



Paeonian Springs-Waterford Interconnected Community Water/Wastewater Project

Frequently Asked Questions

Project staff prepared the following responses to questions received during the October 28, 2025, community meeting and through the county's online comment form. These responses are for general informational purposes only and may not be considered an official County of Loudoun determination or formal Loudoun County Board of Supervisors (BOS) approval. Project staff do not have the authority to bind the county to any action. The intent of Loudoun County's Water and Wastewater Program is to assist and work alongside communities experiencing issues with deficient or non-existent water or wastewater systems. Staff are invited into a community to discuss their water and wastewater concerns through the submittal of an application. The program provides a standardized process to gauge a community's interest, determine a community's need, and establish a measurable method to prioritize community requests. Participation in the program does not exclude any community residents from petitioning the BOS for resolution of water and wastewater issues through other public processes, nor does the program limit the BOS's authority to take action to resolve public health issues.

Question 1: Very precisely, what problem are we trying to solve? How many households, what problem?

Answer 1: Purpose: To address public health and water reliability concerns for all residents in the Villages of Paeonian Springs and Waterford, by providing adequate quantity and quality potable water supply to both villages and to address long-standing wastewater issues in Paeonian Springs, ensuring long-term sustainability of these existing historic Villages. Together, the communities consist of 345 parcels (Paeonian Springs 201 and Waterford 144).

Conditions: Paeonian Springs and Waterford are among the most-dense villages in the unincorporated areas of Loudoun County. Both rely on on-site water systems, while Paeonian Springs also relies on onsite sewage disposal systems. The communities have had a long history of challenges with individual water and onsite sewage disposal systems, which is, in part, a result of the density of existing homes and other non-residential structures. Past studies have reported challenges in various forms.

For Paeonian Springs, aging onsite sewage disposal systems are inadequate, non-functioning, or non-compliant and small lot sizes, no reserves, and challenging soil or site conditions prevent upgrades to failing systems. For Waterford, concerns with inadequate well yield, challenges improving existing well yield or installing new wells on small lots, and a lack of groundwater availability. The goal of this project is to provide a long-term solution for all residents within the service areas.

See the [Paeonian Springs and Waterford Interconnected Project History and Data Summary \(PDF\)](#) for more information regarding the existing conditions and challenges within the communities based on research.

Question 2: Is the population growth prediction still reliable? Between the reduction in government, the return to the office mandates, I would predict a slowdown of people moving west. So this infrastructure project will be a waste.

Answer 2: This project is not to support development and additional growth; it is being designed for the existing properties in the villages of Paeonian Springs and Waterford. Assistance was requested by a group of property owners via application to the county. A water and/or wastewater service area will be established by a commission permit and only those village parcels located within the designated service area will have the ability to connect to the system.

Question 3: Does the county have a groundwater model of Clarke's Gap similar to the Tetra Tech model of Waterford in 2022 that is capable of predicting the decline in the water table and changes to stream flow in Catoctin Creek (stream depletion)? If not, why not?

Answer 3: Currently, no groundwater model for Clarkes Gap Road exists. This is a Loudoun County and Loudoun Water partnership project. Loudoun Water has retained the services of Dewberry Inc. and Emery & Garrett Groundwater Investigations LLC (EGGI) to provide hydrogeological professional services. As the design phase advances, the consultants will conduct desktop studies, field investigations, and testing relevant to, and as required for, the work included in this project.

One of the project's goals would be to avoid impacting existing wells and streams. Studies have not been conducted to evaluate potential impacts to existing users of the local groundwater supply because production wells have not been sited or drilled. Without a

defined well location and demonstrated sustainable yield, there is no reliable basis to assess potential pumping-related impacts to nearby groundwater users. However, if this project proceeds and public wells are drilled, the most important aspect in assessing the potential yield of any new well would be to make sure that groundwater withdrawals from that well do not adversely impair the productivity of existing wells in the local area. Production wells will not be put into operation if they are found to negatively impact nearby individual wells.

Also see responses to Questions 46, 94, 96 and 99 for relevant information on well siting, testing and monitoring.

Question 4: How many homes are without water in Waterford Village and of those how many have never had a productive well versus how many have dried up?

Answer 4: The studies performed to date have relied upon available Health Department records and voluntary surveys to help better understand which homes lack productive wells and sufficient yield. In addition, a hydrogeologic model was developed for the community to further assess groundwater challenges within the community, confirming the record research, which was included in the [2022 Waterford Water Feasibility Study \(PDF\)](#). Based on available Health Department records, there have been 51 instances of dry wells within the Waterford Community. Additionally, the 2022 hydrological assessment estimated that approximately 26% of lots are located within a low yield area.

Individual onsite well assessments were not performed to determine how many homes are without water. See the [Paeonian Springs and Waterford Interconnected Project History and Data Summary \(PDF\)](#) for more information regarding the existing conditions within the communities based on research.

In addition, Loudoun County wants to ensure that any improvements made will last and serve existing parcels well into the future.

Question 5: How many people here live inside the area designated as the need?

Answer 5: There are approximately 345 parcels within the proposed project area for the villages of Paeonian Springs and Waterford. Using demographic estimates developed by Loudoun County's Office of Management and Budget, the population residing in the villages is estimated to be 437 (Paeonian 255 and Waterford 182) in 2025. This population figure does not include non-residents, that may be employees of businesses and non-

profits, church congregations, Waterford Elementary School staff and students, or visitors/tourists that live outside but may work or visit the villages.

Question 6: How many homes in Paeonian Springs have tested positive for E. coli who are not using UV filters?

Answer 6: Total coliform is a naturally present bacteria in the environment and can be used as an indicator test for potentially harmful bacteria that could be present. It also could indicate a well construction issue that has resulted in a potential pathway of contamination into a well. The presence of E. coli indicates that a water supply may be contaminated by human or animal waste and harmful to human health.

Well testing records for private wells can be limited, as the only testing and reporting requirements to the Health Department typically are at time of the initial operational start of the well. However, in 2022 the county—as part of the [2022 Paeonian Springs Technical Memorandum \(PDF\)](#) study offered water testing to Paeonian Springs residents; 30 households volunteered to participate. Testing included total coliform and E.coli. The results indicated positive results for 11 total coliform (37%) and 3 E.coli (10%).

For comparison, the Loudoun Department of Virginia Cooperative Extension (VCE) offers discounted testing through their Household Water Quality Testing Program twice a year. Aggregate data of 1,193 wells tested from 2023-2026 shows an average of 2.4% positive for E.coli for the countywide results.

Although data for the presence of ultraviolet (UV) filters for all Paeonian Springs is not readily available, the three homes that tested positive for E.coli in Paeonian Springs in 2022 did not report a UV system as being present. In addition to the volunteer testing described above, Paeonian Springs residents have continued to report water quality concerns to county staff, including two residents who reported E.coli issues recently.

See the [Paeonian Springs and Waterford Interconnected Project History and Data Summary \(PDF\)](#) for more information regarding the existing conditions within the communities based on research.

Question 7: County staff said, "Concerns were expressed." How many people expressed concerns, which initiated this whole project? Can you please make these application applications available to the public?

Answer 7: There are residents in Paeonian Springs and Waterford who lack adequate water and/or sewage disposal services. Residents in both Paeonian Springs and Waterford requested possible solutions to inadequate water and/or sewage disposal services from the county by application. Feasibility studies conducted in response to the applications showed the villages would be best served by community water and wastewater systems. The applications are public and available on the [county's project webpage](#).

Also, see the [2022 Waterford Water Feasibility Study \(PDF\)](#) section 4.1.4 study survey; the Waterford Survey Results and Responses (Attachment 2) of [the Waterford Water Feasibility Study Findings staff report for the February 21, 2023, Board of Supervisors meeting \(PDF\)](#); and the [Paeonian Springs and Waterford Interconnected Project History and Data Summary \(PDF\)](#) for more information regarding the existing conditions within the communities based on research.

Question 8: What is the threshold in gallons per minute (gpm) for considering a well is "low yield." Nine people in Waterford responded to Dewberry's survey saying they had low-yield wells. Does staff have any empirical data not interpolated for how many active wells are low yield in Waterford?

Answer 8: The [2022 Waterford Water Feasibility Study \(PDF\)](#) considered 2 gallons per minute threshold for low yield. A residential well is considered low yield when it is consistently unable to pump at a rate required to meet reasonable residential household peak demands. Depending on generally accepted industry standards, wells that produce flows between 2 gallons per minute and 4 gallons per minute are classified as low-yield wells. Additionally, according to "[A Guide to Private Wells](#)" from Virginia Tech Water Resources Research Center, low-yield wells are defined as wells producing less than 4 gallons per minute (gpm). For the Waterford studies performed so far, a threshold of 2 gpm has been used to identify low-yield wells. Research found that 20 parcels have well yields below 1 gpm and 9 parcels have a well yield between 1 gpm and 2 gpm.

See response to Question 4 for additional information.

See the [Paeonian Springs and Waterford Interconnected Project History and Data Summary \(PDF\)](#) for more information regarding the existing conditions within the communities based on research.

Question 9: Why was nothing done for Paeonian Springs over the 35 years between the 1972 study and the 2017 application?

Answer 9: Paeonian Springs is located in an unincorporated area of Loudoun County. A structured pathway to request water and wastewater support was not readily available to Paeonian Springs for many years. In 2011, Loudoun County completed a Water and Wastewater Needs Assessment that identified Paeonian Springs as a community at risk for water and wastewater issues. In 2016, the new Loudoun County Water and Wastewater Program then provided an opportunity for communities like Paeonian Springs to request assistance needed to better understand public health challenges related to water and wastewater, and to assess the feasibility of addressing those challenges. Paeonian Springs applied for the program and was selected for a study based on the program guidelines.

Question 10: A) What number of residences in Waterford possess low-performing wells that are not re-drilling? B) What is the per residence cost to county taxpayers to provide those residences with water from the proposed \$60 million solution via Loudoun Water? C) What would the cost per residence be to install accumulator water tanks?

Answer 10:

- A) See the Paeonian Springs and Waterford Interconnected Project History and Data Summary (PDF) for more information regarding the existing conditions and the number of low-yield wells within the communities based on available data. Potential challenges associated with drilling new wells were evaluated; however, no direct inquiries were made to homeowners regarding why they did not or could not re-drill.
- B) Currently, this project is in the design phase. The Board of Supervisors has not made a final determination on a design; therefore, the total cost of the project has not yet been determined. Moreover, this question assumes that real property tax revenue will pay for the total cost of the project, which is not a correct assumption. If the Board of Supervisors chooses to proceed with the project, the Board will endorse a design that

will inform the cost of the project, and the county will identify funding sources at that time.

- C) We are unable to provide cost information for individual solutions since the cost could vary significantly based on the system selected, contractor selected, and existing well configuration for each parcel. Additionally, the property owner would be responsible for determining the effectiveness of such a storage system in resolving the issue they are facing as it does not improve yield conditions but draws and stores water available throughout the day.

Question 11: How many homes in Paeonian Springs have polluted wells?

Answer 11: Assuming “polluted wells” is referring to bacteriological concerns, the study was limited to a review of available public records; an individual assessment of each property was not performed. This data represented the minimum number of homes that were known at that time to have bacteriological contamination. Well water test records for private wells are limited because testing results are typically only reported to the Health Department at time of the initial operational start of the well.

See the [Paeonian Springs and Waterford Interconnected Project History and Data Summary \(PDF\)](#) for more information regarding the existing conditions within the communities based on research.

For more information regarding bacteriological concerns in Paeonian Springs see response to Question 6.

Question 12: Exactly how many homes in Waterford and Paeonian Springs have issues with water and sewer?

Answer 12: See detailed Feasibility Studies on the [county's project webpage](#). Also, see the [Paeonian Springs and Waterford Interconnected Project History and Data Summary \(PDF\)](#) for more information regarding the existing conditions within the communities based on research.

Question 13: How can you justify a \$60 million project when important data to support the decision is missing or out of date?

Answer 13: Decisions regarding the cost of infrastructure projects in the county are considered by, and if deemed appropriate for the county, approved by the Loudoun County Board of Supervisors. The evaluation of this project was based on review of available data, supporting documentation from the Health Department, community surveys and close coordination with community project coordinators and community organizations. A number of homes in Paeonian Springs are experiencing failing or inadequate onsite sewage disposal systems, and/or contaminated well water, which pose public health risks. A number of homes in Waterford are experiencing insufficient well yields. After reviewing the compiled data and subsequent analysis, the project team concluded that the historical importance of these communities, the issues these communities are facing, their inability to address issues due to small parcel sizes and other local constraints make the installation of a community system the most feasible, cost-effective and sustainable long-term solution to address this public health concern and community sustainability need.

Question 14: Ground contamination, lack of potable water, fire threats to old homes in the landmark. Is the county committed to the health and safety of Village residents?

Answer 14: The health and safety of the community is always a top priority of Loudoun County government. Moreover, exploring ways to protect and bolster Loudoun's villages and towns is among the Board of Supervisors Strategic Initiatives. Long-term sustainability requires adequate water quality/quantity and wastewater disposal.

Question 15: How will the project improve public health and stability in the community?

Answer 15: The project proposes a communal water and wastewater system serving Paeonian Springs and Waterford to address over 50 years of water and wastewater challenges faced by these communities.

Paeonian Springs residents have reported failed onsite sewage disposal systems, positive bacteriological tests, and histories of failures. A community water system will improve public health by supplying reliable, safe, treated drinking water, and a community wastewater system will divert sewage away from homes, thereby preventing sewage from contaminating wells and ground/surface water resources.

Waterford's primary water challenge is inadequate well yield. Waterford's local hydrogeologic conditions are not favorable for the high density of wells, which directly affects existing individual well yields and reliability. The small lot sizes limit a homeowner's ability to drill a new well within their parcel, and the combination of a high density of wells in the village and underlying geological conditions reduces the chances of drilling a new well with an adequate yield. The community water system will provide a reliable and safe source of water for all residents, thereby ensuring long-term sustainability of the community.

The proposed interconnected wastewater system will allow homeowners to abandon aging on-site sewage systems. The removal of these systems will significantly reduce potential sources of groundwater contamination, particularly within Paeonian Springs, where local groundwater and streams are at risk of contamination due to limited lot sizes and aging systems. Eliminating failing or outdated onsite sewage systems with communal systems will protect both public health and the environment and is encouraged by the [Loudoun County 2019 Comprehensive Plan](#) for the villages.

Both communities are historic villages located within Loudoun County and defined in the 2019 Comprehensive Plan as Rural Historic Villages. These long-existing villages are characterized by small lot sizes and higher residential densities typical for their era, but non-typical under today's land use and public health guidelines designed to assure proper system design and appropriate setbacks from all wells and potential sources of contamination. These restricted site conditions limit the property owner's ability to appropriately address water and wastewater issues.

Overall, the interconnected system in these historic villages will support the long-term sustainability of both villages by reducing risk and uncertainty that comes with numerous aging individual privately operated onsite systems in dense areas, addressing public health concerns, improving water system reliability, protecting groundwater quality and allowing for adaptive reuse to preserve and protect the villages historic structures.

Also, see responses to Questions 1 and 14.

Question 16: I want to write in favor of the project and that contrary to many people at the various meetings who state that there is only one well in distress in Waterford that is a complete fabrication. I hope that at the next meetings that the county will point out exactly how many wells are not producing adequate water, homes that have NO water and how many wells - hand dug or too close to a property would never be permitted to be replaced by the county if they failed. Not to mention how many shared wells which is not sustainable and difficult for resale of a home - All in all, it is not a sustainable situation in Waterford.

Answer 16: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 17: I am commenting on behalf of a homeowner. They have lived in the Village off and on since 1946. They have seen several iterations of water plans over the years, but nothing ever came to fruition. We are hopeful this time will be successful. We have three neighbors who have the need for a port-a-potty. We have a small lot (.25 acre) so we're concerned about the ability to dig a new well or septic field should it become necessary. We appreciate the fact that some neighbors do not need or want to be included in an interconnected system, but we feel we would benefit greatly from the proposed system. Thank you for keeping us informed on this project.

