CITY OF RENSSELAER
IN
COMMON COUNCIL
WEDNESDAY EVENING
REGULAR MEETING

The Council convened at 8:25 o'clock P.M. and was called to order by Pres. Stewart.

The roll being called the following answered to their names:

Pres. Stewart

Alderman: Bullent, Mooney, Lithgow, Buono

Alderman: Girolami, Adams, Miller, Harrigan, Jukes

Alderman Buono moved that the minutes be adopted as printed subject to correction.

COMMUNICATIONS FROM THE MAYOR
HEADS OF THE DEPARTMENTS AND CITY OFFICIALS

The Clerk reports that the Mayor had approved of all resolutions passed at the last meeting.

TREASURER*S REPORT

PRESENTATION OF ACCOUNTS

Alderman moved that all bills be referred to the auditing committee.

All bills be allowed and ordered paid.

PRESENTATION OF PETTTIONS AND ACCOUNTS

RESOLUTIONS

REPORT OF COMMITTEE

Alderman Buono moved to adjourn, seconded by Alderman Adams - sec. adjourn

	AYES	NOES
IRWIN STEWART	✓	
HAROLD BULLENT	✓	
JOHN MOONEY	✓	
WILLIAM LITHGOW	✓	

PRESENTATION OF ACCOUNTS

Alderman Buono moved that all bills and payrolls be referred to the auditing committee.

The City Clerk reports that the City Bills, Water Dept. Bills, Highway Payrolls, Water Dept. Payroll audited by the Committee amounted to City Bills $13,282.30, Water Dept. Bills $327.87, Highway Payroll $7,713.50 and Water Payroll $940.04

Alderman Adams Buono moved that all bills and payrolls be allowed and ordered paid.

	AYES	NOES
IRWIN STEWART	✓	
HAROLD BULLENT	✓	
JOHN MOONEY	✓	
WILLIAM LITHGOW	✓	
STEPHEN BUONO	✓	
ARMAND GIROLAMI	✓	
WILLIAM ADAMS	✓	
WILLIAM MILLER	✓	
FREDERICK HARRIGAN	✓	
ALFRED JUKES		
TOTAL		

J. KENNETH FRASER AND ASSOCIATES, P.C.
Consulting Engineers
620 WASHINGTON AVENUE
RENSSELAER, N. Y. 12144
TELEPHONE 463-4408

October 20, 1971

Mayor and Common Council
City of Rensselaer
City Hall
Rensselaer, New York 12144

Re: Resurfacing of Aiken Avenue

Gentlemen:

In accordance with your instructions and resolution number 33, dated the 6th day of October 1971, we have prepared plans and specifications for the Resurfacing of Aiken Avenue, from South Street easterly, a distance of approximately 1,000 feet. These plans and specifications also include the creation of parking areas along the south side of Aiken Avenue and the easterly side of Spruce Street, for use by the Rensselaer Housing Authority, Aiken Avenue Community Project. Four (4) sets of plans and specifications accompany this letter.

We have estimated that the total cost of the work, including an allowance for contingencies and engineering, to be approximately $50,000. In addition to the resurfacing of Aiken Avenue, and the construction of the parking areas, we have included certain drainage work which we feel to be most important, and which consists mainly of new street inlet basins in the present location of certain existing basins, with a "Cascade" type of inlet grating, designed to intercept water on steeper slopes. The breakdown of the work by sections is as follows:

A. Parking areas, which includes the removal and re-laying of existing granite curbing along the easterly side of Spruce Street, the installation of a granular sub-base approximately 6 inches in thickness, and the installation of a two-course bituminous concrete surfacing, 2½ inches thick, together with such incidental work which may be required- $ 8,850.00

B. Drainage, including the removal of existing storm water inlet structures and the construction of new storm water inlet basins, with new frames and grates, together with the necessary revisions to the existing storm drainage- $ 5,850.00

Rec'd & filed

October 20, 1971

Mayor and Common Council
City of Rensselaer, New York

C. Minimum resurfacing of Aiken Avenue, which would involve the removal of the existing concrete gutter on the south side of Aiken Avenue from Spruce Street easterly, the removal and replacement of disintegrated and damaged gutter on the northerly side of Aiken Avenue, the removal and replacement of the existing bituminous concrete surfacing, with a two-course pavement, total thickness of 3 inches- $ 15,600.00

Total $ 30,300.00

D. Additional cost of reconstructing Aiken Avenue with 9 inches of new granular sub-base, and a total depth of bituminous concrete surfacing of 5' inches (3"-1½"-1")- $ 19,400.00

Total $ 49,700.00
(Say) $ 50,000.00

If the Council were to authorize the advertisement of this work on the 20th of October, and bids were to be received at the next Council meeting on November 3, 1971, it is very doubtful that the work could be authorized and construction started prior to November 15th at the earliest. This, in our opinion, is much too late in the season to start a construction job of this particular nature, where weather conditions are of prime importance, and where adverse weather could close down the project when it was in various stages of completion.

It is most important that the parking areas for the housing be constructed, as it is expected that occupancy could possibly occur by November 15, 1971.

It is therefore our recommendation that the plans and specifications as presently prepared be revised by an Addendum, or as may be required, to limit the work to Item A above only, in the amount of approximately $9,000. If this were done with all expediency possible, it could be completed this fall and the balance of the project could be started as early in the spring of 1972 as weather would permit.

October 20, 1971

Mayor and Common Council
City of Rensselaer, New York

We would recommend that the ultimate improvement of Aiken Avenue be made, and that the work include Items A, B, C and D as listed above, in the total estimated amount of approximately $50,000.00.

Respectfully submitted,

J. KENNETH FRASER AND ASSOCIATES, P. C.

By_____
J. K. Fraser

JKF/fw
Encl:

cc: Mayor Warden
Mr. Beaudin
Mr. Stewart
Mr. Baird
Mr. DeJulio
Mr. Reilly

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
AREA OFFICE
120 CHURCH STREET, NEW YORK, NEW YORK 10007

AREA OFFICES
Buffalo, New York
Camden, New Jersey
New York, New York
Newark, New Jersey
San Juan, Puerto Rico

REGION II
REGIONAL OFFICE
NEW YORK, NEW YORK

IN REPLY REFER TO:
2.1PR

Common Council

OCT 5 1971

Mr. Arnold Baird
Executive Director
Rensselaer Urban Renewal Agency
City Hall
Rensselaer, New York 12144

Dear Mr. Baird:

Subject: Survey and Planning Application, N.Y. R-273

We wish to notify you of a decision made by our Department, on a nationwide basis, affecting applications for new conventional urban renewal projects for which Federal reservations of funds have not yet been made (i.e. Survey and Planning, General Neighborhood Renewal Plan, Initial Loan and Grant Part I and/or Part II applications).

Since your community has such an application on file in this office, we also wish to suggest a course of action to be taken in the light of this decision.

