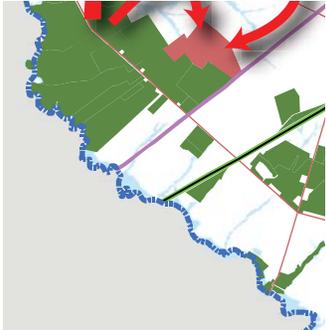
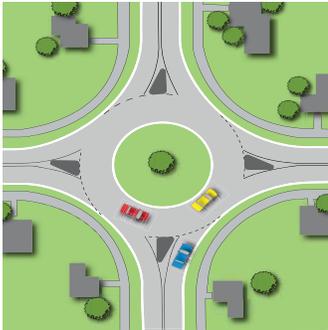
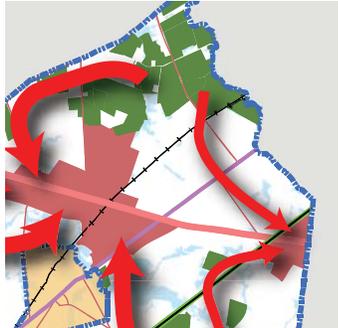


# CAPITAL IMPROVEMENT PLAN



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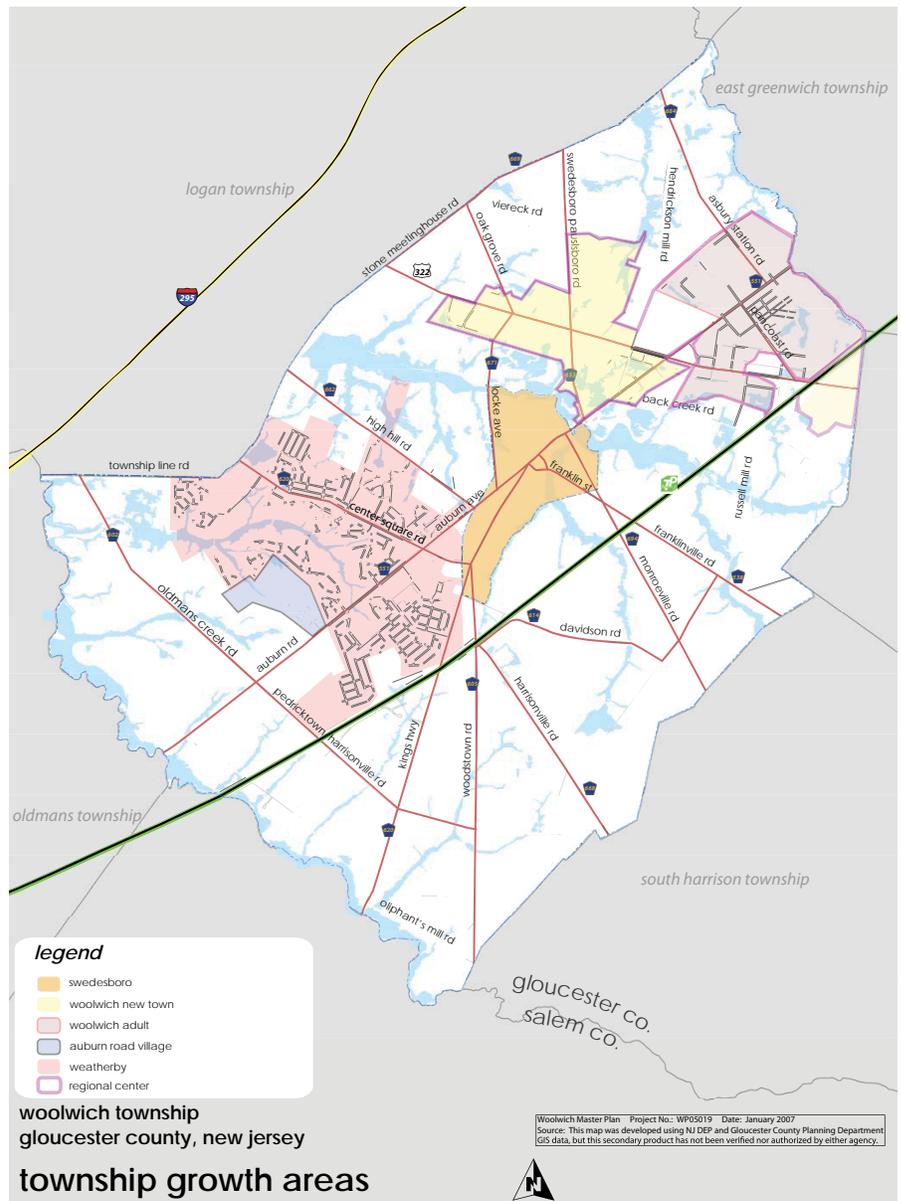
# CAPITAL IMPROVEMENT PLAN

## INTRODUCTION

Woolwich Township in Gloucester County, New Jersey proposes to implement the Transfer of Development Rights (TDR) program and achieve consistency with the State Development and Redevelopment Plan. To this end, the Township has designated specific growth areas in a planned regional center called Woolwich Regional Center, located along the US 322 Corridor. The Regional Center includes several sub-areas. First is a TDR Receiving Zone that consists of two noncontiguous areas. The larger of the two is a planned new town called Woolwich New Town. The New Town will contain a mix of residential, commercial, office, civic uses and outdoor public spaces. The second component of the TDR Receiving Zone is a commercial zone east of the NJ Turnpike. The two areas sandwich a 750 acre tract owned by Woolwich Adult LLC as well as a middle and high school. Woolwich Adult plans to construct a mix of residential, retail and office space. A second receiving zone – Auburn Road Receiving Zone or Auburn Road Village lies contiguous to the Weatherby development. This will be predominantly residential when built out.

