

LABELLA

LaBella Associates, P.C.

300 State Street

Rochester, New York 14614

Appendix 2

Historic Documents

Rochester Democrat & Chronicle Article
January 4, 1958

D. & C. JAN 4 1938

City Will Allow Gates, Chill to Dump Refuse at Incinerator

By GONRAD CHRISTIANO

The city last night tentatively agreed to help two Monroe County towns seeking in their own refuse.

Meeting in special session, the City Council authorized City and Engineering Committee Chairman Robert E. Jones to call a meeting of the towns and city representatives to discuss the problem of dumping refuse at the city's West Side incinerator.

Both towns said they didn't like the city's solution to their problem, but both said they'd accept the offer.

The two towns, represented by E. Wickham, explained they have no authority to guarantee to pay the cost of operating the incinerator.

Later last night, the two town boards, meeting jointly with the independent garage collectors, authorized the town supervisors to negotiate an agreement with the city, which is to meet with him Monday.

In the 30-day period of the special contract, Alex and town representatives will meet to work out a permanent solution.

Chairman William E. Jones of the Public Works and Engineering Committee said he was very disappointed in the plan offered by City Council. He said that the towns had the right to their problem is in the use of the city incinerator. However, because of the power and duties given under the agreements to use public funds for such matters, Wickham explained. He added that only the town is involved, whereas town funds represent taxes from the entire town. He said residents in the other 69 per cent of the town, mostly farm land, are not responsible for the cost of the dump.

Wickham said the towns are not responsible for the cost of the dump. He said that the towns are not responsible for the cost of the dump. He said that the towns are not responsible for the cost of the dump.

For one thing, they must agree to pay a price of \$5 a ton for the refuse. Wickham said the only way the city and towns can get the refuse into the city is by paying the city \$5 a ton for the refuse. Wickham said the only way the city and towns can get the refuse into the city is by paying the city \$5 a ton for the refuse.

Wickham said the only way the city and towns can get the refuse into the city is by paying the city \$5 a ton for the refuse. Wickham said the only way the city and towns can get the refuse into the city is by paying the city \$5 a ton for the refuse.

that they paid for the use of trucks can use, how trucks must be equipped so debris won't be spilled on city streets, and what grounds that they covered up the refuse with dirt at great expense, and that they covered up the refuse with dirt at great expense, and that they covered up the refuse with dirt at great expense.

The emergency rules laid down by the council and Public Works Commissioner F. Dow Hamblin concern routes which protecting the city from liability.

Wickham said the towns are not responsible for the cost of the dump. He said that the towns are not responsible for the cost of the dump. He said that the towns are not responsible for the cost of the dump.

Wickham said the towns are not responsible for the cost of the dump. He said that the towns are not responsible for the cost of the dump. He said that the towns are not responsible for the cost of the dump.

Times Union Article
September 1, 1967

TRASH!

... WHERE DO WE PUT IT NEXT?



Rochester's only authorized city dumping ground — the Mt. Read-Emerson landfill.

TIMES UNION SEP 1 1967

Refuse Problems Multiplying

First of Two Articles
By ROBERT BOCZKIEWICZ

Hour after hour, all day, large open trucks rumble down Emerson Street.

They turn into a broad, flat field swollen with beat-up furniture, dirty mattresses, broken crates and charred trash.

The trucks empty their load — more of the same.

Several hundred yards away are houses whose occupants are tired of living near Rochester's

only authorized dumping grounds, the Mt. Read-Emerson landfill.

But there's good news. The city plans to close that dump within 18 months.

The fate of 18 other dumping areas in the suburbs may rest with a county report expected to be released Tuesday. County-operated landfills and incinerators may be proposed.

How big is the refuse problem?

You get some idea when you learn that only two months of

Rochester's trash would fill the new, 30-story Xerox building on Broad Street.

New products and more packaged goods are contributing to the growing volume of solid wastes (as trash is known officially).

In the city, the volume of garbage, ash and rubbish collected has increased 30 per cent in the last 10 years.

This does not include junked cars, large appliances, demolition material and other unburn-

able junk not taken to the three city incinerators.

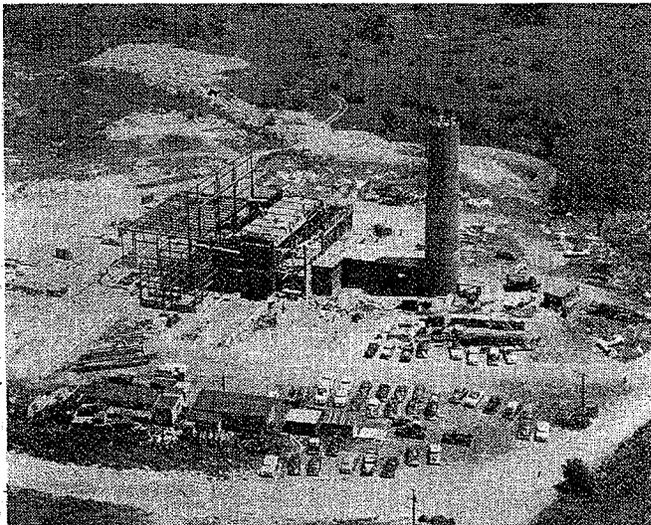
Nor does it include the thousands of tons of discarded trash discarded each year by the residents of the towns and villages in the county.

As the volume of unwanted material has grown, the number of acceptable disposal sites has become fewer.

Acceptable sites usually mean those where people don't mind

Turn to back page
for classification

TIMES UNION JUL 3 1954



STACK'S UP—Aerial photo shows scene at West Side incinerator, now under construction on a city contract on Colfax street, just west of Mt. Read boulevard and north of Lyell avenue. Brick work has been completed on 166-foot smokestack. Cost—nearly two million dollars, the West Side plant will go into operation this winter.

Meeting on Disposal of
Solid & Liquid Wastes
March 12, 1968

Plant Engineers:

3/12/68 Meeting on Disposal of Solid and Liquid Wastes

F. A. *D. P. W.*
Simulation
Refers
Study

<u>Company</u>	<u>Name</u>
Bausch & Lomb, Inc.	Samuel Fruscione E. Morse Sam Randazzo Otis Wesche
Bell & Howell Co.	Richard Dingler Joseph Germaga
Delco Products Div., GMC	Joseph R. Riotto Robert Schur
E. I. duPont deNemours & Co.	Robert C. Rademacher
Eastman Kodak Co. KAD, Camera Works Kodak Park	Joseph McWilliams William Steinfeldt
The R. T. French Co.	Tom Christman
GENERAL DYNAMICS, Electronics Division	Robert Bishoff Vincent Lariton
General Railway Signal Co.	Dana Schillinger
Gerber Products Co.	Norman Amendola
The Gleason Works	M. Dargento Arlie Hazzard
The Pfandler Co.	Peter Payton
Rochester Gas & Electric Corp.	Roger W. Kobar
Rochester Products Div., GMC	Alex Baebae, Jr.
Stromberg-Carlson Corp.	L. W. Droel

City Representatives

- Manfred Berger - Bur. of Engineering
- Robert R. Bouley - Monroe Co. Health Dept.
- Ted Heineman - City of Rochester
- James Malone - City of Rochester
- Edward F. Watson - City of Rochester
- T. Russ Almdale - Greeley & Hansen, Chicago

IMC Representatives

- John D. Hostutler
- Donald R. Barry

RECEIVED
MAR 14 1968

CITY MANAGER'S OFFICE

Rochester Democrat & Chronicle Article

July 13, 1968

City of Rochester
Inter-Departmental Correspondence
July 7, 1969

CITY OF ROCHESTER, N. Y.

INTER-DEPARTMENTAL CORRESPONDENCE

Date July 7, 1969

From: Manfred Berger, Principal Engineer
To: Edward Watson, Director of Sanitation
Subject: Comprehensive Solid Waste Study

In reference to the Comprehensive Solid Waste Study, preliminary report by Greeley and Hansen, I would like to make the following comments for your consideration:

In the Engineer's Contract under "Scope of Work", Section E, 2, it states that the Engineer shall make recommendations for the present and future long-term collection and disposal on the following:

"(f) Industrial Waste; this shall include liquid waste that cannot be disposed of in the available sewer system as well as industrial solid waste."

It was my interpretation that this paragraph was included for the specific reason that the City of Rochester adopted a Sewer Use Ordinance to control the disposal of certain industrial waste into our sewer system. When this Sewer Use Code was adopted, the City held several Public Hearings and many industries were told that the City is starting a Solid Waste Survey and that their Consulting Engineers will try to provide means of disposal of liquid waste that cannot be discharged into the sewer system. Basically, very little is mentioned in the Report on the collection and disposal of liquid waste, except crankcase oil and other related oil products.

