

"WORKING TOWARD A BETTER ENVIRONMENT"

Valley View
SEWER DISTRICT

**Valley View Sewer District
General Sewer Plan Update**

**Appendix E
Comments and Approvals**

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General Sewer Plan - Ecology Comment Sheet for Valley View Sewer District

GSP Revision Date: April 18, 2024
 GSP Contact: Paul Weller

Reviewed By: Sean Wilson, P.E.
 Review Date:

Comment No.	Page #	Section	Comment	Ecology Reviewer	GSP Response	GSP Responder	Ecology Acceptance Comments
1	N/A	General	Please include a description or map that shows the relationship between existing unsewered areas and wellhead protection areas. If no wells exist in or near the District, please state this. It is difficult to determined if unsewered areas pose a risk to water wells or surface waters.	Wilson	The following statement was added into section 8.6.6: "Wellhead protection areas and unsewered areas are interconnected concepts related to safeguarding drinking water sources. A wellhead protection area is a designated zone around a groundwater well or a surface water intake where activities are regulated to prevent contamination of the drinking water supply. On the other hand, unsewered areas refer to regions lacking a centralized sewage system, relying instead on individual septic systems or other decentralized methods for wastewater disposal. The relationship between the two lies in the potential risk to drinking water sources in unsewered areas, as improper wastewater management can lead to groundwater contamination and compromise the integrity of the wellhead protection area. Therefore, implementing proper wastewater treatment and disposal measures is crucial to ensure the protection of the water supply and the health of the surrounding community. After analyzing the locations of wellhead protection areas in comparison to existing unsewered areas in the District, it is confirmed that the two areas do not intersect. This means that the unsewered areas do not pose a risk to water wells or surface waters."		
2	N/A	General	Although not required, inclusion of active links (a.k.a. internal references) significantly improve document readability.	Wilson	Comment is noted, the District will not be including active links into the document.		
3	N/A	General	Please include a reclaimed water discussion to (at a minimum)include identified potential users of reclaimed water within the district's service area. Has the district completed the County's "Water Reclamation Evaluation Checklist"? The regulatory requirements listed under RCW 90.48.112 appear to be incomplete. Additionally, RCW 90.46.120 requires Water System Planning under DOH's authority to evaluate opportunities for using reclaimed water in coordination with evaluations done in a general sewer plan submitted under RCW 90.48.110.	Wilson	Comment noted. The District does not have their own treatment plant not provide water to its customers, therefore a Water Reclamation Checklist is not needed. The following statement was added to Chapter 8 of the plan: "Valley View Sewer District is a sewer system that does not have its own treatment plant. The District also does not provide water to its clients. As a result, opportunities for reclaimed water are not discussed as part of this plan."		
4	N/A	General	Per RCW 90.48.495 Water conservation measures to be considered in general sewer plans. "The Department of Ecology shall require sewer plans to include a discussion of water conservation measures considered or underway that would reduce flows to the sewerage system and an analysis of their anticipated impact on public sewer service and treatment capacity." The GSP does not really discuss water conservation. If the District has a water conservation program in a related Water System Plan, it merits mentioning in the GSP to help satisfy this requirement.	Wilson	The following comment was added into Chapter 8 of the plan: "The District does not provide water to its customers, therefore they do not have control over the water flows and do not have their own water conservation program. The District has similar boundaries with King County Water District 125 and coordinate with them on any conservation measures when necessary. For commercial properties within the District, low flow fixtures are encouraged whenever possible."		
5	1-3	Figure 1-1	In accordance with 173-240-050(3)(f), please include all domestic and industrial wastewater facilities within 20 miles.	Wilson	Figure 1-1 has been updated to show facilities within a 20 mile radius.		

