

**BEFORE THE
ILLINOIS POLLUTION CONTROL BOARD**

IN THE MATTER OF:)
)
PETITION OF THE VILLAGE OF) AS 05- 02
BENSENVILLE FOR AN ADJUSTED) (Adjusted Standard – Water)
STANDARD FROM)
35 ILL. ADM. CODE 620.410)
REGARDING CHLORIDE AND LEAD)

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CLERK'S OFFICE

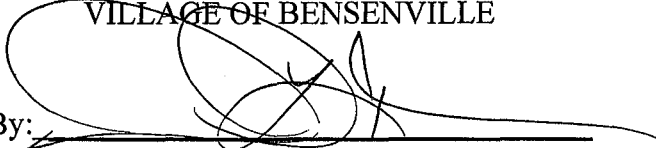
JAN 03 2005

STATE OF ILLINOIS
Pollution Control Board

NOTICE OF FILING

To: Illinois Environmental Protection Agency
Division of Legal Counsel
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

PLEASE TAKE NOTICE that today I have filed with the Office of the Clerk of the Pollution Control Board **APPEARANCE** of David L. Rieser on behalf of The Village of Bensenville; **MOTION FOR EXPEDITED REVIEW; MOTION TO ALLOW FILING OF LESS THAN NINE COPIES; AND PETITION FOR ADJUSTED STANDARD FROM GROUNDWATER QUALITY STANDARDS FOR CHLORIDE AND LEAD AT THE VILLAGE OF BENSENVILLE LANDFILL** in the above titled matter. Copies of these documents are hereby served upon you.

VILLAGE OF BENSENVILLE

By: _____
One of its Attorneys

DATED: January 3, 2005

MCGUIREWOODS LLP
David L. Rieser
77 West Wacker Drive, Suite 4100
Chicago, Illinois 60601
(312) 849-8100

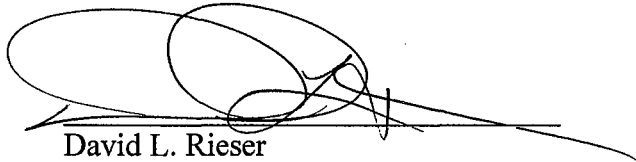
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PROOF OF SERVICE

I, David L. Rieser, an attorney, hereby certify that I caused the attached pleadings to be served upon all parties listed on the attached Notice of Filing via first class U.S. mail from 77 West Wacker Drive, Chicago, IL, on January 3, 2005.


David L. Rieser

MCGUIREWOODS LLP
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77 West Wacker Drive, Suite 4100
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(312) 849-8100

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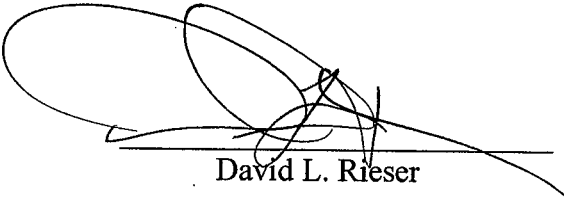
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APPEARANCE

I hereby file my appearance in this proceeding, on behalf of the Village of Bensenville.



David L. Rieser

David L. Rieser
McGuireWoods LLP
77 W. Wacker Drive, Suite 4100
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312-849-8100

\\REA\245519.1

JAN 03 2005

STATE OF ILLINOIS
Pollution Control Board

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MOTION FOR EXPEDITED REVIEW

The Village of Bensenville (“Bensenville”), by and through its attorneys, McGuireWoods LLP, and pursuant to 35 Ill. Adm. Code 101.512, respectfully requests that the Board expedite its review of this matter and states in support as follows:

1. As is described more fully in the Petition and the supporting exhibits, Bensenville seeks this relief in order to allow the IEPA to certify the completion of post-closure care at the Bensenville Landfill. This Site has been turned into a public golf course using an IEPA grant and provides a much needed public resource and open space in the Village.

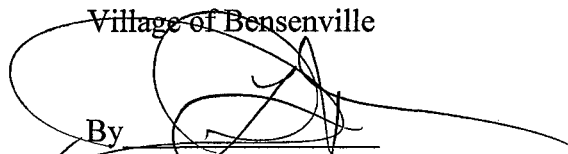
2. As is described more fully in Section III. C. of the Petition, Bensenville has sought the IEPA’s certification in this matter since it took over the closed landfill in 1997. During this time it has performed numerous groundwater studies and analysis and submitted several different supplemental permit applications and amendments to the IEPA for their review. While the IEPA has worked closely with the Village, it has determined that it cannot certify post-closure completion without this relief.

3. Bensenville representatives met with the IEPA in May of 2004 regarding this relief and submitted a draft petition to the IEPA shortly thereafter. The Agency reviewed the petition and responded with numerous useful comments which Bensenville

has incorporated into the Petition filed today. It is Bensenville's expectation that the IEPA will recommend that this relief be granted.

4. Bensenville respectfully requests the Board to expedite its review of this Petition in order to finally complete the process of obtaining certification of its post-closure care. Until that certification is obtained, Bensenville must continue to conduct quarterly groundwater sampling at an annual cost of \$40,000. Bensenville can also not complete work on the public golf course until the certification is completed. As a public body, Bensenville recognizes that these procedures can take time, (and recognizes the work that the IEPA has put into this matter as well) but also as a public body, Bensenville seeks to be responsive to its taxpayers by reducing expenditures that are no longer necessary, based on the information it submitted to the IEPA and which it submits today.

WHEREFORE, for the reasons stated in this motion, Bensenville respectfully requests that the Board expedite its review of this Petition.

Village of Bensenville
By 
One of its Attorneys

David L. Rieser
McGuireWoods LLP
77 W. Wacker Drive, Suite 4100
Chicago, IL 60601
312-849-8100

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MOTION TO ALLOW FILING OF LESS THAN NINE COPIES

The Village of Bensenville, by and through its attorneys, McGuireWoods LLP, respectfully requests that the Board allow it to file less than nine copies of its Petition for Adjusted Standard as required by 35 Ill. Adm. Code 101.302(h). The Petition includes a Groundwater Summary Report which runs to two volumes and includes over 745 pages. This level of detail was required since Bensenville waived its hearing and thus needed to submit its complete factual record. Bensenville has attached the original and three copies and submits that submitting six additional copies would be an unnecessary expense and a drain on the Board's own resources.

WHEREFORE, for the reasons stated in this motion, Bensenville respectfully requests that it be allowed to submit an original and three copies of its Petition and Exhibits instead of the nine copies otherwise required by Board rules.

Village of Bensenville

By 
 One of its Attorneys

David L. Rieser
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Chicago, IL 60601
312-849-8100

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**PETITION FOR ADJUSTED STANDARD FROM
GROUNDWATER QUALITY STANDARDS FOR CHLORIDE AND
LEAD AT THE VILLAGE OF BENSENVILLE LANDFILL**

The Village of Bensenville (Bensenville), by and through its attorneys
McGuireWoods, LLP, submits this petition to the Illinois Pollution Control Board (PCB)
for adjusted groundwater standards for dissolved chloride and total lead at the Village of
Bensenville Landfill located in Bensenville, Illinois. Bensenville submits this petition
pursuant to Section 28.1 of the Illinois Environmental Protection Act (415 ILCS 5/28.1)
and 35 Ill. Adm. Code 104, Subpart D.

I. INTRODUCTION

Bensenville seeks this relief for the Village of Bensenville Landfill ("Site")
located at the northwest corner of Grand Avenue and County Line Road. Bensenville
acquired the Site, which was closed in 1989, from John Sexton Filling and Grading
Contractors Corporation ("Sexton") in 1997. Since 1997, Bensenville has worked with
the Illinois Environmental Protection Agency ("IEPA") to seek certification of its post
closure status. As will be described below, Bensenville has resolved all groundwater-

related issues with the IEPA except for the current presence of elevated concentrations of dissolved chloride and some periodic, historical elevated concentrations of lead. Bensenville maintains and has demonstrated that the periodic, historic elevated concentrations of lead and the elevated levels of chloride are anthropogenic but not related to landfill impacts. The IEPA agrees that the concentrations of these two parameters are likely anthropogenic and that road salt and non-point, off-site sources have likely contributed to the elevated chloride and lead levels but has taken the position that it cannot certify completion of post closure care for the Site when groundwater on the Site exceeds the PCB's groundwater quality standards. Bensenville seeks this relief in order to obtain its certification of completion of post closure care.

II. DESCRIPTION OF RELIEF

A. Standard from Which Adjusted Standard is Sought.
(35 Ill. Adm. Code 104.406(a)).

Bensenville seeks relief from 35 Ill. Adm. Code 620.410(a) solely as it sets out a standard for chloride and lead. This regulation became effective November 25, 1991.

B. Statute Which Regulation is Intended to Implement.
(35 Ill. Adm. Code 104.406(b)).

The PCB adopted this regulation pursuant to the Illinois Groundwater Protection Act, 415 ILCS 55/1 et seq. and not to implement the requirements of the statutes listed at 35 Ill. Adm. Code 104.406(b).

C. Level of Justification.
(35 Ill. Adm. Code 104.406(c)).

The Groundwater Quality Regulations do not specify a level of justification for seeking an adjusted standard of an individual groundwater quality standard, although they do specify a standard for seeking the reclassification of a given groundwater. 35 Ill. Adm.

Codes 620.450. The PCB's regulations applicable to landfills which continued to be in operation after 1990 (and not applicable to the Site) contain justification for adjusted groundwater standards at 35 Ill. Adm. Code 811.320(b)(4). Although the Part 811 standards do not apply to this Site, the regulations for adjusting groundwater quality standards provide a useful framework for justifying this relief.