This program will increase densities in certain areas known as receiving areas and will preserve rural density in areas selected as sending areas. This increasing of densities will ultimately decrease the overall capital cost for the Township and the developer. While there is capital cost associated with any development, the ability to have drainage, water, wastewater and roadways in a concentrated area will decrease the overall cost and future maintenance cost of development. In addition, the use of new techniques for roadways and drainage will decrease capital cost. A recent study published in New Urban News (New Urban News Jan/ Feb 2007. Philip Lagoon. Natural drainage can cut NU's Development Cost") describes how reductions in cost can be obtained using "low-impact development" in a traditional neighborhood development. In this project the capital cost per lot fell from \$8,934 to \$6,234 or a drop of 30%.

This Capital Improvement Plan (CIP) focuses on the capital costs that require state, county, municipal funding or cost sharing agreements. The CIP is prepared in accordance with NJSA 40:55D-140(b). The TDR statute requires that a CIP be adopted which "includes the location and cost of all infrastructure and a method of cost sharing if any portion is to be assessed against a developer pursuant to section 30 of PL1975, C.291(C40:55D-42)." It should be noted that all on-site infrastructures will be completed by the developer.



## INFRASTRUCTURE

There are four types of infrastructure improvements which the Municipal Land Use law (MLUL) (40:55D-42) allows a Governing Body to realize off-site contributions. They are:

1. Street Improvements
2. Drainage
3. Water
4. Sanitary Sewer

The implementation of Woolwich Township's future vision requires that the planned growth areas be served by a comprehensive public water supply system, sanitary sewer collection, treatment and disposal system, stormwater management system and transportation network.

Each of these infrastructure needs has been analyzed to determine scope and quantity of improvements required and the overall cost of these improvements has been estimated for this plan. While all are required for the final completion of the project, the need to have the sanitary sewer and water in place is paramount for this project. While temporary measures can be contemplated for Street Improvements and Drainage, due to the densities proposed, the project will not be able to progress without the ability to connect to Water and Sanitary Sewer. A Settlement Agreement exists between Woolwich Adult and Woolwich Township which clearly details how the Sewer and Water Utilities will be built.

## FRAMEWORK FOR COST SHARING

Due to the large geographic area, the number of developers involved and the overall cost of the project, this project will need to be implemented in phases. Phasing will be driven by development on an as needed basis. This will present the developer with the following options:

1. Construct temporary infrastructure improvements to accommodate their infrastructure needs prior to regional facilities being completed, then paying the cost to tie into the regional improvement. (Not viable for water and sewer)
2. Construct regional infrastructure improvements in conjunction with on-site infrastructure development and have future developers pay connection fees to the developer through cost sharing agreements.
3. Connect to regional infrastructure improvements already constructed and pay connection fee established through a cost sharing agreement.

There are various methods of cost sharing agreements that have been utilized in the State of New Jersey to fund long range development driven projects. Those methods are outlined below:

### COST SHARING METHODS

- PRO-RATA SHARE

The Municipal Land Use Law (MLUL) authorizes imposition of certain contributions to off tract improvements (40:55D-42). The statute requires a municipality to prepare an ordinance which is "fair and reasonable", to determine the developers "pro-rata share" of the cost of the improvements.

Pro-rata share agreements have been used successfully for water, sewer, drainage and street improvements in the past. The most important aspect when preparing these agreements is determining an equitable basis for comparison, i.e. gallons per minute for a sanitary sewer. The concern with this method is that the cost of the improvement must be paid upfront with no guarantee of future contributions. The other concern is who will pay the upfront cost: a developer, authority or government entity.

Based on this statute it would be inappropriate to prepare a pro-rata share agreement at this time. There are too many unknowns such as timing of improvements, future background traffic counts, innovative improvements, probability of mass transit and other items which would be needed to provide a "fair and reasonable" ordinance.

- IN LIEU CONTRIBUTIONS

Many municipalities are now requiring “In lieu” contributions for recreation fees. These are fees paid by the developer in lieu of placing recreation on-site. These fees are usually based on minimum recreation requirements for each subdivision as defined in a municipal ordinance. In general the fees are between \$1,500 - \$4,000 per unit. In the increased density of a receiving area, this method would be very effective in paying for common recreation and open space areas.

This type of fee could also be utilized for stormwater management. As the developer will not be required to build all of his stormwater management system on-site, an “in lieu” fee can be collected to pay for his off-site requirements. This will be beneficial to the developer, in that he will be able to build more units. The negative for a municipality is that the off-site improvement must be constructed and available prior to all the money being collected. In the case of recreation fees, the recreation facilities are not built until a significant percentage of the improvement cost has been collected.

- RECAPTURE AGREEMENTS

Recapture agreements are agreements made with an original developer and a government entity which allows the original developer to charge a “connection fee” to a new developer who connects to their improvement. This method has been used successfully for water or sanitary sewer. While it would be feasible to use for stormwater management, this method is not as prevalent.

The advantage to the municipality is that they have no expense. The developer pays for the entire improvement and hopes to recapture the cost as other developers connect to the improvement. The disadvantage is finding a developer to agree to this method. The scope of the development must be large enough to justify the upfront cost of the off-site improvements.

- AUTHORITIES OR TRANSPORTATION DEVELOPMENT DISTRICTS

#### AUTHORITIES

Governmental utility authorities have been involved in the collection, distribution and treatment of water and wastewater for many years in New Jersey. The authorities will pay for improvements through a government bond, then collect connection fees and quarterly user fees to pay the bond and maintain the system. The utility authorities consist of members appointed by the appropriate governing bodies.