Comment No.	Page #	Section	Comment	Ecology Reviewer	GSP Response	GSP Responder	Ecology Acceptance Comments
6	1-8	1.7.1	It is best practice to include interlocal agreements for treatment should be included as Appendices. They must be shared with Ecology for us to complete our review. Please include them with the GSP or send them electronically to us for review.	Wilson	Agreements are now included in Appendix F.		
7	2-1	2.1	It is suggested to include a figure that shows who is responsible for all areas inside the service area but not part of the district boundaries. From the narrative description, there appear to be areas within the boundary that are not serviced by the district but are instead serviced by another entity (e.g. City of Tukwila).	Wilson	Comment noted, we understand that having a map showing the different service boundaries would be of value, but unfortunately it is developer driven and it is difficult to see which clients are serviced due to proposals by developers, and this is why it is left undetermined within the plan.		
8	2-1	2.1	In accordance with 173-240-050(3)(c), please provide a narrative description or figure showing the expected extent of the district's service area.	Wilson	The District's service area is shown in Figure 2-2.		
9	2-5	Figure 2-2	If Figure 2-2 is intended to be the topographical map required by 173-240-050(3)(d)(v), the scale does not seem appropriate and makes any topography within the district unreadable.	Wilson	Noted, updated map is in Chapter 2		
10	3-1	3.2	What is the expected zoning classification beyond 2020?	Wilson	Comment noted. This plan update used PSRC data for projections. We are unsure of the zoning classification as we used data prior to 2020 for our analysis.		
11	3-5	3.4	The newly passed HB1110 will allow multi-family units on most lots (especially those in King County). How will HB 1110 affect zoning and population projections within the District?	Wilson	Comment noted, this is not included in the existing sewer plan because it was passed after this plan was written. We will include if it has a significant impact in the future, however for this update it will not be addressed.		
12	3-6	3.5	In accordance with 173-240-050(3)(i), please provide the quantity, periods of production, and characteristics of these industrial users. It also seems that there may be other industrial users. King County's pretreatment program can likely provide you with a list of all industrial users in the district.	Wilson	City of Seattle and King County Public Health was contacted in order to get a list of industrial users within the District. That list was added into Section 3.5.		
13	3-6	3.5	The GSP does not mention any pretreatment devices. Does the District require any pretreatment devices, such as for restaurants, car washes, etc.? If they do require pretreatment devices for certain industries this should be mentioned in the GSP. Please expand this section to include more detail on policies and practices related to coordinating with King County's Industrial Waste Program to ensure industrial facilities receive appropriate pretreatment permitting.	Wilson	The following text has been added in section 3.6: The District does not require pretreatment devices as part of their standard details and specifications. The District does encourage homeowners and businesses to avoid pouring F.O.G. down the drain or into the garbage disposal. The District has included a section on their website with steps to prevent F.O.G. backup.		
14	3-6	3.5	Given that the last I&I study was conducted over 20 years ago. Why is there no plan for a new I&I study within this GSP?	Wilson	The following statement was added to section 3.5: "Staff every year look at sewer Lift Stations and record rain fall events (daily rain fall, monthly, etc) to see spikes of rain and look at sites 2-3 times a week. Based on the District's regular inspection and recordings of rain volume, The District believes this information justifies their decision to have not had another I & I study since 1999."		
15	4-5	4.2.3	There appears to be a pumps station in the north east corner the Three Tree basin (North of 156th street). What is the purpose of that pump station?	Wilson	The following statement was added into section 4.2.3: "Located in the Northeast area of the basin is a pump station that is owned and maintained by the District, however it is located on private property. The pump station services 4 of the properties in that area, whose residents opted to connect to public sewer."		
16	4-5	4.2.3	There appears to be a placeholder phrase "Legal boundary discussion" at the end of the section.	Wilson	A typo, it has since been removed from the text.		

