Engineer's Report

Town of Stillwater DGEIS Wastewater Evaluation

Town of Stillwater
Saratoga County, New York

Submitted Draft: October 2007

THE Chazen COMPANIES

Prepared for:

Town of Stillwater
66 School and East Street
Stillwater, NY 12170

Chazen Project No.: 30601.17

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Town of Stillwater
Saratoga County, New York

Submitted Draft: October 2007

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1.0 INTRODUCTION

The Town of Stillwater has requested that The Chazen Companies prepare a Generic Environmental Impact Statement (GEIS) to evaluate the effects of growth on the Town of Stillwater over the next ten (10) years. The development of the Luther Forest Technology Campus (LFTC) and the resulting growth potential is the primary reason for the initiation of this effort. The Town's goal is to manage and examine the impacts of growth on the community. The focus of this report is the Town of Stillwater sanitary sewer service as it relates to meeting the future needs of the Town.

This report examines the current sanitary sewer service areas in the Town of Stillwater, evaluates existing sanitary sewer facilities within the Town of Stillwater and identifies potential future sanitary sewer service areas resulting from projected growth. Project budgets for the infrastructure required to service the future sanitary sewer areas as well as potential financing scenarios are also presented.

The Town does not own or operate a wastewater treatment plant. Wastewater service within the Town is administered by the Town or by the Saratoga County Sewer District No. 1 (SCSD). The Town administers four (4) sewer districts and conveys wastewater to either the SCSD or the Village of Stillwater Wastewater Treatment Facilities through contractual agreements.

The southern portion of the Town of Stillwater, with the exception of the Village of Stillwater, is within the SCSD as shown on the map in Appendix A. Properties within the SCSD, if permitted, can discharge wastewater to the SCSD collection and treatment facilities.

Within the SCSD, the Town of Stillwater administers four sewer districts in the southern portion of the Town, designated as Sewer Districts No. 1, No. 2, No. 3 and No. 4. A map showing the locations of the various Town Sewer Districts and the properties serviced by the SCSD is included in Appendix B and a map showing the locations of major wastewater infrastructure servicing Town Sewer Districts is attached in Appendix C.

In addition to Town sewer districts which convey wastewater to the SCSD or Village of Stillwater wastewater treatment plants, properties within the Town dispose of wastewater through private connections to the SCSD or the Village of Stillwater wastewater collection systems or through individually owned and maintained wastewater disposal systems.

The criteria outlined in the Great Lakes Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, "Recommended Standards for Wastewater Facilities", 2004, were referenced in the development of this report.

2.0 SARATOGA COUNTY SEWER DISTRICT NO. 1

The SCSD generally encompasses the southern portion of the Town of Stillwater, excluding the Village of Stillwater. The SCSD within the Town of Stillwater extends from the Hudson River west to Saratoga Lake. Properties within the SCSD, if permitted, can discharge wastewater to the SCSD collection and treatment facilities. A map showing the limits of SCSD is attached in Appendix A.

2.1 Wastewater Treatment Facility

The SCSD operates a 21.3-mgd wastewater treatment facility located off of NYS Route 4 in the City of Mechanicville. The wastewater treatment facility receives flows from a number of municipalities in Saratoga County and is regulated under New York State Department of Environmental Conservation State Pollution Discharge Elimination System (SPDES) Permit Number 002-8240 with discharge to the Hudson River.

The SCSD wastewater treatment facility currently has a reserve capacity of 8.3-mgd which is expected to satisfy the short term needs of the LFTC and other approved projects with the County's service area. According to the report prepared for the Saratoga County Economic Development Corporation by C.T. Male Associates, "Water and Sewer Service Feasibility Report, Luther Forest Technology Campus", dated October 17, 2002, there is sufficient land area at to further increase the capacity of the plant if warranted.

The principal source of future wastewater flows to the SCSD wastewater treatment facilty is from the LFTC and preliminary projections indicate that flows may reach 10-mgd over the next 25-years.

2.2 Wastewater Collection Facilities

Two areas of the Town of Stillwater are served by the SCSD collection system, the western portion of the Town adjacent to Saratoga Lake and the south eastern portion just west of the Hudson River.

The SCSD wastewater collection facilities are located at the western portion of the Town of Stillwater along the eastern shore of Saratoga Lake. Properties along the eastern shore which are serviced by the wastewater facilities are within the SCSD boundaries, not within Town Sewer Districts.

The SCSD wastewater collection facilities are also located just west of the Hudson River. The SCSD owns and operates gravity sewers and force mains in this area of the Town along with the Riverside I Pump Station located on NYS Route 4 and the Riverside II Pump Station located on Mulberry Avenue.

3.0 TOWN SEWER DISTRICTS

As previously stated, the Town of Stillwater currently administers four sewer districts, designated as Sewer Districts No. 1, No. 2, No. 3 and No. 4. The map in Appendix B shows the limits of each service area.

3.1 Sewer District No. 1

The Town of Stillwater Sewer District No. 1 generally lies in the southeastern portion of the Town and encompasses properties along Castle Drive. Approximately 79 residential properties are included within Sewer District No. 1.

The Stillwater Sewer District No. 1 is serviced by a series of 8-inch diameter gravity sewers which convey wastewater east to a pump station. The pump station and force main discharge wastewater north to the Village of Stillwater municipal system which is eventually conveyed to the Village of Stillwater Wastewater Treatment Facilities.

3.2 Sewer District No. 2

The Town of Stillwater Sewer District No. 2 generally lies in the southeastern portion of the Town and encompasses properties along Gurba Drive and Kellog Road.

Wastewater is collected from 65 sewer connections via existing gravity sewer mains and is conveyed to a Town owned pumping station known as the Gurba Estates Pump Station. Wastewater from the station is pumped through approximately 8,000-feet of 6-inch diameter force main along the abandoned railroad bed which runs parallel to Route 4. The force main discharges into the SCSD collection system at a gravity sewer manhole on Mulberry Avenue upstream of the Riverside II Pump Station. Wastewater from Sewer District No. 2 is treated at the SCSD Wastewater Treatment Facilities.

3.3 Sewer District No. 3

The Town of Stillwater Sewer District No. 3 lies in the southeastern portion of the Town and encompasses the Revolutionary Heights Planned Development District (RHPDD) and the property of Mr. William Carley (WC). PHPDD and WC are currently vacant properties.

Engineers for the RHPDD are in the process of designing wastewater collection facilities to service the RHPDD. Upon their construction, they will be conveyed to the Town of Stillwater at no cost and eventually to the SCSD. Wastewater from Sewer District No. 3 will be collected and conveyed to the sanitary sewer system servicing Sewer District No. 2 with eventual conveyance to the Gurba Estates Pump Station. RHPDD reportedly will include 140-single family homes.

3.4 Sewer District No. 4

The Town of Stillwater Sewer District No. 4 lies in the southeastern portion of the Town and encompasses Hillside Colony Mobile Home Park (HCMHP). HCMHP fronts Lake Road in the Town of Stillwater. Ultimately, 366 mobile homes are permitted to occupy the park with current 188 mobile home occupancy. Wastewater is currently collected through gravity sewers and is treated on-site at an existing activated sludge wastewater treatment plant located at the southern portion of the park. Construction of the wastewater facilities were completed around 1970.

