



City of Stevenson

Public Works Department

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TO: City Council
FROM: Carolyn Sourek
DATE: August 29, 2022
SUBJECT: Goodman Annexation Request (ANX2022-01) – Public Works Analysis

Introduction

A Notice of Intent to Annex (tracking number ANX 2022-01) was received by the City of Stevenson on June 30, 2022. As part of the City review of Annexation requests, the Public Works Department evaluates impacts to City infrastructure, including streets, and water, wastewater, and stormwater systems. This may include access to City owned and operated collection, distribution, and/or treatment systems, as well as identifying any infrastructure currently out of compliance with Stevenson Engineering Standards and/or Municipal Code. With any additional area added to the City limits an additional need for utility services, and potential for associated construction and maintenance of new infrastructure may be recognized.

This memo evaluates three scenarios (Figures 1 thru 3) as part of this annexation request:

1. Parcel 03073610100000 Only
2. Parcels 03073610100000 and 03073610210000
3. Greater Vicinity

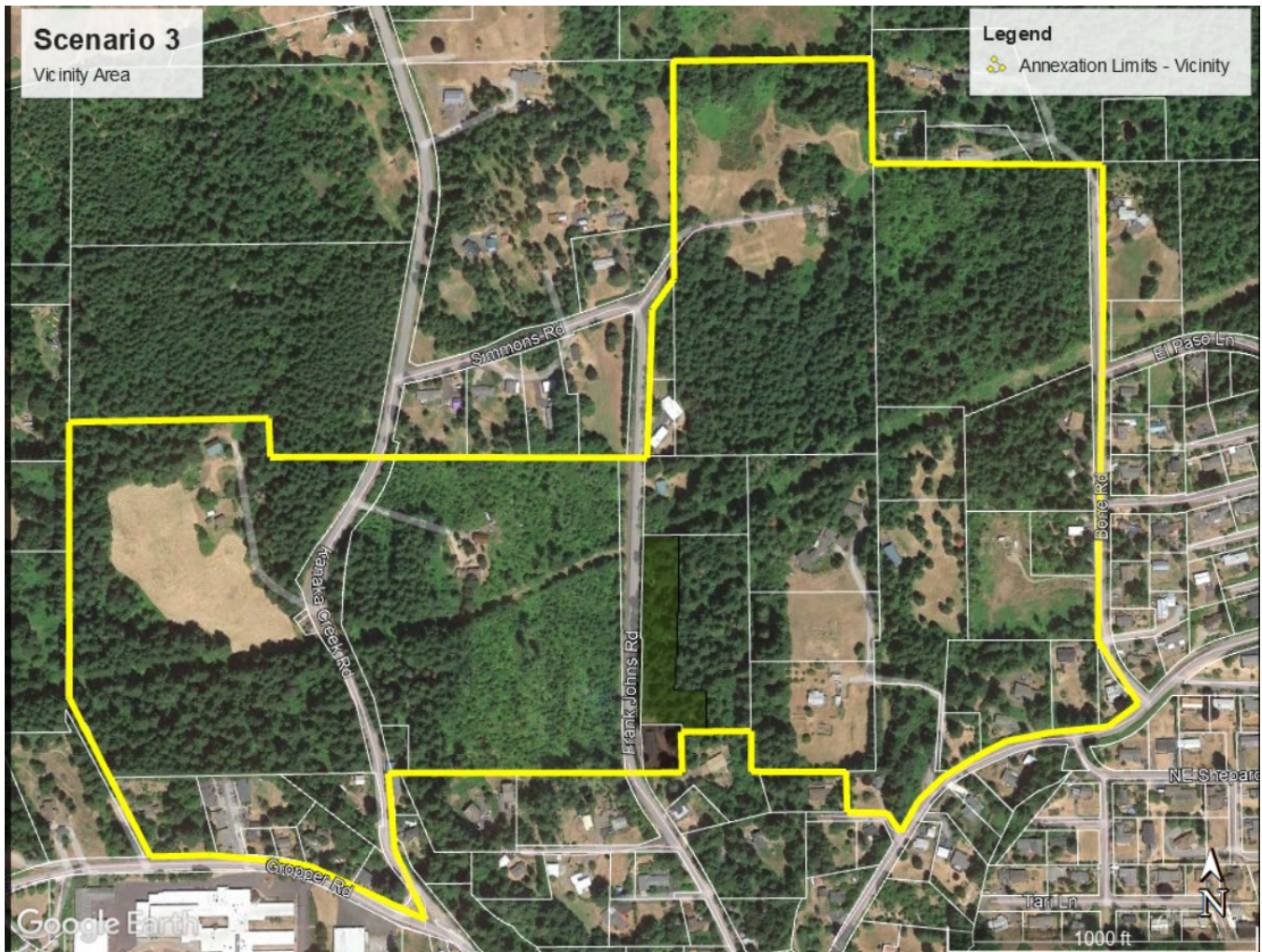


Figure 3 – Scenario 3 – Greater Vicinity

Public Works Infrastructure Analysis

Streets

The City of Stevenson owns and maintains approximately 17.21 miles of street within the city limits. Table 1 Street Mileage part of the Public Works Analysis identifies additional street mileage which would be acquired, given the three scenarios described in the introduction.

Table 1: Additional Street Mileage Acquired by Scenario

Additional Street Mileage					
Scenario	Frank Johns Road	Kanaka Creek Road	Bone Road**	Guide Meridian Road	Total
1	0.15	0	0	0	0.15
2	0.15	0	0	0	0.15
3*	0.28	0.21	0.34	0.1	0.93

* Assume Cheri Lane and Quoss Road remain private

** One half of Bone Road would be acquired as one half is currently within City ROW

An analysis of subject streets in Scenarios 1 through 3 was completed. Table 2 (next page) provides a summary of how existing widths for total pavement, driving lane, parking lane, sidewalk, and planter strips comply with Stevenson Engineering Standards. Though these streets may also not be in compliance within the city limits, it is worth noting that acquisition of these streets only adds to the total street mileage to be brought, with City funding, up to the identified minimum standard.

