

PROPOSAL TO THE  
Suffolk County Department of Public Works

FOR THE



Rocky Point Business District Sewering

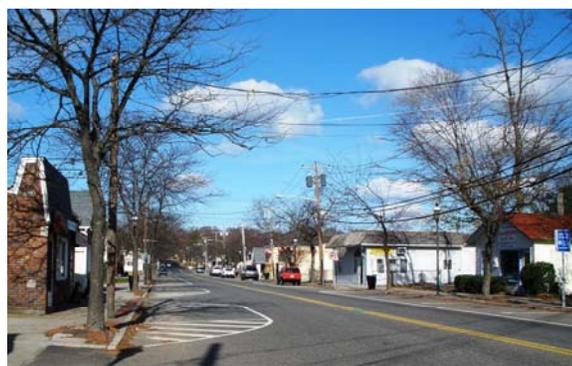
Feasibility Study



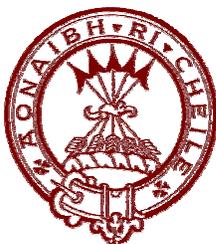
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December 5, 2008

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### A. EXECUTIVE SUMMARY

The County of Suffolk, despite having over 1.5 million residents, remains mostly unsewered. Approximately 70% of the population relies on on-site wastewater treatment and disposal systems. The reliance on such systems becomes problematic when communities wish to increase density to stimulate economic activity. Older downtowns throughout Suffolk County are stagnating due to a lack of economic activity. In many cases, further development is hampered by the lack of public sewage collection and treatment. Regulatory limitations and on-site system capacity limits prevent existing businesses such as restaurants, medical offices and others, from expanding. Expansion of downtowns favored by “smart growth” planning measures cannot occur without sewers. Affordable and work force housing initiatives cannot move forward without sewers. Reliance on on-site wastewater treatment systems in some of these areas has also compromised the quality of Suffolk County’s groundwater, a critical and irreplaceable drinking water resource. Figure 1 shows the limited number of sewer districts in the Rocky Point vicinity.

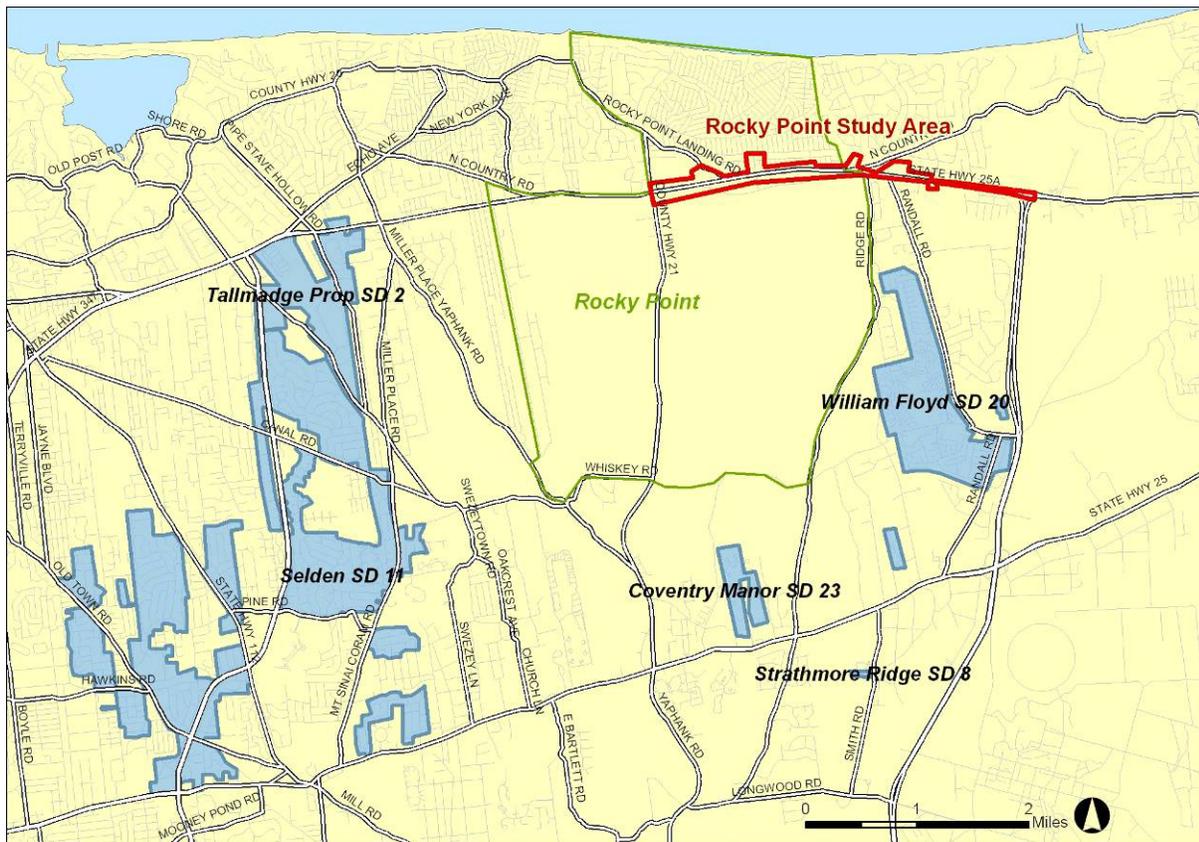


Figure 1. Sewer Districts in the vicinity of the Rocky Point Sewering Feasibility Study Area



The Southwest Sewer District created a regional approach to providing wastewater treatment services on a grand scale in many south shore communities. Communities with sewers have flourished since the Bergen Point Wastewater Treatment Plant opened in the early 1980's. Many of the communities that were not included in the district have since stagnated. The County addressed some of the problems by providing extensions and out-of-district connections.

Development and population growth has moved to eastern portions of Suffolk County. Many areas that were once only summer communities are becoming year-round residential communities. Where on-site systems were adequate for seasonal residents, year-round discharges to systems on small lots have resulted in failures, increased pumping, and economic stagnation where capacity is limited. This occurred in areas of Patchogue, Bellport, Mastic/Shirley, Mastic Beach, Port Jefferson, Middle Island, Northport, Smithtown/Kings Park, Southampton, and Rocky Point, the subject of this Request for Proposals (RFP).

Today, the County recognizes the critical relationship of sewers to the re-growth and revitalization of its many traditional downtowns. The County formed a Wastewater Treatment Task Force (Task Force) that initiated a comprehensive review of sewers on a County-wide basis to identify who has them, who needs them, the technical and cost components associated with each area needing sewers, socio-economic issues, environmental impacts, and potential funding. The Task Force has met several times and recommended that the County move forward with additional studies. In the case of Smithtown/Kings Park, the County has moved to develop design documents based on a recently completed feasibility study performed by Cameron Engineering. The Task Force has also initiated direct communications with State and Federal representatives regarding potential funding (grants, loans, etc.) for these potential sewerage projects.

Rocky Point is a community that values its open space, recreational opportunities, and quiet ambiance. The community recognizes, however, that it could better define its character and create a more vibrant downtown where its residents could live, walk to retail shops, eat at local restaurants, and meet friends. The Rocky Point Civic Association has been very active toward this end, as has the area merchants association. These two organizations were instrumental in bringing out residents to participate in the community planning sessions held by Vision Long Island. One of the recommendations that came from the visioning effort resulted in the formation of a comprehensive plan for developing the downtown business district.

This Study will require a delineation of the service area, a determination of potential flows based on anticipated zoning and land uses, selection of a collection of sewer systems, suitable locations for the siting of a treatment facility, and an assessment of regulatory requirements and costs. Cameron



Engineering performed such an analysis and feasibility study for the Smithtown/Kings Park downtown areas and for the Village of Southampton.

Cameron Engineering recognizes the fiscal and socio-economic impact of sewerage Rocky Point. We will estimate potential build out and its impact on assessed Evaluations, tax revenues, community services, and the environment. The Cameron Engineering Team will include Economics Research Associates (ERA), a nationally recognized firm that specializes in such economic assessments. ERA is working with Cameron Engineering on the Gordon Heights Land Use Plan for the Town of Brookhaven.

Cameron Engineering will reach out with the County to the local civic and business advocacy groups. We have conducted visionings, public forums, charettes, and community outreach meetings. Cameron Engineering will build on the results of prior planning and visioning efforts early in the project to solidify the expectations of the community with respect to the growth and character of its downtown.

Legal issues specific to the formation of a sewer district will include a discussion on: district formation legal procedures, County or Town control and the advantages/disadvantages of each, and the requirements for complying with Article 5-A of New York State County Law. The potential environmental impacts and the requirements for complying with SEQRA will be explained thoroughly.

The Cameron Engineering Team is well versed in the technical, environmental, legal and socio-economic factors that need to be evaluated for this Feasibility Study. Our team can develop a Feasibility Study that can serve as an excellent planning and guidance document for design and construction documents and for seeking grants and project funding. Cameron has assisted its clients in receiving grants in excess of \$30 Million for sewer and environmental projects. We look forward to working with the County on this challenging and exciting project.

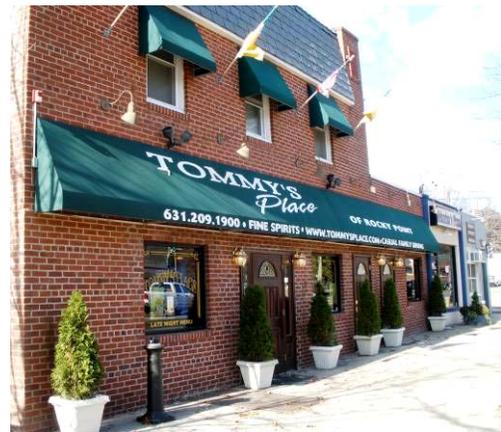


## B. PROJECT UNDERSTANDING AND TECHNICAL APPROACH

This Feasibility Study will document current land uses, zoning, and economic conditions in the Rocky Point Study Area. The Cameron Engineering Team would propose future build-out scenarios for the hamlet and would evaluate the different consequences for wastewater flows, collection, treatment, and financing.

The Rocky Point community conducted a Visioning process to plan for the future of Hamlet. Most stakeholders felt that sewerage at least the business district would encourage the revitalization of the ‘downtown.’ The downtown was defined in the Visioning as the two (2) blocks of Broadway between State Route 25A and King Road, including the parcels just east and west of the Broadway and State Road (SR) 25A intersection. We have defined this area as the “Core Area”. The ‘Expanded Core Area’ as we define it includes additional parcels along SR 25A both east and west of Broadway. The ‘Study Area’, as depicted in (Figure 2), extends almost three (3) miles from the western end of the SR 25A Bypass on the west to William Floyd Parkway on the east. The Study Area is also bounded to some extent by two (2) proposed developments. Fairfield at Rocky Point is proposed on 34 acres north of SR 25A between Hallock Landing Road and Rocky Point Landing Road. The Tall Grass Village Center development is proposed on 320 acres east of Randall Road, south of SR 25A and both north and south of Cooper Street, west of the William Floyd Parkway in Shoreham. Wastewater treatment plants are proposed for both developments.

Rocky Point has many of the prerequisites for a thriving downtown, but it will require considerable public and private investment over some time. Revitalization of Rocky Point could be successful if a phased approach were implemented. Business owners in the Core Area expressed an interest in sewerage, but their numbers are small. The potential cost of the infrastructure required therefore could be high on a per capita basis. An implementation mechanism must be found that makes it possible to sewer the Core Area without unduly taxing the existing Core Area property owners or subjecting other Rocky Point residents to fees for infrastructure that may not directly benefit them.





**Figure 2. Study Area for the Rocky Point Business District Feasibility Study**

On the other hand, with changes in zoning, sewerage would likely increase property values and could attract other businesses and apartments over stores in the Core Area of Rocky Point. Such development could then generate additional revenue to support further expansion of the sewer district to the Expanded Core Area and ultimately throughout the Study Area. The Fairfield at Rocky Point developer has indicated a willingness to make a \$3 million contribution to the community (from the 9/25/2006 Draft Scope for the DEIS). Perhaps all or a portion of that contribution might be utilized for sewerage.

This Feasibility Study will assess current conditions in Rocky Point and will create two (2) or more likely scenarios for future development. The Cameron Engineering Team will estimate the flows generated from those scenarios and the associated collection and treatment options. We will examine the economic consequences of sewerage on property assessments, tax revenues, and business development. Financing options will be investigated and presented, as well as possible funding sources.



The following is Cameron Engineering's understanding of the Project Tasks and a description of our Approach to providing the requested Project Scope items. Cameron Engineering in conjunction with Economics Research Associates (ERA) would prepare a Feasibility Report for the project as described below.

Cameron Engineering has reviewed the RFP's Scope of Work. We attended at the pre-proposal meeting, the Suffolk County Sewer Task Force meeting held in Rocky Point and reviewed the Vision Long Island study. In order for the Feasibility Report to be a complete and useful planning document, it must comprehensively evaluate the technical, environmental, economic and social impacts associated with sewerage. We have expanded on the Scope of Work outlined in the RFP to a total of eight (8) tasks including the following:

- Task 1 - Review of Background Information
- Task 2 - Existing Conditions
- Task 3 - Potential Build-out Scenarios
- Task 4 - Collection System Options
- Task 5 - Treatment Options
- Task 6 - Environmental Issues - SEQRA
- Task 7 - District Formation
- Task 8 - Cost Benefit Analysis

Each of the Tasks and work effort associated with them is defined below.

### ***B.1. Review of Background Information***

#### ***B.1.1. Rocky Point Comprehensive Hamlet Plan***

The Town of Brookhaven prepared a Hamlet Plan for Rocky Point in 2003. Over 700 households responded to a community preference survey of the entire community. The priorities expressed by the community included establishing or re-establishing the following:

- Attractive shopping areas
- Parking areas and access to parking
- Tax incentives for new and existing downtown businesses
- Tree plantings and landscaped areas in the Downtown District
- Restaurant uses along Broadway
- Unified aesthetic theme for Downtown District

A comprehensive demographic assessment was completed as part of the Study complemented by a zoning evaluation and a survey of resident preferences. One of the more pertinent resident polls - as far as sewerage is concerned - was the query on future development preferences overall and in the



Business District per se (See Figure 3 and Figure 4 below.). Overall development support for apartments and attached housing was not favorable. Mixed use business was somewhat more positive. Restaurants and medical offices were favored in the Business District. These uses would certainly increase sewage generation in the downtown. However, the survey was conducted in 2002, almost seven (7) years ago. Since then, interest in mixed use, smart growth development in existing downtowns has grown across Long Island. Vision Long Island, a proponent of that type of development, conducted a public planning process in Rocky Point in late 2007. The results of their public outreach effort are discussed in Section B.1.2 below.