III. DESCRIPTION OF PETITIONER'S ACTIVITY
(35 Ill. Adm. Code 104.406(d))

Petitioner attaches and incorporates as Exhibit 1 the Groundwater Summary Report dated December 21, 2004 prepared by Environmental Information Logistics, LLC (EIL), Petitioner's environmental consultant. The Site description and environmental information included in this Petition is taken from that document and its attachments.

A. Location of Site.

The Site is located in the Village of Bensenville in DuPage County at the northwest corner of Grand Avenue and County Line Road. The landfill covers 53 acres, 41 of which are filled. The landfill is bordered by the River Forest Golf Club to the west, Grand Avenue and the Mount Emblem Cemetery to the south (City of Elmhurst), County Line Road and Interstate 294 to the east (City of Northlake), and a residential area to the north (Village of Bensenville). A map showing the location of the Site is attached hereto and incorporated herein as Exhibit 2. The area east of County Line Road and Interstate 294 is industrial and is located in the City of Northlake within Cook County. There are no schools, hospitals, or churches located within the residential area north of the landfill. The Village is served by a municipal drinking water supply that obtains water from Lake Michigan.

B. Past Operations.

Prior to operation as a landfill, the Site, owned by John Sexton Filling & Grading Contractors Corp. (Sexton), was used as a borrow pit for materials utilized in the construction of Interstate 294. From May 31, 1973 through July 24, 1987, Sexton operated the Site as a landfill, accepting demolition debris, concrete rubble, foundry sands, and logs, brush, and debris generally derived from the landscaping industry. The Site also accepted ash generated by an on-site, permitted air curtain destructor (ACD) that operated intermittently from March 1974 to October 1985. The ACD consisted of a subsurface rectangular structure with concrete walls used to burn landscaping debris. At no time was the Site authorized to accept either hazardous or general domestic wastes.

C. Closure/Post-Closure Care History

Sexton completed closure activities, including the decommissioning of the ACD, on October 4, 1989. Sexton submitted documentation of these activities to the IEPA on October 30, 1989. On January 29, 1990, the IEPA issued Supplemental Permit No. 1989-305-SP beginning the required five-year minimum post-closure care period. On March 27, 1997, Sexton submitted a supplemental permit application (SPA) (IEPA Log No. 1997-116) demonstrating that the post closure care requirements for the facility had been met. Due to the then pending transfer of the property to the Village of Bensenville, however, Sexton requested that this SPA be withdrawn in a letter received by the Agency November 25, 1997.

The permit was transferred from Sexton to Bensenville by the IEPA on December 23, 1997. Bensenville acquired the Site with a grant provided by the IEPA. Bensenville sought the Site to develop it for use as open space. In accordance with the IEPA's grant,

and consistent with its post-closure care permit, the Village constructed a golf course, which was opened to the public in the spring of 2003.

The IEPA issued Supplemental Permit 1998-166-SP on June 12, 1998 in response to a SPA requesting placement of soils on the cap and that the landfill's name be changed from the "County Line Landfill" to the "Village of Bensenville Landfill." Bensenville's consultant, EIL, prepared and submitted a SPA on August 31, 2000 to satisfy the IEPA's request for further Site groundwater assessment. After EIL responded to a draft denial, the IEPA issued Supplemental Permit No. 2000-321-SP on February 13, 2001 approving the scope of the groundwater assessment monitoring plan.

EIL conducted the groundwater investigation and submitted the results to the IEPA as a SPA (Log No. 2001-174) on May 1, 2001, as required. The results of the investigation indicated that there were no organic compounds in Site groundwater. The results also indicated that there were some inorganic constituents in Site groundwater, including chloride and lead, but at concentrations that were below permit-specified criteria or were attributable to background conditions. The conclusion presented in the SPA, therefore, was that the landfill had not caused any impacts to groundwater beneath the Site. On this basis Bensenville again requested that the IEPA release the Site from post-closure care.

From October, 2001, through September, 2004, Bensenville and the IEPA exchanged correspondence regarding the completion of post closure care for the Site. The IEPA submitted several draft denial letters and Bensenville answered the IEPA's concerns until the only remaining issues were the current presence of chloride, and the periodic presence of lead in the Site groundwater at concentrations exceeding their

respective Illinois Class I groundwater quality standards and not attributable to naturally occurring conditions. No other constituent concentration in Site groundwater currently exceeds Illinois Class I groundwater quality standards.

Messrs. Michael Hirt and Jay Corgiat of EIL met with Mr. Paul Eisenbrandt and Ms. Gwenyth Thompson of IEPA on June 9, 2003 to discuss the May 9, 2003 IEPA draft denial letter and the IEPA's concern regarding the elevated chloride and lead concentrations. During the meeting EIL summarized the previously submitted documentation that suggested an off-Site source of chloride (e.g., road salt) and presented the results of new evidence (comparison of sodium to chloride molar ratios in groundwater and leachate) that further strengthened the non-landfill chloride source argument.

The IEPA acknowledged that there was compelling documentation to suggest that off-Site, non-point sources contributed to the dissolved chloride and lead concentrations in wells located near County Line Road and Grand Avenue. However, the IEPA stated that because the sources of chloride and lead are believed to be anthropogenic and not due to naturally occurring, background variability, and because the current chloride and periodic lead concentrations in Site groundwater exceeded Illinois groundwater standards, the Village would have to obtain a Site-specific adjusted standard for dissolved chloride and total lead from the PCB before the IEPA will agree to release Bensenville from the requirements of post-closure care at the Site.

IV. DESCRIPTION OF GROUNDWATER CONDITIONS AND LACK OF ENVIRONMENTAL IMPACT
(35 Ill. Adm. Code 104.406(g))

A. Geology

The near surface geology of this area is generally characterized by a varying thickness of glacially-derived soils overlying Silurian Age dolomite bedrock. Based on the findings of investigations conducted when the facility closed, the glacially-derived soils at the Site range in thickness from approximately 55 feet, below Addison Creek, to over 70 feet. These consist of, in descending order, an upper silty clay unit (5 to 25 feet thick), an upper water bearing unit comprised of silty sands (10 feet thick), a middle unit consisting of clayey till (5 to 20 feet thick), a lower water bearing unit consisting of silty sand (<5 to 20 feet thick), and at some locations a lower silt and clay unit (5 to 15 feet thick). The lower water bearing unit is commonly referred to as a basal outwash, a term that is based on its physical connection with the underlying Silurian Age dolomite bedrock. This basal outwash is the only water-bearing unit at the Site that the IEPA requires to be monitored. The results of more recent investigations suggest that the glacially-derived soils overlying bedrock may be less than 60 feet thick outside the perimeter of the landfill. These glacially-derived soils tend to vary significantly in thickness, texture, and continuity in northern Illinois. In fact, the glacially-derived soils completely "pinch out" approximately four miles to the southeast at the former Hillside rock quarry and approximately two miles to the southwest at the current Elmhurst rock quarry (Piskin, K, 1975, Illinois State Geological Survey Circular 490, *Glacial Drift in Illinois: Thickness and Character*), both of which were/are used to mine Silurian Age dolomite bedrock where it essentially outcrops at the ground surface (i.e., where there is

no glacially-derived soil overburden material). Based on regional information, the Silurian Age dolomite bedrock under the Site may be greater than 200 feet thick and contains a relatively large amount of fissures, fractures, and solution cavities.

B. Hydrogeology

Groundwater in the upper and lower water bearing units generally occurs as a function of recharge derived from vertical infiltration of runoff and precipitation from the surface through the glacial deposits. Groundwater recharge in the lower water bearing unit is also influenced by the underlying Silurian dolomite bedrock where the two are in hydraulic or direct physical connection (ISWS Circular 149, 1981, included in Exhibit 1 as Appendix 11), such as at the Site. The upper water bearing unit is highly discontinuous and heterogeneous across the Site based on existing borehole information. As such, it yields minimal amounts of groundwater. The IEPA previously allowed groundwater monitoring in the upper water bearing unit to be discontinued. Generally speaking and on a regional basis, the lower water bearing unit is discontinuous and is entirely absent a few miles downgradient of the Site (Piskin, K, 1975, Illinois State Geological Survey Circular 490, *Glacial Drift in Illinois: Thickness and Character*). Groundwater yield in the lower water bearing unit is generally related to the degree of connectivity with the underlying Silurian Age dolomite bedrock. The yield potentials tend to be much higher at locations where the lower water bearing unit are in direct hydraulic connection with the underlying Silurian Age dolomite bedrock (ISWS Circular 149, 1981).

The lower water bearing unit, or basal outwash, has been monitored during the post closure care period since 1990 via a network of six monitoring wells. Of these, one

well (G114) is located hydraulically upgradient of the Site. The remaining five wells (G115/R115, G116, G117, G118/R118, and G117/R117) are located downgradient of the landfill. Depths to groundwater in the lower water bearing zone currently range from approximately 20 feet to 35 feet below ground surface. Horizontal groundwater flow in the lower water bearing unit at the Site has been consistently from northwest to southeast. Unretarded, horizontal groundwater flow rates are on the order of approximately four meters per year, based on a calculated gradient of 0.003 feet per foot (EIL, 2004, *Annual Assessment of Groundwater Flow and Hydraulic Gradients*), an estimated hydraulic conductivity of 1×10^{-3} cm/sec (Fetter, C., 1980, *Applied Hydrogeology*), and an assumed porosity of 0.25 (Fetter, C., 1980, *Applied Hydrogeology*).

Chloride is a conservative constituent in terms of its mobility in groundwater, meaning that it generally travels unretarded in groundwater and, therefore, horizontal travel times for chloride would be expected to be on the order of four meters per year, or 1300 feet per 100 years. Lead, however, is significantly retarded compared to chloride. Lead is typically modeled in Illinois as retarded by a factor of 18 (IEPA, *Appendix C to LPC-PA2, Instructions for the Groundwater Protection Evaluation for Putrescible and Chemical Waste Landfills*, rev. 10/21/92). That is, lead is expected to migrate in groundwater at rate of approximately 18 times slower than conservative constituents, such as chloride. As such, horizontal travel times for lead would be on the order of 0.22 meters per year, or 75 feet per 100 years.