The owner of the wastewater treatment plant is under consent order from the NYSDEC to address SPDES permit non-compliance. The Town of Stillwater has formed Sewer District No. 4 to include the HCMHP property and permit the eventual conveyance of wastewater to the Town of Stillwater Sewer District No. 3. HCMHP has constructed a gravity sewer interconnection to the infrastructure planned to service Sewer District No. 3.

When approved by the Town of Stillwater and the SCSD, wastewater from HCMHP would be diverted to the Town of Stillwater wastewater conveyance system and eventually to the SCSD collection and treatment systems. The treatment plant servicing the HCMHP would then be abandoned. The SCSD has approved the conveyance of wastewater discharge from the HCMHP to the SCSD.

The HCMHP is also currently undertaking an I/I reduction project within their sanitary sewers. Engineers for HCMHP estimate the post improvement peak hourly flow at 219-gpm. The Town of Stillwater and SCSD require verification of I/I reduction prior to connection to their systems.

4.0 OTHER SEWER SERVICE AREAS

Additional sewer service within the Town is provided by out-of-district contracts or individual user contracts as well as private arrangements.

4.1 Riverside Neighborhood

The Riverside neighborhood in the southeastern portion of the Town is within the SCSD, but not within a Town Sewer District. There are approximately 168

connections within this area which flow to the Riverside I Pump Station located on NYS Route 4. Wastewater is pumped from the Riverside I Pump Station via approximately 2,800-feet of 6-inch diameter force main to a gravity sewer manhole on East Street. Approximately 2,000-feet of gravity sewers convey wastewater from East Street to the SCSD Riverside II Pump Station on Mulberry Avenue.

Many of the homes within the Riverside neighborhood are served by old sewer pipes which are subject to I/I. The Riverside I Pump Station has a reported pumping rate of 300-gpm.

4.2 Turning Point Subdivision

The Turning Point Subdivision in the southeastern portion of the Town between County Route 75 and Brickyard Road and includes properties along Finish Line Court, Battery Boulevard, Musket March and Sirchia Road. The Turning Point Subdivision is within SCSD, but not within a Town Sewer District. There are approximately 299 approved connections within the subdivision.

Wastewater from the Turning Point Subdivision is collected by a gravity collection system. The gravity sewer leaves the southeastern portion of the subdivision and crosses Brickyard Road to Mulberry Avenue. At Mulberry Avenue, the gravity sewer runs north and connects to the SCSD Riverside II Pump Station.

4.3 Saratoga Lake Service Area

Properties along the eastern shore of Saratoga Lake within the Town of Stillwater are serviced by the SCSD. Wastewater from the included properties is directed to a series of gravity sewers and pump stations along NYS Route 9P. These properties are not within a Town Sewer District.

5.0 PLANNED FACILTY IMPROVEMENTS

The Town of Stillwater is undertaking a project to improve Town and SCSD wastewater collection and pumping system infrastructure to facilitate the acceptance of the additional flow from the Sewer District No. 3 and Sewer District No. 4. The Gurba Estates pump station owned by the Town of Stillwater and the Riverside II pump station owned by SCDC are being replaced with greater capacity pumps stations sized for the increased flow from the two districts. The existing 6-inch force main from Riverside II is also being replaced with a 10-inch diameter force main to accommodate the increased pump rate from Riverside II. The construction of the sanitary sewer improvements are expected to be complete by the fall of 2007.

6.0 POTENTIAL SEWER SERVICE AREAS

TCC identified select areas of the Town which are likely to have sewer service within the next ten years. The areas were defined based upon input and direction from the Town's GEIS Steering Committee and the Town's Water Superintendent and also evaluating the proximity to existing service areas, evaluating topography, considering existing land use patterns and the anticipated growth. The service areas were generally selected by providing sanitary sewer service to the portions of the Town which currently have municipal water service, but not sanitary sewer service and also extending sewer service to some areas projected by the GEIS Water Supply Evaluation to have water service within the next ten years.

The potential sewer service areas are shown on the map in Appendix C.

Vacant properties which will be subdivided in the future will require site specific design of the sanitary sewer system servicing the subdivision.

6.1 VanNess Road Service Area

The VanNess Road Service Area generally extends west from the Sewer District No. 1 boundary on VanNess Road to County Route 75. Wastewater facilities servicing the area would consist of approximately 10,500-feet of gravity sewer main along Kellogg Road, VanNess Road, Flike Road and Brickyard Road. The wastewater collection system would provide municipal sewer service to a portion of Stillwater Water District No. 4 which is currently unsewered, as well as a large area of a Low Density Residential Development District on VanNess Road. Wastewater from this service area would flow entirely by gravity to the existing Gurba Estates Pump Station and then to the SCSD system.

6.2 Viall Avenue Service Area

The Viall Avenue Service Area generally extends north on Viall Avenue to Graves Road and would consist of approximately 8,500 feet of gravity sewer main. The service area would provide municipal sewer to all of the Town of Stillwater Water District No. 3 as well as additional Low Density Residential District lots. Wastewater from this service area would be conveyed by gravity sewers to an existing SCSD sanitary sewer manhole on Saratoga Avenue.

6.3 Brickyard Road Service Area

The Brickyard Road Service Area generally extends north from the City of Mechanicville and would consist of approximately 8,500 feet of gravity sewer, 5,500 feet of forcemain and three pump stations along Brickyard Road. Wastewater from this service area would be conveyed to the SCSD Riverside II Pump Station.

The Brickyard Road Service Area includes the majority of Water District No. 4 with the balance of Water District No. 4 serviced by the VanNess Road Service Area.

6.4 Route 4 Service Area

The Route 4 Service Area generally extends south from the Village of Stillwater to the northern limits of the Riverside neighborhood. The collection system servicing the Route 4 Service Area would include approximately 19,000 feet of gravity sewer, 7,000 feet of forcemain and three pump stations. Wastewater from this service area would be conveyed to the SCSD Riverside I Pump Station in the Riverside neighborhood.

A capacity evaluation of the Riverside I Pump Station and associated force main would be necessary prior to accepting flow from the Route 4 Service Area. The capacity evaluation or the presentation of the costs associated with necessary improvements to the Riverside I Pump Station and associated force main are not included in this Report.

7.0 PROJECTED WASTEWATER FLOWS

The buildout analysis completed as a component of the DGEIS was utilized as the basis for estimating wastewater flows from future users within existing service areas and the potential service areas.

7.1 Existing Service Areas

Residential Users

The following table is a summary of the additional number of residential dwelling units in each existing sewer district projected by the buildout analysis and the associated flow generation.

The NYSDEC Design Standards for Wastewater Treatment Works estimate the design flow from a 3-bedroom single family home to be 400-gpd. The typical usage for single family homes in the Town of Stillwater is 200-gpd.