The Department has decided that all unfunded new conventional applications are to be returned to the communities, with the suggestion that the communities be invited to discuss with Department representatives the possibility of adapting their urban renewal proposals to the Neighborhood Development Program (NDP) approach to urban improvement.

It is our intention to place urban renewal operations on an annual funding basis, wherever possible. Since the NDP process uses this method of funding, rather than the longer-range financing method employed for conventional urban renewal projects, the Department hopes to distribute renewal funds more equitably and to accelerate renewal operations through the conversion of unfunded new application proposals to the NDP process.

As you know, the New York Area Office has earmarked $500,000 in Fiscal Year 1972, provided that an NDP Application is received in the Area Office no later than January 15, 1972. It is our understanding, based on discussions with you and Mayor Warden, held in the New York Area Office on September 27, 1971, that you are now in the process of converting your Survey & Planning Application to an NDP.

Sincerely,

Morton S. Yulish
Deputy Director
Operations Division

Received

VAN RENSSELAER SCHOOL
PARENT-TEACHER ASSOCIATION

RENSSELAER, NEW YORK

October 16, 1971

Common Council
Rensselaer,
N.Y.

Dear Mr Stewart,

We would like to thank you for your action taken on October 6, at the request of the P.T.A. We are happy to see your immediate response to the wishes of the parents, and realize that you are duly concerned for the health and welfare of the children.

Thank You.

Sincerely,
Betty Archambault
Corresponding secretary

Pres Stewart appointed
Bruno, Nicolami, Miller to
tabulate the Bids for
City Counsel.

Pres Stewart,
Mooney, Bullen & Tietgen
& Asst Corp Counsel to tabulate bids
on Air Burners for City Hall

Pres. Stewart
Bruno, Adams & Bullen & Asst
Corp Counsel & Consulting Engineer Thom
Nov 3, 1971. report back

Bids Received at
8:00 P. M., Wednesday,
October 20, 1971 at
City Clerk's Office
505 Broadway
Rensselaer, New York

J. Kenneth Fraser and
Associates, P. C.
Consulting Engineers
620 Washington Avenue
Rensselaer, New York

CITY OF RENSSELAER
RENSSELAER CO., N.Y.

INSTALLATION OF A 36 INCH STORM SEWER
ON PARTITION STREET

Name of Bidder	Address	Total Amount Bid
M. Cristo Inc.	Rens. Heights.	$9,726.00
J. V. Polsinello	Albion Ave.	$22,402.50
Ken Morris & Son	East Greenbush	$14,192.00
Michelli	Lawrence St.	$12,963.00
Wm. Kellon & Son	Castleton	$13,169.50

Buono, Adams, Bulleit
E. Tobin.
K. Frazier & Son.

We the undersigned committee appointed to tabulate bids for the furnishing of a new burner unit for the City Hall heating system do report the following bids:

BIDDER	AMOUNT
Polsinello Fuels Inc	$2450.00

The bid of Mullally Bro. Inc. should be rejected as informal, as same is not accompanied by a completed Non Collusive bidding certificate, ~~as required~~ Surety Bond or certified check, as required.

We therefore report that the bid of Polsinello Fuels Inc was the lowest responsible bid for the work and materials to be furnished and we therefore recommend that the bid be awarded to Polsinello Fuels Inc in the sum of $2450.00

COMMITTEE

John F Mooney

William B. Lithgow

Harold M Bullent

BY ALDERMAN ~~Mooney~~

#38

RESOLVED that the Mayor be and hereby is authorized and directed to enter into a contract with Polsinello Fuels Inc for the furnishing of labor and materials in connection with the installation of a new oil burner for the heating system in the City Hall after approval by the office of the Corporation Counsel.

Lithgow Sec.

Approved as to form and sufficiency

this 20th day of October, 1971

Asst CORPORATION COUNSEL

	AYES	NOES
IRWIN STEWART	✓	
HAROLD BULLENT	✓	
JOHN MOONEY	✓	
WILLIAM LITHGOW	✓	
STEPHEN BUONO	✓	
ARMAND GIROLAMI	✓	
WILLIAM ADAMS	✓	
WILLIAM MILLER	✓	
FREDERICK HARRIGAN	✓	
ALFRED JUKES	✓	

#39

BY ALDERMAN BUONO

RESOLVED that the City Clerk be and he hereby is authorized and directed to advertise for bids for the furnishing of all labor and materials for the construction for parking areas on Spruce St. and Aiken Avenue in connection with the Housing Project in accordance with plans and specifications available form the office of the Consulting Engineer.

Bids are returnable at the next fegular meeting of this Council to be held November 3, 1971. Bids must be accompanied by a bid bond in an amount of 5% of the total amount bid in cash, certified check or surety bond. Bids must further be accompanied by the non collusive bidding certificate as required by law. The Common Council reserves the right to accept or reject any or all bids.

Approved as to form and sufficiency
this 20th day of October, 1971

CORPORATION COUNSEL

	AYES	NOES
IRWIN STEWART	✓	
HAROLD BULLENT	✓	
JOHN MOONEY	✓	
WILLIAM LITHGOW	✓	
STEPHEN BUONO	✓	
ARMAND GIROLAMI	✓	
WILLIAM ADAMS	✓	
WILLIAM MILLER	✓	
FREDERICK HARRISON	✓	
ALFRED JONES	✓	
TOTAL		

We the undersigned committee appointed to tabulate bids for the furnishing of 300 ton of rock salt for use by the Department of Public Works do report the following bids

BIDDER	AMOUNT
Morton Salt Company	18^{50} per ton

The bid of International Salt Company ~~should be rejected~~ as informal as same is not accompanied by completed surety bond, or certified check, as required.

We therefore report that the bid of Morton Salt Company was the lowest responsible bid for the material to be furnished and we therefore recommend that the bid be awarded to Morton Salt Company in the sum of 18^{50} per ton

Stephen P Bruno
William J Miller
COMMITTEE
Armand Girolami

By Alderman Bruno

#39 Resolved that the Mayor be and he hereby is authorized and directed to enter into a contract with Morton Salt Company for the furnishing of 300 ton of rock salt for use by the Department of Public Works after approval by the office

	AYES	NOES
IRWIN STEWART		
HAROLD BULLENT		
JOHN MOONEY		

#40

BY ALDERMAN BUONO

RESOLVED that the Wastewater Facilities Report Project No. WPC-NY, made by J. Kenneth Fraser and Associates and dated June , 1971 be and the same is hereby approved and accepted and

BE IT FURTHER RESOLVED that copy of said report is attached hereto and made a part hereof and the recommendations of the Consulting Engineer will be accepted and implemented.

Approved as to form and sufficiency
this 20th day of October, 1971.