Groundwater in the Silurian Age dolomite bedrock occurs in joints, fissures, and solution cavities. The groundwater yield within the bedrock varies considerably based on the distribution and connectivity of the joints, fissures, and solution cavities, but tends to

be most productive in the upper portion of the bedrock where it is more densely fractured. The Silurian Age dolomite bedrock is recharged directly from the overlying glacial deposits, or directly from precipitation where the bedrock is exposed at the surface. In general, the Silurian Age dolomite bedrock is capable of yielding significant volumes of water compared to the lower water bearing unit. For example, based on a 1981 Illinois State Water Survey report (ISWS Circular 149, 1981), "Groundwater withdrawals from the shallow aquifers in DuPage County averaged 36.7 mgd [million gallons per day] during the past 13 years; 34.3 mgd was from the [Silurian Age] dolomite and 2.4 mgd was from the sand and gravel." As such, less than 10 percent of the DuPage County groundwater budget was historically (from the late 1960s through the early 1980s) provided by the unconsolidated glacially-derived units. These numbers have likely decreased in recent years with the increased availability of municipally supplied water from Lake Michigan water.

Groundwater flow within the Silurian Age dolomite bedrock is generally from west to east. However, this flow is significantly affected on a local basis by dewatering activities associated with numerous local rock quarries. There is no Site-specific groundwater flow information in the Silurian Age dolomite bedrock.

C. Groundwater Quality – Silurian Age Dolomite Bedrock

Groundwater quality in the Silurian Age dolomite bedrock near the Site is well documented and is known to be high in chloride and other inorganic constituents (ISWS Circular 149, 1981). In general, concentrations of total dissolved solids (TDS), hardness (as CaCO₃), sulfate, chloride, sodium, and total iron are high and, in many cases, several times higher than applicable drinking water standards. The greatest concentrations of

these constituents tend to be found in areas that are more densely developed by human activity, such as near the Site (ISWS Circular 149, 1981). These constituents include the highest total dissolved solid concentrations in the LaGrange-McCook and the Elmhurst-Bensenville-Northlake areas, the highest chloride concentrations in the Elmhurst-Berkley-Bensenville area, and the highest sodium concentrations in the Elmhurst-Berkley-Bensenville and the Burr Ridge-Hinsdale areas. Concentration contour maps from ISWS Circular 149 are included as Exhibit 3. In fact, chloride concentrations in the Silurian Age dolomite bedrock near the Site were observed to be similar to those observed in Site groundwater collected from the lower water bearing unit.

The high chloride concentrations in the Silurian Age dolomite bedrock have been attributed to heavy road salt applications along major roads, including Interstate 294 (ISWS Circular 149, 1981), that infiltrates through the overlying glacial units, including the lower water bearing unit. Based on information provided by the Illinois State Toll Highway Authority (http://www.illinoistollway.com/portal/page?_pageid=135,41314&_dad=portal&_schema=PORTAL), they applied an average of 56,665 tons of salt annually during the past eight years to their 274 miles of toll roads. This is equivalent to 207 tons of salt per mile of road per year, or 34.5 tons of salt per lane-mile for a six lane highway. As previously indicated, Interstate 294 runs north-south adjacent to the east boundary of the Site. In addition, Grand Avenue and County Line Road (which border the Site to the south and east, respectively) are also salted during the winter months by both the Village of Bensenville and DuPage County road crews.

In addition to surface infiltration of contaminants, significant dewatering activities, such as those associated with nearby rock quarries in Elmhurst (two miles to

the southwest) and Hillside (four miles to the southeast), have changed the redox conditions in the Silurian Age dolomite bedrock, resulting in increased concentrations of some dissolved constituents (ISWS Circular 149, 1981).

D. Groundwater Quality – Lower Water Bearing Unit

Groundwater quality in the lower water bearing unit at the Site is well documented on the basis of nearly 14 years of quarterly post closure care monitoring and statistical reporting. During the 14-year time period there have been no confirmed detections of organic compounds in Site groundwater.

From a regional perspective, groundwater quality in the lower water bearing unit is not well documented because it is not currently utilized to any great extent, especially for human consumption, downgradient of the Site. In fact, Bensenville and many nearby communities either severely restrict or specifically prohibit the private use of groundwater extracted from the glacial materials.

E. Groundwater Usage

In order to evaluate the impact of the proposed change, EIL evaluated groundwater usage and monitoring wells within one half-mile of the site. Bensenville previously obtained all of its water from deep wells (ISWS Circular 149, 1981), and currently obtains its water from Lake Michigan. Bensenville also maintains a private well use restriction (Bensenville Municipal Code 8-7-23), included as Exhibit 4, that states:

“From and after July 6, 1984, it shall be unlawful for any person to install a well, cistern, or other groundwater collection device to be used to supply any water supply system if a water main constituting a part of the Village’s public water

supply system is within two hundred feet (200') of the nearest property line of the property upon which the well, cistern, or other groundwater collection device would be drilled or connected."

Based on communications with personnel in the Bensenville public works department and DuPage County Public Health Department, well database information obtained from the Illinois State Geological Survey (ISGS) and the Illinois State Water Survey (ISWS), and a reconnaissance performed on December 2, 2004, there are no known private wells or monitoring wells in Bensenville located within one half-mile of the Site that are screened in the lower water bearing unit, with the exception of the Site monitoring wells.

Based on that same reconnaissance, there are no wells screened in the lower water bearing unit in the City of Northlake located adjacent to and east (downgradient) of the Site. Northlake, as shown in the map in Exhibit 5, does not currently maintain a private well use restriction. The majority of properties located within one half-mile of the Site are industrial/commercial in nature. In addition, there is a small residential area located due east of and within one half-mile of the Site. Based on discussions with the Northlake public works department, Cook County Public Health Department, and a number of residents in the residential area, well database information obtained from ISGS and ISWS, and a reconnaissance performed on December 2, 2004, the various industries/commercial operations within one half-mile downgradient of the Site obtain their water from either deep bedrock wells or from Lake Michigan. The homeowners within the small residential area are connected to the Northlake municipal water supply that is sourced from Lake Michigan and there are no known private wells or monitoring

wells located in Northlake within one half-mile downgradient of the Site that are screened in the lower water bearing unit.

There were, however, a few monitoring wells previously located within one half-mile of the Site associated with a former Leaking Underground Storage Tank (LUST) site (Leon Parent Trucking, LUST incident number 961459). Those monitoring wells were abandoned based on discussions with the property owner and field observations during the December 2, 2004 reconnaissance. There was also a private well previously located east of the Site on what is now property owned by National Trucking. Based on ISGS well records, the well was screened in the underlying Silurian Dolomite bedrock. Company representatives of National Trucking indicated that the well was previously abandoned. The abandonment was evident during the December 2, 2004 field reconnaissance.

The City of Elmhurst, located adjacent to and south (downgradient) of the Site, maintains an ordinance (Elmhurst Municipal Code MCO-1-2003), included in Exhibit 4, that prohibits the use of groundwater for potable use within the city limits except via well points operated by a city, those private wells in existence prior to the ordinance date (not including those in need of repair), and private irrigation wells equipped with a backflow prevention device. The ordinance was approved subject to a memorandum of understanding (MOU) between Elmhurst and the IEPA. The MOU was completed on December 4, 2003. Elmhurst provides municipal water service sourced from Lake Michigan to its residents.

Mt. Emblem Cemetery is the only property in Elmhurst that is located within one half-mile downgradient (south to southeast) of the Site, as shown on the map included as

Exhibit 5. There are no other industrial/commercial facilities or residential areas located in Elmhurst within one half-mile downgradient of the Site. Based on communications with personnel in the Elmhurst public works department, Mt. Emblem Cemetery, and DuPage County Public Health Department, well database information obtained from the ISGS and ISWS, and a reconnaissance performed on December 2, 2004, there are no known private wells or monitoring wells in Elmhurst located within one half-mile downgradient of the Site that are screened in the lower water bearing unit.

There were, however, a number of monitoring wells previously installed in Mt. Emblem Cemetery that were associated with a LUST incident (LUST incident number 913205). These wells have since been abandoned based on discussions with the Mt. Emblem Cemetery property manager and observations during the December 2, 2004 reconnaissance. In addition, there were a number of private wells that were located approximately one half-mile south of the Site, likely within the confines of the cemetery. However, based on well records obtained from the ISWS and ISGS, these wells were screened in the underlying Silurian Age dolomite bedrock. The Mt. Cemetery property manager had no knowledge of the existence of these wells and there was no evidence that they are still in existence based on the December 2, 2004 reconnaissance.

In summary, based on discussions with the public works departments of Bensenville, Northlake, including some local residents, and Elmhurst, including personnel at Mt. Emblem Cemetery, and with the DuPage and Cook County Public Health Departments, well database information obtained from the ISGS and ISWS, and a reconnaissance of the area within a one half-mile downgradient of the Site, there is no evidence to suggest that the lower water bearing zone is used as a source of drinking

water in Bensenville downgradient of the Site, or the adjacent (downgradient) communities of Northlake and Elmhurst within one half-mile of the Site. These communities obtain their public drinking water supplies primarily, or solely, from Lake Michigan. Some deep wells were identified from well logs as screened in the Cambrian-Ordovician aquifers underlying the Maquoketa Formation that, in turn, underlies the Silurian Age dolomite bedrock. It is not known whether these wells are currently in use. In any event, the Cambrian-Ordovician aquifers are physically and hydraulically isolated from the Silurian Age dolomite bedrock.

