

REFERENCES

1. Draft Generic Environmental Impact Statement,
Boght Road-Columbia Street area,
Clough, Harbour and Associates,
February 1989
2. Manual of Uniform Traffic Control Devices, NYSDOT
July 1, 1983

The corrections to the following D.G.E.I.S. pages have been
italicized for clarity.

The NMPC Capital Region Gas Planning Unit has indicated that they do not foresee any difficulties with supplying natural gas for the projected development demands within the study area. NMPC has stated that they will supply gas to future customers by installing new mains where they currently do not exist or by upgrading the existing system.

NYT has scheduled the construction of an underground fiber optic cable to be installed along Route 9 from the Latham Central Office located east of the Latham Traffic Circle and extending north to the Mohawk River to be completed by December 1989. NYT has indicated that with the installation of this new fiber optic cable, facility demands can be met until the year 2019.

In order to meet the projected additional water demand, the LWD will apply to the NYSDEC for permission to draw additional raw water from the Mohawk River. An expansion to the Mohawk View Filtration Plant during planning period 1 is also being considered. Storage facilities will also require improvements. The LWD projects that *an additional standpipe with a minimum one (1.0) MG will be necessary.*

Water transmission line improvements will also be necessary. To meet 1999 demands, the twenty-four (24) inch main near the Colonie Bicycle Path must be connected to the existing main at the intersection of Old Loudon Road and Columbia Street. During planning period 2, a waterline connecting the main at Route 9 and Fonda Road to the main at Johnson Road and Miller Road will be necessary.

Distribution improvements during planning period 1 will involve new or replacement connections on Haswell Road between Harvard and Boght Roads, Boght Road from Elm Street south, Route 9R from Johnson Road to St. Agnes Highway, Route 2 between Swatling Road and Western Avenue, and Western Avenue to Haswell Road. Planning period 2 requirements are less extensive and include increased sized lines

4. Water:

The estimated additional water demand for the study area during the first planning period is eight hundred sixty eight thousand six hundred (868,600) gallons per day and is computed as follows:

Residential Growth = 7,249 people

Commercial Growth = 1,437,480 S.F. Bldg. Space

Residential Demand

7,249 people x 100 gallons per day per capita (GPDC) = 724,900 GPD

Industrial/Commercial/Retail Demand

1,437,480 SF x 0.10 Gal/SF Building Space = 143,748 GPD

Total Additional Demand = 868,648 GPD

The Latham Water District is currently supplying approximately 10.5 MGD to its residential/commercial users. Although the average water demand for this first planning period is approximately eight hundred sixty eight thousand six hundred (868,600) GPD, the LWD has suggested that a factor of at least two (2), *which is based on actual demand*, be used when computing the future peak demands based on historical data.

The following peak demands are computed as follows:

Total Additional Demand = 868,648 GPD

868,648 GPD/100 GPDC = 8,686 Design Capita

868,648 GPD x 3.05* = 2,649,376 GPD Additional Peak Demand

*Based on the GLUMRB-Recommended Standards for Sewage Works, 1978 Ed.

a. **Supply, Treatment and Filtration**

When asked if the system could handle the additional demand during the first planning period, the LWD stated that they would have to apply to the NYSDEC for permission to draw additional raw water from the Mohawk River in order to meet the projected water demand.

Currently, the LWD is planning the expansion of the Mohawk View Filtration Plant to be completed within five (5) to ten (10) years. The LWD has forecasted that if the Town of Colonie continues to develop, a filtration plant twice the size of the of the existing plant will be needed.

b. Pumping

The LWD plans to improve their high lift pumping stations in conjunction with Mohawk View Filtration Plant expansion. The exact extent of the improvements has yet to be determined.

c. Storage

As mentioned previously, the existing storage facilities within the study area consist of a one (1.0) MG standpipe on Miller Road and a point two (0.20) MG standpipe on Boght Road west of Route 9. LWD feels that the Boght Road standpipe should be replaced with a one (1.0) MG standpipe in order to support growth within the northern portion of the study area and the projected demand supports this premise. A comprehensive water distribution study had been conducted several years ago for the Town of Colonie which recommended the installation of a booster pumping station at Boght Road. *An additional standpipe with a minimum of one (1.0) MG will be necessary.* At the present time, the LWD has indicated that the monies to be spent on a booster pumping station can be utilized more efficiently if the existing transmission lines and distribution lines are upgraded and extended to form more loops within the system. The cost of a new one (1.0) MG standpipe to be constructed at the site of the existing point two (0.20) MG standpipe located on Boght Road west of Route 9 is estimated at approximately five hundred thousand dollars (\$500,000) (1988 Dollars).