Richard J. Reilly
Corporation Counsel

Sec. Adams

	AYES	NOES
IRWIN STEWART	✓	
HAROLD BULLEIT	✓	
JOHN MOONEY	✓	
WILLIAM [illegible]	✓	
STEPHEN [illegible]	✓	
ARMAND [illegible]	✓	
WILLIAM [illegible]	✓	
WILLIAM MILLER	✓	
FREDERICK MADIGAN	✓	
ALFRED JUKES	✓	
TOTAL		

CITY OF RENSSELAER

RENSSELAER COUNTY NEW YORK

WASTEWATER FACILITIES REPORT
PROJECT NO. WPC-NY-

JUNE 1971

J. Kenneth Fraser and Associates, P. C.
Consulting Engineers

620 Washington Avenue Rensselaer, New York

City of Rensselaer
Rensselaer County, New York
Wastewater Facilities Report-Project No. WPC-NY-

June 1971

A report on Comprehensive Sewerage Study for Rensselaer-East Greenbush Project No. WPC-CS-109, Rensselaer County, New York, was prepared in December 1966 jointly by J. Kenneth Fraser and Associates and Myrick and Chevalier, Consulting Engineers of Rensselaer and Albany, New York, respectively.

At the same time similar reports were prepared by other consulting engineers for other portions of Rensselaer County. After considerable discussion, the firm of Malcolm Pirnie Engineers, under a contract dated December 9, 1969, prepared a Waste Water Facilities Report dated March 1970 for Rensselaer County Sewer District No. 1. The Rensselaer County Sewer District embraces an area of nearly 65 square miles or about 10% of the area of Rensselaer County.

The District includes the Cities of Troy and Rensselaer, the Towns of Brunswick and North Greenbush, and the above municipalities are presently under order by the New York State Department of Health to abate pollution.

The scope of the Pirnie project includes interceptor sewers, pumping stations and a waste water treatment plant. It is proposed that the District construct an activiated sludge treatment plant in North Greenbush to serve the entire District. It is also proposed that sewage collection systems be provided by the municipalities and that the District provide a system of intercepting sewers, pumping stations and force mains to convey the sewage from the collecting sewers to the treatment plant.

The proposed waste water interceptor facilities would consist of the Troy Interceptor Sewer to intercept raw sewage discharges to the Hudson River from the City of Troy and the Towns of Brunswick and Schodack; the Rensselaer Interceptor Sewer which would convey existing waste discharges from the City of Rensselaer to the proposed plant sit for treatment; the North Greenbush Trunk Sewer which would provide service to areas in the eastern portion of the District including the Town of Sand Lake, the Hamlets of Snyders Lake and Wynantskill; and extensions of a number of existing sewers in the City of Troy would provide service to presently unsewered areas in the Town of Brunswick. It is planned that G.A.F. and Winthrop Laboratories,

industries in the City of Rensselaer, will pre-treat their process wastes and provide flow equalization prior to discharge into the proposed Rensselaer Interceptor Sewer. It is estimated that the recommended District project will require a period of three (3) years to plan and construct and that it will be placed into operation by April 1, 1973.

It has been proposed that annual debt service charges and operating and maintenance costs be allocated on a contractual basis to large industrial users in terms of the conditions of flow, suspended solids and B.O.D. It is also proposed that annual revenue for residential and commercial users will be made by a user charge distributed on the basis of connection units. Each dwelling unit or equivalent would represent a sewer connection unit.

Based upon an estimated 30,200 connection units in 1973 the charge per unit is anticipated to be about $38.00 per year.

The purpose of this report is to provide the necessary detailed information required by the City of Rensselaer to plan, construct and operate local sewerage facilities within the City which will be required to fully implement the Rensselaer County Sewer District Project.

All estimated sewage discharges directed into the Hudson River within the boundaries of the City of Rensselaer as taken from Plate 1, Plan of Proposed Sewerage Facilities, will be intercepted directly by work performed under District contracts. A photocopy of the location of the outlets in the City of Rensselaer and a tabulation of the existing raw sewage discharge taken from Plate 1 is attached hereto as Figures No. 1 and 2 respectively. Outlets 48-58 are from Rensselaer Sewers.

It will be the responsibility of the City of Rensselaer to construct the necessary sewers to bring the discharge from outlets number 53, 54 and 58 to a point of connection with the Rensselaer County Interceptor. This work, which is shown in red on Figure 3 attached hereto , will consist of the following:

Outlet No. 53 - At the present time 10" and 12" combined sewers on East Street in the City of Rensselaer discharge into an enclosed stream 325 feet south of Willow Street which ultimately discharges into the Hudson River just south of the Rensselaer High School presently under construction. In this location it is proposed to construct approximately 2,000 feet of 10" and 15" sewers which will intercept and convey the wastes from their present point of discharge into the stream in a general westerly and nertherly direction to a point of discharge into the proposed Rensselaer Sewer District gravity interceptor near discharge number 52.

ESTIMATED COST $151,700

Outlet No. 54 - Ferry Street Sewer - At the present time there is a 10 inch sewer on Ferry Street extending from a point just west of Broadway westerly to a point of discharge into the Hudson River. It is proposed to construct a new sanitary sewer 8 inches in size extending from the westerly end of Ferry Street to a point of connection with the existing 15 inch sewer in the City Collection System on Broadway, a distance of approximately 330 feet.

ESTIMATED COST $15,100

Outlet No. 58 - Raw sewage from combined sewers on South Street as well as treated sewage from the sewage treatment facilities of the Town of East Greenbush located on Columbia Turnpike are presently discharged into the easterly terminus of a 48 inch reinforced concrete storm sewer constructed about 1927 by the Albany Port District Commission. The facilities to be constructed in this location consist of approximately 564 feet of 12 inch sewer from a point of connection with the existing 15 inch combined sewer at its junction with the 48 inch storm sewer to a point of connection with the proposed Rensselaer County Sewer District South Interceptor Sewer. Four (4) street inlets or catch basins presently discharging into the 12 inch combined sewer on South Street will be separated from the combined sewer under the storm separation program.

ESTIMATED COST $26,600

Estimates of Cost

Estimates for the cost of construction of the proposed projects as outlined on Pages 2 and 3 are tabulated in Table No. 1, Page 5. The cost estimates are based upon construction costs assuming that construction would start in January 1972 and be completed by July 1, 1972. The Engineering News Record Construction Costs Index, indicates that construction costs are currently increasing at approximately 12% annually. Table No. 1 gives a total cost of local work of $193,400 which includes allowances for contingencies, engineering, legal, interest during construction, and other miscellaneous costs.

While a determination for financial assistance must still be made we have assumed that $190,400 would be eligible for financial assistance. If there are any variations from these figures they will be corrected as soon as eligibility has been determined.

Table No. 2, Page 6, gives estimated capital costs and annual expenses for the year 1972. In order to complete this table we have assumed aid should be available at the 60% level which would leave an amount to be financed by the City of Rensselaer of $77,360.00. Based upon the issuance of 30 year bonds at 6% interest rate, the first year debt service charge including allowances for bond retirement and interest would be approximately $6,700 per year. It is estimated that operation will be approximately $1,000 a year for a total of $7,700.