V. DESCRIPTION OF COMPLIANCE EFFORTS AND IMPACT OF EFFORTS TO COMPLY
(35 Ill. Adm. Code 104.406(e))

Bensenville evaluated the estimated costs for actions necessary to bring the groundwater into compliance with the Board's standards. While it is not clear that any action would achieve compliance with the Board regulation, a basic approach would be to construct a cut-off wall around the lower water bearing unit, to construct protection of Addison Creek, to pump groundwater with elevated chloride and lead from the lower water bearing unit, and to treat this groundwater in an on-site treatment unit. The costs, summarized in Exhibit 6, including hydraulic isolation of the lower water bearing unit, groundwater extraction and construction of an on-Site reverse osmosis treatment facility to treat the affected groundwater would be on the order of **\$19,150,000**.

Such costs are economically unreasonable and not justified from any perspective. The lack of economic reasonableness is apparent from the facts described in this Petition. There are no groundwater receptors or potential human health impacts since users within one half-mile downgradient of the Site obtain their drinking water supplies from sources

other than the lower water bearing unit. Further, despite the program outlined in Exhibit 6, Bensenville cannot control or eliminate the sources of chloride and lead. Even if Bensenville implemented some type of groundwater isolation, extraction, and treatment program, the source of chloride is ongoing and not subject to control by Bensenville. State and county highway departments apply the salt surrounding roads and Interstate 294 as a means of ensuring driving safety during snow and ice events and these separate government entities are expected to continue this application in the future. The source of lead has also been demonstrated to be from an anthropogenic, off-Site, non-point source and, therefore, beyond the ability of Bensenville to control. As a result, Bensenville cannot describe the conditions that would occur if it were to comply with the groundwater standards since the non-compliance is not as a result of its actions and there is no action it can take which could result in compliance.

Although Bensenville, DuPage and Cook Counties, and the Illinois Department of Transportation could, in theory, cease further road salting along the adjacent roads, the potential health effects as they are related to road safety would be significant. In fact, a significant increase in the frequency of automobile accidents, many resulting in severe injury and some with resulting fatalities, would surely be attributed to increased road hazards associated with snow and ice if the application of road salt were to cease during the winter months. Road salt has long been the material of choice in northern Illinois for snow and ice melting because of its relative abundance, cost effectiveness when compared with alternative materials, and minimal impact to the environment.

Furthermore, there are no known significant health risks associated with the ingestion of groundwater with the current level of chloride concentrations found in the

site groundwater. Although there could be possible health-related effects associated with the consumption of groundwater with high chloride concentrations for those with heart and kidney disease (Wegner, et al., 2001, *Environmental Impacts of Road Salt and Alternatives in the New York City Watershed*, Stormwater), a Federal Highway Administration (FHWA) study concluded that the major objection to high concentrations of sodium and chloride in public water supplies arises from the taste preference of consumers (Winters, et al., 1985, *Environmental Evaluation of CMA*, Report FHWA-RD-84-095, FHWA, USDOT). In other words, the consumption of such groundwater would be objectionable to the consumer. The Ohio Local Technical Assistance Program (LTAP), associated with the Federal Highway Administration, Ohio Department of Transportation, and the Ohio State University reported that “Chloride [from road salt] affects taste, but has no effect on [human] health at the levels possible from road salt.” (Ohio LTAP Quarterly, 1998, Volume 13, No. 1). Finally, the Environment Canada (Canada’s equivalent of the USEPA) found that, although high chloride concentrations in groundwater could result in some adverse environmental effects to plant and aquatic life, “The principal problem for humans from road salt is its adverse effect on taste...” and that “Road salts are not dangerous to humans.” (Environment Canada, 2000, *Priority Substances Assessment Report: Road Salts*) there are no known health risks associated with the ingestion of groundwater with elevated chloride concentrations. Therefore, there would be no health and environmental benefits associated with potentially meeting existing groundwater standards by stopping the use of road salt.

There are commonly known health effects associated with the ingestion of lead. The main target for lead toxicity is the nervous system, both in adults and in children.

Long-term exposure of adults to lead has resulted in decreased performance in some tests that measure functions of the nervous system. Lead exposure may also cause weakness in fingers, wrists, or ankles. Some studies in humans have suggested that lead exposure may increase blood pressure. Lead exposure may also cause anemia. At high levels of exposure, lead can severely damage the brain and kidneys in adults or children (USEPA, 2004, *Health Effects of Lead*). In spite of the potentially toxic effects of lead exposure, there are no known groundwater receptors and, if there were, they would be unlikely to ingest the water willingly because of the poor taste associated with the high chloride concentrations.

VI. JUSTIFICATION FOR RELIEF
(35 Ill. Adm. Code 104.406(h))

Again, while Bensenville is not bound by the standards of 35 Ill. Adm. Code 811.320(b)(4), Bensenville will look to these standards as a useful framework for justifying the relief it seeks here.

- a) *The groundwater from the lower water bearing unit does not presently serve as a source of drinking water.*

As described above, Bensenville has documented that the groundwater from the lower water bearing unit does not serve as a source of drinking water for municipal or private wells in Bensenville, or the downgradient communities of Northlake (to the east) and Elmhurst (to the south) within one half-mile downgradient of the Site.

- b) *The change in standards will not interfere with or become injurious to, any present or potential beneficial uses for such waters.*

As stated above, there are no current beneficial uses being made of these waters and municipal ordinances in Bensenville and Elmhurst would preclude the use of this

groundwater as a potable water source in the future in those communities. More significantly, the Village and the adjacent communities of Northlake and Elmhurst obtain their drinking water supplies from Lake Michigan. There are no known industrial or residential uses of the specific groundwater downgradient and within one half-mile of the Site.

c) The change is necessary for economic or social development.

The proposed change will advance economic and social development by allowing Bensenville to complete the golf course contemplated by the IEPA grant encouraging Bensenville to develop additional open space. In addition, the change would relieve Bensenville from a significant financial burden insofar as the required quarterly monitoring and reporting are concerned. These costs account for approximately \$35,000 to \$40,000 per year, an amount that could be allocated to beneficial community development, beautification, or recreation projects.

The proposed change will not affect human health because groundwater from the lower water bearing unit is not utilized for human consumption within one half-mile downgradient of the Site.

d) The groundwater does not presently and will not in the future serve as a source of drinking water.

Although it is technically feasible to eliminate or reduce the chloride and lead concentrations in Site groundwater, it is not economically reasonable to eliminate or reduce the chloride and lead concentrations in Site groundwater because the cost is extremely high and there is no evidence to suggest that Site groundwater is used for human consumption or any known industrial purposes within one half-mile downgradient

from the Site. There are no known human health impacts associated with the consumption of groundwater with chloride concentrations similar to those measured in site groundwater. While there are human health impacts associated with the ingestion of lead, its migration rate would be on the order of only 0.22 meters per year (or approximately 75 feet per 100 years) and, therefore, it would take a few hundred years before lead impacted groundwater from the Site would be expected to migrate off-Site to the nearest downgradient property. It is also unlikely that a person would willingly ingest such groundwater because of its offensive taste associated with the high chloride concentration. Bensenville and adjacent communities obtain their drinking water from Lake Michigan. Since the groundwater is not used for human consumption, it must be concluded that the safety benefits to motorists of using road salt (ice-free roads) far outweigh any potentially beneficial impact of reducing chloride concentrations in Site groundwater by eliminating the application of road salt to heavily traveled Grand Avenue, County Line Road, and Interstate 294 adjacent to the Site. It is possible, however, that existing groundwater quality will be maintained as a function of the quantity of road salt applied during upcoming years.

This Petition also meets the statutory requirements set out at Section 28.1(c) of the Illinois Environmental Protection Act (415 ILCS 5/28.1(c)) for justifying an adjusted standard. There are numerous factors which establish that the Bensenville situation is substantially and significantly different from those the Board considered in adopting the Ground Water Quality standards. First, Bensenville has sought this change to complete the project of turning a private landfill into a public open space resource pursuant to IEPA funding. The groundwater issues represent conditions which originated from other

sources and which cannot be resolved by any reasonable action that Bensenville can take. Finally there will be no environmental impact associated with the Board's granting of this adjusted standard and no impact on public health since the public is not consuming this groundwater and not likely to in the future for reasons which do not relate to the activities for which the Petitioner seeks relief. Finally, as is stated below, this relief can be granted consistently with federal law. For all these reasons, the adjusted standard sought by Petitioner is justified.

VII. THIS RELIEF CAN BE GRANTED CONSISTENT WITH FEDERAL LAW
(35 Ill. Adm. Code 104.406(i))

The closure of this Site is not controlled by any federal law and no federal law sets standards for groundwater which is not used as a potable water supply. Neither the municipal solid waste landfill regulations nor the hazardous landfill regulations adopted under the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.) apply to this Site. Therefore, this relief can be granted consistent with federal law.

VIII. STATEMENT OF RELIEF REQUESTED
(35 Ill. Adm. Code 104.406(g))

Bensenville requests that the Board adopt the following adjusted standard:

The dissolved chloride standard in 35 Ill. Adm. Code 620.410 shall be adjusted from the existing standard of 200,000 ug/L to 728,963. The total lead standard in 35 Ill. Adm. Code 620.410 shall be adjusted from the existing standard of 7.5 ug/L to 47.8 ug/L. These adjusted standards shall apply to groundwater within the lower water bearing unit down to the top of the Silurian dolomite bedrock beneath the former Village of Bensenville Landfill Site located at:

Address: Northwest corner of Grand Avenue and County Line Road,
Bensenville, Illinois.

