

## **Introduction**

The Plumsted Municipal Utilities Authority (PMUA) was created by Plumsted Township Ordinance and charged with a number of tasks of which the provision of public wastewater and water facilities to New Egypt was central. In September 2009, the Township Committee and the PMUA entered into a Shared Service Agreement whereby the PMUA was authorized to investigate a proposed sewer service area plan as part of the Township's long term effort to stimulate the redevelopment of the state designated New Egypt Town Center (NETC).

Over the years, the PMUA and Plumsted Township have looked at various ways to provide public sewer to New Egypt. There are three options available for sewerage disposal which have been evaluated by the PMUA. These include: a groundwater discharge (GWD); a surface water discharge (SWD); and pumping to the Ocean County Utilities Authority (OCUA) northern sewage treatment plant via Jackson Township MUA's pumping station at Great Adventure. A "No Build" alternative was also considered.

After significant study and careful consideration it is the PMUA's recommendation to the Township Committee to pursue the Surface Water Discharge option. The PMUA requests that the Committee provide the authorization and funding to complete the design and permitting process, which is expected to take approximately two years. This Report summarizes the MUA's efforts and reasoning resulting in this recommendation to bring public sewer to the NETC.

## **Background**

The Redevelopment Plan adopted by the Township Committee in 2004 as amended in 2005 provides the mechanism for the Township to realize a coordinated program of redevelopment and rehabilitation in the area of New Egypt designated by the State of New Jersey as our Town Center. The purpose of the Redevelopment Plan is to provide a more vibrant, culturally interesting and attractive downtown to serve as a growth center to retain and attract new businesses and shoppers from within Plumsted and its surrounding environs. At the heart of the Redevelopment Plan is the need to provide sewer service and to expand water supply to support the revitalization effort. Among the stated goals and objectives of the Redevelopment Plan for the sewerage of the NETC are to: 1) create a public sewer system within the Town Center to address public health and welfare issues caused by failing, inadequate or improperly designed septic systems or cesspools; and 2) to reverse the significant ongoing economic decline of the downtown as the direct result of the absence of public sewer.

The provision of public sewer is required to remove the economic barriers to new and expanded growth and to improve the environmental quality of the Crosswicks Creek. Most of the downtown is within the 100 year flood hazard area of the Crosswicks Creek. The related shallow depth to groundwater and small lot sizes make it difficult to support and sustain septic systems and cesspools. Approximately 60% of existing septic systems and cesspools pre date 1969 when Ocean County began keeping records. As such, most of the septic systems and cesspools are old and will require in the future significant and costly repair or replacement. Added to this, many of the existing buildings were created before current health codes that

would have required much larger lot sizes. In fact, it is likely that downtown New Egypt and much of the surrounding environs as it exists today would not have been permitted at anywhere near the existing density if modern health codes and zoning had been in place at that time without a public sewer system. The provision of public sewer will provide an economic boost to the downtown, support the “Smart Growth initiative for Plumsted Township by channeling growth to the NETC and will eliminate the costly need for the repair or replacement of failing septic systems and cesspools. For these reasons, the provision of public sewer in the NETC continues to be a high priority for Plumsted Township and the PMUA.

To fund the sewer improvements, the Township hoped to utilize the Redevelopment Plan to enable a public/private partnership with a designated redeveloper(s) to pay for the sewer infrastructure. In the absence of a PRRC, or to stimulate re interest in a PRRC or other private reinvestment, the Township has the option to publicly finance the sewer infrastructure improvements through bonds issued by the New Jersey Environmental Infrastructure Trust.

### **If You Fail to Plan You Plan to Fail**

To effectuate the Redevelopment Plan and the provision of public sewers to New Egypt’s Town Center, Plumsted Township has completed the following:

- New Egypt Town Center designation- 1998. The designation is an essential requirement of the State to allow the creation of a sewer system within the Town Center. In 2010, the Township received approval for a revised Town Center boundary.
- Main Street New Egypt – 2002. The New Jersey Department of Community Affairs approves Plumsted Township’s application for the designation of New Egypt as a Main Street community. As a Main Street community, Plumsted has obtained a number of grants and loans which exceed \$1M. These grants and loans have been used to fund a Vision Statement and Circulation Element for the Downtown.
- Neighborhood Preservation Program- 2005. Plumsted received a grant of \$450,000 to assist in the revitalization effort. The program principally assists housing rehabilitation and business façade improvements and support of public projects such as Volunteer Park. This program has now been discontinued by the State.
- Redevelopment Plan- 2004 and 2005. As stated in the Redevelopment Plan, page 6, the compelling public purposes of the Plan are: to reverse the ongoing decline of the downtown and to create a sewer system to address public health and welfare issues caused by failing, inadequate or improperly designed septic systems. This process has involved numerous public meetings or hearings since 2003.
- Redevelopment Agreement No. 1- 2005. The Centex Corporation was designated by the Township Committee as the redeveloper of Block 40, Lot 10. This project, referred to as the Planned Residential Retirement Community (PRRC), included the construction of approximately 500 age restricted homes as a way to finance the sewer infrastructure in the NETC. Centex withdrew as the designated redeveloper in 2007.
- Redevelopment Agreement No. 2- 2007. The Kokes Organization was designated as redeveloper (replacing Centex) of the PRRC property. Due to environmental issues, the number of planned retirement homes was reduced to 336 units. The Kokes Organization withdrew as the designated redeveloper in late 2010.
- Redevelopment Finance Plan- 2008. This plan, prepared by the Township’s Financial Planner, presented a funding mechanism for the sewer infrastructure based on a 20 year, low interest loan from the New Jersey Environmental Infrastructure Trust Fund. The revenue to pay for the bonds

was to be based on capital contributions from the Kokes Organization and from the Payment in Lieu of Tax (PILOT) program.

- Downtown Business Improvement Loan- 2008. The Township secured a zero percent interest loan of \$543,000 to make public infrastructure improvements to the downtown. The new municipal parking lot at 6 Main Street and Volunteer Park on Evergreen Road were built with money from this loan.
- Draft Wastewater Management Plan- 2009. The Wastewater Management Plan document is a requirement of the NJDEP. The NJDEP will not issue any permit applications without it and is a prerequisite for no or low interest financing from the New Jersey Environmental Trust (NJEIT).
- Interim Shared Services Agreement with the PMUA- 2009. As noted above (see Introduction).

In addition, since September 2009, the PMUA has initiated and/or completed the following:

- Groundwater investigation of the Lakewood Road properties Block 43, Lots 38, 40-44).
- Conceptual design for the Phase 1 and Phase 2 wastewater collection system.
- Environmental Analysis of the proposed location for the pump station for the collection of the wastewater and its conveyance to either a new PMUA sewage treatment plant or to a sewage treatment plant outside Plumsted Township.
- Identified two possible locations for the STP if the option of a groundwater discharge or surface water discharge is chosen.

- June 29, 2010 Public Information/Green Acres Hearing.
- This re evaluation of options for the disposal of the projected wastewater from the NETC.

All the above are part of the comprehensive plan developed by Plumsted Township to provide sewer to the NETC. As a result of this planning, the Township is well positioned at this point to proceed with the design, permitting, construction and operation of the sewer system. However, in order to proceed, the Township must decide as to which wastewater disposal option is to be implemented and how this will be financed.

### **Options for Wastewater Disposal**

An extensive review of various options to address the wastewater needs of the NETC has been undertaken. This review has considered a full range of options that include:

1. Sending the wastewater to the Joint Base of McGuire- Dix-Lakehurst for treatment and disposal;
2. Sending the wastewater to the Wrightstown MUA for treatment and disposal;
3. Forming a regional sewerage authority with North Hanover and New Hanover for treatment and disposal;
4. Sending the wastewater to the Ocean County Utility Authority's (OCUA) north plant for treatment and disposal;
5. Treatment and disposal via discharge to groundwater at various sites in Plumsted Township; and
6. Treatment and disposal via a surface water discharge to the Crosswicks Creek.