Based upon an assessed valuation of $18,000,000 it is estimated that this project would increase the tax rate during the year 1972 by $0.43 per $1,000 of assessed valuation.

Table No. 1
Estimates of Cost

Items of Work	A Total Cost	B* Ineligible	C* Eligible
Outlet No. 53 2,000 feet of 10"-15" interceptor sewer from East Street to connections with the Rensselaer County Sewer District Interceptor	$ 151,700		
Outlet No. 54 330 feet of 8" sewer on Ferry Street from the west end of Ferry Street to Broadway	$ 15,100		
Outlet No. 58 564 feet of 12" sewer from connection to Port storm sewer to Rensselaer County Sewer District Interceptor	$ 26,600		
TOTAL	$ 193,400		
LESS INTEREST DURING CONST.	3,000		
BALANCE	$ 190,400		

* To be determined

A = Estimated cost including allowances for contingencies, engineering, legal, interest during construction, administrative and other incidental costs.

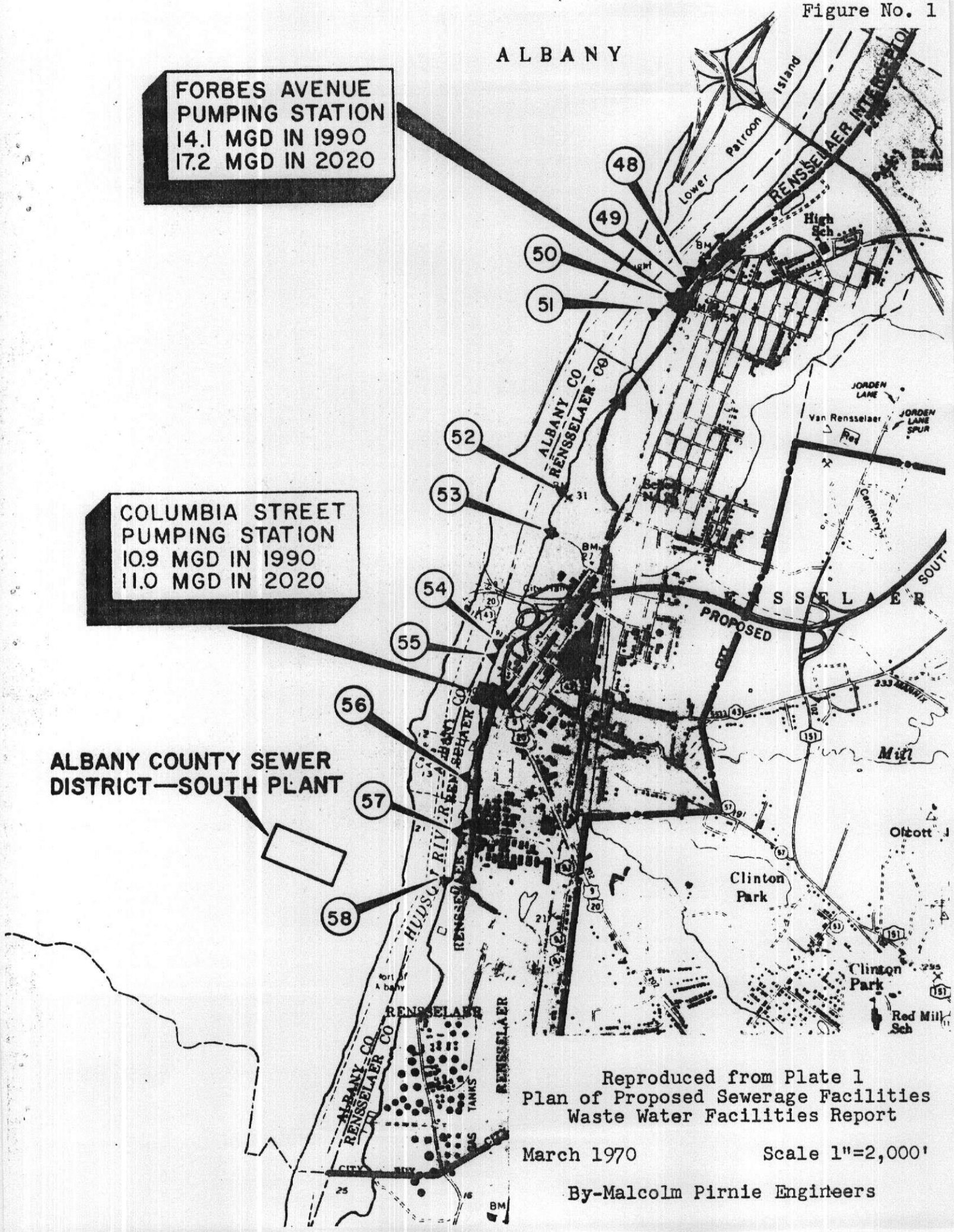
TABLE NO. 2
ESTIMATED CAPITAL COSTS AND
ANNUAL EXPENSES (1972)

Capital Costs	Local Facilities	District Charges	Total
Estimated Construction Cost	$ 193,400*		
Aid at 60% level	$ 116,040**		
Amount to be Financed	$ 77,360		
Annual Expenses			
Debt Service (1st year)	$ 6,700		
Operation	$ 1,000		
TOTAL	$ 7,700		

* Includes allowances for contingencies, engineering, legal, interest during construction and other miscellaneous costs.

** Based on assumption that all work is eligible for aid.

Figure No. 1



Reproduced from Plate 1
Plan of Proposed Sewerage Facilities
Waste Water Facilities Report

March 1970 Scale 1"=2,000'

By-Malcolm Pirnie Engineers

#41

BY ALDERMAN BUONO

RESOLVED that the WASTEWATER FACILITIES REPORT
PROJECT NO. WPC_NY_802 ADDENDUM No. 1 made by J. Kenneth Fraser and Associates and dated September , 1971 be and the same is hereby approved and accepted and

BE IT FURTHER RESOLVED that copy of said report is attached hereto and made a part hereof and the recommendations of the Consulting Engineer will be accepted and implemented.