Legal Description:

Parcel 1 (Pin Number 03255200004): *That part of the northeast quarter of Section 25, Township 40 North, Range 11 East, of the third principal meridian described by commencing in the north line of said section at a point 1019.04 feet east of the northwest corner of said northeast quarter; thence southeasterly along the easterly line of property described in document 388417, 1573.55 feet to the centerline of Grand Avenue, thence easterly on the centerline of Grand Avenue 700.0 feet for a place beginning; thence northerly 1602.1 feet to a point in the section line which is 1865.04 feet of the northwest corner of said northeast quarter; thence east along the north line of said northeast quarter 768.8 feet to the northeast corner thereof; thence south along the east line of said northeast quarter 1641.55 feet to the centerline of Grand Avenue; thence westerly along the centerline of Grand Avenue 692.28 feet to the place of beginning (except therefrom the rights of the public all existing roads and streets), in DuPage County, Illinois.*

Parcel 2 (Pin Number 0325200003): *That part of the northeast quarter of Section 25, Township 40 North, Range 11 East, of the third principal meridian described by beginning in the north line of said section at a point 1019.04 feet east of the northwest corner of said northeast quarter; thence southeasterly along the easterly line of property described in document 388417, 1573.55 feet to the centerline of Grand Avenue; thence easterly on the centerline of Grand Avenue, 700 feet; thence northerly 1602.1 feet to a point in the section line which is 846.0 feet east from the place of beginning; thence west 846.0 feet to the place of beginning, except therefrom that part thereof described as follows: the west 200 feet (as measured along the centerline of Grand Avenue) north of the south 400 feet (as measured on the easterly line of property described in document 388417) lying northerly of the northerly line of Grand Avenue (said northerly line of Grand Avenue being 40 feet northerly of and parallel with the centerline of Grand Avenue; in DuPage County, Illinois.*

Parcel 3 (Pin Number 0325200002): *The west 200 feet (as measured along the center-line of Grand Avenue) of the south 400 feet (as measured on the easterly line of property described in document 388417) lying northerly of the northerly line of Grand Avenue (said northerly line of Grand Avenue being 40 feet northerly of and parallel with the centerline of Grand Avenue) of that part of the northeast quarter of section 25, Township 40 North, Range 11, east of the third principal meridian, described by beginning in the north line of said section at a point 1019.04 feet east of the northwest corner of said northeast quarter; thence southeasterly along the easterly line of property described in document 388417, 1573.55 feet to the centerline of Grand Avenue; thence easterly on the centerline of Grand Avenue, 700 feet, thence northerly 1602.1 feet to a point in the section line which is 846.0 feet east from the place of*

beginning; thence west 846.0 feet to the place of beginning, in DuPage County, Illinois.

IX. HEARING WAIVER
(35 Ill. Adm. Code 104.406(j))

Bensenville waives a hearing for this Adjusted Standard.

X. CONCLUSION

The Village requests an adjusted standard for chloride and lead in Site groundwater so that the IEPA will release Bensenville from further post-closure care monitoring at the Site. The Site is currently used as a public golf course, and is located within a highly developed area that consists primarily of industrial and commercial properties downgradient of the Site. Bensenville and adjacent communities are served by municipal water supplies that are sourced by Lake Michigan and, therefore, are not dependent upon groundwater obtained from the glacial materials beneath the Site.

The request for an adjusted standard is supported by a significant amount of Site-specific data, summarized herein, that demonstrates that the Site does not represent a threat to human health or the environment. The data indicates that an off-Site source, probably road salting on adjacent roads, is likely responsible for the relatively high chloride concentrations observed in some Site groundwater from the lower water bearing unit. The data also indicates that unknown off-Site anthropogenic sources are responsible for the periodic, historical elevated lead concentrations observed in Site groundwater. Reviews of regional studies indicate that both the glacial materials and the underlying Silurian Age dolomite bedrock have been significantly influenced by human activity, resulting in high chloride concentrations, among others. However, human consumption of Site groundwater will not occur because the public drinking water in Bensenville and

the adjacent (downgradient) communities of Elmhurst and Northlake are sourced from Lake Michigan. Furthermore, Bensenville and Elmhurst maintain local ordinances that restrict the private use of groundwater from the glacial materials, including the lower water bearing unit.

WHEREFORE, for the reasons stated herein, the Village of Bensenville requests that the Illinois Pollution Control Board grant this adjusted standard.

VILLAGE OF BENSENVILLE

By 

One of its Attorneys

David L. Rieser
McGuireWoods LLP
77 West Wacker Drive
Suite 4100
Chicago, IL 60601
312-849-8249

\\REA\245042.1

EXHIBIT 1

December 21, 2004 EIL Groundwater Summary Report

(See Attached Binders)

