BEFORE THE ILLINOIS POLLUTION CONTROL BOARD JAN 1 3 2006

Wesley Brazas, Jr.	)	
Petitioner	)	
	)	
v.	)	**PCB** 06-131
	)	
Mr. Jeff Magnussen, President	)	**(Appeal from IEPA decision**
Village of Hampshire	)	**granting modified NPDES permit)**
and the	)	
Illinois Environmental Protection Agency	)	
Respondents	)	

PETITION FOR REVIEW OF A DECISION BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Pursuant to 415 ILCS 5/40(e)(1) and 35 Ill.Adm. Code Section 105, Petitioner, Wesley Brazas, Jr., hereby petitions for a review of the December 9, 2005 decision of the Illinois Environmental Protection Agency (IEPA) to grant a modified National Pollutant Discharge Elimination System (NPDES) permit No. IL 0020281 to the Village of Hampshire to increase the discharge of wastewater into Hampshire Creek to the rate of 1.5 mgd DAF and 4.17 mgd DMF.

In support thereof, Petitioner states as follows:

Petitioner

1. Petitioner resides within the FPA of the Village of Hampshire and submitted comments in opposition to the granting of the modified NPDES permit. Petitioner is situated to be affected by the issuance of this modified permit and by offensive conditions or other violations of water quality and other environmental degradation caused by the issuance of this modified permit. Petitioner relies upon the EMS services of the Village of Hampshire. See Exhibit 1 for issues Petitioner raised before the IEPA.

2. Although requested by Petitioner and other citizens of Hampshire area affected by this permit, the IEPA has refused to hold a public hearing regarding this modified permit.

Hampshire Creek

3. Hampshire Creek and associated tributaries flow around the Village of Hampshire and discharge into the Kishwaukee River Watershed. Hampshire Creek is classified as General Use Water with a 7Q10 flow value of zero. However, during storm events, Hampshire Creek regularly overflows its banks. State Street, the primary street for vehicular access to the Village of Hampshire, is below the 100 year floodplain elevation on the north and south approaches to the Village and becomes impassable during flood events.

4. EMS services are delivered via State Street and the delivery of such services is severely impacted by the flooding of State Street.

5. Under the existing policies, procedures and enforcement mechanisms of the IEPA, the water quality of Hampshire Creek has been on a precipitous decline, causing Hampshire Creek to be listed by the IEPA in 2004 as a 303(d) impaired stream. Although a TMDL study has not been performed on Hampshire Creek, one of the suspected sources of stream impairment is the effluent from Hampshire's sewage treatment plant.

Village of Hampshire

6. The Village of Hampshire is located in Kane County Illinois and is wholly within the Chicago Ozone Non-attainment Area.

7. The Village of Hampshire has certified as true, accurate and complete that the total population to be served by this modified permit is 3,805 and no more.

8. The Village of Hampshire has recently adopted a comprehensive land use plan which calls for the conversion of over 15,000 acres of farmland, with a substantial portion designated as

"prime" farmland, into non-farm uses, such as, residential and commercial development. The Village of Hampshire 2003 Facilities Plan Amendment estimates that current Village policies and actions are designed to increase the population to 21,275 by 2013 and 28,275 by year 2023 – far in excess of the NIPC 2020 estimate of 5,143.

9. The Village of Hampshire has failed to conduct a comprehensive environmental assessment and/or an environmental impact statement to define and quantify the environmental impacts to air quality, water quality and flooding resulting from the conversion of over 15,000 acres of farmland into non-farm uses and a population explosion to 28,275 by 2023.

10. The Village of Hampshire has failed to enact a sustainable growth ordinance which would have established reasonable growth budgets to ensure the Village of Hampshire maintains compliance with such things as population growth budgets and motor vehicle emission budgets, which are relied upon by other agencies, including, but not limited to, NIPC, CATS and IEPA, in certifying the Chicago Ozone Non-attainment Area is in compliance with USEPA regulations, requirements and statutes.

11. In lieu of a sustainable growth ordinance, the Village of Hampshire has enacted a series of development moratoriums directly linked to the capacity of the Village's wastewater treatment plant. As written, the moratorium ordinances do not allow the Village to approve the conversion of farmland to non-farm uses until such time as further increases in the design maximum flows of the wastewater treatment plant have been approved by the IEPA. One such ordinance states in pertinent part:

> "The Village shall not receive, consider or process any Petition for Annexation, or any application for approval of any Concept Plan, Preliminary Plan, or Final Plan for any subdivision, in or on which it is proposed to include any residential dwelling units; or any Petition for Re-zoning of any land to be classified within any residential zoning district in the Village, for a period of six months from the date of this Ordinance, or unless and until the Village has completed the following, whichever shall first occur:

a. Approval and permitting for construction of and discharge from the planned expansions of the Village's Wastewater Treatment Plant, first to 1.5 mgd capacity, and thereafter, to 2.76 mgd capacity ..."

12. The Village of Hampshire owns and operates a Public Water Supply system which currently consists of four deep sandstone wells. All of the wells produce water which exceeds the current radium potable water standard of 5.0 pCi/l. See Exhibit 2.