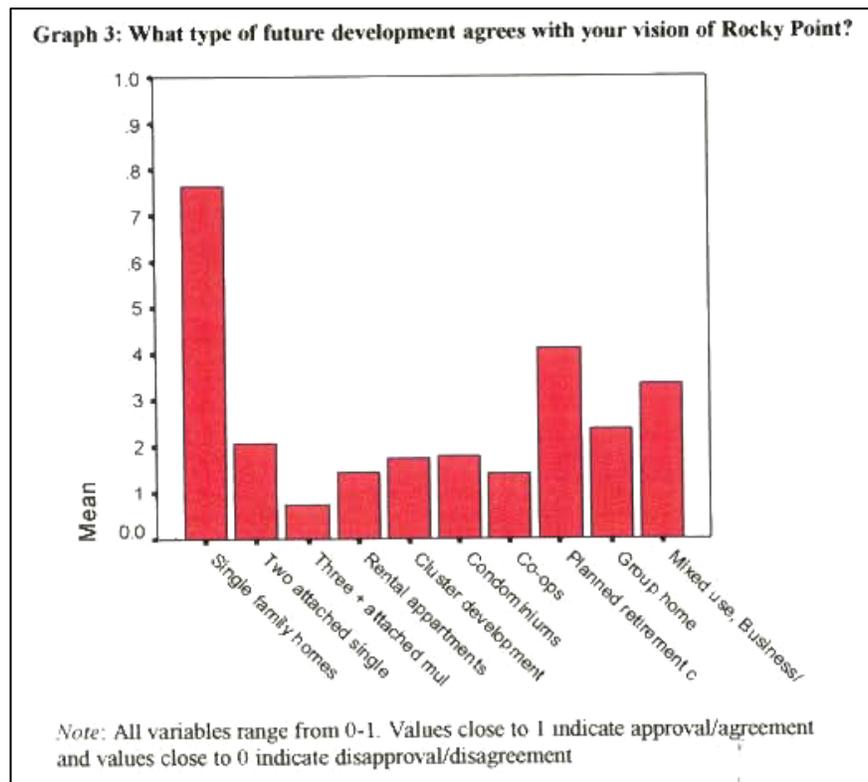
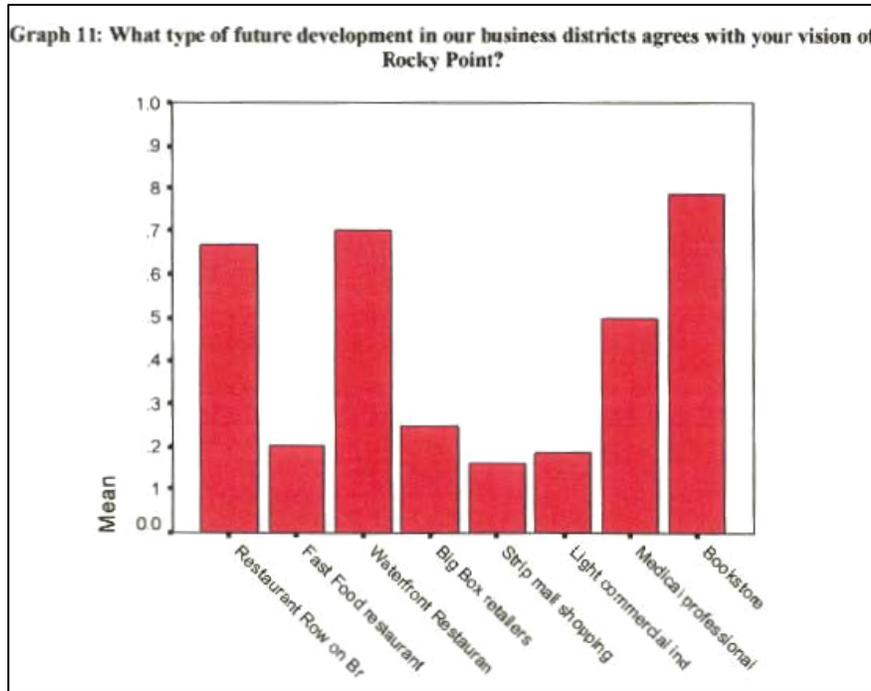


Figure 3. Business District preference results from Brookhaven’s Rocky Point Hamlet Study





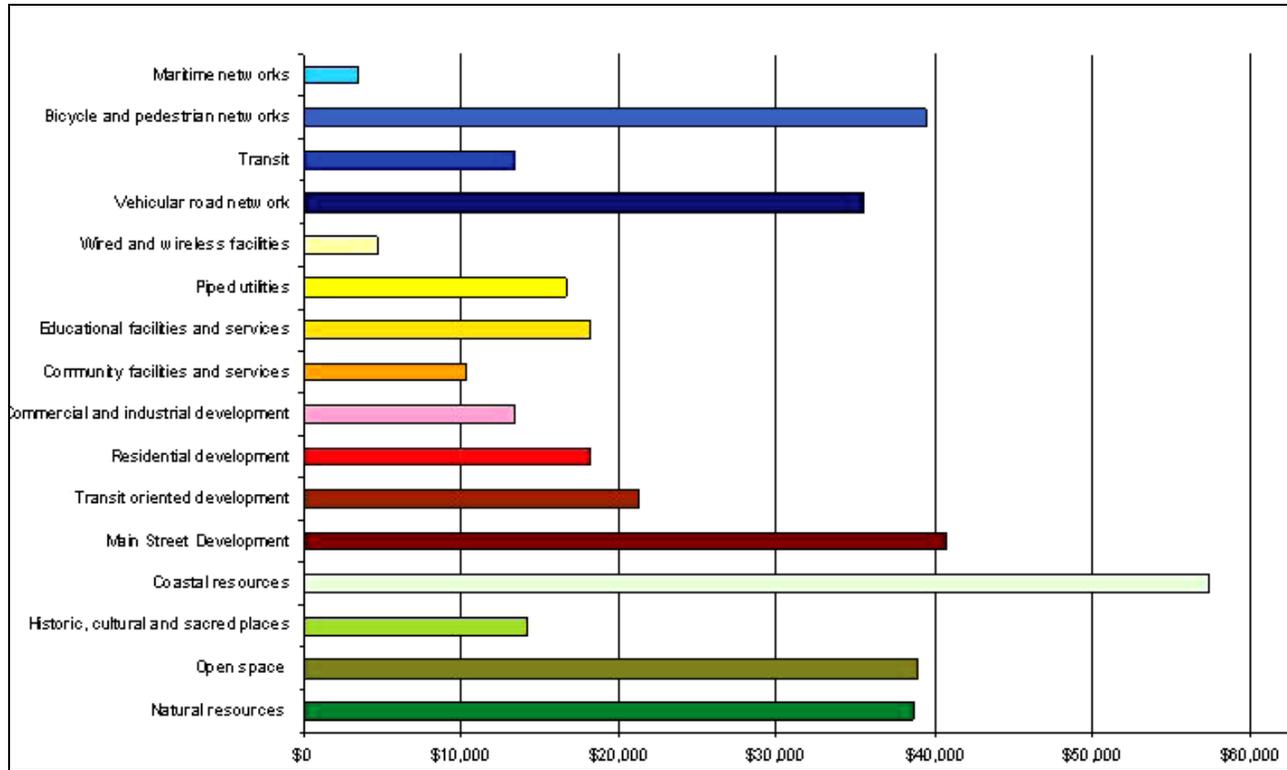
**Figure 4. Business District preference results from Brookhaven’s Rocky Point Hamlet Study**

**B.1.2. Rocky Point Visioning**

Vision Long Island, ADLIII Architecture, and Seth Harry and Associates, along with the Town of Brookhaven and the Rocky Point Civic Association, prepared the “Rocky Point Visioning and Revitalization Strategy” in 2007. Driven by public participation, this planning effort was undertaken to envision the future of Rocky Point. The 2007 Visioning included the area from Rocky Point Landing Road on the west along SR 25A to Water Road and north to Prince Road (Figure 5). The Vision Team examined Rocky Point demographics, conducted an inventory of the housing and commercial establishments in their study area, and worked with stakeholders to develop a plan for the future of Rocky Point. They recommended greater office, retail, and residential density in a revitalized downtown area. The increased density would help support local businesses, increase tax revenue, generate greater activity, and lead to a more vibrant community that would benefit all. The Visioning recommended expanding the housing choices in the downtown to include townhouses, apartments, accessory dwelling units, and even live-work spaces. The Visioning participants recognized that successful implementation of the Vision would require sewerage.







**Figure 6. Brookhaven 2030 Preference Workshops - Main Street Development is the second highest priority**

**B.1.4. Proposed Developments**

The Tall Grass Village Center development is proposed on 320 acres of sod farm and golf course near the eastern end of the Rocky Point sewerage feasibility study area in the hamlet of Shoreham. As shown in Figure 1, the Tall Grass Village Center site is located east of Randall Road, south of NYS Route 25A and both north and south of Cooper Street, in an area west of the William Floyd Parkway. According to the Final Environmental Impact Statement (FEIS) submitted to the Town of Brookhaven, the project would include 378 residential units, 175,000 square feet of commercial space, and the construction of a wastewater treatment plant. The wastewater treatment plant (WWTP) design volume was listed in the FEIS at 120,000 gallons per day. This site is less than two (2) miles from the Broadway and SR 25A intersection.

At the western end of the Rocky Point sewerage feasibility study area, the Fairfield at Rocky Point development is proposed on 34 acres of property north of SR 25A between Hallock Landing Road and Rocky Point Landing Road. Fairfield will consist of a 247-unit community (239 residential units and eight (8) live/work commercial units). The developers have expressed a willingness to dedicate a \$3 million monetary contribution to the community. A wastewater treatment plant is proposed in the northwest part of the site, approximately a quarter mile from the Broadway and SR 25A



intersection. According to the Draft Environmental Impact Statement (DEIS) submitted to the Town of Brookhaven, the project will consume 51,100 gallons per day of water based on the Suffolk County Department of Health Services sewage design flow criteria.

## ***B.2. Task II – Existing Conditions***

The Cameron Engineering Team will establish and document the existing conditions for the study area through a combination of field surveys, computer databases, maps and other reference material. Our approach for establishing the baseline condition in the Study Area is defined below.

### ***B.2.1. Mapping and Database Development***

Base mapping and database development for existing conditions will be coordinated with a Geographic Information System (GIS). With powerful spatial data storage and manipulation capabilities, a GIS provides an indispensable inventory and analytical tool for a wide range of planning and engineering initiatives, especially land use, environmental, and infrastructure applications. The Cameron Team will employ its extensive GIS capabilities across a number of data collection and management tasks as follows:

*Store and Organize Field Data:* An important share of the data required for this study will be collected during site visits to the study area. The Cameron Engineering Team will identify existing land uses, record site-specific data – including, but not limited to, type of use, building frontage, and occupancy status – and store the field data in a GIS database. The Cameron Engineering Team will utilize an existing GIS tax parcel database developed by the Town of Brookhaven GIS Department for storing field-collected data. In addition to field-collected data, the tax parcel database will also be populated with zoning, assessed property value and current water usage (i.e., sewage flow) information. The GIS tax parcel database will then be exported to a tabular format for use in spreadsheets and computer models.

All land uses will be photographed with a digital camera for future reference, discussion and presentation purposes. The digital photographs will be hyperlinked to their associated parcels in a GIS database, allowing quick access to photographs by clicking on a given parcel. The combination of hyperlinked photos with parcel data in our GIS will establish a comprehensive and interactive inventory for engineering, build-out and feasibility analyses. The GIS database developed through this study will be provided to the client upon completion of the project.

*Establish a Library of Geographic Reference Layers:* Geographic reference layers – also referred to as base map data – are essential to any study that involves large land areas, rights-of-way, and infrastructure. To this end, the Cameron Engineering Team will compile a host of reference layers in our GIS including aerial photography, topography, the transportation network and property data. With our



GIS, it will be relatively easy to measure distances, determine areas and calculate grades in the study area. Our GIS also contains numerous environmental data layers, such as wetlands, open space/conservation areas, depth-to-groundwater and hydrography that will support environmental analyses and scoping.

*Delineate Study Area:* A properly delineated study area will be essential to the smooth and timely progression of this study. Critical tasks such as data collection, scenario development and cost estimation are based upon the Study Area boundary. Furthermore, sub-study areas (e.g., Core Area) and potential sewer district boundaries will be encompassed by the study area boundary. Given its importance of the Study Area delineation, the Cameron Engineering Team will, with the guidance of the County and the stakeholders, precisely define the Study Area using our GIS. The Study Area boundary will follow tax parcel lines and consider zoning, future developments and community concerns.



*Conduct Spatial Analyses for Existing Features:* The true power of a GIS lies in its spatial analysis and visualization capabilities. The Cameron Engineering Team will utilize our GIS to describe the spatial relationships among real world features in the study, for example, the number of residents within one mile of a downtown business district or the depth to groundwater at a particular location.

*Preparation of Final Maps and Drawings:* Effective communication of information, plans and proposals is key to understanding issues and garnering support among stakeholders and the public. Thus, the Cameron Team will employ our GIS to produce detailed and informative maps for reports and public presentations.

### **B.2.2. Environmental Conditions**

The Study Area is located within Special Groundwater Protection Zone VIII (SPGA) as delineated by the New York State Department of Environmental Conservation. State regulations limit discharges of treated sewage to groundwater in the Rocky Point Study Area to a maximum of 600 gallons per day per acre. Thus, the intensity of development within the Study Area is constrained either by regulation or the capacity of on-site septic systems. As shown in Figure 7, a portion of the Study Area also falls within the Compatible Growth and Core Preserve areas of the Long Island Pine Barrens, a large area of publicly managed and protected land in Suffolk County. The overlap of the Study Area with the mapped Pine Barrens areas may affect the siting of wastewater treatment plants and pump stations.



Topography, soil conditions and groundwater also factor into the feasibility analysis. In order to understand these and other environmental factors and constraints, the baseline conditions must be adequately characterized.



