

Exhibit A

Memo

Date: June 19, 2024
To: Kate Collier, City Manager
From: Ricky Oakley
Cc: Ted Howell, Public Works Director
Phillip Grooms, Asst City Manager
Peter Chimera, CEC Project Manager
Subject: Sugar Creek Townhomes – Water Service Review
CEC Project No.: 334-922/0002

Civil & Environmental Consultants, Inc. (CEC) has completed its review of the May 5, 2023 Letter of Availability for Water Service for Sugar Creek Townhomes project. This review also considers the Subdivision Plan Review #2 results dated September 27, 2023.

CEC considered several parameters prior to completion of this evaluation

1. The May 5, 2023 LOA indicated the Water System could provide service to Sugar Creek Townhomes. It considered extending a water line on Sugar Creek Lane approximately 725 LF and connecting to the water system at Brookside Drive and at Main Street. The approval recommended replacing and upsizing 375 LF of AC pipe to 16-inch DIP on Main Street in keeping with the City's long term plan for a 16-inch transmission main from south to north through the water system.
2. Analysis by CEC was from a Water Model prepared by CEC from data (shape files and water billing records) provided by the City. The Water Model has not been calibrated, but it generally corresponded with hydrant flow data from the original LOA. Note: the hydrant flow test is over 1 year old. The design engineer for the project may consider retesting to assure existing conditions still support the recommendation.
3. The CEC analysis considered 16 Townhomes and an instantaneous demand of 2.0 gpm per unit or 32 gpm total. It was not readily apparent if the May 5 LOA included an instantaneous demand in their analysis.
4. The CEC analysis differed from the May 5 LOA from a fire flow perspective. The CEC analysis was based on a fire flow of 1,000 gpm for a multi-family unit construction. The previous analysis was based on providing 500 gpm. Both evaluations included maintaining 20 psi in the system.
5. CEC Water Modeling Conditions
 - a. New Lawrenceburg Tank Elevation 920 ft (10 feet below overflow)
 - b. Industrial Park Tank Elevation 860 ft (7 feet below overflow)

CEC Findings

1. It appears the water line recommendations in the May 5 LOA/Sept. 27 Plan Review are satisfactory and should not result in non-compliance service issues to the City. This Finding is based on CEC's analysis with a demand of 1,032 gpm at the Townhome

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location and an 8-inch water line (City minimum) interconnected between Brookside Drive and Main Street.

2. It is recommended to replace the AC water line on Main Street as originally proposed. An 8" line will provide the requested service, but it is recommended that a 16" be installed to comply with the City's master plan that includes a 16" line along Main Street.
3. It is also recommended that the existing 6" cast iron waterline on the east side of Main Street be abandoned from Sugar Creek Lane, to Magnolia Drive. This will include 2 each 12-inch highway bores with 6-inch water line, and 3 service relocations (2 of which include highway bores).
4. The water line design/service shall be in accordance with the City's and TDEC's Design Criteria. The City should have the final design reviewed by the City's Engineer prior to acceptance.

END OF MEMORANDUM

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