



## **Haymeadow Water and Wastewater Demand Analysis For a Proposed Childcare Facility MEMO**

**TO:** Michael Hood

**CC:** Brandon Cohen, Abrika

**FROM:** Gary Brooks, Cutthroat Consulting, LLC

**DATE:** June 5, 2024

**ATTACHMENTS:** Neighborhood A1 Site Plan

The purpose of this memo is to provide a summary of the in-house water demand calculations for a proposed Childcare Facility in Neighborhood A1-B. The proposed facility will be sized for 80 full-time students and 10 full-time staff. Based on the water usage criteria included in the Haymeadow Utility Impact Report, the water demand for schools is based on a per student/staff number being 20 gallons per day per person. Irrigation water for this facility will be provided through a separate non-potable system therefore there is no impact to the treated water demand calculation.

Based on these criteria the water demand for the Childcare Facility will be as follows:

$90 \text{ persons} \times 20 \text{ gpcd} = 1800 \text{ gpd} \times 2.0 \text{ peaking factor} = 3600 \text{ gpd}$

Per the Haymeadow Utility Impact Report, the total peak day water demand for the project is 438,600 gpd. Inclusion of the Childcare Facility will increase the total peak day demand to 442,200 gpd.

The water and sewer mains within Haymeadow have adequate capacity to accommodate the small increase in demand and effluent volumes.

Per the Haymeadow Utility Impact Report the water main sizing was reviewed and approved by the town's water system Engineer, Mott MacDonald which recommended that water main sizing be increase to 12" diameter to minimize higher velocity flow rates and associated frictional head loss. The increase to 12" also accommodates increased demand for the system.

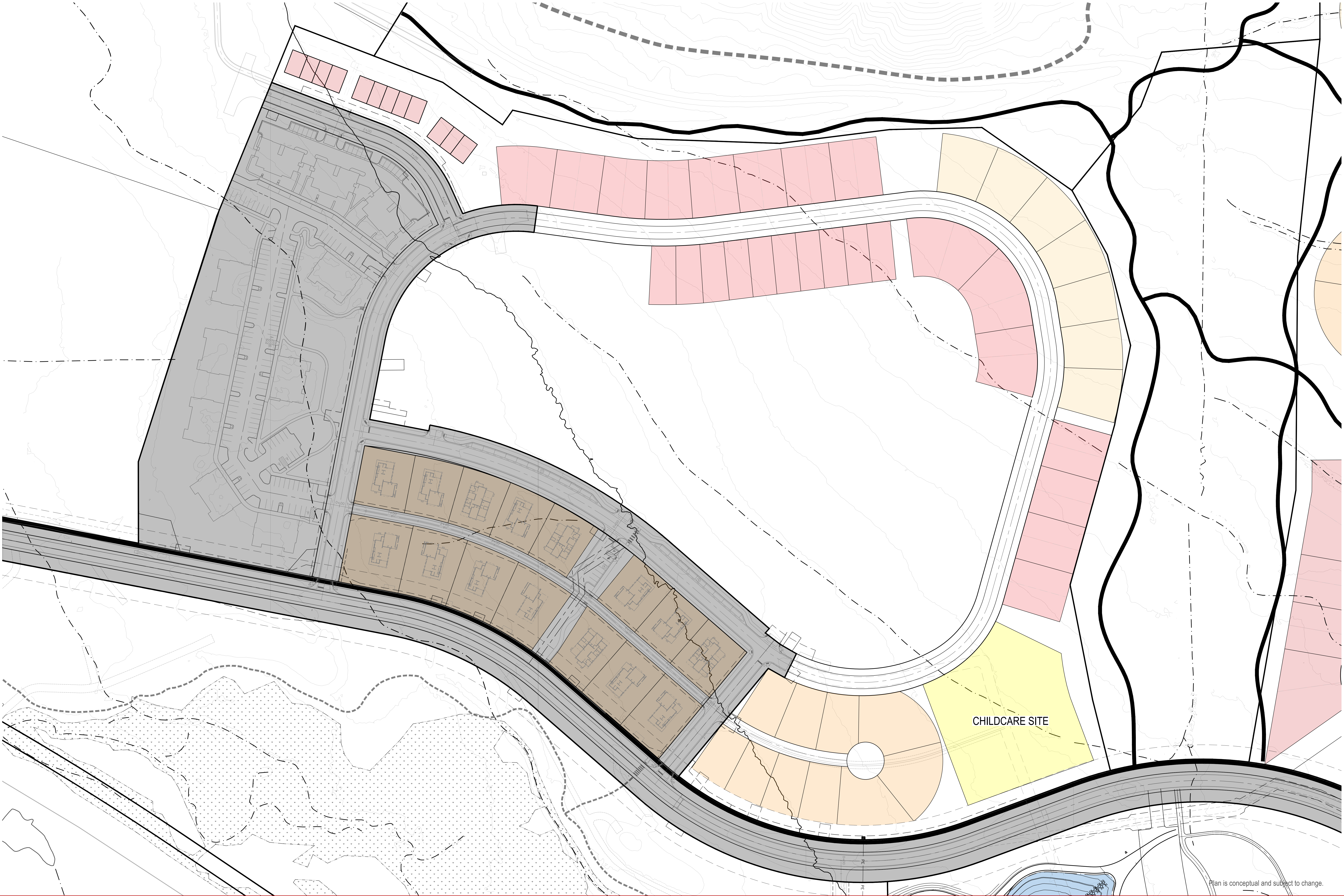
The sewer mains within Haymeadow have been upsized to accommodate potential development upstream of the project which will not occur due to the land being designated as permanent open space. The sewer mains downstream of Haymeadow, within Eagle Ranch and down to the



WWTP, were oversized to accommodate the Adams Rib project that has since been terminated therefore significant capacity is available within the sewer main piping system sufficient to

handle the minor increase in effluent volumes generated by the proposed childcare facility in Neighborhood A1B.





Plan is conceptual and subject to change.