Answer 17: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 18: I wanted to reach out to thank you all for hosting the community meeting for the Paeonian Springs, Waterford water project at Rust Library in October. I would also like to apologize on behalf of my fellow community members that were acting quite rude and unruly. The team presenting did a wonderful job of attempting to redirect and ensure everyone felt heard - even if they maybe didn't deserve that courtesy.

Despite the loud proponents against the project, I wanted to reiterate our support and demonstrated need for clean water for our community. I have shared this testimony previously, but I think it is prudent to share it again - and please feel free to share this widely next time someone feels that there are not issues:

We moved to Paeonian Springs in February 2024, so are much newer to the project than those that have been advocating for this since the 1970s. However, we have already seen the need for it. During the process of buying our house, the inspection required that the well water be tested. Although the previous owner had a very extensive filtration system professionally installed, the water failed the inspection test for having both total coliform and e-coli bacteria present. This family had been living for years with infected water from the house's well, despite having a filtration system installed, and a recently updated septic tank. Since then, the water filtration system has been reworked and the water passed inspection. However, we now have to have the water tested at least once a year to ensure it stays that way. We are grateful for the county water-testing program to make this more feasible, however, would prefer this to not be a need. We were very lucky to have the funds and resources to fix these issues, however I know there are many in our community that don't have that option. And, likewise, many that have much older water and septic systems than we do, that I'm sure are not providing their families with safe water.

I know there are still many questions to be answered and decisions to be made, but we are excited to see the design process continue and find a solution that will solve many community issues. Thank you for your time and your ear.

Answer 18: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 19: These water and sewage systems are needed by both villages and have been for years. The fact that there are people in both communities that do not see the provision of a safe reliable water system for all residents in the affected areas as a priority is astonishing to me. We should all be working together to ensure that these problems are solved not making up falsehoods and spreading misinformation to scare people.

Answer 19: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 20: I wanted to follow up after the meeting on October 28 to express my gratitude to everyone who helped make this meeting happen. I really appreciated the comments from Supervisors Randall and Kershner in support of the project. I was glad they had county staff present and also had engineers and the hydrogeologist at the

meeting. I was excited to hear about the possibilities when it comes to funding the physical connections from houses to the mains, it's very encouraging. The village of Paeonian Springs needs a solution desperately and I really hope the design process is not slowed down by what is happening with the Waterford Preservation Group or people from well outside of the village that will not be affected by this project at all. That night there were many people from all sorts of preservation groups that live in Hillsboro, Purcellville, Philomont, Lucketts and other places that are not even near or between Waterford or Paeonian Springs. I really hope that you don't let these people drown out the needs of both villages. I do think that everyone should absolutely have in good faith discussions on valid concerns and question things, but as far as feedback for this meeting I hope that less weight is given to the people who won't listen and knowingly repeat the same fallacies that were addressed again and again. I am also very concerned that they are disingenuous when it comes to their support of separating the two village systems, they are literally still in OUR backyard and assume the additional properties the county would have to acquire would just magically go the other direction automatically.

I have discussed the meeting with a few people from the opposition, and they all did not want to acknowledge some if not most of the statements made that answered their questions and concerns. They all fell in line, ignoring the comments from James Emery the hydrogeologist that addressed some of their biggest concerns.

I really appreciate the poise and leadership exhibited by the Supervisors in handling the crowd when people got rowdy or tried to steamroll others, this meeting was contentious enough as is. Thank you.

Answer 20: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 21: Thank you for bringing safe water and sewer services to my home in Paeonian Springs. Over the summer, all 3 of my preschool/elementary aged kids, my husband and I all were horribly sick with vomiting and diarrhea. We had our well water tested, and it was positive for e. Coli and other bacteria. People outside Paeonian Springs have scoffed “who drinks tap water anyway?” Well, we do. We also shower and bathe in it, wash our clothes and dishes with it, and scrub our floors with it. When my kids wash their hands or brush their teeth, it is with contaminated water. The people against this project are concerned about their views and property values, and couldn't care less about my family's health and safety. Thank you for caring!

Answer 21: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 22: Last night (October 28, 2025) at the Rust meeting, an overwhelming group of individuals expressed concern over a bloated project. And yet, it felt that certain people are hell-bent on pushing this project for reasons that are not obviously transparent. Not ONE taxpayer in the audience spoke up FOR the project. It was mentioned that ONE well in Waterford is dry and that the project would go forward even for ONE well and yet, there is a problematic well on Clarkes Gap Road that does not seem to warrant the same attention. My friends and I labor long hours researching solutions while the county only wants to pursue ONE solution which could be far more problematic than problem-solving.

The idea that Mr. Kershner could declare we didn't want water for our neighbors was deplorable. We WANT water for all our neighbors, but we want it sustainable for all and without ruining a scenic byway and farmland on both sides.

Answer 22: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 23: Thank you for taking the time to inform everyone and get rid of the disinformation that has been spread. I understand this is a very complex situation, and the county is doing what they can to find the best path forward. Thank you for all your hard work and patience.

Answer 23: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 24: A) What number of residences in Waterford are currently without water? B) What is the per residence cost to county taxpayers to provide those residences with water from the proposed solution via Loudoun Water? C) What number of residences in Waterford possess low performing wells that they are not redrilling? D) What is the per residence cost to county taxpayers to provide those residences with water from the proposed \$60+ million solution via Loudoun Water? What would the cost per residence be to install intermediate storage systems that recharge several hours/day?

Answer 24:

- A) See response to Question 4.
- B) See response to Question 10.
- C) See responses to Questions 4, 8 and 10.
- D) See response to Question 10.

Question 25: What is the expected daily rate of water consumption for all of the existing and expected future residences in the Waterford and Paeonian Springs towns? What is the actual empirical evidence (not conjecture) and empirically grounded assumptions that supports the estimation? All that is presented in the "Paeonian Springs and Waterford Joint Water and Wastewater System Feasibility Study" is an estimate of peak hour, not daily water consumption.

Answer 25: Water systems are designed in accordance with established guidelines and criteria provided by state, local and federal resources. Design of a communal water system will also need to meet [Loudoun Water's Engineering Design Manual](#) requirements. All of which were used to analyze demand in the feasibility study.

Communal water system design requires consideration of source water availability and protection as well as water consumption and demand.

Water Consumption: The actual usage, consumption and demand of water will depend on several factors, including, but not limited to, the customer's household size, lifestyle and habits, appliances and fixtures, and awareness and attitudes about conservation. Based on Loudoun Water's experience operating other community systems, the average water consumption per connection in Paeonian Springs and Waterford is expected to be in the range of 150 – 300 gallons per day. Therefore, in a hypothetical situation in which two-thirds of all eligible parcels (230 parcels) connect to the system and consume approximately 250

gallons per day on average, the average withdrawal would be less than 60,000 gallons per day. In a scenario where all 345 eligible parcels connect, the average withdrawal will be less than 86,000 gallons per day.

Question 26: This, my friends, is the tale of TWO FOIAS. FIRST a taxpayer requested and I quote: "Any and all documents relating to the households in the Villages of Paeonian Springs and Waterford that have experienced issues relating to domestic water (quantity, quality) and/or domestic wastewater (failing systems, pollution of aquifer within the past five years. The county's response: "The estimated cost for the production of your FOIA request is \$10,979.28."

This suggests one of two things. Either the county has the data but don't want to share it. Or- more likely - they simply don't have the data. How then did they develop a solution without knowing the problem?

FOIA #2: When we requested a FOIA about the "economic viability" of the project," The county responded with "An 'economic viability' report was not conducted." THIS means the only way its economically viable is if villagers are forced to hook-up to an interconnected system. However, this would be extremely unpopular with village residents, and this has been denied by county staff.

So, it seems more likely - again - that staff has insufficient data to justify the economic viability of a \$60 million project when residents have the option to opt-out.

The moral of the tale is: It is indefensible to propose a \$60 million project - rather than less expensive alternatives - when there is no data to support that decision.

A proper END to this TALE involve staff redirected to a proper collection of data, a re-evaluation of alternatives, and agreement to solve with small scale solutions and financing where needed.

Answer 26: State law guides how localities respond to Virginia Freedom of Information Act requests. Information regarding the costs of FOIA requests and other information that influences the county's responses to such requests is available online at loudoun.gov/FOIA.

More detailed information about the interconnected project costs will be determined during the design phase, which is currently underway. This information will inform the Board of Supervisors before any decisions are made to move forward with the project. Currently, information about the project can be found in documents that previously were made available on the [county's project webpage](#).

In addition, water and wastewater Health Department records are available to the public on the [OnlineRME LLC website](#). OnlineRME is a database that is used for onsite sewage disposal system inspections, maintenance and pump out reporting. The database also provides a link to Health Department environmental health scanned records for onsite water and wastewater systems.

With respect to “economic viability,” the purpose of the project is to address public health and water reliability concerns for all residents in the Villages of Paeonian Springs and Waterford, by providing adequate quantity and quality potable water supply to both villages and to address long-standing wastewater issues in Paeonian Springs, ensuring long-term sustainability of these existing historical Villages. The project is being done on behalf of the residents, in conjunction with Board policies and the comprehensive plan, not to meet a return on investment strategy. As such, the county has not conducted an analysis to evaluate economic viability.

The feasibility study did, however, use cost as one of the criteria for the evaluation of alternative options. See Table 13 in the [2019 Paeonian Springs Water and Wastewater Feasibility Study \(PDF\)](#).

Question 27: The county has not followed the procedure it created for determining who gets a water project. The procedure required 60% of the residents to approve the plan and they have never achieved this for the whole village of Waterford. We have been repeatedly lied to by Staff, telling us we would have a vote, which we never have. Sorry, but internet surveys do not meet that standard.

The county has never verified the yields of the wells in question. They have never determined what steps people have taken to solve their own problems. Are they filling hot tubs? Watering lawns? Have they replaced their toilets with low-usage toilets?

The county has never looked into alternative solutions. The county wants to throw business to Loudoun Water. So few people will sign up for this that the county will have to force us to connect. The county can give money away to people to buy houses, but you can't help a handful of people solve their water problems.

This is a \$60 million boondoggle that the county is throwing taxpayer money at. It will destroy the charm of Clarkes Gap Road and dry up the wells of the people who live on it.

Stop the waste! Stop the project!

Answer 27: The Water and Wastewater Program Prioritization Manual requires a map delineating the proposed boundary of the community requesting assistance and signatures of 60% of the property owners within the submitted boundary of parcels containing eligible structures in support of the application.

The Prioritization Manual is a tool to guide staff, however, suggested revisions to the study area may be considered based on additional information or best practices. The recommendation to expand the study area was provided to residents in an August 2020 feasibility study scope presentation that included: (1) there is already an existing defined utility boundary; (2) study may identify issues beyond the submitted application area; (3) it is easier and more economical to scale down a potential solution than scale up; and (4) identified alternatives may be inside and outside of the application boundary. Staff did not receive any responses opposing the expanded study boundary during the open comment period following the presentation. It should also be noted that the 1966 Feasibility Study and the 1987 Waterford Area Management Plan both suggested a communal system for the entire village.

Staff received questions about whether an official vote would follow the Feasibility Study and staff explained during several meetings with residents that no official vote count would be required. However, staff informed residents that they could explore their own initiatives for polling the community if they chose to do so.

After reviewing the available well data, field measurement well depth to water, hydrogeologic study results, and available pertinent literature, the project team determined the information sufficient for a community need assessment and evaluation of possible solutions. Verification of individual wells and residents' lifestyles and water-use habits was beyond the scope of the village-wide study.

Question 28: We are new residents in Waterford and definitely have water issues even with conserving the best we can. There is so much sediment in the water that we are concern about health and impact on pipes and appliances. It is our hope that a resolution to the Waterford water situation is rectified for the citizens that are impacted.

Answer 28: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 29: I am writing in support of the water project in Waterford. While I have sufficient water, I worry about the quality of the water despite having installed a state-of-the-art filtration system. Our property is our single most valuable asset, and I am committed to retaining its value for my children. I was skeptical about buying a home with a well and only the fact that Waterford is so charming swayed me to do so. Had it had both a well and septic, I doubt I would have purchased it. The fact that we are now going to upgrade both systems is a great comfort to me. I believe it protects the value of my investment and my health, as well as the value of all of the village properties and the health of all villagers.

Realtors know Waterford has water issues and that is not good for appreciating value. It is also possible that properties will be abandoned if they cannot be sold as is without water. My understanding is that the problem has been studied for many years and is only getting worse. I applaud the county for supporting us in upgrading these systems that will materially improve our quality of life and cement the value of our homes. I think many people do not appreciate what poor quality water is doing to their long-term health prospects. Pollution, animal waste, heavy metals, fertilizer run-off, insecticides, the presence of heavy mineral concentrations, and more all add to the threat.

Thank you for taking on this project. Let's get it done this time.

Answer 29: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 30: In 2019, the Waterford Foundation Board voted to sign onto a community petition to seek county assistance in exploring the possibility for a community water system for the village of Waterford.

At the time, the Board made this decision to support the petition as the owner of 13 properties in Waterford and all but two lack potable or any water. Foundation's properties do not have water and their use and income potential, as well as their long-term sustainability, is limited by the lack of water. Having received the requisite percentage of signatures on the community petition, and as directed by the Board of Supervisors, Loudoun County Department of General Services (LCDGS) began a community water feasibility study in January 2021. While combined water/wastewater systems between Waterford and Paeonian Springs present some

new conditions to be considered, it does not appear that the combined system presents any significant new or larger threats to the integrity of the Waterford NHL than the Waterford- only system recommended initially by the Waterford community water feasibility study. In fact, one could argue that the combined system presents a better solution to the water problem because it reduces the potential negative impacts to the Landmark that may occur if the water supply infrastructure had to be located within the Landmark itself. Regulatory controls are already in place that will reduce or eliminate negative impacts to nearby neighbors and to environmental quality.

Development of undeveloped parcels in Waterford and Paeonian Springs is not contingent on access to community water (those properties could dig wells today), thus the existing planning and zoning processes will continue to guide development of these parcels with or without community water. Having established that the combined system does not present a new or greater threat to the Landmark, staff recommends that the Foundation continue to support the project, as community water will improve our ability to care for our properties that currently do not have access to adequate or quality water.

On August 27, 2024, the Board voted unanimously to approve the following Action: Draft/approve a letter of support for the combined Waterford/Paeonian Springs water/wastewater system, citing its benefits for the long-term preservation of the Waterford NHL and the Foundation's own properties as well as the Board's position that concerns raised by community members have been reviewed and addressed. You will be receiving a formal letter in addition to this comment.

Answer 30: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 31: As a homeowner in Waterford, I look forward to completion of the water project. My well is just fine - in fact it is more than fine in terms of quantity. However, I have constant questions about quality. We had to invest over \$10,000 in a new filtration system after I had gastric symptoms for 6 months and my hair and any white clothing in the wash turned orange from all the iron. The value of my property will undoubtedly be limited if there is no community water system. People do not want to live where there are questions about water availability or quality.

I also believe that if neighbors who have little or very poor quality of water ultimately cannot sell their properties, the village will face decay and decline over time. Living in a small village, you become intimately involved with your neighbors. The thought that neighbors suffer with little and sometimes no water is troubling from a moral and ethical standpoint. If I can help in easing their pain by supporting this project, I will do so.

Our property value, the health and wellbeing of our neighbors, and the long-term preservation of this village depends on clean water in sufficient quantity to every property. Thank you for pursuing this project. This is ultimately a public health hazard. I see no issues with joining Paeonian Springs in this effort as it appears they face the same issues as Waterford. Again, we must support our neighbors.

Answer 31: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 32: I have lived in the Village of Waterford for over 25 years, raising my three children here and serving two terms as the president of the Waterford Citizens Association. During my time here we have experienced persistent water quality problems in our home and use a UV disinfectant system. It's my understanding that many other Village neighbors also have problems with water quality, quantity, or both.

I strongly support a community water system for the Village and anticipate that this public investment will not only improve my quality of life but will enhance my property value. I also understand that this new water system will not allow for additional new water hook ups and so will not encourage additional development (houses) to be built in Waterford.

I am very appreciative of the county's consideration to make these improvements for this historic Village, allowing us to continue to live here - much like what occurred in

the 1980's when the county built a community sewer system for the Village to address public health concerns.