Illinois Environmental Protection Agency

13. The IEPA issues NPDES permits for discharges into receiving waters and has an affirmative duty to ensure that the receiving waters are not degraded due to the single effect of a permit applicant, but also, ensure the cumulative effects of all permits on said receiving waters maintains the quality of waters that is better than water quality standards, and prevents unnecessary deterioration of waters of the State.

14. The IEPA issues permits for public water supply construction and has an affirmative duty to ensure that withdrawals from permitted wells are operated at sustainable yields without mining and degradation to the aquifers.

15. The IEPA is responsible for monitoring air quality and implementing the anti-degradation and anti-backsliding requirements of the Clean Air Act.

16. IEPA's duty to evaluate reasonably foreseeable and cumulative effects of this action is stated CFR 1508.7:

"impacts on the environment which result from the incremental impacts of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions."

Statement of Issues Raised

Flood Control

17. In 1956, the Village of Hampshire began operation of a wastewater treatment plant with a DAF of 0.136mgd. In 1965, the wastewater treatment plant was expanded to 0.250 mgd DAF and in 1979, was expanded again to 0.456 mgd DAF.

18. On July 21, 2004, the IEPA issued a modified NPDES permit no. IL 0020281 which increased the permitted discharge to 0.75 mgd DAF and 1.88 mgd DMF. This modified permit also increased the effluent Load Limits discharged to Hampshire Creek.

19. On June 17, 2004, prior to the issuance of the modified permit to 0.75 mgd DAF, the Village of Hampshire submitted an application to increase the discharge to 1.50 mgd DAF and 4.17 mgd DMF. Said application is the subject of this action.

20. The Kane County Stormwater Ordinance prohibits "developments" from increasing the flood elevations and decreasing the flood conveyance capacity upstream and downstream of the development. The Village of Hampshire is a "person causing a development" and the wastewater treatment plant expansion is a "development" subject to the requirements of the Kane County Stormwater Ordinance.

21. In contravention to the requirements of the Kane County Stormwater Ordinance, the Village of Hampshire freely admits the increase in discharge to 4.17 mgd DMF will ***increase*** the flood surface water elevation of Hampshire Creek.

Effluent Issues

22. Typical NPDES permits issued by IEPA state pollutant limits as Load Limits in lbs/day and Concentration Limits in MG/L.

23. The Public Notice for this permit states that Load Limits are calculated by using the formula: 8.34 x (Design Average and/or Maximum flow in MGD) x (Applicable Concentration in mg/l). However, the permit of December 9th, unexplainably deviates from this formula. For a

Load Limit of 63 lbs/day for CBOD5 at a flow of 1.5 mgd DAF, the Concentration Limit must be 5.0 mg/l and not 10 mg/l as stated in the permit.

24. The IEPA and the Village of Hampshire failed to perform a study assuring that the increase in discharge, when combined with other sources, will not cause a violation of any applicable water quality standard as required by Special Condition 5.

25. That the Village of Hampshire has proposed constructing a "polishing wetland" to receive the effluent prior to discharge to Hampshire Creek, but the IEPA has refused to require sampling of the effluent as it leaves the wetland and is discharged into Hampshire Creek.

26. That Special Condition 9 requires the Village of Hampshire to report on a variety of metals at 18 months and 12 months prior to July 31, 2009, however, said monitoring fails to include a requirement to report radium, which the Village of Hampshire freely admits is present in the effluent and which Hampshire believes is present is substantial quantities as to cause the effluent to frequently violate the existing water quality standard of 1.0 pCi/l.

27. That IEPA permitted an increase in discharge to 1.5 mgd DAF and 4.17 mgd DMF without evaluation of the results of the Special Condition 9 parameters and as a result, unnecessarily jeopardizes the water quality of Hampshire Creek.

Municipal Water Supply

28. The Village of Hampshire has not determined an adequate source of water to support the wastewater treatment plant expansion to 1.5 mgd DAF. The Village is studying alternatives to its current reliance on the deep aquifers.

29. The Bloomington Aquifer is located within the Hampshire FPA and is an alternative source of municipal water supply under study by the Village of Hampshire. See Exhibit 3.

30. The Village of Hampshire intends to permit the construction of condominiums and parking lots on the most sensitive recharge areas of the Bloomington Aquifer without assuring the capacity and rechargeability of the Bloomington Aquifer will not be degraded. See Exhibit 4.

31. The withdrawals from the deep aquifer appear to be at their maximum sustainable rate and may not support the additional withdrawals needed by the Village of Hampshire to support a WWTP expansion to 1.5 mgd DAF.

Clean Air Act

32. In 2005, the Chicago Ozone Non-attainment Area recorded fifteen days exceeding the 8-hour ozone standard, a 150% increase from the year 2003. Air quality in the Chicago Ozone Non-attainment Area appears to be backsliding.

33. The Village of Hampshire has refused to voluntarily control the growth of VMT to comply with the MVEB of the Chicago SIP. Hampshire's willful non-compliance of the MVEB of the SIP will cause air quality in the Hampshire area and the Chicago Ozone Non-attainment Area to deteriorate.

34. The Village of Hampshire reported the annual average daily flow rate of 0.389 mgd for 2003, 0.486 mgd for 2002 and 0.413 mgd for 2001, averaging less than 60% capacity at the previously permitted 0.75 mgd DAF.