**Figure 7. Pine Barrens Areas within the Study Area**

The Cameron Engineering Team will utilize a multi-disciplinary and strategic approach to define the existing environmental conditions and, ultimately, to identify the potential environmental impacts of a sewerage project. (Our approach for identifying environmental impacts from a proposed sewerage project is presented in Section B.6 below.) The characterization of existing environmental conditions will be generally qualitative, providing sufficient information to support the evaluation of project feasibility. Soil conditions, visual quality, community character, and ecology are examples of environmental resources that will be described qualitatively. Where appropriate, the Cameron Team will quantify environmental conditions, such as the annual volume of water currently discharged to groundwater, the amount of undeveloped land within the study area, and traffic volumes on major roads (where available from the New York State Department of Transportation).



The Cameron Engineering Team will compile multiple layers of environmental data (e.g., conservation areas, problematic soil conditions, water features) in our GIS from various sources. These data sources include the New York State Department of Environmental Conservation (NYSDEC), the United State Geological Survey (USGS), the United State Environmental Protection Agency (USEPA), the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), and the Suffolk Count Department of Health. Spatial analysis techniques such as proximity analysis will be employed with our GIS to identify environmental features that may currently exist in or within the vicinity of the study area. Finally, the Cameron Team will summarize existing environmental issues in a tabular or matrix format to provide a brief synopsis of current conditions.

### B.2.3. Land Use

The Cameron Engineering Team recognizes that existing land uses are an integral component of the future sewerage of Rocky Point. The characteristics of existing land uses are essential for establishing accurate sewage flow estimates, either to confirm current water usage records or estimate sewage flow where records are not available. Businesses that are currently operating within the Study Area will also comprise a large share of its future economic base after sewerage. It is therefore necessary to adequately characterize existing land uses in order to determine their current sewage flow and understand their potential for further growth.

The Study Area at present is comprised mostly of one-story structures, especially within the Core Area. The Core Area hosts a variety of retail, service and office (e.g. professional, real estate) uses as well as restaurants and delis. There are also a number of vacant lots and lots that are not completely built out in the Core Area as well as the greater Study Area. The SR 25A corridor is characterized by strip development, featuring highway commercial uses that have larger floor areas than uses in the Core Area, and some institutional uses (e.g., school and church).

All land uses within the Study Area will be identified and characterized through site visits to Rocky Point. The Cameron Team will compile a comprehensive inventory of land uses within the study area that includes the type of use, business name, address, street frontage, number of floors, and parking area. Certain high-water-use businesses, such as laundromats and restaurants, will be investigated in a more thorough manner. Data collection for such uses will identify the number of seats for restaurants and the number of washing machines in laundromats. Precise knowledge of operations is especially important in the instances where water records are not available. Finally, digital photographs of each land use will be taken and hyperlinked to our GIS as described in Section B.2.1 above.



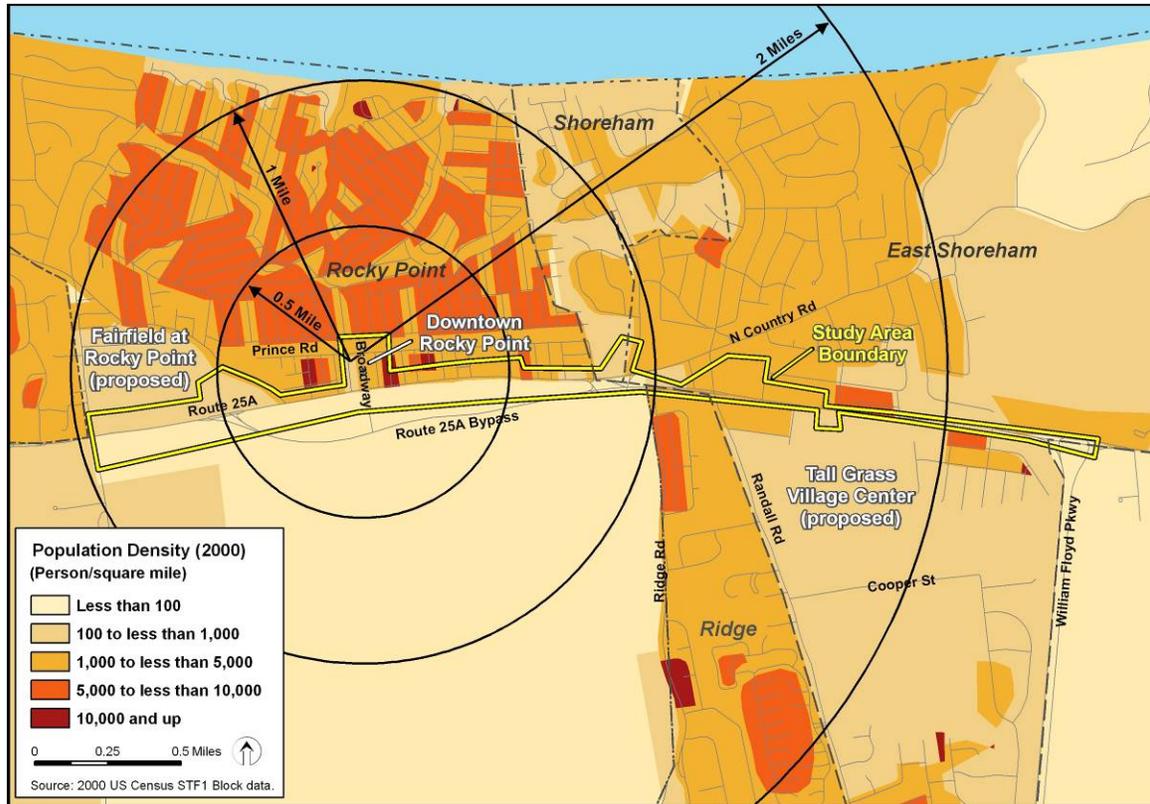
The Cameron Team will utilize the field-collected land use data in a variety of ways. In situations where water records are not available, we will prepare estimates of sewage flow from existing land uses based on square footage or number of units, depending on the type of use. Specific business types (e.g., salon, deli, locksmith, etc.) will be re-classed into broader land use categories such as retail, service, office, or restaurant for mapping and presentation purposes. The Cameron Team will also evaluate the current mix of business types in order to project future needs and potential of the study area for buildout modeling.

#### B.2.4. Demographics and Economics

The Cameron Engineering Team will prepare a comprehensive assessment of the existing demographic and economic conditions in Rocky Point and vicinity. A number of data sources will be queried to properly characterize the study area, including the US Census, the New York State Data Center, the New York State Department of Labor, Suffolk County and other government and non-government repositories. Below is a brief discussion of several key US Census demographic and socioeconomic indicators for Rocky Point. Our full analysis will incorporate many other key indicators, such as age and income-specific socioeconomic characteristics, household consumption patterns, disposable income, etc.

The population of Rocky Point was 10,185 at the time of the 2000 US Census. The overall population density in Rocky Point was approximately 984 persons per square mile. However, according to Figure 8 on the next page which depicts population density by Census Blocks, the population of Rocky Point is concentrated almost entirely north of SR 25A. Densities in this area range from 2,500 to 10,000 persons per square mile, typical of moderate densities in suburban areas. There are a few instances of relatively high population density, i.e., above 10,000 persons per square mile, near the downtown.





**Figure 8. Population Density in the Study Area (Source: 2000 US Census Block-level data).**

A significant number of people are within close proximity of downtown Rocky Point. There are approximately 2,900 persons within a ½-mile radius of the downtown. Within a one-mile radius of the Core Area, there are about 8,200 persons; this number would increase to an estimated 9,000 with the construction of the proposed Fairfield at Rocky Point development and background population growth. The population within a 2-mile radius of the downtown was about 18,000 persons in 2000. Including the proposed Tall Grass Village Center, Fairfield at Rocky Point, and population growth since 2000, the population within the 2-mile radius could grow to over 20,000 persons. This represents a sizable market for businesses in Rocky Point.

The population of Rocky Point is also generally affluent, with a significantly higher median household income than New York State as whole. In 2005, the estimated median household was \$62,000 compared to \$49,480 for the State of New York. Median house value is also well above the average for the State, while the Rocky Point poverty rate was only 2.8 percent of households versus 7.4 percent statewide.



**B.2.5. Estimated Sewage Flows**

Existing sewage flow will be estimated from annual water records, where available. In the instances where actual water use is not obtainable, an estimate of sewage flow will be calculated based on the type and intensity of use. The Suffolk County Minimum Design Sewage Flow Rates will be applied to existing land uses. These design guidelines provide rates for a wide range of uses including eateries, apartments, offices, stores and other uses. The design flow rates are applied to square footage, number of units, or number of seats depending upon the type of use.

Some land uses, such as laundromats, generate high sewage flows. If not accurately estimated, these may significantly affect the accuracy of sewage flow estimates. If water records are not available for such high-flow uses,

we will obtain water records for comparable facilities in the Study Area vicinity. Estimates for such uses will be generated based on



adjustments for number of units or facility size, as appropriate.

***B.3. Task III – Potential Buildout Scenario with Sewers***

**B.3.1. Size of the Service Area**

The RFP includes a written description of the Study Area as the area of Rocky Point that extends from the Landing Road abandoned Drive-In on its western boundary, to the William Floyd Parkway as the eastern boundary, to Prince Road on the north and Route 25A to the south boundary. The length of this area is approximately three (3) miles. After discussion with the stakeholders, the southern boundary may be delineated to include the SR 25A Bypass. We have refined the Study Area boundary as shown above in Figure 2.

The Study Area will be canvassed to ascertain and confirm existing uses, existing open space, topography, environmental features, condition of roadways, identification of drainage structures, location of existing on-site systems and other data. Possible areas for location of treatment facilities within the Study Area will be identified.

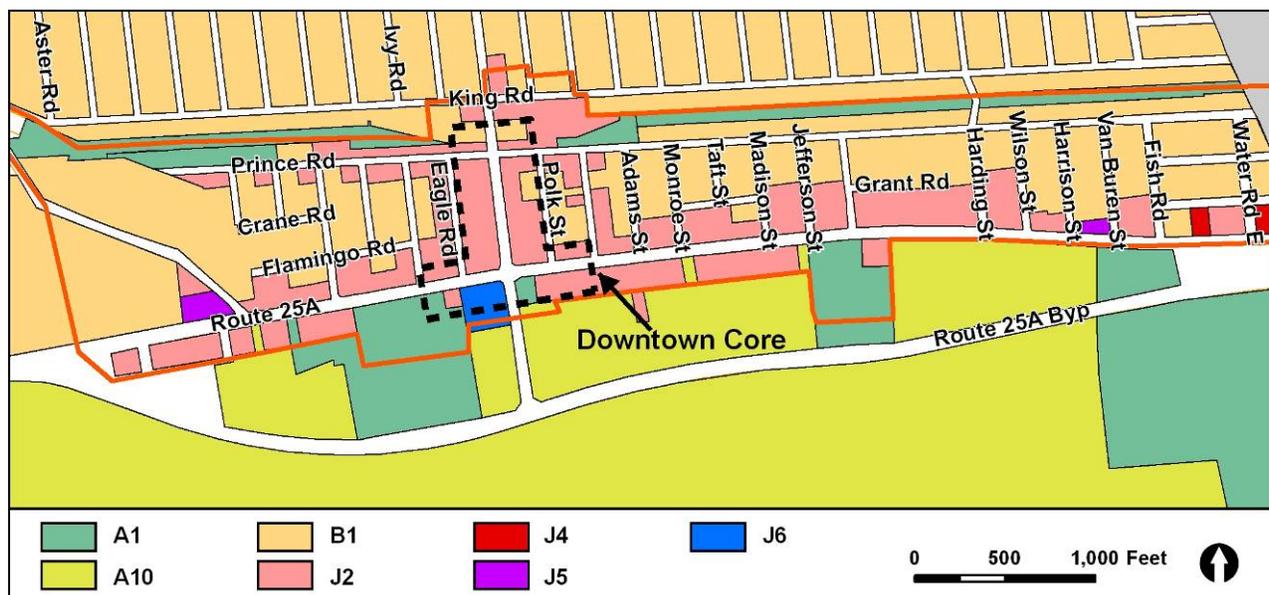


Cameron Engineering has reviewed existing reports including the Rocky Point Vision for Downtown Revitalization (Feb 2008) that has identified current uses within the “core” of the Study Area that could logically serve as a portion of a “downtown.” Cameron Engineering would propose to meet with interested stakeholders such as the Rocky Point Civic Association and the Rocky Point Merchants Association to review the findings and recommendations of the visioning effort to determine if an adjustment(s) to the Study Area with respect to sewerage is in order.

**B.3.2. Potential Zoning**

Figure 9 shows the current zoning for parcels located within the “Extended Core” of the Rocky Point study area. With the installation of sewer infrastructure and an upzoning, the Core Area and the Route 25A corridor could accommodate a significant expansion of business and residential development (i.e., new apartments). At present, a majority of downtown Rocky Point is zoned J-2, which permits a floor-area ratio of only 0.35 and a maximum height of two stories. However, many downtown parcels are not even built out to the maximum allowable provisions of J2 zoning, possibly due to septic system limitations.

With sewers, downtown Rocky Point could experience an economic resurgence, accommodating a development intensity permitted by J6 zoning. Such zoning would permit significant expansion of current uses, up to a floor-area ratio of 0.60 and three-story maximum building height. This scenario could comprise expanded retail, services and offices on the first floor, office and/or residential uses on the second floor, and additional residential units on the third floor, if economically feasible. Such a scenario was presented in the Rocky Point Vision for Downtown Revitalization. It will form the basis for the potential buildout scenarios and methodology proposed in Section B.3.3. below.



**Figure 9. Current Zoning within a portion of the Rocky Point study area.**



### B.3.3. Potential Land Uses and Flows

It is anticipated that the study area, especially the downtown core, would redevelop and expand significantly following the installation of sewers. The amount of new development expected in the study area and its composition (i.e., mix of uses) are critical to the feasibility analysis for a number of reasons. First, the intensity and types of new construction will establish the amount of additional sewage flow to be generated. Secondly, new developments in the study area will foster environmental impacts – potentially negative – that must be understood and ultimately addressed. Finally, the stakeholders and general public, many of whom participated in the Rocky Point visioning initiative, will want to understand the scope of the new development and its possible effects on their community. Their support will be critical to the implementation of a proposed sewerage project.