During our Industrial Waste Survey, some of the industrial waste which industries have trouble getting rid of or were quite expensive to dispose of are as follows:

1. Paint Sludges
2. Plating Solutions
3. Solvent Solutions
4. Low Alcohol Solutions which would not burn
5. Ink and Paste from Printing Operations
6. Dry Cleaning Sludge

On Page 66 in the Report the Engineers state; "Practically all liquid wastes in Monroe County are collected by a few companies specializing in the disposal of such wastes". To my knowledge, there is only one firm that will accept a limited number of segregated waste. This company has operations difficulties and is trying to relocate where there is more land available. I was also informed that due to spillage and a

July 7, 1969

portion of the waste that cannot be refined is now discharged into the City sewer system which is not acceptable under the Sewer Use Code. In order to neutralize the waste or prevent accidental spillage, lagoons would have to be built. However, at the present site, adequate land is not available to construct waste treating lagoons.

On Page 67, the Engineers describe several methods of disposal now practiced in Monroe County. Two of them are:

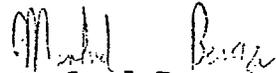
1. Disposal of various liquids in landfills
2. Illegal discharge to sewers and water courses

If certain industrial liquids can be discharged into landfills, then a statement should be made in the Report. However, under no circumstances should we even mention that liquid wastes are discharged illegally to sewers and water courses since enforcement will increase and the County will one day have a uniform Sewer Use Ordinance.

On Page 69, the last paragraph mentions methods of disposal of liquid waste considered acceptable under the right conditions and it lists six methods. No explanation is given as to what the right conditions are. Since I am especially referring to "Deposition in earth-filled pits or depressions", some detail should be given as to how to handle such liquids.

SEWAGE SLUDGES - Until 1980, it can be anticipated that several small Sewage Plants will continue to exist in Monroe County. All four large plants mentioned in the Report might not be constructed until 1980. In the meantime, several smaller plants are looking for the disposal of raw or partial digested sludge. Provisions should be made in the Report to handle such sludges. Further, at present, the cost of discharging septic tank cleaning at the Durand Eastman Plant is very low since only primary treatment is provided. With the construction of a secondary Treatment Plant, the cost of handling septic tanks sludge will increase materially and, therefore, might no longer be economical to discharge septic tank effluent or sludges at the Sewage Treatment Plant. Some discussion should be given for the discharge of septic tanks as in a landfill project. Due to the expansion of plant facilities at the Durand Eastman Plant and the use of lime to remove phosphates, it is my opinion that there will be very little space available for ash at the treatment site and, therefore, the sentence on Page 89 referring to "that there is space available for ash for about 20 years" should be eliminated. Space should be provided for ash from the Sewage Treatment Plant as well as sludges from the Water Plant in any landfill site considered by the City.

Due to the delay in receiving the Report and not having adequate time to review it, I have not covered all of it, but only those sections that were of greatest interest to my Division.


Manfred Berger
Principal Engineer

Feasibility Study for an Industrial Park in
Rochester, New York
EBS Management Consultants Incorporated
July 1969

VI - PHYSICAL SITE FACTORSA - DESCRIPTION OF SITE PLAN1 - Outer Loop Industrial Complex
Boundary Description

All that tract or parcel of land situated in the City of Rochester, County of Monroe and State of New York, beginning at a point at the easterly line of Lee Road where the northerly line of property acquired by the State of New York for canal purposes intersects the same, thence westerly along said northerly line extended to the westerly line of Lee Road, thence northwesterly along said northerly line to the City line; thence northerly along the City line to southerly side of Lexington Avenue; thence easterly parallel to Lexington Avenue to the westerly property line of the residential properties on the westerly side of Polaris Street, thence southerly to the intersection of the southerly side of Emerson Street; thence easterly parallel to Emerson Street to the westerly line of the Baltimore and Ohio Railroad lands, thence south westerly along the course of the Baltimore and Ohio Railroad to the southerly line of parcels fronting on the southerly side of Emerson Street, thence westerly along said rear of southerly line to the centerline of Colfax Street, thence southerly along the center line of Colfax Street to the northerly line of Ferrano Street, thence westerly along the northerly line parallel to Ferrano Street to the westerly line of the lands of the Atlantic Refining Company, thence southerly to northerly line of the Penn Central Railroad right of way, thence westerly along the northerly line right of way to the easterly lands acquired by the State of New York for canal purposes; thence northwesterly along said lands of the State of New York to the easterly line of Lee Road and the place of the beginning.

2 - Differences in Boundary from Previous
EBSMC Report

The boundary variations between the original Mt. Read-Emerson description dated 1965, and City of Rochester Urban Renewal Plan and the new revised Outer Loop Industrial Complex are the deletion of the entire property area designated for a residential zone, the elimination of the area north of Lexington Avenue between the Outer Loop Expressway and Mt. Read Boulevard, and the addition at the southwest corner of the tract of the New

110

The ultimate capacities of voltages to be carried along the electrical circuits, as well as other technical details, would be determined by Rochester Gas and Electric Company.

C - ENGINEERING SOILS INVESTIGATION

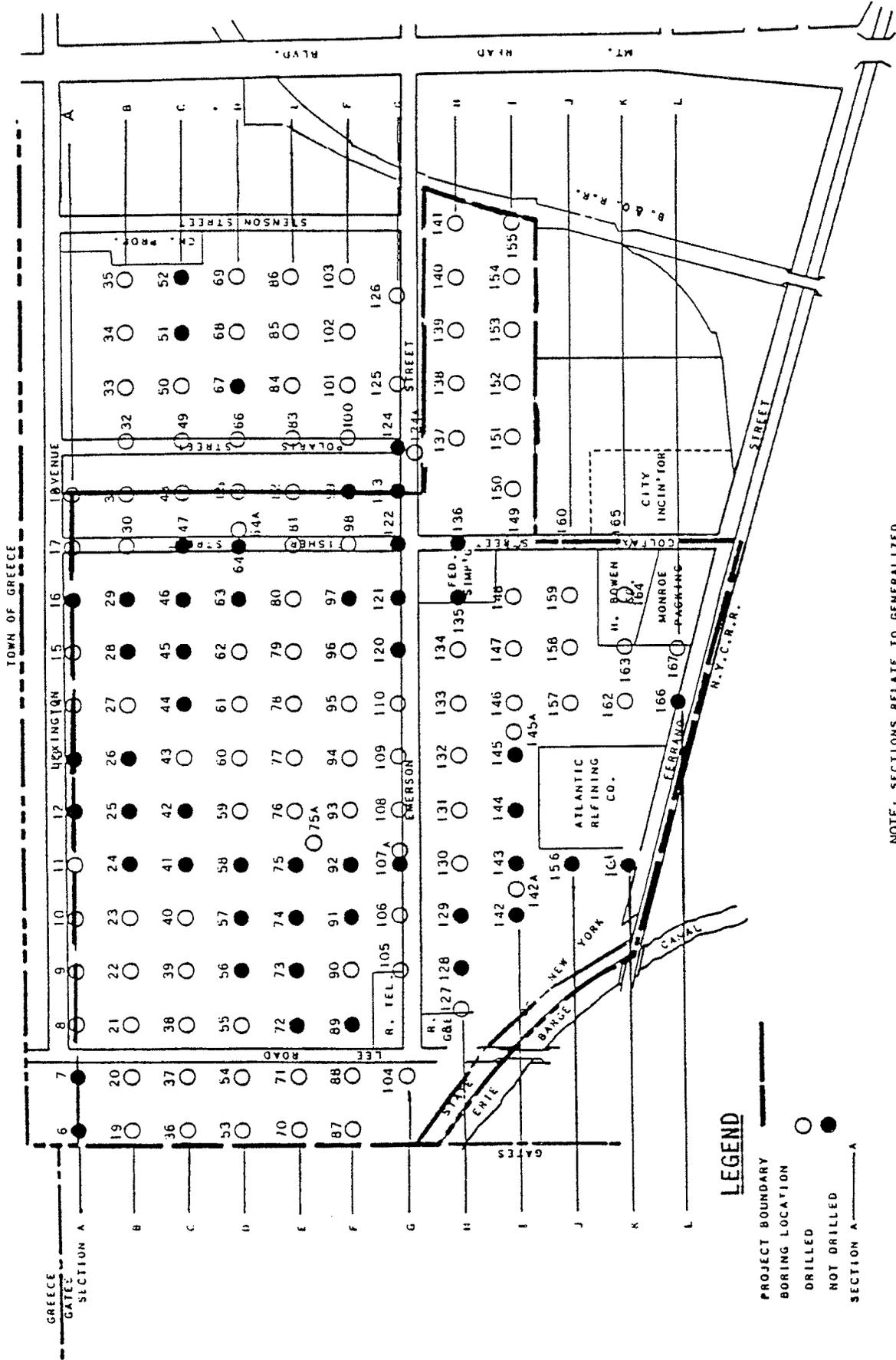
This section involves an investigation of the subsurface conditions existing in the Outer Loop Industrial Complex as they may relate to structural foundation and site-development cost factors. Subsurface conditions become of critical importance in determining the location and extent of the area's load-bearing capacity which, in turn, determines the locations within the site that can be economically developed with regard to utility installation and building construction. Any future development plan, therefore, would be required to conform to the constraints imposed by soil conditions. The findings of this investigation also provide information that will be useful to City departments that may be involved in the development of the area, as well as utility companies and any future developers and constructors.