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17			I don't understand the statement "This small basin is not associated with King County". It seems that this area is as much associated with KC as Val006. Please elaborate.	Wilson	Comment noted, the statement has been removed because the small basin is associated with King County.		
18	1-8	1.7.1	The general sewer plan must address the requirement of WAC 173-240-050(3)(h), which requires "A statement regarding provisions for treatment and discussion of the adequacy of the treatment." Although Ecology recognizes that the District does not own and operate a sewage treatment facility, it must still demonstrate in the general sewer plan the adequacy of treatment for all wastewater generated during the planning period. The plan must include sufficient discussion necessary to demonstrate that the District's agreements with King County will provide adequate treatment throughout the planning period. Please identify the capacity available to the District at the King County facilities for treatment and identify whether any agreements contain capacity constraints that may limit or otherwise constrain the city's ability to provide sewer service.	Wilson	See appendix F for what the District has for agreements. A paragraph has been added to section 1.7.1 discussing the capacity of treatment.		
19	5-1	5.2	The orange book is available on the Ecology website not DOH. Please update the first paragraph of this section accordingly.	Wilson	Chapter has been revised accordingly.		
20	5-4	5.5.6	Please elaborate on what programs and projects will be used to reduce I&I, reference to another section of the GSP would be acceptable.	Wilson	<p>The following text was included in Chapter 5. In 2007, an initiative was undertaken within the District, involving the rehabilitation of approximately 80 Manholes in the McMicken basin. This undertaking was tracked using the McMicken Pump Station logs, providing a comprehensive record of the project's performance. The endeavor proved successful over an extended period, delivering positive outcomes. However, recent winters have brought about a set of challenges for our field team stationed at that site. Despite the incorporation of new connections, it seems that this expansion alone may not be the root cause of the capacity issues. If the resurgence of Inflow and Infiltration (I&I) is the underlying issue, a plausible explanation could be the behavior of cementitious grout, which exhibits expansion and shrinkage as the seasons shift from wet to dry. It's worth noting that historical knowledge suggests that certain older grout products remained effective for around ten water table cycles, offering intriguing insight into the potential factors influencing the present challenges faced by the District.</p> <p>In efforts to combat the persistent challenge of I&I, the District has proactively adopted a strategy involving the installation of Pipe Patch 2' Cured-In-Place Pipe (CIPP) Liners. These specialized liners are strategically placed on joints exhibiting severe Inflow and Infiltration issues. Importantly, these problematic mainline faults are identified through the careful examination of Closed-Circuit Television (CCTV) footage, showcasing the District's commitment to employing cutting-edge methods for problem identification and resolution.</p> <p>In 2010, the District secured a loan from the Public Works Trust Fund (PWTF). This financial support facilitated the rehabilitation of</p>		
21	5-8	5.7.4	The first sentence seems to be repeated from the previous section.	Wilson	Comment noted, Chapter has been revised accordingly to remove repetition.		

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22	6-5	6.3	Recommended improvements to the existing plan were not presented in Chapter 3, please update reference.	Wilson	Comment noted, the text was updated to reference Chapter 5 instead.		
23	7-1	7.1	What alternatives were considered? Was sending flow from expanded sections to South Plant rather than SWSSD considered? To comply with 173-240-050(3)(k), more discussion of what alternatives were considered and why they were excluded is needed.	Wilson	The following statement was added into Section 7.1: "Different alternatives for sending flow from expanded sections are considered, specifically sending customers to Southwest Suburban Sewer District (SWSSD) and Midway Sewer District. If they were to switch to Midway, they would need to pay an Impact Charge. Along with this, Midway would need to service 200 residences in a short amount of time. Their system would possibly need upgrades in order to effectively service this amount of people. Possible connecting to SWSSD in order to save rate payers money in comparison to King County treatment, however that might not be feasible if gravity flow is not possible."		



King County

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Valley View Sewer District, 2023 General Sewer Plan (DRAFT)

Valley View Sewer District submitted a draft General Sewer Plan (“Plan”) for review by the King County Utilities Technical Review Committee (UTRC) on June 20, 2023.

Staff has reviewed the Plan for local statutory requirements and impacts on service to residents in the unincorporated county.

On July 19, 2023, the UTRC held a meeting to review the plan and provide comments to the applicant on the draft Plan. The UTRC requests the following changes and/or clarifications:

General Comments

- 1) Please include a discussion addressing any concern regarding corrosion and odor control, and steps being taken by the District to address. (KCC 13.24.010 H.4)
 - *Comment noted. The following statement was added into section 8.6.7: “Rate payers often communicate with the District when issues arise, and the District acts promptly in problem solving. Odor complaints, while infrequent, are treated with equal seriousness. The District has observed that such complaints are generally transient and often linked to specific tenant-related factors. Whenever these issues do arise, the District’s resourcefulness comes into play as it employs deodorizers within wet wells to mitigate any unpleasant odors. Moreover, the strategic design and operation of flows and lift stations contribute significantly to managing the potential for odors. These systems boast sufficient cycling, effectively minimizing the likelihood of odor-related complaints.*