The Cameron Engineering Team will prepare redevelopment scenarios that could be realized following the installation of sewers. Our conceptual approach is to construct future development, or “build-out”, scenarios that are based on comparisons with similar downtowns on Long Island. Maximum build-out scenarios would be generated based on the proposed zoning. However, our mid-term (i.e., 10-year) and long-term (i.e., 20-year) scenarios for redevelopment would scale back or adjust permissible build-outs according to the type and intensity of uses that currently exist in sewerage downtowns in Long Island. Through this approach, we intend to create believable, realistic scenarios for potential build-out of the study area. The Cameron Engineering Team will examine the Villages of Northport, Babylon, Patchogue and Islip for possible use as comparable models of fully developed downtowns; sewers have been in place in these villages for over 20 years. Other potential villages that may be useful for comparison purposes include Port Jefferson, North Lindenhurst, Deer Park, and Bay Shore.

As was conducted in the Smithtown/Kings Park Feasibility Study, a matrix will be developed that includes the upzoning of certain parcels within the Study Area and reflects the results of prior community initiatives. A mix of uses will be developed along with potential build-out scenarios for ten (10) and twenty (20) years. Again, flow factors from SCDHS will be applied for the specific use. This will provide both a moderate and a maximum development scenario. This will be valuable in establishing an overall design capacity of the treatment plant so that a sufficient amount of land can be set aside for the plant and associated recharge areas. A modular approach could be applied to the design of the wastewater plant to account for upgrades and expansions as the amount of sewage increases during the planning period.

The Cameron Engineering Team will utilize our GIS and spreadsheet models to calculate the flows that would result from post-sewerage development scenarios. First, individual tax parcels within the GIS database will be appropriately coded with zone, floor-area ratio, and building height restrictions



according to the potential re-zoning of the study area. Then, the GIS database containing the future development parameters by parcel will be exported to a tabular format for use in a spreadsheet model. Depending upon the proposed land use(s), sewage flows for a given parcel can be generated from square footage, number of units, number of seats, etc. The flow generation calculation will employ the design sewage flow rates approved by the Suffolk County Department of Health Services.

The GIS database will also allow the Cameron Team to specify the percentage of full build-out expected in a given location. For example, if it is projected that the Core Area of Rocky Point (i.e., Broadway between Prince Road and Route 25A) will build out more rapidly than the SR 25A corridor, the build-out potential of tax parcels can be coded differently based on location and time period. The build-out scenarios generated in this manner may then be readily displayed using the GIS map production utility.

#### B.3.4. Demonstration Analysis

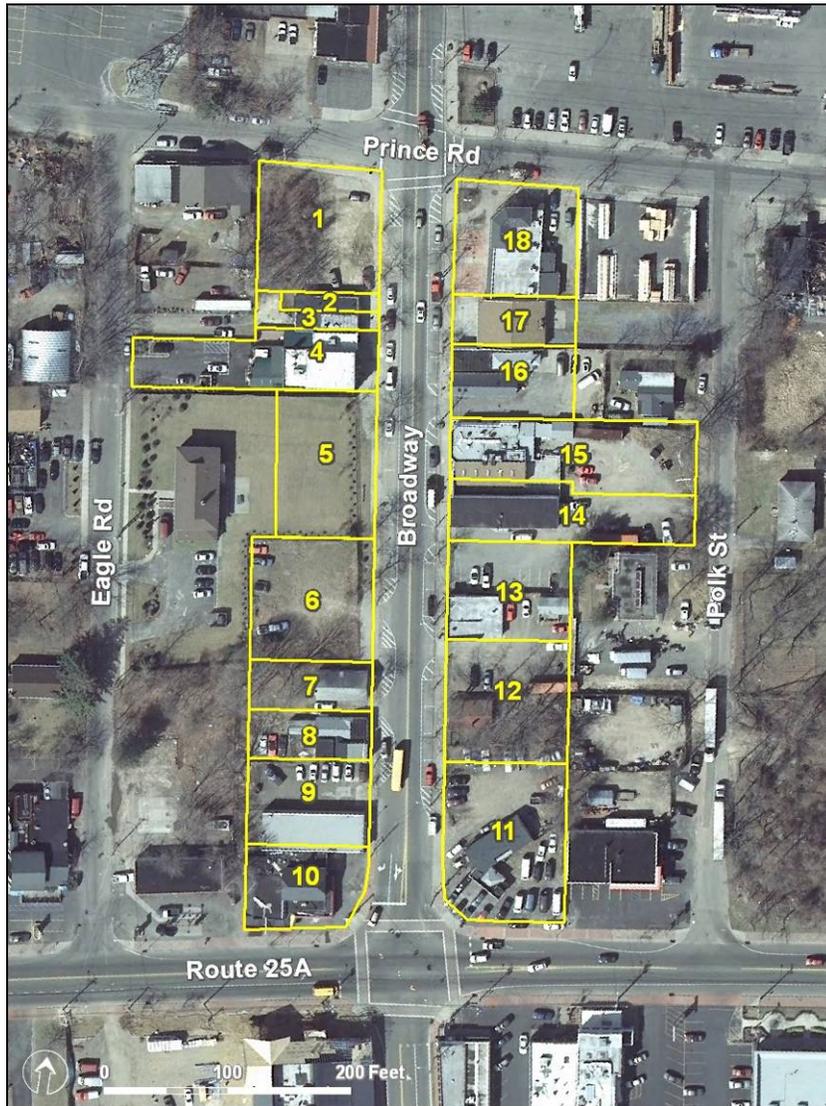
For purposes of demonstrating our proposed methodology, we have prepared a sample analysis of a post-sewering flow generation. A small section of the Rocky Point Study Area in the Core Area was selected for this analysis. The sample area, defined by selected parcels, is located on both sides of Broadway between Prince Road and SR 25A as shown in Figure 10.

The sample study area is approximately three (3) acres in size. All parcels front on Broadway which is a 2-lane street with a shoulder for street parking. There are eighteen (18) tax parcels within this sample study area. Note that the parcel labeled #5 was hypothetically subdivided – for the purposes of this sample analysis – from a larger parcel which fronts on both Broadway and Eagle Road. This subdivision could likely result from a post-sewering rezoning of the downtown.

Based on a site visit to the study area, we have developed Table 1 which provides information on the lot size, land use and floor area for each sample parcel. If existing information (SCWA records) on flow exists, it is provided as well. Otherwise, minimum design sewage flow rates were applied to the existing uses and summarized under “Current” conditions in Table 1.

Table 1 projects floor area and sewage flow projections for the development that could potentially take place if a change of zone were enacted. In this instance, the existing J-2 zoning would be upzoned to J-6 which may be appropriate for the redevelopment of a portion of the study area. Table 1 provides land use and sewage for the following: 1) Current Conditions, 2) As-of-Right Buildout (per current zoning with no sewers), 3) Partial Buildout –based on rezoning with sewers, and 4) Full Buildout – based on rezoning with sewers. The Partial Buildout scenario represents a scaling back of the Full Buildout scenario based on a comparison with a hypothetically similar, but sewered downtown.





**Figure 10. Sample Study Area with Downtown Rocky Point**

The future scenarios in Table 1 were generated by applying Suffolk County minimum design sewage flow rates to specific land use and their build-out conditions. Land use mixes were based generally on a mix of retail, office and service uses with mostly residential (i.e., apartments) on the upper floors. As an example of our land use and flow calculation methodology, consider the parcel labeled Map ID #9 in Figure 8. At present, this parcel supports 2,450 square feet of office space. It is currently built out according to as-of-right zoning which permits a maximum floor-area ratio of 0.35. According to water records, this particular site used 9,382 gallons of water in 2007. Since the parcel is completely built out per current zoning, its water usage would not change unless there is a change of land use, such as office to food service. Thus, the parcel’s usage is the same for the “Current” and “As-of-Right”



scenarios. After sewerage and a rezoning to J-6, the owner of the parcel could fully build out from 2,450 square feet to a maximum of 4,200 square feet. Assuming that the additional square footage provides three (3) new apartments, the annual water usage for this lot under a “Post-Sewering Full Build-Out” would increase simultaneously to an estimated 173,632 gallons. The “Post-Sewering Partial Build-Out” comprises the existing office uses plus two (2) new apartments (i.e., one less than under the Full Build-Out scenario). The estimated sewage flow from the Post-Sewering Partial Build-Out Scenario is estimated at 118,882 gallons annually.

There are several interesting observations that can be made from a review of these scenario totals in Table 1. Current development in this sample area falls short of the As-of-Right Build-Out by approximately 18 percent. In other words, the sample area could accommodate an additional 6,450 square feet of space. This unused build-out potential may reflect a limitation due to septic system capacity. If the sample area were rezoned, it could potentially build out with a total of 71,736 square feet of mixed retail, office, restaurant and apartment space. The Full Build-Out scenario would generate approximately 5.1 million gallons of sewage flow annually, more than double the Current sewage flow. Under a Partial Build-Out scenario, sewage flow would be approximately 1 million gallons less annually than, or only 80 percent of, the flow generated under a Full Build Out scenario.

The example presented here was for demonstration purposes only. Here, the comparison of Current development to Full Build-Out with a potential zoning change shows a more dramatic increase in potential flow generation. While such build-out may occur over several years, it would be appropriate to consider such a scenario when designing sewage collection and treatment infrastructure. These estimates would be defined following a more comprehensive comparison of the Rocky Point build-out scenarios with other sewerage downtowns in Long Island.



**Table 1. Summary of Sample Area Current Conditions and Build-Out Scenarios**

Map ID	Tax Parcels	Scenario	Address	Zoning	Land Use	Lot Area (sq.ft.)	Gross Floor Area (sq.ft.)	Floor Area Ratio (FAR)	Sewage (gallons/yr)
1	77-7-29	Current	Broadway & Prince Rd (SW corner)	J2	Vacant	10,280	0	0.00	0
		As-of-Right Build-Out*		J2	Restaurant	10,280	3,598	0.35	1,097,900
		Post-Sewering Partial Build-Out		J6	Restaurant/Retail/Apartments	10,280	5,243	0.51	1,251,750
		Post-Sewering Full Build-Out				10,280	6,168	0.60	1,278,900
2	77-7-28	Current	48 Broadway	J2*	Services	1,200	650	0.54	16,900
		As-of-Right Build-Out		J2*		1,200	420	0.35	16,900
		Post-Sewering Partial Build-Out		J6	Offices & Apartments	1,200	720	0.60	19,620
		Post-Sewering Full Build-Out				1,200	720	0.60	19,620
3	77-7-27	Current	46 Broadway	J2*	Restaurant	1,800	750	0.42	210,580
		As-of-Right Build-Out		J2*		1,800	630	0.35	210,580
		Post-Sewering Partial Build-Out		J6	Restaurant & Apartments	1,800	1,080	0.60	265,330
		Post-Sewering Full Build-Out				1,800	1,080	0.60	265,330
4	77-7-10 & -26	Current	42 Broadway	J2*	Restaurant	9,000	3,370	0.37	331,050
		As-of-Right Build-Out		J2*		9,000	3,150	0.35	331,050
		Post-Sewering Partial Build-Out		J6	Restaurant & Apartments	9,000	4,200	0.47	385,800
		Post-Sewering Full Build-Out				9,000	5,400	0.60	495,300
5	77-7-24.002 pt.	Current	Broadway (vacant lot)	J2	Vacant	9,600	0	0.00	0
		As-of-Right Build-Out		J2	Medical Office	9,600	3,360	0.35	104,830
		Post-Sewering Partial Build-Out		J6	Med Office & Apartments	9,600	4,560	0.48	269,080
		Post-Sewering Full Build-Out				9,600	5,760	0.60	323,830
6	77-7-24-003	Current	Broadway (vacant lot)	J2	Vacant	10,000	0	0.00	0
		As-of-Right Build-Out		J2	Retail	10,000	3,500	0.35	38,330
		Post-Sewering Partial Build-Out		J6	Retail/Office/Apartments	10,000	5,400	0.54	113,360
		Post-Sewering Full Build-Out				10,000	6,000	0.60	168,110
7	77-7-21	Current	20 Broadway	J2	Residence	4,000	800	0.20	109,500
		As-of-Right Build-Out		J2	Office	4,000	1,400	0.35	30,660
		Post-Sewering Partial Build-Out		J6	Office & Apartments	4,000	1,800	0.45	85,410
		Post-Sewering Full Build-Out				4,000	2,400	0.60	140,160
8	77-7-19 & -20	Current	12-16 Broadway	J2	Services	4,000	1,585	0.40	5,250
		As-of-Right Build-Out*		J2		4,000	1,400	0.35	5,250
		Post-Sewering Partial Build-Out		J6	Services & Apartments	4,000	1,800	0.45	60,000
		Post-Sewering Full Build-Out				4,000	2,400	0.60	114,750
9	77-7-17 & -18	Current	8-10 Broadway	J2	Offices	7,000	2,450	0.35	9,382
		As-of-Right Build-Out		J2		7,000	2,450	0.35	9,382
		Post-Sewering Partial Build-Out		J6	Offices & Apartments	7,000	3,800	0.49	118,882
		Post-Sewering Full Build-Out				7,000	4,200	0.60	173,632
10	77-7-16	Current	Broadway & Route 25A (NW corner)	J2*	Restaurant	6,460	4,800	0.74	1,502,000
		As-of-Right Build-Out		J2*		6,460	2,261	0.35	1,502,000
		Post-Sewering Partial Build-Out		J6*	Restaurant & Apartments	6,460	3,359	0.52	1,502,000
		Post-Sewering Full Build-Out				6,460	3,876	0.60	1,502,000