Subject streets were not evaluated against other engineering criteria in the standards, such as horizontal and vertical alignment, transitions, intersections and curb returns, or sight distances. They were also not evaluated for minor frontage improvements, such as mailbox or addressing compliance, illumination, guardrails, and any other ancillary street structures.

The Stevenson Engineering Standards also provides requirements for surfacing (street pavement structure). Though the specific depths and materials used to surface the subject streets was unknown at the time of this analysis, the condition of these streets were evaluated. In 2022, the City hired a third-party consultant to evaluate pavement surface conditions per ASTM D6 Pavement Condition Index (PCI) standardized procedures. Table 3 provides PCI for subject streets.

The City of Stevenson overall PCI index average is 75. The acquisition of the streets in question would likely not negatively impact the City’s overall PCI rating.

Table 3: Pavement Condition Index for subject streets

Street*	Pavement Condition Index (PCI)*
Frank Johns Road	(70-80)
Kanaka Creek Road	95
Bone Road	97
Guide Meridian Road	(60-70)

*For streets evaluated as more than one segment, a weighted average is provided

**Where a range is provided, the street was not evaluated as part of the StreetScan evaluation

Table 2: Width Compliance Summary

Street		Frank Johns Road	Kanaka Creek Road	Bone Road	Guide Meridian Road
Functional Classification		Minor Collector	Major Collector	Minor Collector	Local
Stevenson Engineering Standards Width Analysis	ROW (ft) Current [Standard]	40 [60]	60 [60]	unknown [60]	unknown [50]
	Total Pavement Width (ft) Current [Standard]	24 [38]	30 [46]	30 [38]	15 [28]
	No. of Drive Lanes Current [Standard]	2 [2]	2 [2]	2 [2]	1 [2]
	Width of Drive Lane (ft) Current [Standard]	11 [11]	12 [11]	11 [11]	NA [10]
	No. of Parking Lane Current [Standard]	0 [2]	0 [2]	0 [2]	0 [1]
	Width of Parking Lanes (ft) Current [Standard]	None [8]	None [8]	None [8]	None [8]
	No. of Sidewalks Current [Standard]	0 [2]	0 [2]	0 [2]	0 [1]
	Width of Sidewalks (ft) Current [Standard]	None [6]	None [6]	None [6]	None [6]
	No. of Planter Strips Current [Standard]	0 [2]	0 [2]	0 [2]	0 [1]
	Width of Planter Strips (ft) Current [Standard]	None [-]	None [-]	None [-]	None [3]

Water

Water is supplied to the City via three surface waterways – Cedar Creek, Labong Creek, and Rock Creek. Additionally, the City owns and operates during emergency conditions, a groundwater well. Source water is routed to the Water Treatment Plant (WTP) for filtration and disinfection prior to distribution. The WTP processes between 200 and 600 thousand gallons per day, depending on season and demand.