Answer 32: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 33: Does the county have historical and current data on the number and extent of well and septic issues in the two villages? If no, then why not? If yes, then why was this information withheld from taxpayers?

Answer 33: Available Loudoun County Health Department records for existing wells and sewage disposal systems are available to the public on the [OnlineRME LLC website](#). OnlineRME is a database that is used for onsite sewage disposal system inspections, maintenance and pump out reporting. The database also provides a link to Health Department environmental health scanned records for onsite water and wastewater systems. This information was first reviewed by the county as part of the Water and Wastewater Program for each parcel included in the community application. The county then engaged consultants to independently compile this information and further research each parcel to assess the extent of issues within the two villages based on available data. The findings of these assessments were included in the feasibility studies that are available on the [county's project webpage](#).

See the [Paeonian Springs and Waterford Interconnected Project History and Data Summary \(PDF\)](#) for more information regarding the existing conditions within the communities based on research.

Question 34: During the construction along Clarkes Gap Road, my family and I will lose access to my home. Will Loudoun County pay for a hotel during this time? Will Loudoun County re-asphalt my entire driveway?

Answer 34: If the Loudoun Board of Supervisors approves construction, it may create temporary impacts to the two villages and the Clarkes Gap corridor; however, the primary impacts will be related to traffic, noise and access points.

Local access will be maintained during construction along Clarkes Gap Road. Contractors will coordinate work to ensure residents can safely access their homes during construction.

Residents may experience lane closures, detours, reduced travel lanes and slower traffic times especially during peak hours. Construction vehicles entering and exiting work zones may cause brief delays. Some driveways may have temporary access limitations during work hours, but those homeowners/residents will be notified in advance. Increased noise, along with some dust and vibrations near active work sites may be noticed. The design team will implement measures to minimize impacts.

The nature and extent of restoration of impacted property is unknown at this time but will be evaluated as the design progresses. Any asphalt or other paved surfaces as well as land areas and landscaping that are disturbed as a direct result of construction will be restored to pre-construction conditions to the extent practicable based on standard practices.

Question 35: Isn't it true that eventually a future Board of Supervisors will require the project to pay for itself, and will force everyone to connect?

Answer 35: Currently, the design phase of the project is funded under the county's [Capital Improvement Program \(CIP\) \(PDF\)](#) with a portion of Paeonian Springs covered by an American Rescue Plan Act federal grant. Completion of an acceptable level of project design will result in a detailed cost estimate based on more accurate project information. As described in the November 19, 2024, staff report to the Board of Supervisors titled [Paeonian Springs and Waterford Joint Water and Wastewater System Feasibility Study Findings \(PDF\)](#), if the project moves forward for construction, staff anticipates submitting a funding request for incorporation into a future CIP budget process for consideration and prioritization by the Board. Staff will also continue to seek federal and state grant opportunities.

There is currently no project recommendation to require connection for existing homes. However, construction of any system is unlikely to be considered without a minimum percentage of property owners willing to commit to connect. A minimum number of properties may be necessary to support the construction of the project and potentially necessary for the system(s) to operate properly. The project design now underway will help the Board of Supervisors make informed decisions about the project and help residents make a more informed decision regarding connection.

Although the interconnected project itself may not require connection, there are certain circumstances when connection to a public system may be necessary, as outlined in Loudoun County [Codified Ordinance 1066.09](#) or Loudoun County [Zoning Ordinance 7.08 C.1](#).

Question 36: We live off of Clarkes Gap Road close to one of the proposed community wells. We already have a poor well and my question is what recourse will we have if our well fails or declines if a community well is installed? It appears that at this point, we would not even have access to the community water, and if access is allowed, we will have to pay a significant cost to tie in. It does not seem rational to spend \$60+ million in taxpayer money to help a small number of households only to find that you have created new water problems for other residents, not to mention tearing up Clarkes Gap Road. It seems to me that the money would be better spent researching other, less costly, and less destructive ways to help them.

Answer 36: See responses to Question 3 and 98 regarding evaluation of impact on existing wells. See response to Question 43b. regarding ability to connect.

In terms of recourse, a private well owner in Virginia has potential recourse if a public well impacts their water supply. Recourse options include reporting to the local health department for investigation of violations and seeking civil remedies. A possible remedy includes locating and drilling a well in a new location. Private well owners will be responsible for testing, monitoring and proving damages.

Question 37: In August 2022, my wife and I bought a house in Leesburg with the intent of living there while demolishing and rebuilding our home on Clarkes Gap Road. We own two adjoining parcels in the Clarkes Gap corridor. The Interconnected Water Project has complicated our planning since we have no definitive information regarding any impact on our parcels. We are struggling to decide whether to rebuild now or is the risk financially too great? Is there information available now to help us decide since this would be a sizable investment for us?

Answer 37: This question is specific to a single parcel. Staff have been in direct communication with the owner.

Question 38: I am very concerned about 5 large wells proposed for this project (and the overall cost and disruption of our rural lifestyle) and the likelihood that the water table will drop compromising our wells. We will not benefit from this project as far as I can tell and there is NO compensation planned for surrounding people reliant on their current wells. This must be addressed!

Answer 38: See responses to Questions 3 and 98 regarding evaluation of impact on existing wells and response to Question 36 regarding recourse for impacted wells.

Question 39: I just became aware of this project and have serious concerns. I live on Hurley Lane. I spent over \$25K to dig a well that's over two football fields deep and needed a deep well pumping system, a large investment. This basically applies to everyone on our street. I'm VERY concerned about the impact 5 high volume wells would have on the water supply to my and the surrounding houses. Have detailed studies been done concerning the impacts on the existing groundwater levels this project will cause to the area? Killing our water would obviously be an unacceptable impact. Going without, or forcing me to pay for public water due to your malfeasance is not a solution. Does your budget include the future lawsuits involved? I agree that something needs to be done to support Waterford and Paeonian Springs. I just don't think robbing Peter to pay Paul is the answer. Running pipes from Leesburg seem to me to be a much better solution.

Answer 39: Groundwater consultants conducted a desktop study and identified areas along Clarkes Gap Road with high yield potential.

To date no studies have been conducted to evaluate potential impacts to existing users of the local groundwater supply because no production wells have been allowed to be sited or drilled by property owners. Without defined well location(s) and demonstrated sustainable yield, there is no reliable basis to assess potential pumping-related impacts to nearby groundwater users.

See responses to Questions 3 and 98 regarding impact to existing wells. Additionally, responses to Questions 46, 94, 96 and 99 include relevant information.

Please also see the [2022 Paeonian Springs Water and Wastewater Feasibility Study Technical Memorandum Addendum \(PDF\)](#), section 3.0, and [2022 Waterford Water Feasibility Study \(PDF\)](#), section 4.2, for evaluation options, including running pipes from nearby utilities. The studies are available on the [county's project webpage](#). In summary, this

option was determined to be infeasible for reasons including higher costs, potential environmental impacts, operational concerns associated with water age, and alignment challenges due to topography.

Question 40: This is a really bad deal proposed by the county to stop recharging the water supply on this side of the county. Devastating not only to those communities, but to all of Western Loudoun. Just stop with the socializing of water. People of Waterford and Paeonian Springs and all of Western Loudoun moved here for the country feel, which is killed when the water table is not recharged. Vote NO to this devastating notion.

Answer 40: Based on the aquifer size and review of available hydrogeological data, the project team's preliminary assessment is that this project will not result in inadequate or adverse recharge issues. Wells in the area will continue to receive groundwater recharge via typical hydrological processes. These processes include watershed-wide precipitation, snowmelt, and irrigation, among others. Additionally, responses to Questions 97 and 113 include relevant information.

Question 41: Your letter states there are a few families that this would improve their situations. And your response is not to fix them but to inconvenience the entire area? How many trees, lawns, fences, driveways are going to be destroyed in the process? My neighbor and I just spent a combined \$30,000 on new driveways only to have you rip them up (a repaired driveway is never as good as it was; just look at potholes on Routes 7 and 9).

Answer 41: After evaluation of multiple alternatives, the interconnected community water and wastewater system was determined to be the most effective solution in addressing the public health needs and challenges the communities are facing in order to provide a long-term, sustainable solution for all residents of Paeonian Springs and Waterford.

The project is currently in the early design phase and has not been approved for construction. The limits of impact will be known and refined as the design progresses. One objective within the design process is limit disturbance to residents and to private property, environmental and historical sites within the project area, which can be achieved through alignment adjustments and/or construction methods. All areas disturbed by the project will be restored to pre-construction conditions to the extent practicable based on standard

practices. Pre-construction conditions will be documented prior to the start of construction with videos and photographs to use as a baseline for restoration.

The design team is coordinating with the Virginia Department of Transportation (VDOT) to place utilities in the roadway. If the utilities are placed in the roadway, it will result in minimal or no impacts to the surface characteristics of private properties.

See responses to Questions 34 regarding driveways and Question 86 regarding environmental impact.

Question 42: This project appears to be very poorly thought out not only on the exceedingly large cost for overall smaller gains that could be rectified with much smaller gas solutions, but also on impact to the community and was pushed through by a body that does not represent the communities as a whole in misrepresented itself. They will have a great impact on those of us who live along Clarkes Gap Road. It will greatly compromise our well water as I live along the road, which is a scenic byway and will be ripped up during this project, but also of my neighbors as well. While we will feed some homes on either end of the road, it will take away from those on the road and may make our wells run dry much sooner, and then force us to pay at our own cost to tap into these lines in the future taking away our water source and driving up costs. There are much better ways to solve these issues than an interconnected waterway, whose negative impact greatly outpacing its improvements.

Answer 42: A significant amount of research and evaluation informing this project has been conducted over several years. This project was developed after evaluating multiple alternatives, including smaller and localized solutions. The interconnected community systems option was determined overall as the most effective long-term solution. The county acknowledges that compared to connecting to larger nearby utilities, community systems are a more localized and smaller-scale solution that is designed only to serve the designated community in need with parcels defined by a service area boundary.

The goal of the assessment and program recommendation was to focus on solutions that addressed public health need and provided a more permanent solution that supported the long-term sustainability of these rural historic villages and all property owners. While localized repairs may provide immediate relief to some homeowners, history has shown that these repairs do not provide long term solutions for these homeowners. For example, based on review of the available data, approximately 36% of homeowners that have had

one deficiency have had multiple among Paeonian Springs wastewater systems. The goal of the program is to provide a system that eliminates the public health risk that homeowners within these communities are facing, specifically associated with system repairs and failures. In addition, these communities have unique characteristics, including high density, small lot sizes and site conditions that restrict their ability to sustainably replace, repair and operate individual systems in the long term, which poses a greater risk to neighboring wells located in close proximity.

See responses to Questions 3 and 98 regarding evaluation of impact on existing wells.

The scenic byway designation of Clarkes Gap Road's is recognized and coordination with Virginia Department of Transportation (VDOT) is ongoing for this corridor. Disturbance within the roadway and adjacent areas will be limited to what is necessary for construction and future maintenance of the infrastructure, and disturbed areas will be restored to preconstruction conditions to the extent practicable based on standard practices once work is complete. Efforts will be made to minimize the duration and visual impact of construction along the corridor. Design and construction will work to preserve the characteristics of the scenic byway so as to not impact its designation. See response to Question 91 regarding scenic byway.

Question 43. A) How will this impact traffic on Hamilton Station Road? B) If our wells dry up on Hamilton Station Road, would we be forced to dig new wells or could we connect to the new systemz? C) Who would pay?

- A) Answer 43. At this time, the project is in preliminary design. Detailed construction phasing and traffic management plans will be developed as part of the design, and any potential impacts to Hamilton Station Road will be determined at that time. Coordination with the Virginia Department of Transportation (VDOT) will take place to ensure that any work affecting public roadways meets applicable traffic safety and operational requirements. As the project advances into detailed design, any potential road impacts will be evaluated in coordination with VDOT. See response to Question 48 regarding traffic impact on Clarkes Gap Road.
- B) See responses to Questions 3 regarding this project's impact on existing wells. See response to Question 98 regarding long-term monitoring plan.

Regarding the ability to connect to the system. Policies in the Loudoun County 2019 General Plan support the establishment of communal systems to serve existing rural villages in the Rural Policy Area, especially those facing public health risks, and the

Loudoun County Zoning Ordinance permits the establishment of such systems. However, as part of the county's land use approval process a commission permit (CMPT) is required to verify that the new public utility facility is consistent with the [Loudoun County 2019 Comprehensive Plan](#) and to define the geographical limits of a service area for the community system. The service area proposed is intended to address identified public health risks while advancing the county's overall land use goals in the Rural Policy Area. County policies and regulations do not support public water or wastewater connections in parts of the Rural Policy Area outside of villages that do not face public health risks associated with water or wastewater. As such, these areas are excluded from the proposed service area and will be prohibited from connecting to the water distribution and wastewater collection system. Although some of the infrastructure associated with the interconnected system will cross non-village properties between Waterford and Paeonian Springs, properties outside of the defined service areas will not be permitted to connect to the system, in keeping with the county's land use policies and regulations.

C) See response to Question 36.

Question 44: Why am I going to suffer the construction inconveniences and infrastructure sight (fences, right of way, ugly buildings) and not be able to connect to the pipelines?

Answer 44: See responses to Questions 34, 41, 42, 43a, 48, 86 and 91 regarding construction impacts.

See responses to Questions 35 and 43b regarding connection and service area.

Residents in these communities requested possible solutions from the county by application, which resulted in feasibility studies that showed the villages would be best served by community water and wastewater systems. According to the [Loudoun County Zoning Ordinance](#), Rural Zoning Districts, which includes Clarkes Gap Road, must be served by individual water supply and sewage disposal systems and are not allowed to be served by public water and sewer except when permitted or required, such as to address a health risk. There has been no public health need identified or application submitted outside the villages along Clarkes Gap Road. Additionally, most of the properties along Clarkes Gap Road are much larger in size than the smaller village parcels, which allows sufficient area for these homeowners to explore and locate a new well or wastewater repair site.

As part of the preliminary design work fire flow is being considered, which would potentially be a benefit to properties along Clarkes Gap Rd. However, this would depend on additional field investigation and future design considerations.

Question 45: I live on Clarkes Gap Road. It seems that the only benefit of this project is for both the villages. We will be most affected, how come is it that we are not to benefit or are not even to be included in the opinion part of this process?

Answer 45: See responses to Questions 43 and 44.

Question 46: In 2023 the Board of Supervisors approved an equity resolution, a commitment to fairness of programs in Loudoun. How is it fair that the solution of water flow problems for a few residents in Waterford and Paeonian Springs will predictably create similar or worse water flow problems for perhaps even more residents in neighboring areas?

Answer 46: Consistent with the Loudoun County Equity Resolution's commitment to fairness and equitable outcomes for all residents, any solution to local water supply challenges should avoid transferring adverse impacts from one group of residents to another. While predicting groundwater impacts from a new production well involves inherent uncertainty, the county should ensure that the benefits of the project are not achieved at the expense of neighboring property owners who rely on the same groundwater resources.

A comprehensive groundwater monitoring network and detailed hydrogeological investigation will be necessary to assess potential drawdown and area-of-influence impacts before and after well development. It is imperative that the development and operation of new production wells do not disproportionately burden existing groundwater users or create new water supply problems for surrounding communities. Monitoring of nearby wells, evaluation of impacts, and implementation of appropriate mitigation measures should be integral components of the project to ensure that all affected residents are treated fairly and equitably.

Other Loudoun County communities, including Purcellville, Round Hill, Hillsboro, and Hamilton, have successfully developed public supply wells while protecting nearby residential wells. Any proposed project should be held to the same standard of ensuring

that one community's benefit does not result in adverse impacts to another, consistent with the principles of the County's Equity Resolution.

Also see responses to Questions 3, 94, 96, 98 and 99.

Question 47: When a resource such as groundwater is limited, is it more sustainable to pull and regulate the use of the resource, or should individual property owners be required to fend for themselves at the expense of their neighbors?

Answer 47: A communal system with wells placed after thorough investigation and testing to avoid impact to existing wells provide a sustainable water solution for the entire village. The wells would be tested and verified to meet all Virginia Department of Health regulations as it relates to interference with existing wells. This means communal wells would not be developed if they would impact neighboring wells.