In essence, the District’s proactive and collaborative approach to addressing challenges, along with its diligent use of effective odor-control methods, has resulted in a notably low occurrence of both corrosion and odor issues. This accomplishment reflects the District’s commitment to maintaining a high standard of service and its continuous efforts to ensure the well-being and satisfaction of its community.”
- 2) Please include a discussion addressing opportunities for reclaimed water. (KCC 13.24.010 H.5) Complete as part of the plan a checklist of informational questions regarding reclaimed water opportunities within the utility service area. See <http://www.kingcounty.gov/depts/dnrp/utilities-technical-review-committee.aspx>
 - *Comment noted. The District does not have their own treatment plant not provide water to its customers, therefore a Water Reclamation Checklist is not needed. The following statement was*

added to Chapter 8 of the plan: "The Valley View Sewer District operates as a vital sewer system serving its community, notable for its unique configuration. Unlike many other sewer systems, Valley View Sewer District does not possess its own dedicated treatment plant. Instead, it relies on established collaborative relationships with nearby treatment facilities, ensuring effective waste management and treatment processes. However, due to the specific nature of the District's operations, discussions regarding reclaimed water opportunities are notably absent from its current plan. Reclaimed water, which is treated wastewater that can be repurposed for non-potable uses like irrigation or industrial processes, isn't a central component of the District's agenda. This approach aligns with the District's concentrated focus on its core functions and reflects its commitment to fulfilling its primary role of efficient and responsible waste management. Therefore, reclaimed water is not discussed within this sewer plan."

- 3) The Plan should acknowledge all developments within UGA served by sewer unless on-site systems are temporarily allowed per KCC 13.24.136 and 13.08.070. (KCC 13.24.035)
 - *This information was added into the Executive Summary of the plan.*
- 4) Recognizing that there are unsewered areas within its service area, how many on-site septic systems exist within the District service area, and does the District have a proactive strategy to connect properties currently utilizing on-site septic systems.
 - *Presently, the District's service area accommodates a total of 1,618 on-site septic systems, serving as vital waste management components for the community. Recognizing the potential benefits of transitioning these sites to a centralized sewer system, the District is actively exploring avenues to effectuate this transformation. Nonetheless, the primary hurdle encountered is securing the necessary funding to undertake such a substantial endeavor. Undeterred by this financial challenge, the District remains resolute in its commitment to enhancing the sanitation infrastructure for its constituents.*

In pursuit of its goal, the District exhibits a proactive approach by diligently seeking out various funding opportunities. Among these avenues, grant applications play a crucial role in acquiring the requisite funds to facilitate the conversion from on-site septic systems to a more efficient and interconnected sewer system. This strategic initiative not only underscores the District's dedication to improving environmental and public health conditions but also signifies its resourcefulness in addressing complex infrastructural needs.

By consistently engaging with diverse funding prospects, the District is not only striving to address the immediate technological requirements but also exemplifying its strategic vision for the future. These efforts epitomize the District's unwavering commitment to fostering sustainable development and ameliorating the quality of life for the community it serves. Through the pursuit of funding opportunities and the subsequent transition to a comprehensive sewer system, the District embarks on a transformative journey that promises enduring benefits for both the environment and its residents.

Comments on Specific Sections of the Draft Plan

- 5) Section 3.5 Flow Projections. The text references previous studies and monitoring related to Infiltration and Inflow (I/I). These include an independent study conducted by the District as well as monitoring conducted through a regional program in 2002. In reference to the District's 1999 I/I monitoring, the draft Plan states the District's 1999 monitoring, "...indicates that currently I & I ranges from approximately 1,100 gpad in some basins to nearly 13,200 gpad..." in an individual sub-basin.

Recognizing that the District's monitoring is over 20 years old and impacts of climate change on rainfall events, how can the draft Plan state what the current I/I range is today? Is it more accurate to state that it assumed to be these rates? If so, the Plan should provide justification for this assumption.