The City water system, comprised of four reservoirs and many miles of distribution piping, is broken in three pressure zones – 1, 2, and 3. This annexation would propose to add demand to the High Reservoir Zone. Water models developed and calibrated during the 2016 Water Plan Update indicate a deficiency in this zone, which would need to be addressed prior to full development of all addition parcels within the annexation area.

Of the 26 parcels, approximately 15-20 parcels currently have access to City water. Water is supplied via main lines down Kanaka Creek, Frank Johns, and Bone Roads. Additionally, landowners accessing their properties from Guide Meridian Road also have a small, dead end lateral water main supply. To provide service to all parcels and potential future parcels, additional water lines would need to be added, as well as potential adjustments to the supply.

The majority of the water system within the annexation area is either ductile iron or plastic, however the main line down Bone Road is still asbestos concrete (AC). Replacement of AC pipe is a priority of the department. A capacity analysis was not completed as part of this analysis. It is possible that, if all parcels within the annexation area are divided to the maximum allowable density, additional upsizing will be required of the distribution systems as well as the source.

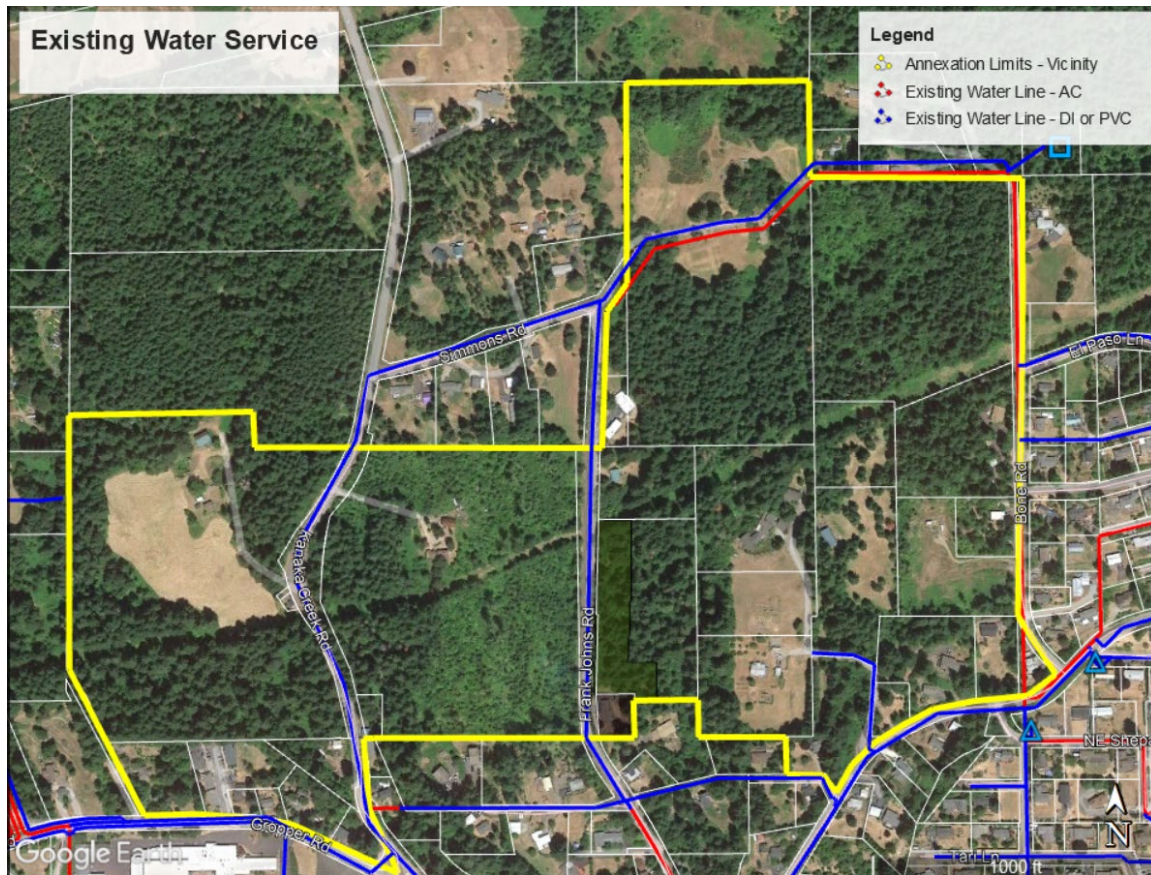


Figure 4 – Existing Water Service

Stevenson Engineering Standards indicate fire hydrants shall be placed at every intersection and within 700 feet of another. By these standards, two fire hydrants are required along Bone Road, and another two along Frank Johns Road. Additional hydrants may be required dependent on how parcels are divided or developed.