Approved as to form and sufficiency
this 20th day of October, 1971.
Richard O'Neill
Corporation Counsel

Lee Giuliani

	AYES	NOES
IRWIN STEWART	✓	
HAROLD BULLENT	✓	
JOHN [illegible]	✓	
WILLIAM [illegible]	✓	
STEPHEN [illegible]	✓	
ARMAND [illegible]	✓	
WILLIAM ADAMS	✓	
WILLIAM MILLER	✓	
FREDERICK HARRIGAN	✓	
ALFRED JUKES	✓	
TOTAL		

CITY OF RENSSELAER

RENSSELAER COUNTY NEW YORK

ADDENDUM NO. 1

WASTEWATER FACILITIES REPORT
PROJECT NO. WPC-NY-802

SEPTEMBER 1971

J. Kenneth Fraser and Associates, P. C.
Consulting Engineers

620 Washington Avenue Rensselaer, New York

J. KENNETH FRASER AND ASSOCIATES, P.C.
Consulting Engineers
620 WASHINGTON AVENUE
RENSSELAER, N. Y. 12144
TELEPHONE 463-4408

CITY OF RENSSELAER
RENSSELAER COUNTY, NEW YORK

ADDENDUM NO. 1

PROJECT NO. WPC-NY-802

SEPTEMBER 1971

At the eligibility meeting on July 28, 1971, it was determined that of the three sanitary sewers proposed for construction by the City of Rensselaer in the Wastewater Facilities Report dated June 1971, only the proposed sewers tributary to Outlet No. 53 and to Outlet No. 58, in the amounts of $151,700 and $26,600 respectively, were eligible for State and Federal aid.

The proposed Ferry Street sewer (Outlet No. 54) in the amount of $15,100 was determined to be ineligible for aid.

Figure No. 3 (revised September 1971) accompanying this addendum is a plan of the City of Rensselaer at a scale of 1 inch = 600 feet and shows all existing sanitary and combined sewers in dashed lines, existing points of discharge of municipal sewers, proposed interceptor sanitary sewers (shown in red) to be constructed to connect City sewers to the Rensselaer County Sewer District No. 1 interceptor sewer, as well as other pertinent information.

It was also discussed and confirmed at a subsequent meeting that the sanitary sewer work described above as eligible for aid, would be eligible only if the elimination of storm water from the sanitary wastes from each of these outlets were to be progressed concurrently with the construction of the sanitary sewers.

At a meeting on August 17, 1971, it was determined that the combined schedule of proposed work, both for the construction of sanitary sewers and the separation of storm and sanitary sewers, should be rearranged so that the dollar value of work to be performed by the City of Rensselaer over the period from 1972 to 1980 would be equalized and approximately the same amount of money would be spent bi-annually over this period of time. (Based on 1971 prices).

This has made it necessary to revise the sequence of work. The proposed sequence of construction for separation of the storm and sanitary sewers as described below and as indicated in green on Figure No. 1, is now as follows:

Project "A" to be performed in 1972 would consist of the work shaded in yellow in Area II and Area III and identified as A1, A2, A3 and A4.

Project "B" to be performed in 1974 includes the work shown in Area I and the remaining work in Area III.

Project "C" to be performed in 1976 consists of the remaining work in Area II.

Project "D" to be performed in 1978 consists of the work in Area IV.

Project "E" to be performed in 1980 consists of the work in Area V.

Revised Table No. 1 (September 1971) found on Page 9 of this addendum gives preliminary estimates of cost for the separation of storm and sanitary sewers.

Revised Table No. 2 (September 1971) found on Page10 of this addendum is a recommended schedule for performing and financing the separation of storm and sanitary sewers as described above.

CONCLUSIONS

Addendum No. 1 has been prepared basically to give proper consideration to the eligible and ineligible portions of the sanitary sewer construction work as determined at the eligibility meeting, and further to revise the proposed construction schedule for separation of storm and sanitary sewers as requested by the New York State Department of Environmental Conservation.

The estimated cost to the City of Rensselaer for construction of sanitary sewers, as shown in Table No. 2, Page 8 (revised September 1971), excluding aid, is $88,100 (A)

The estimated cost to the City of Rensselaer for the separation of storm and sanitary sewers, as shown in revised Table No. 2, Page 10, based on 1971 costs over the period from 1972-1980 is $1,609,000 (B)

TOTAL $1,697,100

Under present State Law the bonds issued for the work under "A" above are excluded from the bonded debt limitation.

The bonds issued under "B" above are <u>not</u> excluded from such limitation.

We have estimated, based on an assessed valuation of $18,000,000, that the annual cost, say in 1972, per $1,000 of valuation for the sanitary sewer work would be $0.48, while the cost for the separation work would be $0.96 per $1,000 of valuation.

It might be expected that the rate per $1,000 of valuation for the combined projects would gradually increase until the year 1980 to about $11.70 per $1,000 valuation and then decrease as shown on revised Table No. 2, Page 10.

We wish to again emphasize that the programs and costs outlined in these reports and Addendum No. 1 do not constitute all of the work or all of the costs and expenses that the City will have to expend. Some of the additional items that cannot be readily evaluated and which may have to be undertaken are:

1. A thorough cleaning and inspection of practically all of the sanitary, combined, and storm sewers in the City.

2. Repair or replacement of sewers found to be inadequate in size or capacity and/or in poor condition.

3. A survey of all houses or buildings connected to the sewer system to determine if the plumbing in each structure is or is not in conflict with the Sewer Use Ordinance which will be effective upon adoption by the City.

4. Construction of storm sewers where it may be impractical for the home owner to dispose of storm water in a satisfactory manner.

5. Set up monitoring stations at critical points in the sewer system so that flows can readily be observed and measured to determine the result of storm sewer separation and evaluate infiltration and/or other excess flows.

Much of the above work could be performed by the City with personnel in the Department of Public Works. Some additional equipment is required to perform the necessary work. This would require expenditures for equipment and increases in personnel greater than at present.

We recommend the following:

A. That the Commissioner of Public Works and the members of the Water and Sewer Committee give consideration to recommending the purchase of additional equipment for the maintenance of the sewer system.

B. That more funds for labor and equipment be provided in the annual City budget within budget limits.

C. That an accurate detailed record of the location of all problems in connection with the sewer system together with a key map and colored pins to denote specific similar problems as well as the location of all buildings reporting flooded basements and other similar problems.

Table No. 1

Revised September 1971

Estimates of Cost

1972 Construction-Sanitary Sewers

Items of Work	A Total Cost	B Ineligible	C Eligible
Outlet No. 53 2,000 feet of 10"-15" interceptor sewer from East Street to connections with the Rensselaer County Sewer District Interceptor	$ 151,700		$ 151,700
Outlet No. 54 330 feet of 8" sewer on Ferry Street from the west end of Ferry Street to Broadway	$ 15,100	$ 15,100	
Outlet No. 58 564 feet of 12" sewer from connection to Port storm sewer to Rensselaer County Sewer District Interceptor	$ 26,600		$ 26,600
TOTAL	$ 193,400	$ 15,100	$ 178,300
LESS INTEREST DURING CONST.	3,000	200	2,800
BALANCE	$ 190,400	$ 14,900	$ 175,500

A = Estimated cost including allowances for contingencies, engineering, legal, interest during construction, administrative and other incidental costs.

