#### SUPPORTING DOCUMENT ENGINEER'S ANALYSIS OF UTILITY SERVICE AVAILABLE TO THE PROPERTY

Attached is a report by the owner's engineer confirming that all needed utility services pursuant to the requested zoning are available to the property.

### **UTILITY ANALYSIS**

# Rand/Old McHenry Commercial Development MEL Job No. 2010-032

Prepared for:

RK1, LLC / RK2, LLC / RK3, LLC 425 South Creekside Drive Palatine, Illinois 60074

Prepared by:

Marchris Engineering Ltd. 100 East State Parkway Schaumburg, Illinois 60173

September 10, 2010

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- Appendix B Email Correspondence
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#### I. INTRODUCTION

This report provides an analysis of the sanitary sewer and potable water supply needs and possible improvements required to serve the proposed commercial development property located at the southeast corner of US Route 12 (Rand Road) and Old McHenry Road in unincorporated Lake County. An examination of the potential sanitary service and potable water supply utility options to serve the subject property has been done. Currently, no water supply or sanitary sewer utilities service the site.

#### SITE LOCATION

The subject property is located in unincorporated Lake County. Figure 1 is a map showing the location of the project site. Communities proximate to the proposed development property include the Village of Lake Zurich, the Village of Wauconda, and the Village of North Barrington. The Plat of Survey (Figure 2) prepared by George T. Harker and Associates and dated April 2, 2006, indicates that the site is generally triangular in shape with a total area of 118.795 acres. The boundary of the property is defined by Rand Road (US Rte 12). Old McHenry Road defines the northern and eastern boundary of the property. The southern boundary of the property is the north boundary of the Valentine Manner sub-division.

### II. FACILITY PLANNING AREA (FPA)

The subject property is located within the Lake Zurich Facility Planning Area (FPA). Figure 3 is a map showing the FPA boundaries nearby the subject property. The Lake Zurich FPA does not contain a Waste Water Treatment Plant (WWTP). All wastewater generated within the Lake Zurich FPA flows via a series of gravity sewers, pump stations, and forcemains to the Lake County Des Plaines WWTP located southeast of Lake Zurich.

The Des Plaines WWTP is owned by Lake County and operated by the Lake County Public Works Department. The Des Plaines WWTP has a design capacity of 16 million gallons per day (MGD). Average daily flows to the Des Plaines WWTP are 12 MGD or approximately 75% of design capacity.

The Lake County Public Works Department staff indicated that IEPA Permit 1991-IC-2376 currently allows 3.2 MGD to flow from the Lake Zurich FPA to the Des Plaines River WWTP for treatment. This allocation is based on the capacities of the permitted pumping station that directs flow from the Lake Zurich FPA to the Lake County Des Plaines WWTP. The Village of Lake Zurich Public Works staff was contacted regarding capacity in the Village of Lake Zurich wastewater system for the subject property. The staff indicated that the flow from the subject property was taken into consideration.

The Village of Lake Zurich staff further indicated that the Village is not limited in terms of available capacity at the Des Plaines WWTP. The main pump station and forcemain system that serves the Lake Zurich FPA has capacity to accept the current allotment for the existing tributary and proposed tributary areas.

### III. SANITARY SEWERAGE TREATMENT

#### CONNECTION TO LAKE ZURICH

The subject property is in the Lake Zurich Facility Planning Area. Connection to the Lake Zurich sanitary sewer system would use the Lake County sewer that is to be constructed for the Wynstone Property Owners Association (WPOA). The Lake County sewer is being sized to handle flows from WPOA and flow from the subject property. *Figure 4* is a map showing the proposed WPOA forcemain.

Sanitary flows from the subject property would be conveyed to the Lake County sewer via gravity sewer or pump station and forcemain, depending on where the Lake County sewer pump station is sited. The Lake County sewer includes a pump station and forcemain that conveys sanitary flows to the Lake Zurich gravity sanitary sewer system. A Lake Zurich pump station and forcemain conveys all Lake Zurich sanitary flow to a pump station operated by Lake County Public Works. The Lake County pump station and forcemain conveys all flows to the Lake County treatment facility.

