Appendix O Wastewater Generation Data

Appendices

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Kimley»Horn

MEMORANDUM

To: Jim Rogers
Senior Construction Manager
Chaffey College

From: David Luzuriaga, P.E.
Renee Chuang, P.E.
Kimley-Horn and Associates, Inc.

Date: April 13, 2021

Subject: Chaffey College-Preliminary Wastewater Generation Rate Estimation

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Dear Mr. Rogers,

Kimley-Horn is aiding with the civil design and planning for the future Chaffey College satellite location in the City of Fontana. It was identified that a housing development to the south of the future college will be installing sewer main for the housing development and future developments- including Chaffey College- along Sierra Avenue north of Jurupa Avenue. The developer and the City of Fontana reached out to Chaffey College for preliminary wastewater generation flow rates from the future college to adequately size the sewer main to avoid installing a dual sewer main in the future. Kimley-Horn has been tasked with providing conservative, un-peaked wastewater flow rates based on planning level information.

The future Chaffey College satellite location is expected to have various types of building uses, including but not limited to Class Labs, Library Studies, Classrooms, Assembly halls, Offices, General Use, Physical Support Buildings, and Student Health Centers. While there are some preliminary square footages for each building use, Chaffey College is still in a high level planning phase and may need to make significant adjustments in the future. As a result, the building square footages were not used for estimating wastewater generation flow rates. The college does have a reasonable estimate of total students and staff. As a result, the number of students and employees were used to provide a conservative wastewater generation rate. It is expected that there will be approximately 5000 students and 1000 full time employees. Kimley-Horn applied a wastewater generation rate from the Metcalf and Eddy "Wastewater Engineering Treatment Disposal and Resource Recovery," 5th Edition to each student or employee at the college. The wastewater generation rate is based on the typical daily water use per student. The conservative, un-peaked flow was estimated as 0.21 cubic feet per second (cfs). Calculations and assumptions are provided in **Table 1**.

Table 1. Wastewater Generation Rates

Users	Quantity	Generation Rate (gal/unit-day)	Gallons Generated per day
Employees	1000	23	23,000.00
Students	5000	23	115,000.00
		Total	138,000.00
		0.21	cfs

Source: Metcalf/Eddy Wastewater Generation Rates-5th Edition. Table 3-4