Residential Growth = 3,625 people

Commercial Growth = 1,437,480 SF Bldg. Space

Residential Demand

3,625 people x 100 gallons per day per capita (GPDC) = 362,500 GPD

Industrial/Commercial/Retail Demand

1,437,480 SF x 0.10 Gal/SF Building Space = 143,748 GPD

Total Additional Demand = 506,248

The following peak demands are computed as follows:

Total Additional Demand = 506,248 GPD

506,248 GPD/100 GPDC = 5.062 Design Capita

506,248 GPD x 3.35* = 1,695,930 GPD Additional Peak Demand

*Based on the GLUMRB-Recommended Standards for Sewage Works, 1978 Edition.

a. Supply, Treatment and Filtration

As previously discussed under planning period 1, LWD personnel have indicated that as the projected development demand occurs, the LWD will be applying to the NYSDEC for permission to draw additional raw water from the Mohawk River for treatment and use throughout the Town.

b. Pumping

No specific improvements have been planned at this time by the LWD concerning distribution pumping during Planning Period 2.

c. Storage

At this point in time, the LWD has indicated that ample storage facilities within the study area for planning period 2 pending the construction of the one (1.0) MG standpipe proposed during planning period 1.

of Boght Road and Route 9 east along Boght Road to the Cohoes city line.

Approx. 2,000 LF of 8" D.I.P. x \$40.00/LF = \$80,000

The subtotal of the improvements projected for planning period 2 is: \$1,422,000

10% Contingencies \$ 142,200

20% Contractor Overhead and Project \$ 284,400

Total \$1,848,600

Note: All estimated costs include hydrants, valves, surface restoration, etc., in 1988 dollars.

5. Sanitary:

The estimated additional wastewater flows generated within the study area during the second planning period are as follows:

Average Demand

Residential 3,625 People x 100 GPCPD = 362,500 GPD

Industrial/
Commercial/
Retail 1,437,480 SF x 0.10 Gal/SF Bldg Space = 143,748 GPD

Estimated Average Demand 506,248 GPD

Peak Demand

Total Additional Demand = 506,248 GPD

506,248 GPD/100 GPDC = 5,062 Design Capita

506,248 GPD x 3.35* = 1,695,930 GPD Estimated Peak Demand

*Based on the GLUMRB-Recommended Standards for Sewage Works, 1978 Edition.

As previously mentioned under planning period I (1989-1999), sanitary wastes from the the portion of the study area within the ACSD will be

additional expenditure of two hundred sixty two thousand five hundred (262,500) dollars per year (1988 dollars) beginning during 1999 and three hundred fifty thousand (350,000) dollars per year (1988 dollars) beginning during 2009. As shown on Table II-M-1 in Section II, M, Economics, future tax revenues for the two (2) planning periods will be sufficient to offset the costs associated with the required increase in police services.

Schools:

Increased development within a particular school district will result in an increase in students which will impact the existing facilities. Physical space is an obvious concern since buildings are designed to accommodate a fixed number of students. Beyond the physical space concern, increased school enrollment within a district will result in a drop in the teacher to student ratio, increased transportation demands, and generally have a negative effect on the education process.

Based upon the projected population figures for the study area, in 1999, the North Colonie School district can anticipate an additional *sixteen hundred forty-six (1,646)* school age children (*2,535 total*). The 2,009 projection is an *additional nine hundred forty three (943)* students over and above the 1999 projections. *The total public school student population in 2009 including existing students from the study area is three thousand three hundred fifty eight (3,358).*

To accurately determine the impacts to the school district and to develop a suitable mitigation plan, Charles A. Szuberla, Superintendent of North Colonie Schools was contacted and presented with the school age children population estimates. Based upon return correspondence, the School District indicates the projected figures would have a most significant impact on the District.

Specifically, the 1999 projection of *sixteen hundred forty six (1,646)* additional public school children, if distributed by grade levels in proportion to current distributions, would add approximately *three hundred thirty four (334)* elementary, *one hundred (100)* junior high, and *two hundred twenty two (222)* high school students to the existing school district growth projections for that year. Since present projections indicate a school housing problem for the mid-90's, it is clear that such impact would severely exacerbate the projected problems.

At the elementary level, the proposed projections indicate the need for *one (1)* large (four hundred fifty (450) student) elementary schools. This is in addition to the recommendations for added elementary space currently being prepared by the Board of Education Advisory Committee on School Housing Needs. An elementary school for four hundred fifty (450) students has an approximate cost of seven (7) million dollars (1988 dollars). Personnel costs, to staff such facilities, would bring recurring annual costs of approximately one point five (*1.25*) million dollars (1988 dollars).