Table 1
Estimated Wastewater Flows from Future Residential Development within Existing Sewer Districts

Existing Sewer District	Additional Dwelling Units (1)	Estimated Flow (GPD)	
		At 400-gpd Design Flow	At 200-gpd Typical Flow
SCSD #1 (east of Saratoga Lake)	24	9,600	4,800
SCSD #1 (Riverside neighborhood)	55	22,000	11,000
SCSD #1 (Turning Point)	2	800	400
Subtotal	81	32,400	16,200
Sewer District #1	0	-	-
Sewer District #2	3	1,200	600
Sewer District #3	12	4,800	2,400
Sewer District #4	50	20,000	10,000
Subtotal	65	26,000	13,000
TOTAL	**146**	**58,400**	**29,200**

1) From GEIS Buildout Analysis

Non-Residential Users

The following table is a summary of the additional non-residential building square footage in each existing sewer district projected by the buildout analysis and the associated flow generation.

The NYSDEC Design Standards for Wastewater Treatment Works suggest a design average daily flow from office buildings as 0.1-gpd per square foot. Please note that the wastewater generation may vary based upon the property use and occupant.

Table 2
Estimated Wastewater Flows from future Non-Residential Users within Existing Sewer Districts

Existing Sewer District	Non-Residential Building Square Footage (1)	Estimated Flow (GPD)
SCSD #1 (east of Saratoga Lake)	91,500	9,150
SCSD #1 (Riverside neighborhood)	204,300	20,430
SCSD #1 (Turning Point)	8,000	800
Sewer District No. 1	0	0
Sewer District No. 2	0	0
Sewer District No. 3	0	0
Sewer District No. 4	0	0
Total	**303,800**	**30,380**

(1) Per GEIS Buildout Analysis

Wastewater Demand Summary

The following tables summarize the wastewater flow generation from the additional residential and non-residential users within existing sewer districts projected by the buildout analysis.

Table 3
Summary of Projected Wastewater Flows - Existing Service Areas

Existing Sewer District	Projected Wastewater Residential Flows (GPD)	Projected Non-Residential Wastewater Flows (GPD)	Total Projected Wastewater Flows (GPD)
SCSD #1 (east of Saratoga Lake)	4,800 – 9,600	9,150	13,950 – 18,750
SCSD #1 (Riverside neighborhood)	11,000 – 22,000	20,430	31,430 – 42,430
SCSD #1 (Turning Point)	400 – 800	800	1,200 – 1,600
Sewer District #1	0	0	0
Sewer District #2	600 - 1,200	0	600 - 1,200
Sewer District #3	2,400 – 4,800	0	2,400 – 4,800
Sewer District #4	10,000 – 20,000	0	10,000 – 20,000

7.2 POTENTIAL SEWER SERVICE AREAS

Residential Users

The following table is a summary of the ultimate number of residential users in each potential service area projected by the buildout analysis and the associated flow generation. The ultimate number of residential users is defined as the existing homes within each service area plus the additional single family homes predicted by the buildout analysis.

The NYSDEC Design Standards for Wastewater Treatment Works estimate the design flow from a 3-bedroom single family home to be 400-gpd. The typical usage for single family homes in the Town of Stillwater is 200-gpd.

Table 4
Estimated Residential Wastewater Flows - Potential Service Areas

Potential Service Area	Dwelling Units(1)	Estimated Flow (GPD)	
		At 400-gpd Design Flow	At 200-gpd Typical Flow
VanNess Road Service Area	155	62,000	31,000
Viall Avenue Service Area	254	101,600	50,800
Brickyard Road Service Area	95	38,000	19,000
Route 4 Service Area	268	107,200	53,600

(1) Existing dwelling units plus additional dwelling units projected by the ultimate buildout analysis

Non-Residential Users

The following table is a summary of the ultimate square footage of non-residential users in each potential service area projected by the buildout analysis and the associated flow generation. The ultimate square footage of non-residential users is defined as the existing square-footage of non-residential users within each service area plus the additional square footage of non-residential users projected by the buildout analysis:

The NYSDEC Design Standards for Wastewater Treatment Works suggest a design average daily flow from office buildings as 0.1-gpd per square foot. Please note that the wastewater generation may vary based upon the property use and occupant.

Table 5
Estimated Non-Residential Wastewater Flows - Potential Service Areas

Potential Service Area	Non-Residential Building Square Footage (1)	Estimated Flow (GPD)
VanNess Road Service Area	0	0
Viall Avenue Service Area	115,885	11,589
Brickyard Road Service Area	436,706	43,671
Route 4 Service Area	86,551	8,655

(1) Existing non-residential building square-footage plus additional non–residential building square footage projected by the ultimate buildout analysis

Wastewater Demand Summary

The following tables summarize the wastewater demand from the ultimate residential and non-residential users within existing sewer districts projected by the buildout analysis.

Table 6
Summary of Estimated Wastewater Flows - Potential Service Areas

Potential Service Area	Residential Flow (GPD)	Non-Residential Flow (GPD)	Total Flow (GPD)
VanNess Road Service Area	31,000 - 62,000	0	31,000 - 62,000
Viall Avenue Service Area	50,800 – 101,600	11,589	62,389 – 113,189
Brickyard Road Service Area	19,000 – 38,000	43,671	62,671 – 81,671
Route 4 Service Area	53,600 – 107,600	8,655	62,255 – 116,255

8.0 OPINIONS OF PROBABLE COSTS

The following opinions of probable costs have been developed for the construction of wastewater collection infrastructure to service each of the potential service areas. The opinions of probable costs do not consider the capital cost for treatment facility improvements or other existing infrastructure improvements which may be required to service the potential service areas. They do assume utilizing the competitive bidding process as well as prevailing wages and have been developed using 2007 construction budgeting. Since the future construction markets are unpredictable, the opinions of probable costs are for planning purposes only and will require detailed analysis at the time when the projects are started.

8.1 VanNess Road Service Area

The opinion of probable cost for the VanNess Road Service Area improvements is $1,218,600 in 2007 dollars including construction budget, contingency and legal, technical and administrative allowances. A detailed opinion of probable cost is attached in Appendix E.

8.2 Viall Avenue Service Area

The total opinion of probable cost for the Viall Avenue Service Area improvements is $1,570,400 in 2007 dollars including construction budget, contingency and legal,

technical and administrative allowances. A detailed opinion of probable cost is attached in Appendix F.

8.3 Brickyard Road Service Area

The opinion of probable cost for the Brickyard Road Service Area improvements is $1,979,100 in 2007 dollars including construction budget, contingency and legal, technical and administrative allowances. A detailed opinion of probable cost is attached in Appendix G.

8.4 Route 4 Service Area

The opinion of probable cost for the Route 4 Service Area improvements is $4,470,500 in 2007 dollars including construction budget, contingency and legal, technical and administrative allowances. A detailed opinion of probable cost is attached in Appendix H.

9.0 POTENTIAL FINANCING SCENARIOS

The following potential financing scenarios have been developed to finance the infrastructure construction costs for each of the potential service areas. The wastewater generation from the non-residential units is converted to "Equivalent Dwelling Units" (EDU's) for the purposes of presenting financing scenarios. An EDU analysis is an accepted method to equate wastewater generation from non-residential buildings to single family homes for the purposes of project financing and user cost calculations.

The debt retirement calculations assume a 30-year bond period at 5% interest. The availability of grant and/or low interest loan monies will have a significant impact on the annual user costs presented and should be evaluated at the project inception.