Question 48: When Clarke's Gap Road is being worked on, how will you stop traffic flowing Old Waterford Road and Hurley Lane which are already terribly in severe shape and dangerous?

Answer 48: The project is in preliminary design. Detailed construction phasing and traffic management plans have not yet been developed.

Coordination with the Virginia Department of Transportation (VDOT) will be done to ensure that any work affecting public roadways meets applicable traffic safety and operational requirements. As the project advances into detailed design, potential impacts to Waterford Road and Hurley Lane will be evaluated in coordination with VDOT. Traffic will be detoured as detailed in a project specific Maintenance of Traffic (MOT) plan that will require review and approval through VDOT. See response to Question 43a for additional information regarding traffic impact.

Question 49: Why can't Clarke's Gap Road residents connect to the system?

Answer 49: See response to Questions 43b and 44.

Question 50: If you run my well dry and I am not allowed to connect to the interconnected system, aren't you solving someone else's problem to the detriment of me? How does that make sense?

Answer 50: See response to Questions 3 and 98 regarding this project's impact on existing wells. See responses to Questions 43b and 44 and 46 regarding connection.

Question 51: In a recent study from 2025 it is mentioned that the water table in Catoctin Creek dropped 10 feet since the 1980s. Who will pay to fix my well issues if it dries up because of the community well that will be built in front of my house?

Answer 51: See response to Questions 3 regarding this project's impact on existing wells. See response to Questions 98 regarding long term monitoring plan. See response to Question 36 regarding recourse.

Question 52: What will the county charge residents to connect?

Answer 52: **Loudoun County Connection Fee:** There is no Loudoun County connection fee planned for improved parcels, meaning existing parcels with residential, commercial, or other eligible structures. However, this does not prevent the Board from considering other measures if deemed necessary. Such measures could include, but are not limited to, a fee for vacant parcels seeking connection if the system is constructed using county funds. Vacant lots do not constitute the mitigation of an existing public health concern, and so public funds may not be supported to be used for that purpose and an appropriate cost recovery proportionate to the benefit of connection could be considered.

Estimated Loudoun Water Costs are below:

- **Loudoun Water Connection Cost:** Loudoun Water, a political subdivision of Virginia that is not a department of Loudoun County, will charge no availability fee for connections on this project.
 - 2026 New Customer Rates:
 - New Account Charge - \$30 (each service)
 - Water Meter - \$460 (3/4" residential meter)
 - Meter Charge - \$270 (to cover initial installation inspection)
- **Loudoun Water Consumption Cost:** Loudoun Water invoices its customers on a quarterly basis, and below are the 2026 rates for residential customers.

- Water: \$45.97 (fixed basic charge) + \$3.37 per 1,000 gallons (up to 25,000 gallons)
- Sewer: \$45.92 (fixed basic charge) + \$6.59 per 1,000 gallons

Private Costs: The cost for work on private property will be unique to each home depending on several factors including length of service lines, selected contractor, and home plumbing improvements that may be necessary. In 2024, the project team estimated private side work to cost about \$8,000 - \$15,000 for Waterford residents and \$16,000 - \$30,000 for Paeonian Springs residents to connect to the water and wastewater community system. If connections are done as a collective project, cost reductions may be seen. Abandonments of wells (only if required; see response to question 60) or septic tanks would be an additional cost. The work group will look to explore grant opportunities for abandonments.

Question 53: You've said separate systems would be more expensive. But the estimates in the feasibility studies say the totals would be about \$53 million for separate and interconnected projects. So why do you keep saying that the interconnected would be cheaper?

Answer 53: Water and wastewater systems require significant operation and maintenance (O&M) costs to meet the requirements of the Virginia Department of Health (VDH) and Virginia Department of Environmental Quality (VDEQ). These requirements include daily visits to each facility for operation, use of electricity and chemicals, maintaining equipment, long term equipment replacement, facility upgrades and renewal, and other inspection needs for testing and sampling.

Evaluating the cost effectiveness of the alternatives requires not only assessing the initial capital cost to construct the infrastructure, but also the annual O&M cost to operate the facility and meet these requirements. The initial assessment for a separated system was completed prior to the updated study of the Interconnected System, which means \$53 million cost cited in the 2021 study is outdated and therefore does not reflect the cost escalation that the construction industry has experienced following the COVID pandemic. Although the capital cost savings for the interconnected system, compared to a separated system, would be moderate, the life cycle cost savings would be significant. In addition, a separated system would require significant land acquisition for a Paeonian Springs Wastewater Treatment Facility and area for such an improvement is not readily available.

By interconnecting the system, portions of the existing infrastructure at the Waterford Wastewater Treatment Facility can be used. For example, a single emergency generator, control panels, laboratory buildings and discharge point. In addition, a combined system would not increase the O&M cost to operate the facility, significantly reducing the long-term life cycle cost that would be realized with a separate system. This same approach would benefit a single communal water system, providing more redundancy and sustainability for the communities. Therefore, an interconnected system provides the following benefits from the cost perspective:

- Eliminates the need for costly land acquisition
- Significantly reduces the O&M cost and overall life cycle of the facilities
- Eliminates the need for duplicative equipment for both initial construction and replacement
- Reduces overall program costs

Question 54: Will I be able to give water for my farm animals at the same rate I paid today?

Answer 54: Only residents served by the interconnected system would pay a service rate.

Question 55: Is the interconnect financially viable (not just technically feasible)? If yes, then why was this information withheld from taxpayers? If no, then, how could the county proceed with a \$60 million project without at least modeling its financial viability?

Answer 55: See response to Question 26.

Question 56: How much of the county's entire budget, percentage wise, would be spent on the interconnective system between Waterford and Paeonian Springs?

Answer 56: Currently, this project is in the design phase. The Board of Supervisors has not made a final determination on a design; therefore, the total cost of the project has not yet been determined. If the Board of Supervisors chooses to proceed with the project, the Board will endorse a design that will inform the cost of the project, and the County will identify funding sources at that time.

However, if a \$60 million project was included in the county's current six-year (Fiscal Years 2027-2032) capital budget, which is \$4.3 billion, the project cost would be approximately 1% of the total. Additional information about the Capital Improvement Program can be found on the [county's budget webpage](#).

Question 57: How can it possibly cost less to install a sewage pipeline to Waterford and expand the Waterford treatment plant then to build a local wastewater plant in/near Paeonian Springs?

Answer 57: See response to question 53 regarding cost effectiveness of interconnected systems. See below for further details.

In Paeonian Springs, two alternatives for a local wastewater system were considered:

- A sub-surface discharge plant with pre-treatment and an onsite sewage disposal system; and
- A surface discharge plant with treatment and discharge to a body of water.

To construct a sub-surface discharge wastewater treatment system near Paeonian Springs and meet the required treatment standards, approximately 50 acres of land with suitable soil conditions for a large alternative onsite sewage disposal system would be necessary. 50 acres of suitable land is not available within or adjacent to the Paeonian Springs community. The design team identified a few potential parcels which are nearly a mile from Paeonian Springs; however, connecting to the existing Waterford facility was found to be a more effective option.

Furthermore, creation of new surface discharge treatment facility is not a technically justifiable solution when an alternative approach (connection to an existing facility) is feasible and provides numerous cost benefits.

Question 58: Table 4.4 in the 2022 feasibility study states that the "community water system" will have the same operating and maintenance cost as shared private wells. Why would an infrastructure that is greater than 100 times more costly and expensive have the same operating expenses?

Answer 58: Assuming this question is referencing the 2022 Waterford Water Feasibility Study (PDF), Table 4.4 provides a high-level comparison of the alternatives evaluated in the study. Each alternative is assigned a Rating Score from 1 (Very Poor) to 5 (Very Good). The

Operations and Maintenance (O&M) scores reflect only the relative level of O&M effort required for each alternative. They do not include or represent cost considerations.

Costs are evaluated separately in the "Costs" column. In that column, the Community Water System (Option 3) is shown to have a higher cost relative to the Shared Private Wells (Option 2).

Question 59: What is the impact to western Loudoun residents' property tax rates?

Answer 59: Currently, this project is in the design phase. The Board of Supervisors has not made a final determination on a design; therefore, the total cost of the project has not yet been determined. Moreover, this question assumes that real property tax revenue will pay for the total cost of the project, which is not a correct assumption. If the Board of Supervisors chooses to proceed with the project, the Board will endorse a design that will inform the cost of the project, and the County will identify funding sources at that time. Regardless of the impact on the real property tax rate, the real property tax rate is set countywide, and there is not separate tax rate for Western Loudoun.

Question 60: Will I be forced to connect to the system and cap my well? Who will pay for the connection and capping costs?

Answer 60: See response to Question 35 regarding required connections.

If an eligible homeowner connects to the community system, the existing well would be disconnected from the house to prevent backflow or cross contamination issues with the community water system. If a well is not going to be active it should be properly abandoned, in which case a permit is needed and can be obtained from the Loudoun County Health Department (LCHD).

The LCHD has indicated that an existing well could remain in service for non-potable use if the well is still serviceable and the well creates no setback issues to the community system or becomes a source of groundwater contamination.

For wells that will be abandoned, the homeowner would be responsible for the work. Staff will explore local, state and federal grant opportunities that may help support residents with abandonments.

Question 61: A) Western Loudoun is running out of water. These community wells will run all of ours dry. This plan does not address the shortage; only accelerates it. Who will pay for us having to move into a hotel and live there for months? What do we do with our animals? B) Who will pay to fix our well, the land that is seized, the devaluation of our property?

Answer 61:

- A) See responses to Questions 3 and 98 regarding impact to existing wells. See response to Question 34 regarding construction impact.
- B) See response to Question 36. As the design progresses, if a property is identified as a suitable location for an element of the project, the county will contact those landowners and attempt to reach agreements to acquire the necessary easements.

Question 62: A) If the county is forced to buy the needed land through eminent domain, have they considered the cost of their actions to the farms and businesses and residences on Clarkes Gap? B) The likelihood that these properties will lose their well viability is high, if not certain.

Answer 62:

- A) Eminent domain is not the county's preferred path for land acquisition. While Virginia permits localities to exercise the use of eminent domain to take private properties for public use with just compensation, it requires a public process governed by the Code of Virginia. The county would only consider its use after all other options have been exhausted. The county engages landowners to obtain any needed easements for utility projects through mutual agreements. As the design progresses, if a property is identified as a suitable location for an element of the project, the county will contact those landowners and attempt to reach agreements to acquire the necessary easements.
- B) See response to Question 3 and 98 regarding impact to existing wells.

Question 63: When considering on-parcel infrastructure and the capping existing wells, how much will it cost a Waterford resident to connect to the water system?

Answer 63: See responses to Questions 52 and 60.

Question 64: Will the county agree to baseline testing of wells so that citizens do not have to pay lawyers to document well water impacts and spend months/years attempting to get water (a new well) not the opportunity to pay for water.

Answer 64: See response to Question 36 for recourse. See response to Question 98 regarding monitoring. See responses to Questions 3 and 98 regarding impact to existing wells.

Question 65: What is criteria for "financially beneficial" statement in slide 15? \$60 million cost estimate - take into account eminent domain, cost of and diminish in value to properties along Clarke's Gap. Clarke's Gap is Waterford's community. It is our front door.

Answer 65: The "financially beneficial" statement was in the context of comparing the two alternative approaches: (Alternative 1) interconnected community system vs. (Alternative 2) separate community systems. Life-cycle financial impact analysis that considered capital cost, operation and maintenance cost, and end-of-life facility renewal cost associated with these two approaches clearly indicated that the interconnected system is more cost-effective.

Loudoun County does not have any data indicating that this project would negatively impact real estate values.

Also see response to Question 62.

Question 66: A) What is the total estimated cost of town residents to connect to the water system, what is their estimated annual cost for water and sewage, once connected? B) How will the construction process disrupt local communities, traffic, and daily life in the affected areas? C) What contingency plans exist if the interconnected system fails to deliver the projected benefits?

Answer 66:

- A) See response to Question 52.
- B) See responses to Questions 34, 43 and 48 regarding construction impact.
- C) This project is expected to address the problems that a community is facing. See response to Question 1. Upon construction, Loudoun Water will take ownership of the infrastructure and operate it. Loudoun Water implements system resiliency and

redundancy measures to ensure the system continues to deliver service to its customers.

Question 67: What will it cost to hook into the system? If you can't give a definite number, please give an estimate. And what will the monthly cost be?

Answer 67: See response to Question 52.

Question 68: Will you spend millions of dollars to bail out every county citizen that turns up with a dry well or failing septic system in the future.

Answer 68: No. Paeonian Springs and Waterford residents submitted applications under the Loudoun County Water and Wastewater Program for assistance. Based on the studies and detailed reviews the recommended solution was a community system. The Loudoun County Board of Supervisors initiated this project to address only the needs of the Villages of Waterford and Paeonian Springs. See responses to Questions 1 and 7.

Question 69: Do staff agree the system should be designed for 345 hook ups? Why?

Answer 69: Multiple service area boundaries for Paeonian Springs were evaluated. The initial application included more than 201 parcels in Paeonian Springs. The county determined the selected service area to be reasonable considering the parcels with existing issues, lot sizes, and system configuration. Parcels that were not in need of a community solution were not included. The evaluation memorandum is available on the [county's project webpage](#).

County staff agreed with selecting the Waterford water service area that generally matches the existing wastewater service area and includes 144 parcels.

The county agreed to advance the design to serve these 345 parcels.

However, ultimately, the parcels that are eligible for connection will be determined via the commission permit process. See response to question 43b.

Question 70: Why is the "target yield" six times more than average household use?

Answer 70: See response to Question 25 regarding target yield.

Question 71: Table 4.4 in the 2022 feasibility study translates narrative description into subjective numeric scores, treating all criteria as equally important. Why was the fact that the "community water system" is greater than 100 times more expensive than shared wells given an equal weight as, for example, the "approval and acceptance" process for each option?

Answer 71: The intent of the "Waterford Options Matrix" was to present a preliminary evaluation of the alternatives being considered for the Waterford community. At the time of the evaluation, the project team deemed equal-weight criteria as a reasonable approach to evaluating alternatives. See response to Question 58 regarding cost comparison.

Question 72: Table 4.4 in the 2022 feasibility study claims a "community water system" will have less public impact than shared private wells. Why would agreements between a limited number of private citizens be more burdensome than agreements between all 345 current and perspective residence and Waterford and Paeonian Springs?

Answer 72: The consideration for public impacts presented in Table 4.4 accounts for the long-term implications of the systems. Shared private wells require private legal agreements and ongoing coordination of operation and maintenance (O&M) among those connected. Individual private legal agreements are not required for the community system. Additionally, depending on the number of connections, shared wells could be classified as a public system by VDH, which triggers additional efforts on the part of the residents participating in the shared well arrangement. The county notes that the connection to the community system will be optional and does not restrict owners' ability to pursue shared private well options on their own. With the community water system, the long-term public impacts will be limited with Loudoun Water owning and operating the systems. Those who want to connect to the community water system will need to abide by Loudoun Water's rates, rules, and regulations.

Question 73: Table 4.4 in the 2022 feasibility study states that a community water system is more constructible than shared private wells because locating "new wells of sufficient yield may be challenging." Several nearby wells were identified that could support the community system, however: A) Why didn't Dewberry look for shared private wells? B) Why couldn't the same wells be used for both systems?

Answer 73:

- A) Shared wells were looked at and detailed in the [2022 Waterford Water Feasibility Study \(PDF\)](#). Shared wells were not the recommended option for an overall long-term solution for Waterford's water issues. For owners who want to explore the sharing of private wells, it would be the responsibility of the individual property owners.

Shared wells have been tried in Waterford by individual residents over the years with no indication it helped to solve the long-term issues in Waterford. Several existing shared wells were also listed in the 2019 application by residents as having quantity or quality issues.

Also see response to Question 72.

- B) If the question is whether the wells can be used for shared wells and a public system under different ownership, the answer is no. If the question is whether the wells shown in the study can be used for shared wells, the answer is maybe but needs additional investigations.