With the recent promulgation of the stormwater rules, some local and county governments have considered creating stormwater utility authorities. These authorities are responsible for the construction, operation and maintenance of all stormwater in the defined geographic boundary.

- TRANSPORTATION DEVELOPMENT DISTRICTS (TDD)

TDD's are relatively new and are authorized under NJSA 27:1c-1. A TDD identifies transportation infrastructure improvements needed within the district to support anticipated development.

A transportation improvement plan is written with input from representatives from government and the private sector. A fee structure is then generated to help pay for the improvements. The fees must be related to the increased traffic growth attributable to the development.

- WOOLWICH ADULT SETTLEMENT AGREEMENT

The settlement agreement between Woolwich Adult LLC and Woolwich Township clearly delineates various water and wastewater improvements that must be completed by the parties. Any of the above methods of payment for capital improvement must use this agreement or any future amendments as a basis for determining the proper methodology and phasing.

#### STREET IMPROVEMENTS

To accommodate additional growth in the Regional Center, Woolwich Township proposes to create a sustainable land plan that features a multi-modal circulation system.

The transportation plan lays out a local transportation structure for Woolwich Township required to support the proposed growth in Woolwich New Town and throughout the 322 Regional Center and the Auburn Road Village. It analyzes the potential traffic impacts associated with that growth and makes recommendations

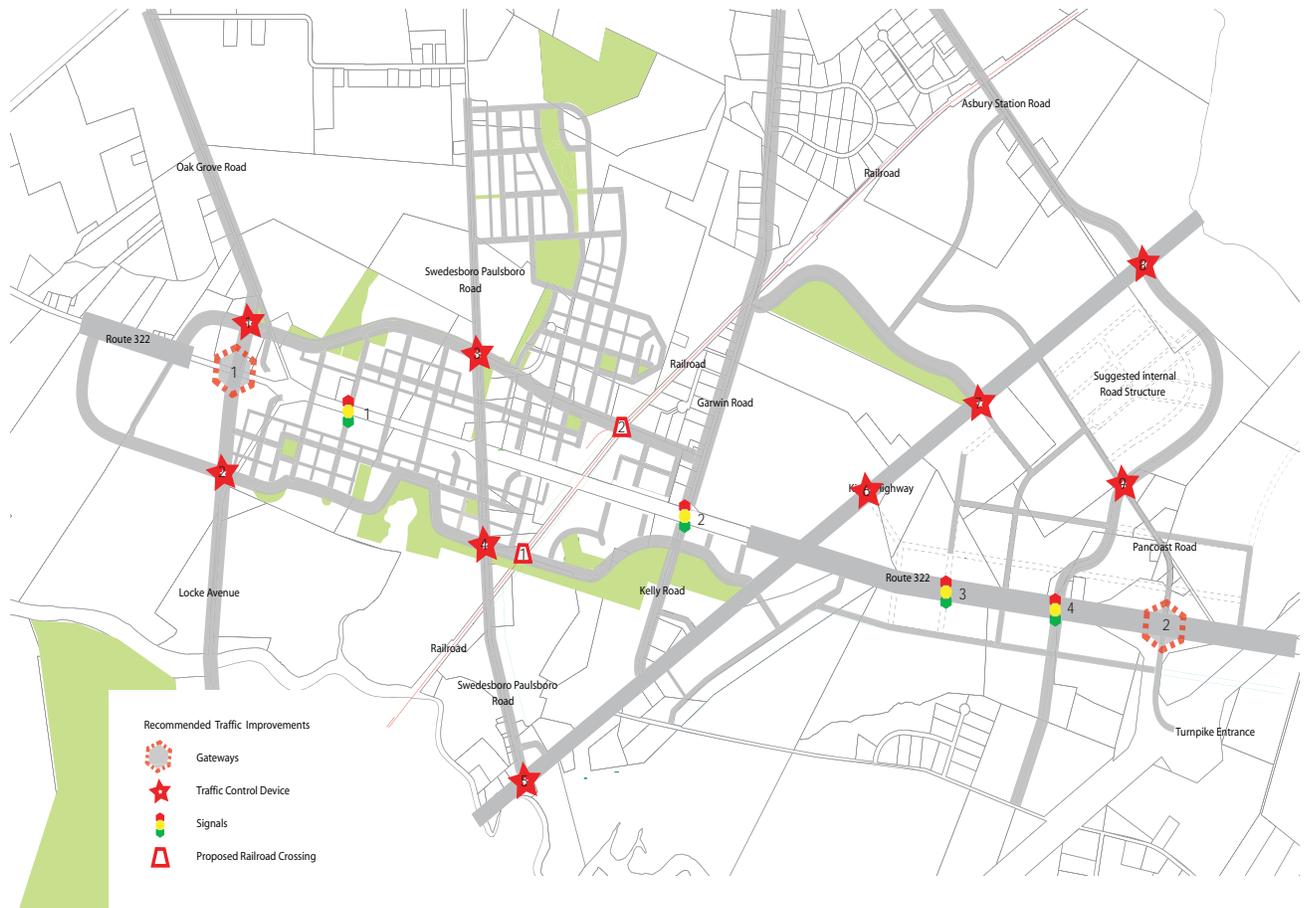
regarding how growth and development can occur in a fashion that will give greater priority to the use of public transportation and human powered transportation – walking and biking – thereby reducing total trip making and total vehicle travel.