1 - Subsurface Conditions

Much of the Outer Loop Industrial Complex area has been used for the past 12 years and is currently being used for the disposal of residue from the three city incinerators, including the West Side incinerator which is within the area. Also, bulk refuse which cannot be incinerated or otherwise reduced in volume is being burned in the active portions of the refuse disposal areas of the site. Some of the bulk refuse comes from a few of the adjoining towns as well as the City of Rochester. An examination of the subsurface conditions within the study area was made by Ebasco in 1964. The new borings were taken for this report.

a) Exploration

During September 1964, the entire area which was accessible to a heavy, truck-mounted, auger drill was explored on a 300-foot grid. The borings were 24 inches in diameter and were carried to refusal. Boring locations are shown on drawing number G-180824 in the Appendix and on Map 10. Some of the hole



NOTE: SECTIONS RELATE TO GENERALIZED
SUBSURFACE PROFILES REPRESENTED
ON DIAGRAM 1.

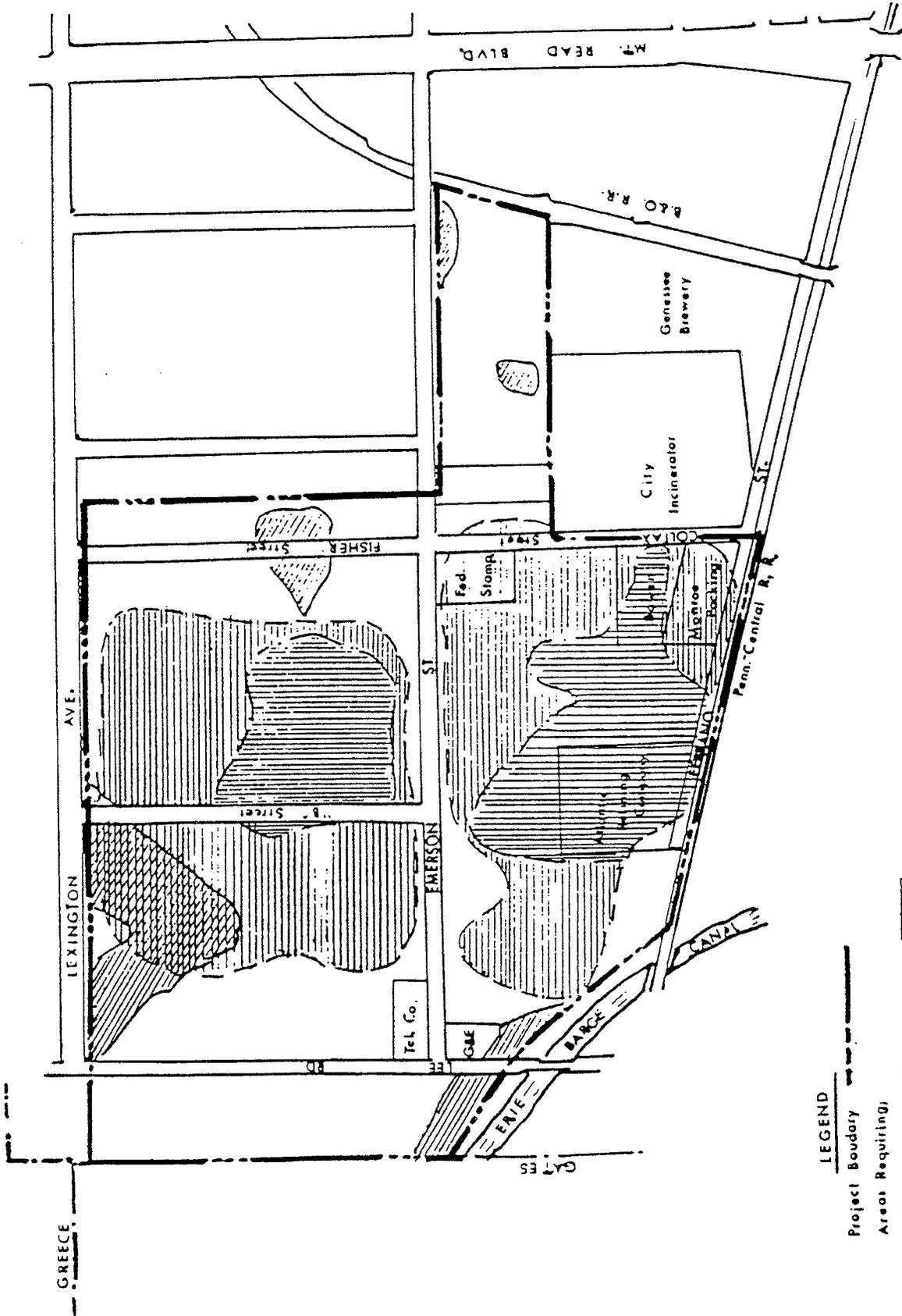
SOIL BORINGS

OUTER LOOP INDUSTRIAL COMPLEX — ROCHESTER, N.
EBS MANAGEMENT CONSULTANTS INCORPORATED, N.

Those portions of the area which have been used for refuse disposal were found to contain as much as 20 feet of such refuse for several of the borings. This refuse was found to consist of practically every conceivable form of trash and rubbish including tin cans, bottles, wire, bricks, rubber tires, mattresses, rags, etc. There was no difficulty in penetrating through this fill with the auger except in one case where a large mass of waste electrical conduit was encountered.

In order that the significance of the subsurface findings may be more easily evaluated by those unfamiliar with the graphic representations as shown in the Appendix, a general representation of these findings is graphically shown on Diagram 1, following this page. Essentially, Diagram 1 shows, in isometric form, 12 east-west cross sections through the study area. The base elevation used for all cross sections is 510 feet, and boring hole locations correspond with those on Map 10. If the reader can visualize the subsurface profiles as representing vertical slices through the site, he can more readily grasp the visualization intended. Where data were not available, either because a boring was not made at a particular location, or where the extent of a particular type of surface material was not known, a generalization was made. Of course, only the detailed boring charts in the Appendix can be considered technically correct. However, Diagram 1 is considered to be a fairly accurate representation of existing conditions based on the 1964 borings.

Another feature of Diagram 1 is that it shows the approximate finish grade of the study area when the land fill program would be completed. This finish grade has been approximated from a proposed grading plan as prepared by the City Department of Public Works within the past six years. We agree in the essential details of the proposed grading plan, except that in those areas where a conflict exists with present conditions, because of changes since the grading plan was made, a judgment was made which resulted in the general, future grade lines as represented on Diagram 1. It is estimated that there are approximately 700,000 cubic yards of refuse disposal volume already within the Outer Loop Industrial Complex area bringing the topography of the study area to the proposed finished grade. We have not verified these grades but assume that City of Rochester has followed its plans and which are now complete.



LEGEND

- Project Boundary
- Areas Requiring:
 - Type 1 - Grade Beams (Rock 0'-4' Below Surface)
 - Type 2 - Footings on Till (Glacial Till more than 4' To Rock)
 - Type 3 - Pile Supported (Rock 4'-10' below fill)

FOUNDATION REQUIREMENTS

OUTER LOOP INDUSTRIAL COMPLEX -- ROCHESTER, N.Y.
 EBS MANAGEMENT CONSULTANTS INCORPORATED, N.Y.

The extent of the area which has been filled with refuse before the site was drilled in September 1964, is shown on drawing number G-180824. The maximum depth of such fill, as mentioned previously, is 20 feet. This depth is encountered in the area north of Emerson Street, in the northwest sector of the study area, which is now the active location for the refuse fill operations. Depth of refuse fill in the older dump area south of Emerson Street is less, averaging about 10 feet. During the course of the refuse fill operation south of Emerson Street, conducted until about 1961, the area southeast of the Colfax-Emerson Street intersection was used primarily for the disposal of hard fill. The area southwest of the Emerson Street-Colfax Street intersection has been used for refuse of the kind found in the northwest sector.

D - SITE DEVELOPMENT FACTORS

The future development of the Outer Loop Industrial Complex area is related to the City's present refuse disposal area. This area affects the kind of land that could be made available for development within the study area from a foundation viewpoint. It is, therefore, very important that a clear exposition of this relationship be set forth.

