

BELVEDERE MUD – PRESERVATION RANCH SUBDIVISION

INTRODUCTION

DGRA, Inc. was engaged by BMUD to provide an engineering evaluation of the potential hydraulic impact on BMUD water customers that may result from the construction of Preservation Ranch subdivision's interconnection with BMUD's existing water distribution system.

BACKGROUND

Preservation Ranch subdivision originally intended to obtain its water supply from WTCPUA's Hamilton Pool Road System via a connection to an existing WTCPUA 6-inch diameter water main located along Madrone Ranch Drive. However, based on a review of available records and verbal communications with Preservation Ranch engineers (i.e., LJA Engineering), the 6-inch diameter interconnection with the Madrone Ranch Drive water main would not provide the minimum fire flows required by Travis County ESD No. 6. As a result, WTCPUA authorized Preservation Ranch to construct a 12-inch diameter interconnection across Belvedere HOA's Lot 61 to connect to an existing BMUD 8-inch diameter water main located along Flager Drive.

POTENTIAL IMPACT ON BMUD WATER CUSTOMERS

Since Preservation Ranch will have only 33 single family residential customers, the impact of the Lot 61 interconnection should be minimal in terms of water pressure and flow within BMUD's water distribution system. This is due in part because BMUD's internal water distribution system connects directly to the WTCPUA's 16-inch diameter water transmission main that is supplied water from WTCPUA's Hamilton Pool Road Pump Station and the recently installed Provance Elevated Storage Tank (collectively the "HPR System"). However, this "minimal impact" assumes that the WTCPUA can provide sufficient water flow and pressure to and within their Hamilton Pool Road System, as a whole.

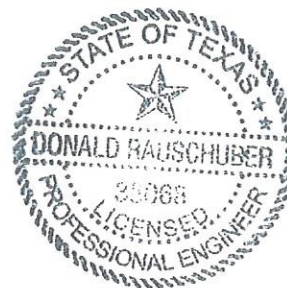
In recent years, BMUD water customers have experienced low pressure and "no-water" events, especially during high lawn irrigation months. Based on review of available information, it appears that the WTCPUA is not able to meet HPR System water demands due to water treatment plant issues and to high summer water demands. It is estimated that the WTCPUA has approximately 1,500+ existing water customers that are located along Hamilton Pool Road between its intersection with Highway 71 and RR 12. These customers are supplied water via one (1) 16-inch water transmission main that cannot supply the amount of water and pressure to meet high summer demands, thus resulting in "low pressure" events. The good news is that the WTCPUA is working with Travis County MUD No.22 (i.e., the Provance Subdivision) to install a second 16-inch water transmission main that will increase water flow/availability and eliminate low pressure events. The sad news is that this second water transmission is probably several years away before it becomes operational.

The addition of Presentation Ranch's 33 customers may minimally exacerbate the low-pressure events, but this is mitigated since the 12-inch Lot 61 interconnection creates a "loop" water

system that can provide water to BMUD from two different directions (i.e., from the existing 16-inch diameter water main and from the 6-inch diameter Madrone Ranch water line). This created "loop" water system may also benefit BMUD and Madrone Ranch water customers from a water quality prospective since water may continually flow in the loop system as opposed to a "dead-end" system where water movement may become stagnant thus resulting in lower water quality.

Respectfully,


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President, DGRA, Inc.



1/8/2024
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