35. The Village of Hampshire will not face an arbitrary and unreasonable hardship if this permit modification is not granted.

WHERFORE, the Petitioner asks that the Illinois Pollution Control Board set aside the modified NPDES permit IL 0020281 issued to the Village of Hampshire on December 9, 2005 as

not sufficiently protective of the environment and not in accord with the law, and remand to the Illinois Environmental Protection Agency for issuance of a permit denial letter.

Respectfully submitted,

_____

Wesley Brazas, Jr.
Petitioner
44W331 Big Timber Road
Hampshire, IL 60140

Dated: January 13, 2006

Wesley J. Brazas, Jr., P.E.
44W331 Big Timber Road
Hampshire, Illinois 60140

October 11, 2005

Mr. Al Keller
Manager, Permits Section
Division of Water Pollution Control
Illinois Environmental Protection Agency
P.O. Box 19276
Springfield, IL 62794-9276

Re: Draft Modification of NPDES Permit No. IL 0020281
Village of Hampshire STP Expansion
To DAF=1,500,000 gallons per day

Dear Mr. Keller:

At last Tuesday's hastily arranged meeting, it was one small step in the right direction that Hampshire is admitting they have previously mismanaged their sewage treatment plant. The citizen's of Hampshire are rightfully concerned that if Hampshire can screw-up a treatment plant currently discharging approximately 430,000 gallons a day so badly that Hampshire Creek became a 303(d) listed stream, Hampshire can do a lot more environmental damage discharging at nine times that much.[i] The fact that this screw-up occurred under your watchful eyes does not give us the faith the reporting and monitoring procedures currently used by your department will not let it happen again.

Significant fatal errors in the submission and evaluation of the subject permit modification require this permit request to be DENIED. These fatal errors include:

- Knowing errors of material fact made by the Applicant, the Village of Hampshire.
  - Failure to mitigate the additional flooding to Hampshire and Coon Creeks as required by the *Kane County Stormwater Ordinance*.
  - Failure to disclose population increases to justify purpose and need for expansion.
  - Failure to disclose source of municipal water supply to support STP expansion.
  - Failure to provide complete financial data demonstrating financial capacity to construct, operate and maintain the expanded facility.

- Errors by IEPA in setting effluent discharge limits.
  - Proposed concentration limits must be cut in half to correspond to required mass limits.

- Errors in IEPA's procedures for evaluating permits.
  - IEPA's piecemeal permit process and lack of coordination with other departments results in State approved environmental degradation, contrary to environmental laws and regulations.

EXHIBIT 1

Errors of Material Fact by Applicant, the Village of Hampshire

Hampshire's failure to disclose relevant facts for IEPA's use in evaluating this permit request is sufficient grounds to deny this permit under Section 402.(a)(5)(b)(1)(C)(ii) of the NPDES program for attempting to obtain this permit by misrepresentation and the failure to disclose relevant facts.

Failure to Mitigate Additional Flooding to Watershed

"Will this expansion of the sewer treatment plant cause additional flooding?" is a material fact that must be fully disclosed on the permit application. This sewage treatment plant expansion is required to comply with the *Kane County Stormwater Ordinance, eff. January 1, 2002,* which prohibits increases in flood elevations or decreases in flood conveyance capacity upstream or downstream of the site.[ii] From an initial rated discharge of 136,000 gallons per day when the sewage treatment plant began operations to the current proposed maximum storm flow of 4,170,000 gallons per day, and a future expansion to approximately 9,500,000 gallons per day,[iii] Hampshire's sewage treatment plant expansions are causing flooding in the Hampshire Creek and Coon Creek Watersheds to get very much worse.

At last Tuesday's meeting, you listened to residents describe existing flooding downstream of Hampshire. Hampshire admits this project will increase the flood elevation of the creek, and the dramatic increase in everyday flow will result in the creek overflowing its banks and causing flooding much more often.[iv] The costs to dredge and widen Hampshire and Coon Creeks all the way to the Kishwaukee River to contain the creek waters within the creek channel at the dramatically increased base flows will be substantial and may not even be feasible if the Kishwaukee River cannot accept the additional flow.[v] Hampshire's refusal to police itself and comply with the provisions of the *Kane County Stormwater Ordinance* is reason enough to deny this permit.

- Hampshire must redesign its sewage treatment plant expansion to comply with the provisions of the *Kane County Stormwater Ordinance* by providing compensating detention to not increase stream flows, or by other means.

Failure to Disclose the "Real" Population Served

Just two weeks after the public comment period ended for the permit to increase Hampshire's discharge to 750,000 gpd, Hampshire was back at your office requesting this expansion to 1,500,000 gpd.[vi] In its application, Hampshire certified the population to be served by this expansion is 3,805.[vii] At the currently permitted 750,000 gpd capacity, the plant would operate at approximately 50% capacity. NIPC projects Hampshire would grow to 5,143 by 2020[viii], at which time the plant would be operating at only 69% of capacity and still not require expansion. Hampshire has not disclosed any capacity warning letters issued by your office to warrant an expansion above the current DAF of 750,000 gpd.

- Hampshire has failed to show purpose and need on the NPDES application for expansion.