- *Despite the fact that the most recent Inflow and Infiltration (I&I) study dates back to 1999, the District's commitment to monitoring its sewer Lift Stations remains unwavering. Annually, the dedicated staff diligently assesses these stations and meticulously records a comprehensive range of rainfall events, spanning daily and monthly periods, to discern any discernible spikes linked to precipitation. This meticulous data collection regimen is further reinforced by the District's proactive site visits, which are conducted 2 to 3 times per week, solidifying their dedication to maintaining a vigilant oversight.*

The District asserts that the continuous inspection of sewer Lift Stations and the meticulous documentation of rain volume collectively validate their rationale for not conducting additional I&I studies since 1999. This comprehensive data-driven approach serves as a testament to the District's commitment to efficiency and evidence-based decision-making.

By harnessing the valuable insights gathered through this systematic evaluation of rainfall events and the resulting impact on sewer infrastructure, the District substantiates its perspective that these regular assessments adequately address any potential I&I concerns. This approach not only highlights the District's prudent resource management but also reflects its dedication to adopting a pragmatic strategy that efficiently safeguards its sewer system and optimally serves the community it supports. This information was added into Section 3.5 of the plan.

- 6) Section 4.2.3 Three Tree Basin. The text acknowledges that there is an unsewered area outside of the District's corporate boundaries yet within its sewer service area. It further specifies the need to coordinate with the City of Tukwila to agree upon who should provide sewer service in an area north of the intersection of State Route 518 on the west side of Interstate 5. Has the District entered into any discussions with the City at this point in time to discuss sewer service to this area? If not, it would be beneficial to provide a timeline for this discussion in the Plan. It would also be beneficial if the Plan provided a discussion of what the process would be if a property owner approached the District asking for service for this area.

- *These properties are within Valley View's service area, however not annexed by the city. The District has tried to enter discussions about these unsewered areas with the City of Tukwila but there has been lack of response in order to move forward. The District is willing to provide service to these properties but with no response from the city, the property owners can be annexed by carrying a petition. Otherwise, these properties will continue to be unsewered unless response from the City occurs. This information was included in Section 4.2.3*

- 7) Section 4.2.4 Macadam Basin. The text acknowledges that areas within this subbasin are not within the District's corporate boundaries, however, it does not state if these areas are within its sewer service area. Please clarify. Additionally, the text references a need to coordinate with the City of Tukwila as these areas are within its municipal boundaries. When does the District anticipate approaching the City to begin discussions? Also, it may be beneficial if the Plan provided a discussion of what the process would be if a property owner approached the District asking for service to one of these unsewered areas.
- *Similar to the properties within the Three Tree basin, the District has entered discussions with the City but has yet to hear a response. The District is willing to provide service to these properties but with no response from the city, the property owners can be annexed by carrying a petition. Otherwise, these properties will continue to be unsewered unless response from the City occurs. This information was included in Section 4.2.4*
- 8) Section 4.2.7 South Park Basin. The text states, "The Duwamish West sub-basin includes the area along the westerly banks of the Duwamish River in the northern portion of the District. This small basin is not associated with King County...Wastewater from the basin flows southeasterly and is discharged to the King County Wastewater Treatment Division's system..." Please clarify what is meant by "...the basin is not associated with King County..." Is this statement meant to say that there is no unincorporated King County area within the subbasin as it is associated with King County as the sewer is discharged to the County's wastewater treatment system.
- *This text was a mistake, as the basin is associated with King County. The statement has been deleted.*
- 9) Section 4.2.7 South Park Basin. The text references a request by six homes located on South 104th to connect to the sewer system through a developer extension, however, the homes were not connected because it was determined to be too expensive. Please provide the reason why the homeowners made the request and clarify what component was too expensive for it to be a feasible project? (i.e. connection charges, sewer main extension). Also, who determined it was not feasible?
- *This text is outdated, and the properties have been connected to sewer. This text has been deleted from the plan.*
- 10) Section 5.5.6 Infiltration and Inflow. The text references previous studies and programs that the District participated in that monitored infiltration and inflow rates. The text states, "...basin-wide I/I rates range from approximately 1,100 gpad to greater than 2,500 gpad." While this represents a basin-wide average, it would be appropriate to note the I/I within sub-basins may go beyond 2,500 gpad as noted in Section 3.5 (Flow Projections). Or please clarify the different I/I ranges as referenced in Section 3.5 and this section.
- *Section 3.5 was noted and the text has been revised in Section 5.5.6: "The District's data and King County data for I/I monitoring at various locations throughout the District show that basin-wide I/I rates range from approximately 1,100 gpad to greater than 2,500 gpad. Sub-basins may go beyond 2,500 gpad as noted in Section 3.5."*
 - *We're monitoring, and when identified we video inspect, identify i&l, we can modify like pipe patch and seal manholes*
- 11) Section 5.5.6 Infiltration and Inflow. The text states, "Although it was assumed that I/I should be maintained at 1,100 gallons per day per acre in the systems analysis, the results from the various analyses indicate that some locations may require more attention than others." What is the District's basis/verification for assuming an I/I rate of 1,100? What may be the potential consequences if the I/I rate is greater than 1,100 gpad?