Development of the transportation plan included a detailed analysis of the following:

- Inventory of current travel system
  - Highways
  - Other Transportation Facilities (i.e. Transit and Freight)
  - Commuting Patterns
- Link between Land Use and Transportation Growth
- Alternative Travel Modes
- Projected Traffic Volumes

The plan, as a result of this extensive analysis of local and regional conditions, input from stakeholders including New Jersey Department of Transportation, New Jersey Department of Environmental Protection, New Jersey Department of Community Affairs, Gloucester County, Woolwich Township and local property owners, has the following recommendations:

WOOLWICH NEW TOWN



1. New signalized intersections at:

- Garwin Road and US 322
- Relocated intersection of Locke Avenue/Oak Grove Road/US 322
- Two new street crossings between Kings Highway and the Turnpike interchange
- One new street crossing between Paulsboro-Swedesboro Road and Locke Avenue
- Reconstructed intersection at the intersection of the Interchange 2 access road with a relocated Pancoast Road to serve as the north leg

A computerized traffic control system should be provided to permit the two-directional flow of traffic using a speed of progression no greater than the desired operating speed along the highway.

2. Gateway intersections shall be provided at the relocated Locke Avenue intersection to the west and the reconstructed Interchange 2/Pancoast Road interchange to the east.
  3. Reconstruct US 322 at each intersection to provide a landscaped median 30 feet to 100 feet wide to serve as a refuge for pedestrians.
  4. Provide curving approaches to intersections based on a desired operating speed of 30 MPH at intersections
  5. In future, provide continuous landscaped median, minimum 30 feet wide, and two traffic lanes in each direction through Town Center, with width of median increasing at signalized intersections, for US 322
  6. Provide local service roads to serve abutting land use to bring traffic to specified signalized intersection. Direct driveway access to Route 322 from adjacent land use development is prohibited.
  7. Provide landscaped boulevard parkway on each side of highway corridor incorporating a multi-use pathway system
  8. Provide signalized pedestrian crossings at locations where north-south streets in the street grid meet the boulevard alignment
- Incorporate separate pedestrian crossing phases into the signal progression pattern of the state highway in each direction
9. Textured pavement cross walks and/or intersections to be provided at signalized intersections with Route 322.
  10. Reserve land within Route 322 cross section for potential future Bus Rapid Transit.
  11. Kings Highway (CR 551) (Subject to County Approval)

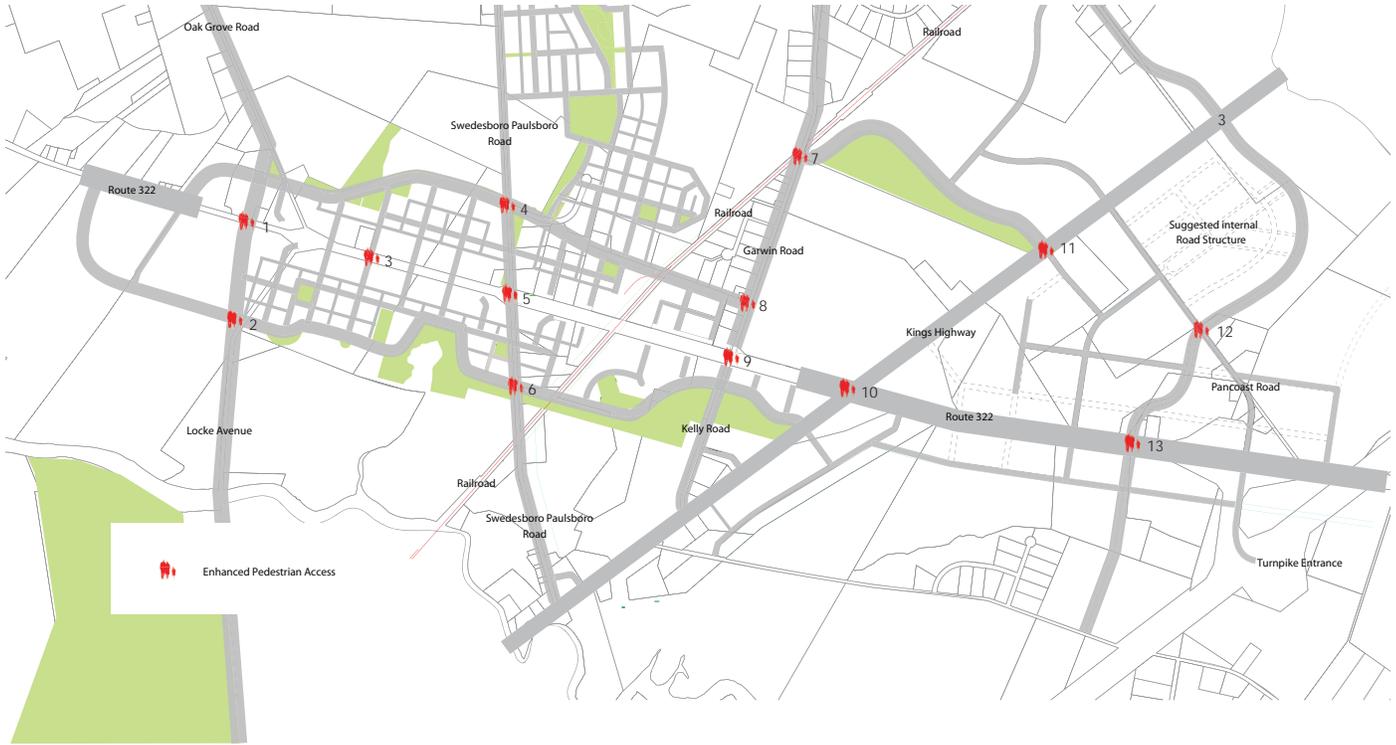
A. North of US 322

- Widen Kings Highway to provide two through traffic lanes in each direction plus a shoulder and a 16' center median with left turn lanes at intersections
- Provide multi-purpose paths on each side of roadway
- Provide roundabouts at major intersections in front of school complex, at Pancoast Road and at Repaupo Road
- Provide mid-block crosswalks with pedestrian refuge islands at convenient walking access points to school complex

