

TOWN OF DRYDEN

TOMPKINS COUNTY, NEW YORK

ENGINEER'S REPORT

June 2004

**Proposed
Royal Road Sewer District**

PREPARED BY:

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Ithaca, New York

A handwritten signature in cursive script, appearing to read "David Miller", is written over a circular dotted seal. The seal is partially obscured by the signature and is located at the bottom center of the page.

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Proposed District Boundary and Plan of Sewer System

SECTION 1 - INTRODUCTION

Interest has been expressed from persons owning land and businesses along Royal Road for the extension of public sewer to their neighborhood. The Town Board authorized this Engineering Report to provide the information necessary to describe the project for public review and comment prior to a public hearing. The following pages indicate the basic information needed to assess the project and the costs so that both the people and the Town Board may express their comments. After the public hearing the Board will complete a review of environmental impacts pursuant to Article 8 of the Environmental Conservation Law and determine whether to proceed with the district formation process. If established by resolution, the Board's determination will be subject to a permissive referendum.

SECTION 2 - NEED FOR MUNICIPAL SEWER SERVICE

With the exception of the Guthrie Healthcare facility the existing commercial and residential properties are served by individual on-site septic systems. The existing Monkey Run Sewer District is immediately adjacent to the proposed District and in the early 1990's the Guthrie Clinic extended a combination of gravity and force sewers to facilitate a connection to the municipal system. The predominant commercial nature of this area combined with the presence of wetlands will result in separation distances between groundwater sources, surface waters and septic systems that are problematic. The extension of Town sanitary sewer facilities will allow for the best use of the commercial lands without creating possible adverse sanitary conditions.

SECTION 3 - SERVICE AREA

The proposed service area includes a total of six tax map parcels encompassing twenty-eight acres. Land within the proposed District is all zoned M-A (retail, manufacturing, industrial) with the exception of two rental housing properties, which predated the M-A zone. The total 2004 assessed value of all land and improvements within the proposed District is \$4,416,000. The attached map identifies the boundary of the District and the parcels to be benefited.

The proposed service area was included in a larger planning study and Environmental Impact Statement recently completed for the Ithaca Area Municipal Wastewater Collection Improvement Project. On December 31, 2003 municipal officials of the City of Ithaca, Villages of Cayuga Heights and Lansing, and Towns of Dryden, Ithaca and Lansing executed the Intermunicipal Wastewater Agreement. The Agreement includes a provision to modify the service area of the Ithaca Area Wastewater Treatment Plan which now includes the lands of the proposed District.

None of the properties included in the proposed District are within the Tompkins County Agricultural District No. 1.

Properties in the Service Area

Parcel No.	Address	Parcel Owner	Use	Assessment	Acreage
43.-1-29.6	15 Royal Road	Prudence Frank & Tony	Comm	54,000	3.60
43.1-31	1756 Hanshaw Road	Davis Walter Jr. & Annie	Rental	67,000	4.83
43.-1-32	1770 Hanshaw Road	Kimberly Realty Co.	Rental	60,000	0.88
43.-133.11	27 Royal Road	Wilcox, Gene & Jeannette	Comm	190,000	1.02
43.-1-33.121	35 Royal Road	Cayuga Partners	Comm	1,450,000	11.85
43.-1.33.2	8 Royal Road	Guthrie Healthcare Systems	Health	2,595,000	6.15

SECTION 4 - DESIGN CONSIDERATIONS

For those properties presently on well water the average day waste generation was determined using sewage discharge rates from the NYSDEC Design Standards for Wastewater Treatment Works and is estimated to be 1,300 gallons. Records of metered water use indicate the Guthrie Healthcare facility averaged 1,100 gallons per day for the last four quarters. The combined present wastewater flow within the District, therefore, is 2,400 gallons per day.

There is approximately five acres of developable land in the District, including conversion of the two rental properties to commercial use. Allowing for this development the future average day wastewater flow is estimated to be 3,500 gallons. While it is customary to include an additional allowance for inflow and infiltration the nature of the pressurized force sewer system will minimize infiltration, therefore, the design average day wastewater flow of 3,500 gallons is conservative. The Town of Dryden is a joint owner in the Ithaca Area Wastewater Treatment Plant and presently has sufficient owned capacity in the treatment plant to allow the extension of service to this District.