Additional information to consider: Shared private wells pose additional risk to the long-term sustainability of the systems. Shared wells require higher yielding wells to serve multiple individual properties. Locating shared wells with sufficient yield within the Waterford boundary will be challenging. Depending on location of shared wells, the likelihood of interference with existing individual wells is higher than a community system, which can locate wells in less dense areas. In addition, private property owners would need to work together to locate wells, drill wells, obtain VDH permits and provide property dedication/deeds to allow for water services across private property, depending on location.

Additionally, it is important to note that Loudoun County [Codified Ordinance 1040](#) states, "Any new well which is the water source for a private water supply system shall be located within the boundary of the lot it serves," so each situation would need

individually reviewed and approved by the Health Department to be located off-site. Other challenges associated with shared wells are outlined in the 2022 Waterford Feasibility Study.

Also see response to Question 72.

Question 74: I believe that Beacon Hill is considered to be located in the Paeonian Springs postal location. That "neighborhood" has historically had poor water flow and wells that went dry. Would there be a potential request for them to tie in, if this project goes there?

Answer 74: The existing Interconnected Project as outlined on the [county's project webpage](#) does not include Beacon Hill or other communities outside of Paeonian Springs or Waterford proposed service areas.

Question 75: If Paeonian Springs has lots of water, but it needs a community septic system, and Waterford has a septic system, but not enough water, why not simply solve each problem independently? Paeonian Springs doesn't need more water, and Waterford doesn't need more sewer.

Answer 75: The initial feasibility studies for each village had recommended solutions for each village independently and outlined potential significant challenges, such as the need for land acquisition, location of potential facilities, and finding adequate production wells for the communities.

The completion of community-level studies coincided with the initiation of Loudoun Water's Waterford wastewater treatment plant upgrade project, which was necessitated by new Virginia Department of Environmental Quality regulations. This schedule alignment presented an opportunity for an interconnected system approach. A subsequent study was conducted to evaluate the feasibility of interconnected systems. The study concluded that the interconnected systems are technically feasible for both water and wastewater systems, provided expanded search area for wells, eliminated significant challenges associated with a new wastewater treatment plant in Paeonian Springs, and was a more cost-effective solution.

Further reasoning for the interconnected system is provided below:

Paeonian Springs Wastewater: A new communal wastewater treatment facility would need to be designed and permitted in accordance with state, local, and federal regulations. As outlined in the feasibility studies, there are two main types of discharges that are regulated for these types of facilities: subsurface discharge and surface water discharge.

Subsurface discharge, or onsite sewage disposal system effluent, is regulated by VDH, and requires obtaining land area necessary to properly dispose of effluent through an onsite sewage disposal system. Based on preliminary assessment of flow and loading, more than 50 acres of land would be required to site this type of facility. A review of parcels around the community with the available land and acceptable soils was performed and the review showed that the location of potential parcels was more than a mile away from the community. In addition, acquiring the necessary land would be challenging.

Surface water discharge facilities are regulated by VDEQ in strict accordance with the Chesapeake Bay Preservation Act. Surface discharge facilities require obtaining available nutrient credits to discharge. These credits are managed at the watershed level. Currently, there are no available nutrient credits within the watershed to establish a new surface discharge facility; therefore, it is not a feasible alternative. However, the Waterford Wastewater Treatment facility has an existing, permitted discharge. The facility can be upgraded to treat to a higher-level effluent without requiring additional nutrient credits to discharge the flow. Therefore, it is the preferred and recommended alternative, which requires the installation of a small-diameter pipeline from Paeonian Springs to Waterford.

Paeonian Springs Water: Based on a review of the available data, there are homes within the community that have wells with bacteriological contamination related to close proximity to onsite sewage disposal systems. The source of contamination could last for several years even after abandonment of the onsite sewage disposal system. Furthermore, due to the density in portions of the community, homeowners may not have sufficient land area to install new individual wells while meeting current regulations. See response to Question 6 for additional information.

Waterford Water: An interconnected water system would provide better operational efficiency over a separated system. Additionally, an interconnected system also would increase the likelihood that high-yielding wells could be located to serve the entirety of both communities. Further investigations will be performed to locate available groundwater wells and determine the yield, quality and location of these facilities.

Question 76: You say one building versus three, but new design Waterford waste facility doubles in size, so really two buildings. Also, the current design will handle more waste than projected, 73,000 gallons per day (GPD) so the statement that its limited was incorrect.

Answer 76: Waterford's treatment capacity will need to be upgraded to handle Paeonian Springs wastewater flow. However, this does not mean the facility size will double or that a new building will be required. In November 2024, the Board of Supervisors allocated funds to reimburse Loudoun Water for incorporating reasonable modifications into Loudoun Water's ongoing treatment plant upgrade project [[see staff report \(PDF\)](#)]. The early coordination and modifications will reduce the extent of work that will be required in the future to expand the Waterford plant's capacity to treat Paeonian Springs flow. We note that the ongoing Waterford wastewater treatment plant upgrade project was initiated by Loudoun Water to comply with Virginia Department of Environmental Quality new regulatory requirements and does not involve county funds.

Question 77: Has anyone looked at the Phillips Farm parcel as a source for water for Waterford?

Answer 77: Consultants are not aware of any hydrogeological investigations that have been performed on Phillips Farm in Waterford. According to Loudoun County records, Phillips Farm is currently owned by the Waterford Foundation Inc.

Question 78: How many gallons of water per day will the community wells pull?

Answer 78: See response to Question 25.

Question 79: Why are the projects combined and not separate?

Answer 79: See responses to Questions 57 and 75.

Question 80: Will we please let the engineering dictate the answers?

Answer 80: Project will be designed in accordance with [Loudoun Water's Engineering Design Manual](#) as well as other established local, state and federal guidelines.

Question 81: Emery and Garrett conducted three resistivity profiles on our property. Does Emery and Garrett believe that three professional peers reviewing their technical data and recommendations for exploratory wells along profiles PSD-2A, PDD-6B, and PSD-6D would conclude that the published resistivity data in the range of 2,000 ohm-m indicates a moderate to high probability of finding saturated bedrock fractures?

Answer 81: The consultant indicated that electrical resistivity models can be very useful in identifying large fracture systems within the bedrock aquifer. However, the models should be used in conjunction with other available geologic data to help interpret the subsurface conditions.

Question 82: A) The new well system will pump the equivalent of one Olympic swimming pool per day. If the project is only to save Paeonian Springs or Waterford, why do we need to pump so much? B) Will Loudoun Water sell our water outside the area? C) They say many residents are experiencing water issues. How many? D) How many will connect to the water well interconnected system?

Answer 82:

- A) See responses to Questions 25 and 96.
- B) All water produced from the wells developed for this project will be used exclusively to serve the proposed service areas of Paeonian Springs and Waterford. Wells installed to serve the service area created by this project will not be used to serve customers outside that area.
- C) See the [Paeonian Springs and Waterford Interconnected Project History and Data Summary \(PDF\)](#) for more information regarding the existing conditions within the communities based on research.
- D) The preliminary design accounts for a maximum of 345 potential connections within Waterford and Paeonian Springs. The project team believes a high percentage of eligible property owners will connect, but since connection to the system is optional, the exact number of households that will ultimately choose to connect to the new system will not be known until the project is complete and Loudoun Water is ready to accept connection requests.

While a preliminary survey – which can be found in Attachment 2 of the February 21, 2023, staff report to the Board of Supervisors titled [Waterford Water Feasibility Study](#)

[Findings \(PDF\)](#) - was conducted in Waterford, additional efforts may be taken to determine "intent to connect" for eligible properties in both villages once the design is at a stage where residents have sufficient information to make an informed decision and prior to construction. Also see response to Question 35.

Question 83: How much land will need to be acquired for this project? Less than building the three plants.

Answer 83: The underground utility lines for this project are anticipated to be installed within existing VDOT right-of-way to the extent practicable, so limited land acquisition is anticipated for those portions of the project. There may be limited areas along the alignments where easements are required. The planned wastewater treatment plant expansion will occur on the existing Waterford Treatment Plant property, which also does not require new land.

Some land acquisitions will be needed for specific project components, including the sewage pump station site, the proposed well locations and the water treatment facility. Because the project is still in preliminary design, the exact amount of land acquisition required is currently unknown.

See response to question 75 above regarding land acquisition that would be required if separate systems were further explored, specifically regarding a new Paeonian Springs Wastewater Treatment facility.

Question 84: A) What is the population of Waterford Village? B) What is the population of Paeonian Springs? C) What is the overall cost for one and then both facilities? D) How much land will be lost in acres?

Answer 84:

- A) See response to Question 5.
- B) See response to Question 5.
- C) The feasibility study completed in 2024 to evaluate interconnected community systems for the two villages estimated the total project cost at approximately \$60 million. Once the decision was made to pursue the design of an interconnected system, updates were no longer provided for individual systems. Please see the response to Question 53 regarding the separate systems costs at the time of those

studies. Costs, based on the full design, will be presented to the Board for their consideration.

D) See response to Question 83 regarding land acquisition requirements.

Question 85: I have constructed a groundwater model of the Catoctin creek watershed. It is similar to the mod flow model developed by Tetra Tech in 2022 for the Waterford service area. This computer model includes 5,000 residential wells, four proposed community wells and all perennial streams. The model can be used to answer "what if" questions. Preliminary results from the computer model reveal the removal of septic systems and discharge of treated water downstream of the Waterford mill will result in appreciable water level decline all along Clarkes Gap Road. The model also shows depletion of streamflow in Catoctin Creek. Has or will the county estimate the magnitude of water level declines and stream depletion from this project?

Answer 85: This is a Loudoun County and Loudoun Water partnership project. Loudoun Water has retained the services of Dewberry Inc. And Emery & Garrett Groundwater Investigations LLC (EGGI) to provide hydrogeological professional services. If you have information that you believe would be beneficial for the project team to review, please provide it to the county and county staff will be happy to share it with the consultants.

See responses to Questions 3, 46, 94, 96 and 99 regarding groundwater impacts.

Question 86: How will the county avoid immediate and lasting environmental damage to trees, creek, and wildlife along Clarkes Gap Road?

Answer 86: The intent of the project is to limit utility construction and associated work to previously disturbed areas. This includes the existing right-of-way and paved roadway along Clarkes Gap Road and other roads. By keeping work within the roadway and right-of-way, the project will minimize the need to clear vegetation or encroach into natural areas.

Coordination with VDOT on the final utility alignments will be done and the design will include measures that help minimize environmental impacts to the greatest extent practicable. As the design progresses, the project team will continue refining alignments, construction methods, and protection measures to avoid both immediate and long-term environmental impacts, including trees, creeks and wildlife, along Clarkes Gap Road and all other project areas.

Furthermore, all utility work is required to be reviewed and permitted by both local (Loudoun County) and federal (U.S. Army Corps of Engineers) agencies. These reviews require impacts to environmentally sensitive areas be limited and, in some cases, prohibited depending on impact.

All areas impacted by linear utility construction will be restored to their pre-construction condition to the extent practicable based on standard practices.

Question 87: A) Unconnected systems will cause less environmental destruction. B) Is budget really a concern? Loudoun County has a surplus budget.

Answer 87:

- A) An unconnected, or separate system, would result in significantly more ground disturbance and impact to the land than the proposed interconnected system. The locations of a separate system could not be determined due to land acquisition requirements; however, at a minimum approximately 50 acres of land would be required for only the Paeonian Springs Wastewater Treatment facility and large alternative onsite sewage disposal system. By combining the systems, this disturbance is contained to the Waterford Wastewater Treatment facility's existing property. It also consolidates facilities, which reduces disturbance. See response to Question 57 for additional information.
- B) Currently, this project is in the design phase. The Board of Supervisors has not made a final determination on a design; therefore, the total cost of the project has not yet been determined. If the Board of Supervisors chooses to proceed with the project, the Board will endorse a design that will inform the cost of the project, and the County will identify funding sources at that time.

Question 88: The Dewberry report mentions that VDOT will not allow the use of roadways than 20 feet on either side of roadways will be taken. Does this mean all trees?

Answer 88: The statement in the [Paeonian Springs and Waterford Joint Water and Wastewater System Feasibility Study \(PDF\)](#) regarding placement of pipeline within the roadway was based on preliminary discussions with VDOT. As preliminary design has progressed, the design team has determined that locating the pipelines within the road is

the preferred option. Therefore, coordination with VDOT is ongoing. Exact alignments and impact along Clarkes Gap Road and other roadways are currently unknown.

If most of the pipes are located in the paved roadway, it will significantly reduce impacts to trees. See additional discussion regarding impact in responses to Questions 41 and 86.

Question 89: The wells being considered in Paeonian Springs are at the mouth of a tributary of the south fork of Catoctin Creek.

Answer 89: It takes several sequential phases of investigation before finalizing a well site. Currently, the project is in the early phase of groundwater investigation and intends to evaluate a very wide area to identify sites suitable for wells with the desired yields without impacting existing wells and streams. At this time, the project team has been unable to acquire well sites to advance to the next stage of investigation, which will be to drill test wells.

Question 90: A) What are the projected environmental impacts of constructing and operating the interconnected water system, and have mitigation strategies been developed? B) How will this project affect the existing water resources and ecosystems in both Waterford and Paeonian Springs? C) Since the county's water study has indicated a lowering of the water table, and that this system will cause wells along Clarkes Gap Road to go dry, what are the county's plans for compensating residents who lose water because of this ill-conceived plan? How will the county assure owners that they will have sufficient water to maintain livestock along Clarkes Gap Road?

Answer 90:

- A) See responses to Questions 41, 86 and 99.
- B) The potential effects of future production wells on existing groundwater users and nearby surface water ecosystems are currently unknown. If the project proceeds, an extensive monitoring network will be established to evaluate potential pumping-related impacts within the bedrock aquifer and adjacent surface water bodies. The development and operation of new production wells must not result in causing adverse impacts to existing groundwater users who rely on the same aquifer system. See responses to Questions 3, 46, 94, 96 and 99. Additionally, the project will require local, state and federal agency review, which includes impact to water resources and the environment.

- C) The project team is not aware of a county-sanctioned water study that has been performed that indicates that the groundwater levels in Loudoun County have been adversely lowered as a result of groundwater withdrawals. The county is in the midst of an extended dry period where deficits to annual rainfall have occurred for five consecutive years and in some areas, a natural lowering of both surface water and groundwater levels have occurred as a result. See response to Question 36 for relevant information.

Question 91: People are attracted to the beauty of western Loudoun County, this will destroy the beautiful byway, negatively impact the beautiful road leading to one of the most beautiful villages in our county. We should do better at protecting history for our future generations.

Answer 91: There are homes within these communities that face significant public health challenges and are without access to safe or adequate water and wastewater services. One objective within the project scope is to preserve the nature of the rural historic villages as they exist today. The design team includes cultural resources experts, arborists, and environmental staff who will work to minimize any impacts of the project. After utilities are installed, all roadways and areas impacted by this project will be restored to its pre-construction condition to the extent practicable. The project will require a commission permit that includes a cultural and historical review as well as a public comment period. These improvements will also help to protect the long-term sustainability of these existing historical villages and allow for adaptive reuse opportunities to help protect historical structures.

Question 92: What chemicals will be put in the water in a community system?

Answer 92: Treatment technology and associated chemicals that could be required will be determined during the Preliminary Engineering phase of the project. This will occur once production wells are sited, drilled, and tested in accordance with source water quality testing by Environmental Protection Agency (EPA) and Virginia Department of Health (VDH) standards. Finished water will require a chlorine residual using sodium hypochlorite per Loudoun Water and VDH standards. Chemical addition will occur at the water treatment plant and not "in" or "at" the source or well.

At this time, wells have not been located and therefore water testing has not been conducted.

Question 93: What is the impact on Clarkes Gap Road? On Waterford?

Answer 93: See responses to Questions 34, 41, 42, and 86 regarding impacts on Clarkes Gap Road and other areas.

Question 94: The feasibility study (Loudoun County) engineer shared there might not be enough water for the project. When are you going to have studies done to verify if there will be enough water during drought season based on additional water that will be drawn from the ground?