B. South of US 322

- Reduce roadway cross-section width to create transition prior to entering Swedesboro
- Provide multi-purpose paths on each side of roadway
- Construct roundabout or other traffic control device at Paulsboro-Swedesboro Road intersection

12. Paulsboro-Swedesboro Road (CR 653) (Subject to County Approval)
  - A. Reconstruct to provide Main Street cross-section  
Provide roundabouts or other traffic control devices at the following intersections:
    - Most northern intersection in Town Center to serve as gateway
    - At northern loop road intersection
    - At southern loop road intersection
    - At Kings Highway (see above)
13. Locke Avenue/Oak Grove Road (CR 671)
  - Reconstruct to provide Main Street type cross-section or construct two one-way streets
  - Provide roundabout type intersections or other traffic control devices at northern loop road and at southern loop road to serve as gateways
14. Pancoast Road (CR 672)
  - Relocate to intersect US 322 opposite Interchange 2 access road
  - Provide roundabouts at Asbury Station Road intersection providing access to Woolwich Adult shopping district
15. Garwin Road
  - Provide roundabouts at northern loop road and at intersection just south of the railroad grade crossing
  - Provide mid-block crosswalks with pedestrian refuge islands at convenient crossing locations for Kingsway Middle and Senior High Schools
16. Town Center local and collector streets
  - Provide frequent neighborhood traffic circles or chicane like horizontal diversions in area west of railroad tracks.
17. Woolwich Adult retail shopping areas
  - Provide traffic control or calming devices along each of the service roads parallel to US 322 at intersections with north-south roads that cross US 322
  - Provide raised pedestrian crosswalk at the central intersection in both the northern and southern shopping district
18. Pedestrian Improvements



- All intersections identified should provide textured crosswalks with crosswalks a minimum of 10 feet wide. Key intersections identified as 4, 5, 6 and 13 in the diagram should be fully improved with textured pavement. Textured crosswalks are required on all corners of the intersection to alert motorists of the presence of pedestrians.
- Intersections identified as 1, 3, 5, 9, 10 and 13 should provide refuge islands a minimum of 30 feet wide within the cross section of U.S. Route 322.
- Intersections identified as “existing” or “proposed” signalization should incorporate pedestrian movement into the signal design and timing.
- All intersections identified must provide bulb-outs in order to minimize the amount of automobile travelway that must be crossed by pedestrians. Minimizing the amount of travelway crossing is important for safety from both an actual and perceptual perspective.

AUBURN ROAD VILLAGE

1. Auburn Road (CR 551)
  - A. Widening and right-of-way dedication
    - Future right-of-way of 88’ per county official map
    - Widen to provide one 12’ travel lane and one 6’ shoulder in each direction
  - B. Receiving Zone access road
    - Provide northbound left turn lane
    - Provide raised median refuge island on north leg opposite the left turn lane
  - C. Access control
    - Prohibit additional driveways from receiving zone onto Auburn Road

2. Center Square Road (CR 620) (Subject to County Approval)

A. Provide roundabouts in lieu of traffic signals at the intersections with:

- Auburn Road
- Kings Highway

3. Amesbury Boulevard (Subject to Four Seasons Approval)

A. Provide three landscaped roundabouts to calm traffic at the following locations:

- Somerfield Road (first intersection on north)
- Minor collector road leading to SW section of Four Seasons
- Intersection with collector road leading to Receiving Zone

Provide a chicane or similar speed reduction device at crossing over tributary to Oldmans Creek.

4. Provide circular intersections and curvilinear alignments as depicted in conceptual land plan for Receiving Zone

5. Provide mid-block pedestrian crossing to link the two sides of the commercial development, using the median as a refuge

The estimated cost of the recommended street improvements was based on the reconstruction of all of the roads listed and their cross-section. The gateways and roundabouts were based on roadway widths and a treatment (such as pavers) to distinguish them from the roadway. The unit cost was based on 2007 prices and was not adjusted for inflation. The improvements are as recommended in the previous Transportation Plan.

As discussed previously the overall cost of this project will need to be paid based on a cost sharing with federal, state, county and municipal public funds in addition to private developers funds. Based on trip generations, appraised value increases or other "fair and reasonable" standards, a methodology will be determined that determines the best method to pay for roadway improvements.

TABLE 1  
STREET IMPROVEMENTS COST ESTIMATE

Route 322						
	Traffic Lights	4	\$250,000	\$1,000,000		
	Gateways	2	\$500,000	\$1,000,000		
	Roadway	1	\$10,000,000	\$10,000,000		
						\$12,000,000
Kings Highway north						
	Roadway					
	North			\$3,750,000		
	Repaupo Road					
	Roundabout	1	\$150,000	\$150,000		
	Pancoast Road					
	Roundabout	1	\$150,000	\$150,000		
	School Roundabout	1	\$150,000	\$150,000		
						\$4,200,000
Kings Highway South						
	Roadway					
	South			\$3,000,000		
	Swedesboro Roundabout			\$125,000		
						\$3,125,000
Paulsboro Swedesboro						
	Roadway			\$2,750,000		
	Roundabout	2	\$150,000	\$300,000		
						\$3,050,000
Locke Ave-Oak Grove						
	Roadway			\$1,100,000		
	Roundabout	2	\$150,000	\$300,000		
						\$1,400,000
Railroad Bridge Crossing		2	\$340,000	\$680,000		\$680,000
Pancoast						
	Roadway			\$825,000		
	Roundabout	1	\$150,000	\$150,000		
						\$975,000
						<b>Construction Cost subtotal</b>
						<b>\$25,430,000</b>
						<b>25% Contingencies, Design &amp; Inspection</b>
						<b>\$6,357,500</b>
						<b>Total Estimated Cost</b>
						<b>\$31,787,500</b>

AUBURN ROAD VILLAGE

Note: Due to the nature of the site and the fact that it is in single ownership, and will be developed by a single entity, all capital cost for streets will be paid by the developing entity.