The Guthrie Healthcare facility presently has sewer service and is connected to the Town's Monkey Run Sewer District as an "Out of District Contract User". Sewage from Guthrie drains to a pump station located north of Royal Road and is discharged through a 2-inch PVC force sewer across and parallel to Royal Road into a gravity manhole at the corner of Hanshaw Road. The force main and gravity mains were initially constructed to Town and NYS Health Department Standards so that they could be incorporated into a future district as Town infrastructure.

SECTION 5 - CONSTRUCTION CONDITIONS

F&T Distributors, Inc. is presently constructing a new warehouse and distribution facility on parcel 43.-1-29.6 and as an "Out of District Contract User" will be extending along Royal Road a service line consisting of 90 feet of 1.5-inch force main and one valve vault. The construction cost for this portion of work is estimated to be \$10,600. The District will utilize the 2-inch and 1.5-inch force main constructed by the Guthrie Clinic and F&T Distributors, respectively and extend an additional 280 feet of 1.5-inch SDR 26 PVC main along the south side of Royal Road to serve parcels 43.-1-33.11 and -33.121. Valve manholes will be installed at each location where a future service connection will be made. An extension of roughly 100 feet of 1.5-inch force main along Hanshaw Road is needed to serve Parcels 43.-1-31 and -32. All sewer infrastructure will be constructed within the Town road rights-of-way. Each parcel within the District will be required to install and maintain individual pump stations at the time connections are made to the system. The individual grinder pumps connected to the Royal Road force main should be rated for 11 gallons per minute (gpm) at 100 feet TDH and 15.5 gpm at 20 feet TDH. Pumps for the Hanshaw Road connections can be sized to maintain a minimum flushing velocity of 2 feet per second in the force main.

SECTION 6 - ESTIMATE OF PROJECT COST

The following table presents the estimated project cost inclusive of the sewer system construction and District formation expenses:

Project Cost Estimate				
Item	Estimated Quantity	Unit of Measure	Unit Price	Total Price
Connection to existing system	2	Ea	\$2,500	\$5,000
1 ½-inch Force Main (SDR 26)	370	LF	\$30	\$11,100
1 ¼-inch Force Main (SDR 26)	90	LF	\$30	\$2,700
Valve Manholes	2	Ea	\$4,000	\$8,000

Construction Subtotal =	\$26,800
Construction Contingency @ 10% =	\$ 2,700
TOTAL CONSTRUCTION COST =	\$29,500
Engineering, Planning, Design, and Construction	\$5,400
Legal, Bonding, and Administration	\$2,500
Treatment Plant Capacity Purchase from Town Sewer District	\$1,750
Acquisition of F&T Distributors Service Line	\$10,600
TOTAL PROJECT COST	\$49,750

SECTION 7 - METHOD OF FINANCING PROJECT COSTS

Through an acquisition agreement with the Town the service line improvements completed by F&T Distributors will be purchased by the District. It is anticipated that these improvements will be acquired within the first year of construction, therefore, the Project Cost ultimately to be financed by the benefited properties will remain \$49,750. In February, 1993 the Guthrie Clinic and the Town executed a Purchase of Water and Sewer Facilities Agreement, which established a ten-year depreciation schedule for purchasing the original capital improvements constructed by Guthrie in 1990. According to schedule, after the tenth year no consideration is due Guthrie.

The Project Cost is planned to be financed by the issuance of serial bonds to mature in annual installments based on the following assumptions:

Principal	\$49,750
Interest	5.5%
Term	20 years
Capital Recovery Factor (C.R.F.)	0.0837
Annual Payment	\$4,164

The Annual Payment will be assessed to all properties within the District per the following benefit formula:

- 50% of Annual Payment based on Total Assessed Value of property in the District
- 35% of Annual Payment based on Acreage of property in the District
- 15% of Annual Payment based on Units within the District

Units are defined in the table below:

Land Use	Units
Residential Property	1 Unit per living unit.
Commercial Property	1 Unit for each store or separate place of business.
Health Care	1 Unit for each 16,000 cubic feet, or part thereof, of water estimated to be consumed annually.