**Table 1 cont'd. Summary of Sample Area Current Conditions and Build-Out Scenarios**

11	77-7-42	Current	613 Route 25A	J2	Services (Auto Repair/Gas)	12,700	1,620	0.13	156,000
		As-of-Right Build-Out		J2	Services/Retail	12,700	4,445	0.35	198,000
		Post-Sewering Partial Build-Out		J6	Retail/Services/Apartments	12,700	6,420	0.51	362,250
		Post-Sewering Full Build-Out				12,700	7,620	0.60	471,750
12	77-7-40 & -41	Current	19 Broadway	J2	Retail (Furniture Store)	6,000	1,620	0.27	17,700
		As-of-Right Build-Out		J2	Retail & Med. Office	6,000	2,100	0.35	63,880
		Post-Sewering Partial Build-Out		J6	Retail/Office/Apartments	6,000	3,000	0.50	173,380
		Post-Sewering Full Build-Out				6,000	3,600	0.60	228,130
13	77-7-38 & 39	Current	21 Broadway	J2	Retail	10,000	1,000	0.10	10,950
		As-of-Right Build-Out		J2	Retail & Office	10,000	3,500	0.35	49,950
		Post-Sewering Partial Build-Out		J6	Retail/Office/Apartments	10,000	4,800	0.48	159,450
		Post-Sewering Full Build-Out				10,000	6,000	0.60	268,950
14	77-7-37.001,2	Current	23 Broadway	J2	Retail	6,500	2,100	0.32	23,000
		As-of-Right Build-Out		J2	Retail	6,500	2,275	0.35	24,900
		Post-Sewering Partial Build-Out		J6	Retail/Apartments	6,500	3,300	0.51	134,400
		Post-Sewering Full Build-Out				6,500	3,900	0.60	189,150
15	77-7-35, -36, -47	Current	41 Broadway	J2*	Restaurant/Market	11,000	4,900	0.45	72,750
		As-of-Right Build-Out		J2*	Restaurant/Market	11,000	3,850	0.35	72,750
		Post-Sewering Partial Build-Out		J6	Restaurant/Market/Apartments	11,000	5,400	0.49	182,250
		Post-Sewering Full Build-Out				11,000	6,600	0.60	291,750
16	77-7-32, -33, -34	Current	43-45 Broadway	J2*	Retail & Services	6,000	3,000	0.50	32,850
		As-of-Right Build-Out		J2*	Retail & Services	6,000	2,100	0.35	32,850
		Post-Sewering Partial Build-Out		J6	Retail/Services/Apartments	6,000	3,000	0.50	142,350
		Post-Sewering Full Build-Out				6,000	3,600	0.60	197,100
17	77-7-31	Current	47-49 Broadway	J2*	Unoccupied	4,000	2,090	0.52	0
		As-of-Right Build-Out		J2*	Office	4,000	1,400	0.35	39,120
		Post-Sewering Partial Build-Out		J6	Office & Apartment	4,000	1,800	0.45	50,297
		Post-Sewering Full Build-Out				4,000	2,400	0.60	93,870
18	77-7-30	Current	53 Broadway	J2*	Office & Services	9,100	4,010	0.44	0
		As-of-Right Build-Out		J2*	Office & Services	9,100	3,185	0.35	75,070
		Post-Sewering Partial Build-Out		J6	Office/Services/Apartment	9,100	4,732	0.52	129,820
		Post-Sewering Full Build-Out				9,100	5,460	0.60	184,570
						All Sample Parcels: Total Sewage Flow (gallons/year)			
1 to 18	All Parcels	Current	Broadway	J2		119,560	35,395	0.30	2,514,812
		As-of-Right Build-Out				119,560	41,846	0.35	2,822,402
		Post-Sewering Partial Build-Out		J6		119,560	59,891	0.50	4,173,299
		Post-Sewering Full Build-Out				119,560	71,736	0.60	5,147,622

\*Note: Current or future Non-conforming use; floor area ratio is exceeded and/or use is not permitted by zoning.

***B.4. Task 4 – Collection Systems***

***B.4.1. Overview***

There are a number of options available for the sewerage of the study area. These include the traditional gravity system as well as innovative/alternative systems such as low pressure and vacuum-assisted sewers or a combination of more than one of these systems.

The size of the collection area will need to be defined first. It may be possible to identify an initial “core area” for which sewers would be provided along with secondary areas that could be sewerage at a future date. A variation on this concept would be to install the sewers throughout a given area with the “core area” being “wet sewers” and the other outlying areas being “dry sewers” that could be activated at a later date depending on how development proceeds.

We have conducted a preliminary assessment of the topography of the study area. As can be seen in Figure 11, the general topography within the study area ranges in elevation between 140 and 150 feet above sea level throughout with gentle sloping towards the south. South of Route 25A, elevation continues to decrease, however there are occasional high points of elevation (i.e., 190 to 200 feet) located south of the study area in the State owned land. The elevation increases relatively rapidly to elevation 200 feet and greater as one moves north out of the study area. Elevation on the western end of the study area is also approximately 150 feet, however rising rapidly outside of the study area to a high of elevation 210 feet. The elevation of the eastern boundary of the Study Area remains relatively consistent with the 140 to 150 feet range.





Figure 11. Topography

#### B.4.2. Collection Systems - Gravity Sewers

Gravity sewers are the most widely used method of collecting and transporting wastewater to treatment facilities. The topography and extent of the service area will determine the depth, slope, diameter, and need for pumping stations. Design of gravity sewers is governed by Ten State Standards as well as by good engineering design practice, which includes the projected population size and residential development and the projected maximum flow from future commercial and industrial uses within the service area.

The minimum diameter for collection piping would be eight (8) inches, set of a slope to maintain a minimum flow rate of two (2) feet per second. The pipe would be buried a minimum of four (4) feet to prevent freezing and would have manholes at all changes of direction, intersections and at significant changes in grade. Manholes would be spaced at approximately 300-foot intervals with 400 feet as the allowable maximum distance. Pipe material would likely be either ductile iron or plastic. Gravity sewers are very feasible due to the relatively flat topography of the study area. Elevation



changes from north to south would locate the high end on Prince Street and the low end on SR 25A. This would favor installation of gravity sewers in a north-to-south flow pattern. Depending on the location of the treatment facility, the location of a pump station and routing of a force main would be determined. The pump station would be designed in accordance with Suffolk County standards and be equipped with a standby generator for emergency power supply.

#### B.4.3. Collection Systems - Low Pressure Sewers

Low-pressure sewer collection systems (LPS) got their start in the late 1960's, and with the advent of the Federal Construction Grants Program, became more popular with more than 600 installations by the end of the 1990's. The popularity of these systems increased when traditional gravity sewers were found to be impractical due to cost or physical conditions (high ground water, rock, elevation, etc.). Parcels having poor soils and shallow recharge that were unsuitable for traditional on-site treatment and disposal systems could employ LPS to transfer wastewater to decentralized community treatment systems located off site at a more amenable location. Individual homes or lots requiring a connection to a nearby gravity sewer could employ a LPS to lift the sewage to a connection point. Typically, LPS is utilized for low flow and high head conditions.

LPS collection system components include of small diameter plastic pipe, cleanouts, isolation valves, air release valves, various types of pipe fittings and appurtenances. Additionally, a receiving pit, positive displacement pump and controls are required to transfer the sewage into the force main. A brief description of each follows:

- Piping – typically High Density Polyethylene (HDPE) or Polyvinyl Chloride (PVC) ranging from 1” to 4” in diameter.
- Isolation Valves – to allow for maintenance and repairs of sections without shutting entire system down
- Cleanouts - every 500-600 feet, at changes in pipe size, direction and junctions to allow for high pressure cleaning
- Air release valves – located on system high points, manual or automatic operation
- Pipe fittings – tees, saddles, isolation and check valves needed to make connections.
- Appurtenances – valve boxes (plastic, cast iron, concrete), vaults, pressure monitoring station and flow meters.
- Pump station – consists of a receiving pit (vault), positive displacement (progressive cavity) grinder pump(s)- single or duplex, floats and pump control panel. Typically the station is located on front yards near the road with electrical supply from the residence or business being served. Some stations come as a pre-packaged unit (i.e., E-One). Pumps are typically designed in the 10 gpm range.

The LPS system accepts sewage on a continuous basis in a receiving pit and discharges intermittently (based on incoming flow) into the force main. Receiving pits are designed to allow for some storage



of flow and minimization of pumping cycles. Due the size of the pumps and force mains, users are strongly urged to limit the types of material discharged in their respective plumbing systems including large solids, plastics, stringy material and rags.

An LPS system can be designed for both individual and multiple lot servicing. Piping networks resemble water distribution systems in that sections can be isolated for maintenance and repair. Peak flow velocity (min 2-3ft/sec) requires at least several times per day to flush the pipeline and prevent deposits of material including grease that would cause problems. Hydrogen sulfide and odors can be released in locations where an LPS system discharges into a larger gravity sewer.

Operations and maintenance are best left to qualified and trained operators or contract service providers. Typical O&M items include electrical problems (supply and floats in receiving pit), malfunction of grinder pumps due to obstructions (rags, wipes, sanitary napkins, plastics, kitty litter and the like), and pump vault infiltration (illegal connections, roots, poor site grading, grease, etc). Typical emergencies include receiving pit overflows of electrical outages, main line ruptures and pump failures. In the event of a prolonged power outage, an LPS system is out of service and may need to be pumped or a portable generator supplied to power the system. This is a major disadvantage of the LPS system.

There do not appear to be any issues that would preclude the installation of gravity sewers. Groundwater would not high and elevations are generally consistent within the study area. Consequently, there does not appear to be an overriding reason to install an LPS. However, an LPS may be useful for individual lots located on the periphery of the district that may have difficulty accessing the main collection system. Use of an LPS would be reviewed once the service area (district) boundaries were defined for the various options noted in prior sections.

#### B.4.4. Collection Systems - Vacuum Assisted Sewers

Vacuum sewers were introduced in Europe over 100 years ago and approximately 25 years ago in the United States. There are no vacuum sewers in Suffolk County, New York. Vacuum sewers are especially attractive in areas with high groundwater, flat terrain, rock formations, rolling lands with small elevation changes and urban pockets in otherwise rural areas. Vacuum sewers are also suitable for heavily traveled roadways and roads with excessive utilities. These restricted construction conditions, if present, make vacuum sewers an attractive alternative to gravity sewers.

The following are advantages of vacuum sewer systems:

- Manholes are not required.
- Minimal surface disruption (i.e. trenching) utilizing small diameter sewer piping (i.e., < 12”).



- Shallow burial depth (i.e., minimum 4 to 5 below grade for frost protection up to a maximum of 8 feet). Shallow depths also reduce infiltration and inflow (I&I).
- Reduced installation cost due to potential elimination of dewatering during construction.
- Reduced traffic disruption.
- High scouring velocities for pipe cleansing.
- Vacuum rates help to avoid minor pump stations associated with gravity sewers.

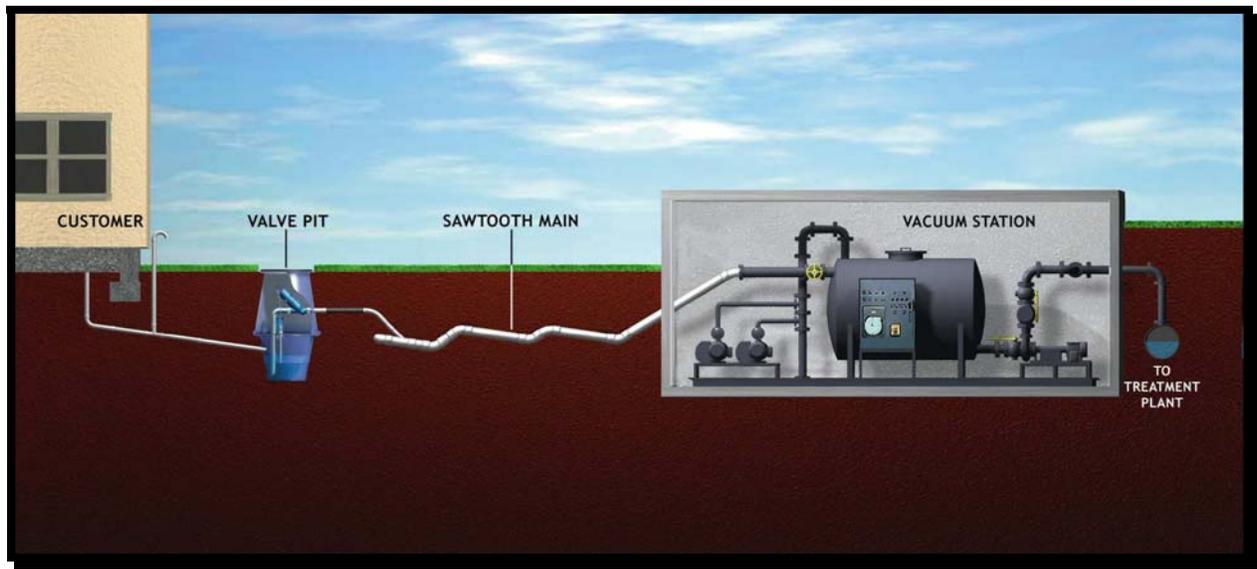
The capital cost of vacuum sewers can be greater (total life cycle) than gravity sewers if the number of connections is small (<100) and the service area not extensive. As the number of connections increases, the capital cost becomes very competitive and if the number of connections (>250) and service area expands, vacuum systems are typically much lower in cost over a 20-year life cycle than gravity sewers. The same holds true for operation and maintenance costs.

The components of a vacuum system typically include a house connection, vent, valve pit, service laterals, shallow sewers and a vacuum station. Centrifugal pumps are also located at the vacuum station to convey the wastewater via force main to a treatment facility.

The configuration of a typical vacuum sewer system is shown in Figure 12. As indicated, wastewater flows from the customer to the valve pit by gravity. When the valve pit reaches capacity (i.e., typically 10 gallons), the valve opens and the collected wastewater is forced into the vacuum sewer using the pressure differential of the vacuum pumps at the vacuum station. For large wastewater generators (i.e., schools, nursing homes, etc.), which require greater than 10 gallons storage capacity, a buffer tank is provided for capacities up to 30 gallons per minute.

Typically, the vacuum station and pump station are located in a single building with the vacuum station at grade level and the pump station at a lower elevation (i.e., basement level).





**Figure 12. Typical Vacuum Sewer Configuration**

*(Source: AirVac 2005 Design Manual, Rochester, IN)*

Wastewater is collected in a storage tank at the vacuum station. When the storage tank reaches capacity, centrifugal pumps convey the wastewater via force main to a treatment facility. A properly sized vacuum sewer system produces a scouring velocity of approximately 5 to 6 fps. This velocity will limit solids deposition and grease build-up.

Since vacuum sewer systems require a consistent flow of air into the system, connection of a gravity sewer system upstream of a vacuum sewer system is not recommended. However, a gravity system can be provided downstream of a vacuum sewer system.

Vacuum sewer lines are designed to maintain a gentle downward slope toward the vacuum station. This system is often described as vacuum assisted/gravity flow pipe network. Vacuum sewer piping is installed in a “saw-tooth” pattern, at 0.2% slopes, and includes 45 degree elbows, which gently raise the sewer pipe. There are valve pits required (up to four (4) residential connections) as well as vents. These valve pits require regular inspection and occasional maintenance.