Failure to Disclose Water Supply to Support STP Expansion

Water supply is a very strained resource. Hampshire's previous studies projected a 63% decline in per capita water consumption by 2008.[ix] More than a year after submitting this permit application, Hampshire still has not identified a source of water to support the proposed sewage treatment plant expansion.[x] Lake Michigan water is fully allocated and the City of Chicago is currently trying to reduce consumption to payback a "water debt" from previous overwithdrawals.[xi] Deep aquifers have not fully recovered from the overmining of previous years and may not support any increased withdrawals.[xii] There is a shallow aquifer available near Hampshire, the Bloomington Aquifer, but Hampshire has authorized the construction of condos and parking lots over the most sensitive aquifer recharge areas, which will limit or even destroy this aquifer.

Where will the water come from?

The relevance of this question to the NPDES process is found at Question A.8.e. on page 4 of Hampshire's application. This question requires the disclosure of wastewater disposal by other means, such as, underground percolation or well injection. These alternative disposal methods would also have the benefit of reducing the discharge to Hampshire Creek and the flooding caused by the treatment plant expansions. In addition, the water purification process generates waste as the water is filtered and softened for public use. Where and how are these wastes being disposed of? Through the sanitary sewer system so they are included in the total discharge into Hampshire Creek? Or a separate discharge to Hampshire Creek which now requires the summation of these separate pollution loads and may require a lowering of the discharge limits for the sewage treatment plant.

- Water supply and impacts to treatment plant flows and stream loadings must be determined prior to evaluation of this permit.

Failure to Provide Comprehensive Financial Data

Hampshire admits it did not properly maintain its existing sewage treatment plant and required state aid to bring their sewage treatment plant into compliance. It is Hampshire's affirmative duty to provide comprehensive financial data disclosing how the past errors have been corrected and the additional ordinances/regulations/procedures adopted to prevent the sewage treatment plant from going into disrepair in the future.

The financial data Hampshire submitted with the NPDES application does not include any information regarding how this expansion will be paid for.[xiii] General revenues? Bond sales? Water and sewer fee increases? In addition, Section 1203 of the *Kane County Stormwater Ordinance* requires a five year financial plan for the installation and maintenance of the wetlands constructed by this proposed expansion and an irrevocable letter of credit in favor of Kane

County to ensure the wetlands will be maintained. Hampshire did not include the 5-yr wetland plan in its application.

- Comprehensive financial disclosure is required prior to evaluating application.

Errors in Effluent Limits Proposed by IEPA

Under the NPDES program, 40 CFR 122.45(b) requires pollution concentrations to be calculated based upon design flow, which are typically stated in concentrations of mg/l. In addition to concentration limits, 40 CFR 122.45(f)ii requires pollutant limits to be restated as mass based limits, typically, pounds. The mass based pollutant limits should be easily calculated by the formula contained on page 3 of the Public Notice for this permit:

Concentration Limit, mg/l x Design Flow, mgd x 8.34 conversion factor = Mass, lbs/day

Using CBOD5 as an example, a concentration limit of 10 mg/l x 1.5 mgd x 8.34 = a mass of 125 lbs, but the proposed permit limit is 63 lbs. Why doesn't the math work?

The Pollution Control Board (PCB) regulations I have reviewed list effluent limits based only upon concentration, e.g. "No effluent discharged to the Lake Michigan basin shall exceed 4 mg/L of BOD_5 or 5 mg/L of suspended solids."[xiv] I have not found any regulations using mass based units as the primary method to control discharges. I have verified the concentration limits convert exactly to mass units in over two dozen NPDES permits currently pending before IEPA, ***EXCEPT FOR HAMPSHIRE!***[xv]

Since federal regulations require mass limits to convert exactly to concentration limits, even with the proposed halving of the concentration limits to correspond with the required mass limits, Hampshire's STP would still be too dirty to discharge into Lake Michigan waters.

- Change concentration limits to correspond to the mass limits for the proposed flow rate of 1.5 mgd DAF. Higher concentration limits for the design maximum flow are not warranted, since the permit specifies a daily maximum mass limit of 125 lbs that would require the concentration limit not to exceed 3.6 mg/l at DMF=4.17 mgd:

	Mass Load Limits, lbs/day			**Concentration Load Limits, mg/l**		
Parameter	Mo. Av.	Weekly Av.	Daily Max.	Mo. Av.	Weekly Av.	Daily Max.
CBOD5	63		125	**5**		**10**
Sus. Solids	75		150	**6**		**12**
Amm-Nitrogen						
Mar-May/Sep-Oct	9.4		34	**0.75**		**2.7**
Jun-Aug	9.4	24	34	**0.75**	**1.9**	**2.7**
Nov-Feb	11		33	**0.88**		**2.6**

Errors in IEPA's Procedures for Evaluating Permits

It should be axiomatic that the permit process in your department should not undermine and invalidate the environmental programs of other departments. IEPA's duty to examine the whole and not just increments is succinctly stated in CFR 1508.7:

> "impacts on the environment which result from the incremental impacts of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions."

Piecemeal Process

In my review of the file at the only location I could view it, IEPA's Springfield office, I was surprised a summary of previous actions regarding this permit were not included. One could not trace the history of permitted discharges and concentration limits to determine the trend of mass limits going up or down over the years and correlate these limits with the resulting impacts to the water quality of the creek.