1 - Extent of Land Fill Operation

Drawing G-180824, in the Appendix, shows the extent of the area which has been filled with refuse up to the time the site was drilled in September 1964. An additional outline has been added to approximate the total land fill area to 1969. These areas are also shown on Map 10. The maximum depth of fill as mentioned previously, is 20 feet. This depth is found in the active fill portion of the site, north of Emerson Street and west of Fisher Street. The depth of fill in the older dump areas south of Emerson Street averages about 10 feet. The subsurface soil profile sheets (in the Appendix) and Diagram 1 represent the depth of fill in the various areas.

2 - Foundation Requirements

Because of the nature of the refuse fill and its inherent compressibility under load, any future buildings, underground utilities, railroads and streets would be affected. Any development plan must recognize the constraints imposed by the soil subsurface conditions.

Times Union Article
November 28, 1970



D&C Aerial Photo by Jim Laragy.

Emerson Street dump is pictured from air (with Emerson Street at left). Cleared portion now closed to dumping.

D.&C. NOV 28 1970

Landfill Plan Isn't Dumped

D.&C. NOV 28 1970

By JAMES R. STEAR
City officials still are hoping to close the Emerson Street landfill by June despite the collapse of a \$1.6 million deal that would have created a new dump in Orleans County.

"We still think we can make it," Deputy City Manager Thomas T. Mooney said last night.

Other city officials, including Public Works Commissioner Raymond E. Keefe Jr. and Corporation Counsel Charles L. Willis, huddled yesterday to consider alternate plans.

One possibility, believed under study, is a municipally-owned and operated disposal system with financing shared by the city and county.

County Manager Gordon A. Howe indicated support for such a plan yesterday, saying that waste disposal should be done on a countywide basis "as a minimum" and "probably eventually get to a regional basis."

"It looks like we're (the county) going to have to move," he said. "Somebody has got to find a place for this refuse, and it's a logical county function."

City Council Democrats, meanwhile, fired a broadside at the Republican city administration, saying the city "mislead and manipulated" the public in dealings with Western New York Waste Systems, Inc., which backed out of the plan to create a landfill in Orleans County.

The Democrats suggested that a grand jury investigation might be in order.

The statement demanded "answers"—"either from our mayor or a grand jury."

Mayor Stephen May refused comment, except to say that a jury investigation is "certainly not" necessary.

He referred the Democrats' questions to City Manager Kermit Hill, who was out of town and couldn't be reached.

Why Western backed out of its deal with the city has not yet been fully detailed. Hill mentioned legal "complications" in a statement Wednesday.

Mooney said last night that "all things considered, they just decided not to do it."

"Kermit was not even aware of any problem until a week ago," he said. "It just came down to the wire and the Evans people (Western's parent company) decided not to do it."

Technical Specifications for Earth
Embankment at Emerson Street Landfill
May 29, 1970

5691
5955

August 28, 70

Ted Heineman, Assistant Director of Sanitation

Raymond E. Keefe, Commissioner of Public Works

Landfill Stockpile

The contract for hiring earthmoving equipment at the Emerson Street Landfill was abandoned when both Lathron, Inc., and Frank DiMino could not meet specifications. In a meeting with Commissioner Keefe last week the suggestion to use the stockpiled material supplied by Guy Construction seems to provide the most expedient measure for obtaining earth cover for the active portion of the landfill. At a pre-construction meeting in Mr. Sidney-Smith's office on Friday August 21, 1970, representatives of Guy Construction offered no objection to the proposal of furnishing two separate stockpiles at the landfill. On Wednesday, August 26th, the Contractor's Engineer completed staking out a one acre portion of the landfill immediately north of the originally selected stockpile site. (see attached map)

It has been proposed that the Contractor begin immediately to stockpile about 15,000 cubic yards of earth at the new location. After measurement of the stockpile for payment purposes, the earth will be used for daily cover. The size of the stockpile was established based on covering 10 acres of landfill with approximately one foot of earth. It is also proposed to finance this second stockpile (15,000 x \$1.90 = \$27,000) from monies now available in Cash Capital and set aside for landfill equipment rental.

Ted Heineman
Assistant Director of Sanitation

TH:md

cc: Edward P. Watson, Director of Sanitation

F. Sidney-Smith, City Engineer

Gene Blacental, Supt. of Refuse Disposal

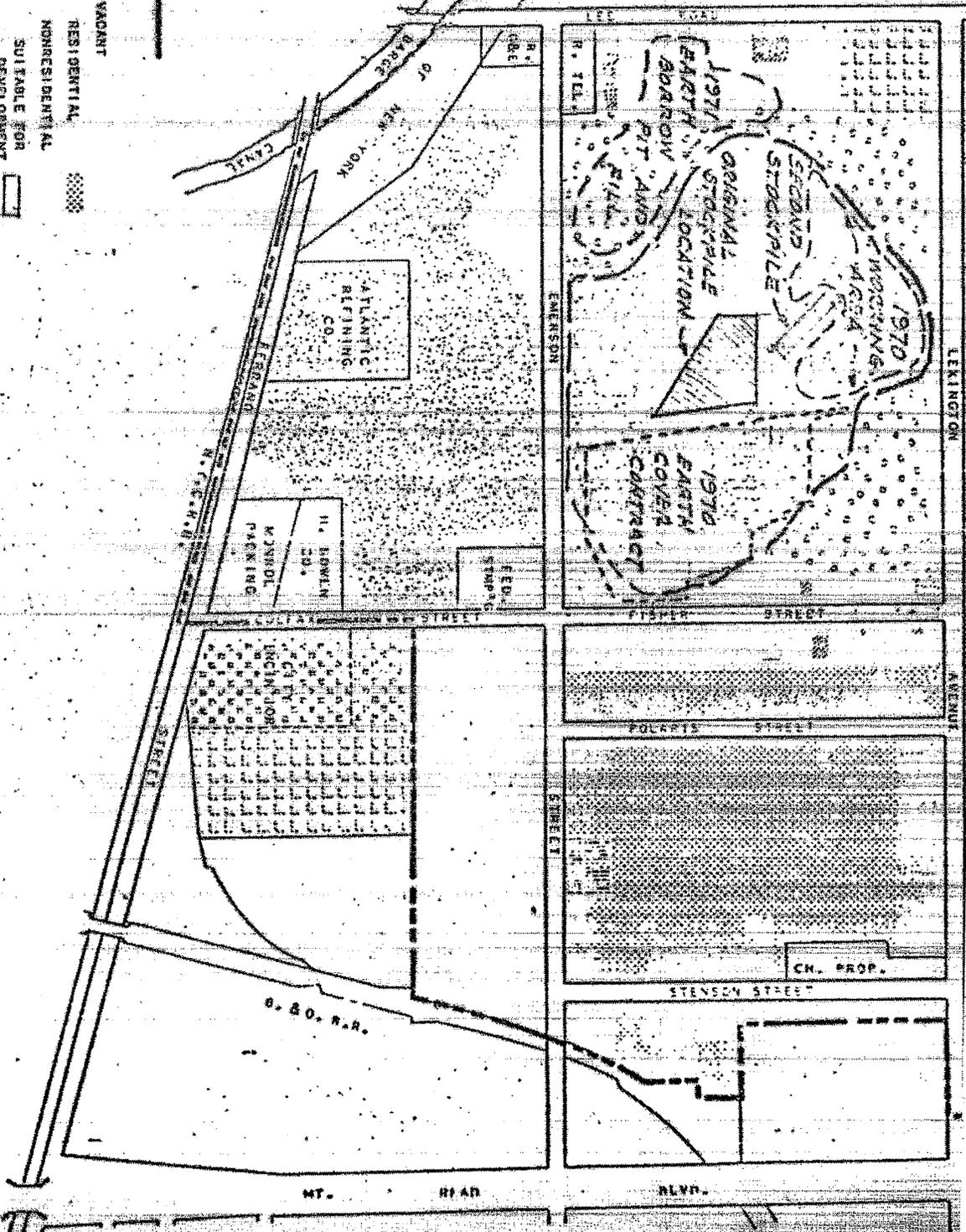
Enc: 1

RETAINED AS
RECEIVED BY
N.Y.S. DEPT. OF LAW

- LEGEND**
- RESIDENTIAL
 - 1-FAMILY
 - 2-FAMILY
 - MULTI-FAMILY
 - INDUSTRIAL
 - PUBLIC
 - OPEN
 - WITH STRUCTURES
 - SEMI-PUBLIC
 - OPEN WITH STRUCTURES

- VACANT
 - RESIDENTIAL
 - NONRESIDENTIAL
 - SUITABLE FOR DEVELOPMENT
 - UNSUITABLE
 - FILLED*
 - TO BE FILLED*
- * NOT INCLUDED WITH THE OTHER VACANT NONRESIDENTIAL AREA

N.Y.S. DEPT. OF LAND OFFICER
 RETURNED BY MAIL



EXISTING LAND USE
 MT. READ-EMERSON AREA
 ROCHESTER, NEW YORK

SCALE: 0 400 800 FEET
 AUGUST 1970

RETAINED AS
RECEIVED BY
N.Y.S. DEPT. OF LAW

April 8,

70

Raymond S. Keefe, Commissioner of Public Works

Edward P. Curtis, Jr., City Manager

EMERSON STREET DUMP

I would recommend that the City take the following action to phase out the Emerson Street Dump. The closing will have to be done eventually and I feel we could start the first phase of it immediately.