#### **ON-SITE SANITARY FACILITIES**

Wastewater flows from a development will fluctuate during the day dependant on the development's land uses. The daily flow fluctuations from a commercial development will be different from a residential development. Typically, residential flow peaks during early morning and again in the evening hours reflecting uses as families prepare for work or school and then return from work or school. This daily peaking flow must be planned in the system facilities design. Therefore, pump stations and sanitary sewers are designed to have capacity to convey the anticipated peak flow.

Using appropriately designed wastewater sewerage facilities, all necessary PE required for the development will be released at a rate that does not require the need to upgrade the downstream facilities.

The on-site wastewater sewerage facilities shall include:

- Appropriately designed sanitary sewers;
- Pump station with appropriately designed wet wells.

#### V. WATER SUPPLY

The proposed development site is within reasonable distance of local municipal public water systems. The development could also be served by an on-site well system.

#### VI. NATURAL GAS SUPPLY

The proposed development site is not currently serviced by a natural gas provider, but is within the jurisdiction of Nicor, Inc. According to maps received from Nicor, Inc., and included in Appendix B, a four (4) inch natural gas main runs within the Rand Road right-of-way along the west property line of the subject property. In addition to the four inch line under Rand Road, a six (6) inch natural gas main runs within the McHenry Road right-of-way along the east property line of the subject property. That six inch line then transitions to a four (4) inch line as it runs northwest. Along the northeast and north

property lines of the subject property the natural gas line under McHenry Road is four inches in diameter.

#### VII. ELECTRICITY SUPPLY

The proposed development site is not currently serviced by an electricity provider, however, Commonwealth Edison (ComEd) staff have been contacted in regard to the availability of three phase electrical service at this site. The ComEd field engineer for the subject property stated that ComEd was legally bound to provide electrical service to the site. He further explained that ComEd would provide the subject property with any electrical load anticipated.

### VIII. TELEPHONE, INTERNET, AND CABLE SUPPLY

The proposed development site is not currently serviced by a telephone, internet, and cable provider, however, AT&T staff have been contacted in regard to the availability of these three utilities for this site. The AT&T field engineer for the subject property stated that AT&T was legally bound to provide telephone service to the site. He further explained that AT&T would provide the subject property with DSL internet service and cable television.

#### IX. SUMMARY

Based on the above analysis, a 108.795 acre development containing approximately 44 acres of developed area can be served with appropriate sewerage, water, natural gas, electricity, and telephone, internet, cable services. All necessary providers have been contacted and have confirmed the ability of their respective utilities to provide service to the subject property.