Table No. 2

Revised September 1971

ESTIMATED CAPITAL COSTS AND ANNUAL EXPENSES

1972 CONSTRUCTION-SANITARY SEWERS

Capital Costs	Local Facilities	
Estimated Construction Cost	$ 193,400	(1)
Aid at 60% level	105,300	(2)
Amount to be Financed by City	$ 88,100	
Annual Expenses		
Debt Service (1st year)	$ 7,640	(3)
Operation	1,000	
TOTAL	$ 8,640	
Tax rate per $1,000 of valuation =	$ 0.48	(4)

(1) Includes allowances for contingencies, engineering, legal, interest during construction and other miscellaneous costs.

(2) Based on eligible costs of $175,500 (See Table 1)

(3) Based on 30 year bonds - 6% interest rate

(4) Based on assessed valuation of $18,000,000

REVISED
TABLE NO. 1
Preliminary Estimates of Cost for the
Separation of Storm and Sanitary Sewers

REVISED SEPTEMBER 1971

Area	Location	New Storm Sewers Length Feet	Size Inches	Estimated Cost 1971 Basis
I	Area on Washington Avenue-10th Street to City Line and adjacent streets	2,700	12	$ 108,000
II	Area-Aiken Avenue to Partition Street	9,220	12-24	382,000
III	Area Between Aiken Avenue and South of City Line	6,560	12-18	291,000
IV	Area Between Catherine Street and I-90 Interstate Arterial	10,300	12-21	414,000
V	Area-Partition Street to Catherine Street	9,556	12-30	414,000
		38,336		$ 1,609,000

REVISED
TABLE NO. 2
Recommended Schedule For
Performing and Financing
Separation of Storm and Sanitary Sewers

REVISED SEPTEMBER 1971

(1) Project	Estimated 1971 Cost	Recommended Yr. Work To Be Performed	(2) Project Cost Yr. Performed	(3) First Year Debt Service for Project	Total Debt Service all Projects	(4) City Tax Rate per $1,000 of Valuation
A	$ 185,700	1972	$ 199,630	$ 17,308	$ 17,308	$ 0.96
B	350,500	1974	435,430	37,752	54,421	3.02
C	244,800	1976	351,440	30,470	82,898	4.61
D	414,000	1978	686,850	59,550	139,518	7.75
E	414,000	1980	793,740	68,817	203,396	11.30
	$1,609,000		$2,467,090			
		1990			167,147	9.29
		2000			130,755	7.26
		2010			33,734	1.87

(1) Project description in Addendum No. 1 and Revised Table No. 1

(2) Assumes project cost escalating at 7½% per year

(3) 30 year bonds - 6% interest rate

(+) Assumes Constant Average Assessed Valuation of $18,000,000 during construction period

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BY ALDERMAN BUONO

RESOLVED that the SEPARATION OF STORM AND SANITARY SEWERS made by J. Kenneth Fraser and Associates and dated June , 1971 be and the same is hereby approved and accepted and

BE IT FURTHER RESOLVED that copy of said report is attached hereto and made a part hereof and the recommendations of the Consulting Engineer will be accepted and implemented.

Approved as to form and sufficiency this 20th day of October, 1971

Richard Reilly
Corporation Counsel

See address

	AYES	NOES
IRWIN STEWART	✓	
HAROLD BULLENT	✓	
JOHN MOONEY	✓	
WILLIAM LITHGOW	✓	
STEPHEN BUONO	✓	
ARMAND GIROLAMI	✓	
WILLIAM ADAMS	✓	
WILLIAM MILLER	✓	
FREDERICK HARRIGAN	✓	
ALFRED JUKES	✓	
TOTAL		

CITY OF RENSSELAER

RENSSELAER COUNTY NEW YORK

SEPARATION OF STORM AND SANITARY SEWERS

JUNE 1971

J. Kenneth Fraser and Associates, P. C.
Consulting Engineers

620 Washington Avenue Rensselaer, New York

CITY OF RENSSELAER
RENSSELAER COUNTY, NEW YORK

SEPARATION OF STORM AND SANITARY SEWERS

JUNE 1971

The City of Rensselaer Sewerage System is largely a combined system which, under current standards, is undesirable from a pollution prevention standpoint.

Present New York State Department of Environmental Conservation policies regarding the participating municipalities in the Rensselaer County Sewer District No. 1 project dictate that all combined sewers be separated within a period of 15 years, and that a plan to do so, approved by a resolution of the governing body, be required as a pre-requisite for the acceptance of the Engineering Report and any financial aid for the project.

The Department of Environmental Conservation requires that a report on the separation be submitted as part of the Engineering Report, giving a summary of work to be performed and a cost estimate to effect separation.

A sketch of the history of the sewerage system will be useful in understanding the problems which are encountered.

The older portion of the Rensselaer Sewerage System was built in 1887. Original plans indicate flush tanks on dead ends and catch basins in many locations. It may therefore be concluded that the original system was designed as a combined sewer system. As the City grew and additional sewers were required, many of the sewers constructed were basically sanitary sewers. Later, when streets were improved, street inlet basins were constructed and connected to the sanitary sewers. When storm sewers were constructed later, there were many interconnections between surcharged sanitary sewers and the newer storm sewers. In some specific areas it is known that building foundation drains are connected to the house sanitary sewer and that as a result of such connections, the sewers are surcharged during periods of excessive rainfall.

The present collection system has a total of approximately 620 street inlets, of which approximately 275, or 44%, are connected to existing combined sewers and 345, or 56%, are connected to so-called storm sewers, or discharge to adjacent ditches or ravines.

There are approximately 8 miles of sewers, which were originally constructed as separate storm sewers, existing in the City. The adequacy of some of these existing sewers is questionable. Many storm sewers presently require substantial maintenance and rehabilitation to place them in satisfactory operating condition.

It has been most difficult to trace out continuity of sewers without the continuous help of the City Public Works Department personnel. Inspection alone does not give adequate information, since there are apparent connections to the sewers without benefit of manholes. Although there is a good record of the sewers constructed in 1887, extensive additions have been made to the system, of which there is no apparent record. In many instances where there are both storm and sanitary sewers on the same street catch basins are connected to sanitary sewers. Therefore, it must be realized that our study to separate this system is based on the best information which we have been able to amass with an awareness that conflicting information frequently becomes available.

Our solution to separating the storm and sanitary sewers will not provide the City with an adequate storm sewerage system. The cost of separation alone is almost prohibitive, and to give adequacy, would dictate that in most cases existing storm sewers would have to be enlarged.

Area I, as shown on Figure No. 1, is that section of the City along and adjacent to Washington Avenue east of Arterial Highway I-90. This is the main area where foundation drains are believed to cause extensive surcharging. Several years ago dry weather gaugings were made at the intersection of Washington Avenue and Farley Drive. These gaugings were made over a period of 24 hours on three (3) separate occasions and indicated an average dry weather flow of 0.07 mgd which for the estimated tributary population of 1,125 represents a flow of about 62 gallons per capita per day. This figure appears to be unusually low, however, it is in substantial agreement with the water use for the area.