It should be noted that in 2007 the NJDEP had advised the Township that it was extremely unlikely a permit to pump the wastewater to the OCUA, which would constitute an inter basin transfer, or surface water discharge could be obtained. An inter basin transfer is the removal of water from within the Delaware River Basin and discharging it outside the basin; in Plumsted's case the Atlantic River Basin. The Delaware River Basin Commission (DRBC) generally opposes this option because of the possible impacts to the Delaware River. Similarly, the NJDEP discourages surface discharge of sewerage when more environmentally friendly options

are available. Based on input from the NJDEP, the Township and the Kokes Organization spent a great deal of time and money pursuing a GWD option. After extensive analysis of potentially suitable sites within the Township, two separate sites were identified and investigated based on a number of factors; acreage, soils, presence/absence of wetlands, threatened or endangered species and preserved farmland. The two sites are referred to as the “Maple Avenue” site and the “Lakewood Road” site. A third site, the “Search Farm” had been looked at by the Centex Corporation (prior to 2007) for groundwater disposal. Two of the three sites investigated, the Search Farm and the Maple Avenue site, were found to have seasonally high water tables and other conditions which eliminated these sites as suitable for groundwater disposal. The Lakewood Road site was found to have some potential to serve as a groundwater discharge site (see below for analysis). Objections from residents, concerns for aggravating existing flooding conditions in the basement of homes and limited capacity below that required for servicing of the entire Town Center led the PMUA to once again consider other options. The inability to find a suitable groundwater disposal site, coupled with the existing poor economic conditions and loss of the PRRC development site (now under contract for light industrial use) resulted in the withdrawal of the second redeveloper.

After exhausting all options for groundwater disposal as outlined above, the PMUA and Township met in November and in December 2010 with the NJDEP and the DRBC to discuss our findings and options. At these meetings, the NJDEP and DRBC appeared to reverse their stance from 2007 and indicated that both the inter-basin transfer of sewerage to the OCUA and a surface water discharge could be permitted. Based on this information, the PMUA prepared a cost analysis for each of the three build options that were deemed to be feasible. These include:

- A groundwater discharge on non Green Acres acquired land at the Lakewood Road site;
- A surface water discharge to the Crosswicks Creek at County Route 537
- Pumping to the Ocean County Utilities Authority northern sewage treatment plant in Brick Township, Ocean County via the Jackson Municipal Utilities Authority’s pump station at Great Adventure Six Flags.

The PMUA believes a permit for any of these options can be accomplished in the next 12 -24 months.

In its review, the MUA also considered a No Build Alternative. However, we do not consider a No Build Alternative as viable given the stated compelling public purpose that sewerage of the NETC will address. The MUA is also cognizant of the possibility if Plumsted Township does not move forward to provide public sewers that the State of New Jersey may ultimately mandate the provision of sewer in the NETC to address existing degradation of water quality in the Crosswicks Creek caused in part by failing septic systems and cesspools. Further, regulations affecting individual discharges are becoming more restrictive. The provision of sewer will eliminate the possibility of future costly repair or replacement.

The advantages and disadvantages of each are summarized below:

## **Groundwater Disposal at Lakewood Site:**

### **Disadvantages**

- Public concerns that the GWD field might cause flooding or well degradation of nearby homes
- Limited Disposal Capacity: .25mgd. Future expansion needed to service the NETC likely dependent on use of adjacent Green Acres parcels
- Highest Construction and Higher Operating Cost
- Acquisition of required privately owned property may involve Eminent Domain
- Green Acres and Preserved Farmland access issues to site
- Land intensive

### **Advantages**

- NJDEP Preferred Disposal Option
- Public concerns can be addressed
- No environmental site issues. Straight forward permit process.
- Compliance with groundwater discharge can be met with standard treatment process

## **Great Adventure Pump Station to OCUA**

### **Disadvantages**

- Inter basin transfer issue: DRBC jurisdiction, expensive application fee
- Control issues
- Highest projected costs to operate sewer system
- Higher projected cost of construction

### **Advantages**

- Agreement in Principle with Jackson MUA, Ocean County Planning, Ocean County Utility Authority, Great Adventure Six Flags to implement
- Minimal environmental issues
- Can meet existing and future needs of NETC
- No need for STP
- Minimal maintenance of collection and transmission system
- No acquisition of land required

## **Surface Water Discharge at the Crosswicks Creek (Rout 537)**

### **Disadvantages**

- Public Concerns and opposition to be expected
- NJDEP has not issued a SWD permit in many years, which leads to some uncertainty in the permitting process.