The NYS Office of the State Comptroller has an established threshold for annual user costs for a typical single family home above which approval of the State Comptroller is necessary for district establishment. The 2007 threshold for Town districts is $568. Many of the annual user cost scenarios presented below are above the State Comptroller threshold. Correspondence from the NYS Office of the State Comptroller dated December 2006 outlining the established thresholds is attached in Appendix I.

Two user cost scenarios are presented for each potential service area based upon assigning per EDU design flows of 400-gpd (Scenario #1) or 200-gpd (Scenario #2) for non-residential users. The non-residential EDU's are calculated by dividing the non-residential estimated flow from the potential service area by the design flow of 400-gpd (Scenario #1) or 200-gpd (Scenario #2). Please note that only one scenario is

presented for the VanNess Road Service Area because a non-residential component is not anticipated.

9.1 VanNess Road Service Area

There is no anticipated non-residential demand and therefore, the EDU's are equivalent to the number of residential units. The total number of residential units is 155.

The SCSD sewer rate is assumed to be $194 per EDU per year.

Table 7
Potential User Cost Scenario – VanNess Road Service Area

Total Project Cost	$1,218,600
Annual Debt Service (30 years at 5%)	$79,331
Number of Equivalent Dwelling Units	155
Annual Capital Cost per EDU	$512
SCSD O&M	$194
Estimated Cost per EDU	**$706**

9.2 Viall Avenue Service Area

The total non-residential demand is 11,589-gpd. Based upon the design demand of 400-gpd (Scenario #1), the non-residential users are equivalent to 29 EDU's and based upon 200-gpd (Scenario #2), the non-residential users are equivalent to 58 EDU's. The total number of residential units is 254.

The SCSD sewer rate is assumed to be $194 per EDU per year.

Table 8
Potential User Cost Scenarios – Viall Avenue Service Area

	Scenario #1	**Scenario #2**
Total Project Cost	$1,570,400	$1,570,400
Annual Debt Service (30 years at 5%)	$102,233	$102,233
Number of Equivalent Dwelling Units	283	312
Annual Capital Cost per EDU	$361	$328
SCSD O&M	$194	$194
Estimated Cost per EDU	**$555**	**$522**

9.3 Brickyard Road Service Area

The total non-residential demand is 43,671-gpd. Based upon the design demand of 400-gpd (Scenario #1), the non-residential users are equivalent to 109 EDU's and based upon 200-gpd (Scenario #2), the non-residential users are equivalent to 218. The total number of residential units is 95.

The SCSD sewer rate is assumed to be $194 per EDU per year.

Table 9
Potential User Cost Scenarios – Brickyard Road Service Area

	Scenario #1	Scenario #2
Total Project Cost	$1,979,100	$1,979,100
Annual Debt Service (30 years at 5%)	$128,839	$128,839
Number of Equivalent Dwelling Units	204	327
Annual Capital Cost per EDU	$632	$394
SCSD O&M	$194	$194
Estimated Cost per EDU	**$826**	**$521**

9.4 Route 4 Service Area

The total non-residential demand is 8,655-gpd. Based upon the design demand of 400-gpd (Scenario #1), the non-residential users are equivalent to 22 EDU's and based upon 200-gpd (Scenario #2), the non-residential users are equivalent to 43. The total number of residential units is 268.

The SCSD sewer rate is assumed to be $194 per EDU per year.

Table 10
Potential User Cost Scenarios – Route 4 Service Area

	Scenario #1	Scenario #2
Total Project Cost	$4,470,500	$4,470,500
Annual Debt Service (30 years at 5%)	$291,030	$291,030
Number of Equivalent Dwelling Units	290	311
Annual Capital Cost per EDU	$1,004	$936
SCSD O&M	$194	$194
Estimated Cost per EDU	**$1,198**	**$1,130**

10.0 CONCLUSIONS

The Town of Stillwater sanitary sewer system could be expanded to service four key areas described within the report text as the VanNess Road Service Area, the Viall Avenue Service Area, the Brickyard Road Service Area and the Route 4 Service Area. Wastewater for each of the potential service areas would be directed to the Saratoga County Sewer District Wastewater Treatment Facility which is expected to have adequate capacity to service all potential service areas.

The opinion of probable cost for the VanNess Road Service Area is $1,218,600 which is projected to serve 155 residential units and no non-residential buildings. The average cost per EDU is estimated at $706 including debt retirement and operation and maintenance charges.

The opinion of probable cost for the Viall Avenue Service Area is $1,570,400 which is projected to serve 254 residential units and 115,885 square feet of non-residential building area. The average cost per EDU is estimated between $522 and $555 including debt retirement and operation and maintenance charges.

The opinion of probable cost for the Brickyard Road Service Area is $1,979,100 which is projected to serve 95 residential units and 436,706 square feet of non-residential building area. The average cost per EDU is estimated between $521 and $826 including debt retirement and operation and maintenance charges.

The opinion of probable cost for the Route 4 Service Area is $4,470,500 which is projected to serve 268 residential units and 86,551 square feet of non-residential building area. The average cost per EDU is estimated between $1,130 and $1,198 including debt retirement and operation and maintenance charges.

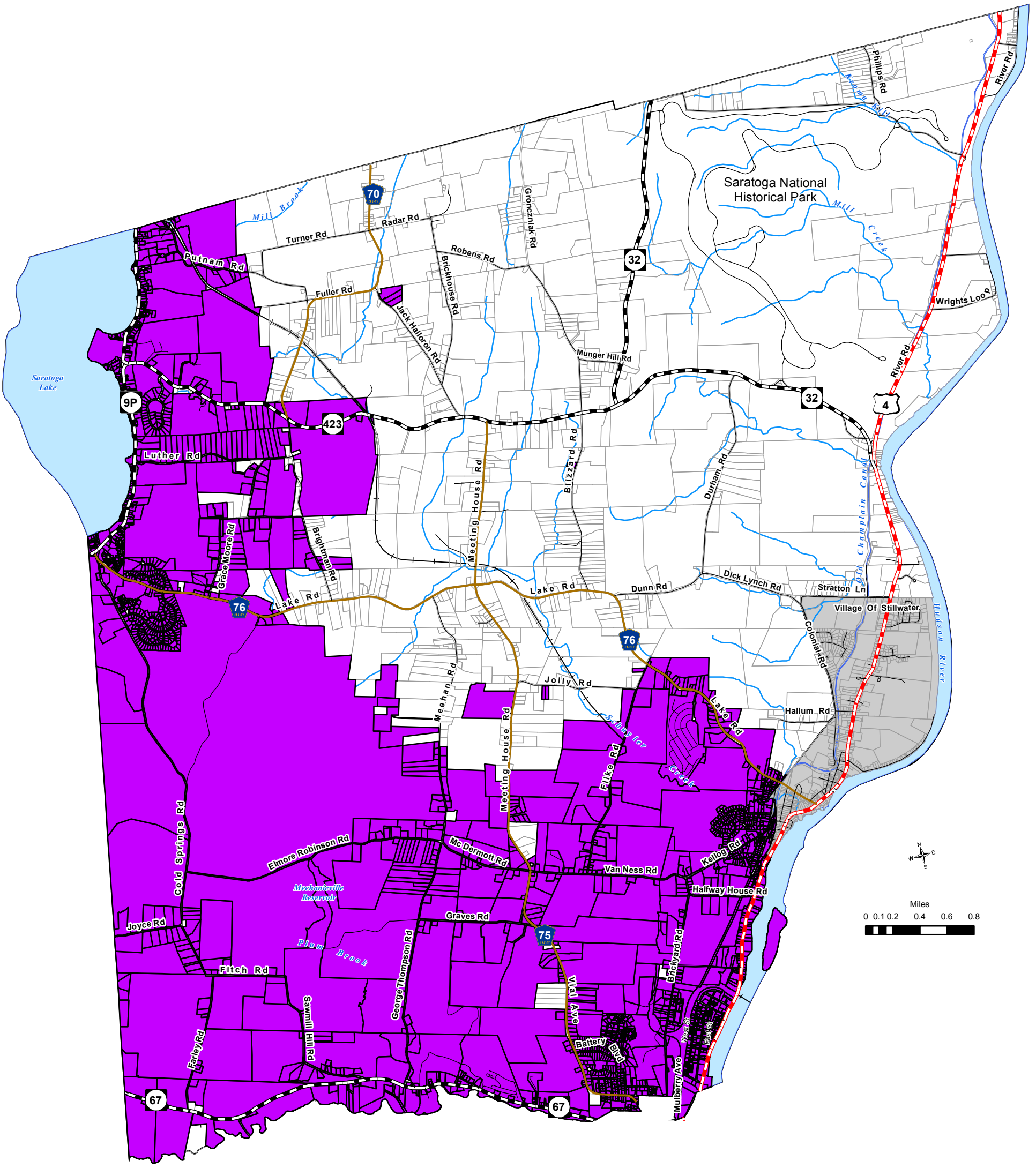
Respectfully submitted:

Eric P. Johnson, PE
Senior Engineer

Reviewed and Approved by:

Joseph M. Lanaro, PE
Vice President
Engineering Services

APPENDIX A
Saratoga County Sewer District No. 1 Map



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Town Of Stillwater Draft GEIS

Saratoga County Sewer District #1 Per May 2007 Real Property Data

Town Of Stillwater
Saratoga County, New York

Drawn:	CLC
Date:	11/09/2007
Scale:	1:48,000
Project:	30601.17
Figure:	

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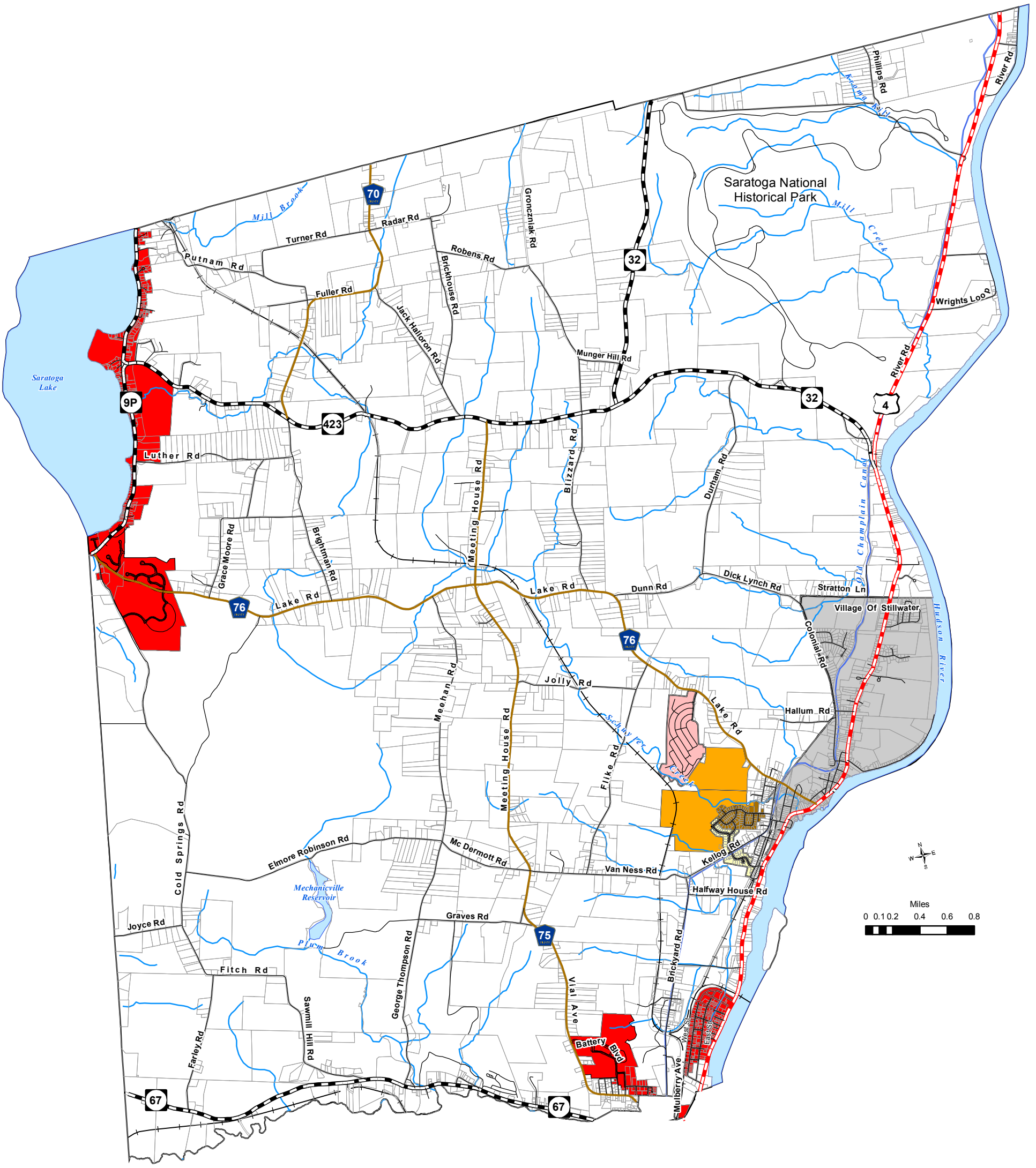
APPENDIX B
Town Sewer District Map



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Town Of Stillwater Draft GEIS

