



Ruthanne Fuller
Mayor

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
OFFICE OF THE CITY ENGINEER
1000 Commonwealth Avenue
Newton Centre, MA 02459-1449

MEMORANDUM

DATE: March 9, 2020
TO: Land Use Committee
FROM: Louis M. Taverna, P.E., City Engineer
RE: **1114 Beacon Street Special Permit, Sewer Infiltration/Inflow Mitigation, Waiver Request**
Ordinance No. B-45, Sewer Inflow and Infiltration (I/I) Mitigation

The City Engineer has calculated the sewer infiltration/inflow mitigation cost for this project. See calculations below. The total mitigation cost for the assumption of low flow fixtures throughout the project is \$240,458.

Sewer Ordinance No. B-45 states the following: For projects subject to a special permit, the City Council, for good cause shown, may abate in whole or in part the infiltration/inflow mitigation fee for a particular dwelling, building, or project.

Waiver request:

- a) *The expected impact of the development on sewer infiltration/inflow.* The development will propose to add an average of 3,380 gallons per day to the existing city sewer system (assuming low flow fixtures). The existing sewer flow from the site is negligible, as the restaurant has been closed since January 2015. Estimated sewer flows prior to closing is estimated to be 650 gallons per day, and this amount was subtracted from the proposed sewer flow. The city's sewer system in this area flows westerly to the interceptor system along Charles River, where it meets the Quinobequin Road sewer pump station, and it is pumped into the Cochituate Aqueduct. A substantial portion of this sewer flow is bypassed to the interceptor sewer along the Charles River during storm events. High groundwater exists within the project area, which affects the existing sewer service, and a new sewer service will be required.
- b) *Whether infiltration/inflow mitigation has previously been conducted in the general area and to what extent.* This project lies in sewer area 7. The design of sewer improvements in this area is completed, and Sewer area 7 is currently being bid for work related to sewer infiltration/inflow removal, as part of the city's sewer capital improvement program. Downstream of the project is sewer area 9, which is still under investigation, and has not yet undergone sewer system improvements.

- c) *Whether the abatement will benefit the health and well-being of the public and is reasonably in the best interest of the city.* The entire amount of sewer mitigation funds is recommended by the City Engineer to be used toward the construction of sewer improvements in sewer project area 7. The estimated cost of construction of improvements in sewer area 7 approaches \$7,200,000.

Calculation of sewer infiltration/inflow mitigation.

Low flow fixtures:

52 bedrooms x 65 gal/bedroom/day = 3380 gals/day

Restaurant avg daily flow = 650 gal/day (based on previous water meter usage)

Net flow = 2,730 gal/day x 4 x \$22.02 = \$240,458