- Must meet stringent existing and future water quality parameters. STP must be designed to meet 0.1 standard for phosphorous
- More involved maintenance and operation oversight of STP

### **Advantages**

- Least costly of three options to construct and maintain
- Regulatory approval for stream discharge is helped by available dilution, stream classification as FW 2
- Can meet existing and future wastewater needs for NETC
- STP location and discharge on same site
- Willing landowner for STP
- Allows Plumsted to own and operate its own system separate from outside costs.
- The system becomes an asset for the Township.

### **Analysis of No-Build Option**

We believe the provision of sewer will not only benefit New Egypt and end its years of decline but will affect the well being of the entire community. We reject the notion that the benefits of the Redevelopment Project will accrue to the downtown only. A stronger downtown will increase the Township's overall tax ratable base, will provide additional employment opportunities, provide residents with local, convenient, expanded retail and service businesses, will improve the overall attractiveness of the Township, will support existing Township businesses and other Township attractions such as the Inn at Laurita and complete the principles of Smart Growth the Township has long sought to achieve.

Without the PRRC project to pay for the sewer improvements, at least initially, the cost of providing sewer may have to be publicly financed. It is also our feeling that the provision of actual sewer (not planned) will be a strong incentive for a developer/investor to want to participate in the revitalization of the downtown and Town Center. We believe Plumsted Township must make this investment if it is to expect a developer/investor to participate in the revitalization of the NETC. The incentive for a developer to be interested and for the Redevelopment Plan to succeed is greatly enhanced if New Egypt has an operative sewer system. We think it reasonable to assume that with sewers in place and with the slowly improving economic climate the chances of success are much improved.

It is also our opinion that the attractiveness of New Egypt to a developer will be enhanced by the provision of mixed use development of not just age restricted, but a mixture of age targeted and conventional housing types as well. A mixture of housing types, we believe, may be necessary in the current economy and required to support the future restaurants which are envisioned and needed to encourage a greater diversity of business, thus appeal of the downtown, to residents and visitors alike.

The Township Committee and Plumsted as a community must be willing to make this

investment in the Town Center as it has for the preservation of over 3,000 acres of preserved farmland and open space; a commendable and worthwhile endeavor. The PMUA believes through its meetings that are open to the public and the public meeting/hearing it held on June 29, 2010 the public understands and supports in principal the sewerage of the NETC. It is important the Township Committee and PMUA continue to provide the public with a thorough understanding of the Redevelopment Project as we move forward with providing sewers to the NETC.

## **Conclusion**

It is the unanimous opinion of the PMUA that the Township Committee and PMUA move forward to provide public sewer to the downtown and select the Surface Water Discharge option to implement this process. We reaffirm the compelling public purpose and need to do so as stated in the adopted Redevelopment Plan.

On the basis of our review, the Surface Water Discharge option is the best suited to provide for the immediate and future needs of the NETC for sewer and is the least costly to build and to operate (see attached summary of construction and operation cost). This option will provide the Township with a tangible asset. We think the longer time frame to apply for and obtain the necessary permits for this option is acceptable with the financial savings. From our conversations with the NJDEP, we know of no environmental or regulatory reason a permit for a SWD cannot be obtained. If for some reason, in the early stages of implementing the SWD option it becomes unattractive, our second preference is for the Inter Basin Transfer option. Our concerns with this option relates to the higher costs to construct and highest user fees associated with this option as well as the uncertainty of future operation costs which may be assessed by the Ocean County Utilities Authority or the Jackson Municipal Utilities Authority. We recommend the Township cease to consider the Lakewood Road site for groundwater recharge because of its inability to serve future sewerage needs for the NETC and as this option results in the highest construction costs.

We believe the wastewater system should be designed and built to accommodate the existing residences and businesses for the combined Phase 1 and 2. While this increases the construction costs and bonding necessary to accomplish this, the arguments in favor of doing so are the construction costs will only increase in the future and the additional customer base will lower the costs to operate and maintain the system. At the very minimum, we believe Phase 1 should be implemented with or without a redeveloper. We would also recommend the sewage treatment plant be built to accommodate the projected Phase 1 and 2 flow of 300,000 gpd. While this lesser option does not seem to provide any real cost savings, it would, however, provide sewer to the NETC where it is most needed and could be easily expanded in the future to accommodate redevelopment and/or its expansion to serve other existing development outside the Main Street area.