Answer 94: The amount of groundwater available from a new production well is determined by conducting extended groundwater pumping and recovery tests. During the testing period, potential water-level impacts will be evaluated by monitoring existing wells and/or newly installed monitoring wells, as well as in nearby surface water bodies. This data will be collected, compiled and analyzed. Based upon that data, a "safe yield" of the well(s) will be determined that will manage groundwater production in a manner that ensures the operation of new production wells does not result in adverse impacts to existing groundwater users who rely on the same aquifer system. Potential withdrawal impacts during drought conditions will be evaluated in accordance with Loudoun Water's groundwater monitoring program for operational purposes.

See responses to Questions 3, 46, 96 and 99 for relevant information.

Question 95: The problem of recharge in Waterford will be the same problem on Clarkes Gap Road. Clarkes Gap will have no opportunity to recharge.

Answer 95: The recharge of any new production well will be determined by conducting extended pumping and recovery tests. If the pumping rate exceeds groundwater recharge/recovery rates, the pumping rate will be reduced, or the well will be abandoned, and another source will be sought.

Question 96: The interconnected proposal draws over 2 billion gallons per year of groundwater with no opportunity for recharge. How can this be a viable plan when it will result in catastrophic consequences for our precious and declining groundwater reserve?

Answer 96: The interconnected system will not be permitted, designed or constructed to withdraw and distribute the groundwater volume referenced in the question. This is a limited scope project that aims to serve a maximum of 345 parcels. The Virginia Department of Health (VDH) will determine the source capacity of the wells and their associated withdrawals as it applies to the Virginia Administrative Code Waterworks Regulations. Further:

- The [Loudoun Water's Engineering Design Manual](#) requires that each residential connection be allotted a maximum of 900 gallons per day (gpd) (900 gpd per connection for 345 connections is equal to about 310,500 gpd). This design value helps with sizing process equipment and defining potential max day water demands. To satisfy this requirement, the permitted source capacity must be slightly larger.
- 1.2 gpm per connection for 345 connections is equal to 414 gpm
- VDH source capacity evaluation compares the well(s) yield to the pumping rate:
 - Pumping Capacity at 414 gpm for 1,440 min/day is equal to 596,160 gpd.
 - Well Yield at 414 gpm for 1ERC per 0.5 gpm at 400 gpd per ERC = 331,200 gpd. ERC means Equivalent Residential Connection.
 - Source Capacity limited to well yield. Set at 331,200 gpd.
- 331,200 gpd for 365 days per year is equal to 120,888,000 gallons per year. KEY POINT - this is the absolute maximum that could occur, but customer usage would never produce maximum demands every single day and therefore, the actual annual usage will be lower than this designed maximum.

This calculation illustrates that the system will not extract 2 billion gallons over a year. Well yields will be field-verified based on demonstrated yields and acceptable pumping rates while system demand is based on residential use. The design of the waterworks will follow operational best practices that includes operating a well for approximately 13 hours per day so that the well can rest and recharge.

Additionally, the Virginia Department of Health will not permit a well's pumping capacity to be greater than the demonstrated yield.

See response to Question 25 regarding withdrawal vs. water consumption.

Based on the above considerations and additional discussions provided in response to question 94, we do not believe this project will result in negative consequences.

Question 97: If the wastewater is sent to Waterford and then into Catoctin Creek and off to the Potomac, how will you replenish the aquifer in Paeonian Springs and Clarke's Gap Road?

Answer 97: Groundwater recharge from onsite sewage disposal systems only accounts for a small portion of groundwater recharge received by the local bedrock aquifer. Wells in the area will continue to receive groundwater recharge via other processes, including precipitation, snowmelt, wetlands, and irrigation among others.

Question 98: What risk management strategies have been explored by all concerned as this project starts drying up residential wells? (Properties not served by the "project")

Answer 98: It is the goal of the project to locate independent sources that do not impact neighboring wells. Section 7.2.M.10-11 of [Loudoun Water's Engineering Design Manual](#) specifically requires that the proposed well should not impact existing nearby wells. This will be demonstrated through long-term well development pumping tests. During the pumping test, local residential wells will be monitored to determine if there is a hydrogeological connection. If one is observed, the hydrogeologist will work with the owner to determine the level of interference and the overall risk. If the risk is great, the site could be abandoned.

Additionally, Loudoun Water will work with nearby owners to include their wells in Loudoun Water's Groundwater Monitoring Program. This program tracks the long-term sustainability of the community system and looks to identify and resolve problems before they become concerns. Through this program, if groundwater withdrawals from a new production well are determined to adversely impair the use of an existing well, a mitigation plan would be developed and implemented. Such a plan could include enhanced groundwater monitoring to determine the extent of the impact; adjustments to the pumping rate and/or reduced operational schedule of the production well; deepening or replacing the affected existing well; and providing an alternative water supply to the impacted residence. Loudoun Water has successfully exercised this approach across the five community systems that it currently operates in Loudoun County and has proven to not adversely impact neighboring wells.

Question 99: The Emery and Garrett Investigation report of April 2024 states "the hydrogeological setting is not exceptionally favorable for developing wells of high yield in this study area and it may take several wells to achieve the yield required to meet desired water demands." How can the county ensure there is not a more expansive water issue raised across the multiple private sites and wells in the immediate area which is already a fragile ecosystem? What is the counties plan should these wells fail or cause further impacts to the agricultural area?

Answer 99: Based on Loudoun Water's and its consultants' experience, a community water system of this capacity (permitted at approximately 310,500 gpd) will require multiple production wells. We will look for these wells to be independent of each other so that their pumping activity does not influence one another. We will look to monitor production well sites and local residential wells during development activities, source identification and yield testing, and after acceptance, monitoring long term trends through the Loudoun Water Groundwater Monitoring Program.

The intent of the project is to solve a critical water supply problem, not create new ones. Therefore, great caution will be taken to ensure that adverse impacts to other groundwater users do not occur. For example:

- Multi-well systems will allow the withdrawal to be managed in a manner that does not over pump one single location.
- Testing will verify no impact to existing wells or understand what wells may be impacted by the new source. The county will work with those owners directly to understand the risk and options.
- The Loudoun Water Groundwater Monitoring Program will allow for long-term management of the resource by tracking overall trends and changes. If conditions change, or wells are affected, a mitigation plan with the affected parties will be developed and executed.

Also, see responses to Question 36 regarding recourse.

Question 100: We are opposed to the extreme solution the county has proposed. We are concerned about the impact to an already declining water table and the possibility of the loss of our well, which we drilled 10 years ago to 750 feet with still a low yield rate. We believe there are other commonsense solutions which are not so taxing to the environment for those few people/businesses that need a solution to their sewer/water issues. We depend on our well for our agricultural needs which employs 6 people. Loss of our water would greatly impact our small business and possibly shut it down. We suggest the county explore these other options.

Answer 100: Thank you for submitting your comment. See response to Questions 3 and 98 regarding impact to existing wells.

Question 101: I'd like to understand how the county, and Loudoun Water, are taking the recent western Loudoun water study into account when dealing with this project. With diminishing water supplies, how is this project justified given the large amount of water being planned to be pumped daily. On top of that, none of this water will be reintroduced into the environment. If anything, this project is going to make a dire situation worse! Specifically, who is reviewing the study relating to the project, and what, if any, results, conclusions, or actions will or can be taken? Lastly, please be transparent. Why on earth would Loudoun water tell us it will cost \$14,000 to receive details of this plan via FOIA? If anything, it seems the county is working against residents rather than with or for us.

Answer 101:

- A) See response to Questions 3, 25, 39, 46 and 96 for information relevant to your questions.
- B) Loudoun County staff, Loudoun Water staff, and consultants, including a nationally recognized hydrogeological firm, EGGI, will be involved in groundwater-related activities in the project.
- C) Virginia law allows public entities to recover the reasonable costs associated with locating and providing public records. Broad requests for public records may sometimes result in a high-cost estimate; the costs incurred in fulfilling such requests often may be reduced through the narrowing of the scope of the public records sought. Loudoun Water, a political subdivision of Virginia that is not a department of Loudoun County, indicates that the fees for its FOIA response is a result of the extent of the records requested and the level of staff involvement in gathering the requested

records. If you need additional information, [please submit a request to Loudoun Water's FOIA officer](#).

Question 102: I am totally against the interconnected Paeonian Springs/Waterford water and sewer project. It's a huge mistake for so many reasons. Very disruptive to the communities, the main travel road, Clarkes Gap Road, and frankly I am concerned about the viability of wells in the area. After a multiyear drought I have already experienced water levels in my well lower than I feel comfortable. There are a number of other reasons as well. I feel that each village should have its own well/sewer system, and not connected using the public roads and other people's water. There are many horse properties along Clarkes Gap, which are dependent on the well water.

Answer 102: See responses to Questions 3 and 46 regarding impact to water resources and 98 regarding impact to private wells. See responses to Questions 34, 43a and 86 regarding impact to environment, traffic and communities during construction. See responses to Questions 57 and 75 regarding individual systems.

Question 103: I oppose the interconnected water/wastewater system as it's my opinion that it will lead to further development and increased water usage, the water table levels already being a concern throughout the area.

Answer 103: See response to Question 1 for purpose of the project.

Regarding development, see responses to Questions 2, 121, 122 and 150. As part of the county's land use approval process, a commission permit (CMPT) is required to verify that the new public utility facility is consistent with the 2019 Comprehensive Plan and to define the geographical limits of a service area for the community system. The project team will tailor the service area to the existing village core, and place restrictive easements on infrastructure outside the service area to prevent additional connections. See Question 43b regarding a commission permit (CMPT).

See response to Question 96 on water usage. The current service area boundaries being considered can be viewed on the [county's project webpage](#).

Question 104: We can fix all 60 household issues for less than 2% (\$1.2 million) of the current budget. Why have those options not been selected?

Answer 104: See responses to Questions 42 and 105 regarding individual solutions.

Question 105: Why doesn't Loudoun adopt smaller scale solutions/funding -- a vastly cheaper solution - to address individual water/sewer issues?

Answer 105: Feasibility studies conducted in response to Water and/or Wastewater concerns in the Villages of Paeonian Springs and Waterford, which are available on the [county's project webpage](#), showed the villages would be best served by community water and/or wastewater systems. If the feasibility studies did not support a community system for the villages, the county could provide technical guidance but ultimately the homeowners would be responsible for all permitting, engineering, and repair costs for their private systems (if obtainable) as they are today. Grant or funding assistance to address private (individual) onsite water and wastewater solutions is limited as detailed below.

Article X, section 10 of the Virginia Constitution (the "Credit Clause") states that, "[n]either the credit of the Commonwealth nor of any county, city, town, or regional government shall be directly or indirectly, under any device or pretense whatsoever, granted to or in aid of any person, association, or corporation..." This has been interpreted by Virginia courts to mean that an expenditure is constitutionally invalid if the dominant purpose is to benefit private parties.

For purposes of the interconnected project, the dominant purpose is public and any benefit to individual homeowners is incidental. However, if the county were to give individual grants to homeowners to construct their own onsite water or wastewater system on private property, such a program would not be supported because the dominant beneficiary would be the private homeowner. This same concept applies to the water and sewer service line connections from the house to the communal system.

Va. Code 15.2-958 is consistent with this interpretation of the Credit Clause; the General Assembly states that assistance can only be provided to private owners, with certain limitations such as income restrictions and affordability requirements, as affordable housing is considered a public purpose in Virginia.

Also, see response to Question 42.

Question 106: Why does the feasibility study not consider options as was done in the 2022 study for Waterford only.

Answer 106: The purpose of the 2024 feasibility study was to evaluate the feasibility of interconnected systems exclusively. Options for each community was evaluated by earlier studies that are available on the [county's project webpage](#).

See response to Question 75 for more information.

Question 107: Isn't it incumbent upon leaders for the sake of safety and health to foster and facilitate the installation of small-scale solutions, rather than attempt to implement a costly, long process of unnecessary and environmentally damaging construction?

Answer 107: See response to Question 1 for project purpose. See Questions 42 and 105 regarding small scale solutions.

Question 108: If Paeonian Springs can solve its wastewater problem, does it really need a community water system? Why wouldn't small scale solutions work well at a much lower cost?

Answer 108: See response to Question 42, 73, 105, 109 regarding individual solutions and Question 75 for Paeonian Springs water needs. See the [Paeonian Springs and Waterford Interconnected Project History and Data Summary \(PDF\)](#) for more information regarding the existing conditions within the communities based on research.

Question 109: How or what small scale "solutions" could be used to aid a failing septic system?

Answer 109: See response to Question 42.

Failing onsite sewage disposal systems may require standard maintenance or replacement. Individual onsite solutions are dependent on individual parcel challenges, root cause of failure, and allowance in accordance with Health Department regulations. Many homes within Paeonian Springs have limited or no viable options to address their failing systems within the confines of their existing parcels. In some situations, the Health Department may

apply repair criteria, such as setback waivers and reduced system design, to address a failing system. This is done on a case-by-case basis and not intended as the optimal or preferred long-term solution. Currently, there are also homes within Paeonian Springs that use pump and haul services or temporary portable toilet facilities, meaning an on-site sewage disposal system was unable to be implemented.

While small scale individual solutions may address immediate concerns for a subset of parcels, they will not provide a long-term sustainable solution for smaller parcels and homes without sufficient land area to expand, replace or maintain these failing individual systems.

Question 110: Everyone agrees that some folks in the two villages face health and safety problems due to water or wastewater issues. Many have been waiting years for a solution. Why make them wait more years for a community wide project when individualized small-scale solutions can be implemented in weeks?

Answer 110: See responses to Questions 42, 73, 105 and 109 regarding small-scale solutions.

Question 111: Is the county willing to stop the pursuit of this unnecessary and destructive massive infrastructure project and work with affected residence in each village on practical local solutions that will work for them? End the interconnected plan.

Answer 111: See responses to Questions 42, 73, 105 and 109 regarding individual solutions.

Question 112: A) There is a residence in Waterford that is an excellent example of not only how neighbors and community can work together to reach workable small-scale solutions. This home shared a well with a neighbor for years when theirs went dry as they could not afford to drill a well. After the resident died, the home was sold to neighbors who drilled the well, renovated the home. The well is 650 ft deep and produces 3 gallons per minute. This month it sold for \$650,000 more than it was purchased. How many of the homes at issue could also benefit from small scale solutions, such as well sharing and other water replacement solutions? B) Solutions for

septic fields as well. Finally, how many homes in each village are impacted? C) And what solutions have been considered?

Answer 112:

- A) Homeowners may seek individual solutions as allowed by building and/or health department regulations to address their issues. In some cases, as in the example provided, a setback waiver and drilling to a depth greater than Waterford's median well depth was required.

The project team evaluated well sharing as an option at a high level in the [2022 Waterford Water Feasibility Study \(PDF\)](#), and determined it is not a long-term community-wide solution. Also see responses to Questions 42, 73 and 105.

- B) Solutions that were considered for Paeonian Springs can be found in the [2019 Paeonian Springs Water and Wastewater Feasibility Study \(PDF\)](#) and in a [technical memorandum \(PDF\)](#). Solutions that were considered for Waterford can be found in the Waterford Water Feasibility Study. These documents are available on the [county's project webpage](#).

See the [Paeonian Springs and Waterford Interconnected Project History and Data Summary \(PDF\)](#) for more information regarding the existing conditions within the communities based on research.

- C) See response to this question's part B.

Question 113. My wife and I live on Highland View Lane in Paeonian Springs. Thank you for the opportunity to have our voices heard on this important issue. We certainly want to see water and/or wastewater issues solved for our friends and neighbors in both villages. We just feel the county is going about it in the wrong way!

As recent studies have shown, western Loudoun is facing significantly declining groundwater levels. The closed loop systems currently in place in Paeonian Springs are simple and effective. Water is pumped out of the ground via wells and wastewater is filtered via drain fields to recharge the groundwater reserves. A win-win for our precious groundwater resources.

The county's proposed interconnect system will draw over 2 billion gallons from our local aquifer over the course of 10 years. The resulting wastewater will be treated at

the Waterford WWTP and flushed into the Potomac via Catoctin Creek, thus providing no opportunity for recharge.

