Appendix L2

Sewer Service Analysis

DEXTER WILSON ENGINEERING, INC.

WATER • WASTEWATER • RECYCLED WATER

CONSULTING ENGINEERS

YARDS AT THE BAY
ROHR WOHL SPECIFIC PLAN
SEWER REPORT
CITY OF CHULA VISTA

August 21, 2023

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YARDS AT THE BAY
ROHR WOHL SPECIFIC PLAN
SEWER REPORT
CITY OF CHULA VISTA

August 21, 2023

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Attention: Michael Knapton, Project Manager

Subject: Yards at the Bay/Rohr Wohl Specific Plan Sewer Report

Introduction

This letter report provides a sewer study for the Yards at the Bay project also known as the Rohr Wohl Specific Plan project. The purpose of this report is to supplement and complement the environmental documentation being prepared for this redevelopment site relative to sewer service.

The Rohr Wohl Specific Plan project site is 44.78 acres located in the City of Chula Vista, California. The site is in the northwest portion of the City; the project site is located west of Interstate 5, north of H Street, south of G Street, and east of Marina Parkway. Figure 1 presents a vicinity map showing the location of the project site.

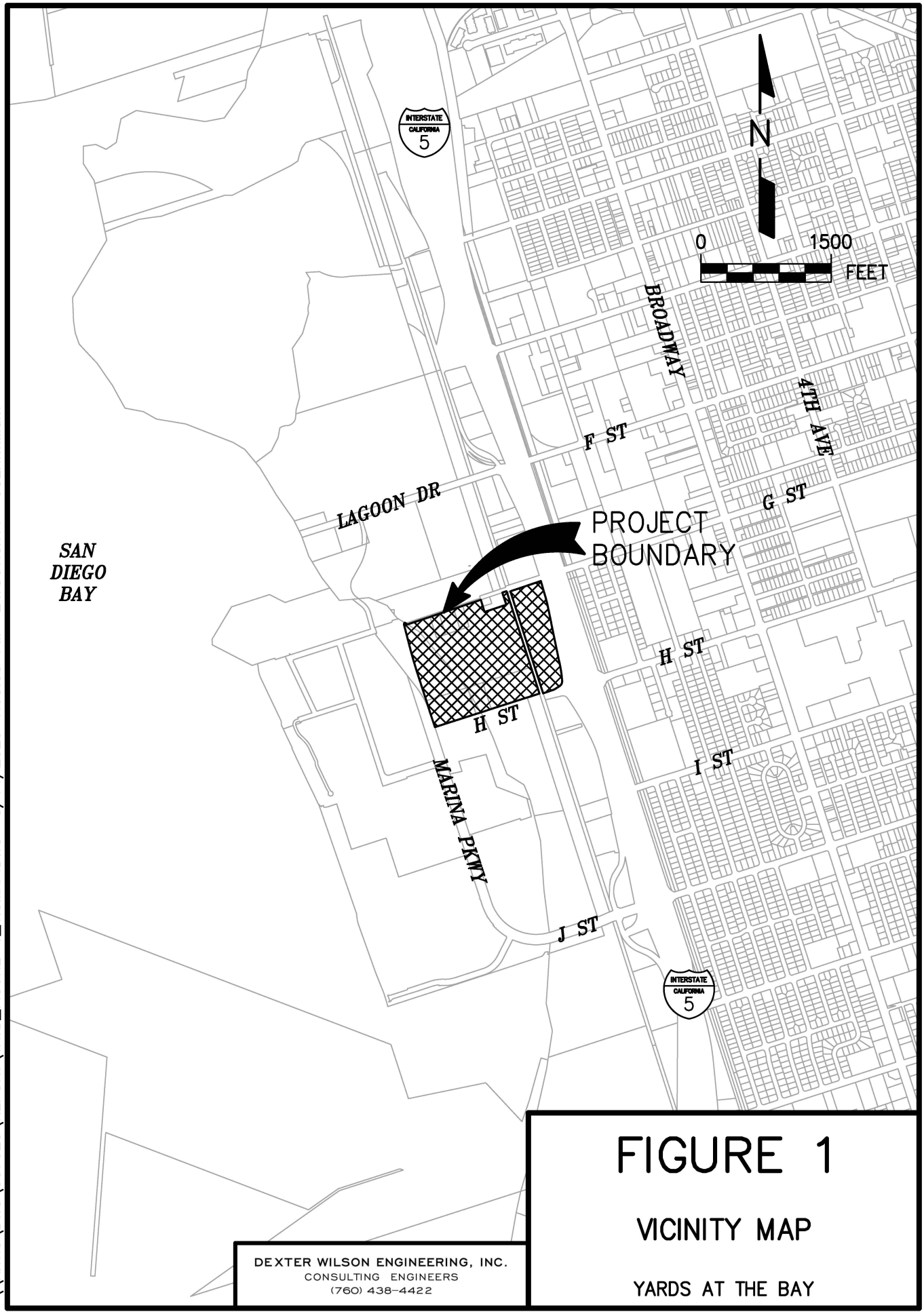

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FIGURE 1

VICINITY MAP

YARDS AT THE BAY

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Background

The project site is divided into three separate planning areas. The eastern portion of the project site, closest to Interstate 5, between G Street and H Street, is designated as Planning Area A and is 9.29 acres. The largest planning area is Planning Area B-1, which is 26.13 acres. The third planning area is Planning Area B-2, which is located south of B-1 and is 9.36 acres. Figure 2 shows the site plan and the three planning areas.