Vacuum systems are often considered where access is limited, narrow streets, disruption needs to be minimized, high groundwater, difficult soils (rock, ledge, etc) are present and there are a high number of service connections. These factors would be assessed carefully under the various sewer options to determine if vacuum assisted sewers are viable for a portion of Rocky Point’s sewer needs.



From a preliminary standpoint, the restrictions often associated with a built-up community do not exist and therefore the typical advantages of vacuum sewers do not appear to be in place. This will be further analyzed in the study.

**B.4.5. Pump Station Locations**

Cameron Engineering will identify potential locations stations within the Study Area using aerial photographs and ground reconnaissance. Depending on the location of the treatment facilities (see below) and the extent of the sewer collection system, one or more pump stations will be needed to convey the wastewater to the treatment plant. A template for a standard pump stations that meets SCDPW/SCDHS requirements will be prepared and used to determine the area required for a pump station. Potential locations will be ranked.

**B.5. Task V - Treatment Options**

**B.5.1. Treatment Plant Siting - Within Study Area**

A template will be developed to define the minimum site requirements using SCDHS standards for treatment plant sizing and siting, recharge areas, setbacks including buffer areas, and required expansion space for a 20-year build-out period. Once a template is developed, suitable sites can be identified within or adjacent to the study area utilizing the powerful spatial analysis capabilities of our GIS.



**B.5.2. Treatment Plant Siting - Outside Study Area**

In addition to identifying potential sites for a treatment facility for the study area, wastewater treatment opportunities located out of the study area will be evaluated.

There have been two (2) proposed developments in close proximity to the Rocky Point Study Area. These include the Tall Grass Village Center, a Planned Development District (PDD) and Fairfield at Rocky Point, another PDD community. While the these projects are still considered to be in the planning stages, some background information is available to the public as a result of application being submitted to the Town of Brookhaven. Draft Environmental Impact Statements (DEIS) was prepared for Tall Grass, submitted to and reviewed by the Town of Brookhaven Planning Department. For Fairfield at Rocky Point, a Draft Scope for a DEIS was prepared by the Town after the Town Board (Lead Agency) issued a Positive Declaration in June of 2006.



Fairfield at Rocky Point, located just west of the study area at the site of a former mining operation, would occupy approximately 34 acres. A charette was held in June 2005 with the applicant, stakeholders and the local community and a Draft Scope for a DEIS prepared. The community has indicated its support for the project. The applicant had stated a willingness to make a monetary contribution of \$3 million to the community. The Fairfield PDD would require the construction of a sewage treatment facility to provide services to the proposed 247 unit development. The plant could also provide sewage treatment services to the Rocky Point downtown and/or the applicant could provide for a public plant. The monetary contribution could be converted to treatment capacity at the development's wastewater facility. An initial step would be to contact the Town and the applicant to get an update on the project and determine if this location might be considered for future wastewater treatment of the Rocky Point downtown.

The Tall Grass Village Center PDD is a much larger project at 320 acres than the Rocky Point PDD. It is located to the southwest of the study area. There are several elements to the proposed project including single-family housing, commercial space, recreational features and open space. A DEIS was prepared in September of 2006 and accepted by the Town as complete in April 2007. A public hearing on the DEIS was held on a zone change in May of 2007. The applicant submitted a FEIS in June of 2007. The applicant has submitted the required documents to the Central Pine Barrens Joint Planning & Policy Commission as the project is located in a compatible growth area and is deemed a significant project. As with the Rocky Point PDD, a sewage treatment plant would be necessary for the Tall Grass PDD. Therefore, it is also worth investigating the potential for this site to serve as a treatment option for the sewerage of the Rocky Point downtown.

### B.5.3. Wastewater Treatment Options

Due to its location, any treatment facility would be required to have a groundwater discharge. Therefore, nitrogen reduction to levels of less than 10 mg/L will be required. This effluent limitation is standard for any groundwater discharge facility and would be reflected in the SPDES permit. As the facility would have a groundwater discharge, the SPDES permit, engineering report and design documents would all be reviewed and subject to approval by the Suffolk County Department of Health Services.

Presently, the preferred method of treatment in Suffolk County is via Sequence Batch Reactor (SBR) technology. It has proven to be highly reliable, shock resistant, energy efficient and applicable to modular construction. Therefore, the SBR will be considered the appropriate means of treating the wastewater, and, based on the build-out projections, a modular approach will be used to determine plant size during the twenty (20) year planning period.



The treatment plant would feature influent screening, equalization, SBR tanks, post equalization, filtration and recharge. With a groundwater discharge, disinfection of the effluent would not be required.

## **B.6. Task VI – Environmental Issues**

### **B.6.1. SEQRA Requirements**

The State Environmental Quality Review Act (SEQRA) requires the evaluation of a proposed action for its potential impacts on the human and natural environment. SEQRA also requires that a proposed action be reviewed and analyzed in conjunction with other proposed actions that are either under review or being planned.

Due to the potential size of the project, the proposed sewerage would be a Type 1 Action (determined by Lead Agency) as it would meet or exceed the thresholds noted in Part 617.12. This would require a coordinated review by involved agencies including but not limited to Suffolk Sewer Agency, Suffolk County Council on Environmental Quality (CEQ), SCDHS, Town of Brookhaven, Pine Barrens Commission and NYSDEC. Once the Lead Agency is established, likely the CEQ, the next step in the SEQRA process would be the Determination of Significance. A Positive Declaration would likely be issued for the proposed Action. The Cameron Engineering Team would identify the steps required to comply with SEQRA which would be completed in a subsequent project phase.

### **B.6.2. Potential Environmental Impacts**

Cameron Engineering will identify the potential environmental issues that need to be evaluated in a DEIS should the project move forward. Some of the likely issues would include:

- Benefits to the public and environment
- Economic impacts
- Growth inducing factors
- Impacts on non-renewable resources, energy requirements, etc.
- Traffic impact during construction
- Noise impact during construction
- Odors from treatment plant
- Disruption caused during construction
- Groundwater impacts
- Impacts to the adjacent Central Pines Barrens
- Long term impacts including those that could not be adequately mitigated

Discussion of Cumulative Impacts would include the proposed Fairfield at Rocky Point and Tall Grass developments, and possibly others. The Lead Agency (CEQ) would identify this requirement during the Scoping process.



While the customary issues of traffic, noise and construction-related impacts would be identified the most critical impact may be growth inducement. Sewering of an unsewered area facilitates additional development that would create the kind of vibrant downtown envisioned by the community. Such growth may be viewed favorably by the community if it is well-designed and in step with community-developed master plans. Such growth can also bring additional traffic, increase the need for community services and change the character of the community. Rocky Point, however, has already conducted a visioning and the community’s desire to revitalize their Downtown has been clearly stated. Therefore, the growth inducing impacts of sewerage should not present itself as a significant issue.



Groundwater is always a concern given that Long Island drinking water comes from our aquifers. Potential impacts to these aquifers will be carefully evaluated. However, it is well documented that the quality of effluent from an advanced (tertiary) wastewater treatment facility is of higher quality than that from on-site treatment systems. The volume of treated wastewater infiltrating to groundwater would likely increase in a sewerage community. In Rocky Point groundwater flows to

the north towards Long Island Sound. Cameron Engineering will review available data regarding groundwater quality, elevation, and direction of groundwater movement, as well as location of public water supplies in or near the Study Area.

***B.7. Task VII – Sewer District Formation***

***B.7.1. Procedures and Costs***

Cameron Engineering will provide a full discussion on the legal and procedural issues regarding formation of a sewer district. Provisions of Article 5-A of New York State County Law will be explained and details of its application to the Rocky Point Feasibility Study provided. A comparison of County or Town formation will be provided. The various procedural requirements will be detailed to estimate the time required to form a district. It is anticipated that public interest will be high. The various procedural steps associated with district formation will go hand in hand with the estimation of the costs of sewerage. Cameron Engineering will provide the cost estimates for each of the likely sewerage options to assess the expense side of a district formation. The State Comptroller’s office will review the costs associated with district formation to assess the impact to users in the proposed district



boundaries. A comparison to costs of similar services in other districts in the State will be conducted by the Comptroller's office.

#### B.7.2. Permitting and Approvals

A discussion will be provided on the permits and approvals that would be needed in order to implement a sewerage project including the regulatory requirements pertaining to levels of treatment and discharge. Specific consideration of Ten State Standards will govern size and slope of collection piping, sizing of pump stations and treatment plant capacities. Specific treatment plant operations and processes will be dictated by expected State SPDES permit (Part 750) effluent limitations and operational requirements. The actual submission of permit applications to the various agencies would occur in a phase subsequent to this Feasibility Study.

#### B.7.3. Implementation Steps and Schedule

A schedule would be included for all the tasks required to implement such a sewerage project from a notice to proceed with engineering design through the completion of construction. The procedures required by SEQRA would be included along with the necessary steps for sewer district formation and approval by the New York State Comptroller's office.

#### B.7.4. Project Costs

An important component of the Feasibility Study will be an estimation of the costs associated with sewerage the downtown and/or larger area within the Study Area. Specific cost components will include but are not limited to the following:

- Capital Costs - projection of costs for sewer collection piping, pump stations, force mains, property procurement and wastewater treatment plant
- Operating Costs - projection of costs for annual operation and maintenance of collection system, pump stations, force mains and treatment plant
- Connection Fees - projection of costs for each property to connect to the sewer collection system
- Abandonment Costs - projection of costs to properly abandon existing on-site treatment and disposal systems (septics, cesspools and leach fields)
- Debt Service - projection of annual debt service associated with financing of capital costs and soft costs (will use current interest rate and reduced SRF subsidized interest rate)
- Soft Costs - projection of costs associated with legal, financial and engineering costs (Map & Plan, Survey, Engineering Report, Contract Documents, Construction Inspection)



### B.7.5. Cost-Benefit Analysis

The Cameron Engineering Team will review proposed sewerage improvements and the scale and type of uses that are proposed in future phases of the development in the business district, to estimate the incremental tax revenues that may be realized, the time period during which the funds may be taken, the probable debt service requirements for bonds sold in series for funding these improvements. The purpose of this task will be to estimate incremental tax revenues from future development at the site, and test the feasibility of those incremental tax revenue streams to finance the sewerage improvements. We will perform a high-level constant-dollar debt financing analysis to inform the cost-benefit analysis and feasibility study.

Our analysis will utilize the development scenarios developed in terms of the square footage of new development that could be potentially supported by the sewerage project. An analysis of the potential development program in terms of square footage/units of retail and commercial space as well as residential units, and utilize current rental rates and housing values along with the County's current property assessment practices and mill rates. Current property assessments will be compared to potential property value under a redevelopment scenario using on a capitalized net present value approach for commercial uses and a comparables approach for for-sale residential uses. We will then apply current mill rates to the incremental assessed value from the new development to estimate incremental property taxes from redevelopment. Property taxes will be estimated separately for the County, school district, and for the municipality.

Utilizing capital cost estimates of necessary infrastructure, we will undertake a preliminary analysis of debt financing requirements. These estimates will be based on constant dollar amortization techniques, and utilize reasonable assumptions regarding the length of financing, coupon rates, etc.



## C. PROJECT ADMINISTRATION

### *C.1. Progress Report Meetings*

It is anticipated that monthly project meetings will be held by the County to review progress, key activities, milestones, schedule, problems encountered, information required, etc. Due to the expected interest in the project, progress reports will be prepared prior to each meeting with distribution to County representatives and, if appropriate and authorized, to key stakeholders. Meeting minutes will be prepared for each progress meeting and will be distributed to meeting attendees and to other parties designated by the County.

### *C.2. Additional Meetings*

Additional meetings may be required during the course of the project. These meetings may be informational sessions, local civic and business group meetings, meetings with Town officials/representatives as well as with other County officials and government regulatory agencies.

Topics that might be covered include: proposed district boundaries, type of sewers, cost of sewers, location of sewers, potential treatment plant locations, pump stations, construction impacts (noise, dust, traffic, inconvenience, etc.) etc. Cameron Engineering would prepare the necessary presentation materials (boards, handouts, charts, etc.).

Although the RFP did not identify the number of meetings expected under the category of "Additional Meetings", for the purposes of this Proposal and the associated Cost Proposal (separate cover), we will anticipate that six (6) additional meetings will be conducted above the normal monthly project progress meetings identified in C.1.

### *C.3. Deliverables*

Per the pre-proposal meeting held on November 6, 2008 at the County's offices in Yaphank, the following documents will be provided:

- Fifteen (15) copies of the Feasibility Study Report
- Fifteen (15) copies of the Powerpoint presentation
- Fifteen (15) discs of the Powerpoint presentation



## D. PROJECT SCHEDULE

The Feasibility Study should be completed within ten (10) months of receiving an authorization to proceed from the County. This period of time should be sufficient to complete the review of prior and related studies/reports, perform field work, develop the GIS mapping and databases, complete the analyses for sewerage options, cost/benefit analysis, identify environmental issues and present findings and recommendations. Due to the importance of the project and number of stakeholders, it is anticipated that multiple meetings will be scheduled within this period. Key milestone tasks and the time necessary to complete them from project start date are as follows:

- Review prior studies, reports, plans 30 days
- Conduct field work 30 days
- Develop mapping and data bases 60 days
- Develop preliminary sewerage scenarios 90 days
- Submit preliminary options to County 100 days
- Prepare preliminary cost estimates 120 days
- Conduct Informational Meeting(s) 150 days
- Revise options (County & Public input) 210 days
- Submit draft Feasibility Study 240 days
- Conduct Informational Meeting(s) 275 days
- Submit Final Feasibility Study 300 days

This schedule is not intended to be inclusive of all tasks required to undertake and fulfill the requirements of the RFP. Progress meetings are expected to be scheduled throughout the project and other additional meetings scheduled as required. County review of submittals is anticipated to be on the order of 60 days although comments and appropriate revisions are expected to occur on a continuous basis as letters, e-mails and other forms of correspondence are received from the County.



## E. TEAM QUALIFICATIONS AND EXPERIENCE

### *E.1. Cameron Engineering & Associates, LLP Qualifications*

Cameron Engineering & Associates, LLP (Cameron Engineering) is a full service multi-disciplined consulting engineering Firm founded in 1985. Cameron Engineering is comprised of experienced and qualified planners, landscape architects, engineers, and environmental scientists dedicated to providing professional, timely and courteous services to our clients. Our commitment to excellence is reflected in our approach for solving difficult problems with well-designed, coordinated, cost-effective concepts, and sound management techniques for all types of environmental projects.