At the junior high school level, the additional *one hundred (100)* students would require at least *four (4)* additional classrooms, in addition to current expansion plans, and *five (5)* full time teachers. Costs associated with these improvements and teacher salaries bring the dollar impact at this level to *eight hundred thousand (800,000)* dollars (1988 dollars).

At the high school level, the projected *two hundred twenty two (222)* students would create a space problem and would require approximately nine (9) additional classrooms and at least *fourteen (14)* staff. Costs associated with these required improvements are estimated at approximately two (2) *million dollars* (1988 dollars).

Based upon the above-cited improvements, the total additional capital costs anticipated for the North Colonie School District in 1999 is approximately eleven million (11,000,000) dollars (1988 dollars). In addition, annual costs for salaries and maintenance would be approximately three point two (3.2) million dollars per year (1988 dollars) above and beyond costs currently projected for that time.

If the above referenced capital improvement costs associated with 1999 projected development (*eleven million (11,000,000) dollars*) were distributed among the additional two thousand five hundred (2,500) residential units, this would equate to *four thousand four hundred (4,400) dollars* per unit. As shown on Table II-M-1, Section II, M, Economics, the annual operation and maintenance for additional school space will exceed revenues generated through taxes by approximately one million three hundred eighty two thousand (1,382,000) dollars. Therefore, it appears that in order to balance this deficit, the tax rate for the entire district will have to be reevaluated in conjunction with potential increase in federal and state aid resulting from the increased number of students.

The school district does not attempt to project school enrollments beyond a ten (10) year period so figures beyond 1999 are not available. The enrollment projection of three thousand three hundred fifty eight (3,358) additional students at that time, however, would appear to require additional improvements which would have to be financed by the school district. Once the 1999 date is realized, the school district should evaluate the then present enrollment figures in relationship to future projections in order to determine specific improvements.

Table II-M-3 outlines the net costs associated with development, both from a capital improvement and municipal budget standpoint.

TABLE II-M-3
COSTS ASSOCIATED WITH PROJECTED
DEVELOPMENT IN THE BOGHT ROAD - COLUMBIA STREET AREA

Capital Improvement	Planning Period 1	Planning Period 2
Education	\$11,000,000	---
Water Service	\$ 3,371,550	\$ 1,848,600
Sewer Service	---	\$ 288,000
Transportation	\$ 5,300,000	\$ 6,900,000
Surface Water and Drainage	\$ 3,405,415	\$ 3,405,415
Recreation	\$ 682,333	\$ 341,250
Solid Waste Disposal	\$ 211,249	\$ 148,749
Subtotal	\$24,970,547	\$12,932,014
Other Costs		
Additional Police Personnel	\$ 262,500	\$ 350,000
Education		
- Deficit resulting from fiscal impact model	\$ 1,202,061	\$ 1,526,681
- Salaries, annual expenses for new school buildings	\$ 3,200,000	---
<i>Fire Protection</i>	\$ 3,870,000	\$ 1,360,000
DGEIS Preparation	\$ 69,500	\$ 69,500
Subtotal	\$ 8,604,061	\$ 3,306,181
Total	<u>\$33,574,608</u>	<u>\$16,238,195</u>

Total costs of development have been estimated to be *thirty-three million five hundred seventy-four thousand six hundred eight (33,574,608)* dollars during planning period 1 and *sixteen million two hundred thirty-eight thousand one hundred ninety-five (16,238,195)* dollars during planning period 2. These costs have been further reduced to Development Mitigation Costs and are shown on Table II-M-4. The costs outlined in both these tables include R.O.W. acquisition costs of twenty thousand dollars (\$20,000) per undeveloped acre and eighty thousand dollars (\$80,000) per developed acre. These apply primarily to the Transportation and Drainage Development Mitigation Costs outlined in Table II-M-4.

For the purposes of this DGEIS, funding sources such as state aid or grants that would tend to offset the Development Mitigation Costs were not calculated. It is difficult to estimate the amount or type of aid that may be available during the implementation of some of these improvements. In addition, to be conservative, engineering fees, legal fees and bonding costs have not been included in Development Mitigation Costs.

The highest mitigation costs will be related to the North Colonie School System. As stated in Section II, I, Municipal Services the increase in the school aged population during planning period 1 will result in the need for *one (1)* additional elementary schools and up to *thirteen (13)* classrooms for the junior high and high school combined. Costs associated with new school buildings and classrooms is one (1) example where state aid may be a major factor in the final cost of the required facilities.