## DRAINAGE IMPROVEMENTS

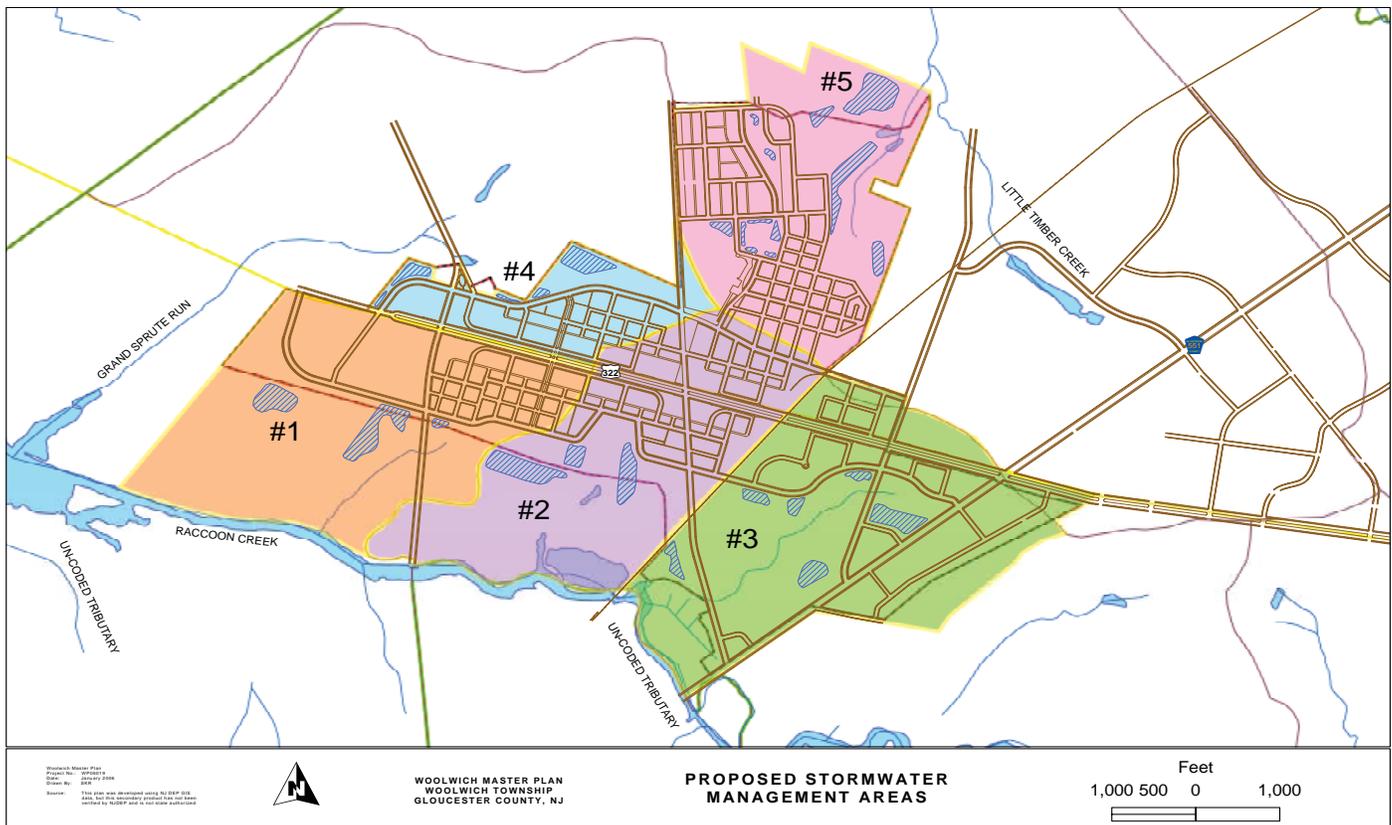
Proposed stormwater strategies for Woolwich New Town reflect Woolwich Township's vision of a sustainable future and draw upon state of the art solutions, including low impact development techniques and incentives for implementing them.

The stormwater management plan strives to integrate a natural, low impact approach to maintain the natural features, hydrologic conditions and characteristics of the relative portions of each sub-watershed, including the protection of open space and critical creek habitat. Incorporating this approach within this new community offers an unprecedented opportunity to reduce runoff, dramatically improving water quality, flows and habitat.

To facilitate this approach, the stormwater plan consists of three basic levels of stormwater runoff management, namely SITE, BLOCK, and REGIONAL levels. This complex interconnection of the various levels will be driven by development on an as needed basis. The system is designed in such a way that each development within the Center must participate in each level in order to achieve the intended stormwater management result. The proposed development footprint precludes the obligation of stormwater runoff management to be met within individual site boundaries. The regional level is designed to compliment site and block level stormwater management which is constrained by the proposed development density.

Maximum potential land cover was assessed for each SWMA to determine the regional stormwater facilities requirements. Regional basins are sited based on topography and best available soils, outside of the development footprint. Regional level stormwater management mandates that projects strive to creatively meet multiple goals within the street right-of-ways. Therefore, regional stormwater components are also planned within proposed public right-of-ways.