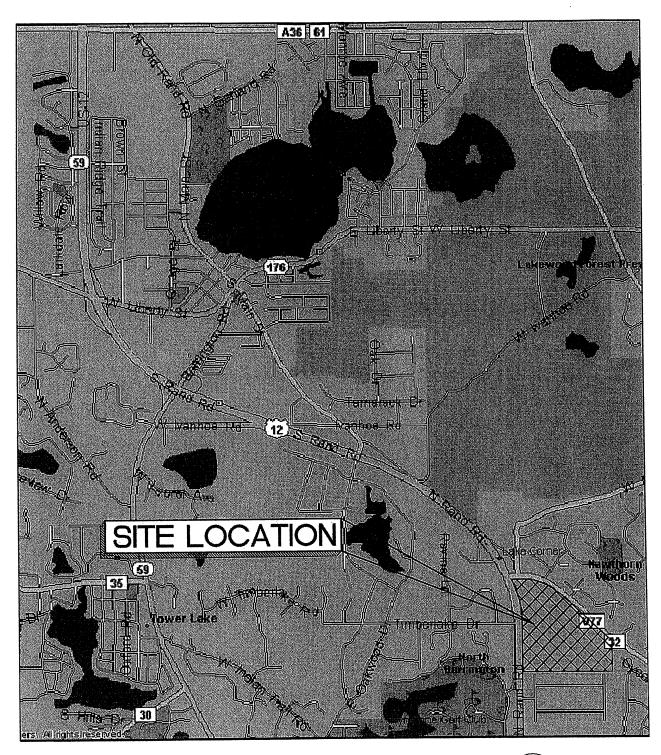
### **FIGURES**

FIGURE 1 – SITE LOCATION AND AREA ROAD NET

FIGURE 2 – PLAT OF SURVEY

FIGURE 3- LAKE ZURICH FPA MAP

FIGURE 4- PROPOSED LAKE COUNTY SEWER & FORCEMAIN



SECTIONS 5&6, TOWNSHIP 43N, RANGE 10E LAKE COUNTY, ILLINOIS



### SITE LOCATION AND AREA ROAD NET

FIGURE 1

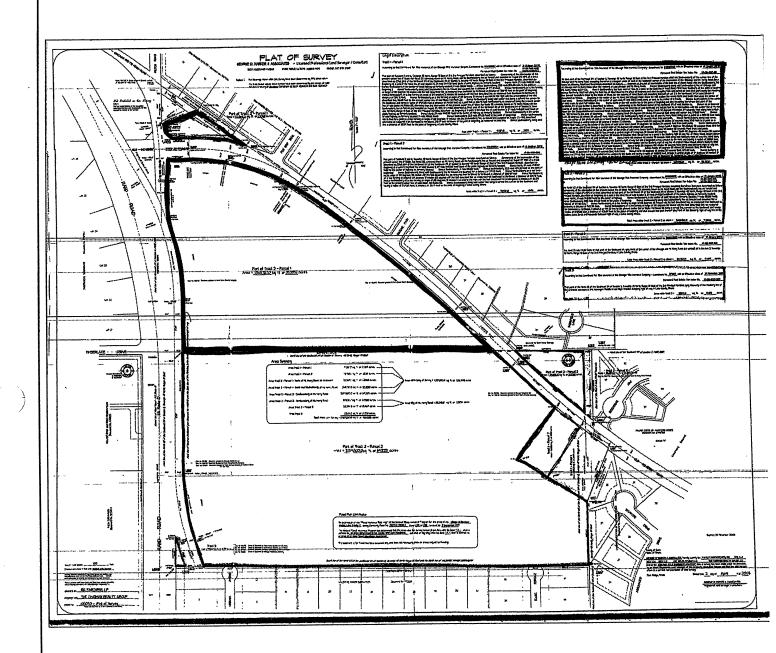


### MARCHRIS ENGINEERING, LTD.

CONSULTING ENGINEERS AND PLANNERS 100 East State Parkway Schaumburg, IL 60173 Tel: 847-885-8357 Fax: 847-885-2252 www.marchris.net

### RAND/ OLD McHENRY COMMERCIAL DEVELOPMENT

SE. CORNER OF US ROUTE 12 (RAND ROAD) and OLD MCHENRY ROAD UNINCORPORATED, LAKE COUNTY, ILLINO'S



**PLAT OF SURVEY** 

FIGURE 2

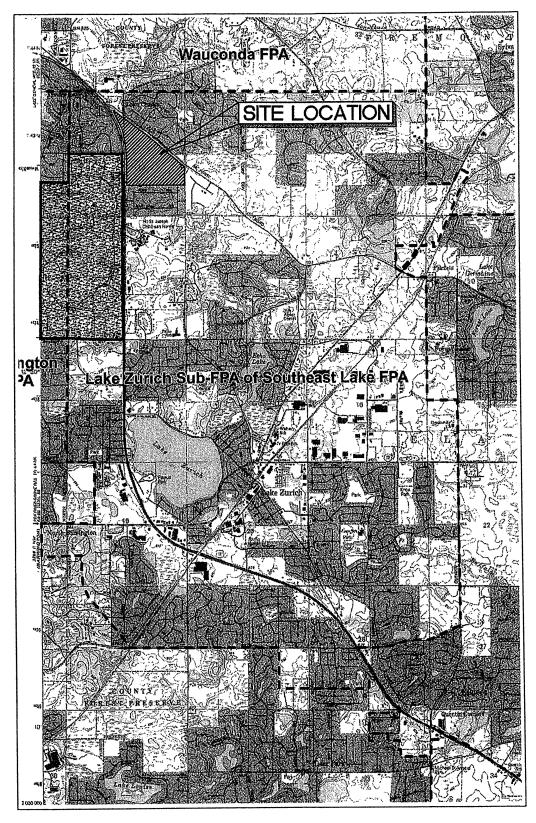


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SE. CORNER OF US ROUTE 12 (RAND ROAD) and OLD McHENRY ROAD UNINCORPORATED, LAKE COUNTY, ILLINOIS



