

Memo

To: US EPA, Region 1

From: Robert Pelosi

cc: Eric Blatt, P.E., Terisa Thomas

Date: November 10, 2016

Re: Bellows Falls Village Corporation (RF1-180)
Sewer Main Improvements on Hadley Street, Chase Park, and Oak Street
Business Case for Energy Efficiency
Section 3.5-4 of EPA's *Guidance for Determining Project's Eligibility*

Introduction

Projects that include i/i rehabilitation, no matter how minor, save energy by reducing pumping requirements at pumping stations within the sewer collection system and at the influent lift stations at WWTFs. With this project, the Bellows Falls Village Corporation expects to realize these benefits by replacing aging, deteriorated vitrified clay sewer mains as follows:

- 350 linear feet along Hadley Street;
- 420 linear feet along Chase Park; and
- 375 linear feet along Oak Street.

Existing Condition

The condition of the existing utilities is best described by the following passage from the Preliminary Engineering Report Addendum (emphasis added):

*The existing clay sewer mains are old and deteriorating. As previously noted, it is not possible to video inspect the sewer mains to determine the extent of infiltration and damage; however, **it is likely that that there is significant infiltration into the clay sewer mains.***

Cost Effectiveness

The Engineer considered cost effectiveness as a primary factor when recommending pipe replacement as a preferred alternative. Of note, the Engineer recognized that replacing the

sewer lines concurrent with replacing adjacent water mains (under RF3-308) would provide considerable cost benefit. Specifically, the Engineer concluded:

(I)t will be more cost effective to construct the sewer main improvements in coordination with the water main improvements, which are scheduled for spring 2016.

Due to the alignment of existing utilities, there were only a limited number of alternatives available. As noted in the Preliminary Engineering Report Addendum:

If no action is taken to resolve the deficiencies noted above, the existing sewer mains will be significantly damaged during the construction of the water main replacement projects and will be left with multiple spot repairs.

Accordingly, aside from the “no action” alternative, other corrective measures, such as cure-in-place pipe (CIPP), did not warrant consideration.

GPR Eligibility

EPA's *Guidance for Determining Project's Eligibility* suggests that the eligibility criteria for i/i projects under GPR are straightforward. From Section 3.5-4, the criteria are:

- 1) i/i correction projects must save energy from pumping and reduced treatment costs; and
- 2) i/i correction projects must be cost effective.

As discussed above, this project satisfies both criterion.

Conclusion

VT DEC, Facilities Engineering Division (FED) recommends that this project qualify for GPR under §3.5-4 of EPA's *Guidance for Determining Project's Eligibility*. The resulting reduction in i/i is expected to reduce pumping demand in the collection system and/or at the influent lift station at the WWTF. Further, the Engineer makes a justifiable case that the project is cost effective. Accordingly, FED requests an eligibility for the full project cost of **\$247,947**, based on the latest cost estimate from July 22, 2015.