The Regional Stormwater plan recommendations are illustrated for each of the six proposed SWM areas. However, it is our expectation that with the implementation of natural – low impact development techniques across the development footprint, these basin areas can be reduced in size and depth for better integration and appeal. The stormwater plan requires the implementation of stormwater management facilities to meet not only the needs of the



individual developer, but also the needs of multiple developers for a regionally comprehensive system. Implementation of regional facilities will be driven by development demands on an as-needed basis.

The estimated cost of the drainage improvements is based on the stormwater management plan which divides the project into six stormwater management areas. The basis of the plan is to regionalize the stormwater management plan in lieu of each developer constructing a basin on their individual property.

The cost estimate is based on the basins to be an average excavation of 6 feet deep over the entire area and cubic yards of excavation were calculated. Since piping sizes vary and inlet and manhole locations could not be determined at this time, the average linear foot price of pipe was determined to be \$100. This price is consistent with the cost of recent developments, when dividing the linear feet of pipe by the total stormwater price. The cost of the bio-swale is based on excavation and cost of plant material.

The process to establish a "fair and reasonable" standard for stormwater will be much less complicated than traffic. This is mainly due to the fact there will be minimal flow contribution from anyone other than the developers of the property. There are a number of methods which can be used including cost per unit, cost per cubic foot of stormwater, etc. Also, based on innovative recharge techniques described in the stormwater report, the developer may be able to reduce basin size, thereby decreasing their cost.

TABLE 2  
DRAINAGE IMPROVEMENTS COST ESTIMATE

Area 1			
	Basin	\$520,000	
	Bio swales	\$80,000	
	Piping	\$820,000	
			\$1,420,000
Area 2			
	Basin	\$550,000	
	Bio swales	\$80,000	
	Piping	\$1,140,000	
			\$1,770,000
Area 3			
	Basin	\$480,000	
	Bio swales	\$80,000	
	Piping	\$1,430,000	
			\$1,990,000
Area 4			
	Basin	\$280,000	
	Bio swales	\$80,000	
	Piping	\$820,000	
			\$1,180,000
Area 5			
	Basin	\$710,000	
	Bio swales	\$80,000	
	Piping	\$1,060,000	
			\$1,850,000
	<b>Construction Cost subtotal</b>		<b>\$8,210,000</b>
	<b>25% Contingencies Design &amp; Inspection</b>		<b>\$2,052,500</b>
	<b>Total Estimated Cost</b>		<b>\$10,262,500</b>

Note: Stormwater management area No. 6 encompasses the entire Auburn Road Village receiving area. Due to the

nature of the site and the fact that it is in single ownership and will be developed by a single entity, proposed stormwater management is to be provided by the entity that develops the parcel.

## SANITARY SEWER IMPROVEMENTS

Implementation of Woolwich Township's future vision requires that the planned growth areas be served by a comprehensive wastewater collection, treatment and disposal system. Based on current development projections, it is anticipated that 1.9 million gallons per day (mgd) of wastewater treatment and disposal capacity will be required. The Wastewater Management Plan outlines the wastewater needs and permitting requirements that the proposed development will generate and identifies the coordination requirements between the overall planning effort and the wastewater management planning effort.

Aqua New Jersey holds the sanitary sewer franchise in Woolwich Township. As such, it will arrange for, own and operate the facilities needed to satisfy this demand in accordance with existing and/or future service agreements with the Township and developers.

Development of the Wastewater Management Plan, as prepared by Hatch Mott MacDonald, was based on a detailed analysis of the following:

- Existing Sewer Service Area
- Proposed Sewer Service Area
- Current Wastewater Management Plan Status
- Projected Wastewater Flows
- Collection, Treatment and Disposal Requirements/Options
- Existing Hydrogeology
- Potential Site Evaluation/Land Requirement

Cost estimates are based on the findings and conclusions of the Wastewater Management Plan's analysis as prepared by Hatch Mott MacDonald on behalf of Aqua New Jersey. As Aqua New Jersey is a private company, they are regulated by the Board of Public Utilities (B.P.U). Therefore, any cost sharing agreement must be approved by the B.P.U. As stated earlier, the settlement agreement with Woolwich Adult is very specific as to the cost sharing agreement for their portion of the project. Therefore, all future methods of funding must be based on this agreement.

It should be noted that costs associated with this project are based upon the public wastewater facilities that are necessary for carrying received flows from the development sites and not facilities that would be constructed as onsite conveyance systems. The costs associated with on-site facilities are not considered and are to be determined by developers in the future, primarily through their individual permitting and approval process.

A cost estimate has been prepared for the conveyance of the sanitary sewer to the Logan Township MUA Plant. However, since there will be no other development benefiting from this extension, the cost will be solely borne by the developer.

TABLE 3  
 SANITARY SEWER IMPROVEMENTS (ROUTE 322 CORRIDOR)  
 COST ESTIMATE

Preparation and Submission of the Wastewater Management Plan

Total \$50,000

Preparation and submission of the NJPDES Permit

Hydrogeological Testing			
Due Diligence Testing	6 Sites	\$5,000/Site	\$30,000
Site Geological Testing	3 Sites	\$40,000/Site	\$120,000
Engineering Fees			\$70,000
			<hr/>
			\$220,000

Total

Construction of Conveyance Facilities

8" to 12" Gravity Sewers	24,400 LF	\$80/LF	\$1,952,000
Force Main Sewer Piping	15,000 LF	\$70/LF	\$1,050,000
Pumping Stations	2 LS	\$400,000	\$800,000
			<hr/>
			\$3,802,000

Total

Construction of Treatment and Disposal Facilities

Treatment Facilities	1,800,000 Gallons	\$15.00/Gal	\$27,000,000
Disposal Fields	1,800,000 Gallons	\$8.00/Gal	\$14,400,000
			<hr/>
			\$41,400,000

Total

Construction Cost Sub Total \$45,202,000

Engineering Design, Construction Management & Contingencies @25% of the Construction Cost Sub Total

\$11,300,500

**Total Estimated Cost (Route 322 Corridor)**

**\$56,772,500**

The foregoing cost estimates are conceptual to 2006 dollars and are based on the design concept under consideration. Final estimates are to be prepared once detailed design information is available. The cost estimate does not include any costs for land acquisitions.