LAKE ZURICH FPA MAP

FIGURE 3

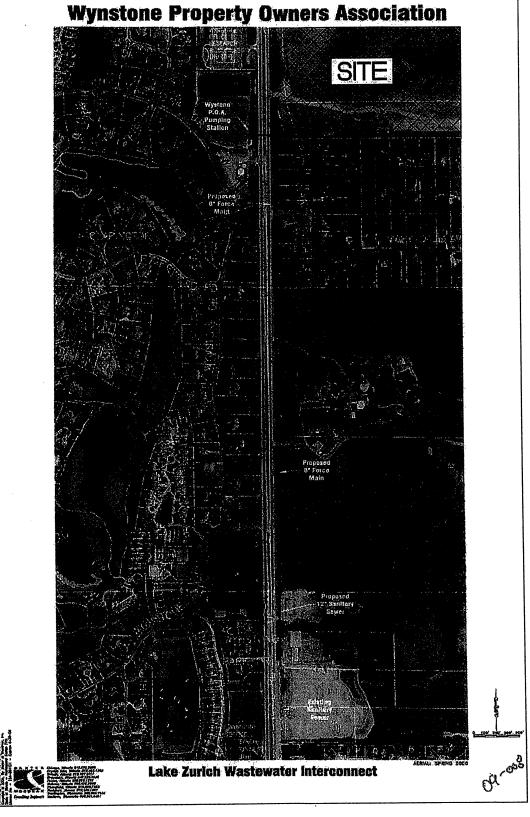


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### RAND/ OLD McHENRY COMMERCIAL DEVELOPMENT

S.E. CORNER OF US ROUTE 12 (RAND ROAD) and OLD Michenfry ROAD UNINCORPORATED, LAKE COUNTY, ILLINOIS



### PROPOSED LAKE COUNTY SEWER & FORCEMAIN

FIGURE 4



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### RAND/ OLD McHENRY COMMERCIAL DEVELOPMENT

S.E. CORNER OF US ROUTE 12 (RAND ROAD) and OLD MCHENRY ROAD UNINCORPORATED, LAKE COUNTY, ILLINOIS

### APPENDIX A

PHONE LOGS



### **Phone Log**

**Job** #: 2010-032

**Date:** 03/03/2009

Signed: Bogdan Pantic

### Chuck Degrave, Lake County Public Works, (847) 377-7500

- Informed me that the Lake Zurich sanitary was permitted designed to input 3.2 MGD.

- It was permitted under IEPA Permit No. 1991-IC-2376.



### **Phone Log**

Job #: 2010-032 Signed: Paul Jasper

**Date:** 03/10/2009

### Chuck Degrave, Lake County Public Works, (847) 377-7500

- He stated that Lake Zurich was permitted to discharge 3.2 MGD.

- I told him that Lake Zurich had informed me that they were permitted to discharge whatever the capacity of their lift station was. (18.5 to 19 MGD)

- He said that the 3.2 MGD that he quoted was an average flow and the 18.5 to 19 MGD that Lake Zurich quoted was probably a peak flow.

- I asked him for a copy of the permit and he said that he would fax it over to me later today or tomorrow morning.



### **Phone Log**

**Job** #: 2010-032

**Date:** 03/10/2009

Signed: Paul Jasper

### Dave Heyden, Village of Lake Zurich, (847) 540-1696

- He informed me that Lake Zurich's lift station has the capacity to pump 18.5 to 19 MGD to the Lake County Des Plaines River WWTP.

- He said that 3 MGD was the average that their lift station was doing now, and their permit allowed them to discharge whatever capacity their lift station could handle.

- He mentioned that the closest connection to the Lake Zurich sanitary sewer system was south of our site.



### **Phone Log**

**Job #:** 2010-032

Date: 08/30/2010

Signed: Paul Jasper

### Milo Golonka, Commonwealth Edison, (630) 691-4407

- Mr. Golonka is the field engineer in the area of the subject property.
- He indicated that ComEd will provide three phase electrical service to the development.
- In addition, Mr Golonka indicated that he would need a load estimation to determine the requirements of the site, however, he assured me that whatever the load ComEd could and would service the site.



### **Phone Log**

Job #: 2010-032 Signed: Paul Jasper

Date: 08/30/2010

### Bill Atella, AT&T, (847) 888-6837

- Mr. Atella is the field engineer in the area of the subject property.

