



Carroll Engineering Corporation

January 6, 2017

Chris Patriarca, Director of Planning
Westtown Township
P.O. Box 79
Westtown, PA 19395

Dear Chris:

Subject: Toll Brothers Crebilly Farm

We have completed our review of the conditional use application for the above subject project and offer the following comments and recommendations regarding sewage disposal for the project.

BACKGROUND

Toll Brothers is proposing a 317 lot development at Crebilly Farm. There is an option for a bonus density development that would yield 397 lots, but the current application is 317 lots. Sewage disposal is proposed via an on-site wastewater treatment plant with drip irrigation disposal. Locations of drip irrigation disposal areas are shown on the Overall Lot Layout Plan A/Proposed Development (sheet 3 of 45). It is unclear from the drawings where the wastewater treatment plant would be located, but based on the topography of the site it would be in the vicinity of Road G.

In addition to the 317 lots, correspondence dated October 11, 2016 from Geo-Technology Associates, Inc. states that there will be two community centers each generating 3 EDU's of wastewater. Therefore, the total number of EDU's for the proposed plan is 323. Average daily wastewater flow using 250 gallons per EDU is 80,750 gallons per day (GPD).

ACT 537 PLANNING

The 2001 Act 537 Plan and 2005 Addendum designate Crebilly Farm to be served by a new community system, which would be separate from the West Goshen Township drainage area. Act 537 planning for this area has not been updated since 2005. As noted, the CU application indicates the project will use an on-site wastewater treatment plant with drip irrigation for disposal. We believe an on-site treatment plant was included in the CU application, because our September 20, 2016 letter indicated that the current Act 537 planning shows that Westtown does not own sufficient capacity in the West Goshen Wastewater Treatment Plant (WGWTP) to provide public sewer service to Crebilly Farm.

Today's Commitment to Tomorrow's Challenges

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Current Act 537 planning summarizes projected flow to the WGWWTP at 521,500 GPD. Westtown currently owns 530,000 GPD of capacity at WGWWTP. Based on current Act 537 planning, on paper there is no surplus capacity at the West Goshen Plant. We believe the shortfall of capacity at WGWWTP is easily over come as part of the planning module submission for Crebilly Farm. The projections in the current Act 537 planning include flow within the current West Goshen Township drainage area (5,500 GPD), and the Route 202 Study Area (134,000 GPD) for a total of 139,500 GPD. Flow projections also included a 20% contingency, so total projected flow is 167,400 GPD.

Since implementation of the Sewage Management Program, sewerage the Route 202 Study area is now considered to not be necessary. Therefore, the Route 202 Study Area flow of 160,800 GPD (134,000 GPD *1.2) can be removed from future flow projections as part of the planning for Crebilly Farm, which will become part of Westtown's Official Plan. This leaves sufficient capacity available in the WGWWTP for wastewater flow from Crebilly Farm.

PUBLIC SEWER OPTION

We recommend that public sewer service be used for Crebilly Farm. Public sewer service will be beneficial to the Township for several reasons. Among them are use of existing surplus capacity at WGWWTP; and expansion of the customer base to mitigate future rate increases.

Westtown currently owns surplus capacity in the WGWWTP. Township flows have been well under their capacity for some time, and we expect that this will continue in the future. If treatment capacity is considered a Township asset, then public sewer service for Crebilly Farm will allow this asset to be more fully used. Tapping fees will allow the Township to recover the cost of capacity which has already been paid.

The addition of sewer customers from Crebilly Farm will broaden Township's sewer customer base. As sewer system expenses increase over time, expenses can be spread over a larger customer base allowing the Township to mitigate any future rate increase.

SEWER CONVEYANCE OPTIONS

Wastewater from Crebilly Farm would be conveyed to the existing sewer system east of Wilmington Pike by constructing a sewage pump station in the same location as the proposed on-site wastewater treatment plant. The pump station would have a capacity of 225 gallons per minute (GPM). The most direct connection point to the existing sewer system is in Piedmont Drive at the intersection of Wilmington Pike. From that location, wastewater would flow by gravity through the Pleasant Grove sewer system to the Pleasant Grove Pump Station and then be pumped to the WGWWTP.

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We have evaluated the capacity of the existing sewer system to PGPS, and although we are still confirming flows from areas north of East Pleasant Grove Road, it appears that the sewers from Dalmally Drive to Tower Course Drive will not have sufficient capacity for the flow from Crebilly Farm and must be replaced. This covers approximately 4,000' of sewer some of which is in easements on private property, or crosses Township open space. This would be a major disruption to residents in the neighborhood, and other options should be investigated before proceeding with replacement of the existing sewers.

A less disruptive option would be to pump wastewater from Crebilly Farm east in Street Road to Tower Course Drive. From that location to PGPS, the sewers should have sufficient capacity for the additional flow from Crebilly Farm.

Wastewater generated at Crebilly Farm will double the current flow to the pump station necessitating a capacity expansion of the PGPS. The details of the capacity expansion will need to be resolved as part of the land development review process for Crebilly Farm.

CONCLUSION

The actual details of the sewer system and pump station at Crebilly Farm will matter in our final recommendations. However, we believe the best option for sewage disposal for Crebilly Farm is public sewer service with wastewater treatment at the West Goshen Wastewater Treatment Plant. This option is a benefit to the Township by more fully utilizing wastewater capacity at the West Goshen Plant that the Township has already paid for and broadens the sewer customer base so the Township can better manage any future sewer rate increase.

Should you have any questions or require additional information, please feel free to contact this office.

Very truly yours,

CARROLL ENGINEERING CORPORATION



William N. Malin, P.E.

WNM:cam

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