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Each benefited property in the district must pay a proportionate share of the Annual Payment. Based on present land use and assessed values the first year charge for each property is summarized in the following table:

Parcel No.	Parcel Owner	Use	Assessment	Acreage	Units	First Year Charge
43.-1-29.6	Prudence Frank & Tony	Comm	\$54,000	3.60	0	\$211
43.1-31	Davis Walter Jr. & Annie	Rental	67,000	4.83	1	\$358
43.-1-32	Kimberly Realty Co.	Rental	60,000	0.88	1	\$152
43.-133.11	Wilcox, Gene & Jeannette	Comm	190,000	1.02	1	\$220
43.-1-33.121	Cayuga Partners	Comm	1,450,000	11.85	1	\$1,371
43.-1.33.2	Guthrie Healthcare Systems	Health	2,595,000	6.15	4	\$1,852
Total			\$4,416,000	28.33	8	\$4,164

SECTION 8 - SUPPLEMENTAL

A. One-time Connection Charge

Customers will be responsible for the installation of a sewage pump station and service line from the building to the Town main. The costs associated with the service connection are estimated below and will vary for each parcel:

Inspection Fee	\$175
Simplex sewage pump station	\$6,000
Service line extension from isolation valve to the building (cost will vary depending on length of service line and depth to bedrock, if encountered) estimated average: 50 lf @ \$30/lf.	
	\$1,500
Total	\$7,675

B. Sewer Use

Revenues are raised to cover the costs of operation and maintenance (O&M), treatment and system-wide improvements by surcharging metered water sales. The customer receives a quarterly surcharge included in their water use bill generated from the Sewer Rate schedule listed below:

Gallons Consumed	Per Quarter
0-10,000 gallons	\$16.60 (base charge)
Over 10,000 gallons	\$1.60/1000 gallons

SECTION 9 - COST OF THE DISTRICT TO A TYPICAL PROPERTY

The typical property and the typical one family home are one in the same and has a mode-average assessment value of approximately \$60,000. The mode was determined from the assessment values listed in Section 3. The cost of the District to the typical property is the estimated amount that the owner of the property within the District will be required to pay for debt service, water use, operation, and maintenance in the first year following the formation of the District. The estimated average quarterly water use for the typical one family home is 27,000 gallons and equates to an annual sewer use charge of \$175. Together with the proportionate share of the Annual Payment the total cost of the District to the typical property is \$327.

APPENDICES

APPENDIX A

BOUNDARY DESCRIPTION
ROYAL ROAD SEWER DISTRICT

All that tract or parcel of land situate in the Town of Dryden, County of Tompkins, State of New York being generally described as follows:

Beginning at a point at the intersection of the centerlines of Royal Road and Hanshaw Road;

Thence southerly along the centerline of Hanshaw Road a distance of 593 feet \pm ;

Thence westerly along the southern boundary of tax parcels 43.-1-31 and 43.-1-29.6 a distance of 727 feet \pm to the southwest corner of tax parcel 43.-1-26.9;

Thence northerly along the western boundary of tax parcel 43.-1-26.9 a distance of 570 feet \pm to a point on the southern boundary of tax parcel 43.-1-33.11;

Thence westerly along the southern boundary of tax parcels 43.-1-33.11 and 43.-1-33.121 a distance of 759 feet \pm to the south west corner of tax parcel 43.-1-33.121;

Thence northerly along the western boundary of tax parcel 43.-1-33.121 a distance of 672 feet \pm to the southern boundary of the NYS Route 13 Right-of-Way;

Thence easterly and southerly along the NYS Route 13 Right-of-Way a distance of 1,752 feet \pm to the Hanshaw Road Right-of-Way;

Thence southerly along the eastern boundary of tax parcel 43.-1-33.2 a distance of 69 feet \pm to the centerline of Royal Road;

Thence easterly along the centerline of Royal Road a distance of 25 feet \pm back to the point or place of beginning.

The boundaries of the said District and the Tax Map Parcels included are as shown on copies of the Tompkins County Tax Maps on file at the Dryden Town Clerk's Office.

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MAPS