EXHIBIT 2

Site Map

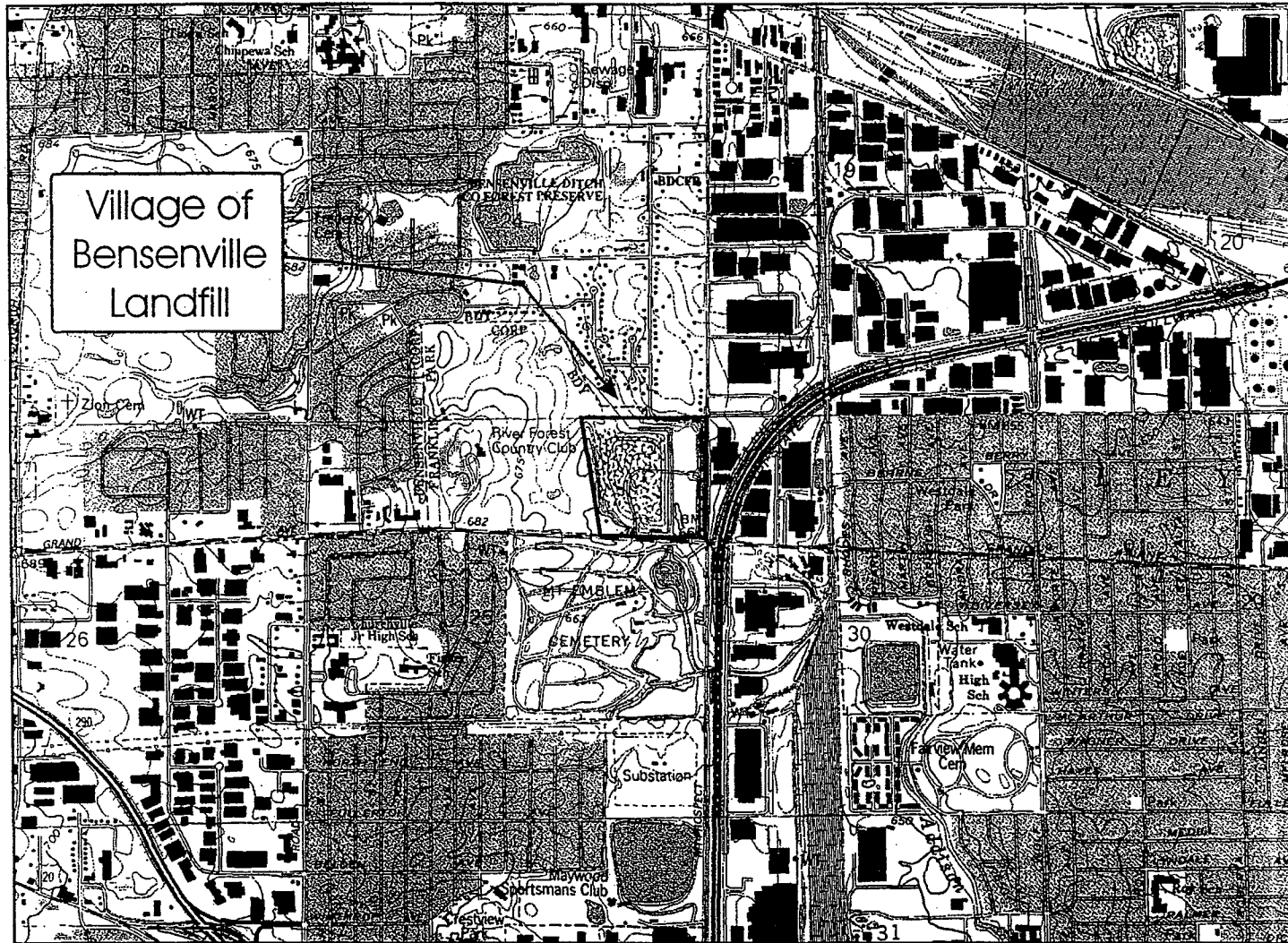


Figure 1
 Site Location
 Village of Bensenville Landfill
 Bensenville, Illinois

EXHIBIT 3

Contour Maps Showing Area Chloride Levels

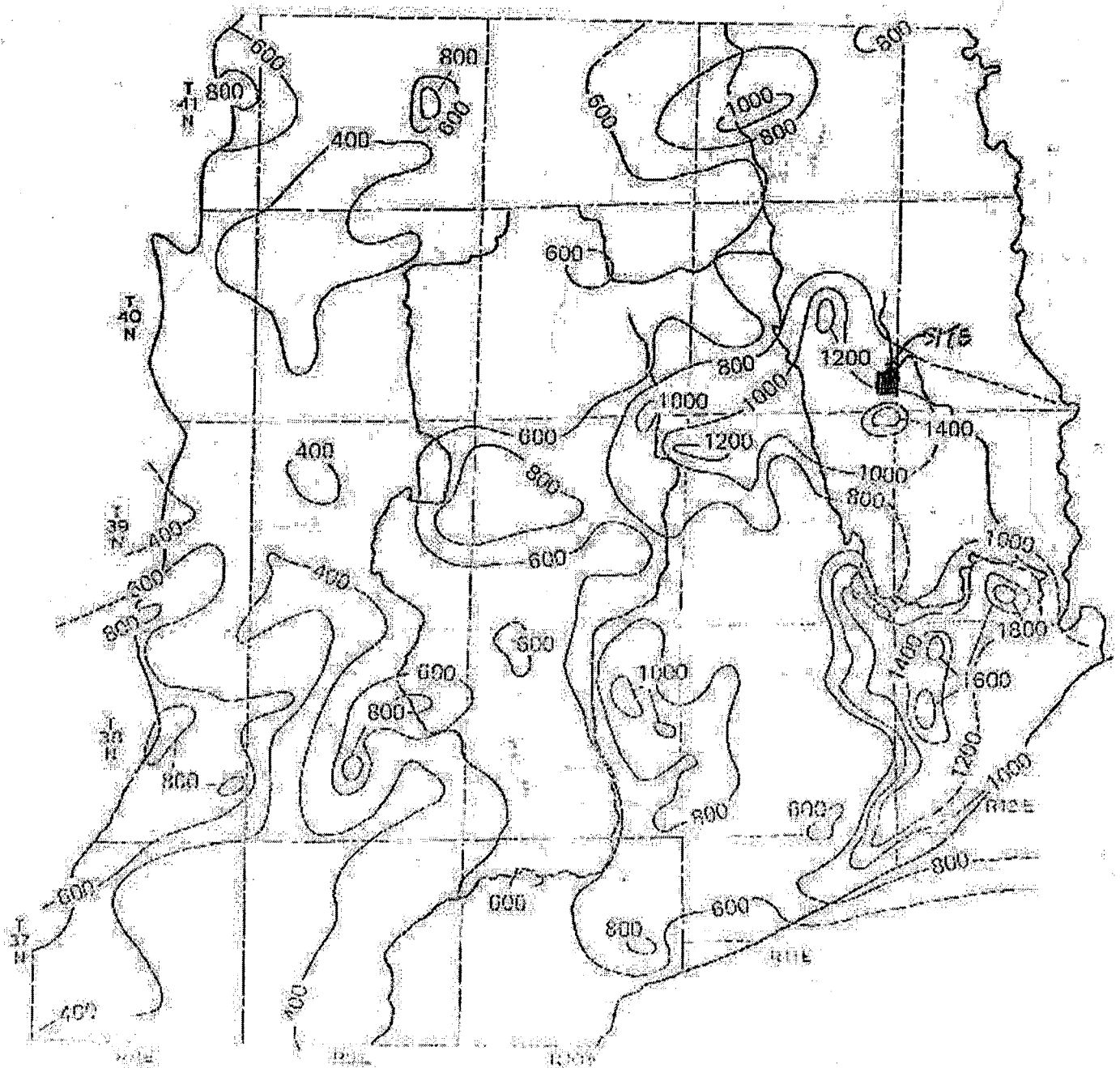


Figure 12. Generalized areal distribution of total dissolved solids in the shallow dolomite aquifer

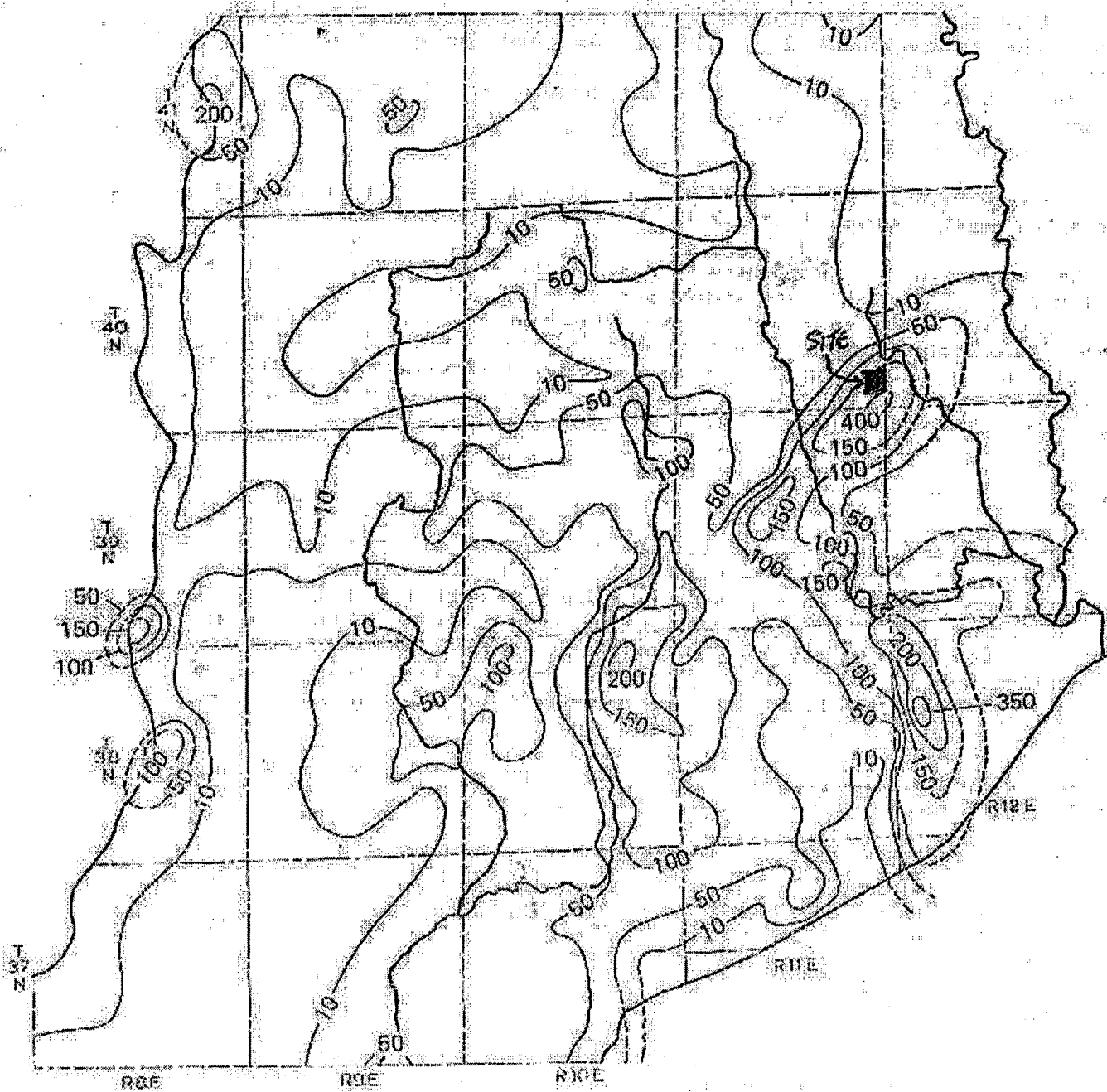


Figure 13. Generalized areal distribution of chlorides in the shallow dolomite aquifer.

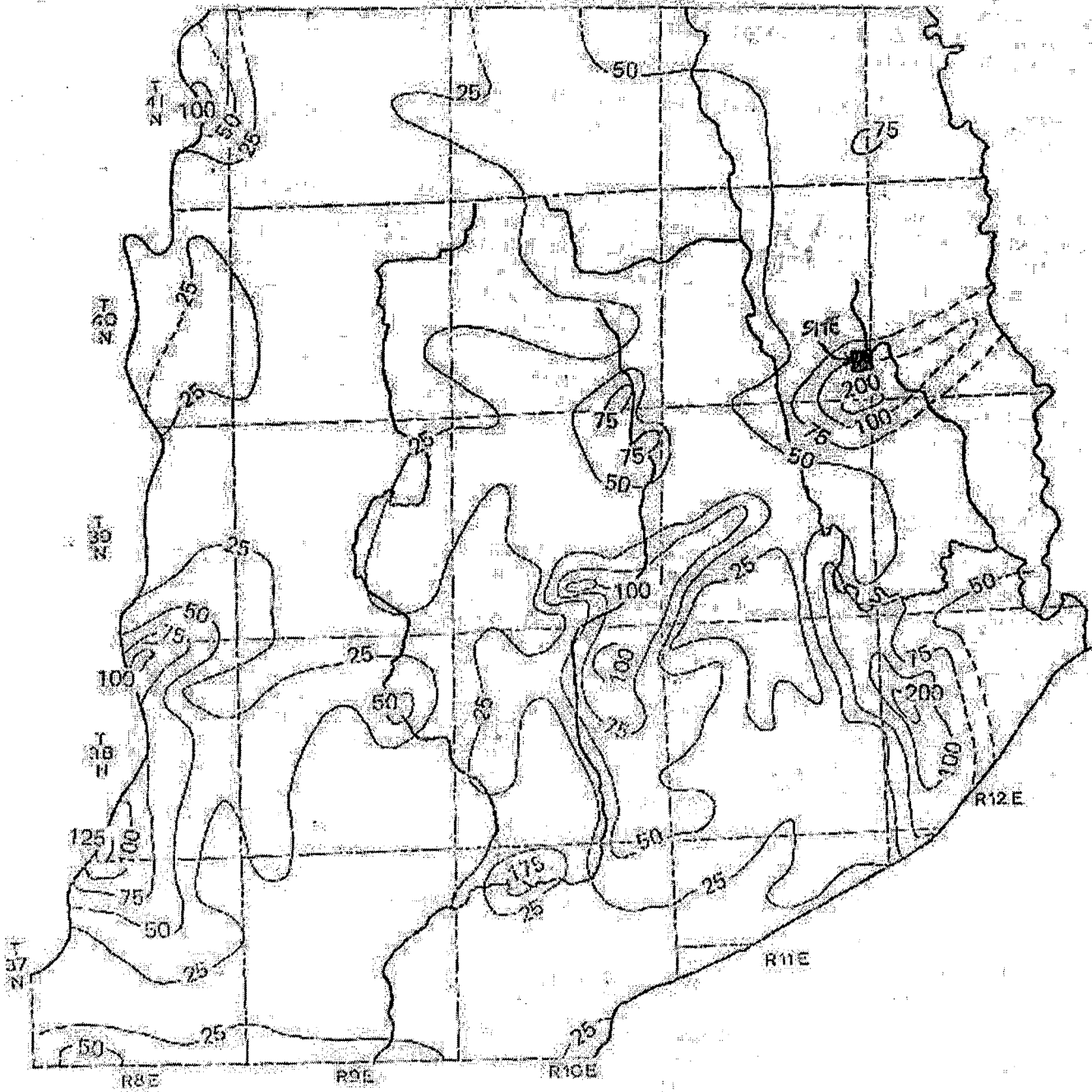


Figure 50. Generalized areal distribution of sodium in the shallow dolomite aquifer