IEPA's incremental approach to permit review allows flooding to get a "little bit worse" with each permit modification. The result is the State of Illinois is partners with local government to make flooding very much worse over the longer term. From an initial discharge of 136,000 gallons per day when the sewage treatment plant began operations to the proposed maximum storm flow of 4,170,000 gallons per day, IEPA's policies and procedure's have been allowing flooding on Hampshire Creek to get very much worse.

IEPA Fiduciary Responsibility

Hampshire has recently demonstrated it does not have the financial wherewithal to properly maintain its sewage treatment plant and required state aid to bring its plant into compliance. Hampshire has submitted this request for expansion ***prior to*** Hampshire having a demonstrated track record it has the financial capacity to operate and maintain the brand new 750,000 gpd facility. IEPA has a fiduciary responsibility to ensure the State's investment in the 750,000 gpd facility is protected and must require Hampshire to submit comprehensive financial data and a letter of credit to ensure the previous debacle will not reoccur.

Clean Air Act (CAA)

Hampshire is part of the ozone non-attainment area in Northeastern Illinois. To illustrate how difficult it is to clean up our air once it is polluted, in the ten year period from 1994 to 2003, ozone pollution has shown only a 2% decrease.[xvi] This year there have been 15 days[xvii] when ozone exceeded the 8 hour standard compared to 10 days in 2003[xviii]. That's a 150% increase! Clearly, not enough has been done to clean up our air and we still have a long way to go.

It is long recognized the conversion of farmland to rooftops increases motor vehicle miles traveled (VMT) which corresponds to an increase in air pollution.[xix] The Chicago Area

Transportation Study (CATS) is responsible for preparation of the Regional Transportation Plan (RTP) and corresponding Transportation Implementation Plans (TIPs) which are used to prioritize transportation projects and obtain federal funding to improve air quality. The TIP is based upon NIPC population and employment projections. If Hampshire converts farmland to rooftops faster than NIPC projections, CATS will underestimate the pollution generated by these new rooftops, our air will not get cleaner as required by the anti-degradation and anti-backsliding requirements of the CAA, and additional sanctions, including loss of federal highway funds, could be imposed by the EPA. Therefore, IEPA must verify STP expansions are in compliance with the land use and population estimates of the TIPs to avoid jeopardizing statewide federal highway funds.

Hampshire's response to Question 7 clearly illustrates Hampshire's intent was to immediately expand to a DAF of 3.47 mgd, far in excess of the population and VMT projections used in the TIPs. Hampshire's comprehensive plan calls for the destruction of over 15,000 acres of farmland for the construction of residences.[xx] Hampshire has failed to affirmatively demonstrate it is in compliance with population, VMT and air pollution budgets of the 2005-09 TIP.

- Hampshire failed to affirmatively demonstrate compliance with all environmental impacts of this expansion, such as, the CAA requirements of population, VMT and air pollution budgets of the TIPs.

Conclusion

As taxpayers, we cannot afford the costs of correcting the cumulative environmental damage caused by State government and local government partnering to evade their environmental responsibilities by designing incremental actions that degrade our environment a "little bit" this time.

Given Hampshire's past failure to properly maintain it's sewage treatment plant, given Hampshire's failure to comply with the Kane *County Stormwater Ordinance*, given Hampshire's reported population does not justify an STP expansion, given Hampshire's failure to procure a reliable potable water supply to support the STP expansion and given Hampshire's failure to disclose the environmental impacts of reasonably foreseeable future actions, and given IEPA's errors in procedure evaluating this application and overstating the proposed concentration limits requires the IEPA to **DENY** this permit modification.

Very truly yours,

Wesley J. Brazas, Jr., P.E.

Attch: Table 9, *2003 Potable Water Management Plan for Village of Hampshire.*
Table III-3, *2003 Comprehensive Plan, Village of Hampshire.*

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[i] On page 3 of the permit application, the annual average daily flow was 389,000 gpd in 2003, 486,000 gpd in 2002, and 413,000 gpd in 2001 which averages to 429,000 gpd. Proposed maximum daily flow is 4,170,000 gpd or 9 times the 1979 permitted flow of 456,000 gpd.

[ii] See *Kane County Stormwater Ordinance*, eff. January 1, 2002. The Village of Hampshire is a "person causing a development" (see Sections 104(31) and 104(95)) and Hampshire's sewage treatment plant expansion is a "development" (see Section 104(32)) subject to the requirements of the ordinance.

[iii] At the future design average flow of 3.47 mgd, the design maximum flow would be approximately 9.65 mgd = 3.47 x 2.78. See "Village's Response to Citizen Comments After Public Response" dated August 8, 2005, response to Question 7, page 6. The current discharge request uses a factor of 2.78 for (design maximum flow)/(design average flow) = 4.17mgd/1.5mgd = 2.78.

[iv] At Tuesday's meeting, Hampshire did not disclose the much smaller flow it takes to overflow the creek banks, causing a "flood" as defined in Section 104(42) of the *Kane County Stormwater Ordinance*. Hampshire's STP expansion, which increases base flow elevations in the creek and makes flooding a "little bit worse" is in clear violation of Section 201(a) which requires ***no increase*** in flood elevations and ***no decrease*** in flood conveyance capacity of the creek.