The subject property consists of developed land occupied by the former Rohr Aircraft Facility. The site was developed with several industrial buildings historically used for manufacturing, warehousing, research and development, and related office uses totaling approximately 1,048,841 square feet. One of the industrial buildings in Planning Area A, known as Building 29 at 795 H Street, was used for research and development, tooling, and warehousing and distribution of aftermarket products until February 2021. Renovations of that building commenced in 2021, including removal of approximately 50,000 square feet of interior mezzanine office space.

Planning Areas B-1 and B-2 were used for manufacturing operations which ceased in approximately 2020. Demolition of the buildings in Planning Areas B-1 and B-2 (totaling approximately 766,837 square feet) commenced in May 2023 in connection with environmental remediation of the site.

Land Uses

Planning Areas A, B-1, and B-2 of the project site are located within the Chula Vista Bayfront Local Coastal Program and currently lie within the General Industrial (I) Zoning and Industrial (I) General Plan land use designations. Land uses in the vicinity of the project site include vacant properties, Collins Aerospace, and Seven Mile Casino to the north; Marina, Chula Vista Harbor, and future development as part of the Chula Vista Bayfront Master Plan to the south; Bay Boulevard and Interstate 5 to the east; and Chula Vista RV Resort and future development site for the Gaylord Pacific Resort Hotel and Convention Center to the west.