EXHIBIT 4

Municipal Well Ordinances

BENSENVILLE
WELL ORDINANCE

8-7-23: PRIVATE WELLS PROHIBITED:

From and after July 6, 1984, it shall be unlawful for any person to install a well, cistern, or other groundwater collection device to be used to supply any water supply system if a water main constituting a part of the Village's public water supply system is within two hundred feet (200') of the nearest property line of the property upon which the well, cistern, or other groundwater collection device would be drilled or connected. Nothing herein contained shall prohibit the operation and maintenance of wells, cisterns or other groundwater collection devices constructed and in operation prior to July 6, 1984, except that all private wells, cisterns or other groundwater collection devices shall be maintained in conformance with chapter 34 of the DuPage County Code, ordinance OH0002-90, otherwise known as the "DuPage County Health Department Private Water Supply Ordinance". This Section shall not apply to wells, cisterns or other groundwater collection devices constructed and operated by the Village as part of its public water supply system or wells approved by the Village for use exclusively for fire supply to systems not directly or indirectly connected to the potable water supply, and further this Section shall not apply to wells constructed, operated and maintained solely for the purpose of providing water supply for irrigating landscaped areas provided there is no cross-connection or intermix of such well water with the Village's public water supply system and provided further that such wells are constructed, operated and maintained in conformance with applicable DuPage County Health Department Private Water Supply ordinances in effect from time to time. (Ord. 58-99, 9-21-1999 and Ord. 15-2000, 4-4-2000)

STATE OF ILLINOIS

)
) SS
)

COUNTIES OF DUPAGE & COOK

I, JANET S. EDGLEY, HEREBY CERTIFY that I am the duly elected, qualified and acting City Clerk of the City of Elmhurst, DuPage and Cook Counties, Illinois, a municipal corporation, and the keeper of its seal and records.

I HEREBY FURTHER CERTIFY that the attached document is a true and correct copy of Ordinance MCO-01-2003 entitled MCO-01-2003 An Ordinance Amending the Elmhurst Municipal Code By Adding Provisions to Chapter 7 Thereof Prohibiting the Use of Groundwater as a Potable Water Supply By the Installation or Use of Potable Water Supply Wells or By Any Other Method

now on file in my office at 209 North York Road, Elmhurst, Illinois.

I HEREBY FURTHER CERTIFY that said Ordinance was passed by the City Council of said City of Elmhurst on the 20th day of January, 2003 and that the vote of said City Council on the question of passage of said ordinance was taken by yeas and nays and fully recorded in the minutes of the proceedings of said City Council, and the result of said vote so taken was as follows:

Ayes: 11 Nays: 0

I FURTHER CERTIFY that the original, of which the attached is a true copy, is entrusted to my care for safekeeping, and that I am the true and lawful keeper of the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the City of Elmhurst aforesaid, at said City, in the County and State aforesaid, this 21st day of January, 2003.

Janet S. Edgley
Janet S. Edgley, City Clerk

Erin K. Van De Walle
By: Erin K. Van De Walle, Deputy City Clerk

SEAL

MCO-1-2003

**AN ORDINANCE AMENDING THE ELMHURST MUNICIPAL
CODE BY ADDING PROVISIONS TO CHAPTER 7 THEREOF
PROHIBITING THE USE OF GROUNDWATER AS A POTABLE
WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE
WATER SUPPLY WELLS OR BY ANY OTHER METHOD**

WHEREAS, certain properties in the City of Elmhurst, Illinois have been used over a period of time for commercial/industrial purposes; and

WHEREAS, because of said use, concentrations of certain chemical constituents in the groundwater beneath the City may exceed Class I groundwater quality standards for potable resource groundwater as set forth in 35 Illinois Administrative Code 620 or Tier I residential remediation objectives as set forth in 35 Illinois Administrative Code 742; and

WHEREAS, the City desires to limit potential threats to human health from groundwater contamination while facilitating the redevelopment and productive use of properties that are the source of said chemical constituents.

NOW THEREFORE, BE IT HEREBY ORDAINED by the City Council of the City of Elmhurst, DuPage and Cook Counties, Illinois as follows:

SECTION 1. That Section 7.02 of the Elmhurst Municipal Code is amended by adding new Subsections (aa), (bb), (cc) and (dd) as follows:

(aa) "Potable water" means any water used for human or domestic consumption, including, but not limited to, water used for drinking, bathing, swimming, washing dishes, or preparing foods.

(bb) "Private Potable Water Well" means any well owned and maintained by any person, firm, corporation or other entity which is (i) not a permitted public water supply operator or (ii) a private water supply operator regulated by the Illinois Commerce Commission.

(cc) "Private Irrigation Water Well" means any well owned and maintained by any person, firm, corporation or other entity which is (i) not a permitted public water supply operator or (ii) a private water supply operator regulated by the Illinois Commerce Commission the water from which well is used solely for irrigation purposes and not for use as a potable groundwater well, provided that all such wells shall be owned, maintained and controlled by (i) a governmental entity or (ii) a private property owner where the area proposed to be irrigated exceeds one (1) acre in area and which area is owned by such private property owner.

(dd) "Major Repair" means any one or more of the following operations or activities when performed on or to a Private Potable Water Well:

Copies To All
Elected Officials

0-16-03

- (i) repair to the pitless adapter;
- (ii) acidizing of a well;
- (iii) replacement of the well casing;
- (iv) bailing of material including but not limited to sand.

(ee) "Minor Repair" means any one or more of the following operations or activities when performed on or to a Private Potable Water Well or Private Irrigation Water Well:

- (i) pump replacement;
- (ii) motor replacement;
- (iii) disinfection;
- (iv) repairs to electrical controls;
- (v) repairs or replacement of piping other than the pitless adapter.

SECTION 2. That Chapter 7 of the Elmhurst Municipal Code is amended by adding a new Article VIII as follows:

Article VIII. Private Water Supply Wells.

7.70. Prohibitions; Exemptions.

(a) **Use of Groundwater as a Potable Water Supply Prohibited.** The use or attempt to use groundwater as a potable water supply from within the corporate limits of the City by the installation or drilling of wells or by any other method is hereby prohibited, subject to Subsection (b) hereof.

(b) **Exemptions.** The following wells shall be exempt from the prohibition set forth in Subsection (a) hereof:

- (i) wells at points of withdrawal by the City;
- (ii) Private Potable Water Wells in existence before the effective date of this ordinance not including such wells that are in need of Major Repair;
- (iii) Private Irrigation Wells provided such wells are equipped with a backflow prevention device as required by the regulations of the Illinois Environmental Protection Agency and City ordinance and for which a permit has been issued by the City pursuant to Section 7.71.

7.71. Permits.

(a) **Permit Required.** No person shall abandon, seal or cap a Private Potable Water Well or Private Irrigation Water Well, nor shall any person install a Private Irrigation Water Well or perform Minor Repair on any Private Potable Water Well or Private Irrigation Water Well without first having obtained a permit therefor from the Director of Water and Wastewater.

(b) **Permit Application Fee.** No permit as required by Section 7.71 shall be issued until a completed application shall have been approved by the Director of Water and Wastewater and a permit fee in the amount of \$200.00 shall have been paid to the City.

7.72. Memorandum of Understanding.

The Mayor of the City is hereby authorized and directed to enter into a Memorandum of Understanding with the Illinois Environmental Protection Agency ("Illinois EPA") by which the City assumes responsibility for tracking remediated sites, notifying the Illinois EPA of changes to this ordinance, and taking certain precautions when siting public potable water supply wells.

SECTION 3. All ordinances or parts of ordinances in conflict with this ordinance are hereby amended to the extent of the conflict.

SECTION 4. This ordinance shall be in full force and effect after passage and publication according to law.

Approved this 20 day of JANUARY, 2002.


Thomas D. Marcucci, Mayor

Passed this 20 day of JANUARY, 2002.

Ayes: 11 Nays: 0


Janet S. Edgley, City Clerk

COUNCIL ACTION SUMMARY

SUBJECT: Ordinance - Private Well Ordinance

ORIGINATOR: City Attorney

DESCRIPTION OF SUBJECT MATTER

Due to the Council's approval of the Report of the Public Affairs and Safety Committee, a Private Well Ordinance has been prepared. Notable features of the Ordinance are as follows:

1. The installation of wells for potable water supply purposes would be prohibited subject to the following exemptions:
 - a. Wells operated and maintained by the City;
 - b. Private potable water wells in existence before the date of the Ordinance, provided such wells are not in need of major repair;
 - c. Private irrigation wells, so long as they are equipped to prevent cross-contamination of the City's water system.
2. Permits will be required for the abandoning, sealing or capping of a private well and to permit minor repair on private wells, whether for potable water or irrigation water purposes. Wells requiring a major repair would be prohibited.
3. A permit fee of \$200.00 would be required for the abandonment, sealing or capping of a well and for the performance of minor repair on a well.

