

TECHNICAL MEMORANDUM

TO: Jeffrey Crane, Water Superintendent

PREPARED BY: Carissa Mak

REVIEWED BY: Todd Prokop, PE

DATE: June 21, 2024

RE: P&G – Gillette Andover Enhancement Project
System Impacts of Anticipated Fresh Water Usage

Proctor & Gamble (P&G) has informed the Andover Department of Public Works of intended changes at their Andover Campus that will increase the facility's water usage. As part of the P&G – Gillette Andover Enhancement Project, 70,059 gallons, approximately 50 gallons per minute (gpm), of additional demand is anticipated based on information provided by P&G. At the request of the Town, Woodard & Curran used the Town's existing hydraulic model to evaluate the impacts of the additional demand under maximum day demand (MDD) conditions.

Woodard & Curran added the 50-gpm additional anticipated demand into the hydraulic model at the node nearest to the planned project utilizing the existing diurnal curve. Model results showed minimal impacts to the surrounding areas and the wider system. With the additional demand, pressures in the system dropped less than 1 psi. Fire flow dropped by an amount equal to the instant demand (less than 100 gpm) during peak flow.

This analysis is based on the prior model calibration performed by CDM Smith; Woodard & Curran has not completed a full calibration of the model as part of our work with the Town. Woodard & Curran has updated the model to reflect the pump replacement in the water treatment plant and recent water main replacement work, but the majority of the pipe network layout, sizes, and C-values remain from previous efforts.