Sewer

The City sewer system does not extend to the annexation limits. No parcels are serviced by City sewer infrastructure. A sewer system capacity analysis for a full build out scenario was not completed as part of this analysis, however it appears without question that substantial investment would be required to extend sewer to these parcels indicated as part of this annexation. Almost 2000 feet of sewer main is required to extend service to the extents of the subject parcel independently.

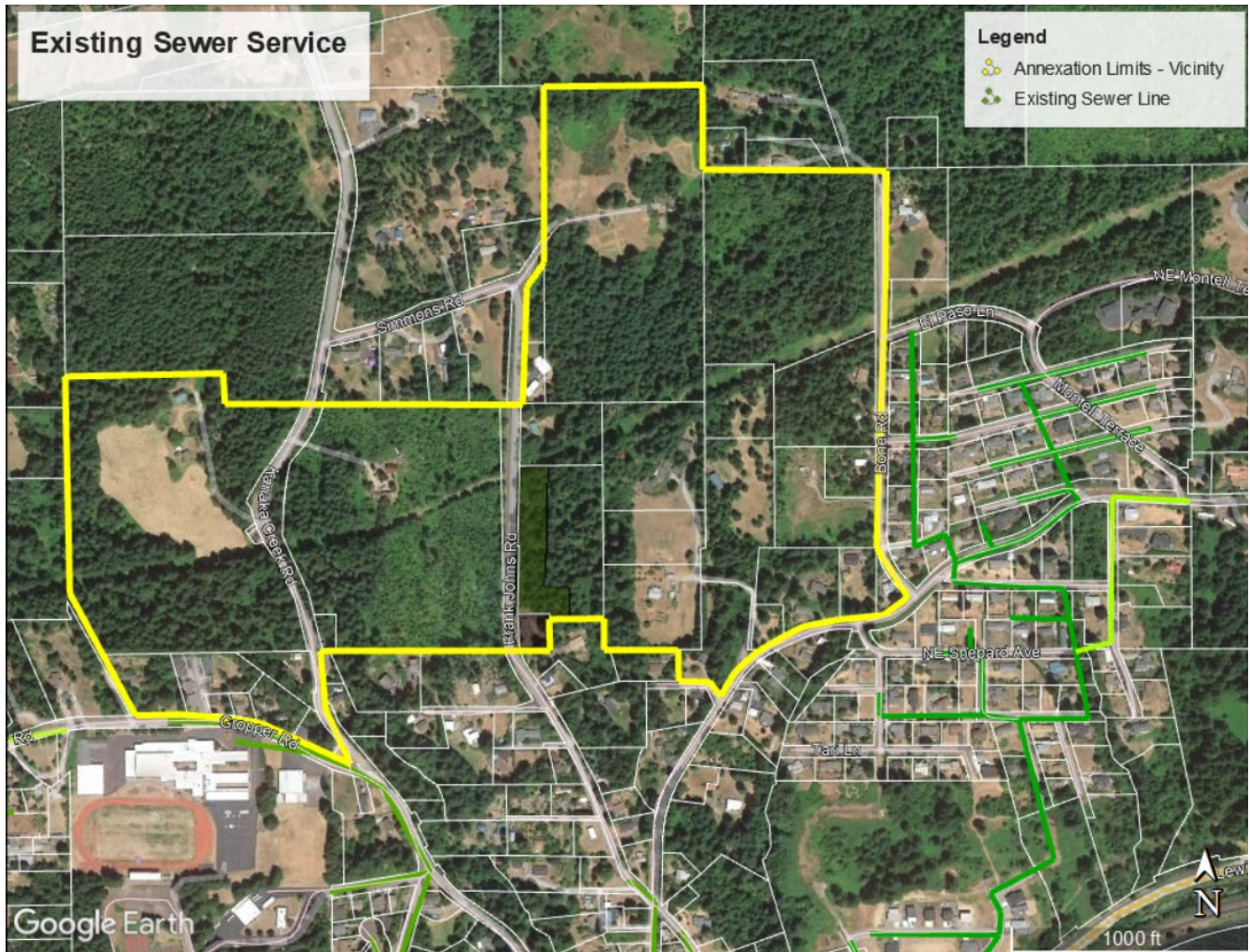


Figure 5 – Existing Sewer Service