Sewer Districts

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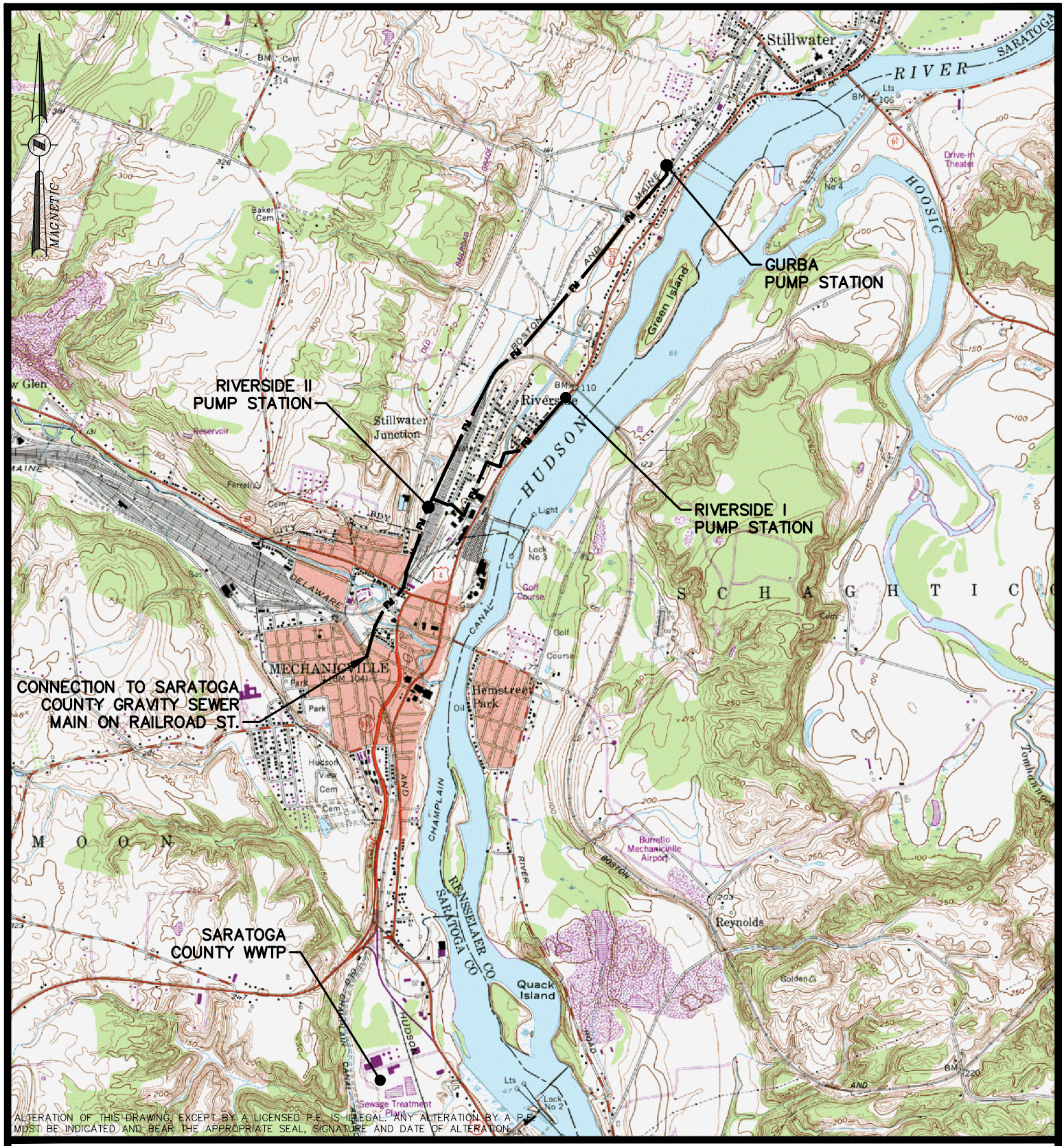
Date:	08/09/2007
Scale:	1:48,000
Project:	30601.17
Figure:	

Map Document: (R:\3\30600-30699\30601.17_Stillwater_GEIS\GIS\maps\30601_17_SewerDistricts_11x17.mxd)
8/9/2007 -- 9:29:00 AM

APPENDIX C
Sanitary Sewer Infrastructure Map



THE Chazen COMPANIES
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Planners
Environmental Scientists
Landscape Architects

Dutchess County Office:
21 Fox Street Poughkeepsie, NY 12601
Phone: (845) 454-3980

Capital District Office:
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Orange County Office:
356 Meadow Avenue Newburgh, NY 12550
Phone: (845) 567-1133

North Country Office:
100 Glen Street Glens Falls, NY 12801
Phone: (518) 812-0513

TOWN OF STILLWATER GEIS

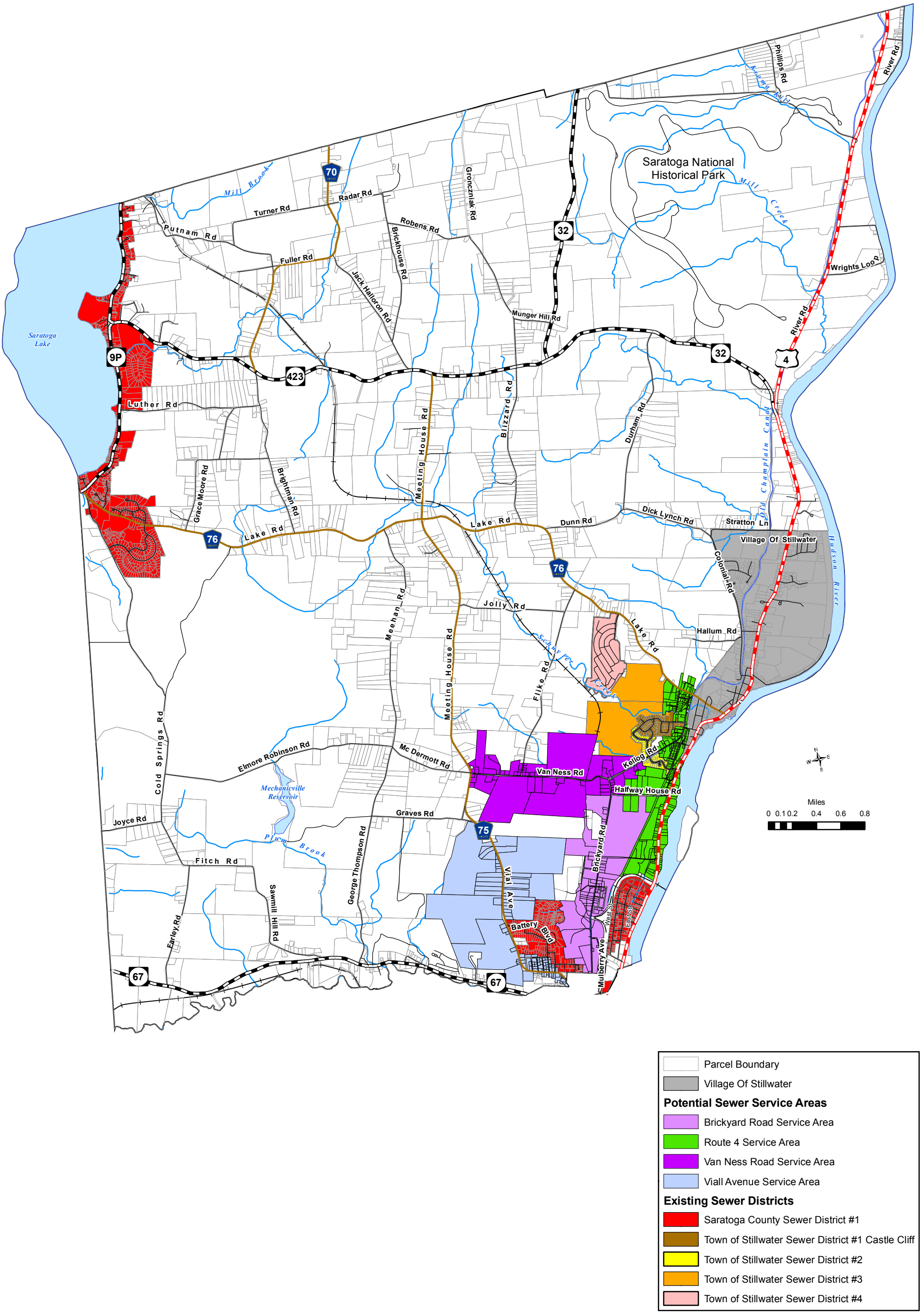
TOWN OF STILLWATER SANITARY SEWER SYSTEM

