
Appendix K-3

Recycled Water System Facilities

To: Bill Rodrigues

From: Jeff Dunn

File: 184051749

Date: May 31, 2023

Reference: Gateway Park Due Diligence – Non-Potable Water (Recycled Water) System

INTRODUCTION

The Gateway Park was previously planned to consist of a gym, community center, trailhead, and restrooms, including the existing TIC AG headquarters. The City is now proposing to entitle Gateway Park as a residential development plan for approximately up to 852 residential dwelling units.

Scope of this technical memorandum includes conceptual preliminary investigations of the proposed non-potable water system impacts to the existing IRWD infrastructure and proposed IRWD infrastructure that may be required. Previous IRWD SAMPs have been prepared by Stantec in the area such as Orchard Hills, Portola Hills, Stonegate, and Eastwood Village, including the Bee Canyon Recycled Water Pump Station and pipeline along Bee Canyon Road. These serve as the basis of understanding and background to the existing IRWD infrastructure and previous planning for the Gateway Park service area.

NON-POTABLE SITE DEMANDS

Non-potable water demands are estimated based on the preliminary development plan including 852 dwelling units covering 55.6 acres, a 4-acre park area, 2.5-acres of recreational park area, 2.4-acre fuel modification area, and 15-acre landscape/slope area along Jeffery Road and adjacent to Gateway Park. Total irrigation area estimated to be approximately 79.8 acres. Using IRWD irrigation use factors, the average day demand is 174 gpm (0.251 mgd) with a maximum day demand of 242 gpm (0.349 mgd). The peak hourly flows are estimated to be 471 gpm (0.678 mgd).

PRESSURE ZONE REQUIREMENTS

The low elevations are in the southerly areas along Portola Parkway and elevations increase to the north. The ground elevations for the non-potable water system analysis are assumed to range between 340 feet to 460 feet. These elevations can be supplied by the service elevations for IRWD's Zone C pressure zone. The Based on the Zone C hydraulic grade, the onsite system static pressures range between 78 to 130 psi.

PROPOSED NON-POTABLE WATER SYSTEM

The proposed non-potable water system will be supplied by the existing 16-inch Zone C transmission main in Portola Parkway, with two connections made to existing pipelines located in Jeffrey Road north of Portola Parkway and at the suction pipeline to the existing Bee Canyon Pump Station. The existing pipeline in Jeffrey Road is 12-inch and the suction pipeline to the Bee Canyon Pump Station is 10-inch. This is illustrated on Alternative A Exhibit.

The peak hour service pressures based on the hydraulic model show the minimum pressure is 50 psi at the 4.0-acre park site at the very north end of the project at the highest elevations, and the maximum peak hour service pressure is 130 psi at the southeast corner of the development.

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Gross Site Acres

(Includes 3.5 acres gain from JOST)	74.0 Acres
NE Park Area	-4.0 Acres
Access Road and Drain Channel	-2.4 Acres
Collector Roads	-4.8 Acres
Parks, Open Space, Slopes	-2.8 Acres
Fuel Mod Area	-2.4 Acres
Retention Basin	-2.0 Acres

Net Residential Development Area **55.5 Acres**

EXHIBIT A - PROPOSED NON-POTABLE WATER SYSTEM - Zone C Supply

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Bill Rodrigues

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OTHER CONSIDERATIONS

In addition to the proposed pipelines and connections shown on Exhibit A, the existing Bee Canyon Pump Station is an outdoor facility. This facility should be evaluated for sound attenuation or hardscape improvements as this will be located adjacent to proposed residential areas.