

Willis Farm/gateway: proposed sewage line discussion points
Jan 2021 **draft for review v12032020**

Possible interests:

1. Increase number of users to more predictably support ongoing M+O costs.
2. Replace old and at-risk septic systems in Gateway with system treatment.
3. Support development on Reap property (under limits imposed by Richmond Town Plan and Zoning).
4. * WS Commission: build system with diameter pipe and pump stations that can support future expansion through at least Phase 2.

History/facts:

1. Excess wastewater treatment capacity following closing of the former cheese factory. Significant work on delayed maintenance eg replacing old and leaky lines, resulting in higher rates. Modest number of users (app 400). Per survey WS customer residents have lower income than town as a whole.
2. Area: Phase 1 (Reaps), 2 (Gateway to mobile station), and 3 (extend to Riverview Commons MHP).
3. Town bond vote 2015 (\$2.5 million).
4. State primarily interested in serving the MHP, in Phase 3; limited interest from MHP owner. Aged W/S lines and infrastructure within MHP boundaries (per DHCD report below the MHP was established in 1960). App 150 current homes, a significant % of affordable housing in Richmond.
5. Cost of new lines/service installed by the Town were not seen as affordable by the property owners. Lack of substantial state grants/financing without including the MHP.
6. Pipe diameter for expansion: some tradeoffs between pipe size and pumps/grinders. Per Kendall 4" is required for a solids handling pump to get up the hill to Jericho Road; the head is too great for 2" grinder/STEP pumps to get it up there. In other installations one can get away with smaller pipe with grinder pumps or STEP (septic-tank-effluent-pump). All connections in the Gateway will need 2" grinder/STEP pumps to pump their sewage to a pump station which has the high head solids handling pump on the 4" force main. A route 2 run only requires the 2" grinder/STEP pumps, which can pump into the stub at the property line, which displaces an equal amount of sewage out of the pipe way up at the manhole on West Main (much lower head). A smaller pipe on Route 2 would require everyone connecting to use grinder or STEPs. STEPs require the extra process of pumping out the septic tank chamber every few years. Grinder pumps are finicky and are more susceptible to clogging, but don't require septic tanks/pump outs. We have grinder pumps on the system now, no septic tank effluent pumps. We have several 2" and 1 1/2 " grinder pumps active in the system right now. The one at the Fire Station was completely trouble free from 1972 until 2017, when they had to replace the pump (~\$800). Cochran Road (9 houses) has been almost completely trouble free since 1999. Farr Circle has 12 stations active since 1983.

Options:

1. Up the hill through Reap property, RLT property, and school property
 - a. Shortest route from Reaps to a connection. Larger pipe and grinders/pumps to produce higher pressure to push uphill.
 - b. New easement or agreements with RLT if intended future use is beyond Reap lot (limited to this lot under current easement).
 - c. New agreement with school district may be required to install line through school property (current ordinance requires direct connection of private line to public line). May

- connect to school line if there is no other option and the school line(s) pass required inspection and testing to the Commission's satisfaction.
- d. Cost: TBD per Reaps. Per Kendall, cost for 4" line up the hill is app \$50/ft, 2200 ft = \$110,000.
 - e. WSC charges would be based on meter at lower end of private line.
 - f. Construction and costs:
 - i. could be built by Reaps and left as private system. Adds complexity for future expansions/connections in Phase 2.
 - ii. could be built by WS system under previously approved bond or CWSR. Repayment by new users via connection fees and user rates as established by WSC.
 - g.
2. Along Route 2 through state highway ROW, by Willis Hill and cemetery
 - a. Note upcoming 18-24 month VTrans rebuild of Rte 2 starting 2022.
 - b. Per Kendal and Tyler: initial view is that 2" line adequate for phases 1 and 2 (smaller diameter than the hill due to less pressure/no hill).
 - c. Cost: Tyler est. \$40/ft for 2 inch, \$50/foot for 4". \$150k as cost for the Reap including ~\$40/ft for 2" 3300 ft = \$132,000. Additional 1500 ft 2" to the Crate Escape ~\$60,000; additional 1500 ft 2" to the Mobil Station ~\$60,000. Grand total pipe cost 2" ~\$252,000 plus additional costs est. ~\$48,000 totals about \$300,000 through phase 2.
 - d. Owners including the Reaps would be responsible to connect their system to the stub at the ROW. These additional costs are difficult to estimate likely ranging from ~\$2000 to modify an existing septic tank to significantly more for pump station, depending on size. These costs appear to be lower and more predictable over time than a new septic system.
 - e. Precedent for this type of system and requirement exists for customers on Cochran Road, East Main, Tilden, Burnett, School Street, Farr Circle and the Fire Station.
 - f. Pros include the pipe is in a public ROW; no connection required with intervening system eg school; no issues w easement over conserved land; each property is separate and requires smaller pumps; each property can be charged an appropriate fee to connect; each property can be metered for use. As for previous projects properties obliged to connect sewer in specific time frame if sewer line serves their property.
 - g. Construction and costs:
 - i. could be built by Reaps and taken over by WS system (as for Buttermilk, Noyes, etc.). Fee/rate incentives negotiable.
 - ii. could be built by WS system under previously approved bond or CWSR. Repayment by new users via connection fees and user rates as established by WSC.

Resources/references:

Richmond WS Commission: West Main extension materials:

<http://www.richmondvt.gov/departments/richmond-water-resource-department/west-main-utility-extension/>

2018 Richmond Town Plan (see esp. pages 38-40, page 60):

<http://www.richmondvt.gov/documents/2018-town-plan/>

2018 Richmond Town Plan maps including 2010 zoning district map:

<http://www.richmondvt.gov/wp-content/uploads/2018/01/2018-Richmond-Town-Plan-Maps.pdf>

2017 Richmond Zoning Regulations (Gateway Commercial District):

<http://www.richmondvt.gov/wp-content/uploads/2014/03/Richmond-Zoning-Regulations-Feb-2017.pdf>

2017 property tax map:

<http://www.richmondvt.gov/wp-content/uploads/2014/03/2017-Tax-Map-Book.pdf>

2015 BFP coverage:

<https://www.burlingtonfreepress.com/story/news/politics/2015/02/20/richmond-considers-development-issues/23707689/>

April 2016 PC:

<http://www.richmondvt.gov/wp-content/uploads/2014/03/PC-draft-minutes-April-27-2016.pdf>

June 2017 DRB:

<http://www.richmondvt.gov/wp-content/uploads/2014/03/DRB-app-Min-June-14-2017.pdf>

CCRPC re Richmond:

<https://www.ccrpcvt.org/our-communities/richmond/>

Route 2 project (STP 2924(1) planned for Aug 2022 – Dec 2023:

<http://www.aot.state.vt.us/FactSheet/default.aspx?pin=10C254> VT Department of Housing & Community

Development 2013 MHP report (esp. Page11):

<https://accd.vermont.gov/sites/accdnew/files/documents/H-MHP-Report-2013RegistryandMHPsReportBinder1.pdf>

DRAFT