1. Cover the eastern half of the landfill - It is now up to grade with refuse and it can and should be covered with the necessary amount of fill (the State Health Department requires two (2) feet of fill). Incidentally, we will need to expend some money on survey (photogrammetric maps) such that we can engineer the final elevation.

2. Rent three (3) large D-8 type tractors: one to work the face of the dump, one to maintain haul road to the working face, and one to spread fill over the east half of the dump.

3. Fence certain accessible portions of the dump area to prevent individuals dumping off the road. This fence will serve a useful purpose even when the Dump is closed as there will still be a temptation to use it for dumping. It will do a much more effective job than occasional police patrols.

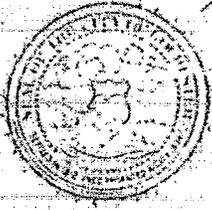
4. We should also raise the grade of Emerson Street and Lexington Avenue to alleviate the "low-spot" drainage headaches.

I do not have cost estimates for the above program; however, it will be quite expensive. It has been estimated by the Health Department that it will cost one-half a million dollars to cover this entire Emerson Street Dump area. I would say closer to three-quarters of a million dollars. Nevertheless, the City will have to make this expenditure eventually and we may as well start right now. It would be an excellent demonstration of our willingness to phase out the Dump.

Please consider and advise. I shall await your decision before proceeding with specific plans and cost estimates.

Raymond S. Keefe
Commissioner of Public Works

REK:lo
cc: Edward P. Watson, Director of Sanitation



CITY OF ROCHESTER, NEW YORK

Office of the City Manager

April 10, 1970

DEPARTMENT OF PUBLIC WORKS

APR 14 3 16 AM '70

OFFICE OF THE COMMISSIONER

Councilman John Parrinello
410 Executive Office Building
Rochester, New York

Dear John:

Knowing your concern and that of the other councilmen for the situation at the Emerson Street dump, I have asked Commissioner Keefe to give me a plan of action which can be carried out in the relatively near future. He has sent me a memo dated April 8 outlining the following steps to begin phasing out this troublesome and hazardous operation. Pertinent portions of his memo are as follows:

"I would recommend that the City take the following action to phase out the Emerson Street dump. The closing will have to be done eventually and I feel we could start the first phase of it immediately.

1. Cover the eastern half of the landfill - it is now up to grade with refuse and it can and should be covered with the necessary amount of fill (the State Health Department requires two (2) feet of fill). Incidentally, we will need to expend some money on survey (photogrammetric maps) such that we can engineer the final elevation.
2. Rent three (3) large D-8 type tractors: one to work the face of the dump, one to maintain the haul road to the working face, and one to spread fill over the east half of the dump.
3. Fence certain accessible portions of the dump area to prevent individuals dumping off the road. This fence will serve a useful purpose even when the dump is closed as there will still be a temptation to use it for dumping. It will do a much more effective job than occasional police patrols.
4. We should also raise the grade of Emerson Street and Lexington Avenue to alleviate the "low-spot" drainage headaches."

maps memo

RETAINED AS
RECEIVED BY
N.Y.S. DEPT. OF LAW

CITY OF ROCHESTER, N. Y.

INTER-DEPARTMENTAL CORRESPONDENCE

Date August 25, 19 70

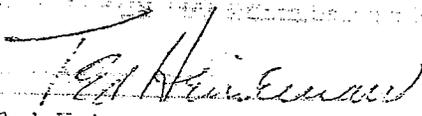
From: Ted Heineman, Assistant Director of Sanitation

To: Edward F. Watson, Director of Sanitation

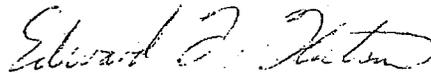
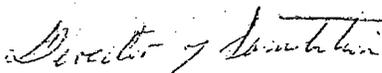
Subject: Bar-Mon Equipment

On the afternoons of July 28, and 30th, it was necessary to hire extra heavy equipment to combat fires at the Emerson Street Landfill. Lathron, Inc., had worked the previous week, however, on Monday, July 27th, Commissioner Keefe had stopped work and Lathron had removed his equipment from the work site. Bar-Mon had equipment parked nearby and had operators available within minutes of my request for assistance.

I request your approval of the attached requisition No. 24 in the amount of \$639.


Ted Heineman
Assistant Director of Sanitation

TH:msd
Enc:

Concur: 


RETAINED AS
RECEIVED BY
N.Y.S. DEPT. OF LAW

PART I -- SECTION 2
PROPOSAL TO THE
CITY OF ROCHESTER, N.Y.

FOR
EARTH EMBANKMENT AT
THE EMERSON STREET LANDFILL

We (or I) _____

of _____

do hereby declare that we (or I) have carefully examined the specifications and form of contract and plans and site of work and will contract to do all the work and furnish all of the material called for by said plans and specifications, in the manner and on the conditions required, using said form of contract for the following prices,

<u>Item</u>	<u>Description</u>	<u>Est. Quantity</u>	<u>Unit</u>	<u>Unit Price</u>
1	24" Earth Embankment	115,000	s.y.	_____
2	Stockpile Material	75,000	c.y.	_____
3	Seeding	25	acres	_____

PRICES TO INCLUDE

This price bid for all items shall include all labor, material, tools and equipment necessary to furnish and place the items listed and/or specified.

Item 1 - Earth Embankment. This item shall include furnishing of material, hauling, spreading, compaction, and grading of the earth embankment.

The price per square yard shall include the grading to finished grade lines shown on the plans. Payment for this item will be made on the basis of field measurements of the surface area covered with adjustment for berm and tapered sections as shown on the plans.

RETAINED AS
RECEIVED BY
N.Y.S. DEPT. OF LAW

Item 2 - Stockpile Material. This item shall include the earth material delivered to the Emerson Street Landfill and stockpiled at locations shown on the plans or as directed by the Commissioner of Public Works. Payment for this item will be made on a cubic yard basis from field measurements taken at the Emerson Street Landfill.

Item 3 - Seeding. This item shall include the preparation of the ground surface, the furnishing of the seed as specified, and the spreading to lines shown on the plans. Payment for this item will be made on an acre basis as measured in the field.

- RETAINED AS
RECEIVED BY
N.Y. S. DEPT. OF LAW

TECHNICAL SPECIFICATIONS

A. Scope of Work. The Contractor shall furnish all labor, material, tools, equipment, power, and everything necessary to place a minimum of two feet of suitable earth embankment over the eastern portion of the Emerson Street Landfill as shown on the plans and specified herein.

If directed by the City of Rochester, the Contractor shall also furnish all labor, materials, tools, equipment, power, and everything necessary to stockpile additional earth embankment at the Emerson Street Landfill in areas specified by the Commissioner of Public Works and in accordance with the stipulations and conditions set forth herein.

The Contractor shall be responsible for maintaining the required depth of earth embankment and performing all said work in a good and workmanlike manner.

B. Contract Drawing. The location and character of the work is shown on drawing marked Sheet 1 of 1 entitled Emerson Street Landfill dated May 29, 1970 and prepared by the City of Rochester, Department of Public Works.

C. Order of Work. The general order and sequence of construction of the work shall be subject to the approval of the Commissioner of Public Works or his designated representative. Before starting work, the Contractor shall submit a work schedule to the Commissioner and receive approval of the same.

D. Private Property. The Contractor shall confine his operations to the property owned by the City of Rochester. Private property located on Lexington Avenue and Fisher Streets shall not be used by the Contractor without the Owner's consent.

RETAINED AS
RECEIVED BY
N.Y.S. DEPT. OF LAW

TECHNICAL SPECIFICATIONS (continued)

E. Material. The earth embankment shall be formed of soil or granular material and shall be so constructed that the top layer shall satisfactorily support the growth of vegetation, as specified hereinafter. The top layer of earth embankment shall not be composed of material that will be subjected to wind erosion or contain a high clay content. The most desirable type of earth cover material is classified by the U.S. Bureau of Public Roads as "sandy loam". Stones larger than four (4) inches in greatest dimension shall not be acceptable.

The material used in the earth embankment shall be reasonably free of organic material such as leaves, grass, roots, sewage, and other objectionable material. Frozen soil and demolition debris shall not be placed in the embankment. Any unsuitable material deposited in the work shall be removed and replaced by acceptable material by the Contractor at his own expense.

All material used as earth embankment or stockpiled at the Emerson Street Landfill shall be subject to the approval of the Commissioner of Public Works. Material to be stockpiled shall be similar to the material to be placed in the embankment. All material for embankment or stockpile shall originate from off the landfill site.

