

The much larger size and significantly higher flows in the Columbia River could provide a much greater ability to meet applicable water quality standards at the limits of the acute and chronic mixing zones. However, the water quality evaluation completed in Section III of this report shows that water quality standards can be met in the Lewis River for dry weather wastewater flows (or an effluent discharge flowrate) of up to 2.2 MGD. Figure VII-2 also identifies the Caples Road/Columbia River site as Alternative WWTP Site No. 2A and shows its location.

Another option that can be evaluated in greater detail if the City decides to pursue relocating the WWTP is construction of the plant at any point along Caples Road. Treated effluent from the WWTP would be pumped to a new outfall constructed in the Columbia River through twin 12-inch forcemains. The forcemains would be constructed within the Caples Road right-of-way. Figure VII-2 shows one general area for siting a new WWTP along Caples Road and identifies it as Alternative WWTP Site No. 2B. The site shown in the figure is located within the City's Urban Growth Boundary. From a technical standpoint a WWTP could be constructed at any point along Caples Road if a large enough piece of ground could be obtained. It is recommended that at least five acres be obtained if the City decides to pursue re-locating the WWTP.

If the WWTP is relocated to a site along Caples Road, the capital cost for the project will be significantly increased when compared to increasing treatment capacity at the existing WWTP site. This is due to the cost of the pump stations and forcemains that will be required to deliver the wastewater to the treatment plant site and then to pump the treated effluent to the Columbia River. If a WWTP is constructed adjacent to the Columbia River, effluent may be discharged to the river without pumping (depending on outfall design and river stage fluctuations). With the treatment plant located adjacent to the river, the following infrastructure will be required to deliver the wastewater to the new WWTP and discharge the treated effluent to the Columbia River:

1. Raw wastewater pumping station to be constructed at the existing WWTP to pump all the City's existing wastewater to the new plant site.
2. Approximately 15,000 linear feet of twin 12-inch diameter forcemain pipelines to transport the wastewater to the new plant site.
3. A new outfall diffuser will need to be constructed in the Columbia River to discharge treated effluent.

If the WWTP is constructed along Caples Road such as the location shown for Alternative WWTP Site 2B, an effluent pump station will need to be constructed as well as all of the above infrastructure.

Utilizing the existing plant site for the upgraded WWTP will require additional land and major revisions to the existing dike which protects the site from flooding. Figure VII-3 shows the additional land and modifications that will be required at the existing site regardless of whether the existing SBC treatment process is expanded or a new SBR treatment process is constructed.

Since Alternative Site No. 1 is not large enough for siting a WWTP facility and it will cost an \$6.8-8.75 million, in addition to estimated WWTP capital costs, for pump stations and forcemains to convey the community's wastewater to Alternative Site 2A or 2B (including contingency, sales tax, engineering, administration, legal, and construction management), it is recommended that additional land (at least 2 acres) be purchased at the existing WWTP site and that the existing dike be reconstructed to provide land for plant expansion.