TABLE 4  
SANITARY SEWER IMPROVEMENTS (AUBURN ROAD) COST ESTIMATE

Construction of Conveyance Facilities			
Force Main Sewer Piping	8,000 LF	\$70/LF	\$560,000
Pumping Stations	1 LS	\$400,000	\$400,000
Total			\$960,000
Construction of Treatment Facilities			
LTMUA Plant Expansion	152,000 Gallons	\$12.00/Gal	\$1,824,000
Total			\$1,824,000
Construction Cost Sub Total			\$2,784,000
Engineering Design, Construction Management & Contingencies @25% of the Construction Cost Sub Total			\$696,000
<b>Total Estimated Cost (Auburn Road Area)</b>			<b>\$3,480,000</b>

The foregoing cost estimates are conceptual to 2006 dollars and are based on the design concept under consideration. Final estimates are to be prepared once detailed design information is available. The cost estimate does not include any costs for land acquisitions.

## POTABLE WATER IMPROVEMENTS

Implementation of Woolwich Township’s future vision requires that the planned growth areas be served by a comprehensive public water supply system. Based on current development projections, it is anticipated that 1.9 million gallons per day (MGD) of water supply (annual average day) will be required at build out. The public water supply plan outlines the water needs that the proposed development will generate and identifies the coordination requirements between the overall planning effort and the water supply planning effort.

Aqua New Jersey holds the water supply franchise in Woolwich Township. As such, it will arrange for, own and operate the facilities needed to satisfy this demand in accordance with existing and/or future service agreements with the Township and developers.

The public water supply plan, as prepared by Aqua New Jersey, was developed based on a detailed analysis of the following:

- Existing Water Supply
- Future Water Supply
- Projected Water Demand
- Water Supply Alternatives

Aqua New Jersey has a water supply contract with New Jersey American Water Company to serve the Township’s growth areas, and will modify this contract to reflect the supply needs of these areas. Water infrastructure needs to accommodate this increased demand will depend upon the timing of the projects and related developer commitments.

The costs are broken down and are based on the assumption that developer commitments are made in time to allow use of available Tri-County treatment plant capacity and to allow upsizing of planned transmission mains. It further assumes the LTMUA groundwater injection program can be used to help manage peak demands and that ASR is not required. If this turns out not be the case (which is quite possible) and a Tri-County plant expansion, and/or parallel transmission mains, and/or ASR are required, costs will be significantly higher. The costs associated with this project are based on the facilities that are necessary for conveying water supply to the development sites. The costs associated with on-site facilities (including additional storage) are to be determined by developers in the future, primarily through their individual permitting and approval process.

TABLE 5  
POTABLE WATER IMPROVEMENTS COST ESTIMATE

Upsize 27,000' of NJA T-Main (20" to 24")	\$500,000
Upsize 13,000' of Aqua T-Main (20" to 24")	\$250,000
Construct Booster Station along US 322	\$700,000
Construct 4,000' T-Main Main from Weatherby to Auburn Rd Receiving Zone	\$400,000
Construct additional treatment capacity for groundwater withdraws allowed	\$1,000,000
<u>due to LTMUA recharge project</u>	
Construction Cost Sub Total	\$2,850,000
Engineering Design, Construction Management & Contingencies @ 25% of the Construction Sub Total	\$713,000
<b>Total Estimated Cost</b>	<b>\$3,563,000</b>

The foregoing cost estimates are conceptual, in 2006 dollars, and are based on the design concept under consideration. Costs could be four or more times higher if Tri-County Plant expansion, parallel transmission mains, and ASR are needed. Final estimates are to be prepared once detailed design information is available. The cost estimate does not include any costs for land acquisitions.

TABLE 6  
INFRASTRUCTURE IMPROVEMENTS COST ESTIMATE SUMMARY

Table 1	Street Improvements	\$31,787,500
Table 2	Drainage Improvements	\$10,262,500
Table 3	Sanitary Sewer Improvements (Route 322 Corridor)	\$56,772,500
Table 4	Sanitary Sewer Improvements (Auburn Road)	\$3,480,000
Table 5	Potable Water Improvements	\$3,563,000
	<b>Estimated Grand Total</b>	<b>\$105,865,500</b>

Parks, open spaces and other community facilities are not included in this plan, because they are to be built by the developers as they develop individual tracts, or with "in lieu" payments. Public money for their construction is not anticipated.

## CONCLUSION

Woolwich Township's vision to accommodate projected growth, preserve prime agricultural lands, save valuable resources and encourage smart growth through the transfer of development rights (TDR) will be a long term and expensive program. However, the cost not to pursue development in this manner would be much higher in both an economic and loss of resources point of view.

Once the appropriate method of cost sharing is determined it must be codified, with updated cost estimates and appropriate means of sharing the cost of improvements.

The methods discussed previously in this report have all been used successfully on other types of development projects. It is imperative for a project of this complexity and time frame, to consider all of these methods, with the public and private stakeholders, to provide a "fair and reasonable" approach, which will benefit all of the stakeholders.

This capital improvement plan satisfies the requirements of 40:55D-140(b) (TDR Statute) and 40:55D-29 (preparation of capital improvement plan).