During and following extended precipitation and high intensities of rainfall, flows at the same gauging point have been estimated to exceed a rate of 2 mgd. This represents an increase of nearly 30 times the dry weather flow. This increase is due to the discharge of certain catch basins, street inlets, roof drains and foundation drains into the collecting system. Flows return to near normal within about six hours after the termination of the storm.

The separation of the storm and sanitary flows will be accomplished by the construction of new storm sewers and the connection of existing catch basins now discharging into the combined sewers into the new storm sewers.

Sewers which are presently classed as combined sewers will become sanitary sewers when existing catch basins have been removed from the combined sewers. In addition to removing the catch basins it will be necessary to remove roof leaders and foundation drains from discharging into the sanitary sewers.

Article VI of the proposed Sewer Ordinance, "Use of the Public Sewers", Section 601, states "No person shall discharge or cause to be discharged any stormwater, surface water, groundwater, roof runoff, subsurface drainage, uncontaminated cooling water, or unpolluted industrial process waters to any sanitary sewer. Existing facilities presently connected to the combined sewers may remain until combined sewers become separated at which time they shall be disconnected."

Where connections for foundation drains into the house sanitary system has been the general method of construction over a period of many years it will be most difficult for the City to enforce that section of the Sewer Ordinance outlined above.

It will be necessary to make a survey of each individual home or place of business to determine the exact location and the type of connection. Where existing or proposed new storm sewers are available it would be possible for the home owner to install a sump and sump pump and discharge the ground water from the foundation drains to the sewer. Where no storm sewers are available it may be necessary for the owner to discharge the flow to the surface of the ground outside of the building. This may not be a satisfactory solution in some instances and it is conceivable that additional storm sewers may have to be provided by the City to receive such drainage. In some locations the combined sewers are of such a size that during severe storms the sewers become surcharged and backup into basements. It therefore appears that in many instances the people may be very pleased to have a solution which would prevent flooding of their basements.

Figure No. 1 attached, is a map of the City of Rensselaer, at a scale of 1" = 600', and indicates all of the existing catch basins and/or street inlet basins in the City.

Two symbols have been used to denote street inlets. A triangular symbol ▽ denotes inlets which are connected to existing combined sewers. A square symbol □ denotes inlets which are connected to existing storm sewers. Existing storm sewers are shown by a dashed line. Proposed storm sewers to be constructed under the storm sewer separation program have been indicated in a solid line.

The program of storm sewer separation has been discussed with the Officials of the City of Rensselaer, and a plan for the separation of all storm and sanitary sewers over a period of 10 years has been selected. The entire City has been divided into 5 areas, namely, Areas I, II, III, IV and V. It is also proposed to generally progress the work in the numerical sequence given above.

AREA I - This area covers the northeasterly section of the City and extends from Interstate Route I-90 easterly to the City line. This area has been selected for the first storm water separation project because the value of the project is not very great and also as this area, from information obtained during our study, appears to be the area where ground water and sub-surface drainage, due primarily to the connection of foundation drains into the house sanitary sewer, results in the surcharging of the sewers during and immediately following excessive precipitation.

The work involved in this area, and as shown on Figure No. 1, consists of the construction of approximately 2,700 feet of 12 inch sewer together with the necessary manholes and appurtenances. Work will be performed on Ohio Avenue, Indiana Avenue, Wisconsin Avenue, Delaware Avenue, Farley Drive, Mountain Avenue, Pershing Avenue, Birchwood Avenue, Elmhurst Avenue, Rockefeller Street and Elm Place.

In nearly all locations, the work must be performed in existing paved streets and where the soil is predominantly heavy clay. This will require pavement replacement, disposal of excavated material not suitable for backfilling, and the refilling of the trenches with acceptable granular material. There will also be interference with existing utilities as water lines, sanitary sewers, gas lines and service connections from all utilities.

The estimate cost for the work in Area I, including allowances for contingencies and engineering is $108,000.

AREA II - This area embraces that portion of the City of Rensselaer generally bounded by Aiken Avenue on the south and Herrick Street on the north. The work in this area involves the construction of several relatively short storm sewers, from existing street inlets tributary to the existing combined sewers, to a point of discharge in existing streams or existing storm sewers on Second Avenue, Third Avenue, Broadway and Washington Street. Also, the construction of a system of storm sewers on Columbia Street, Washington Street, First Avenue, Green Street and Second Avenue; also, storm sewers extending from a point of connection to an existing storm sewer crossing East Street south of Fourth Avenue, along East Street, Adams Street and Third Avenue; also, a system of storm drainage on Elm Street, Lawrence Street, Summit Street and Fourth Avenue, which will discharge into an existing storm sewer east of East Street and south of Fourth Avenue; also a system of storm sewers on Lawrence Street, Wilson Street and DuBuque Street, which will discharge into the open stream crossing Lawrence Street just south of Willow Street, all as shown on Figure No. 1.

The above work in its entirety consists of the construction of approximately 7,000 feet of storm sewers from 12 inches through 24 inches in size, together with the necessary manholes and appurtenances.

The estimated cost of this work, including allowances for contingencies and engineering and other miscellaneous costs is $382,000.

AREA III - This area embraces that portion of the City from just north of Aiken Avenue southerly to the City line. In most locations, the proposed storm sewers will connect into existing combined sewers at a point downstream from the point of interception of these sewers by the interceptor sewer to be constructed by Rensselaer County Sewer District No. 1. The work in this area involves the construction of storm sewers on South Street, Spruce Street, Aiken Avenue, Moch Terrace, Belmore Place, Cambridge Avenue, Nelson Avenue and Broadway. The separation of the storm and sanitary sewers in this area will require the construction of approximately 6,600 feet of storm sewers 12 inches to 18 inches in size, together with the necessary manholes and appurtenances.

The estimated cost including allowances for contingencies and engineering is $291,000.

AREA IV - This area embraces that portion of the City bounded by Catherine Street on the south and Interstate Route I-90 on the north. The proposed work in this area, as shown on Figure No. 1, involves the construction of storm sewers on Eighth Street, Manor Drive,

Lincoln Terrace, Anderson Place, Forbes Avenue, Patton Avenue, Fourth Avenue, Chestnut Street, Washington Avenue, Central Avenue, Dale Street, Seventh Avenue, Fowler Avenue, First Street, Broadway, Second Street, Third Street and McNaughton Avenue.

Most of the storm sewers to be constructed in this area will be connected to existing storm sewers and it may be found that some of the existing facilities will be inadequate to take the additional flows. This may require additional work at a later date. It will require, however, the rehabilitation of the existing storm sewers on Broadway, extending from McNaughton Avenue northerly to Central Avenue and westerly on Central Avenue to the Hudson River.

The work in this area will involve the construction of approximately 10,300 feet of storm sewers from 12 inches through 21 inches in size, together with the necessary manholes and appurtenances.