Cameron Engineering prides itself on its innovativeness and diversity. Having multiple disciplines under one roof allows for interaction on an immediate basis for developing approaches and solutions to our clients' needs. When necessary, we reach out and access experts in specialized areas to supplement and strengthen the services that we can provide. We believe that we are the right choice for the County for this Feasibility Study for Rocky Point.

While this study has a wastewater engineering component for assessing and identifying sewer collection, transport and treatment options, the project has an equally important planning component. Assessing what could become of Rocky Point if sewered and how that transformation could occur and accurately reading the desires and visions of the community is an area where we excel. Our certified planners have performed charrettes, public outreach and participate on smart growth initiatives. Our staff has and is active in many of the professional organizations associated with planning and visioning.

We have substantial in-house GIS mapping and database development resources that will be instrumental in building the models necessary for projecting sewage flow as it relates to changes in zoning, build-out of existing and new uses. Sensitivity analysis will be built into the model to reflect potential build-out scenarios based on economic and financial conditions.

We are knowledgeable on municipal codes, regulatory requirements, industry standards and enjoy good working relationships with the municipalities and regulatory agencies here in Suffolk. We have successfully worked with the County, Town of Brookhaven and many of our private clients on similar type projects.

Below we provide some brief examples of related experience for your review.

- Calverton Camelot
- Gyrodyne
- Long Beach Bayfront
- Molloy College Campus Master Plan



- Smithtown/Kings Park Feasibility Study
- Village of Southampton
- Nassau County Consolidation
- Gordon Heights

As a key task is performing a Cost/Benefit Analysis relating to the sewerage of the Rocky Point downtown, we have Economic Research Associates, Inc. joining our team for this project. Additionally, Cameron Engineering will be utilizing the expertise of a qualified legal firm for provision of procedural requirements and legal issues relating to the formation of either a Town or County sewer district.

***Village of Southampton Sewer Study  
Southampton, New York***

A feasibility study was conducted for the Village for consideration of sewerage the downtown business district. Cameron Engineering had just recently completed the BNR upgrade of the Southampton Hospital wastewater treatment plant and assisted in bringing both the Village and the Hospital together for a mutually beneficial project. As the Village does not own a wastewater treatment plant, it would collect its wastewater within the business district and transfer the wastewater via force main to the Hospital’s treatment facility. The study determined that sufficient capacity is available to accommodate the projected flow from the downtown business district. The vacuum-assisted method of sewerage was determined to be the most cost effective and least intrusive. The Village has submitted grant applications for the project. The Village and the Hospital remain optimistic that the project will go forward.

***Long Beach Bayfront Development  
Long Beach, New York***



The Bayfront Redevelopment Project is a transformation of a 10 acre dilapidated waterfront property littered with utilities into a thriving residential, retail and office mixed used development. The project includes public access, economic development, cultural and recreational resources, environmental remediation, infrastructure improvement, water revitalization and beautification. Key public benefits of the project include a waterfront boardwalk and promenade, a boat marina, an outdoor performing arts center, retail shops, waterfront restaurants, dilapidated building demolition, environmental cleanups, and municipal infrastructure improvements including a relocation and combination of major utilities away from the waterfront. The project will include several hundred residential units, including next generation housing, and



several hundred thousand square feet of retail and office development. Cameron Engineering is responsible for master planning, environmental analysis, oversight of all environmental testing and remediation, and all phases of site planning, permitting, approvals, engineering and landscape architectural design. Cameron Engineering is also leading a major community outreach effort.

***Molloy College Campus Master Plan Implementation  
Rockville Centre, New York***

Molloy College is implementing Phase I of a three phase Master Plan. Phase I improvements include a new 76,000 Campus Center (Public Square), new Residence Hall and a comprehensive campus-wide site transformation including access, circulation, parking, walks, courtyards, open green spaces/quads, lighting, landscaping, and major infrastructure improvements. Cameron Engineering’s staff of civil/site engineers and landscape architects are providing these preferred services in support of the project.



***Calverton Camelot  
Riverhead, New York***



A comprehensive yield study and zoning analysis was performed for approximately 500 acres of industrially zoned land. The multiple development constraints include FAA regulations for an adjacent airport runway, freshwater wetlands, land within a scenic river corridor, protective buffer areas around tiger salamander ponds, extensive underground utilities, and historic structures. All of these constraints were utilized and the requirements of the Town of Riverhead’s Planned Industrial

Park district zoning to determine the redevelopment potential of the property. A Full Environmental Assessment Form was prepared and analysis of wastewater and traffic impacts associated with subdivision, re-occupation of approximately 1 million square feet of existing buildings, and development of approximately 2 million additional square feet of industrial space.

A Minor Subdivision map was prepared for a subdivision of approximately 500 acres from the overall 2,500 acre Town owned property. A Major Subdivision map was prepared for further subdivision of the approximately 500 acres purchased by Calverton Camelot. Subdivision applications to Suffolk County Department of Health Services and to NYSDEC under its Wild, Scenic and Recreational



Rivers (WSRR) Act were prepared. Assistance was provided to the Town of Riverhead in preparing analyses to support the Town’s request to NYSDEC for modification of the WSRR boundary in order to exclude previously developed areas and include more sensitive environmental areas. Roadway Improvement Plans were prepared for on site roadways incorporating traffic calming features, concrete pavement rehabilitation and widenings, mixed in place asphalt base, asphalt overlays. Roadway widening plans were prepared for Route 25 at the site driveway and conceptual plans were prepared for 2.2 miles of roadway improvements. Traffic Impact Study to determine how the 10 million worth of roadway improvements mitigation needs to be staged to correlate with project development and trip generation.

***Gyrodyne  
St. James, New York***

Prepared two Master Plan Concepts for redevelopment of a 326-acre parcel spanning two Towns. One Master Plan Concept was prepared under the Planned Development District zoning and incorporated housing, industrial, retail and recreational elements. The second Master Plan Concept included the development of a golf course community and championship 18 hole golf course, while maintaining existing industrial and commercial uses. The environmental impacts of both plans were analyzed.



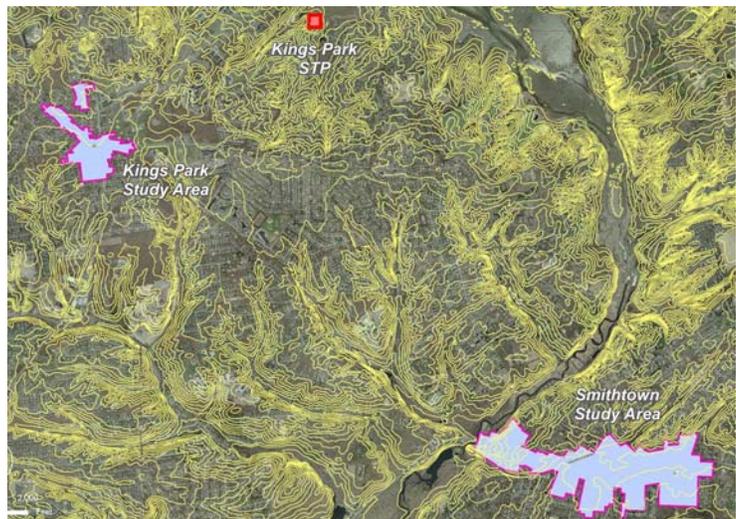
Approved Design Standards (ADS) were prepared for use in negotiating leases with future occupants. The ADS cover all areas of lot development including site plan approval, approved uses, landscaping, refuse collection, signage, lighting, parking requirements, sewer use regulations, placement of utilities and HVAC equipment, and common area usage.

Following condemnation of 246 acres by New York State, prepared a Master Plan concept for redevelopment of the remaining acreage. The environmental impacts of the plan were analyzed. Critiqued Environmental Impact Statement and Phase I and Phase II Reports prepared by NYS for the condemnation. Prepared demolition estimates and asbestos removal estimates for existing buildings. Provided oversight of soil testing and soil management plan for metals associated with prior farming activities.



***Smithtown and Kings Park Sewering Feasibility Study  
Town of Smithtown, Suffolk County, New York***

Currently, there is no centralized sewage collection system or sewage treatment plant within both the downtown areas of Smithtown and Kings Park. The bulk of the sewage treatment is treated at the point of generation by on-site systems (septic tank/leaching pools). Due to nitrogen loading and its affect on groundwater quality, the size of each on-site system is limited by the acreage of each parcel, which limits the size of building and hinders the future development both commercially and residentially within these study areas. Multiple technologies of sewage collection (i.e. vacuum, gravity, and small diameter sewers) and routes for conveyance were evaluated as well as an analysis of the expansion of the Kings Park Sewage Treatment Plant.



***Nassau County Consolidation of Treatment Facilities  
Cedarhurst and Lawrence, New York***



Cameron Engineering was part of project team that conducted extensive analysis of existing wastewater collection and treatment systems located throughout Nassau County. Analysis of physical condition, process performance, O&M costs, necessary upgrades for regulatory compliance, present worth analysis and feasibility for consolidating to larger regional facilities.

Study resulted in recommendation of consolidating two (2) antiquated facilities in need of extensive upgrades to a larger more modern treatment plant. Cameron Engineering is now designing and developing Contract Documents for the necessary improvements.

***Gordon Heights Land Use Plan  
Gordon Heights, New York***

The Town of Brookhaven sponsored a visioning process to assist the Gordon Heights community to formalize its desires for the future. Residents wanted to create a clear sense of place, more housing



choices that were affordable, access to neighboring commercial districts, and a multi-use community center for all residents. Cameron Engineering is developing a Land Use Plan for the two mixed-use neighborhood centers proposed by the community during the visioning process. We are assessing existing land use and zoning, infrastructure, environmental resources, demographics, economic conditions. The Land Use Plan will recommend new land uses for the two neighborhood centers, revised zoning, including a Planned Unit Development District and the required infrastructure to support the land uses. The Land Use Plan will be based on the community's vision and an economic analysis of the market potential for specific types of residential and commercial development. Cameron Engineering is also evaluating methods to reduce the concentration of sex offenders in the community and to reduce the tax burden imposed on the community by its Fire Department, which is supported primarily by residential taxes and only minimally by commercial taxes.



## ***E.2. Economics Research Associates Qualifications***

Economics Research Associates, an AECOM company (ERA), was founded in Los Angeles in 1958. The firm is a California corporation, a wholly owned subsidiary of AECOM Technology Corporation. Headquarters are in Los Angeles, California, with offices in Chicago, San Francisco, San Diego, New York, London, and Washington, D.C. There are roughly 135 members of the staff; professional consultant tenure with the firm averages 11 years. In domestic and international projects, ERA has completed more than 17,000 research and consulting assignments for both public and private clients. Fusing talents of a multidiscipline staff, the firm's experience has concentrated in five interrelated fields: (1) economic development and planning; (2) real estate and land use; (3) recreation, tourism, and leisure time; (4) transportation systems; and (5) management and marketing services.

In urban and regional economics, ERA has conducted major studies for public and private clients in most major metropolitan areas. These have included economic base studies, urban redevelopment feasibility assessments, long-range master plans, and analysis of interactions of urban transport with metropolitan development. The firm is frequently called upon to assess fiscal impacts of development policies and projects and to recommend revenue diversification programs. ERA often performs negotiating services and analyses for public clients seeking private ventures. The firm has been involved in all five rounds of contemporary military base reuse planning, defense industry conversion, and community economic diversification since 1988.

Real estate and land use economics constitute a primary area of ERA project experience. ERA has studied the marketability, feasibility, and appropriate project densities for all types of real estate uses. A specialization of the firm involves adaptive use and commercial property revitalization. ERA also conducts project valuation analyses, portfolio reviews, and prepares independent review valuations during sales transactions. Specialties of the firm, in addition to the full range of urban real estate product types, include destination resorts and hotels, high-technology parks, and university-related land uses.

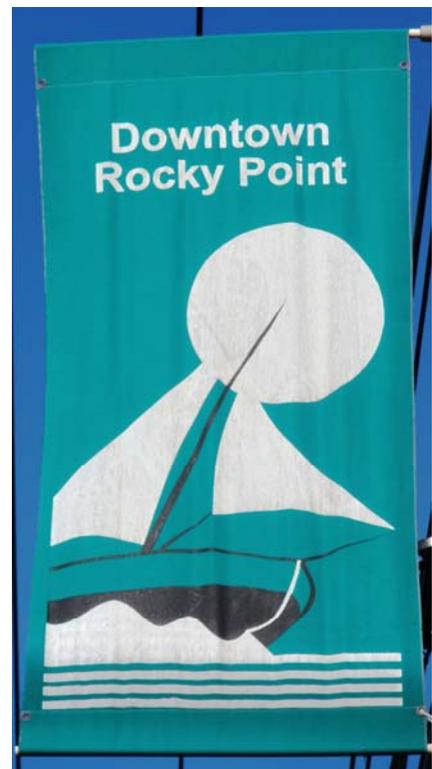
ERA's work in the field of recreation, tourism, and leisure time incorporates experience in formulating tourist development plans for major geographic regions and subregions, evaluation of specific public and commercial recreational facilities, and analysis of special mass attraction events and sports facilities. Long known for its work with major theme parks in the United States, and now internationally as well, ERA has also led in the definition of responsible revenue generation and cost coverage programs for public park systems. The firm is presently a leading authority on the development and programming of urban entertainment centers. ERA's consultation in transportation planning and economics spans urban, intercity, and international transport operations, in both cargo



and passenger transport. The firm's research involves infrastructure planning (airports, ports, highways, railways, and mass transit systems) as well as transport operations analysis; the emphasis is with economic activity forecasting and financial planning. Related assignments include transit agency property development potentials and private venture partnerships. The firm also defines market prospects for joint development and for revitalization of transit oriented districts.

In management and marketing consultation, ERA has provided both public and private clients with guidance in program design, organization, public finance, governmental relations, long-term planning, marketing, and acquisition programs. A growing number of projects involve city and agency marketing strategies.

ERA has established one of the finest research libraries in the country during its 49-year history. This library contains 200 active periodical subscriptions, more than 2,000 books, data series, and focused geographic files. All ERA offices are networked and electronically convey data and documents between offices as well as with clients. The consulting staff profile of the firm emphasizes both breadth and specialization. During 2008, the staff includes: 30 Economists, 20 Financial Analysts, 22 Real Estate Analysts, 18 Urban and Regional Planners.