TOWN OF STILLWATER, SARATOGA COUNTY, NEW YORK

drawn	checked
EPL	EPJ
date	scale
10-12-07	1"=2000'
project no.	
30601.17	
sheet no.	
APPENDIX C	

Drawing Name: S:\3\30600-30699\30601_17\ENG\Sewer Evaluation\Sewer Map.dwg Date Printed: Nov 12, 2007, 3:39pm

APPENDIX D
Potential Sewer Service Area Map



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CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

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Town Of Stillwater Draft GEIS

Sewer Districts and Potential Sewer Service Areas

Town Of Stillwater
Saratoga County, New York

Drawn:	CLC
Date:	09/12/2007
Scale:	1:48,000
Project:	30601.17
Figure:	

Map Document: (R:\3\30600-30699\30601.17_Stillwater_GEIS\GIS\maps\30601_17_SewerDistricts&PotentialSewerServiceAreas_11x17.mxd)
9/12/2007 -- 8:17:18 AM

APPENDIX E

Opinion of Probable Cost – VanNess Road Service Area

Opinion of Probable Cost – VanNess Road Service Area

Item No.	Description	Quantity	Unit	Unit Price	Extended Total
1	Mobilization	1	LS	$30,000.00	$30,000
2	Exploratory Excavation	100	CY	$40.00	$4,000
3	Record Drawings	1	LS	$2,500.00	$2,500
4	Maintanance and Protection of Traffic	1	LS	$5,000.00	$5,000
5	Erosion and Sediment Control	1	LS	$10,000.00	$10,000
6	Rock Excavation	50	CY	$125.00	$6,250
7	Select Backfill	50	CY	$20.00	$1,000
8A	Asphalt Replacement (top)	1250	SF	$3.50	$4,375
8B	Asphalt Replacement (binder)	1250	SF	$3.50	$4,375
9	Gravel Driveway Restoration	200	LF	$18.00	$3,600
10	Paved Driveway Restoration	175	LF	$45.00	$7,875
11	Connection to Existing Pump Station	1	LS	$2,500.00	$2,500
12	8" PVC Sewer Main	10,700	LF	$40.00	$428,000
13	Sanitary Sewer Manhole	30	EA	$2,250.00	$67,500
14	Sanitary Sewer Lateral	65	EA	$1,250.00	$81,250
15	Open Cut Road Crossing, 2 Laterals	20	EA	$4,500	$90,000
16	Sewer Line Testing	10,700	LF	$1.00	$10,700
17	Site Restoration	10,700	LF	$5.00	$53,500
	Subtotal				$812,425
	Construction Contingency (20%)				$162,475
	Construction Subtotal				**$974,900**
	Legal, Technical and Administrative Allowance (25%)				$243,700
	Total Project Budget				**$1,218,600**

APPENDIX F

Opinion of Probable Cost – Viall Avenue Service Area

Opinion of Probable Cost – Viall Avenue Service Area

Item No.	Description	Quantity	Unit	Unit Price	Extended Total
1	Mobilization	1	LS	$35,000.00	$35,000
2	Exploratory Excavation	100	CY	$40.00	$4,000
3	Record Drawings	1	LS	$2,500.00	$2,500
4	Maintanance and Protection of Traffic	1	LS	$5,000.00	$5,000
5	Erosion and Sediment Control	1	LS	$10,000.00	$10,000
6	Rock Excavation	100	CY	$125.00	$12,500
7	Select Backfill	35	CY	$20.00	$700
8A	Asphalt Replacement (top)	1000	SF	$3.50	$3,500
8B	Asphalt Replacement (binder)	1000	SF	$3.50	$3,500
9	Gravel Driveway Restoration	300	LF	$18.00	$5,400
10	Paved Driveway Restoration	350	LF	$45.00	$15,750
11	Connection to Existing Pump Station	1	LS	$2,500.00	$2,500
12	8" PVC Sewer Main	12,100	LF	$40.00	$484,000
13	Sanitary Sewer Manhole	35	EA	$2,250.00	$78,750
14	Sanitary Sewer Lateral	105	EA	$1,250.00	$131,250
15	Open Cut Road Crossing, 2 Laterals	40	EA	$4,500	$180,000
16	Sewer Line Testing	12,100	LF	$1.00	$12,100
17	Site Restoration	12,100	LF	$5.00	$60,500
	Subtotal				$1,046,950
	Construction Contingency (20%)				$209,350
	Construction Subtotal				**$1,256,300**
	Legal, Technical and Administrative Allowance (25%)				$314,100
	Total Project Budget				**$1,570,400**

APPENDIX G

Opinion of Probable Cost – Brickyard Road Service Area

Opinion of Probable Cost – Brickyard Road Service Area

Item No.	Description	Quantity	Unit	Unit Price	Extended Total
1	Mobilization	1	LS	$40,000.00	$40,000
2	Exploratory Excavation	50	CY	$40.00	$2,000
3	Record Drawings	1	LS	$2,500.00	$2,500
4	Maintanance and Protection of Traffic	1	LS	$5,000.00	$5,000
5	Erosion and Sediment Control	1	LS	$10,000.00	$10,000
6	Rock Excavation	25	CY	$125.00	$3,125
7	Select Backfill	100	CY	$20.00	$2,000
8A	Asphalt Replacement (top)	5,000	SF	$3.50	$17,500
8B	Asphalt Replacement (binder)	5,000	SF	$3.50	$17,500
9	Gravel Driveway Restoration	300	LF	$18.00	$5,400
10	Paved Driveway Restoration	400	LF	$45.00	$18,000
11	Connection to existing Manhole	1	LS	$1,250.00	$1,250
12	8" PVC Sewer Main	8,300	LF	$40.00	$332,000
13	PVC Sanitary Forcemain	5,500	LF	$30.00	$165,000
14	Sanitary Sewer Manhole	1	EA	$2,250.00	$67,500
15	Pump Station	2	EA	$200,000.00	$400,000
16	Sanitary Sewer Lateral	70	EA	$1,250.00	$87,500
17	Open Cut Road Crossing, 2 Laterals	20	EA	$4,500	$90,000
18	Sewer Line Testing	8,850	LF	$1.00	$8,850
19	Site Restoration	8,850	LF	$5.00	$44,250
	Subtotal				$1,319,375
	Construction Contingency (20%)				$263,925
	Construction Subtotal				**$1,583,300**
	Legal, Technical and Administrative Allowance (25%)				$395,800
	Total Project Budget				**$1,979,100**