- He indicated that AT&T is bound by law to bring telephone service to the development.
- In addition, Mr. Atella indicated that AT&T would provide a DSL internet connection and cable television to the site.
- Mr. Atella would like to be part of any meeting with ComEd.

# APPENDIX B

EMAIL CORRESPONDENCE

#### **Paul Jasper**

From:

gasmaps [gasmaps@NICOR.COM]

Sent:

Wednesday, September 01, 2010 1:31 PM

To:

Paul Jasper

Cc:

SuzAnne Ehardt

Subject:

RE: SEC Rand Road & Old McHenry Road Gas Availability; N7694

Sensitivity: Confidential

With reference to your request received for main details, I am sending atlas page(s) indicating the location of our gas main(s) in the area of your proposed project. The dimensions and location of Nicor Gas utility facilities as shown on these plans are an estimate for design purposes only, and are not intended for use as field locations for construction. Nicor Gas does not warrant accuracy. These pages are considered confidential. Please handle these pages accordingly. Review and verify that the page(s) attached is the area of your request. If this is not the page you have requested, please advise and correction will be made. Please feel free to contact me if you need assistance in reading the attached pages. The date of this email represents the date of the attached page(s) most recent version and should be considered the applicable date/time stamp.

NOTE: New services are handled through our New Business Department. Please contact Ms Suzanne Ehardt, Sr Construction Coordinator at (815) 261-9432 for further direction. Suzanne has also been

copied to this email.

Please phone JULIE at 811 OR 1-800-892-0123, 48 hours prior to construction for location of our facilities

within your proposed improvement.

Your project was assigned Engineering #N7694. Please refer to this number in all future correspondence to assist with expediting any future inquiry

Constance (Connie) Lane Engineering Administrator Nicor Gas - Engineering 1844 Ferry Road Naperville, IL 60563 (630) 388-3830 direct (630) 983-0639 fax

The information contained in this e-mail message and accompanying documents is intended for the confidential use of the recipient only and is the property of Nicor Gas Company. If the reader of this e-mail message is not the intended recipient, or an employee or agent responsible for delivery of this e-mail message to the intended recipient, you are hereby notified that any dissemination, distribution, copying or forwarding of this e-mail message is strictly prohibited. If you received the e-mail in error, please notify me immediately at (630) 388-3830. Thank you.

From: Paul Jasper [mailto:pdj@marchris.net]
Sent: Monday, August 23, 2010 9:16 AM

io: gasmaps

Subject: SEC Rand Road & Old McHenry Road Gas Availability

Nicor Representative-

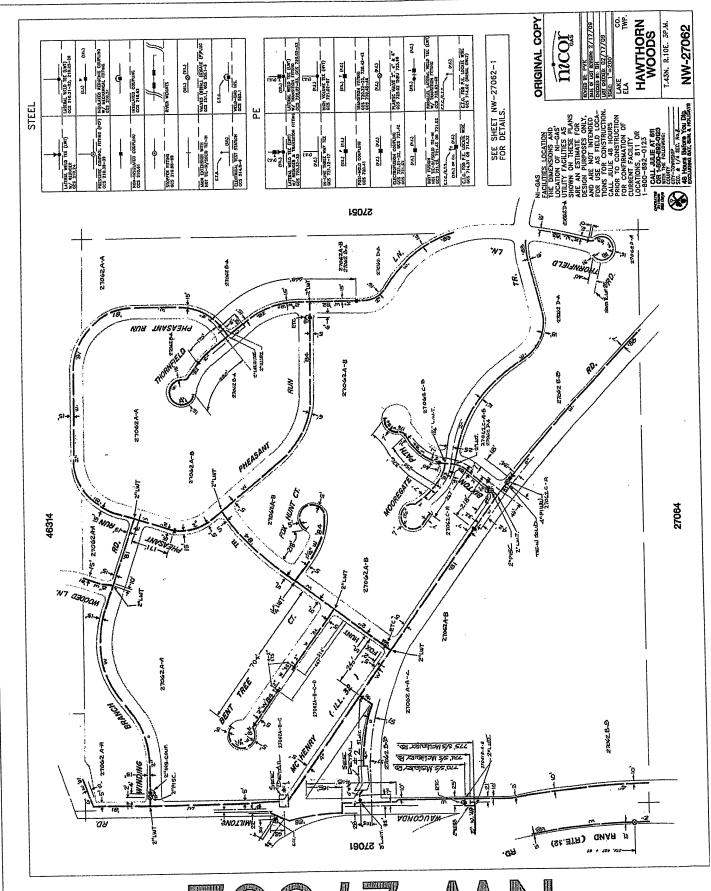
Please provide me the availability of gas service to the approximately 100-acre parcel in the attached pdf. The parcel is located at the southeast corner of Rand Road and Old McHenry Road in unincorporated Lake County.