Think about that, over 2 billion gallons drawn with no opportunity for recharge. How can this be viable a plan when it will result in catastrophic consequences for our precious and declining groundwater reserves? For this very reason subsurface discharge was the preferred alternative in the original Paeonian Springs feasibility study. This is the responsible thing to do and smaller scale solutions at the local level will allow for this.

Finally, is the county willing to stop the pursuit of this unnecessary and destructive massive infrastructure project and work with affected residents in each village on practical local solutions that will work for them? This is exactly what has been done in the Village of St. Louis. It sure seems that pursuing a St. Louis style solution is the most practical and economical way to solve the problems currently facing our friends and neighbors in each village.

Answer 113. See responses to Questions 3, 39, 46 and 98 for the impact on existing wells and the aquifer. The project team is not aware of any available and verifiable information that would suggest this project will result in catastrophic consequences.

See responses to Questions 42, 73, 105 and 109 regarding small-scale solutions.

County staff are currently working on an engagement and scoping plan for three Small Area Village Plans prioritized by the Board of Supervisors (Board) in December 2024. Those three plans include Paeonian Springs, Lucketts and Willisville.

Regarding the Village of St. Louis, water and wastewater projects must be considered on a case-by-case basis, and the suggested action steps for one community may not apply to another, as water and wastewater challenges, site conditions, parcel sizes, can greatly vary. A community wastewater system was established in the St. Louis in 1978.

For Paeonian Springs and Waterford water and/or wastewater challenges see Question 1.

Around 2021, well water concerns from residents in the Village of St. Louis emerged following a new proposed development. These concerns eventually resulted in the [2025 St. Louis Village Plan \(Village Plan\)](#). To date, support to advance a water feasibility study remains pending. Since no feasibility study has been conducted to research existing conditions, and no explicit water issues have been identified in the Village Plan, investigating detailed and specific alternatives at this time would be limited.

To learn more about the current water concerns in St. Louis as well as potential actions steps specific to the village, see the October 21, 2025, staff report to the Board of Supervisors titled, [Village of St. Louis Deferred Forgivable Loan Program \(PDF\)](#).

Question 114: Duplicate of Q113.

Answer 114: See response to Q113.

Question 115: If you take approximately 600,000 gallons of water per day out of the creeks, streams, community wells and aquifer along Clarkes Gap Road, then send all the wastewater up to Waterford to be put back into Catoctin Creek on the other side of Waterford, how do you plan to replenish the aquifer along Clarkes Gap Road?

Either find small-scale solutions to the wastewater issues in Paeonian Springs and the water issues in Waterford, separate from this interconnected project, or you will leave Paeonian Springs, Clarkes Gap Road, and Waterford without any water at all. A small-scale wastewater treatment plant in Paeonian Springs and a community well in Waterford may solve both problems.

Answer 115: Excessive groundwater withdrawals (such as 600,000 gallons per day) would occur only during the pumping tests that are performed to maximize stress on the bedrock aquifer. These tests are required to satisfy Loudoun County and Commonwealth of Virginia permitting requirements. Actual long-term water demand would be substantially lower. See responses to Questions 25 and 96 regarding anticipated withdrawal. See responses to Questions 42, 73, 105, 109 and 113 (paragraph 2) regarding small-scale solutions. See responses to Questions 57 and 75 regarding individual systems.

Question 116: I oppose this project for many reasons: A) Hooking into the system will be compulsory --- residents will face costs of at least \$15,000 in Waterford and \$30,000 in Paeonian Springs, plus ongoing monthly charges. They will also be forced to disconnect their own systems, even if they work well, at costs of up to \$5,000. The county will use the power of eminent domain to get easements for piping and a water plant along 2.5 miles of Clarkes Gap Road, and five well sites from as far away as Hurley Lane. Those wells will draw 600,000 gallons per day of groundwater - and the aquifers are already up to forty feet below normal. B) This is a bit technical, but it's important. Groundwater needs recharging and currently much of the recharge is from

septic drainfields which filter water as it flows downward. Under the proposed scheme, household wastewater would flow into the system's piping and thence into the Potomac, with no recharge. Over ten years this would deplete our groundwater by two billion gallons! C) There are many small-scale solutions to help the relatively few residents who need help, and that would cost far less than the \$60 million the utility system would cost.

Answer 116:

- A) See responses to Question 35 regarding connections and Question 52 about costs. See response to Question 62a regarding eminent domain. See responses to Questions 25 and 96 regarding well yield vs. demand and usage.
- B) See responses to Question 94 for groundwater impact and Question 113 for recharge concerns after onsite sewage disposal systems are abandoned.
- C) See responses to Questions 42, 73, 105 and 109 regarding small scale solutions.

Question 117: A) This project will result in loss of water to properties located on Clarks Gap Road. After attending the meeting with county supervisors and Loudoun water leaders it is clear that no consideration has been given to the unintended consequence of Clarks Gap properties losing their water once this project is completed. This will no doubt result in health and safety concerns for existing property owners and I wonder if our leaders are thinking about this. B) We urge you to look for other alternative solutions to remedy the water and wastewater problems in the affected areas of Paeonian Springs and Waterford villages. At least for now, it does not appear that the county and its leaders are looking for a smart solution to resolve this problem without causing a massive problem for other residents, and instead are taking the easy approach of spending large sums of money based on a single consulting report. C) Please consider/prepare multiple alternative solutions to ensure this does not result in a major disaster and health and safety problems. Thank you.

Answer 117:

- A) See responses to Question 25 and 96 regarding well yield vs. demand and usage.
- B) See responses to Questions 3 and 98 regarding impact of existing wells.
- C) Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 118: Recently a Small Area Plan for St. Louis was approved, including individualized water solutions and a financial loan program to assist those unable to pay up-front costs. St. Louis received a lot of county help in developing their plan. Why not do the same for Waterford and Paeonian Springs?

Answer 118: See response to Question 113.

Question 119: What must I do to make sure I am not part of the project area for the CMPT process? I own a home just outside the village of Waterford and have two other lots as part of my property. I do not want anything to do with the water service plans, nor do many of my neighbors. I am on 5 acres, have a well, and have no water issues. I do not want to be forced to tie into this project when the county realizes the number of people who wish to participate is much lower than anticipated. Please remove my parcels from the current proposed boundary.

Answer 119: Parcels located outside the village, particularly a parcel that is five acres in size, is not likely included within the proposed service area for the interconnected water and wastewater system. You can confirm the location of your parcel(s) and whether it is within the proposed service area on the [county's project webpage](#).

As part of the county's land use approval process, a commission permit (CMPT) is required to verify that the new public utility facility is consistent with the 2019 Comprehensive Plan and to define the geographical limits of a service area for the community system. See the response for question 43 for more CMPT details. Although an approved service area has not yet gone through the CMPT process, the water service area proposed for Waterford will generally follow the current sewer service area.

Once the CMPT is in process, it will be assigned a legislative application number that members of the public can use to access the CMPT application and submit comments through the Loudoun Land Applications and Comments tool, or provide comments in person or virtually at a Planning Commission public hearing.

Question 120: Would the board of supervisors consider only engineering the design of the project to the current buildout and not the total potential buildout?

Answer 120: Currently, the study and design to date can only assume that all parcels within the service area will be eligible to connect.

The system will be designed to serve only residents within the future approved service area. It is being designed to meet those needs for existing parcels. If the parcel is within an approved service area established by a commission permit (see response for question 43), has a right to build under the Zoning Ordinance, and the system has capacity to accept wastewater or distribute water, the parcel has a right to connect to the system.

Question 121: Why will this support development of 2,000 townhouses and other homes in the area?

Answer 121: This project will not change existing zoning or planned land use within the project area and will not support the scale of additional development implied in the question. Also see responses to Questions 2 and 44. Please contact the [Department of Planning and Zoning](#) if you would like to discuss this matter in more detail.

Question 122: How does the county respond to claims that this project will promote over development or sprawl?

Answer 122: See responses to Questions 2, 44, 103 and 121.

A proposed service area for the project is limited to the existing village core, and restrictive easements will be placed on infrastructure outside the service area to ensure no additional connections. See response to Question 43b regarding a commission permit.

Question 123: Could the zoning in Paeonian be changed to be more restrictive for future development?

Answer 123: The appropriateness of the planned land use and zoning will be reviewed as part of the upcoming Village Area Plan process (see response for Question 113).

Question 124: Will the county use eminent domain to draw for water and build water supply infrastructure on private property, plus install massive water and wastewater mains along Clarke's Gap Road? Yes or no answer please.

Answer 124: See response to Question 62a.

Question 125: Why is the county threatening eminent domain?

Answer 125: See response to Question 62a.

Question 126: I've been a contracting officer in the past so, Dewberry Davis did the feasibility study. They recommended the most expensive and complex solution. Dewberry Davis will then be the design firm for this solution. Is this not conflict of interest? Do you not see this?

Answer 126: The county initiated the project and is partnering with Loudoun Water in accordance with the memorandum of understanding executed in 2015. Loudoun Water selected Dewberry to provide study and design phase services.

Dewberry's role in the project, as a subject matter expert, is to conduct studies and provide other design phase services in accordance with the scope authorized by Loudoun Water. Since Dewberry does not have the authority to make any decisions on behalf of Loudoun Water or Loudoun County, we do not see a conflict-of-interest situation. Professional design services and construction services will be procured in accordance with the Virginia Public Procurement Act, which requires avoiding conflicts of interest. Further, decisions regarding the project, including ultimate design approval and funding, will be made by the Board of Supervisors.

Question 127: Given that the code of Virginia provides for localities to set up a special tax service district which allow their governing bodies to mandate connection to public utilities when in their view, it is necessary, is the county willing to resolve never to do so?

Answer 127: Currently, the county has no plans to establish a special tax district associated with this project. Decisions of future Boards of Supervisors cannot be predicted. The service district funding model under Code of Virginia §15.2-2400, authorizes the county to require connection for all properties within a service district. However, no service district funding model or required connection has been proposed for this project (see response to Question 35). As discussed during the November 19, 2024, Board of Supervisors meeting ([see staff report PDF](#)), upon completion of an acceptable level of project design, a more detailed cost estimate will be developed based on more accurate project development information. If construction is approved by the Board of Supervisors, the funding request

will be submitted to the Office of Management and Budget to be incorporated into a future CIP budget development process for consideration and prioritization by the Board.

When a service district is considered for a project, the legal requirements, including public notice and hearing as outlined in Code of Virginia § 15.2-2400, will be followed.

Question 128: Is the 2017 request by Paeonian Springs for assistance by county assistance?

Answer 128: Yes, the 2017 application submitted by Paeonian Springs residents requested Loudoun County assistance with water and/or wastewater issues in the community. In 2017 the application included signatures of approximately 75% of owners with properties having eligible structures.

Question 129: You mentioned that upgrading the existing Waterford Wastewater Treatment Plant (WWTP) permit avoids some of the DEQ requirements of getting a new WWTP permit. Why do you think exploiting a loophole in DEQ permitting processes - even if legal - to not have to offset the environmental impacts to Catoctin Creek in a good thing?

Answer 129: The project does not intend to "exploit a loophole" in the Virginia Department of Environmental Quality (DEQ) permitting process. The project is still required to go through the standard DEQ review and approval process, which includes evaluating environmental impacts to Catoctin Creek.

Question 130: Shared wells are not possible with all of the easements around Waterford.

Answer 130: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 131: What legal basis, if any, prevents the current or future county government from deciding to require most or all Waterford and Paeonian Springs residences to cap their wells, abandon their septic systems, and pay tens of thousands of dollars to alter their plumbing to connect to water and sewage from Loudoun Water? While the present Board of Supervisors may not currently feel it necessary to force Waterford and Paeonian Springs residents to connect in the aforesaid manner, a future Board may do so.

Answer 131: No governing body can bind a future governing body. Any change by a future Board of Supervisors would need to be consistent with the property owner protections in the Code of Virginia and go through a public process where citizens can be heard. See responses to Questions 35 and 60.

Question 132: Does the contract for the study that is underway today have any cancellation provision.

Answer 132: Yes, both Loudoun County's contract with Loudoun Water and Loudoun Water's contract with its consultant have an immediate termination provision.

Question 133: A) With recent concerns about the insecurity of the Western Loudoun water table, should wells run dry along CGR what will happen to the villages water supply, and will CGR residents affected be supplied water from another source? B) Wells along CGR are not always stable. Should they lose water would they be allowed to sue the county?

Answer 133:

- A) See responses to Questions 3 and 98 regarding impact of existing wells.
- B) See response to Question 36.

Question 134: A) I am a real estate agent representing buyers who are considering purchasing a property along Clarkes Gap Road. Can you tell me how this property will be impacted by this water/wastewater project? B) Will you be confiscating private property to drill wells and/or build new treatment plants? C) Is this property in danger of being damaged or used for the project?

Answer 134:

- A) See response to Question 41 regarding the extent of project impacts. See response to Question 34 regarding driveways.
- B) See response to part A of this question.
- C) Parcel-specific impacts and land acquisition needs are currently unknown.

Question 135: How will the county compensate homeowners along Clarkes Gap for diminution of property values when wells go dry? Discussion is that recourse is legal action. What is the county's plan?

Answer 135: See responses to Question 3 and 98 regarding impact of existing wells. See response to Question 36 about recourse.

Question 136: Under what conditions would a structure be condemned due to lack of water? What options would a property owner have to address such an issue in the absence of a community water system if drilling a well is not permitted due to ground contamination, limited lot sizes, required setbacks or other restrictions?

Answer 136: In addition to enforcing provision of the County Zoning Ordinance, the Department of Planning and Zoning, also responds to and investigates complaints of the Virginia Maintenance Code, Part III of the Uniform Statewide Building Code. However, the current County property maintenance section adopted by the County does not address uninhabitable structures at this time and currently would not be addressed. Condemnation is something entirely different as this pertains to the structural integrity of a building or structure.

If an existing structure no longer has access to an acceptable water supply, the owner would need to consult with the Loudoun Health Department on a cistern (water storage) option that meets all Health Department regulations and ordinances for setbacks and potable water requirements. This work may also require private sector design services. These are options available for existing occupied structures that have an emergency situation that has developed.

Question 137: What is the plan for continued engagement past this community meeting?

Answer 137: Loudoun County and Loudoun Water will continue to engage the community as this project design moves forward. Residents may subscribe to email project updates on the [county's project webpage](#). In addition to the community meeting that was held on October 28, 2025, for all residents, a project fact sheet was distributed and is available on the web page. These answers to Frequently Asked Questions are in response to the October 28 meeting and also include questions that were received through the county's online comment form that was open through November 2025. The county will continue to provide updated project information throughout the duration of the project.

Question 138: How long will the online comments be available for those in attendance this evening (October 28, 2025) to provide comments?

Answer 138: Comments and questions can be submitted at any time during the project via the comment form, which is linked on the [county's project webpage](#).

Question 139: What is the county doing to make sure residents of both villages have a primary voice and not outsiders?

Answer 139: The project was requested by residents to address long-standing needs of many residents, see response to Question 1 for project purpose.

Loudoun County has an interest in listening to the concerns of all residents related to this project. The Board of Supervisors will make decisions based on information gathered during the project's design phase, which is currently underway.

Question 140: If the villages are separated, what would prevent the not in my backyard people from still be behaving the same way and trying to prevent the project? They are still in our backyard.

Answer 140: See response to Question 139.

Question 141: After immediate needs are met, some longer-term issues may remain. Why not initiate Small Area Planning processes for reach village and their neighboring areas, similar to that recently complete in St. Louis?

Answer 141: See response to Question 113.

Question 142: Why weren't Clarkes Gap Road residents given meetings to address these concerns?

Answer 142: The county has notified the public about the project and advertises public meetings that are open to all communities through its routine communication channels. A community meeting was held on October 28, 2025, for all residents. In addition, a project fact sheet was mailed to 550 properties and property owners in Paeonian Springs, Waterford, and along Clarkes Gap Road. The fact sheet is available on the [county's project webpage](#). Also see response to Question 137.

Question 143: I would like to know when concerned residents of any of the villages get to speak to ALL of the Supervisors. Right now, when I write to Supervisor Kershner, he doesn't respond. When I wrote to ALL nine, I had two responses who said this topic is for Caleb. That means that Caleb Kershner wields far too much power over a project that will cost the county \$60 million and cause more damage than good. The other supervisors need to hear what's going on so that their wisdom and rationale can help reason with a supervisor who is not listening or responding.