The PMUA strongly recommends that the Township Committee authorize the PMUA with the funds remaining in the Redevelopment Project Capital Bond account to immediately apply for and obtain the NJPDES permit for the discharge of treated wastewater to the Crosswicks Creek

(if the Township delays this aspect it will lose the opportunity to do so until 2012), to complete the Wastewater Management Plan and to prepare construction documents. A proposed budget and time line is attached. Once construction plans are completed a more accurate construction estimate can be prepared to more clearly define the overall impact to the Township's finances. It is expected it will take up to two years to obtain the NJPDES permit during which the Township can continue to look for a redeveloper to be a financial partner in the project or to obtain county, state or federal funds to support or defray the costs of the project.

#### **Attachments:**

Construction and Operation Costs  
Proposed Budget/Project Time Line

3-1-11

### **Plumsted MUA**

#### **Construction Cost Summary: 300,000 GPD**

	<b>GA</b>	<b>SWD</b>	<b>GW</b>
Collection-Phase 1	\$1,972,690	\$1,972,690	\$1,972,690
Pump Station	\$950,000	\$750,000	\$750,000
Force Main	\$6,100,000	\$815,400	\$2,765,400
STP	0	\$4,726,000	0
Disposal Beds	0	0	\$2,000,000
Subtotal	\$9,022,690	\$8,264,090	\$11,464,090
JMUA	0	0	90
Land/Easements	\$100,000	\$400,000	\$500,000
Permitting/Design* (10%)	\$951,135	\$826,409	\$1,146,409
CM/Eng. (10%)	\$902,269	\$826,409	\$1,146,409
Contingency (20%)	\$1,804,538	\$1,652,818	\$2,292,818
Totals	\$14,530,632	\$11,969,726	\$16,549,726
Add Phase 1a-d, 2	\$2,787,750	\$2,787,750	\$2,787,750

<b>Total</b>	<b>\$17,318,3</b>	<b>\$14,757,4</b>	<b>\$19,337,4</b>
<b>Construction</b>	<b>82</b>	<b>76</b>	<b>76</b>

\* Based on 10% of est. construction costs. GA option adjusted to reflect 2x interbasin fee to DRBC

### Operation Cost Summary (Annual Basis\*)

	OCUA	SWD	GW
OCUA User	\$418,83		
Rate (1)	8		
JMUA User	\$142,89		
Rate (2)	8		
PMUA Costs			
Admin./Capital	\$300,00	\$300,00	\$300,00
Reserve (3)	0	0	0
Pump Station	\$122,14		
(4)	2	\$32,594	\$32,594
		\$355,97	\$362,46
Treatment Facility (4)		0	3 **
	\$983,87	\$688,56	\$695,05
Total Operation	8	4	7
Avg. Annual Plumsted			
Rate (5)	\$646.92	\$452.74	\$457.02
Avg. Quarter Plumsted			
Rate (6)	\$161.73	\$113.18	\$114.25

\* Based on 300,000 gpd (109.5  
mga)

\*\* Includes pumping to disposal system and operation of disposal system

Notes:

(1) 2011 OCUA Rate:  $\$3825 \times 109.5 = \$418,838$

(2) JMUA Rate:  $\$1305 \times 109.5 = \$143,550$  ( $\$6,000 - \$3825 = \$2175 \times .60 = \$1305$ )

(3) PMUA Estimate for operation, maintenance, capital reserve

(4) Van Cleef Engineering construction estimate

(5) PMUA Annual Rate: Based on annual avg. residential usage of 72,000 gallons (200 gpd)

OCUA Option:  $\$8.9851$  per thousand gallons  $\times 72 = \$646.92$  ( $\$983,878/109.5/1,000 = 8.98518$ )

SWD Option:  $\$6.288$  per thousand gallons  $\times 72 = \$452.74$  ( $\$688,564/109.5/1,000$ )

GW Option:  $\$6.347$  per thousand  $\times 72 = \$456.98$  ( $\$695,057/109.5/1,000 = 6.34755$ )