The estimated cost of the work including an allowance for contingencies and engineering is $414,000.

AREA V - This area embraces that protion of the City from Partition Street northerly to Catherine Street. This area is one of the older areas of the City and has a very limited number of storm sewers. The combined sewers discharge to the Hudson River through a 54 inch line installed in 1970. Prior to 1970 the drainage discharged to an old ferry slip in this area. It is anticipated that urban renewal will occur in this area and it would seem desirable to determine the nature and extent of the urban renewal prior to affecting the separation of the storm and sanitary facilities.

The work, as shown on Figure No. 1, includes storm sewers on Catherine Street, First Street, Fourth Street, Pine Street, Glen Street, John Street, Harrison Avenue, Broadway, Partition Street, Sixth Street and Seventh Street, together with an outfall sewer extending from Broadway westerly to a point of connection with a recently installed 54 inch sewer, westerly of the interceptor to be constructed by Rensselaer County Sewer District No. 1. The separation in this area involves about 12,000 feet of storm sewers 12 inches to 30 inches in size with an estimated cost, including allowances for contingencies and engineering of $414,000.

Table No. 1, following Page 8 , is a preliminary estimate of cost for the separation of storm and sanitary sewers, as previously described. The proposed work, as shown in this table, involves the construction of over 38,000 feet of storm sewers from 12 inches to 30 inches in size, with an estimated cost of $1,609,000, based on 1971 costs. The work covered by these estimates of cost will result in the physical separation of catch basins, or street inlet basins, presently connected to the combined sewers into separate storm sewers. As previously stated, it may be found necessary to increase the size of certain existing storm sewers to take the additional flows.

Since most of these existing storm sewers have varying quantities of sand and grit which reduces the capacity, these sewers should all be thoroughly cleaned at the time of the separation work, and then such sewers as are found to be insufficient in capacity will require additional work of some nature. Since the flow from the street inlet basins will be separated from sanitary sewers serving the residences, the deficiencies in capacity in existing storm sewers can only tend to hold water on the streets for a longer period of time after a storm, or in most locations, continue to run in the streets to a point of overflow. It is only exceptional, heavy storms at the present time that cause serious problems in the combined sewers.

CONCLUSIONS AND RECOMMENDATIONS

This report on the separation of storm and sanitary sewers has been made in order to assure the New York State Department of Environmental Conservation that its policies regarding the elimination of sources of pollution from sewers in the City of Rensselaer will be followed. The acceptance of the Wastewater Facilities Report, and thereby construction aid in performing the project will not be granted until the City of Rensselaer commits itself to a program herein recommended and which is also acceptable to the regulating agencies.

The New York State Department of Environmental Conservation has set a goal of approximately 15 years to completely eliminate storm induced pollutional discharges from City sewers to the Hudson River. The entrance of such storm water into the sewers is from three primary sources; street inlet basins, house connections which allow roof and foundation drainage, and from hidden sources such as infiltration and unknown underground interconnections between storm and sanitary sewers.

This report has outlined the construction which will be required to eliminate only the most obvious of these sources, the street inlet basins. The Rensselaer County Sewer District plans to control or regulate the flows to their interceptor either by sewage regulators or by controlled pumping in order to prevent excessive flows from entering the Rensselaer County Sewer District Interceptor and to divert excesses to the river. Eliminating street inlets alone will not entirely eliminate excessive flows from entering the City sewers unless the other sources mentioned in the paragraph above are eliminated.

The New York State Department of Environmental Conservation feels as does this office that the elimination of catch basins from the combined sewers constitutes only a portion of the solution to the problem and that the work outlined in this regard should be

performed in accordance with an approved schedule and that immediately following the separation work in any area that studies continue to determine and correct other sources of undesirable flow to the sewers, namely, roof drains, foundation drains and/or infiltration. The entire program in accordance with the recommended schedule (Table 2) should be completed not later than 1983.

A tabulation of estimated present day costs for the work described in the text of this report appears in Table No. 1. Construction costs are presently escalating at a current rate of approximately 12% annually. In accordance with the desires of the New York State Department of Environmental Conservation, we have presented in Table No. 2 a recommended schedule of construction to eliminate street inlet basins from combined sewers. This recommended schedule provides for segregating the work to be done into the groups as it is presented in the text of this report, and performing the construction work in the order described during the period from 1972 to 1980. The tabulation assumes a construction cost increase of 7½% per year through the period. Debt service for repaying the funds borrowed to finance this work is based on 30 year, 6% bonds, with a repayment schedule combining interest and principal which will comply with all applicable New York State laws.

If the proposed schedule is followed the City of Rensselaer will have to spend approximately $2,500,000 during the period from 1972 through 1980 resulting in an estimated increase in tax rate from $.56 per $1,000 of assessed valuation in 1972 and increasing to a rate of approximately $11.56 per $1,000 of assessed valuation in the year 1980. After this time period the rate per $1,000 will decrease as shown in Table No. 2.

The above estimated tax rates are based upon the assumptions outlined above and any change in project costs, interest rates, etc., would affect the tax rate indicated.

The recommended schedule herein presented is one which is believed to be acceptable to the New York State Department of Environmental Conservation.

TABLE NO. 1
Preliminary Estimates of Cost for the
Separation of Storm and Sanitary Sewers

Project	Location	New Storm Sewers Length Feet	Size Inches	Estimated Cost 1971 Basis
I	Area on Washington Avenue-10th Street to City Line and adjacent streets	2,700	12	$ 108,000
II	Area-Aiken Avenue to Partition Street	9,220	12-24	382,000
III	Area Between Aiken Avenue and South of City Line	6,560	12-18	291,000
IV	Area Between Catherine Street and I-90 Interstate Arterial	10,300	12-21	414,000
V	Area-Partition Street to Catherine Street	9,556	12-30	414,000
		38,336		$ 1,609,000

TABLE NO. 2
Recommended Schedule For
Performing and Financing
Separation of Storm and Sanitary Sewers

* Project	Estimated 1971 Cost	Recommended Yr. Work To Be Performed	** Project Cost Yr. Performed	*** First Year Debt Service for Project	Total Debt Service all Projects	**** City Tax Rate per $1,000 of Valuation
I	$ 108,000	1972	$ 116,000	$ 10,057	$ 10,100	$ 0.56
II	382,000	1974	473,680	41,068	50,754	2.84
III	291,000	1976	423,360	36,705	85,595	4.80
IV	414,000	1978	687,240	58,803	142,113	7.97
V	414,000	1980	794,880	68,916	206,027	11.56
	$1,609,000		$2,495,160			
		1990				9.51
		2000				7.41
		2010				1.89

* Project description in text and Table No. 1
** Assumes project cost escalating at 7½% per year
*** 30 year bonds - 6% interest rate
**** Assumes Constant Average Assessed Valuation of $18,000,000 during construction period