Answer 143: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 144: Thank you for the transparency and updates on this website.

Answer 144: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 145: I want someone to specifically address the impact this project and its proposed 5 (large) wells have on the water supply to the many farms and households relying on well water, especially those that will not directly benefit from this project. I would like to see grassroots efforts to communicate on this project so we can hear all sides of the arguments for and against this project.

Answer 145: See responses to Questions 3, 39 and 46 regarding impact to groundwater resources.

Question 146: Given that the initial survey in Waterford was not responded to by all the villagers, and as such does not meet the 60% threshold for the study, and at that time, there was no plan for or mention of an interconnected sewer system, shouldn't the county run an informative updated survey to include all parcel owners?

Answer 146: See responses to Questions 27 and 148.

Question 147: A) I am concerned that this project will have a detrimental effect on the groundwater level in the Clarkes Gap and surrounding areas (e.g., Sommertime Lane, Hurley Lane, etc.). B) Furthermore, I am concerned by the cost and magnitude of this project with no input from affected citizens. To my knowledge there has been no consideration of other potential solutions. And past experience tells me that once the county starts running with a single solution, it is just about impossible to "turn the ship". As soon as the words "health and safety" enter the discussion, it is all over.

Answer 147:

- A) See responses to Questions 3, 39 and 46 regarding impact to groundwater resources.
- B) See responses to Questions 42, 73, 105 and 109 regarding individual solutions. See responses to Questions 57 and 75 regarding individual systems.

Question 148: A) Will the county do a mailed survey for interest in this project? The survey that was previously sent was through the WCA, which is not a governing body, has no authority to speak on behalf of the village, and has a board with severe conflicts of interest. The survey was flawed and the plans you are moving forward with, I believe you will find, are not supported by many in the village. This included just Waterford having a water system and is not exclusive to interconnected systems. B) How do you justify altering conservation land for a non-Paeonian Springs connected system? I am aware the Waterford Foundation planned on altering conservation easements to drill wells and build water treatment plants and this is a huge violation of protected land that the county supported. How do you explain this lack of ethics? C) Last, how do you justify using these large water systems when reports are showing that we have a major lack of water and systems like this will dry up aquifers and permanently impact our creeks?

Answer 148:

- A) The county—not the Waterford Citizens Association (WCA)—sent a survey in the fall of 2022 to 154 parcels in the Waterford study to gauge interest in the project. A total of 77 responses were received representing 72 parcels (68 with habitable structures). The survey results indicated that respondents representing parcels with habitable structures favored a communal system. The survey results can be seen in Attachment 2 of the February 21, 2023, staff report to the Board of Supervisors titled, [Waterford Water Feasibility Study Findings \(PDF\)](#).
- B) The project team is not aware of any conservation easement alteration suggested in this question. The project is in the preliminary design phase, and the location of components such as wells and pump stations are not currently identified; therefore, it's not possible to fully assess impacts to existing properties and/or easements at this time.
- C) See responses to Questions 3, 39 and 46 regarding impact to groundwater resources and responses to Questions 42, 75 and 109 regarding small-scale solutions.

Question 149: I strongly oppose this project for many reasons: harm to our groundwater; financial burden on residents to connect; probably compulsory nature of forcing people to connect; not studying small-scale solutions, of which there are many; harm to our scenic byway; your early "studies;" and current material purposefully never disclosed financial costs to residents - probably on purpose.

Answer 149: See responses to Questions 3, 39 and 46 regarding impact to groundwater resources. See responses to Question 25 and 96 regarding well yield versus demand and usage. See responses to Questions 42, 75, 105 and 109 regarding small-scale solutions. See responses to Questions 42 and 91 regarding impact to the scenic byway. See response to Question 52 for costs to residents.

Question 150: This project should be halted. More development is not necessary in our area. We moved here from Fairfax because it's not developed. I also refuse to switch from my well water to city water. This undemocratic process that you all are forcing through makes me feel like I don't live in a free country.

Answer 150: This is a limited scope project that aims to provide water and wastewater services to 345 parcels in Paeonian Springs and Waterford that are facing water and wastewater challenges. Connection to the community system is optional. See response to Question 35. Also, see responses to Questions 2 and 43b (commission permit and service area).

Question 151: I oppose all water projects related to Waterford and Paeonian Springs. These water projects will deplete the ground water and taint our rural community. I do not want to be forced into having to connect to a water treatment system. I want my well to remain unburdened by water projects sucking the water table dry.

Answer 151: See responses to Questions 3, 39 and 46 regarding impact to groundwater resources. See response to Question 35 for connection. See responses to Questions 25 and 96 regarding anticipated water withdrawal.

Question 152: I'm worried about losing my well rights. I purposely bought in this community for two reasons: 1) Good name and community; 2) To still enjoy the country living aspects, including being able to become off grid if so wanted!! I don't want to have to fight for my rights in a country community!! We purchased because we wanted to be in a supportive community and with supportive people!!

Answer 152: Thank you for submitting your comment. To stay up to date with the project and to sign up for alerts, visit loudoun.gov/InterconnectedWaterProject.

Question 153: The plan, as I have seen it described, is outrageously bad. Forcing citizens costly hookup fees and shut down fees to existing resources, forcing monthly charges, sucking water from the water table and depleting more wells, and the enormous cost. It is an unneeded system. Find a solution for the few that need it; stop over building. Seems like a planning scheme to allow more future building. Stop the crazy building. The effects on the water table should have been considered before all the crazy permits were approved.

Answer 153: See response to questions 3, 39 and 46 regarding impact to groundwater resources. See response to Question 35 for connecting and Question 52 for costs. See responses to Questions 25 and 96 regarding anticipated water withdrawal. Permits have not been requested or issued for interconnected water system nor the interconnected wastewater system at this time.

Question 154: I have a unique perspective on the Waterford Paeonian proposed system as I'm one of the very few to have lived in both villages and I'm acutely aware of the issues facing both communities. Primarily, Waterford needs only two community wells. Waterford does not require a system that will facilitate the Waterford Foundation's expansion of its commercial interests. This can be accomplished for less than \$250,000. Full stop, this addressed Waterford's issues. With regard to Paeonian Springs, Loudoun County Health and Zoning dropped the ball in allowing the density on Oliver and Catoctin Ridge streets. We have multiple septic fields reaching the end of their service life and threatening to contaminate wells further. Paeonian, like Waterford, plays a unique historical roll in Loudoun's history and as such needs to be protected. I know that Historical Overlays do not prevent new constructions. I have seen the projects in Leesburg and three new houses in Waterford, with many more modern modifications to these historic buildings. To

protect the historic nature of Paeonian and mitigate the issue that aging septic is facing, Loudoun Water should be granted funds to clone the Waterford plant at a site close to Paeonian Springs, as suggested by the Dewberry Studies.

No where in the Dewberry Study or Addendum was there evidence that this monstrous project would benefit both villages. There was ONE sentence making a suggestion of possible savings.

We know there are 80 townhouses awaiting the capacity that will be drained from our aquifer and discharged into the Catoctin under this plan and shame on Staff (whoever they are) for suggesting a study that benefits those who would further develop Paeonian.

It is improper to hijack legitimate public need to create a project that threatens to lay the groundwork for further development in historic and rural areas already facing water problems.

Answer 154: See the [Paeonian Springs and Waterford Interconnected Project History and Data Summary \(PDF\)](#) for prevalence of issues in these two communities.

See responses to Questions 57 and 75 regarding individual system and interconnected system.

This is a limited scope project that aims to extend water and wastewater services to 345 parcels in Paeonian Springs and Waterford that are facing water and wastewater challenges. The county is unaware of the 80 townhomes referenced in the question. Also see response to Question 121.

Question 155: My husband and I own properties in Waterford. I'm enthusiastic about the plans to improve the infrastructure of the town, particularly lowering the street level in from of the Main Street house and burying of power lines. But I am very concerned about the plan to create a bridge/traffic calming hump in front of the Wisteria Cottage.

At present the drawings appear to show a stone structure that will close off our only access to our backyard - an access necessary for mowers and people doing tree work. The other side of the house abuts the nextdoor property line and there is no access through that route. I would like to be assured that access to our property by machinery is guaranteed in the county planning for the bridge and that we will be given the

opportunity to approve the plan that affects our property. Many thanks for your consideration.

Answer 155: This comment is specific to the 2022 Preserving the Landmark Infrastructure Improvements study. More information on the Department of Transportation and Infrastructure (DTCI) project can be found on the [county's project webpage](#).

Question 156: The recent major storm suffered in Waterford makes the urgency of having the 2033 project completed sooner rather than later come into sharp focus. The number of trees lost in the area, and the related power outages caused by falling trees and limbs was a disaster. Burying the power lines will prevent this going forward, saving everyone a lot of work, money and inconvenience. Further, since we are dependent upon well water, the lack of power makes living in the house impossible as we cannot flush toilets, take showers, etc. Finally, with regard to the traffic, it continues to worsen. Angry commuters blowing their horns, getting into shouting matches and generally disregarding stop signs and speed limits WILL result in someone getting hurt. It's a matter of time. Thanks.

Answer 156: This comment is not applicable to the interconnected water and wastewater project. See response to Question 155. However, it is important to note that a communal water system is more resilient, and water service is not typically impacted by power outages due to back up power.

Question 157: Our core comment is that proposed joint system, under the "built out" scenario, is vastly oversized in relation to the current actual needs of the two villages. This could have three major unintended consequences: 1) Very high operational costs, requiring very high hookup and user fees (similar to the current situation in Purcellville). 2) Major damage to existing private wells and properties. 3) A massive and unsustainable drawdown of western Loudoun's underground water resources (for further background, please see loudouncoalition.org/loudoun-county-groundwater-study/).

The Feasibility Study itself warns about the technical and financial risks of building an "over-sized" system. The county should heed that warning. The proposed "target yield" of 414 gallons per minute equals a withdrawal of 2 billion gallons of water over ten years - with no recharge. Based on EPA average household usage data, that would

be enough water for nearly 2,000 homes. It is not clear from the Feasibility Study whether it would even be possible to extract that much water from the study area.

The county should consider the feasibility of separate, water-saving systems for each village - scaled to the actual needs of the current residents. Questions:

- A) Why is the Feasibility Study's recommended "target yield" of 1,728 gallons per day per parcel almost six times greater than the amount of water used by the average American household (about 300 gallons per day)?**
- B) Has staff identified a specific number of parcels in Paeonian Springs and Waterford that currently have inadequate access to water or sewer? What is that number?**
- C) How many hookups to the proposed community water system do staff realistically anticipate in Paeonian Springs and Waterford?**
- D) What is the minimum number of hookups in Paeonian Springs that would be required to efficiently maintain sufficient sewage flow?**
- E) What is the minimum number of hookups in both villages that would be required to efficiently maintain minimum water age standards?**
- F) The Study states that "a substantial increase in density is not anticipated" in Paeonian Springs (p. 11). Do staff agree with that statement?**
- G) Is it staff's assessment that the project would be technically and financially feasible if there were 50 or fewer realized hookups in the combined service area?**
 - I. What would be the "target yield" for that level of demand?**
 - II. What are the technical risks associated with this scenario?**
 - III. How would this scenario affect operating costs and user rates?**
- H) If the system's operating costs were significantly above Loudoun Water's average costs, would the additional costs be borne by rate payers within the two villages or would they be subsidized by the rest of Loudoun Water's customers?**
- I) Appendix C of the Feasibility Study includes "Plate 2. Results of the Hydrogeologic Investigation for Paeonian Springs Project Site, Loudoun County, Virginia." Is the referenced investigation on which Plate 2 is based available for public review?**
- J) Are the data and analysis for the referenced investigation comparable to the 2022 well study that was done by Tetra Tech for the village of Waterford?**

- K) On Plate 2, eight of the 14 wells drilled since 2015 have produced less than 10 gallons per minute (gpm). Only two have produced more than 20 gpm. According to well data provided to the state, there have been at least 10 dry holes in or near the proposed Geophysical Study Areas 6, 7 and 9. A 2021 investigation within the Waterford Study Area did not find any wells that could yield this much water. Does this raise concerns about the probability of finding enough water to meet the Study's target yield of 414 gpm?**
- L) Is staff confident that the study area will receive enough rainfall to sustainably recharge local groundwater resources, maintain current water tables, and maintain current flow rates in local streams if this project permanently withdrew 200 million gallons per year (2 billion gallons over ten years)?**
- M) Would it be feasible for the discharge from the Waterford Wastewater Treatment Plant (and a potential independent plant for Paeonian Springs) to be recharged into the local groundwater, rather than discharging the entire flow into Catoctin Creek?**
- N) Why has the county not investigated the feasibility of separate, right-sized solutions for the water and sewage needs of the two villages?**

Answer 157:

- A) See responses to Question 25, 70 and 96 regarding target yield and anticipated water withdrawal.
- B) See responses to Question 4.
- C) See responses to Questions 35 and 82d regarding potential number of connections.
- D) The sewer system will be functional with minimal flow but will require some operational adjustments. Modeling is being performed to identify minimum number of connections to maintain sufficient velocity and flushing. Until the system realizes minimum design flows, additional operation and maintenance activities may be needed to support the infrastructure.
- E) Modeling is being performed to identify minimum number of connections. Until the system realizes minimum design flows, additional operation and maintenance activities, such as water main flushing, may be needed.
- F) The project does not change the current zoning in Paeonian Springs. Connection to a public water or public sewer system does increase the allowable residential density in CR-2 zoning districts from 1 lot per 40,000 SF to 1 lot per 20,000 SF when developed under the cluster or compact cluster subdivision option. However, the majority of the

individual lots zoned as CR-2 and located within the proposed utility service area were platted prior to the creation of the CR-2 zoning district and therefore are less than 20,000 SF in area. As such, assembling and re-subdividing these lots under a cluster or compact cluster option would likely not yield additional allowable residential density. The county has not performed a full analysis to determine how many additional residential lots could be created by subdividing existing lots larger than 40,000 SF within the utility service area. Generally speaking, the county agrees that the project will not substantially increase allowable density within Paeonian Springs.

Please contact the Department of Planning and Zoning if you would like to discuss the zoning requirements in more detail.

In addition to the zoning items addressed above, the water and wastewater systems capacity will be designed on a fixed number of connections in both communities.

- G) Preliminary studies completed to date have determined that the system will be technically feasible even at lower numbers of connections. However, it may require additional operation and maintenance activities. The project was initiated to address public health and community sustainability concerns. Both Loudoun County and Loudoun Water are aware that the project is not financially self-sufficient. Also see response to Question 35.
- I. The “target yield” identified in the studies is based on Loudoun Water standards that require a system to be built to meet the demand for all allowable connections. Also see response to Question 96.
 - II. Technical risks associated with a smaller number of hookups include solids settlement and deposition within the system, increased maintenance requirements, and the requirement for more frequent flushing.
 - III. Loudoun Water is aware that the infrastructure developed under this project will have higher operational costs compared to the revenue it will generate. Fewer hookups means reduced revenue and, consequently, higher operational losses. However, in accordance with Loudoun Water’s current policy, the community system customers will pay the same usage rate as central system customers. Additionally, since the rate study, which determines appropriate service rates, takes into account operational expenses of the entire Loudoun Water system, the higher cost of operating community systems does not disproportionately impact community system customers’ rates.
- H) See response to part G of this question.

- I) Data referenced on Plate 2 includes publicly available Loudoun County GIS data, and Virginia Department of Environmental Quality database information.
- J) Data for existing wells are comparable to the Tetrattech study. The study areas for the EGGI report and Tetrattech report differ.
- K) The referenced data is specific to the area in and around Waterford. The interconnected system allows for a much larger investigation area to potentially site a well, increasing the probability for sufficient source water.
- L) See responses to Questions 25 and 96 regarding withdrawal.
- M) The local geology of Waterford is not favorable for a groundwater recharge program. See responses to Questions 57 and 75 regarding separate community wastewater treatment plant for Paeonian Springs.
- N) See response to Questions 41 and 42.

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