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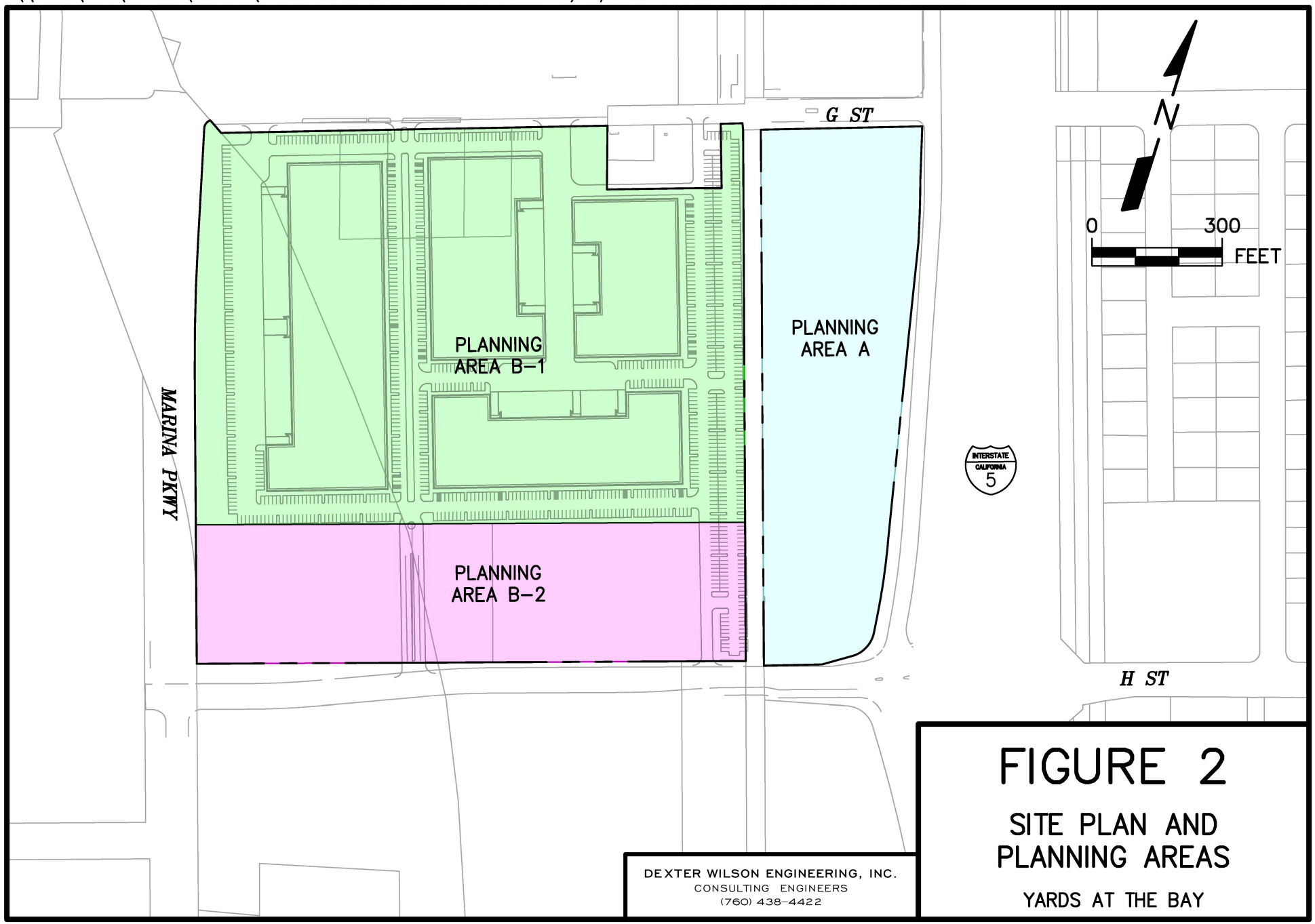

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FIGURE 2

SITE PLAN AND PLANNING AREAS

YARDS AT THE BAY

Table 1 below summarizes the proposed land uses for the Yards at the Bay site. These land uses will be presented as changes to the current General Industrial Zoning and Industrial General Plan land use by way of the Rohr Wohl Specific Plan document.

TABLE 1
PROPOSED LAND USES FOR PLANNING AREAS

Planning Area	Specific Plan Land Use	Acreage
A	Business Park Flex	9.29
B-1	Regional Technology Park/Light Industrial/Commercial Office	26.13
B-2	Commercial Retail/Commercial Visitor/Commercial Office	9.36

Presently Planning Area A is undergoing renovation and is on a separate track for occupancy of its space. This report will not address sewage generation for Planning Area A but will focus on Planning Areas B-1 and B-2.

Existing Sewer System

Sewer service to the Yards at the Bay site will be provided by the City of Chula Vista. Figure 3 shows the existing sewer facilities in the vicinity of the project site. The City of Chula Vista public sewer system includes an 18" sewer line within Planning Area A, a 12" sewer line in G Street along the north side of the site, a 10" force main in G Street, and a 10" sewer line in Marina Parkway on the west side of the site. The onsite private sewer lines, laterals, and connection locations are in design development for the project.

These existing sewer lines are within the City of Chula Vista sewer system and are connected to the existing 78" San Diego Metro Interceptor Sewer line within Bay Boulevard. The existing sewer lines connect into the City of Chula Vista's CV-3 meter which monitors flows going into the Metro line.