F. Placing and Compaction. Earth embankment shall be placed and spread over the areas designated in the contract drawing or as directed by the Commissioner to a depth sufficiently greater than that shown on the plans so that after spreading, compaction, grading, seeding, and natural settlement the completed work will conform to the lines and grades shown on the plans. The earth embankment and including the berm section shall be placed in 12 inch maximum layers and compacted with caterpillar tractor or with other approved

RETAINED AS
RECEIVED BY
N.Y.S. DEPT. OF LAW

TECHNICAL SPECIFICATIONS (continued)

equipment. Each layer shall be free of ruts and shall meet compaction requirements before the succeeding layer is placed.

The stockpiled material shall be placed in layers to a total depth of about 10 feet in the area or areas as directed by the Commissioner of Public Works. All stockpile areas shall be finished to smooth surfaces in conformity with the plans to present a neat appearance and facilitate measurement.

In the construction of the earth embankment all soils shall be compacted to 30% of maximum density at optimum moisture. Compaction tests when required will be performed by the City of Rochester Testing Laboratory.

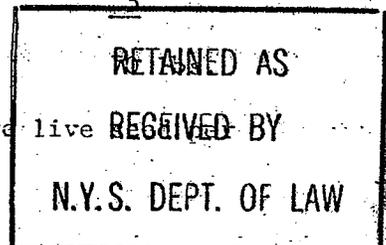
G. Grading. The final surface of the embankment shall be finished to a smooth, compact surface in conformity with the plans. The Contractor shall provide a blade grader to complete the grading operations. Approved material shall be added by the Contractor to meet required grade.

H. Seeding. The work covered by this item consists of furnishing seed, preparing ground surfaces, and seeding areas where shown on the plans and as specified.

Seed shall be as follows:

<u>Name</u>	<u>Variety</u>	<u>Weight of Pure Live Seed</u>
Red Fescue (Festuca rubra)	Commercial	40
Kentucky Blue Grass (Poa Prateusis)	"	10
Common Rye Grass (Domestic)		
(Lolium pereune) (Lolium multiflorum)	"	15
White Clover (Trifolium repens)	"	5

Seed shall be applied at the rate of 70 pounds of pure live



TECHNICAL SPECIFICATIONS (continued)

acre. No tillage other than scarification to break up the surface crust will be required. Areas that show lack of germination shall be re-seeded at the contractor's expense.

1. Field Measurements. The Contractor shall engage a New York State Professional Engineer or Land Surveyor to measure the final work and to provide the necessary line and grade for the daily operations. Said Engineer or Land Surveyor shall certify to the City of Rochester and the New York State Department of Health that all work conforms to Contract plans and Contract specifications and meets the requirements of Part 19 of the New York State Sanitary Code.

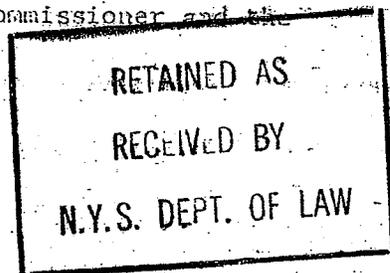
J. Measurement and Payment. The quantity of embankment to be paid for under Item No. 1 will be the number of square yards of material placed in its final compacted position as required by the plans and specifications within the limits shown on the plans or as ordered by the Engineer.

The quantity of stockpiled material to be paid for under Item No. 2 will be the number of cubic yards of material measured in its final position.

The quantity of seeding to be paid for under Item No. 3 will be the number of acres seeded as ordered by the Engineer.

The unit price bid for each item shall include the cost of furnishing all labor, equipment and materials necessary to complete the work.

Partial payments will be made monthly by the City of Rochester in accordance with ARTICLE 4B of the Contract. Final payment of all moneys due shall be made upon acceptance of the work by the Commissioner and the New York State Department of Health.



Pursuant to the authority vested in the Public Health Council by Article 2, Section 225 of the Public Health Law, as enacted by Chapter 879, Laws of 1953.

NEW YORK STATE SANITARY CODE

PART 19

REFUSE DISPOSAL

Section 19.1 DEFINITIONS. (a) "Refuse" shall mean all putrescible and non-putrescible solid wastes including garbage, rubbish, ashes, incinerator residue, street cleanings, dead animals, offal and solid commercial and industrial wastes.

(b) "Refuse disposal area" shall mean land used for the depositing of refuse except that it shall not include the land used for the depositing of refuse from a single family, a member of which is the owner, occupant or lessee of said land, or any part of a farm on which only animal wastes resulting from the operation of such farm are deposited.

(c) "Person" shall mean an individual, group of individuals, partnership, firm, corporation, association, county, city, town or village or improvement district.

(d) "Full-time health officer" shall mean the health commissioner or health officer of a city of 50,000 population or over, or of a county or part-county health district, or the state district health officer in those areas of the State not located within a county, part-county or city health district.

Section 19.2 REFUSE DISPOSAL AREAS. (a) Operation and Maintenance. Any person who maintains or operates a refuse disposal area or permits the use of land as a refuse disposal area shall maintain and operate such area in conformance with the requirements of this Part.

(1) Burning of refuse at a refuse disposal area is prohibited unless an exemption in writing is granted by the full-time health officer within whose jurisdiction said refuse disposal area is located, and provided that such exemption does not contravene the standards established by the Air Pollution Control Board.

(2) No refuse shall be deposited in such manner that refuse or leachings from it shall cause or contribute to a condition in contravention of the standards adopted pursuant to Section 1205 of the Public Health Law.

RETAINED AS
RECEIVED BY
N.Y.S. DEPT. OF LAW

(3) Dumping of refuse shall be confined to an area which can be effectively maintained and operated in accordance with these regulations. This shall be controlled by supervision, fencing, signs, or equally effective means unless an exemption in writing is granted by the full-time health officer within whose jurisdiction said refuse disposal area is located.

(4) Refuse at a refuse disposal area shall be compacted and covered daily with a compacted layer of at least six inches of a suitable cover material, and a final compacted cover of at least two feet of a suitable cover material shall be placed within one week after the final deposit of refuse at any portion of such refuse disposal area unless an exemption in writing is granted by the full-time health officer within whose jurisdiction said refuse disposal area is located.

(5) Effective means shall be taken to control flies, rodents, and other insects or vermin at a refuse disposal area to the extent that they shall not constitute a nuisance affecting public health.

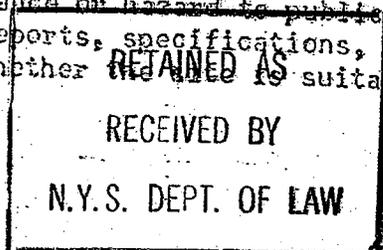
(6) Fencing or other suitable means shall be used to confine papers and other refuse to the refuse disposal area.

(7) The salvaging of refuse at a refuse disposal area, if permitted by the operator of the refuse disposal area, shall be conducted in such a manner as not to create a nuisance affecting public health.

(8) The approach road to a refuse disposal area open to the general public shall be kept passable to vehicular traffic during all seasons of the year.

(9) The full-time health officer within whose jurisdiction a refuse disposal area is located is authorized and empowered to issue and grant annually the exemptions hereinbefore referred to, if in his judgment no nuisance or hazard to public health shall be created thereby. Any exemption hereby authorized shall expire and become void if by reason of said exemption the operation of a refuse disposal area shall be or become a nuisance or a hazard to public health or contravene any provision of this Part from the operation of which an exemption has not been granted.

(b) New Sites. A new refuse disposal area shall not be established until the site and method of proposed operation have been approved in writing by the full-time health officer in whose respective jurisdiction such proposed refuse disposal area will be located. Such health officer is authorized to approve a new refuse disposal area if, in his judgment, it can be operated and maintained in such manner as not to constitute a nuisance or hazard to public health. The health officer may require such plans, reports, specifications, and other data as is necessary for him to determine whether the site is suitable and the proposed method of operation feasible.



Section 19.3 MUNICIPAL INCINERATORS. Municipal incinerators shall be operated and maintained so as not to create a nuisance or hazard to public health.

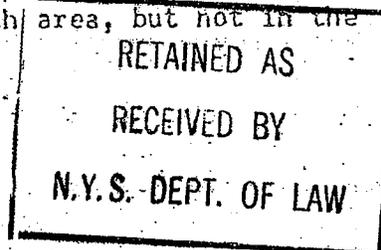
Section 19.4 ADEQUACY OF OPERATION AND MAINTENANCE. Operation and maintenance of a refuse disposal area pursuant to Section 2 (a) of this Part and operation and maintenance of a municipal incinerator pursuant to Section 3 of this Part shall be under the surveillance of the full-time health officer in whose jurisdiction said refuse disposal area or municipal incinerator is located. The full-time health officer shall be charged with the duty of enforcing the regulations of this Part and shall cause such inspections to be made as he may deem necessary to determine whether the operation and control of such refuse disposal area or municipal incinerator are in compliance with the provisions of this Part.