## F. STAFFING

Cameron Engineering has a professional staff of 67 employees including 20 Professional Engineers licensed in New York State, one (1) Registered Landscape Architect, three are (3) Members of the American Institute of Certified Planners and 16 are LEED Accredited. Several of our Professional Engineers are licensed in multiple states. Our staff also includes many employees with graduate degrees in the fields of engineering and/or science. The staff works in a multi-disciplined environment and is thus familiar with overall project requirements, in addition to their specific area of expertise. This enables superior project scheduling, coordination of disciplines, planning for constructability and implementation of a well-planned and conceived project.

Key to the success of any project is the staff that will be performing the work. For this project, we have assigned senior level staff as Task Leaders who will be responsible for the deliverables. These are the individuals that will be attending project progress meetings, community and business outreach meetings, Legislature meetings and other key stakeholder meetings. We are committed to ensuring that the Feasibility Study is a quality planning document that can be used for subsequent phases of implementation.

### *F.1. Key Staff Assignments*

As noted above, these individuals will be involved in performing the various tasks associated with the Feasibility Study.

John D. Cameron, P.E.	Partner in Charge	Allocation of Resources
Joseph R. Amato, P.E., LEED	Partner	Quality Control and Assurance
Mark Wager, CEP, LEED	Project Manager	Overall Project Responsibility
Thomas McGovern, P.E.	Task Manager	Sewering Options
Robert Svadlenka, AICP	Task Manager	GIS Database and Mapping
Janice Jijina, P.E., AICP, LEED	Task Manager	Environmental/SEQRA
David Berg, AICP, LEED	Task Manager	Community Outreach
Shuprotim Bhaumik	Task Manager	Cost/Benefit Analysis

An Organization Chart is provided following this page to illustrate the staff assignments and reporting responsibilities.

These individuals will be supported by over 75 technical support staff available at Cameron Engineering and ERA. As the County knows, we are located only 30 minutes from the County's Yaphank offices.

Resumes for Cameron Engineering and subconsultant key personnel are provided hereafter.



**G. REQUIRED FORMS**

- G.1. Affidavit of Compliance*
- G.2. M/WBE Form*
- G.3. Labor Mediation Unit*
- G.4. Living Wage Unit*
- G.5. Lawful Hiring of Employees*





MINORITY/WOMEN BUSINESS ENTERPRISE  
COUNTY OF SUFFOLK - DEPARTMENT OF PUBLIC WORKS

AFFIDAVIT AND CERTIFICATION

STATE OF NEW YORK )  
COUNTY OF SUFFOLK )

*Nassau*

Joseph R. Amato, being duly sworn, deposes and says that he resides at 307 Lawn Lane, Upper Brookville, NY 11771

That the bidder hereby agrees that every good faith effort shall be made to solicit and utilize certified women/minority businesses on this project through either subcontracting to and/or entering into purchase or service agreements. That the undersigned has recognized and acknowledged that the statements herein are being given under oath and any material misrepresentation will be grounds for terminating any contract which may be awarded in reliance hereon. That this affidavit and statements herein are made knowing that the truth of the contents hereof will be relied upon.

*Joseph R. Amato*

Sworn to before me this

3<sup>rd</sup> day of December, 2008

*Donna Lee Sclafani*  
Notary Public

**DONNA LEE SCLAFANI**  
Notary Public, State of New York  
Registration #01SC5012093  
Qualified in Nassau County  
Commission Expires June 15, 2011

STATE OF NEW YORK )  
COUNTY OF SUFFOLK )

One the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me personally came to me \_\_\_\_\_ known and known to me to be the individual described in and who executed the foregoing instrument and duly acknowledged that he executed same.

\_\_\_\_\_  
Notary Public

BIDDER WHO FAILS OR REFUSES TO COMPLETE AND RETURN THIS AFFIDAVIT SHALL NOT BE DEEMED A RESPONSIVE BIDDER AND WILL NOT BE ACKNOWLEDGED.

**SUFFOLK COUNTY DEPARTMENT OF LABOR – LABOR MEDIATION UNIT**  
**UNION ORGANIZING CERTIFICATION/DECLARATION – SUBJECT TO AUDIT**

If the following definition of “County Contractor” (Union Organizing Law Chapter 466-2) applies to the contractor’s/beneficiary’s business or transaction with Suffolk County, the contractor/beneficiary must complete Sections I, III, and IV below. If the following definitions do not apply, the contractor/beneficiary must complete Sections II, III and IV below. Completed forms must be submitted to the awarding agency.

**County Contractor:** “Any employer that receives more than \$50,000 in County funds for supplying goods or services pursuant to a written contract with the County of Suffolk or any of its agencies; pursuant to a Suffolk County grant; pursuant to a Suffolk County program; pursuant to a Suffolk County reimbursement for services provided in any calendar year; or pursuant to a subcontract with any of the above.”

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**Section I**

Check if  
Applicable

The Union Organizing Law applies to this contract. I/we hereby agree to comply with all the provisions of Suffolk County Local Law No. 26-2003, the Suffolk County Union Organizing Law (the law) and, as to the goods and/or services that are the subject of the contract with the County of Suffolk shall not use County funds to assist, promote, or deter union organizing (**Chapter 466-3 A**), nor seek reimbursement from the County for costs incurred to assist, promote, or deter union organizing. (**Chapter 466-3 B**)

I/we further agree to take all action necessary to ensure that County funds are not used to assist, promote, or deter union organizing. (**Chapter 466-3 H**)

I/we further agree that I/we will not use County property to hold meetings to assist, promote, or deter union organizing. (**Chapter 466-3E**)

I/we further agree that if any expenditures or costs incurred to assist, promote, or deter union organizing are made,

I/we shall maintain records sufficient to show that no County funds were used for those expenditures and, as applicable, that no reimbursement from County funds has been sought for such costs. I/we agree that such records shall be made available to the pertinent County agency or authority, the County Comptroller, or the County Department of Law upon request. (**Chapter 466-3 I**)

I/we further affirm to the following as to the goods and/or services that are the subject of the contract with the County of Suffolk:

- I/we will not express to employees any false or misleading information that is intended to influence the determination of employee preferences regarding union representation;
  - I/we will not coerce or intimidate employees, explicitly or implicitly, in selecting or not selecting a bargaining representative;
  - I/we will not require an employee, individually or in a group, to attend a meeting or an event that is intended to influence his or her decision in selecting or not selecting a bargaining representative;
  - I/we understand my/our obligation to limit disruptions caused by prerecognition labor disputes through the adoption of nonconfrontational procedures for the resolution of prerecognition labor disputes with employees engaged in the production of goods or the rendering of services for the County; and
  - I/we have or will adopt any or all of the above-referenced procedures, or their functional equivalent, to ensure the efficient, timely, and quality provision of goods and services to the County. I/we shall include a list of said procedures in such certification.
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**Section II**

Check if  
Applicable

The Union Organizing Law does not apply to this contract for the following reason(s): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**Section III**

Contractor Name: Cameron Engineering & Associates, LLP Federal Employer ID#: 11-3313855  
Contractor Address: 100 Sunnyside Boulevard Amount of Assistance: \_\_\_\_\_  
Woodbury, NY 11797 Vendor #: 11-3313855  
Contractor Phone #: (516) 827-4900  
Description of project or service: Rocky Point Business District Sewering Feasibility Study

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**Section IV**

In the event any part of the Union Organizing Law, Chapter 466 of the Laws of Suffolk County, is found by a court of competent jurisdiction to be preempted by federal and/or state law, this certification/declaration shall be void *ab initio*.

**Section V**

I declare under penalty of perjury under the Laws of the State of New York that the undersigned is authorized to provide this certification, and that the above is true and correct.

  
\_\_\_\_\_  
Authorized Signature  
Joseph R. Amato, Partner

December 5, 2008  
\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name and Title of Authorized Representative

**SUFFOLK COUNTY DEPARTMENT OF LABOR – LIVING WAGE UNIT**

**LIVING WAGE CERTIFICATION/DECLARATION – SUBJECT TO AUDIT**

If either of the following definitions of ‘compensation’ (*Living Wage Law Chapter 347 – 2*) applies to the contractor’s/recipient’s business or transaction with Suffolk County, the contractor/recipient must complete Sections 1, 3, 4 below; and Form LW-1 (Notice of Application for County Compensation). If the following definitions do not apply, the contractor/recipient must complete Sections 2, 3 and 4 below. Completed forms must be submitted to the awarding agency.

“Any grant, loan, tax incentive or abatement, bond financing subsidy or other form of compensation of more that \$50,000 which is realized by or provided to an employer of at least ten (10) employees by or through the authority or approval of the County of Suffolk,” or “Any service contract or subcontract let to a contractor with ten (10) or more employees by the County of Suffolk for the furnishing of services to or for the County of Suffolk (except contracts where services are incidental to the delivery of products, equipment or commodities) which involve an expenditure equal to or greater than \$10,000. For the purposes of this definition, the amount of expenditure for more than one contract for the same service shall be aggregated. A contract for the purchase or lease of goods, products, equipment, supplies or other property is not ‘compensation’ for the purposes of this definition.”

**Section I**

The *Living Wage Law* applies to this contract. I/we hereby agree to comply with all the provisions of Suffolk County Local Law No. 12-2001, the Suffolk County *Living Wage Law* (the Law) and, as such, will provide to all full, part-time or temporary employed persons who perform work or render services on or for a project, matter, contract or subcontract where this company has received compensation, from the County of Suffolk as defined in the Law (compensation) a wage rate of no less than \$10.69 (\$9.25 for child care providers) per hour worked with health benefits, as described in the Law, or otherwise \$12.17 (\$10.50 for child care providers) per hour or the rates as may be adjusted annually in accordance with the Law. (**Chapter 347-3 B**)

Check if applicable

I/we further agree that any tenant or leaseholder of this company that employs at least ten (10) persons and occupies property or uses equipment or property that is improved or developed as a result of compensation or any contractor or subcontractor of this company that employs at least ten (10) persons in producing or providing goods or services to this company that are used in the project or matter for which this company has received compensation shall comply with all the provisions of the Law, including those specified above. (Chapter 347-2)

I/we further agree to permit access to work sites and relevant payroll records by authorized County representatives for the purpose of monitoring compliance with regulations under this Chapter of the Suffolk County Code, investigating employee complaints of noncompliance and evaluating the operation and effects of this Chapter, including the production for inspection & copying of payroll records for any or all employees for the term of the contract or for five (5) years, whichever period of compliance is longer. All payroll and benefit records required by the County will be maintained for inspection for a similar period of time. (**Chapter 347-7 D**)

The County Department of Labor shall review the records of any Covered Employer at least once every three years to verify compliance with the provisions of the Law. (**Chapter 347-4 C**)

**Section II**

The *Living Wage Law* does not apply to this contract for the following reason(s): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Check if applicable

**Section III**

Contractor Name: Cameron Engineering & Associates Federal Employer ID#: 11-3313855  
Contractor Address: 100 Sunnyside Boulevard Amount of compensation: \_\_\_\_\_  
Woodbury, NY 11797 Vendor #: 11-3313855  
Contractor Phone #: (516) 827-4900

Description of project or service: Rocky Point Business District Sewering Feasibility Study

**Section IV**

I declare under penalty of perjury under the Laws of the State of New York that the undersigned is authorized to provide this certification, and that the above is true and correct.

  
\_\_\_\_\_  
Authorized Signature <sup>Senior</sup>  
Joseph R. Amato, Partner  
\_\_\_\_\_  
Print Name and Title of Authorized Representative

December 5, 2008  
\_\_\_\_\_  
Date

**SUFFOLK COUNTY DEPARTMENT OF LABOR**  
**NOTICE OF APPLICATION TO CERTIFY COMPLIANCE WITH FEDERAL LAW**  
**(8 U.S.C. SECTION 1324A)**  
**WITH RESPECT TO LAWFUL HIRING OF EMPLOYEES**  
Suffolk County Code, Chapter 234 (2006)

**To Be Completed By Applicant/ Covered Employer//Owner**

**EMPLOYER/CORP./BUSINESS/COMPANY NAME:** Cameron Engineering & Associates, LLP

- 1) **ADDRESS:** 100 Sunnyside Boulevard  
Woodbury, NY 11797
- 2) **NOT-FOR-PROFIT:** YES \_\_\_ NO X (SUBMIT PROOF OF IRS NOT-FOR-PROFIT STATUS)
- 3) **VENDOR #:** 11-3313855 4) **\*\*CONTRACT ID:** 8187  
(If known) (If known)
- 5) **CONTACT:** Joseph R. Amato 6) **TELEPHONE #:** (516) 827-4900
- 7) **TERM OF CONTRACT OR EXTENSION (PROVIDE DATES):** \_\_\_\_\_
- 8) **AMOUNT OF CONTRACT OR EXTENSION:** \_\_\_\_\_
- 9) **BRIEF DESCRIPTION OF PROJECT OR SERVICE** Rocky Point Business District Sewering Feasibility Study

**SUBCONTRACTOR:** Economics Research Associates

- 1) **ADDRESS:** 10990 Wilshire Boulevard, Suite 1500  
Los Angeles, CA 90024
- 2) **VENDOR#:** 95-3611116 3) **TELEPHONE #:** (310) 477-9585
- 4) **CONTACT:** Shuprotim Bhaumik
- 5) **DESCRIPTION OF COMPENSATION, PROJECT OR SERVICE:** Cost/Benefit Analysis

**EVIDENCE OF COMPLIANCE:**

**COPIES OF THE FOLLOWING MUST BE MAINTAINED BY COVERED EMPLOYERS OR THE OWNERS THEREOF FOR EACH EMPLOYEE FOR THE TIME PERIODS SET FORTH IN SUFFOLK COUNTY CODE, CHAPTER 234, SECTION 5 (C):**

- A. United States passport; or
- B. resident alien card or alien registration card; or
- C. birth certificate indicating that person was born in the United States; or
- D. (1) a driver's license, if it contains a photograph of the individual; and  
(2) a social security account number card (other than such a card which specifies on its face that the issuance of the card does not authorize employment in the United States); or
- E. employment authorization documents such as an H-1B visa, H-2B visa, and L-1 visa, or other work visa as may be authorized by the United States Government at the time the County contract is awarded for all covered employees.

LHE-1 (03/07)