- *The assumption that I/I should be maintained at 1,100 gpad is frequently used industry standard. Inaccuracies in the I&I rate can lead to several outcomes, such as the failure to correctly pinpoint mainline segments experiencing capacity problems, improper prioritization of rehabilitation projects, and the potential for either insufficient or excessive funds collection through GFC Charges, which are crucial for financing projects outlined in the CIP.*

12) Section 5.5.6 Infiltration and Inflow. The text states, “The District will continue to develop other programs or projects in attempt to reduce I/I impacts.” This statement infers the District has already completed projects to reduce I/I impacts. Please list or describe what projects the District completed and provide any findings or any measurements of effectiveness of these projects in reducing I/I. Does the District have potential capacity projects identified/funded that would mitigate the consequences if the I/I rate is greater than assumed.

- *In 2007, an initiative was undertaken within the District, involving the rehabilitation of approximately 80 Manholes in the McMicken basin. This undertaking was tracked using the McMicken Pump Station logs, providing a comprehensive record of the project's performance. The endeavor proved successful over an extended period, delivering positive outcomes. However, recent winters have brought about a set of challenges for our field team stationed at that site. Despite the incorporation of new connections, it seems that this expansion alone may not be the root cause of the capacity issues. If the resurgence of Inflow and Infiltration (I&I) is the underlying issue, a plausible explanation could be the behavior of cementitious grout, which exhibits expansion and shrinkage as the seasons shift from wet to dry. It's worth noting that historical knowledge suggests that certain older grout products remained effective for around ten water table cycles, offering intriguing insight into the potential factors influencing the present challenges faced by the District.*

In efforts to combat the persistent challenge of I&I, the District has proactively adopted a strategy involving the installation of Pipe Patch 2' Cured-In-Place Pipe (CIPP) Liners. These specialized liners are strategically placed on joints exhibiting severe Inflow and Infiltration issues. Importantly, these problematic mainline faults are identified through the careful examination of Closed-Circuit Television (CCTV) footage, showcasing the District's commitment to employing cutting-edge methods for problem identification and resolution.

In 2010, the District secured a loan from the Public Works Trust Fund (PWTF). This financial support facilitated the rehabilitation of approximately 200 stubs extending from the mainlines to property boundaries. The primary goal of this initiative was to mitigate the I&I issue. In preparation for this undertaking, the District conducted multiple TV surveys of the mains, revealing that the mainlines were not the source of the I&I. Contrary to this, the flow monitoring data consistently indicated the presence of I&I. To accurately pinpoint the source, the District conducted smoke testing within the basin, leading to the revelation that Inflow and Infiltration originated from privately owned side sewers. This revelation was pivotal in guiding the District's decision to replace over 200 stubs, effectively addressing the identified points of I&I ingress. It's important to acknowledge that while these efforts have yielded promising results, the availability of dependable post-project flow monitoring data remains uncertain, emphasizing the ongoing need for comprehensive and accurate assessment.

13) Section 6.2.2.2 Infiltration and Inflow. The text states, “...In order to accurately estimate I & I within the sub-basins, a number of sub-basin characteristics are considered...Based on this information, average I & I was adjusted for each sub-basin and considered in the analyses. I & I ranged from 1,100 per acre per day (in accordance with The District's contract with King County) to a small area of the Rainier Vista Basin where I & I rates are thought to be in excess of 13,200 gallons per acre per day

(gpad). The weighted average of I & I in the District at the present time is estimated at just over 2,500 ... it is noted that if the District were able to reduce I & I in the... area where it currently exceeds 13,000 gpad, the District-wide average could be reduced to less than 2,000 gpad” The reference to the contracted I/I rate of 1,100 gpad with King County reads as if the contracted rate is a base assumption