Section 19.5 INTERJURISDICTIONAL NUISANCES AND HAZARDS TO PUBLIC HEALTH. (a) Where the operation of a refuse disposal area is conducted in such a manner as to constitute a nuisance or a hazard to public health outside a health district in which said refuse disposal area is located, the officer designated in subdivision (b) hereof shall have the authority, and it shall be his duty, on receipt of a written complaint by any person, to inquire into the facts concerning such operation. If he shall find that said operation is in contravention of any of the sections contained in this Part, he shall make and cause to be served personally or by mail upon the person operating said refuse disposal area a notice in writing stating the manner in which said operation contravenes such section or sections and specifying the particular section or sections contravened and ordering the person operating such refuse disposal area to correct or to cease such operation. If the person served as aforesaid does not comply with the requirements of such order within the time specified therein, said officer shall forthwith cause a report in writing containing a summary of the facts as disclosed by his inquiry, a recital of all action taken, and his recommendations, if any, to be transmitted to the State Commissioner of Health for such action as he may deem advisable.

(b) The officer having jurisdiction to take the action authorized and directed in subdivision (a) hereof shall be:

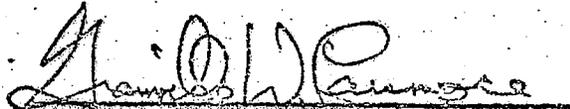
(1) The county or part-county health commissioner where the refuse disposal area and the residence or real property occupied by the complainant are located in the same county or part-county health district.

(2) The state district health officer where the refuse disposal area and the residence or real property occupied by the complainant are located in the same state district health area, but not in the same county or part-county health district.



(3) In all other cases, the regional health director having jurisdiction in the area in which the refuse disposal area is located.

The foregoing new Part 19, to be effective January 1, 1963, was adopted at a meeting of the Public Health Council held on the 28th day of September 1962.


Secretary

- August 10, 1971 Approp. Ord. No. 71-437. City Council authorizes additional cost of construction and equipping West Side Transfer Facility (\$275,000). Approp. Ord. No. 71-684 passed on November 23, 1971 authorizes additional funds (\$55,000).
- August 16, 1971 Private trucks banned from use of city refuse disposal facilities
- August 26, 1971 First load of refuse is hauled to Rush Landfill by city.
- September 1, 1971 Bids opened for East Side Refuse Transfer Station, Contract C, Additions and Alterations and for West Side Refuse Transfer Station, Contract A, Installation of Equipment. All bids were rejected because the bids were too high.
- September 2, 1971 Bids opened for final covering of Emerson Street Dump (western portion). Contract awarded to R.V.A. Trucking, Inc. Final contract amount was \$399,927.71. (Ord. 71-524 passed September 14, 1971).
- September 15, 1971 Bids were opened for Scale Equipment. Contract awarded to Howe Richardson Scale Co. in the amount of \$81,500. (East Side = \$50,925 charged to Cash Capital: West Side = \$30,575 charged to Appropriation Ordinance). This contract provides a 60 foot platform scale at the East Side and West Side for weighing collection trucks, as well as axle scales at each of three transfer station compactors to guard against overloaded trailers.
- September 29, 1971 Bids were opened again for East Side Refuse Transfer Station, Contract C - Additions and Alterations. Bid was awarded to Raymond LeChase, Inc. in the amount of \$274,000. Completion was scheduled for March 16, 1971. This contract provided building extensions at each end of the loading floor, scale installation for trailer axles as well as collection trucks and other modifications.
- September 29, 1971 Bids were opened for the construction of the West Side Refuse Transfer Station, Contract A, Installation of Equipment. Contract awarded to Frank DiMino in the amount of \$177,599 with a scheduled completion date of April 14, 1972. This contract provided for the installation of one stationary compactor in the West Side Incinerator.
- October 2, 1971 Closing ceremony at Emerson Street Dump.

Comprehensive Solid Waste
Planning Studies
Greeley & Hansen Engineers
May 1970

The preceding figures indicate extensive use of on-site incinerators. This materially reduces the quantity of material to be disposed of by other means and significantly affects both present and estimated future per capita quantities, as discussed in Section 4.

6. Present Solid Waste Disposal Facilities

All ordinary solid wastes, except those which are disposed of on the owner's property (as in the case of numerous farms, commercial and industrial firms and some institutions), are disposed of at the municipal incinerating plants and the landfill in the City of Rochester and at municipal or private landfills and dumps in the Towns and Villages. The locations of these disposal facilities, in the Spring of 1968, including several sites used only for the disposal of certain special wastes such as tree debris, demolition and construction wastes, sewage sludge, manure and flyash, are shown on Figure 6. Descriptive data as to size, ownership, operation and usage of these facilities are given in Table 14.

Information concerning the present operation of these disposal facilities is based on the questionnaires and reports referred to in Sections 1, 4 and 5 of this Report and on a visual inspection by Greeley and Hansen in the spring and summer of 1968 of every known incinerating plant, landfill and dump serving Monroe County. These facilities are briefly described as follows:

a) Disposal Facilities for the City of Rochester

Facilities currently used by the City for the disposal of solid wastes include three refuse incinerating plants and a landfill. A small area in Durand-Eastman Park is also being used by the City Bureau of Forestry for the disposal of trees and in addition receives manure from the County Zoo.

The existing City landfill comprises approximately 100 acres in the west-central part of the City bounded by Lexington, Emerson, Lee and Fisher Streets. This site is used for the disposal of all nonburnable solid wastes, including incinerator residue, generated within the City, except for hazardous wastes, demolition wastes, dead animals, tree debris, junk vehicles, boiler house cinders, sludges and liquid wastes. This site is nearly full,

having an estimated remaining life of less than 12 months.

The refuse incinerating plants, which are all of the crane and bin type with batch-feed furnaces, include the following:

(1) The Central Incinerating Plant which has a rated capacity of 200 tons per 24 hours and is located just north of the Central Business District on Falls Street just south of Smith Street.

(2) The East Side Incinerating Plant which has a rated capacity of 400 tons per 24 hours and is located on the west side of Culver Road south of Atlantic Avenue.

(3) The West Side Incinerating Plant which has a rated capacity of 300 tons per 24 hours and is located on the east side of Colfax Street two blocks south of Emerson Street.

These plants are used for the disposal of all household and commercial refuse collected by City forces. They also receive certain types of refuse from industries within the City and from Towns and Villages who contract with the City for refuse disposal service. The charge per ton for this service is based on the actual annual cost per ton for the operation and maintenance of the plant plus 6 percent of the capital investment in the plant. All three plants operate 24 hours per day 6 days per week but receive refuse only during designated hours. A detailed report on the status of these plants was prepared by Greeley and Hansen in July, 1967, and is included in the Appendix under Section H.

b) Disposal Facilities for the Towns and Villages

Nearly all of the solid wastes from the Towns and Villages in Monroe County are disposed of at landfills. Three towns and one village have contracts with the City of Rochester for disposal of their wastes at the East Side Incinerating Plant. Most of the solid wastes from these three towns and one village are currently disposed of in landfills, however, due both to increased charges for incineration and increased delays in dumping at the incinerating plant.

Thirty-one landfill sites were being used by the Towns and Villages for the disposal of solid wastes as of June 30, 1968. Six of these sites (Numbers 16, 17, 22, 23, 28 and 29) re-

Item	Estimated Cost	
	1970	1985
Operating Costs		
Labor	\$39,000	\$ 75,100
Utilities	1,500	3,000
Maintenance	500	1,000
Freight	64,000	126,000
Total	\$87,000	\$205,100
Fixed Charges		
\$58,000 @ 8.02%*	4,700	4,700
Total Annual Cost	\$91,700	\$209,800
Revenue @ \$12.00 per ton	62,900	119,000
Net Annual Cost	\$28,800	\$ 90,800

* 20-year serial bonds bearing interest at 5.0 percent per year.

(c) Fly Ash

Fly and bottom ash resulting from the operations of the Rochester Gas and Electric Company constitutes the largest quantity of any one type of industrial waste for which disposal facilities must be provided. At the present time approximately 185,000 cubic yards of fly and bottom ash is produced annually at four plants, three of which are located in the City of Rochester and the fourth in the Town of Greece. This material is being collected by private Contractors and disposed of in several locations.

Based on information obtained from the Power Company, it is estimated that the annual quantity of fly and bottom ash will decrease to approximately 140,000 cubic yards by 1970 as a result of partial conversion to nuclear power. Although the Power Company has no specific plans for additional nuclear power generation at this time, the trend is toward this method and its further adoption would result in a further reduction of fly and bottom ash. Estimates of the amount of possible reduction beyond 1970 are not available.

