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## M E M O R A N D U M

DATE: October 22, 2010

TO: Plumsted Township MUA

FROM: Gregg Barkley, P.E.

RE: Preliminary Sanitary Sewer Flows & Layout

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Van Cleef Engineering Associates has been working on a preliminary sanitary sewer layout for the New Egypt area of Plumsted Township. This layout is depicted on the accompanying map which was presented at the October 19, 2010 MUA meeting.

In preparing this preliminary sewer layout, topographic elevations of the ground surface were obtained from satellite imagery available from Google Earth which is referenced to the 1927 North American Datum (NAD27). In general, gravity flow of wastewater is possible throughout the proposed sewer service area with a few areas requiring additional evaluation as follows:

1. Northeast end of Meadowbrook Road and Platt Street. (approx. 10 lots)
2. Allen Terrace lots closest to Oakford Lake. (approx. 6 lots)
3. End of Lakeview Drive adjacent to Oakford Lake. (approx. 3 lots)

In order to provide gravity flow to these properties the sanitary sewer line may need to be several feet deeper over a significant length. As a result a low pressure sewer system to provide service to these properties may provide a reduction in the overall cost. The low pressure system would include a small diameter collection force main located in the street. Each individual user would be responsible for installing and maintaining a small wastewater grinder pump system (sometimes called an ejector pump) on their property which would pump to the common force main. The Township's responsibilities would be maintenance of the collection pipe.

Based on preliminary information, conveyance of wastewater collected from the west side of the Crosswicks Creek to the east side wastewater pumping station appears to require boring under the Crosswicks Creek. The depth of the gravity collection system pipe coupled with the flood hazard elevation does not appear to allow for attachment of the pipe below the Main Street bridge without obstruction of the stream flow.

The shaded parcels of the accompanying map illustrate the first phase of sanitary sewer service, but are subject to expansion or reduction as information regarding need and available treatment and disposal capacity becomes available.

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The following summarizes the wastewater flow for the various initially designated Phases of sanitary sewer construction.

**Phase 1**

Main Street (includes Magnolia & Church)	48,951	
Lakeview	13,678	
Maple to Chestnut	4,670	
North Main to Lakewood (Rt. 528)	21,037	
Evergreen to JCP&L	15,892	
Brindletown to Brynmore (includes Allen & Front)	12,286	
Jacobstown	35,696	
PRRC	75,600	
<b>Total Wastewater Flow</b>	<b>227,810 gpd</b>	<u>w/o PRRC</u> 152,210 gpd

<b>Phase 1</b>	Maple Ave. (Chestnut to Locust)	6,118	
<b>Phase 1A</b>	Oakford, Terrace & Crystal	16,200	
<b>Phase 1B</b>	Meadowbrook Ln.	11,050	
<b>Phase 1C</b>	Schools, Library, Municipal Bldg.	36,110	
<b>Phase 1D</b>	Locust Ln. - Earley St.	9,600	
		<b>79,078 gpd</b>	

<b>Phase 2</b>	Evergreen (JCP&L to Bright)	8,850	
	Fort Ave & Bell St.	4,200	
	N. Main St. (Lakewood to Brown)	3,300	
	Brown Ln.	5,460	
	Lakewood to Moorehouse.	9,300	
	Moorehouse. To Brown	2,400	
	Magnolia to Applegate	17,400	
	Cedar, Helen, Story, Alton & Birch	24,300	
		<b>75,210 gpd</b>	
	<b>Total all Phases =</b>	<b>382,098 gpd</b>	<u>w/o PRRC</u> 306,498 gpd

Based on individual lot flow as provided in the Plumsted Township Wastewater Management Plan as prepared by Applied Water Management Group, dated May, 2009.

Further refinements of the sanitary sewer collection system layout and alignment will be completed following our obtaining accurate elevation information throughout the proposed sewer service area. In addition, the areas to be included in the various phases of sewer construction will be adjusted following consultation with the MUA and Township Committee.