LEGEND

PROJECT BOUNDARY

EXISTING PUBLIC SEWER

EXISTING FORCE MAIN

N

0 300 FEET

EX.21"
EX.24"
CV-3 METER STATION
EX.78" (METRO)
EX.8"
EX.18"
EX.21"
EX.27"
EX.10"
G ST
EX.12"
EX.12"
EX.12"
EX.12"
G STREET LIFT STATION
EX.15"
EX.10"
EX.10"
EX.10"
EX.10"
EX.10"
EX.8"
BAYSHORE BIKEWAY
EX.8"
EX.8"
EX.8"
EX.8"
EX.10"
EX.10"
EX.8"
MARINA PKWY
H ST
PROJECT BOUNDARY
EX.18"
EX.78" (METRO)
EX.18"
EX.18"
EX.78" (METRO)
EX.18"
EX.21"
EX.15"
EX.15"
EX.21"
EX.21"
INTERSTATE CALIFORNIA 5
H ST

\\ARTIC\DWG\537023\REPORT\SEWER\YATB_SWR_FIGURE-3_EXSEWER.DWG 8/18/2023 4:04:59 PM LAYOUT:11x17 USER:William

FIGURE 3

EXISTING SEWER SYSTEM

YARDS AT THE BAY

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City of Chula Vista Sewer Design Criteria

Sewer system analyses criteria are based on the *City of Chula Vista Wastewater Collection System Master Plan*, dated May 2014. This master plan has sections used for design and evaluation of new and existing public gravity sewer lines and design of and evaluation of new and existing public force mains. A summary of the design and evaluation criteria from the Master Plan is presented in Table 1 below.

TABLE 1
CITY OF CHULA VISTA
SEWER SYSTEM DESIGN CRITERIA

Gravity Main Requirements	Design Criteria
[1]New Pipes 12-inches in diameter and smaller	0.50 full at peak wet weather flow
[2]New Pipes over 12-inches in diameter	0.75 full at peak wet weather flow
Minimum Velocity	2 feet per second (1/2 full or full)
Maximum Velocity	10 feet per second
Manning's n	0.013
New Pipe Minimum pipe diameter	8 in
Force Main Requirements	**Design Criteria**
Minimum Force Main Diameter	4 inches
Minimum Velocity	3 feet per second
Maximum Velocity	5 feet per second
Maximum allowable headloss	10 feet/1000 feet
Maximum desirable headloss	5 feet/1000 feet
Hazen-Williams C factor	120

[1] Design plans will be required when d/D reaches 0.60 for existing 12" diameter pipes or smaller, and improvements will be required once d/D reaches 0.70 at peak wet weather flows.
[2] Design plans will be required when d/D reaches 0.75 for existing pipes larger than 12" diameter, and improvements will be required once d/D reaches 0.85 at peak wet weather flows.

Estimated Sewage Generation for Yards at the Bay

The sewage generation estimate for the Yards at the Bay project was developed in accordance with the City of Chula Vista Wastewater Master Plan and the proposed project zoning. The project is in General Industrial Zoning and proposes construction of an industrial building, office/retail building, and a hotel with 175 rooms.

Table 2 presents the projected average dry weather flow sewage generation for the Yards at the Bay project.

TABLE 2
YARDS AT THE BAY
ESTIMATED AVERAGE DRY WEATHER FLOW SEWAGE GENERATION

Land Use	Gross Area, ac	Duty Factor	Average Sewage Generation, gpd
Planning Area B-1			
Industrial	26.55	712 gpd/ac	18,904
Planning Area B-2			
Office/Retail	5.73	1,401 gpd/ac	8,027
Hotel with 175 Rooms	3.66	182 gpd/DU	31,850
TOTAL			**58,781**

From the City of Chula Vista Wastewater Master Plan, Figure 3-4 and Figure 3-5, the peak dry weather flow to average dry weather flow is approximately 1.38 for residential and 1.40 for non-residential. The estimated peak dry weather flow for the project is 82,293 gpd (57 gpm). The ratio of peak wet weather flow to peak dry weather flow is 1.85, resulting in an estimated peak wet weather flow of 152,242 gpd (106 gpm).

