decisions about the District formation are based on good data.

Discussion centered around what information would be useful additions to the 2008 report.

Goal: This use this analysis to better understand problems and solutions. Good data are needed to make decisions.

- Boundaries: Need to decide if the 2008 boundaries are a good starting place or if analysis should be expanded (may want to tie in properties along spur road and what about properties that can't expand without more infrastructure?)
- Effluent: Are the numbers in the 2008 accurate for build-out? Did they adequately take into account any potential cap from water rights?
- Include additional strategies for wastewater treatment beyond what was in 2008 report

- Need range of costs for options for wastewater treatment
- Information on initial fees to centralize treatment vs. impact fees later on. It would be important to think about rates to buy into system and likely rates paid monthly for utility once installed
- Look at sewer and water – not just sewer
- Further examination of effluent reuse options for Gallatin Canyon
- Water rights mitigation options
- Look at existing data on background nitrates – DEQ has data for every subdivision, but it is difficult to acquire. Ashley Kroon may be able to help with this

Septic Maintenance District:

There was also interest in exploring the opportunity of the septic maintenance program. It could be used first or in areas where a District might not be feasible or cost-effective. Lori Christenson at the Gallatin County Health Department will follow up with Gallatin Canyon residents to discuss this option further in May. Participants asked for information on:

- Help think through options in how this could be formed
- Most beneficial areas in the Gallatin Canyon for this option
- Think through pros and cons – will pursuing this option slow down move to any treatment options that could promote affordable housing?

A meeting was requested in May after the preliminary engineering request was submitted.

Finally, participants wanted to wait on visiting the Gateway and Four-Corners Districts until a little more time was freed up.

Mindy Cummings, Kristin Gardner, Mike Richter, David O'Connor, Candace Carr Strauss, and Scott Altman volunteered to act as a sounding board to make sure the engineering update reflected the interests expressed by Canyon residents. The Chamber and Gallatin River Task Force are willing to sponsor this study. They will work out the best approach on who is lead.

The Gallatin Health Department will be ready to help with a meeting on the septic maintenance program in May. The Gallatin River Task Force and Mike Richter agreed to help with this activity.