



January 3, 2022

Juniper Avenue Subdivision Impact Study-Revised

Introduction:

Per Warrenton Municipal Code, Section 16.208.050.B.2.e requirement for all Type III applications, the applicant prepared an impact study that was submitted with the land use application. In response to the construction plan review comments the applicant has revised the Impact Study as requested.

The applicant is proposing to develop 12 attached single family lots accessed by Juniper Ave. A preliminary plat, grading plan, and utility plans are included in this submittal.

Transportation:

Due to the small number of proposed units, this development should have no significant impact on the City's transportation system.

A Traffic Impact Study was already determined by City staff during the land use approval episode to not be required.

Addressing items in WMC Section 16.256.030 regarding when a traffic impact study will be required.:

1. *An increase in site traffic volume generation by 300 average daily trips (ADT) or more; or*

The total trips per day using the commonly accepted 10 trips per day per household would result in 120 trips per day which is significantly less than the 300 trips per day that would trigger a Traffic Impact Study per the WMC section 16.256.030.

2. *An increase in ADT hour volume of a particular movement to and from the state highway by 20% or more; or*

The proposed development will not increase the ADT volume from a State Highway by more than 20%.

3. *An increase in use of adjacent streets by vehicles exceeding the 20,000 pound gross vehicle weights by 10 vehicles or more per day; or*
4. *The location of the access driveway does not meet minimum sight distance requirements, or is located where vehicles entering or leaving the property are restricted, or such vehicles queue or hesitate on the state highway, creating a safety hazard; or*

5. *A change in internal traffic patterns that may cause safety problems, such as back up onto the highway or traffic crashes in the approach area. (Ord. 1225 § 13, 2019)*

Access to the site will be from Juniper Avenue which is classified as a minor collector in the Transportation System Plan dated January 2019 by DKS Associates.

No bikeways are proposed, but the proposed roadway will provide bike access as on other local streets within the City.

Drainage System

Negligible impact to the areas drainage system are anticipated. This site is underlain by pervious silty sand. An existing storm water pipe and outfall located on the north side of the property will be abandoned. Incoming flows from the existing catch basins in Juniper Avenue and from the new site will be piped through the development and discharge to similarly as before to the wetland areas on the east side of the development and eventually into the Alder Creek drainageway. The Warrenton Stormwater Management Plan (2008, HLB-OTAK) did not list any deficiencies in this drainage basin or propose any capital improvements.

The proposed stormwater system is discussed in further detail in the Stormwater Report included in this plan submittal.

Parks:

The proposed development will have negligible impacts, positive or negative, to the City's parks. Given the current population of Warrenton is around 5700 people and this development will house an estimated 48 people (an average of 4.0 people per home), it could be expected that the City's parks would see around an estimated 0.8% increase in use. In terms of level of service (LOS), according to the 2020 Parks Master Plan update the City has 41.6 acres of parklands, and a LOS of 7.63 acres/1,000 people. The decrease in LOS from an additional 48 people would be a negligible 0.061 acres/1,000 people resulting in an estimated LOS of 7.57. Per the Master Plan, the recommended LOS is 6.25 to 15.0.

It should be noted that the Parks Master Plan also considers anticipated growth such as provided by this project and also anticipated increase in tax revenues with increased population to help offset the impacts of increased costs for parklands with additional use.

Water System:

No concerns about impacts to the water system have been raised by City staff. The new development will be served by a looped 12-inch line in Juniper Avenue. While not verified by the City's hydraulic modeling, it is currently reasonably assumed that more than adequate fire flow is available. This will be verified by hydrant flow testing after the hydrant is installed. Extension of the City's water system is proposed into the subdivision in the proposed roadway.

The July 2018 Water Master Plan (WMP) by Murray Smith and Associates does not mention any system deficiencies in the vicinity of the project site. In terms of impact to whole system, the estimated flow rates would increase by approximately 0.5 percent. See flow calculations in the table below.

Item	Amount	Units
Number of units	12	
Estimated Population	48	
Water Usage Per Capita (per 2018 WMP)	128	gpcd
Average Day Flow Generation	6,144	gpd
Average Day Flow Generation	.006	mgpd
System Wide Average Daily Demand (per 2018 WMP)	1.2	mgd
Percent Increase	0.5%	

gpcd = gallons per capita per day
 gpd = gallons per day
 mgd = millions of gallons per day

Sanitary Sewer System:

Anticipated flows from this development were estimated as follows.

Item	Amount	Units
Number of units	12	
People per Unit	4	
Estimated Population	48	
Sewage Flow Rate Per Capita (per Section 4.1, Warrenton Design Standards)	120	(gpcd)
Average Flow Generation	5,760	(gpd)
Peaking Factor (range of 1.4-4 per DEQ OAR52 APP-A)	4	
Peak Flow	23,040	(gpd)
Peak Flow	16	gpm

The current capacity of the City’s wastewater treatment plant and resulting increases in flow due to this development are presented in the table below. Plant capacities are as

reported in the September 2018 Plant Capacity Evaluation Update by Kennedy/Jenks Consultants).

Parameter		Plant Capacity (MGD)	Project Estimated Additional Flows (MGD)	Percent Increase in Flows
Flow	Max Day	2.3	0.023 (peak flow of 23,040 gpd from above)	0.39%
	Annual Average	1.1	0.0058 (Average Flow generation of 5,760 gpd from above)	0.52%

Sewage loadings (BOD and TSS) are not anticipated to be substantially different from typical residential sewage.

Noise Impacts:

There is no reason to expect that noise impacts for this residential development will be different than for other multi-family developments in the City. Temporary impacts to noise in the vicinity of the project will occur during construction.

(End Impact Study)