Also please provide the size and pressure of the closest available gas connection. Thank you.

Sincerely,

### Paul D. Jasper, P.E.

Project Engineer
Marchris Engineering, Ltd.
100 East State Parkway
Schaumburg, IL 60173
phone: 847-885-8357
fax: 847-885-2252



29012-MN

# ORIGINAL COPY BARRINGTON nicor INSULATED TRANS, W/MECH. FTD. SEE SHEET (NONE) FOR DETAILS. P.F. C PE LATERL FROM 4" STL TOWN PROJECT SEE CCS 210.78 OR CCS 210.99 ELECTRON TEST STATION GES 214.8 OR GES 214.8 NAN EXTENSION WITH HOT HE 27053 27064 D-B 27062 27072 27044C-F PIOGIBONA ABILA NO 27064A-B 270628-8 (OR GNAR) этя еи 22063

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# APPENDIX C

LAKE ZURICH IEPA PERMIT



# ILLÍNOIS ENVIRONMENTAL PROTECTI AGENCY WATER POLLUTION CONTROL PERMIT

LOG NUMBERS: 2376-90

PERMIT NO.: 1991-IC-2376

FINAL PLANS, SPECIFICATIONS, APPLICATION

DATE ISSUED: March 29, 1991

AND SUPPORTING DOCUMENTS

PREPARED BY: Rezik, Henry, Meisenheimer and Gende, Inc.

SUBJECT: LAKE ZURICH -- Wastewater Transfer Facilities (LCDPW - DesPlaines Sewage Treatment Plant) C17-2986

RECEIVED
JAN 1 1 1993

PERMITTEE TO CONSTRUCT
Village of Lake Zurich
70 East Main Street
Lake Zurich, Illinois

LAKE COUNTY PUBLIC WORKS

Permit is hereby granted to the above designated permittee(s) to construct water pollution control facilities described as follows:

Approximately 17,136 feet of 48 inch sanitary sewer, 3,444 feet of 42 inch sanitary sewer, 2,012 feet of 36 inch sanitary sewer, 11,308 feet of 30 inch sanitary sewer, 122 manholes; Northwest pump station utilizing 4 submersible pumps each rated 3,200 gpm at 93 ft. TDH with approximately 11,760 feet of 24 inch forcemain; Quentin Road pump station utilizing 4 submersible pumps each rated 6,200 gpm at 30 ft. TDH with approximately 15,170 feet of 36 inch forcemain to serve the Village of Lake Zurich. Ultimate discharge of these sewerage transport facilities is to the Lake County Dept. of Public Works DesPlaines River STP. Design Average Flow for this project is 3.2 MGD.

This Permit is issued subject to the following Special Condition(s). If such Special Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval for issuance of a Supplement Permit.

- 1. This permit is being issued in accordance with Consent Order No. 89-CH-423 in the Circuit Court of the Nineteenth Judicial Circuit, Lake County, Illinois. All conditions of the order are hereby incorporated by reference.
- 2. Issuance of this permit shall not be construed as approval to the grant related requirements, including the Facilities Plan.
- 3. If this project is located within a wetlands, the U.S. Army Corps of Engineers may require a permit for construction pursuant to Section 404 of the Clean Water Act.

Continued on Page 2

THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

TGM: JK: jab/914q/26-27

cc: EPA - Region 2

Rezik, Henry, Meisenheimer and Gende, Inc. /

Records 4

Binds

Terri Zeal, Grants

DIVISION OF WATER POLLUTION CONTROL

Thomas G. McSwiggin, P.E.

Manager, Permit Section

NOIS ENVIRONMENTAL PROTECTION AGENCY WATER POLLUTION CONTROL PERMIT NO.:

LOG NUMBERS: 2376-90

1991-IC-2376

FINAL PLANS, SPECIFICATIONS, APPLICATION

DATE ISSUED: March 29, 1991

AND SUPPORTING DOCUMENTS

PREPARED BY: Rezik, Henry, Meisenheimer and Gende, Inc.