(6) JMUA Survey of 16 utilities:  $\$125.71/Q$

3-3-11

## Plumsted MUA

### Construction Cost Summary: 160,000 GPD

	GA	SWD	GW
Collection-Phase 1	\$1,972,690	\$1,972,690	\$1,972,690
Pump Station	\$950,000	\$750,000	\$750,000
	\$6,100,000		\$2,765,400
Force Main	0	\$815,400	0
STP (1)		\$4,726,000	\$3,976,000
		0	0
			\$2,000,000
Disposal Beds			0
Subtotal	\$9,022,690	\$8,264,090	\$11,464,090
	0	0	90
	\$1,251,000		
JMUA	0		
Land/Easements	\$100,000	\$400,000	\$500,000
			\$1,146,409
Permitting/Design* (10%)	\$951,135	\$826,409	\$1,146,409
CM/Eng. (10%)	\$902,269	\$826,409	9
Contingency (20%)	\$1,804,538	\$1,652,818	\$2,292,818
	8	8	8
	\$14,031,632	\$11,969,726	\$16,549,726
Totals			
Add Phase 1a-d, 2	\$0	\$0	\$0
<b>Total Construction</b>	<b>\$14,031,632</b>	<b>\$11,969,726</b>	<b>\$16,549,726</b>

\* Based on 10% of est. construction costs. GA option adjusted to reflect 2x interbasin fee to DRBC

1. STP constructed for 300,000 gpd.

### Operation Costs Summary (Annual Basis\*)

	OCUA	SWD	GW
OCUA User Rate (1)		\$223,380	
JMUA User Rate (2)		\$76,212	

PMUA Costs			
Admin./Capital Reserve		\$300,00	\$300,00
(3)	\$300,000	0	0
Pump Station (4)	\$81,992	\$32,594	\$32,594
		\$228,95	\$235,44
Treatment Facility (4)		5	8 **
		\$561,54	\$568,04
Total Operation	\$681,584	9	2
Avg. Annual Plumsted			
Rate (5)	\$840.30	\$692.32	\$700.32
Avg. Quarter Plumsted			
Rate (6)	\$210.07	\$173.08	\$175.08

\* Based on 160,000 gpd (58.4 mga)

\*\* Includes pumping to disposal system and operation of disposal system

Notes:

(1) 2011 OCUA Rate:  $\$3825 \times 58.4 = \$223,380$

(2) JMUA Rate:  $\$1305 \times 58.4 = \$76,212$  ( $\$6,000 - \$3825 = \$2175 \times .60 = \$1305$ )

(3) PMUA Estimate for operation, maintenance, capital reserve

(4) Van Cleef Engineering construction estimate

(5) PMUA Annual Rate: Based on annual avg. residential usage of 72,000 gallons (200 gpd)

OCUA Option:  $\$11.6709$  per thousand gallons  $\times 72 = \$840.30$  ( $\$681,584/58.4/1,000 = 11.67095$ )

SWD Option:  $\$9.6155$  per thousand gallons  $\times 72 = \$692.31$  ( $\$561,549/58.4/1,000 = 9.61556$ )

GW Option:  $\$9.7267$  per thousand  $\times 72 = \$700.32$  ( $568,042/58.4/1,000 = 9.72674$ )

(6) JMUA Survey of 16 utilities:  $\$125.71/Q$

#### Permitting/Design Budget:\* Surface Water Discharge (SWD)

	SWD	Schedule
Anti Degradation Study Work Plan	\$10,000	Apr.- May
Environmental Assessment	\$10,000	Apr.- May
Anti Degradation: Sampling/Analysis/Report	\$100,000	July- Nov.
Wastewater Management Plan Revisions (1)	\$20,000	Aug.- Sept. Oct.-
Heller Agreement/Property Appraisal	\$10,000	Nov.
DRBC Application/Permit Fee (2)	\$33,056	Dec.- Jan.

Complete Preliminary Design for NETC	\$20,000	Dec.- Jan
Construction Documents	\$287,000	Jan.-July 11
NJPDES Fee (3)	\$4,200	
Total	\$494,256	

\*To obtain NJPDES Permit, complete Wastewater Management Plan, prepare Construction Documents

1. Cost to finalize draft WMP
2. Delayed submittal
3. Due at time permit is issued