[v] For example, on the Willow-Higgins Creek Basin tributary to the Des Plaines River, a significant amount of the creek flow is from a MWRD sewage treatment plant. Enormous flood control basins have recently been built on O'Hare Airport and Touhy Avenue costing tens of millions of dollars to reduce the flooding caused, in part, by the sewage treatment plant outflows.

[vi] Comment period for the 750,000 gpd increase opened on April 30, 2004 and closed on June 30, 2004. Hampshire's application for expansion to 1,500,000 gpd was filed at IEPA on June 17, 2004.

[vii] See NPDES Application, page 2 of 21.

[viii] See NIPC's 2020 regional population projections at http://www.nipc.org/test/revised_2020_table.htm (endorsed September 27, 2000).

[ix] See Table 9 from Section 1 of the *2003 Potable Water Management Plan for Village of Hampshire, Kane County, Illinois* by Engineering Enterprises, Inc., dated November 2003. Water usage was projected to decline to 100 gallons per day per capita in 2008 from 159 gallons per day per capita in 2002. Also, population equivalents were projected to be 24,530 by 2018 and 28,275 by 2023, greatly exceeding NIPC's forecast.

[x] See response to Comment 9 from "Village's Response to Citizen Comments After Public Notice" dated August 8, 2005.

[xi] See *The Future of Water Availability & Use in the Chicago Region*, presentation to "Working for a Sustainable Future" on November 2, 2002 at Yorkville, Illinois, pages 2-5.

[xii] Ibid., pages 2 and 7.

[xiii] See pages 60, 55 and 62 from *Facilities Plan (revised 5/04)* appended to Hampshire's NPDES application.

[xiv] See 35 Ill. Adm. Code 304.120.d.

[xv] See Lake County Public Works Department, IL0022055, DAF=16 mgd, CBOD5=10 mg/l, CBOD5=1,334 lbs.
The math => Mass = 16 mgd x 10 mg/l x 8.34 = 1,334.4 round to 1,334 lbs

Also, Village of Kirkland, IL0064092, DAF=0.31 mgd, CBOD5=25 mg/l, CBOD5=65 lbs

The math => Mass = 0.31 mgd x 25 mg/l x 8.34 = 64.63 round to 65 lbs

Also Village of Dwight STP expansion, IL0022641, DAF=0.864 / 0.983 mgd (existing/proposed), CBOD5=10 / 10 mg/l, CBOD5=72 / 82 lbs. Note increased mass loading while maintaining existing concentration limit.
The math Existing => Mass = 0.864 mgd x 10 mg/l x 8.34 = 72.05 round to 72 lbs
The math Proposed => Mass = 0.983 mgd x 10 mg/l x 8.34 = 81.98 round to 82 lbs.

[xvi] See *Illinois Annual Air Quality Report 2003*, Executive Summary, page ix.

[xvii] Statewide, there have been 27 exceedances so far this year compared to 11 in 2003, a staggering 245% increase! See IEPA Illinois Ozone 8-hour Exceedance Summary at http://www.epa.state.il.us/air/ozone/exceedances.html.

[xviii] See *Illinois Annual Air Quality Report 2003*, Table B2.

[xix] See EPA letter to CATS dated March 26, 1997, which states in part:

> "The United States Environmental Protection Agency (USEPA) is concerned with the environmental impacts of the past trends in the Chicago area which showed decentralization of the region and development of agricultural lands. Although the Chicago metropolitan area population grew by only 4 percent between 1970 and 1990, the region's land area grew by 35 percent and the residential land consumption by 46 percent. These trends have the effect of increasing air pollution and water pollution and contribute to ecological degradation and watershed problems. For example, the Federal Highway Administration estimates daily vehicle miles of travel (VMT) grew by 22 percent between 1989 and 1994. This increase in VMT contributes to air pollution from motor vehicles such as the amount of volatile organic compounds, and particulates released to the air.
>
> Of the three land use policy options under consideration, USEPA endorses the infill, agricultural protection, and no third airport land use option because this option will most favorably address those trends that are adversely affecting air and water quality. The USEPA applauds the work of community leaders and Northeastern Illinois Planning Commission to develop policies designed to slow the past outward trends and increase infill development."

[xx] See Table III-3, Comparison of Existing and Future Land Use in 49-Square Mile Planning Area, *2003 Comprehensive Plan, Village of Hampshire.* Agriculture comprises 25,900.48 acres or 81.89% of the existing land uses in Hampshire's Planning Area. In the future, agriculture would be dramatically reduced to only 6,166.52 acres or 19.50% in favor of housing, which would grow to 18,268.72 acres or 57.76%.