SUBJECT: LAKE ZURICH -- Wastewater Transfer Facilities (LCDPW - Desplaines Sewage Treatment Plant) C17-2986

4. An operating permit for the facilities permitted herein can be issued upon completion of construction and start of operation of all down stream transporting and treating facilities.

5. This permit covers Contracts 1, 2 and 3 for the Lake Zurich wastewater transfer facilities.



#### ILLINOIS ENVIRONMENTAL PROTECTION AGENCY WATER POLLUTION CONTROL PERMIT

LOG NUMBERS: 1522-92

PERMIT NO.: 1991-IC-2376-1

FINAL PLANS, SPECIFICATIONS, APPLICATION

DATE ISSUED: October 29, 1992

AND SUPPORTING DOCUMENTS

PREPARED BY: Rezik, Henry, Meisenheimer and Gende, Inc.

SUBJECT: LAKE ZURICH - Collection System C17-2986 (LCDPW - DesPlaines Sewage Treatment Plant)

PERMITTEE TO CONSTRUCT Village of Lake Zurich 70 E. Main Street Lake Zurich, Illinois 60047

LAKE COUNTY PUBLIC WORKS

Supplemental permit is hereby granted to the above designated permittee(s) to construct and/or operate water pollution control facilities, which were previously approved under Permit #1991-IC-2376 dated March 29, 1991. These facilities have been revised as follows:

Contract 2 sewer quantities have been changed to approximately 6,273 feet of 42 inch sanitary sewer, 15,710 feet of 36 inch sanitary sewer, 12,149 feet of 30 inch sanitary sewer, 110 feet of 15 inch sanitary sewer, 1,063 feet of 8 inch sanitary sewer, 103 manholes and 10,326 feet of 24 inch forcemain.

All standard and special conditions and provisions of the original permit are also applicable to this permit unless specifically deleted or revised in this permit.

This Permit is issued subject to the following Special Condition(s). If such Special Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval for issuance of a Supplement Permit.

- 1. The expiration date of the original permit, 1991-IC-2376 is hereby extended to October 31, 1994.
- 2. Horizontal and/or Vertical Separation between sanitary sewer and water main must be governed by the Standard Specification for Water and Sewer Main Construction in Illinois, Current Edition.

Continued on Page 2

THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

TGM: EP: kc/2678r, 39-40

cc: EPA - Maywood Region

Rezik, Henry, Meisenheimer and Gende, Inc.

Records -

Binds

M. Bowers - Grants

DIVISION OF WATER POLLUTION CONTROL

Thómas G. McSwiggin, P.E.

Manager, Permit Section

IL 532-0009 MPG 140 (Rev. 2/82)

### READ ALL CONDITIONS CAREFULLY: STANDARD CONDITIONS

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1 2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

- Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of saurance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct realment works or pretreatment works.
- The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Parcie Politico Control Board.
- 3 There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
- 4 The permittee shall allow any agent duly authorized by the Agency upon the presentation of credentials:
  - to enter at reasonable times, the permittee's premises where actual or potential effluent, emission of noise sources are located or where any activity is to be conducted pursuant to this permit.
  - have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit.
  - o inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit.
  - to obtain and remove at reasonable times samples of any discharge or emission of pollutants.
  - e to enter at reasonable times and utilize any photographic,

recording, lesting, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.

- 5. The issuance of this permit:
  - shall not be considered as in any manner affecting the little of the premises upon which the permitted facilities are to be located;
  - does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
  - c does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
  - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
  - in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to camage, installation, maintenance, or operation of the proposed equipment or facility.
- Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the Agency : before the facility or equipment covered by this permit is placed into operation.
- These standard conditions shall prevail unless modified by special conditions.
- The Agency may life a complaint with the Board for suspension or revocation of a permit:
  - upon discovery that the permit application contained misrepresentations, misinformation or false statements or that all relevant facts were not disclosed; or
  - upon finding that any standard or special conditions have been violated; or
  - upon any violation of the Environmental Protection Act or any Rule or Regulation effective thereunder as a result of the construction or development authorized by this permit.