Transportation mitigation costs may also be fairly extensive especially during planning period 2. Improvements to State roads may be eligible for State or Federal funding.

TABLE 11-M-4 BOGHT ROAD - COLUMBIA STREET AREA ESTIMATED DEVELOPMENT MITIGATION COSTS

PLANNING PERIOD	IMPROVEMENT	UNIT MEASURE	COST ¹	COMMENT
1999 & 2009	Solid Waste-Residential	Dwelling Unit	\$ 50	No land costs included, assume that land is available at existing landfill. This cost may be reduced to zero (0) through the application of surplus budget revenues (Table 11-M-5).
1999 & 2009	Solid-Waste Com/Industrial	Sq. ft. bldg. space	\$ 0.06	Same as Above
1999	Schools	Dwelling Unit	\$ 4,400 ²	Commercial/Industrial not considered as creating additional demand.
2009	Schools	--	--	School District does not project needs beyond 10 year period. Must reevaluate needs in 1999.
1999	Water-Residential	Dwelling Unit	\$ 1,125	
1999	Water-Com/Industrial	Sq. ft. bldg. space	\$ 0.39	
2009	Water-Residential	Dwelling Unit	\$ 1,059	
2009	Water-Com/Industrial	Sq. ft. bldg. space	\$ 0.37	
1999	Sewer-Residential	--	--	No improvements required.
1999	Sewer-Com/Industrial	--	--	No improvements required.
2009	Sewer-Residential	Dwelling Unit	\$ 165	This cost may be reduced to \$70/dwelling unit through the application of surplus budget revenues (Table 11-M-5).
2009	Sewer-Com/Industrial	Sq. ft. bldg. space	\$ 0.06	This cost may be reduced to \$.02/square foot of building space through the application of surplus budget revenues (Table 11-M-5).
1999	Transportation-Residential	Dwelling Unit	\$ 756	Includes ROW costs of \$20,000/acre undeveloped land, \$80,000 developed land, 20% background growth accounted for.
1999	Transportation-Office	Sq. ft. bldg. space	\$ 1.65	See Above
1999	Transportation-Retail	Sq. ft. bldg. space	\$ 2.50	See Above
1999	Transportation-Industrial	Sq. ft. bldg. space	\$ 0.68	See Above
2009	Transportation-Residential	Dwelling Unit	\$ 1,518	See Above

PLANNING PERIOD	IMPROVEMENT	UNIT MEASURE	COST ¹	COMMENT
2009	Transportation-Office	Sq.ft.bldg.space	\$ 3.52	See Above
2009	Transportation-Retail	Sq.ft.bldg.space	\$ 5.89	See Above
2009	Transportation-Industrial	Sq.ft.bldg.space	\$ 1.17	See Above
1999 & 2009	Drainage-Area 1-Res.	acre	\$ 2,870	Includes ROW costs of \$20,000/acre
1999 & 2009	Drainage-Area 1-Com/Ind.	acre	\$ 5,740	Same as above
1999 & 2009	Drainage-Area 2-Res.	acre	\$ 3,780	Same as above
1999 & 2009	Drainage-Area 2-Com/Ind.	acre	\$ 7,560	Same as above
1999 & 2009	Drainage-Area 3-Res.	acre	--	No Improvements necessary
1999 & 2009	Drainage-Area 3-Com/Ind.	acre	\$13,400	Same as above
1999 & 2009	Drainage-Area 4-Res.	acre	\$ 5,960	Same as above
1999 & 2009	Drainage-Area 4-Com/Ind.	acre	\$11,920	Same as above
1999 & 2009	Drainage-Area 5-Res.	acre	\$ 2,170	Same as above
1999 & 2009	Drainage-Area 5-Com/Ind.	acre	\$ 4,340	Same as above
1999 & 2009	Recreation	Dwelling Unit	\$ 273	Includes costs for additional 9 hole golf course and pocket parks. Commercial/Industrial not considered as creating additional demand. This cost may be reduced through the application of surplus budget revenues (Table 11-M-5) to \$208/unit in 1999 and to zero (0) in 2009.
1999 ²	Fire Protection	acre	\$ 2,930	
2009 ²	Fire Protection	acre	\$ 1,897	
1999 & 2009	GEIS Preparation	acre	\$ 69	Only acreage projected for development between 1999 & 2009 used to calculate fee.

¹ Costs do not include engineering costs, administrative costs, legal costs or debt service retirement associated with potential bonding.

² Denotes change or addition from Table 11-M-4 of the DGEIS.