APPENDIX H

Opinion of Probable Cost – Route 4 Service Area

Opinion of Probable Cost – Route 4 Service Area

Item No.	Description	Quantity	Unit	Unit Price	Extended Total
1	Mobilization	1	LS	$50,000.00	$50,000
2	Exploratory Excavation	200	CY	$40.00	$8,000
3	Record Drawings	1	LS	$2,500.00	$2,500
4	Maintanance and Protection of Traffic	1	LS	$25,000.00	$25,000
5	Erosion and Sediment Control	1	LS	$20,000.00	$20,000
6	Rock Excavation	150	CY	$125.00	$18,750
7	Select Backfill	500	CY	$20.00	$10,000
8A	Asphalt Replacement (top)	12,500	SF	$3.50	$43,750
8B	Asphalt Replacement (binder)	12,500	SF	$3.50	$43,750
9	Gravel Driveway Restoration	600	LF	$18.00	$10,800
10	Paved Driveway Restoration	3400	LF	$45.00	$153,000
11	Connection to existing Manhole	1	LS	$1,250.00	$1,250
12A	8" PVC Sewer Main	19,000	LF	$40.00	$760,000
12B	8" PVC Dual Sewer Main	2,500	LF	$40.00	$100,000
13	NYS Route 4 Crossing	1	LS	$15,000	$15,000
14	PVC Sanitary Forcemain	7,000	LF	$30.00	$210,000
15	Sanitary Sewer Manhole	90	EA	$2,250.00	$202,500
16	Pump Station	3	EA	$200,000.00	$600,000
17	Sanitary Sewer Lateral	240	EA	$1,250.00	$300,000
18	Open Cut Road Crossing, 2 Laterals	50	EA	$4,500.00	$225,000
19	Low Pressure Lateral by Directional	20	EA	$3,000	$60,000
20	Sewer Line Testing	26,000	LF	$1.00	$26,000
21	Site Restoration	19,000	LF	$5.00	$95,000
	Subtotal				$2,980,300
	Construction Contingency (20%)				$596,100
	Construction Subtotal				**$3,576,400**
	Legal, Technical and Administrative Allowance (25%)				$894,100
	Total Project Budget				**$4,470,500**

APPENDIX I

Correspondence from the NYS Office of the State Comptroller

ALAN G. HEVESI
COMPTROLLER

STATE OF NEW YORK
OFFICE OF THE STATE COMPTROLLER
110 STATE STREET
ALBANY, NEW YORK 12236

MARK P. PATTISON
DEPUTY COMPTROLLER
DIVISION OF LOCAL GOVERNMENT SERVICES
AND ECONOMIC DEVELOPMENT
Tel: (518) 474-4037 Fax: (518) 486-6479

December 2006

Dear Local Government Official:

Please find attached a listing of the average estimated cost thresholds for your use in determining whether approval of the State Comptroller is necessary for certain special district actions in the year 2007.

Certain "low cost" special districts, i.e., those which are at or below average estimated cost thresholds contained in the enclosure, do NOT require approval of the State Comptroller. However, unless no debt is being issued, a certified copy of the notice of hearing for the "low cost" district must be sent to our office. This copy must be sent, on or about the date of publication, to the NYS Office of the State Comptroller, Division of Legal Services, 110 State Street, 14th Floor, Albany, NY 12236. It should be sent no later than 14 calendar days after publication. This notice enables us to accurately calculate future average estimated cost thresholds.

In addition, certified copies of resolutions or orders which finally establish or extend a district, and in the case of counties, which authorize an increase and improvement of facilities, are required to be filed with this Office regardless of whether the Comptroller's approval is required. Resolutions or orders that are subject to permissive referendum should not be filed until the period for filing a petition has passed, or if a petition is filed, a referendum has been held.

Our office stands ready to provide advisory services and assist you in identifying and resolving issues in connection with special district actions, even if the proceedings are not subject to our approval. You can obtain additional information and guidelines on submitting applications by contacting our office. Additional copies of this information can also be found on our website:

http://www.osc.state.ny.us/localgov

If you have questions or need more information, please contact Ellen McDonald of our Legal Division at (518) 474-3517 or Scott Waldorf of our Division of Local Government Services at (518) 473-1198.

Sincerely,

Mark P. Pattison
Deputy Comptroller

MPP:ld

Enc.

AVERAGE ESTIMATED COSTS FOR COUNTY AND TOWN SPECIAL IMPROVEMENT DISTRICTS

(EFFECTIVE FOR PROCEEDINGS FOR WHICH A NOTICE OF HEARING IS PUBLISHED FROM JANUARY 1, 2007 THROUGH DECEMBER 31, 2007)

The Comptroller's approval is required if debt is proposed to be issued by the town or county, and the "cost of the district or extension" to the "typical property" or, if different, the "typical one or two family home" as stated in the notice of hearing, is above the average estimated cost thresholds listed below.[1]

Costs include debt service, operation and maintenance and other charges related to the improvement in the first year following formation of the district or extension, or the increase and improvement of facilities (or, if greater, the first year in which both principal and interest and operation and maintenance will be paid). To ensure accurate calculations of estimated costs, towns and counties should not assume the receipt of federal or State aid in the absence of firm commitments from the appropriate agency. In addition, estimated borrowing costs should be based on the proposed maturity of the obligations and interest rate assumptions derived from market surveys or a letter of commitment. Charges imposed by other governmental entities, such as public authorities or other municipalities, should be included in the computation.

TOWN DISTRICTS

The following average estimated costs apply to town special district establishments, extensions, or increases in the maximum amount to be expended.[2] Towns must use the total cost to the typical property or, if different, the typical one or two family home, exclusive of hook-up fees.

Sewer $ 568
Water $ 603

COUNTY DISTRICTS

The following average estimated cost applies to county special district establishments, extensions or increases in the maximum amount to be expended. Counties must use the total cost to the typical property or, if different, the typical one or two family home, exclusive of hook-up fees.

Sewer $ 345

The following average estimated cost applies to county special district increases and improvements of facilities. Please note that this figure represents only the increased cost to the typical property as a result of the increase and improvement.

Sewer $ 16
Water $ 3

For all other types of district proceedings, there was insufficient data to calculate meaningful average estimated costs. Therefore, any proceedings not listed above will be subject to applicable requirements for obtaining the Comptroller's approval, irrespective of the cost to the typical property or home.

[1] For those proceedings that are subject to a permissive referendum requirement, please note that the Comptroller's Office will accept the filing of an application prior to the expiration of the time for filing a petition requesting a referendum, or if a petition is filed, the vote on the proposition. However, no approval order will be granted until after the completion of all such requirements.

[2] Note that chapter 456 of the Laws of 2004 amended Town Law §§202-d and 209-h, with respect to proceedings pursuant to articles 12 and 12-A of the Town Law that authorize an increase in the maximum amount to be expended for the improvement in a district. Under the amendment, the Comptroller's approval, if required, may be given only after public hearing and, in case of article 12-A districts, permissive referendum requirements are met. Prior to the amendment, the public hearing and permissive referendum procedures were undertaken after the Comptroller's approval.