VILLAGE OF HAMPSHIRE
WATER WORKS SYSTEM EVALUATION

PROJECTED WATER USE

TABLE NO. 9

	2002	YEAR 2008	YEAR 2013	YEAR 2018	YEAR 2023
POPULATION EQUIVALENTS	*3,300*	*9,000*	*21,275*	*24,530*	*28,275*
ANNUAL PUMPAGE	**191,633,000** GAL	*328,500,000* GAL	*776,537,500* GAL	*895,345,000* GAL	*1,032,037,500* GAL
MAXIMUM MONTHLY PUMPAGE	**22,373,000** GAL				
MAXIMUM DRY WEATHER MONTH	--				
AVERAGE DAILY PUMPAGE	*525,022* GAL	*900,000* GAL	*2,127,500* GAL	*2,453,000* GAL	*2,827,500* GAL
MAXIMUM AVERAGE DAILY PUMPAGE	*721,710* GAL				
MAXIMUM DAILY PUMPAGE	**923,090** GAL	*1,800,000* GAL	*4,255,000* GAL	*4,906,000* GAL	*5,655,000* GAL
COMPUTED MAXIMUM HOUR	*76,917* GAL	*150,000* GAL	*354,583* GAL	*408,833* GAL	*471,250* GAL
COMPUTED MAXIMUM HOUR	*1,282* GPM	*2,500* GPM	*5,910* GPM	*6,814* GPM	*7,854* GPM
AVG. GAL./PERSON/DAY	**159** GPCD	*100* GPCD	*100* GPCD	*100* GPCD	*100* GPCD
RATIO OF MAX. AVG. DAY TO AVG. DAY	*1.37*				
RATIO OF MAX. DAY TO AVG. DAY	*1.76*	2.00	2.00	2.00	2.00

NOTES:

PROJECTED OR CALCULATED QUANTITIES ARE SHOWN IN ITALICS

QUANTITIES OBTAINED FROM 2002 RECORDS ARE IN BOLD

QUANTITIES FOR 2002 INCLUDE BOTH THE NORTHERN AND CENTRAL WATER SYSTEMS

Table III-3
Comparison of Existing and Future Land Use in 49-Square Mile Planning Area

Land Use Classification	Existing Land Use		2003 Future Land Use	
	Acres	% of Total	Acres	% of Total
Agriculture	25,900.48	81.89%	6,166.52	19.50%
Agribusiness	642.15	2.03%	760.30	2.40%
Forest Preserve/Open Space	368.80	1.17%	568.82	2.99%
Parks and Recreation	94.80	0.30%	123.84	0.39%
Stormwater Basins and Farm Ponds	116.07	0.37%	173.96	0.55%
Estate Residential (0.24 to 0.80 units/acre)	2,640.76	8.35%	8,999.47	28.45%
Large Lot Residential (0.80 to 1.25 units/acre)	148.24	0.47%	6,334.45	18.06%
Low-Density Residential (1.25 to 2.0 units/acre)	278.53	0.88%	2,463.00	8.80%
Medium Density Residential (2.0 to 4.0 units/acre)	16.78	0.05%	302.22	0.73%
Medium Density Residential (4.0 to 7.0 units/acre)	19.12	0.06%	169.58	0.54%
Institutional	77.68	0.25%	204.09	0.65%
Municipal/Governmental	22.05	0.07%	22.47	0.07%
Historic Business District	9.10	0.03%	9.10	0.03%
Community Commercial Center	97.48	0.31%	645.48	2.04%
Regional Commercial	-	0.00%	340.29	1.08%
Interchange Commercial	161.19	0.51%	336.26	1.06%
Office	-	0.00%	428.79	1.36%
Business Park	95.96	0.30%	2,249.26	7.11%
Industrial and Warehouse Distribution	253.92	0.80%	309.63	0.98%
Major Roads	686.31	2.17%	1,021.89	3.23%
Totals	**31,629.42**	**100.00%**	**31,629.42**	**100.00%**

Major Roads Include:

Allen Road	Interchange Existing, NW Tollway and US 20	Hennig Road
Big Timber Road	NW Tollway and Brier Hill Road	IL Route 72
Brier Hill Road	Ketchum Road	Widmayer Road
Gast Road	US Route 20	Outerbelt Freeway

VILLAGE OF HAMPSHIRE

December 6, 2004

PC#15

Ms. Dorothy M. Gunn, Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph Street
Suite 11-5000
Chicago, IL 60601

RE: Docket No. R-04-021
Revisions to Radium Water Quality Standards

Dear Ms. Gunn:

The Village of Hampshire, Kane County, Illinois owns and operates a Public Water Supply currently consisting of four deep sandstone wells (Wells No. 5, 6, 7 and 9). All of the existing wells exceed the current combined radium potable water standard of 5.0 pCi/l. The Village of Hampshire has selected the cation exchange treatment process to remove the combined radium to below drinking water standards from the deep sandstone wells. The Wells No. 5and 6 Water Treatment Plant, the Well No. 7 Water Treatment Plant and the Well No. 9 Water Treatment Plant are currently in service.

The cation exchange treatment process requires that the cations, including radium, removed from the water during treatment be discharged to the sanitary sewer system. The Village of Hampshire owns and operates a sanitary sewer system and a wastewater treatment facility (WWTF). Since the WWTF discharges to Hampshire Creek, an effluent dominated receiving stream, the Village will likely have difficulty complying with the existing water quality standard of 1.0 pCi/l for radium 226. Enforcement of the overly restrictive water quality standard could result in occasional or frequent violation and require additional expenditure of public funds without an associated benefit to the public or aquatic and riparian life associated with the stream. Therefore, the Village of Hampshire supports the approval of the proposal to implement revised water quality standards for radium concentrations in the receiving stream.