G Street Pump Station Capacity

Planning Areas B-1 and B-2 will convey their sewage through the existing public sewer lines or proposed onsite private sewer lines to the existing G Street Pump Station. The G Street Pump Station is slated to be upgraded in the near future. Approved plans (Drawing No. 21053-1) are dated December 19, 2022. The Yards at the Bay project relies on the completion of the G Street Pump Station improvements and therefore the proposed project will not be able to obtain sewer service until the pump station upgrades are completed.

Per the G Street Sewage Pump Station Upgrade Design plans, the pump station is to have Grundfos pumps operating at 1,300 gpm at 33 feet of total dynamic head. The *Chula Vista Bayfront Master Plan – Technical Memorandum No. 2 Proposed Water and Sewer Evaluation*, dated December 2016, is the most current document related to the existing flows going into the G Street Pump Station. In the Bayfront Master Plan, Table 4-6 shows that the existing plus proposed flows going to the G Street Pump Station total to an average flow of 0.482 mgd (335 gpm) and a peak wet weather flow of 1.294 mgd (899 gpm). The proposed flows estimated in the Bayfront Master Plan do not include sewage generation from the Yards at the Bay project area.

The existing and proposed flows calculated in the Bayfront Master Plan plus the estimated sewage generation from the Yards at the Bay project results in an average flow of 0.541 mgd (376 gpm) and a peak wet weather flow of 1.45 mgd (1,007 gpm).

Per the City of Chula Vista Wastewater Master Plan, Section 4.1.2 – Lift Station Design Criteria, the "Lift Stations should be sized for the peak wet weather flow rate plus an additional 20% capacity to account for wear, miscellaneous debris, etc. that may reduce pumping performance." The peak wet weather flow including the Yards at the Bay project, plus the 20% pumping capacity safety factor, results in a required pumping capacity of 1,208 gpm for the G Street Pump Station.

The G Street Pump Station upgrades result in an operating pumping capacity of 1,300 gpm which is greater than the calculated required pumping capacity for existing, proposed, and Yards at the Bay project of 1,208 gpm. Thus, the new G Street Lift Station has sufficient capacity for the build-out of the Yards at the Bay project.

San Diego Metropolitan Sewer System (METRO)

The City of Chula Vista is a participating member of the City of San Diego owned and operated METRO system. The system includes regional sewer interceptors and trunk sewers, lift stations, and treatment and disposal facilities. Each participating agency of the METRO system has capacity rights that dictate how much they can contribute to the system each day. The most current agreement for capacity rights pertaining to the METRO system is the *Amended and Restated Regional Wastewater Disposal Agreement Between the City of San Diego and the Participating Agencies in the Metropolitan Sewerage System,* signed July 23, 2021. Per Exhibit B of the agreement, the City of Chula Vista has a capacity of 20.864 mgd average flow in the METRO system.

The City of Chula Vista Wastewater Master Plan, Table 3-6, presents wastewater flow projections through the Year 2050. The projected average flow in Year 2050 is 29.89 mgd; this exceeds the current capacity which the City of Chula Vista has in the METRO system. Table 7-7 in the Master Plan identifies that additional capacity will be required for the City of Chula Vista starting in the Year 2027.

Estimating that the Yards at the Bay will be generating sewage sometime in the Year 2025 suggests that the City of Chula Vista presently has sufficient capacity to accommodate the expected average flow of 58,781 gpd (0.06 mgd) from the Yards at the Bay. If new development exceeds the rate of increase in sewage flows in Chula Vista, then the City will have to obtain additional sewage capacity in METRO sooner than Year 2027. In either scenario, sewage capacity in METRO will be available for the Yards at the Bay project.

Conclusion

Thank you for the opportunity to provide professional engineering services on behalf of the Yards at the Bay project. From a sewer service perspective, there are no offsite sewer improvements needed to redevelop the proposed project site with the land uses being proposed as part of the Rohr Wohl Specific Plan. In addition, the City of Chula Vista has available sewer capacity for the proposed project both in the upgraded G Street Pump Station and in the METRO sewer system. Please do not hesitate to contact us if you have any questions about our evaluations and conclusions.

Dexter Wilson Engineering, Inc.

Andrew Oven, P.E.

AO:WT:ah

cc: Mark Kestel, Project Design Consultants, a Bowman Company