

**South and Center Chautauqua Lake Sewer Districts (S&CCLSD)  
Chautauqua County, NY**

**Southwest Side of Chautauqua Lake Sewer Extension  
March 2009**

**General**

The project is to extend S&CCLSD public sewers to serve an area of perceived need. Chautauqua Lake is a Class A waterbody located centrally in Chautauqua County, NY. Most of the 40 plus mile shoreline (90%) and adjoining inland areas are built up with cottages, seasonal and year-round homes, businesses and recreational areas. A small percentage of the shoreline (10%) is protected as natural areas. A seven (7) mile portion, centered on the Southwest side of the Lake, containing 676 dwellings and 30 commercial/institutional equivalent dwelling units (EDU), does not have a public water supply or sanitary sewer service. Poor soils, high water tables, small lots with insufficient separation between wells and drainfields and aging septic systems are the most probable causes of public health and environmental pollution concerns. Chautauqua Lake is listed as impaired by the DEC and EPA with nutrient loadings, including those from malfunctioning septic disposal systems, contributing to this designation.

Numerous regional watershed protection organizations, local governments, and human health sustainability agencies are proactive towards this project, documented recently by letters of support and Resolutions. The type of shallow, mechanized sewer collection and conveyance systems recommended in this report are significantly more labor intensive to construct than a deeper gravity sewer system that requires more machine work to build. However, the shallow mechanized sewers proposed are more cost effective.

This project can move forward quickly with funding support under the American Recovery and Reinvestment Act (ARRA) of 2009. Consequently, we have prepared this application in the spirit of both immediate job creation and providing a valuable benefit to the region. SEQR Project Notification shall be mailed to agencies on April 6, 2009. The Type I Action, Part I EAF and all attachments are 100% professionally prepared now. The Town of North Harmony has passed a Resolution to request Lead Agency Status in the Project Notification Letter to be sent to 29 involved and interested agencies.

Professional services can begin immediately upon a funding commitment. Such work includes final map, plan and report preparation (services approved by the Chautauqua County Legislature last month), capturing easements, SHPO and wetlands clearances, aerial mapping (scheduled 11/4/09) and final design and permits immediately thereafter. During the meantime, SEQR agency comments, mitigation alternatives and the DEIS/Final EIS shall be concluded with appropriate public notification and involvement. Construction is scheduled to begin 8/24/10 and be substantially complete 8/24/11 with a long term fund commitment.

## **Project Planning Area**

The areas of densest development within the 7 mile corridor are being considered for connection to public sewer by an extension of sewers of the South and Center Chautauqua Lake Sewer Districts (S&CCLSD). The Project area is bordered by the Southwest Chautauqua Lake lakeshore and State Route 394 and the service boundaries of two (2) Chautauqua County Sewer Districts being the South Chautauqua Lake Sewer district (SCLSD) and the North Chautauqua Lake Sewer District (NCLSD). A layout of the existing sewer system as well as the area of proposed service is shown on the attached map dated March 10<sup>th</sup>, 2009.

The proposed project area is mostly within the Town of North Harmony, who is requesting Lead Agency Designation for the SEQR Project Notification Letter process, with the balance (18 %) being in the Town of Chautauqua at the North end. The lateral extent of the proposed service area is a function of the total annual cost of the service to the residents and will be more specifically defined as a part of final planning. A separate Sewer District may be formed for the project area or the Boundaries of the SCLSD may be extended to include this project.

## **Existing Facilities**

As shown on the attached map, sanitary sewers currently exist outside the project area both to the Southeast (SCLSD) and North (NCLSD). The SCLSD, a part of the S&CCLSD, has adequate conveyance and treatment capacity to serve the planning area while the NCLSD circumstances are they are equipped to take little, if any flow from the proposed project. Existing SCLSD interceptor sewers have the capacity to convey sanitary waste through the Village of Lakewood, but not serving Lakewood, and ultimately to the Districts' wastewater treatment plant located at 51 Gifford Ave. in Celoron, NY. The downstream Village of Lakewood, and other municipalities, are served by S&CCLSD by separate interceptors and collection systems. The WWTP currently operates at approximately 60% of its design capacity of 4.1 million gallons/day (MGD) and can accommodate significant additional connections.