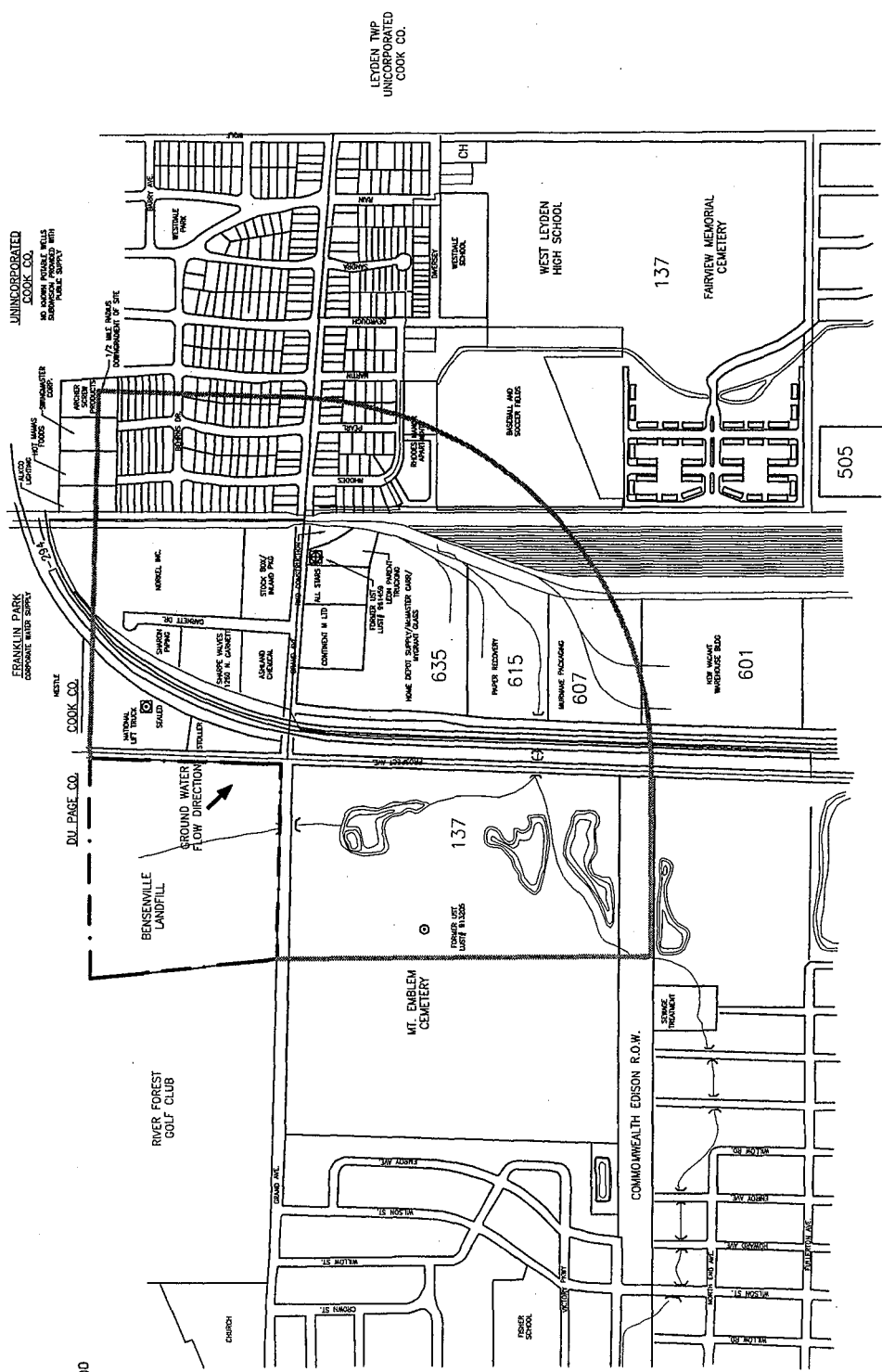
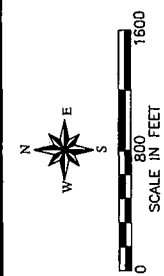
As the Council is aware, the City has entered into what are known as "Highway Authority Agreements" to prohibit the installation of potable water wells in certain areas where the ground or groundwater has been contaminated. Passage of this Ordinance would eliminate the need and the cost of such agreements. Wells used for irrigation purposes would be allowed on properties owned by government entities, private institutions and private owners of large parcels, large parcel being defined as an area in excess of one acre.

Passage of this Ordinance will compliment efforts by the County Health Department in the protection of the public water supply and the act from which potable water is drawn.

An Ordinance as outlined is attached for Council consideration.

EXHIBIT 5

Map Showing Wells Within One Half-Mile of the Site



- LEGEND**
- ⊕ MONITORING WELL
 - ⊙ MONITORING WELL (ABANDONED)
 - PRIVATE WELL, BEDROCK
 - ⊗ PRIVATE WELL, BEDROCK (ABANDONED)

	OFF-SITE (DOWNGRADE) WELL SURVEY MAP		JOB NO. 990202
	CLIENT/PROJECT BENSENVILLE LANDFILL	DATE 12-09-04	SCALE AS NOTED
	CHECKED BY BLJ	FILE NAME 990202-02	FIGURE NO. 2

EXHIBIT 6

Compliance Cost Summary

Bensenville Landfill
Cut-Off Wall Construction, Groundwater Extraction and Treatment,
and Operation and Maintenance

Items	Units	Construction Cost
<i>Cut-Off Wall</i>		
Total Length of Cut-Off Wall	6100 ft	
Average Depth to Bedrock	50 ft	
Maximum Depth to Bedrock	60 ft	
Minimum Depth to Bedrock	40 ft	
Average Depth to Top of Silt	35 ft	
Average Depth to Bottom of Silt	50 ft	
Average Depth to Bedrock Tie-in	65 ft	
Maximum Depth to Bedrock Tie-in	75 ft	
Quoted Cost of Cut-Off Wall Construction	\$ 10,350,000	\$ 10,350,000
<i>Addison Creek Isolation</i>		
Creek Bed Width	25 ft	
Depth of Bed	3 ft	
Thickness of Concrete	6 inch	
Cross Sectional Area	13 ft ²	
Length of Creek Bed	1600 ft	
Volume of Placed Concrete	770.4 C. Y.	
Cost of Placed Concrete	\$ 260.00 \$/C.Y.	
Total Cost to Line the Creek	\$ 200,296	\$ 200,296
<i>Groundwater Extraction</i>		
Extraction Well Spacing	300 ft	
Number of Wells	20	
Average Depth of Well	65 ft	
Cost of Well	\$ 150 \$/ft	
Cost of Pump	\$ 2,000 \$	
Pipeline to Treatment System	7625 ft	
Cost of Pipeline	\$ 30 \$/ft	
Monitoring Well Pair	20	
Total Cost of Extraction Well System	\$ 853,750 \$	\$ 853,750
Water Treatment RO Unit	\$ 25,000 \$	\$ 25,000
Engineering, Permitting & CQA	15%	
Engineering, Permitting & CQA Cost	\$ 1,714,357	\$ 1,714,357
Total Estimated Construction Cost		\$ 13,143,403
<i>Operation and Maintenance</i>		
Annual Operation and Maintenance	\$40,026 \$/yr	
Anticipated Treatment Period	150 yr	
Total O&M		\$6,003,900
Total Est. Construction and O&M		\$19,147,303

**Bensenville Landfill
System O&M**

Item		Units	Annual Cost
Pump Replacement		1 per year	
Pump Cost	\$	2,000	
Replacement Cost	\$	2,000 per year	\$ 2,000
RO Membrane	\$	500	\$ 500
O&M Hours		2 per week	
Technician Hourly Rate	\$	54	
O&M Costs	\$	5,616 per year	\$ 5,616
Disposal of Brine to MWRD	\$	0.001 \$/gal	
Reduction Ratio		0.65	
Total Process Water		1,356,319 gal/year	
Disposal Cost	\$	1,356 per year	\$ 1,356
Sampling and Analytical Cost	\$	20,000 per year	\$ 20,000
Power Use per 1 HP Pump		0.753 kw	
Number of Pumps		20	
Power Cost		0.08 \$/kwh	
Total Power Used		131925.6 kwh/year	
Power Cost	\$	10,554	\$ 10,554
Total Estimated O&M Cost per Year			\$ 40,026
Estimated Number of Years to Treat		150	
Total Estimated O&M			\$6,003,955

**Bensenville Landfill
Cut-off Wall Construction**

Total Length of Wall	6100 ft	
Average Depth to Bedrock	50 ft	
Maximum Depth to Bedrock	60 ft	
Minimum Depth to Bedrock	40 ft	
Average Depth to Top of Silt	35 ft	
Average Depth to Bottom of Silt	50 ft	
Average Depth to Bedrock Tie-in	65 ft	
Maximum Depth to Bedrock Tie-in	75 ft	
Average Thickness of Aquifer	30 ft	
Ground Water Flow Area	183000 ft ²	
Average Cut-off Wal Thickness	3 ft	
Average Water Level Differential Across Wall	0.5 ft	
Gradient Across Wall	0.166667 ft/ft	
Estimated Wall Hydraulic Conductivity	1.00E-07 cm/sec	
	1.97E-07 ft/min	
Estimated GW Flow into Landfill Area	6.00E-03 ft ³ /min	
	4.49E-02 gpm	
	65 gpd	
Area enclosed by wall	2206460 ft	
	51.8 Acres	
Infiltration	1.5 in/year	
Estimated infiltration	275808 ft ³ /year	
	5652 gpd	
Total Water Pumped and Treated	5717 gpd	
	4.0 gpm	
Estimated Linear Flow Velocity	4 m/year	lead 0.22 m/year
Flow path distance across site	660 m	660 m/year
Assumed flow path of impacted gw	33 m	33 m/year
Estimate years to treat impacted gw	8.25 year	150 year