Using existing data from before, no new I/I study for this plan. This is what the District is doing to decrease I/I. Grouting inside manholes, for areas that are known to have less severe faults where infiltration is seeping into joints, identified and part of comp plan (goal to get rid of older pipes), KC monitors outfall. VVSD aware that I/I exists and collectively make efforts to monitor and improve the most severe faults for the analysis. Is this correct, and if yes, is there evidence beside the 1999/2002 studies that provide a basis for this assumption? As this text references the possibility of reducing the District-wide average to 2,000 gpad if the assumed high I/I rate within the Rainier Vista Basin was reduced, what efforts are being pursued to reduce the I/I rate in this sub-basin. How would the District know if the I/I rates are reduced if a monitoring program is not established? Please clarify in the text.

- *Comment noted. While there has not been a formal I&I study since 1999, I&I rates are regularly monitored. Staff every year look at sewer Lift Stations and record rain fall events (daily rain fall, monthly, etc) to see spikes of rain and look at sites 2-3 times a week. Based on the District’s regular inspection and recordings of rain volume, The District believes this information justifies their decision to have not had another I & I study since 1999. This information was added into Section 3.5 of the plan.*

14) Section 6.2.2.3 Pattern of Usage. This section goes into detail about the modeling of the peak flows., however, it is not clear if there was any field monitoring or verification of these peaks. Please clarify.

- *This statement was added to section 6.2.2.3: “It is important to note that while there has been flow monitoring in the past, there has not been recent monitoring done to confirm peak flows that are shown within the hydraulic model.”*

15) Section 7.2 Recommended Improvement. The text states, “Regular renewal and replacement projects have primarily been identified by review of pumping and I & I flow monitoring records provided by the District. Although Valley View has remained at the forefront of reducing I & I...continued flow monitoring by the District remains a key element for identifying future improvement projects...The District moves flow meters and conducts manual and video inspections upstream until those pipes contributing the most I & I can be pinpointed. Video inspections assist both in the identification of which pipes require replacement or rehabilitation and in determining the best construction technology for the project...” Previous sections that discussed I/I continually referenced two studies (1999 and 2002) in which the I/I assumptions were based. This section now states that the District uses I/I flow monitoring records to determine renewal and replacement projects. Are these referenced monitoring records derived from the previous studies or are they from more recent monitoring? While the text indicates that the District is proactively addressing I/I rates, the previous sections don’t list or describe any projects constructed or any measurements of effectiveness in the reduction of I/I. It may be beneficial to move some of the text under this section to previous section(s) that address I/I.

- *The following text has been added to the Section 3.5 to address this concern:*

Despite the fact that the most recent Inflow and Infiltration (I&I) study dates back to 1999, the District's commitment to monitoring its sewer Lift Stations remains unwavering. Annually, the dedicated staff diligently assesses these stations and meticulously records a comprehensive range of rainfall events, spanning daily and monthly periods, to discern any discernible spikes linked to precipitation. This meticulous data collection regimen is further reinforced by the

District's proactive site visits, which are conducted 2 to 3 times per week, solidifying their dedication to maintaining a vigilant oversight.

The District asserts that the continuous inspection of sewer Lift Stations and the meticulous documentation of rain volume collectively validate their rationale for not conducting additional I&I studies since 1999. This comprehensive data-driven approach serves as a testament to the District's commitment to efficiency and evidence-based decision-making.

By harnessing the valuable insights gathered through this systematic evaluation of rainfall events and the resulting impact on sewer infrastructure, the District substantiates its perspective that these regular assessments adequately address any potential I&I concerns. This approach not only highlights the District's prudent resource management but also reflects its dedication to adopting a pragmatic strategy that efficiently safeguards its sewer system and optimally serves the community it supports.

16) Appendix A – SEPA Checklist. Has the District issued an environmental review determination. Please include in the appendix for the final plan.

- *Yes, it is now included in the appendix.*

The King County UTRC thanks you for the opportunity to review and comment. Please contact me at (206)263-3733 or dcardwell@kingcounty.gov if you have any questions.

Dan Cardwell

7/20/23

Dan Cardwell, Chair of the King County Utility Technical Review Committee

Date