The Chautauqua County Environmental Health Department has documented problems with individual potable water wells and onsite sewage disposal systems in the project area over many years. Potable water well and septic dye tests and similar means to substantiate system defects were utilized. Current estimates (Chautauqua County Department of Environmental Health) put the system failure rates (drinking water wells) at 33% of the 676 residential dwelling and 30 other EDU equivalents in the project area.

## **Need for Project**

Documented occurrences of septic system failures and residential wells polluted with bacteria from homes in locations throughout the project area threaten not only the health and well being of the affected homeowners but that of their neighbors and all residents in the watershed. In addition, polluted groundwater migration to Chautauqua Lake

adversely affects the water quality in Chautauqua Lake. Watershed protection groups in the region, and others, strongly encourage extending sanitary sewers to the project area, as well as to other unsewered locations within the Chautauqua Lake periphery to protect the Lake as a valuable aesthetic, recreational, and economic driver in Chautauqua County.

### **Alternatives Considered**

As the Towns of North Harmony and Chautauqua, and the Sewer Districts currently do not have the financial resources to fund the construction of the necessary improvements to alleviate the situation, they must seek assistance in the form of loans or grants. As mentioned previously the extent of the service area will be determined by the limit of each individual's annual cost of service averaged over the collective group of users as determined by the State Comptroller's office.

Several potentially feasible alternatives shall be considered to serve the project area. It is most likely that combinations of gravity sewer, pump stations, forcemains, vacuum sewers/pump stations and low pressure sewers with grinder pumps will be most cost effective due to topography being mostly flat near the Lake. The S&CCLSD has exactly these types of systems, installed in the early 1980's as a cost effective means at that time, for service area extensions very similar to the proposed project area. Depending upon significant reserve capacity that may be desirable to be designed into the proposed project, the point of connection to the SCLSD will vary. Preliminary evaluations are that connection to the force main immediately downstream of the SCLSD Goose Creek Pump Station will provide adequate capacity for the 706 Equivalent Dwelling Units initially with a 40% reserve for future growth with peak flow allowance considerations. Flow acceptance above this value may necessitate extending the project area interceptor force main 4000 additional feet to the SCLSD's Sherman's Bay Pump Station. As a practical matter this could be done later if such increased capacity is desirable.

### **Selection of an Alternative/Recommendation**

The alternative combination of collection sewers described above that maximizes the provision of service to the greatest number of affected residents of the region at the lowest annual cost will be selected based upon a comprehensive planning report. The S&CCLSD presently operates and maintains four (4) discreet vacuum systems serving 1700 connections, nearly 200 grinder pump/ low pressure sewer systems serving several hundred customers and 12 major pump stations as well as 120 miles of gravity sewers. As thus, the S&CCLSD already has in place the organization to operate and maintain sewers for the service area.

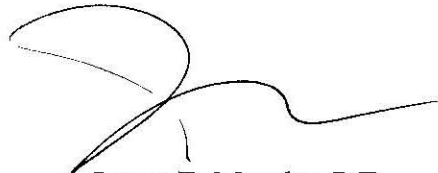
There is adequate wastewater conveyance and treatment capacity within the S&CCLSD existing infrastructure. These S&CCLSD facilities were designed to serve as a regional system, at a cost of nearly \$50,000,000 in 1970's and 1980's dollars (\$200,000,000 in today's dollars) and were supported with 80% federal funding assistance at that time. The

proposed project is estimated to cost \$25,930,000 including construction, professional fees, administration and contingencies.

### **Conclusion**

In order to assure the long term health and safety of the residents of the Southwest portion of Chautauqua Lake as well as to protect the water quality of Chautauqua Lake and its tributaries, the Towns of North Harmony and Chautauqua, in conjunction with South and Center Chautauqua Lake Sewer Districts, should seek loans or grants to support funding of the extension of sanitary sewer service as detailed in this report. As the contamination to the environment and the potential risk to people in the community are currently ongoing, this work to install public sewers should proceed immediately. The S&CCLSD treatment works and interceptor sewers that will serve the proposed project were constructed in 1980. These facilities were designed and permitted for 4.1 million gallons per day (MGD) average daily flow plus a 2.5 peak flow factor. A 40% reserve capacity exists while design flow from this project will utilize only 9% of this reserve.

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