EXHIBIT 2

The Village of Hampshire appreciates the opportunity to provide comments to the Illinois Pollution Control Board on this important issue to our community.

Respectfully submitted,

Bradley P. Sanderson, P.E.
Senior Project Manager
Engineering Enterprises, Inc

William P. Schmidt
Village President
Village of Hampshire

BPS/WPS/tpf

pc: Mr. Chuck Anderson, Village Trustee
Atty. Mark Schuster, Village Attorney
Ms. Linda Vasquez, Village Clerk
Mr. John Bidinger, Supt. Of Public Works
JKM, JWF - EEI

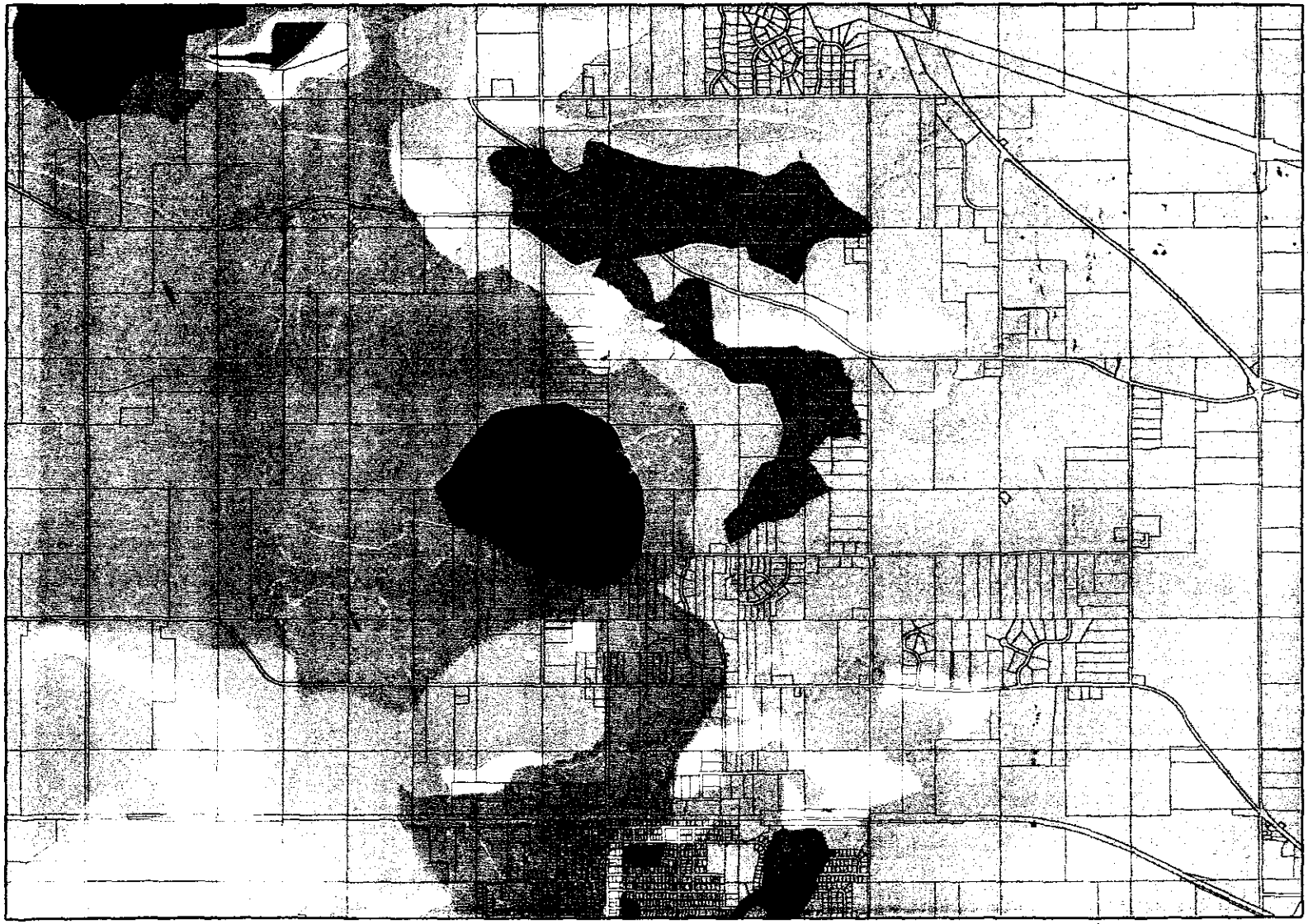
MAJOR AQUIFERS

PORTION OF HAMPSHIRE TOWNSHIP
February 2005

NOTE:
MAJOR AQUIFERS BASED ON AN ONGOING
STUDY BY THE ILLINOIS STATE WATER SURVEY
AND THE ILLINOIS STATE GEOLOGICAL SURVEY

EXHIBIT 3

AQUIFER SENSITIVITY



PORTION OF HAMPSHIRE TOWNSHIP
February 2005

NOTE:
AQUIFER SENSITIVITY (PRELIMINARY) BASED ON AN ONGOING STUDY BY THE ILLINOIS STATE WATER SURVEY AND THE ILLINOIS STATE GEOLOGICAL SURVEY

EXHIBIT 4