A number of studies and investigations have been conducted exploring the possible application of fly ash for a variety of uses such as a constituent in concrete or concrete products, a conditioner for sewage and industrial sludges, and as a coagulant for water treatment. The only present application with potential for large scale use of fly ash is in concrete or concrete products. The quantity that could be absorbed in all other uses combined is negligible.

As there is, to our knowledge, no present demand for the use of significant quantities of fly ash for any purpose in the Monroe County area, it will be necessary to dispose of this material in a sanitary landfill. However, as it is not suitable for use as cover material, and blows around if uncovered, it must be buried. Based on the annual quantity indicated above, we estimate that approximately 110 acres will be required for the disposal of this waste for the period 1970-2000.

The first cost of land, facilities and equipment required is estimated to be as follows:

Item	Cost
Land	\$330,000
Fence	45,000
Storage Shed	5,000
Roads and Drainage	25,000
	\$405,000
Equipment	90,000
Total	\$495,000

Based on the above estimated first costs and on one equipment operator, the annual cost of disposing of fly ash by sanitary landfill for 1970 and 1985, are as follows:

Item	Annual Costs	
	1970	1985
Operating Cost		
Labor	\$18,000	\$26,000
Equipment Operation	10,000	15,000
Total	\$28,000	\$41,000
Fixed Charges		
Land and Structures @ 6.51%*	\$26,000	\$26,000
Equipment @ 20%	18,000	27,000
Total	\$44,000	\$53,000
Total Annual Cost	\$72,000	\$94,000

* 5 percent serial bonds for 30 years.

(d) **Liquids.** Liquid wastes which are not, or should not be discharged to the sewer system include crankcase and other lubricating oils, solvents, cleaners and a variety of acid, alkaline and toxic chemicals.

A major portion of liquid wastes is waste crankcase oil. Based on the registration of 303,721 vehicles in 1968, and an estimated consumption of 2.5 gallons of oil per vehicle per year, the amount of waste crankcase oil produced in Monroe County is estimated to be 760,000 gallons per year. This amounts to 1.1 gallons per capita per year.

The amounts of industrial liquid waste pro-

duced in a community depend on the nature of the community and on the state of the economy. Monroe County is highly industrialized and, at present, enjoys a very high level of industrial activity. The amounts of industrial liquid wastes reported in a survey of 67 industries are summarized as follows:

Waste	Gallons per year	
	Total	Per Capita
Oils	330,200	0.48
Solvents	1,337,300	1.95
Miscellaneous	575,400	0.84
Total	2,242,900	3.27

The item "Miscellaneous" in the above tabulation includes such chemicals as acids, alkalis, latex, inks, acetone and trichlorethylene. It also includes oils and solvents where the amounts of these liquids could not be separately determined.

Practically all liquid wastes in Monroe County are collected by a few companies specializing in the disposal of such wastes. To confirm the quantities reported by the industries producing the waste, the major collectors of liquid wastes were interviewed to obtain estimates of the volume of these wastes collected. The total annual volume estimated by the collectors and by those disposing of their own wastes was 3,305,300 gallons, including crankcase oil. This is about ten percent more than the total of 3,002,900 gallons of crankcase oil and industrial wastes indicated above, in spite of the fact that some of the smaller collectors were unable or unwilling to provide the data requested.

Based on the above data, the estimated present and future quantities of liquid wastes to be disposed of in Monroe County are as follows:

	Per Capita	Gallons per year		
		1970	1985	2010
Crankcase oil	1.10	780,000	990,000	1,210,000
Other Oils	0.57	405,000	513,000	627,000
Solvents	2.28	1,620,000	2,050,000	2,255,000
Miscellaneous	0.75	532,000	675,000	825,000
Total	4.70	3,337,000	4,228,000	4,917,000

The above unit quantities have been adjusted to correct for the inclusion of solvents and oils under "Miscellaneous" in the survey included in all items except crankcase oil, to

date. An allowance of 10 percent has been allowed for sources not included in the survey.

In Monroe County, the largest collector of waste oils uses 2000-gallon tank trucks for collecting oil from service stations and other small sources, and 6000-gallon tank trailers for collecting large quantities of oil. The oil is hauled directly to the refinery without intermediate storage or transfer to larger trucks.

Smaller operators generally collect oil in 55-gallon drums. Other industrial wastes are usually transported to the point of disposal or processing in 55-gallon drums.

The methods of disposal presently in use in Monroe County include (a) re-refining of oils, (b) cleaning and reuse of solvents, (c) neutralization and discharge to sewers of acids and alkalis, (d) incineration of oils and solvents, (e) disposal of oils as weed killers or dust control agents, (f) disposal of various liquids in landfills and (g) illegal discharge to sewers and water courses.

In general, companies specializing in liquid waste disposal purify or re-refine the wastes for reuse by the industries producing them. In one of the methods of re-refining oil, the oil is first centrifuged to remove entrained dirt and metals. The material removed, about 15 percent of the original volume, is marketed as a dust control agent for roads. In subsequent processes an acid sludge is produced which amounts to about 8 percent of the original volume. The sludge is presently disposed of in a landfill. The balance of the oil is re-refined or used as fuel in the refinery.

Other liquid wastes collected for processing include methylethyl ketone, perchloroethylene, spent etching solutions, trichlorethylene and a variety of acids. In general the process is to remove the impurities from solvents and return them to the producers to be reused. Acids are generally neutralized and discharged to the sewers.

A relatively small amount of oil is collected and disposed of with little or no processing as a weed killer or as a dust control agent for gravel roads, parking lots, etc. Some oil is also disposed of on land and some oils and other liquid industrial wastes are undoubtedly disposed of illegally in sewers.

The estimated volumes of liquid wastes disposed of by the various methods are as follows:

Item	Gallons per year
Processed out of Monroe County	1,550,000
Processed in Monroe County	200,000
Disposed of on-site	1,400,000
Disposed of off-site	187,000
Total	3,337,000

The above figures illustrate certain conditions peculiar to Monroe County. About 90 percent of the wastes processed outside the county are crankcase and other lubricating oils. It appears, therefore, that all but a very small fraction of such wastes are disposed of in this manner. Of the wastes disposed of on-site, essentially all are produced by a single large industry and disposed of by incineration. The wastes disposed of off-site amount to only 5.3 percent of the total produced.

The methods of disposal of liquid wastes considered acceptable under the right conditions include (a) salvage, (b) incineration, (c) neutralization and discharge to sewers, (d) use as weed killers and dust control agents, (e) burial in containers and (f) deposition in earth-filled pits or depressions.

Salvage is the preferred method of disposal. It is practiced extensively in Monroe County for lubricating oils. Substantial amounts of solvents are also cleaned and reused. The major companies engaged in this work have expressed confidence that they can meet the demand for their services at a reasonable cost.

Incineration is a satisfactory method of disposal for liquid wastes and is, perhaps, the only satisfactory method for very toxic or highly flammable wastes. The liquids may be burned with other wastes in an incinerator equipped to handle both liquid and solid wastes, or they may be burned in incinerators specially designed for liquids. It is reported that an installation capable of burning about 20 gallons per hour would cost about \$35,000 including foundations, electrical work, storage tanks and transfer pumps.

The combustion characteristics and products of liquid wastes vary widely and any installation would be limited in the range of materials it could handle. Oils and solvents may readily be burned. Other liquids may require auxiliary fuel and special equipment for air pollution control.

Acid and alkaline wastes may be neutralized

and discharged to sewers. It would be feasible for a community to provide central storage and handling facilities at which such wastes would be accepted and mixed before being discharged to the sewers. This would permit closer control over the process than is possible when it is carried out in individual plants or by private industry.

Oil may be used as a weed killer or dust control agent. The volume that may be disposed of in this manner is, however, very small.

Small amounts of toxic or hazardous liquids in containers may be disposed of in landfills. Eventually, however, most containers will corrode and release the liquid. The life of the container may be increased substantially by double-drumming. This involves placing the drum of liquid inside a larger drum and filling the annular space with concrete. Neither of these methods is acceptable where release of the contents will jeopardize groundwater supplies.

In areas where there is no danger of polluting the groundwater, liquids may be deposited in pits or depressions which are subsequently filled with earth to absorb the liquid. Obviously this should not be done with toxic or hazardous liquids. Oil is perhaps most frequently disposed of in this manner. It is important that the pits be located apart from the general landfill operation to avoid the danger of fires.

It is recommended that the salvage of liquid wastes by private industry be encouraged. The disposal of liquids on land should be closely regulated and limited to locations where this method of disposal will not result in the contamination of ground or surface waters. As suitable sites for this method of disposal may be unavailable or of limited capacity, consideration should be given to eventually providing facilities for the incineration of liquid wastes.

As about 95 percent of the liquid wastes generated in Monroe County are now salvaged or disposed of on-site, there appears to be no immediate need to provide special County facilities for such wastes. Consideration should, however, be given to providing storage facilities in the future, to which liquid wastes could be delivered by the producer for

